OE BUILDING ALTERATIONS

4000 S ROSE AVE. OXNARD, CA 93033 APN: 224-001-224

PROJECT GENERAL NOTES

1. ALL WORK SHALL CONFORM TO THE 2022 EDITION TITLE 24 CALIFORNIA CODE OF REGULATIONS (C.C.R.).
2. THE DRAWINGS AND SPECIFICATIONS AND ALL COPIES THEREOF, ARE LEGAL INSTRUMENTS OF SERVICE FOR THE USE OF THE OWNER AND AUTHORIZED REPRESENTATIVE ON THE DESIGNATED PROPERTY ONLY. OTHER USE, WITHOUT THE EXPRESSED WRITTEN PERMISSION OF THE ARCHITECT, IS PROHIBITED.
3. SPECIFICATIONS, DETAILS AND SCHEDULES WHICH MAY BE BOUND SEPARATELY, ARE PART OF THESE CONTRACT DOCUMENTS. DRAWINGS BY SEPARATELY CONTRACTED CONSULTING PROFESSIONALS (SUCH AS STRUCTURAL, INTERIORS OR LANDSCAPE) ARE SUPPLEMENTARY TO THE DESIGN DRAWINGS AND ARE PART OF THESE CONTRACT DOCUMENTS.
4. THE CONTRACTOR SHALL NOTIFY THE ARCHITECT IMMEDIATELY IF INFORMATION IS NOT SHOWN OR IS UNCLEAR. REPORT APPARENT DISCREPANCIES ON DRAWINGS AND/OR SPECIFICATIONS TO THE ARCHITECT BEFORE PROCEEDING WITH THE WORK.
5. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS AND APPROVAL FOR ALL WORK.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SCHEDULING AND COORDINATING THE WORK FOR ALL UTILITIES AND SERVICES.
7. ALL SYMBOLS AND ABBREVIATIONS USED ON THE DRAWINGS ARE CONSIDERED TO BE CONSTRUCTION STANDARDS. QUESTIONS REGARDING THE SAME, OR THEIR EXACT MEANING, SHALL BE DIRECTED TO THE ARCHITECT.
8. CODE REQUIREMENTS: ALL WORK TO COMPLY WITH DIVISION OF THE STATE ARCHITECT REGULATIONS AND CURRENT EDITION OF TITLE 24 CODE OF REGULATIONS.
9. CONSTRUCTION IS TO COMPLY WITH ALL APPLICABLE REQUIREMENTS OF CALIFORNIA ADMINISTRATIVE CODE, TITLE 24.
10. EXISTING CONDITIONS: CONTRACTOR TO VERIFY ALL EXISTING CONDITIONS DESIGNATED AS, OR REQUIRED TO, INTERFACE WITH NEW CONSTRUCTION. REPORT ANY DISCREPANCIES, DEFICIENCIES, OR CONDITIONS INCOMPATIBLE WITH PROPOSED CONSTRUCTION PRIOR TO PROCEEDING.
11. IT IS THE RESPONSIBILITY OF THE G.C. TO INSTALL ALL TEMPORARY BRACING AND SHORING TO ENSURE THE SAFETY OF THE WORK UNTIL IT IS IN ITS COMPLETED FORM. DO NOT REMOVE EXISTING STRUCTURAL SUPPORTS OR BEARING WALLS WITHOUT WRITTEN PERMISSION FROM THE ARCHITECT OR STRUCTURAL ENGINEER.
12. DIMENSIONS/ NOTES/ DETAILS: DO NOT SCALE DRAWINGS. VERIFY ALL DIMENSIONS AND CONDITIONS IN FIELD, AND IMMEDIATELY REPORT ANY DISCREPANCIES OR EXISTING AND PROPOSED VARIATIONS TO THE ARCHITECT. THE CONTRACTOR IS RESPONSIBLE FOR CHECKING AND COORDINATING DIMENSIONS. ALL WRITTEN DIMENSIONS TO TAKE PRECEDENCE OVER SCALE SHOWN ON PLANS, SECTIONS, AND DETAILS. SPECIFIC NOTES AND DETAILS ON THE DRAWINGS SHALL TAKE PRECEDENCE OVER ANY GENERAL NOTES OR DETAILS. CONDITIONS NOT SPECIFICALLY DETAILED SHALL BE CONSTRUCTED AS SIMILAR CONDITIONS DETAILED AND/OR INDICATED ON THE DRAWINGS. ANY WORK INSTALLED IN CONFLICT WITH THE DESIGN DRAWINGS SHALL BE CORRECTED BY THE CONTRACTOR AT HIS EXPENSE.
13. ALL EXTERIOR DIMENSIONS ARE TO ASSUMED FACE OF PLYWOOD SHEATHING OR FACE OF MASONRY UNO. INTERIOR DIMENSIONS ARE TO FACE OF GYPSUM BOARD FINISH OR CENTERLINE OF WALL UNO.
14. GEOTECHNICAL REPORTS ARE NOT INCLUDED IN THE CONTRACT DOCUMENTS, BUT MAY BE MADE AVAILABLE TO THE CONTRACTOR FOR INFORMATION ONLY. THE ARCHITECT ASSUMES NO RESPONSIBILITY FOR ANY CONCLUSIONS THE CONTRACTOR MAY DRAW FROM SUCH INFORMATION. THE CONTRACTOR SHALL INVESTIGATE AND DETERMINE EXISTING SOILS AND SITE CONDITIONS UNDER WHICH CONTRACTOR WILL OPERATE IN PERFORMING THE WORK.
15. THE CONTRACTOR IS TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF DEMOLITION AND CONSTRUCTION, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY, AND SHALL NOT BE LIMITED TO NORMAL WORKING HOURS. CONTRACTOR SHALL RESTRICT GENERAL PUBLIC ACCESS TO THE DEMOLITION, CONSTRUCTION, AND STORAGE AREAS.
16. HAZARDOUS MATERIALS ARE NOT TO BE STORED IN THE BUILDING, NOR USED IN CONSTRUCTION, IN QUANTITIES EXCEEDING THOSE SPECIFIED IN THE CBC.
17. DURING DEMOLITION AND CONSTRUCTION THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR DETERMINING THE EXISTENCE AND PRECISE LOCATION OF UNDERGROUND PIPING AND OTHER STRUCTURES WHICH MAY BE AFFECTED BY CONSTRUCTION. PROMPTLY NOTIFY EACH UTILITY COMPANY, MUNICIPALITY, OR OTHER AGENCY OWNING OR OPERATING ANY AFFECTED FACILITIES OR STRUCTURES, AND REQUEST ENGINEERING INFORMATION AND MARKING OF FACILITIES IN FIELD, PRIOR TO COMMENCING ANY WORK ON THE SITE. REMOVE ALL ITEMS SPECIFIED TO BE ABANDONED, AND TAKE CARE TO PREVENT ANY DAMAGE TO, OR DISRUPTION OF, ITEMS TO REMAIN.
18. WHERE FIRE-RATED WALL OR CEILING ASSEMBLIES ARE PENETRATED BY RECESSED FIXTURES, MECHANICAL DUCTS, OR OTHER ITEMS, THE FIXTURES, DUCTS, OR OTHER ITEMS SHALL BE FIRE-RATED TO MATCH THE WALL OR CEILING ASSEMBLY.
19. U.N.O. ALL EXTERIOR DOORS SHALL LIMIT AIR INFILTRATION WHEN IN CLOSED POSITION AS FOLLOWS: PROVIDE WEATHERSTRIPPING AT HEAD, SILL AND JAMBS. INSTALL ASTRAGAL AT MEETING PORTION OF DOUBLE DOORS. DOORS REQUIRING VERTICAL TRACKS OR GUIDES SHALL USE CONTINUOUS MOUNTING ANGLE, AND SHALL BE SEALED TO LIMIT AIR LEAKAGE.
20. CONTRACTOR SHALL PROVIDE AND INSTALL ALL STIFFENERS, BRACING, BLOCKING, BACKING, HANGERS, BACK-UP PLATES, AND SUPPORTING BRACKETS REQUIRED FOR THE INSTALLATION OF ALL CASEWORK, TOILET ROOM ACCESSORIES, FIXTURES, PARTITIONS, AND ALL WALL MOUNTED OR SUSPENDED MECHANICAL, KITCHEN, ELECTRICAL OR MISCELLANEOUS EQUIPMENT AND FURNISHING.
21. CONTRACTOR SHALL VERIFY EXACT SIZES AND LOCATIONS OF ALL MECHANICAL EQUIPMENT PADS, BASE STRUCTURES, ROOF OPENINGS, AS WELL AS POWER, WATER, DRAIN INSTALLATIONS AND STRUCTURAL STEEL SUPPORT LOCATIONS, WHEN APPLICABLE, WITH EQUIPMENT MANUFACTURERS BEFORE PROCEEDING WITH THE WORK. CHANGES TO ACCOMMODATE FIELD CONDITIONS OR APPROVED SUBSTITUTIONS SHALL BE MADE WITHOUT ADDITIONAL COST TO THE OWNER.
22. ALL PIPES, CONDUIT, WIRES, AND DUCTS SHALL BE CONCEALED FROM VIEW UNO.
23. ALL GLAZING INSTALLED IN HAZARDOUS LOCATIONS, AS DEFINED BY CBC CHAPTER 24, SHALL BE TEMPERED GLASS. SKYLIGHTS ARE TO BE TEMPERED GLASS OR FIBERGLASS AS SPECIFIED.
24. INSTALL SEALANT AT JOINTS AROUND WINDOW AND DOOR FRAMES, BETWEEN WALLS AND FOUNDATIONS, BETWEEN WALLS AND ROOF, BETWEEN WALL PANELS, AND AT PENETRATIONS OF UTILITIES THROUGH THE BUILDING ENVELOPE, TO LIMIT AIR INFILTRATION.
25. THE CONTRACTOR SHALL PROVIDE THE OWNER A LIST OF THE FEATURES, MATERIALS, COMPONENTS, AND MECHANICAL DEVICES INSTALLED IN THE BUILDING, AND INSTRUCTIONS ON HOW TO USE THEM EFFICIENTLY. THE INSTRUCTIONS SHALL BE CONSISTENT WITH SPECIFICATIONS SET FORTH BY THE EXECUTIVE DIRECTOR OF THE STATE ENERGY COMMISSION. THE ENERGY "CERTIFICATION OF COMPLIANCE" SHALL BE SUBMITTED AFTER THE INSTALLATION OF THE REQUIRED EQUIPMENT AND/OR MATERIAL, AND PRIOR TO ANY REQUEST FOR A FINAL INSPECTION.
26. ITEMS IN THESE DRAWINGS NOT SPECIFICALLY IDENTIFIED AS EXISTING ARE ASSUMED TO BE NEW.
27. ALL ASTM AND/OR ANSI DESIGNATIONS REFERRED TO ON THESE DRAWINGS SHALL BE THE LATEST ADOPTED OR REVISED SPECIFICATIONS.
28. MATERIAL AND EQUIPMENT NECESSARY FOR WORK SHALL NOT BE PLACED OR STORED ON PUBLIC PROPERTY SO AS TO OBSTRUCT A FREE AND CONVENIENT APPROACH TO AND USE OF ANY FIRE HYDRANT, FIRE OR POLICE ALARM BOX, UTILITY BOX, CATCH BASIN OR MANHOLE OR SO AS TO INTERFERE WITH THE FREE FLOW OF WATER IN STREET OR ALLEY GUTTER. PROTECTION AGAINST DAMAGE SHALL BE PROVIDED TO SUCH UTILITY FIXTURES DURING THE PROGRESS OF THE WORK, BUT SIGHT OF THEM SHALL NOT BE OBSTRUCTED.
29. WHERE NOT SPECIFICALLY DESCRIBED IN ANY OF THE NOTES OR SPECIFICATIONS, WORKMANSHIP SHALL CONFORM TO THE METHODS AND OPERATIONS OF BEST STANDARDS AND ACCEPTED PRACTICES OF THE RESPECTIVE TRADE.
30. CONSTRUCTION EQUIPMENT AND MATERIALS SHALL BE STORED AND PLACED SO AS NOT TO ENDANGER THE PUBLIC, THE WORKERS OR ADJOINING PROPERTY FOR THE DURATION OF THE CONSTRUCTION PROJECT.
31. REQUIRED EXITS, EXISTING STRUCTURAL ELEMENTS, FIRE PROTECTION DEVICES AND SANITARY SAFEGUARDS SHALL BE MAINTAINED AT ALL TIMES DURING REMODELING, ALTERATIONS, REPAIRS OR ADDITIONS TO THE BUILDING UNLESS THE REQUIRED ELEMENTS OR DEVICES ARE BEING REMODELED, ALTERED, OR REPAIRED IN WHICH CASE ADEQUATE SUBSTITUTE PROVISIONS SHALL BE MADE.
32. SERVICE UTILITY CONNECTIONS SHALL BE DISCONTINUED AND CAPPED IN ACCORDANCE WITH THE APPROVED RULES AND THE REQUIREMENTS OF THE AUTHORITY HAVING JURISDICTION.
33. SANITARY FACILITIES SHALL BE PROVIDED DURING CONSTRUCTION, REMODELING, OR DEMOLITION ACTIVITIES IN ACCORDANCE WITH 2022 CPC.
34. AREAS OF CONSTRUCTION, ALTERATION OR DEMOLITION SHALL BE PROVIDED WITH NOT LESS THAN ONE APPROVED PORTABLE FIRE EXTINGUISHER PER 2022 CFC.
35. REQUIRED MEANS OF EGRESS SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION, DEMOLITION, REMODELING, ALTERATIONS, AND ADDITIONS TO BUILDING UNLESS APPROVED TEMPORARY MEANS OF EGRESS SYSTEMS AND FACILITIES HAVE BEEN PROVIDED.
36. PENETRATIONS OF FIRE-RESISTANCE-RATED WALLS AND HORIZONTAL ASSEMBLIES SHALL BE PROTECTED AS REQUIRED IN CBC SECTIONS 714.4 AND 714.5.
37. MANUFACTURER'S INSTALLATION INSTRUCTIONS SHALL BE AVAILABLE ON THE JOB SITE AT THE TIME OF INSPECTION.
38. IT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO PROVIDE SUPERVISION OF THE CONSTRUCTION WORK TO ENSURE THAT IT IS BUILT IN CONFORMANCE WITH THE APPROVED PLANS AND SPECIFICATIONS. THE ARCHITECT WILL PROVIDE ONLY PERIODIC OBSERVATION OF THE WORK. SEE DSA INSPECTION REQUIREMENTS LISTED IN NOTE 46.
39. GRADING PLANS, DRAINAGE IMPROVEMENTS, ROAD & ACCESS REQUIREMENTS AND ENVIRONMENTAL HEALTH CONSIDERATIONS SHALL COMPLY WITH ALL LOCAL ORDINANCES.
40. CUTTING, BORING, SAWCUTTING OR DRILLING THROUGH THE NEW OR EXISTING STRUCTURAL ELEMENTS TO BE DONE ONLY WHEN SO DETAILED IN THE DRAWINGS OR ACCEPTED BY THE ARCHITECT AND THE STRUCTURAL ENGINEER WITH THE APPROVAL OF DSA REPRESENTATIVE.
41. ALL WELDING SHALL BE SPECIALLY INSPECTED BY AN AWS-CWI QUALIFIED INSPECTOR APPROVED BY DSA.
42. ALL BRACING OF DUCTS AND PIPINGS SHALL BE INSTALLED IN ACCORDANCE WITH THE LATEST EDITION OF THE CALIFORNIA BUILDING CODE AND SMACNA GUIDELINES AS APPROVED BY DSA (CBC WILL GOVERN WHERE CONFLICTS OCCUR). THE FIELD INSTALLATION SHALL BE SUBJECT TO THE APPROVAL OF THE ARCHITECT, MECHANICAL ENGINEER AND FIELD ENGINEER. A COPY OF THE GUIDELINES PUBLISHED BY SMACNA AND APPROVED BY DSA SHALL BE PROVIDED BY THE CONTRACTOR AND KEPT ON THE JOB AT ALL TIMES.
43. SHOULD ANY EXISTING CONDITIONS SUCH AS DETERIORATION OR NON COMPLYING CONSTRUCTION BE DISCOVERED WHICH IS NOT COVERED BY THE APPROVED DOCUMENTS WHEREIN THE FINISHED WORK WILL NOT COMPLY WITH TITLE 24 C.C.R., A SEPARATE SET OF PLANS AND SPECIFICATIONS, DETAILING AND SPECIFYING THE REQUIRED REPAIR WORK SHALL BE SUBMITTED TO AND APPROVED BY DSA BEFORE PROCEEDING WITH THE REPAIR WORK.
44. CHANGES TO 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, C.C.R.
45. A "DSA CERTIFIED" PROJECT INSPECTOR EMPLOYED BY THE DISTRICT (OWNER) AND APPROVED BY THE DSA SHALL PROVIDE CONTINUOUS INSPECTION OF THE WORK. THE DUTIES OF THE INSPECTOR ARE DEFINED IN SECTION 4-342, PART 1, TITLE 24, CCR. A MINIMUM CLASS 3 INSPECTOR IS REQUIRED.
46. A DSA ACCEPTED TESTING LABORATORY DIRECTLY EMPLOYED BY THE DISTRICT (OWNER) SHALL CONDUCT ALL THE REQUIRED TESTS AND INSPECTIONS FOR THE PROJECT.
47. ALL WORK (AS APPLICABLE) MUST MEET THE MANDATORY MEASURES OF THE 2022 CALIFORNIA GREEN BUILDING STANDARDS (CAL GREEN) CODE (TITLE 24, PART 11).
48. THE SEISMIC ANCHORAGE OF MECHANICAL AND ELECTRICAL EQUIPMENT SHALL CONFORM TO C.C.R. TITLE 24, 2022 CBC CHAPTER 16A. ANCHORAGE DETAILS SHALL BE SHOWN ON THE PLANS.
49. ON-SITE FIRE PROTECTION DURING CONSTRUCTION SHALL BE IN ACCORDANCE WITH CHAPTER 33 OF THE CALIFORNIA BUILDING CODE, C.C.R. TITLE 24, PART 2, AND CALIFORNIA FIRE CODE, C.C.R. TITLE 24, PART 9. SEE W-L-1084/A-905 FOR LISTED PENETRATION SYSTEM AT MISCELLANEOUS METAL PIPING THROUGH FIRE-RATED FRAMED WALL ASSEMBLIES.
50. NONE

PROJECT SCOPE

THE PROJECT CONSISTS OF NON-STRUCTURAL ALTERATIONS TO ONE AREA OF AN EXISTING OCCUPANTIONAL EDUCATION BUILDING, AREA D (OE-D) . THE ALTERATIONS WILL REDUCE THE SIZE OF THE EXISTING BOOKSTORE AND CREATE NEW CLASSROOMS, AN AQUARIUM, AND SUPPORT SPACES. THE WORK INCLUDES NON-STRUCTURAL COLD-FORMED METAL STUD WALLS, CUTTING/PATCHING OF EXISTING CONCRETE SLABS, AND MEP ALTERATIONS TO SERVE THE NEW SPACES. THE FIRE ALARM SYSTEM WILL BE REPLACED IN THE OE BUILDING AREAS A, B, C AND D. THERE IS NO NEW FLOOR AREA IN THE PROJECT. THE AQUARIUM AND ITS EQUIPMENT IS OWNED AND OPERATED BY THE COLLEGE FOR USE IN ITS MARINE BIOLOGY CURRICULUM.

THE PROPOSED SCOPE OF WORK DOES NOT REQUIRE REHABILITATION PER CAC 4-309 (c). THE EFFECTIVE SEISMIC WEIGHT IS NOT INCREASED MORE THAN TEN PERCENT. THERE IS NO SCOPE THAT REDUCES THE LATERAL FORCE RESISTING CAPACITY OF THE BUILDING.

PROJECT INFORMATION

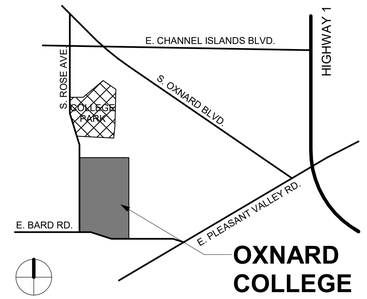
SITE INFORMATION:

STREET ADDRESS:	4000 S ROSE AVE. OXNARD, CA 93033
APN:	224-001-224
ZONING:	COMMUNITY RESERVE
LOT SIZE:	NO CHANGE TO BLDG. FOOTPRINT
LAND USE:	COMMUNITY COLLEGE
EXISTING USE:	EDUCATION (COMMUNITY COLLEGE)
PROPOSED USE:	EDUCATION (COMMUNITY COLLEGE)

BUILDING INFORMATION:

NUMBER OF STORIES:	1
OCCUPANCY GROUP:	B, M
CONSTRUCTION TYPE:	VB
SPRINKLERED:	NO
MAX. HEIGHT ALLOWED: (PER 2022 CBC TABLE 504.3)	40'
MAX. HEIGHT PROPOSED:	NO CHANGE
ROOF RATING:	CLASS A
HIGH FIRE ZONE:	NO

VICINITY MAP



APPLICABLE CODES

PARTIAL LIST OF APPLICABLE CODES AND STANDARDS AS OF JANUARY 1, 2023

2022 CALIFORNIA BUILDING STANARDS CODE (CAL. CODE REGS., TITLE 24)
- PART 1 - CALIFORNIA ADMINISTRATIVE CODE (CAC)
- PART 2 - CALIFORNIA BUILDING CODE, VOLUMES 1 AND 2 (CBC)
- PART 3 - CALIFORNIA ELECTRICAL CODE (CEC)
- PART 4 - CALIFORNIA MECHANICAL CODE (CMC)
- PART 5 - CALIFORNIA PLUMBING CODE (CPC)
- PART 6 - CALIFORNIA ENERGY CODE (CEC)
- PART 7 - VACANT
- PART 8 - CALIFORNIA HISTORICAL BUILDING CODE (CHBC)
- PART 9 - CALIFORNIA FIRE CODE (CFC)
- PART 10 - CALIFORNIA EXISTING BUILDING CODE (CEBC)
- PART 11 - CALIFORNIA GREEN BUILDING STANDARDS CODE (CALGREEN)
- PART 12 - CALIFORNIA REFERENCED STANDARDS CODE

CALIFORNIA CODE OF REGULATIONS TITLE 19, PUBLIC SAFETY, STATE FIRE MARSHAL REGULATIONS

NATIONAL FIRE PROTECTION ASSOCIATION STANDARDS:
- NFPA 10-21 STANDARD FOR PORTABLE FIRE EXTINGUISHERS
- NFPA 13-22 STANDARD FOR INSTALLATION OF SPRINKLER SYSTEMS
- NFPA 14-19 STANDARD FOR THE INSTALLATION OF STANDPIPE AND HOSE SYSTEM
- NFPA 24-19 INSTALLATION OF PRIVATE FIRE SERVICE MAINS AND THEIR APPURTENANCES
- NFPA 25-13CA INSPECTION, TESTING, AND MAINTENANCE OF WATER-BASED FIRE PROTECTION SYSTEMS
- NFPA 54-18 NATIONAL FUEL GAS CODE
- NFPA 72-22 NATIONAL FIRE ALARM AND SIGNALING CODE
- NFPA 80-19 STANDARD FOR FIRE DOORS AND OTHER OPENING PROTECTIVES
- NFPA 101-21 LIFE SAFETY CODE
- NFPA 105-19 STANDARD FOR SMOKE DOOR ASSEMBLIES AND OTHER OPENING PROTECTIVES
- NFPA 111-19 STANDARD ON STORED ELECTRICAL ENERGY EMERGENCY AND STANDBY POWER SYSTEMS
- NFPA 170-18 STANDARD FOR FIRE SAFETY AND EMERGENCY SYMBOLS
- NFPA 221-18 STANDARD FOR HIGH CHALLENGE FIRE WALLS, FIRE WALLS, AND FIRE BARRIER WALLS
- NFPA 241 STANDARD FOR SAFEGUARDING CONSTRUCTION, ALTERATIONS, AND DEMOLITION OPERATIONS
- NFPA 252-17 STANDARD METHODS OF FIRE TESTS DOOR ASSEMBLIES
- NFPA 253-19 STANDARD METHOD OF TEST FOR CRITICAL RADIANT FLUX OF FLOOR COVERING SYSTEMS USING A RADIANT HEAT ENERGY SOURCE
- NFPA 257-17 STANDARD FOR FIRE TEST FOR WINDOW AND GLASS BLOCK ASSEMBLIES

REFERENCE 2022 CBC CHAPTER 35 AND 2022 CFC CHAPTER 80 FOR NFPA STANDARDS AND CA AMENDMENTS.

ACCEPTANCE TESTING

1. THE CALIFORNIA ENERGY CODE SECTION 10-103 REQUIRES ACCEPTANCE TESTING ON ALL NEWLY INSTALLED LIGHTING CONTROLS, MECHANICAL SYSTEMS, ENVELOPES, AND PROCESS EQUIPMENT AFTER INSTALLATION AND BEFORE PROJECT COMPLETION. AN ACCEPTANCE TEST IS A FUNCTIONAL PERFORMANCE TEST TO HELP ENSURE THAT NEWLY INSTALLED EQUIPMENT IS OPERATING AND IN COMPLIANCE WITH THE ENERGY CODE.
2. LIGHTING CONTROLS ACCEPTANCE TESTS MUST BE PERFORMED BY A CERTIFIED LIGHTING CONTROLS ACCEPTANCE TEST TECHNICIAN (ATT).
3. MECHANICAL SYSTEM ACCEPTANCE TESTS MUST BE PERFORMED BY A CERTIFIED MECHANICAL ATT FOR PROJECTS SUBMITTED ON OR AFTER OCTOBER 1, 2021.
4. ENVELOPE AND PROCESS EQUIPMENT ACCEPTANCE TESTS SHALL BE PERFORMED BY THE INSTALLING CONTRACTOR, ENGINEER/ARCHITECT OF RECORD OR THE OWNER'S AGENT.
5. LISTING OF CERTIFIED ATT CAN BE FOUND AT: HTTPS://WWW.ENERGY.CA.GOV/PROGRAMS-AND-TOPICS/PROGRAMS/ACCEPTANCE-TEST-TECHNICIAN-CERTIFICATION-PROVIDER-PROGRAM/ACCEPTANCE.
6. 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.
7. PROJECT INSPECTORS WILL COLLECT THE FORMS TO CONFIRM THAT THE REQUIRED ACCEPTANCE TESTS HAVE BEEN COMPLETED.

SPECIAL INSTRUCTIONS

1. NONE

BID ALTERNATES

1. NONE

DEFFERED SUBMITTALS

1. NONE

GENERAL CONFORMANCE

APPLICATION NO. 03-124867 FILE NO. 56-C1

DRAWINGS OR SHEETS LISTED ON THE COVER OR INDEX SHEET HAVE BEEN PREPARED BY OTHER DESIGN PROFESSIONALS OR CONSULTANTS WHO ARE LICENSED AND/OR AUTHORIZED TO PREPARE SUCH DRAWINGS IN THIS STATE. IT HAS BEEN EXAMINED BY ME FOR:

1. DESIGN INTENT, AND APPEARS TO MEET THE APPROPRIATE REQUIREMENTS OF TITLE 24, CALIFORNIA CODE OF REGULATIONS, AND THE PROJECT SPECIFICATIONS PREPARED BY ME, AND,
2. COORDINATION WITH MY PLANS AND SPECIFICATIONS, AND IS ACCEPTABLE FOR INCORPORATION INTO THE CONSTRUCTION OF THIS PROJECT.

THE STATEMENT OF GENERAL CONFORMANCE "SHALL NOT BE CONSTRUED AS RELIEVING ME OF MY RIGHTS DUTIES AND RESPONSIBILITIES UNDER SECTION 17302 AND 81138 OF THE EDUCATION CODE, AND SECTIONS 4-336, 4-341, AND 4-344" OF TITLE 24, PART 1 (*TITLE 24, PART 1, SECTION 4-317(b)).*

I CERTIFY THAT:

■ ALL DRAWINGS OR SHEETS LISTED ON THE COVER OR CONSULTANT'S SHEETS MARKED WITH AN ASTERISK
☐ THIS DRAWING OR PAGE

■ IS/ARE IN GENERAL CONFORMANCE AND ■ HAVE BEEN COORDINATED	☐ IS/ARE IN GENERAL CONFORMANCE AND ☐ HAVE BEEN COORDINATED
Martin Hartmann — 12/09/2025 SIGNATURE — DATE	SIGNATURE — DATE
ARCHITECT OR ENGINEER DESIGNATED TO BE IN GENERAL RESPONSIBLE CHARGE	ARCHITECT OR ENGINEER DESIGNATED TO BE IN GENERAL RESPONSIBLE CHARGE
MARTIN HARTMANN PRINT NAME	PRINT NAME
C-37789 — 10/31/25 LICENSE NUMBER — EXPIRATION	LICENSE NUMBER — EXPIRATION

PROJECT DIRECTORY

APPLICANT	**VENTURA COUNTY COMMUNITY COLLEGE DISTRICT**	ADDRESS: 761 E. DAILY DR. CAMARILLO, CA 93010 CONTACT: JACOB NORRIS, FACILITIES DIRECTOR EMAIL: JNORRIS@VCCCD.EDU P:805-678-5023
ARCHITECT	**RRM DESIGN GROUP**	ADDRESS: 422 E. MAIN ST. VENTURA, CA 93001 CONTACT: MARTIN HARTMANN EMAIL.: MHARTMANN@RRMDESIGN.COM P:805-597-5292
MECHANICAL ENGINEER	**AE GROUP MECHANICAL ENGINEERS, INC.**	ADDRESS: 838 E. FRONT ST. VENTURA, CA 93001 CONTACT: RAVISH RAO EMAIL.: RAVISH@AENGGINC.COM P:805-653-1722
ELECTRICAL ENGINEER	**THOMA ELECTRIC**	ADDRESS: 3562 EMPLEO ST. SUITE C SAN LUIS OBISPO, CA 93401 CONTACT: JEFF THOMA EMAIL.: JTHOMA@THOMAELEC.COM P:(805) 543-3850
STRUCTURAL ENGINEER	**RRM DESIGN GROUP**	ADDRESS: 3765 S. HIGUERA ST, UNIT #102 SAN LUIS OBISPO, CA 93401 CONTACT: JESSICA MEADOWS EMAIL.: JMMEADOWS@RRMDESIGN.COM
FIRE ALARM ENGINEER	**LUCCI & ASSOCIATES, INC.**	ADDRESS: 3251 CORTE MALPASO, #511 CAMARILLO, CA 93012 CONTACT: KENNETH LUCCI EMAIL.: KEN@LUCCILAND.COM

BUILDING AREAS

AREAS - BUILDING D	
BUILDING D	
CONDITIONED	+/- 12,931 SF
UNCONDITIONED	+/- 2,179 SF
TOTAL BUILDING AREA	+/- 15,110 SF

NOTE: NO CHANGE TO EXISTING BUILDING AREA

DESIGN CRITERIA

Wind Design Data (2022 CBC 1603A.1.4):
Basic Design Wind Speed, V = **100mph**
Allowable Stress Design Wind Speed, Vasd = **78mph**
Risk Category = **III**
Wind Exposure = **C**
Internal Pressure Coefficient, G = **+/- 0.18**
Enclosure classification=**Enclosed**
Earthquake Design Data **(2022 CBC 1603A.1.5):**
Site Coordinates : **34.15118 N-119.19674 W**
Risk Category = **III**
Seismic Importance Factor, Ie = 1.25
Mapped Spectral Response Acceleration Parameters:
Ss = **1.593g**
S1 = **0.585g**
Site Class = **D**(Default)
Design Spectral Response Acceleration Parameters:
SDS = **1.274g**
SD1 = **0.670g** (Only for Calculation of Ts)
Seismic Design Category = **D**

(E) Live Load = **125 psf**
(N) Live Loads =
- Storage **125 psf**
- Offices **50 psf**
- Vocational Room **50 psf**

Geotechnical Information **(2022 CBC 1603A.1.6):**
Allowable Soil Bearing Pressure = **1,500 psf**
Flood Design Data **(2022 CBC 1603A.1.7):**
Flood Zone = **X**

SHEET INDEX

GENERAL
G-001 TITLE SHEET
G-002 OVERALL CAMPUS PLAN
G-101 ABBREVIATIONS, SYMBOLS & GENERAL NOTES
G-102 GENERAL NOTES

ARCHITECTURAL
A-100 OVERALL FLOOR PLAN AND CODE ANALYSIS
A-101 BLDG D - EXISTING/DEMO FLOOR PLAN
A-102 BLDG D - PROPOSED FLOOR PLAN
A-103.1 BLDG D - PROPOSED SLAB PLAN
A-103.2 BLDG D - PROPOSED DIMENSION PLAN
A-104 BLDG D - EXISTING/DEMO CEILING PLAN
A-105 BLDG D - PROPOSED CEILING PLAN
A-106 BLDG D - ROOF PLAN
A-201 BLDG D - BUILDING ELEVATIONS
A-301 BLDG D - BUILDING SECTIONS
A-302 TRUSS SECTIONS 1D, 2D & 3D
A-303 TRUSS DETAILS
A-401 ENLARGED EQUIPMENT PLAN AND SCHEDULE
A-402 INTERIOR ELEVATIONS AND FINISH SCHEDULE
A-403 INTERIOR ELEVATIONS
A-404 INTERIOR ELEVATIONS
A-600 DOOR AND WINDOW SCHEDULES
A-901 ACCESSIBILITY DETAILS
A-902 ACCESSIBILITY DETAILS
A-903 TYPICAL DETAILS
A-904 DETAILS
A-904.1 DETAILS
A-905 DETAILS
A-906 DETAILS
A-907 DETAILS
A-908 EQUIPMENT ANCHORAGE DETAILS
A-909 EQUIPMENT ANCHORAGE DETAILS
A-910 EQUIPMENT ANCHORAGE DETAILS
A-951 DSA DETAILS - SUSPENDED LAY-IN CEILING
A-952 DSA DETAILS - SUSPENDED LAY-IN CEILING
A-953 DSA DETAILS - SUSPENDED LAY-IN CEILING
A-954 DSA DETAILS - SUSPENDED LAY-IN CEILING
A-955 DSA DETAILS - SUSPENDED LAY-IN CEILING
A-956 DSA DETAILS - SUSPENDED LAY-IN CEILING

* MECHANICAL
* M-001 MECHANICAL NOTES
* M-002 MECHANICAL SCHEDULES
* M-003 MECHANICAL CONTROLS
* M-004 MECHANICAL CONTROLS
* M-101 BLDG D - EXISTING/DEMO MECHANICAL FLOOR PLAN
* M-102 BLDG D - MECHANICAL PROPOSED FLOOR PLAN
* M-104 BLDG D - MECHANICAL PROPOSED ROOF PLAN
* M-901 MECHANICAL DETAILS
* M-902 MECHANICAL DETAILS
* M-903 MECHANICAL DETAILS
* M-904 MECHANICAL DETAILS
* M-905 MECHANICAL DETAILS
* M-906 MECHANICAL DETAILS
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* M-908 MECHANICAL DETAILS
* M-909 MECHANICAL DETAILS
* M-910 MECHANICAL DETAILS
* M-911 MECHANICAL DETAILS
* EN-001 ENERGY FORMS
* EN-002 ENERGY FORMS
* PLUMBING
* P-001 PLUMBING NOTES
* P-002 PLUMBING SCHEDULES
* P-101 BLDG D - EXISTING/DEMO PLUMBING FLOOR PLAN
* P-102 BLDG D - PLUMBING FLOOR PLAN
* P-104 BLDG D - PLUMBING PROPOSED ROOF PLAN
* P-801 PLUMBING FIXTURE CUTSHEETS

* ELECTRICAL
* E-001 GENERAL NOTES, LEGEND, & ABBREVIATIONS
* E-002 SINGLE LINE DIAGRAM
* E-003 ELECTRICAL PANEL SCHEDULES
* E-004 LIGHTING FIXTURE SCHEDULE
* E-101 ELECTRICAL DEMOLITION PLAN
* E-102 LIGHTING DEMOLITION PLAN
* E-201 LIGTHING FLOOR PLAN
* E-202 POWER FLOOR PLAN
* E-203 COMMUNICATIONS FLOOR PLAN
* E-401 COMMUNICATION RISER DIAGRAM
* E-501 ELECTRICAL DETAILS
* E-502 ELECTRICAL DETAILS
* E-601 T-24 COMPLIANCE DOCUMENTS

* FIRE ALARM
* E100 GENERAL NOTES, ABBREVIATIONS, SYMBOLS & DRAWING LIST
* E140 PARTIAL SITE PLAN
* E150 SITE FIRE ALARM PLAN-EXISTING CONDITIONS
* E151 SITE FIRE ALARM PLAN-NEW WORK
* E500

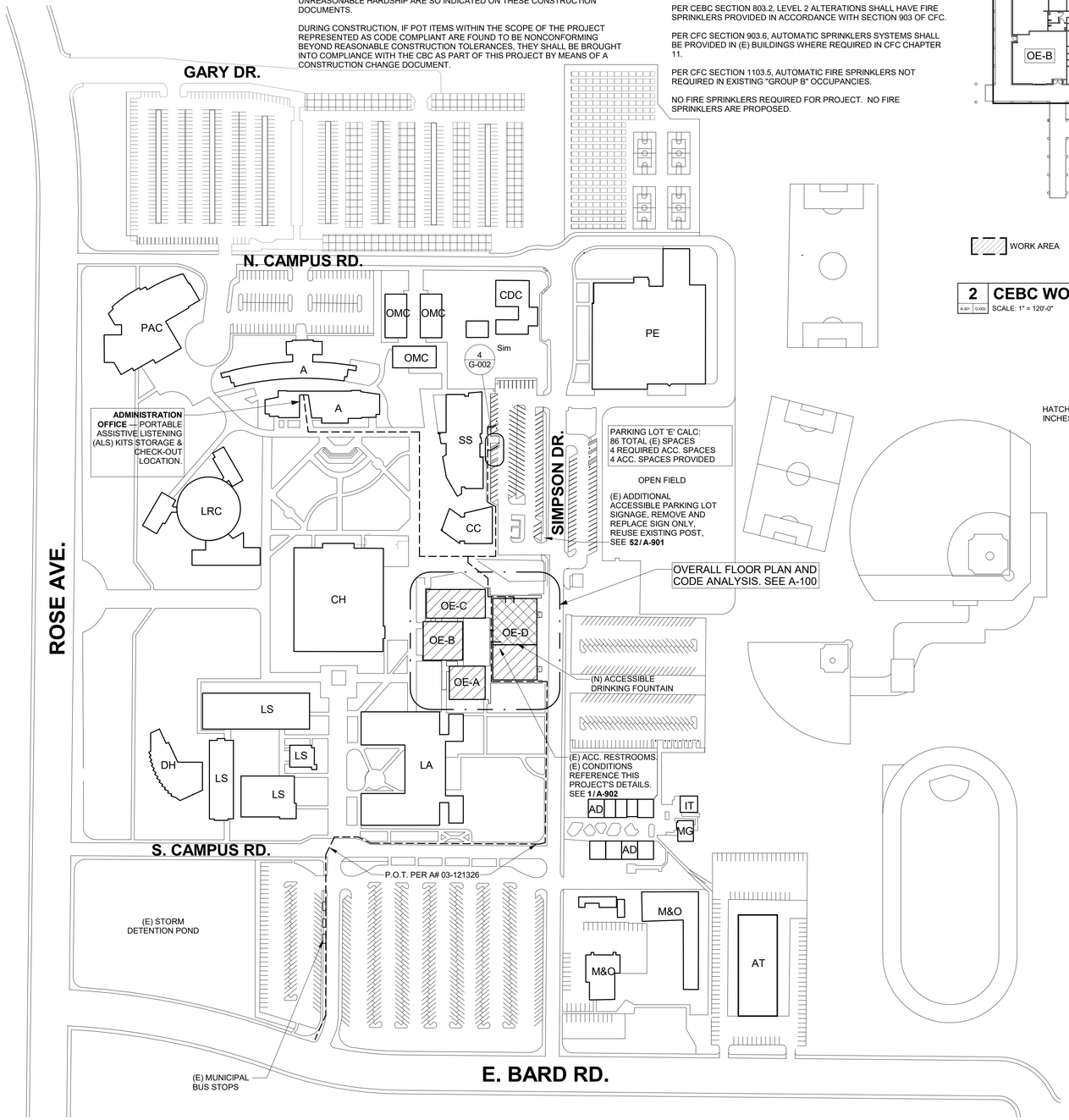
CAMPUS PLAN LEGEND

- EXISTING BUILDING TO REMAIN
- PROJECT ADJACENT AREA
- PROJECT AREA
- PATH OF TRAVEL

RESPONSIBLE CHARGE

DESIGN PROFESSIONAL IN GENERAL RESPONSIBLE CHARGE STATEMENT:
THE P.O.T. IDENTIFIED IN THESE CONSTRUCTION DOCUMENTS IS COMPLIANT WITH THE CURRENT APPLICABLE CALIFORNIA BUILDING CODE ACCESSIBILITY PROVISIONS FOR PATH OF TRAVEL REQUIREMENTS FOR ALTERATIONS, ADDITIONS, AND STRUCTURAL REPAIRS. AS PART OF THE DESIGN OF THIS PROJECT, THE POT WAS EXAMINED AND ANY ELEMENTS, COMPONENTS, OR PORTIONS OF THE POT THAT WERE DETERMINED TO BE NONCOMPLIANT 1) HAVE BEEN IDENTIFIED AND 2) THE CORRECTIVE WORK NECESSARY TO BRING THEM INTO COMPLIANCE HAS BEEN INCLUDED WITHIN THE SCOPE OF THIS PROJECT'S WORK THROUGH DETAILS, DRAWINGS, AND SPECIFICATIONS INCORPORATED INTO THESE CONSTRUCTION DOCUMENTS. ANY NONCOMPLIANT ELEMENTS, COMPONENTS, OR PORTIONS OF THE POT THAT WILL NOT BE CORRECTED BY THIS PROJECT BASED ON VALUATION THRESHOLD LIMITATIONS OR A FINDING OF UNREASONABLE HARDSHIP ARE SO INDICATED ON THESE CONSTRUCTION DOCUMENTS.

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



1 OVERALL CAMPUS PLAN
A-301 | G-002 SCALE: 1" = 120'-0"

FIRE SPRINKLERS IN (E) BLDGS

NOTE: NO INCREASE TO (E) BUILDING FOOTPRINT

WORK AREA (PER CEBC 601.2):
7,213 SF +/- = WORK AREA
39,075 SF +/- = (E) BUILDING AREA
7,213 SF / 39,075 SF = 18.5% FLOOR AREA

CLASSIFICATION OF WORK:
PROJECT IS A LEVEL 2 ALTERATION (CEBC 603.1)
LEVEL 2 ALTERATIONS REQUIRE COMPLIANCE WITH CEBC CHAPTERS 7 AND 8.

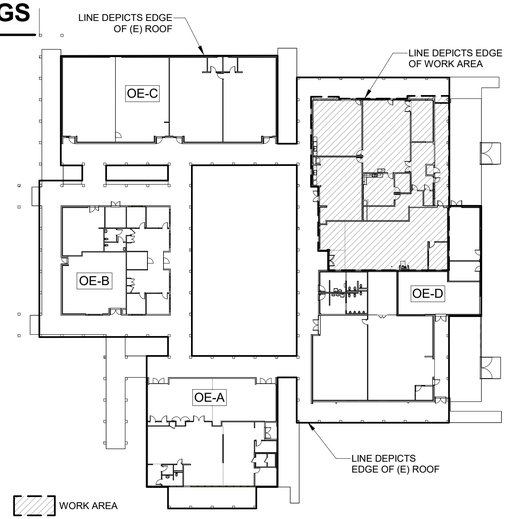
FIRE SPRINKLERS:
PER CEBC SECTION 703.1, LEVEL 1 ALTERATIONS DO NOT REQUIRE AUTOMATIC FIRE SPRINKLERS.

PER CEBC SECTION 803.2, LEVEL 2 ALTERATIONS SHALL HAVE FIRE SPRINKLERS PROVIDED IN ACCORDANCE WITH SECTION 903 OF CFC.

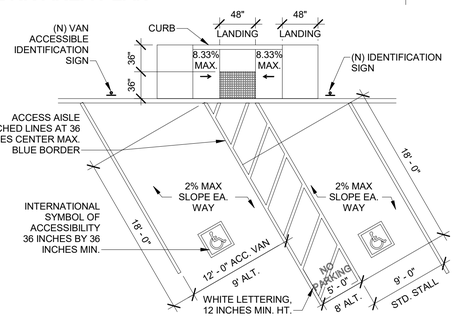
PER CFC SECTION 903.6, AUTOMATIC SPRINKLERS SYSTEMS SHALL BE PROVIDED IN (E) BUILDINGS WHERE REQUIRED IN CFC CHAPTER 11.

PER CFC SECTION 1103.5, AUTOMATIC FIRE SPRINKLERS NOT REQUIRED IN EXISTING "GROUP B" OCCUPANCIES.

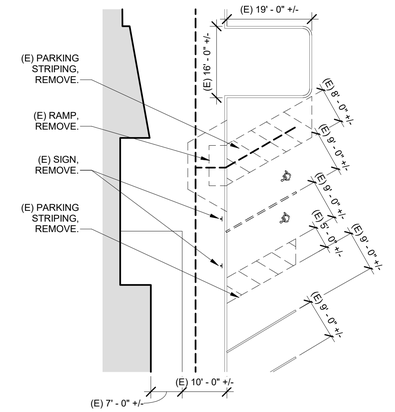
NO FIRE SPRINKLERS REQUIRED FOR PROJECT. NO FIRE SPRINKLERS ARE PROPOSED.



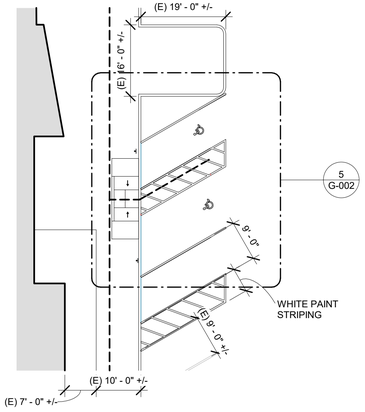
2 CEBC WORK AREA PLAN
A-301 | G-002 SCALE: 1" = 120'-0"



5 ACCESSIBLE PARKING
G-002 | G-002 SCALE: 1/8" = 1'-0"



3 EXIST/DEMO ACC. PARKING PLAN
A-301 | G-002 SCALE: 1/16" = 1'-0"



4 PROPOSED ACC. PARKING PLAN
A-301 | G-002 SCALE: 1/16" = 1'-0"

CAMPUS BUILDING INFO

	BUILDING NAME	DSA APP. NOS. / A#'s	USE	OCCUPANCY	CONSTRUCTION TYPE	FIRE SPRINKLERS
A	ADMINISTRATION/ CAMPUS POLICE	03-101943, 03-103631, 03-104943	ADMIN. OFFICES	B	VB	NS
AD	ART AND DESIGN NORTH/SOUTH HALL	03-121326	OFFICES AND CLASSROOMS	B	VB	NS
AT	AUTO TECHNOLOGY	03-39524	CLASSROOMS, LABS, AND STORAGE	B, S-1	II	NS
CC	CONDOR CAFETERIA	03-43313, 03-109532	KITCHEN AND SERVICE	A-2	VB	NS
CDC	CHILD DEVELOPMENT CENTER	03-53954	OFFICES AND CLASSROOMS	B, E	II	NS
CH	CONDOR HALL	03-40181, 03-41511, 03-57603, 03-60132, 03-108615, 03-124050	LIBRARY, OFFICES, AND CLASSROOMS	A-3, B	II	SM
DH	DENTAL HEALTH	03-114597	OFFICES, LABS, AND CLASSROOMS	A-3, B	VB	NS
IT	INFORMATION AND TECHNOLOGY	03-123842	IT SERVICES	B	VB	NS
LA	LIBERAL ARTS	03-40181, 03-60132, 03-101943	OFFICES AND CLASSROOMS	A-3, B	VB	NS
LRC	LIBRARY/ LEARNING RESOURCE CENTER	03-110703	LIBRARY, OFFICES, AND CLASSROOMS	A-3, B	VB	NS
LS	LETTERS AND SCIENCES	03-60142	OFFICES, LABS, AND CLASSROOMS	B	II	NS
MG	MCNISH GALLERY	NOT OCCUPIED BY STUDENTS	ART GALLERY	A-3	VB	NS
M&O	MAINTENANCE AND OPERATIONS	NOT OCCUPIED BY STUDENTS	NON-SCHOOL BUILDING	B, S-1	II	NS
OE	OCCUPATIONAL EDUCATION	03-45784 (CERTIFIED 01/18/1994) , 03-109532 (#1 CERTICATION 05/20/2011)	BOOKSTORE, OFFICES CLASSROOMS, AND LABS	B	II	NS
OMC	OXNARD MIDDLE COLLEGE HIGH SCHOOL	03-101774	OFFICES AND CLASSROOMS	B, E	VB	NS
PE	PHYSICAL EDUCATION/ GYMNASIUM	03-41674, 03-55312, 03-107789	GYMNASIUM, LOCKERS, CLASSROOMS, AND OFFICES	A-3	VB	NS
PAC	PERFORMING ARTS CENTER	03-111351	PERFORMANCE ARTS/ DIGITAL MEDIA	A-1	VB	NS
SS	STUDENT SERVICES	03-40469, 03-109532 (#1 CERTIFICATION 05/20/2011)	OFFICES	B	V-B	NS

NOTE: PROJECT #03-123842 IS IN THE CLOSEOUT PROCESS.
S = SPRINKLERED, NS = NOT SPRINKLERED

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-124867 INC: A
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 03/12/2026

rrm design group
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CONSULTING ENGINEER

OXNARD COLLEGE
OE BUILDING ALTERATIONS
4000 S ROSE AVE. OXNARD, CA 93033

OVERALL CAMPUS PLAN

NO.	REVISION	DATE
△		
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△		
△		

PROJECT MANAGER
MH
DRAWN BY JM/BB/MH/GK/ED | **CHECKED BY** MH
DATE 12/31/2025
PROJECT NUMBER 3244-01-ED23
SHEET G-002

100% CD

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TESTING CRITERIA FOR POST-INSTALLED ANCHORS IN CONCRETE / MASONRY

1. CONDUCT TESTING OF POST- INSTALLED ANCHORS PER 2022 CBC SECTION 1910A.5.
2. WHERE THE MANUFACTURER'S INSTALLATION INSTRUCTIONS OR APPLICABLE ICC-ES EVALUATION SERVICES REPORT CALL FOR THE APPLICATION OF AN INSTALLATION TORQUE, THE SPECIFIED TORQUE SHALL BE APPLIED WITH A CALIBRATED TORQUE WRENCH. THE SPECIFIED INSTALLATION TORQUE SHALL NOT BE EXCEEDED.
3. THE SPECIAL INSPECTOR SHALL BE ON THE JOBSITE DURING ANCHOR INSTALLATIONS AS REQUIRED PER CHAPTER 17A OF THE CODE, UNLESS OTHERWISE NOTED IN ICC-ES ESR, TO VERIFY ANCHOR, ANCHOR DIMENSIONS, CONCRETE TYPE, CONCRETE COMPRESSIVE STRENGTH, HOLE DIMENSIONS, ANCHOR SPACING, EDGE DISTANCES, SLAB THICKNESS, ANCHOR EMBEDMENT, AND INSTALLATION TORQUE.
4. TEST LOAD: REQUIRED TEST LOADS SHALL BE DETERMINED BY ONE OF THE FOLLOWING METHODS:
   A. TWICE THE MAXIMUM ALLOWABLE TENSION LOAD OR ONE AND A QUARTER (1 1/4) TIMES THE MAXIMUM DESIGN STRENGTH PROVIDED BY THE ICC REPORT OR DETERMINED PER ACI 318. THE TENSION TEST LOAD NEED NOT TO EXCEED 80 PERCENT OF THE NOMINAL YIELD STRENGTH OF THE ANCHOR (0.8 As Fy). SEE STRUCTURAL DETAILS FOR DESIGN-BASED TENSION TEST LOADS FOR ADHESIVE ANCHORS.
   B. THE MANUFACTURER'S RECOMMENDED INSTALLATION TORQUE AS APPROVED BY THE ICC REPORT.
5. TENSION OR TORQUE TESTING OF POST-INSTALLED ANCHORS SHALL BE DONE IN THE PRESENCE OF THE SPECIAL INSPECTOR AND A REPORT OF THE TEST RESULTS SHALL BE SUBMITTED TO THE IOR AND ENFORCEMENT AGENCY.
6. THE SPECIAL INSPECTOR SHALL SELECT ANCHORS FOR TESTING AT RANDOM.
7. TEST FREQUENCY:

APPLICATION	QUANTITY
STRUCTURAL	100% OF BOLTS
NON-STRUCTURAL (SUCH AS EQUIPMENT ANCHORAGE)	50%; ALTERNATE BOLTS IN A GROUP (TEST AT LEAST HALF OF THE ANCHORS IN GROUP)
SILL PLATE BOLTING	10% OF BOLTS

   EXCEPTIONS:
   A. UNDERCUT ANCHORS THAT ALLOW VISUAL CONFIRMATION OF FULL SET SHALL NOT REQUIRE TESTING.
   B. WHERE THE FACTORED DESIGN TENSION ON ANCHORS IS LESS THAN 100 LBS AND THOSE ANCHORS ARE CLEARLY NOTED ON THE APPROVED CONSTRUCTION DOCUMENTS.
   C. WHERE ADHESIVE ANCHOR SYSTEMS ARE USED TO INSTALL REINFORCING DOWEL BARS IN HARDENED CONCRETE, ONLY 25 PERCENT OF THE DOWELS SHALL BE TESTED IF ALL OF THE FOLLOWING CONDITIONS ARE MET:
      · THE DOWELS ARE USED EXCLUSIVELY TO TRANSMIT SHEAR FORCES ACROSS JOINTS BETWEEN EXISTING AND NEW CONCRETE.
      · THE NUMBER OF DOWELS IN ANY ONE MEMBER EQUALS OR EXCEEDS 12.
      · THE DOWELS ARE UNIFORMLY DISTRIBUTED ACROSS SEISMIC FORCE RESISTING MEMBERS (SUCH AS SHEAR WALLS, COLLECTORS, AND DIAPHRAGMS).
   D. TESTING OF SHEAR DOWELS ACROSS COLD JOINTS IN SLAB ON GRADE, WHERE THE SLAB IS NOT PART OF THE LATERAL FORCE-RESISTING SYSTEM SHALL NOT BE REQUIRED.
   E. TESTING IS NOT REQUIRED FOR POWER ACTUATED FASTENERS USED TO ATTACH TRACKS OF INTERIOR NON-SHEAR WALL PARTITIONS FOR SHEAR ONLY, WHERE THERE ARE AT LEAST THREE FASTENERS PER SEGMENT OF TRACK.
8. TEST METHODS: TEST LOADS MAY BE APPLIED BY ANY METHOD THAT WILL EFFECTIVELY TRANSMIT A MEASURABLE TENSION LOAD TO THE ANCHOR. ACCEPTABLE METHODS INCLUDE:
   A. USE OF HYDRAULIC JACK, WHEREBY EITHER UNCONFINED OR CONFINED TESTING SHALL BE ACCEPTABLE;
   B. USE OF CALIBRATED SPRING LOADED DEVICES; OR
   C. USE OF A CALIBRATED TORQUE WRENCH FOR TORQUE-CONTROLLED EXPANSION ANCHORS.
9. TEST ACCEPTANCE CRITERIA: ACCEPTANCE CRITERIA FOR POST-INSTALLED ANCHORS SHALL BE BASED ON THE ICC REPORT OR MANUFACTURER'S WRITTEN INSTRUCTION AS ACCEPTABLE TO OSHPD. FIELD TESTS SHALL SATISFY THE FOLLOWING MINIMUM REQUIREMENTS:
   A. HYDRAULIC RAM METHOD: ANCHORS TESTED WITH A HYDRAULIC JACK OR SPRING LOADED DEVICES SHALL MAINTAIN THE TEST LOAD FOR A MINIMUM OF 15 SECONDS AND SHALL EXHIBIT NO DISCERNABLE MOVEMENT DURING THE TENSION TEST, E.G. AS EVIDENCED BY LOOSENING OF THE WASHER UNDER THE NUT. SCREW ANCHORS MAY BE LOOSENED A MAXIMUM ONE FULL TURN TO FACILITATE THE POSITIONING OF A TENSION TEST COLLAR.
   B. TORQUE WRENCH METHOD: ANCHORS TESTED WITH A CALIBRATED TORQUE WRENCH MUST ATTAIN THE SPECIFIED TORQUE WITHIN HALF (1/2) TURN OF THE NUT.
      EXCEPTIONS:
      · WEDGE OR SLEEVE TYPE: ONE-QUARTER (1/4) TURN OF THE NUT FOR A 3/8 INCH ANCHOR ONLY.
      · THREADED TYPE: ONE-QUARTER (1/4) TURN OF THE SCREW AFTER INITIAL SEATING OF THE SCREW HEAD.
10. IF ANY ANCHOR FAILS TESTING, TEST ALL ANCHORS OF THE SAME TYPE, INSTALLED BY THE SAME TRADE, AND NOT PREVIOUSLY TESTED UNTIL TWENTY (20) CONSECUTIVE ANCHORS PASS, THEN RESUME INITIAL TEST FREQUENCY.
11. REQUIRED TORQUE TEST LOADS SHALL BE EQUAL TO THE MANUFACTURER'S RECOMMENDED INSTALLATION TORQUE PROVIDED IN THE ICC-ESR FOR THE SPECIFIC ANCHOR. TEST TORQUE VALUES ARE SUMMARIZED IN THE TABLE BELOW:

SIMPSON		
LOCATION IN STRUCTURE	INSTALLATION TORQUE (FT-LBS) CONCRETE SUBSTRATE	
INCHES	SIMPSON STRONG-BOLT2 (ICC ES 3037)	SIMPSON TITEN HD (ICC ES ESR-2713)
1/4	4	24
3/8	30	50
1/2	60	65
5/8	90	100
3/4	150	150

HILTI				
NOMINAL ANCHOR DIAMETER		INSTALLATION TORQUE (FT-LBS) CONCRETE SUBSTRATE		
INCHES	METRIC	HILTI KWIK-BOLT TZ2 (ICC ES ESR-4266) CARBON STEEL	HILTI KWIK-BOLT TZ2 (ICC ES ESR-4266) STAINLESS STEEL	HILTI KH-EZ (ICC ES ESR-3027)
1/4	M6	--	--	18
3/8	M10	30	30	40
1/2	M12	50	40	50
5/8	M16	40	60	85
3/4	M20	110	125	95

DEWALT				
NOMINAL ANCHOR DIAMETER		INSTALLATION TORQUE (FT-LBS) CMU SUBSTRATE		
INCHES	METRIC			SCREW- BOLT+ (ICC ESR-4042) 2-1/2" EMBED.
1/4	M6	--	--	25

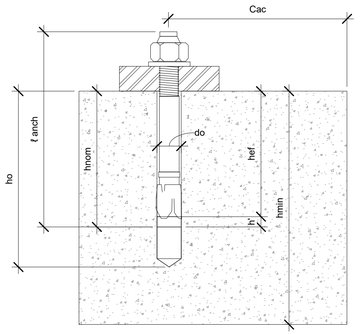
POST-INSTALLED ANCHORS IN CONCRETE / MASONRY

1. POST-INSTALLED ANCHOR CAPACITIES SHALL BE DETERMINED PER SECTION 1909A OF THE CODE USING STRENGTH DESIGN. POST INSTALLED ANCHORS IN CONCRETE USED FOR COMPONENT ANCHORAGE SHALL BE PREQUALIFIED FOR SEISMIC APPLICATIONS IN ACCORDANCE WITH ACI 355.2. POST INSTALLED ANCHORS IN MASONRY SHALL BE PREQUALIFIED FOR SEISMIC APPLICATIONS IN ACCORDANCE WITH APPROVED QUALIFICATION PROCEDURES.
2. INSTALLATION OF POST-INSTALLED ANCHORS SHALL BE IN ACCORDANCE WITH THE APPLICABLE ICC EVALUATION REPORT.

SUBSTRATE MATERIAL	ANCHOR TYPE	ANCHOR PRODUCT	ICC EVALUATION REPORT	ACCEPTANCE CRITERIA
CONCRETE	EXPANSION ANCHORS	SIMPSON STRONGBOLT 2	ICC ESR-3037	AC193
CMU	EXPANSION ANCHORS	SIMPSON STRONGBOLT 2	IAPMO ES ER 240	AC01 OR AC106
CONCRETE	SCREW ANCHOR	SIMPSON TITEN HD	ICC ESR-2713	AC193
CMU	SCREW ANCHOR	SIMPSON TITEN HD	ICC ESR-1056	AC106
CONCRETE	ADHESIVE ANCHORS	SIMPSON SET-3G	ICC ESR-4057	AC193
CMU	ADHESIVE ANCHORS	SIMPSON SET-3G	ICC ESR-4844	AC58
CONCRETE	POWER ACTUATED FASTENER**	SIMPSON PDPAW	ICC ESR-2138	AC70

3. EXPANSION ANCHOR EMBEDMENTS IN THE DRAWINGS ARE MINIMUM "EFFECTIVE EMBEDMENTS" (hef) AS SHOWN IN THE ICC REPORT CORRESPONDING TO THE ANCHOR.

hef = EFFECTIVE EMBEDMENT DEPTH OF ANCHOR
hmin = MINIMUM SUBSTRATE THICKNESS INTO WHICH ANCHOR IS EMBEDDED
Cac = CRITICAL SUBSTRATE EDGE DISTANCE
ho = MINIMUM HOLE DEPTH
fanch = ANCHOR LENGTH
h' = PROJECTION OF ANCHOR BEYOND EFFECTIVE EMBEDMENT DEPTH
do = DIAMETER OF ANCHOR (EQUAL TO THREAD SIZE OF ANCHOR)
hnom = NOMINAL EMBEDMENT DEPTH OF ANCHOR



4. LOCATE ALL EXISTING REINFORCEMENT BY NON-DESTRUCTIVE MEANS (X-RAY, PACOMETER, GPR, ETC.) PRIOR TO DRILLING OR INSTALLING POST-INSTALLED ANCHORS. COORDINATE POST-INSTALLED ANCHOR LOCATIONS WITH LOCATIONS OF EXISTING REINFORCEMENT. DO NOT CUT OR DAMAGE EXISTING REINFORCEMENT.
5. ALL POST-INSTALLED ANCHORS USED IN DRY INTERIOR CONDITIONS SHALL BE CARBON STEEL, U.N.O
6. ALL POST-INSTALLED ANCHORS USED AT EXTERIOR CONDITIONS, EXPOSED TO THE ELEMENTS, OR USED IN A DAMP ENVIRONMENT (I.E. KITCHENS) SHALL BE STAINLESS STEEL, U.N.O.
7. WHERE POST-INSTALLED MECHANICAL ANCHORS ARE USED FOR NON-VIBRATION ISOLATED MECHANICAL EQUIPMENT RATED OVER 10 HP, THEY SHALL BE QUALIFIED IN ACCORDANCE WITH ACI 355.2.
8. IF THE CONCRETE CRACKS DURING THE INSTALLATION OF AN ANCHOR, THE ANCHOR SHALL BE REMOVED OR ABANDONED.
9. ABANDONED ANCHORS AND ABANDONED ANCHOR HOLES:
   A. FILL ALL EMPTY ABANDONED ANCHOR HOLES WITH A DRY-PACK MORTAR.
   B. FOR ABANDONED EXPANSION ANCHORS WHICH CANNOT BE REMOVED WITHOUT DAMAGING THE SUBSTRATE, CUT/BURN OFF THE END OF THE BOLT FLUSH WITH THE FACE OF CONCRETE/MASONRY AND THEN DRIVE ABANDONED ANCHOR TO BOTTOM OF HOLE. FILL REMAINDER OF HOLE WITH A DRY-PACK MORTAR.
   C. FOR ABANDONED ADHESIVE OR UNDERCUT ANCHORS WHICH CANNOT BE REMOVED WITHOUT DAMAGING THE SUBSTRATE, BURN OFF THE END OF THE BOLT/ROD 1" BELOW THE SURFACE OF CONCRETE/MASONRY AND FILL REMAINDER OF HOLE WITH A DRY-PACK MORTAR.
   D. ABANDONED ANCHOR HOLES (WHETHER FILLED WITH DRY-PACK OR CONTAINING ABANDONED ANCHORS) MAY NOT BE LOCATED ANY CLOSER THAN 3x DIAMETER CENTER-TO-CENTER TO ANY ANCHOR IN SERVICE. ANCHORS NOT MEETING THIS MINIMUM SPACING MAY HAVE REDUCED CAPACITY AND SHALL BE REVIEWED WITH THE SEOR.

LIMITATIONS OF USE OF POWER ACTUATED FASTENERS:

PER SECTION 13.4.5 OF ASCE 7-16 POWER ACTUATED FASTENERS IN CONCRETE OR STEEL SHALL NOT BE USED FOR SUSTAINED TENSION LOADS OR FOR BRACE APPLICATIONS IN SEISMIC UNLESS APPROVED FOR SEISMIC LOADING. POWER ACTUATED FASTENERS IN MASONRY SHALL NOT BE PERMITTED UNLESS APPROVED FOR SEISMIC LOADING.
EXCEPTION: POWER ACTUATED FASTENERS IN CONCRETE USED FOR SUPPORT OF ACOUSTICAL TILE OR LAY-IN PANEL SUSPENDED CEILING APPLICATIONS AND DISTRIBUTED SYSTEMS WHERE THE SERVICE LOAD ON ANY INDIVIDUAL FASTENER DOES NOT EXCEED 90 LB.

EXISTING FRAMING

1. THE EXISTING FRAMING AND CONNECTORS SHALL BE VERIFIED PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. IF ANY OF EXISTING ELEMENTS/CONDITIONS DOES NOT MATCH WITH THIS DSA APPROVED DRAWING SET, DSA SHALL BE NOTIFIED AND ANY NECESSARY CCD SHALL BE SUBMITTED. PRIOR TO THE COMMENCEMENT OF WORK, ALL NECESSARY CCD's SHALL BE REVIEWED AND APPROVED BY DSA.

WOOD STRUCTURAL PANELS (SHEATHING)

1. WOOD STRUCTURAL PANELS SHALL MEET THE FOLLOWING MINIMUM STANDARDS EXCEPT WHERE OTHERWISE NOTED:

WOOD STRUCTURAL PANEL PROPERTIES							
USE	PLY	BOND CLASSIFICATION[C]	SHEATHING GRADE	PERFORMANCE RATING	SPAN RATING	RATING[B]	REFERENCE[A]
ROOF	5	EXPOSURE 1	REFER TO TYPICAL DIAPHRAGM SCHEDULE			APA	2022 CBC 2303.1.5 (DOC PS 1-19 OR PS 2-18)
FLOOR	5	EXPOSURE 1				APA	
WALL[D]	5	EXPOSURE 1	REFER TO TYPICAL SHEAR WALL SCHEDULE			APA	

TABLE NOTES:
   A. WOOD STRUCTURAL PANELS SHALL CONFORM TO THE REQUIREMENTS FOR THEIR TYPE IN ACCORDANCE WITH THE FOLLOWING VOLUNTARY STANDARDS BY THE ENGINEERED WOOD ASSOCIATION (APA):
      a. VOLUNTARY PRODUCT STANDARD, STRUCTURAL PLYWOOD, PS 1-09
      b. VOLUNTARY PRODUCT STANDARD, PERFORMANCE STANDARD FOR WOOD-BASED STRUCTURAL-USE PANELS, PS 2-10
   B. WOOD STRUCTURAL PANELS SHALL BE IDENTIFIED BY THE APA TRADEMARK INDICATING CONFORMANCE TO THE APPLICABLE VOLUNTARY STANDARD
   C. WHERE PANELS ARE EXPOSED TO REPEATED WETTING AND REDRYING, LONG-TERM EXPOSURE TO WEATHER, OR CONDTIONS OF SIMILAR SEVERITY, "EXTERIOR" APA RATED PLYWOOD SHEATHING SHALL BE USED. C-D "EXPOSURE 1" APA RATED PLYWOOD SHEATHING (CDX) SHALL NOT BE USED FOR CONDITIONS INVOLVING LONG-TERM EXPOSURE TO WEATHER.
      a. EXCEPTION: WOOD STRUCTURAL PANEL ROOF SHEATHING EXPOSED TO THE OUTDOORS ON THE UNDERSIDE IS PERMITTED TO BE "EXPOSURE 1" TYPE.
      b. WOOD STRUCTURAL PANELS TO BE USED AS SIDING SHALL COMPLY WITH ANSI/APA PRP-210.
   D. ORIENTED STRAND BOARD (OSB) WITH EQUIVALENT CLASSIFICATION AND RATINGS MAY BE USED IN LIEU OF PLYWOOD FOR WOOD STRUCTURAL PANEL WALL SHEATHING.

B. STORAGE
   a. ALWAYS STORE THE PANELS UNDER COVER WHENEVER POSSIBLE
   b. WHEN STORING PANELS OUTSIDE STACK THEM ON A LEVEL SURFACE ON TOP OF STRINGERS OR OTHER BLOCKING. THREE STRINGERS MINIMUM.
   c. NEVER LEAVE PANELS IN CONTACT WITH THE GROUND
   d. COVER THE STACK WITH A PLASTIC TARP, ENSURING THAT THE BUNDLE IS WELL VENTILATED TO PREVENT MILDEW.
   e. IF MOISTURE ABSORPTION IS EXPECTED, CUT THE STEEL BAND TO PREVENT DAMAGE
   f. KEEP SANDED OR OTHER APPEARANCE GRADE PANELS AWAY FROM HIGH TRAFFIC AREAS

C. HANDLING
   a. ALWAYS PROTECT ENDS AND EDGES, ESPECIALLY TONGUE AND GROOVE PRODUCTS, FROM PHYSICAL DAMAGE.
   b. ACCLIMATIZE THE PANELS FOR 24 HOURS MINIMUM BEFORE INSTALLATION BY STANDING THE PANELS ON EDGE WITH A GAP BETWEEN EACH TO ALLOW FOR AIR CIRCULATION OR PER MANUFACTURER'S RECOMMENDATIONS.

3. PLYWOOD ORIENTATION
   A. ROOF AND FLOOR SHEATHING SHALL BE LAID WITH THE GRAIN OF THE OUTER PILES PERPENDICULAR TO THE FRAMING MEMBERS, SHALL BE CONTINUOUS OVER 2 JOIST BAYS MINIMUM AND END JOINTS SHALL BE JOINED OVER FRAMING AND STAGGERED. LEAVE A 1/8" GAP BETWEEN PANELS TO ALLOW FOR PANEL EXPANSION UNLESS RECOMMENDED OTHERWISE BY THE PANEL MANUF. REFER TO SPECIFIC DETAILS IN THE DRAWINGS FOR FURTHER PARAMETERS.
   B. PLYWOOD OR OSB WALL SHEATHING MAY BE APPLIED VERTICALLY OR HORIZONTALLY. ALL END JOINTS BE JOINED OVER FRAMING AND STAGGERED.
4. BLOCKING:
   A. ROOF: ALL ROOF SHEATHING SHALL BE BLOCKED UNLESS SPECIFICALLY ALLOWED ON PLANS. WHERE PERMITTED TO BE UNBLOCKED, ALL UNBLOCKED EDGES SHALL BE TONGUE AND GROOVE.
   B. ALL FLOOR SHEATHING SHALL BE BLOCKED UNLESS SPECIFICALLY ALLOWED ON PLANS. WHERE PERMITTED TO BE UNBLOCKED, ALL UNBLOCKED EDGES SHALL BE TONGUE AND GROOVE.
   C. WALLS: ALL SHEAR WALLS SHALL BE FULLY BLOCKED AT PLYWOOD EDGES.
5. FASTENERS
   A. USE SHEATHING NAILS SAME GAUGE AS COMMON WIRE NAILS WITH LENGTHS AT LEAST EQUAL TO SHEATHING THICKNESS PLUS REQUIRED PENETRATION PER AWS SDPWS TABLE 4.2A OR 4.3A (AS REQUIRED).
   B. EQUIVALENT PNEUMATIC DRIVE NAILS MAY BE USED IF FASTENER MANUFACTURER HAS RECEIVED ICC OR IAPMO APPROVAL FOR THE INTENDED USE. FASTENERS TO BE SUBSTITUTED SHALL BE EQUIVALENT IN LATERAL AND WITHDRAWAL STRENGTH TO THE SIZE OF COMMON NAIL SPECIFIED.
   C. USE OF MACHINE NAILING IS SUBJECT TO A SATISFACTORY JOB SITE DEMONSTRATION FOR EACH PROJECT AND THE APPROVAL BY THE PROJECT ARCHITECT OR STRUCTURAL ENGINEER. THE APPROVAL IS SUBJECT TO CONTINUED SATISFACTORY PERFORMANCE. MACHINE NAILING WILL NOT BE APPROVED IN 5/16" PLYWOOD OR OSB SHEATHING. IF NAIL HEADS PENETRATE THE OUTER PLY MORE T HAN WOULD BE NORMAL FOR A HAND HAMMER OR IF MINIMUM ALLOWABLE EDGE DISTANCES ARE NOT MAINTAINED, THE PERFORMANCE WILL BE DEEMED UNSATISFACTORY.
   D. TYPICAL NAILING SHALL BE 10d AT 6" O.C. AT ALL SUPPORTED EDGES AND OVER SHEAR WALLS, AND 10D AT 12" O.C. AT ALL INTERMEDIATE SUPPORTS, UNLESS OTHERWISE NOTED, SEE PLANS AND REFER TO SHEAR WALL SCHEDULE.

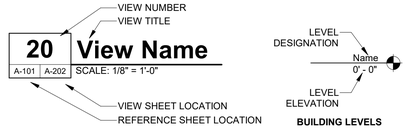
FASTENER PROTECTION

1. FASTENERS USED FOR THE ATTACHMENT OF EXTERIOR WALL COVERINGS SHALL BE OF HOT-DIPPED ZINC-COATED GALVANIZED STEEL, MECHANICALLY DEPOSITED ZINC-COATED STEEL, STAINLESS STEEL, SILICON BRONZE OR COPPER. THE COATING WEIGHTS FOR HOT-DIPPED ZINC-COATED FASTENERS SHALL BE IN ACCORDANCE WITH ASTM A153. THE COATING WEIGHTS FOR MECHANICALLY DEPOSITED ZINC COATED FASTENERS SHALL BE IN ACCORDANCE WITH ASTM B695, CLASS 55 MINIMUM.
2. FASTENERS, INCLUDING NUTS AND WASHERS, AND CONNECTORS IN CONTACT WITH PRESERVATIVE-TREATED AND FIRE-RETARDANT-TREATED WOOD SHALL BE IN ACCORDANCE WITH SECTIONS 2304.10.6.1 THROUGH 2304.10.6.4. THE COATING WEIGHTS FOR ZINC-COATED FASTENERS SHALL BE IN ACCORDANCE WITH ASTM A153. STAINLESS STEEL DRIVEN FASTENERS SHALL BE IN ACCORDANCE WITH THE MATERIAL REQUIREMENTS OF ASTM F1667.
3. FASTENERS, INCLUDING NUTS AND WASHERS, IN CONTACT WITH PRESERVATIVE-TREATED WOOD SHALL BE OF HOT-DIPPED ZINC-COATED GALVANIZED STEEL, STAINLESS STEEL, SILICON BRONZE OR COPPER. STAPLES SHALL BE OF STAINLESS STEEL. FASTENERS OTHER THAN NAILS, STAPLES, TIMBER RIVETS, WOOD SCREWS AND LAG SCREWS SHALL BE PERMITTED TO BE OF MECHANICALLY DEPOSITED ZINC-COATED STEEL WITH COATING WEIGHTS IN ACCORDANCE WITH ASTM B695, CLASS 55 MINIMUM. CONNECTORS THAT ARE USED IN EXTERIOR APPLICATIONS AND IN CONTACT WITH PRESERVATIVE-TREATED WOOD SHALL HAVE COATING TYPES AND WEIGHTS IN ACCORDANCE WITH THE TREATED WOOD OR CONNECTOR MANUFACTURER'S RECOMMENDATIONS. IN THE ABSENCE OF MANUFACTURER'S RECOMMENDATIONS, NOT LESS THAN ASTM A653, TYPE G185 ZINC-COATED GALVANIZED STEEL, OR EQUIVALENT, SHALL BE USED.
4. FASTENINGS, INCLUDING NUTS AND WASHERS, FOR WOOD FOUNDATIONS SHALL BE AS REQUIRED IN AWC PWF.
5. FASTENERS, INCLUDING NUTS AND WASHERS, FOR FIRE-RETARDANT-TREATED WOOD USED IN EXTERIOR APPLICATIONS OR WET OR DAMP LOCATIONS SHALL BE OF HOT-DIPPED ZINC-COATED GALVANIZED STEEL, STAINLESS STEEL, SILICON BRONZE OR COPPER. STAPLES SHALL BE OF STAINLESS STEEL. FASTENERS OTHER THAN NAILS, STAPLES, TIMBER RIVETS, WOOD SCREWS AND LAG SCREWS SHALL BE PERMITTED TO BE OF MECHANICALLY DEPOSITED ZINC-COATED STEEL WITH COATING WEIGHTS IN ACCORDANCE WITH ASTM B695, CLASS 55 MINIMUM.
6. ANCHOR BOLTS, FASTENERS, AND METAL FRAMING CONNECTORS IN CONTACT WITH PRESSURE TREATED LUMBER SHALL BE HOT-DIPPED GALVANIZED TO A RATING OF G-185 PER ASTM A653.

ABBREVIATIONS

A	A/C	AIR CONDITIONING	F	FOC	FACE OF CONCRETE	P	PT	PRESSURE TREATED
A	ABV	ABOVE	F	FOF	FACE OF FINISH	P	PTD	PAINTED
A	ACOUS	ACOUSTICAL	F	FOM	FACE OF MASONRY	P	PV	PHOTO VOLTAIC
A	ACT	ACOUSTICAL CEILING TILE	F	FOS	FACE OF STUD	P	PVC	POLYVINYL CHLORIDE
A	ADA	AMERICANS WITH DISABILITIES ACT	F	FRP	FIBERGLASS REINFORCED PANELS	P	PVMT	PAVEMENT
A	AFCI	ARC FAULT CIRCUIT INTERRUPTER	F	FT	FOOT OR FEET	Q	QTY	QUANTITY
A	AFF	ABOVE FINISH FLOOR	F	FTG	FOOTING	R	R	RADIUS, RISER
A	AL	ALUMINUM	G	GA	GAUGE, GAGE	R	RB	RUBBER BASE
A	ALT	ALTERNATE	G	GALV	GALVANIZED	R	RCP	REFLECTED CEILING PLAN
A	ARCH	ARCHITECT(URAL)	G	GB	GRAB BAR	R	RD	ROOF DRAIN
B	BD	BOARD	G	GC	GENERAL CONTRACTOR	R	REF	REFRIGERATOR
B	BDRM	BEDROOM	G	GFCI	GROUND FAULT CIRCUIT INTERRUPTER	R	REINF	REINFORCED
B	BET	BETWEEN	G	GWB	GYPSUM BOARD	R	REQD	REQUIRED
B	BIT	BITUMINOUS	G	GYP	GYPSUM	R	RH	RIGHT HAND
B	BLDG	BUILDNG	H	HB	HOSE BIBB	R	RM	ROOM
B	BLKG	BLOCKING	H	HC	HOLLOW CORE	R	RO	ROUGH OPENING
B	BLW	BELOW	H	HDWD	HARDWOOD	R	RTU	ROOF TOP UNIT (MECH)
B	BM	BEAM	H	HDWR	HARDWARE	S	S	SOUTH
B	BOT	BOTTOM	H	HGT	HEIGHT	S	SAFB	SOUND ATTENUATION FIBER BATT
B	BUR	BUILT UP ROOF	H	HM	HOLLOW METAL	S	SAWP	SELF ADHEREING WATERPROOFING
C	CB	CATCH BASIN	H	HORIZ	HORIZONTAL	S	SC	SCUPPER/SOLID CORE
C	CBC	CALIFORNIA BUILDING CODE	H	HVAC	HEATING, VENTILATION, A/C	S	SCHED	SCHEDULE
C	CEM	CEMENT	I	ID	INSIDE DIAMETER	S	SEAL	SEALANT
C	CFCI	CONTRACTOR FURNISHED, CONTRACTOR INSTALLED	I	IIC	IMPACT INSULATION CLASS	S	SECT	SECTION
			I	IN	INCH	S	SF	SQUARE FOOT
C	CFM	CUBIC FEET PER MINUTE	I	INCAND	INCANDESCENT	S	SHT	SHEET
C	CIP	CAST IN PLACE	I	INSUL	INSULATION, INSULATED	S	SHTHG	SHEATHING
C	CJ	CONTROL JOINT	I	INT	INTERIOR	S	SIM	SIMILAR
C	CL	CENTER LINE	J	JC	JANITORS CLOSET	S	SM	SHEET METAL
C	CLG	CEILING	J	JT	JOINT	S	SPEC	SPECIFICATION
C	CLO	CLOSET	L	LAM	LAMINATE	S	SQ	SQURE
C	CLR	CLEAR	L	LAV	LAVATORY	S	SS	SOLID SURFACE
C	CMU	CONCRETE MASONRY UNIT	L	LBS	POUNDS	S	SSTL	STAINLESS STEEL
C	CO	CLEAN OUT	L	LEED	LEADERSHIP IN ENERGY AND ENVIRONMENTAL DESIGN	S	STC	SOUND TRANSMISSION CLASS
C	COL	COLUMN				S	STD	STANDARD
C	CONC	CONCRETE	L	LF	LINEAR FEET	S	STL	STEEL
C	CONST	CONSTRUCTION	L	LIN	LINEN CLOSET	S	STOR	STORAGE
C	CONT	CONTINUOUS	L	LINO	LINOLEUM	S	STRUCT	STRUCTURAL
C	CONTR	CONTRACTOR	L	LT(G)	LIGHT(ING)	S	SUSP	SUPSPENDED
C	CPT	CARPET	L	LVL	LAMINATED VENEER LUMBER	S	SV	SHEET VINYL
C	CT	CERAMIC TILE	L	LVT	LUXURY VINYL TILE	S	SYM	SYMMMETRICAL
C	CTR	CENTER	L	LW	LIGHTWEIGHT	T	T	TREAD
D	DBL	DOUBLE	M	MAX	MAXIMUM	T	T&G	TONGUE & GROOVE
D	DF	DRINKING FOUNTAIN	M	MDF	MEDIUM DENSITY FIBERBOARD	T	TEL	TELEPHONE
D	DIA	DIAMETER, DIAPHRAGM	M	MECH	MECHANICAL	T	TEMP	TEMPERED
D	DIM	DIMENSION	M	MEMB	MEMBRANE	T	TER	TERRAZZO
D	DN	DOWN	M	MEP	MECHANICAL, ELECTRICAL, PLUMBING	T	THK	THICK
D	DR	DOOR	M	MFR	MANUFACTURER	T	THR	THRESHOLD
D	DS	DOWN SPOUT	M	MIN	MINIMUM	T	TJI	TRUSS JOIST I-JOIST
D	DTL	DETAIL	M	MISC	MISCELLANEOUS	T	TO	TOP OF
D	DW	DISHWASHER	M	MO	MASONRY OPENING	T	TOS	TOP OF SLAB
D	DWG	DRAWING	M	MTD	MOUNTED	T	TOW	TOP OF WALL
E	(E)	EXISTING	M	MTL	METAL	T	TRANS	TRANSFORMER
E	E	EAST	N	N	NORTH	T	TV	TELEVISION
E	EA	EACH	N	NIC	NOT IN CONTRACT	T	TYP	TYPICAL
E	EJ	EXPANSION JOINT	N	NO	NUMBER	U	UFAS	UNIFORM FEDERAL ACCESSIBILITY STANDARDS
E	EL, ELEV	ELEVATION	N	NOM	NOMINAL			
E	ELEC	ELECTRIC	N	NTS	NOT TO SCALE	U	UG	UNDERGROUND
E	ENCL	ENCLOSURE	O	O.P.	OVERFLOW PIPE	U	UNFIN	UNFINISHED
E	EQ	EQUAL	O	OC	ON CENTER	U	UNO	ULNESS NOTED OTHERWISE
E	EQUIP	EQUIPMENT	O	OD	OVERFLOW DRAIN	U	UV	UTRAVIOLET
E	EXH	EXHAUST	O	OFCI	OWNER FURNISHED, CONTRACTOR INSTALLED	V	VCT	VINYL COMPOSITION TILE
E	EXP	EXPANSION	O	OFF	OFFICE	V	VERT	VERTICAL
E	EXT	EXTERIOR	O	OFOI	OWNER FURNISHED, OWNER INSTALLED	V	VIF	VERIFY IN FIELD
F	FACP	FIRE ALARM CONTROL PANEL	O	OH	OPPOSITE HAND	V	VTR	VENT TERMINATION PIPE
F	FAU	FORCED AIR UNIT	O	OPG	OPENING	V	VWC	VINYL WALL COVERING
F	FAWP	FLUID APPLIED WATERPROOFING	O	OPP	OPPOSITE	W	W	WEST
F	FD	FLOOR DRAIN	P	(P)	PROPOSED	W	W/	WITH
F	FDC	FIRE DEPARTMENT CONNECTION	P	PERM	PERIMETER	W	W/D	WASHER DRYER
F	FE	FIRE EXTINGUISHER	P	PERP	PERPENDICULAR	W	W/O	WITHOUT
F	FEC	FIRE EXTINGUISHER CABINET	P	PG	PAINT GRADE	W	WC	WATERCLOSET
F	FF	FINISHED FLOOR ELEVATION	P	PL	PLATE, PROPERTY LINE	W	WD	WOOD
F	FF&E	FURNITURE, FIXTURES, AND EQUIPMENT	P	PLAM	PLASTIC LAMINATE	W	WDW	WINDOW
F	FG	FINISHED GRADE	P	PLBG	PLUMBING	W	WH	WATER HEATER
F	FH	FIRE HYDRANT	P	PLYWD	PLYWOOD	W	WI	WROUGHT IRON
F	FHC	FIRE HOSE CABINET	P	PNL	PANEL	W	WIN	WINDOW
F	FIN	FINISH	P	PP	POWER POLE	W	WP	WATERPROOF(ING)
F	FIXT	FIXTURE	P	PR	PAIR	W	WR	WEATHER RESISTIVE
F	FLR	FLOOR	P	PRTN	PARTITION	W	WRB	WATER RESISTIVE BARRIER
F	FLUOR	FLOURESCENT	P	PSF	POUNDS PER SQUARE FOOT	W	WSCT	WAINSCOT
F	FND	FOUNDATION	P	PSI	POUNDS PER SQUARE INCH	W	WT	WEIGHT
F	FO	FACE OF	P	PSL	PARALLEL STRAND LUMBER	W	WWF	WELDED WIRE FABRIC
						Y	YD	YARD

SYMBOLS



BUILDING LEVELS

NORTH ARROW

SAWN LUMBER

1. FRAMING LUMBER SHALL MEET THE FOLLOWING MINIMUM STANDARDS EXCEPT WHERE OTHERWISE NOTED:

SAWN LUMBER PROPERTIES				
USE	SIZE	SPECIES	GRADE	REFERENCE
MUDSILLS	2x4	D.F.	STANDARD OR BETTER PRESSURE TREATED	2022 CBC 2303.1.9
	2x6 AND LARGER	D.F.	NO. 2 OR BETTER PRESSURE TREATED	
	2x	REDWOOD	FOUNDATION GRADE	
HORIZONTAL FRAMING LUMBER				
ROOF JOISTS AND RAFTERS	2x	D.F.	NO. 2	WCLIB & WWPA
FLOOR JOISTS	2x	D.F.	NO. 2	
HEADERS AND BEAMS	4x	D.F.	NO. 2	
ANY OTHER HORIZONTAL	4x4 AND SMALLER	D.F.	NO. 2	
	6x6 AND LARGER	D.F.	NO. 1	
VERTICAL FRAMING LUMBER				
TOP PLATES	2x	D.F.	NO. 2	WCLIB & WWPA
STUDS	2x4 & 3x4	D.F.	STUD	
	2x6 & 2x8	D.F.	NO. 2	
POSTS	4x4 & 4x6 POSTS	D.F.	NO. 2	
	6x6 & LARGER POSTS	D.F.	NO. 1	
ALL OTHER FRAMING LUMBER				
ALL OTHER FRAMING LUMBER, UNO	ALL SIZES	D.F.	STANDARD & BETTER	WCLIB & WWPA

2. FLOOR JOISTS SHALL BE GRADE STAMPED "S-DRY" WHICH INDICATES A MOISTURE CONTENT NOT EXCEEDING 19 PERCENT.

3. ALL SOLE PLATES AND TOP PLATES SHALL BE GRADE STAMPED "KD" WHICH INDICATES KILN DRIED WITH A MOISTURE CONTENT NOT EXCEEDING 15 PERCENT AT BUILDINGS WITH 4 OR MORE STORIES.

4. STUD WALLS SHOWN ON PLANS ARE NONBEARING PARTITION WALLS, BEARING WALLS OR SHEAR WALLS BELOW THE FRAMING LEVEL, UNLESS NOTED OTHERWISE. STUDS SHALL BE SIZE AND SPACING AS NOTED IN THE DRAWINGS, SEE PLANS AND ARCHITECTURAL DRAWINGS, UNLESS OTHERWISE NOTED.

5. MINIMUM FRAMING NAILING SHALL CONFORM TO CBC TABLE 2304.10.2. ALL NAILS SHALL BE COMMON WIRE NAILS. PREDRILL NAIL HOLES TO 70% OF NAIL SHANK DIAMETER WHERE NAILING TENDS TO SPLIT WOOD.

6. UNLESS OTHERWISE NOTED, ALL WOOD SILL PLATES UNDER BEARING, EXTERIOR, OR SHEAR WALLS IN CONTACT WITH CONCRETE OR MASONRY SHALL BE BOLTED TO THE CONCRETE OR MASONRY WITH 5/8" ø X BOLTS W/ 0.229" X 3" X 3" PLATE WASHER (GALV) AT 4'-0" O.C. BEGINNING AT 9" O.C. MAXIMUM FROM EACH END OF THE PLATES. THE BOLTS SHALL EXTEND A MINIMUM OF 7 INTO THE CONCRETE OR MASONRY. (POWDER DRIVEN PINS AT 1/3 OF THE BOLT SPACING OR 24 O.C. MAXIMUM MAY BE SUBSTITUTED FOR THE 12" ANCHOR BOLTS AT INTERIOR NON-SHEAR WALLS ONLY).

7. PRESERVATIVE TREATMENT:
   A. WOOD MEMBERS SHALL BE PRESERVATIVE TREATED IN ACCORDANCE WITH AITC 109-07, STANDARD FOR PRESERVATIVE TREATMENT, BASED ON THE SERVICE CONDITION PER THE USE CATEGORIES (UC#) SPECIFIED IN AWPA U1-20.
      a. UC1 - INTERIOR CONSTRUCTION, ABOVE GROUND, DRY - NO PRESERVATIVE TREATMENT REQUIRED.
      b. UC2 - INTERIOR CONSTRUCTION, ABOVE GROUND, WET - PRESERVATIVE TREATMENT REQUIRED IF THE HUMIDITY OR MOISTURE CONDENSATION IS 20% OR GREATER.
      c. UC3 - EXTERIOR CONSTRUCTION ABOVE GROUND - PRESERVATIVE TREATMENT REQUIRED.
   B. FOR ALL TREATED WOOD MEMBERS, ALL CUTS, HOLES OR INJURIES SUCH AS ABRASIONS OR HOLES FROM REMOVAL NAILS AND SPIKES WHICH MAY PENETRATE THE TREATED ZONE SHALL BE FIELD TREATED IN ACCORDANCE WITH AWPA M4-15 . THE FOLLOWING FILED TREATMENTS SHALL BE USED:
      a. BORED HOLES: HOLES FOR CONNECTORS OR BOLTS MAY BE TREATED BY PUMPING COAL TAR ROOFING CEMENT MEETING ASTM D5643 INTO HOLES USING A GREASE GUN OR SIMILAR DEVICE.
      b. EXTERIOR: COPPER NAPHTHENATE.
      c. INTERIOR: INORGANIC BORON PRESERVATIVES LIMITED TO USE IN APPLICATIONS NOT IN CONTACT WITH GROUND AND CONTINUOUSLY PROTECTED FROM LIQUID WATER.
   C. ALL LUMBER IN CONTACT WITH CONCRETE SHALL BE PRESSURE TREATED LUMBER WITH AWPA TREATMENT C2 USING EITHER ALKALINE QUAT (ACQ TYPE B AND D), COPPER AZOLE (CBA-A, CA-B), OR SODIUM BORATES (SBX). ANCHOR BOLTS, FASTENERS, AND METAL FRAMING CONNECTORS IN CONTACT WITH PRESSURE TREATED LUMBER SHALL BE HOT-DIPPED GALVANIZED TO A RATING OF G-185 PER ASTM A653

8. PROVIDE 2 STUDS UNDER ALL 4 X 10 AND LARGER BEAMS OR HEADERS AT SPANS 6 FEET OR LONGER, UNLESS OTHERWISE NOTED. WHERE POSTS OR MULTIPLE STUDS UNDER BEAMS OR HEADERS ARE CALLED FOR ON DRAWINGS THOSE POSTS OR MULTIPLE STUDS SHALL BE CARRIED TO THE FOUNDATION/PODIUM LEVEL.

9. PROVIDE THE FOLLOWING BLOCKING AS A MINIMUM, UNLESS SHOWN OTHERWISE:
2x FULL DEPTH SOLID BLOCKING BETWEEN JOISTS OVER SUPPORT.
2x FULL DEPTH SOLID BLOCKING BETWEEN JOISTS OVER AND BELOW PARTITION WALLS.

10. DOUBLE JOISTS UNDER PARTITIONS RUNNING PARALLEL TO JOISTS, UNLESS SUPPORTED BY A WALL BELOW OR SHOWN OTHERWISE. NAIL DOUBLED JOISTS WITH **16d AT 12" O.C. STAGGERED**

11. BRIDGING SHALL BE 2 X SOLID BLOCKS, INSTALLED AS FOLLOWS:
ROOF JOISTS MORE THAN 10" DEPTH, 8'-0 " O.C. MAXIMUM, NOT MORE THAN 8'-0' FROM SUPPORT.
FLOOR JOISTS MORE THAN 10 " DEPTH, 8'-0 " O.C. MAXIMUM, NOT MORE THAN 8'-0' FROM SUPPORT.

12. JOIST HANGERS AND OTHER METAL FRAMING ACCESSORIES ARE REFERRED TO ON PLANS BY PARTICULAR TYPE AS MANUFACTURED BY SIMPSON STRONG-TIE COMPANY, STOCKTON, CALIFORNIA. ACCESSORIES OF OTHER MANUFACTURES WITH EQUIVALENT LOAD CARRYING CHARACTERISTICS MAY BE USED WITH APPROVAL BY SEOR.

13. FIRE STOPPING, BACKING FOR INTERIOR FINISHES, NONBEARING WALLS, AND OTHER NON-STRUCTURAL FRAMING ARE NOT NECESSARILY SHOWN ON STRUCTURAL DRAWINGS. REFER TO ARCHITECTURAL DRAWINGS.

14. THE TOP OF NON-BEARING WALLS SHALL NOT BE IN CONTACT WITH JOISTS/TRUSSES/RAFTERS ABOVE. REFER TO THE REFERENCED DETAILS FOR REQUIRED GAP, 1/2" MINIMUM, UNLESS NOTED OTHERWISE IN DETAIL.

CONCRETE

1. ALL CONCRETE CONSTRUCTION SHALL CONFORM WITH CHAPTER 19 OF THE CODE AND WITH THE PROVISIONS OF ACI 318-19 .

2. CONCRETE MATERIALS SHALL BE IN ACCORDANCE WITH THE FOLLOWING STANDARDS:

MATERIAL	ASTM STANDARD
PORTLAND CEMENT (TYPE II) [A]	C150
CONCRETE AGGREGATES (HARDROCK)	C33
WATER[B]	C1602
COAL FLY ASH OR POZZOLLAN (CLASS F)	C618
NATURAL OR MANUFACTURED SAND	C33
SLAG	C989

   A. FOR SOILS WITH HIGH CONCENTRATIONS OF SULFATES (EXPOSURES S2 OR S3 PER ACI 318-19 TABLE 19.3.2.1) PORTLAND CEMENT SHALL BE TYPE V. VERIFY WITH PROJECT GEOTECHNICAL REPORT.
   B. WATER SHOULD ONLY BE ADDED AT THE BATCH PLANT. IN NO CASE SHALL THE DESIGN WATER/ CEMENT RATIO BE EXCEEDED.

3. CONCRETE MIXES SHALL BE PROPORTIONED BASED ON SECTION 26.4.3 OF ACI 318-19, WHICH REFERENCES ACI 301-20 ARTICLE 4.2.3 . MIX DESIGNS SHALL INCLUDE DOCUMENTATION OF MIX AVERAGE COMPRESSIVE STRENGTH THROUGH FIELD TEST DATA OR TRAIL MIXTURES IN ACCORDANCE WITH ACI 301-20 ARTICLE 4.2.3.4. SCHEDULE OF STRUCTURAL CONCRETE STRENGTHS AND LOCATIONS (UNO):

LOCATION IN STRUCTURE	MINIMUM STRENGTH (PSI)	DENSITY (PCF)	MAX SLUMP (INst)	MAX WATER/CEMENT RATIO	SLAG/ FLY ASH[A] (MAX)
CONCRETE FOUNDATIONS	3,000	150	4	0.5	0.25
CONCRETE SLAB ON GRADE	3,000	150	4	0.45	0.25
CURBS AND OTHER NON-STRUCTURAL CONCRETE	3,000	150	4	0.5	0.25

A. AS MEASURED BY CEMENTITIOUS WEIGHT

4. READY MIXED CONCRETE SHALL BE MIXED AND DELIVERED IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM C94 OR C685.

5. DEPOSITING AND CONVEYING OF CONCRETE SHALL CONFORM TO SECTION 26.5 OF ACI 318-19 AND PROJECT SPECIFICATIONS.

6. ALL CONCRETE SURFACES AGAINST WHICH NEW CONCRETE IS TO BE PLACED SHALL BE CLEANED AND ROUGHENED TO 1/4" AMPLITUDE.

7. ALL REINFORCING BARS, ANCHOR BOLT HOLDOWNS AND OTHER CONCRETE INSERTS SHALL BE WELL SECURED AND TIED IN POSITION PRIOR TO PLACING CONCRETE. IN NO CASE SHALL ANY REINFORCING BARS, ANCHOR BOLTS, HOLDOWNS OR OTHER CONCRETE INSERTS BE "WET SET" OR "WET-STABBED" INTO CONCRETE DURING THE POUR.

8. PROVIDE SLEEVES FOR PLUMBING AND ELECTRICAL OPENINGS IN CONCRETE BEFORE PLACING. DO NOT CUT ANY REINFORCING WHICH MAY CONFLICT. CORING IN CONCRETE IS NOT PERMITTED WITHOUT SEOR APPROVAL. NOTIFY THE SEOR IN ADVANCE OF CONDITIONS NOT SHOWN ON THE DRAWINGS. SEE THE DRAWINGS FOR ADDITIONAL RESTRICTIONS ON THE PLACEMENT OF OPENINGS IN SLABS AND WALLS.

9. PIPES EMBEDDED IN CONCRETE:
   A. CONCRETE
      a. PIPES LARGER THAN 1-1/2" DIAMETER SHALL NOT BE EMBEDDED IN STRUCTURAL CONCRETE EXCEPT WHERE SPECIFICALLY APPROVED BY SEOR.
      b. NO CONDUITS SHALL BE PLACED IN CONCRETE FILL OVER METAL DECK.
      c. PIPES SHALL NOT DISPLACE OR INTERRUPT REINFORCING BARS.
      d. DO NOT STACK CONDUITS. SPACE EMBEDDED PIPES AND CONDUITS AT A MINIMUM OF 3 DIAMETERS CLEAR FROM OTHER EMBEDDED PIPES/CONDUITS AND REBAR.

STRUCTURAL STEEL

1. STRUCTURAL STEEL SHALL BE DETAILED, FABRICATED AND ERECTED BY AN APPROVED AND LICENSED FABRICATOR IN ACCORDANCE WITH AISC 360-16 AND CHAPTER 22 OF THE CODE.

2. ALL STRUCTURAL STEEL SHALL CONFORM TO THE ASTM DESIGNATION AS INDICATED BELOW (UNO):

STRUCTURAL STEEL MATERIALS	
SHAPE	ASTM/GRADE
W SHAPES, WT SHAPES	A992
PLATES (INCLUDING BASE PLATES)	A572 GR 50
ANGLES, CHANNELS	A36
HSS	A500 GR B
HIGH STRENGTH BOLTES (AS NOTED ON DRAWINGS)	A325/F1852, A490SC/F2280SC A325SC/F1852SC
ANCHOR RODS (UNLESS NOTED ON DRAWINGS)	F1554 GR36
COMMON/MACHINE BOLTS	A307 GR A

3. THE STRUCTURAL STEEL FABRICATOR SHALL FURNISH SHOP DRAWINGS OF ALL STEEL FOR REVIEW AND APPROVAL BY THE AOR AND SEOR PRIOR TO 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, MASONRY, SPRAY ON FIREPROOFING, OR ARE ENCASED BY BUILDING FINISH, SHALL BE LEFT UNPAINTED, EXCEPT AS REQUIRED FOR DESIGNATION OF PROTECTED ZONES.

6. PRIOR TO FABRICATING PLATES, MEMBERS, OR OTHER STEEL ASSEMBLIES ATTACHED TO REINFORCED CONCRETE/MASONRY USING POST-INSTALLED ANCHORS, CONTRACTOR SHALL LOCATE ALL REINFORCEMENT AND CONFIRM CONSTRUCTABILITY OF ANCHOR LOCATIONS. SHOULD CONFLICTS WITH REINFORCEMENT OCCUR, CONTRACTOR SHALL COORDINATE AND SUBMIT ALTERNATE ANCHOR LOCATIONS AND REVISED STEEL FABRICATIONS TO SEOR FOR REVIEW AND APPROVAL. DO NOT CUT OR DAMAGE EXISTING REINFORCEMENT.

7. REFER TO ARCHITECTURAL DRAWINGS FOR STEEL FINISH. ALL STRUCTURAL STEEL AND MISCELLANEOUS METAL EXPOSED TO THE WEATHER SHALL BE HOT DIP GALVANIZED AFTER FABRICATION. PROTECT FIELD WELDS EXPOSED TO THE WEATHER VIA PRIME AND PAINT OR BRUSH / COLD GALVANIZING. REFER TO ARCH DRAWINGS FOR STEEL FINISH.

8. ALL ARCHITECTURALLY EXPOSED STRUCTURAL STEEL (AESS) SHALL CONFORM TO REQUIREMENTS OF AISC 303-22 .

9. ALL WELDING IS TO BE DONE BY CERTIFIED WELDERS USING E70XX ELECTRODES (UNO). ALL WELDS SHALL BE IN CONFORMANCE WITH THE PROJECT SPECIFICATIONS AND THE CODE FOR WELDING IN BUILDING CONSTRUCTION AWS D1.1-15) OF THE AMERICAN WELDING SOCIETY. SEE SPECIAL INSPECTIONS SECTION FOR WELDING INSPECTION REQUIREMENTS. ALL WELDING FOR ELEMENTS OF THE LATERAL FORCE RESISTING SYSTEM SHALL PER AWS D1.8-16 .

10. THE CONTRACTOR SHALL SUBMIT ALL WELDING PROCEDURE SPECIFICATIONS FOR REVIEW AND APPROVAL BY SEOR. THE SUBMITTED WELDING PROCEDURES SHALL INCLUDE ONLY THOSE PROCEDURES RELEVANT TO THIS PROJECT. ALL WELDED JOINTS SHALL BE PREQUALIFIED PER AWS OR BE QUALIFIED BY TEST PER AWS. A PROCEDURE QUALIFICATION RECORD (PQR) SHALL BE INCLUDED WITH THE WPS IF THE WELDING PROCEDURE OR JOINT IS QUALIFIED BY TESTING. THE ELECTRODE MANUFACTURER AND PRODUCT/TRADE NAME SHALL BE IDENTIFIED IN THE WPS IN ADDITION TO THE AWS ELECTRODE CLASSIFICATION NAME. A COPY OF THE ELECTRODE MANUFACTURER'S TECHNICAL DATA SHEETS WITH THE RECOMMENDED WELDING PARAMETERS SHALL BE SUBMITTED WITH THE WPS.

11. 100 PERCENT ULTRASONIC TESTING IS REQUIRED FOR ALL COMPLETE JOINT PENETRATION GROOVE WELDS.

12. IF INTERMIXING OF WELD FILLER MATERIAL IS REQUIRED AT SPECIFIC WELDED JOINTS, AND IF ONE OF THE FILLER METALS IS FCAW-S, SUBMIT A WELDING PROCEDURE SPECIFICATION (WPS) AND QUALIFY BY TESTING.

13. DISCONTINUITIES IN WELDS CREATED BY ERRORS OR BY FABRICATION OR ERECTION OPERATIONS, SUCH AS TACK WELDS, ERECTION AIDS, AIR ARC GOUGING AND FLAME CUTTING SHALL BE REPAIRED AS REQUIRED BY SEOR.

REINFORCING STEEL

1. REINFORCING BARS SHALL CONFORM TO THE REQUIREMENTS OF CHAPTER 19 OF THE CODE AND WITH THE PROVISIONS OF ACI 318-19 , ASTM A706, GRADE 60 UNO. ASTM A615 GR 60 STEEL MAY BE SUBSTITUTED FOR ASTM A706 GR60 STEEL PER ACI 318-19 SECTION 20.2.2.5 PROVIDED THE FOLLOWING CONDITIONS ARE MET:
   A. THE ACTUAL YIELD STRENGTH BASED ON MILL TESTS DOES NOT EXCEED THE SPECIFIED YIELD STRENGTH BY MORE THAN 18,000 PSI.
   B. THE RATIO OF THE ACTUAL ULTIMATE TENSILE STRESS TO THE ACTUAL YIELD STRENGTH IS NOT LESS THAN 1.25.
   C. WHERE REINFORCEMENT COMPLYING WITH ASTM A615 IS TO BE WELDED, CHEMICAL TESTS SHALL BE PERFORMED TO DETERMINE WELDABILITY IN ACCORDANCE WITH SECTION 26.6.4 OF ACI 318-19 .

2. BARS SHALL BE CLEAN OF RUST, GREASE, OR OTHER MATERIALS LIKELY TO IMPAIR BOND. ALL REINFORCING BAR BENDS SHALL BE MADE COLD.

3. WELDED WIRE REINFORCEMENT (WWR), PLAIN OR DEFORMED, SHALL CONFORM TO ASTM A185. WELDED DEFORMED WIRE REINFORCEMENT (WWR) SHALL CONFORM TO ASTM A1064. ALL WWR FOR STAIR PANS AND ALL WWR FOR CONCRETE FILL ON METAL DECK TO BE PLAIN WWR. PROVIDE LAPS PER ACI 318-19 SECTION 25.5.3 OR 25.5.4 MINIMUM. WWR SHALL BE SUPPORTED ON APPROVED CHAIRS.

4. REINFORCING BAR LAP SPLICES SHALL BE MADE AS INDICATED ON THE DRAWINGS. LAP ALL HORIZONTAL BARS AT CORNERS AND INTERSECTIONS. STAGGER ALL SPLICES UNLESS NOTED OTHERWISE ON PLANS.
   A. MINIMUM LAP SPLICE LENGTH FOR REINFORCING STEEL BARS IN CONCRETE SHALL BE PER ACI 318-19 SECTION 25.5.2 AND THE REINFORCING SCHEDULE ON THE DRAWINGS.
   B. MINIMUM LAP SPLICE LENGTH FOR REINFORCING STEEL BARS IN MASONRY SHALL BE PER TMS 042-16 SECTION 6.1.6.AND THE REINFORCING SCHEDULE ON THE DRAWINGS.

5. ALL BARS SHALL BE MARKED SO THEIR IDENTIFICATION CAN BE MADE WHEN THE FINAL IN-PLACE INSPECTION IS MADE. ALL REINFORCING CONFORMING TO DIFFERING ASTM SPECIFICATIONS AND/OR OF DIFFERING GRADES SHALL BE CLEARLY MARKED TO DIFFERENTIATE THEM FROM OTHER REINFORCING STEEL IF CONCURRENTLY PRESENT ON SITE.

6. WHERE WELDING OF REINFORCING IS APPROVED BY THE STRUCTURAL ENGINEER, IT SHALL BE DONE BY AWS CERTIFIED WELDERS USING E80XX OR APPROVED ELECTRODES. WELDING PROCEDURES SHALL CONFORM TO THE REQUIREMENTS OF STRUCTURAL WELDING CODE- REINFORCING STEEL", AWS-D1.4-15 . REINFORCING BARS TO BE WELDED SHALL CONFORM TO THE REQUIREMENTS OF ASTM A706.

7. REINFORCING STEEL SHALL BE ACCURATELY PLACED, ADEQUATELY SUPPORTED AND SHALL BE SECURED AGAINST DISPLACEMENT, AND TIED BEFORE THE CONCRETE IS PLACED DURING CONSTRUCTION WITHIN PERMITTED TOLERANCES. ADEQUATE SUPPORTS ARE ALSO NECESSARY TO KEEP THE REINFORCING STEEL AT THE PROPER DISTANCE FROM THE FORMS. USE WIRE BAR SUPPORTS, PRECAST CONCRETE SUPPORTS, SPACERS, BOLSTERS, REINFORCEMENT OR OTHER MEANS OF SUPPORT PER THE "CRSI MANUAL OF STANDARD PRACTICE", LATEST EDITION.

8. REINFORCING STEEL SHALL BE DETAILED IN ACCORDANCE WITH THE "CRSI MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES", LATEST EDITION.

9. COMPLETE AND DETAILED REINFORCING PLACEMENT DRAWINGS SHALL BE PREPARED AND SUBMITTED TO THE ARCHITECT FOR APPROVAL BY THE SEOR PRIOR TO FABRICATION IN ACCORDANCE WITH THE SPECIFICATIONS AND APPLICABLE CODES. THESE DRAWINGS SHALL BE AVAILABLE ON THE JOB SITE PRIOR TO PLACING OF CONCRETE. THE REINFORCING PLACEMENT DRAWINGS SHALL INCLUDE ALL PRIMARY REINFOREMENT, LAP SPLICES, TIES, DOWELS, HEADED U-DOWELS, EMBED PLATES, ANCHOR BOLTS, ETC. AREAS OF CONGESTION SHALL BE DETAILED SUFFICIENTLY TO DEMONSTRATE THAT PLACEMENT OF REBAR MEETS SPACING REQUIREMENTS OF ACI 318-19 .

10. MILL TEST REPORTS FOR GRADE 60 BARS SHALL BE SUBMITTED TO THE INSPECTOR OF RECORD PRIOR TO PLACEMENT OF CONCRETE PER ACI 318-19 SECTION 26.13.2.3 OF THE CODE.

11. WHEN REQ'D, INSPECTION OF CONCRETE SHALL INCLUDE INSPECTION DURING INSTALLATION OF REINFORCING STEEL. INSPECTION SHALL BE SCHEDULED SO THAT PLACEMENT OF REINFORCING STEEL, CONDUIT, SLEEVES, AND EMBEDDED ITEMS MAY BE CORRECTED PRIOR TO PLACEMENT OF OVERLYING GRIDS OR REINFORCING STEEL.

12. CONCRETE PROTECTION FOR REINFORCEMENT

THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCEMENT IN CAST-IN-PLACE CONCRETE (NON-PRESTRESSED):	MINIMUM COVER, IN.
A. CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH	3
B. CONCRETE EXPOSED TO EARTH OR WEATHER:	
NO.6 THROUGH NO. 18 BAR	2
NO.5 BAR, W31 OR D31 WIRE & SMALLER	1 ½"
C. CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND:	
SLABS, WALLS, JOISTS:	
NO.14 AND NO.18 BARS	1 ½"
NO.11 BAR & SMALLER	¾"
BEAMS, COLUMNS:	
PRIMARY REINFORCEMENT TIES, STIRRUPS, SPIRALS	1 ½"

13. MECHANICAL BAR SPLICE CONNECTIONS SHALL CONFORM TO THE REQUIREMENTS OF ACI 318-19 SECTION 25.5.7 USE OF MECHANICAL CONNECTIONS SHALL BE APPROVED BY THE STRUCTURAL ENGINEER. SPLICES MUST BE TESTED AS INDICATED IN THE CONCRETE REINFORCEMENT SPECIFICATION.

ACCEPTABLE PRODUCTS INCLUDE:

LENTON STANDARD COUPLERS (IAPMO-ES 0129)
LENTON FORM SAVERS, TYPE SA (IAPMO-ES 0129)
LENTON WELDABLE HALF COUPLERS (IAPMO-ES 0129)
LENTON LOCK COUPLERS PER (IAPMO-ES 0129)

NOTE THAT REBAR ATTACHED TO PLATE USING LENTON WELDABLE HALF COUPLERS SHALL BE ASTM A706 PER IAPMO-ES 0129.

ALL MECHANICAL BAR SPLICE CONNECTIONS IN SPECIAL STRUCTURAL WALLS, SPECIAL MOMENT FRAMES AND CONCRETE DIAPHRAGMS SHALL BE TYPE 2 CONFORMING TO THE REQUIREMENTS OF ACI 318-19 SECTION 18.2.7 & 18.12.7.4

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GENERAL NOTES

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△		

PROJECT MANAGER
MH
DRAWN BY JM/BB/MH/GK/ED
CHECKED BY MH
DATE 12/31/2025
PROJECT NUMBER 3244-01-ED23
SHEET G-102

100% CD

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PERMANENT SIGNAGE TO BE WALL MOUNTED AS INDICATED ON SIGNAGE PLAN.

VISUAL CHARACTERS TO COMPLY WITH 11B-703.5.

PICTOGRAM TO COMPLY WITH 11B-703.6 AND 11B-703.7.

NOTE: REFER TO SECTION 26 7700 ASSISTIVE LISTENING SYSTEM FOR REQUIRED NUMBER OF RECEIVERS TO BE PROVIDED.

REF 11B-703.6

NOTE THE FOLLOWING ASSISTIVE LISTENING SYSTEM REQUIREMENTS:

1. ASSISTIVE LISTENING SYSTEMS (ALS) SHALL BE PROVIDED IN ACCORDANCE WITH CBC SECTION 11B-219 AND SHALL COMPLY WITH SECTION 11B-706.
2. THE MINIMUM NUMBER OF ALS RECEIVERS TO BE PROVIDED SHALL BE EQUAL TO 4% OF THE TOTAL NUMBER OF SEATS OR OCCUPANT LOADS, BUT IN NO CASE LESS THAN TWO.
3. AT LEAST 25% OF RECEIVERS PROVIDED, BUT NO FEWER THAN TWO, SHALL BE HEARING-AID COMPATIBLE AND SHALL INTERFACE WITH TELECOILS IN HEARING AIDS THROUGH THE PROVISION OF NECKLOOPS PER CBC SECTION 11B-706.3.
4. WHERE AREAS REQUIRED TO PROVIDE ALS ARE UNDER ONE MANAGEMENT, THE TOTAL NUMBER OF REQUIRED RECEIVERS IS PERMITTED TO BE CALCULATED ACCORDING TO THE TOTAL NUMBER OF SEATS OR OCCUPANT LOADS IN THE AREAS.
5. AN ADEQUATE NUMBER OF ELECTRICAL OUTLETS OR OTHER SUPPLEMENTARY WIRING NECESSARY TO SUPPORT A PORTABLE ALS SHALL BE PROVIDED.

2 ASSISTIVE LISTENING SIGN

A-100 | A-100 SCALE: 3" = 1'-0"

LEGEND

SEPARATION & SYMBOLS:

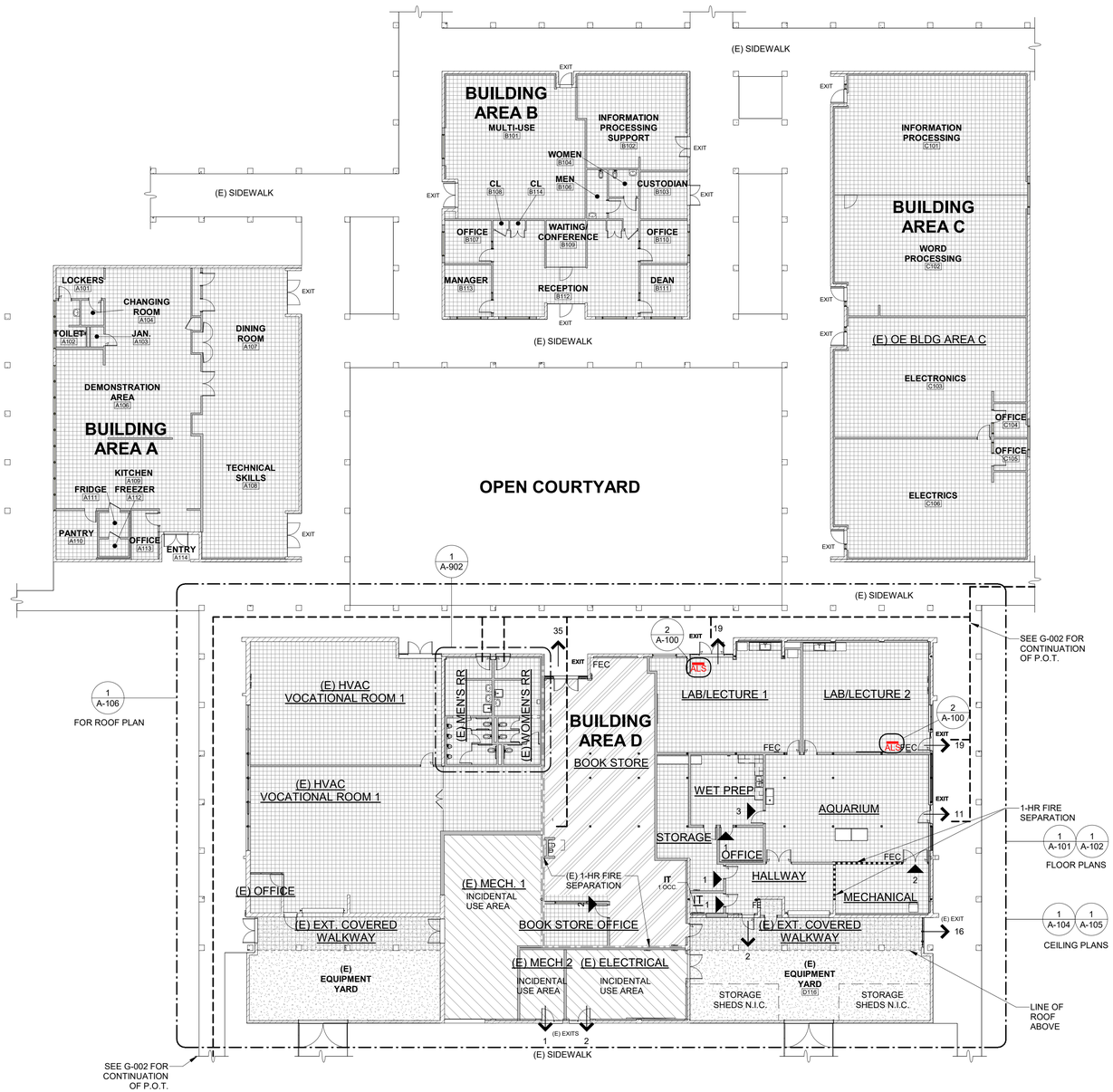
- (E) CMU WALL
- (E) NON-RATED WALL
- (E) 1-HR FIRE PARTITION
- (N) 1-HR FIRE PARTITION
- (E) COVERED WALK
- FEC — FIRE EXTINGUISHER CABINET 2A:10B:C
- ALS — ASSISSTIVE LISTENING DEVICE SIGNAGE. SEE 2/-.

OCCUPANT EGRESS:

- ACCESSIBLE PATH OF TRAVEL

OCCUPANCY GROUPS

- B
- B (INCIDENTAL USE)
- M



1 OVERALL FLOOR PLAN

A-301 | A-100 SCALE: 1/16" = 1'-0"

OCCUPANCY CALCULATIONS BUILDING AREA D

AREA NAME	AREA	NET / GROSS	OCCUPANCY				MAX. OCC. LOAD FOR ONE EXIT (2022 CBC TABLE 1006.2.1)	EXITS REQUIRED	EXITS PROVIDED
			OCCUPANCY TYPE	FUNCTION OF SPACE (2022 CBC TABLE 1004.5)	LOAD FACTOR	OCCUPANT LOAD			
(E) ELECTRICAL	563 SF	GROSS	B (INCIDENTAL USE)	ACCESSORY STORAGE AREAS, MECHANICAL EQUIPMENT ROOM	300	2			
(E) HVAC VOCATIONAL ROOM 1	2113 SF	NET	B	EDUCATIONAL: SHOPS AND OTHER VOCATIONAL ROOM AREAS	50	43	49	1	2
(E) HVAC VOCATIONAL ROOM 1	1493 SF	NET	B	EDUCATIONAL: SHOPS AND OTHER VOCATIONAL ROOM AREAS	50	30	49	1	2
(E) MECH 2	210 SF	GROSS	B (INCIDENTAL USE)	ACCESSORY STORAGE AREAS, MECHANICAL EQUIPMENT ROOM	300	1			
(E) MECH. 1	1052 SF	GROSS	B (INCIDENTAL USE)	ACCESSORY STORAGE AREAS, MECHANICAL EQUIPMENT ROOM	300	4			
(E) MEN'S RR	351 SF	GROSS	B	ACCESSORY STORAGE AREAS, MECHANICAL EQUIPMENT ROOM	300	2	49	1	1
(E) OFFICE	93 SF	GROSS	B	BUSINESS AREAS	150	1	49	1	1
(E) WOMEN'S RR	322 SF	GROSS	B	ACCESSORY STORAGE AREAS, MECHANICAL EQUIPMENT ROOM	300	2	49	1	1
AQUARIUM	1110 SF	NET	B	EDUCATIONAL: SHOPS AND OTHER VOCATIONAL ROOM AREAS	50	23	49	1	1
BOOK STORE	1908 SF	GROSS	M	MERCANTILE	60	32	49	1	1
BOOK STORE OFFICE	208 SF	GROSS	B	BUSINESS AREAS	150	2	49	1	1
HALLWAY	329 SF	GROSS	B	ACCESSORY STORAGE AREAS, MECHANICAL EQUIPMENT ROOM	300	2		1	1
IT	54 SF	GROSS	B	ACCESSORY STORAGE AREAS, MECHANICAL EQUIPMENT ROOM	300	1	29	1	1
LAB/LECTURE 1	973 SF	NET	B	EDUCATIONAL: CLASSROOM AREA	20	49	49	1	1
LAB/LECTURE 2	890 SF	NET	B	EDUCATIONAL: CLASSROOM AREA	20	45	49	1	1
MECHANICAL	311 SF	GROSS	B	ACCESSORY STORAGE AREAS, MECHANICAL EQUIPMENT ROOM	300	2	29	1	1
OFFICE	104 SF	GROSS	B	BUSINESS AREAS	150	1	49	1	1
STORAGE	321 SF	GROSS	B	ACCESSORY STORAGE AREAS, MECHANICAL EQUIPMENT ROOM	300	2	49	1	1
WET PREP	321 SF	NET	B	EDUCATIONAL: SHOPS AND OTHER VOCATIONAL ROOM AREAS	50	7	49	1	1
	12728 SF					251			

INCIDENTAL USE AREAS CALCULATIONS:

TOTAL BUILDING AREA = 25,732 SF
10% OF TOTAL BUILDING AREA = 2,574 SF
INCIDENTAL USE AREAS (E) MECH 1, (E) MECH 2, AND (E) ELECTRICAL = 1,826 SF
1,826 S.F. < 2756 S.F.
THEREFORE 1-HOUR FIRE SEPARATION REQUIRED BETWEEN INCIDENTAL USE AREAS AND OTHER SPACES

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OVERALL FLOOR PLAN AND CODE ANALYSIS

NO.	REVISION	DATE

PROJECT MANAGER: MH
DRAWN BY: JM/BB/MH/GK/ED | CHECKED BY: MH
DATE: 12/31/2025
PROJECT NUMBER: 3244-01-ED23
SHEET: A-100

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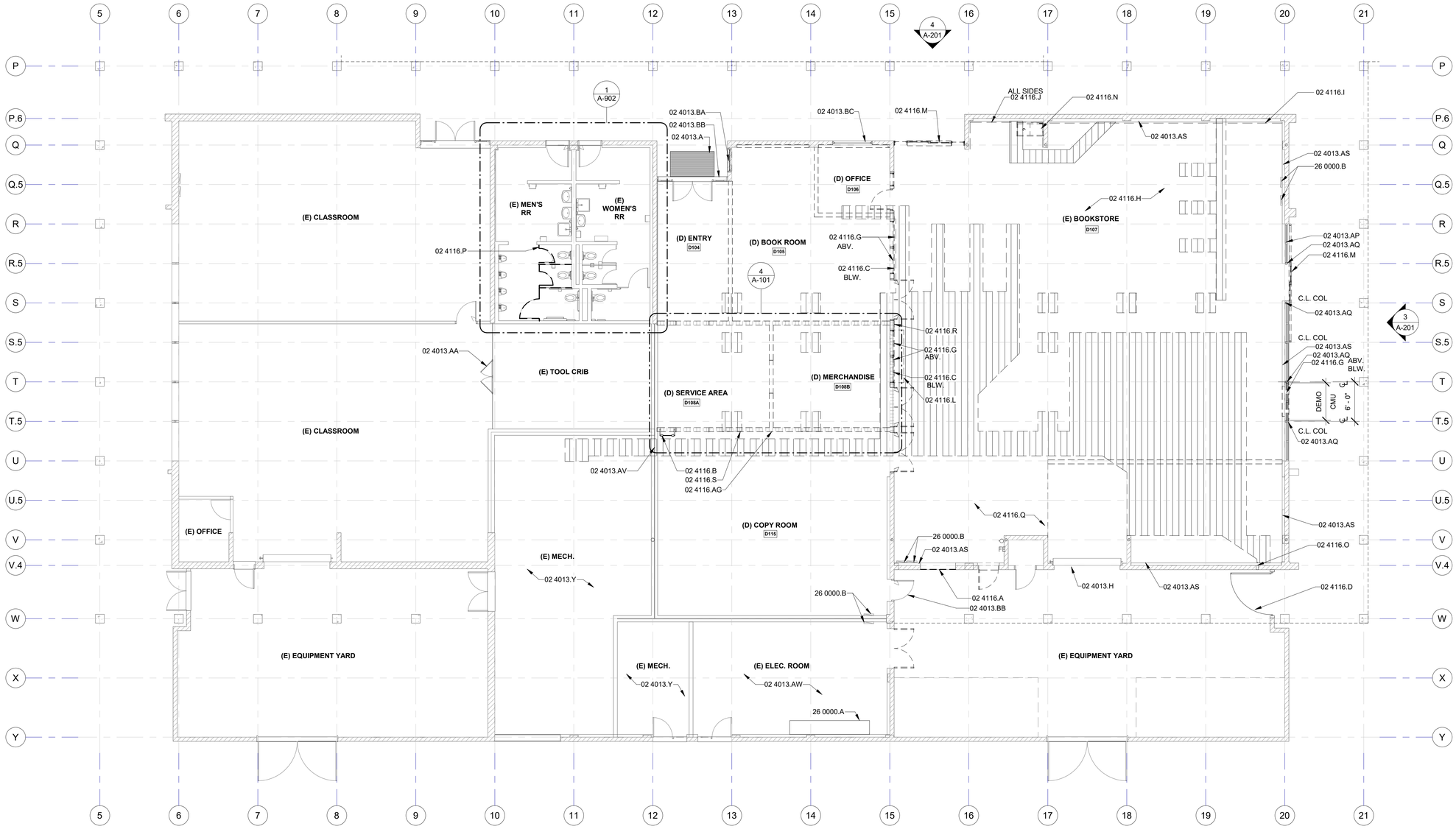
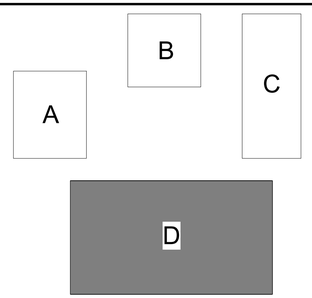


1 EXISTING/DEMO FLOOR PLAN

A-100 | A-101 SCALE: 1/8" = 1'-0"

KEY PLAN



KEY PLAN - OCCUPATIONAL EDUCATION BUILDING

LEGEND

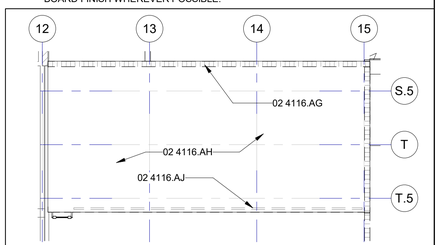
	EXISTING FRAMED WALL, TO REMAIN
	EXISTING WALL, REMOVE
	EXISTING CMU WALL, TO REMAIN
	EXISTING FURRED WALL OVER CMU WALL, TO REMAIN
	EXISTING CONCRETE WALL, TO REMAIN
	EXISTING DOOR, REMOVE DOOR AND FRAME
	EXISTING DOOR, TO REMAIN
	EXISTING 4" REINFORCED CONCRETE SLAB, REMOVE. SEE A-103.1 FOR REPLACEMENT

KEYNOTES

02 4013.A	EXISTING RECESSED ENTRANCE MAT, TO REMAIN, PROTECT IN PLACE, REPLACE AT NO COST TO DISTRICT IF DAMAGED OR STAINED
02 4013.AA	EXISTING CHAINLINK GATE AND FENCE TO REMAIN
02 4013.AP	EXISTING STEEL WINDOW TO REMAIN, REPAINT, TYP. U.N.O.
02 4013.AQ	EXISTING HSS 3.5x3.5x0.3125 COLUMN TO REMAIN. PROTECT IN PLACE.
02 4013.AS	EXISTING METAL STUD WALL TO REMAIN; REMOVE (E) GWB AND INSULATION ONLY AS REQUIRED FOR NEW WORK. SEE DEMO GEN. NOTE 4.
02 4013.AV	EXISTING SLAB UNDER WALL, TO REMAIN
02 4013.AW	EXISTING ELECTRICAL EQUIPMENT TO REMAIN. SEE ELECTRICAL DRAWINGS
02 4013.BA	EXISTING HOLLOW METAL FRAME WITH DIVIDED LITES AND GLAZING, REMOVE AND REPLACE GLASS WITH 1/2" THICK TEMPERED GLASS, PAINT FRAME TO MATCH (E)
02 4013.BB	EXISTING DOORS, FRAME, AND COMPLIANT HARDWARE, TO REMAIN. PATCH/ PREP/ PRIME/ PAINT TO MATCH EXISTING.
02 4013.BC	EXISTING STEEL FRAME WINDOW, TO REMAIN. PAINT FRAME TO MATCH EXISTING
02 4013.H	EXISTING MANUAL COILING DOOR, TO REMAIN.
02 4013.Y	EXISTING MECHANICAL EQUIPMENT, TO REMAIN, TYP. SEE MECHANICAL DRAWINGS
02 4116.A	EXISTING LOUVER, REMOVE.
02 4116.AG	EXISTING MEZZANINE WALL, TO REMOVE.
02 4116.AH	EXISTING MEZZANINE FLOOR, TO REMOVE.
02 4116.AJ	EXISTING MEZZANINE GUARDRAIL, TO REMOVE.
02 4116.B	EXISTING METAL ACCESS LADDER TO PLATFORM ABOVE, REMOVE.
02 4116.C	EXISTING PARTIAL HEIGHT MASONRY WALL, REMOVE. SCARIFY AND PATCH CONCRETE AT SLAB TO ACCEPT CONCRETE SLAB REFINISH.
02 4116.D	EXISTING SWINGING GATE, TO REMAIN.
02 4116.G	EXISTING STEEL WINDOW, REMOVE.
02 4116.H	EXISTING VINYL TILE FLOORING, REMOVE THROUGHOUT PROJECT AREA, PREP FLOOR FOR NEW CONCRETE FINISH
02 4116.I	EXISTING SLATWALL, PATCH/ REPAIR/ PAINT GYP. BOARD SUBSTRATE
02 4116.J	EXISTING CERAMIC TILE WALL, REMOVE FINISH AND GYPSUM BOARD ONLY.
02 4116.L	EXISTING SERVICE COUNTER, REMOVE.
02 4116.M	EXISTING SLIDING GLASS DOOR. REMOVE DOOR, TRACK AND POWER. PATCH HOLES TO MATCH EXISTING. SEE MECHANICAL DRAWINGS
02 4116.N	EXISTING SINK STATION. CAREFULLY REMOVE AND REINSTALL IN AQUARIUM.
02 4116.O	CORE 5" DIAMETER HOLE AT IN MASONRY WALL FOR DRYER VENT, MIN. 8" EDGE DISTANCE FROM TOP & BOTTOM OF CMU WALL. (E) REINFORCING BARS SHALL NOT BE CUT OR DAMAGED. FIELD VERIFY HEIGHT ABOVE FINISHED FLOOR. SEE 24/A-903.
02 4116.P	EXISTING TOILET PARTITION WALL AND DOOR, REMOVE
02 4116.Q	EXISTING EXPOSED CONCRETE SLAB, CLEAN AND PREP SURFACE FOR FINISH.
02 4116.R	EXISTING METAL FRAMED WALL ABOVE, REMOVE.
02 4116.S	EXISTING EQUIPMENT PLATFORM ABV., REMOVE.
26 0000.A	EXISTING MAIN SWITCH BOARD (MSA), TO REMAIN. SEE ELECTRICAL DRAWINGS
26 0000.B	EXISTING ELECTRICAL PANEL. SEE ELECTRICAL DRAWINGS

DEMOLITION GENERAL NOTES

1. NO DEMOLITION SHALL BEGIN UNTIL PLANS INCLUDING THE DEMOLITION WORK HAVE BEEN APPROVED BY DSA.
2. REVIEW EXISTING WALLS TO REMAIN AND SELECTIVELY DEMOLISH GYPSUM BOARD TO ALLOW FOR NEW CONSTRUCTION. PRESERVE EXISTING GYPSUM BOARD FINISH WHEREVER POSSIBLE.



4 A-101 | A-101 **MEZZANINE DEMO PLAN**

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

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CONSULTING ENGINEER

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4000 S ROSE AVE. OXNARD, CA 93033

BLDG D - EXISTING/DEMO FLOOR PLAN

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PROJECT MANAGER: MH
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DATE: 12/31/2025
PROJECT NUMBER: 3244-01-ED23
SHEET: A-101

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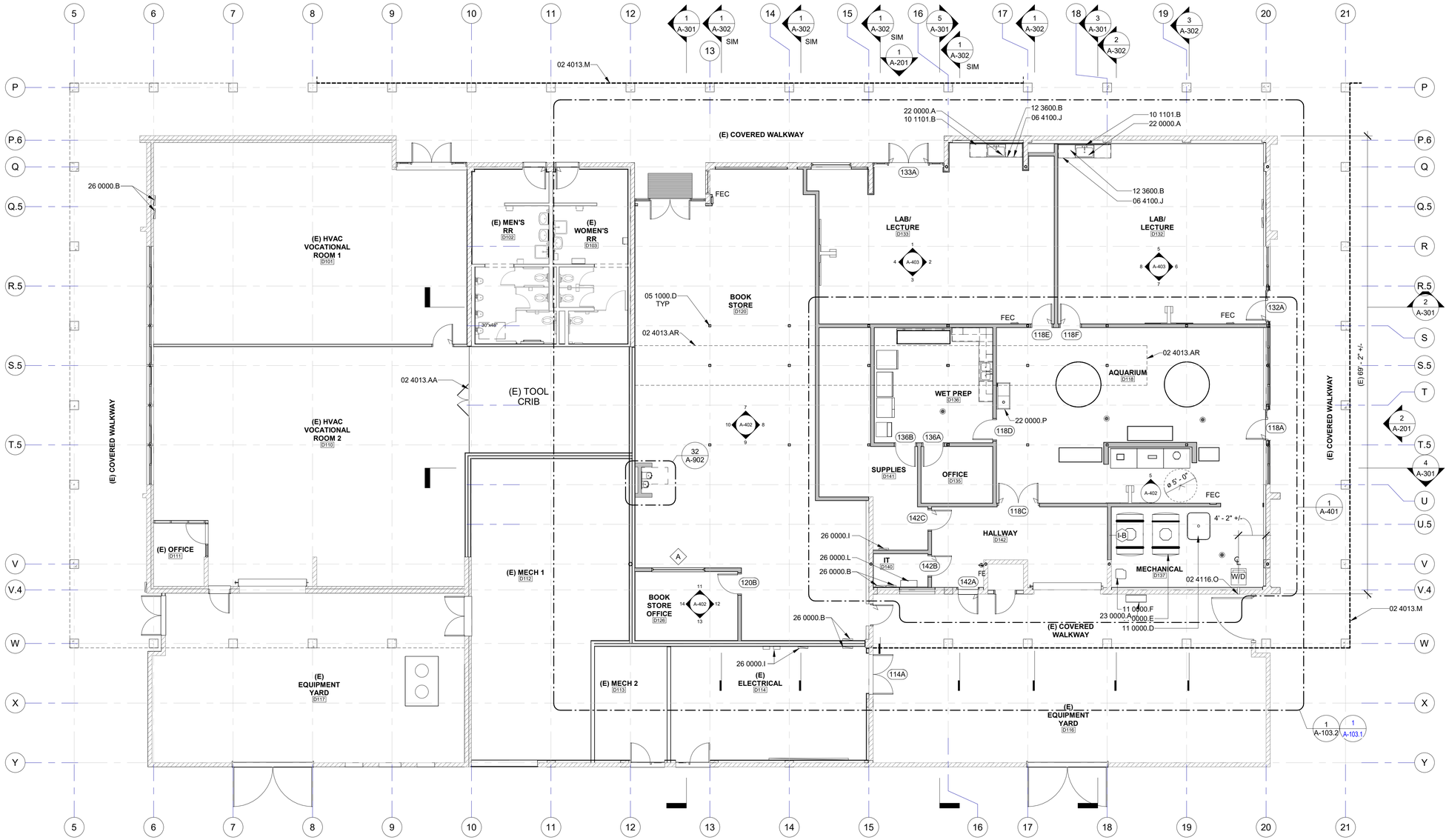
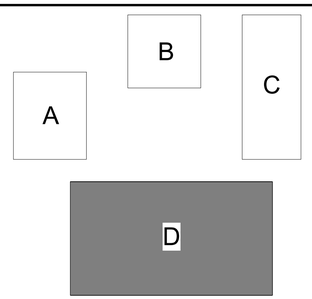


1 BLDG D - PROPOSED FLOOR PLAN

A-100 | A-102 SCALE: 1/8" = 1'-0"

NORTH

KEY PLAN



KEY PLAN - OCCUPATIONAL EDUCATION BUILDING

LEGEND

- EXISTING CMU WALL, TO REMAIN
- EXISTING FRAMED WALL, TO REMAIN
- PROPOSED WALL, SEE SHEET A-103.2
- EXISTING FURRED WALL OVER EXISTING CMU WALL, TO REMAIN
- EXISTING DOOR, TO REMAIN
- DOOR AND DOOR TAG, SEE DOOR SCHEDULE
- WINDOW AND WINDOW TAG, SEE WINDOW SCHEDULE
- FEC — ACCESSIBLE FIRE EXTINGUISHER CABINET. SEE DETAIL **41 / A-901**
- ACCESSIBLE HIGH-LOW DRINKING FOUNTAIN ON FURRED WALL **32 / A-902**

KEYNOTES

02 4013.AA	EXISTING CHAINLINK GATE AND FENCE TO REMAIN
02 4013.AR	LINE OF EXISTING SKYLIGHT ABOVE, TYP.
02 4013.M	LINE OF EXISTING COVERED WALKWAY ABOVE, TYP.
02 4116.O	CORE 5" DIAMETER HOLE AT IN MASONRY WALL FOR DRYER VENT, MIN. 8" EDGE DISTANCE FROM TOP & BOTTOM OF CMU WALL. (E) REINFORCING BARS SHALL NOT BE CUT OR DAMAGED. FIELD VERIFY HEIGHT ABOVE FINISHED FLOOR. SEE 24/A-903.
05 1000.D	HSS 4x4x1/4 A500 GR. B STEEL COLUMN. TYP., ALIGN WITH BOTTOM CHORD AND STRUTS OF TRUSS ABV., PAINT
06 4100.J	BASE CABINETS W/ DRAWERS, DOORS & ADJUSTABLE SHELVING
10 1101.B	PEGBOARD BY OWNER, CONTRACTOR TO PROVIDE BLOCKING PER DETAIL 52/A-906 ACROSS THE WIDTH OF THE COUNTERTOP AT 48" AND 72" A.F.F. VERIFY HEIGHTS IN FIELD.
11 0000.D	ULINE IBC TANK WITH PLASTIC PALLET 275 GALLON
11 0000.E	ROMOTECH 550 GALLON PLASTIC STORAGE TANK 82124269, TYP. OF (2)
11 0000.F	MSE PRO DEIONIZED (DI) WATER FILTRATION SYSTEM
12 3600.B	SOLID SURFACE COUNTERTOP
22 0000.A	SINK AND EYEWASH STATION. REFER TO PLUMBING
22 0000.P	SINK, SEE P-801
23 0000.A	MECHANICAL EQUIPMENT. REFER TO MECHANICAL
26 0000.B	EXISTING ELECTRICAL PANEL. SEE ELECTRICAL DRAWINGS
26 0000.I	ELECTRICAL EQUIPMENT. SEE ELECTRICAL DRAWINGS
26 0000.L	IT CABINET. SEE ELECTRICAL DRAWINGS

FLOOR PLAN GENERAL NOTES

1. REFER TO GENERAL NOTES ON SHEETS G-001 AND G-101 FOR ADDITIONAL REQUIREMENTS.
2. REFER TO MECHANICAL, PLUMBING, ELECTRICAL, AND FIRE ALARM PLANS FOR FURTHER INFORMATION.
3. DIMENSIONS ARE TO FACE OF MASONRY OR CENTERLINE OF STUD UNLESS SPECIFICALLY NOTED OTHERWISE.
4. PROVIDE ADEQUATE BLOCKING IN WALLS FOR CABINETS AND OTHER WALL MOUNTED ACCESSORIES.
5. PROVIDE FIREBLOCKING FOR WALL CAVITIES THAT EXCEED **2022 CBC** HEIGHT LIMITATIONS.
6. DOOR AND WINDOW DIMENSIONS ARE CENTERED AT OPENINGS UNO.
7. WHERE DOOR IS LOCATED WITHOUT DIMENSION AT THE CORNER OF A ROOM IT SHALL BE 4" FROM FACE OF FRAMING OF ADJACENT WALL TO ROUGH DOOR OPENING.
8. SEE CODE ANALYSIS FOR LOCATIONS OF FIRE PARTITIONS AND FIRE BARRIERS.
9. WHERE RECESSED FIXTURES OCCUR IN WALLS OR HORIZONTAL ASSEMBLIES, THE FIRE RATING OF THOSE ASSEMBLIES SHALL BE MAINTAINED.
10. AT ALL PENETRATIONS AND INTERSECTIONS OF FIRE-RATED PARTITIONS, PROVIDE FIRE SEALANT AND/OR FIRE STOPPING TO MAINTAIN CONTINUITY OF PARTITION RATING.
11. ADD ACOUSTIC BATT INSULATIO TO THE FULL DEPTH AND HEIGHT OF ALL WALLS.
12. APPLY ACOUSTIC SEALANT AT THE PERIMETER OF GYPSUM BOARD WALL FINISHES AND IN THE ANNULAR SPACES OF ALL UTILITY PENETRATIONS AND ELECTRICAL BOXES.
13. SEE SHEETS A-903, A-904, A-905, A-906, AND A-907 FOR GENERAL CONCRETE, MASONRY, AND STEEL FRAMING DETAILS.
14. PREDRILL PILOT HOLES AND USE CMU SCREWS WHERE FURRING ATTACHES TO CMU WALLS. SCREW- BOLT+ ICC ESR-4042, 2-1/2" MIN. EMBED.

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BLDG D - PROPOSED FLOOR PLAN

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SHEET: A-102

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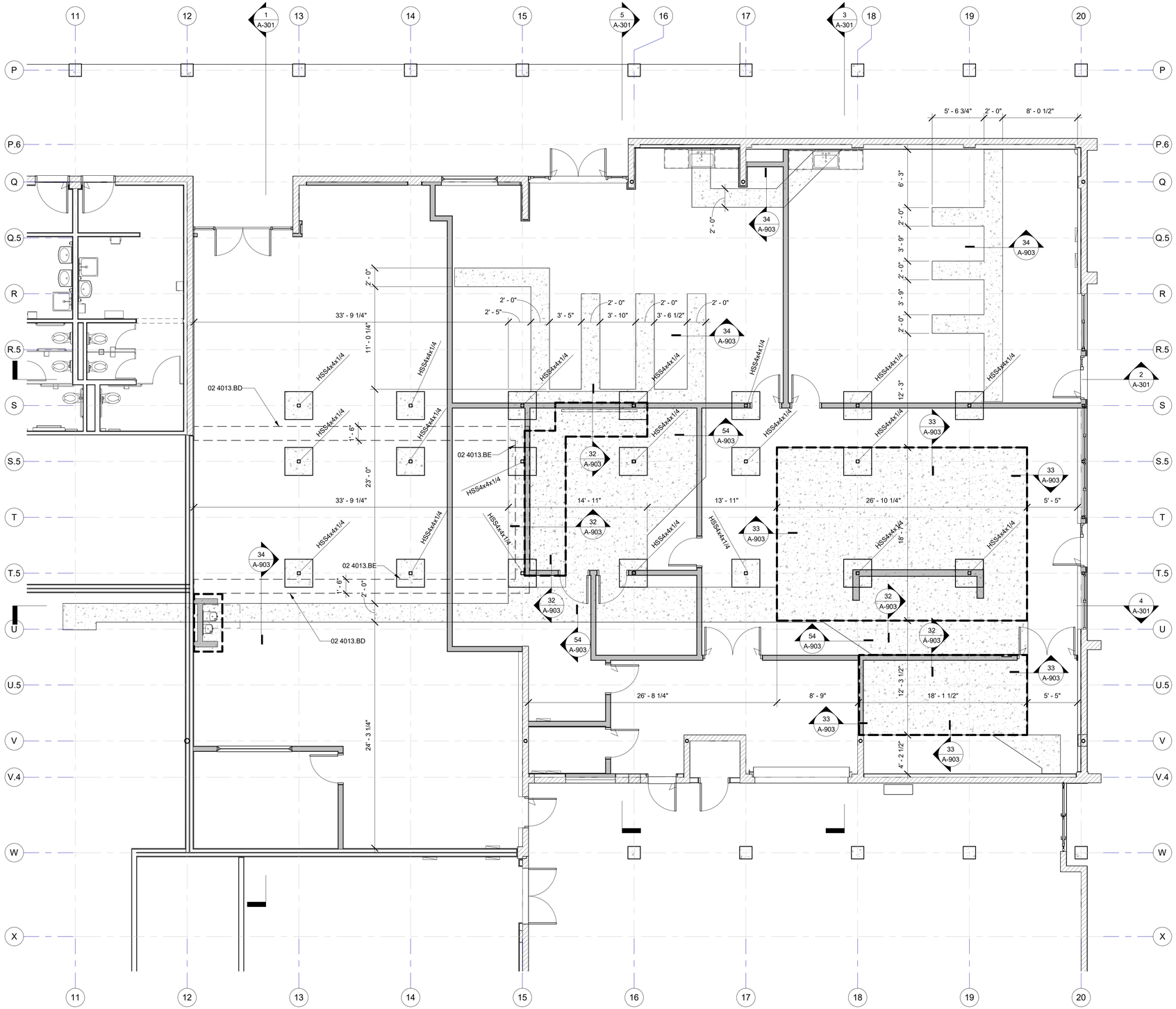


1 BLDG D - PROPOSED SLAB PLAN

A-301 | A-103.1 SCALE: 3/16" = 1'-0"

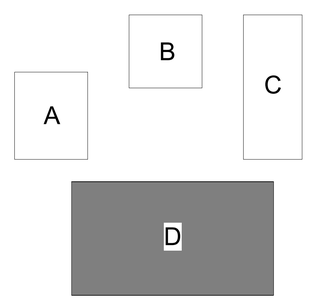
KEYNOTES

02 4013.BD	EXISTING CONCRETE FOOTING, TO REMAIN.
02 4013.BE	EXISTING CONCRETE FOOTING, CUT OUT (E) AROUND (N) PADS.

LEGEND

- TYPICAL 6" CONCRETE SLAB WITH #4 REBAR AT 18" EA WAY OVER VAPOR BARRIER OVER SAND, TIE INTO EXISTING VAPOR BARRIER, PROVIDE EPOXY DOWEL ANCHORS WITH SIMPSON SET-3G (ICC-ES ESR-4057) AROUND PERIMETER OF SLAB 18" O.C.
- 12" MAT SLAB WITH #4 REBAR TOP AND BOTTOM AT 18" EA WAY OVER VAPOR BARRIER OVER SAND, TIE INTO EXISTING VAPOR BARRIER, PROVIDE EPOXY DOWEL ANCHORS WITH SIMPSON SET-3G (ICC-ES ESR-4057)AROUND PERIMETER OF SLAB 18" O.C.
- EXISTING CONCRETE SLAB, TO REMAIN. CUT OUT (E) AROUND (N) PADS. **REF: 33/A-903**
- PAD FOOTING

KEY PLAN



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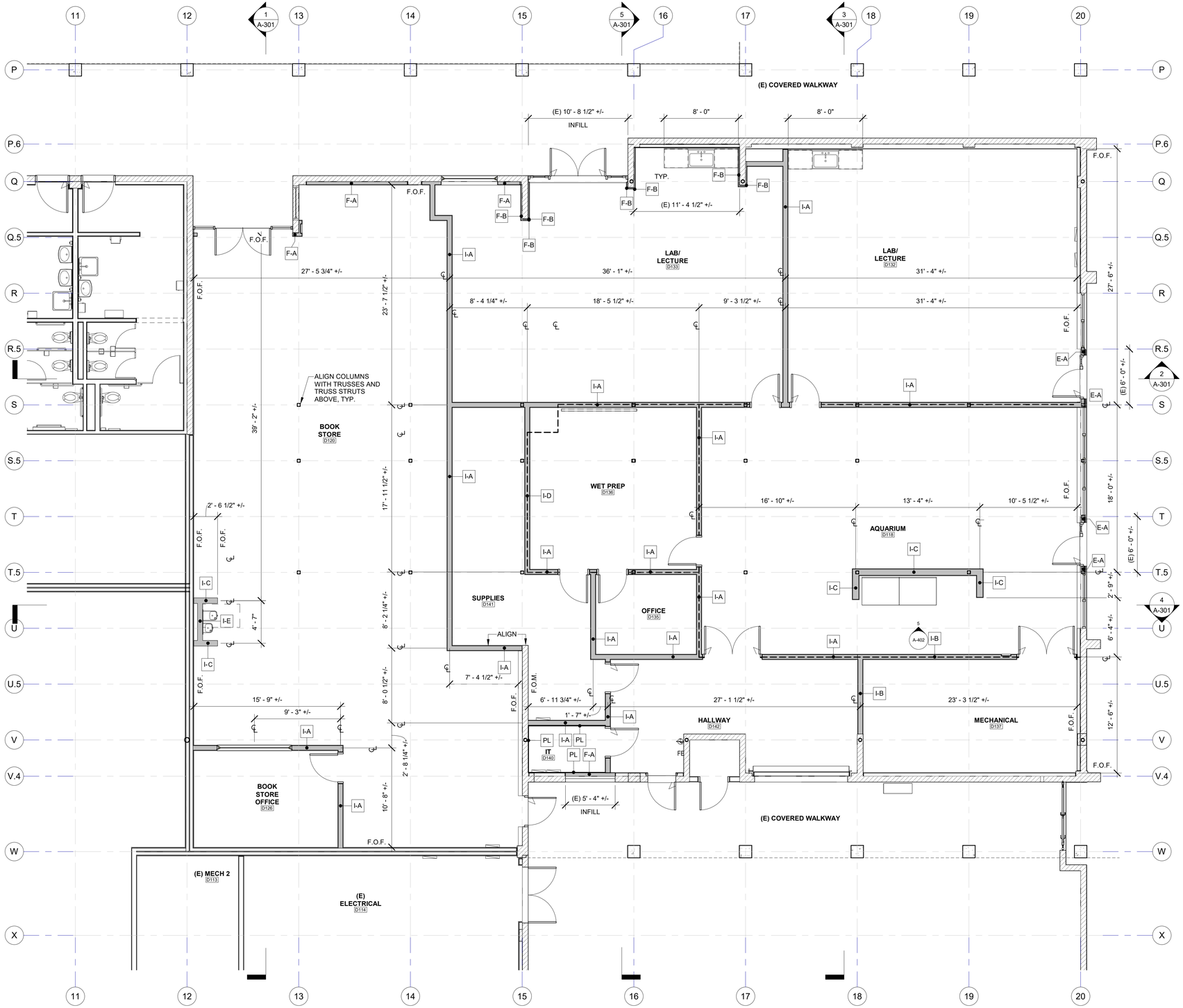

1 A-102 | A-103.2 **BLDG D - PROPOSED DIMENSION PLAN**

SCALE: 3/16" = 1'-0"

FLOOR PLAN GENERAL NOTES

1. REFER TO GENERAL NOTES ON SHEETS G-001 AND G-101 FOR ADDITIONAL REQUIREMENTS.
2. REFER TO MECHANICAL, PLUMBING, ELECTRICAL, AND FIRE ALARM PLANS FOR FURTHER INFORMATION.
3. DIMENSIONS ARE TO FACE OF MASONRY OR CENTERLINE OF STUD UNLESS SPECIFICALLY NOTED OTHERWISE.
4. PROVIDE ADEQUATE BLOCKING IN WALLS FOR CABINETS AND OTHER WALL MOUNTED ACCESSORIES.
5. PROVIDE FIREBLOCKING FOR WALL CAVITIES THAT EXCEED **2022 CBC** HEIGHT LIMITATIONS.
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12. APPLY ACOUSTIC SEALANT AT THE PERIMETER OF GYPSUM BOARD WALL FINISHES AND IN THE ANNULAR SPACES OF ALL UTILITY PENETRATIONS AND ELECTRICAL BOXES.
13. SEE SHEETS A-903, A-904, A-905, A-906, AND A-907 FOR GENERAL CONCRETE, MASONRY, AND STEEL FRAMING DETAILS.
14. PREDRILL PILOT HOLES AND USE CMU SCREWS WHERE FURRING ATTACHES TO CMU WALLS. SCREW- BOLT+ ICC ESR-4042, 2-1/2" MIN. EMBED.

LEGEND

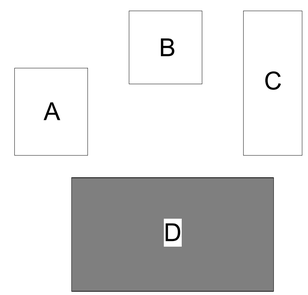
- EXISTING CMU WALL, TO REMAIN
- EXISTING METAL STUD FURRING WALL OVER CMU WALL, TO REMAIN, REMOVE/REPLACE GYPSUM BOARD FINISH ONLY AS REQUIRED TO ACCOMMODATE THE WORK
- EXISTING METAL STUD WALL, TO REMAIN, REMOVE/REPLACE GYPSUM BOARD FINISH ONLY AS REQUIRED TO ACCOMMODATE THE WORK
- A1 — WALL AND WALL TYPE PER WALL SCHEDULE, SEE A-103.2
- APPLY SEALANT UNDER SILL TRACK, SEE 44/A-906

WALL SCHEDULE

SEE SHEET A-907 FOR WALL TYPE DETAILS

E-A	EXTERIOR NON-RATED METAL STUD 600S 125-54 AT 16" O.C. 7/8" CEMENT PLASTER O/ 5/8" TYPE X GYP SHTG EXTERIOR
E-B	EXTERIOR NON-RATED METAL STUD 600S 125-54 AT 16" O.C. 7/8" CEMENT PLASTER O/ 5/8" TYPE X GYP SHTG EXTERIOR 5/8" TYPE X GYP BD INTERIOR
F-A	INTERIOR NON RATED FURRING METAL STUD 400S 162-54 AT 16" O.C. 5/8" TYPE X GYP BD ONE SIDE
F-B	INTERIOR NON RATED FURRING 1-1/2" METAL HAT CHANNELS AT 16" O.C. 5/8" TYPE X GYP BD ONE SIDE
I-A	INTERIOR NON-RATED METAL STUD 600S 162-54 AT 16" O.C. 5/8" TYPE X GYP BD EA SIDE
I-B	INTERIOR 1-HR FIRE RATED METAL STUD 600S 250-54 AT 16" O.C. 5/8" TYPE X GYP BD EA SIDE
I-C	INTERIOR NON-RATED METAL STUD 800S 162-54 AT 8" O.C. 5/8" TYP X MOLD RESISTANT GYP BD EA SIDE. SEE 2/A-908 FOR CURB WHERE OCCURS.
I-D	INTERIOR NON-RATED METAL STUD GR 50 KSI 600S 350-54 AT 8" O.C. 5/8" TYPE X GYP BD EA SIDE
I-E	INTERIOR NON RATED METAL STUD 600S 162-54 AT 8" O.C. 5/8" TYPE X MOISTURE RESISTANT GYP BD ONE SIDE
PL	1/2" FIRE-RATED PLYWOOD EQUIPMENT BACKING

KEY PLAN



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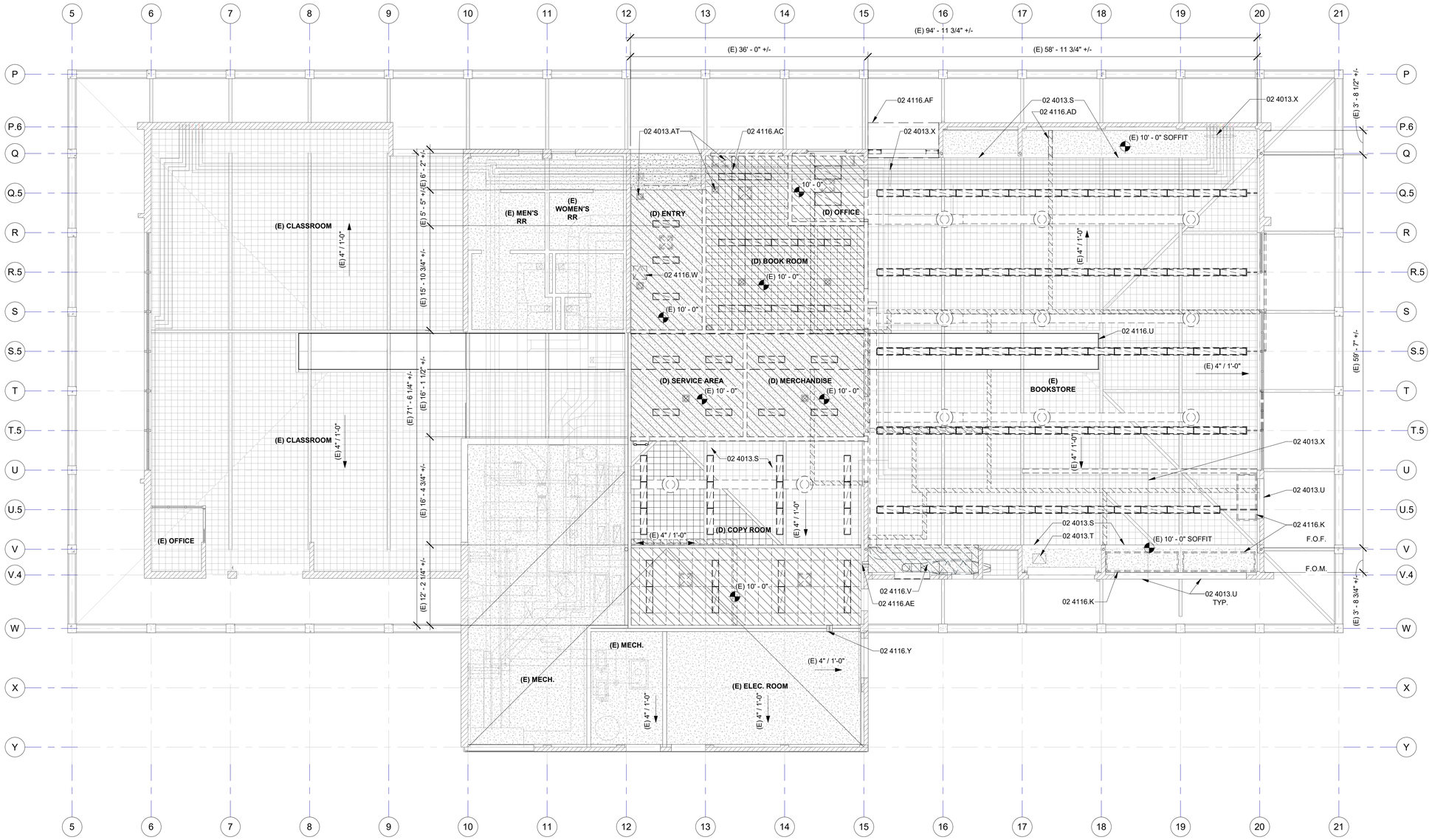
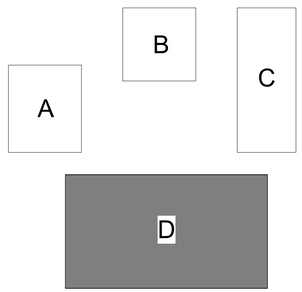


1 EXISTING/DEMO REFLECTED CEILING PLAN

A-100 | A-104 SCALE: 1/8" = 1'-0"

NORTH

KEY PLAN



KEY PLAN - OCCUPATIONAL EDUCATION BUILDING

LEGEND

- EXISTING GYPSUM CEILING SYSTEM, REMOVE THROUGHOUT
- EXISTING SUSPENDED CEILING SYSTEM WITH ADHERED ACOUSTICAL CEILING TILE OVER GYPSUM BOARD, REMOVE CEILING FINISH, SUSPENDED CEILING, AND CATWALK ABOVE
- EXISTING SUSPENDED ACOUSTICAL CEILING TILE SYSTEM, REMOVE
- EXISTING 12"X12" ADHERED ACOUSTIC TILE, TO REMAIN, U.N.O.
- LINE OF PROPOSED WALLS, REMOVE/PATCH/REPAIR/PAINT EXISTING ACOUSTIC TILE AS REQUIRED TO ACCOMMODATE THE WORK
- (E) LIGHT FIXTURE, REMOVE WHERE CEILING IS REMOVED
- (E) MECHANICAL GRILLE, REMOVE WHERE CEILING IS REMOVED
- (E) MECHANICAL DUCT AND SUPPORTS, REMOVE
- EXISTING GYPSUM CEILING SYSTEM, TO REMAIN

KEYNOTES

02 4013.AT	EXISTING TRANSFER DUCT, CUT AND CAP FLUSH WITH WALL ON INSIDE OF BUIDING. PAINT. DO NOT REMOVE EXTERIOR GRILLES
02 4013.S	EXISTING SOFFIT, TO REMAIN.
02 4013.T	EXISTING ACCESS PANEL, TO REMAIN.
02 4013.U	EXISTING LOUVER, TO REMAIN.
02 4013.X	EXISTING UTILITY PIPING, TO REMAIN, TYP. PROTECT IN PLACE. SEE PLUMBING DRAWINGS
02 4116.AC	EXISTING CATWALK ABOVE, REMOVE
02 4116.AD	EXISTING GYP. BOARD AT SOFFIT, REMOVE TO ACCOMODATE WALL FRAMING. PATCH/ REPAIR/ PAINT TO MATCH EXISTING
02 4116.AE	CUT 6" x 6" MAXIMUM OPENING FOR I.T. CABLIN. FIELD VERIFY EXACT LOCATION WITH COLLEGE PRIOR TO CUTTING
02 4116.AF	EXISTING AWNING, REMOVE. PATCH/ PAINT REMAINING HOLES.
02 4116.K	EXISTING EXHAUST HOOD AND FANS, REPLACE/ PATCH/ REPAIR. PAINT EXISTING GYP BOARD TO REMAIN. SEE MECHANICAL DRAWINGS.
02 4116.U	LINE OF EXISTING SKYLIGHT ABOVE. REMOVE ROLLER SHADES; REINSTALL IN PLACE WITH FINISH WORK.
02 4116.V	EXISTING SOFFIT AND ABANDONED DUCTWORK, REMOVE.
02 4116.W	EXISTING ACCESS PANEL, REMOVE.
02 4116.Y	PENETRATE FIRE RATED WALL WITH (2) +/- 4" DIA. HOLES FOR CABLE AND CONDUIT PATH. FIELD VERIFY EXACT LOCATION WITH COLLEGE PRIOR TO CUTTING

RCP GENERAL NOTES

1. REFER TO GENERAL NOTES SHEETS G-001 AND G-101 FOR ADDITIONAL REQUIREMENTS.
2. REFER TO ELECTRICAL PLANS FOR FURTHER INFORMATION.
3. REFER TO MECHANICAL PLANS FOR FURTHER INFORMATION.
4. REFER TO DETAILS FOR WALL AND CEILING ASSEMBLIES.
5. HEIGHT OF CEILINGS SHALL BE MEASURED FROM TOP OF SLAB TO FINISH FACE OF GWB OR FACE OF CEILING GRID AS INDICATED ON THE REFLECTED CEILING PLAN, UNO.
6. EXISTING ACOUSTIC TILE FINISH AT UNDERSIDE OF ROOF TO REMAIN THROUGHOUT EXCEPT AT POINTS WHERE NEW BLOCKING IS REQUIRED TO ACCOMMODATE THE WORK. PATCH/REPAIR/PAINT ACOUSTIC TILE WHERE DEMO'D TO MATCH EXISTING. PRESERVE AS MUCH ACOUSTIC TILE FINISH AS POSSIBLE.
7. COMPLETEY REMOVE EXISTING DUCT SUPPORTS, EXISTING LIGHTING SUPPORTS, AND ALL STRUTS, CABLES, AND RODS SUPPORTING UTILITIES TO BE REMOVED.

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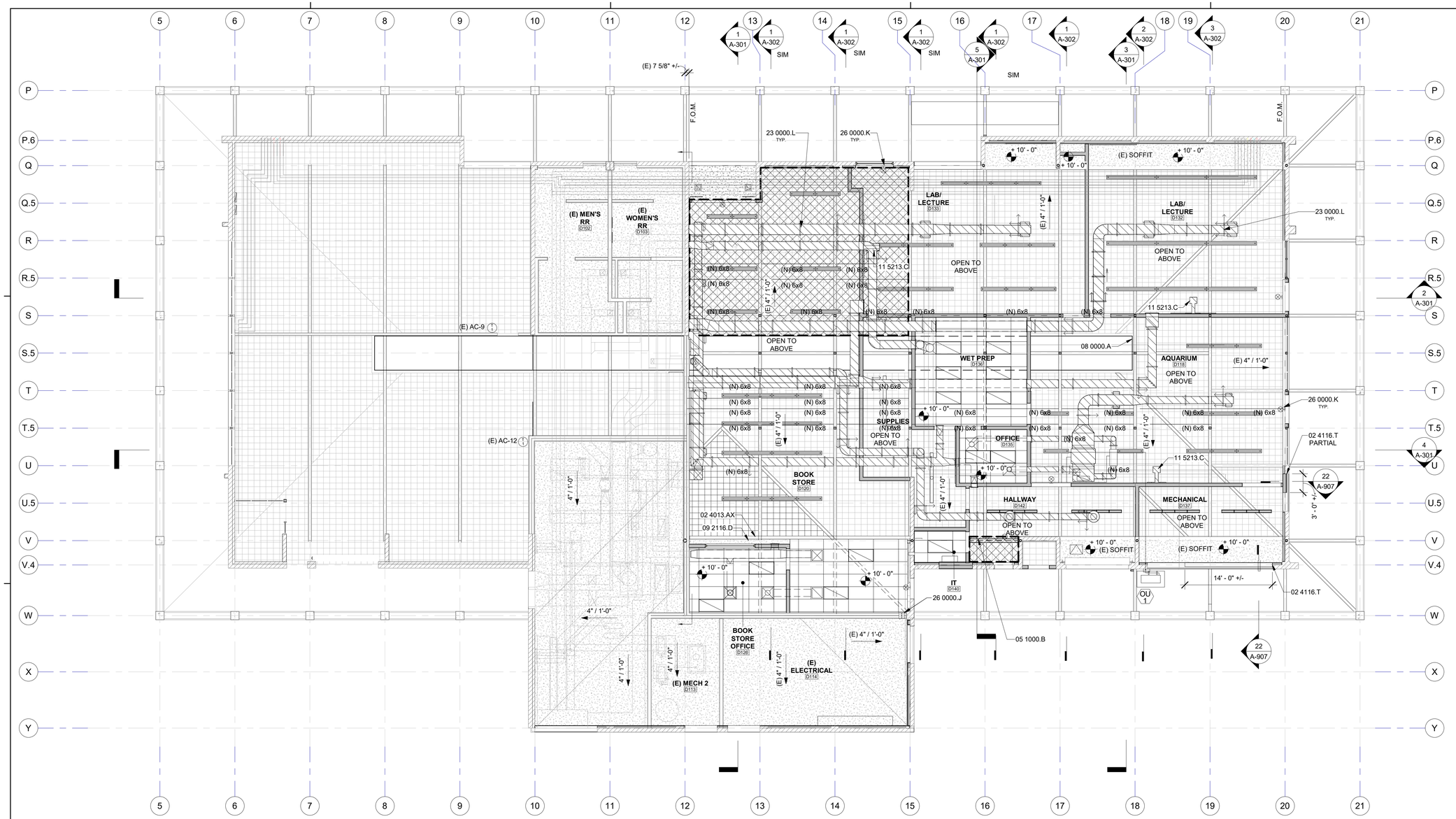
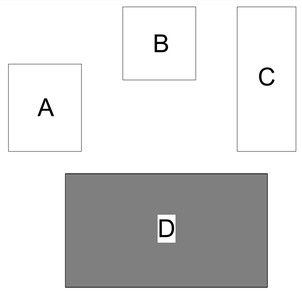


1 PROPOSED REFLECTED CEILING PLAN

A-100 | A-105 SCALE: 1/8" = 1'-0"

KEY PLAN



KEY PLAN - OCCUPATIONAL EDUCATION BUILDING

LEGEND

- XX'-X" CEILING HEIGHT (SEE PLAN FOR ACTUAL HEIGHTS)
- MECHANICAL DUCTWORK, REFER TO MECHANICAL DRAWINGS
- SUSPENDED ACOUSTICAL TILE CEILING
- EXISTING 12"X12" ADHERED ACOUSTIC TILE, TO REMAIN, U.N.O.
- NEW PAINTED 12"x12" ADHERED ACOUSTIC TILE OVER 5/8" TYPE X GYP BOARD, MATCH EXISTING
- LIGHT FIXTURE, REFER TO ELECTRICAL PLANS
- MECHANICAL EQUIPMENT, REFER TO MECHANICAL PLANS
- (E) GYPSUM BOARD CEILING, TO REMAIN
- EXIT SIGN. SEE ELECTRICAL DRAWINGS

KEYNOTES

02 4013.AX	EXISTING SOFFIT WALL TO REMAIN. PAINT FINISH
02 4116.T	INFILL EXISTING LOUVER.
05 1000.B	EXISTING STEEL BEAM, TO REMAIN. PAINT TO MATCH (E) CEILING WHERE NEWLY EXPOSED
08 0000.A	LINE OF EXISTING SKYLIGHT ABOVE. REINSTALL ROLLER SHADES IN PLACE AND PROVIDE NEW FABRIC.
09 2116.D	GYPSUM BOARD SOFFIT & FRAMING
11 5213.C	SHORT-THROW PROJECTOR, OFCI. CONTRACTOR TO PROVIDE BLOCKING, OPERATING WEIGHT = 13 POUNDS. SEE DETAIL 55/ A-904
23 0000.L	SEISMIC/ SWAY BRACING FOR HVAC DUCTWORK AND EQUIPMENT. SEE MECHANICAL DRAWINGS
26 0000.J	(2) 4" DIA. RATED PENETRATION FOR ELECTRICAL CONDUIT AND CABLING, SEE W-L-3371/ A-905
26 0000.K	EXIT SIGN. SEE ELECTRICAL DRAWINGS

RCP GENERAL NOTES

1. REFER TO GENERAL NOTES SHEETS G-001 AND G-101 FOR ADDITIONAL REQUIREMENTS.
2. REFER TO ELECTRICAL PLANS FOR FURTHER INFORMATION.
3. REFER TO MECHANICAL PLANS FOR FURTHER INFORMATION.
4. REFER TO DETAILS FOR WALL AND CEILING ASSEMBLIES.
5. HEIGHT OF CEILINGS SHALL BE MEASURED FROM TOP OF SLAB TO FINISH FACE OF GWB OR FACE OF CEILING GRID AS INDICATED ON THE REFLECTED CEILING PLAN, UNO.
6. EXISTING ACOUSTIC TILE FINISH AT UNDERSIDE OF ROOF TO REMAIN THROUGHOUT EXCEPT AT POINTS WHERE NEW BLOCKING IS REQUIRED TO ACCOMMODATE THE WORK. PATCH/REPAIR/PAINT ACOUSTIC TILE WHERE DEMO'D TO MATCH EXISTING. PRESERVE AS MUCH ACOUSTIC TILE FINISH AS POSSIBLE.
7. COMPLETEY REMOVE EXISTING DUCT SUPPORTS, EXISTING LIGHTING SUPPORTS, AND ALL STRUTS, CABLES, AND RODS SUPPORTING UTILITIES TO BE REMOVED.

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BLDG D - PROPOSED CEILING PLAN

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PROJECT NUMBER: 3244-01-ED23
SHEET: A-105

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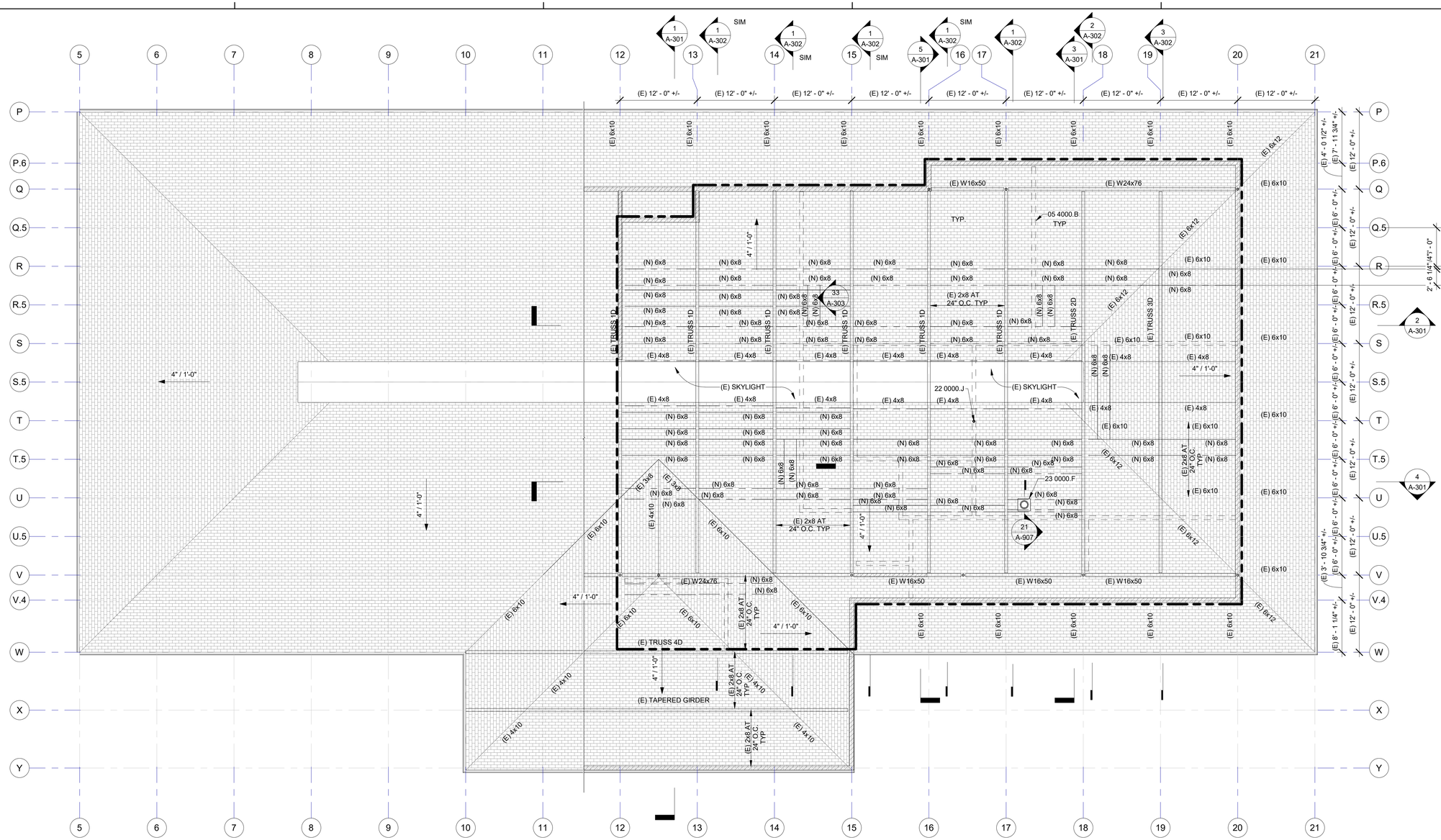
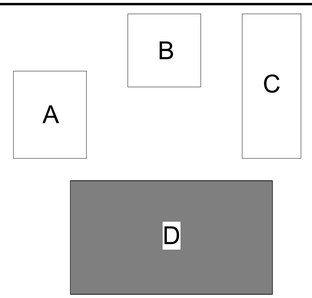


1 BLDG D- PROPOSED ROOF PLAN

A-100 | A-106 SCALE: 1/8" = 1'-0"

KEY PLAN



KEY PLAN - OCCUPATIONAL EDUCATION BUILDING

ROOF PLAN LEGEND

(E) CONCRETE ROOF TILES, OVER 5/8" PLYWOOD SHEATHING, OVER 2x8 ROOF RAFTERS AT 24" O.C. BETWEEN HEAVY TIMBER TRUSSES AND HEAVY TIMBER FRAMING

PROJECT AREA BELOW

(N) 6x8 — BEAM OR BLOCKING FOR MECHANICAL SUPPORT PER 1/M-911

KEYNOTES

05 4000.B	LINE OF PROPOSED NON-STRUCTURAL WALLS BELOW.
22 0000.J	ROOF VENT. REFER TO PLUMBING
23 0000.F	EXHAUST VENT. REFER TO MECHANICAL DETAIL 1/M-104.

ROOF PLAN GENERAL NOTES

1. REFER TO GENERAL NOTES ON SHEETS G-001 AND G-101 FOR ADDITIONAL REQUIREMENTS
2. REFER TO MECHANICAL PLANS FOR ROOF MOUNTED EQUIPMENT LOCATIONS AND TYPES.
3. REFER TO ELECTRICAL PLANS FOR POWER DISTRIBUTION TO ROOF MOUNTED EQUIPMENT.
4. REUSE PLUMBING ROOF VENT PENETRATIONS WHERE POSSIBLE.
5. ALL ROOFING MATERIALS TO BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS.
6. ROOF VENTS SHALL BE APPLIED PER MANUFACTURER'S SPECIFICATIONS.
7. REMOVE AND REPLACE ROOF TILES FOR WORK IN PROJECT AREA TO MATCH EXISTING CONDITIONS.
8. SEE SHEET A-302 FOR TRUSS STRENGTHENING WORK.

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BLDG D - ROOF PLAN

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PROJECT NUMBER	3244-01-ED23
SHEET	A-106

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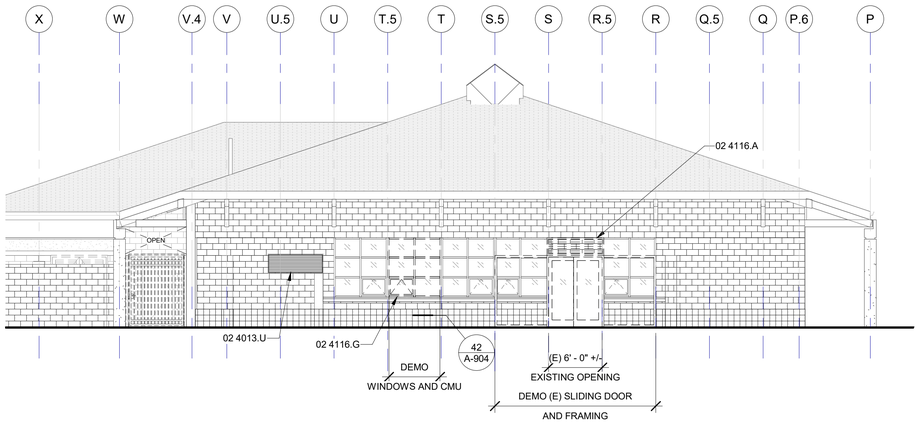
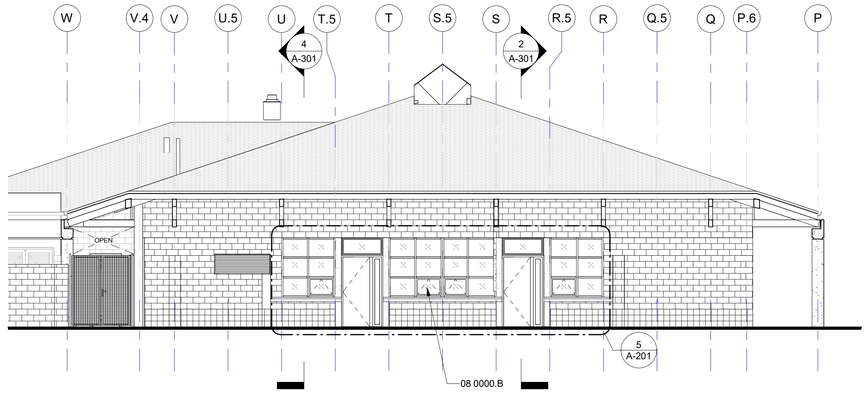


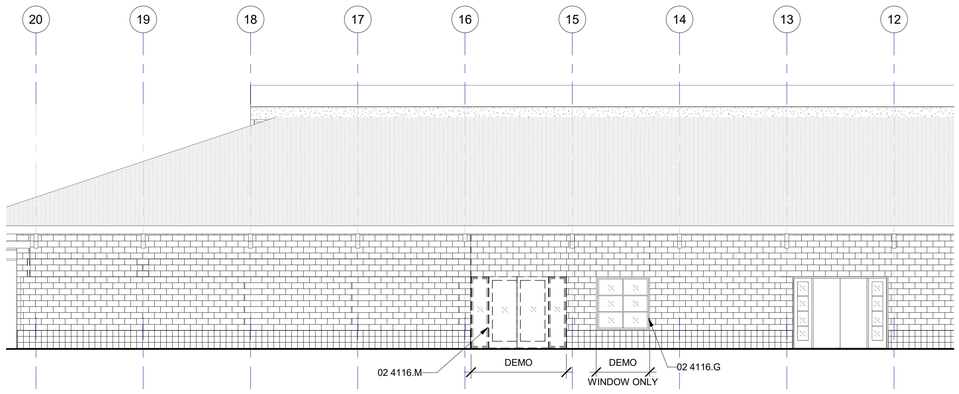
3 BLDG D ELEVATION NORTH - EXISTING/DEMO

A-101 | A-201 SCALE: 1/8" = 1'-0"



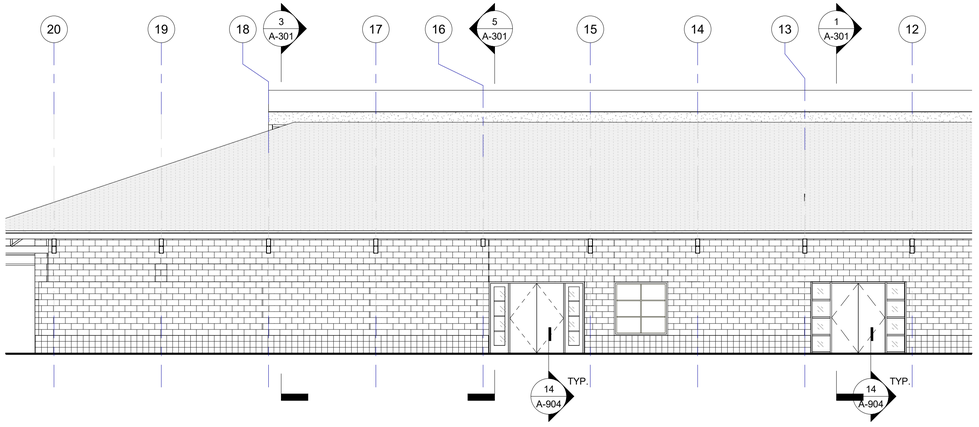
2 BLDG D ELEVATION NORTH - PROPOSED

A-102 | A-201 SCALE: 1/8" = 1'-0"



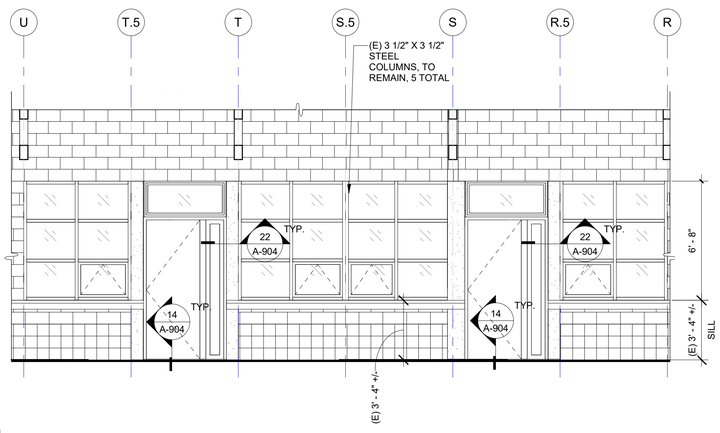
4 BLDG D ELEVATION WEST - EXISTING/DEMO

A-101 | A-201 SCALE: 1/8" = 1'-0"



1 BLDG D ELEVATION WEST - PROPOSED

A-102 | A-201 SCALE: 1/8" = 1'-0"



5 ENLARGED NORTH ELEVATION

A-201 | A-201 SCALE: 1/4" = 1'-0"

MATERIALS AND LEGEND

CEMENT PLASTER
LIGHT SAND FINISH, PAINT TO MATCH EXISTING BUILDING

(E) CMU, TO REMAIN

(E) CONCRETE ROOF TILES, TO REMAIN U.N.O.

(E) CAST IN PLACE SHAPED CONCRETE COLUMNS

A1 WALL TAG AND WALL TYPE PER SCHEDULE

(#) DOOR TAG, SEE DOOR SCHEDULE

KEYNOTES

02 4013.U	EXISTING LOUVER, TO REMAIN.
02 4116.A	EXISTING LOUVER, REMOVE.
02 4116.G	EXISTING STEEL WINDOW, REMOVE.
02 4116.M	EXISTING SLIDING GLASS DOOR. REMOVE DOOR, TRACK AND POWER. PATCH HOLES TO MATCH EXISTING. SEE MECHANICAL DRAWINGS
08 0000.B	(E) OPENING CONTROL DEVICE WITH RESTRICTION TO REMAIN, (E) WINDOWS DO NOT PROTURDE MORE THAN 4" INTO CIRCULATION PATH.

ELEVATION GENERAL NOTES

1. REFER TO GENERAL NOTES SHEET G-101 FOR ADDITIONAL REQUIREMENTS.
2. FRAMING ELEVATIONS, INCLUDING FLOOR PLATES AND FLOOR LEVEL ELEVATIONS ARE MEASURED FROM BUILDING FINISH FLOOR, U.N.O.
3. SEE DETAILS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.

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SHEET	A-201

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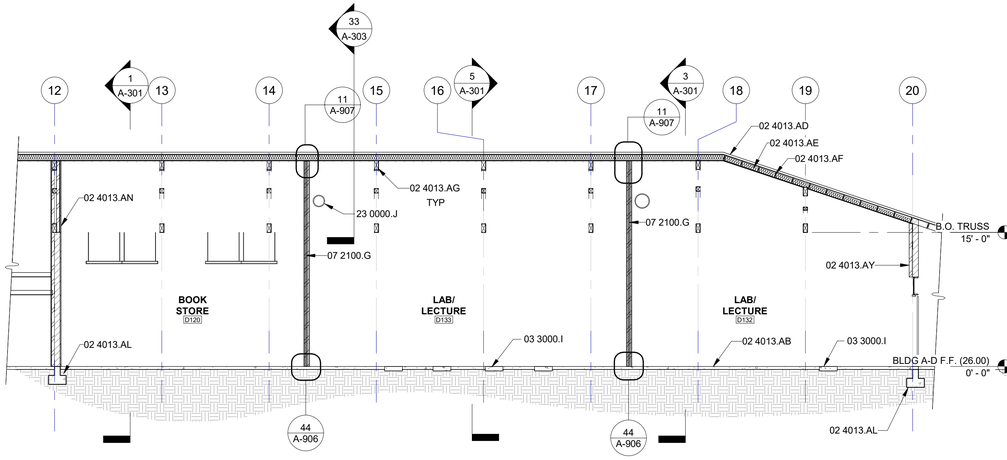
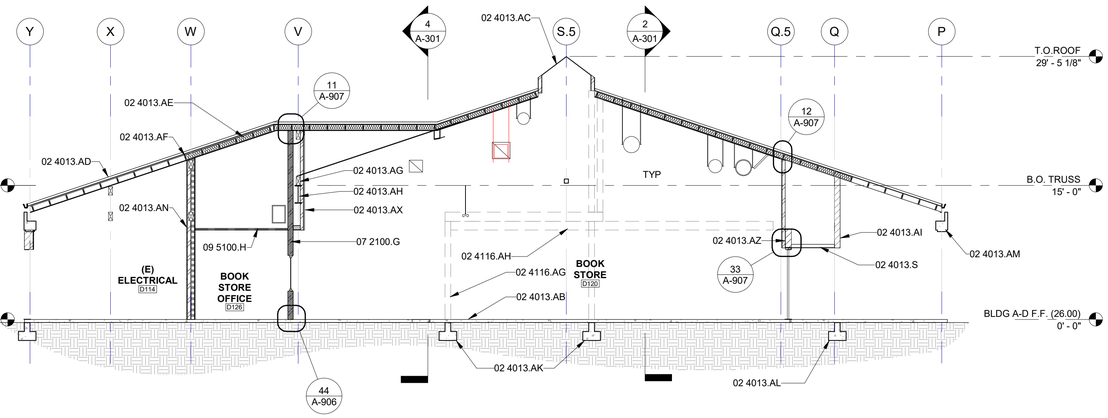


2 SECTION 2

A-102 | A-301 SCALE: 1/8" = 1'-0"



1 SECTION 1

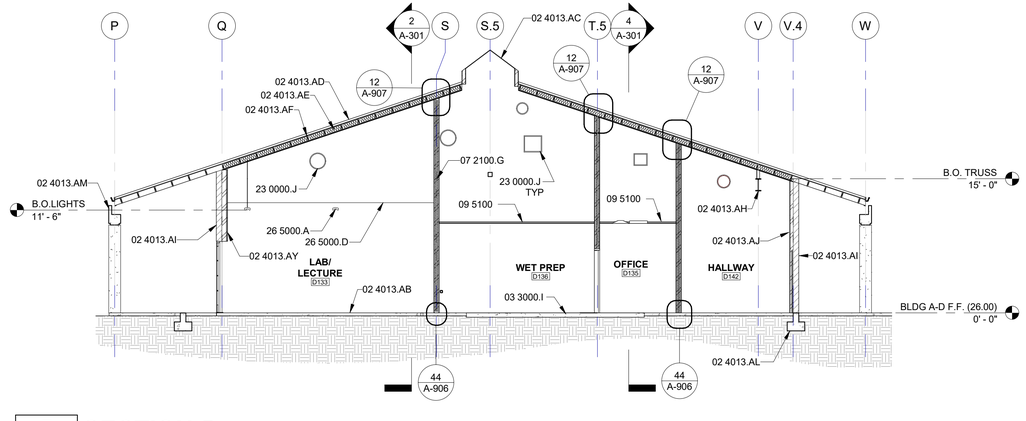
A-102 | A-301 SCALE: 1/8" = 1'-0"

4 SECTION 4

A-102 | A-301 SCALE: 1/8" = 1'-0"

3 SECTION 3

A-102 | A-301 SCALE: 1/8" = 1'-0"



5 SECTION 5

A-102 | A-301 SCALE: 1/8" = 1'-0"

KEYNOTES

02 4013.AB	EXISTING 4" CONCRETE SLAB, TO REMAIN UNO
02 4013.AC	EXISTING SKYLIGHT, TO REMAIN
02 4013.AD	EXISTING CONCRETE ROOF TILE OVER 5/8" PLYWOOD SHEATHING, TO REMAIN UNO
02 4013.AE	EXISTING BATT INSULATION, TO REMAIN, REPLACE AS REQUIRED WHERE CEILING FINISH IS REMOVED FOR ROOF FRAMING
02 4013.AF	EXISTING 2x8 AT 24" O.C. ROOF FRAMING, TO REMAIN
02 4013.AG	EXISTING ROOF TRUSS, TO REMAIN, TYP UNO
02 4013.AH	EXISTING BEAM, TO REMAIN
02 4013.AI	EXISTING CMU WALL, TO REMAIN
02 4013.AJ	EXISTING FRAMED WALL, TO REMAIN
02 4013.AK	EXISTING ABANDONED FOOTING, TO REMAIN
02 4013.AL	EXISTING FOOTING, TO REMAIN, TYP UNO
02 4013.AM	EXISTING CONCRETE LINTEL, TO REMAIN
02 4013.AN	EXISTING 1-HOUR FIRE PARTITION WALL, TO REMAIN
02 4013.AX	EXISTING SOFFIT WALL TO REMAIN. PAINT FINISH
02 4013.AY	EXISTING METAL STUD WALL FURRING WITH GYPSUM BOARD FINISH, TO REMAIN, REMOVE GYPSUM BOARD FINISH AS REQUIRED TO ACCOMMODATE THE WORK.
02 4013.AZ	EXISTING CMU LINTEL, TO REMAIN
02 4013.H	EXISTING MANUAL COILING DOOR, TO REMAIN.
02 4013.S	EXISTING SOFFIT, TO REMAIN.
02 4116.AG	EXISTING MEZZANINE WALL, TO REMOVE.
02 4116.AH	EXISTING MEZZANINE FLOOR, TO REMOVE.
03 3000.I	CONCRETE SLAB PATCH
03 3000.J	COCNCRETE MAT SLAB
07 2100.G	BATT INSULATION TYP AT ALL NEW WALL CAVITIES
09 5100	SUSPENDED ACOUSTICAL CEILINGS
09 5100.H	SUSPENDED ACOUSTIC TILE CEILING
23 0000.A	MECHANICAL EQUIPMENT. REFER TO MECHANICAL
23 0000.J	MECHANICAL DUCT, SEE MECHANICAL
26 5000.A	LIGHT FIXTURE. SEE ELECTRICAL DRAWINGS
26 5000.D	LIGHTING FIXTURE CABLE BRACING, SEE ELECTRICAL DRAWINGS

SECTIONS GENERAL NOTES

1. THE PURPOSE OF THESE DRAWINGS IS TO SHOW CONSTRUCTION MATERIALS / ASSEMBLIES. FOR SPECIFIC SIZES AND DETAILS REFER TO ARCHITECTURAL PLANS, ELEVATIONS, AND DETAILS,.
2. INSULATE ALL NEW WALLS WITH MINERAL FIBER BATT INSULATION TO FILL THE CAVITY FOR THE FULL HEIGHT OF THE WALL.
3. PENETRATIONS OF FIRE-RESISTIVE WALLS, FLOOR-CEILIINGS SHALL BE PROTECTED AS REQUIRED PER ***2022 CBC SECTIONS 714.3 & 714.4.***
4. WALL ASSEMBLIES TO BE PER DIMENSION PLAN.
5. DOORS, WINDOWS AND STOREFRONT SYSTEMS TO BE PER APPLICABLE SCHEDULE. REFER TO FLOOR PLANS FOR IDENTIFICATION.
6. EXISTING INSULATION BETWEEN ROOF JOISTS TO REMAIN UNO. REMOVE AND REPLACE WHERE NEW FRAMING OCCURS.

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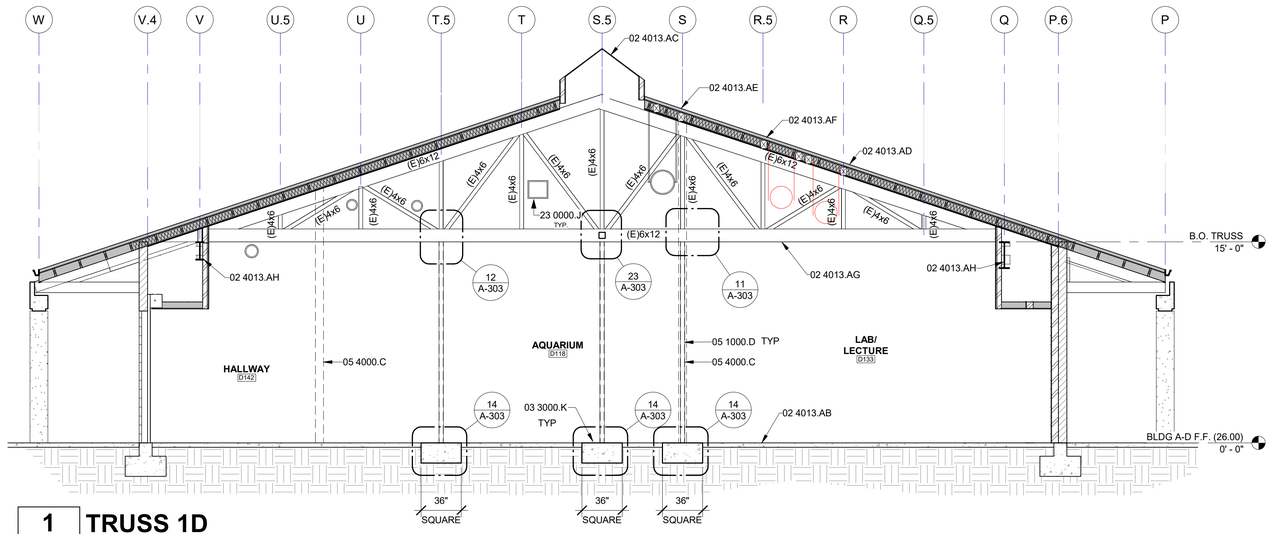
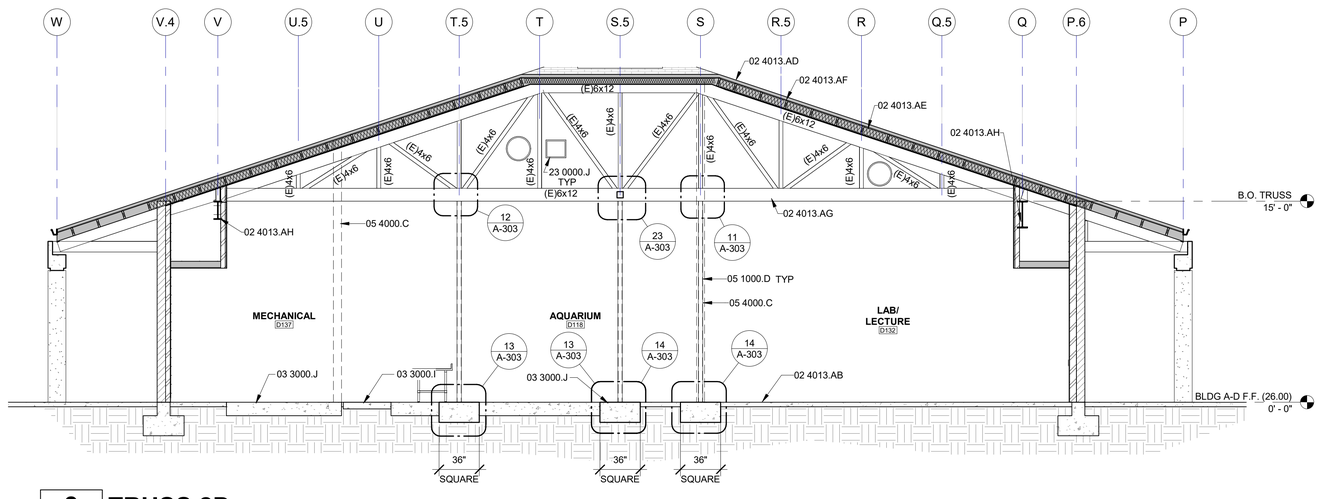


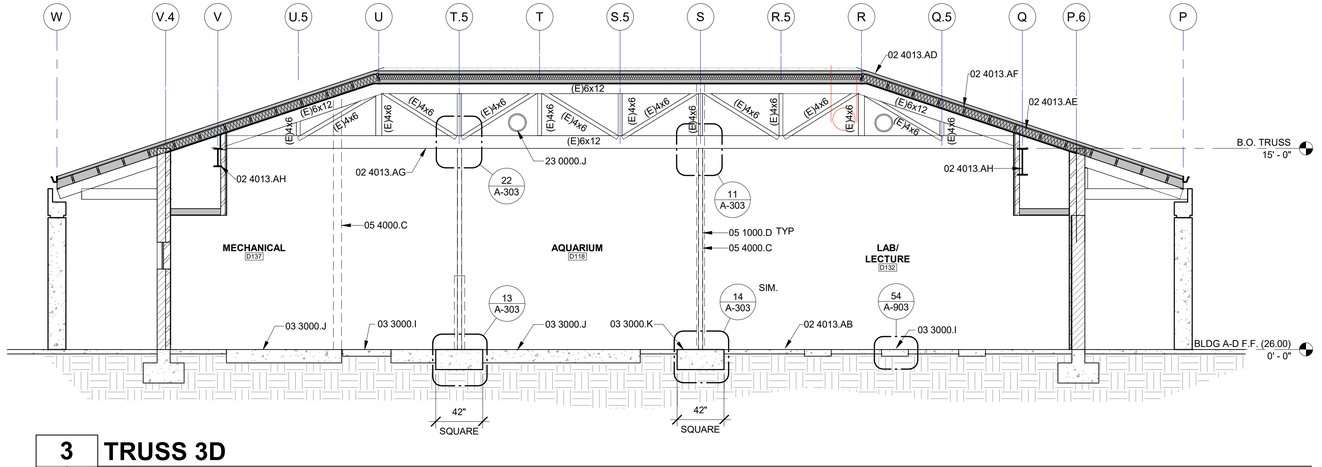
1 TRUSS 1D

A-102 | A-302 SCALE: 3/16" = 1'-0"



2 TRUSS 2D

A-102 | A-302 SCALE: 3/16" = 1'-0"



3 TRUSS 3D

A-102 | A-302 SCALE: 3/16" = 1'-0"

GENERAL NOTES

1. WALLS, DOORS, EQUIPMENT AND OTHER BUILDING ELEMENTS HIDDEN IN THE VIEWS ON THIS SHEET FOR CLARITY.
2. NEW LIGHTING, DUCTS, AND EQUIPMENT SHALL NOT BE SUPPORTED BY EXISTING TRUSSES UNLESS SPECIFICALLY NOTED. INCIDENTAL ITEMS SUCH AS ELECTRICAL CONDUIT, FIRE ALARM DEVICES, ETC. MAY BE ATTACHED TO THE EXISTING TRUSSES.

KEYNOTES

02 4013.AB	EXISTING 4" CONCRETE SLAB, TO REMAIN UNO
02 4013.AC	EXISTING SKYLIGHT, TO REMAIN
02 4013.AD	EXISTING CONCRETE ROOF TILE OVER 5/8" PLYWOOD SHEATHING, TO REMAIN UNO
02 4013.AE	EXISTING BATT INSULATION, TO REMAIN, REPLACE AS REQUIRED WHERE CEILING FINISH IS REMOVED FOR ROOF FRAMING
02 4013.AF	EXISTING 2x8 AT 24" O.C. ROOF FRAMING, TO REMAIN
02 4013.AG	EXISTING ROOF TRUSS, TO REMAIN, TYP UNO
02 4013.AH	EXISTING BEAM, TO REMAIN
03 3000.I	CONCRETE SLAB PATCH
03 3000.J	COCNCRETE MAT SLAB
03 3000.K	PAD FOOTING
05 1000.D	HSS 4x4x1/4 A500 GR. B STEEL COLUMN, TYP., ALIGN WITH BOTTOM CHORD AND STRUTS OF TRUSS ABV., PAINT
05 4000.C	LINE OF METAL STUD WALL FRAMING, REMOVED FOR CLARITY
23 0000.J	MECHANICAL DUCT, SEE MECHANICAL

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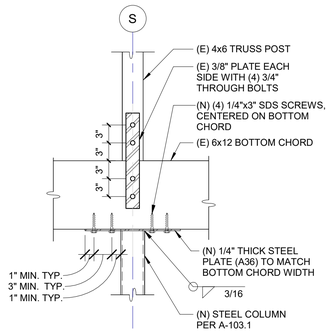
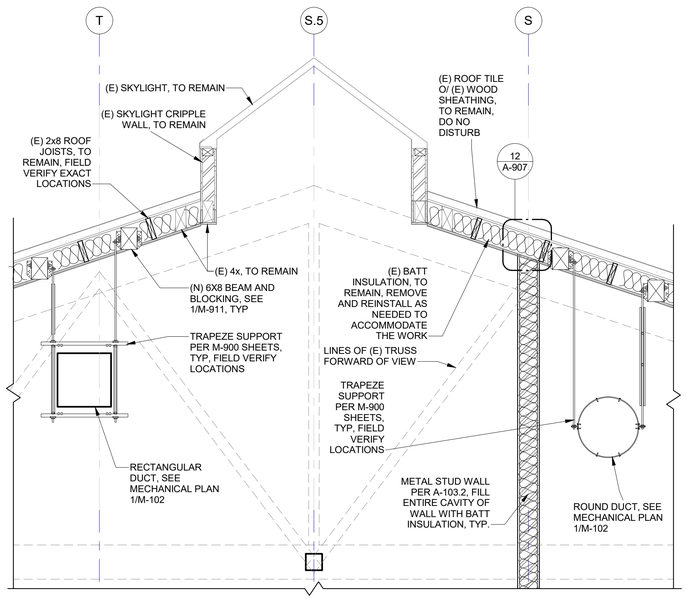


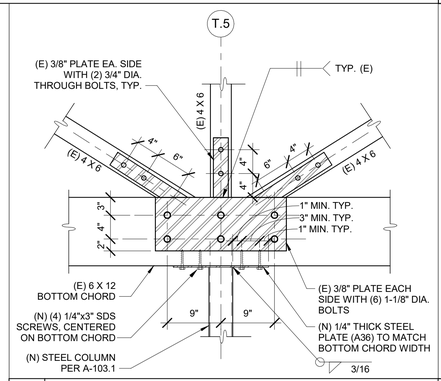
11 A-302 A-303 **TRUSS 1D,2D,3D-BOTT CHORD AT G.L. S**

SCALE: 1" = 1'-0"



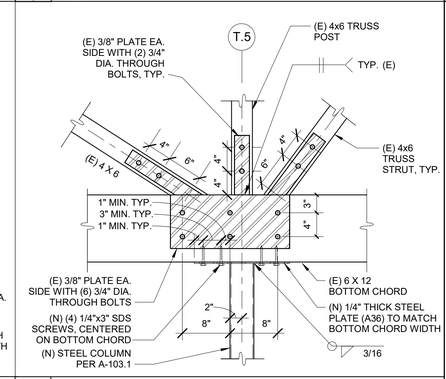
33 A-106 A-303 **SECTION AT (E) SKYLIGHT**

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



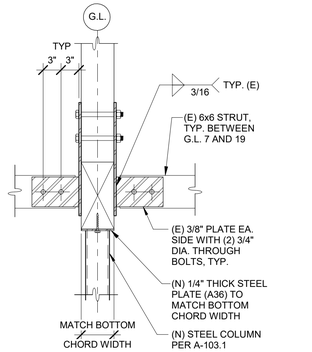
22 A-302 A-303 **TRUSS 3D - BOTTOM CHORD**

SCALE: 1" = 1'-0"



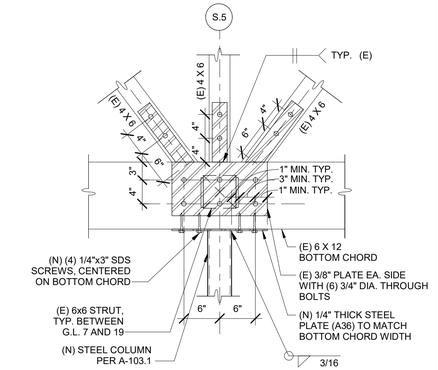
12 A-302 A-303 **TRUSS 1D & 2D-BOTT. CHORD AT G.L. T.5**

SCALE: 1" = 1'-0"



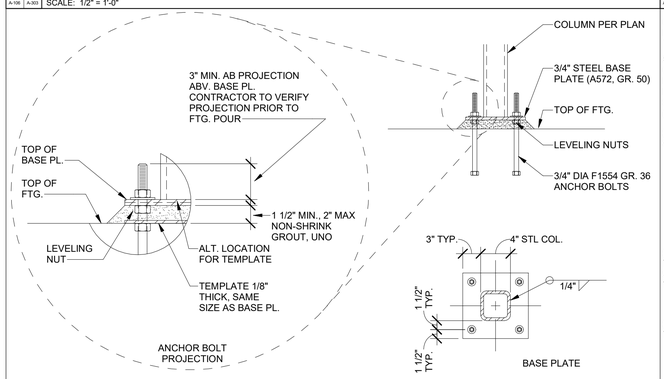
23 A-302 A-303 **TRUSS 1D & 2D-BOTT. CHORD AT G.L. S.5**

SCALE: 1" = 1'-0"



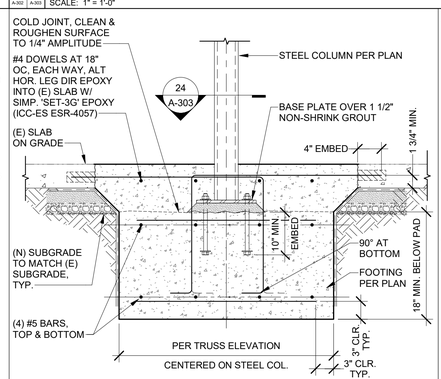
24 A-303 A-303 **TYP. PAD FOOTING BASE PLATE**

SCALE: 1" = 1'-0"



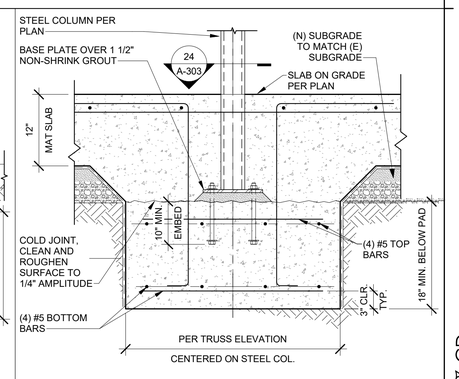
14 A-302 A-303 **(N) FOOTING IN (E) SLAB ON GRADE**

SCALE: 1" = 1'-0"



13 A-302 A-303 **STEEL COL. AT INT. FOOTING**

SCALE: 1" = 1'-0"



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APP: 03-124867 INC:
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MARTIN EWALD HOFFMANN
Martin Hoffmann
C 37789
REN. 10/31/27
STATE OF CALIFORNIA

CONSULTING ENGINEER

OXNARD COLLEGE
OE BUILDING ALTERATIONS
4000 S ROSE AVE. OXNARD, CA 93033

TRUSS DETAILS

NO.	REVISION	DATE
△		
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△		
△		
△		

PROJECT MANAGER
MH
DRAWN BY: JM/BB/MH/GK/ED
CHECKED BY: MH
DATE: 12/31/2025
PROJECT NUMBER: 3244-01-ED23
SHEET: A-303

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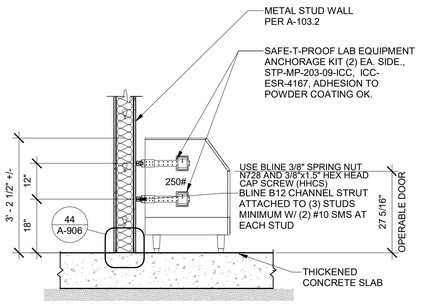
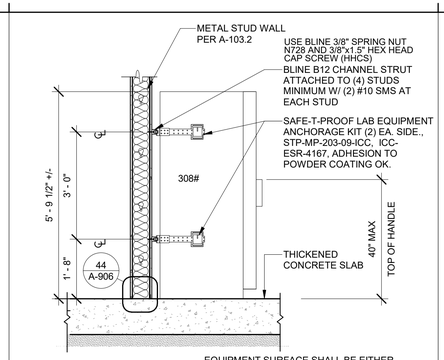


EQUIPMENT SURFACE SHALL BE EITHER STAINLESS STEEL OR POWDER COATED

2 ICE MACHINE ANCHORAGE

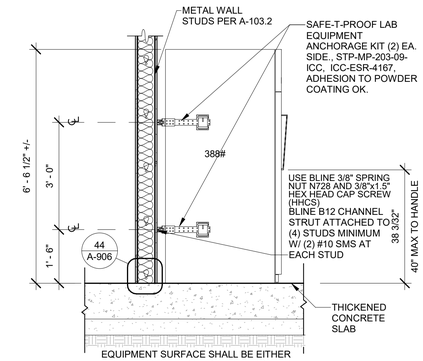
A-401 | A-401 SCALE: 1/2" = 1'-0"



EQUIPMENT SURFACE SHALL BE EITHER STAINLESS STEEL OR POWDER COATED

3 REFRIGERATOR ANCHORAGE

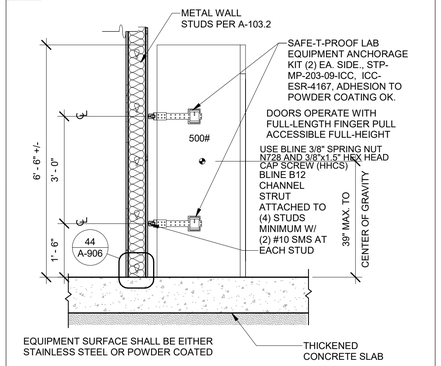
A-401 | A-401 SCALE: 1/2" = 1'-0"



EQUIPMENT SURFACE SHALL BE EITHER STAINLESS STEEL OR POWDER COATED

4 LAB FREEZER ANCHORAGE

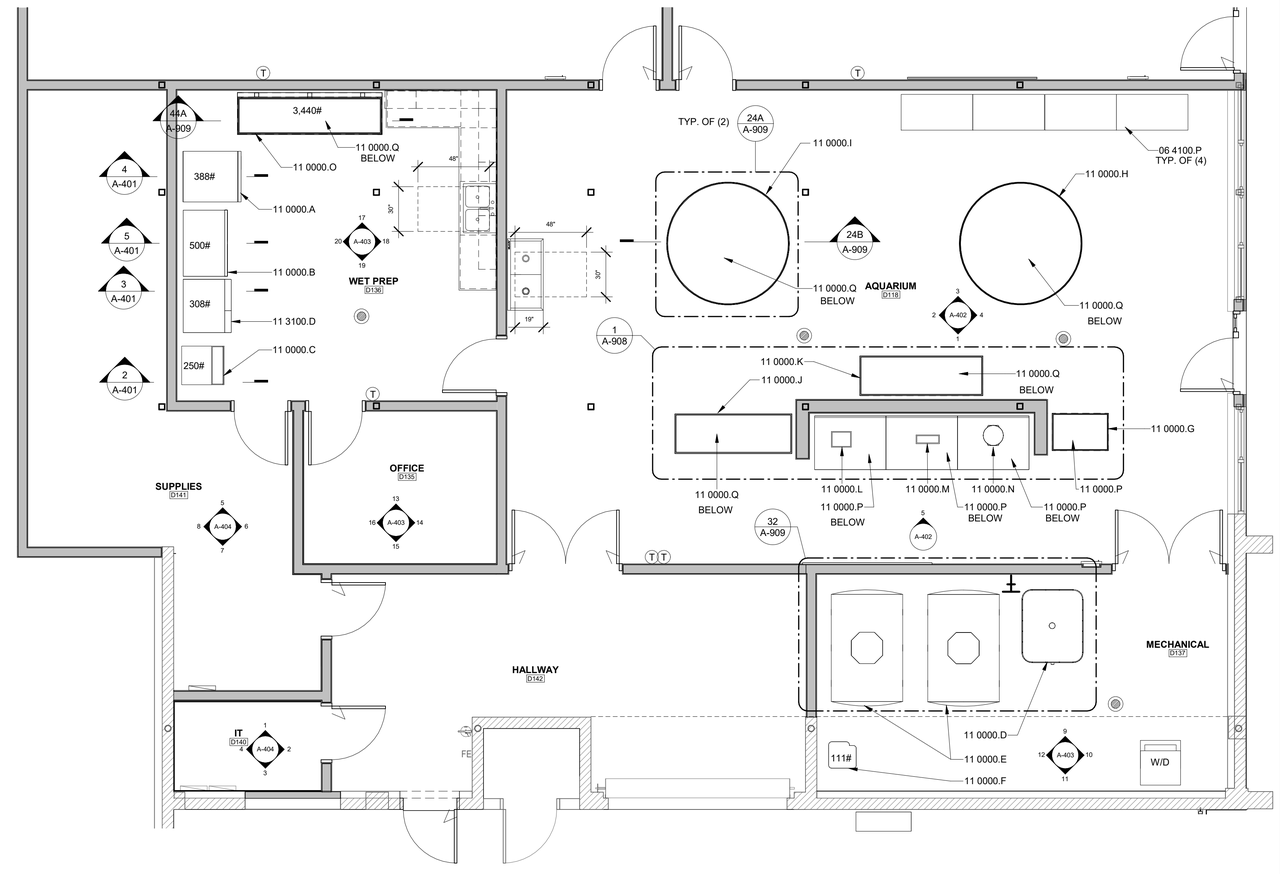
A-401 | A-401 SCALE: 1/2" = 1'-0"



EQUIPMENT SURFACE SHALL BE EITHER STAINLESS STEEL OR POWDER COATED

5 LAB REFRIGERATOR ANCHORAGE

A-401 | A-401 SCALE: 1/2" = 1'-0"



1 ENLARGED EQUIPMENT PLAN

A-102 | A-401 SCALE: 1/4" = 1'-0"

NORTH

EQUIPMENT LEGEND

- HOSE BIB, REFER TO PLUMBING
- FLOOR DRAIN, REFER TO PLUMBING
- OUTLINE OF THICKENED SLAB

EQUIPMENT SCHEDULE (EQUIPMENT IS OFCI)

	GENERAL								ELECTRICAL					PLUMBING				
NO.	KEYNOTE	ITEM	MODEL	COUNT	MODEL	DIMENSION	WEIGHT (LBS) (FILLED WT.)	NOTES	LOAD VOLT	LOAD HP	LOAD KW	PHASE	CONN.	REMARKS	WATER COLD	WATER HOT	WASTE	BTU	ANCHORAGE
1	11 000.A	LAB FREEZER	-20C FREEZER, THERMOSCIENTIFIC TX	1	TSX2320FA	38.9"D x 24"W x 58"H	388		115/ 60 Hz										4/A-401
2	11 000.B	LAB REFRIGERATOR	GLOBAL INDUSTRIAL™ UPRIGHT LAB REFRIGERATOR	1	2453704	44.5"W x 29.7"D x 78.0"H	500		115/ 60 Hz		850 W							2600	5/A-401
3	11 000.C	ICE MAKER	MANITOWOC ICE MAKER UDF0140A	1	URF-0140A	26"W x 28.5"D x 38.5"H	250	W/ 6"H LEGS		0.42	650 W							2600	2/A-401
4	11 000.D	TANK	ULINE IBC TANK WITH PLASTIC PALLET 275 GALLON	1	T275	48"L x 40"W X 46"H	2,445												54/A-909
5	11 000.E	TANK	ROMOTECH 550 GALLON PLASTIC STORAGE TANK	2	82124269	78"L x 48"D x 49"H	4,780												52/A-909
6	11 000.F	WATER FILTRATION	MSE PRO DEIONIZED (DI) WATER FILTRATION SYSTEM	1	MA1070	18.5"L x 17.8"W x 21.7"H	111	PROVIDE TABLE PER 2/A-908	110 / 50		50-60 W								2/A-908
7	11 000.G	SEA REEFER AQUARIUM	RED SEA REEFER PENINSULA 350 G2+ (73GAL) BLACK	1	252143	37.8"L x 25"W x 23.6"H	1,170	CONNECT DELTA STAR DS-3 BELOW											3A & 3B/A-908
8	11 000.H	TANK	SEA CLEAR CYLINDER - SHARKS	1	CUSTOM	82"D x 24"H + 30" Stand	5,175	CONNECT DELTA STAR DS-4 BELOW											24/A-909
9	11 000.I	TANK	SEA CLEAR CYLINDER - SCHOOLING	1	CUSTOM	82"D x 24"H + 30" Stand	5,175	CONNECT DELTA STAR DS-4 BELOW											24/A-909
10	11 000.J	TANK	RED SEA REEFER MAX PENINSULA S-950 G2+ BLACK	1	252954	78.7"L x 25.6"H x 26.8"W	3,219	CONNECT DELTA STAR DS-4 BELOW											3A & 3B/A-908
11	11 000.K	TANK	RED SEA REEFER S1000 G2+ (210GAL) BLACK	1	252107	82.7"L x 25.6"H x 26.8"W	3,240	CONNECT DELTA STAR DS-4 BELOW											4/A-908
12	11 000.L	TANK	EXOTIC AQUACULTURE - JELLY TANK (35L)	1	EA-JCT-35	16.93" W x 8.27" D x 19.29" H	96	CONNECT DELTA STAR DS-3 BELOW											2/A-908
13	11 000.M	TANK	EXOTIC AQUACULTURE - EPHYRA TANK (16L)	1	EA-EPT (M)	15.75" W x 5.91" D x 17.72" H	44	CONNECT DELTA STAR DS-3 BELOW											2/A-908
14	11 000.N	TANK	PENTAIR AES - ARTEMIA TANK	1	CCH1 to M100AP	13.5" D x 24" H + 19" H Stand	42	CONNECT DELTA STAR DS-3 BELOW											2/A-908
15	11 000.O	TANK	SEA CLEAR - LAB TANK (360 GAL) BLACK	1	96x24x36	96"L x 24"W x 36 H	3,440	CONNECT DELTA STAR DS-4 BELOW											44/A-909
16	11 000.P	CHILLER	DELTA STAR DS-3	4	DS-3-WC	22.5"L x 13.625" W x 11.25" H	62	WATER FLOW RATE 8-15 GPM	115	1/4	621				3/8	3/4		3000	N/A*
17	11 000.Q	CHILLER	DELTA STAR DS-4	5	DS-4-WC	22.5"L x 13.625" W x 11.25" H	62	WATER FLOW RATE 10-20 GPM	115	1/3	828				3/8	3/4		4000	N/A*
18	11 3100.D	REFRIGERATOR	GE	1	GTS19KGNRWW	34.5"L x 29.75" W x 66.5" H	305	WHITE	120										3/A-401

* CHILLER UNITS ARE SUPPORTED BY THE SLAB FLOOR, <400#, AND CENTER OF MASS IS LESS THAN 4 FEET ABOVE THE FLOOR.

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LICENSED ARCHITECT — MARTIN EWALD HARTMANN — C 37789 — REG. 10/31/27 — STATE OF CALIFORNIA

CONSULTING ENGINEER

OXNARD COLLEGE
OE BUILDING ALTERATIONS
4000 S ROSE AVE. OXNARD, CA 93033

ENLARGED EQUIPMENT PLAN AND SCHEDULE

NO.	REVISION	DATE
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PROJECT MANAGER: MH
DRAWN BY: JM/BB/MH/GK/ED | CHECKED BY: MH
DATE: 12/31/2025
PROJECT NUMBER: 3244-01-ED23
SHEET: A-401

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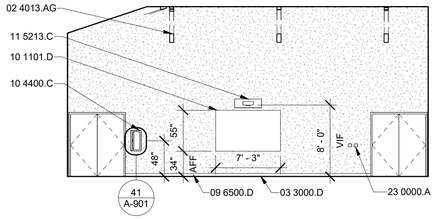
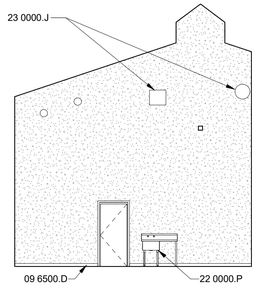
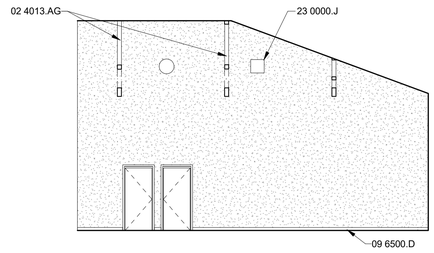
D118 AQUARIUM



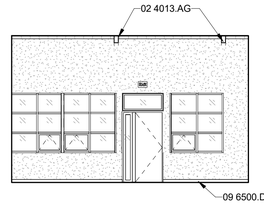
1 LOWER EAST (A-401 | A-402)
SCALE: 1/8" = 1'-0"



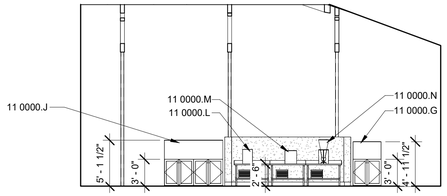
2 SOUTH (A-401 | A-402)
SCALE: 1/8" = 1'-0"



3 LOWER WEST (A-401 | A-402)
SCALE: 1/8" = 1'-0"



4 NORTH (A-401 | A-402)
SCALE: 1/8" = 1'-0"



5 D118 AQUARIUM LOWER WEST 2 (A-102 | A-402)
SCALE: 1/8" = 1'-0"

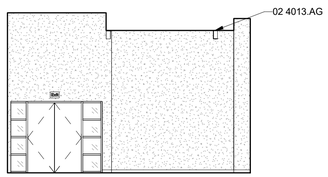
INT. ELEVS. GENERAL NOTES

1. REFER TO GENERAL NOTES ON SHEETS G-001 AND G-101 FOR ADDITIONAL REQUIREMENTS.
2. REFER TO ELECTRICAL PLANS FOR FURTHER INFORMATION ON ELECTRICAL EQUIPMENT.
3. PROVIDE BLOCKING FOR ALL WALLS WHERE WALL HUNG EQUIPMENT AND FIXTURES OCCUR.
4. ALL DIMENSIONS SHOWN IN A ROOM TO BE CONSIDERED TYPICAL FOR EACH ELEVATION OF THE ROOM, UNLESS NOTED OTHERWISE.
5. VERIFY MOUNTING HEIGHTS OF ACCESSORIES AND PLUMBING FIXTURES MEET ACCESSIBILITY REQUIREMENTS WHERE APPLICABLE.
6. ALL WALL AND CEILING FINISHES SHALL COMPLY WITH ***2022 CBC TABLE 803.13*** FOR MAXIMUM FLAME SPREAD AND SMOKE DENSITY.
7. INSTALL ABUSE-RESISTANT GYPSUM BOARD IN AQUARIUM, MECHANICAL, AND WET PREP ROOMS.

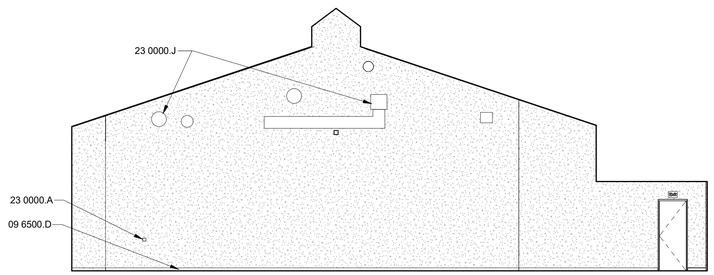
KEYNOTES

02 4013.AG	EXISTING ROOF TRUSS, TO REMAIN, TYP UNO
03 3000.D	RAISED CONCRETE CURB UNDER WALL. REFER TO 1/A-103 FOR LOCATIONS
09 6500.D	4" RUBBER WALL BASE, TYP. REFER TO FINISH SCHEDULE FOR LOCATION
10 1101.D	WHITE BOARD/ PROJECTOR SURFACE, OFCI. SEE DETAIL 54/ A-904.
10 4400.C	SEMI-RECESSED FIRE EXTINGUISHER CABINET WITH EXTINGUISHER, SEE DETAIL 41/A-901
11 0000.G	RED SEA REEFER PENINSULA 350 G2+ (73GAL) BLACK.CONNECT DELTA STAR DS-3 BELOW
11 0000.J	RED SEA REEFER MAX PENINSULA S-950 G2+ BLACK. CONNECT DELTA STAR DS-4 BELOW
11 0000.L	EXOTIC AQUACULTURE - JELLY TANK. CONNECT DELTA STAR DS-3 BELOW
11 0000.M	EXOTIC AQUACULTURE - EPHYRA TANK. CONNECT DELTA STAR DS-3 BELOW
11 0000.N	PENTAIR AES - ARTEMIA TANK. CONNECT DELTA STAR DS-3 BELOW
11 5213.C	SHORT-THROW PROJECTOR, OFCI. CONTRACTOR TO PROVIDE BLOCKING, OPERATING WEIGHT = 13 POUNDS. SEE DETAIL 55/ A-904
22 0000.P	SINK, SEE P-801
23 0000.A	MECHANICAL EQUIPMENT. REFER TO MECHANICAL
23 0000.J	MECHANICAL DUCT, SEE MECHANICAL
26 0000.B	EXISTING ELECTRICAL PANEL. SEE ELECTRICAL DRAWINGS

D120 BOOKSTORE



7 WEST (A-102 | A-402)
SCALE: 1/8" = 1'-0"



8 NORTH (A-102 | A-402)
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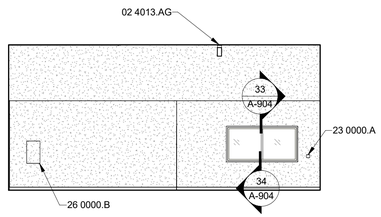
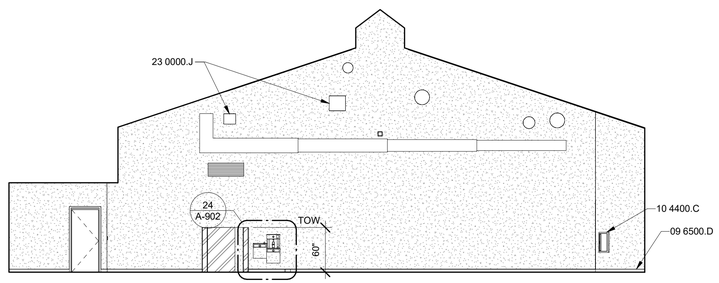


9 EAST (A-102 | A-402)
SCALE: 1/8" = 1'-0"



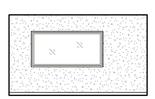
10 SOUTH (A-102 | A-402)
SCALE: 1/8" = 1'-0"

FINISH SCHEDULE

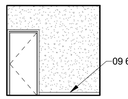
NUMBER	NAME	FLOOR	CEILING	BASE	WALL			
					NORTH	*SOUTH*	*EAST*	*WEST*
D118	AQUARIUM	REFINISHED CONCRETE	PAINT CEILING PATCHES TO MATCH (E)	4" RUBBER BASE	PAINT	PAINT	PAINT	PAINT
D120	BOOK STORE	REFINISHED CONCRETE	PAINT CEILING PATCHES TO MATCH (E), ADD (N) ADHERED ACOUSTIC TILE O/ (N) GYP BD WHERE NO CEILING FINISH PREVIOUSLY EXISTED, PAINT	4" RUBBER BASE	PAINT	PAINT	PAINT	PAINT
D126	BOOK STORE OFFICE	REFINISHED CONCRETE	2X4 ACT CEILING	4" RUBBER BASE	PAINT	PAINT	PAINT	PAINT
D132	LAB/ LECTURE	REFINISHED CONCRETE	PAINT CEILING PATCHES TO MATCH (E)	4" RUBBER BASE	PAINT	PAINT	PAINT	PAINT
D133	LAB/ LECTURE	REFINISHED CONCRETE	PAINT CEILING PATCHES TO MATCH (E), ADD (N) ADHERED ACOUSTIC TILE O/ (N) GYP BD WHERE NO CEILING FINISH PREVIOUSLY EXISTED, PAINT	4" RUBBER BASE	PAINT	PAINT	PAINT	PAINT
D135	OFFICE	REFINISHED CONCRETE	2X4 ACT CEILING	4" RUBBER BASE	PAINT	PAINT	PAINT	PAINT
D136	WET PREP	REFINISHED CONCRETE	2X4 ACT CEILING	4" RUBBER BASE	PAINT	PAINT	PAINT	PAINT
D137	MECHANICAL	REFINISHED CONCRETE	PAINT CEILING PATCHES TO MATCH (E)	4" RUBBER BASE	PAINT	PAINT	PAINT	PAINT
D140	IT	REFINISHED CONCRETE	2X4 ACT CEILING	4" RUBBER BASE	PAINT	PAINT	PAINT	PAINT
D141	SUPPLIES	REFINISHED CONCRETE	PAINT CEILING PATCHES TO MATCH (E)	4" RUBBER BASE	PAINT	PAINT	PAINT	PAINT
D142	HALLWAY	REFINISHED CONCRETE	PAINT CEILING PATCHES TO MATCH (E)	4" RUBBER BASE	PAINT	PAINT	PAINT	PAINT

NOTES:
1. ALL COUNTERTOPS SHALL BE SOLID SURFACE BLACK RESINOUS COUNTERTOPS WITH 4" SPLASH.

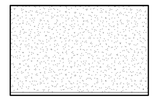
D126 BOOKSTORE OFFICE



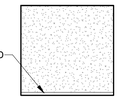
11 WEST (A-102 | A-402)
SCALE: 1/8" = 1'-0"



12 NORTH (A-102 | A-402)
SCALE: 1/8" = 1'-0"



13 EAST (A-102 | A-402)
SCALE: 1/8" = 1'-0"



14 SOUTH (A-102 | A-402)
SCALE: 1/8" = 1'-0"

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CONSULTING ENGINEER

OXNARD COLLEGE
OE BUILDING ALTERATIONS
4000 S ROSE AVE. OXNARD, CA 93033

INTERIOR ELEVATIONS AND FINISH SCHEDULE

NO.	REVISION	DATE

PROJECT MANAGER
MH
DRAWN BY
JM/BB/MH/GK/ED
CHECKED BY
MH
DATE
12/31/2025
PROJECT NUMBER
3244-01-ED23
SHEET
A-402

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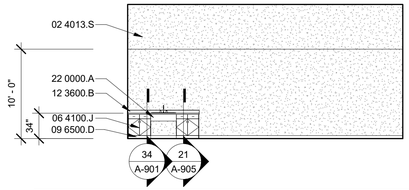
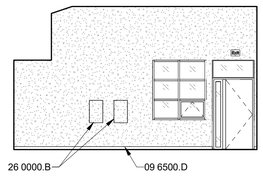
D132 LAB/LECTURE



5 WEST (A-102 | A-403) SCALE: 1/8" = 1'-0"



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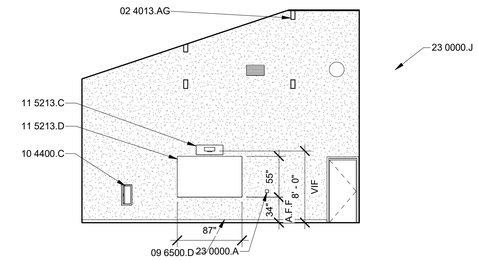

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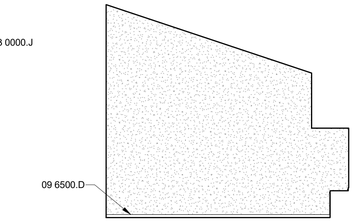
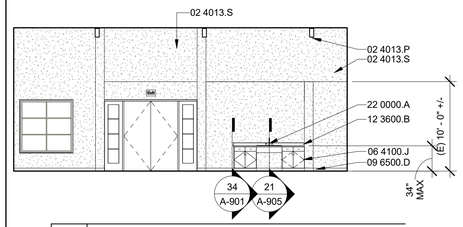


8 SOUTH (A-102 | A-403) SCALE: 1/8" = 1'-0"

D133 LAB/LECTURE



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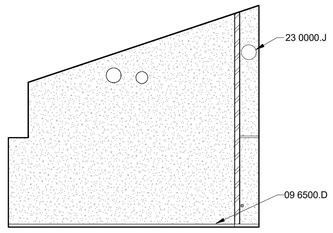

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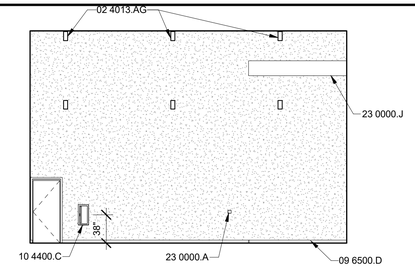

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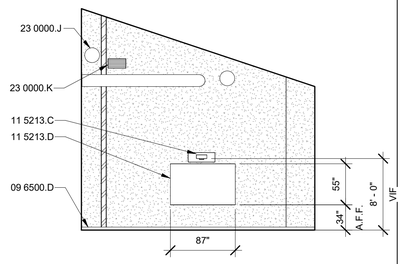
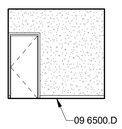
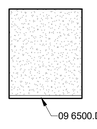


4 SOUTH (A-102 | A-403) SCALE: 1/8" = 1'-0"

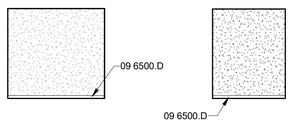
D135 OFFICE



13 WEST (A-401 | A-403) SCALE: 1/8" = 1'-0"



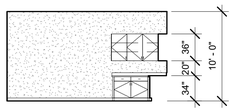
14 NORTH (A-401 | A-403) SCALE: 1/8" = 1'-0"

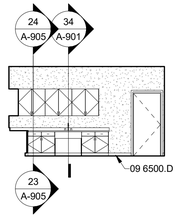


15 EAST (A-401 | A-403) SCALE: 1/8" = 1'-0"

16 SOUTH (A-401 | A-403) SCALE: 1/8" = 1'-0"

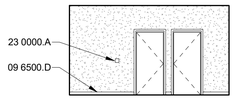
D136 WET PREP





17 WEST (A-401 | A-403) SCALE: 1/8" = 1'-0"

18 NORTH (A-401 | A-403) SCALE: 1/8" = 1'-0"



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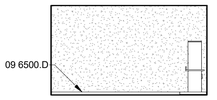
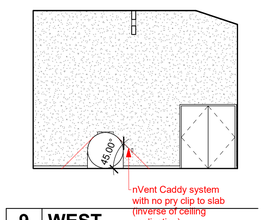
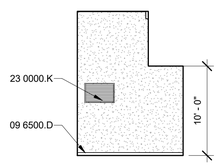


20 SOUTH (A-401 | A-403) SCALE: 1/8" = 1'-0"

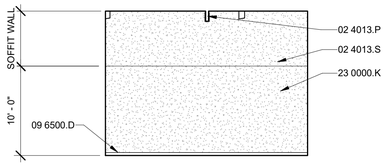
D137 MECHANICAL



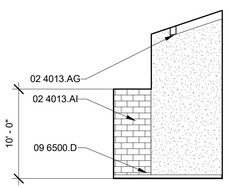
9 WEST (A-401 | A-403) SCALE: 1/8" = 1'-0"



10 NORTH (A-401 | A-403) SCALE: 1/8" = 1'-0"



11 EAST (A-401 | A-403) SCALE: 1/8" = 1'-0"



12 SOUTH (A-401 | A-403) SCALE: 1/8" = 1'-0"

INT. ELEVS. GENERAL NOTES

1. REFER TO GENERAL NOTES ON SHEETS G-001 AND G-101 FOR ADDITIONAL REQUIREMENTS.
2. REFER TO ELECTRICAL PLANS FOR FURTHER INFORMATION ON ELECTRICAL EQUIPMENT.
3. PROVIDE BLOCKING FOR ALL WALLS WHERE WALL HUNG EQUIPMENT AND FIXTURES OCCUR.
4. ALL DIMENSIONS SHOWN IN A ROOM TO BE CONSIDERED TYPICAL FOR EACH ELEVATION OF THE ROOM, UNLESS NOTED OTHERWISE.
5. VERIFY MOUNTING HEIGHTS OF ACCESSORIES AND PLUMBING FIXTURES MEET ACCESSIBILITY REQUIREMENTS WHERE APPLICABLE.
6. ALL WALL AND CEILING FINISHES SHALL COMPLY WITH ***2022 CBC TABLE 803.13*** FOR MAXIMUM FLAME SPREAD AND SMOKE DENSITY.
7. INSTALL ABUSE-RESISTANT GYPSUM BOARD IN AQUARIUM, MECHANICAL, AND WET PREP ROOMS.

KEYNOTES

02 4013.AG	EXISTING ROOF TRUSS, TO REMAIN, TYP UNO
02 4013.AI	EXISTING CMU WALL, TO REMAIN
02 4013.P	EXISTING ROOF FRAMING, TO REMAIN, TYP.
02 4013.S	EXISTING SOFFIT, TO REMAIN.
06 4100.J	BASE CABINETS W/ DRAWERS, DOORS & ADJUSTABLE SHELVING
09 6500.D	4" RUBBER WALL BASE, TYP. REFER TO FINISH SCHEDULE FOR LOCATION
10 4400.C	SEMI-RECESSED FIRE EXTINGUISHER CABINET WITH EXTINGUISHER, SEE DETAIL 41/A-901
11 5213.C	SHORT-THROW PROJECTOR, OFCI. CONTRACTOR TO PROVIDE BLOCKING, OPERATING WEIGHT = 13 POUNDS. SEE DETAIL 55/ A-904
11 5213.D	WHITE BOARD PROJECTION SCREEN, OFCI, OPERATING WEIGHT = 95 POUNDS
12 3600.B	SOLID SURFACE COUNTERTOP
22 0000.A	SINK AND EYEWASH STATION. REFER TO PLUMBING
23 0000.A	MECHANICAL EQUIPMENT. REFER TO MECHANICAL
23 0000.J	MECHANICAL DUCT, SEE MECHANICAL
23 0000.K	VENT, SEE MECHANICAL DRAWINGS
26 0000.B	EXISTING ELECTRICAL PANEL. SEE ELECTRICAL DRAWINGS

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Martin Hartmann
C 37789
REN. 10 / 31 / 27
STATE OF CALIFORNIA

CONSULTING ENGINEER

OXNARD COLLEGE
OE BUILDING ALTERATIONS
4000 S ROSE AVE. OXNARD, CA 93033

INTERIOR ELEVATIONS

NO.	REVISION	DATE

PROJECT MANAGER: MH
DRAWN BY: JM/BB/MH/GK/ED
CHECKED BY: MH
DATE: 12/31/2025
PROJECT NUMBER: 3244-01-ED23
SHEET: A-403

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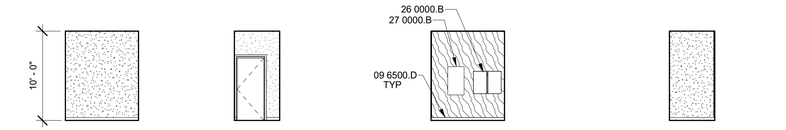
D140 IT



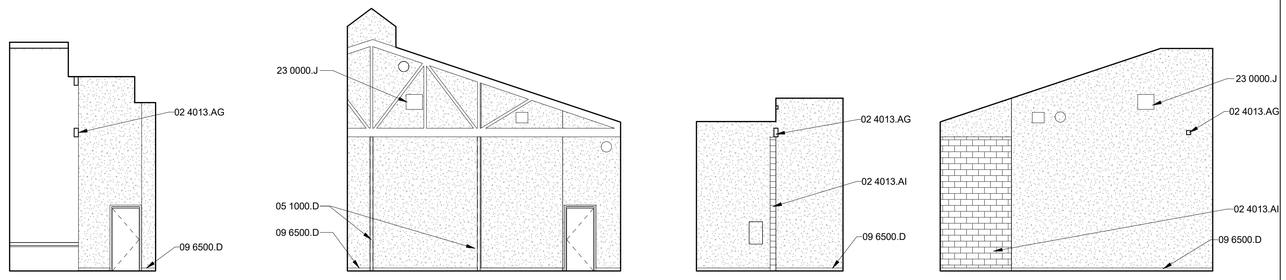
1 WEST — A-401 | A-404 — SCALE: 1/8" = 1'-0"

2 NORTH — A-401 | A-404 — SCALE: 1/8" = 1'-0"

3 EAST — A-401 | A-404 — SCALE: 1/8" = 1'-0"

4 SOUTH — A-401 | A-404 — SCALE: 1/8" = 1'-0"

D141 SUPPLIES



5 WEST — A-401 | A-404 — SCALE: 1/8" = 1'-0"

6 NORTH — A-401 | A-404 — SCALE: 1/8" = 1'-0"

7 EAST — A-401 | A-404 — SCALE: 1/8" = 1'-0"

8 SOUTH — A-401 | A-404 — SCALE: 1/8" = 1'-0"

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7. INSTALL ABUSE-RESISTANT GYPSUM BOARD IN AQUARIUM, MECHANICAL, AND WET PREP ROOMS.

KEYNOTES

02 4013.AG	EXISTING ROOF TRUSS, TO REMAIN, TYP UNO
02 4013.AI	EXISTING CMU WALL, TO REMAIN
05 1000.D	HSS 4x4x1/4 A500 GR. B STEEL COLUMN, TYP., ALIGN WITH BOTTOM CHORD AND STRUTS OF TRUSS ABV., PAINT
09 6500.D	4" RUBBER WALL BASE, TYP. REFER TO FINISH SCHEDULE FOR LOCATION
23 0000.J	MECHANICAL DUCT, SEE MECHANICAL
26 0000.B	EXISTING ELECTRICAL PANEL. SEE ELECTRICAL DRAWINGS
27 0000.B	WALL MOUNTED DATA RACK, SEE ELECTRICAL DRAWINGS

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INTERIOR ELEVATIONS

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SHEET: A-404

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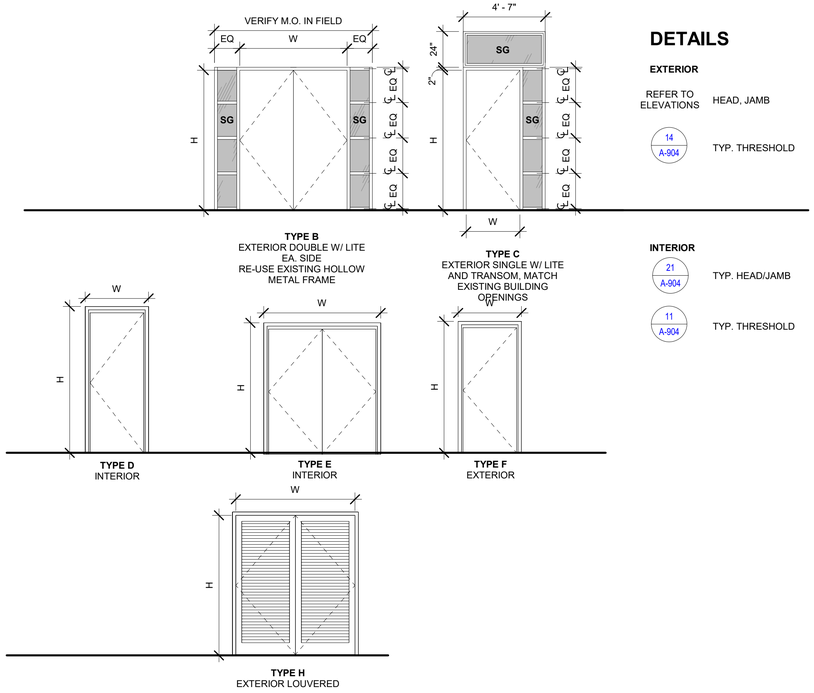
DOOR TYPES



DETAILS

EXTERIOR

REFER TO ELEVATIONS — HEAD, JAMB

14 / A-904 — TYP. THRESHOLD

INTERIOR

21 / A-904 — TYP. HEAD/JAMB

11 / A-904 — TYP. THRESHOLD

DOOR SCHEDULE

NO.	TYPE	DOOR WIDTH	DOOR HEIGHT	DOOR THICKNESS	DOOR MATERIAL	FIRE RATING	HEAD DETAIL	JAMB DETAIL	THRESHOLD DETAIL	HARDWARE GROUP	DOOR REMARKS
114A	H	6' - 0"	7' - 10"	0' - 1 3/4"	ST					01	2
118A	C	3' - 0"	7' - 10"	0' - 1 3/4"	ST					03	1, 3
118B	E	6' - 0"	7' - 0"	0' - 1 3/4"	ST	20 MIN.				04	4
118C	E	6' - 0"	7' - 0"	0' - 1 3/4"	ST					05	
118D	D	3' - 0"	7' - 0"	0' - 1 3/4"	ST					06	
118E	D	3' - 0"	7' - 0"	0' - 1 3/4"	ST					07	
118F	D	3' - 0"	7' - 0"	0' - 1 3/4"	ST					08	
120B	D	3' - 0"	7' - 0"	0' - 1 3/4"	ST					10	
132A	C	3' - 0"	7' - 10"	0' - 1 3/4"	ST					03	1, 3
133A	B	6' - 0"	7' - 10"	0' - 1 3/4"	ST					11	1, 3,7
136A	D	3' - 0"	7' - 0"	0' - 1 3/4"	ST					10	
136B	D	3' - 0"	7' - 0"	0' - 1 3/4"	ST					12	
142A	F	3' - 0"	7' - 10"	0' - 1 3/4"	ST					03	
142B	D	3' - 0"	7' - 0"	0' - 1 3/4"	ST					13	
142C	D	3' - 0"	7' - 0"	0' - 1 3/4"	ST					12	

HM - ALL DOORS TO HAVE HOLLOW METAL FRAMES
SG - SAFETY GLAZING, 1/2" THICK TEMPERED GLASS
ST - STEEL, PAINT

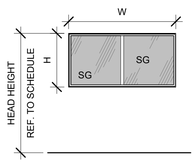
DOOR REMARKS

1. EGRESS DOOR.
2. EQUIPPED W/PANIC HARDWARE. .
3. INCLUDES SAFETY GLAZING.
4. FIRE-RATED DOOR ASSEMBLY.
5. LOUVERED DOOR.
6. KICK-PLATE PROVIDED.
7. REUSE EXISTING HOLLOW METAL DOOR FRAME, PREP/PATCH/PRIME/PAINT TO MATCH EXISTING, INFILL EXISTING SIDE LIGHTS WITH 1/2" LAMINATED GLASS AND METAL STOPS

DOOR GENERAL NOTES

1. REFER TO FLOOR PLANS FOR DOOR LOCATIONS.
2. CONTRACTOR TO VERIFY EXACT ROUGH OPENING SIZES WITH DOOR MANUFACTURER SPECIFICATIONS PRIOR TO FABRICATION OF ROUGH OPENINGS.
3. CONTRACTOR TO VERIFY ACTUAL DOOR SIZES TO FIT FINISH OPENING PRIOR TO FABRICATION OF DOOR AND FINISH OPENING.
4. REFER TO DOOR TYPES LEGEND FOR GLAZING.
5. REFER TO T24 REPORT FOR GLAZING ENERGY REQUIREMENTS.
6. INSTALL PER MANUFACTURERS WRITTEN INSTRUCTIONS.
7. HOLLOW METAL DOORS TO BE POLYSTYRENE FILLED.
8. SAFETY GLAZING NOTATED WITH "SG" SHALL COMPLY WITH CBC 2406.1 AND AND SHALL COMPLY WITH THE TEST CRITERIA FOR CATEGORY II UNLESS OTHERWISE NOTED IN CBC TABLE 2406.2(1)

WINDOW TYPES



DETAILS

INTERIOR

33 / A-904 — TYP. HEAD/JAMB

34 / A-904 — TYP. SILL

WINDOW SCHEDULE

TYPE	SIZE		HEAD HEIGHT	FRAME MATERIAL	WINDOW REMARKS
	WIDTH	HEIGHT			
A	8' - 0"	4' - 0"	7' - 2"	HM	1

WINDOW REMARKS

1. INCLUDES SAFETY GLAZING.
2. PER 708A.2.1.1, AT EXTERIOR MULTIPANE GLAZING, PROVIDE ONE TEMPERED PANE MEETING THE REQUIREMENTS OF SECTION 2406 SAFETY GLAZING NOT NOTED WITH #1

WINDOW GENERAL NOTES

1. REFER TO GENERAL NOTES ON SHEET G-101 FOR ADDITIONAL REQUIREMENTS
2. REFER TO FLOOR PLANS FOR WINDOW LOCATIONS.
3. CONTRACTOR TO VERIFY EXACT ROUGH OPENING SIZES WITH WINDOW MANUFACTURER SPECIFICATIONS PRIOR TO FABRICATION OF ROUGH OPENINGS.
4. CONTRACTOR TO VERIFY ACTUAL WINDOW SIZES TO FIT FINISH OPENING PRIOR TO FABRICATION OF WINDOW AND FINISH OPENING.
5. HEAD HEIGHT MEASURED FROM FF UNLESS NOTED OTHERWISE.
6. REFER TO ENERGY COMPLIANCE REPORTS FOR U-FACTOR, SHGC AND ADDITIONAL WINDOW REQUIREMENTS.
7. ALL GLAZING IS DOUBLE PANE UNLESS OTHERWISE NOTED.
8. PROVIDE SHOP DRAWINGS FOR ALL WINDOW UNITS
9. REFER TO WINDOW TYPES LEGEND FOR GLAZING.
10. REFER TO WINDOW SCHEDULE AND WINDOW TYPES LEGEND FOR FURTHER INFORMATION.
11. STOREFRONT SECTIONS ARE 2" AND CURTAINWALL SECTIONS ARE 2-1/2", UNO. REFER TO STOREFRONT TYPES LEGEND FOR FURTHER INFORMATION.
12. WINDOWS BETWEEN CONDITIONED AND UNCONDITIONED SPACES SHALL BE CAULKED, GASKETED, WEATHER-STRIPPED OR OTHERWISE SEALED.
13. SAFETY GLAZING NOTATED WITH "SG"

LEGEND - MATERIAL & FINISH

GLAZING LEGEND

FLOAT GLASS, TEMPERED AS NOTED BELOW

SG — SAFETY GLASS

MATERIAL & FINISH

HM — HOLLOW METAL

GLASS AND GLAZING

- GLAZING HAZARDOUS LOCATIONS DESCRIBED IN CBC SECTION 2406.4. SHALL BE SAFETY GLASS AND SHALL COMPLY WITH CBC SECTION 2406.1.1 THROUGH 2406.1.4. ALL SAFETY GLAZING SHALL PASS IMPACT TEST REQUIREMENTS OF 2406.2
- IF WITHIN 24" OF ANY DOOR, GLAZING IN INDIVIDUAL FIXED OR OPERABLE PANEL ADJACENT TO A DOOR WHERE THE NEAREST EXPOSED EDGE OF THE GLAZING IS WITHIN 24-INCH ARC OF EITHER VERTICAL EDGE OF THE DOOR IN A CLOSED POSITION AND WHERE THE BOTTOM EXPOSED EDGE OF THE GLAZING IS LESS THAN 60 INCHES ABOVE THE WALKING SURFACE.
- EACH LIGHT SHALL BEAR THE MANUFACTURERS LABEL DESIGNATION THE TYPE AND THICKNESS OF GLASS. EACH LIGHT OF TEMPERED SAFETY GLASS SHALL HAVE A PERMANENT IDENTIFICATION LABEL WHICH SHALL BE VISIBLE WHEN THE LIGHT IS INSTALLED.
- FRAMING PERIMETER DIMENSIONS ARE OPENING SIZES, CONTRACTOR TO VERIFY EXACT FRAME DIMENSIONS.

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REVIEWED FOR
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CONSULTING ENGINEER

OXNARD COLLEGE
OE BUILDING ALTERATIONS
4000 S ROSE AVE. OXNARD, CA 93033

DOOR AND WINDOW SCHEDULES

NO.	REVISION	DATE
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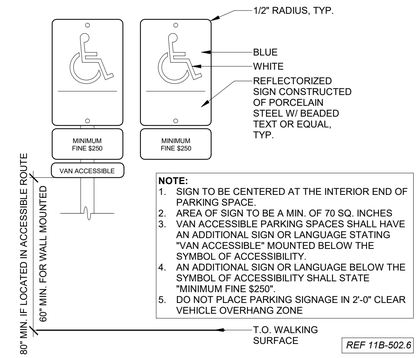
△		
△		
△		
△		

PROJECT MANAGER: MH
DRAWN BY: JM/BB/MH/GK/ED
CHECKED BY: MH
DATE: 12/31/2025
PROJECT NUMBER: 3244-01-ED23
SHEET: A-600

100% CD

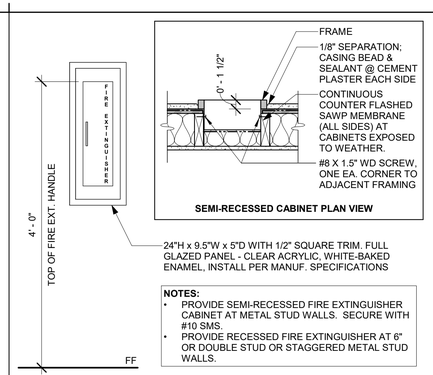
3/9/2026 3:28:33 PM
Autodesk Docs://3244-01 Oxnard College Marine Center/3244-01 Oxnard College Marine Center.rvt



NOTE:
1. SIGN TO BE CENTERED AT THE INTERIOR END OF PARKING SPACE.
2. AREA OF SIGN TO BE A MIN. OF 70 SQ. INCHES
3. VAN ACCESSIBLE PARKING SPACES SHALL HAVE AN ADDITIONAL SIGN OR LANGUAGE STATING "VAN ACCESSIBLE" MOUNTED BELOW THE SYMBOL OF ACCESSIBILITY.
4. AN ADDITIONAL SIGN OR LANGUAGE BELOW THE SYMBOL OF ACCESSIBILITY SHALL STATE "MINIMUM FINE $250".
5. DO NOT PLACE PARKING SIGNAGE IN 2'-0" CLEAR VEHICLE OVERHANG ZONE

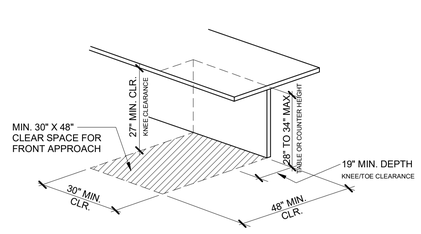
REF 11B-502.6

51 ACC. PARKING STALL SIGN
A901 SCALE: 3/4" = 1'-0"



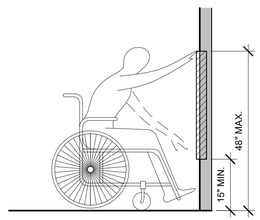
NOTES:
- PROVIDE SEMI-RECESSED FIRE EXTINGUISHER CABINET AT METAL STUD WALLS. SECURE WITH #10 SMS.
- PROVIDE RECESSED FIRE EXTINGUISHER AT 6" OR DOUBLE STUD OR STAGGERED METAL STUD WALLS.

41 ACC. FIRE EXTINGUISHER CABINET
A402 A901 NTS



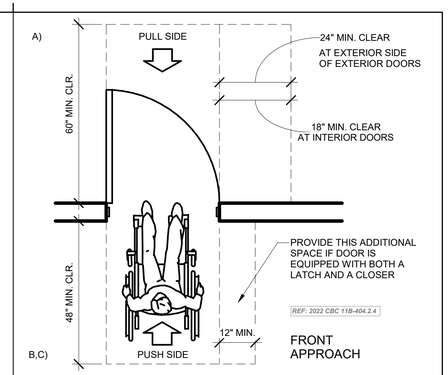
NOTE:
1. THE REQUIRED CLEAR FLOOR SPACE MAY NOT OVERLAP THE REQUIRED KNEE SPACE BY MORE THAN 19".
2. KNEE CLEARANCES AT TABLES, COUNTERS & WORKSURFACES IS AT LEAST 27" HIGH, 30" WIDE AND 19" DEEP.

31 COUNTERTOP CLEARANCES
A901 SCALE: 3" = 1'-0"



REF: 2022 CBC 11B-308.2

22 ACC. FORWARD REACH
A901 SCALE: 1/2" = 1'-0"



REF 11B-404.2.4

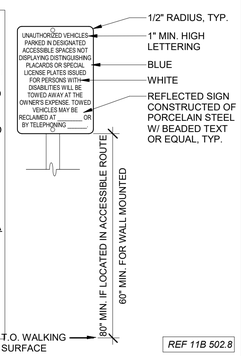
13 CLEARANCES AT DOORS & GATES
A901 SCALE: 1/2" = 1'-0"

NOTE:
1. SIGN TO BE CENTERED AT THE INTERIOR END OF PARKING SPACE.
2. THE SIGN SHALL NOT BE LESS THAN 17 INCHES BY 22 INCHES IN SIZE WITH 1 INCH HIGH MINIMUM LETTERING WHICH CLEARLY AND CONSPICUOSLY STATES THE FOLLOWING:

"UNAUTHORIZED VEHICLES PARKED IN DESIGNATED ACCESSIBLE SPACES NOT DISPLAYING DISTINGUISHING PLACARDS OR SPECIAL LICENSE PLATES ISSUED FOR PERSONS WITH DISABILITIES WILL BE TOWED AWAY AT THE OWNER'S EXPENSE. TOWED VEHICLES MAY BE RECLAIMED AT 251 SOUTH 'C' STREET, OXNARD, CA 93030 OR BY TELEPHONING (805) 385- 7650."

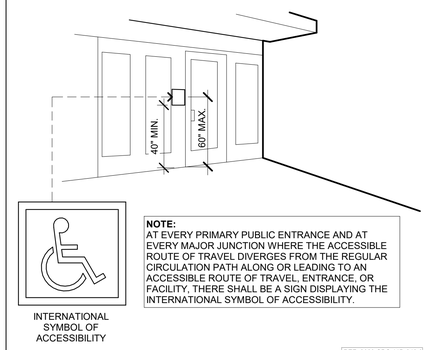
BLANK SPACES ARE TO BE FILLED IN WITH APPROPRIATE INFORMATION AS A PERMANENT PART OF THE SIGN.

EXISTING CONTACT INFO TO REMAIN.



REF 11B 502.8

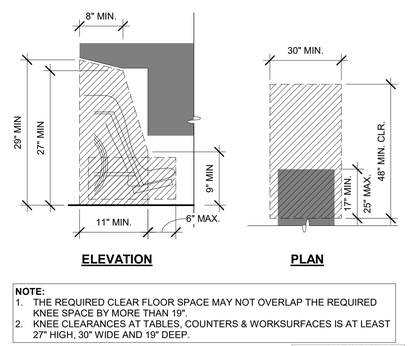
52 (E) ACC. TOWING SIGN
A901 SCALE: 3/4" = 1'-0"



NOTE:
AT EVERY PRIMARY PUBLIC ENTRANCE AND AT EVERY MAJOR JUNCTION WHERE THE ACCESSIBLE ROUTE OF TRAVEL DIVERGES FROM THE REGULAR CIRCULATION PATH ALONG OR LEADING TO AN ACCESSIBLE ROUTE OF TRAVEL, ENTRANCE, OR FACILITY, THERE SHALL BE A SIGN DISPLAYING THE INTERNATIONAL SYMBOL OF ACCESSIBILITY.

REF: 2022 CBC 11B-216.6

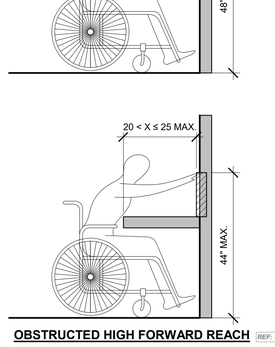
42 ACC. BLDG. ENTRY SIGNAGE
A901 NTS



NOTE:
1. THE REQUIRED CLEAR FLOOR SPACE MAY NOT OVERLAP THE REQUIRED KNEE SPACE BY MORE THAN 19".
2. KNEE CLEARANCES AT TABLES, COUNTERS & WORKSURFACES IS AT LEAST 27" HIGH, 30" WIDE AND 19" DEEP.

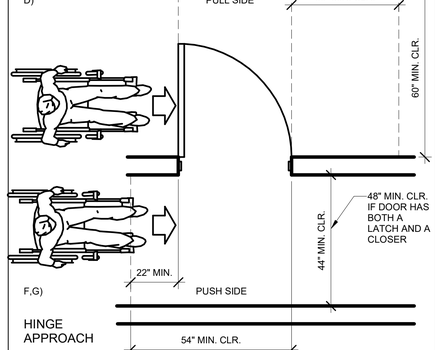
REF: 2022 CBC 11B-306

32 TOE & KNEE CLEARANCES
A901 SCALE: 3" = 1'-0"



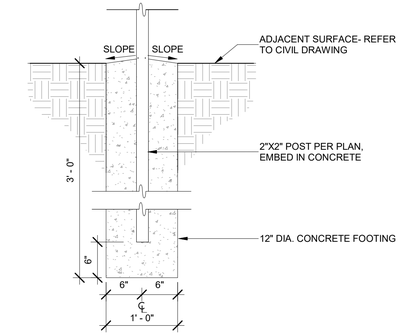
REF: 2022 CBC 11B-308.3

24 ACC. SIDE REACH
A901 SCALE: 1/2" = 1'-0"

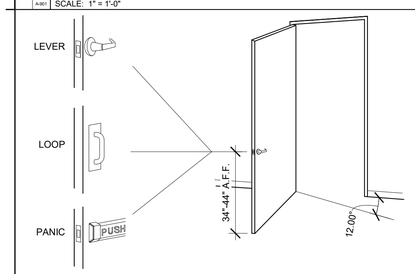


REF: 2022 CBC 11B-304 & 11B-403.5.1

14 TURNING SPACE
A901 SCALE: 3/8" = 1'-0"



53 SIGN POST FOOTING
A901 SCALE: 1" = 1'-0"



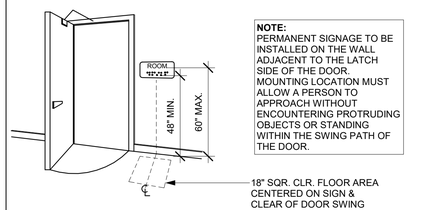
ACCEPTABLE DOOR HARDWARE AND MOUNTING HEIGHTS

DOOR CLOSERS

NOTE:
DOOR CLOSERS IF PRESENT, MUST BE SET SO THAT IT TAKES DOOR AT LEAST 5 SECONDS TO CLOSE FROM AN OPEN POSITION OF 90 DEGREES TO WITHIN 12" OF LATCH. THE FORCE TO OPEN DOOR SHALL NOT EXCEED 5 LBS. TYPICAL.

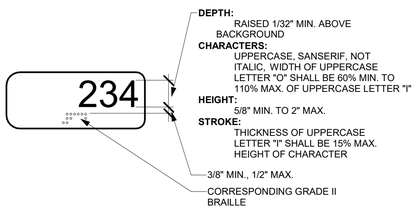
REF: 2022 CBC 11B-404.2

54 ACC. DOOR REQUIREMENTS
A901 NTS



NOTE:
PERMANENT SIGNAGE TO BE INSTALLED ON THE WALL ADJACENT TO THE LATCH SIDE OF THE DOOR. MOUNTING LOCATION MUST ALLOW A PERSON TO APPROACH WITHOUT ENCOUNTERING PROTRUDING OBJECTS OR STANDING WITHIN THE SWING PATH OF THE DOOR.

INSTALLATION, HEIGHT AND LOCATION



RAISED CHARACTERS

18
1/8" MIN. TO 4 TIMES STROKE WIDTH MAX. RECTANGULAR

RECTANGULAR

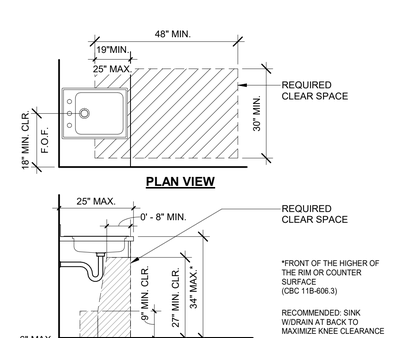
74
1/16" MIN. TO 4 TIMES STROKE WIDTH MAX.

NON RECTANGULAR

CHARACTER SPACING

REF: 2022 CBC 11B-703

44 ACC. ROOM SIGNAGE
A901 NTS



*FRONT OF THE HIGHER OF THE RIM OR COUNTER SURFACE (CBC 11B-606.3)

RECOMMENDED: SINK W/DRAIN AT BACK TO MAXIMIZE KNEE CLEARANCE

FAUCET ACCESSIBILITY NOTES:
(CONTROLS FOR FAUCETS SHALL COMPLY WITH CBC 11B-309)

1. FAUCET CONTROLS AND OPERATING MECHANISMS SHALL BE OPERABLE WITH ONE HAND AND SHALL NOT REQUIRE TIGHT GRASPING, PINCHING OR TWISTING OF THE WRIST.
2. THE FORCE REQUIRED TO ACTIVATE CONTROLS SHALL BE NO GREATER THAN 5 POUND FORCE (22.2N). LEVER-OPERATED, PUSH-TYPE AND ELECTRONICALLY CONTROLLED MECHANISMS ARE EXAMPLES OF ACCEPTABLE DESIGNS. SELF-CLOSING VALVES ARE ALLOWED IF THE FAUCET REMAINS OPEN FOR AT LEAST 10 SECONDS.

NOTES:
1. WATER AND DRAIN PIPES UNDER ACCESSIBLE LAVATORIES SHALL BE INSULATED OR OTHERWISE COVERED. THERE SHALL BE NO SHARP OR ABRASIVE SURFACES UNDER SINKS. SEE PLUMBING FOR PROTECTION.
2. THE DIP OF THE OVERFLOW SHALL NOT BE CONSIDERED IN DETERMINING KNEE & TOE CLEARANCES
3. OPERABLE PARTS OF SOAP OR OTHER DISPENSERS LOCATED ON THE BACK WALL OF THE LAVATORY ARE WITHIN REACH RANGE 40" MAXIMUM AFF.

34 ACC. COUNTERTOP SINK
A-503 A901 SCALE: 1/2" = 1'-0"

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CONSULTING ENGINEER

OXNARD COLLEGE
OE BUILDING ALTERATIONS
4000 S ROSE AVE. OXNARD, CA 93033

ACCESSIBILITY DETAILS

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PROJECT MANAGER MH
DRAWN BY JM/BB/MH/GK/ED
CHECKED BY MH
DATE 12/31/2025
PROJECT NUMBER 3244-01-ED23
SHEET A-901

100% CD

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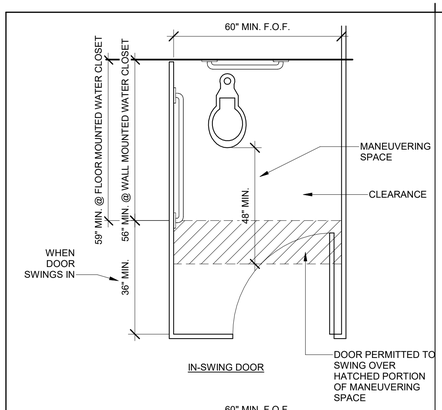
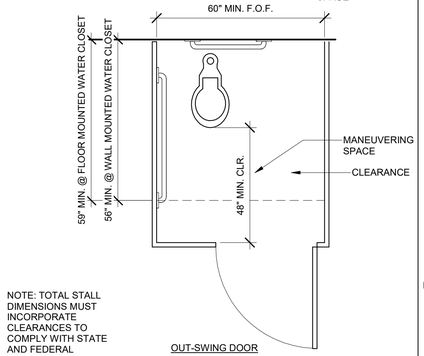


IN-SWING DOOR



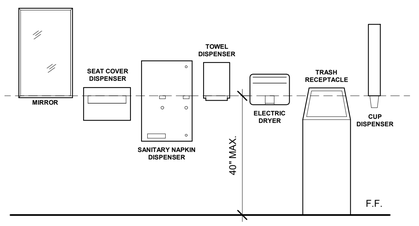
NOTE: TOTAL STALL DIMENSIONS MUST INCORPORATE CLEARANCES TO COMPLY WITH STATE AND FEDERAL REQUIREMENTS

OUT-SWING DOOR

REF 11B-604.8.1.1.3

52 (E) ACC. TOILET STALL - END OPG DR

A-902 | A-902 SCALE: 1/2" = 1'-0" (FOR REFERENCE ONLY)

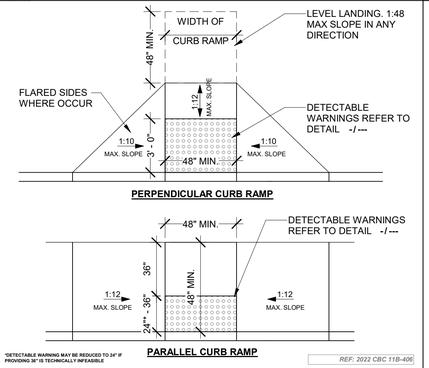


NOTE:
1. CLEAR FLOOR OR GROUND SPACE REQUIRED TO ALLOW FOR OR PARALLEL APPROACH TO ACCESSORIES.
2. ALL OPERABLE PARTS OF FIXTURES AND ACCESSORIES TO BE LOCATED 40" MAX. A.F.F.
3. CONTROLS AND OPERATING MECHANISMS MUST OPERATE WITH ONE HAND AND NOT REQUIRE TIGHT GRASPING, PINCHING OR TWISTING OF WRIST.
4. MAX. 5 POUND FORCE TO OPERATE CONTROLS.
5. LOCATE COAT HOOKS AND SHELVING WITHIN APPROPRIATE RACH RANGE (48" MAX. ABOVE FLOOR.)

REF. 11B-603.3-.5

53 (E) ACC. RESTROOM ACCESSORIES

A-902 SCALE: 1/2" = 1'-0" (FOR REFERENCE ONLY)

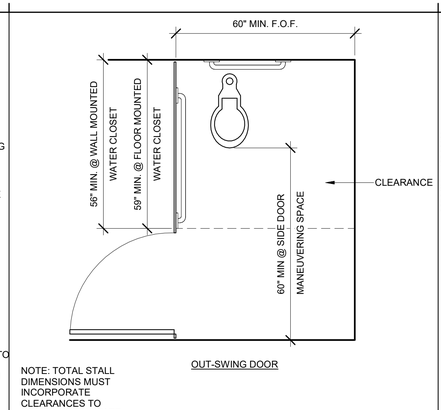


*DETECTABLE WARNING MAY BE REDUCED TO 24" IF PROVIDING 36" IS TECHNICALLY INFEASIBLE

REF: 2022 CBC 11B-406

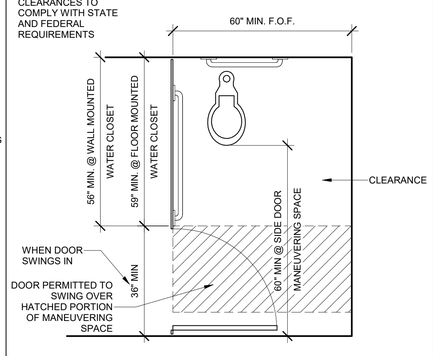
54 ACC. CURB RAMP

A-902 SCALE: 1/4" = 1'-0"



OUT-SWING DOOR

NOTE: TOTAL STALL DIMENSIONS MUST INCORPORATE CLEARANCES TO COMPLY WITH STATE AND FEDERAL REQUIREMENTS

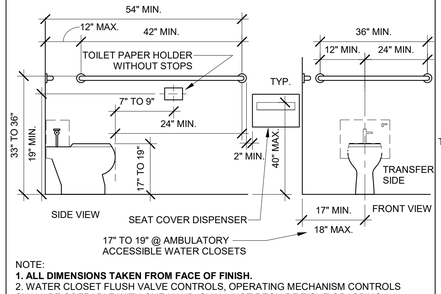


IN-SWING DOOR

REF 11B-6048.1.1.2

42 (E) ACC. TOILET STALL- SIDE OPENING

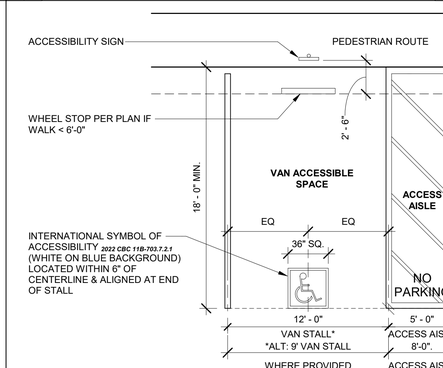
A-902 | A-902 SCALE: 1/2" = 1'-0" (FOR REFERENCE ONLY)



NOTE:
1. ALL DIMENSIONS TAKEN FROM FACE OF FINISH.
2. WATER CLOSET FLUSH VALVE CONTROLS, OPERATING MECHANISM CONTROLS SHALL BE OPERABLE WITH ONE HAND, SHALL NOT REQUIRE TIGHT GRASPING, PINCHING, OR TWISTING OF THE WRIST, AND SHALL BE MOUNTED NO MORE THAN 44" A.F.F.
3. THE FORCE REQUIRED TO ACTIVATE THE WATER CLOSET AND URINAL FLUSH VALVE CONTROLS & FAUCET AND OPERATING MECHANISM CONTROLS SHALL BE NO GREATER THAN 5 LBF. ELECTRONIC OR AUTOMATIC FLUSHING CONTROLS ARE ACCEPTABLE AND PREFERABLE.

43 (E) ACC. TOILETS

A-902 | A-902 SCALE: 1/2" = 1'-0" (FOR REFERENCE ONLY)

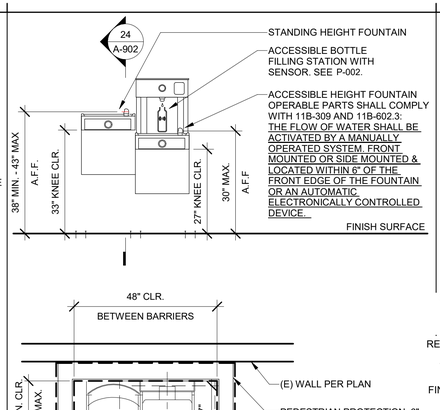


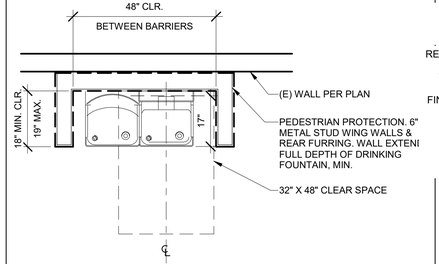
NOTES:
1. ACCESS AISLES SHALL BE MARKED WITH A BLUE PAINTED BORDERLINE AROUND THEIR PERIMETER.
   - THE AREA WITHIN THE BLUE BORDERLINES SHALL BE MARKED WITH HATCHED LINES A MAXIMUM OF 36" O.C. IN A COLOR CONTRASTING WITH THAT OF THE AISLE SURFACE, PREFERABLY BLUE OR WHITE.
   - THE WORDS "NO PARKING" SHALL BE PAINTED ON THE SURFACE WITHIN EACH ACCESS AISLE IN WHITE LETTERS A MINIMUM OF 12" IN HEIGHT AND LOCATED TO BE VISIBLE FROM THE ADJACENT VEHICULAR WAY.
   - ACCESS AISLES SHALL EXTEND THE FULL REQUIRED LENGTH OF THE PARKING SPACES THEY SERVE AND MAY EXTEND BEYOND THE MINIMUM REQUIRED LENGTH.
   - ACCESS AISLES SHALL BE PERMITTED TO BE PLACED ON EITHER SIDE OF THE PARKING SPACE EXCEPT FOR VAN PARKING SPACES WHICH SHALL HAVE ACCESS AISLES LOCATED ON THE PASSENGER SIDE.
2. SURFACE OF THE PARKING SPACE AND ACCESS AISLE SHALL NOT EXCEED 1:48 GRADIENT (2%) IN ANY DIRECTION.

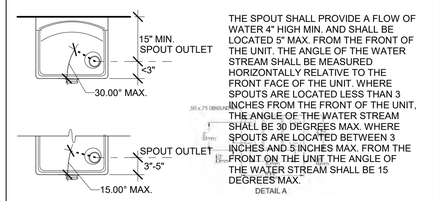
REF: 2022 CBC 11B-502

44 ACC. PARKING STALL

A-902 SCALE: 3/16" = 1'-0"



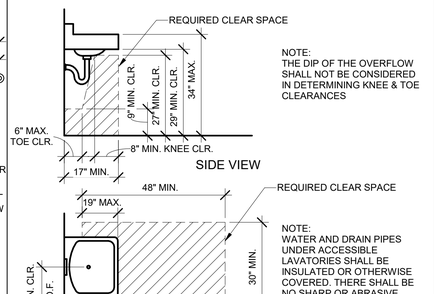




THE SPOUT SHALL PROVIDE A FLOW OF WATER 4" HIGH MIN. AND SHALL BE LOCATED 5" MAX. FROM THE FRONT OF THE UNIT. THE ANGLE OF THE WATER STREAM SHALL BE MEASURED HORIZONTALLY RELATIVE TO THE FRONT FACE OF THE UNIT. WHERE SPOUTS ARE LOCATED LESS THAN 3 INCHES FROM THE FRONT OF THE UNIT, THE ANGLE OF THE WATER STREAM SHALL BE 30 DEGREES MAX. WHERE SPOUTS ARE LOCATED BETWEEN 3 INCHES AND 5 INCHES MAX. FROM THE FRONT ON THE UNIT THE ANGLE OF THE WATER STREAM SHALL BE 15 DEGREES MAX.

32 HI-LO DRINKING FOUNTAIN

A-100 | A-902 SCALE: 1/2" = 1'-0"



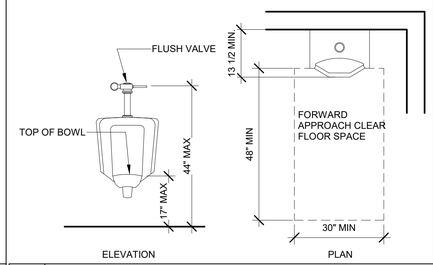
NOTE:
THE DIP OF THE OVERFLOW SHALL NOT BE CONSIDERED IN DETERMINING KNEE & TOE CLEARANCES

NOTE:
WATER AND DRAIN PIPES UNDER ACCESSIBLE LAVATORIES SHALL BE INSULATED OR OTHERWISE COVERED. THERE SHALL BE NO SHARP OR ABRASIVE SURFACES UNDER LAVATORIES. SEE PLUMBING FOR PROTECTION INFO.

REF. 2022 CBC 11B 606

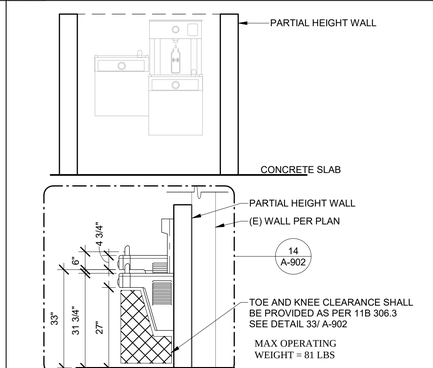
33 (E) ACC. LAVATORIES

A-902 | A-901 SCALE: 1/2" = 1'-0" (FOR REFERENCE ONLY)



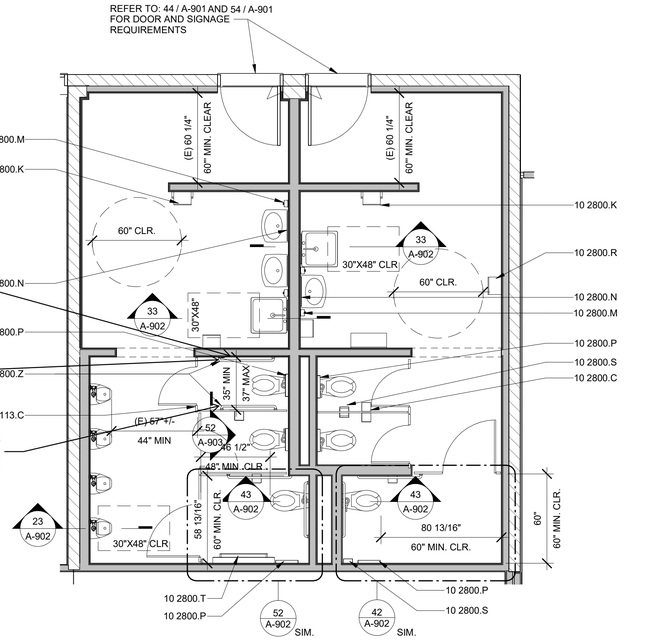
23 (E) ACC. URINAL

A-902 | A-902 SCALE: 1/2" = 1'-0" (FOR REFERENCE ONLY)



24 DRINKING FOUNTAIN CLEARANCE

A-902 | A-902 SCALE: 1/2" = 1'-0"



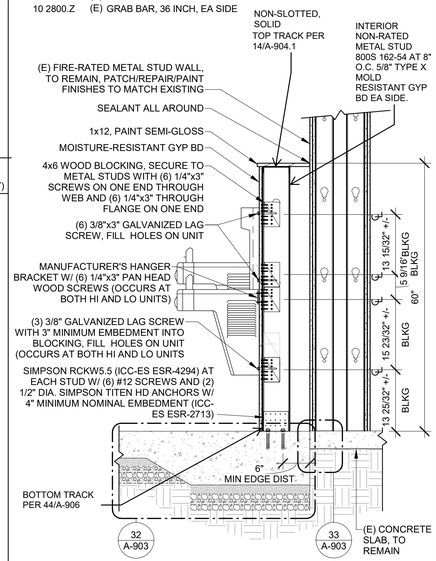
NOTE:
THESE DRAWINGS DEPICT EXISTING RESTROOM, PLUMBING FIXTURES, AND RESTROOM ACCESSORY CONDITIONS TO REMAIN. NOTES AND DETAILS FOR EXISTING SPACES AND FIXTURES ON SHEET A-902 ARE FOR REFERENCE ONLY.

1 BLDG D - (E) RR PLAN

A-100 | A-902 SCALE: 1/4" = 1'-0"

KEYNOTES

10 2113.C	TOILET PARTITION WALL AND SELF-CLOSING, OUTSWINGING DOOR, PLACE PULL ON EACH SIDE OF DOOR NEAR LATCH, PROVIDE NEW PARTIONS AS NEEDED TO CREATE AN AMBULATORY TOILET COMPARTMENT INSTALL TOILET PARTITIONS PER 53/A-903.
10 2800.C	(E) TOILET PAPER HOLDER
10 2800.K	(E) SEMI-RECESSED WASTE RECEPTACLE
10 2800.M	(E) SOAP DISPENSER
10 2800.N	(E) MIRROR
10 2800.P	(E) SEAT COVER DISPENSER
10 2800.R	(E) SANITARY NAPKIN DISPENSER
10 2800.S	(E) SANITARY NAPKIN DISPOSAL
10 2800.T	(E) DIAPER CHANGING STATION
10 2800.Z	(E) GRAB BAR, 36 INCH, EA SIDE



14 DRINKING FOUNTAIN ANCHORAGE

A-902 | A-902 SCALE: 3/4" = 1'-0"

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DRAWN BY: JM/BB/MH/GK/ED
CHECKED BY: MH
DATE: 12/31/2025
PROJECT NUMBER: 3244-01-ED23
SHEET: A-902

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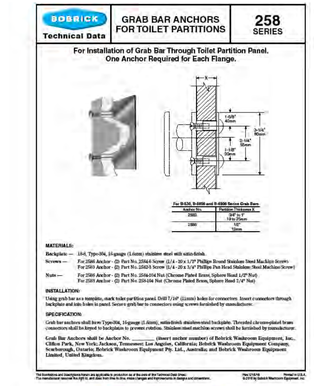
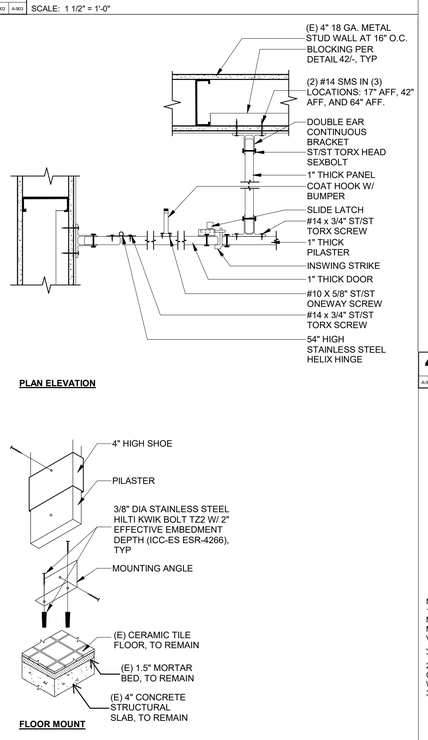


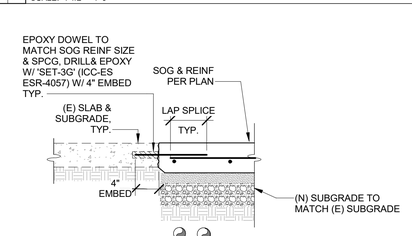
52 GRAB BAR ON PARTITION WALL

A402 A403 SCALE: 1 1/2" = 1'-0"



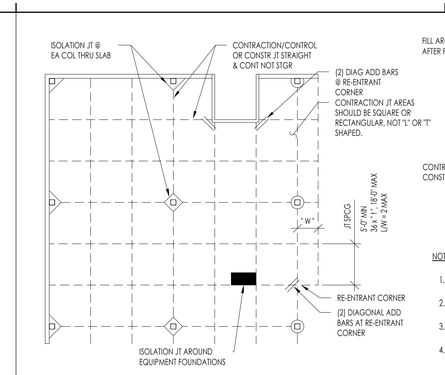
53 TOILET PARTITION WALL CONNECTION

A402 A403 SCALE: 1 1/2" = 1'-0"



54 TYP NEW SLAB TO EXISTING SLAB

A103.1 A403 SCALE: 1" = 1'-0"

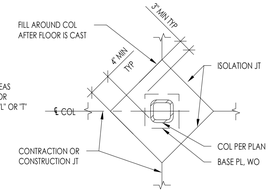


41 SLAB ON GRADE JOINTS

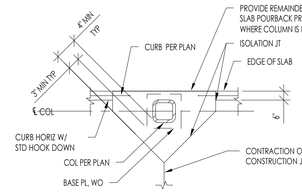
A403 NTS

NOTES:

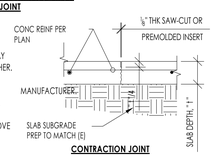
1. IF SAW CUT CONTRACTION OR CONTROL JOINT IS USED, SAW-CUT WITHIN 24 HOURS. EARLY ENTRY SAWS MAY BE USED WITHIN 1-4 HOURS OF POUR, AND CONVENTIONAL SAWS 4-12 HOURS OF POUR DEPENDING ON WEATHER.
2. FILL CONTRACTION JOINT WITH AN ELASTOMERIC JOINT COMPOUND RATED FOR ITS USE. FOR INDUSTRIAL FLOORS SUBJECTED TO HARD WHEELED TRAFFIC, USE SEALANTS RATED FOR SUCH APPLICATIONS BY THE
3. DOWELS IN INDUSTRIAL FLOOR APPLICATIONS SHOULD BE SMOOTH ALIGNED, AND SUPPORTED SO THEY WILL REMAIN PARALLEL IN BOTH HORIZONTAL AND VERTICAL PLANES DURING PLACING AND FINISHING.
4. IN STEEL AND/OR CONC. BUILDINGS DO NOT POUR DIAMOND UNTIL STRUCTURAL STEEL AND CONCRETE ABOVE HAS BEEN INSTALLED.



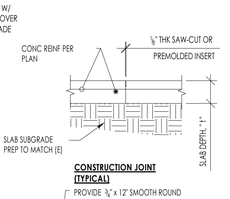
COLUMN ISOLATION JOINT



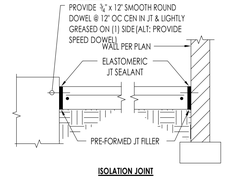
COLUMN ISOLATION JOINT



CONTRACTION JOINT



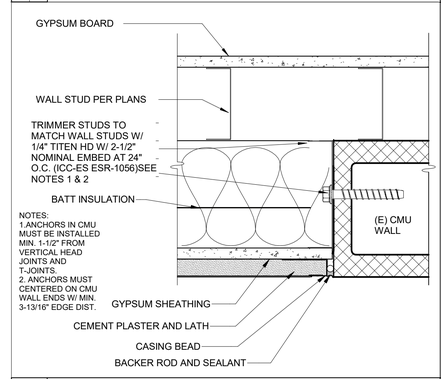
CONSTRUCTION JOINT (TYPICAL)



ISOLATION JOINT

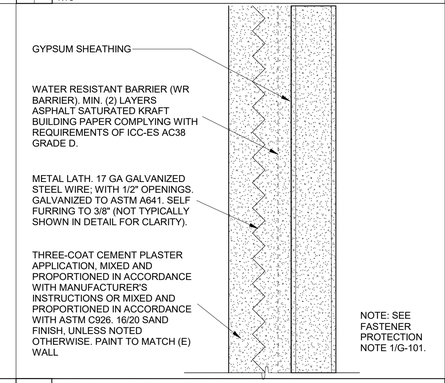
42 WALL BACKING AT TOILET PARTITIONS

A402 A403 SCALE: 1 1/2" = 1'-0"



43 SECTION @ (E) INFILL OPENING

A403 NTS

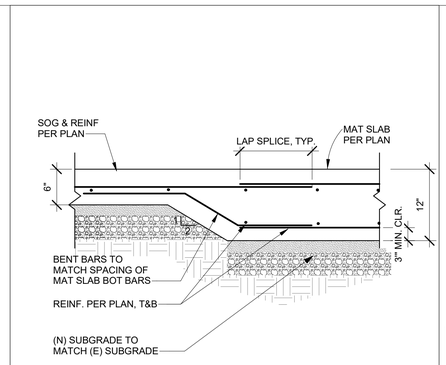


44 CEMENT PLASTER DETAIL

A403 NTS

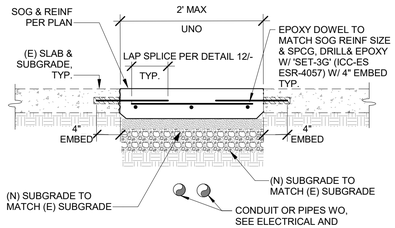
32 TYP. NEW SLAB TO NEW MAT SLAB

A103.1 A403 NTS



33 TYP NEW MAT SLAB TO EXIST SLAB

A103.1 A403 NTS

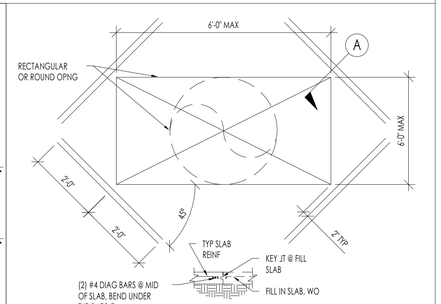


34 TYP SLAB PATCH DETAIL

A103.1 A403 NTS

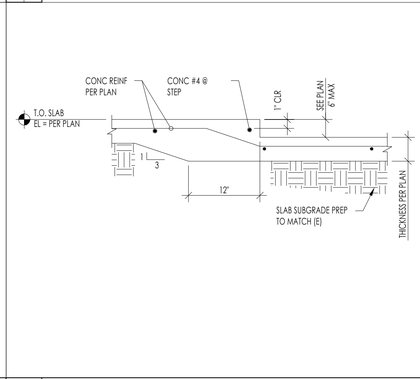
22 SOG OPENING

A403 NTS



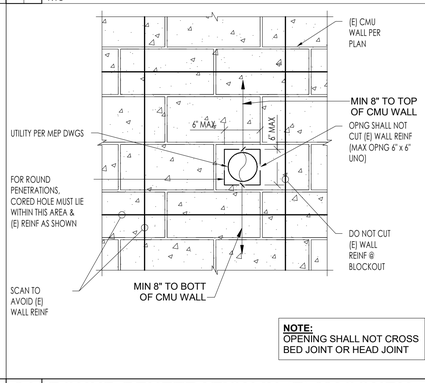
NOTES:

1. ELIMINATE BARS IF OPENING IS LESS THAN 2'-0" IN BOTH DIMENSIONS.
2. MATCH (E) SLAB ON GRADE SUBGRADE SUPPORT



23 SLAB ON GRADE DEPRESSION

A403 NTS



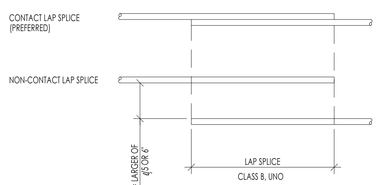
NOTE:
OPENING SHALL NOT CROSS BED JOINT OR HEAD JOINT

24 ROUND PENETRATION IN (E) MASONRY

A403 NTS

12 REINF DEVELOP. LENGTHS & SPLICES

A403 NTS

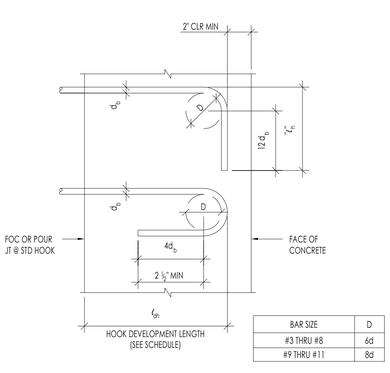


REINFORCING TENSION DEVELOPMENT LENGTH AND LAP SPLICE SCHEDULE

BAR SIZE	DEVELOPMENT LENGTH, ℓ_d (CLASS A LAP SPLICE)			LAP SPLICE, ℓ_s (CLASS B LAP SPLICE)		
	f'c (psi)			f'c (psi)		
	2,500	3,000	4,000	2,500	3,000	4,000
#3	1'-6"	1'-5"	1'-3"	2'-0"	1'-10"	1'-7"
#4	2'-0"	1'-10"	1'-7"	2'-8"	2'-5"	2'-1"
#5	2'-6"	2'-4"	2'-0"	3'-3"	3'-0"	2'-7"
#6	3'-0"	2'-9"	2'-5"	3'-11"	3'-7"	3'-2"
#7	4'-5"	4'-0"	3'-6"	5'-9"	5'-2"	4'-6"
#8	5'-0"	4'-7"	4'-0"	6'-6"	5'-11"	5'-2"
#9	5'-8"	5'-2"	4'-6"	7'-4"	6'-9"	5'-10"
#10	6'-5"	5'-10"	5'-1"	8'-3"	7'-7"	6'-7"
#11	7'-1"	6'-6"	5'-7"	9'-2"	8'-5"	7'-3"

NOTES:

1. VALUES ABOVE ARE FOR REINFORCEMENT WITH THE FOLLOWING PARAMETERS:
   A. GRADE 60 REINFORCEMENT
   B. NORMAL WEIGHT CONCRETE
      a. FOR LIGHTWEIGHT CONCRETE MULTIPLY THE VALUES ABOVE BY 1.3
   C. NON-EPOXY COATED REINFORCEMENT
   D. HORIZONTAL BARS WITHOUT 12" OF CONCRETE BELOW (BOTTOM BARS), AND VERTICAL BARS
      a. FOR TOP BARS WITH 12" OR MORE OF CONCRETE BELOW THE BAR MULTIPLY THE VALUES ABOVE BY 1.3
   E. CLEAR SPACING NOT LESS THAN d_b, CLEAR COVER NOT LESS THAN d_b AND STIRRUPS THROUGH L_b NOT LESS THAN MIN
      OR
      CLEAR SPACING NO LESS THAN 2d $_b$ AND CLEAR COVER NOT LESS THAN db
      a. FOR OTHER SPACING AND COVER CONDITIONS MULTIPLY THE VALUES ABOVE BY 1.5
   F. REINFORCEMENT NOT IN SHEAR WALLS
      a. FOR REINFORCEMENT IN SHEAR WALLS MULTIPLY THE VALUES ABOVE BY 1.25
2. THE MULTIPLIERS LISTED IN NOTE 1 ABOVE ARE CUMULATIVE INCREASES IN DEVELOPMENT/LAP SPLICE LENGTH.
3. ALL LAP SPLICES REFERENCED IN THE PLANS SHALL BE CLASS B UNLESS NOTED OTHERWISE.
4. WHEN REINFORCING BARS OF TWO SIZES ARE LAP-SPLICED IN TENSION, USE THE LARGER OF THE TENSION CLASS B.
   LAP SPLICE LENGTH (l_s) OF THE SMALLER BAR, AND THE CLASS A, TENSION DEVELOPMENT LENGTH (l_d) OF THE LARGER BAR.



BAR SIZE	D
#3 THRU #8	6d
#9 THRU #11	8d

STANDARD HOOK DEVELOPMENT LENGTH " ℓ_{dh}

BAR SIZE	D	ℓ_b"	NORMAL WEIGHT		
			2,500	3,000	4,000
#3	2 1/4"	6"	0'-9"	0'-9"	0'-8"
#4	3"	8"	1'-0"	0'-11"	0'-10"
#5	3 3/4"	10"	1'-3"	1'-2"	1'-0"
#6	4 1/2"	12"	1'-6"	1'-5"	1'-3"
#7	5 1/4"	1'-2"	1'-9"	1'-8"	1'-5"
#8	6"	1'-4"	2'-0"	1'-10"	1'-7"
#9	9 1/2"	1'-7 1/2"	2'-3"	2'-1"	1'-10"
#10	10 3/4"	1'-10"	2'-7"	2'-4"	2'-1"
#11	12"	2'-0 1/2"	2'-10"	2'-7"	2'-3"

NOTES:

1. ALL HOOKED BARS SHALL EXTEND AS FAR AS POSSIBLE WITH A MINIMUM 2" END COVER AND WITH EMBEDMENT
NOT LESS THAN SHOWN ON THE SCHEDULE UNLESS NOTED OTHERWISE ON PLANS.
2. MINIMUM SIDE COVER = 2- ½".
3. FOR LIGHTWEIGHT CONCRETE MULTIPLY LENGTHS IN SCHEDULE BY 1.3.

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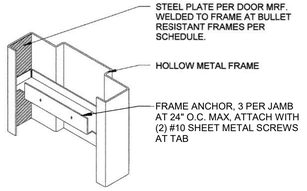
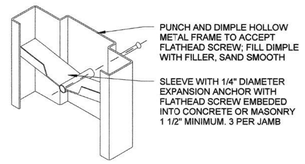


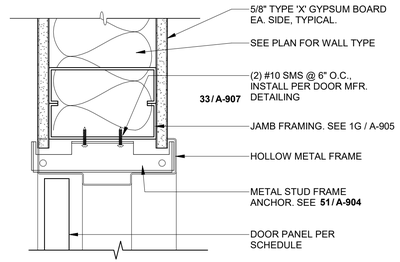
FRAME ANCHOR - METAL STUD



FRAME ANCHOR - MASONRY / CONCRETE

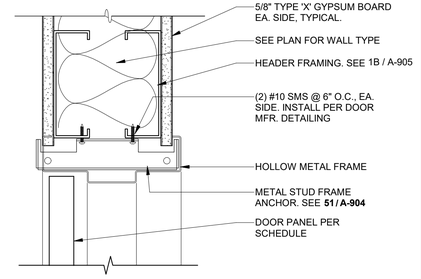
51 FRAME ANCHOR

A-904 SCALE: 3/4" = 1'-0"



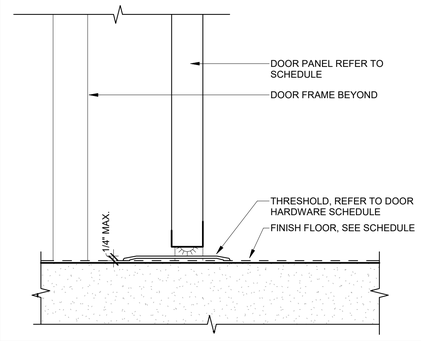
31 INT. DOOR - JAMB

A-904 SCALE: 3" = 1'-0"



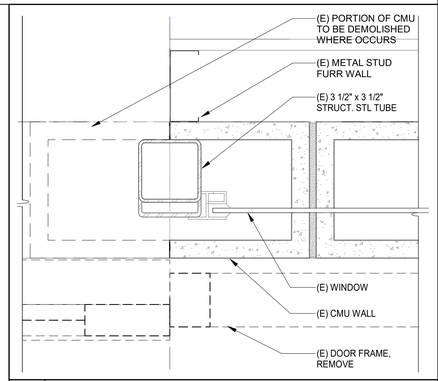
21 INT. DOOR - HEAD

A-904 SCALE: 3" = 1'-0"



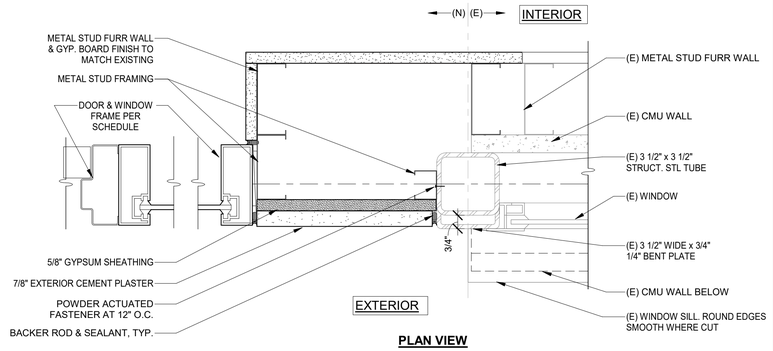
11 INT. DOOR THRESHOLD - SLAB

A-904 SCALE: 3" = 1'-0"



42 EXTERIOR DOOR FRAME DEMO

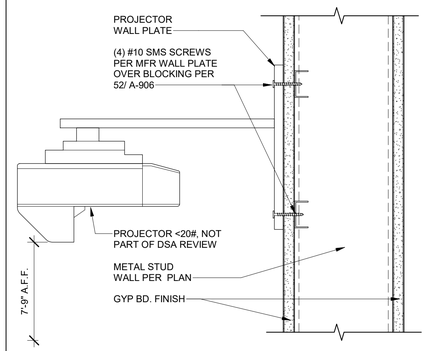
A-201 A-904 SCALE: 3" = 1'-0"



PLAN VIEW

22 EXT. DOOR - JAMB TO MTL POST

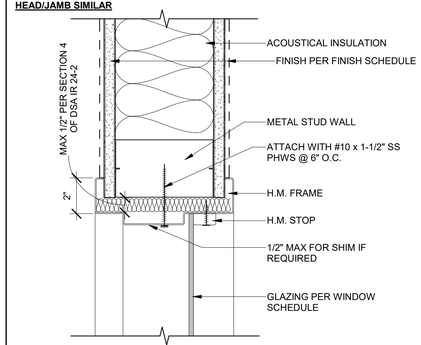
A-201 A-904 SCALE: 3" = 1'-0"



55 PROJECTOR MOUNTING

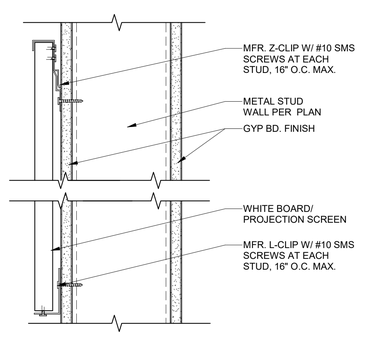
A-904 SCALE: 3" = 1'-0"

HEAD/JAMB SIMILAR



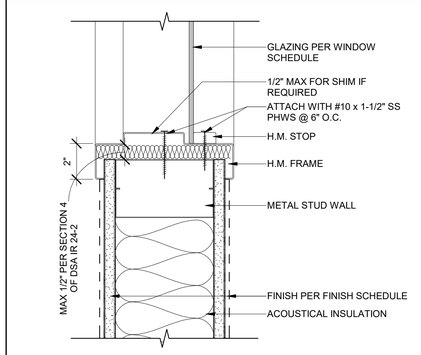
33 WINDOW - INT - HEAD/JAMB

A-602 A-904 SCALE: 3" = 1'-0"



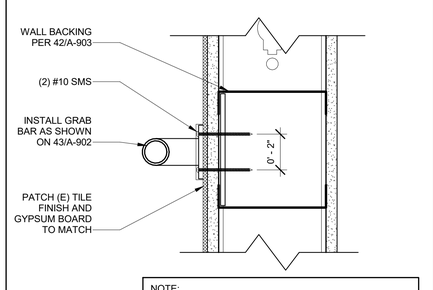
54 WHTE BOARD MOUNTING

A-904 SCALE: 3" = 1'-0"



34 WINDOW - INT - SILL

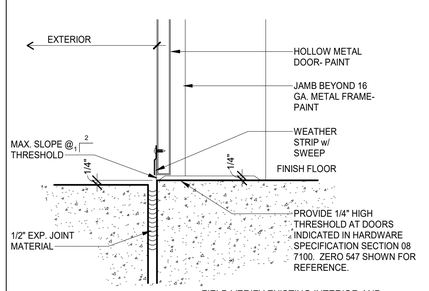
A-602 A-904 SCALE: 3" = 1'-0"



NOTE:
BAR MOUNTING and FASTENERS SHALL WITHSTAND A LOADING OF 250#/FT. IN BENDING, SHEAR and TENSION

24 GRAB BAR CONNECTION FRAMED WALL

A-201 A-904 SCALE: 3" = 1'-0"



FIELD VERIFY EXISTING INTERIOR AND EXTERIOR SLABS ARE WITHIN DIMENSIONAL TOLERANCE FOR CODE. REPORT DISCRAPANCIES TO ARCHITECT.

14 EXT. METAL HOLLOW DOOR - SILL

A-201 A-904 SCALE: 3" = 1'-0"

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APP: 03-124867 INC: A
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 03/12/2026

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LICENSED ARCHITECT — EWALD HARTMANN — Martin Hartmann — C 37789 — REN. 10/31/27 — STATE OF CALIFORNIA

CONSULTING ENGINEER

OXNARD COLLEGE
OE BUILDING ALTERATIONS
4000 S ROSE AVE. OXNARD, CA 93033

DETAILS

NO.	REVISION	DATE
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PROJECT MANAGER
MH
DRAWN BY: JM/BB/MH/GK/ED
CHECKED BY: MH
DATE
12/31/2025
PROJECT NUMBER
3244-01-ED23
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A-904

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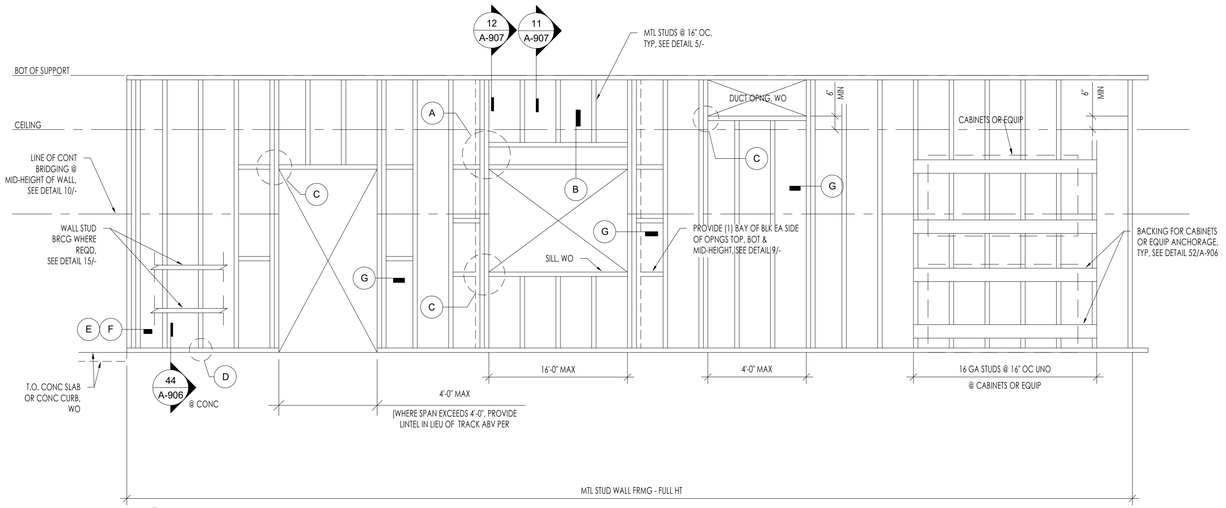


X = SYMBOL INDICATES TYPICAL METAL STUD FRAMING DETAILS. SEE 1/A-905.

ALLOWABLE WALL HEIGHT TABLE 5/8" GYP-BOARD BOTH SIDES NON-COMPOSITE

		STUD SPACING		
DESIGNATION	ksi	12"	16"	24"
600S162-54	50	-	15' - 0"	-
600S250-54	50	-	20' - 0"	-
600S350-54	50	25' - 0"	-	-
800S162-54	50	-	5' - 6"	-

THIS STUD TABLE IS BASED ON SSMA TABLES AND ICC-ES EVALUATION REPORT ERS-3064P

(w) INDICATES WEB STIFFINERS REQ'D AT ENDS

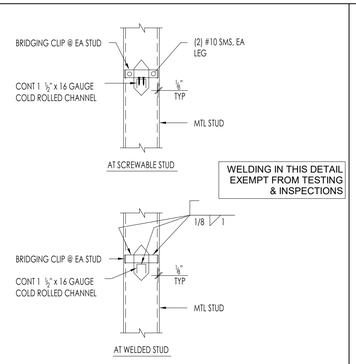
HEIGHTS ARE BASED ON A DEFLECTION LIMIT OF L/240

LOADS ARE BASED ON A 5 PSF LATERAL LOAD

DO NOT USE 18 MIL STUDS FOR WALLS THAT SUPPORT CEILING JOISTS

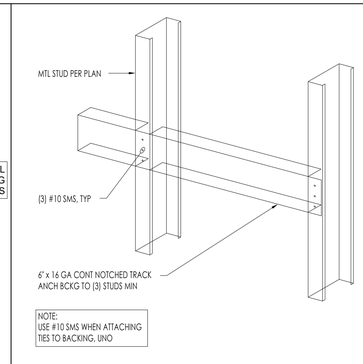
8 METAL STUD FRAMING ELEVATION

A-904.1 NTS



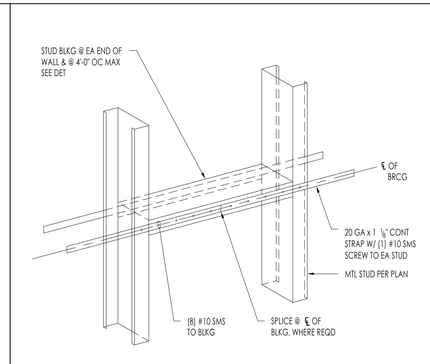
10 MTL. STUD BRIDGING

A-904.1 SCALE: 1" = 1'-0"



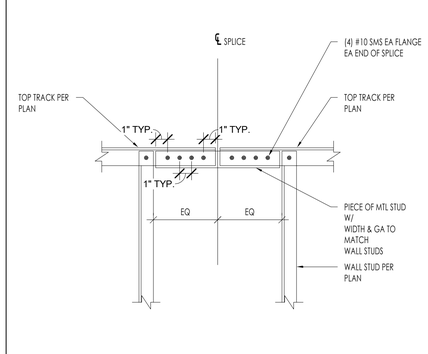
13 BACKING AT METAL STUDS

A-904.1 SCALE: 1" = 1'-0"



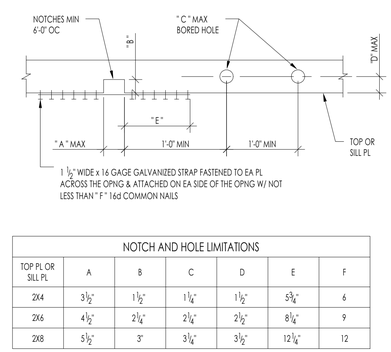
12 MTL. STUD BRACING

A-904.1 SCALE: 1" = 1'-0"



6 MTL. TOP TRACK SPLICE

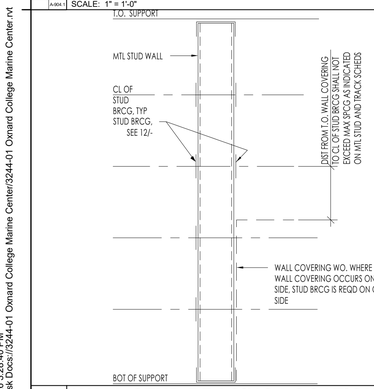
A-904.1 NTS



NOTCH AND HOLE LIMITATIONS						
TOP PL OR SILL PL	A	B	C	D	E	F
2X4	3½"	1½"	1¼"	1½"	5¾"	6
2X6	4½"	2¼"	2¼"	2½"	8¼"	9
2X8	5½"	3"	3¼"	3½"	12¼"	12

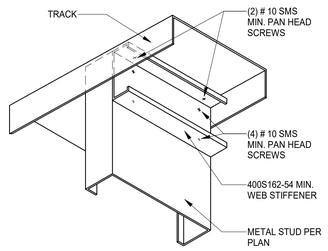
1 TOP PL & SILL NOTCHING/BORING LIMITS

A-904.1 NTS



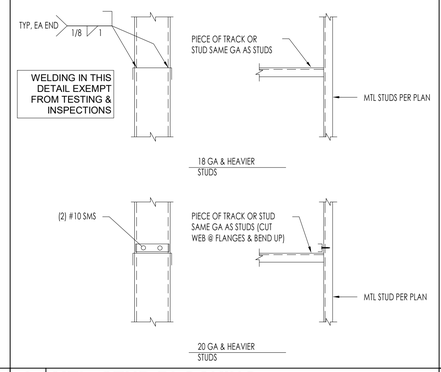
15 WALL STUD BRACING LOCATION

A-904.1 SCALE: 1" = 1'-0"



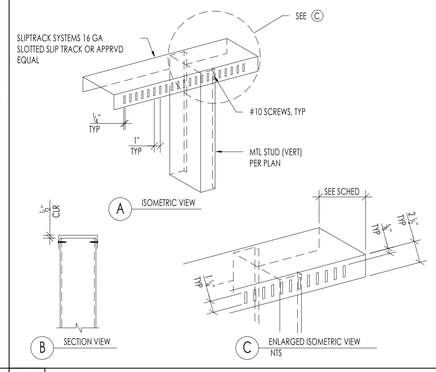
7 MTL. STUD WEB STIFFENER

A-904.1 SCALE: 1" = 1'-0"



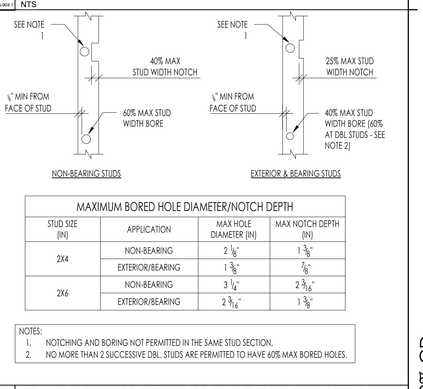
9 MTL. STUD BLOCKING

A-904.1 SCALE: 1" = 1'-0"



14 NON-BEARING METAL STUD TOP TRACK

A-904.1 SCALE: 1" = 1'-0"



MAXIMUM BORED HOLE DIAMETER/NOTCH DEPTH			
STUD SIZE (IN)	APPLICATION	MAX HOLE DIAMETER (IN)	MAX NOTCH DEPTH (IN)
2X4	NON-BEARING	2 ⅛"	1 ⅜"
	EXTERIOR/BEARING	1 ⅜"	7/8"
2X6	NON-BEARING	3 ¼"	2 3/16"
	EXTERIOR/BEARING	2 3/16"	1 ⅜"

NOTES:
1. NOTCHING AND BORING NOT PERMITTED IN THE SAME STUD SECTION.
2. NO MORE THAN 2 SUCCESSIVE DBL. STUDS ARE PERMITTED TO HAVE 60% MAX BORED HOLES.

2 TYP WALL NOTCHING/BORING LIMITS

A-904.1 NTS

STUD SCHEDULE							
DEPTH	GAUGE	B	AREA (IN²)	I (IN⁴)	S (IN³)	MAX SPACING OF STUD BRACING	SSMA DESIGNATOR
2 1/2"	20	1 5/8"	.223	.236	.188	4'-0"	250S162-33
	18	1 5/8"	.289	.302	.242	4'-0"	250S162-43
	16	1 5/8"	.358	.370	.296	4'-0"	250S162-54
4"	20	1 5/8"	.275	.692	.346	4'-0"	400S162-33
	18	1 5/8"	.375	.892	.446	4'-0"	400S162-43
	16	1 5/8"	.443	1.098	.549	4'-0"	400S162-54
6"	20	1 5/8"	.344	1.793	.598	4'-0"	600S162-33
	18	1 5/8"	.447	2.316	.772	4'-0"	600S162-43
	16	1 5/8"	.556	2.860	.953	4'-0"	600S162-54
8"	20	1 5/8"	.413	3.582	.896	4'-0"	800S162-33
	16	1 5/8"	.670	5.736	1.434	4'-0"	800S162-54
	14	2"	0.907	8.140	2.035	4'-0"	800S200-68
10"	16	2"	.839	11.278	2.256	4'-0"	1000S200-54
12"	14	2"	1.192	21.947	3.658	4'-0"	1200S200-68

TRACK SCHEDULE						
DEPTH	GAUGE	B	AREA (IN²)	I (IN⁴)	S (IN³)	SSMA DESIGNATOR
2 1/2"	20	1 1/2"	.190	.221	.167	250T150-33
	18	1 1/2"	.248	.289	.217	250T150-43
	16	1 1/2"	.311	.368	.273	250T150-54
4"	20	1 1/2"	.242	.622	.300	400T150-33
	18	1 1/2"	.315	.811	.390	400T150-43
	16	1 1/2"	.396	1.025	.489	400T150-54
6"	20	1 1/2"	.311	1.590	.517	600T150-33
	18	1 1/2"	.405	2.072	.673	600T150-43
	16	1 1/2"	.509	2.611	.843	600T150-54
8"	20	1 1/2"	.380	3.180	.781	800T150-33
	16	1 1/2"	.622	5.214	1.272	800T150-54
	14	1 1/2"	.783	6.594	1.599	800T150-68
10"	16	1 1/2"	.735	9.061	1.777	250T150-54
12"	14	1 1/2"	1.068	18.148	2.963	1200T150-68

NOTES:
1. FOR SIZE AND GAUGE OF STUDS, SEE ADJACENT TABLE ON
2. DIMENSIONS, PROPERTIES AND TYPES NOTED ARE BASED ON METAL STUDS AND TRACKS BY STEEL STUD MANUFACTURERS ASSOCIATION (SSMA) ICBO NO 4943 UNO.

5 METAL STUD TABLE AND SCHEDULE

A-904.1 NTS

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APP: 03-124867 INC: A
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
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10 / 31 / 25
STATE OF CALIFORNIA

CONSULTING ENGINEER

OXNARD COLLEGE
OE BUILDING ALTERATIONS
4000 S ROSE AVE. OXNARD, CA 93033

DETAILS

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PROJECT MANAGER
MH

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CHECKED BY
MH

DATE
12/31/2025

PROJECT NUMBER
3244-01-ED23

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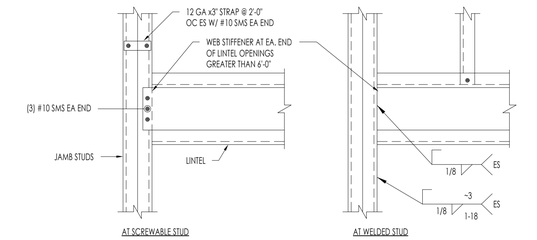
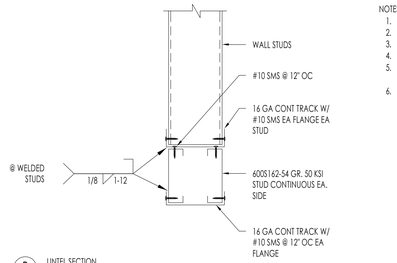
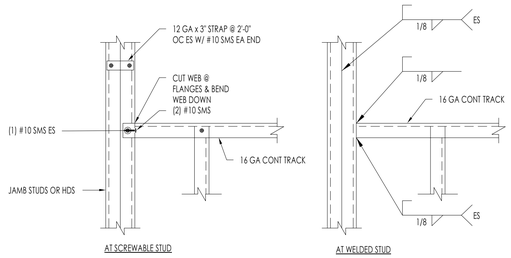


A LINTEL TO JAMB

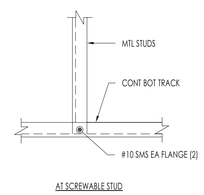


B LINTEL SECTION

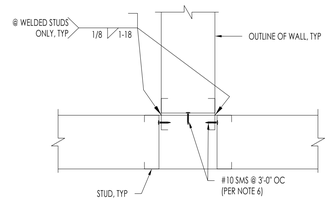
NOTES:
1. SEE METAL STUD AND TRACK SCHEDULES ON A-901 FOR ADDITIONAL INFORMATION.
2. SEE TABLE ON A-901 FOR SIZE OF STUDS.
3. ALL TOP AND BOTTOM TRACKS SHALL BE SAME GAUGE AS STUDS UNO.
4. ALL STUDS AT JAMBS OF DOOR AND WINDOW OPENINGS SHALL BE 16 GAUGE UNO.
5. WELDING SHALL BE IN ACCORDANCE WITH STRUCTURAL WELDING CODE - SHEET STEEL, AWS D1.3 BY THE AMERICAN WELDING SOCIETY.
6. PROVIDE EITHER WELDED OR CREWED CONNECTIONS AT CONTRACTOR'S OPTION. OMIT SHEET METAL SCREWS AT WELDED STUD CONDITIONS.



C TRACK TO JAMB

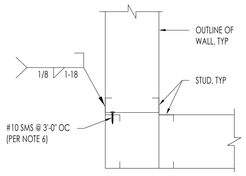


D STUD TO TRACK



E TYPICAL INTERSECTION

@ WELDED STUDS ONLY, TYP



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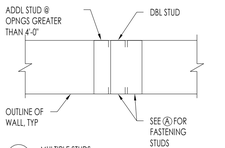
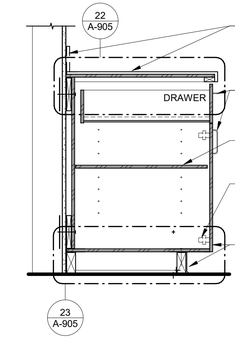
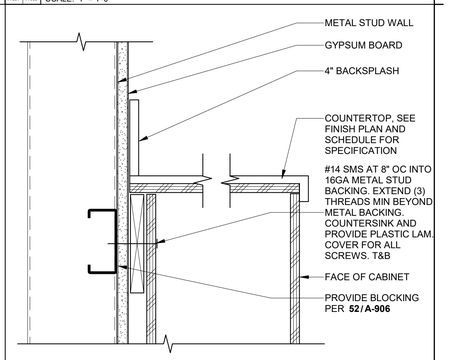


G MULTIPLE STUDS

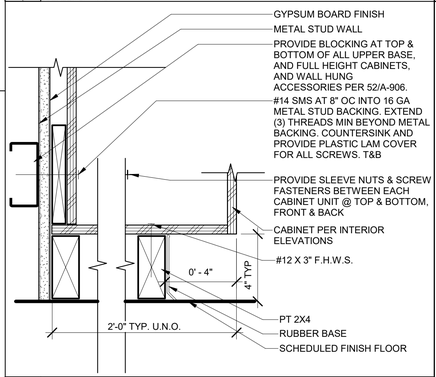
1 METAL STUD WALL FRAMING
A-905 NTS



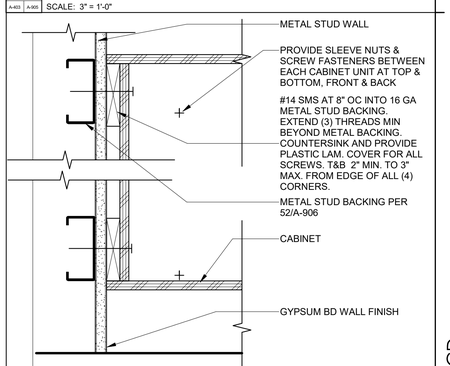
21 BASE CABINET W/ DOOR AND DRAWER
A-501 A-905 SCALE: 1" = 1'-0"



22 CASEWORK COUNTERTOP
A-905 A-905 SCALE: 3" = 1'-0"



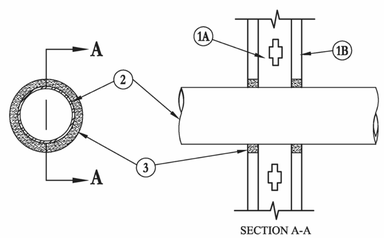
23 BASE CABINET ANCHORAGE
A-403 A-905 SCALE: 3" = 1'-0"



24 UPPER CABINET ANCHORAGE
A-403 A-905 SCALE: 3" = 1'-0"

Through Penetrations | Metallic Pipes | 1000 Series | Gypsum | WL

System No. W-L-1084
July 29, 1995
F Rating – 1 Hr
T Rating – 0 Hr



1. **Wall Assembly** – The fire rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300 or U400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
   A. **Studs** – Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. lumber spaced 16 in. OC. Steel studs to be min 3-5/8 in. wide and spaced max 24 in. OC.
   B. **Gypsum Board*** – Nom 5/8 in. thick gypsum wallboard, as specified in the individual Wall and Partition Design. Diam of opening is 1-1/2 in. larger than the outside diam of pipe.
2. **Through Penetrant** – One metallic pipe, conduit or tubing to be centered within the firestop system. An annular space of 3/4 in. is required within the firestop system. Pipe, conduit or tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipes, conduits or tubing may be used:
   A. **Steel Pipe** – Nom 12 in. diam (or smaller) Schedule 10 (or heavier) steel pipe.
   B. **Conduit** – Nom 6 in. diam (or smaller) electrical metallic tubing or steel conduit.
   C. **Copper Tubing** – Nom 6 in. diam (or smaller) Type L (or heavier) copper tubing.
   D. **Copper Pipe** – Nom 6 in. diam (or smaller) Regular (or heavier) copper pipe.
3. **Fill, Void or Cavity Material*** – **Sealant** – Min 5/8 in. thickness of fill material applied within annulus, flush with both surfaces of wall assembly.
   3M COMPANY – FB-2000+

*Bearing the UL Classification Marking

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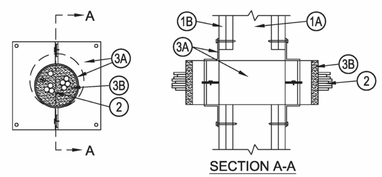
W-L-1084

Through Penetrations | Cables | 3000 Series | Gypsum | WL

System No. W-L-3371
October 11, 2011
ANSI/UL1479 (ASTM E814)
F Ratings – 1 and 2 Hr (See Item 1)
T Rating – 1/2 Hr
CAN/ULC S115
F Ratings – 1 and 2 Hr (See Item 1)
FT Rating – 1/2 Hr
FH Ratings – 1 and 2 Hr (See Item 1)
FTH Rating – 1/2 Hr



1. **Wall Assembly** – The 1 or 2 hr fire rated gypsum board/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300, U400, V400 or W400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
   A. **Studs** – Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. (51 by 102 mm) lumber spaced 16 in. (406 mm) OC. Steel studs to be min 3-1/2 in. (89 mm) wide and spaced max 24 in.(610 mm) OC.
   B. **Gypsum Board*** – 5/8 in.(16 mm) thick, The gypsum board type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300, U400, V400 or W400 Series Design in the UL Fire Resistance Directory. Max diam of opening is 6-1/2 in.(165 mm)

   The hourly F and FH Ratings of the firestop system are equal to the hourly fire rating of the wall assembly in which it is installed.
2. **Cables** – Aggregate cross-sectional area of cables in steel sleeve to be max 48 percent of the aggregate cross-sectional area of the sleeve. The annular space between cables and periphery of sleeve and the annular space between cables shall be min 0 in. (point contact) to max 2 in. (51mm). Cables to be rigidly supported on both sides of wall assembly. Any combination of the following types and sizes of cables may be used:
   A. Max 400 pair No. 24 AWG (or smaller) copper conductor with polyvinyl chloride (PVC) insulation and jacketing material.
   B. Max 1/C No. 750 kcmil (or smaller) copper conductor cable with cross-linked polyethylene (XLPE) jacket.
   C. Max 7/C No. 12 AWG (or smaller) copper conductor power and control cables with XLPE or PVC insulation with XLPE or PVC jacket.
   D. Max 3/C No. 4/0 AWG (or smaller) copper or aluminum conductor SER cables with PVC insulation and jacket.
   E. Max 110/125 fiber optic (F.O.) cable with PVC insulation and jacket.
   F. Max 3/C with ground No. 8 AWG (or smaller) copper conductor NM cable with PVC insulation and jacket.
   G. Max No. 18 AWG RG/U coaxial cable with fluorinated ethylene (FE) or PVC insulation and jacket.
   H. Max 4 pair No. 24 AWG (or smaller) copper conductor data cable with Hylar jacket and insulation.
   I. Max 4 Pair No 22 AWG (or smaller) Cat 6 copper conductor with PVC insulation and jacket.
   J. Max 3/C No. 2/0 AWG (or smaller) aluminum or copper conductor cable with XLPE insulation and PVC jacket.
   K. Max 3/C No. 2/0 aluminum or copper SE cable with PVC insulation and jacket.
   L. Max three conductor No. 12 AWG (or smaller) MC (BX) copper cable with polyvinyl chloride insulation and jacket materials.
   M. **Through Penetrating Product*** – Any cables, **Armored Cable+** or **Metal Clad Cable+** currently Classified under the **Through Penetrating Product** category.

   See **Through Penetrating Product** (XHLY) category in the Fire Resistance Directory for names of manufacturers.
3. **Firestop System** – The firestop system shall consist of the following:
   A. **Firestop Device*** – One firestop device module centered within the opening. The firestop device module consists of a 12 in. (305 mm) long galv steel split sleeve with galv steel flange plates. Firestop device module to be installed in accordance with the accompanying installation instructions. The space between the firestop device module and the periphery of the opening shall be min 0 in. (point contact) to max 1 in. (25 mm). Firestop device module secured in place by means of steel flange plates sized to accommodate the firestop device

System No. W-L-3371 *continued*

module.. Steel flange plate installed on both sides of wall and secured around firestop device module with steel screws. The steel flange plate is then secured to the wall with the supplied drywall screws. The firestop device module is to be installed with its ends projecting an equal distance beyond each surface of the wall assembly.
3M COMPANY
3M FIRE PROTECTION PRODUCTS – 3M Fire Barrier Putty Sleeve Kit DT 100, DT 200 or DT 400

B. **Fill, Void or Cavity Material*** – After the installation of the cables (Item 2) the supplied putty material is to be packed into each end of the firestop device with care taken to fill the interstices between the cables. A minimum 1 in. (25mm) depth of the putty material is required at each end of device.
3M COMPANY
3M FIRE PROTECTION PRODUCTS – 3M Fire Barrier MP+ Putty Stix

C. **Packing Material** – (Not Shown. Required for installation only on DT 400 with cable fill of less than 28 percent. Optional on DT 100 and DT200 assemblies.) – Min 2 in. (51 mm) thickness of min 4 pcf (64 kg/m3) mineral wool batt insulation firmly packed into each end of sleeve (Item 3A) as a permanent form. Packing material to be recessed from each end of sleeve to accommodate the required thickness of fill material.

*Bearing the UL Classification Mark
+Bearing the UL Listing Mark

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W-L-3371

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DATE: 03/12/2026

rrm design group

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CONSULTING ENGINEER

OXNARD COLLEGE
OE BUILDING ALTERATIONS
4000 S ROSE AVE. OXNARD, CA 93033

DETAILS

NO.	REVISION	DATE
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PROJECT MANAGER MH
DRAWN BY JM/BB/MH/GK/ED | **CHECKED BY** MH
DATE 12/31/2025
PROJECT NUMBER 3244-01-ED23
SHEET A-905

100% CD

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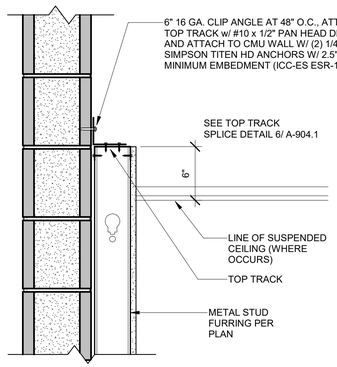
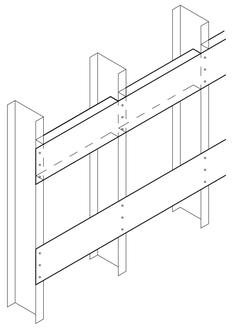
Autodesk Docs://3244-01 Oxnard College Marine Center/3244-01 Oxnard College Marine Center.rvt



51 FURRING ATTACHMENT

A-906 A-906 SCALE: 1 1/2" = 1'-0"

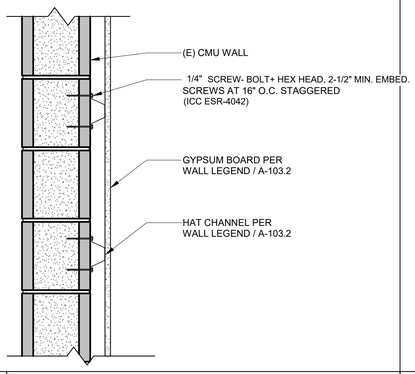


CONDITION 'C'
16GA X 6" STEEL CONTINUOUS NOTCHED STUD (600S162-54). ANCHOR TO (3) STUDS MIN. W/ (3) #10 SMS, TYP.

CONDITION 'D'
16GA X 6" STEEL STRAP, CONTINUOUS. ANCHOR TO (3) STUDS MIN. W/ (3) #10 SMS, TYP

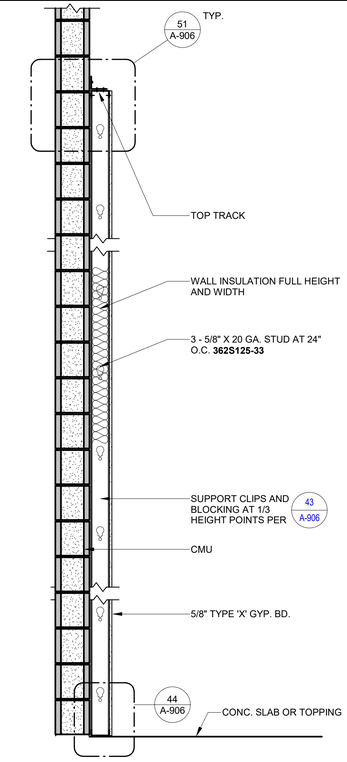
52 FLAT STUD BLOCKING

A-906 SCALE: 1" = 1'-0"



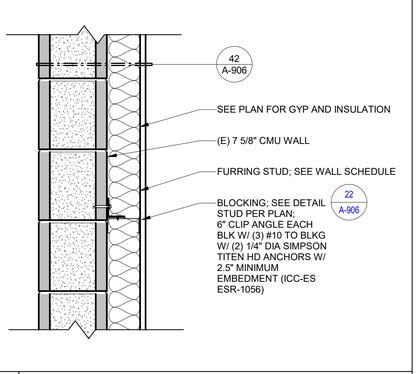
53 HAT CHANNEL FURRING

A-906 SCALE: 1 1/2" = 1'-0"



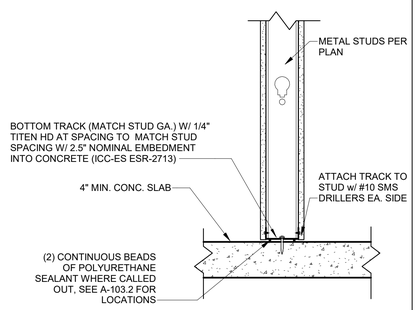
42 FURRING

A-906 A-906 SCALE: 3/4" = 1'-0"



43 FURRING STUD AND CLIP DETAIL

A-906 A-906 SCALE: 1 1/2" = 1'-0"

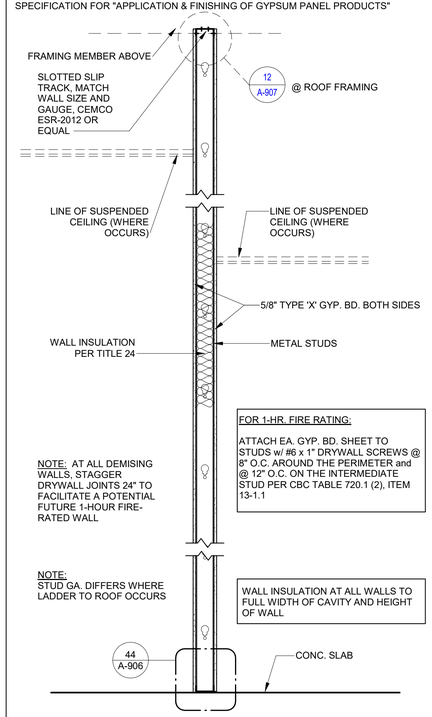


44 BOTTOM TRACK

A-501 A-906 SCALE: 1 1/2" = 1'-0"

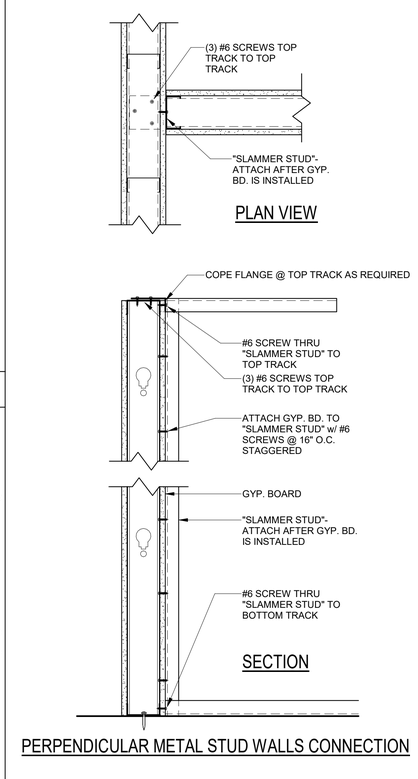
NOTE:

THE APPLICATION OF ALL GYPSUMBOARD SHALL COMPLY w/ ASTM C840. "THE STANDARD SPECIFICATION FOR APPLICATION AND FINISHING OF GYPSUM BOARD" & GA-216 'THE GYPSUM ASSOCIATION' RECOMMENDED SPECIFICATION FOR "APPLICATION & FINISHING OF GYPSUM PANEL PRODUCTS"



32 METAL STUD WALL SECTION

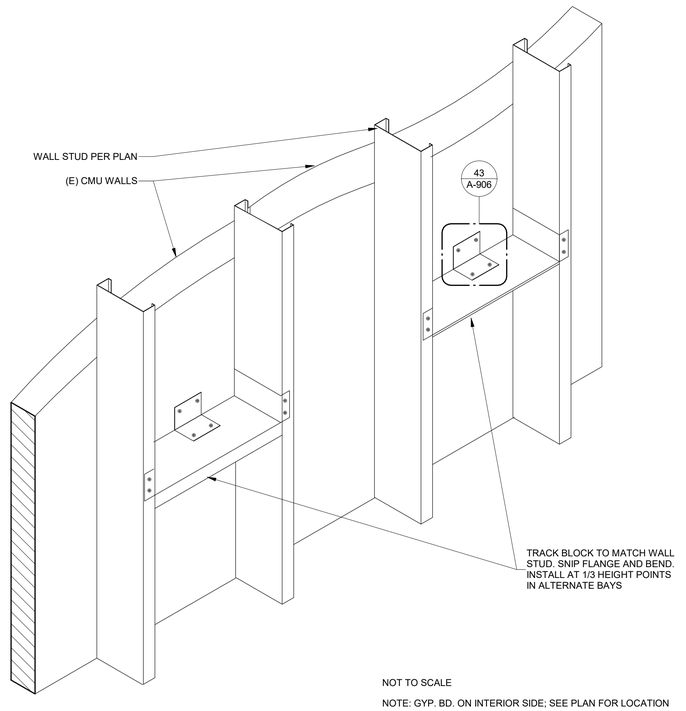
A-906 SCALE: 3/4" = 1'-0"



PERPENDICULAR METAL STUD WALLS CONNECTION

34 METAL STUD WALL SECTION 06

A-906 SCALE: 1 1/2" = 1'-0"



NOT TO SCALE

NOTE: GYP. BD. ON INTERIOR SIDE; SEE PLAN FOR LOCATION

22 STUD WALL BLOCKING WITH CLIPS

A-906 NTS

ALLOWABLE WALL HEIGHT TABLE 5/8" GYP-BOARD BOTH SIDES NON-COMPOSITE

		STUD SPACING		
DESIGNATION	ksi	12"	16"	24"
600S162-54	50	-	15' - 0"	-
600S250-54	50	-	20' - 0"	-
600S350-54	50	25' - 0"	-	-
800S162-54	50	-	5' - 6"	-
THIS STUD TABLE IS BASED ON SSMA TABLES AND ICC-ES EVALUATION REPORT ERS-3064P				
(w) INDICATES WEB STIFFINERS REQ'D AT ENDS				
HEIGHTS ARE BASED ON A DEFLECTION LIMIT OF L/240				
LOADS ARE BASED ON A 5 PSF LATERAL LOAD				
DO NOT USE 18 MIL STUDS FOR WALLS THAT SUPPORT CEILING JOISTS				

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DATE: 03/12/2026

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OXNARD COLLEGE
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4000 S ROSE AVE. OXNARD, CA 93033

DETAILS

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CHECKED BY: MH
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PROJECT NUMBER: 3244-01-ED23
SHEET: A-906

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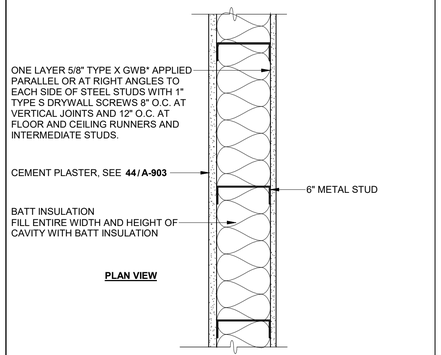
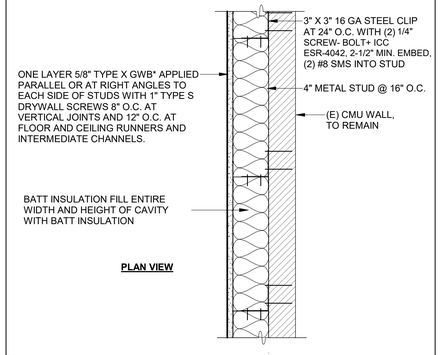


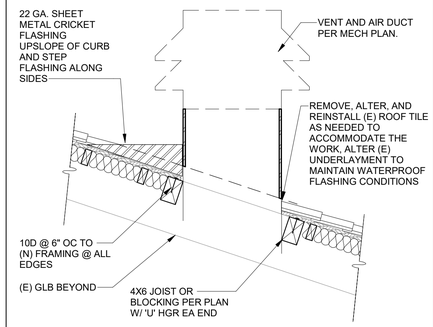
E-A EXT. NON-RATED METAL STUD WALL

A-907 SCALE: 1 1/2" = 1'-0"



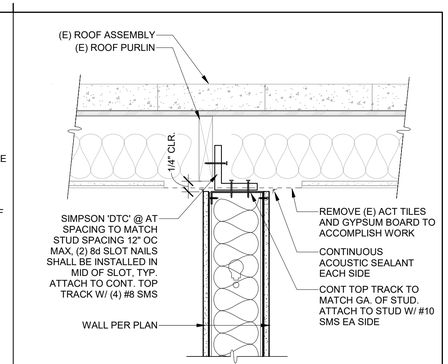
F-A INT. NON-RATED FUR. MTL STUD WALL

A-907 SCALE: 1 1/2" = 1'-0"



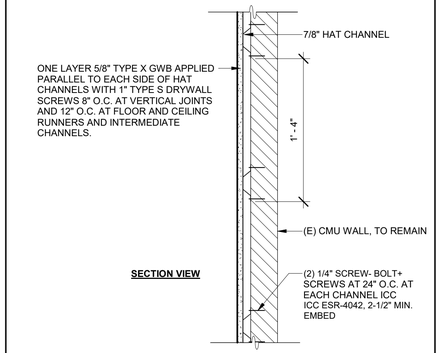
21 ROOF MECHANICAL CURB FLASHING

A-106 A-907 SCALE: 3/4" = 1'-0"



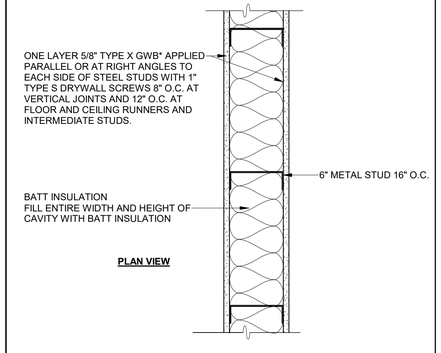
11 PARTITION WALL PERP TO PURLINS

A-301 A-907 SCALE: 1 1/2" = 1'-0"



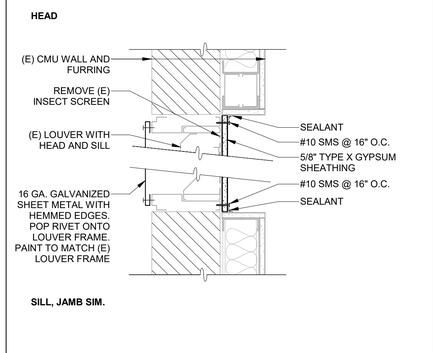
F-B INT. NON-RATED FURRING WALL

A-907 SCALE: 1 1/2" = 1'-0"



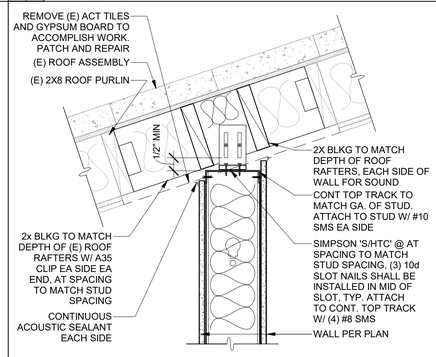
I-A INT. NON-RATED METAL STUD WALL

A-907 SCALE: 1 1/2" = 1'-0"



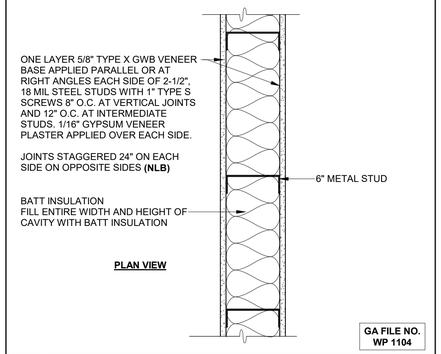
22 INFILL AT EXISTING LOUVER - SECTION

A-105 A-907 SCALE: 1 1/2" = 1'-0"



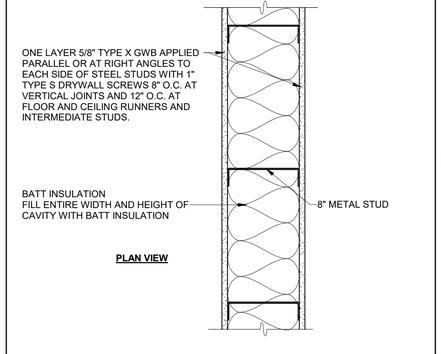
12 PARTITION WALL PARALLEL TO PURLINS

A-301 A-907 SCALE: 1 1/2" = 1'-0"



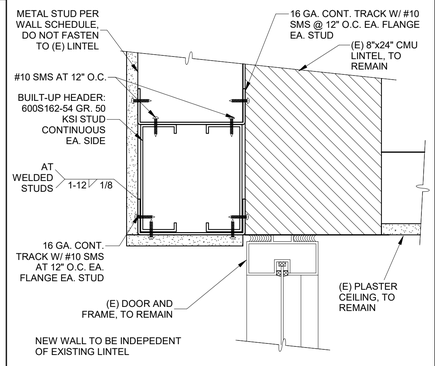
I-B INT. 1-HR FIRE RATED MTL STUD WALL

A-907 SCALE: 1 1/2" = 1'-0"



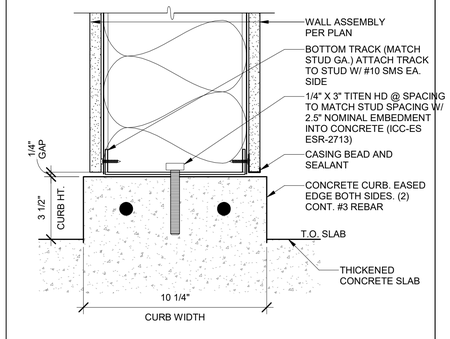
I-C INT. NON-RATED 8' MTL STUD WALL

A-907 SCALE: 1 1/2" = 1'-0"



33 BOX HEADER

A-301 A-907 SCALE: 3" = 1'-0"



1 CONCRETE CURB - WALL TYPE I-C

A-907 SCALE: 3" = 1'-0"

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DETAILS

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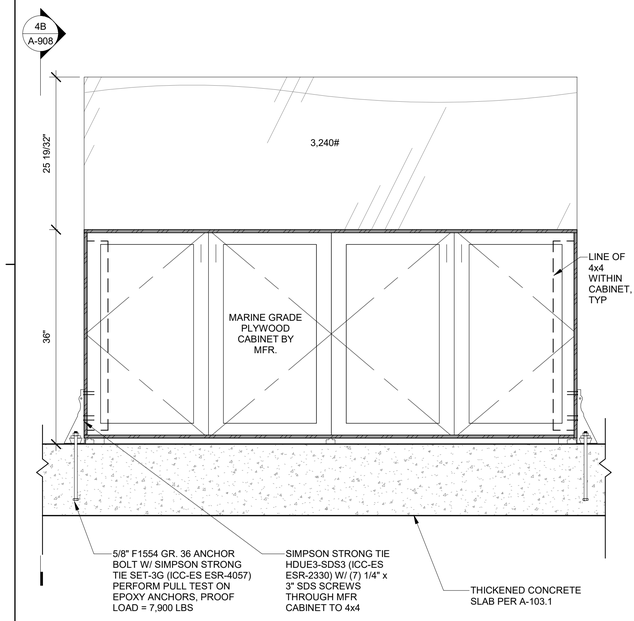
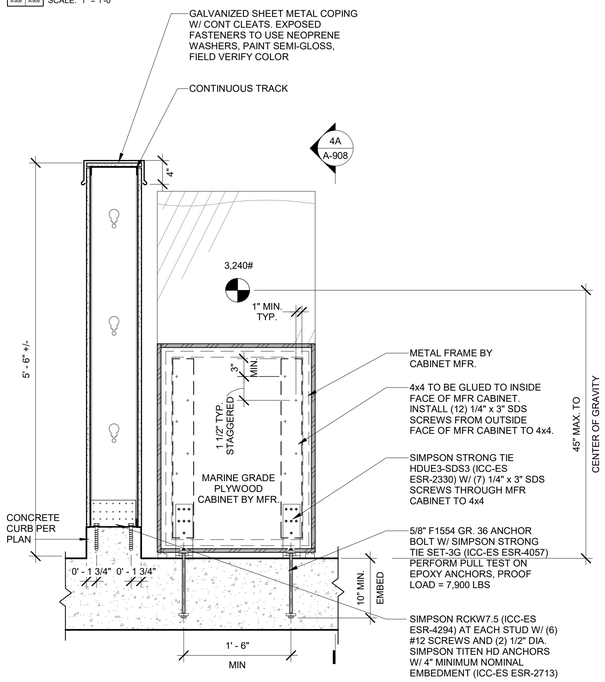


4A ELEVATION

A-908 | A-908 SCALE: 1" = 1'-0"

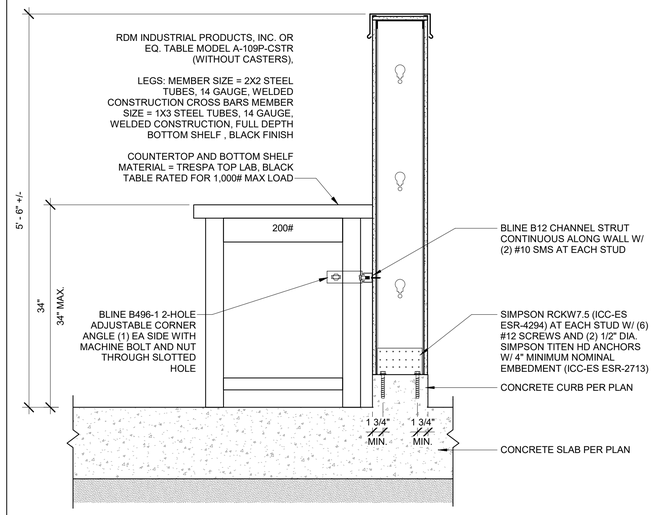


4B SECTION

A-908 | A-908 SCALE: 1" = 1'-0"

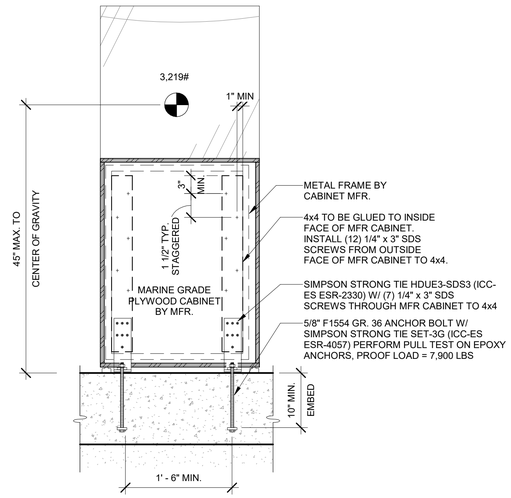
4 REEFER S-1000 - ANCHORAGE

A-908



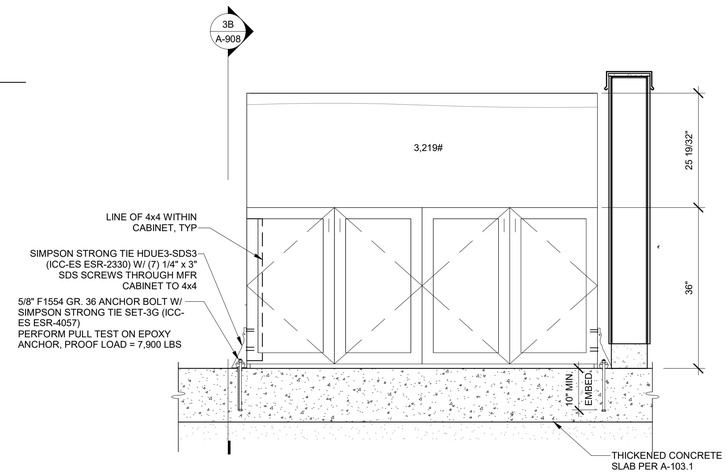
2 SECTION C

A-908 | A-908 SCALE: 1" = 1'-0"



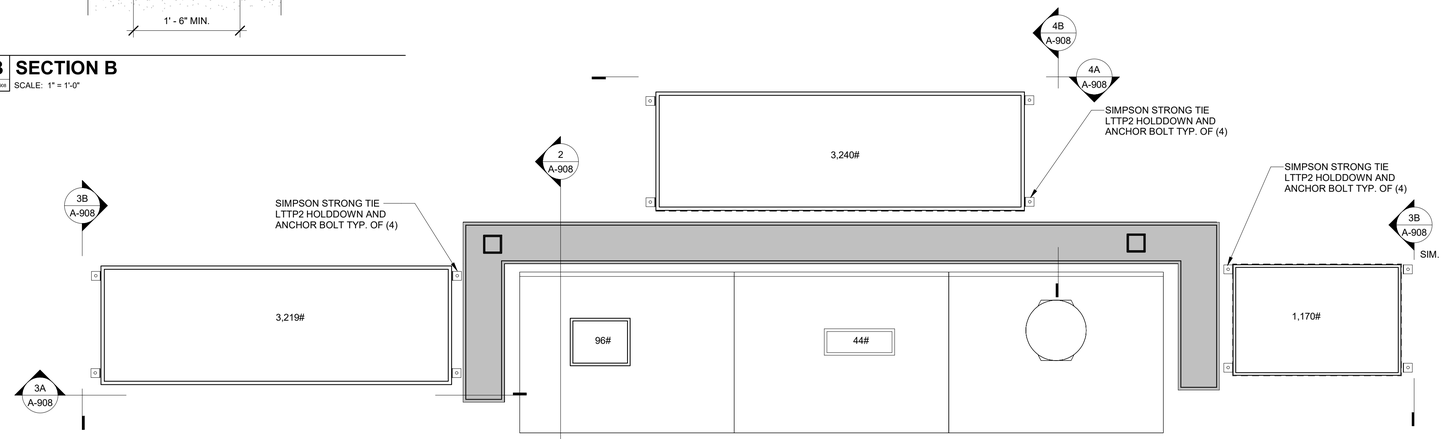
3B SECTION B

A-908 | A-908 SCALE: 1" = 1'-0"



3A SECTION A

A-401 | A-908 SCALE: 3/4" = 1'-0"



1 AQUARIUM EQUIPMENT ANCHORAGE PLAN

A-401 | A-908 SCALE: 3/4" = 1'-0"

GENERAL NOTES

1. HOT-DIP GALVANIZE AND PAINT ALL CUSTOM METAL FABRICATIONS, MEMBERS, AND CONNECTIONS FOR PLASTIC AND GLASS TANKS BLACK.
2. HOT-DIP GALVANIZING TO OCCUR AFTER FABRICATION AND WELDING

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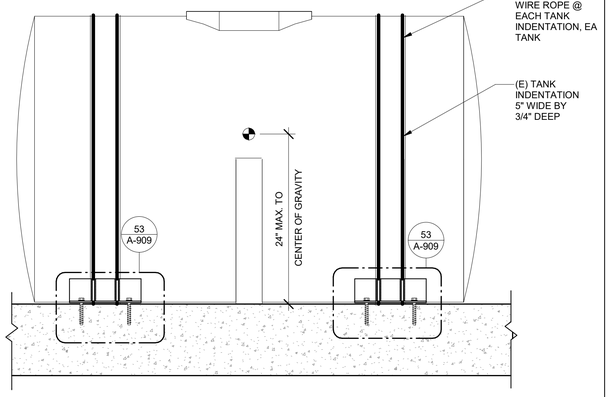
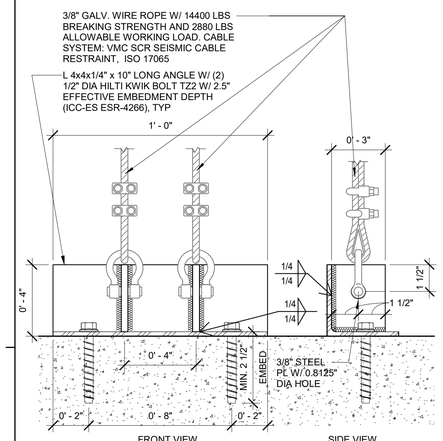


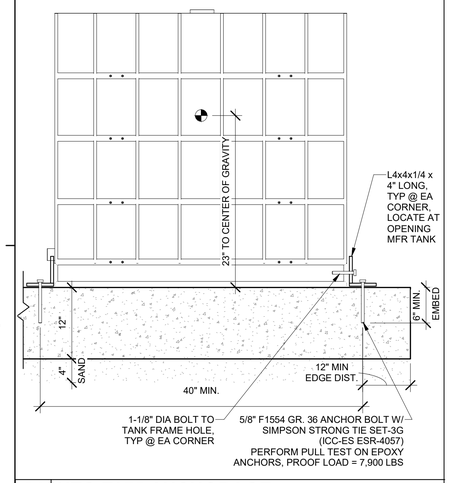
52 ROMOTECH 550 TANK ANCHORAGE

A909 | A909 SCALE: 1" = 1'-0"



53 TANK ANCHOR

A909 | A909 SCALE: 3" = 1'-0"

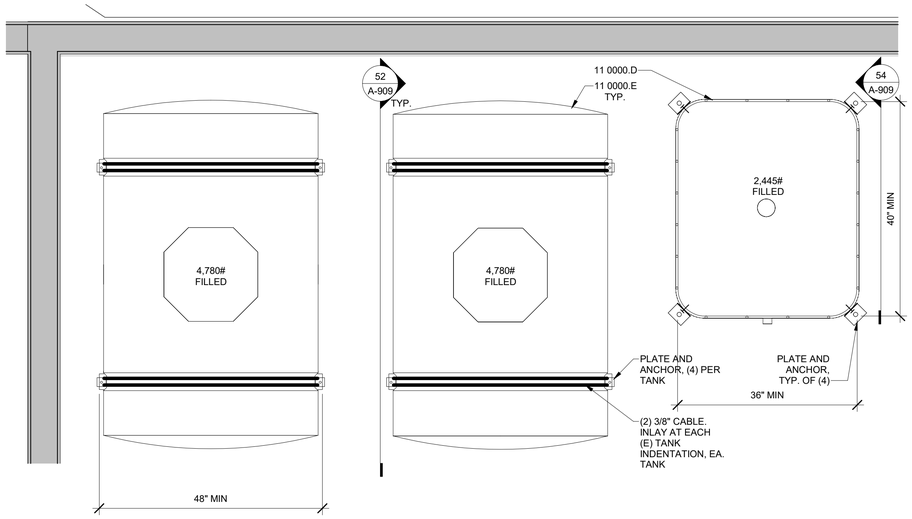


54 NTO T275 ANCHORAGE

A909 | A909 SCALE: 1" = 1'-0"

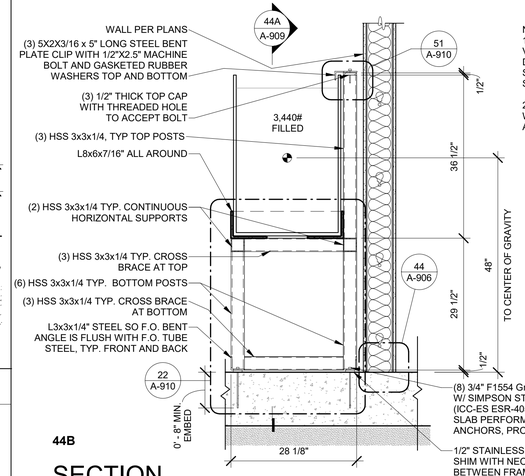
GENERAL NOTES

1. HOT-DIP GALVANIZE AND PAINT ALL CUSTOM METAL FABRICATIONS, MEMBERS, AND CONNECTIONS FOR PLASTIC AND GLASS TANKS BLACK.
2. HOT-DIP GALVANIZING TO OCCUR AFTER FABRICATION AND WELDING



32 MECHANICAL EQUIPMENT ANCHORAGE PLAN

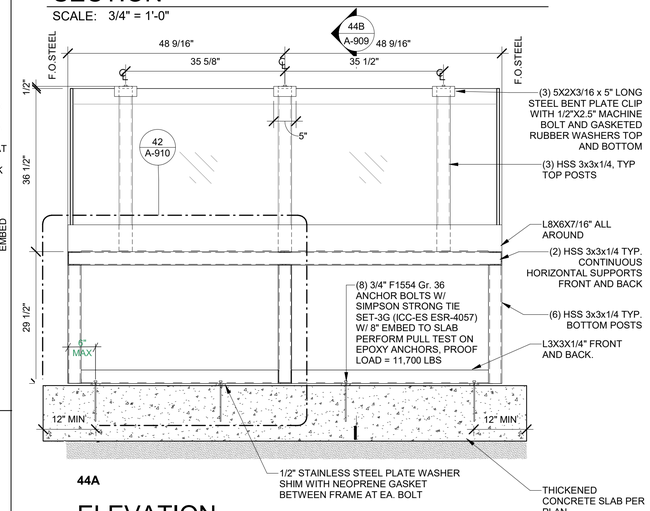
A401 | A909 SCALE: 3/4" = 1'-0"



44B

SECTION

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



44A

ELEVATION

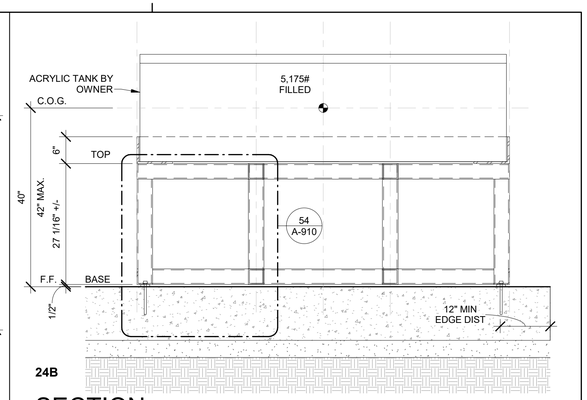
SCALE: 3/4" = 1'-0"

NOTES:
1. CONTRACTOR SHALL VERIFY EXISTING TANK DIMENSIONS PRIOR TO SHOP DRAWING SUBMITTALS.

2. PROVIDE 1/4" THICK WELDED CAP PLATE ON ALL OPEN HSS ENDS UNO.

44 LAB TANK - ANCHORAGE

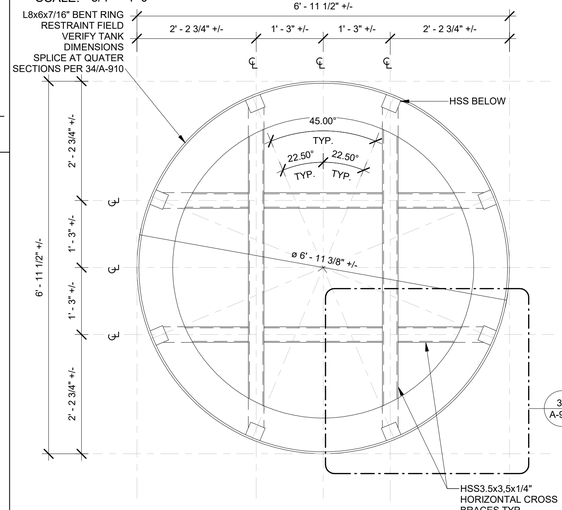
A-909



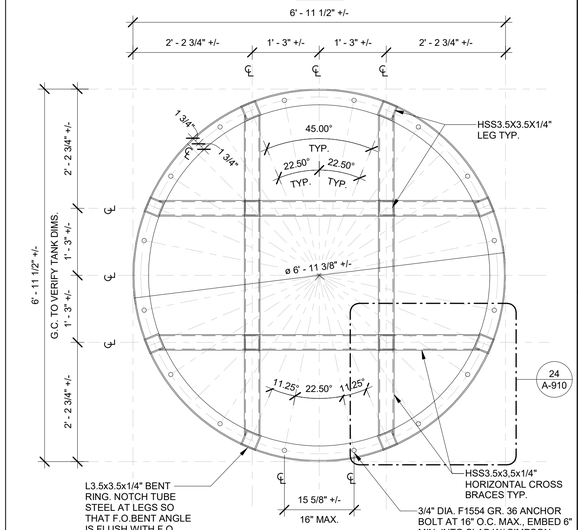
24B

SECTION

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



TOP PLAN



24A

PLAN

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

BASE PLAN

24 CYLINDER TANK - ANCHORAGE

A-909

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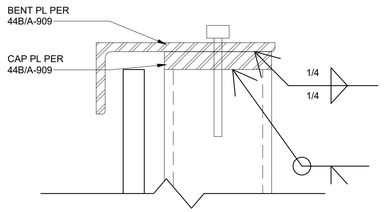
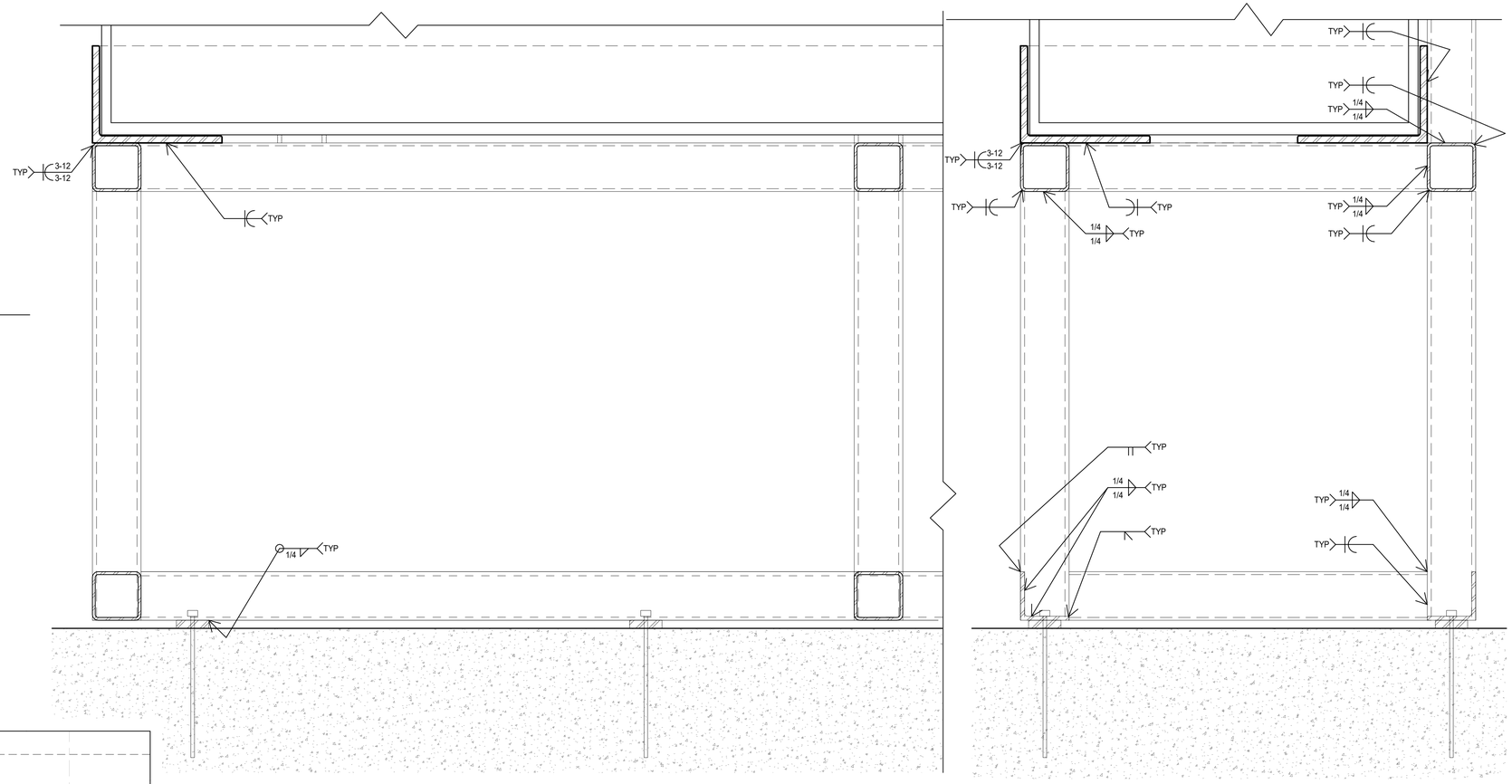
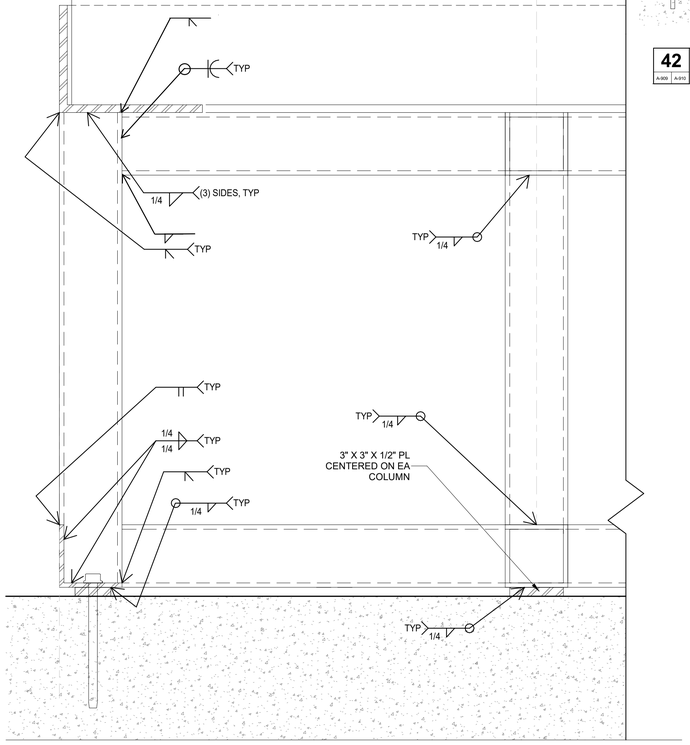


SEE 44/A-909 FOR ADDITIONAL INFO.

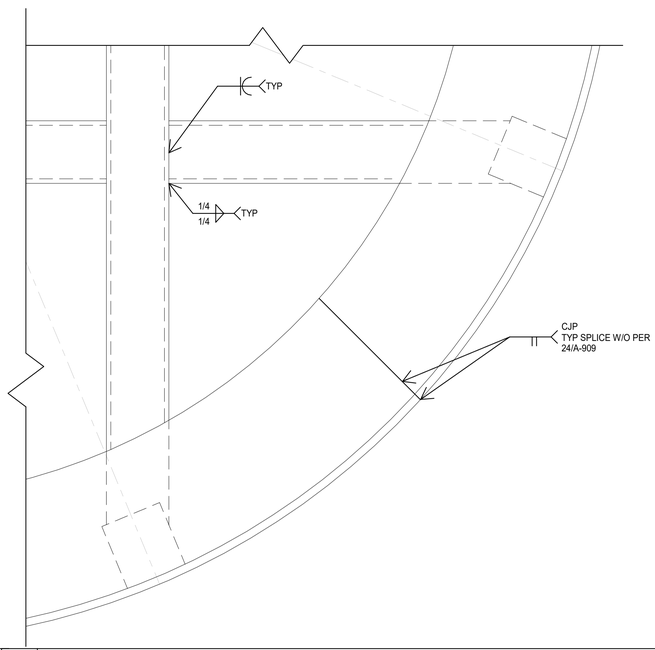
51 LAB TANK BRACKET SECTION
A-909 | A-910
NTS





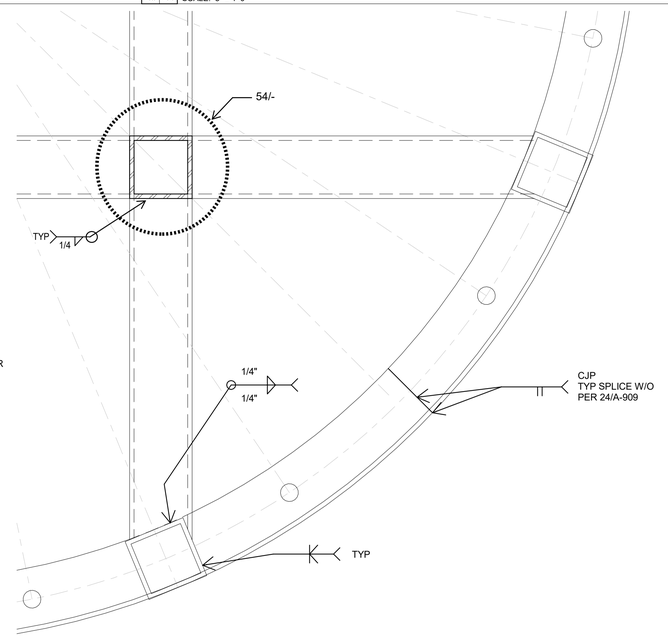
54 CYLINDER TANK - SECTION CONNECTIONS
A-909 | A-910
SCALE: 3" = 1'-0"

42 LAB TANK CONNECTIONS 1
A-909 | A-910
SCALE: 3" = 1'-0"



34 CYLINDER TANK - END POST
A-909 | A-910
SCALE: 3" = 1'-0"

22 LAB TANK CROSS FRAME
A-909 | A-910
SCALE: 3" = 1'-0"



24 CYLINDER TANK - BASE CONNECTIONS
A-909 | A-910
SCALE: 3" = 1'-0"

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ALL NOTES AND DETAILS ON SHEETS A-951 THROUGH A-956 ARE FROM DSA IR 25-2 REVISED 11/03/23 UNDER 2022 CBC

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DSA **IR 25-2**

SUSPENDED LAY-IN PANEL CEILING: 2022 CBC

Disciplines: Structural

History: Revised 11/03/23 Under 2022 CBC
Last Revised 03/18/22 Under 2019 CBC
Original Issue 05/18/11

Division of the State Architect (DSA) documents referenced within this publication are available on the DSA Forms or DSA Publications webpages.

PURPOSE

This Interpretation of Regulations (IR) provides guidelines for the design and installation of metal suspension systems for lay-in ceilings on projects under DSA jurisdiction. This IR does not preclude the use of other systems, including proprietary systems as discussed in Section 4 below or custom designed systems, when approved by DSA.

SCOPE

This IR is applicable to the design, material requirements, gravity load support, seismic load resistance, and interface with mechanical and electrical appurtenances of metal suspension ceilings with lay-in panels. It covers ceiling systems whose total weight, including luminaires, services, and other devices, does not exceed 4 pounds per square foot (PSF). Heavier systems, faceted systems, ceilings that support lateral loads from partitions, and free-floating ceilings supported by chains or cables are beyond the scope of this IR and require project-specific design and details.

Appendix A below provides a library of details illustrating the requirements of this IR. The detail library is available in REVIT format for download via the link in Section 5.9.4 below. The project's design professional (DP) is responsible to select only the appropriate details that are applicable to the project-specific scope defined on the construction drawings. The design professional is also responsible to revise the library details to provide the project-specific information where required as noted in brackets with bold and italicized text, such as "***[DP TO SPECIFY…]***" It is not permitted to reproduce the body of this IR on the construction documents, except as described in Sections 5.9, 5.10, and Appendix A below.

The primary focus of this IR is typical flat/level ceilings with mineral or glass fiber tiles, troffer light fixtures, and mechanical registers that fit into the ceiling grid. Other types of installations are also addressed but require additional design and detailing by the design professional to produce a set of code compliant details that will be reviewed and approved by DSA. General guidance is provided for sloped ceilings (see Section 2.7 below) and linear luminaires (see Appendix B below)

BACKGROUND

Metal suspension ceiling systems with lay-in tiles are a common type of ceiling construction. Providing guidelines to clarify the design and construction of these systems in compliance with code prescribed requirements promotes consistency in detailing and construction documents efficiency of plan review, and quality field installation.

California Building Code (CBC) Section 1617A.1.21 modifies American Society of Civil Engineers Standard 7 (ASCE 7). Section 13.5.6.2 by adding an exception to the end of Section 13.5.6.2.2 and adding Section 13.5.6.2.3. ASCE 7 Section 13.5.6.2.2 requires the design and installation to comply with American Society for Testing and Materials (ASTM) standard specifications C635, C636, and E580

1. DESIGN AND INSTALLATION REQUIREMENTS

1.1 Ceiling System Components

Components shall comply with ASTM C635 and ASTM E580 Section 5.1.

1.1.1 The ceiling grid system shall be rated heavy duty per ASTM E580 Section 5.1.1 as defined by ASTM C635. Cross runners shall have a minimum load carrying capability of 16 pounds per linear foot per ASTM E580 Section 5.3.3.

1.1.2 Main runners, cross runners, splices, expansion devices, and intersection connectors shall be designed to carry a mean ultimate test load of not less than 180 pounds in compression and tension per ASTM E580 Section 5.1.2.

1.1.3 Hanger and brace wires shall conform to ASTM A641 and the material properties required by *IR 25-1: Maximum Allowable Load for Ceiling Wires*. Hanger and brace wires shall be #12-gauge (0.106-inch diameter) or larger.

1.2 Suspension System Installation

Installation of the suspension system shall comply with ASTM C636 and ASTM E580 Section 5.2.

1.2.1 Hanger wires shall be provided on a 4-foot by 4-foot grid spacing and shall be attached to main runners. Refer to Appendix A Detail 2.35 below for a graphical illustration. Splices in hanger wires shall develop 50 percent of the wire allowable load. Only one splice is permitted in the entire length of a hanger wire. Refer to Appendix A Detail 6.10 below for a graphical illustration.

1.2.2 Hanger wires shall be provided at the ends of all main and cross runners within 8-inches of the ceiling perimeter or within one-fourth of the length of the end runner, whichever is least. Perimeter hanger wires are not required when the length of the end runner is 8-inches or less. Refer to Appendix A Detail 2.60 below for a graphical illustration.

1.2.3 Ceiling grid members shall be attached to two adjacent walls (attached condition) per ASTM E580 Section 5.2.3 and Figure 4. Ceiling grid members shall be at least 3/4-inch clear of perimeter wall angles on the other walls (free condition) per ASTM E580 Section 5.2.3 and Figure 5. Refer to Appendix A Detail 2.60 below for a graphical illustration.

1.2.4 If a wall or multiple walls are specified in a plan configuration that is not orthogonal to the ceiling grid system, the runner to wall connections shall be as follows. If the following provisions cannot be met, then a project-specific layout of main and cross runners and their connections shall be designed and detailed on the construction drawings.

1.2.4.1 At least two adjacent perimeter walls shall be connected to the ceiling grid as attached.

1.2.4.2 Main runners shall be oriented in the direction that facilitates at least one end being connected to a "attached" wall condition.

1.2.4.3 One end of each main runner should be free and clear of the wall as required by Section 1.2.3 above.

1.2.4.4 Opposite ends of some cross runner lines may have the same wall connection type (i.e., attached-attached or free-free). This is permitted with non-orthogonal configurations, but the number of cross runner lines with like connections at each end should be minimized.

1.2.5 The width of the perimeter supporting closure angle shall not be less than 2-inches except as allowed by Section 1.2.6 below. Closure angle shall be screwed or otherwise positively attached to the wall studs or other supporting structure (e.g., blocking).

1.2.6 The use of angles with widths less than 2-inches in conjunction with qualified proprietary perimeter clips may be acceptable.

1.2.6.1 Proprietary perimeter clips shall be attached to the supporting closure angle with a minimum of two screws per clip.

1.2.6.2 Proprietary perimeter clips shall be installed around the entire ceiling perimeter except that a steel pop rivet may be used at the attached sides in lieu of clips when permitted by the evaluation report.

1.2.6.3 The proprietary perimeter clip shall be qualified by approved test criteria of ASCE Section 13.5.6.2.2.a. The qualified proprietary perimeter clip shall be in accordance with Section 4 below.

1.2.7 At the unattached walls (free condition) of the ceiling perimeter an interconnection between the runners to prevent lateral spreading per ASTM E580 Section 5.2.4 shall be provided. A metal stabilizer or a #16-gauge wire with a positive mechanical connection to the runner may be used and placed within 8-inches of the wall. Where the perpendicular distance from the wall to the first parallel runner is 8-inches or less, the stabilizer or #16-gauge wire is not required. Refer to Appendix A Detail 2.60 below for a graphical illustration. The use of proprietary perimeter clips to eliminate the need for stabilization is acceptable in accordance with Section 4 below.

1.3 Lateral Force Bracing Assembly Installation

Lateral force bracing assemblies consisting of a compression strut and four #12-gauge splayed bracing wires oriented 90 degrees (in plan) from each other are required for all ceiling areas. Refer to Appendix A Detail 2.35 below for a graphical illustration.

Exception: Lateral force bracing may be omitted for suspended ceiling systems with an area of 144 square feet or less when lateral restraint is provided at all perimeter walls in accordance with CBC Section 1617A.1.21, Item #4 and ASCE 7 Section 13.5.6, Exception 1.

1.3.1 Lateral force bracing assemblies shall be spaced per Table 1 below for all values of the component importance factor (I_p) of the ceiling. Refer to Appendix A Details 2.10, 2.11, and 2.12 below for graphical illustrations. In cases where the brace assembly spacing changes over the height of the building, each level of the reflected ceiling plan shall indicate the required spacing.

TABLE 1: LATERAL FORCE BRACE ASSEMBLY SPACING

Design Spectral Acceleration Parameter, (S_{DS})	Brace Assembly Spacing	
	z/h ≤ 0.5[a]	z/h > 0.5[a,b]
~~$S_{DS} \leq 1.15$~~	~~12'-0" x 12'-0"~~	~~12'-0" x 12'-0"~~
$1.15 < S_{DS} \leq 1.73$	12'-0" x 12'-0"	~~8'-0" x 12'-0"~~
~~$1.5 < S_{DS} \geq 1.73$~~	~~8'-0" x 12'-0"~~	~~8'-0" x 8'-0"~~

Footnotes:
a. Where, as defined in ASCE 7 Section 13.3.1:
z = height in structure of point of attachment of ceiling with respect to the base.
h = average roof height of the structure with respect to the base.
b. It shall be permitted to use the brace assembly spacing for "z/h > 0.5" for the full building height.

1.3.2 There shall be a brace assembly located at a distance of not more than one-half of the spacing required by Table 1 above from each surrounding wall, expansion joint, and ceiling edge at any vertical offset. For example, where the brace spacing is 8-feet by 12-feet, the edge distance shall be 4-feet in the direction of the 8-foot spacing and 6-feet in the direction of the 12-foot spacing.

1.3.3 The slope of bracing wires shall not exceed 45 degrees from the horizontal plane and wires shall be taut. Splices in bracing wires shall develop the wire allowable load. Only one splice is permitted in the entire length of a single brace wire. Refer to Appendix A Detail 6.10 below for a graphical illustration.

1.3.4 Compression struts shall meet the following requirements:

1.3.4.1 The strut shall be sized to adequately resist the vertical component of the ceiling brace force in combination with the vertical seismic force prescribed by ASCE 7 Section 13.3.1.2 and have a maximum slenderness ratio (kl/r) not to exceed 300. The strut sizes and maximum lengths listed in Appendix A Detail 3.21 below are acceptable for ceilings complying with the requirements of this IR.

1.3.4.2 Struts shall not be more than one (horizontal) in six (vertical) out of plumb.

1.3.4.3 Struts shall be separated at least 6-inches from all unbraced ducts, pipes, conduit, etc.

1.3.5 Ceiling sections in different planes or at different elevations shall have independent positive bracing systems to resist lateral movement and seismic loads per ASTM E580 Section 5.2.8.6.

1.3.6 Proprietary lateral force bracing assemblies may be acceptable in accordance with Section 4 below. The manufacturer, model number, and evaluation report number of the proprietary lateral force bracing assemblies shall be specified. Details of the attachment of the proprietary assembly to ceiling grid members and floor/roof structure in accordance with the evaluation report shall be provided on the construction documents.

1.4 Attachment of Hanger and Bracing Wires

The construction documents shall require hanger and bracing wires to be installed in accordance with this section.

1.4.1 Hanger wires shall be fastened with not less than three tight turns in 3-inches per ASTM E580 Section 5.2.7.2. Hanger wire loops shall be tightly wrapped and sharply bent to prevent any vertical movement or rotation of the member within the loops. Refer to Appendix A Detail 4.10 below for a graphical illustration.

1.4.2 Bracing wires shall be fastened with not less than four tight turns in 1-1/2-inches per ASCE Section 13.5.6.2.3, Item #4 as added by CBC Section 1617A.1.21. Bracing wire loops shall be tightly wrapped and sharply bent to prevent any vertical movement or rotation of the member within the loops. Refer to Appendix A Detail 4.10 below for a graphical illustration.

1.4.3 Hanger and bracing wire anchorage to the structure shall be installed in such a manner that the axis of the anchor and clip aligns closely with the direction of the wire. For example, bracing wire ceiling clips shall be bent as shown in the details in Appendix A below and rotated as required to align closely with the direction of the wire; lag screws or wood screws shall be installed so they align closely with the direction of the wire, etc.

1.4.4 Ceiling hanger and bracing wires shall be separated at least 6-inches from all unbraced ducts, pipes, conduit, etc. per ASCS 7 Section 13.5.6.2.3, Item #5 as added by CBC Section 1617A.1.21.

1.4.5 Hanger and bracing wires shall not attach to or bend around obstructions including but not limited to piping, ductwork, conduit, and equipment. Provide trapeze or other supplementary support members at obstructions to facilitate compliance with hanger spacing requirements. Brace assemblies must be configured or located to avoid obstructions while maintaining compliance with the maximum brace assembly spacing requirements.

1.4.6 Additional hangers, struts, and brace assemblies shall be provided as required at all ceiling breaks, soffits, or discontinuous areas.

1.4.7 Hanger wires that are out of plumb more than one (horizontal) in six (vertical) shall have counter-sloping wires. See ASTM C636 Figure 1 and Appendix A Detail 4.40 below for acceptable counter-sloping methods.

1.4.8 Hanger wire connection to the structure above shall be capable of carrying not less than a 90-pound allowable load per ASTM E580 Section 5.2.7.2.

1.4.9 Attachment of the bracing wires to the structure above and to the main runners shall be adequate for the load imposed. The ceiling weight (W_p) shall not be taken as less than 4 PSF for calculating seismic forces (F_p).

1.4.10 Post-installed anchors (e.g., expansion anchors, screw anchors, power-actuated fasteners, etc.) shall have a current evaluation report in accordance with *IR A-5: Acceptance of Products, Materials and Evaluation Reports*. The specified embedment of post-installed anchors is permitted to be less than the minimum embedment noted in the Appendix A details below, provided it complies with the evaluation report and the design professional specifies the anchor and demonstrates its structural adequacy.

1.4.11 Power-actuated fasteners in concrete are not permitted for bracing wires.

1.4.12 The DSA-approved construction documents shall address the protection of prestressing tendons when post-installed anchors are specified in prestressed concrete. The construction documents shall require field verification of the existing prestressing tendon or strand locations and include the following:

1.4.12.1 Notes on plans and details indicating where nondestructive scanning is required, and that extreme caution should be exercised while drilling.

1.4.12.2 Minimum clearance dimensions between post-installed anchors and prestressing steel.

1.4.12.3 Notes giving direction in the event of damage to existing prestressing steel, including work stoppage and immediate notification of the design professional.

1.5 Expansion Joint and Seismic Separation Joints

The construction documents shall specify joints in the ceiling system in accordance with this section.

1.5.1 Expansion joints shall be provided in the ceiling at intersections of corridors and at junctions of corridors and lobbies or other similar areas. Refer to Appendix A Details 2.30 and 2.40 below for graphical illustrations.

1.5.2 For ceiling areas exceeding 2,500 square feet, a seismic separation joint shall be provided to divide the ceiling into areas not exceeding 2,500 square feet in accordance with ASTM E580 Section 5.2.9. Refer to Appendix A Detail 2.45 below for a graphical illustration.

1.6 Luminaires, Services, and Other Devices

All luminaires, services, and other devices shall be mounted in a manner that will not compromise ceiling performance in accordance with ASTM E580 Sections 5.3 and 5.4.

1.6.1 Ceiling panels shall not support any luminaires, services, or other devices.

1.6.2 Penetrations through the ceiling for sprinkler heads and other similar devices that are not integrally tied to the ceiling system in both horizontal directions shall provide one of the following per ASTM E580 Section 5.2.8.5:

1.6.2.1 2-inch oversized ring, sleeve, or adapter through the ceiling tile to allow free movement of 1-inch in all horizontal directions.

1.6.2.2 Flexible sprinkler hose fitting that can accommodate 1-inch of ceiling movement.

1.6.3 Slack safety wires shall be considered hanger wires for installation and testing requirements.

1.6.4 Where Section 1.7.5 or 1.8.4 below require independent vertical support, the following provisions apply:

1.6.4.1 The specified design (including attachment to the structure above) shall be capable of supporting four times the weight of the luminaire or service.

1.6.4.2 Additional slack safety wires are not required.

1.7 Luminaires

All luminaires shall be positively attached to the ceiling suspension systems by mechanical means per California Electrical Code (CEC) Article 410.36 and this section.

1.7.1 A minimum of two screws or approved fasteners capable of resisting a horizontal force equal to the weight of the fixture are required at each light fixture per ASTM E580 Section 5.3.1. See Section 2.1.1 below for pendant luminaires.

1.7.2 Surface-mounted luminaires shall be attached to the main runner with at least two positive clamping devices on each fixture. The clamping device shall completely surround the supporting ceiling runner and be made of steel with a minimum thickness of #14-gauge. Rotational spring catches are not permitted. A #12-gauge slack safety wire shall be connected from each clamping device to the structure above. Provide additional supports when luminaires measure 8-feet or longer or exceed 56 pounds. Maximum spacing between supports shall not exceed 8-feet.

1.7.3 Luminaires weighing less than or equal to 10 pounds may be supported directly on the ceiling runners, but they shall have a minimum of one #12-gauge slack safety wire connected from the luminaire housing to the structure above.

1.7.4 Luminaires weighing greater than 10 pounds but less than or equal to 56 pounds may be supported directly on the ceiling runners, but they shall have a minimum of two #12-gauge slack safety wires connected from the luminaire housing at diagonal corners to the structure above.

Exception: All luminaires greater than 2-feet wide by 4-feet long and no more than 8-feet long weighing less than 56 pounds shall have a #12-gauge slack safety wire at each corner.

1.7.5 All luminaires weighing greater than 56 pounds shall be independently supported by no less than four taut #12-gauge hanger wires (one at each corner) attached from the luminaire housing to the structure above or other approved hangers.

1.8 Services within the Ceiling

All flexible sprinkler hose fitting mounting brackets, ceiling-mounted air terminals, solar daylight tubes, or other services shall be positively attached to the ceiling suspension systems by mechanical means to resist a horizontal force equal to the weight of the component.

1.8.1 Screws or approved fasteners are required. A minimum of two attachments are required at each component.

1.8.2 Flexible sprinkler hose fittings, ceiling-mounted air terminals, and other services weighing less than or equal to 20 pounds shall have one #12-gauge slack safety wire attached from the terminal or service to the structure above.

1.8.3 Flexible sprinkler hose fittings, ceiling-mounted air terminals, and other services weighing more than 20 pounds but less than or equal to 56 pounds shall have two #12-gauge slack safety wires (at diagonal corners) connected from the terminal or service to the structure above.

1.8.4 Flexible sprinkler hose fittings, ceiling-mounted air terminals, and other services weighing more than 56 pounds shall be independently supported directly from the structure above by no less than four taut #12-gauge hanger wires attached from the terminal or service to the structure above or other approved hangers.

1.9 Other Devices within the Ceiling

Miscellaneous lightweight devices weighing 20 pounds or less, such as strobe lights, occupancy sensors, speakers, exit signs, etc., shall be attached to the ceiling grid per Section 1.8.1 above. In addition, devices weighing more than 10 pounds shall have one #12-gauge slack safety wire anchored to the structure above per Section 1.8.2 above.

2. ADDITIONAL REQUIREMENTS

2.1 Alternate Luminaire Types

2.1.1 Where pendant luminaires are specified in areas with a suspended ceiling, the construction documents shall include complete support details complying with *IR 16-9: Pendant Luminaires*.

2.1.2 Where recessed linear luminaires are specified in areas with a suspended ceiling, refer to Appendix B below for design and construction guidelines.

2.2 Fire-Resistance-Rated Ceilings

The construction documents shall include a manufacturer's installation detail and specify a tested assembly number for fire-resistance-rated ceiling assemblies from a nationally recognized testing laboratory.

2.2.1 The components and installation details shall conform in every respect with the listed detail and number. Details shall clearly depict all components, including insulation materials, framing, and attachment of the design so that the assembly can be constructed and inspected accordingly.

2.2.2 Pop rivets, screws or other attachments are not acceptable unless specifically detailed in the listed construction detail(s), or an approved listing by a State Fire Marshal recognized laboratory.

2.3 Acoustical Ceiling Tile Panel Clearance

For ceiling installations utilizing acoustical tile panels of mineral or glass fiber, it is not mandatory to provide 3/4-inch clearance between the acoustical tile panels and the wall on the sides of the ceiling which are free to slip. See Section 2.4 below for other panel types. Clearance between the ceiling grid members and the walls as required by Section 1.2.3 above is required regardless of the ceiling tile material.

2.4 Other Panel Types

Panels other than mineral fiber and glass fiber acoustical tile shall weigh no more than 0.5 PSF and be positively attached to the ceiling runners by mechanical means, such as bolts, cables, carabiners, d-shaped rings, screws, or rivets. Each attachment shall have an allowable design strength to support the weight of the panel acting in any direction. A minimum of two attachments are required for each panel. For ceiling installations utilizing panels other than mineral or glass fiber, 3/4-inch clearance shall be provided between the ceiling panel and the wall on the sides of the ceiling area which are free to slip.

2.4.1 Other types of attachment, such as clips, snap-in devices, perforated lips, clamping devices, or spring-loaded devices or hooks, can be accepted when qualified by an evaluation report per IR A-5. The attachment device shall be seismically qualified in accordance with ASCE 7 Section 13.2.5 or 13.2.6.

2.4.2 An alternate means of compliance per California Administrative Code (CAC) Section 4-304 may be used to achieve approval on a project-by-project basis of other means of attachment without an evaluation report per IR A-5. See *Procedure (PR) 18-01: Request for Alternate Design, Materials and Methods of Construction*. The alternate means of attachment shall have an allowable design strength to support the weight of the panel acting in any direction and shall be capable of maintaining that strength if the ceiling grid is distorted or out of level.

2.4.3 In lieu of direct restraint attachments, it is permitted to provide a secondary means of supporting the panel in case of panel dropout or dislodgement due to ceiling grid distortion or the ceiling grid becoming out-of-level. The secondary attachment shall have an allowable design strength to support less than the weight of the panel acting in any direction. A slack wire or cable connecting each panel to the ceiling grid or structure above are examples of secondary means of support.

2.4.4 Special attachment details complying with one of the methods outlined above shall be provided for the ceiling perimeter condition, where panels are cut or altered and where nonstandard panel sizes or edge conditions occur.

2.5 Exits

Ceilings over exit paths shall be installed in accordance with ASCE 7 Section 13.5.6.2.3, Item 1 as added by CBC Section 1617A.1.21. A main or cross runner shall be installed on all sides of each ceiling panel, luminaire, and service device. Splices or intersection of such runners shall be attached with through connectors such as pop rivets, screws, pins, plates with end tabs, or other approved connectors.

2.6 Free-Floating Ceilings

Free-floating ceilings (i.e., ceilings not attached to any walls) supported by wires in accordance with this IR shall be braced in accordance with Section 1.3 above, regardless of the ceiling area, unless it can be demonstrated the anticipated ceiling movement will not cause failure of the ceiling components or failure of mechanical, electrical, plumbing, or fire and life safety components and systems within the area of anticipated movement. The anticipated movement can be assumed as the hanger supports swinging to a 45-degree angle from vertical in any plan direction.

The perimeter of free-floating ceilings shall be supported by a continuous runner which is spliced in accordance with ASTM E580 Section 5.1.2.

2.7 Sloped Ceilings

Sloped ceilings with acoustical mineral or glass fiber tiles, surrounded on all sides by partition walls are permitted in accordance with the requirements of this section. Sloped ceilings not meeting the requirements of this section shall be custom designed and detailed.

2.7.1 The slope of the ceiling shall not exceed the manufacturer's published maximum slope recommendation nor 25 degrees from horizontal, whichever is less. The ceiling shall be square or rectangular in plan. The structure above the sloped ceiling may be flat or sloped in a different direction.

2.7.2 The slope shall occur across a single plane. The slope of the ceiling is to be uniform from the intersection of the wall at the lowest end of the ceiling to the intersection of the wall at the uppermost end of the ceiling. A gable or multifaceted ceiling profile can be accomplished within the parameters of these provisions by replacing a full height wall with a soffit at the ridge or

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DSA DETAILS - SUSPENDED LAY-IN CEILING

NO.	REVISION	DATE
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PROJECT MANAGER: MH
DRAWN BY: JM/BB/MH/GK/ED
CHECKED BY: MH
DATE: 12/31/2025
PROJECT NUMBER: 3244-01-ED23
SHEET: A-951

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ALL NOTES AND DETAILS ON SHEETS A-951 THROUGH A-956 ARE FROM DSA IR 25-2 REVISED 11/03/23 UNDER 2022 CBC

each slope transition line. The design must demonstrate the soffit construction provides strength and stiffness in the plane of the ceiling equivalent to a full height wall.

2.7.3 Specific detailing of the sloped ceiling system is required. The requirements for a level ceiling in this IR also apply to sloped ceilings. The library of details in Appendix A below does not include details specific to sloped ceilings, but the details provided for level ceilings can be modified to meet the requirements of this section. The design professional shall review manufacturer technical guides for recommended installation to assist in the development of site-specific details.

2.7.4 DSA may require structural calculations to demonstrate the adequacy of the lateral bracing system.

2.7.5 Sloped ceilings shall comply with the following detailing requirements:

2.7.5.1 Attachment of proprietary perimeter clips to the walls shall comply with Section 1.2.6 above.

2.7.5.2 Main runners are to be installed parallel (up/down) to the direction of the ceiling slope.

2.7.5.3 Runners at the bottom/lower end of the slope shall be installed as the attached side per Section 1.2.3 above.

2.7.5.4 Runners at the top/higher end of the slope shall be installed as the free side per Section 1.2.3 above.

2.7.5.5 Perimeter wall angles at the top and bottom of the slope are to be shimmed or installed with adjustable wall mounting brackets such that the bottom leg of the angle aligns with the plane of the ceiling. This is to ensure the 90-degree angle of the wall trim in relation to the runner is maintained. Bending the leg(s) of the wall angle to match the slope of the ceiling is prohibited.

2.7.5.6 Hanger wires, including slack wires, are to be installed vertical and plumb.

2.7.5.7 Compression struts are to be installed vertical and plumb in compliance with Section 1.3.4.2 above.

2.7.5.8 Brace wires are to be installed a maximum of 45 degrees from the horizontal plane.

2.7.5.9 Shims between the tiles and the grid are required to ensure panels are centered to resist sliding out.

2.7.5.10 Panel edge hold down clips are to be installed along the top of the grid to the ceiling tiles as follows:

2.7.5.10.1 For ceiling slope less than or equal to 15 degrees from horizontal: Clips are to be installed at each main runner and cross runner around the perimeter of the ceiling in the first bay adjacent to the walls. See Appendix A Detail 2.90 below.

2.7.5.10.2 For ceiling slope greater than 15 degrees but less than or equal to 25 degrees from horizontal: Clips are to be installed per the illustration in Appendix A Detail 2.90 below.

2.7.5.11 A minimum 3/4" horizontal clearance of the runners to the wall angle is to be maintained at the free sides.

2.7.5.12 The use of a 7/8-inch wall angle requires proprietary seismic clips. Each seismic clip shall be attached to the wall angle with two screws.

2.7.6 Sloped free floating ceilings are beyond the scope of this IR. The design professional is responsible to provide project-specific design (including supporting calculations) and details.

3. CEILING SYSTEM ALTERATION

3.1 Existing Grid Cut or Altered

When any portion of an existing grid system is cut or altered and any one of the conditions described in the subsections below applies, the entire ceiling in the affected space shall be evaluated and upgraded as required to meet the requirements of the current CBC and this IR. With DSA concurrence, other existing lateral bracing systems may be deemed equivalent to a 4-way brace wire and compression post lateral force bracing system.

3.1.1 The existing ceiling does not have lateral bracing assemblies (i.e., 4-way brace wires and compression post).

3.1.2 The existing ceiling has lateral bracing assemblies (i.e., 4-way brace wires and compression post) with spacing greater than 12-feet on center in either principal axis.

3.1.3 The area cut or altered exceeds 10 percent of the entire ceiling area. The "entire" ceiling in the affected space is defined as the area of ceiling bounded by four walls or a combination of walls and expansion joints or seismic separation joints.

3.2 Existing Grid Not Cut or Altered

Evaluation and associated upgrade to the ceiling grid, suspension system, and lateral force bracing assemblies is not required when the ceiling grid is not cut or altered, and the scope of work is limited to the following:

3.2.1 Replacement of existing ceiling panels with like panels of equal or lesser weight.

3.2.2 Replacement of luminaires or air terminals with like units (i.e., equal size and equal or lesser weight) placed in the same locations.

3.2.3 Replacement of only the internal lighting components (e.g., lens, ballast, or lamps) within existing luminaires and the attachment of the luminaire's outer enclosure to existing grid is not altered.

3.3 Reuse of Existing Ceiling Wires

Existing ceiling hanger and bracing wires may be reused provided the following requirements are met:

3.3.1 Wire gauge and spacing complies with the current applicable codes and this IR.

3.3.2 DSA-approved construction drawings include a detail specifying the splice between a new and existing wire. Acceptable wire splice details are provided in Appendix A Detail 6.10 below.

3.3.3 Wires are tested in accordance with Section 6.2 below.

4. ACCEPTANCE OF EVALUATION REPORTS

Ceiling grid systems and components with valid evaluation reports issued by qualified evaluation agencies, in accordance with IR A-5 are accepted by DSA, provided the system or component meets the requirements of CBC Section 1617A.1.21, ASTM C635, ASTM C636, and ASTM E580 Section 5. Where a qualified evaluation report is utilized, the installation shall comply with all the requirements specified in the evaluation report (e.g., connections, member sizes, perimeter details, special clips to wall angles, rigid braces, etc.).

In accordance with IR A-5, DSA will accept Department of Health Care Access and Information (HCAi) Preapproved Details (OPD) "2013 CBC Standard Suspended Ceiling Details for Acoustical Tile or Lay-in Panel Ceilings" and HCAi Preapproval of Manufacturer Certification (OPM).

5. CONSTRUCTION DOCUMENTS

The construction documents shall clearly specify all suspended ceiling systems, support details, and lateral bracing requirements.

5.1 General Requirements

The items listed in this section shall be specified in the construction documents where applicable to the project scope. This list includes items common to most projects but may not include all information required for all projects. Additional information and details may be required on the construction documents for project-specific specialty conditions, configurations, products, etc.

Except as indicated in Sections 5.9 and 5.10 and Appendix A below, it is not permitted to reproduce this IR on the construction documents as a means of compliance.

5.2 Ceiling Systems

An acceptable ceiling grid system (or multiple systems) shall be specified on the construction documents. Each system specified must be classified as heavy duty and shall have a valid evaluation report in accordance with IR A-5. The construction documents shall specify the following for each specified grid system:

5.2.1 Manufacturer.

5.2.2 Product name.

5.2.3 Evaluation report number.

5.2.4 Main runner part, model, or catalog number.

5.2.5 Cross runner part, model, or catalog number.

5.2.6 Seismic wall clip (if used).

When manufacturer specific information (e.g., proprietary seismic wall clips, adjustable wall molding brackets, panel hold downs clips, etc.) is stated in the specifications, details on the construction drawings shall be provided and coordinated to reflect the same manufacturer specific information.

5.3 Ceiling Suspension System

The ceiling suspension system and its anchorage to the structure shall be fully detailed. Where proprietary devices, clips, wall angles, brackets, etc. are specified, the details on the construction documents shall clearly specify the installation information necessary to show compliance with all evaluation report requirements.

5.4 Ceiling Lateral Force Bracing

The ceiling lateral force bracing system, including bracing wires, compression struts, and anchorage to the structure shall be fully detailed on the construction documents. The bracing assembly spacing at each floor level shall be clearly specified.

When a proprietary lateral force bracing system with a valid approval per IR A-5 (e.g., HCAi OPM), the manufacturer's system-specific information and details (e.g., ceiling grid clip, bracing members, connectors, etc.) shall be included on the construction documents.

5.5 Expansion Joints and Seismic Separations Joints

Expansion joints and seismic separation joints shall be fully detailed, and their locations shall be shown on the reflected ceiling plans.

5.6 Luminaires, Services and Other Devices

Details specifying required support and bracing of all luminaires, services, and other devices shall be provided as required to comply with this IR. Where pendant luminaires are to be installed in areas with a suspended ceiling, the construction documents shall include complete support details complying with IR 16-9.

5.7 Supplementary Support Members

Details of trapeze or other supplementary support members necessary to maintain typical hanger spacing while avoiding obstructions shall be shown on the construction documents.

5.8 Partition Bracing

Partition bracing shall be shown on the construction documents and be independent of the ceiling system.

5.9 Ceiling Notes and Details in Appendix A

The ceiling notes and details provided in Appendix A below are deemed to meet the general requirements of this IR. These notes and details shall not be used for construction or inspection except when incorporated in DSA-approved construction documents.

5.9.1 Use of the notes and details in Appendix A is not mandated by DSA; they are provided only as a convenience to the design professional for incorporation into the construction documents.

5.9.2 Use of other notes and details created by the design professional is always acceptable provided they comply with the CBC and this IR.

5.9.3 While the Appendix A notes and details do not cover every condition that may occur on every project, they are intended to cover conditions common to most projects with suspended ceilings. It is anticipated their use will facilitate a more efficient design, plan review, and construction process.

5.9.4 An electronic drawing file of the Appendix A details in Revit LT™ 2024 format is available for download.

5.9.4.1 DSA provides this electronic drawing file to the design professional for convenience only. DSA is not responsible for issues of compatibility with particular computer systems or conversion to other file formats.

5.9.4.2 The requirements of this IR are in no way changed or modified by providing the design professional with this electronic drawing file.

5.9.4.3 The electronic drawing file may not be currently up to date or in conformance with the published IR. The design professional shall verify and coordinate the information with the latest published IR.

5.9.4.4 Information contained in the file may be changed or updated by DSA, and DSA has no responsibility to notify or supply the registered design professional with these changes.

5.10 Ceiling Notes and Details: Conditions of Use

The conditions and requirements for use of the ceiling notes and details in Appendix A below are as follows:

5.10.1 The details give no consideration to suitability for use in a specific application, compatibility with other building systems, appropriate use of materials or design, appearances, etc. The design professionals listed on the form *DSA 1: Application for Approval of Plans and Specifications* shall review all such qualities, features, and properties to ensure code

compliance, appropriate integration with other building systems, and proper design for the project-specific conditions.

5.10.2 When the details in Appendix A below are used, they shall be incorporated into the construction drawings submitted for DSA review and approval. Incorporation by reference alone is not permitted. Only the notes and details applicable to the scope of the project shall be incorporated in the construction documents (e.g., do not include wood connection details in the construction drawings for a concrete structure, do not include essential services building details in the construction documents for a school project, etc.).

5.10.3 Provided the content of the details is not changed, it is left to the discretion of the design professional to reconfigure (i.e., renumber, resize, etc.) the details for integration into the construction drawings.

Exception: The design professional (DP) is required to provide additional information on all details where so indicated in brackets with bold and italicized text, such as "***[DP TO SPECIFY…]***". These brackets and notes to the design professional shall be removed from the details and replaced with the applicable information.

5.10.4 These details submitted as part of the construction documents during the plan review process will be subject to plan review as follows:

5.10.4.1 It is expected no plan review comment will be made on a detail incorporated into the construction documents that is unaltered and found applicable to the project for which it is submitted.

5.10.4.2 Where a detail requires the designer to provide additional information to complete the detail before applying it to the drawings, plan review will be limited to the following:

5.10.4.2.1 A review of the additional information provided.

5.10.4.2.2 A review to determine if the detail, with the additional information, is applicable to the project for which it is submitted.

5.10.4.3 Where a detail incorporated into the construction documents has been altered beyond that described above, it will be subject to a full review for both detail content and applicability to the project for which it is submitted.

5.10.5 Where conditions not covered by the details in Appendix A below occur, project-specific design and details shall be provided by the design professional. This includes, but is not limited to, pendant luminaires, projector supports, projector screens, ceiling fans, free-floating ceilings, etc.

6. TESTING

All field testing shall be performed in the presence of the project inspector or a special inspector.

6.1 New Installations

Post-installed anchors in concrete used to support new ceiling systems shall be tested in accordance with this section.

6.1.1 Anchors for hanger wires shall be tested at a frequency of 10 percent. Power-actuated fasteners in concrete shall be field tested for 200 pounds in tension. Test loads for other post-installed anchors shall be tested in accordance with CBC Section 1910A.5.

6.1.2 Anchors for bracing wires shall be tested at a frequency of 50 percent in accordance with CBC Section 1910A.5.

6.2 Reuse of Existing Ceiling Hanger Wires and Bracing Wires

Existing hanger and bracing wires to be reused in the construction of new ceilings shall be tested in accordance with this section.

6.2.1 All existing ceiling hanger wire assemblies shall be field tested to 200 pounds. If existing hanger wires are spaced no more than 4'-0" on center each way and the first 20 tests pass, the testing frequency can be reduced to 50 percent.

6.2.2 All existing bracing wire assemblies shall be field tested to 440 pounds at a 45-degree angle from horizontal and in the plan direction the wire will be reused. If the first 20 tests pass, the testing frequency can be reduced to 50 percent.

6.2.3 Where a new wire is spliced to an existing wire, each spliced wire shall be field tested to the loads given for existing assemblies above.

6.2.4 The testing frequency reductions given in Section 6.2.1 and 6.2.2 above are not permitted for existing nonconforming buildings subject to rehabilitation in accordance with CAC Section 4-307.

REFERENCES:

2022 California Code of Regulations (CCR) Title 24
Part 2: California Building Code (CBC), Section 1617A.1.21
Part 3: California Electrical Code (CEC), Article 410.56

This IR is intended for use by DSA staff and by design professionals to promote statewide consistency for review and approval of plans and specifications as well as construction oversight of projects within the jurisdiction of DSA, which includes State of California public schools (K–12), community colleges and state-owned or state-leased essential services buildings. This IR indicates an acceptable method for achieving compliance with applicable codes and regulations, although other methods proposed by design professionals may be considered by DSA.

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CONSULTING ENGINEER

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OE BUILDING ALTERATIONS
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DSA DETAILS - SUSPENDED LAY-IN CEILING

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SUSPENDED LAY-IN PANEL CEILING: 2022 CBC

1. CEILING SYSTEM GENERAL NOTES

1.01 Ceiling system components shall comply with ASTM C635 and Section 5.1 of ASTM E580.

1.02 The ceiling grid system shall be rated heavy duty as defined by ASTM C635.

1.03 Ceiling systems. The following ceiling system(s) is/are part of the scope of this project:

Manufacturer:	ARMSTRONG
Product Name:	PRELUDE XL WITH SEISMIC RX SUSPENSION SYSTEM
Evaluation Report Number:	ICC ESR 1308
Main Runner Part, Model, or Catalog Number:	7301
Cross Runner Part, Model, or Catalog Number:	XL7341

1.04 Seismic Wall Clip:

Manufacturer's Model:	BERC 2 CLIP

1.05 Ceiling panels shall not support any luminaires, air terminals, or devices.

1.06 For acoustical tile panels of any material other than mineral or glass fiber, a ¾" clearance shall be provided between the panel and the wall on the sides of the ceiling free to slip. Clearance between ceiling grid runners and walls shall comply with the details on these drawings regardless of ceiling tile material.

2. MATERIALS

2.01 Ceiling wire shall be Class 1 zinc coated (galvanized) carbon steel conforming to ASTM A641. Wire shall be #12 gauge (0.106" diameter) with soft temper and minimum ultimate tensile strength = 70 ksi.

2.02 Galvanized sheet steel (including that used for metal stud compression struts) shall conform to ASTM A653, or other equivalent sheet steel listed in Section A3.1 of the North American Specification for the Design of Cold-Formed Steel Structural Members, (AISI S100). Material 43 mil (18 gauge) thick and lighter shall have minimum yield strength of 33 ksi. Material 54 mil (16 gauge) thick and heavier shall have a minimum yield strength of 50 ksi.

2.03 Electrical metallic tube (EMT) shall conform to ANSI C80.3/UL 797 carbon steel with G90 galvanizing. EMT shall have minimum yield strength of 30 ksi and minimum ultimate strength of 48 ksi.

3. ATTACHMENT OF HANGER AND BRACING WIRES

3.01 All ceiling hanger and bracing wires shall be separated at least 6 inches from all unbraced ducts, pipes, conduit, etc.

3.02 Hanger and bracing wires shall not attach to or bend around obstructions including but not limited to piping, ductwork, conduit, and equipment.

3.03 Hanger wires that are more than one (horizontal) in six (vertical) out of plumb shall have counter-sloping wires.

Detail Title:	REV: 09/21/2015	Detail No.
CEILING NOTES	REV: 03/2022	1.00
	REV: 11/2023	

SUSPENDED LAY-IN PANEL CEILING: 2022 CBC

3.04 Slack safety wires shall be considered hanger wires for installation and testing requirements.

3.05 Hanger and bracing wire anchorage to the structure shall be installed such that the direction of the anchorage aligns with the direction of the wire. Bracing wire ceiling clips shall be bent as shown in the details and rotated as required to align with the direction of the wire. Screws in wood shall be installed to align with the direction of the wire.

4. FASTENERS AND WELDING

4.01 Sheet metal screws shall comply with ASTM C1513 and ASME B18.6.3. Penetration of screws through joined material shall not be less than three exposed threads.

4.02 ~~Expansion anchors shall be: *[DP to specify manufacturer, product, evaluation report number, and test load for each size specified per CBC 1910A.5.4.]*~~ NOT APPLICABLE

4.03 ~~Power-Actuated Fasteners shall be: *[DP to specify manufacturer, product, evaluation report number.]*~~

4.04 If not otherwise specified in the evaluation report, power-actuated fasteners installed in steel shall be installed so the entire pointed end of the fastener is driven through the steel member.

4.05 Power-actuated fasteners in concrete or masonry are not permitted for bracing wires.

4.06 Concrete reinforcement and prestressing tendons shall be located by non-destructive means prior to installing post-installed anchors.

4.07 Welding shall be in accordance with AWS D1.3 using E60XX series electrodes.

5. TESTING

5.01 All field testing shall be performed in the presence of the project inspector.

5.02 Post-installed anchors in concrete used to support hanger wires shall be tested at a frequency of 10 percent. Power-actuated fasteners in concrete shall be field tested for 200 pounds in tension. All other post-installed anchors in concrete shall be tested in accordance with CBC Section 1910A.5.

5.03 Post-installed anchors in concrete used to attach bracing wires shall be tested at a frequency of 50 percent and in accordance with CBC Section 1910A.5.

6. LUMINAIRES

6.01 All luminaires shall be positively attached to the ceiling suspension systems by mechanical means to resist a horizontal force equal to the weight of the luminaire. A minimum of two screws or approved fasteners are required at each luminaire per ASTM E580 Section 5.3.1.

6.02 Surface-mounted luminaires shall be attached to the main runner with at least two positive clamping devices. The clamping device shall completely surround the supporting ceiling runner and be made of steel with a minimum thickness of #14 gauge. Rotational spring catches are not permitted. A #12 gauge slack safety wire shall be connected from each clamping device to the structure above. Additional supports shall be provided when a luminaire is 8 feet or longer or exceeds 56 pounds. Maximum spacing between supports shall not exceed 8 feet.

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CEILING NOTES	REV: 03/2022	1.00
	REV: 11/2023	

SUSPENDED LAY-IN PANEL CEILING: 2022 CBC

6.03 Luminaires weighing less than or equal to 10 pounds supported directly on the ceiling runners shall have a minimum of one #12 gauge slack safety wire connected from the fixture housing to the structure above.

6.04 Luminaires weighing greater than 10 pounds but less than or equal to 56 pounds supported directly on the ceiling runners shall have a minimum of two #12 gauge slack safety wires connected from the fixture housing at diagonal corners to the structure above.

Exception: All luminaires greater than two by four feet weighing less than 56 pounds shall have a #12 gauge slack safety wire at each corner.

6.05 All luminaires weighing greater than 56 pounds shall be independently supported from the structure above. See support details on these drawings for more information.

7. SERVICES WITHIN THE CEILING

7.01 All flexible sprinkler hose fitting mounting brackets, ceiling-mounted air terminals, or other services shall be positively attached to the ceiling suspension systems by mechanical means. Screws or other fasteners specified on the drawings are required. A minimum of two attachments are required at each component.

7.02 Ceiling-mounted services weighing less than or equal to 20 pounds shall have one #12 gauge slack safety wire attached from the terminal or service to the structure above.

7.03 Ceiling-mounted services weighing more than 20 pounds but less than or equal to 56 pounds shall have two #12 gauge slack safety wires (at diagonal corners) connected from the terminal or service to the structure above.

7.04 Ceiling-mounted services weighing more than 56 pounds shall be independently supported from the structure above. See support details on these drawings for more information.

8. OTHER DEVICES WITHIN THE CEILING

8.01 All lightweight miscellaneous devices, such as strobe lights, occupancy sensors, speakers, exit signs, etc., shall be attached to the ceiling grid. Devices weighing more than 10 pounds shall have a #12 gauge slack safety wire anchored to the structure above. Devices weighing more than 20 pounds shall be independently supported from the structure above.

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CEILING NOTES	REV: 03/2022	1.00
	REV: 11/2023	

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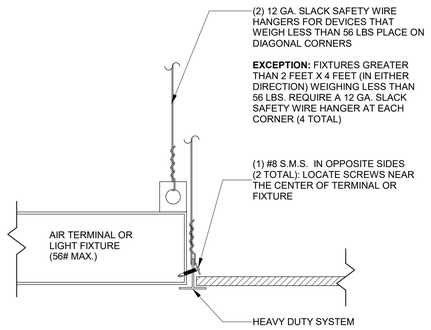
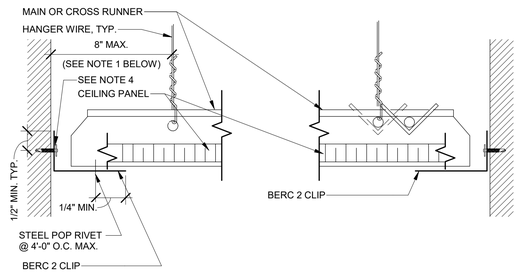
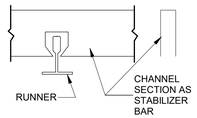


4 LUMINAIRE / AIR TERMINAL SUPPORT

A-954 SCALE: 3" = 1'-0"



ATTACHED JOINT **FREE JOINT**

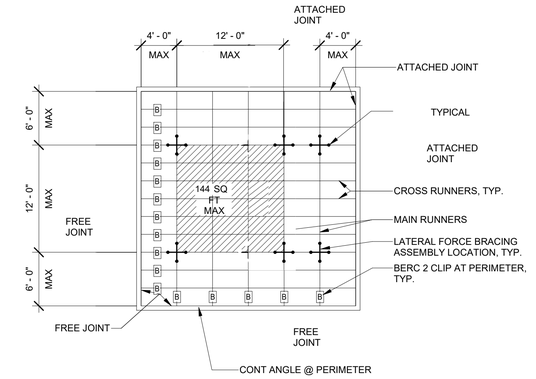


STABILIZER (SEE NOTE 3)

NOTES:
1. PROVIDE #12 GAGE HANGER WIRES AT THE ENDS OF ALL MAIN AND CROSS RUNNERS WITHIN EIGHT (8) INCHES OF THE SUPPORT OR WITHIN ONE-FOURTH (1/4) OF THE LENGTH OF THE END TEE, WHICHEVER IS LESS, FOR THE PERIMETER OF THE CEILING AREA. PERIMETER WIRES ARE NOT REQUIRED WHEN THE LENGTH OF THE END TEE IS EIGHT (8) INCHES OR LESS.
2. NAILS AT ENDS OF HORIZONTAL STABILIZERS ARE TO BE PLACED WITH NAIL HEAD TOWARD CENTER LINE OF SPAN OF STRUT.
3. STABILIZER BAR MAY BE SLOTTED APPROVED ANGLES OR CHANNELS WITH "DIAMOND POINTS" OF SPRING STEEL WHICH SNAP TIGHT TO PREVENT MOVEMENT OF STRUT.
4. FASTEN ANGLE TO WALL STUD OR BLOCKING AS FOLLOWS:
   A. METAL STUD (20 GA. MIN.) WALL: (1) #10 SMS AT 24" O.C. MAX.
   B. WOOD STUD WALL: #10x2" LONG WOOD SCREW AT 16" O.C. MAX.

3 CEILING PERIMETER

A-954 SCALE: 3" = 1'-0"



NOTE:
BRACING WIRES AND COMP. STRUT SHALL OCCUR AT EVERY 96 SQ. FT. MAX. IN ROOMS OVER 144 SQ. FT.

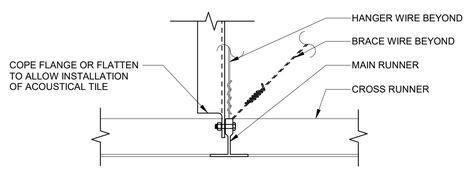
REFER TO FOR SLOPED CEILING CONDITIONS ≤ 15°

z/h = 0.46
SDS = 1.274

1 TYP. CEILING PLAN FOR 8'x12' BRACE ASSEMBLY SPACING

A-954 SCALE: 1/8" = 1'-0"

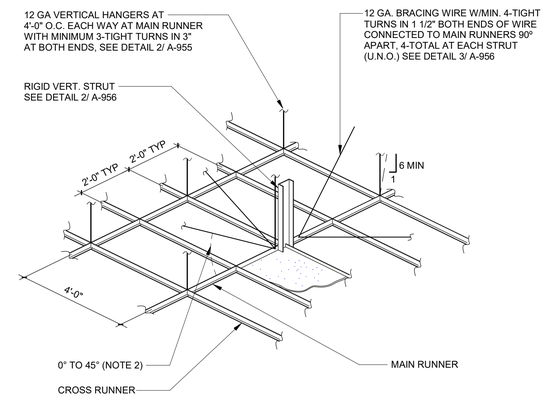
NOTES:
1. DIMENSION "L" SHALL NOT EXCEED THE ALLOWABLE LENGTH GIVEN IN THE TABLE ON FOR THE COMPRESSION STRUT SECTION USED.



6 SECTION
3" = 1'-0"

5 COMPRESSION STRUT - CHANNEL TYPE

A-954 SCALE: 1 1/2" = 1'-0"



SEE 1, 3/ A-954 AND 4/ A-956 FOR BERC 2 CLIP LOCATIONS AND DETAILS

NOTES:
1. STRUTS SHALL NOT REPLACE HANGER WIRES.
2. THE MINIMUM ACCEPTABLE ANGLE IS DETERMINED SUCH THAT THE WIRES DO NOT INTERFERE WITH THE RUNNERS, LIGHT FIXTURES, ETC. AND REMAIN STRAIGHT AND UNOBSTRUCTED.

2 SUSPENSION AND LATERAL BRACING ASSEMBLY

A-954 SCALE: 3" = 1'-0"

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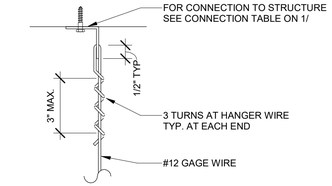
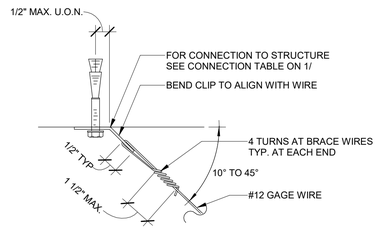


HANGER WIRE



BRACE WIRE

2 HANGER AND BRACING WIRE CONNECT.

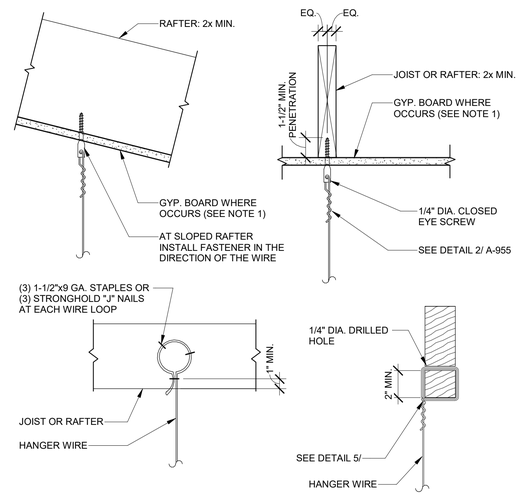
A-955 SCALE: 3" = 1'-0"

COMPRESSION STRUT EMT SECTION	MAXIMUM LENGTH
1/2" DIAMETER EMT (0.042" WALL THICKNESS)	3' - 11"
3/4" DIAMETER EMT (0.049" WALL THICKNESS)	6' - 4"
1" DIAMETER EMT (0.057" WALL THICKNESS)	9' - 9"
1 1/4" DIAMETER EMT (0.065" WALL THICKNESS)	12' - 9"
1 1/2" DIAMETER EMT (0.065" WALL THICKNESS)	14' - 9"
2" DIAMETER EMT (0.065" WALL THICKNESS)	18' - 10"

COMPRESSION STRUT CHANNEL SECTION	MAXIMUM LENGTH
250S125-33	5' - 10"
250S137-33	6' - 10"
362S137-33	8' - 0"
250S137-43	8' - 10"
400S137-43	10' - 10"

3 COMPRESSION STRUT TABLE

A-955 SCALE: 12" = 1'-0"



NOTES:
1. WHEN FIRE RATED GYP. BOARD IS INSTALLED ON THE BOTTOM FLANGES, USE SCREW EYES W/ SUFFICIENT LENGTH TO AVOID DAMAGING THE FIRE RATED GYP. BOARD AND MEET MIN. PENETRATION.

4 HANGER WIRE CONNECTION TO SAWN TIMBER

A-955 SCALE: 1 1/2" = 1'-0"

STRUCTURAL SYSTEM OF FLOOR/ ROOF ABOVE SUSPENDED CEILING	APPLICABLE HANGER WIRE DETAIL	APPLICABLE BRACE WIRE DETAIL
~~BARE METAL DECK~~	~~N/A~~	~~N/A~~
~~CONCRETE OVER METAL DECK~~	~~N/A~~	~~N/A~~
~~CONCRETE SLAB, BEAM, OR JOIST~~	~~N/A~~	~~N/A~~
~~STRUCTURAL STEEL~~	~~N/A~~	~~N/A~~
~~METAL STUD WALL~~	~~N/A~~	~~N/A~~
SAWN TIMBER	2, 4/ A-955	3/ A-956
~~WOOD I-JOIST~~	~~N/A~~	~~N/A~~
~~WOOD CHORD TRUSS~~	~~N/A~~	~~N/A~~
~~OPEN WEB STEEL JOIST~~	~~N/A~~	~~N/A~~

1 HANGER AND BRACE WIRE CONNECTION TABLE

A-955 SCALE: 12" = 1'-0"

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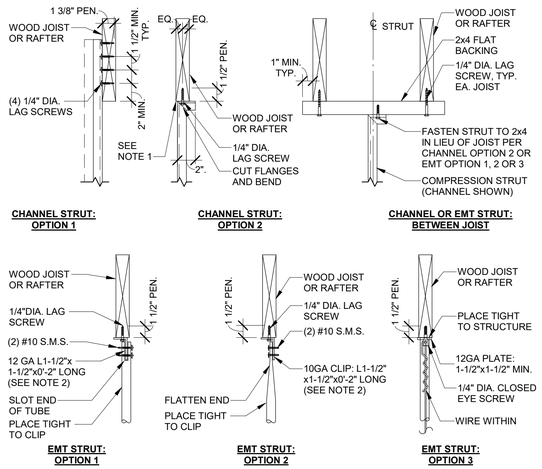
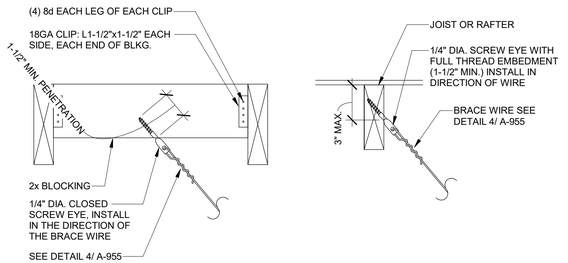


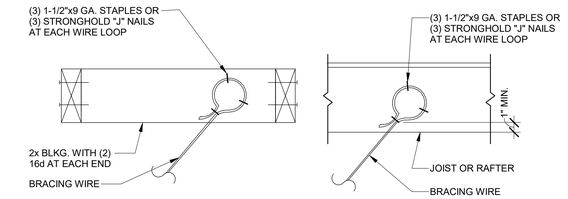
NOTES:
1. WEB OF CHANNEL TO BEAR WITHIN WIDTH OF WOOD MEMBER.
2. VERTICAL LEG OF MEMBER TO FALL WITHIN THE WIDTH OF THE WOOD MEMBER.
3. SEE DETAIL 4/ A-955 FOR ADDITIONAL INFORMATION.
4. PEN. = MINIMUM PENETRATION OF LAG SCREW THREADS INTO THE WOOD MEMBER.
5. NO. 14 WOOD SCREW MAY BE USED IN LIEU OF 1/4" LAG SCREW.

2 STRUT CONNECTION TO SAWN TIMBER W/O GYP.
A-956 SCALE: 1 1/2" = 1'-0"

STRUCTURAL SYSTEM OF FLOOR/ ROOF ABOVE SUSPENDED CEILING	APPLICABLE DETAIL
~~BARE METAL DECK~~	~~N/A~~
~~CONCRETE OVER METAL DECK~~	~~N/A~~
~~CONCRETE SLAB, BEAM, OR JOIST~~	~~N/A~~
~~STRUCTURAL STEEL~~	~~N/A~~
~~SAWN TIMBER WITH GYPSUM BOARD~~	~~N/A~~
SAWN TIMBER WITHOUT GYPSUM BOARD	2/ A-956
~~WOOD I-JOIST~~	~~N/A~~

5 COMPRESSION STRUT CONNECTION TABLE
A-956 SCALE: 12" = 1'-0"





3 BRACE WIRE CONNECTION TO SAWN TIMBER
A-956 NTS

ESR-1308 ICC-ES Most Widely Accepted and Trusted Page 16 of 23

THE FOLLOWING DETAILS ARE FROM ESR 1308

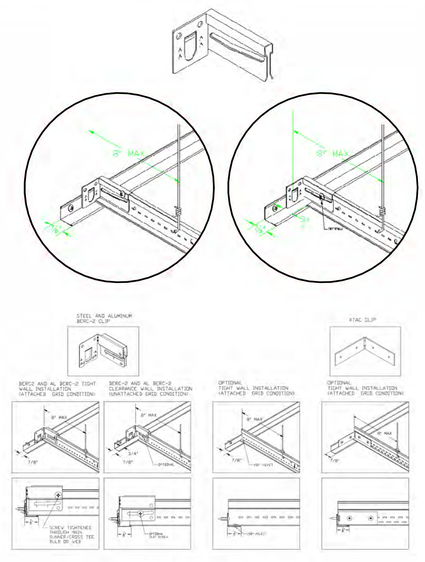
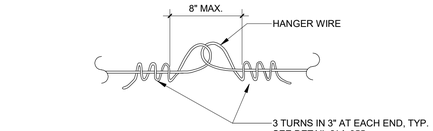
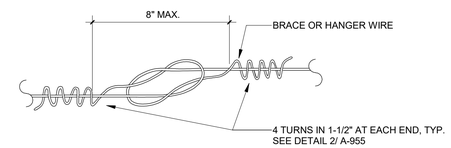


FIGURE 2—BERC-2, AL BERC-2, and XTAC CLIPS

4 BERC2 CLIP-ESR 1308
A-956 NTS



HANGER WIRE ONLY



HANGER OR BRACE WIRE

NOTES:
1. WIRE SPLICES ARE SHOWN LOOSELY TIED FOR ILLUSTRATIVE PURPOSES ONLY AND SHALL BE DRAWN TIGHT TO COMPLETE INSTALLATION WHEN CONSTRUCTED.
2. WIRE LOOPS SHALL BE TIGHTLY WRAPPED AND SHARPLY BENT TO PREVENT ANY VERTICAL MOVEMENT OR ROTATION WITHIN THE LOOPS.
3. EACH HANGER AND BRACE WIRE SHALL BE SPLICED NO MORE THAN ONCE ALONG ITS LENGTH.

1 6.10 - CEILING WIRE SPLICES
A-956 SCALE: 3" = 1'-0"

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-124867 INC:
REVIEWED FOR
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DATE: 03/12/2026

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CONSULTING ENGINEER

OXNARD COLLEGE
OE BUILDING ALTERATIONS
4000 S ROSE AVE. OXNARD, CA 93033

DSA DETAILS - SUSPENDED LAY-IN CEILING

NO.	REVISION	DATE
1		
2		
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5		

PROJECT MANAGER: MH
DRAWN BY: JM/BB/MH/GK/ED
CHECKED BY: MH
DATE: 12/31/2025
PROJECT NUMBER: 3244-01-ED23
SHEET: A-956

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MECHANICAL NOTES

1. SCOPE OF WORK: WORK INCLUDES THE FOLLOWING: FURNISH AND INSTALL ALL EQUIPMENT AND CONTROLS SHOWN ON THE MECHANICAL AND ARCHITECTURAL DRAWINGS AND DESCRIBED IN THESE NOTES, THE BOOK SPECIFICATIONS AND THE CONTRACT DOCUMENTS. WORK INCLUDES BUT IS NOT LIMITED TO: REMOVE AND INSTALLING OF DUCTWORK, AND AIR DISTRIBUTION AND STARTUP AND COMMISSIONING OF CONTROL SYSTEMS AS DESCRIBED IN THE CONTRACT DOCUMENTS. INCLUDED ARE ALL DEVICES NEEDED TO MAKE COMPLETE AND FUNCTIONAL SPACE CONDITIONING SYSTEMS AND CONTROLS. CONTRACTOR SHALL FURNISH AND INSTALL, MAKE OPERABLE, AND TEST ALL SYSTEMS AND MECHANICAL EQUIPMENT SHOWN ON THE PLANS AND DESCRIBED IN THE SPECIFICATIONS AND CONTRACT DOCUMENTS. IN CONNECTION THEREWITH, CONTRACTOR SHALL ALSO FURNISH AND INSTALL ALL NECESSARY DEVICES, HARDWARE, AND SYSTEMS REQUIRED TO MAKE SAID EQUIPMENT PROPERLY AND SAFELY OPERABLE, INCLUDING BUT NOT LIMITED TO, MOUNTING HARDWARE, INSULATION, DUCT SYSTEMS, REGISTERS/DIFFUSERS, CONTROL SYSTEMS, AND PATCHING AND PAINTING.

2. EXAMINATION OF SITE AND CONTRACT DOCUMENTS. EACH BIDDER SHALL, AT ITS SOLE COST AND EXPENSE, INSPECT THE SITE OF THE PROPOSED WORK TO BECOME FULLY ACQUAINTED WITH CONDITIONS RELATING TO THE WORK AND TO FULLY UNDERSTAND THE FACILITIES, DIFFICULTIES AND RESTRICTIONS ATTENDING THE EXECUTION OF THE WORK UNDER THE CONTRACT DOCUMENTS AND COST THEREOF. BIDDERS SHALL THOROUGHLY REVIEW AND BE FAMILIAR WITH THE CONTRACT DOCUMENTS, INCLUDING WITHOUT LIMITATION, THE SPECIFICATIONS AND THE DRAWINGS. THE FAILURE OR OMISSION OF ANY BIDDER TO RECEIVE OR EXAMINE ANY OF THE CONTRACT DOCUMENTS, FORMS, INSTRUMENTS, ADDENDA, OR OTHER DOCUMENTS OR TO INSPECT THE SITE SHALL NOT RELIEVE SUCH BIDDER FROM ANY OBLIGATIONS WITH RESPECT TO THE BID PROPOSAL, THE CONTRACT OR THE WORK REQUIRED UNDER THE CONTRACT DOCUMENTS. THE OWNER ASSUMES NO RESPONSIBILITY OR LIABILITY TO ANY BIDDER FOR, NOR SHALL THE OWNER BE BOUND BY, ANY UNDERSTANDINGS, REPRESENTATIONS OR AGREEMENTS OF THE OWNER'S AGENTS, EMPLOYEES OR OFFICERS CONCERNING THE CONTRACT DOCUMENTS OR THE WORK MADE PRIOR TO EXECUTION OF THE CONTRACT.

3. INTERPRETATION OF DRAWINGS, SPECIFICATIONS OR CONTRACT DOCUMENTS. IF ANY BIDDER IS IN DOUBT AS TO THE TRUE MEANING OF ANY PART OF THE DRAWINGS, THE SPECIFICATIONS OR OTHER PORTIONS OF THE CONTRACT DOCUMENTS; FINDS DISCREPANCIES, ERRORS OR OMISSIONS THEREIN; OR FINDS VARIANCES IN ANY OF THE CONTRACT DOCUMENTS WITH APPLICABLE RULES, REGULATIONS, ORDINANCES AND/OR LAWS, A WRITTEN REQUEST FOR AN INTERPRETATION OR CORRECTION THEREOF MAY BE SUBMITTED TO THE ENGINEER. IT IS THE SOLE AND EXCLUSIVE RESPONSIBILITY OF THE BIDDER TO SUBMIT SUCH REQUEST IN SUFFICIENT TIME FOR THE PREPARATION OF A RESPONSE THERETO AND DELIVERY OF SUCH RESPONSE TO ALL BIDDERS PRIOR TO THE SCHEDULED CLOSING FOR RECEIPT OF BID PROPOSALS. ANY REQUEST OF ANY BIDDER, PURSUANT TO THE FOREGOING SENTENCE THAT IS MADE LESS THAN SEVEN DAYS PRIOR TO THE SCHEDULED CLOSING DATE FOR THE RECEIPT OF BID PROPOSALS SHALL BE DEEMED UNTIMELY. ANY INTERPRETATION OR CORRECTION OF THE CONTRACT DOCUMENTS WILL BE MADE ONLY BY WRITTEN ADDENDUM DULY ISSUED BY THE OWNER OR THE ENGINEER. A COPY OF ANY SUCH ADDENDUM WILL BE MAILED OR OTHERWISE DELIVERED TO EACH BIDDER RECEIVING A SET OF THE CONTRACT DOCUMENTS. NO PERSON IS AUTHORIZED TO RENDER AN ORAL INTERPRETATION OR CORRECTION OF ANY PORTION OF THE CONTRACT DOCUMENTS TO ANY BIDDER, AND NO BIDDER IS AUTHORIZED TO RELY ON ANY SUCH ORAL INTERPRETATION OR CORRECTION. FAILURE TO REQUEST INTERPRETATION OR CLARIFICATION OF THE DRAWINGS, THE SPECIFICATIONS OR OTHER PORTIONS OF THE CONTRACT DOCUMENTS PURSUANT TO THE FOREGOING SHALL BE DEEMED TO BE A WAIVER OF ANY DISCREPANCY, DEFECT, OR CONFLICT THEREIN.

4. DIMENSIONS. ALL DIMENSIONS SHALL HAVE PREFERENCE OVER SCALE. ALL DIMENSIONS SHALL BE VERIFIED IN THE FIELD. ENGINEER SHALL BE NOTIFIED OF ANY DISCREPANCIES BETWEEN ARCHITECTURAL AND ENGINEERING DRAWINGS BEFORE PROCEEDING WITH WORK. IN NO CASE SHALL WORKING DIMENSIONS BE SCALED FROM PLANS, SECTIONS, OR DETAILS ON WORKING DRAWINGS. ALL SIZES OF EQUIPMENT AND MATERIALS SHALL BE VERIFIED WITH EQUIPMENT MANUFACTURER.

5. CODES AND STANDARDS: ALL WORK SHALL COMPLY WITH ALL APPLICABLE REQUIREMENTS OF THE OCCUPATIONAL SAFETY AND HEALTH ACT (OSHA), 2022 CALIFORNIA BUILDING CODE, THE 2022 CALIFORNIA MECHANICAL CODE, THE 2022 CALIFORNIA PLUMBING CODE, THE 2022 CALIFORNIA GREEN BUILDING STANDARDS CODE, 2022 CALIFORNIA ELECTRIC CODE, THE STATE OF CALIFORNIA, EQUIPMENT MANUFACTURER'S RECOMMENDED PROCEDURES, AND STANDARD CONSTRUCTION PRACTICES. NOTE: ALL MECHANICAL EQUIPMENT SHALL BE IN STRICT ACCORDANCE WITH THE EQUIPMENT SCHEDULE, AND SHALL BE NEW AND FREE FROM DEFECTS. CONTRACTOR SHALL OBTAIN APPROVED INSPECTIONS FOR ALL WORK AS REQUIRED BY OWNER AND LOCAL JURISDICTION. CONTRACTOR SHALL MAINTAIN IN EFFECT ALL INSURANCE REQUIRED BY STATE LAWS, LOCAL JURISDICTION AND GENERAL CONTRACTOR/OWNER. WHERE CONFLICT OR VARIATION EXISTS AMONGST CODES, SPECIFICATIONS OR DRAWINGS, THE MOST STRINGENT SHALL GOVERN.

NOTE: WHERE TWO OR MORE CODES CONFLICT, THE MOST RESTRICTIVE SHALL APPLY. NOTHING IN THESE PLANS AND SPECIFICATIONS SHALL BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO APPLICABLE CODES.

6. CONSTRUCTION OBSERVATION: IN ADDITION TO THE REQUIREMENT FOR OBTAINING INSPECTIONS BY THE LOCAL JURISDICTION, CONTRACTOR SHALL NOTIFY ENGINEER AT APPROPRIATE TIMES DURING THE CONSTRUCTION PROCESS SO THAT ENGINEER CAN VISIT SITE TO BECOME GENERALLY FAMILIAR WITH THE PROGRESS AND QUALITY OF CONTRACTOR'S WORK AND TO DETERMINE IF THE WORK IS PROCEEDING IN GENERAL ACCORDANCE WITH THE CONTRACT DOCUMENTS.

7. SUBMITTALS REQUIRED: PRIOR TO ORDERING EQUIPMENT AND MATERIALS, CONTRACTOR SHALL FURNISH TO ENGINEER / OWNER SUBMITTALS AND SHOP DRAWINGS OF ALL EQUIPMENT AND MATERIALS PROPOSED FOR USE IN THIS PROJECT. ORDERING OF EQUIPMENT AND MATERIALS SHALL ONLY PROCEED AFTER SATISFACTORY REVIEW OF ALL SUBMITTALS BY CONTRACTOR / ENGINEER / OWNER. COPIES OF ALL OWNER'S MANUALS, WARRANTIES AND OTHER WRITTEN INFORMATION REGARDING SYSTEMS SHALL BE PRESENTED TO OWNER PRIOR TO THE COMPLETION OF THE PROJECT.

8. UNIT LOCATIONS: EQUIPMENT AND SYSTEM LOCATIONS SHOWN ARE APPROXIMATE ONLY. CONTRACTOR SHALL VERIFY LOCATIONS OF ALL STRUCTURAL MEMBERS AND EXISTING CONDITIONS IN THE FIELD, AND LOCATE UNITS AND DUCTWORK TO AVOID INTERFERENCE. ANY SIGNIFICANT DEVIATIONS FROM THE PLANS SHALL BE CALLED TO THE ATTENTION OF THE ENGINEER. ALLOW CLEARANCE FOR DUCTWORK AND PIPING. ALL CLEARANCES REQUIRED BY UNIT MANUFACTURER SHALL BE MAINTAINED. ENTIRE INSTALLATION SHALL BE IN ACCORDANCE WITH CODES AND THE RECOMMENDED INSTALLATION PROCEDURES PUBLISHED BY THE MANUFACTURER.

9. DUCTWORK: CONTRACTOR SHALL INSTALL DUCTWORK IN THE APPROXIMATE LOCATIONS SHOWN ON THE DRAWINGS. ALL DUCTWORK SHALL BE SECURELY ANCHORED TO THE BUILDING IN AN APPROVED MANNER THAT WILL RENDER IT ABSOLUTELY FREE FROM VIBRATION AND LATERAL MOVEMENT. ALL NECESSARY TRANSITIONS AND OFFSETS TO AVOID STRUCTURE & OTHER TRADES ARE NOT INTENDED TO BE SHOWN AND IT IS THE INTENT OF THIS PARAGRAPH THAT ALL TRANSITIONS AND OFFSETS REQUIRED TO INSTALL THE DUCTWORK TO AVOID OTHER TRADES AND STRUCTURE BE PROVIDED BY THE CONTRACTOR WITHOUT COST TO THE OWNER.

10. MATERIALS - DUCTWORK: ALL DUCTWORK FOR HVAC SYSTEMS SHALL BE GALVANIZED STEEL CONFORMING TO ASTM SPEC A525.

ALL ROUND DUCTWORK SHALL BE GALVANIZED CONSTRUCTION WITH GAUGES AND CONNECTIONS AS FOLLOWS: UP TO 14" DIAMETER (INCLUDING FITTINGS) - 26 GAUGE WITH 2" CRIMP JOINT. OVER 14" TO 23" DIAMETER (INCLUDING FITTINGS) - 24 GAUGE WITH 2" CRIMP JOINT. OVER 23" TO 37" DIAMETER - 22 GAUGE. WHERE NECESSARY TO MAKE FIELD CONNECTIONS BETWEEN PLAIN END DUCT, SLIP JOINT CONNECTORS SHALL BE PROVIDED. JOINT CONNECTION AND SEALING: SHEET METAL SCREW ALL FIELD MADE JOINTS WITH A MINIMUM OF THREE SCREWS. SPACING OF SCREWS NOT TO EXCEED TWELVE INCHES ON CENTER. COVER ALL FIELD MADE JOINTS WITH HARDCAST "IRON-GRIP 601" PREMIUM FLEXIBLE WATER BASED DUCT SEALANT. FITTINGS AT RECTANGULAR DUCT TAKEOFF SHALL BE SPIN-IN TYPE, COMPLETE WITH LOCKING TYPE VOLUME DAMPERS AT ALL LOCATIONS WHETHER SHOWN ON THE PLANS OR NOT.

RECTANGULAR DUCTWORK SHALL BE MADE FROM GALVANIZED STEEL SHEETS. DUCT CONSTRUCTION, AND REINFORCING SHALL BE PER TABLE 6-1 OF THE 2022 CALIFORNIA MECHANICAL CODE. DUCTWORK SHALL BE OF THE FOLLOWING GAUGES: UP TO 12" - 26 GAUGE. 13"-30" - 24 GAUGE. EXTERIOR DUCTWORK SHALL BE GALVANIZED COATED MEETING THE ASTM G-90 REQUIREMENTS. SEE BOOK SPECIFICATIONS FOR CONNECTION REQUIREMENTS. RECTANGULAR DUCTING SHALL BE CONNECTED WITH DUCTMATE 35 CONNECTORS.

ALL DUCT DIMENSIONS ARE INTERNAL CLEAR.

CURVED ELBOWS SHALL HAVE CENTRALIZE RADIUS NOT LESS THAN THE WIDTH OF THE DUCT. WHERE ABRUPT TURNS AND ELBOWS ARE USED, TURNING VANES SHALL BE PROVIDED. TAKEOFFS FROM MAIN DUCTS SHALL BE MADE WITH 45 DEGREE ANGLES WITH VOLUME DAMPERS WHERE SHOWN. ALL PANELS SHALL BE CROSS BROKEN TO ENSURE RIGIDITY.

11. COMMISSIONING: CONTRACTOR SHALL CONFIRM THAT BUILDING SYSTEMS HAVE BEEN INSTALLED, PROPERLY STARTED, AND CONSISTENTLY OPERATED IN STRICT ACCORDANCE WITH THE CONTRACT DOCUMENTS, THAT ALL SYSTEMS ARE COMPLETE AND FUNCTIONING IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AT SUBSTANTIAL COMPLETION, AND THAT CONTRACTOR HAS PROVIDED OWNER ADEQUATE SYSTEM DOCUMENTATION AND TRAINING. COMMISSIONING INCLUDES DEFERRED AND/OR SEASONAL TESTS AS APPROVED BY OWNER.

12. GREEN CODE. ALL REQUIREMENTS OF THE 2022 CALIFORNIA GREEN CODE SECTION 5.410 SHALL BE COMPLIED WITH, INCLUDING COMMISSIONING, FUNCTIONAL PERFORMANCE TESTING, AND DOCUMENTATION AND TRAINING FOR ALL HVAC SYSTEMS. PROVIDE TRAINED CONTROL TECHNICIAN FOR 4 HOURS TO DEMONSTRATE TO ENGINEER THAT ALL ELEMENTS ARE FUNCTIONING PROPERLY.

13. AS-BUILT DRAWINGS SHALL BE GIVEN TO THE OWNER PRIOR TO ACCEPTANCE OF THE PROJECT. INCLUDED IN THE AS-BUILTS SHALL BE DOCUMENTATION AND TWO COPIES OF THE ANNOTATED PROGRAMMING ON MAGNETIC MEDIA AND PRINTED SHEETS.

14. DUCT SUPPORTS AND HANGERS: DUCT SUPPORTS SHALL BE PER THE 2022 CALIFORNIA MECHANICAL CODE. RECTANGULAR DUCTS WITH A MAXIMUM SIZE NOT EXCEEDING 30" AND ALL ROUND DUCTS SHALL BE SUPPORTED WITH ONE INCH WIDE 18 GAUGE HANGER STRAPS. SUPPORTS SHALL BE LOCATED ON TWO OPPOSITE SIDES OF THE DUCT, SHALL BE METAL SCREWED TO THE SIDES AND BOTTOM OF THE DUCT, SHALL BE SPACED AT NOT MORE THAN 7'-8" ON CENTERS AND SHALL BE LATERALLY BRACED. SECURE STRAPS TO STRUCTURAL FRAMING PER SMACNA STDS.

15. DUCT INSULATION: CONCEALED SUPPLY AND RETURN DUCTWORK SHALL BE INSULATED WITH 2" THICK, THREE QUARTER POUND PER CUBIC FOOT FOIL SCRIMP VAPOR BARRIER FACED FIBERGLASS FLEXIBLE DUCT INSULATION. INSULATION SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. INSULATION SHALL HAVE A MINIMUM INSULATION OF R-8. SUPPLY AND RETURN AIR PLENUMS AND OTHER DUCTWORK WHERE INDICATED SHALL BE INTERNALLY LINED WITH 1" THICK LINER. LINER SHALL BE 1-1/2 POUND PER CUBIC FOOT DENSITY GLASS FIBER DUCT LINER WITH A VINYL COATING, WITH A FLAME SPREAD OF LESS THAN .25 AS PER NFPA NO 90A.

16. VOLUME DAMPERS: LOCKING SHEET METAL VOLUME DAMPERS SHALL BE INSTALLED AT THE POINT OF TAKEOFF FROM MAIN DUCTING AT ALL LOCATIONS SHOWN ON PLANS AND ELSEWHERE AS NECESSARY FOR PROPER BALANCING OF THE SYSTEM. BALANCING AT DIFFUSERS OR RETURN AIR GRILLES ONLY WILL NOT BE PERMITTED. PROVIDE & LOCATE YOUNG REGULATORS OR ACCESS DOORS AS REQUIRED FOR BALANCING AFTER FINISH SURFACES ARE INSTALLED.

17. BALANCING: FOLLOWING INSTALLATION, CONTRACTOR SHALL START UP AND BALANCE ALL HVAC SYSTEMS TO CONFORM TO AIR VOLUMES INDICATED ON PLANS. COPIES OF BALANCING RECORDS SHALL BE FURNISHED TO BUILDING OWNER AND PROJECT ENGINEER. SEE BOOK SPECIFICATIONS FOR FURTHER REQTS.

18. VIBRATION ISOLATION: INSTALL FLEXIBLE CONNECTIONS BETWEEN MECHANICAL EQUIPMENT AND DUCTWORK. SEE MECHANICAL DETAILS & SPECIFICATIONS FOR SPECIFIC TYPE.

19. COORDINATION: MECHANICAL CONTRACTOR SHALL COORDINATE WORK WITH GENERAL CONTRACTOR AND ALL RELATED TRADES. COORDINATION OF EXACT LOCATIONS AND ELEVATIONS TO AVOID CONFLICTS ARE THE RESPONSIBILITY OF THE CONTRACTOR.

20. CLEANUP: EVERY DAY, AND AFTER ALL WORK HAS BEEN COMPLETED, CONTRACTOR SHALL CLEAN ENTIRE JOBSITE OF ALL DEBRIS ASSOCIATED WITH MECHANICAL SYSTEMS. EXPOSED PARTS WHICH ARE TO BE PAINTED SHALL BE THOROUGHLY CLEANED READY FOR PAINTING.

21. WIRING: ALL WIRING SHALL BE PERFORMED IN ACCORDANCE WITH NEC REQTS. ALL WIRING SHALL BE IN CONDUIT. ALL INTERIOR LOW VOLTAGE AND CONTROL WIRING SHALL BE IN WIREMOLD AND IN FAN ROOMS SHALL BE IN CONDUIT. EXPOSED CONDUIT SHALL BE INSTALLED IN A SQUARE, PLUMB, AND LEVEL MANNER WITH THOUGHT GIVEN TO THE FINAL APPEARANCES. PROVIDE TO ENGINEER SHOP DRAWING FOR CONTROL TRANSFORMER CONFIGURATIONS DETAILING CIRCUITS TO BE USED, LOAD CALCULATIONS, WIRE SIZES, AND LOCATIONS. WORK SHALL BE INSTALLED IN ACCORDANCE WITH THE CURRENT NATIONAL ELECTRICAL CODE AND ELECTRICAL SPECIFICATIONS. ALL TRANSFORMERS SHALL BE PROTECTED BY PROPERLY SIZED CIRCUIT BREAKER OR FUSE(S). ALL TRANSFORMERS SHALL HAVE RESETABLE BREAKER ON THE LOAD SIDE. ALL LOW VOLTAGE CONTROL & COMMUNICATIONS WIRING SHALL BE DONE ACCORDING TO MANUFACTURERS INSTALLATION MANUAL. PROVIDE SUBMITTALS ON WIRE AND ENCLOSURES.

22. EXISTING CONDITIONS: THE CONTRACTOR SHALL PROMPTLY INFORM THE PROJECT MANAGER IN WRITING OF ANY EXISTING CONDITION THAT COMPROMISES SAFETY INCLUDED BUT NOT LIMITED TO; ELECTRICAL, DUCT, PIPE OR EQUIPMENT SUPPORT, OR STRUCTURAL. IF ANY DEVICE, ELECTRICAL OR MECHANICAL, DOES NOT FUNCTION PROPERLY, THE CONTRACTOR SHALL PROMPTLY INFORM THE PROJECT MANAGER IN WRITING OF THE NATURE OF THE FAILURE, ANY PROPOSED REMEDY, AND THE COST OF REPAIR OR REPLACEMENT. CONTRACTOR SHALL INSPECT ALL VISIBLE EQUIPMENT AND PROVIDE A WRITTEN REPORT ON ANY DEFICIENCY.

23. WARRANTY: THE CONTRACTOR SHALL WARRANT THAT ALL SYSTEMS, SUBSYSTEMS, COMPONENT PARTS, AND DATABASE SOFTWARE ARE FULLY FREE FROM DEFECTIVE DESIGN, MATERIALS, AND WORKMANSHIP FOR A PERIOD OF ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE BY THE OWNER.

24. ALL MECHANICAL SYSTEMS SHALL BE CLEARLY & PERMANENTLY LABELED. LABEL SHALL DETAIL THE AREA SERVED & UNIT TAG.

25. CORRECTION OF WORK: THE CONTRACTOR SHALL PROMPTLY CORRECT ALL WORK THE OWNER OR ENGINEER FINDS DEFECTIVE OR FAILING TO CONFORM TO THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL BEAR ALL COSTS REQUIRED BY THE CONTRACT DOCUMENTS, IF ANY OF THE WORK IS FOUND TO BE DEFECTIVE OR NOT IN ACCORDANCE WITH THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL CORRECT IT PROMPTLY AFTER RECEIPT OF A WRITTEN NOTICE FROM THE OWNER TO DO SO.

26. ALL REFRIGERANT PIPING AND CONTROL WIRING PER MANUFACTURER'S REQUIREMENTS. PIPE SHALL BE US MANUFACTURED TYPE ACR COPPER WITH BRAZED FITTINGS. KEEP PIPING CLEAN AND FREE FROM DEBRIS AND CORROSION PRIOR TO INSTALLATION. ALL BRAZING SHALL BE PERFORMED WITH A NITROGEN (OR INERT GAS) SHIELD, PER ASHRAE STANDARDS BY QUALIFIED CRAFTSMEN. TEST PIPING PER MANUFACTURER'S REQUIREMENTS. PIPE INSULATION MUST BE INSTALLED STRICTLY IN ACCORDANCE WITH INSULATION MANUFACTURES INSTALLATION INSTRUCTIONS. INSULATION THICKNESS SHALL BE PER THE 2022 BUILDING ENERGY EFFICIENCY STANDARDS, REQUIREMENTS FOR PIPE INSULATION AND TABLE 120.3-A. ALL EXTERIOR INSULATION SHALL BE COVERED WITH PABCO ALUMINUM 0.016 JACKETING WITH FORMED ALUMINUM.

27. ALL EXISTING TO REMAIN SUPPLY, RETURN, OUTSIDE AIR, & RELIEF AIR DUCTS SHALL BE CLEANED PER N.A.D.C.A. STANDARDS.

GREEN BUILDING NOTES

1. GENERAL CONTRACTOR SHALL ESTABLISH A CONSTRUCTION WASTE MANAGEMENT PLAN FOR THE DIVERTED MATERIALS, OR MEET LOCAL CONSTRUCTION AND DEMOLITION WASTE MANAGEMENT ORDINANCE, WHICHEVER IS MORE STRINGENT. WASTE MANAGEMENT PLAN SHALL:
A.) IDENTIFY THE MATERIALS TO BE DIVERTED FROM DISPOSAL BY EFFICIENT USAGE, RECYCLING, REUSE ON THE PROJECT OR SALVAGE FOR FUTURE USE OR SALE.
B.) DETERMINE IF MATERIAL WILL BE SORTED ON-SITE OR MIXED
C.) IDENTIFY DIVERSION FACILITIES WHERE MATERIALS COLLECTED WILL BE TAKEN.
D.) SPECIFY THE AMOUNT OF MATERIALS DIVERTED WHICH SHALL BE CALCULATED BY WEIGHT OR VOLUME, BUT NOT BOTH.

2. RECYCLE WASTE MATERIAL BEING REMOVED FROM SITE TO THE GREATEST EXTENT POSSIBLE. RECORD ALL AMOUNTS DISPOSED AND ALL AMOUNTS RECYCLED.

3. COVERING OF DUCT OPENINGS AND PROTECTION OF MECHANICAL EQUIPMENT DURING CONSTRUCTION: AT THE TIME OF ROUGH INSTALLATION, OR DURING STORAGE ON THE CONSTRUCTION SITE AND UNTIL FINAL STARTUP OF THE HEATING AND COOLING 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 DUCT OR DEBRIS WHICH MAY COLLECT IN THE SYSTEM. PER THE 2022 CALIFORNIA GREEN BUILDING STANDARDS CODE, C.G.B.S.C., SECTION 5.504.3

GENERAL NOTES

1. CUTTING, BORING SAWCUTTING OR DRILLING THROUGH THE NEW OR EXISTING STRUCTURAL ELEMENTS TO BE DONE ONLY WHEN SO DETAILED ON THE DRAWINGS OR ACCEPTED BY THE ARCHITECT & THE ENGINEER.

2. ALL WELDING SHALL BE SPECIALLY INSPECTED BY AN AWS-CWI QUALIFIED INSPECTOR APPROVED BY THE ENGINEER.

3. ALL BRACING OF DUCTS AND PIPING SHALL BE INSTALLED IN ACCORDANCE WITH SMACNA GUIDELINES AS APPROVED BY THE ENGINEER.

WHERE BRACING DETAILS ARE NOT SHOWN ON THE DRAWINGS OR IN THE GUIDELINES, THE FIELD INSTALLATION SHALL BE SUBJECT TO THE APPROVAL OF THE ARCHITECT & THE MECHANICAL ENGINEER.

A COPY OF THE GUIDELINES PUBLISHED BY SMACNA AND APPROVED BY THE ENGINEER SHALL BE PROVIDED BY THE CONTRACTOR AND KEPT ON THE JOB AT ALL TIMES.

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 2022 CBC SECTIONS 1617A.1.18 THROUGH 1617A.1.26 AND ASCE 7-16 CHAPTER 13, 26, AND 30:

1. ALL PERMANENT EQUIPMENT AND COMPONENTS.
2. TEMPORARY, MOVEABLE 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 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 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 DIRECTION.

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

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

APPLICABLE CODE: 2022 CBC

APPENDIX A: TYPICAL MEP DISTRIBUTION SYSTEM 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, AND 13.6.8; AND 2022 CBC, SECTION 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 AND SHALL BE IN ACCORDANCE WITH DSA IR 16-13. EACH SYSTEM SHALL BE DESIGNED BY A STRUCTURAL ENGINEER AND COORDINATED WITH THE STRUCTURAL BUILDING DESIGN.

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

MP ☐ MD ☐ PP ☐ E ☐ - IR 16-13 SECTION 2.1: PROJECT-SPECIFIC DESIGN
SHEET NUMBERS

MP ☒ MD ☒ PP ☐ E ☐ - IR 16-13 SECTION 2.2: DESIGN BASED ON OSHPD OPM, PART OF PROJECT SUBMITTAL
OPM NUMBERS: OPM-0295-13
SHEET NUMBERS: M-902, M-903, M-904, M-905, M-906, M-907, M-908, M-909, & M-910

MP ☐ MD ☐ PP ☐ E ☐ - IR 16-13 SECTION 2.2.6 DESIGN BASED ON OSHPD OPM, DEFERRED APPROVAL

100% CD

AGENCY APPROVAL STAMP

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-124867 INC: A
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 03/12/2026

DSA FILE #: 56-C1
PROJECT TRACKING #: 03-124####

rrm design group
rrmdesign.com | (805) 543-1794

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REGISTERED PROFESSIONAL ENGINEER
MATTHEW RAYENDRA HANLEY
No. M 35961
MECHANICAL
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OXNARD COLLEGE
OE BUILDING ALTERATIONS
4000 S ROSE AVE. OXNARD, CA 93033

MECHANICAL NOTES

NO.	REVISION	DATE

PROJECT MANAGER: MH
DRAWN BY: TP/HM
CHECKED BY: HM/RR
DATE: 12/31/2025
PROJECT NUMBER: 3244-01-ED23
SHEET: M-001

EQUIPMENT SCHEDULE

DH 1 — DEHUMIDIFIER. APRILAIRE E130
225 CFM @ 0.4" W.G. 100 PINTS/DAY @ 70 F
ELEC. DATA - 120 VOLTS @ 12 AMPS
WEIGHT - 98 LBS

DH 1 — DEHUMIDIFIER CONTROL. APRILAIRE PART # 8620
CONNECT TO DH-1

IU 1 — INDOOR UNIT. SAMSUNG MODEL AC030DNHDCG/AA
946 CFM @ 0.58 WC ESP. COOLING CAPACITY RANGE 30,000 BTUH.
OUTDOOR UNIT PROVIDES POWER TO INDOOR UNIT VIA 14 AWG X 3 INTERCONNECT POWER CABLE. (N) PELICAN T-STAT WITH / SAMSUNG MIM-A60UN THERMOSTAT ADAPTER. SAMSUNG MIM-B14 EXTERNAL CONTACT CONTROL FOR (DH-1). SAMSUNG MIM-B14U AND LEAK DETECTOR.
WEIGHT - 98 LBS WITH FILTER BOX WITH MERV 13 FILTER.

OU 1 — OUTDOOR UNIT. SAMSUNG MODEL AC030DXSCCG/AA
COOLING CAPACITY - 30,000 BTUH, HEATING CAPACITY - 35,000 BTUH
ELECTRICAL DATA - 208/1/60 MCA 35 AMPS MOCP 40 AMPS
OUTDOOR UNIT PROVIDES POWER TO INDOOR UNIT.
WEIGHT - 212 LBS.

AIR DISTRIBUTION SCHEDULE

CDT — SUPPLY AIR DIFFUSER. KRUEGER MODEL 6600, PERFORATED FACE, STEEL, WHITE. 24"x24", T-BAR OR SURFACE MOUNT. NECK SIZE ON PLANS.

CDR — CEILING DIFFUSER, ROUND. KRUEGER MODEL RM1, TWO-POSITION HORIZONTAL CORE, STEEL, WHITE, NECK SIZE ON PLANS.

RAG — RETURN AIR GRILLE. KRUEGER MODEL S80, 35° DEFLECTION, STEEL, WHITE. SIZE ON PLANS.

RAT — RETURN AIR REGISTER. KRUEGER MODEL 6690, PERFORATED FACE, STEEL, WHITE. 24"x24", T-BAR OR SURFACE MOUNT. NECK SIZE ON PLANS.

SR — PLASTER MOUNT REGISTER. KRUEGER MODEL 5880. WHITE, SURFACE MOUNT. SEE SIZE ON PLANS.

TG — TRANSFER AIR GRILLE. KRUEGER MODEL S80, 35° DEFLECTION, STEEL, WHITE. SIZE ON PLANS.

TGT — TRANSFER AIR REGISTER. KRUEGER MODEL 6690, PERFORATED FACE, STEEL, WHITE. 24"x24", T-BAR OR SURFACE MOUNT. NECK SIZE ON PLANS.

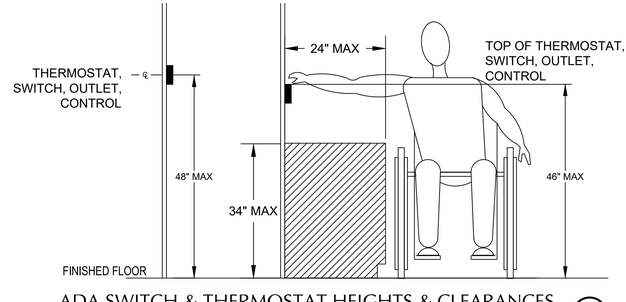
PV 1 — PENTHOUSE VENTILATOR, (INTAKE / RELIEF). RUSKIN MODEL PHM, WITH ELF375X LOVER MODEL. CUSTOM KYNAR COLOR, INSECT SCREEN. INCLUDE SLOPED ROOF CURB. OBTAIN COLOR FROM ARCHITECT. SEE MECHANICAL PLAN FOR SIZES. SEE ARCHITECTURAL PLANS FOR FLASHING DETAILS. OPT. WT. 45#.

SEE MECH. SCHEDULE FOR DESCRIPTIONS	
	VOLUME DAMPER
1	THERMOSTAT
	RETURN AIR PLENUM (LINED)
	SUPPLY AIR PLENUM (LINED)
X 1	EQUIPMENT TAG SEE MECH. SCHEDULE
	ROUND DUCTWORK
	RECTANGULAR DUCTWORK

ABBREVIATIONS

ABBREV.	ABBREVIATIONS
ABV.	ABOVE
APPROX.	APPROXIMATELY
AFF	ABOVE FINISHED FLOOR
AHU	AIR HANDLING UNIT
BLDG	BUILDING
BLW.	BELOW
BTM	BOTTOM
CD	CEILING DIFFUSER
CFM	CUBIC FEET PER MINUTE
CHR	CHILLED WATER RETURN
CHS	CHILLED WATER SUPPLY
CL	CENTERLINE
CLG	CEILING
CONC	CONCRETE
COND	CONDENSATE
CONT	CONTINUED
DIA	DIAMETER
DN	DOWN
DSA	DIVISION OF THE STATE ARCHITECT
DWG	DRAWING
(E)	EXISTING
EA	EACH
EL.ELEV	ELEVATION
ELEC	ELECTRIC
EQ	EQUIPMENT
EQUIP	EQUIPMENT
ESP	EXTERNAL STATIC PRESSURE
EXH	EXHAUST
FIN	FINISHED
FLR	FLOOR
FRM	FROM
G	GAS
GDW	GYPSUM DRYWALL
GPM	GALLONS PER MINUTE
GSM	GALVANIZED STEEL METAL
HP	HORSE POWER
HWR	HOT WATER RETURN (HYDRONIC)
HWS	HOT WATER SUPPLY (HYDRONIC)
MIN.	MINIMUM
MAX.	MAXIMUM
MTL	METAL
(N)	NEW
OC	ON CENTER
POC	POINT OF CONNECTION
PSI	POUNDS PER SQUARE INCH
RAG	RETURN AIR GRILLE
RAR	RETURN AIR REGISTER
SD	SMOKE DETECTOR (SEE EQUIP. SCHEDULE)
SHT	SHEET
SMS	SHEET METAL SCREW
SR	SIDEWALL REGISTER
SOV	SHUT-OFF VALVE
SPEC	SPECIFICATIONS
STL	STEEL
UGND	UNDERGROUND
VD	VOLUME DAMPER (LOCKING)
VTR	VENT TO ROOF
VAV	VARIABLE AIR VOLUME BOX
VFD	VARIABLE FREQUENCY DRIVE
WC	WATER COLUMN
WCO	WALL CLEAN-OUT
(TYP)	TYPICAL

PROVIDE MIN. 30 X 48 CLEAR FLOOR SPACE AT EACH LOCATION FOR PARALLEL OR PERPENDICULAR ACCESS



ADA SWITCH & THERMOSTAT HEIGHTS & CLEARANCES 1

SCALE: NONE

AGENCY APPROVAL STAMP

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-124867 INC: A
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 03/12/2026

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REGISTERED PROFESSIONAL ENGINEER — HUGH MAYENDIA — No. M-35961 — MECHANICAL — STATE OF CALIFORNIA

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OXNARD COLLEGE
OE BUILDING ALTERATIONS
4000 S ROSE AVE. OXNARD, CA 93033

MECHANICAL SCHEDULES

NO.	REVISION	DATE

PROJECT MANAGER: MH
DRAWN BY: TP/HM | CHECKED BY: HM/RR
DATE: 12/31/2025
PROJECT NUMBER: 3244-01-ED23
SHEET: M-002

100% CD

CONTROL SCHEDULE

(N) T# # — THERMOSTAT. PELICAN MODEL TC3. PROGRAMMABLE W/ BUILT-IN CO2 SENSOR & AIR SHIELD. FOR INDOOR UNIT / PKG. RTU CONTROL. INSTALL ALL WIRING IN CONDUIT. INTERNET CONNECTIVITY. PROVIDE REPEATERS AS NEEDED FOR COMMUNICATION WITH GATEWAY.

PT 1 — PELICAN TEMP. & ALARM SENSOR, MODEL TA1. (INSTALL AT ALL FAN COIL SUPPLY PLENUMS)

PE 1 — PELICAN PEARL ECONOMIZER CONTROLLER. PROVIDE & INSTALL ALL NEW PROBES, WIRING, & CONDUITS. ACTUATORS SHALL BE COMPATIBLE WITH PELICAN CONTROLS.

R 1 — REPEATER. PELICAN WR400. INSTALL AS NEEDED FOR CAMPUS WIDE NETWORK. ELECT. 110 V. BUDGET 6 ADDITIONAL PER CAMPUS.

A 1 — ACTUATOR. BELIMO DAMPER ACTUATOR AT BYPASS DAMPERS & VVT DAMPERS. (SHALL BE COMPATIBLE WITH PELICAN SYSTEMS).

Oxnard College

CLIMATE CONTROLS

OXNARD COLLEGE
OCCUPATIONAL EDUCATION BLDG
4000 S ROSE AVENUE
OXNARD, CA 93033

NETWORK COMMUNICATION

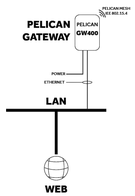
COMMUNICATION SHALL BE ESTABLISHED ACROSS THE CAMPUS OVER PELICAN'S WIRELESS MESH NETWORK.

(G) A SINGLE (1)PELICAN GATEWAY SHALL BE INSTALLED AT THE PRIMARY CAMPUS, UNLESS ADVISED OTHERWISE BY PELICAN TECHNICAL SUPPORT. GATEWAY SHALL BE INSTALLED CENTRAL TO CAMPUS LAYOUT AS ILLUSTRATED TO THE RIGHT. CONTROLS CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE WITH DISTRICT INTERNET TECHNOLOGIES DEPARTMENT TO BE PROVIDED AN AVAILABLE ETHERNET PORT AT REQUIRED LOCATION. CONTROLS CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE WITH DISTRICT TO BE PROVIDED AN AVAILABLE AND SECURE 120VAC POWER CONNECTION. IF DISTRICT ALREADY HAS A GATEWAY INSTALLED AT CAMPUS, GATEWAY SHALL BE RE-LOCATED TO NEW LOCATION. DO NOT INSTALL GATEWAYS ON NETWORK RACKS OR NEXT TO OTHER NETWORK OR WIRELESS EQUIPMENT.

(R) PELICAN REPEATER(S) SHALL BE INSTALLED AT THE CAMPUS AS ILLUSTRATED IN THE DIAGRAM TO THE RIGHT, UNLESS ADVISED OTHERWISE BY PELICAN TECHNICAL SUPPORT. EACH REPEATER SHALL BE INSTALLED IN THE ILLUSTRATED GENERAL VISCINITY TO BRIDGE COMMUNICATION BETWEEN BUILDINGS. CONTROLS CONTRACTOR TO COORDINATE WITH FACILITY FOR THE PROVISION OF SECURE AND STABLE 120VAC POWER CONNECTIONS FOR EACH REPEATER. REPEATER(S) SHALL BE INSTALLED IN A LOCATION ONLY ACCESSIBLE TO AUTHORIZED PERSONNEL. DO NOT INSTALL REPEATER(S) ON NETWORK RACKS OR NEXT TO OTHER NETWORK OR WIRELESS EQUIPMENT. ADDITIONAL REPEATERS SHALL BE INSTALLED, IF NEEDED, TO BRIDGE THE ENTIRE CAMPUS INTO THE PELICAN WIRELESS MESH NETWORK.

NOTE: ALL PELICAN DEVICES EQUIPPED WITH WIRELESS ANTENNAS ACT AS WIRELESS REPEATERS IN THE WIRELESS NETWORK (NOT SHOWN IN NETWORK DIAGRAM TO THE RIGHT). PELICAN REPEATER(S) (PART#:WR400) UTILIZED FOR GREATER WIRELESS RANGE.

CONTROLS CONTRACTOR IS RESPONSIBLE TO WORK WITH PELICAN TECHNICAL SUPPORT TO ESTABLISH BEST PRACTICES WHEN IT COMES TO NETWORK ESTABLISHMENT.



MFG	PART NUMBER	PART NAME	QTY
PELICAN	GW400	PELICAN GATEWAY	1
PELICAN	WR900	PELICAN REPEATER	3

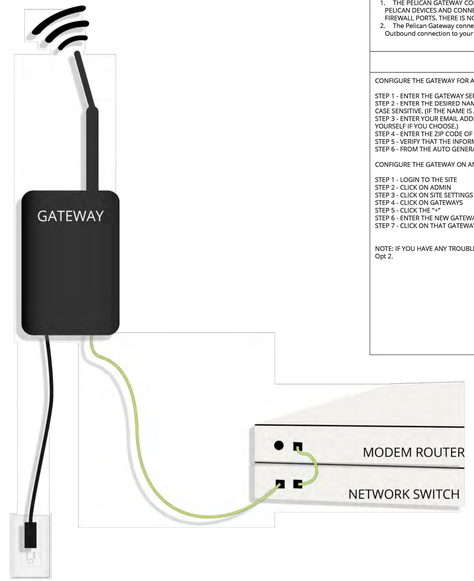
PELICAN

PROJECT NUMBER:
P-25012810

CLIMATE CONTROLS UPGRADES

REV01: 01/28/25

PAGE: 1 of 12



NOTES

NOTE 1: DEVICE WILL REQUIRE POWER FROM AN UNINTERRUPTED 120V POWER SOURCE.

NOTE 2: INSTALL IN A LOCATION THAT IS HIGH ON THE WALL WITH THE ANTENNA POINTED STRAIGHT UP.

NOTE 3: LINE OF SITE TO PELICAN DEVICES FROM THE GATEWAY ARE NOT TO BE OBSTRUCTED BY ANY SOLID METAL STRUCTURE, BUNDLE OF WIRING, OR METAL PIPING..

NOTE 4: DO NOT PLACE WITHIN 10 FEET OF ANY OTHER WIRELESS EMITTING DEVICE OR HIGH VOLTAGE SOURCE OR DEVICE SUCH AS TRANSFORMERS, MOTORS, VFDs, OR SWITCHGEAR.

NOTE 5: PLUG CAT5 CABLE INTO CUSTOMERS INTERNET SWITCH FOR OUTBOUND ACCESS TO THE INTERNET.

NOTE 6: FOR ASSISTANCE WITH CONFIGURING THE GATEWAY FOR STATIC IP CONTACT PELICAN TECHINICAL SUPPORT.

OPERATING CHARACTERISTICS

1. THE PELICAN GATEWAY COMMUNICATES THE PELICAN WIRELESS NETWORK UTILIZING IEEE STANDARD 802.15.4 AT 2.4GHZ LOCALLY WITH ALL PELICAN DEVICES AND CONNECTS THEM TO THE PELICAN CLOUD OVER AN ENCRYPTED VLAN CONNECTION THROUGH OUTBOUND ONLY FIREWALL PORTS. THERE IS NO PUBLIC IP ASSIGNED AND MAPPED TO ANY INTERNAL CUSTOMER LOCATION.
2. The Pelican Gateway connects to your network router or switch. It recieves a DHCP IP address (static IP is optional) and will establish an Outbound connection to your Pelican App.

CONFIGURATIONS

CONFIGURE THE GATEWAY FOR A NEW SITE: GO TO WWW.PELICANWIRELESS.COM > NEW SITE SETUP

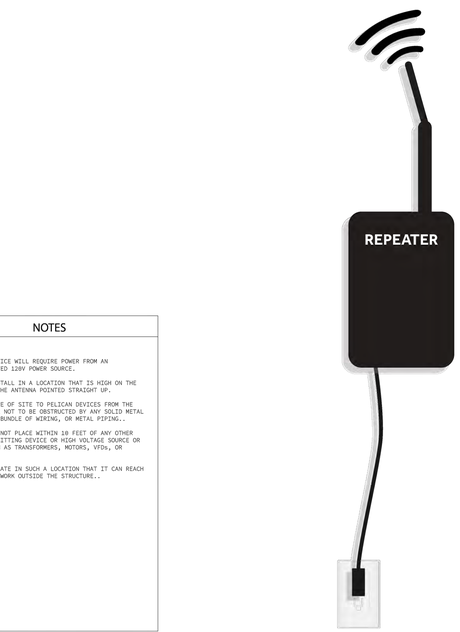
STEP 1 - ENTER THE GATEWAY SERIAL NUMBER
STEP 2 - ENTER THE DESIRED NAME OF THE SITE WITH NO SPACES. LETTERS, NUMBERS, DASH, AND UNDERSCORE ARE ACCEPTABLE. THE NAME IS NOT CASE SENSITIVE. (IF THE NAME IS ALREADY IN USED YOU WILL BE NOTIFIED.)
STEP 3 - ENTER YOUR EMAIL ADDRESS AS THE ADMINISTRATOR. (YOU CAN ADD AS MANY ADMINISTRATORS AND USERS LATER AS WELL AS REMOVE YOURSELF IF YOU CHOOSE.)
STEP 4 - ENTER THE ZIP CODE OF THE LOCATION WHERE YOU ARE INSTALLING.
STEP 5 - VERIFY THAT THE INFORMATION, ESPECIALLY THE EMAIL ADDRESS, IS CORRECT AND CLICK SUBMIT.
STEP 6 - FROM THE AUTO GENERATED EMAIL (POSSIBLY IN YOUR SPAM FOLDER) LOGIN TO THE SITE.

CONFIGURE THE GATEWAY ON AN EXISTING SITE: GO TO THE SITE NAME OF THE EXISTING SITE.

STEP 1 - LOGIN TO THE SITE
STEP 2 - CLICK ON ADMIN
STEP 3 - CLICK ON SITE SETTINGS
STEP 4 - CLICK ON GATEWAYS
STEP 5 - CLICK THE "+"
STEP 6 - ENTER THE NEW GATEWAY SERIAL NUMBER.
STEP 7 - CLICK ON THAT GATEWAY AND ENTER THE NAME OF THE ROOM IT IS LOCATED IN.

NOTE: IF YOU HAVE ANY TROUBLE WITH THIS STEP PLEASE CONTACT PELICAN WIRELESS SUPPORT AT support@pelicanwireless.com or 888-512-0490 Opt 2.

PROJECT NUMBER:	DRAWING NUMBER:	REV. NO.	BUILDING:	DRAWING TITLE:	DRAWN BY:	DATE CREATED:			PAGE:
P-25012810	D-25012810-1	REV01		PELICAN GATEWAY	CM	01/28/25	OXNARD COLLEGE OCCUPATIONAL EDUCATION BLDG	PELICAN	2 of 12



NOTES

NOTE 1: DEVICE WILL REQUIRE POWER FROM AN UNINTERRUPTED 120V POWER SOURCE.

NOTE 2: INSTALL IN A LOCATION THAT IS HIGH ON THE WALL WITH THE ANTENNA POINTED STRAIGHT UP.

NOTE 3: LINE OF SITE TO PELICAN DEVICES FROM THE GATEWAY ARE NOT TO BE OBSTRUCTED BY ANY SOLID METAL STRUCTURE, BUNDLE OF WIRING, OR METAL PIPING..

NOTE 4: DO NOT PLACE WITHIN 10 FEET OF ANY OTHER WIRELESS EMITTING DEVICE OR HIGH VOLTAGE SOURCE OR DEVICE SUCH AS TRANSFORMERS, MOTORS, VFDs, OR SWITCHGEAR.

NOTE 5: LOCATE IN SUCH A LOCATION THAT IT CAN REACH THE LITE NETWORK OUTSIDE THE STRUCTURE..

OPERATING CHARACTERISTICS

1. THE PELICAN REPEATER COMMUNICATES THE PELICAN WIRELESS NETWORK UTILIZING IEEE STANDARD 802.15.4 AT 2.4GHZ LOCALLY WITH ALL PELICAN DEVICES AND CONNECTS THEM TO THE PELICAN CLOUD OVER AN ENCRYPTED VLAN CONNECTION THROUGH OUTBOUND ONLY FIREWALL PORTS. THERE IS NO PUBLIC IP ASSIGNED AND MAPPED TO ANY INTERNAL CUSTOMER LOCATION.
2. THE PELICAN REPEATER EXTENDS THE PELICAN NETWORK SIGNAL AS NEEDED.

CONFIGURATIONS

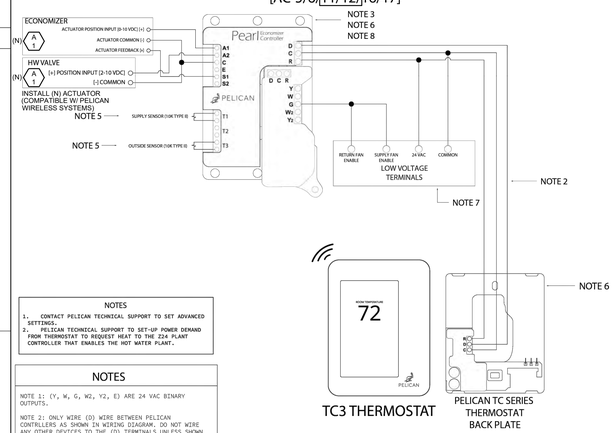
Configuration with Pelican WebApp: Go to - ADMIN > NETWORK MAP> and select the correct serial number.

Put the building and room number as the name. e.g. BLDG1RM201, or BLDG76RM400

NOTE: IF YOU HAVE ANY TROUBLE WITH THIS STEP PLEASE CONTACT PELICAN WIRELESS SUPPORT AT support@pelicanwireless.com or 888-512-0490 Opt 2.

PROJECT NUMBER:	DRAWING NUMBER:	REV. NO.	BUILDING:	DRAWING TITLE:	DRAWN BY:	DATE CREATED:			PAGE:
P-25012810	D-25012810-2	REV01		PELICAN REPEATER	CM	01/28/25	OXNARD COLLEGE OCCUPATIONAL EDUCATION BLDG	PELICAN	3 of 12

AC UNIT WITH HW COIL & ECONOMIZER (TYPICAL OF 6) [AC-~~5/6~~/11/12/~~16/17~~]



NOTES

1. CONTACT PELICAN TECHNICAL SUPPORT TO SET ADVANCED SETTINGS.
2. PELICAN TECHNICAL SUPPORT TO SET-UP POWER DEMAND FROM THERMOSTAT TO REQUEST HEAT TO THE Z24 PLANT CONTROLLER THAT ENABLES THE HOT WATER PLANT.

NOTES

NOTE 1: (Y, W, G, W2, Y2, E) ARE 24 VAC BINARY OUTPUTS.

NOTE 2: ONLY WIRE (O) WIRE BETWEEN PELICAN CONTRLLERS AS SHOWN IN WIRING DIAGRAM. DO NOT WIRE ANY OTHER DEVICES TO THE (O) TERMINALS UNLESS SHOWN ON DIAGRAM.

NOTE 3: CONTROLLER TO BE INSTALLED INSIDE CONTROL PANEL.

NOTE 4: THERMOSTAT TO BE INSTALLED IN SPACE WHERE SYSTEM IS SUPPLYING AIR. LOCATION SHALL PROPERLY REPRESENT THE TEMPERATURE OF THE ENTIRE AREA BEING CONDITIONED/VENTILATED. SHALL BE MOUNTED AND INSTALLED TO MEET ALL APPLICABLE CODES.

NOTE 5: ALL TEMPERATURE PROBES TO BE 10K TYPE 2.

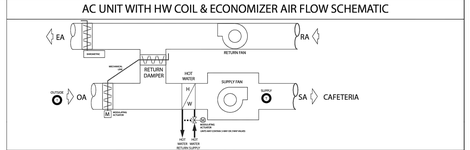
NOTE 6: ONLY WIRE ONE (1) WIRE PER TERMINAL ON EACH PELICAN DEVICE. USE WIRE NUTS WHERE REQUIRED.

NOTE 7: A SINGLE COMMON TRANSFORMER CAN BE USED FOR ALL CONTROLS.

NOTE 8: (A1) & (A2) ARE 0-10 VDC ANALOG OUTPUTS.

MFG	PART NUMBER	PART NAME	QTY
PELICAN	TC3	TEMP & CO2 THERMOSTAT	6
PELICAN	PEARL	ADVANCED ROOFTOP CONTROLLER	6

AC UNIT WITH HW COIL & ECONOMIZER AIR FLOW SCHEMATIC



SEQUENCE OF OPERATIONS

NORMAL OPERATIONS:
OCCUPIED MODE: THE AHU WILL MAINTAIN
1. THERMOSTATS SHALL BE SET TO 68°F (ADJ) ROOM HEAT SET POINT, 73°F (ADJ) ROOM COOL SET POINT, AND FAN TO ON.
2. OUTSIDE DAMPER SHALL OPEN TO MINIMUM AIRFLOW RATE (SET BY TAB), SUPPLY FAN SHALL RUN AND BE MODULATED BY EMS.

UNOCCUPIED MODE (NIGHT SETBACK), SCHEDULED FROM PELICAN EMS,:
1. UNOCCUPIED SET-BACK ACCORDING TO CUSTOMER COMFORT AND ENERGY STANDARDS.
2. OUTSIDE DAMPER SHALL BE CLOSED
3. FAN SHALL BE IN STANDBY.
4. HEATING SHALL BE IN STANDBY.
5. ZONE SET POINT ADJUSTMENT: THE OCCUPANT WILL BE ABLE TO ADJUST THE TEMPERATURE SET POINTS AT EACH THERMOSTAT. USER DEFINABLE SET POINT LIMITS SHALL BE IN PLACE.

MORNING START:
1. THE OCCUPIED SCHEDULE SHALL USE OPTIMUM START, THE THERMOSTAT SHALL BE SCHEDULED FOR THE TIME WHEN OCCUPANTS NORMALLY ARRIVE AND SHALL AUTO-CALCULATE WHEN TO START THE UNIT TO BRING ROOM TO THE OCCUPIED TEMPERATURE SET POINTS.
2. AT LEAST 1 HOUR BEFORE OCCUPANCY, THERMOSTAT SHALL CALL FOR FAN/VENTILATION. OUTSIDE DAMPER SHALL OPEN TO MIN DAMPER POSITION (SET BY TAB) AND SUPPLY FAN SHALL MODULATE FOR VENTILATION.

HEATING MODES:
1. THERMOSTATS SHALL MONITOR THE ROOM TEMPERATURES. IF THE ROOM TEMPERATURE IS BELOW THE HEAT SET POINT, THERMOSTATS SHALL ENABLE HEAT AND MODULATE OUTPUT TO PROPERLY HEAT THE SPACE. ONCE THE ROOM IS SATISFIED, HEAT SHALL BE DISABLED.
2. DURING HEATING CYCLE, SUPPLY FAN SHALL BE ACTIVE.

DEMAND VENTILATION:
1. IF THE CO2 LEVEL IN THE ROOM RISES ABOVE 800 PPM (ADJ) THE OUTSIDE DAMPER SHALL MODULATE BEYOND THE MINIMUM POSITION. IT SHALL CONTINUE TO OPEN, IN RELATION TO CO2 RISE, UNTIL BEING AT THE MAXIMUM DAMPER POSITION (SET BY TAB).

ECONOMIZER
1. IF OUTSIDE AIR IS BELOW THE ROOM TEMPERATURE BY AT LEAST 4°F, THERMOSTAT SHALL ALLOW FOR ECONORIZER CYCLE TO COOL ROOM.

SAFETIES AND ALARMS:
1. FAULTS SHALL ALARM TO THE PELICAN EMS.
2. TITLE 24 FOD SHALL BE ENFORCED
3. DUCT SMOKE DETECTOR(S) ARE TO BE HARD WIRED TO STOP THE EQUIPMENT SUPPLY WHEN PRODUCTS OF COMBUSTION ARE DETECTED IN THE AIR STREAM.

CONFIGURATIONS

TC3 (THERMOSTAT)

NAME: (NAME)
GROUP: (BLDG)
DESCRIPTION: AC-X

SYSTEM TYPE: CONVENTIONAL
HEAT STAGES: 2 (VARIABLE)
COOL STAGES: 0
FAN STAGES: 1
HEAT NEEDS FAN: YES

§ADVANCED SETTINGS§
VARIABLE TEMPERATURE:
TYPE: HEAT
HEAT ACTUATOR VOLTAGE:
OPEN: 10.0
CLOSED: 2.0
HEAT SIGNAL OUTPUT: A2

ALWAYS ACTIVE: NO
INITIAL ACTUATOR POSITION: 30%
CHANGE DELAY MINUTE: 1
MODERATE HEAT TARGET: 80°F
AGGRESSIVE HEAT TARGET: 100°F
§END ADVANCED SETTINGS§

TEMPERATURE SETTINGS:
(LEAVE DEFAULTS)

THERMOSTAT OPERATION:
(LEAVE DEFAULTS)

ECONOMIZER: ON
AUTO CONFIGURE: NO
HIGH LIMIT: AUTO
ACTIVE DIFFERENTIAL: 2°F
FIXED ENTHALPY: NO
VARIABLE DAMPER: YES

DAMPER VOLTAGES:
OPEN: 10.0
CLOSED: 2.0
MINIMUM POSITION: 100%
TRACK DAMPER POSITION: YES
DEMAND VENTILATION: YES
MAXIMUM VENT POSITION: 100%

VARIABLE SPEED FAN: OFF

INPUT SENSOR T1: ON
FUNCTION: SUPPLY TEMPERATURE

INPUT SENSOR T2: OFF

INPUT SENSOR T3: ON
FUNCTION: OUTSIDE TEMPERATURE

PROJECT NUMBER:	DRAWING NUMBER:	REV. NO.	BUILDING:	DRAWING TITLE:	DRAWN BY:	DATE CREATED:			PAGE:
P-25012810	D-25012810-3	REV01		AC UNIT W/ HW COIL & ECONOMIZER CONTROL	CM	01/28/25	OXNARD COLLEGE OCCUPATIONAL EDUCATION BLDG	PELICAN	4 of 12

AGENCY APPROVAL STAMP

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-124867 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 03/12/2026

DSA FILE #: 56-C1
PROJECT TRACKING #: 03-124###

rrm design group

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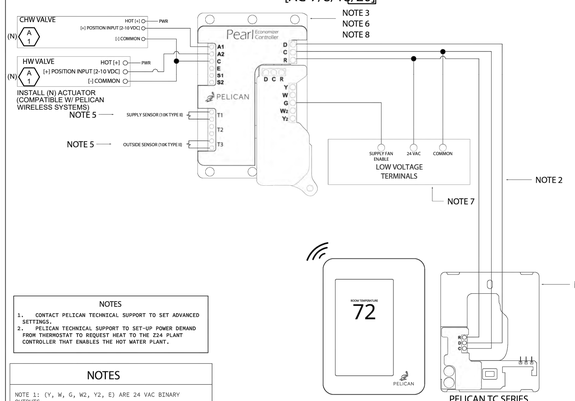
MECHANICAL CONTROLS

NO.	REVISION	DATE

PROJECT MANAGER
MH
DRAWN BY: TP/HM
CHECKED BY: HM/RR
DATE
12/31/2025
PROJECT NUMBER
3244-01-ED23
SHEET
M-003

100% CD

AC UNIT WITH CHW/HW COIL (TYPICAL OF 4) [AC-~~7/8/18~~/20]



TC3 THERMOSTAT

PELICAN TC SERIES THERMOSTAT BACK PLATE

NOTES

1. CONTACT PELICAN TECHNICAL SUPPORT TO SET ADVANCED SETTINGS.
2. PELICAN TECHNICAL SUPPORT TO SET-UP POWER DEMAND FROM THERMOSTAT TO REQUEST HEAT TO THE Z24 PLANT CONTROLLER THAT ENABLES THE HOT WATER PLANT.

NOTES

NOTE 1: (Y, W, G, W2, Y2, E) ARE 24 VAC BINARY OUTPUTS.

NOTE 2: ONLY WIRE (O) WIRE BETWEEN PELICAN CONTRILLERS AS SHOWN IN WIRING DIAGRAM. DO NOT WIRE ANY OTHER DEVICES TO THE (O) TERMINALS UNLESS SHOWN ON DIAGRAM.

NOTE 3: CONTROLLER TO BE INSTALLED INSIDE CONTROL PANEL.

NOTE 4: THERMOSTAT TO BE INSTALLED IN SPACE WHERE SYSTEM IS SUPPLYING AIR. LOCATION SHALL PROPERLY REPRESENT THE TEMPERATURE OF THE ENTIRE AREA BEING CONDITIONED/VENTILATED. SHALL BE MOUNTED AND INSTALLED TO MEET ALL APPLICABLE CODES.

NOTE 5: ALL TEMPERATURE PROBES TO BE 10K TYPE 2.

NOTE 6: ONLY WIRE ONE (1) WIRE PER TERMINAL ON EACH PELICAN DEVICE. USE WIRE NUTS WHERE REQUIRED.

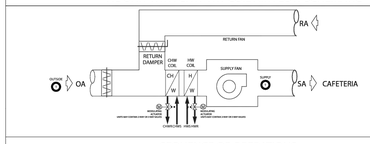
NOTE 7: A SINGLE COMMON TRANSFORMER CAN BE USED FOR ALL CONTROLS.

NOTE 8: (A1) & (A2) ARE 0-10 VDC ANALOG OUTPUTS.

MFG	PART NUMBER	PART NAME	QTY
PELICAN	TC3	TEMP & CO2 THERMOSTAT	4
PELICAN	PEARL	ADVANCED ROOFTOP CONTROLLER	4

PROJECT NUMBER:	DRAWING NUMBER:	REV. NO.	BUILDING:	DRAWING TITLE:
P-25012810	D-25012810-5	REV01		AC UNIT W/ CHW/HHW COIL CONTROL

AC UNIT WITH CHW/HW COIL AIR FLOW SCHEMATIC



SEQUENCE OF OPERATIONS

NORMAL OPERATIONS:
OCCUPIED MODE: THE AHU WILL MAINTAIN
1. THERMOSTATS SHALL BE SET TO 68°F (ADJ) ROOM HEAT SET POINT, 73°F (ADJ) ROOM COOL SET POINT, AND FAN TO ON.
2. OUTSIDE DAMPER SHALL OPEN TO MINIMUM AIRFLOW RATE (SET BY TAB), SUPPLY FAN SHALL RUN AND BE MODULATED BY EMS.

UNOCCUPIED MODE (NIGHT SETBACK), SCHEDULED FROM PELICAN EMS,:
1. UNOCCUPIED SET-BACK ACCORDING TO CUSTOMER COMFORT AND ENERGY STANDARDS.
2. OUTSIDE DAMPER SHALL BE CLOSED
3. FAN SHALL BE IN STANDBY.
4. HEATING SHALL BE IN STANDBY.
5. ZONE SET POINT ADJUSTMENT: THE OCCUPANT WILL BE ABLE TO ADJUST THE TEMPERATURE SET POINTS AT EACH THERMOSTAT. USER DEFINABLE SET POINT LIMITS SHALL BE IN PLACE.

MORNING START:
1. THE OCCUPIED SCHEDULE SHALL USE OPTIMUM START, THE THERMOSTAT SHALL BE SCHEDULED FOR THE TIME WHEN OCCUPANTS NORMALLY ARRIVE AND SHALL AUTO-CALCULATE WHEN TO START THE UNIT TO BRING ROOM TO THE OCCUPIED TEMPERATURE SET POINTS.
2. AT LEAST 1 HOUR BEFORE OCCUPANCY, THERMOSTAT SHALL CALL FOR FAN/VENTILATION. OUTSIDE DAMPER SHALL OPEN TO MIN DAMPER POSITION (SET BY TAB) AND SUPPLY FAN SHALL MODULATE FOR VENTILATION.

HEATING MODES:
1. THERMOSTATS SHALL MONITOR THE ROOM TEMPERATURES. IF THE ROOM TEMPERATURE IS BELOW THE HEAT SET POINT, THERMOSTATS SHALL ENABLE HEAT AND MODULATE OUTPUT TO PROPERLY HEAT THE SPACE. ONCE THE ROOM IS SATISFIED, HEAT SHALL BE DISABLED.
2. DURING HEATING CYCLE, SUPPLY FAN SHALL BE ACTIVE.

DEMAND VENTILATION:
1. IF THE CO2 LEVEL IN THE ROOM RISES ABOVE 800 PPM (ADJ) THE OUTSIDE DAMPER SHALL MODULATE BEYOND THE MINIMUM POSITION. IF SHALL CONTINUE TO OPEN, IN RELATION TO CO2 RISE, UNTIL BEING AT THE MAXIMUM DAMPER POSITION (SET BY TAB).

ECONOMIZER
1. IF OUTSIDE AIR IS BELOW THE ROOM TEMPERATURE BY AT LEAST 4°F, THERMOSTAT SHALL ALLOW FOR ECONOMIZER CYCLE TO COOL ROOM.

SAFETIES AND ALARMS:
1. FAULTS SHALL ALARM TO THE PELICAN EMS.
2. TITLE 24 FOD SHALL BE ENFORCED
3. DUCT SMOKE DETECTOR(S) ARE TO BE HARD WIRED TO STOP THE EQUIPMENT SUPPLY WHEN PRODUCTS OF COMBUSTION ARE DETECTED IN THE AIR STREAM.

CONFIGURATIONS

TC3 (THERMOSTAT)

NAME: (NAME)
GROUP: (GROUP)
DESCRIPTION: AC-X

SYSTEM TYPE: CONVENTIONAL
HEAT STAGES: 2 (VARIABLE)
COOL STAGES: 2 (VARIABLE)
FAN STAGES: 1
HEAT NEEDS FAN: YES

§ADVANCED SETTINGS§
VARIABLE TEMPERATURE:
TYPE: HEAT & COOL
HEAT ACTUATOR VOLTAGE:
OPEN: 10.0
CLOSED: 2.0
HEAT SIGNAL OUTPUT: A2

ALWAYS ACTIVE: NO
INITIAL ACTUATOR POSITION: 30%
CHANGE DELAY MINUTE: 1
MODERATE HEAT TARGET: 80°F
AGGRESSIVE HEAT TARGET: 100°F
COOL ACTUATOR VOLTAGE:
OPEN: 10.0
CLOSED: 2.0
COOL SIGNAL OUTPUT: A1
ALWAYS ACTIVE: NO
INITIAL ACTUATOR POSITION: 30%
CHANGE DELAY MINUTE: 1
MODERATE COOL TARGET: 60°F
AGGRESSIVE COOL TARGET: 55°F
§END ADVANCED SETTINGS§

TEMPERATURE SETTINGS:
(LEAVE DEFAULTS)

THERMOSTAT OPERATION:
(LEAVE DEFAULTS)

ECONOMIZER: OFF

VARIABLE SPEED FAN: OFF

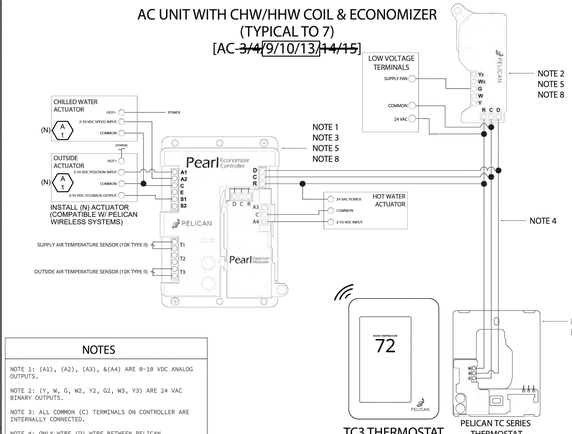
INPUT SENSOR T1: ON
FUNCTION: SUPPLY TEMPERATURE

INPUT SENSOR T2: OFF

INPUT SENSOR T3: ON
FUNCTION: OUTSIDE TEMPERATURE

PROJECT NUMBER:	DRAWING NUMBER:	REV. NO.	BUILDING:	DRAWING TITLE:	DRAWN BY:	DATE CREATED:		PAGE:
P-25012810	D-25012810-5	REV01		AC UNIT W/ CHW/HHW COIL CONTROL	CM	01/28/25	OXNARD COLLEGE OCCUPATIONAL EDUCATION BLDG	6 OF 12

AC UNIT WITH CHW/HHW COIL & ECONOMIZER (TYPICAL TO 7) [AC-~~3/4~~/9/10/13/~~14/15~~]



TC3 THERMOSTAT

PELICAN TC SERIES THERMOSTAT BACK PLATE

NOTE 6
NOTE 8

NOTES

NOTE 1: (A1), (A2), (A3), &(A4) ARE 0-10 VDC ANALOG OUTPUTS.

NOTE 2: (Y, W, G, W2, Y2, G2, W3, Y3) ARE 24 VAC BINARY OUTPUTS.

NOTE 3: ALL COMMON (C) TERMINALS ON CONTROLLER ARE INTERNALLY CONNECTED.

NOTE 4: ONLY WIRE (O) WIRE BETWEEN PELICAN CONTROLLERS AS SHOWN IN WIRING DIAGRAM. DO NOT WIRE ANY OTHER DEVICES TO THE (O) TERMINALS UNLESS SHOWN ON DIAGRAM.

NOTE 5: (R1 TO R6) ARE 24 VAC ISOLATION RELAYS. INSTALL NEW AS NEEDED UPON FIELD REVIEW AND TO MEET APPLICATION REQUIREMENTS.

NOTE 6: CONTROLLER TO BE INSTALLED INSIDE CONTROL PANEL.

NOTE 7: ANTENNA AND THERMOSTAT TO BE INSTALLED OUTSIDE CONTROLS PANEL AND OUTSIDE OF ALL METAL ENCLOSURE. ANTENNA AND THERMOSTAT TO BE AWAY FROM METAL OBJECTS THAT WILL BLOCK WIRELESS SIGNAL. MUST BE INSTALLED IN A LOCATION WHERE IT CAN CONNECT AND COMMUNICATE WITH THE PELICAN WIRELESS MESH NETWORK.

NOTE 8: ALL TEMPERATURE PROBES TO BE 10K TYPE 2.

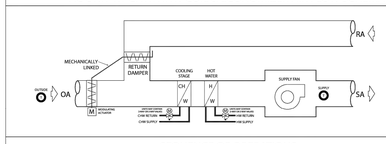
NOTE 9: ONLY WIRE ONE (1) WIRE PER TERMINAL ON EACH PELICAN DEVICE. USE WIRE NUTS WHERE REQUIRED.

NOTE 10: A SINGLE COMMON TRANSFORMER CAN BE USED FOR ALL CONTROLS.

MFG	PART NUMBER	PART NAME	QTY
PELICAN	TC3	TEMP & CO2 THERMOSTAT	7
PELICAN	PEARL	ADVANCED ROOFTOP CONTROLLER	7
PELICAN	PEM-VDC	PEARL EXPANSION MODULE	7

PROJECT NUMBER:	DRAWING NUMBER:	REV. NO.	BUILDING:	DRAWING TITLE:	DRAWN BY:	DATE CREATED:		PAGE:
P-25012810	P-25012810-7	REV01		AC UNIT W/ CHW/HHW COIL & ECON. CNTRL	CM	01/28/25	OXNARD COLLEGE OCCUPATIONAL EDUCATION BLDG	7 OF 12

AC UNIT W/ CHW/HHW COIL & ECONOMIZER AIR FLOW SCHEMATIC



SEQUENCE OF OPERATIONS

NORMAL OPERATIONS:
OCCUPIED MODE: THE AHU WILL MAINTAIN
1. THERMOSTATS SHALL BE SET TO 68°F (ADJ) ROOM HEAT SET POINT, 73°F (ADJ) ROOM COOL SET POINT, AND FAN TO ON.
2. OUTSIDE DAMPER SHALL OPEN TO MINIMUM AIRFLOW RATE (SET BY TAB), SUPPLY FAN SHALL RUN AND BE MODULATED BY EMS.

UNOCCUPIED MODE (NIGHT SETBACK), SCHEDULED FROM PELICAN EMS,:
1. UNOCCUPIED SET-BACK ACCORDING TO CUSTOMER COMFORT AND ENERGY STANDARDS.
2. FAN SHALL BE IN STANDBY.
3. HEATING VAVLE SHALL BE SHUT AND COOLING SHALL BE IN STANDBY.
4. ZONE SET POINT ADJUSTMENT: THE OCCUPANT WILL BE ABLE TO ADJUST THE TEMPERATURE SET POINTS AT EACH THERMOSTAT. USER DEFINABLE SET POINT LIMITS SHALL BE IN PLACE.

MORNING START:
1. THE OCCUPIED SCHEDULE SHALL USE OPTIMUM START, THE THERMOSTAT SHALL BE SCHEDULED FOR THE TIME WHEN OCCUPANTS NORMALLY ARRIVE AND SHALL AUTO-CALCULATE WHEN TO START THE UNIT TO BRING ROOM TO THE OCCUPIED TEMPERATURE SET POINTS.
2. AT LEAST 1 HOUR BEFORE OCCUPANCY, THERMOSTAT SHALL CALL FOR FAN/VENTILATION.

HEATING MODES:
1. THERMOSTATS SHALL MONITOR THE ROOM TEMPERATURES. IF THE ROOM TEMPERATURE IS BELOW THE HEAT SET POINT, THERMOSTATS SHALL MODULATE THE HOT WATER VALVE TO PROPERLY HEAT THE SPACE. ONCE THE ROOM IS SATISFIED, HOT WATER VALVE SHALL BE CLOSED.
2. DURING HEATING CYCLE, SUPPLY FAN SHALL BE ACTIVE.

DEMAND VENTILATION:
1. IF THE CO2 LEVEL IN THE ROOM RISES ABOVE 800 PPM (ADJ) THE FAN SHALL BE FORCED ON, IF NOT ALREADY ENABLED, AND THE OUTSIDE DAMPER SHALL INCREASE ITS VENTILATION POSITION IN RELATION TO THE CO2 RISE. THE OUTSIDE DAMPER SHALL NOT OPEN BEYOND THE MAXIMUM DAMPER POSITION (SET BY TAB).
2. DURING COOLING CYCLE, SUPPLY FAN SHALL BE ACTIVE.

COOLING MODES:
1. THERMOSTATS SHALL MONITOR THE ROOM TEMPERATURES. IF THE ROOM TEMPERATURE IS ABOVE THE COOL SET POINT, THERMOSTATS SHALL MODULATE THE CHILLED WATER VALVE TO PROPERLY COOL THE SPACE. ONCE THE ROOM IS SATISFIED, CHILLED WATER VALVE SHALL BE CLOSED.
2. DURING COOLING CYCLE, SUPPLY FAN SHALL BE ACTIVE.

SAFETIES AND ALARMS:
1. FAULTS SHALL ALARM TO THE PELICAN EMS.

CONFIGURATIONS

TC3 (THERMOSTAT)

NAME: (ROOM NAME)
DESCRIPTION: FC-M#

SYSTEM TYPE: CONVENTIONAL
HEAT STAGES: 2 (VARIABLE)
COOL STAGES: 1
FAN STAGES: 1
HEAT NEEDS FAN: YES

§ADVANCED SETTINGS§
VARIABLE TEMPERATURE:
TYPE: HEAT & COOL
HEAT ACTUATOR VOLTAGE:
OPEN: 10.0
CLOSED: 2.0
HEAT SIGNAL OUTPUT: A3
ALWAYS ACTIVE: NO
INITIAL ACTUATOR POSITION: 30%
CHANGE DELAY MINUTE: 1

MODERATE HEAT TARGET: 100°F
AGGRESSIVE HEAT TARGET: 115°F
COOL ACTUATOR VOLTAGE:
OPEN: 10.0
CLOSED: 2.0
COOL SIGNAL OUTPUT: A2
ALWAYS ACTIVE: NO
INITIAL ACTUATOR POSITION: 30%
CHANGE DELAY MINUTE: 1
MODERATE COOL TARGET: 60°F
AGGRESSIVE COOL TARGET: 55°F
§END ADVANCED SETTINGS§

TEMPERATURE SETTINGS:
(LEAVE DEFAULTS)

THERMOSTAT OPERATION:
(LEAVE DEFAULTS)

ECONOMIZER: ON

AUTO CONFIGURE: NO
HIGH LIMIT: AUTO
ACTIVE DIFFERENTIAL: 2°F
FIXED ENTHALPY: NO
VARIABLE DAMPER: YES
DAMPER VOLTAGES:
OPEN: 10.0
CLOSED: 2.0
MINIMUM POSITION: (SET BY TAB)
TRACK DAMPER POSITION: YES
DEMAND VENTILATION: YES
MAXIMUM VENT POSITION: (SET BY TAB)

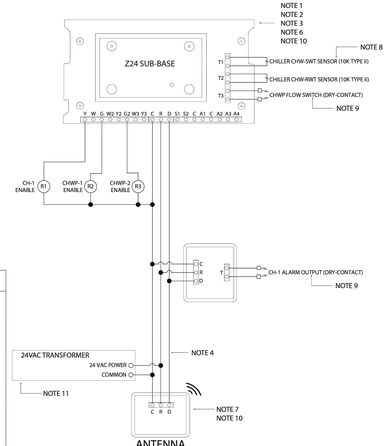
INPUT SENSOR T1: ON
FUNCTION: SUPPLY TEMPERATURE

INPUT SENSOR T2: OFF

INPUT SENSOR T3: ON
FUNCTION: OUTSIDE TEMPERATURE

PROJECT NUMBER:	DRAWING NUMBER:	REV. NO.	BUILDING:	DRAWING TITLE:	DRAWN BY:	DATE CREATED:		PAGE:
P-25012810	P-25012810-10	REV01		CHILLED WATER SYSTEM CONTROL	CM	01/28/25	OXNARD COLLEGE OCCUPATIONAL EDUCATION BLDG	11 of 12

AIR-COOLED CHILLER (TYPICAL TO 1)



ANTENNA

MUST BE OUTSIDE OF ALL METAL ENCLUSERS. DO NOT INSTALL ON METAL SURFACE OR BY ANY METAL OBJECTS.

NOTES

NOTE 1: (A1), (A2), (A3), &(A4) ARE 0-10 VDC ANALOG OUTPUTS.

NOTE 2: (Y, W, G, W2, Y2, G2, W3, Y3) ARE 24 VAC BINARY OUTPUTS.

NOTE 3: ALL COMMON (C) TERMINALS ON CONTROLLER ARE INTERNALLY CONNECTED.

NOTE 4: ONLY WIRE (D) WIRE BETWEEN PELICAN CONTROLLERS AS SHOWN IN WIRING DIAGRAM. DO NOT WIRE ANY OTHER DEVICES TO THE (D) TERMINALS UNLESS SHOWN ON DIAGRAM.

NOTE 5: (R1 TO R6) ARE 24 VAC ISOLATION RELAYS. INSTALL NEW AS NEEDED UPON FIELD REVIEW AND TO MEET APPLICATION REQUIREMENTS.

NOTE 6: CONTROLLER TO BE INSTALLED INSIDE CONTROL PANEL.

NOTE 7: ANTENNA AND THERMOSTAT TO BE INSTALLED OUTSIDE CONTROLS PANEL AND OUTSIDE OF ALL METAL ENCLOSURE. ANTENNA AND THERMOSTAT TO BE AWAY FROM METAL OBJECTS THAT WILL BLOCK WIRELESS SIGNAL. MUST BE INSTALLED IN A LOCATION WHERE IT CAN CONNECT AND COMMUNICATE WITH THE PELICAN WIRELESS MESH NETWORK.

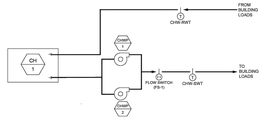
NOTE 8: ALL TEMPERATURE PROBES TO BE 10K TYPE 2.

NOTE 9: ALL CONTACT INPUTS MUST BE DRY-CONTACT (NO VOLTAGE ALLOWED).

NOTE 10: ONLY WIRE ONE (1) WIRE PER TERMINAL ON EACH PELICAN DEVICE. USE WIRE NUTS WHERE REQUIRED.

NOTE 11: A SINGLE COMMON TRANSFORMER CAN BE USED FOR ALL CONTROLS.

AIR-COOLED CHILLER WATER FLOW SCHEMATIC



SEQUENCE OF OPERATIONS

NORMAL OPERATIONS:
VIA PELICAN EMS, THE CHILLER PLANT WILL RUN ACCORDING TO THE USER DEFINABLE TIME SCHEDULE OR THROUGH ON-DEMAND START IN THE FOLLOW MODES:
A. OCCUPIED MODE/BUILDING DEMAND: THE PELICAN EMS UNITARY CONTROLLER(S) WILL MAINTAIN:
1). A CHILLED WATER DISCHARGE TEMPERATURE OF 50°F (ADJ).
B. UNOCCUPIED MODE (NIGHT SETBACK):
1). UNOCCUPIED SET-BACK ACCORDING TO CUSTOMER COMFORT AND ENERGY STANDARDS.
2). CHILLER SHALL BE IN STANOBY FOR AUTOMATED AFTER HOUR USAGE ALLOWANCE.
3). PUMPS SHALL BE IN STANOBY FOR AUTOMATED AFTER HOUR USAGE ALLOWANCE.
C. CHILLED WATER DEMAND:
1). AT START UP, THE PELICAN CHILLER UNITARY CONTROLLER SHALL ENABLE THE LEAD CHILLED WATER PUMP. IF THE LEAD PUMP DOES NOT PROVE ACTIVE, THEN THE STANOBY PUMP SHALL BE ENABLED TO GENERATE FLOW AND AN ALARM SHALL BE GENERATED AT EMS.
2). UPON PROOF OF FLOW THE PELICAN CHILLER UNITARY CONTROLLER SHALL ENABLE THE CHILLER. WHEN THE CHILLER IS ENABLED IT SHALL MODULATE/STAGE ITS OWN MECHANICAL COOLING TO MAINTAIN A TARGET LEAVING WATER TEMPERATURE OF 48°F (ADJ.).
D. THE FOLLOWING WILL BE TRENDED AT THE EMS:
1). CHILLER 1 ENABLED
2). CHILLED WATER PUMP 1 ENABLED
3). CHILLED WATER PUMP 2 ENABLED
4). SUPPLY CHILLED WATER TEMP (°F)
5). RETURN CHILLED WATER TEMP (°F)
6). CHILLED WATER PUMP FLOW VERIFICATION
7). SUPPLY CHILLED WATER TARGET (°F)

CONFIGURATIONS

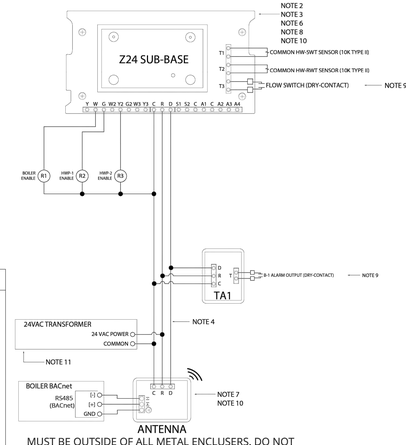
Z24 (PLANT EQUIPMENT CONTROLLER)

CONTROLS CONTRACTOR IS RESPONSIBLE FOR CONTACTING PELICAN TECHNICAL SUPPORT TO RECEIVE THE PLANT CONTROL ANTENNA AND SOFTWARE PROGRAM FOR THE CHILLER CONTROLLER. ONCE ANTENNA IS INSTALLED, CONTRACTOR IS TO WORK WITH PELICAN SALES ENGINEERING TO TEST AND CONFIRM THAT ALL OUTPUTS AND INPUTS ARE CORRECTLY WIRED, ARE OPERATING AS EXPECTED, AND READINGS ARE ACCURATE. UPON APPROVAL, BY PELICAN ENGINEERING, THE PLANT CONTROLLER WILL BE CONFIGURED TO OPERATE THE CHILLER PLANT IN AUTO MODE.

MFG	PART NUMBER	PART NAME	QTY
PELICAN	Z24	PLANT EQUIPMENT CONTROLLER	1
PELICAN	TA1	TEMP & ALARM SENSOR	1

PROJECT NUMBER:	DRAWING NUMBER:	REV. NO.	BUILDING:	DRAWING TITLE:	DRAWN BY:	DATE CREATED:		PAGE:
P-25012810	P-25012810-10	REV01		CHILLED WATER SYSTEM CONTROL	CM	01/28/25	OXNARD COLLEGE OCCUPATIONAL EDUCATION BLDG	11 of 12

HW SYSTEM CONTROL (TYPICAL TO 1)



ANTENNA

MUST BE OUTSIDE OF ALL METAL ENCLUSERS. DO NOT INSTALL ON METAL SURFACE OR BY ANY METAL OBJECTS.

NOTES

NOTE 1: (A1), (A2), (A3), &(A4) ARE 0-10 VDC ANALOG OUTPUTS.

NOTE 2: (Y, W, G, W2, Y2, G2, W3, Y3) ARE 24 VAC BINARY OUTPUTS.

NOTE 3: ALL COMMON (C) TERMINALS ON CONTROLLER ARE INTERNALLY CONNECTED.

NOTE 4: ONLY WIRE (D) WIRE BETWEEN PELICAN CONTROLLERS AS SHOWN IN WIRING DIAGRAM. DO NOT WIRE ANY OTHER DEVICES TO THE (D) TERMINALS UNLESS SHOWN ON DIAGRAM.

NOTE 5: (RS TO R10) ARE 24 VAC ISOLATION RELAYS. INSTALL NEW AS NEEDED UPON FIELD REVIEW AND TO MEET APPLICATION REQUIREMENTS.

NOTE 6: CONTROLLER TO BE INSTALLED INSIDE CONTROL PANEL.

NOTE 7: ANTENNA AND THERMOSTAT TO BE INSTALLED OUTSIDE CONTROLS PANEL AND OUTSIDE OF ALL METAL ENCLOSURE. ANTENNA AND THERMOSTAT TO BE AWAY FROM METAL OBJECTS THAT WILL BLOCK WIRELESS SIGNAL. MUST BE INSTALLED IN A LOCATION WHERE IT CAN CONNECT AND COMMUNICATE WITH THE PELICAN WIRELESS MESH NETWORK.

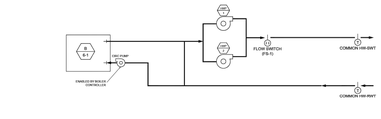
NOTE 8: ALL TEMPERATURE PROBES TO BE 10K TYPE 2.

NOTE 9: ALL CONTACT INPUTS MUST BE DRY-CONTACT (NO VOLTAGE ALLOWED).

NOTE 10: ONLY WIRE ONE (1) WIRE PER TERMINAL ON EACH PELICAN DEVICE. USE WIRE NUTS WHERE REQUIRED.

NOTE 11: A SINGLE COMMON TRANSFORMER CAN BE USED FOR ALL CONTROLS.

HOT WATER FLOW SCHEMATIC



SEQUENCE OF OPERATIONS

NORMAL OPERATIONS:
VIA PELICAN EMS, THE BOILER AND PUMPS WILL RUN ACCORDING TO THE USER DEFINABLE TIME SCHEDULE OR THROUGH ON-DEMAND START IN THE FOLLOW MODES:
A. UNOCCUPIED MODE (BLDG HAS NO HEATING DEMAND):
1. ALL PUMPS SHALL BE OFF.
B. OCCUPIED MODE (BLDG HAS HEATING DEMAND):
1. THE PELICAN BOILER UNITARY CONTROLLER WILL ENABLE THE BOILER.
2. BOILER WILL MAINTAIN:
a. ITS OWN SOFT-STOP INTERLOCK TO A LOCAL FLOW SWITCH, FLOW METER, OR DIFFERENTIAL PRESSURE SENSOR (AS DEFINED BY MFG).
b. ITS OWN STAGES/MODULATING TO MAINTAIN A HOT WATER DISCHARGE TEMPERATURE.
(1) DISCHARGE RANGE SHALL BE 140°F (ADJ) TO 180°F (ADJ.).
c. ITS OWN CIRCULATION PUMP ENABLE/DISABLE OUTPUT.
3. BOILER STAGE-UP SEQUENCE
a. AT START UP, THE LEAD SECONDARY PUMP (CHOSEN BY EMS) SHALL BE ENABLED.
(1) LEAD SECONDARY PUMP SHALL BE CHOSEN BY EMS BASED ON LOWEST RUN-TIME. IF FLOW IS NOT DETECTED, THE STANDBY SECONDARY PUMP SHALL BE ENABLED AND USED AS THE LEAD SECONDARY PUMP (ALARM SHALL BE GENERATED AT EMS).
b. BOILER ENABLE: THE BOILER SHALL BE ENABLED BY EMS. THE BOILER SHALL START ITS CIRCULATION/PRIMARY PUMP AND UPON ITS MFG CONTROLS DETECTION OF FLOW, BOILER SHALL ENABLED ITS GAS BURNER.
4. STAGE-DOWN SEQUENCE
a. IF THERE IS NO HEATING DEMAND FOR 15 MIN (ADJ), THE BOILER SHALL BE DISABLED AND PLACED IN STANDBY. 8 MINUTES AFTER SHUT DOWN (OR AS DEFINED BY BOILER MFG), THE BOILER SHALL DISABLE ITS CIRCULATION/PRIMARY PUMP.
5. IF THERE IS NO HEATING DEMAND FOR 30 MIN (ADJ) SECONDARY PUMP(S) SHALL BE DISABLE AND PLACED IN STANDBY.
C. ALARMS AND SAFETIES:
1. EMS FLOW VERIFICATION: A DRY-CONTACT FLOW SWITCH SHALL BE INSTALLED AFTER THE LEAD/STANDBY SECONDARY PUMPS AND BALANCED BY THE CONTROLS CONTRACTOR TO CLOSE UPON A DETECTION OF MINIMUM FLOW. IF A SECONDARY PUMP IS ENABLED BY EMS, THEN WHEN CONTACT IS CLOSED, EMS SHALL INDICATE FLOW DETECTED. IF A SECONDARY PUMP IS ENABLED BY EMS, AND FLOW IS NOT DETECTED, STANDBY SEQUENCE SHALL INITIATE, FLOW NOT DETECTED SHALL ALARM AT EMS.
2. BOILER FLOW VERIFICATION: SEPARATE FROM THE EMS, LOCAL FLOW SWITCHES, FLOW METERS, OR DIFFERENTIAL PRESSURE SENSORS (AS DEFINED BY THE BOILER MFG) SHALL BE INSTALLED AND WIRED TO THE BOILER. IF THE BOILER IS ENABLED BY EMS, BUT MINIMUM FLOW IS NOT DETECTED, THE BOILER SHALL BE IN A SOFT-STOP INTERLOCK STATE. IF THE BOILER IS ENABLED BY EMS AND MINIMUM FLOW IS DETECTED, THE BOILER SHALL BE ACTIVE. IF AT ANYTIME MINIMUM FLOW IS NOT DETECTED BY THE BOILER, THE BOILER SHALL GO BACK INTO A SOFT-STOP INTERLOCK STATE UNTIL MINIMUM FLOW IS AGAIN DETECTED.
3. IF BOILER GOES INTO ALARM, DRY-CONTACT SHALL CLOSE AND ALARM SHALL BE GENERATED AT EMS: B-1 LOCAL ALARM.
4. THE FOLLOWING WILL BE TRENDED AT THE EMS:
a. BOILER 1 ENABLED, BOILER 1 LEAVING WATER TEMP (°F)
b. BOILER SECONDARY WATER PUMP 1 ENABLED
c. BOILER SECONDARY WATER PUMP 2 ENABLED
d. SUPPLY HOT WATER TEMP (°F)
e. RETURN HOT WATER TEMP (°F)
f. HOT WATER PUMP FLOW VERIFICATION
g. SUPPLY TEMPERATURE TARGET (°F)

CONFIGURATIONS

Z24 (PLANT EQUIPMENT CONTROLLER)

CONTROLS CONTRACTOR IS RESPONSIBLE FOR CONTACTING PELICAN TECHNICAL SUPPORT TO RECEIVE THE PLANT CONTROL ANTENNA AND SOFTWARE PROGRAM FOR THE BOILER AND HWP CONTROLLER. ONCE ANTENNA IS INSTALLED, CONTRACTOR IS TO WORK WITH PELICAN ENGINEERING TO TEST AND CONFIRM THAT ALL OUTPUTS AND INPUTS ARE CORRECTLY WIRED, ARE OPERATING AS EXPECTED, AND READINGS ARE ACCURATE. UPON APPROVAL, BY PELICAN ENGINEERING, THE PLANT CONTROLLER WILL BE CONFIGURED TO OPERATE THE BOILER PLANT IN AUTO MODE.

MFG	PART NUMBER	PART NAME	QTY
PELICAN	Z24	PLANT EQUIPMENT CONTROLLER	1
PELICAN	TA1	TEMP & ALARM SENSOR	1

PROJECT NUMBER:	DRAWING NUMBER:	REV. NO.	BUILDING:	DRAWING TITLE:	DRAWN BY:	DATE CREATED:		PAGE:
P-25012810	P-25012810-11	REV01		HOT WATER SYSTEM CONTROL	CM	01/28/25	OXNARD COLLEGE OCCUPATIONAL EDUCATION BLDG	12 of 12

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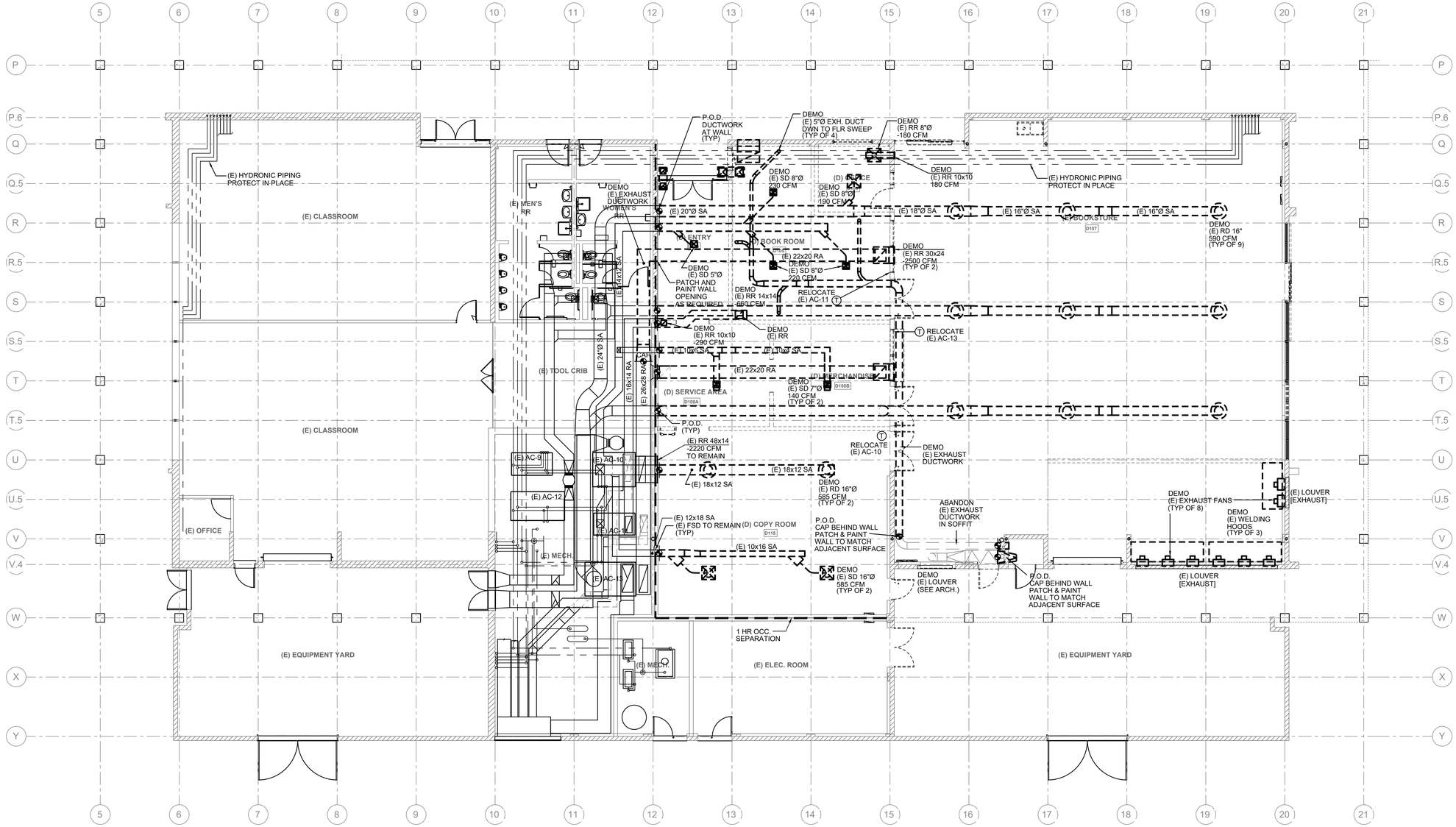
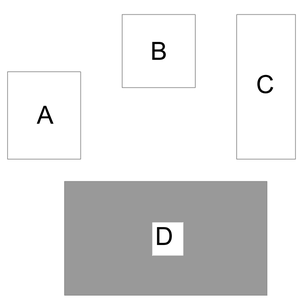


1 EXISTING/DEMO MECHANICAL FLOOR PLAN

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



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BLDG D - EXISTING/DEMO MECHANICAL FLOOR PLAN

NO.	REVISION	DATE
1		
2		
3		
4		
5		

PROJECT MANAGER: MH
DRAWN BY: TP/HM
CHECKED BY: HM/RR
DATE: 12/31/2025
PROJECT NUMBER: 3244-01-ED23
SHEET: M-101

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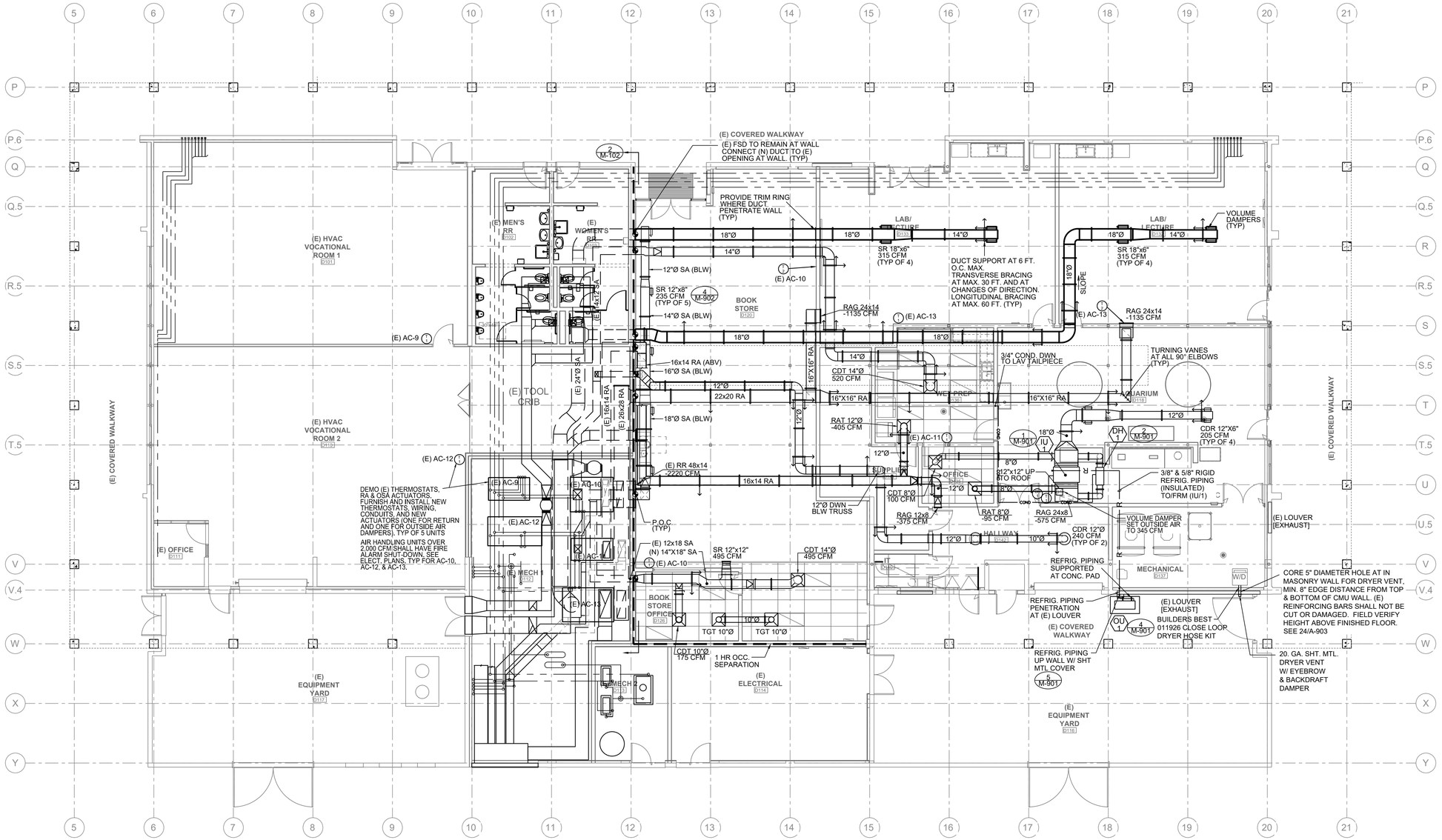
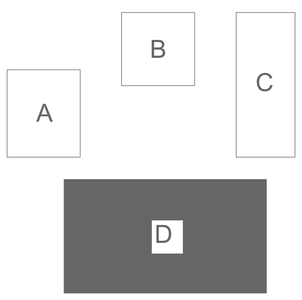
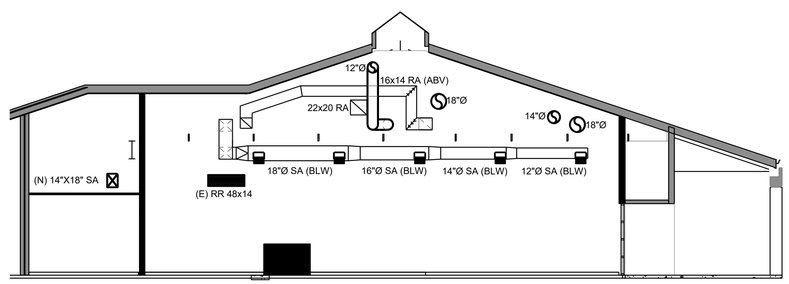


1 MECHANICAL FLOOR PLAN

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

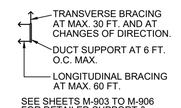




2 MECHANICAL ELEVATION

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

NOTES:
1. EXPOSED SUPPLY AIR DUCT SHALL BE SPIRAL, 1" LINED. INSIDE DIMENSION CLEAR. (TYP).
2. NO NEW DUCT AND PIPE PENETRATION AT (E) STRUCTURAL WALLS ARE PERMITTED UNLESS NOTED ON THE PLANS.



SEE SHEETS M-903 TO M-906 FOR DETAILED SUPPORT & BRACING INFORMATION

3 DUCT SUPPORT LEGEND

NTS

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BLDG D - MECHANICAL
PROPOSED FLOOR PLAN

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PROJECT NUMBER: 3244-01-ED23
SHEET: M-102

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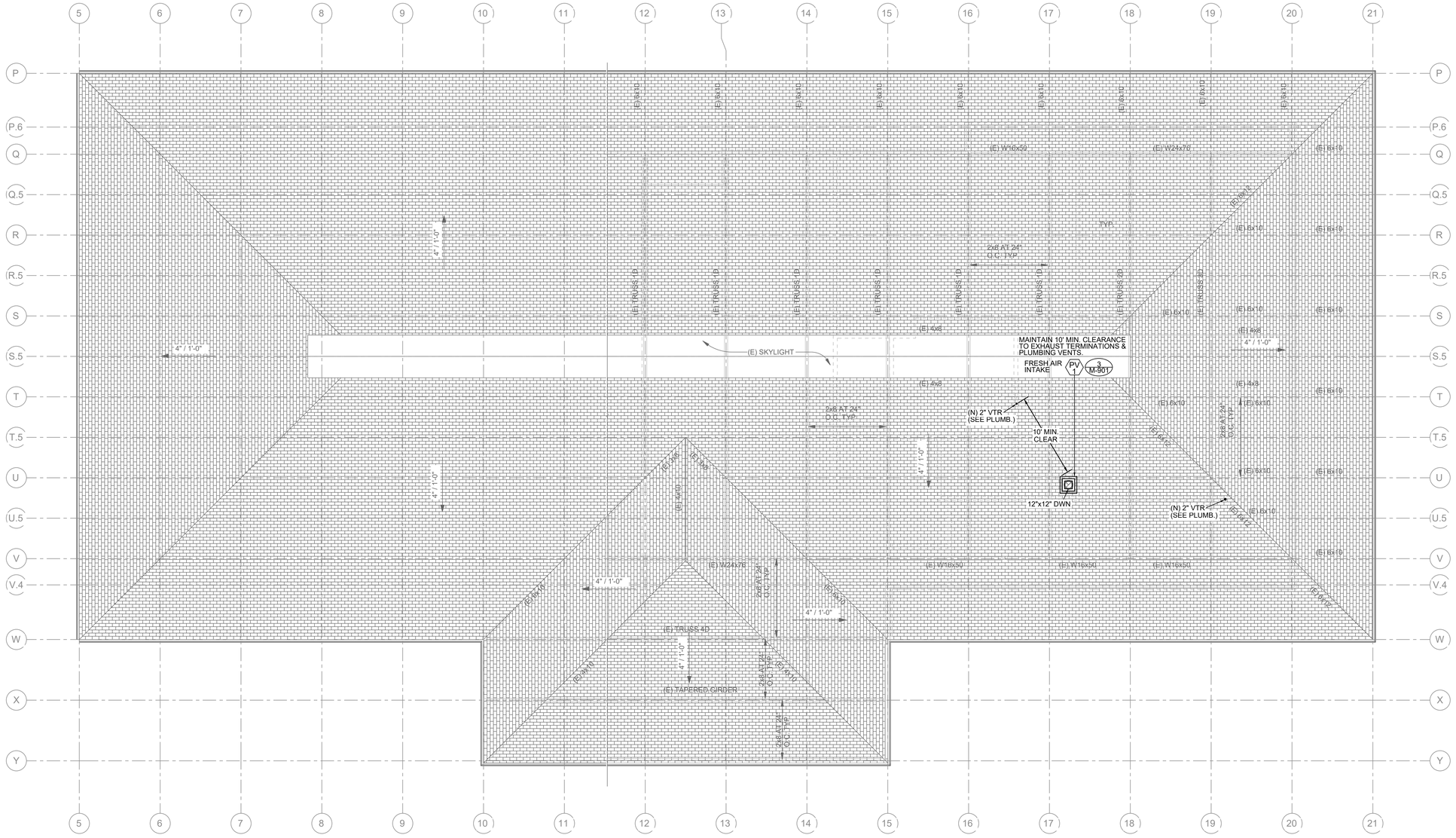
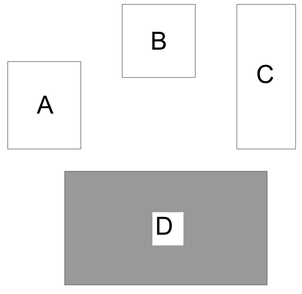


1 MECHANICAL ROOF PLAN

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



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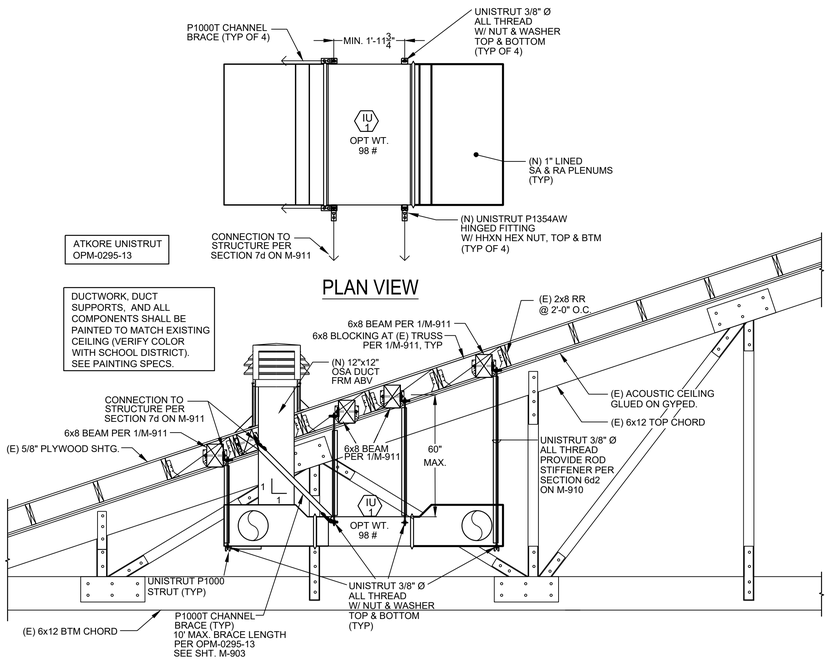
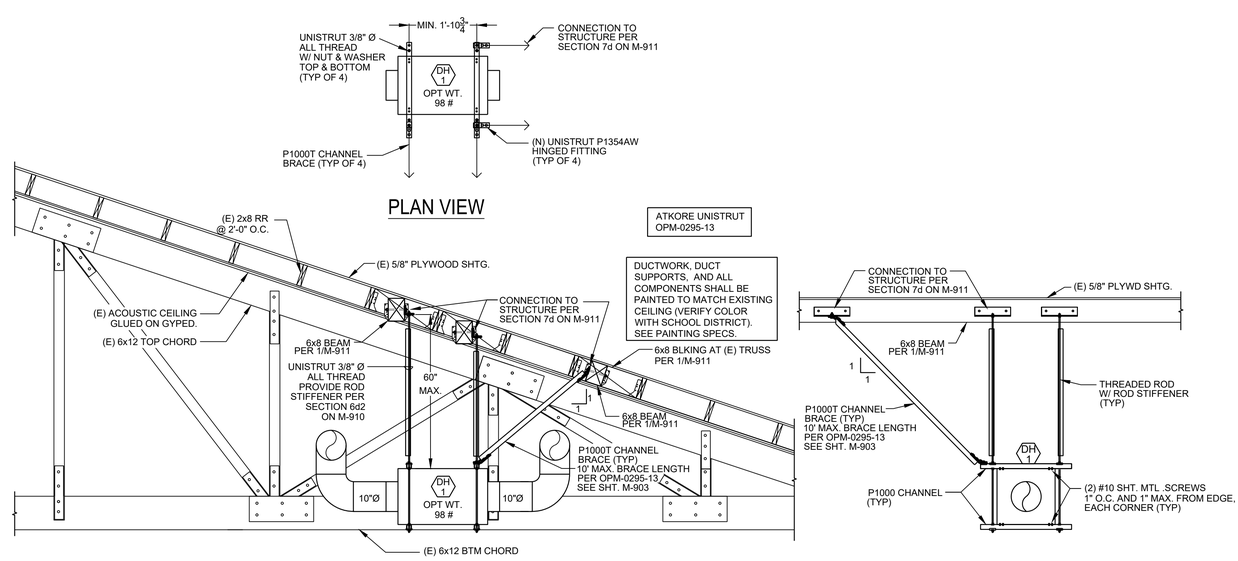


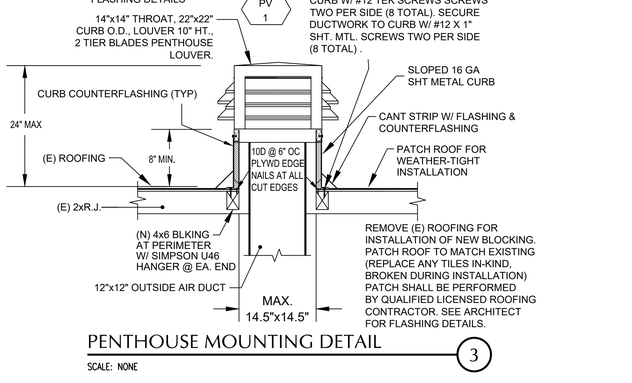
INDOOR UNIT SUPPORT DETAIL 1

SCALE: NONE



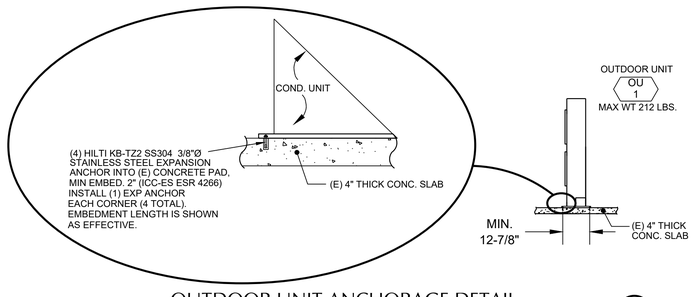
DEHUMIDIFIER SUPPORT DETAIL 2

SCALE: NONE



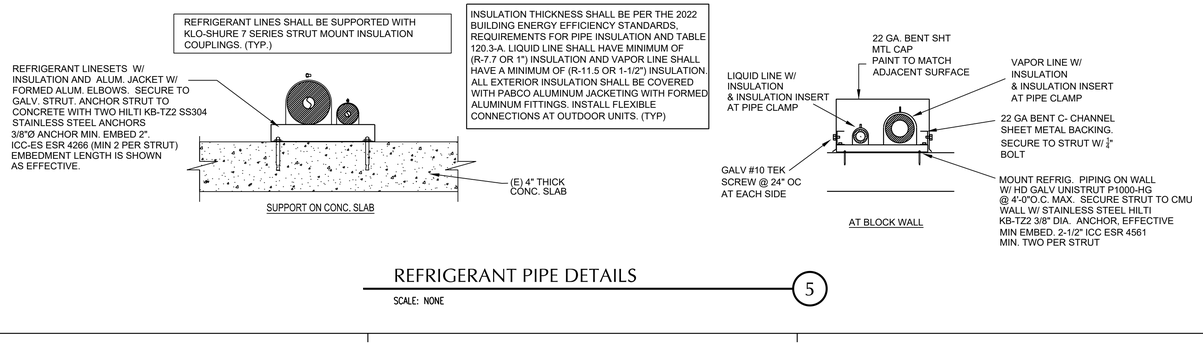
PENTHOUSE MOUNTING DETAIL 3

SCALE: NONE



OUTDOOR UNIT ANCHORAGE DETAIL 4

SCALE: NONE



REFRIGERANT PIPE DETAILS 5

SCALE: NONE

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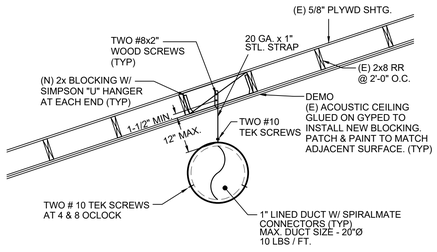
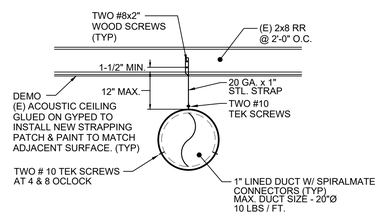
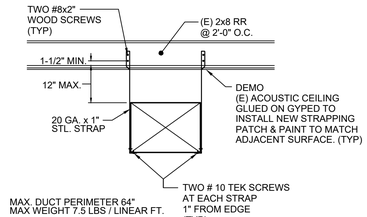


RD. DUCT AT (N) BLOCKING - WITHIN 12"



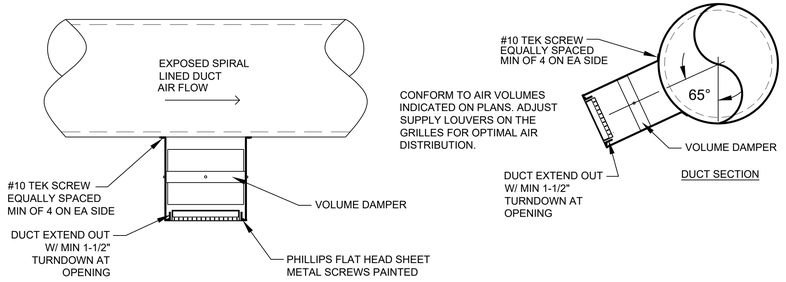
RD. DUCT AT (E) 2x8 R.R. - WITHIN 12"



RECT. DUCT AT (E) 2x8 R.R. - WITHIN 12"

DUCT SUPPORT DETAILS - TO ROOF STRUCTURE 1

SCALE: NONE



EXPOSED SPIRAL DUCT DIFFUSER INSTALLATION 2

SCALE: NONE

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General Notes

1. This OSHPD Preapproval of Manufacturer's Certification (OPM) is based on the CBC 2013. The demand (design Force) for use with this OPM shall be based on the CBC 2013.
2. The maximum S_{DS} used in this OPM is 2.5 for projects in California. The limits of this OPM are force based, controlled by an allowable Maximum Horizontal F_p force.
3. The materials for each component type and the range of sizes for each material is as follows:

Pipe:

A. Steel (Schedule 10) – Pipe sizes up to 8" diameter
B. Steel (Schedule 40) – Pipe sizes up to 8" diameter
C. Steel (Schedule 80) – Pipe sizes up to 8" diameter
D. Copper (Type L) – Pipe sizes up to 4" diameter
E. Copper (Type K) – Pipe sizes up to 4" diameter
F. Copper (Type M) – Pipe sizes up to 4" diameter
G. Cast-Iron Hub-less – Pipe sizes up to 8" diameter

Ductwork:

A. Galvanized Rectangular Ducts: All Sizes
B. Galvanized Round Ducts: 3" to 84"

Conduit:

A. RMC Conduit - Sizes up to 6"
B. IMC Conduit - Sizes up to 4"
C. EMT Conduit - Sizes up to 4"

Cable Tray:

A. NEMA (VE-1) – Class A, B, and C
B. Power Cables - 6" through 36" Wide
C. Low Voltage/ Data/ Communication – 6" Wide through 36" Wide

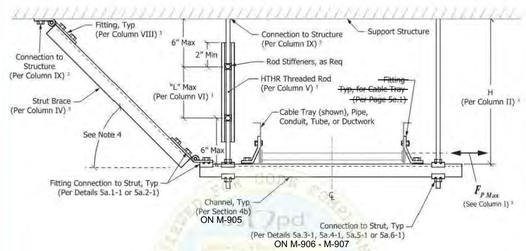
4. The structure substrate materials included in this OPM:
   A. Normal Weight Concrete Slabs – 4 1/4" minimum thickness
   B. Sand Light Weight Concrete over W3 Metal Deck – 3 1/4" minimum thickness over metal deck
   C. Steel Framing
   D. Wood Framing – 4x6 minimum framing size

Atkore Unistrut | 16100 S. Lathrop Ave, Harvey, IL 60426, Toll-Free: (800) 882-5543 | www.unistrutseismic.com
Structural Engineer: Rami Elhassan, California SE No. 3930
Page: 1g.1

Pre-Designed Solution Diagrams (Trapeze Supported Pipe, Conduit, Cable Tray & Ductwork)

TRAPEZE SUPPORT TRANSVERSE RESTRAINT TYPE

See section 7 for structural attachments for hangers and brace



Notes:

1) F_p shall be calculated for each case. F_p shall not exceed the maximum capacities for any of the components used to support the system.
2) ~~Maximum cable tray size per General Notes (Page 1g.1). See Appendix for weight of cable tray.~~
3) Refer to page 2i.1 through 2i.3 for column information.
4) Braces can be installed at angles 0° to 60° from horizontal.
5) Fittings and Hardware shown are for graphical representation only. Final configuration may use any fitting or hardware component included in this OPM provided it has sufficient capacity and is used for its correct intent.
6) ~~Cable Tray shall be approved on a project specific basis, or preapproved by OSHPD. Spacing limits set by the manufacturer shall not be exceeded. Cable Tray brace spacing shall be approved or preapproved by OSHPD.~~

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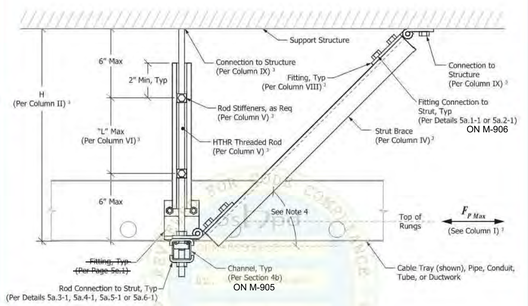
Structural Engineer: Rami Elhassan, California SE No. 3930
Page: 2h.1

Pre-Designed Solution Diagrams (Trapeze Supported Pipe, Conduit, Cable Tray & Ductwork)

TRAPEZE SUPPORT LONGITUDINAL RESTRAINT TYPE

See section 7 for structural attachments for hangers and brace



Notes:

1) F_p shall be calculated for each case. F_p shall not exceed the maximum capacities for any of the components used to support the system.
2) ~~Maximum cable tray size per General Notes (Page 1g.1). See Appendix for weight of cable tray.~~
3) Refer to pages 2i.1 through 2i.3 for column information.
4) Braces can be installed at angles 0° to 60° from horizontal.
5) Fittings and Hardware shown are for graphical representation only. Final configuration may use any fitting or hardware component included in this OPM provided it has sufficient capacity and is used for its correct intent.
6) ~~Cable Tray shall be approved on a project specific basis, or preapproved by OSHPD. Spacing limits set by the manufacturer shall not be exceeded. Cable Tray brace spacing shall be approved or preapproved by OSHPD.~~

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Structural Engineer: Rami Elhassan, California SE No. 3930
Page: 2h.2

Pre-Designed Solutions (Trapeze Supported Pipe, Conduit, Cable Tray & Ductwork)

TRAPEZE SUPPORTED COMPONENTS (MULTIPLE PIPES, MULTIPLE CONDUITS, CABLE TRAY & DUCTWORK)
MAX LATERAL FORCE $F_p = 0.25W_p$ (ASD)
MAX VERTICAL FORCE $E_v = 0.25W_p$ (ASD)
MAXIMUM BRACE ANGLE = 60° FROM HORIZONTAL
$a_p = 2.5$ $R_p = 6$

	I	II	III	IV	V	VI	VII	VIII	IX	X
Max Weight	Max Brace Spacing (ft.)[4]	Max Vertical Support Spacing (ft.)	1/3 Gravity Weight (lbs.)	F_{Vert} (ASD) (lbs.)	F_p (lbs.)	Max Brace Length (ft.)	Min Brace Size	Min Vertical Rod Diameter Size	Max Rod Stiffener Spacing "L" (in.)	Trapeze Beam	Fitting	Brace Connection to Structure	Vertical Rod Connection to Structure
10.00 plf	20	10	66.67	16.67	200.00	50.00	9.06	10	P1000	⅜"	27	See Note 4	See Note 1	See Note 2	See Note 3
15.00 plf	20	10	100.00	25.00	300.00	75.00	9.06	10	P1000	⅜"	21				
30.00 plf	20	10	200.00	50.00	600.00	150.00	9.06	10	P1000	⅜"	15				
45.00 plf	20	10	300.00	75.00	900.00	225.00	9.06	10	P1000	⅜"	12				

Notes:

1. All fittings shown in Section 5 are acceptable to be used with trapeze restraints in the table above.
2. All types of connections shown in Section 7 are acceptable to be used with the trapeze restraints in the table above, except for the following connections:
   a. Trapeze supporting 30 plf of weight:
      i. (1) 1/2" diameter anchor w/ 2 1/4" EMB. into LWC
   b. Trapeze supporting 45 plf of weight:
      i. (1) 1/2" diameter anchor w/ 2 1/4" EMB. into either LWC or NWC
      ii. (1) 1/2" diameter anchor w/ 3 1/4" EMB. into LWC
      iii. (1) 5/8" diameter anchor w/ 3 1/4" EMB. into LWC
3. See Note 3.1 for trapeze supporting up to 15 plf weight; See Note 3.2 for trapeze supporting more than 15 plf.
   3.1. For trapeze supporting up to 15 plf as tabulated above, all types of connections shown in Section 7 are acceptable to be used.
   3.2 For trapeze supporting more than 15 plf as tabulated above, only the following connection types are acceptable:
      i. (1) 5/8" diameter anchor w/ 4 1/4" EMB. into LWC
      ii. (2) 1/2" diameter anchors w/ 3 1/4" EMB. into LWC
      iii. (1) 1/2" diameter bolt w/ 3 1/4" EMB., (1) 5/8" diameter anchor bolt with 3 1/4" or 4 1/4" EMB. into NWC
      iv. All (2) anchor bolt connections into NWC.
      v. Wood connection Detail 7d.2-1.
4. Trapeze beam shall be sized based on actual span in accordance with 4b.0 through 4b.6.
5. These tables are based on a maximum S_{ps} of 1.78g. Any S_{ps} above 1.78g requires an RDP or SEOR review.
6. ~~Cable Tray restraint spacing shall be approved on a project specific basis, or preapproved by OSHPD. Spacing limits set by the manufacturer shall not be exceeded.~~

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Page: 2i.1

Pre-Designed Solutions (Trapeze Supported Pipe, Conduit, Cable Tray & Ductwork)

TRAPEZE SUPPORTED COMPONENTS (MULTIPLE PIPES, MULTIPLE CONDUITS, CABLE TRAY & DUCTWORK)
MAX LATERAL FORCE $F_p = 0.40W_p$ (ASD)
MAX VERTICAL FORCE $E_v = 0.25W_p$ (ASD)
MAXIMUM BRACE ANGLE = 60° FROM HORIZONTAL
$a_p = 2.5$ $R_p = 6$

	I	II	III	IV	V	VI	VII	VIII	IX	X
Max Weight	Max Brace Spacing (ft.)[4]	Max Vertical Support Spacing (ft.)	1/3 Gravity Weight (lbs.)	F_{Vert} (ASD) (lbs.)	F_p (lbs.)	Max Brace Length (ft.)	Min Brace Size	Min Vertical Rod Diameter Size	Max Rod Stiffener Spacing "L" (in.)	Trapeze Beam	Fitting	Brace Connection to Structure	Vertical Rod Connection to Structure
10.00 plf	20	10	66.67	16.67	200.00	80.00	9.06	10	P1000	⅜"	21	See Note 4	See Note 1	See Note 2	See Note 3
15.00 plf	20	10	100.00	25.00	300.00	120.00	9.06	10	P1000	⅜"	18				
30.00 plf	20	10	200.00	50.00	600.00	240.00	9.06	10	P1000	⅜"	12				
45.00 plf	20	10	300.00	75.00	900.00	360.00	9.06	10	P1000	½"	18				

Notes:

1. All fittings shown in Section 5 are acceptable to be used with trapeze restraints in the table above, except SPF200 for trapeze supporting 45 plf or more.
2. All types of connections shown in Section 7 are acceptable to be used with the trapeze restraints in the table above, except for the following connections:
   a. Trapeze supporting 15 plf of weight:
      i. (1) 1/2" diameter anchor w/ 2 1/4" EMB. into LWC
   b. Trapeze supporting 30 plf of weight:
      i. (1) 1/2" diameter anchor w/ 2 1/4" EMB. into either LWC or NWC
      ii. (1) 1/2" diameter anchor w/ 3 1/4" EMB. into LWC
      iii. (1) 5/8" diameter anchor w/ 3 1/4" EMB. into LWC
   c. Trapeze supporting 45 plf of weight:
      i. (1) 1/2" diameter anchor w/ 2 1/4" EMB. into either LWC or NWC
      ii. (1) 1/2" diameter anchor w/ 3 1/4" EMB. into LWC
      iii. (1) 5/8" diameter anchor w/ 3 1/4" EMB. into LWC
      iv. (2) 3/8" diameter anchors w/ 2" EMB. into LWC
      v. (2) 1/2" diameter anchors w/ 2 1/4" EMB. into LWC
3. See Note 3.1 for trapeze supporting up to 15 plf weight; See Note 3.2 for trapeze supporting more than 15 plf.
   3.1. For trapeze supporting up to 15 plf as tabulated above, all types of connections shown in Section 7 are acceptable to be used, except for the following connections:
      i. (1) 3/8" diameter anchor w/ 2" EMB. into LWC
      ii. (1) 1/2" diameter anchor w/ 2 1/4" EMB. into LWC
   3.2 For trapeze supporting more than 15 plf as tabulated above, only the following connection types are acceptable:
      i. (1) 1/2" diameter bolt w/ 3 1/4" EMB., (1) 5/8" diameter anchor bolt w/ 3 1/4" or 4 1/4" EMB. into NWC
      ii. (2) 1/2" diameter bolts w/ 3 1/4" EMB. into NWC
4. Trapeze beam shall be sized based on actual span in accordance with 4b.0 through 4b.6.
5. These tables are based on a maximum S_{ps} of 1.78g. Any S_{ps} above 1.78g requires an RDP or SEOR review.
6. ~~Cable Tray restraint spacing shall be approved on a project specific basis, or preapproved by OSHPD. Spacing limits set by the manufacturer shall not be exceeded.~~

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Page: 2i.2

Pre-Designed Solutions (Trapeze Supported Pipe, Conduit, Cable Tray & Ductwork)

TRAPEZE SUPPORTED COMPONENTS (MULTIPLE PIPES, MULTIPLE CONDUITS, CABLE TRAY & DUCTWORK)
MAX LATERAL FORCE $F_p = 0.55W_p$ (ASD)
MAX VERTICAL FORCE $E_v = 0.25W_p$ (ASD)
MAXIMUM BRACE ANGLE = 60° FROM HORIZONTAL
$a_p = 2.5$ $R_p = 6$

	I	II	III	IV	V	VI	VII	VIII	IX	X
Max Weight	Max Brace Spacing (ft.)[4]	Max Vertical Support Spacing (ft.)	1/3 Gravity Weight (lbs.)	F_{Vert} (ASD) (lbs.)	F_p (lbs.)	Max Brace Length (ft.)	Min Brace Size	Min Vertical Rod Diameter Size	Max Rod Stiffener Spacing "L" (in.)	Trapeze Beam	Fitting	Brace Connection to Structure	Vertical Rod Connection to Structure
10.00 plf	20	10	66.67	16.67	200.00	110.00	9.06	10	P1000	⅜"	18	See Note 4	See Note 1	See Note 2	See Note 3
15.00 plf	20	10	100.00	25.00	300.00	165.00	9.06	10	P1000	⅜"	15				
30.00 plf	20	10	200.00	50.00	600.00	330.00	9.06	10	P1000	½"	18				
45.00 plf	15	10	300.00	75.00	675.00	371.25	9.06	10	P1000	½"	18				

Notes:

1. All fittings shown in Section 5 are acceptable to be used with trapeze restraints in the table above, except SPF200 for trapeze supporting 45 plf or more.
2. All types of connections shown in Section 7 are acceptable to be used with the trapeze restraints in the table above, except for the following connections:
   a. Trapeze supporting 15 plf of weight:
      i. (1) 1/2" diameter anchor w/ 2 1/4" EMB. into LWC
      ii. (1) 5/8" diameter anchor w/ 3 1/4" EMB. into LWC
   b. Trapeze supporting 30 plf or 45 plf of weight:
      i. (1) 1/2" diameter anchor w/ 2 1/4" EMB. into either LWC or NWC
      ii. (1) 1/2" diameter anchor w/ 3 1/4" EMB. into LWC
      iii. (1) 5/8" diameter anchor w/ 3 1/4" EMB. into LWC
      iv. (2) 3/8" diameter anchors w/ 2" EMB. into LWC
      v. (2) 1/2" diameter anchors w/ 2 1/4" EMB. into LWC
3. See Note 3.1 for trapeze supporting up to 15 plf weight; See Note 3.2 for trapeze supporting more than 15 plf.
   3.1. For trapeze supporting up to 15 plf as tabulated above, all types of connections shown in Section 7 are acceptable to be used, except for the following connections:
      i. (1) 3/8" diameter anchor w/ 2" EMB. into LWC
      ii. (1) 1/2" diameter anchor w/ 2 1/4" EMB. into LWC
   3.2 For trapeze supporting more than 15 plf as tabulated above, only the following connection types are acceptable:
      i. (1) 5/8" diameter anchor bolt w/ 3 1/4" or 4 1/4" EMB. into NWC
      ii. (2) 1/2" diameter bolts w/ 3 1/4" EMB. into NWC
4. Trapeze beam shall be sized based on actual span in accordance with 4b.0 through 4b.6.
5. These tables are based on a maximum S_{ps} of 1.78g. Any S_{ps} above 1.78g requires an RDP or SEOR review.
6. ~~Cable Tray restraint spacing shall be approved on a project specific basis, or preapproved by OSHPD. Spacing limits set by the manufacturer shall not be exceeded.~~

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Page: 2i.3

AGENCY APPROVAL STAMP

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APP: 03-124867 INC: A
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MECHANICAL DETAILS

NO.	REVISION	DATE

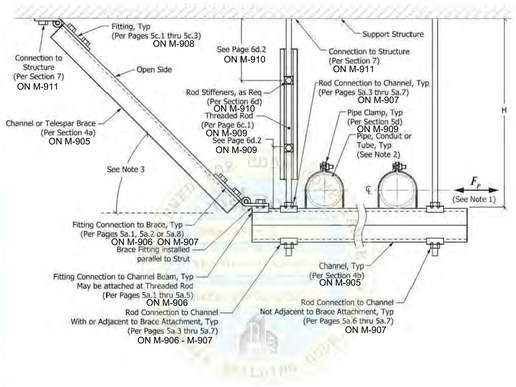
PROJECT MANAGER: MH
DRAWN BY: TP/HM
CHECKED BY: HM/RR
DATE: 12/31/2025
PROJECT NUMBER: 3244-01-ED23
SHEET: M-903

100% CD

Restraint Details - Pipe, Conduit & Tube (Trapeze)

TRAPEZE SUPPORT TRANSVERSE RESTRAINT TYPE

See section 7 for structural attachments for hangers and brace



Notes:

1) F_p shall be calculated for each case. F_p shall not exceed the maximum capacities for any of the components used to support the system.
2) Maximum pipe, conduit or tube size per General Notes (Page 1g.1). See Appendix for weight of pipe, conduit or tube.
3) Braces can be installed at angles 0° to 60° from horizontal.
4) Fittings and Hardware shown are for graphical representation only. Final configuration may use any fitting or hardware component included in this OPM provided it has sufficient capacity and is used for its correct intent.

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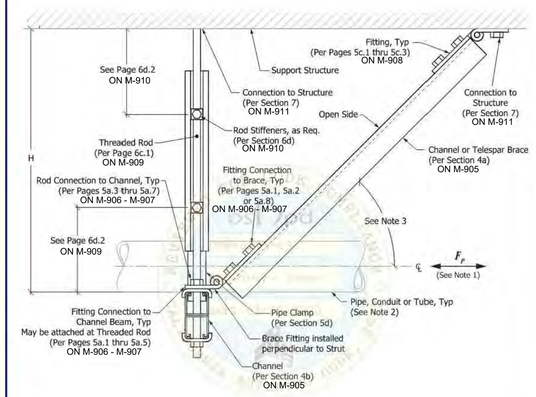
Page: 3b.1

Restraint Details - Pipe, Conduit & Tube (Trapeze)

TRAPEZE SUPPORT LONGITUDINAL RESTRAINT TYPE

See section 7 for structural attachments for hangers and brace



Notes:

1) F_p shall be calculated for each case. F_p shall not exceed the maximum capacities for any of the components used to support the system.
2) Maximum pipe, conduit or tube size per General Notes (Page 1g.1). See Appendix for weight of pipe, conduit or tube.
3) Braces can be installed at angles 0° to 60° from horizontal.
4) Fittings and Hardware shown are for graphical representation only. Final configuration may use any fitting or hardware component included in this OPM provided it has sufficient capacity and is used for its correct intent.

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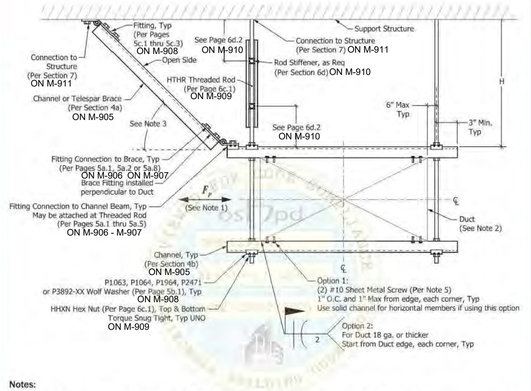
Page: 3b.2

Restraint Details - Rectangular Duct (Trapeze)

TRAPEZE SUPPORT TRANSVERSE RESTRAINT TYPE:

See section 7 for structural attachments for hangers and brace



Notes:

1) F_p shall be calculated for each case. F_p shall not exceed the maximum capacities for any of the components used to support the system.
2) Maximum duct size per General Notes (Page 1g.1). See Appendix for weight of Duct.
3) Braces that project to the overhead structure shall be installed between 30° and 60° from horizontal. Where an adjacent wall occurs, braces that project to that wall shall be installed directly horizontal (0°).
4) Fittings and Hardware shown are for graphical representation only. Final configuration may use any fitting or hardware component included in this OPM provided it has sufficient capacity and is used for its correct intent.
5) Approved Sheet Metal Screws (#10 Size): ITW Buildex (ESR-1976 & ESR 3223), Simpson Strong-Tie (ESR-3006), Darts (ER-5202), Elco (ESR-3294), and Hilti (ESR-2196).

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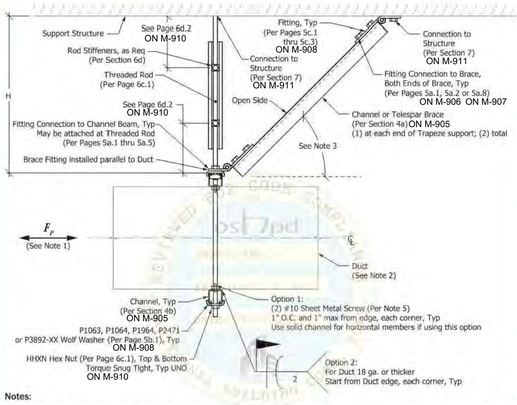
Page: 3c.1

Restraint Details - Rectangular Duct (Trapeze)

TRAPEZE SUPPORT LONGITUDINAL RESTRAINT TYPE

See section 7 for structural attachments for hangers and brace



Notes:

1) F_p shall be calculated for each case. F_p shall not exceed the maximum capacities for any of the components used to support the system.
2) Maximum duct size per General Notes (Page 1g.1). See Appendix for weight of Duct.
3) Braces that project to the overhead structure shall be installed between 30° and 60° from horizontal. Where an adjacent wall occurs, braces that project to that wall shall be installed directly horizontal (0°).
4) Fittings and Hardware shown are for graphical representation only. Final configuration may use any fitting or hardware component included in this OPM provided it has sufficient capacity and is used for its correct intent.
5) Approved Sheet Metal Screws (#10 Size): ITW Buildex (ESR-1976 & ESR 3223), Simpson Strong-Tie (ESR-3006), Darts (ER-5202), Elco (ESR-3294), and Hilti (ESR-2196).

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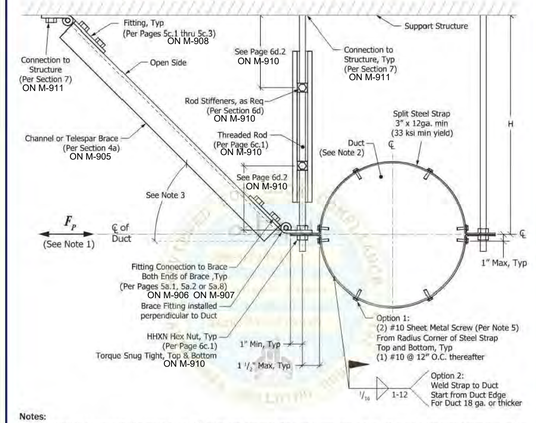
Page: 3c.2

Restraint Details - Round Duct (Single)

ROUND DUCT SUPPORT TRANSVERSE RESTRAINT TYPE

See section 7 for structural attachments for hangers and brace



Notes:

1) F_p shall be calculated for each case. F_p shall not exceed the maximum capacities for any of the components used to support the system.
2) Maximum duct size per General Notes (Page 1g.1). See Appendix for weight of Duct.
3) Braces that project to the overhead structure shall be installed between 30° and 60° from horizontal. Where an adjacent wall occurs, braces that project to that wall shall be installed directly horizontal (0°).
4) Fittings and Hardware shown are for graphical representation only. Final configuration may use any fitting or hardware component included in this OPM provided it has sufficient capacity and is used for its correct intent.
5) Approved Sheet Metal Screws (#10 Size): ITW Buildex (ESR-1976 & ESR 3223), Simpson Strong-Tie (ESR-3006), Darts (ER-5202), Elco (ESR-3294), and Hilti (ESR-2196).

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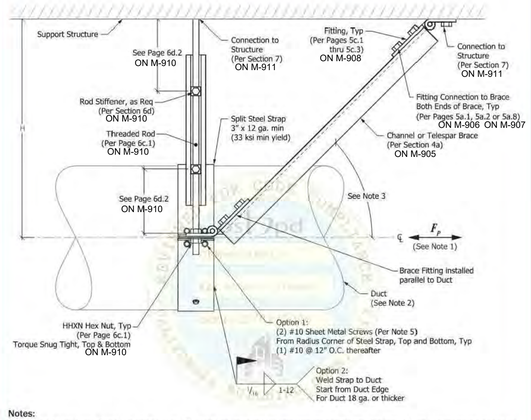
Page: 3d.1

Restraint Details - Round Duct (Single)

ROUND DUCT SUPPORT LONGITUDINAL RESTRAINT TYPE

See section 7 for structural attachments for hangers and brace



Notes:

1) F_p shall be calculated for each case. F_p shall not exceed the maximum capacities for any of the components used to support the system.
2) Maximum duct size per General Notes (Page 1g.1). See Appendix for weight of Duct.
3) Braces that project to the overhead structure shall be installed between 30° and 60° from horizontal. Where an adjacent wall occurs, braces that project to that wall shall be installed directly horizontal (0°).
4) Fittings and Hardware shown are for graphical representation only. Final configuration may use any fitting or hardware component included in this OPM provided it has sufficient capacity and is used for its correct intent.
5) Approved Sheet Metal Screws (#10 Size): ITW Buildex (ESR-1976 & ESR 3223), Simpson Strong-Tie (ESR-3006), Darts (ER-5202), Elco (ESR-3294), and Hilti (ESR-2196).

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Page: 3d.2

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DATE: 03/12/2026

DSA FILE #: 56-C1
PROJECT TRACKING #: 03-124####

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4000 S ROSE AVE. OXNARD, CA 93033

MECHANICAL DETAILS

NO.	REVISION	DATE
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△		
△		
△		

PROJECT MANAGER: MH
DRAWN BY: TP/HM
CHECKED BY: HM/RR
DATE: 12/31/2025
PROJECT NUMBER: 3244-01-ED23
SHEET: M-904

100% CD

Components: Channel & Telespar

CHANNEL PART NUMBERS				PAGE
	P1000 P1000T	P1000WT P1000HS	1 5/8" x 1 5/8" x 12 ga.	4a.1 4b.1
	P1001 P1001T	P1001WT P1001HS	1 5/8" x 3 1/4" x 12 ga.	4a.2 4b.2
	P5500 P5500T	P5500WT P5500HS	1 5/8" x 2 1/16" x 12 ga.	4a.3 4b.3
	P5501 P5501T	P5501WT P5501HS	1 5/8" x 4 7/8" x 12 ga.	4a.4 4b.4
	P5000 P5000T	P5000WT P5000HS	1 5/8" x 3 1/4" x 12 ga.	4a.5 4b.5
	P5001 P5001T	P5001WT P5001HS	1 5/8" x 6 1/2" x 12 ga.	4a.6 4b.6

Channel Specifications:
- Material: Pre-galvanized (PG): ASTM A653 SS Grade 33
- Finish: Pre-galvanized (PG): ASTM A653 G90
- Thickness: 12 ga.

TELESPAR PART NUMBERS			PAGE
	20F12	2" x 2" x 12 ga.	4a.7
	24F12	2 1/2" x 2 1/2" x 12 ga.	4a.7

Telespar Specifications:
- Material: Pre-galvanized (PG): ASTM A653 SS Grade 50, Class 2 min.
- Finish: Pre-galvanized (PG): ASTM A653 G90
- Thickness: 12 ga.

Atkore Unistrut
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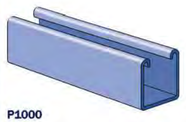
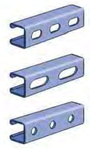
Toll-Free: (800) 882-5543
www.unistrutseismic.com
Structural Engineer: Rami Elhassan
California SE No. 3930
Page: 4a.0

Channel – Rigid Brace

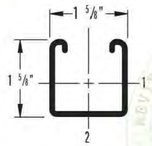
P1000, P1000T, P1000WT, P1000HS - 1 5/8" X 1 5/8" X 12 GA.

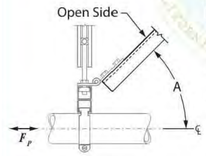

P1000

PIERCED OPTIONS



P1000T	9/16" x 1 1/8" Slots 2" on Center
P1000WT	11/16" x 2" Slots 3" on Center
P1000HS	9/16" Dia. Holes 1 7/8" on Center





Maximum Horizontal F_P Force (lbs) [ASD]				
Span (ft.)	Angle "A"			
	0° +5°/-0°	30° +5°/-2.5°	45° +5°/-10°	60° +0°/-10°
2'	3,440	2,970	2,430	1,720
3'	3,140	2,710	2,220	1,570
4'	2,750	2,380	1,940	1,370
5'	2,380	2,060	1,680	1,190
6'	2,080	1,800	1,470	1,040
7'	1,860	1,610	1,310	930
8'	1,670	1,440	1,180	830
9'	1,510	1,300	1,060	750
10'	1,380	1,190	970	690

Notes:
1) These values apply only to Unistrut brand products. Unistrut channels are stamped with the name "UNISTRUT".
2) Max F_P shown is based on P1000WT. Max F_P can be increased for different strut types based on section properties shown on page 4c.1.
3) Max allowable force F_P may be limited by the capacities of the brace fitting, channel nut or rod connection, trapeze support, anchorage, or capacity of another component.

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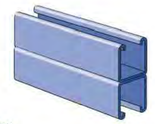
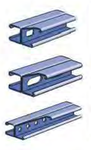
Page: 4a.1

Channel – Rigid Brace

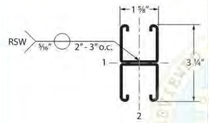
P1001, P1001T, P1001WT, P1001HS - 1 5/8" X 3 1/4" X 12 GA.

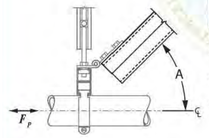

P1001

PIERCED OPTIONS



P1001T	9/16" x 1 1/8" Slots 2" on Center
P1001WT	11/16" x 2" Slots 3" on Center
P1001HS	9/16" Dia. Holes 1 7/8" on Center





Maximum Horizontal F_P Force (lbs) [ASD]				
Span (ft.)	Angle "A"			
	0° +5°/-0°	30° +5°/-2.5°	45° +5°/-10°	60° +0°/-10°
2'	6,200	5,360	4,380	3,100
3'	6,070	5,250	4,290	3,030
4'	5,950	5,150	4,200	2,970
5'	5,800	5,020	4,100	2,900
6'	5,450	4,710	3,850	2,720
7'	5,040	4,360	3,560	2,520
8'	4,600	3,980	3,250	2,300
9'	4,140	3,580	2,920	2,070
10'	3,670	3,170	2,590	1,830
12'	2,900	2,510	2,050	1,450

Notes:
1) These values apply only to Unistrut brand products. Unistrut channels are stamped with the name "UNISTRUT".
2) Max F_P shown is based on P1001WT. Max F_P can be increased for different strut types based on section properties shown on page 4c.1.
3) Max allowable force F_P may be limited by the capacities of the brace fitting, channel nut or rod connection, trapeze support, anchorage, or capacity of another component.

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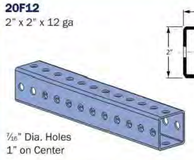
Page: 4a.2

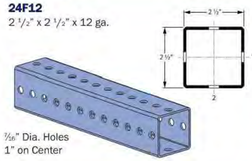
Telespar – Rigid Brace

20F12
2" x 2" x 12 ga



9/16" Dia. Holes
1" on Center

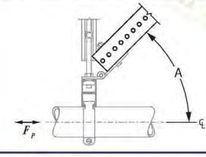
24F12
2 1/2" x 2 1/2" x 12 ga.



9/16" Dia. Holes
1" on Center

Maximum Horizontal F_P Force (lbs) [ASD]				
Span (ft.)	Angle "A"			
	0° +5°/-0°	30° +5°/-2.5°	45° +5°/-10°	60° +0°/-10°
2'	7,860	6,800	5,550	3,930
3'	7,660	6,630	5,410	3,830
4'	7,360	6,370	5,200	3,680
5'	6,980	6,040	4,930	3,490
6'	6,520	5,640	4,610	3,260
7'	5,970	5,170	4,220	2,980
8'	5,350	4,630	3,780	2,670
9'	4,680	4,050	3,300	2,340
10'	4,050	3,500	2,860	2,020
12'	3,100	2,680	2,190	1,550
14'	2,420	2,090	1,710	1,210
16'	1,940	1,680	1,370	970

Maximum Horizontal F_P Force (lbs) [ASD]				
Span (ft.)	Angle "A"			
	0° +5°/-0°	30° +5°/-2.5°	45° +5°/-10°	60° +0°/-10°
2'	10,780	9,330	7,620	5,390
3'	10,600	9,170	7,490	5,300
4'	10,350	8,960	7,310	5,170
5'	10,020	8,670	7,080	5,010
6'	9,620	8,330	6,800	4,810
7'	9,140	7,910	6,460	4,570
8'	8,590	7,430	6,070	4,290
9'	7,970	6,900	5,630	3,980
10'	7,300	6,320	5,160	3,650
12'	5,850	5,060	4,130	2,920
14'	4,700	4,070	3,320	2,350
16'	3,820	3,300	2,700	1,910
18'	3,160	2,730	2,230	1,580
20'	2,650	2,290	1,870	1,320



Notes:
1) Not to be used in a telescoping manner.
2) Max allowable force F_P may be limited by the capacities of the brace fitting, channel nut or rod connection, trapeze support, anchorage, or capacity of another component.

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California SE No. 3930
Page: 4a.7

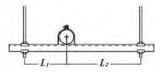
Channel - Beam Loading

PROCEDURE FOR CALCULATING THE BEAM LOAD CAPACITY (G_{ALLOW})

METHOD 1

Step 1: Determine the Maximum Allowable Uniform Load (V_{allow} or D_{allow}) for the selected channel at the span between supports from pages 4b.1 – 4b.6. V_{allow} capacities for Span/180, Span/240 and Span/360 deflection criteria are provided in the tables on pages 4b.1 - 4b.6.

Step 2: Multiply the value from Step 1 by the Unbraced Length Factor (Φ_{UL}). Φ_{UL} can be found on pages 4b.1 – 4b.6.



$L_2 > L_1$
Use Unbraced Length Factor (Φ_{UL}) for maximum length (L_2 in this scenario)

Step 3: Subtract the channel weight ($W_{channel}$) from the Step 2 value. $W_{channel}$ is found on pages 4b.1 – 4b.6, note 3.

Step 4: Multiply the value from Step 3 by the Load Factor from the table below that matches the loading condition.
Tip: Trapeze supports will typically be condition 1, 2 or 3.

	Load & Support Condition	Load Factor		Load & Support Condition	Load Factor
1	SPAN	1.00	4	SPAN SPAN	1.30
2		0.50	5		1.00
3		1.00	6		0.62

For Strength Limitation: Beam load capacity (G_{allow}) per Equation 4b.0-1 below
Equation (4b.0-1): $G_{allow} = ((V_{allow} * \Phi_{UL}) - W_{channel}) * \text{Load Factor}$
For Deflection Limitation: Beam load capacity (G_{allow}) is the lesser of Equations 4b.0-1 and 4b.0-2
Equation (4b.0-2): $G_{allow} = (D_{allow} - W_{channel}) * \text{Load Factor}$

METHOD 2

G_{allow} may be calculated using the Allowable Moment M_{allow} and basic beam load calculations. M_{allow} can be found on pages 4b.1 – 4b.6, note 4.

Notes:
1) V_{allow}, D_{allow}, M_{allow} and $W_{channel}$ account for "T", "WT" and "HS" piercings. No additional pierced hole reductions are necessary.
2) The above procedure is for bending along the 1-1 axis, when the channel slot is facing up or down. For bending along the 2-2 axis, section properties are provided on page 4c.1.

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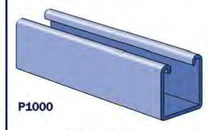
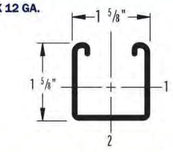
California SE No. 3930
Page: 4b.0

Channel - Beam Loading

P1000, P1000T, P1000WT, P1000HS - 1 5/8" X 1 5/8" X 12 GA.


P1000



PIERCED OPTIONS

P1000T	9/16" x 1 1/8" Slots 2" on Center
P1000WT	11/16" x 2" Slots 3" on Center
P1000HS	9/16" Dia. Holes 1 7/8" on Center

Beam Loads [ASD] Axis 1-1							
Span	Maximum Allowable Uniform Load (V_{allow})	Deflection at Uniform Load	Uniform Loading at Deflection			Unbraced Length	
			Span/180 (D_{allow})	Span/240 (D_{allow})	Span/360 (D_{allow})	(ft)	Factor (Φ_{UL})
(ft)	(lbs)	(in)	(lbs)	(lbs)	(lbs)		
2	1,530	0.06	1,530	1,530	1,530	2	1.00
3	1,020	0.14	1,020	1,020	720	3	0.94
4	760	0.25	760	610	410	4	0.88
5	610	0.39	520	390	260	5	0.82
6	510	0.56	360	270	180	6	0.78
7	440	0.77	270	200	130	7	0.75
8	380	1.00	200	150	100	8	0.71
9	340	1.27	160	120	80	9	0.69
10	310	1.59	130	100	70	10	0.66
12	250	2.21	90	70	50	12	0.61
14	220	3.09	70	50	30	14	0.55
16	190	4.00	50	40	-	16	0.51
18	170	5.08	40	-	-	18	0.47
20	150	6.25	-	-	-	20	0.44

Notes:
1) Values in this table apply to P1000, P1000T, P1000WT, and P1000HS channels
2) Refer to page 4b.0 for the calculation procedure
3) Channel Weight ($W_{channel}$): 1.89 lbs/ft
4) Allowable Moment (M_{allow}): 4,575 in-lbs
5) Beam loads are provided in total uniform load, not uniform loading (e.g. lbs/ft or lbs/in)
6) These values apply only to Unistrut brand products. Unistrut channels are stamped with the name "UNISTRUT".

Atkore Unistrut
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California SE No. 3930
Page: 4b.1

AGENCY APPROVAL STAMP

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-124867 INC: A
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 03/12/2026

DSA FILE #: 56-C1
PROJECT TRACKING #: 03-124####

rrm design group
rrmdesign.com | (805) 543-1794

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MECHANICAL
STATE OF CALIFORNIA

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OXNARD COLLEGE
OE BUILDING ALTERATIONS
4000 S ROSE AVE. OXNARD, CA 93033

MECHANICAL
DETAILS

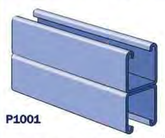
NO.	REVISION	DATE
1		
2		
3		
4		
5		

PROJECT MANAGER: MH
DRAWN BY: TP/HM
CHECKED BY: HM/RR
DATE: 12/31/2025
PROJECT NUMBER: 3244-01-ED23
SHEET: M-905

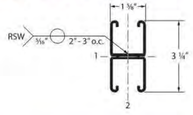
100% CD

Channel - Beam Loading

P1001, P1001T, P1001WT, P1001HS - 1 5/8" X 3 1/4" X 12 GA.



P1001



PIERCED OPTIONS

P1001T	9/16" x 1 1/8" Slots 2" on Center
P1001WT	13/16" x 2" Slots 3" on Center
P1001HS	9/16" Dia. Holes 1 7/8" on Center

Beam Loads [ASD] Axis 1-1

Span	Maximum Allowable Uniform Load (U_{allow})	Deflection at Uniform Load	Uniform Loading at Deflection			Unbraced Length	
			Span/180 (D_{allow})	Span/240 (D_{allow})	Span/360 (D_{allow})		Factor ($\Phi_{b\ldots}$)
(ft)	(lbs)	(in)	(lbs)	(lbs)	(lbs)	(ft)	
2	3,330*	0.02	3,330*	3,330*	3,330*	2	1.00
3	3,190	0.07	3,190	3,190	3,190	3	1.00
4	2,390	0.13	2,390	2,390	2,390	4	1.00
5	1,910	0.20	1,910	1,910	1,620	5	0.97
6	1,590	0.28	1,590	1,590	1,130	6	0.93
7	1,370	0.39	1,370	1,240	830	7	0.89
8	1,200	0.51	1,200	950	630	8	0.85
9	1,060	0.64	1,000	750	500	9	0.81
10	960	0.79	810	610	410	10	0.78
12	800	1.14	560	420	280	12	0.70
14	680	1.53	410	310	210	14	0.63
16	600	2.02	320	240	160	16	0.56
18	530	2.54	250	190	130	18	0.49
20	480	3.16	200	150	100	20	0.44

Notes:
1) Values in this table apply to P1001, P1001T, P1001WT, and P1001HS channels
2) Refer to page 4b.0 for the calculation procedure
3) Channel Weight ($W_{channel}$): 3.78 lbs/ft
4) Allowable Moment (M_{allow}): 14,345 in-lbs
5) Beam loads are provided in total uniform load, not uniform loading (e.g. lbs/ft or lbs/in)
6) These values apply only to Unistrut brand products. Unistrut channels are stamped with the name "UNISTRUT".
7) * Load limited by spot weld shear. Weld shear and tension are accounted for in the above listed capacities.

Atkore Unistrut | 16100 S. Lathrop Ave, Harvey, IL 60426, Toll-Free: (800) 882-5543 | www.unistrutseismic.com | Structural Engineer: Rami Elhassan, California SE No. 3930 | Page: 4b.2

02/27/2020 OPM-0295-13: Reviewed for Code Compliance by Jeffrey Kikumoto 74 of 150

Channel Section Properties

Channel	Area of Section	Weight	Axis 1-1 Moment of Inertia (I)	Axis 1-1 Section Modulus (S)	Axis 1-1 Radius of Gyration (r)	Axis 2-2 Moment of Inertia (I)	Axis 2-2 Section Modulus (S)	Axis 2-2 Radius of Gyration (r)
	(in^2)	(lbs/ft)	(in^4)	(in^3)	(in.)	(in^4)	(in^3)	(in.)
P1000	0.555	1.89	0.185	0.202	0.577	0.236	0.290	0.651
P1000T	0.496	1.85	0.156	0.186	0.561	0.234	0.288	0.687
P1000HS	0.496	1.85	0.156	0.186	0.561	0.234	0.288	0.687
P1000WT	0.483	1.84	0.149	0.182	0.555	0.233	0.286	0.694
P1001	1.110	3.78	0.928	0.571	0.914	0.471	0.58	0.651
P1001T	0.992	3.70	0.927	0.571	0.967	0.468	0.576	0.687
P1001HS	0.992	3.70	0.927	0.571	0.967	0.468	0.576	0.687
P1001WT	0.966	3.68	0.927	0.571	0.98	0.465	0.573	0.694
P5500	0.726	2.47	0.522	0.390	0.848	0.334	0.411	0.679
P5500T	0.667	2.42	0.451	0.363	0.822	0.333	0.409	0.706
P5500HS	0.667	2.42	0.451	0.363	0.822	0.333	0.409	0.706
P5500WT	0.654	2.41	0.433	0.355	0.814	0.331	0.408	0.712
P5501	1.452	4.94	2.805	1.151	1.39	0.668	0.823	0.679
P5501T	1.334	4.84	2.804	1.150	1.45	0.665	0.819	0.706
P5501HS	1.334	4.84	2.804	1.150	1.45	0.665	0.819	0.706
P5501WT	1.307	4.82	2.804	1.150	1.465	0.663	0.816	0.712
P5000	0.896	3.05	1.098	0.677	1.107	0.433	0.533	0.695
P5000T	0.837	3.00	0.965	0.586	1.074	0.431	0.531	0.718
P5000HS	0.837	3.00	0.965	0.586	1.074	0.431	0.531	0.718
P5000WT	0.824	2.99	0.933	0.575	1.064	0.43	0.529	0.722
P5001	1.793	6.10	6.226	1.916	1.863	0.866	1.066	0.695
P5001T	1.675	6.00	6.225	1.916	1.928	0.863	1.062	0.718
P5001HS	1.675	6.00	6.225	1.916	1.928	0.863	1.062	0.718
P5001WT	1.649	5.98	6.225	1.915	1.943	0.86	1.059	0.722
20F12	0.593	2.42	0.376	0.376	0.796	0.376	0.376	0.796
24F12	0.803	3.14	0.802	0.642	0.999	0.802	0.642	0.999

Minimum Section Properties[1]

Notes:
1) Minimum section properties are provided, taken through the centerline of any holes or piercings.
2) These values apply only to Unistrut brand channels. All Unistrut channels are stamped with the name "UNISTRUT".

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02/27/2020 81 of 151

Typical Connection Details

DETAIL 5A.1-1: TYPICAL FITTING CONNECTION TO STRUT

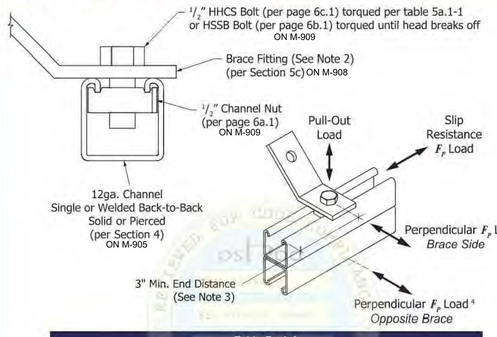

Table 5a.1-1

Bolt Size	Installation Torque (ft-lbs)	Max. Capacity (lbs) [ASD]	Maximum Horizontal F_P Force (lbs) [ASD]			
		Pull-Out	Slip Resistance	Perpendicular Brace Side	Perpendicular [4] Opposite Brace
½"	50 - 55	2,810	1,370	1,035	640

Notes:
1) Capacities listed in Table 5a.1-1 are for this connection only when attached to the open side of the channel. Fittings, Channel and other component capacities must also be considered.
2) The fitting may be oriented in a transverse or longitudinal (as shown) orientation. A typical transverse connection is shown on Detail 5b.2-3. A max of two fittings may also be stacked at this connection to accomodate braces in both directions.
3) For end distances less than 3", use the Wolf Washer per Page 5a.2.
4) When used with P1001, P5501 or P5001 channel and a perpendicular load is applied on the opposite side of the channel from the brace. The total of the perpendicular loads at the Brace Side and Opposite Side must not exceed 1,035 lbs.

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02/27/2020 OPM-0295-13: Reviewed for Code Compliance by Jeffrey Kikumoto 83 of 151

Typical Connection Details

DETAIL 5A.2-1: TYPICAL FITTING CONNECTION TO STRUT WITH WOLF WASHER

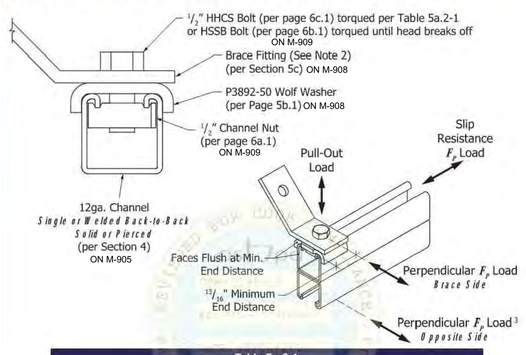

Table 5a.2-1

Bolt Size	Installation Torque (ft-lbs)	Max. Capacity (lbs) [ASD]	Maximum Horizontal F_P Force (lbs) [ASD]		
		Pull-Out	Slip Resistance	Perpendicular Brace Side	Perpendicular [3] Opposite Brace
½"	60 - 65	2,605	2,375	935	640

Notes:
1) Capacities listed in Table 5a.2-1 are for this connection only when attached to the open side of the Channel. Fittings, Channel and other component capacities must also be considered.
2) The fitting may be oriented in a transverse or longitudinal (as shown) orientation. A typical transverse connection is shown on Detail 5b.2-3. A max of two fittings may also be stacked at this connection to accomodate braces in both directions.
3) When used with P1001, P5501 or P5001 channel and a perpendicular load is applied on the opposite side of the channel from the brace. The total of the perpendicular loads at the Brace Side and Opposite Side must not exceed 935 lbs.

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02/27/2020 OPM-0295-13: Reviewed for Code Compliance by Jeffrey Kikumoto 84 of 151

Typical Connection Details

DETAIL 5A.3-1: TYPICAL THREADED ROD CONNECTION TO STRUT WITH BRACE

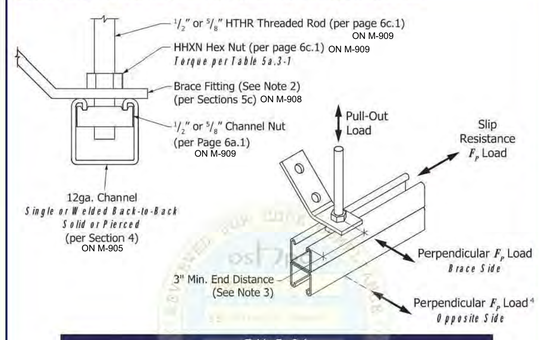

Table 5a.3-1

Rod Size	Installation Torque (ft-lbs)	Max. Capacity (lbs) [ASD]	Maximum Horizontal F_P Force (lbs) [ASD]		
		Pull-Out	Slip Resistance	Perpendicular Brace Side	Perpendicular [4] Opposite Brace
½"	50 - 55	2,810	1,370	1,035	640
⅝"	100 - 110	2,810	1,370	1,035	640

Notes:
1) Capacities listed in Table 5a.3-1 are for this connection only when attached to the open side of the channel. Fittings, Channel and other component capacities must also be considered.
2) The fitting may be oriented in a transverse or longitudinal (as shown) orientation. A typical transverse connection is shown on Detail 5b.2-3. A max of two fittings may also be stacked at this connection to accomodate braces in both directions.
3) For end distances less than 3", use the Wolf Washer per Page 5a.4.
4) When used with P1001, P5501 or P5001 channel and a perpendicular load is applied on the opposite side of the channel from the brace. The total of the perpendicular loads at the Brace Side and Opposite Side must not exceed 1,035 lbs.

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DIV. OF THE STATE ARCHITECT
APP: 03-124867 INC: A
REVIEWED FOR
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DATE: 03/12/2026

DSA FILE #: 56-C1
PROJECT TRACKING #: 03-124####

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4000 S ROSE AVE. OXNARD, CA 93033

MECHANICAL DETAILS

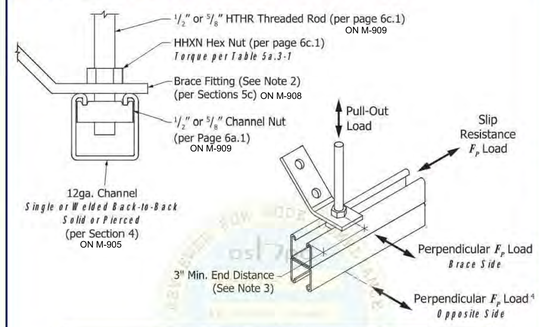
NO.	REVISION	DATE

PROJECT MANAGER: MH
DRAWN BY: TP/HM
CHECKED BY: HM/RR
DATE: 12/31/2025
PROJECT NUMBER: 3244-01-ED23
SHEET: M-906

100% CD

Typical Connection Details

DETAIL 5A.3-1: TYPICAL THREADED ROD CONNECTION TO STRUT WITH BRACE



Rod Size	Installation Torque (ft-lbs)	Max. Capacity (lbs) [ASD]	Maximum Horizontal F_p Force (lbs) [ASD]			
		Pull-Out	Slip Resistance	Perpendicular Brace Side	Perpendicular [4] Opposite Brace
½"	50 - 55	2,810	1,370	1,035	640
⅝"	100 - 110	2,810	1,370	1,035	640

Table 5a.3-1

Notes:

1) Capacities listed in Table 5a.3-1 are for this connection only when attached to the open side of the channel. Fittings, Channel and other component capacities must also be considered.
2) The fitting may be oriented in a transverse or longitudinal (as shown) orientation. A typical transverse connection is shown on Detail 5b.2-3. A max of two fittings may also be stacked at this connection to accomodate braces in both directions.
3) For end distances less than 3", use the Wolf Washer per Page 5a.4.
4) When used with P1001, P5501 or P5001 channel and a perpendicular load is applied on the opposite side of the channel from the brace. The total of the perpendicular loads at the Brace Side and Opposite Side must not exceed 1,035 lbs.

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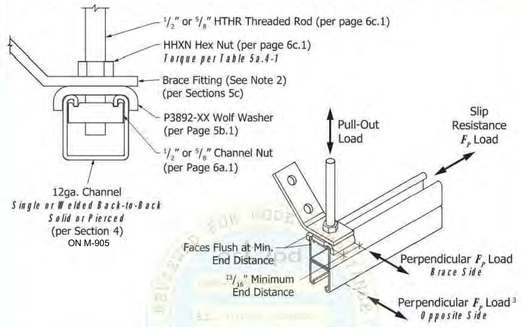
Typical Connection Details

DETAIL 5A.4-1: TYPICAL THREADED ROD CONNECTION TO STRUT WITH WOLF WASHER AND BRACE



Rod Size	Installation Torque (ft-lbs)	Max. Capacity (lbs) [ASD]	Maximum Horizontal F_p Force (lbs) [ASD]			
		Pull-Out	Slip Resistance	Perpendicular Brace Side	Perpendicular [4] Opposite Brace
½"	60 - 65	2,605	2,375	935	640
⅝"	100 - 110	2,605	2,375	935	640

Table 5a.4-1

Notes:

1) Capacities listed in Table 5a.4-1 are for this connection only when attached to the open side of the Channel. Fittings, Channel and other component capacities must also be considered.
2) The fitting may be oriented in a transverse or longitudinal (as shown) orientation. A typical transverse connection is shown on Detail 5b.2-3. A max of two fittings may also be stacked at this connection to accomodate braces in both directions.
3) When used with P1001, P5501 or P5001 channel and a perpendicular load is applied on the opposite side of the channel from the brace. The total of the perpendicular loads at the Brace Side and Opposite Side must not exceed 935 lbs.

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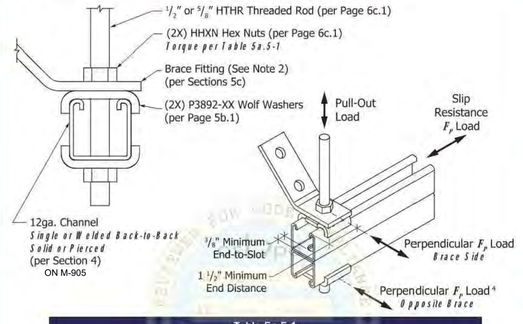
Typical Connection Details

DETAIL 5A.5-1: TYPICAL THREADED ROD CONNECTION TO STRUT WITH BRACE



Rod Size	Installation Torque (ft-lbs)	Max. Capacity (lbs) [ASD]	Maximum Horizontal F_p Force (lbs) [ASD]			
		Pull-Out	Slip Resistance	Perpendicular Brace Side	Perpendicular [4] Opposite Brace
½"	60	2,068	1,565	935	640
⅝"	73	2,605	1,565	935	640

Table 5a.5-1

Notes:

1) Capacities listed in Table 5a.5-1 are for this connection only with the brace attached to the open side of the channel. Fittings, Channel and other component capacities must also be considered.
2) The fitting may be oriented in a transverse or longitudinal (as shown) orientation. A typical transverse connection is shown on Detail 5b.2-1. A max of two fittings may also be stacked at this connection to accomodate braces in both directions.
3) Refer to Section 6D for Rod Stiffening.
4) When used with P1001, P5501 or P5001 channel and a perpendicular load is applied on the opposite side of the channel from the brace. The total of the perpendicular loads at the Brace Side and Opposite Side must not exceed 935 lbs.

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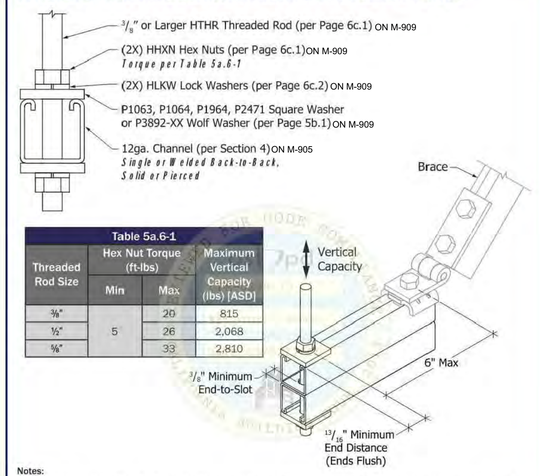
Typical Connection Details

DETAIL 5A.6-1: TYPICAL THREADED ROD CONNECTION TO STRUT ADJACENT TO BRACE



Threaded Rod Size	Hex Nut Torque (ft-lbs)		Maximum Vertical Capacity (lbs) [ASD]
	Min	Max	
⅜"	5	20	815
½"		26	2,068
⅝"		33	2,810

Table 5a.6-1

Notes:

1) Capacities listed in Table 5a.6-1 are for this connection only. Fittings, Channel and other component capacities must also be considered.
2) Refer to Section 6D for Rod Stiffening. ON M-910
3) This connection only has a vertical capacity (as shown). There are no load capacities in the horizontal plane and this connection cannot be used as a seismic brace connection. This is intended for use adjacent to a seismic brace connection. For seismic brace connections, refer to pages 5a.1 thru 5a.5 and 5a.8.

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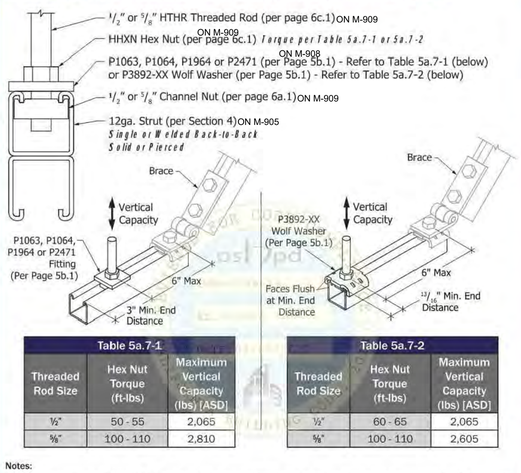
Typical Connection Details

DETAIL 5A.7-1: TYPICAL THREADED ROD CONNECTION TO STRUT ADJACENT TO BRACE



Threaded Rod Size	Hex Nut Torque (ft-lbs)	Maximum Vertical Capacity (lbs) [ASD]
½"	50 - 55	2,065
⅝"	100 - 110	2,810

Table 5a.7-1

Threaded Rod Size	Hex Nut Torque (ft-lbs)	Maximum Vertical Capacity (lbs) [ASD]
½"	60 - 65	2,065
⅝"	100 - 110	2,605

Table 5a.7-2

Notes:

1) Capacities listed in Tables 5a.7-1 and 5a.7-2 are for this connection only when attached to the open side of the channel. Fittings, Channel and other component capacities must also be considered.
2) Refer to Section 6D for Rod Stiffening. ON M-910
3) This connection only has a vertical capacity (as shown). There are no load capacities in the horizontal plane and this connection cannot be used as a seismic brace connection. This is intended for use adjacent to a seismic brace connection. For seismic brace connections, refer to pages 5a.1 thru 5a.5 and 5a.8.

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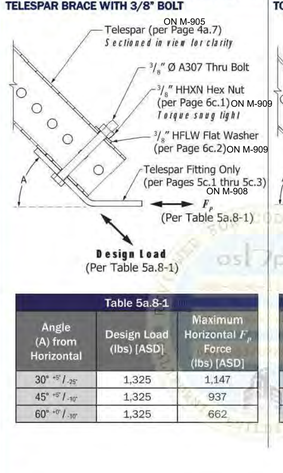
Typical Connection Details

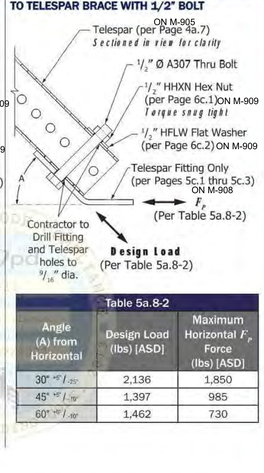
DETAIL 5A.8-1: TYPICAL FITTING CONNECTION TO TELESPAR BRACE WITH 3/8" BOLT



Angle (A) from Horizontal	Design Load (lbs) [ASD]	Maximum Horizontal F_p Force (lbs) [ASD]
30° +5° / -2.5°	1,325	1,147
45° +5° / -5°	1,325	937
60° +5° / -10°	1,325	662

Table 5a.8-1

DETAIL 5A.8-2: TYPICAL FITTING CONNECTION TO TELESPAR BRACE WITH 1/2" BOLT



Angle (A) from Horizontal	Design Load (lbs) [ASD]	Maximum Horizontal F_p Force (lbs) [ASD]
30° +5° / -2.5°	2,136	1,850
45° +5° / -5°	1,397	985
60° +5° / -10°	1,462	730

Table 5a.8-2

Notes:

1) Capacities listed in Tables 5a.8-1 and 5a.8-2 are for this connection only. Fittings, Telespar and other component capacities must also be considered.

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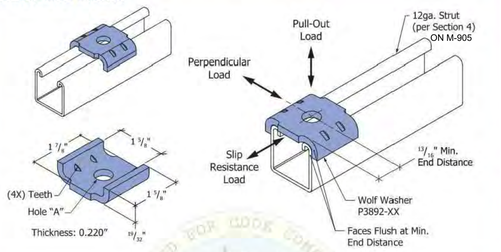
CHECKED BY: HM/RR
DATE: 12/31/2025
PROJECT NUMBER: 3244-01-ED23
SHEET: M-907

100% CD

Wolf Washer & Square Washer

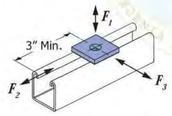
P3892-XX - WOLF WASHER



Part No.	Rod Size	Hole Size "A" (Dia.)
P3892-50	½"	9/16"
P3892-63	⅝"	11/16"

Material / Finish Specifications
Material: ASTM A1011 SS Grade 45
Finish: ASTM B633 Type III SC1 (EG)
Case Hardened

P1063, P1064, P1964, P2471 - SQUARE WASHERS



Part No.	Bolt Size	Hole Size
P1063	⅜"	7/16"
P1064	½"	9/16"
P1964	⅝"	11/16"
P2471	¾"	13/16"

Notes:
1) Channel Nut, Fitting and Cap Screw not shown for clarity. See Section 5a and Page 5b.2 for full installation requirements and load capacities.

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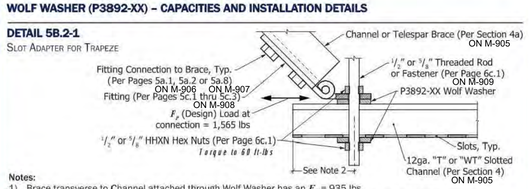
California SE No. 3930

Page: **5b.1**

Wolf Washer

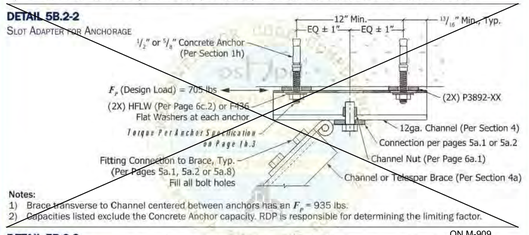
WOLF WASHER (P3892-XX) – CAPACITIES AND INSTALLATION DETAILS

DETAIL 5B.2-1
SLOT ADAPTER FOR TRAPEZE



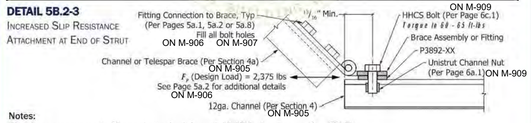
Notes:
1) Brace transverse to Channel attached through Wolf Washer has an F_v = 935 lbs.
2) Min. end distance to be 2 ½" for P1000 & P1001, 3 ¾" for P5500 & P5501, and 5" for P5000 and P5001.

DETAIL 5B.2-2
SLOT ADAPTER FOR ANCHORAGE



Notes:
1) Brace transverse to Channel centered between anchors has an F_v = 935 lbs.
2) Capacities listed exclude the Concrete Anchor capacity. RDP is responsible for determining the limiting factor.

DETAIL 5B.2-3
INCREASED SLIP RESISTANCE ATTACHMENT AT END OF STRUT



Notes:
1) Brace transverse to Channel attached through Wolf Washer has an F_v = 935 lbs.
2) See Page 5a.2 for additional details. ON M-906

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California SE No. 3930

Page: **5b.2**

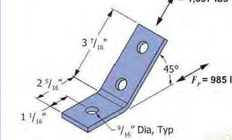
Brace Fittings

BRACE FITTINGS – NEW INSTALLATIONS

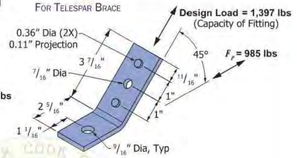
Material / Finish Specifications All Fittings on this Page
Material: ASTM A1011 SS GR 33 min. or ASTM A1011 HSLAS GR 45 min.
Finish: ASTM B633 Type III SC1 (EG)

45° FIXED ANGLE FITTINGS

P3810-050
FOR STRUT BRACE

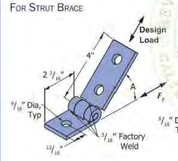


P3815-050
FOR TELESPAR BRACE

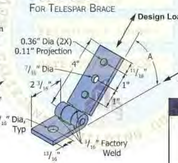


HINGED FITTINGS

P1354AW
FOR STRUT BRACE

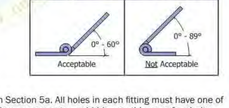


P3835-050
FOR TELESPAR BRACE



Fittings: P1354AW, P3835-050		
Angle "A" from Horizontal	Design Load (lbs)	F_v (lbs)
30° +5° / -2.5°	2,136	1,850
45° +5° / -10°	1,397	985
60° +5° / -10°	1,462	730

Fittings: P1354AW, P3835-050



Note:
1) Loads based on ½" HHCS or HSSB Bolt, and ½" Channel Nut.
2) All fitting connections to strut must conform to one of the details in Section 5a. All holes in each fitting must have one of these connections unless otherwise noted in the above details. Other components are hidden on this page for clarity.
3) Fitting dimensions (all this page) unless otherwise noted: Hole Diameter: 9/16"; Hole Spacing - From End: 13/16"; Hole Spacing - On Center: 1 7/8"; Width: 1 5/8"; Thickness: 1/4" or 0.22".
4) P3815-050 and P3835-050 are to be connected to Telespar per Page 5a.8 and capacities on that page may govern.

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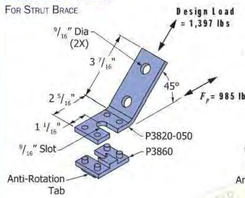
California SE No. 3930

Page: **5c.1**

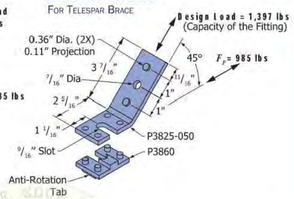
Brace Fittings

BRACE FITTINGS – RETROFIT, 45° FIXED ANGLE

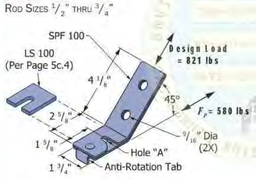
P3820-050 + P3860
FOR STRUT BRACE



P3825-050 + P3860
FOR TELESPAR BRACE



SPF 100-XXX + LS 100
FOR STRUT BRACE
ROD SIZES 1/2" THRU 3/4"



Material / Finish Specifications All Fittings on this Page Except P3860
Material: ASTM A1011 SS Grade 33 min. or ASTM A1011 SS Grade 45 min.
Finish: ASTM B633 Type III SC1 (EG)

Part No.	Rod Size	Hole Size "A" (Dia.)
SPF 100-050	½"	9/16"
SPF 100-062	⅝"	11/16"
SPF 100-075	¾"	13/16"

Note:
1) Loads based on ½" HHCS or HSSB Bolt, and ½" Channel Nut.
2) All fitting connections must conform to one of the details in Section 5a. All holes in each fitting must have one of these connections unless otherwise noted in the above details. Other components are hidden on this page for clarity.
3) Fitting Dimensions (all this page) unless otherwise noted: Hole Diameter: 9/16"; Hole Spacing - From End: 13/16"; Hole Spacing - On Center: 1 7/8"; Width: 1 5/8"; Thickness: 1/4" or 0.22".
4) P3825-050 is to be connected to Telespar per Page 5a.8 and capacities on that page may govern.

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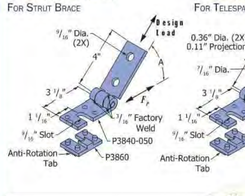
Page: **5c.2**

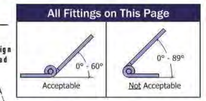
Brace Fittings

BRACE FITTINGS – RETROFIT, HINGED

P3840-050 + P3860
FOR STRUT BRACE

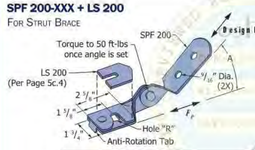


P3845-050 + P3860
FOR TELESPAR BRACE

All Fittings on This Page


Fittings: P3840-050, P3845-050		
Angle (A) from Horizontal	Design Load (lbs)	F_v (lbs)
30° +5° / -2.5°	2,136	1,850
45° +5° / -10°	1,397	985
60° +5° / -10°	1,462	730

SPF 200-XXX + LS 200
FOR STRUT BRACE



Material / Finish Specifications All Fittings on This Page Except P3860
Material: ASTM A1011 SS Grade 33 min. or ASTM A1011 HSLAS Grade 45 min.
Finish: ASTM B633 Type III SC1 (EG)

Part No.	Rod Size	Rod Hole Size "R" (Dia.)
SPF 200-050	½"	9/16"
SPF 200-062	⅝"	11/16"
SPF 200-075	¾"	13/16"

Angle (A) from Horizontal	Design Load (lbs)	F_v (lbs)
30° +5° / -2.5°	1,042	900
45° +5° / -10°	821	580
60° +5° / -10°	667	330

Note:
1) Loads based on ½" HHCS or HSSB Bolt, and ½" Channel Nut.
2) All fitting connections must conform to one of the details in Section 5a. All holes in each fitting must have one of these connections unless otherwise noted in the above details. Other components are hidden on this page for clarity.
3) Fitting dimensions (all this page) unless otherwise noted: Hole Diameter: 9/16"; Hole Spacing - From End: 13/16"; Hole Spacing - On Center: 1 7/8"; Width: 1 5/8"; Thickness: 1/4" or 0.22".
4) P3845-050 is to be connected to Telespar per Page 5a.8 and capacities on that page may govern.
5) P3840-050 and P3845-050 may have a partial hole as shown with dotted lines in the images above.

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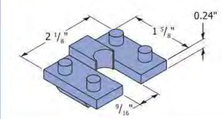
California SE No. 3930

Page: **5c.3**

Brace Fittings

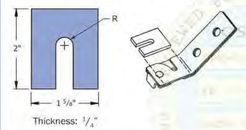
BRACE FITTINGS – RETROFIT ACCESSORIES

P3860
USE WITH P3820-050, P3825-050, P3840-050 AND P3845-050 ON PAGES 5c.2 & 5c.3



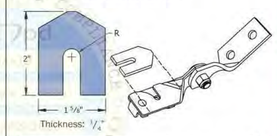
Material / Finish Specifications P3860
Material: P/M Nickel Steel FN-0208-S
Finish: ASTM B633 Type III SC1 (EG)

LS 100
USE WITH SPF 100-XXX ON PAGE 5c.2



Part No.	Rod Size	Rod Hole Size "R" (Dia.)
LS 100-050	½"	9/16"
LS 100-062	⅝"	11/16"
LS 100-075	¾"	13/16"

LS 200
USE WITH SPF 200-XXX ON PAGE 5c.3



Part No.	Rod Size	Rod Hole Size "R" (Dia.)
LS 200-050	½"	9/16"
LS 200-062	⅝"	11/16"
LS 200-075	¾"	13/16"

Material / Finish Specifications LS 100 and LS 200
Material: ASTM A1011 SS Grade 33 min.
Finish: ASTM B633 Type III SC1 (EG)

Note:
1) Accessories on this page are to be used with Fittings on pages 5c.2 and 5c.3 as noted on those pages. Reference those pages for additional details.

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California SE No. 3930

Page: **5c.4**

AGENCY APPROVAL STAMP

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-124867 INC: A
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 03/12/2026

DSA FILE #: 56-C1
PROJECT TRACKING #: 03-124####

rrmdesign.com | (805) 543-1794

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838 East Front Street
Ventura, California 93001
(805) 653-1722
hugh@aegroupme.com

OXNARD COLLEGE
OE BUILDING ALTERATIONS
4000 S ROSE AVE. OXNARD, CA 93033

MECHANICAL DETAILS

NO.	REVISION	DATE

PROJECT MANAGER: MH
DRAWN BY: TP/HM
CHECKED BY: HM/RR
DATE: 12/31/2025
PROJECT NUMBER: 3244-01-ED23
SHEET: M-908

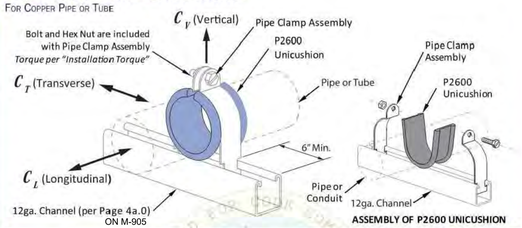
100% CD

Pipe, Conduit & Tube Clamps

COPPER PIPE & TUBE CLAMPS

P2000 SERIES & P1430 + P2600 UNICUSHION

For Copper Pipe or Tube



ASSEMBLY OF P2600 UNICUSHION

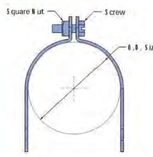
P2000 Series & P1430 Pipe Clamps - For Copper Pipe or Tube (Types K, L, M)

Pipe Clamp Part Number	P2600 UNICUSHION Part Number	P2600 UNICUSHION Cut Length	Nominal Pipe Size	Max. Vertical Capacity (lbs)	Maximum Horizontal F_p Force (lbs)		Installation Torque (ft-lbs)
				C_V Vertical	C_T Transverse	C_L Longitudinal	
P2027	P2600	1 ½"	⅜"	130	75	65	6
P2028	P2600	2 ⅛"	½"	130	75	65	6
P2029	P2600	2 ¼"	⅝"	130	75	65	6
P2030	P2600	3"	¾"	355	100	85	6
P2032	P2600	3 ⅛"	1"	355	100	85	6
P2034	P2600	4 ½"	1 ¼"	355	100	85	6
P1430	P2600	5 ¼"	1 ½"	355	100	85	11
P2040	P2600	6 ¾"	2"	1,165	265	290	11
P2044	P2600	8 ¼"	2 ½"	1,165	265	290	11
P2048	P2600	10"	3"	1,165	265	290	11
P2052	P2600	11 ¼"	3 ½"	1,165	265	290	19
P2056	P2600	12 ½"	4"	1,525	275	435	19

Note:
1) See Page 5d.4 for full product specifications.

Pipe, Conduit & Tube Clamps

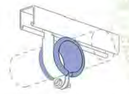
PIPE, CONDUIT & TUBE CLAMP SPECIFICATIONS



Part Number	Nominal Pipe Size	O.D. Size	Thickness	Screw & Nut (Thread)	Weight (lbs)
P1111	½"	0.840"	16 ga.	¼"-20	0.11
P1112	¾"	1.050"	14 ga.	¼"-20	0.15
P1113	1"	1.315"	14 ga.	¼"-20	0.17
P1114	1 ¼"	1.660"	14 ga.	¼"-20	0.19
P1115	1 ½"	1.900"	12 ga.	⁵⁄₁₆"-18	0.29
P1117	2"	2.375"	12 ga.	⁵⁄₁₆"-18	0.34
P1118	2 ½"	2.875"	12 ga.	⁵⁄₁₆"-18	0.40
P1119	3"	3.500"	12 ga.	⁵⁄₁₆"-18	0.47
P1120	3 ½"	4.000"	11 ga.	⅜"-16	0.62
P1121	4"	4.500"	11 ga.	⅜"-16	0.67
P1123	5"	5.563"	11 ga.	⅜"-16	0.80
P1124	6"	6.625"	10 ga.	⅜"-16	1.20
P1126	8"	8.625"	10 ga.	⅜"-16	1.30
P1426	½"	0.706"	16 ga.	¼"-20	0.11
P1427	¾"	0.922"	16 ga.	¼"-20	0.12
P1428	1"	1.163"	14 ga.	¼"-20	0.15
P1429	1 ¼"	1.510"	14 ga.	¼"-20	0.18
P1430	1 ½"	1.740"	12 ga.	⁵⁄₁₆"-18	0.29
P1431	2"	2.197"	12 ga.	⁵⁄₁₆"-18	0.33
P2027	⅜"	0.625"	16 ga.	¼"-20	0.10
P2028	½"	0.750"	16 ga.	¼"-20	0.11
P2029	⅝"	0.875"	16 ga.	¼"-20	0.12
P2030	¾"	1.000"	14 ga.	¼"-20	0.14
P2032	1"	1.250"	14 ga.	¼"-20	0.16
P2034	1 ¼"	1.500"	14 ga.	¼"-20	0.18
P2040	2"	2.250"	12 ga.	⁵⁄₁₆"-18	0.33
P2044	2 ½"	2.750"	12 ga.	⁵⁄₁₆"-18	0.38
P2048	3"	3.250"	12 ga.	⁵⁄₁₆"-18	0.45
P2052	3 ½"	3.750"	12 ga.	⅜"-16	0.58
P2056	4"	4.250"	11 ga.	⅜"-16	0.64

Material / Finish Specifications
All Pipe Clamps in Table

Materials:
Clamps: ASTM A1011 SS Gr 33 min.
Screw: SAE J429 GR 2
Square Nut: ASTM A563, Grade A
Finish: ASTM B633 Type III SC1 (EG)

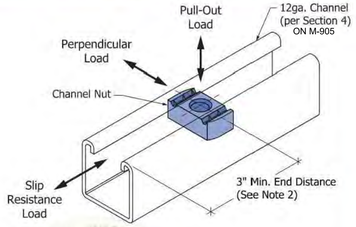


Material / Finish Specifications
P2600 Unicushion

Materials: Silicone Elastomer
Durometer: 65 - 75 on a Shore A Scale

Channel Nuts

P1010, P1012S, P5510
With Spring



P3008, P1012, P3010
Without Spring

P1010T
Top Grip

Notes:
1) Fitting and Cap Screw not shown for clarity. See Section 5a for full installation requirements.
2) For end distances less than 3", use Wolf Washer. Refer to Page 5b.1.
3) This information applies only to Unistrut brand Channel Nuts. All Unistrut Channel Nuts are stamped with the name "UNISTRUT".

Part Numbers	Thread Size	Use With
P3008*	⅜"	Any Channel in OPM
P1010	½"	P1000, P1001
P3010	½"	Any Channel in OPM
P5510	½"	P5500, P5501, P5000, P5001
P1010T	½"	Any Channel in OPM
P1012	⅝"	Any Channel in OPM
P1012S	⅝"	P1000, P1001

*P3008 is not to be used with a seismic brace

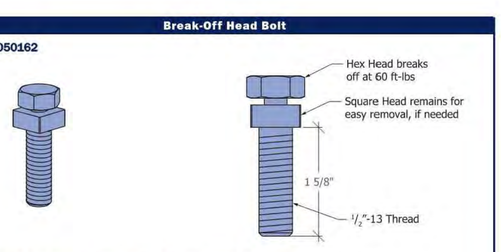
Material/Finish Specifications
P1010T
Material: ASTM B783, FN-0205-80HT
Finish: ASTM B633 Type III SC1 (EG)
Case Hardened

Material/Finish Specifications
P1012S, P1012
Material: ASTM A675 GR 60
Finish: ASTM B633 Type III SC1 (EG)
Case Hardened

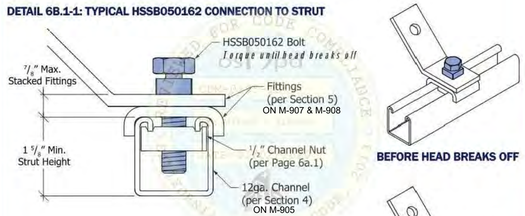
Material/Finish Specifications
P1010, P5510, P3010, P3008
Material: ASTM A576 GR 1015 Modified
Finish: ASTM B633 Type III SC1 (EG)
Case Hardened

Break-Off Head Bolt

HSSB050162



DETAIL 6B.1-1: TYPICAL HSSB050162 CONNECTION TO STRUT



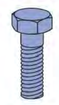
BEFORE HEAD BREAKS OFF

AFTER HEAD BREAKS OFF

Material / Finish Specifications
Material: SAE J429 GR 2
Finish: ASTM B633 Type III SC1 (EG)

General Hardware

HEX HEAD CAP SCREW (HHCS)



Part Number	Thread Size	Length
HHCS037075	⅜"	¾"
HHCS037100	⅜"	1"
HHCS037125	⅜"	1 ¼"
HHCS037150	⅜"	1 ½"
HHCS050094	½"	¹⁵⁄₁₆"
HHCS050119	½"	1 ⅜"
HHCS050150	½"	1 ½"

Material / Finish Specifications
Material: SAE J429 GR 2
Finish: ASTM B633 Type III SC1 (EG)

HEX NUTS (HHXN)

Part Number	Thread Size
HHXN037	⅜"
HHXN050	½"
HHXN062	⅝"

Material / Finish Specifications
Material: ASTM A563, Grade A
Finish: ASTM B633 Type III SC1 (EG)
Dimensions in accordance with ANSI B18.2.2

STEEL THREADED ROD (HTHR)

Part Number	Thread Size
HTHR037	⅜"
HTHR050	½"
HTHR062	⅝"

Material / Finish Specifications
Material: ASTM A36 or F1554 GR 36 minimum
Finish: ASTM B633 Type III SC1 (EG)
Yield Strength: 36,000 psi minimum

STEEL COUPLER NUTS (HRCN)

Part Number	Thread Size	Length
HRCN037	⅜"	1 ¾"
HRCN050	½"	1 ¾"
HRCN062	⅝"	2 ⅛"

Material / Finish Specifications
Material: ASTM A563, Grade A
Finish: ASTM B633 Type III SC1 (EG)

General Hardware

FLAT WASHERS (HFLW)

Part Number	Thread Size
HFLW037	⅜"
HFLW050	½"
HFLW062	⅝"

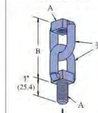
Material / Finish Specifications
Material: ASTM F844
Finish: ASTM B633 Type III SC1 (EG)
Dimensions in accordance with ANSI B18.22.1, Type A

LOCK WASHERS (HLKW)

Part Number	Thread Size
HLKW037	⅜"
HLKW050	½"
HLKW062	⅝"

Material / Finish Specifications
Material: ASTM A29, Grades 1055-1065
Finish: ASTM B695, Class 5, Type 1 (EG)
Dimensions in accordance with ANSI B18.21.1

SWIVEL HANGERS



Part Number	Thread Size (A)	Length (B)
M2137	⅜"	2 ²⁵⁄₃₂"
M2150	½"	2 ³¹⁄₃₂"

Part Number
M2350

Design Load (F_l) = 600 lbs.

Material / Finish Specifications
Materials:
Sq. Head Bolt: Low Carbon Steel Grade 1006 – 1010
Sq. Nut: ASTM A563, Grade A
U-Rod: ASTM A108, Grade 1018
Finish: ASTM B633 Type III SC1 (EG)

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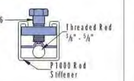
PROJECT NUMBER: 3244-01-ED23
SHEET: M-909

100% CD

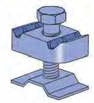
Rod Stiffeners

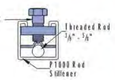
P2486 - SEISMIC ROD STIFFENER



Material / Finish Specifications
Materials:
Channel Nut: ASTM A576 G1015 Mod.
Cap Screw: SAE J429 GR 2
Plate: ASTM A1011 SS GR 33
Finish: ASTM B633 Type III SC1 (EG)

P2486US - SEISMIC ROD STIFFENER



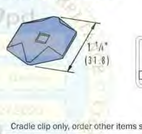


Material / Finish Specifications
Materials:
Channel Nut: ASTM A576 G1015 Mod.
Cap Screw: SAE J429 GR 2
Plate: ASTM A1011 SS GR 33
Finish: ASTM B633 Type III SC1 (EG)

P2485K - CRADLE CLIP ASSEMBLY

Material / Finish Specifications
Materials:
Channel Nut: ASTM A675 GR 60
Cap Screw: SAE J429 GR 2
Cradle Clip: ASTM A366-85
Finish: ASTM B633 Type III SC1 (EG)

P2485 - CRADLE CLIP



Cradle clip only, order other items separately.

Material / Finish Specifications
Material: ASTM A366-85
Finish: ASTM B633 Type III SC1 (EG)

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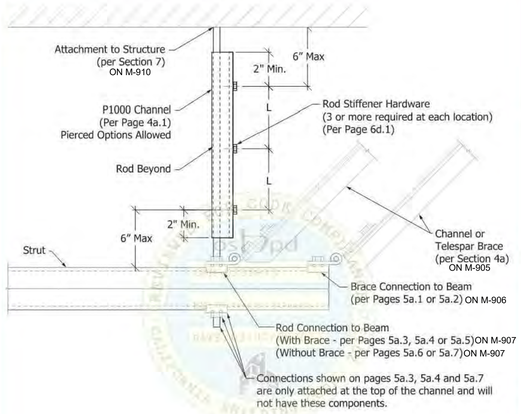
Page: **6d.1**

Rod Stiffeners

ROD STIFFENER



Note:

1) Where the length of the rod is less than "L" and the max F_p Force is not exceeded per the tables on sheet 6d.3, rod stiffeners and strut are not required. If the length of the rod exceeds 30", a rod stiffener will be required.

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Page: **6d.2**

Rod Stiffeners

Maximum Horizontal F_p Force (lbs.) ASD

3/8" Diameter Rod	"L" Clip/Bolt Spacing (in.)	Max Total Rod Length (ft.)	Lateral Brace Angle (Deg.)			
			0° +5°/-0° (Horizontal)	30° +5°/-25°	45° +5°/-10°	60° +0°/-10°
	9	7.4	Brace Capacity Governs (See Section 3 for Maximum Horizontal F_p Force for Brace)	1,164	684	471
	12	9.8		685	402	277
	15	12.2		438	258	177
	18	14.7		304	179	123
	21	15.0		224	131	90
	24	15.0		171	101	69
	27	15.0		135	79	55
	30	15.0		110	64	44

Maximum Horizontal F_p Force (lbs.) ASD

1/2" Diameter Rod	"L" Clip/Bolt Spacing (in.)	Max Total Rod Length (ft.)	Lateral Brace Angle (Deg.)			
			0° +5°/-0° (Horizontal)	30° +5°/-25°	45° +5°/-10°	60° +0°/-10°
	9	5.5	Brace Capacity Governs (See Section 3 for Maximum Horizontal F_p Force for Brace)	2,953	1,735	1,194
	12	6.6		2,176	1,279	880
	15	8.2		1,472	865	595
	18	9.8		1,022	601	413
	21	11.4		751	441	304
	24	13.0		575	338	233
	30	16.3		368	216	149
	30	19.6		256	150	103
	30	20.0		245	144	99

Maximum Horizontal F_p Force (lbs.) ASD

5/8" Diameter Rod	"L" Clip/Bolt Spacing (in.)	Max Total Rod Length (ft.)	Lateral Brace Angle (Deg.)			
			0° +5°/-0° (Horizontal)	30° +5°/-25°	45° +5°/-10°	60° +0°/-10°
	15	6.1	Brace Capacity Governs (See Section 3 for Maximum Horizontal F_p Force for Brace)	3,516	2,066	1,422
	18	7.2		2,599	1,527	1,051
	24	9.6		1,462	859	591
	30	11.9		936	550	378
	30	14.3		650	382	263
	30	19.1		365	215	148
	30	20.0		333	196	135

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Page: **6d.3**

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CHECKED BY HM/RR
DATE 12/31/2025
PROJECT NUMBER 3244-01-ED23
SHEET M-910

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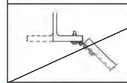
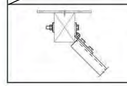
Connections / Anchors

PART NUMBER		PAGE
	Post-Installed Concrete Connections	7a.1 – 7a.2
	Post-Installed Concrete Filled Metal Deck Connections	7b.1 – 7b.2
	Steel Beam Connections	7c.1 – 7c.2
	Wood Beam Connections	7d.1 – 7d.2

Notes:

1) Design is controlled by seismic forces. Non-seismic forces such as gravity are outside the scope of this OPM.
2) Hanger Rod at seismic brace locations is subjected to gravity loads as well as lateral and vertical seismic loads and has been designed for such combined loading in compliance with California Building Code, ASCE 7-10, and standard structural steel practices and are not subject to the hanger rod diameters designed for gravity loads only that may be outlined in project specifications, code documents, trade guidelines, etc.

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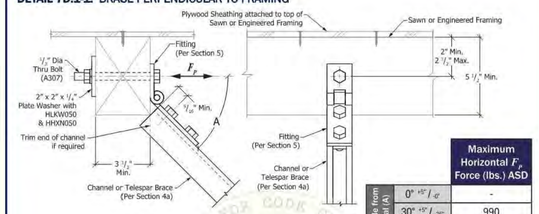
California SE No. 3930

Page: **7a.0**

Wood Beam Connections

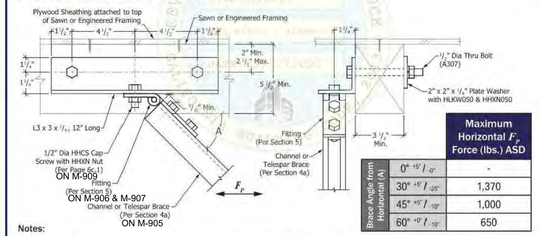
BRACE CONNECTION TO WOOD FRAMING

DETAIL 7D.1-1: BRACE PERPENDICULAR TO FRAMING



Brace Angle from Horizontal (A)	Maximum Horizontal F_r Force (lbs.) ASD
0° +5° / -0°	-
30° +5° / -20°	990
45° +5° / -10°	575
60° +0° / -10°	330

DETAIL 7D.1-2: BRACE PARALLEL TO WOOD FRAMING



Brace Angle from Horizontal (A)	Maximum Horizontal F_r Force (lbs.) ASD
0° +5° / -0°	-
30° +5° / -20°	1,370
45° +5° / -10°	1,000
60° +0° / -10°	650

Notes:

1) Sawn or Engineered Framing shall be equivalent to Douglas Fir Larch #2 or better. Moisture content ≤ 19%.
2) Other detail components (e.g. fitting or brace) may limit system capacity if they have lower F_r force.

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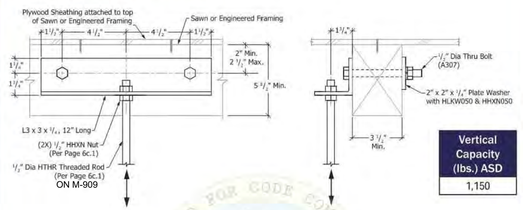
Page: **7d.1**

Wood Beam Connections

CONNECTION TO WOOD FRAMING

DETAIL 7D.2-1: SUPPORT FROM FRAMING



Vertical Capacity (lbs.) ASD
1,150

Notes:

1) Sawn or Engineered Framing shall be equivalent to Douglas Fir Larch #2 or better. Moisture ≤ 19%.
2) ½" Ø Rod and Nuts at Fitting may be substituted with ½" Ø Cap Screw and Nut below Fitting with Coupling Nut and Threaded Rod.
3) See notes (1) and (2) on page 7a.0.

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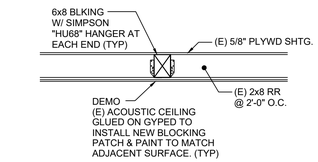
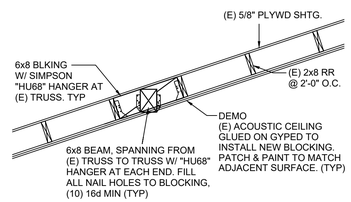
Page: **7d.2**



TYPICAL (N) BLOCKING PERPENDICULAR TO ROOF RAFTERS AT (E) TRUSS



TYPICAL (N) BLOCKING PARALELL TO ROOF RAFTERS

TYPICAL NEW BEAM 1

SCALE: NONE

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SHEET: M-911

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STATE OF CALIFORNIA
Mechanical Systems
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE NRCC-MCH-E

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

Project Name:	OC Marine Ctr	**Report Page:**	**(Page 1 of 10)**
Project Address:	4000 S. Rose Ave	**Date Prepared:**	12/10/2024

A. GENERAL INFORMATION

01	Project Location (city)	Oxnard	04 Total Conditioned Floor Area	1070
02	Climate Zone	6	05 Total Unconditioned Floor Area	0
03	Occupancy Types Within Project:		06 # of Stories (Habitable Above Grade)	1

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

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CERTIFICATE OF COMPLIANCE NRCC-MCH-E

Project Name:	OC Marine Ctr	**Report Page:**	**(Page 2 of 10)**
		Date Prepared:	12/10/2024

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)	AND	Pumps 140.4(k), 170.2(c)4I	AND	Fans/ Economizers 140.4(c), 140.4(e), 170.2(c)	AND	System Controls 110.2, 120.2, 140.4(f), 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	AND	Cooling Towers 110.2(e)2	Compliance Results
(See Table F)		(See Table G)		(See Table H)		(See Table I)		(See Table J)		(See Table K)		(See Table L)		(See Table M)	
Yes	AND		AND	Yes	AND	Yes	AND	Yes	AND		AND	Yes	AND		COMPLIES
Mandatory Measures Compliance (See Table C for Details)												COMPLIES			

D. EXCEPTIONAL CONDITIONS

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

E. ADDITIONAL REMARKS

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

F. HVAC SYSTEM SUMMARY (DRY & WET SYSTEMS)

Space Conditioning System Information

01 System Name	02 Quantity	03 System Serving	04 System Status	05 Space Type	06 Utilizing Recovered Heat
IU_OU-1	1	Single zone	Alteration		☐

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CERTIFICATE OF COMPLIANCE NRCC-MCH-E

Project Name:	OC Marine Ctr	**Report Page:**	**(Page 3 of 10)**
		Date Prepared:	12/10/2024

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)3ai	Equipment Type per Tables 110.2 and Title 20	Smallest Size Available[1] 140.4(a) and 170.2(c)1	Equipment Sizing per Mechanical Schedule (kBtu/h) 140.4(a&b), 170.2(c)1 & 170.2(c)2						
				Heating Output[1,2]			Cooling Output[1,2]		Load Calculations[3,4]	
				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)
IU_OU-1	Unitary Heat Pumps	Air-cooled, split (3 phase)	NA: Altered per 141.0(b)2E and 180.2(b)2	28.45	41	0	23.18	21	29.03	28.87

[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
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	Efficiency Unit	Minimum Efficiency Required per Tables 110.2 / Title 20	Design Efficiency
IU_OU-1	<65,000		HSPF2	7.5	8.4	SEER2	14.3	18.2

G. PUMPS

This section does not apply to this project.

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CERTIFICATE OF COMPLIANCE NRCC-MCH-E

Project Name:	OC Marine Ctr	**Report Page:**	**(Page 4 of 10)**
		Date Prepared:	12/10/2024

H. FAN SYSTEMS & AIR ECONOMIZERS

This table is used to demonstrate compliance with prescriptive requirements found in 140.4(c), 140.4(e), 140.4(m), 170.2(c)3, and 170.2(c)4A for fan systems. Fan systems serving only process loads are exempt from these requirements and do not need to be included in Table H.

System Name	IU_OU-1	Quantity	1	Fan System Status	Alteration	System Zoning	all other systems	Serving Dwelling Units	Not Serving Dwelling Units	Fan System Airflow (cfm)	918	Site Elevation	49	Economizer	NA: Altered packaged AC or HP <54 kBtu/h
01	02	03	04			05	06	07	08	09				10	11
Fan Name or Item Tag	Fan Type	Qty	Component			Airflow through Component (%)	Water Gauge (w.g)	Allowance		Design					
								Component Allowance	Fan Allowance (watt/cfm)[3]	Design Electrical Input Power Method			Motor Nameplate Horsepower	Design Electrical Input Power (kW)	
SF	Supply	1	Base Allowance for system serving spaces <=6 floors away			100		213		Manufacturer provided				0.15	
			MERV 13-16 Filter upstream of thermal conditioning equipment			100		128							
			Hydronic/DX cooling coil or heat pump coil			100		128							
			Supply Fan System			100		128							
Supply Fan Base Allowance (kW)			Exhaust/Return/Relief/Transfer Fan Base Allowance(kW)					Fan System Allowance (kW)[3]		1			Fan System Electrical Output (kW)		0.15

[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(a) and will be documented on the NRCC-PRC-E document..

STATE OF CALIFORNIA
Mechanical Systems
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE NRCC-MCH-E

Project Name:	OC Marine Ctr	**Report Page:**	**(Page 5 of 10)**
		Date Prepared:	12/10/2024

Fan Energy Index (FEI)

01 Name or Item Tag	02 FEI Exception	03 FEI
IU_OU-1	Altered Fan System	

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 System Name	02 System Zoning	03 Conditioned Floor Area Being Served (ft²)	04 Thermostats 110.2(b) & (c)[1], 120.2(a) 160.3(a)2A or 141.0(b)2E & 180.2(b)2	05 Shut-Off Controls 120.2(e) & 160.3(a)2D	06 Isolation Zone Controls 120.2(g) & 160.3(a)2F	07 Demand Response 110.12 120.2(b) & 160.3(a)2B	08 Supply Air Temp. Reset 140.4(f) & 170.2(c)4D	09 Window Interlocks per 140.4(n) & 170.2(c)4D
IU_OU-1	Single zone	<= 25,000 ft²	EMCS	EMCS	EMCS	EMCS	NA: Alteration	NA: Alteration Project

[1]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.

J. VENTILATION AND INDOOR AIR QUALITY

This table is used to demonstrate compliance with mandatory ventilation requirements in 120.1 120.2(e)3B 140.4(p) and 140.4(q) for all nonresidential and hotel/motel and d:\t24refnolink\160.2, 160.3(a)3D, 170.2(a)4N, 170.2(a)4O 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		

STATE OF CALIFORNIA
Mechanical Systems
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE NRCC-MCH-E

Project Name:	OC Marine Ctr	**Report Page:**	**(Page 6 of 10)**
		Date Prepared:	12/10/2024

J. VENTILATION AND INDOOR AIR QUALITY

04	05			06		07
System Name	IU_OU-1	System Design OA CFM Airflow[1]	345	System Design Transfer Air CFM	0	Air Filtration per 120.1(c) 141.0(b)2 and 160.2(c)21[2] Provided
08	09	10	11	12	13	14 15 16
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(e)3[5] 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	Required Min CFM	Provided per Design CFM
Aquarium	All others	1070			160.5	0	0
17	Total System Required Min OA CFM				160	18	Ventilation for this System Complies? Yes

[1] FOOTNOTES: System CFM should include both mechanical and natural ventilation for the zone/system
[2] Air filtration requirements apply to the following three system types per 120.1(c)1A: space conditioning systems utilizing ducts to supply air to occupiable space; supply-only ventilation systems providing outside air to occupiable space; supply side of balanced ventilation systems including heat recovery and energy recovery ventilation systems providing outside air to occupiable space.
[3] Uniform Mechanical Code may have more stringent ventilation requirements; the most stringent code requirement takes precedence.
[4] See Standards Tables 120.1-A and 120.1-B.
[5] For lecture halls with fixed seating, the expected number of occupants shall be determined in accordance with the California Building Code.
[6] 120.2(e)3 requires systems serving rooms that are required by 130.1(c) to have lighting occupancy sensing controls to also have occupancy sensing zone controls for ventilation. Examples of spaces which require lighting occupancy sensors include offices 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.

AGENCY APPROVAL STAMP

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-124867 INC: A
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 03/12/2026

DSA FILE #: 56-C1
PROJECT TRACKING #: 03-124####

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ENERGY FORMS

NO.	REVISION	DATE
1		
2		
3		
4		
5		

PROJECT MANAGER MH
DRAWN BY TP/HM
CHECKED BY HM/RR
DATE 12/31/2025
PROJECT NUMBER 3244-01-ED23
SHEET EN-001

100% CD

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:	IU_OU-1	**NR/ Common Use:** Duct leakage testing shall not exceed 6% per NA7.5.3 required for these systems?	No
		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 603.10.1 required for these systems?	Yes

11	No	The scope of the project includes only duct systems serving healthcare facilities
12	Yes	Duct system provides conditioned air to an occupiable space for a constant volume, single zone, space-conditioning system.
13	Yes	The space conditioning system serves less than 5,000 ft^2 of conditioned floor area.
14	No	The combined surface area of the ducts 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		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		
23		

M. COOLING TOWERS

This section does not apply to this project.

N. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Selections have been made based on information provided in previous tables of this document. If any selection needs to be changed, please explain why in Table E Additional Remarks. These documents must be provided to the building inspector during construction and can be found online at https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCI/

Form/Title
NRCI-MCH-01-E - Must be submitted for all buildings

O. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

Selections have been made based on information provided in previous tables of this document. If any selection needs to be changed, please explain why in Table E Additional Remarks. These documents must be provided to the building inspector during construction and can be found online at https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCA/

Form/Title	Systems/Spaces To Be Field Verified
NRCA-MCH-02-A - Outdoor Air must be submitted for all newly installed HVAC units. Note: MCH-02-A can be performed in conjunction with MCH-07-A Supply Fan VFD Acceptance (if applicable) since testing activities overlap.	Samsung Heat Pump;
NRCA-MCH-03-A - Constant Volume Single Zone HVAC NOTE: This form does not automatically move to "Yes'. If Constant Volume Single Zone HVAC Systems are included in the scope, permit applicant should move this form to "Yes".	Samsung Heat Pump;
NRCA-MCH-11-A Automatic Demand Shed Controls	Samsung Heat Pump;
NRCA-MCH-18-A Energy Management Control Systems	Samsung Heat Pump;

P. DECLARATION OF REQUIRED CERTIFICATES OF VERIFICATION

There are no NRCV forms required for this project.

Q. MANDATORY MEASURES DOCUMENTATION LOCATION

This table is used to indicate where mandatory measures are documented in the plan set or construction documentation.

01		02
Compliance with Mandatory Measures documented through MCH Mandatory Measures Note Block	Yes	Plan sheet or construction document location: M-Sheets

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

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

Documentation Author Name: Tony Perez	Documentation Author Signature:
Company: AE Group Mechanical Engineers, Inc.	Signature Date: 2024-12-10
Address: 838 E. Front St.	CEA/ HERS Certification Identification (if applicable):
City/State/Zip: Ventura Ca 93001	Phone: 805-653-1722

RESPONSIBLE PERSON'S DECLARATION STATEMENT

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

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

Responsible Designer Name: Ravish Rao	Responsible Designer Signature:
Company: AE Group Mechanical Engineers, Inc.	Date Signed: 2024-12-10
Address: 838 E. Front St.	License: M39461
City/State/Zip: Ventura Ca 93001	Phone: 8056531722

AGENCY APPROVAL STAMP

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-124867 INC:
REVIEWED FOR
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DATE: 03/12/2026

DSA FILE #: 56-C1
PROJECT TRACKING #: 03-124####

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ENERGY FORMS

NO.	REVISION	DATE

PROJECT MANAGER MH
DRAWN BY TP/HM | **CHECKED BY** HM/RR
DATE 12/31/2025
PROJECT NUMBER 3244-01-ED23
SHEET EN-002

100% CD

PLUMBING NOTES

1. SCOPE OF WORK: FURNISH AND INSTALL ALL PIPING SHOWN ON THE PLUMBING DRAWINGS AND DESCRIBED IN THESE NOTES AND THE BOOK SPECIFICATIONS. UNLESS OTHERWISE DIRECTED BY BUILDING OWNER, CONTRACTOR SHALL ARRANGE FOR AND PAY ALL FEES FOR CONNECTIONS TO UTILITIES. IN CONNECTION WITH THIS WORK, CONTRACTOR SHALL ALSO FURNISH AND INSTALL ALL NECESSARY LABOR, DEVICES, HARDWARE AND SYSTEMS REQUIRED TO MAKE SAID SYSTEMS PROPERLY AND SAFELY OPERABLE, INCLUDING, BUT NOT LIMITED TO, DRILLING, CONCRETE & ASPHALT SAW CUTTING, TRENCHING AND BACKFILL, MOUNTING AND SUPPORT HARDWARE, FRAMING, PIPING, ASPHALT, CONCRETE, VALVES, PATCHING & PAINTING.

2. EXAMINATION OF SITE AND CONTRACT DOCUMENTS. EACH BIDDER SHALL, AT ITS SOLE COST AND EXPENSE, INSPECT THE SITE OF THE PROPOSED WORK TO BECOME FULLY ACQUAINTED WITH CONDITIONS RELATING TO THE WORK AND TO FULLY UNDERSTAND THE FACILITIES, DIFFICULTIES AND RESTRICTIONS ATTENDING THE EXECUTION OF THE WORK UNDER THE CONTRACT DOCUMENTS AND COST THEREOF. BIDDERS SHALL THOROUGHLY REVIEW AND BE FAMILIAR WITH THE CONTRACT DOCUMENTS, INCLUDING WITHOUT LIMITATION, THE SPECIFICATIONS AND THE DRAWINGS. THE FAILURE OR OMISSION OF ANY BIDDER TO RECEIVE OR EXAMINE ANY OF THE CONTRACT DOCUMENTS, FORMS, INSTRUMENTS, ADDENDA, OR OTHER DOCUMENTS OR TO INSPECT THE SITE SHALL NOT RELIEVE SUCH BIDDER FROM ANY OBLIGATIONS WITH RESPECT TO THE BID PROPOSAL. THE CONTRACT OR THE WORK REQUIRED UNDER THE CONTRACT DOCUMENTS. THE OWNER ASSUMES NO RESPONSIBILITY OR LIABILITY TO ANY BIDDER FOR, NOR SHALL THE OWNER BE BOUND BY, ANY UNDERSTANDINGS, REPRESENTATIONS OR AGREEMENTS OF THE OWNER'S AGENTS, EMPLOYEES OR OFFICERS CONCERNING THE CONTRACT DOCUMENTS OR THE WORK MADE PRIOR TO EXECUTION OF THE CONTRACT. THE SUBMISSION OF A BID PROPOSAL SHALL BE DEEMED PRIMA FACIE EVIDENCE OF THE BIDDER'S FULL COMPLIANCE WITH THE REQUIREMENTS OF THIS SECTION.

3. INTERPRETATION OF DRAWINGS, SPECIFICATIONS OR CONTRACT DOCUMENTS. IF ANY BIDDER IS IN DOUBT AS TO THE TRUE MEANING OF ANY PART OF THE DRAWINGS, THE SPECIFICATIONS OR OTHER PORTIONS OF THE CONTRACT DOCUMENTS; FINDS DISCREPANCIES, ERRORS OR OMISSIONS THEREIN; OR FINDS VARIANCES IN ANY OF THE CONTRACT DOCUMENTS WITH APPLICABLE RULES, REGULATIONS, ORDINANCES AND/OR LAWS, A WRITTEN REQUEST FOR AN INTERPRETATION OR CORRECTION THEREOF MAY BE SUBMITTED TO THE ENGINEER. IT IS THE SOLE AND EXCLUSIVE RESPONSIBILITY OF THE BIDDER TO SUBMIT SUCH REQUEST IN SUFFICIENT TIME FOR THE PREPARATION OF A RESPONSE THERETO AND DELIVERY OF SUCH RESPONSE TO ALL BIDDERS PRIOR TO THE SCHEDULED CLOSING FOR RECEIPT OF BID PROPOSALS. ANY REQUEST OF ANY BIDDER, PURSUANT TO THE FOREGOING SENTENCE THAT IS MADE LESS THAN SEVEN DAYS PRIOR TO THE SCHEDULED CLOSING DATE FOR THE RECEIPT OF BID PROPOSALS SHALL BE DEEMED UNTIMELY. ANY INTERPRETATION OR CORRECTION OF THE CONTRACT DOCUMENTS WILL BE MADE ONLY BY WRITTEN ADDENDUM DULY ISSUED BY THE OWNER OR THE ENGINEER. A COPY OF ANY SUCH ADDENDUM WILL BE MAILED OR OTHERWISE DELIVERED TO EACH BIDDER RECEIVING A SET OF THE CONTRACT DOCUMENTS. NO PERSON IS AUTHORIZED TO RENDER AN ORAL INTERPRETATION OR CORRECTION OF ANY PORTION OF THE CONTRACT DOCUMENTS TO ANY BIDDER, AND NO BIDDER IS AUTHORIZED TO RELY ON ANY SUCH ORAL INTERPRETATION OR CORRECTION. FAILURE TO REQUEST INTERPRETATION OR CLARIFICATION OF THE DRAWINGS, THE SPECIFICATIONS OR OTHER PORTIONS OF THE CONTRACT DOCUMENTS PURSUANT TO THE FOREGOING SHALL BE DEEMED TO BE A WAIVER OF ANY DISCREPANCY, DEFECT, OR CONFLICT THEREIN.

4. VERIFICATION OF EXISTING UTILITIES. EXISTING BURIED PIPELINES, CONDUITS AND STRUCTURES KNOWN TO THE PREPARER OF THE DRAWINGS ARE SHOWN ON THE DRAWINGS. HOWEVER, ALL SUCH PIPELINES AND STRUCTURES MAY NOT BE SHOWN AND THE LOCATIONS OF THOSE SHOWN ARE APPROXIMATE ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE PREPARER OF THE DRAWINGS. CONTRACTOR SHALL INDEPENDENTLY VERIFY OR DETERMINE THE PRESENCE OF EXISTING BURIED PIPELINES, CONDUITS, AND STRUCTURES WITHIN THE WORK AREA WITH THE UTILITY COMPANIES, THE WATER AND SANITARY AGENCIES, AND THE PROPERTY OWNER. BEFORE COMMENCING WORK, CONTRACTOR SHALL DETERMINE THE EXACT LOCATIONS INCLUDING DEPTHS OF ALL EXISTING UNDERGROUND PIPELINES, CONDUITS AND STRUCTURES, INCLUDING SERVICE CONNECTIONS, WHICH MAY AFFECT OR BE AFFECTED BY HIS OPERATIONS AND SHALL MARK THESE LOCATIONS WITH PAINT OR FLAGS. CONTRACTOR AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND PIPELINES, CONDUITS AND STRUCTURES. UPON BECOMING AWARE OF EXISTING BURIED PIPELINES , CONDUITS OR STRUCTURES NOT SHOWN OR LOCATED DIFFERENTLY THAN SHOWN ON THE DRAWINGS, CONTRACTOR SHALL IMMEDIATELY NOTIFY THE OWNER'S REPRESENTATIVE AND THE OWNER OF THE PIPELINE, CONDUIT OR STRUCTURE BY TELEPHONE AND IN WRITING. IF SUCH PIPELINE, CONDUIT OR STRUCTURE AFFECTS OR IS AFFECTED BY THE WORK, CONTRACTOR SHALL OBTAIN WRITTEN PERMISSION AND DIRECTION BEFORE PROCEEDING WITH THE WORK, EXCEPTING THAT IN AN EMERGENCY AFFECTING SAFETY OF LIFE, WORK OR ADJACENT PROPERTY, CONTRACTOR SHALL ACT AT ONCE WITHOUT INSTRUCTIONS TO PREVENT INJURY OR LOSS. SEE ARCHITECTURAL, ELECTRICAL, AND CIVIL PLANS FOR OTHER SITE UTILITIES.

5. DAMAGE / DEMOLITION REPAIR: IN THE EVENT THAT EXISTING UTILITIES OF ANY TYPE ARE DAMAGED BY CONTRACTOR, CONTRACTOR SHALL IMMEDIATELY REPAIR DAMAGE AND RESTORE SERVICES. IF REPAIRS ARE NOT ABLE TO BE MADE IMMEDIATELY, CONTRACTOR SHALL INSTALL TEMPORARY UTILITIES AS REQUIRED TO MAINTAIN UTILITY SERVICES TO ALL BUILDINGS AND FACILITIES. ALL CONCRETE CURB AND GUTTER, FLATWORK, AND LANDSCAPING REMOVED OR DAMAGED BY CONTRACTOR SHALL BE REPLACED IN-KIND BY CONTRACTOR. IT IS THE INTENT OF THIS SECTION THAT THE CONTRACTOR BE RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH THESE NOTES.

6. DIMENSIONS. ALL DIMENSIONS SHALL HAVE PREFERENCE OVER SCALE. ALL DIMENSIONS SHALL BE VERIFIED IN THE FIELD. ENGINEER SHALL BE NOTIFIED OF ANY DISCREPANCIES BETWEEN ARCHITECTURAL AND ENGINEERING DRAWINGS BEFORE PROCEEDING WITH WORK. IN NO CASE SHALL WORKING DIMENSIONS BE SCALED FROM PLANS, SECTIONS, OR DETAILS ON WORKING DRAWINGS. ALL SIZES OF EQUIPMENT AND MATERIALS SHALL BE VERIFIED WITH EQUIPMENT MANUFACTURER. ALL PLUMBING FIXTURES SHALL BE INSTALLED PER THE DIMENSIONS ON THE ARCHITECTURAL DRAWINGS.

7. CODES AND STANDARDS: ALL WORK SHALL COMPLY WITH THE REQUIREMENTS OF THE 2022 CALIFORNIA PLUMBING CODE, THE 2022 CALIFORNIA MECHANICAL CODE, THE 2022 CALIFORNIA BUILDING CODE, THE STATE OF CALIFORNIA, THE LOCAL JURISDICTION, AND STANDARD CONSTRUCTION PRACTICES. ALL PLUMBING FIXTURES SHALL BE IN STRICT ACCORDANCE WITH THE FIXTURE SCHEDULE, AND SHALL BE NEW AND FREE FROM DEFECTS. CONTRACTOR SHALL OBTAIN AND PAY FOR ALL REQUIRED PERMITS AND FEES, AND SHALL OBTAIN APPROVED INSPECTIONS FOR ALL WORK AS REQUIRED BY OWNER, AND LOCAL JURISDICTION. CONTRACTOR SHALL MAINTAIN IN EFFECT ALL INSURANCE REQUIRED BY STATE LAWS, LOCAL JURISDICTION, AND GENERAL CONTRACTOR / OWNER. WHERE CONFLICT OR VARIATION EXISTS AMONGST CODES, STANDARDS SPECIFICATIONS, OR DRAWINGS, THE MOST STRINGENT SHALL GOVERN.

8. SUBMITTALS REQUIRED: PRIOR TO ORDERING FIXTURES AND MATERIALS, CONTRACTOR SHALL FURNISH SUBMITTALS OF ALL FIXTURES AND MATERIALS PROPOSED FOR USE IN THIS PROJECT. ALL FIXTURES AND MATERIALS SHALL BE INSTITUTIONAL GRADE HEAVY DUTY QUALITY. ORDERING OF FIXTURES AND MATERIALS SHALL ONLY PROCEED AFTER SATISFACTORY REVIEW OF ALL SUBMITTALS BY ENGINEER / OWNER. COPIES OF ALL OWNER'S WARRANTIES, AND OTHER WRITTEN INFORMATION REGARDING SYSTEMS SHALL BE SUBMITTED TO OWNER.

9. CONSTRUCTION OBSERVATION: IN ADDITION TO THE REQUIREMENT FOR OBTAINING INSPECTIONS BY THE LOCAL JURISDICTION, CONTRACTOR SHALL NOTIFY ENGINEER AT APPROPRIATE TIMES DURING THE CONSTRUCTION PROCESS SO THAT ENGINEER CAN VISIT SITE TO BECOME GENERALLY FAMILIAR WITH THE PROGRESS AND QUALITY OF CONTRACTOR'S WORK AND TO DETERMINE IF THE WORK IS PROCEEDING IN GENERAL ACCORDANCE WITH THE CONTRACT DOCUMENTS.

10. UNDERGROUND ALERT: CALL 811 BEFORE YOU DIG OR VISIT CALIFORNIA811.ORG TO REQUEST A TICKET ONLINE."

DO NOT START ANY EXCAVATION JOB WITHOUT FIRST OBTAINING A POSITIVE RESPONSE FROM SOCALGAS THAT YOUR LOCATE AND MARK REQUEST HAS BEEN ADDRESSED.

BEFORE LAYING OUT PIPING AND PERFORMING TRENCHING, CONTRACTOR SHALL DETERMINE LOCATIONS OF EXISTING UNDERGROUND UTILITIES. CONTACT "DIG ALERT / UNDERGROUND SERVICE ALERT OF SOUTHERN CALIFORNIA" - 811 OR CALIFORNIA811.ORG. CONTRACTOR SHALL ALSO CONTACT OWNER'S REPRESENTATIVE TO ASCERTAIN LOCATIONS OF UNDERGROUND PIPING AND OTHER CONDITIONS AFFECTING TRENCHING, AND SHALL PERFORM TESTING AND SUBSURFACE EXPLORATION AS NECESSARY TO LOCATE UTILITIES.

11. TRENCHING: MATERIAL SHALL BE EXCAVATED FROM TRENCHES AND PILED ADJACENT TO THE TRENCH. MATERIAL SHALL BE PILED IN SUCH A MANNER THAT WILL CAUSE A MINIMUM OF INCONVENIENCE TO PUBLIC TRAVEL. ALL ROCK, BOULDERS, AND STONES SHALL BE REMOVED TO PROVIDE A MINIMUM CLEARANCE OF SIX (6) INCHES UNDER AND AROUND PIPES. EXCAVATIONS SHALL BE KEPT FREE OF WATER. TRENCHES SHALL BE DUG TO TRUE AND SMOOTH BOTTOM GRADES AND IN ACCORDANCE WITH THE LINES INDICATED ON DRAWINGS AND AS DIRECTED. TRENCH WIDTHS SHALL NOT EXCEED 30 INCHES OR 1.5 TIMES OUTSIDE DIAMETER OF THE PIPE PLUS 18 INCHES WHICHEVER IS GREATER. MINIMUM TRENCH WIDTH SHALL BE THE OUTSIDE DIAMETER OF PIPE INSTALLED PLUS 12 INCHES.

DEPTH OF TRENCHING FOR WATER AND GAS PIPING SHALL BE SUCH AS TO GIVE A MINIMUM COVER OF 18 INCHES OVER THE TOP OF THE PIPE. DEEPER EXCAVATION MAY BE REQUIRED DUE TO LOCALIZED BREAKS IN GRADE, OR TO INSTALL THE NEW PIPING UNDER EXISTING CULVERTS OR OTHER UTILITIES WHERE NECESSARY.

TRENCHING FOR SEWERS AND DRAINS SHALL BE OF SUFFICIENT WIDTH TO PERMIT PROPER JOINTING OF THE PIPE AND BACKFILLING OF MATERIAL ALONG THE SIDES OF THE PIPE. TRENCH WIDTH AT THE SURFACE OF THE GROUND SHALL BE KEPT TO THE MINIMUM AMOUNT NECESSARY TO INSTALL THE PIPE IN A SAFE MANNER. TRENCHES SHALL BE EXCAVATED BELOW THE BARREL OF THE PIPE A SUFFICIENT DISTANCE TO PROVIDE FOR BEDDING MATERIAL.

WHERE THE TRENCH BOTTOM IS IN A MATERIAL WHICH IS UNSUITABLE FOR FOUNDATION OR WHICH WILL MAKE IT DIFFICULT TO OBTAIN UNIFORM BEARING FOR THE BEDDING, SUCH MATERIAL SHALL BE REMOVED AND A STABLE FOUNDATION PROVIDED. THIS SHALL INCLUDE THE PREPARATION OF THE NATIVE TRENCH BOTTOM AND/OR THE TOP OF THE FOUNDATION MATERIAL TO A UNIFORM GRADE SO THAT THE ENTIRE LENGTH OF PIPE RESTS FIRMLY ON A SUITABLE PROPERLY COMPACTED MATERIAL. GRAVEL TO BE USED FOR FOUNDATION PURPOSES SHALL BE OF A TYPE AND GRADATION TO PROVIDE A SOLID COMPACT BEDDING IN THE TRENCH.

12. BEDDDING: CONTRACTOR SHALL COMPLETE 4" SAND (COMPACTED) BEDDING AND THEN BACKFILL TO 6 INCHES OVER THE TOP OF THE PIPE WITH SAND BEFORE STARTING BACKFILLING OPERATIONS. TAKE ALL PRECAUTIONS NECESSARY TO PROTECT THE PIPE FROM DAMAGE, MOVEMENT AND SHIFTING. COMPACTION EQUIPMENT USED ABOVE THE PIPE ZONE SHALL BE OF A TYPE THAT DOES NOT INJURE THE PIPE. WHERE ORIGINAL EXCAVATED MATERIAL IS UNSUITABLE FOR TRENCH BACKFILL, BACKFILL GRAVEL SHALL BE PLACED. UNSUITABLE MATERIAL SHALL BE REMOVED TO A DISPOSAL AREA. WHEREVER A TRENCH IS EXCAVATED IN A PAVED ROADWAY, SIDEWALK OR OTHER AREA WHERE MINOR SETTLEMENTS WOULD BE DETRIMENTAL AND WHERE NATIVE EXCAVATED MATERIAL IS NOT SUITABLE FOR COMPACTION AS BACKFILL, TRENCH SHALL BE BACKFILLED WITH BACKFILL GRAVEL. WARNING TAPE MARKERS AND TRACER WIRES SHALL BE INSTALLED DURING BACKFILL OPERATIONS.

THE METHOD OF COMPACTION SHALL BE AT CONTRACTOR'S OPTION, UNLESS EXCAVATION PERMIT REQUIRES A SPECIFIC TYPE. CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE THE PROPER SIZE AND TYPE OF COMPACTION EQUIPMENT AND SELECT THE PROPER METHOD OF UTILIZING SAID EQUIPMENT TO ATTAIN THE REQUIRED COMPACTION DENSITY. COMPACTION BY WATER JETTING WILL NOT BE PERMITTED.

WHERE BACKFILL IS REQUIRED TO BE COMPACTED TO A SPECIFIED DENSITY, TESTS FOR COMPLIANCE SHALL BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF THE GOVERNING AUTHORITY. ALLOW TESTING SERVICE TO INSPECT AND APPROVE EACH SUBGRADE AND FILL LAYER BEFORE FURTHER FILL, BACKFILL OR CONSTRUCTION WORK IS PERFORMED.

13. PIPING LOCATIONS: PIPING LOCATIONS SHOWN ARE DIAGRAMMATIC ONLY. CONTRACTOR SHALL VERIFY LOCATIONS OF ALL LATERAL STUBS, OFFSETS, OBSTRUCTIONS, ETC REQUIRED IN THE FIELD. CONTRACTOR SHALL SURVEY EXISTING SEWER POINTS OF CONNECTION AND PREPARE SHOP DRAWINGS FOR REVIEW AND APPROVAL PRIOR TO BEGINNING SEWER INSTALLATION. SHOP DRAWINGS SHALL INCLUDE INVERTS AT EACH CONNECTION TO EXISTING. THE ACTUAL LOCATIONS OF LINES, CLEANOUTS AND CONNECTIONS MAY VARY PROVIDED THAT COMPLETE SYSTEMS ARE SIZED AND INSTALLED IN COMPLIANCE WITH CODES. ANY SIGNIFICANT DEVIATIONS FROM THE PLANS SHALL BE CALLED TO THE ATTENTION OF THE ENGINEER PRIOR TO INSTALLATION. VERIFY CONNECTIONS LOCATIONS AND RELOCATABLES. CUT & PATCH FINISHED SURFACES AS NEEDED FOR PIPE INSTALLATION. PATCH SHALL MATCH ADJACENT SURFACES. MINIMUM CONCRETE PATCH 5 FT. IN WALKWAYS.

14. WATER PIPING: ALL UNDERGROUND SITE PIPING SHALL BE US MANUFACTURED SCHEDULE 80 PVC WITH SOLVENT WELD JOINTS. EXCEPT SECTIONS UNDER CONCRETE PAVING, WHICH SHALL BE U.S. MANUFACTURED TYPE "K" COPPER. DEPTH OF COVER 30" IN PAVED AREAS / 18" IN LANDSCAPING. UNDERGROUND JOINTS SHALL BE BRAZED. INSTALL TRACER WIRE FOR PVC PIPE. TRANSITIONS FROM UNDERGROUND PVC TO ABOVE GROUND COPPER SHALL BE MADE WITH U.S. MANUFACTURED TYPE "K" SOFT COPPER. COPPER SHALL BE SLEEVED WITH POLYETHYLENE. TRANSITIONS FROM PVC TO TYPE "K" COPPER SHALL BE MADE WITH MALE PVC TO FEMALE COPPER ADAPTERS. ALL ABOVEGROUND COPPER SHALL BE U.S. MANUFACTURED TYPE "L" HARD COPPER WITH (NON-LEAD) SOLDER SWEAT JOINTS. UNDERGROUND SHUTOFF VALVES SHALL BE NIBCO - S-695-80-LF TWO PIECE BRONZE BALL VALVES WITH UNION IN CONCRETE YARD BOX WITH COVER AND THE WORD "WATER" MARKED ON COVER. WHERE PIPES PIERCE FINISHED SURFACES, CHROME PLATED CAST BRASS ESCUTCHEONS WITH SET SCREW (BRASSCRAFT CB SERIES OR EQUAL) SHALL BE INSTALLED OR STUCCO PATCH AND PAINT TO MATCH ADJACENT SURFACE. SINK STOPS SHALL BE LEAD-FREE HEAVY PATTERN, ANGLE, 1/2" FIP INLET, 1/2" COMP. OUTLET, WITH LOOSE KEY, CHROME PLATED BRASSCRAFT OR EQUAL. CONNECT STOPS WITH CHROME PLATED BRASS NIPPLES INTO FIP ADAPTERS BEHIND ESCUTCHEONS. SUPPLY TUBES SHALL BE BRAIDED STAINLESS STEEL WITH 1/2" FIP X COMP., FLUIDMASTER NO-BURST OR EQUAL. FINAL CONNECTION TO EXISTING STEEL PIPING SHALL BE MADE WITH SMITH BLAIR 400S REPAIR COUPLING. FINAL CONNECTION TO (E) UNDERGROUND COPPER SHALL BE BRAZED TYPE .

15. WASTE AND VENT PIPING: ALL DRAINS, VENTS, FITTINGS, AND THE BUILDING DRAIN SHALL BE U.S. MANUFACTURED "NO-HUB" CAST IRON WITH STAINLESS STEEL BAND CLAMPS. WHERE VENT PIPES PENETRATE THE ROOF, PIPING SHALL BE FLASHED AND COUNTER-FLASHED. VANDAL-PROOF VENT CAPS (JR SMITH 1748, ZURN Z-193, OR EQUAL) SHALL BE INSTALLED ON EVERY PLUMBING VENT. SINKS SHALL BE INSTALLED WITH ADA COMPLIANT OFFSET PERFORATED GRID DRAIN ASSEMBLIES, AMER STD, OR EQUAL. SINK P-TRAPS SHALL BE INSTITUTIONAL GRADE CHROME PLATED VANDAL-PROOF HEAVY DUTY CAST BRASS, MCGUIRE MFG CO "VANDAL TRAP", OR EQUAL. FOR INSTALLATIONS WITH HOT WATER ONLY, WITH MCGUIRE PROWRAP ADA INSULATION. WHERE DRAINS PENETRATE WALLS, CHROME PLATED CAST BRASS ESCUTCHEONS WITH SET SCREWS SHALL BE INSTALLED. COMBINE ALL PLUMBING VENTS AND RUN TO HIGHEST PART OF ROOF, AT LEAST 10-FT. FROM AIR INTAKES. ALL UNDER GROUND PIPING SHALL BE WRAPPED 10 MIL PLASTIC AND DUCT TAPED PER ANNA GUIDELINE FOR CORROSIVE SOIL.

16. CLEANOUTS: FLOOR CLEANOUTS SHALL BE CAST IRON BODY WITH BRONZE PLUG AND SQUARE ADJUSTABLE NON-SKID NICKEL-BRONZE TOP WITH VANDAL PROOF TOP FOR FINISHED FLOOR, J.R. SMITH 4043S-TS, ZURN ZN-1400-TVP, OR EQUAL. CLEANOUTS SHALL BE J.R. SMITH 4283S OR EQUAL WITH BRONZE PLUG. NON-TRAFFIC OR NON-SURFACED AREAS SHALL BE INSTALLED WITH CAST IRON CLEANOUT RISERS TERMINATING WITH BRONZE PLUG WITHIN CHRIST YARD BOX F08 WITH V01-71C LID AND THE WORDS "BUILDING SEWER CLEANOUT" MARKED ON COVER.

17. PIPING SUPPORT: ALL PIPING SHALL BE SUPPORTED IN ACCORDANCE WITH THE REQUIREMENTS OF THE 2022 CALIFORNIA PLUMBING CODE. HORIZONTAL WATER PIPES AND CONDENSATE DRAINS SHALL BE HUNG WITH SUPERSTRUT C-727-F ADJUSTABLE FELT-LINED PIPE HANGERS, THREADED ROD, AND BEAM ATTACHMENT BRACKETS, LOCATED AT SIX FOOT MAXIMUM INTERVALS. VERTICAL WATER PIPES AND CONDENSATE DRAINS SHALL BE SUPPORTED AT THEIR BASES AND AT EACH STORY OR AT TEN FOOT MAXIMUM INTERVALS. TO PREVENT SWAYING, PROVIDE LATERAL BRACING AT SIX FOOT INTERVALS ANCHORED TO OVERHEAD FRAMING. HORIZONTAL NATURAL GAS PIPING SHALL BE SUSPENDED WITH THE SAME HARDWARE AS FOR WATER PIPING, EXCEPT WITHOUT FELT LINER, LOCATED EVERY TEN FEET FOR PIPES 3/4" AND SMALLER, AND TWELVE FEET MAXIMUM FOR PIPES 1" AND LARGER. VERTICAL NATURAL GAS PIPING SHALL BE SUPPORTED AT EACH STORY HEIGHT. TO PREVENT SWAYING, PROVIDE LATERAL BRACING AT TEN FOOT INTERVALS ANCHORED TO OVERHEAD FRAMING.

HORIZONTAL CAST IRON PIPING SHALL BE HUNG WITH SUPERSTRUT C-710 ADJUSTABLE CLEVIS HANGERS, THREADED ROD, AND BEAM ATTACHMENT BRACKETS, LOCATED AT FIVE FOOT MAXIMUM INTERVALS. TO PREVENT SWAYING, PROVIDE LATERAL BRACING AT FIVE FOOT INTERVALS ANCHORED TO OVERHEAD FRAMING. VERTICAL PIPING SHALL BE SUPPORTED AT EACH FLOOR WITH SUPERSTRUT C-720 RISER CLAMPS AND AT MIDSPAN WITH C-708 CLAMPS INTO SUPERSTRUT CHANNEL.

18. TESTING: ALL PIPING AND FIXTURES INSTALLED SHALL BE TESTED IN ACCORDANCE WITH THE REQUIREMENTS OF THE 2022 CALIFORNIA PLUMBING CODE, THE LOCAL JURISDICTION, AND THE SCHOOL DISTRICT STANDARDS. UPON COMPLETION OF THE ENTIRE WATER SUPPLY SYSTEM, THE SYSTEM SHALL BE TESTED WITH WATER. THE WATER TEST PRESSURE SHALL BE GREATER THAN OR EQUAL TO THE WORKING PRESSURE UNDER WHICH THE SYSTEM IS TO BE USED. THE PIPING SYSTEM SHALL WITHSTAND THE TEST PRESSURE WITHOUT SHOWING EVIDENCE OF LEAKAGE FOR A PERIOD OF NOT LESS THAN 1 HOUR. (PLASTIC PIPE SHALL NOT BE TESTED WITH AIR).

19. CORRECTION OF WORK: THE CONTRACTOR SHALL PROMPTLY CORRECT ALL WORK THE SCHOOL DISTRICT FINDS DEFECTIVE OR FAILING TO CONFORM TO THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL BEAR ALL COSTS REQUIRED BY THE CONTRACT DOCUMENTS. IF ANY OF THE WORK IS FOUND TO BE DEFECTIVE OR NOT IN ACCORDANCE WITH THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL CORRECT IT PROMPTLY AFTER RECEIPT OF A WRITTEN NOTICE FROM THE SCHOOL DISTRICT TO DO SO.

20. WARRANTY: THE CONTRACTOR SHALL WARRANT THAT ALL SYSTEMS, SUBSYSTEMS, AND COMPONENT PARTS ARE FULLY FREE FROM DEFECTIVE DESIGN, MATERIALS, AND WORKMANSHIP FOR A PERIOD OF ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE BY THE SCHOOL DISTRICT.

21. AS-BUILT DRAWINGS SHALL BE GIVEN TO THE SCHOOL DISTRICT PRIOR TO ACCEPTANCE OF THE PROJECT. AS-BUILT DRAWINGS SHALL HAVE DIMENSIONS & INVERT FROM ADJACENT BUILDINGS AND INCLUDE ACTUAL LOCATIONS OF CLEAN-OUTS, VALVES, AND POINT OF CONNECTION TO EXISTING.

22. CLEANUP: CONTRACTOR SHALL THOROUGHLY CLEAN ENTIRE JOBSITE EVERY DAY OF ALL DEBRIS ASSOCIATED WITH PLUMBING INSTALLATION.

23. COORDINATION: CONTRACTOR SHALL COORDINATE WITH THE SCHOOL DISTRICT'S PROJECT MANAGER AND ALL RELATED TRADES.

24. CUTTING AND PATCHING. WORK INCLUDES CUTTING AND PATCHING (TO MATCH EXISTING) ALL SURFACES AND SYSTEMS DISTURBED BY THE PLUMBING WORK.

25. INSULATION: INSULATE COPPER CONDENSATE PIPE W/ 1" THICK CLOSED CELL INSULATION WITH FITTING COVERS W/ NO GAPS.

26. INSULATION: INSULATE ALL HOT WATER PIPING WITH 1/2 INCH CLOSED CELL INSULATION INSTALLED PER MANUFACTURER'S RECOMMENDATIONS. THERE SHALL BE NO GAPS IN THE INSULATION. INSULATE DRAIN TRAPS BELOW LAVS & SINKS WITH MCGUIRES PROWRAP ADA INSULATION. INSTALL 1 INCH THICK INSULATION AT EXTERIOR PIPE RISERS.

27. CONDENSATE PIPING SHALL BE TYPE L COPPER WITH SOLDERED WROT COPPER FITTINGS. PIPE SHALL SLOPE TO APPROVED RECEPTOR AND BE SUPPORTED PER CALIFORNIA MECHANICAL CODE REQUIREMENTS.

28. FIRE CAULK ALL PENETRATIONS OF RATED BUILDING ELEMENTS. EXCEPTION: FIRE SMOKE DAMPER LOCATIONS SHALL NOT RECEIVE CAULKING.

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 2022 CBC SECTIONS 1617A.1.18 THROUGH 1617A.1.26 AND ASCE 7-16 CHAPTER 13, 26, AND 30:

1. ALL PERMANENT EQUIPMENT AND COMPONENTS.
2. TEMPORARY, MOVEABLE 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 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 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 DIRECTION.

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

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

APPLICABLE CODE: 2022 CBC

APPENDIX A: TYPICAL MEP DISTRIBUTION SYSTEM 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, AND 13.6.8; AND 2022 CBC, SECTION 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 AND SHALL BE IN ACCORDANCE WITH DSA IR 16-13. EACH SYSTEM SHALL BE DESIGNED BY A STRUCTURAL ENGINEER AND COORDINATED WITH THE STRUCTURAL BUILDING DESIGN.

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

MP ☐ MD ☐ PP ☐ E ☐ - IR 16-13 SECTION 2.1: PROJECT-SPECIFIC DESIGN
SHEET NUMBERS

MP ☐ MD ☐ PP ☒ E ☐ - IR 16-13 SECTION 2.2: DESIGN BASED ON OSHPD OPM, PART OF PROJECT SUBMITTAL
OPM NUMBERS: OPM-0295-13
SHEET NUMBERS: P-901, P-902, P-903, P-904, P-905, & P-906

MP ☐ MD ☐ PP ☐ E ☐ - IR 16-13 SECTION 2.2.6 DESIGN BASED ON OSHPD OPM, DEFERRED APPROVAL

AGENCY APPROVAL STAMP

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-124867 INC: A
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 03/12/2026

DSA FILE #: 56-C1
PROJECT TRACKING #: 03-124####

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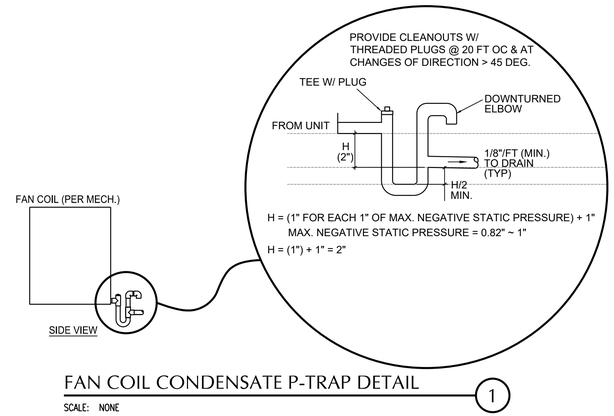
THE INCLUDED DRAWINGS, SPECIFICATIONS, IDEAS, DESIGNS AND ARRANGEMENTS REPRESENTED THEREBY ARE AND SHALL REMAIN THE PROPERTY OF RRM DESIGN GROUP AND NO PART THEREOF SHALL BE COPIED, DISCLOSED TO OTHERS OR USED IN CONNECTION WITH ANY WORK OR PROJECT OTHER THAN THE SPECIFIED PROJECT FOR

PLUMBING FIXTURE & EQUIPMENT SCHEDULE

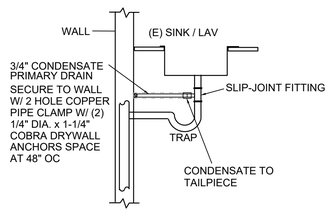
SYMBOL	WASTE	VENT	CW	HW	DESCRIPTION
S 1	2	1-1/2	1/2	1/2	SINK. ELKAY MODEL ECTSRSAD332260, SINGLE BOWL. 18 GAUGE TYPE 304 STAINLESS STEEL SINK, 6" DEEP. THREE HOLE (4" CENTERS), AND CENTER REAR DRAINS. CHICAGO FAUCET MODEL 1100-GN8AE35-317AB FAUCET W/ GOOSENECK SPOUT, 1.5 GPM PRESSURE COMPENSATING SOFTFLO AERATOR, AND WRISTBLADE HANDLES. PROVIDE NEW TAILPIECE, P-TRAP, DRAIN PIPING, ANGLE STOP, SUPPLY TUBES, AND ESCUTCHEONS. SEE ARCHITECTURAL PLANS FOR ADA COMPLIANT REQUIREMENT FOR HEIGHTS AND LOCATIONS. (VERIFY SIZE WITH CABINET CONTRACTOR PRIOR TO ORDERING.)
S 2	2	1-1/2	1/2	1/2	DOUBLE SINK. ELKAY MODEL LRAD292265, DOUBLE BOWL. 18 GAUGE TYPE 304 STAINLESS STEEL SINK, 6-1/2" DEEP. THREE HOLE (4" CENTERS), AND CENTER REAR DRAINS. CHICAGO FAUCET MODEL 1100-GN8AE35-317AB FAUCET W/ GOOSENECK SPOUT, 1.5 GPM PRESSURE COMPENSATING SOFTFLO AERATOR, AND WRISTBLADE HANDLES. PROVIDE NEW TAILPIECE, P-TRAP, DRAIN PIPING, ANGLE STOP, SUPPLY TUBES, AND ESCUTCHEONS. SEE ARCHITECTURAL PLANS FOR ADA COMPLIANT REQUIREMENT FOR HEIGHTS AND LOCATIONS. (VERIFY SIZE WITH CABINET CONTRACTOR PRIOR TO ORDERING.)
S 3	2	1-1/2	1/2	1/2	FLOOR MOUNT SCULLERY SINK. ELKAY STURDIBILT MODEL SS8124R2, SINGLE COMPARTMENT 2-HOLE SCULLERY SINK W/ RIGHT DRAINBOARD. 14 GAUGE TYPE 304 STAINLESS STEEL SINK. TWO HOLE FAUCET AND CENTER DRAIN. CHICAGO FAUCET MODEL 445-GN8AE35RABCP MANUAL SINK FAUCET W/ ADJUSTABLE ARMS, 8" SWING GOOSENECK SPOUT (1.5 GPM). PROVIDE NEW TAILPIECE, P-TRAP, DRAIN PIPING, ANGLE STOP, SUPPLY TUBES, AND ESCUTCHEONS. SEE ARCHITECTURAL PLANS FOR LOCATION. 95 LBS. OPT. WT.
DF 1	2	1-1/2	1/2	-	DRINKING FOUNTAIN: ELKAY MODEL EZSTLDDWSVRSK, WALL MOUNT, BOTTLE FILLING STATION & VERSATILE BI-LEVEL ADA VANDAL-RESISTANT COOLER, NON-FILTERED, NON-REFRIGERATED STAINLESS STEEL. SEE ARCH. DETAILS FOR DIMENSIONS AND ADA COMPLIANT REQUIREMENTS. POWER: 115V/60HZ. OPERATING WEIGHT: 81 LBS.
HB 1	-	-	3/4	-	HYDRANT, POLISHED BRASS, KEYED, NIBCO "WOODFORD" 24P POLISHED BRASS WITH VACUUM BREAKER AND LOOSE TEE KEY.
TP 1	-	-	1/2	-	TRAP PRIMER, ZURN ELECTRONIC TRAP PRIMER MODEL Z1020XL-CW-VP. IN RECESSED MOUNT BOX & VANDAL-PROOF COVER AND [FIVE] 1/2" COPPER CONNECTIONS. 24 VAC SOLENOID VALVE WITH INTEGRAL STRAINER, 120-24 VAC TRANSFORMER.
FD 1	3	1-1/2	1/2(TP)		FLOOR DRAIN. JR SMITH MODEL #2005Y-P-U, ZURN MODEL #ZN415S-NH-P-VP OR EQUAL. WITH SQUARE TOP, NO HUB, TRAP PRIMER CONNECTION, AND VANDAL PROOF SCREWS.
SOV 1	-	-	-	-	SHUT-OFF VALVE. NIBCO S-685-80-LF. 1/2" THRU 2", BRONZE BALL VALVE, FULL PORT, SOLDER END. S-FP-600A-LF, 2-1/2" & LARGER, BRASS BALL VALVE, FULL PORT, SOLDER END. SIZE ON PLANS.



FAN COIL CONDENSATE P-TRAP DETAIL 1

SCALE: NONE

NOTES:
1. INSTALL AS CLOSE AS POSSIBLE TO WALL & CABINET.
2. PAINT TO MATCH (E) WALL COLOR.
3. COORDINATE W/ SCHOOL DISTRICT TO RELOCATE ITEMS ON WALLS THAT MAY INTERFERE WITH NEW CONDENSATE.

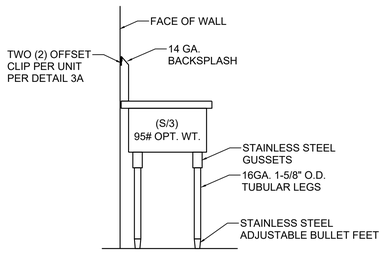


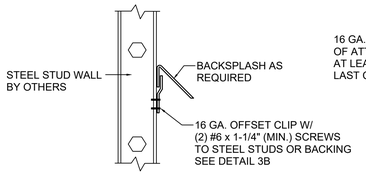
CONDENSATE TO TAILPIECE 2

SCALE: NONE

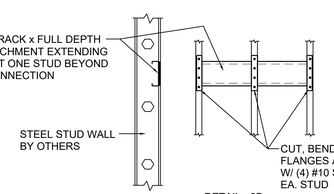
ABBREVIATIONS

ABBR..	ABBREVIATIONS
ABV.	ABOVE
APPROX.	APPROXIMATELY
AFF	ABOVE FINISHED FLOOR
BLDG	BUILDING
BLW.	BELOW
BOT	BOTTOM
CD	CEILING DIFFUSER
CFM	CUBIC FEET PER MINUTE
CL	CENTERLINE
CLG	CEILING
COND	CONDENSATE
CONT	CONTINUED
DIA	DIAMETER
DWN	DOWN
DS	DOWN SPOUT
DWG	DRAWING
(E)	EXISTING
EA.	EACH
ELEV	ELEVATION
ELEC.	ELECTRIC
EQ	EQUIPMENT
EQUIP	EQUIPMENT
EXH	EXHAUST
FIN	FINISHED
FLR	FLOOR
FRM	FROM
G	GAS
GPM	GALLONS PER MINUTE
MIN.	MINIMUM
MAX.	MAXIMUM
(N)	NEW
OC	ON CENTER
POB	POINT OF BREAK
POC	POINT OF CONNECTION
POD	POINT OF DISCONNECTION
RA	RETURN AIR
RD	ROOF DRAIN
RO	ROOF OVERFLOW
SHT	SHEET
SR	SIDE WALL REGISTER
SOV	SHUT-OFF VALVE
TYP	TYPICAL
UGND	UNDERGROUND
UNDR	UNDER
VTR	VENT TO ROOF
WCO	WALL CLEAN-OUT
CW	COLD WATER
HW	HOT WATER
WCO	WALL CLEAN-OUT
COTG	CLEAN OUT TO GRADE
H.C.	HANDICAPPED
VTR	VENT TO ROOF





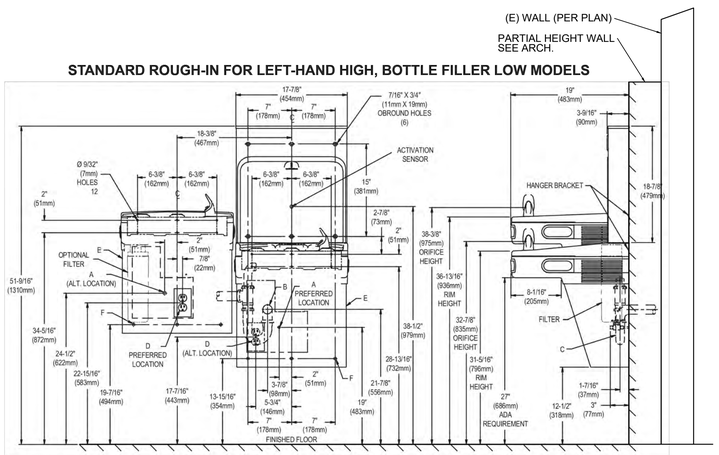
DETAIL - 3A



DETAIL - 3B

SINK (S-3) INSTALLATION 3

SCALE: NONE



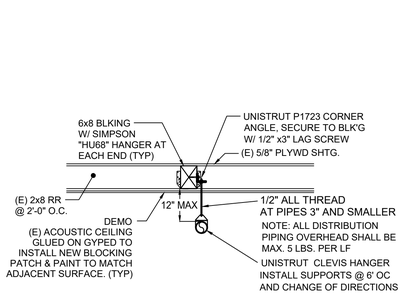
REDUCE HEIGHT BY 3 INCHES FOR INSTALLATION OF CHILDREN'S ADA COOLER

LEGENDS/LEYENDAS/LÉGENDE
A = RECOMMENDED WATER SUPPLY LOCATION 3/8 O.D. UNPLATED COPPER TUBE CONNECT STUB WITH SHUT OFF (BY OTHERS) 3 IN. (76mm) MAXIMUM OUT FROM WALL
La UBICACIÓN 3/8 O RECOMENDADA de ABASTECIMIENTO DE AGUA. D. EI TUBO del COBRE de UNPLATED CONECTA TALONARIO CON APAGO (POR OTROS) 3 en. (76 Mm) el MAXIMO FUERA DE PARED
L'EMPLACEMENT RECOMMANDÉ POUR LE DIAMÈTRE EXTÉRIEUR DE LA TUBE DE CUIVRE DE UNPLATED CONNECTE STUB AVEC ETEINT (PAR DES AUTRES) 3 IN. (76 Mm) LE MAXIMUM HORS DU MUR
B = RECOMMENDED LOCATION FOR WASTE OUTLET 1-1/2" O.D. DRAIN STUB 2 IN. OUT FROM WALL
UBICACIÓN RECOMENDADA PARA EL DRENAJE DE SALIDA DE AGUA, DE 1-1/2" DE DIÁMETRO. El TALONARIO 2 FUERA DE PARED
EMPLACEMENT RECOMMANDÉ POUR LE DRAIN DE D.E. 1-1/2' DE SORTIE D'EAU. STUB 2 HORS DU MUR
C = 1-1/2" TRAP NOT FURNISHED
PURGADOR DE 1-1/2" NO PROPORCIONADO
SIPHON 1-1/2" NON FOURNI
NOTE: IT IS HIGHLY RECOMMENDED THAT THE CIRCUIT BE DEDICATED AND THE LOAD PROTECTION BE SIZED FOR 20 AMPS.

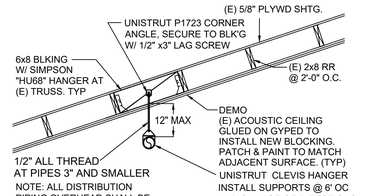
LEGENDS/LEYENDAS/LÉGENDE
D = ELECTRICAL SUPPLY (3) WIRE RECESSED BOX DUPLEX OUTLET"
SUMINISTRO ELÉCTRICO (3) CAJA ENCHUFE DE ALAMBRE SALIDA DÚPLEX
ALIMENTATION ÉLECTRIQUE (3) BOÎTIER ENCASTRÉ
E = INSURE PROPER VENTILATION BY MAINTAINING 6" (152 mm) (MIN.) CLEARANCE FROM CABINET LOUVERS TO WALL.
ASEGURE UNA VENTILACIÓN ADECUADA MANTENIENDO UN ESPACIO E 6" (152 mm) (MIN.) DE HOLGURA ENTRE LA REJILLA DEL GABINETE Y LA PARED
ASSURER UNE BONNE VENTILATION EN GARDANT 6" (152 mm) (MIN.) ENTRE LES ÉVENTS DE L'ENCEINTE ET LE MUR.
F = 7/16 BOLT HOLES FOR FASTENING UNIT TO WALL.
AGUJEROS DE LAS TUERCAS DE 7/16 PARA SUJETAR LA UNIDAD A LA PARED
TROUS D'ÉCROUS 7/16 POUR FIXER L'APPAREIL AU MUR
"NEW INSTALLATIONS MUST USE GROUND FAULT CIRCUIT INTERRUPTER (GFCI)
"Las nuevas instalaciones deben utilizar el interruptor de circuito de tierra de la avería (GFCI)
"Les nouvelles installations doivent employer l'interrupteur de circuit moulu de défaut (GFCI)
REFRIGERATED UNIT MUST BE INSTALLED ON RIGHT-HAND SIDE.

DRINKING FOUNTAIN INSTALLATION 4

SCALE: NONE



TYPICAL (N) BLOCKING FOR PIPING PERPENDICULAR TO ROOF RAFTERS AT (E) TRUSS



TYPICAL (N) BLOCKING FOR PIPING PARALLEL TO ROOF RAFTERS

PIPING SUPPORT DETAIL 1

SCALE: NONE

AGENCY APPROVAL STAMP

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-124867 INC: A
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 03/12/2026

DSA FILE #: 56-C1
PROJECT TRACKING #: 03-124####

rrmdesign.com | (805) 543-1794

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REGISTERED PROFESSIONAL ENGINEER RALPH RAVENDRA MA No. M35961 CIVIL MECHANICAL STATE OF CALIFORNIA

CONSULTING ENGINEER

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Mechanical Engineers
838 East Front Street
Ventura, California 93001
(805) 653-1722
hugh@aegroupme.com

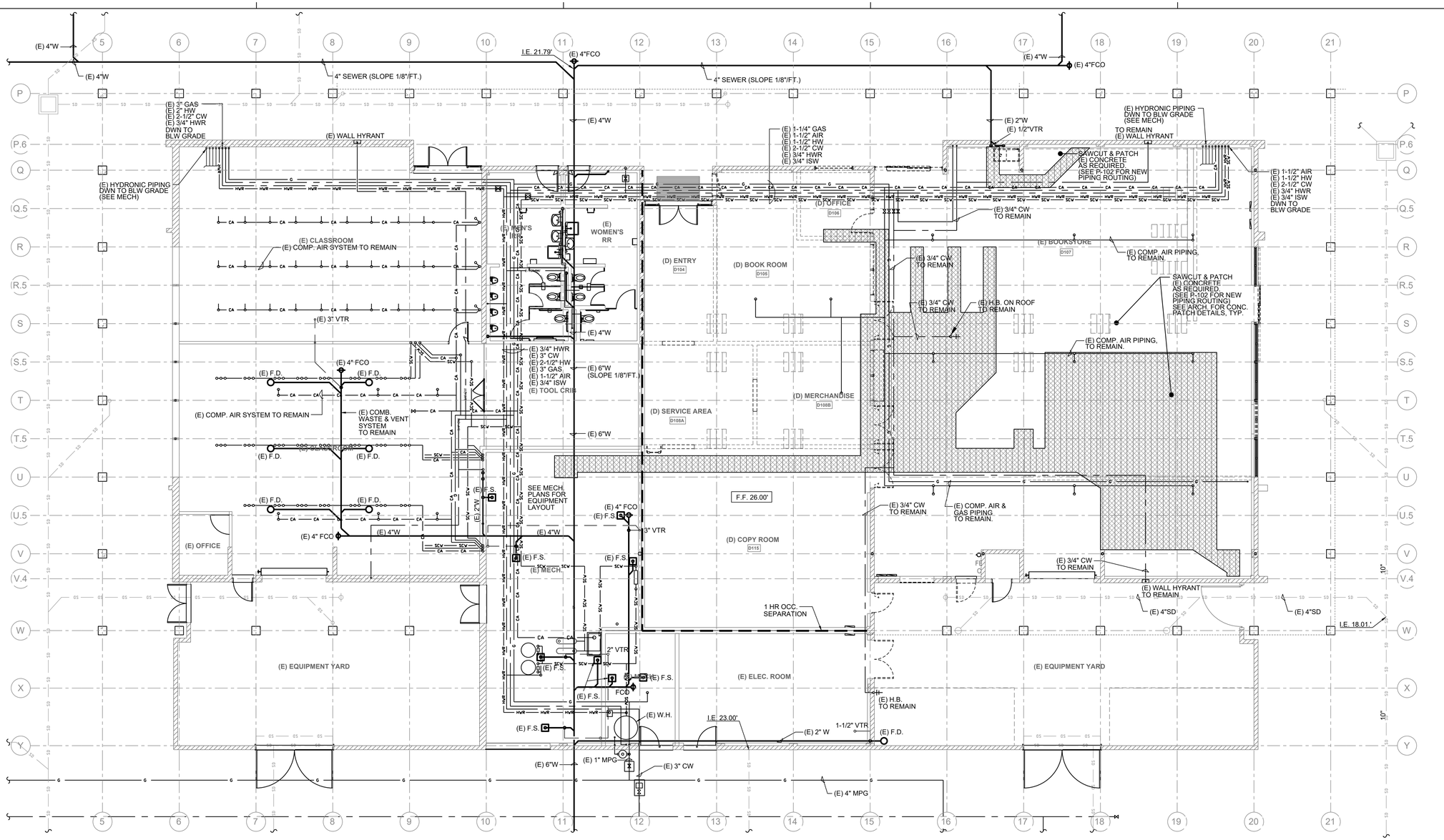
OXNARD COLLEGE
OE BUILDING ALTERATIONS
4000 S ROSE AVE. OXNARD, CA 93033

PLUMBING
SCHEDULES & DETAILS

NO.	REVISION	DATE

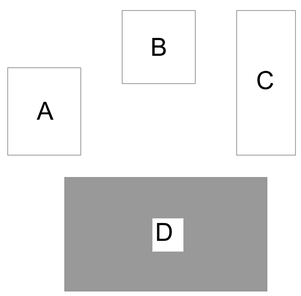
PROJECT MANAGER: MH
DRAWN BY: TP/HM
CHECKED BY: HM/RR
DATE: 12/31/2025
PROJECT NUMBER: 3244-01-ED23
SHEET: P-002

100% CD



1 EXISTING/DEMO PLUMBING FLOOR PLAN

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



KEY PLAN - OCCUPATIONAL EDUCATION BUILDING

AGENCY APPROVAL STAMP

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-124867 INC: A
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 03/12/2026

DSA FILE #: 56-C1
PROJECT TRACKING #: 03-124####

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CERTIFIED PROFESSIONAL ENGINEER
WILLIAM RAYENDER RAI
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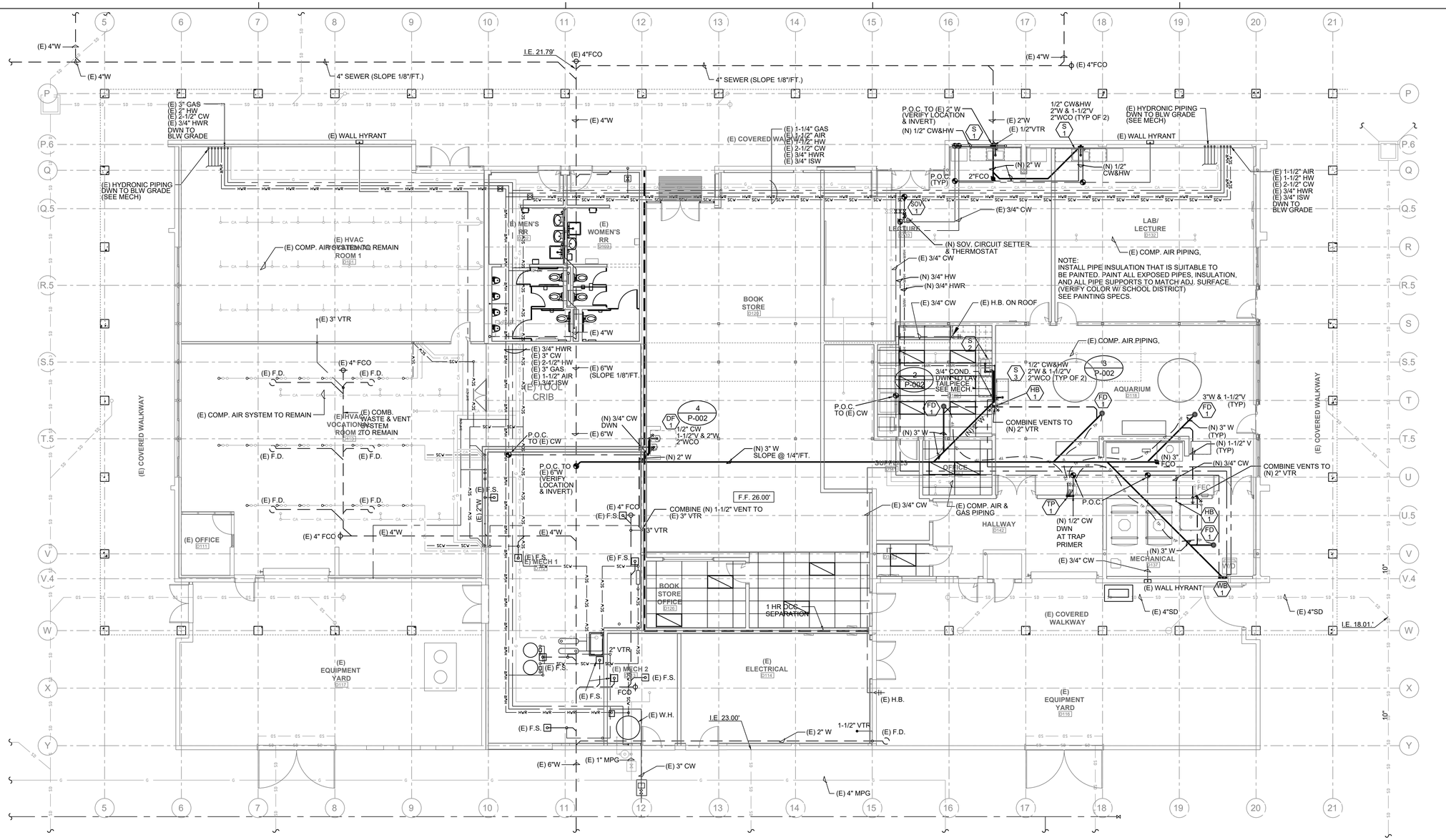
OXNARD COLLEGE
OE BUILDING ALTERATIONS
4000 S ROSE AVE. OXNARD, CA 93033

BLDG D - EXISTING/DEMO
PLUMBING FLOOR PLAN

NO.	REVISION	DATE
1		
2		
3		
4		
5		

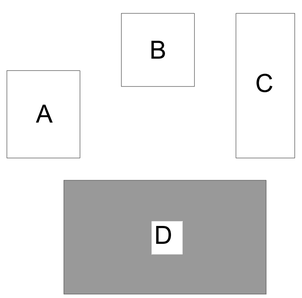
PROJECT MANAGER: MH
DRAWN BY: TP/HM
CHECKED BY: HM/RR
DATE: 12/31/2025
PROJECT NUMBER: 3244-01-ED23
SHEET: P-101

100% CD



1 PLUMBING FLOOR PLAN

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



AGENCY APPROVAL STAMP

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-124867 INC: A
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 03/12/2026

DSA FILE #: 56-C1
PROJECT TRACKING #: 03-124####

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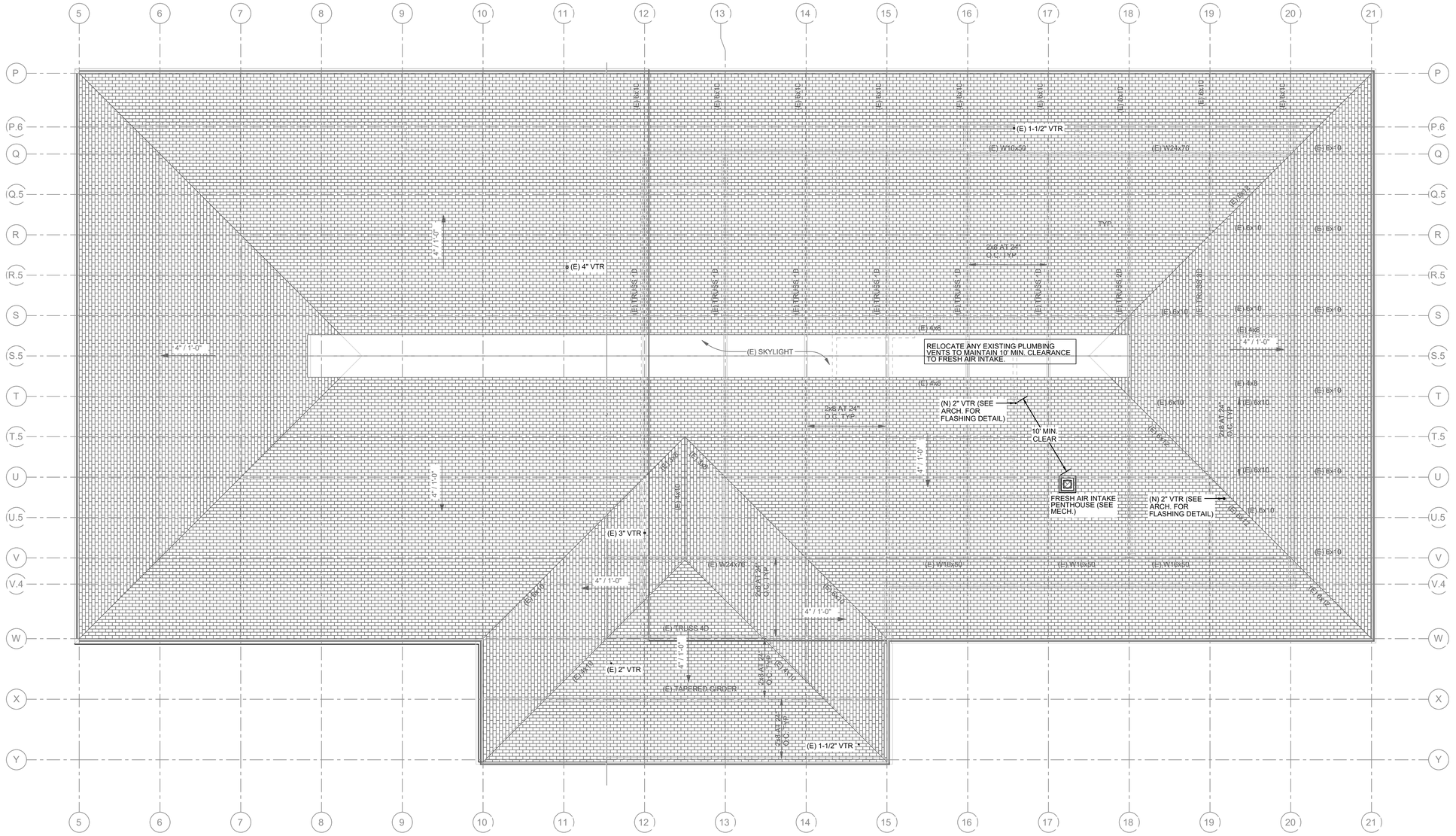
OE BUILDING ALTERATIONS
4000 S ROSE AVE. OXNARD, CA 93033

BLDG D - PLUMBING
FLOOR PLAN

NO.	REVISION	DATE
1		
2		
3		
4		
5		

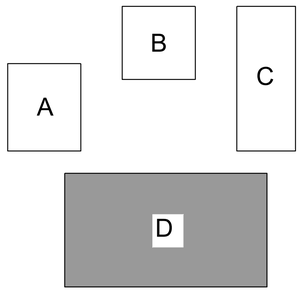
PROJECT MANAGER: MH
DRAWN BY: TP/HM
CHECKED BY: HM/RR
DATE: 12/31/2025
PROJECT NUMBER: 3244-01-ED23
SHEET: P-102

100% CD



1 PLUMBING ROOF PLAN

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



KEY PLAN - OCCUPATIONAL EDUCATION BUILDING

AGENCY APPROVAL STAMP

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-124867 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 03/12/2026

DSA FILE #: 56-C1
PROJECT TRACKING #: 03-124####

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OXNARD COLLEGE
OE BUILDING ALTERATIONS
4000 S ROSE AVE. OXNARD, CA 93033

BLDG D - PLUMBING
PROPOSED ROOF PLAN

NO.	REVISION	DATE

PROJECT MANAGER	
MH	
DRAWN BY	CHECKED BY
TP/HM	HM/RR
DATE	
12/31/2025	
PROJECT NUMBER	
3244-01-ED23	
SHEET	
P-104	

100% CD

ELKAY SPECIFICATIONS

Crosstown® 18 Gauge Stainless Steel 33" x 22" x 6" Single Bowl Dual Mount ADA Sink
Model(s) ECTSRSAD332260

S/1

PRODUCT SPECIFICATIONS

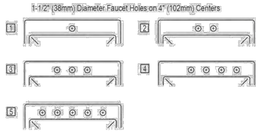
Crosstown® 18 Gauge Stainless Steel 33" x 22" x 6" Single Bowl Dual Mount ADA Sink. Sink is manufactured from 18 gauge 304 Stainless Steel with a Rear Center drain placement, and Full spray sides and bottom with Sides and Bottom pads.

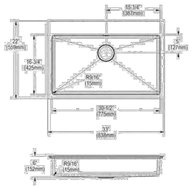
Installation Type:	Drop-in, Undermount
Material:	304 Stainless Steel
Special Features:	Slim Rim
Gauge:	18
Sound Deadening:	Full spray sides and bottom with Sides and Bottom pads
Number of Bowls:	1
Sink Dimensions:	33" x 22" x 6"
Bowl 1 Dimensions:	30-1/2" x 16-3/4" x 6"
Drain Size:	3-1/2" (89mm)
Drain Location:	Rear Center
Minimum Cabinet Size:	36"
Mounting Hardware:	Part # 54300008 included
Template Included:	Yes
Cutout Template #:	1000001180

Template is available for download at elkay.com. CAD software will be required to open the template.

Cutout Dimensions for Drop-in Installation:
32-3/8" x 21-3/8" (822mm x 543mm) with 1/2" (12mm) corner radius

Hole Drilling Configurations:





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For more than 100 years, Elkay has been making innovative products and providing exceptional customer care. We take pride in offering plumbing products that make life easier, inspire change and leave the world a better place.

Product Compliance: ASME A112.19.3/CSA B45.4

Sinks are listed by IAPMO® as meeting the applicable requirements of the Uniform Plumbing Code®, International Plumbing Code®, and National Plumbing Code of Canada.

Complies with ADA & ICC A117.1 accessibility requirements when installed according to the requirements outlined in these standards.

Clean and Care Manual (PDF)
Installation Instructions (PDF) - 1000005237
Warranty (PDF)

PART:_____QTY: _____
PROJECT:_____
CONTACT:_____
DATE:_____
NOTES:_____
APPROVAL:_____

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ELKAY SPECIFICATIONS

Lustertone® Classic Stainless Steel 29" x 22" x 6-1/2" Equal Double Bowl Drop-in ADA Sink
Model(s) LRAD292265

S/2

PRODUCT SPECIFICATIONS

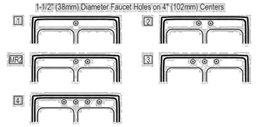
Lustertone® Classic Stainless Steel 29" x 22" x 6-1/2" Equal Double Bowl Drop-in ADA Sink. Sink is manufactured from 18 gauge 304 Stainless Steel with a Lustrous Satin finish, Rear Center drain placement, and Bottom only pads.

Installation Type:	Drop-in
Material:	304 Stainless Steel
Finish:	Lustrous Satin
Gauge:	18
Sound Deadening:	Bottom only pads
Number of Bowls:	2
Sink Dimensions:	29" x 22" x 6-1/2"
Bowl 1 Dimensions:	11-1/2" x 16" x 6-3/8"
Bowl 2 Dimensions:	11-1/2" x 16" x 6-3/8"
Drain Size:	3-1/2" (89mm)
Drain Location:	Rear Center
Minimum Cabinet Size:	33"
Mounting Hardware:	Part # 64090012 included for countertops up to 3/4" (19mm) thick
Template Included:	No
Cutout Template #:	1000001279

Template is available for download at elkay.com. CAD software will be required to open the template.

Cutout Dimensions for Drop-in Installation:
28-3/8" x 21-3/8" (721mm x 543mm) with 1-1/2" (38mm) corner radius

Hole Drilling Configurations:



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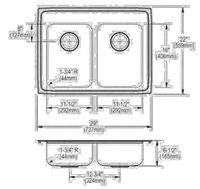
Product Compliance: ADA & ICC A117.1
ASME A112.19.3/CSA B45.4

Sinks are listed by IAPMO® as meeting the applicable requirements of the Uniform Plumbing Code®, International Plumbing Code®, and National Plumbing Code of Canada.

Complies with ADA & ICC A117.1 accessibility requirements when installed according to the requirements outlined in these standards.

Clean and Care Manual (PDF)
Installation Instructions (PDF) - 1000005236
Warranty (PDF)



PART:_____QTY: _____
PROJECT:_____
CONTACT:_____
DATE:_____
NOTES:_____
APPROVAL:_____

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Manual Sink Faucets
1100-GN8AE35-317AB

CHICAGO FAUCETS. Geberit Group

S/1 & S/2

Product Type

Deck-mounted manual faucet with 8" centers

Features & Specifications

- Handles include color-coded index
- 8" fixed centers
- 8" Rigid/swing gooseneck spout
- Pressure compensating Softflo aerator, 1.5 GPM
- Vandal Proof 4" Wristblade handle (pair)
- Quaturn™ compression operating cartridge, right-hand
- Quaturn™ compression operating cartridge, left-hand
- ECAST® design provides durable cast brass construction with total lead content equal to or less than 0.25% by weighted average
- Complies with the requirements of the Buy American Act of 1933.
- CFNow! Item Ships in 3 Days

Performance Specification

- Rated Operating Pressure: 20-125 PSI
- Rated Operating Temperature: 40-140°F

Warranty

- 5-Year Limited Cartridge Warranty
- Lifetime Limited Faucet Warranty
- 1-Year Limited Finish Warranty

Codes & Standards

- ADA ANSI/ICC A117.1
- ASME A112.18.1/CSA B125.1
- Complies with CALGreen requirements
- NSF/ANSI/CAN 372 Low Lead Content
- NSF/ANSI/CAN 61: Q ≤ 1
- Certified to WaterSense by ICC-ES

Job Name _____
Item Number _____
Section/Tag _____
Model Specified _____
Architect _____
Engineer _____
Contractor _____
[ ] Submitted as Shown [ ] Submitted with Variations
Date _____

ECAST

ECAST products are intended for installation where state laws and local codes mandate lead content levels or in any location where lead content is a concern.

2100 South Clearwater Drive
Des Plaines, IL
P: 847/803-5000
F: 847/803-5454
Technical: 800/TEC-TRUE
www.chicagofaucets.com

ELKAY SPECIFICATIONS

Sturdibilt® Stainless Steel 49-1/2" x 27-1/2"x14" Floor Mount Single Compartment 2-Hole Scullery Sink w/Right Drainboard
Model(s) SS8124R2

S/3

PRODUCT SPECIFICATIONS

Sturdibilt® Stainless Steel 49-1/2" x 27-1/2"x14" Floor Mount Single Compartment 2-Hole Scullery Sink w/Right Drainboard. Sink is manufactured from 14 gauge 304 Stainless Steel with a Buffed Satin finish, Center drain placement. Sinks supported by (4) 16 gauge stainless steel, 1-5/8" O.D. tubular legs with bullet shaped feet adjustable up to 1".

Material:	304 Stainless Steel
Special Features:	Drainboard
Finish:	Buffed Satin
Gauge:	14
Weight Without Packaging:	95
Number of Bowls:	1
Sink Dimensions:	49-1/2" x 27-1/2" x 44"
Bowl 1 Dimensions:	24" x 24" x 14"
Drainboard Location:	Right
Drainboard Size:	24
Backsplash Height:	8
Leg Type:	Stainless Steel
Drain Size:	3-1/2" (89mm)
Drain Location:	Center

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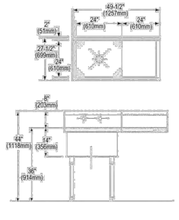
Product Compliance: ASME A112.19.3/CSA B45.4

Sinks are listed by IAPMO® as meeting the applicable requirements of the Uniform Plumbing Code®, International Plumbing Code®, and National Plumbing Code of Canada.

Clean and Care Manual (PDF)
Warranty (PDF)



PART:_____QTY: _____
PROJECT:_____
CONTACT:_____
DATE:_____
NOTES:_____
APPROVAL:_____

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Manual Sink Faucets
445-GN8AE35RABCP

CHICAGO FAUCETS. Geberit Group

S/3

Product Type

Wall-mounted manual faucet with adjustable centers

Features & Specifications

- Handles include color-coded index
- 3-3/8" body, adjustable arms 3" - 8-3/8" centers
- 8" Rigid/swing gooseneck spout
- Pressure compensating Softflo aerator, 1.5 GPM
- Vandal Proof 2-3/8" Lever handle (pair)
- Quaturn™ compression operating cartridge, right-hand
- Quaturn™ compression operating cartridge, left-hand
- 2-1/2" Offset supply arm with integral shutoff stop
- ECAST® design provides durable cast brass construction with total lead content equal to or less than 0.25% by weighted average
- Complies with the requirements of the Buy American Act of 1933.

Performance Specification

- Rated Operating Pressure: 20-125 PSI
- Rated Operating Temperature: 40-140°F

Warranty

- 5-Year Limited Cartridge Warranty
- Lifetime Limited Faucet Warranty
- 1-Year Limited Finish Warranty

Codes & Standards

- ASME A112.18.1/CSA B125.1
- ADA ANSI/ICC A117.1
- NSF/ANSI/CAN 61: Q ≤ 1
- Certified to WaterSense by ICC-ES

Job Name _____
Item Number _____
Section/Tag _____
Model Specified _____
Architect _____
Engineer _____
Contractor _____
[ ] Submitted as Shown [ ] Submitted with Variations
Date _____

ECAST

ECAST products are intended for installation where state laws and local codes mandate lead content levels or in any location where lead content is a concern.

2100 South Clearwater Drive
Des Plaines, IL
P: 847/803-5000
F: 847/803-5454
Technical: 800/TEC-TRUE
www.chicagofaucets.com

ELKAY SPECIFICATIONS

ezH2O® Bottle Filling Station & Versatile Bi-Level ADA Vandal-Resistant Cooler Non-Filtered Non-Refrigerated Stainless
Model EZSTLDDWSVRSK

PRODUCT SPECIFICATIONS

ezH2O® Bottle Filling Station & Versatile Bi-Level ADA Vandal-Resistant Cooler Non-Filtered Non-Refrigerated Stainless. Features shall include Antimicrobial*, Green Ticker™, Hands Free, Laminar Flow, Real Drain. Furnished with Vandal Resistant bubbler. Electronic Bottle Filler Sensor with Electronic Front and Side Bubbler Pushbar activation. Product shall be Wall Mount (On Wall), for Indoor applications, serving 2 station(s). Unit shall be certified to UL 399 and CAN/CSA C22.2 No. 120.

Special Features:	Antimicrobial, Green Ticker™, Hands Free, Laminar Flow, Real Drain
Finish:	Stainless Steel (S)
Power:	115V/60Hz
Bubbler Style:	Vandal Resistant
Activation by:	Electronic Bottle Filler Sensor with Electronic Front and Side Bubbler Pushbar
Mounting Type:	Wall Mount (On Wall)
Chilling Capacity:	Non-refrigerated
Full Load Amps	1.1
Rated Watts:	15
Dimensions (L x W x H):	36-3/4" x 19" x 39-1/16"
Approx. Shipping Weight:	81 lbs.
Installation Location:	Indoor
No. of Stations Served:	2

Special Note: Non-filtered model

- Green Ticker: Informs user of number of 20 oz. plastic water bottles saved from waste.
- Laminar flow provides clean fill with minimal splash.
- Key plastic components are manufactured with silver ion antimicrobial agent helping to provide clean, stain- and odor-free surfaces.
- Real Drain System eliminates standing water.

*Antimicrobial claims are in refence to components manufactured antimicrobial agents, helping to provide clean, stain- and odor-free surfaces.

DF/1

Included with Product: Water Cooler (EZSTLDDWSVRSC), Bottle Filler (EZWSR)

▼ Ships in multiple boxes.

A Century of Tradition and Quality.
For more than 100 years, Elkay has been making innovative products and providing exceptional customer care. We take pride in offering plumbing products that make life easier, inspire change and leave the world a better place.

PRODUCT COMPLIANCE
ADA & ICC A117.1
ASME A112.19.3/CSA B45.4
CAN/CSA C22.2 No. 120
GreenSpec®
NSF/ANSI 61 (Qs1) & 372 (lead free)
UL 399

Complies with ADA & ICC A117.1 accessibility requirements when installed according to the requirements outlined in these standards. Installation may require additional components and/or construction features to be fully compliant. Consult the local Authority Having Jurisdiction if necessary.

Installation Instructions (PDF) - 1000002243

Electrical components and water system are warranted for 12 months from date of installation. **Warranty pertains to drinking water applications only. Non-drinking water applications are not covered under warranty.**

Warranty (PDF)

PART:_____QTY: _____
PROJECT:_____
CONTACT:_____
DATE:_____
NOTES:_____
APPROVAL:_____

In keeping with our policy of continuing product improvement, Elkay reserves the right to change product specifications without notice. Please visit elkay.com for the most current version of Elkay product specification sheets. This specification describes an Elkay product with design, quality, and functional benefits to the user. When making a comparison of other producers' offerings, be certain these features are not overlooked.

AGENCY APPROVAL STAMP

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-124867 INC: A
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 03/12/2026

DSA FILE #: 56-C1
PROJECT TRACKING #: 03-124####

rrm design group
rrmdesign.com | (805) 543-1794

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OXNARD COLLEGE
OE BUILDING ALTERATIONS
4000 S ROSE AVE. OXNARD, CA 93033

PLUMBING
FIXTURE CUTSHEETS

NO.	REVISION	DATE
1		
2		
3		
4		
5		

PROJECT MANAGER
MH
DRAWN BY TP/HM | CHECKED BY HM/RR
DATE
12/31/2025
PROJECT NUMBER
3244-01-ED23
SHEET
P-801

100% CD

GENERAL ELECTRICAL NOTES

1. CODE COMPLIANCE: ALL WORK SHALL CONFORM TO AND BE PERFORMED IN ACCORDANCE WITH CODES, STANDARDS, AND ORDINANCES AS SET FORTH BY THE AUTHORITIES HAVING JURISDICTION AND THEIR LATEST ADOPTED EDITIONS (IN EFFECT AT TIME OF BUILDING PERMIT APPLICATION) OF THE FOLLOWING PUBLICATIONS:

A. CALIFORNIA CODE OF REGULATIONS TITLE 24; INCLUDES 2022 CALIFORNIA ELECTRICAL CODE, 2022 CALIFORNIA FIRE CODE, 2022 CALIFORNIA BUILDING CODE, ETC. WITH LOCAL AMENDMENTS AS APPLICABLE.

B. AMERICANS WITH DISABILITIES ACT (ADA).

2. SAFETY: THE ELECTRICAL CONTRACTOR IS RESPONSIBLE TO MAINTAIN ALL EQUIPMENT IN A SAFE AND RESPONSIBLE MANNER. KEEP DEAD FRONT EQUIPMENT IN PLACE WHILE EQUIPMENT IS ENERGIZED. CONDUCT ALL CONSTRUCTION OPERATIONS IN A SAFE MANNER FOR EMPLOYEES AS WELL AS OTHER WORKPERSONS OR ANYONE VISITING THE JOB SITE. PROVIDE BARRIERS, FLAGS, TAPE, ETC. AS REQUIRED FOR SAFETY. THE CONTRACTOR SHALL HOLD ALL PARTIES HARMLESS OF NEGLIGENT SAFETY PRACTICES, WHICH MAY CAUSE INJURY TO OTHERS ON OR NEAR THE JOB SITE.

3. FIRE RATED ASSEMBLIES SHALL MAINTAIN RATINGS AS SPECIFIED IN THE CALIFORNIA BUILDING CODE CHAPTER 7. CONTRACTOR SHALL PROVIDE AND INSTALL PHYSICAL ENCLOSURE AROUND FIXTURES, PANELS, ETC. AS REQUIRED. ALL ASSEMBLIES TO BE PENETRATED SHALL BE INSTALLED WITH APPLICABLE THROUGH-PENETRATION FIRESTOP SYSTEM AS DETERMINED BY UL CLASSIFICATION. BEFORE CONSTRUCTION, VERIFY AND COMPLY WITH REQUIREMENTS OF LOCAL AUTHORITY HAVING JURISDICTION.

4. MOUNTING HEIGHTS SHALL BE AS FOLLOWS UNLESS OTHERWISE NOTED:

+15" AFF: RECEPTACLES, TELEPHONE, TV & DATA OUTLET BOX. (MEASURED BOTTOM OF OUTLET BOX)
+44" OR 46" AFF: OUTLET BOX ABOVE COUNTER (MEASURED TOP OF OUTLET BOX).
+48" AFF: LIGHT SWITCH OUTLET BOX. (MEASURED TOP OF OUTLET BOX)
+48" AFF: FIRE ALARM MANUAL PULL STATIONS, T-STATS. OUTLET BOX (MEASURED TOP OF OUTLET BOX)
THE LOWER OF +80" AFF TO BOTTOM OF LENS, OR 6" BELOW CEILING: FIRE ALARM VISUALS.

ELECTRICAL SWITCHES: CONTROLS AND SWITCHES INTENDED TO BE USED BY THE OCCUPANT OF THE ROOM OR AREA TO CONTROL LIGHT AND RECEPTACLE OUTLETS, APPLIANCES OR COOLING, HEATING AND VENTILATING EQUIPMENT, SHALL BE LOCATED NO MORE THAN 48 INCHES MEASURED FROM THE TOP OF THE OUTLET BOX NOR LESS THAN 15 INCHES MEASURED FROM THE BOTTOM OF THE OUTLET BOX TO THE LEVEL OF THE FINISH FLOOR OR WORKING PLATFORM. [CBC 11B-308.1.1]

ELECTRICAL RECEPTACLE OUTLETS: ELECTRICAL RECEPTACLE OUTLETS ON BRANCH CIRCUITS OF 30 AMPERES OR LESS AND COMMUNICATION SYSTEM RECEPTACLES SHALL BE LOCATED NO MORE THAN 48 INCHES MEASURED FROM THE TOP OF THE RECEPTACLE OUTLET BOX OR RECEPTACLE HOUSING NOR LESS THAN 15 INCHES MEASURED FROM THE BOTTOM OF THE RECEPTACLE OUTLET BOX OR RECEPTACLE HOUSING TO THE LEVEL OF THE FINISH FLOOR OR WORKING PLATFORM [CBC 11B-308.1.2]

BEFORE ROUGH-IN, VERIFY ALL MOUNTING HEIGHTS AND EXACT LOCATIONS FOR ALL EQUIPMENT ELECTRICAL CONNECTIONS, STUB-UPS, RECEPTACLES, OUTLETS, ETC. WITH ARCHITECT OR OWNER. PLACE DEVICES LOCATED ABOVE COUNTERS, SHELVING, ETC. AND IN BATHROOMS SO AS NOT TO CONFLICT WITH EDGES OF WAINSCOTING, COUNTER SPLASH, SHELVING, ETC. ARCHITECTURAL SHEETS SHALL GOVERN.

5. LABEL PANELS, CABINETS, BACKBOARDS, MAIN DEVICES, SAFETY SWITCHES, CONTACTORS AND OTHER SPECIFICALLY DESIGNATED EQUIPMENT SHOWN ON PLANS. USE ENGRAVED LAMINATED PLASTIC NAMEPLATES ATTACHED BY SCREWS OR RIVETS. FOR FEEDERS, NEATLY AND INDELIBLY LABEL CONDUIT DESTINATIONS ON BOTH VISIBLE ENDS OF CONDUIT RUNS WHERE CONDUITS TERMINATE AT DESIGNATED ENCLOSURES, STRUCTURES OR EQUIPMENT (INCLUDING PULL AND SPLICE BOXES).

6. 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 2022 CBC, SECTIONS 1617A.1.18 THROUGH 1617A 1.26 AND ASCE 7-16 CHAPTERS 13, 26 & 30:

A. ALL PERMANENT EQUIPMENT AND COMPONENTS.

B. 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 CONNECTION EXCEPT PLUGS FOR 110/220 VOLT RECEPTACLES HAVING A FLEXIBLE CABLE.

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

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

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

PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEM BRACING NOTE

PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEMS SHALL BE BRACED TO COMPLY WITH THE FORCES AND DISPLACEMENTS PRESCRIBED IN ASCE 7-16 SECTION 13.3 AS DEFINED IN ACSE 7-16 SECTION 13.6.5, 13.6.6, 13.6.7, 13.6.8, AND 2022 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 SYSTEMS ARE AS NOTED BELOW. THE MEP DESIGN PROFESSIONAL ENGINEER RESPONSIBLE FOR THE CONTENT ON THESE SHEETS HAS VERIFIED THAT THE DESIGN METHODS IDENTIFIED BELOW ARE IN ACCORDANCE WITH DSA IR 16-13.

ELECTRICAL DISTRIBUTION SYSTEMS SHALL BE AS DETAILED ON THE APPROVED DRAWINGS WITH PROJECT SPECIFIC NOTES AND DETAILS, REFER TO DETAILS 5, 7, 8, 9 SHEET E-501 AND 1 SHEET E-502.

7. PULLROPES: ANY RACEWAY WITHOUT CABLE OR WIRE SHALL BE INSTALLED WITH MINIMUM 200 POUND TEST PULL LINE AND LARGER IF REQUIRED BY SERVING UTILITY COMPANY. ANY NEW OR EXISTING COMMUNICATION OR SIGNAL RACEWAY ROUTED BETWEEN BUILDINGS, SIGNAL CABINETS, AND/OR SIGNAL CLOSETS WITH FUTURE CAPACITY SHALL BE INSTALLED WITH MINIMUM 200 POUND TEST PULL LINE AS WELL AS THE CALLED FOR CABLE.

8. CONDUIT SHALL NOT BE INSTALLED WITHIN CONCRETE SLABS OR CONCRETE DECKS UNLESS SPECIFICALLY NOTED.

EXISTING BUILDINGS

1. ASBESTOS: IF DURING THE COURSE OF WORK THE CONTRACTOR OBSERVES THE EXISTENCE OF ASBESTOS, OR ASBESTOS-BEARING MATERIALS, THE CONTRACTOR SHALL IMMEDIATELY TERMINATE FURTHER WORK ON THE PROJECT AND NOTIFY THE OWNER OF THE CONDITION. THE OWNER WILL, AFTER CONSULTATION WITH THE OWNER'S REPRESENTATIVE, DETERMINE A FURTHER COURSE OF ACTION.

2. ANY DEMOLITION WORK SHOWN WAS PREPARED FOR THE CONVENIENCE OF THE CONTRACTOR. THE ENGINEER DOES NOT REPRESENT THAT ALL ITEMS WHICH MAY REQUIRE DEMOLITION HAVE BEEN SHOWN. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO CAREFULLY EXAMINE THE SITE AND THE CONTRACT DOCUMENTS AND TO PERFORM ALL DEMOLITION AND RECONSTRUCTION WHICH MAY BE REQUIRED FOR THE PROPER EXECUTION AND COMPLETION OF THE WORK.

3. EXISTING CONDITIONS: INFORMATION SHOWN FOR EXISTING CONDITIONS WAS PRIMARILY GAINED FROM "AS BUILT" DRAWINGS AND/OR LIMITED FIELD INVESTIGATION. BEFORE BID, VISIT SITE TO VERIFY EXISTING CONDITIONS AND MAKE ALLOWANCE FOR VARIATIONS FROM THAT SHOWN.

4 EXISTING CONDUCTORS: INTERCEPT, EXTEND, REROUTE, REPULL CONDUCTORS, SPLICE AND OTHERWISE MODIFY EXISTING CONDUCTORS OF ALL SYSTEMS AS REQUIRED TO MAINTAIN AND/OR ESTABLISH PROPER FUNCTION AND SATISFY DESIGN INTENT. REMOVE ABANDONED CONDUCTORS.

5. EXISTING COMMUNICATIONS, DATA AND CATV AND OTHER LOW VOLTAGE TYPE SYSTEM OUTLET LOCATIONS SHOWN ON THE PLAN TO BE RELOCATED SHALL BE PERFORMED BY THE ELECTRICAL CONTRACTOR. MODIFY EXISTING SYSTEM AS REQUIRED FOR FULL FUNCTION (SAME AS EXISTING) IN NEW LOCATION.

6. WHERE EXISTING BUILDING CONSTRUCTION, MECHANICAL UNITS AND OTHER EQUIPMENT IS SHOWN TO BE REMOVED, DISCONNECT AND REMOVE ALL ASSOCIATED ELECTRICAL INSTALLATION.

7. CLOSELY COORDINATE OUTAGE AND FACILITY DISRUPTION TIME WITH ARCHITECT AND OWNER. MINIMUM 72-HOUR NOTICE IS REQUIRED BEFORE ANY CIRCUIT SHUTDOWN OR DISRUPTION OF FACILITY PERSONNEL FUNCTIONING.

LEGEND

NOTE: INTERPRET IN CONTEXT

NOTE: SEE GENERAL ELECTRICAL NOTE 4 FOR WIRING DEVICE MOUNTING HEIGHTS

LIGHT FIXTURES

- CEILING SURFACEMOUNT
- WALL SURFACEMOUNT
- PENDANT MOUNT
- RECESSED DOWNLIGHT
- RECESSED WALLWASH
- RECESSED FLUOR.
- SURFACE FLUOR.
- FLUOR. STRIP UON
- TRACK LIGHT
- DIRECTIONAL FLOOD
- EMERGENCY FIXTURE
- POLE LIGHT
- POLE LIGHT- DECORATIVE
- UPLIGHT- FLUSH IN GRADE
- BOLLARD
- TANDEM-WIRED LAMPS
- UNDERCABINET LIGHT
- WALL/SURFACEMOUNT LINEAR TYPE
- PENDANT LINEAR FLUOR.
- RECESSED WALLMOUNT
- WALLPACK
- WALL MOUNTED EXIT LIGHT ON EMERGENCY BRANCH CIRCUIT
- CEILING MOUNTED EXIT LIGHT ON EMERGENCY BRANCH CIRCUIT (ARROW INDICATES DIRECTION)
- LETTER ADJACENT INDICATES FIXTURE TYPE
- SHADED LIGHT SYMBOL & "EM"/(EM) DESIGNATION INDICATE EMERGENCY FIXTURE ON EMERGENCY BRANCH CIRCUIT

MISCELLANEOUS

- MOTOR
- CIRCUIT BREAKER
- GROUND
- PHASE
- FLUSHMOUNT PANEL
- SURFACEMOUNT PANEL
- FLUSHMOUNT CABINET
- SURFACEMOUNT CABINET
- COMBINATION STARTER
- ABOVE-C/LG J-BOX FOR MECHANICAL CONTROL POWER
- LOW VOLTAGE TRANSFORMER
- GROUND BUS BAR

POWER.

- TAMPERPROOF DUPLEX RECEPTACLE
- TAMPERPROOF DOUBLE DUPLEX RECEPTACLE
- (GFCI) GROUND FAULT CURRENT INTERRUPTER DEVICE
- MOUNT ABOVE COUNTER PER ADA. REFER TO ARCH.
- MOUNT AT +48" MEASURED TO TOP OF BOX.
- NEMA 3R COVER (BELL # 1503 OR ENGINEER APROVED EQUAL),
- 208V RECEPTACLE
- WHILE-IN USE NEMA 3R COVER (TAYMAC #MX4280S OR ENGINEER APROVED EQUAL), UON.
- FLOOR MOUNTED OUTLET
- "CONTROLLED" DUPLEX RECEPTACLE PER 2022 CA ENERGY CODE REQUIREMENTS 130-5 "CIRCUIT CONTROLS FOR 120V RECEPTACLES"
- (1)CONTROLLED DUPLEX RECEPTACLE AND (1) DUPLEX RECEPTACLE
- DUPLEX RECEPTACLE. REMOVE BREAK-OFF TAB. TOP OUTLET IS CONTROLLED AND BOTTOM OUTLET IS UN-CONTROLLED. CONTROLLED OUTLET SHALL HAVE A PERMANENT MARKING TO DIFFERENTIATE THEM FROM UNCONTROLLED OUTLET PER 2022 CA ENERGY CODE REQUIREMENTS.
- DEDICATED OUTLET
- CEILING MOUNTED OUTLET
- SURGE PROTECTION DEVICE
- SMOKE FIRE DAMPER
- ISOLATED GROUND TYPE RECEPTACLE

NOTE (CR):
- CONTROLLED RECEPTACLES SHALL BE PERMANENTLY MARKED PER CENC 130.5 (TITLE 24).
- WHERE A DUPLEX IS NOTED TO BE CONTROLLED, 'SPLIT-WIRED', SO THE TOP OUTLET SHALL BE SWITCHED AND THE BOTTOM OUTLET SHALL BE UNSWITCHED.
- WHERE A DOUBLE DUPLEX IS NOTED TO BE CONTROLLED, ONE OF THE DUPLEX RECEPTACLES SHALL BE CONTROLLED AND THE OTHER DUPLEX RECEPTACLE SHALL BE UNSWITCHED.

SWITCHES

- SPST
- DPST
- 3-WAY
- 4-WAY
- DIMMER
- TIMER SWITCH
- W/THERMAL OVERLOAD
- W/PILOT LIGHT
- KEY OPERATED
- DUAL LEVEL SWITCHING
- SWITCHLEG DESIGNATION

CONDUIT/WIRE

- NEW
- UNDERGROUND
- NEW POWER HOMERUN (3 HOTS & NEUT SHOWN)
- ISOLATED GROUND
- EXISTING TO REMAIN
- (E) POWER HOMERUN
- WIRE LINE- CONTINUES
- CONDUIT STUB (W/MARKER)
- VERTICAL CONDUIT RUN
- CONDUIT SEAL
- FLEXIBLE CONNECTION
- LOW VOLTAGE
- SURFACEMOUNT RACEWAY
- INDICATES LINE CONTINUES
- CORD W/PLUG

SOUND/CLOCK

- SPEAKER- CLG FLUSHMOUNT
- SPEAKER- WALLMOUNT
- MICROPHONE INPUT
- AUXILIARY INPUT
- INTERCOM, WALL MOUNT
- HEADSET OUTLET
- VOLUME CONTROL
- SPEAKER- CLG FLUSHMOUNT VANDAL-RESISTANT
- CLOCK/SPEAKER WALLMOUNT SEMI-FLUSH

CONVENTIONS

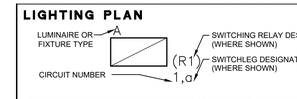
- X — NUMBERED SHEET NOTES: REFERS TO NOTES ON SAME SHEET AS REFERENCED
- 1 / - — DETAIL REFERENCE: -DETAIL DESIGNATION -SHEET NUMBER REFERENCE
- 3103 — FEEDER SCHEDULE DESIGNATION (EXAMPLE: 3103 = 310 AMPERE, 600V, 3 CURRENT CARRYING CONDUCTORS,: 'CO14' INDICATES CONDUIT ONLY, QUANTITY (1) AND SIZE (4")).
- UNIT / # — HVAC EQUIPMENT TAG
- *PLUMB-1* — PLUMBING EQUIPMENT TAG

ABBREVIATIONS

0-10V	ZERO TO TEN VOLT CONTROL
A	AMPERE
AB	AMP BREAKER
ABAND	ABANDONED
ABV	ABOVE
AC	ALTERNATING CURRENT
AC-#	AIR CONDITIONER
ADJ	ADJACENT
AF	AMP FUSE, AMP FRAME
AFF	ABOVE FINISH FLOOR
AFG	ABOVE FINISH GRADE
AIC	AMPERES INTERRUPTING CAPACITY
AI	ALUMINUM
AS	AMP SWITCH RATING
ATS	AUTOMATIC TIME SWITCH
ATS	AUTOMATIC TRANSFER SWITCH
AV	AUDIBLE/AUDIO VISUAL
AWG	AMERICAN WIRE GAGE
BFG	BELOW FINISH GRADE
BIL	BASIC IMPULSE LEVEL
BLDG	BUILDING
C	CONDUIT
-C-	CATV CONDUIT
CAB'T	CABINET
CATV	CABLE TELEVISION
CB	CIRCUIT BREAKER, CODE BLUE
CBC	CA. BUILDING CODE
CEC	CA. ELECTRICAL CODE
	CA. ENERGY COMMISSION
CF	COMPACT FLUORESCENT
CFC	CALIFORNIA FIRE CODE
CLG	CEILING
CL	CENTER LINE
CKT	CIRCUIT
CNT'R	CONTRACTOR
C.O.	CONDUIT ONLY (W/PULLROPE)
COND	CONDUIT, CONDUCTOR
CR	CRITICAL BRANCH
CSFM	CALIFORNIA SFM
CT	CURRENT TRANSFORMER
Cu	COPPER
CU-#	CONDENSING UNIT
D	DEPTH
DC	DIRECT CURRENT
DF	DRINKING FOUNTAIN
DIA	DIAMETER
DISC	DISCONNECT
DIST	DISTRIBUTION
DPST	DOUBLE POLE SINGLE THROW
DSA	DIVISION OF STATE ARCHITECT
DW	DISHWASHER
EM	EMERGENCY
(E)	EXISTING
EA	EACH
EB	ELECTRONIC BALLAST
EC	ELECTRICAL CONTRACTOR
EC-#	EVAPORATIVE COOLER
EF-#	EXHAUST FAN
EL	EVENING LIGHT
ELEC	ELECTRICAL
EM	EMERG BATTERY BACKUP
EMB	EMERGENCY BALLAST
EMERG	EMERGENCY
EOL	END OF LINE
EQUIPT	EQUIPMENT
ES	ENERGY SAVING
(EXN)	(E) IN (N) LOCATION
(EXR)	(E) TO BE (R)
EXT	EXTERIOR
F	FLUORESCENT
(F)	FUTURE
F-#	FURNACE
FA	FIRE ALARM
FACP	FIRE ALARM CONTROL PANEL
FAT	FIRE ALARM TERMINAL
FAU	FORCED AIR UNIT
FBO	FURNISHED BY OTHERS
FC-#	FAN COIL
FLA	FULL LOAD AMPS
FLR	FLOOR
FLUOR	FLUORESCENT
FS	FUSIBLE SWITCH
FVNR	FULL VOLTAGE NON-REVERSING
G	GROUNDING CONDUCTOR
GC	GENERAL CONTRACTOR
GD	GARBAGE DISPOSAL
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GFI	GROUND FAULT CIRCUIT INTERRUPTER
GND	GROUND
GRS	GALVANIZED RIGID STEEL
GWS	GANG WITH SWITCH
H	HEIGHT, HIGH
HACR	HEATING, AC & REFRIG
HID	HIGH INTENSITY DISCHARGE
HO	HIGH OUTPUT
HOA	HAND-OFF-AUTO
hp	HORSEPOWER
HPF	HIGH POWER FACTOR
HPS	HIGH PRESSURE SODIUM
IC	INTERCOM
ID	IDENTIFICATION
IF	INSIDE FROST
IG	ISOLATED GROUND
J-BOX	JUNCTION BOX
k	QUANTITY 1000
kVA	KILOVOLTAMPS
kW	KILOWATT
LC	LIGHTING CONTACTOR
LCP	LIGHTING CONTROL PANEL
LRA	LOCKED ROTOR AMPS
LS	LIFE SAFETY BRANCH
LT	LIGHT
LTG	LIGHTING
LV	LOW VOLTAGE
MC	MECHANICAL CONTRACTOR
MCA	MINIMUM CKT AMPS
MCB	MAIN CIRCUIT BREAKER
MCTB	MAIN CATV TERMINAL BOARD
MCTC	MAIN CATV TERMINAL CABINET
MECH	MECHANICAL
MFR	MANUFACTURER
MFS	MAIN FUSIBLE SWITCH
MH	METAL HALIDE
MLO	MAIN LUGS ONLY
MOCP	MAXIMUM OCP
MSB	MAIN SWITCHBOARD
MT	MOUNT
MT HT	MOUNTING HEIGHT
MTS	MANUAL TRANSFER SWITCH
MTTB	MAIN TELEPHONE TERMINAL BOARD
MTTC	MAIN TELEPHONE TERMINAL CABINET
MW	MICROWAVE
N	NEUTRAL (GROUNDED CONDUCTOR)
(N)	NEW
N3R	NEMA 3R
NC	NORMALLY CLOSED
NEC	NATIONAL ELECTRICAL CODE
NEMA	NATL ELEC MANUFACTURER'S ASSOC
NIC	NOT IN CONTRACT
NL	NIGHT LIGHT
NO	NORMALLY OPEN
NPF	NORMAL POWER FACTOR
NTS	NOT TO SCALE
OC	ON CENTER
OCP	OVERCURRENT PROTECTION
OD	OUTSIDE DIAMETER
OH	OVERHEAD
OSHPD	OFFICE of STATEWIDE HEALTH PLANNING & DEVELOPMENT
OVLD	OVERLOAD
P	POLE
PA	PUBLIC ADDRESS
PB	PULLBOX
PC	PULL CHAIN
PC	PHOTOCELL
PC	PLUMBING CONTRACTOR
ph	PHASE
PNL	PANEL
POC	POINT OF CONNECTION
-PP-	POWER PRIMARY
-PS-	POWER SECONDARY
PV	PHOTOVOLTAIC
(R)	RELOCATE(D)
RECEPT	RECEPTACLE
REF	REFRIGERATOR
REX	REQUEST TO EXIT
REQ'D	REQUIRED
RLA	RATED LOAD AMPS
RM	ROOM
RMC	RIGID METAL CONDUIT
RMV	REMOVE
RPLC	REPLACE
RPS	REMOTE POWER SUPPLY
SC	SIGNAL CABINET
SCC	SHORT CKT CURRENT
SFM	STATE FIRE MARSHAL
SHT	SHEET
SL	SLIMLINE, SWITCH LEG
SPEC	SPECIFICATION
SPD	SURGE PROTECTION DEVICE
SPST	SINGLE POLE SINGLE THROW
STR'G	STORAGE
SURF	SURFACE
SVC	SERVICE
SW	SWITCH
T	TRANSFORMER, TERMINAL
-T-	TELEPHONE CONDUIT
(TBR)	TO BE REMOVED
TC	TIME CLOCK
TEL	TELEPHONE
TELCO	TELEPHONE COMPANY
TP	TAMPER PROOF (TAMPER RESISTANT)
TS	TIME SWITCH
TSO	TIME SWITCH OVERRIDE
TSP	TWISTED SHIELDED PAIR
TTB	TELEPHONE TERMINAL BOARD
TTC	TELEPHONE TERMINAL CABINET
TX	TRANSFORMER
TYP	TYPICAL
TYP SIM	TYPICAL SIMILAR
UC	UNDERCABINET, UNDERCOUNTER
UG	UNDERGROUND
UGPS	UNDERGROUND PULL SECTION
UL	UNDERWRITERS LABORATORIES
UON	UNLESS OTHERWISE NOTED
USA	UG SVC ALERT 800-642-2444
V	VOLT
VA	VOLT AMPERES
VAC	VOLT ALTERNATING CURRENT
VOLT	VOLTAGE
VR	VANDAL-RESISTANT
W	WIDTH, WATT, WIRE
WH-#	WATER HEATER
WIU	WHILE IN USE
WP	WEATHERPROOF (NEMA 3R)
XFMR	TRANSFORMER
+48	INDICATES MOUNTING HEIGHT AFF

CIRCUITING LEGEND

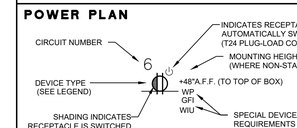
LIGHTING PLAN



- PROVIDE ALL BRANCH CIRCUIT WIRING FROM FIXTURES TO PANEL(S) AS DESCRIBED BY CIRCUIT NUMBERS SHOWN.
- BRANCH CIRCUITS SHALL HAVE A SEPARATE NEUTRAL .
- PROVIDE ALL WIRING BETWEEN FIXTURES AND CONTROL DEVICES AND/OR LOW VOLTAGE CONTROL CABLING AS DESCRIBED IN REFERENCE NOTES AND/OR SHOWN BY SWITCHLEG DESIGNATIONS.
- FLEXIBLE CONDUIT WHIPS, MAY BE USED TO CONNECT LIGHTS TO JUNCTION BOX.
- BRANCH WIRING WITHIN ROOM SHALL BE 3/4" CONDUIT MINIMUM,WITH MAX. 40% FILL INCLUDING HOTS, SWITCH LEGS AND 0-10V CONDUCTORS.
- HOME RUN CONDUITS SHALL BE 3/4" CONDUIT MINIMUM, MAXIMUM OF (3) BRANCH CIRCUITS PER CONDUIT.

NOTE:
FOR CLARIFICATION, SOME HOMERUNS HAVE NOT BEEN SHOWN ON THE DRAWINGS, CONTRACTOR TO PROVIDE ALL REQUIRED HOMERUNS, REFER TO SINGLE LINE DIAGRAMS AND PANEL SCHEDULES FOR ALL CONDUCTORS SIZES.

POWER PLAN



- PROVIDE ALL BRANCH CIRCUIT WIRING FROM DEVICES TO PANELS PER DESIGNATIONS/CIRCUIT NUMBERS.
- BRANCH CIRCUITS SHALL HAVE A SEPARATE NEUTRAL .
- HOME RUN CONDUITS SHALL BE 3/4" MINIMUM, MAXIMUM OF (3) BRANCH CIRCUITS PER CONDUIT.

NOTE: SEE GENERAL ELECTRICAL NOTE 4 FOR WIRING DEVICE MOUNTING HEIGHTS

NOTE:
FOR CLARIFICATION, SOME HOMERUNS HAVE NOT BEEN SHOWN ON THE DRAWINGS, CONTRACTOR TO PROVIDE ALL REQUIRED HOMERUNS, REFER TO SINGLE LINE DIAGRAMS AND PANEL SCHEDULES FOR ALL CONDUCTORS SIZES.

AGENCY APPROVAL STAMP

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-124867 INC: A
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 03/12/2026

DSA FILE #: 56-C1
PROJECT TRACKING #: 03-124

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CONSULTING ENGINEER

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REGISTERED PROFESSIONAL ENGINEER JEFFREY N. THOMA NO. 20823 ELECTRICAL STATE OF CALIFORNIA

EXPIRES: 09/30/26
THOMA #24-8108

OXNARD COLLEGE
OE BUILDING ALTERATIONS
4000 S ROSE AVE. OXNARD, CA 93033

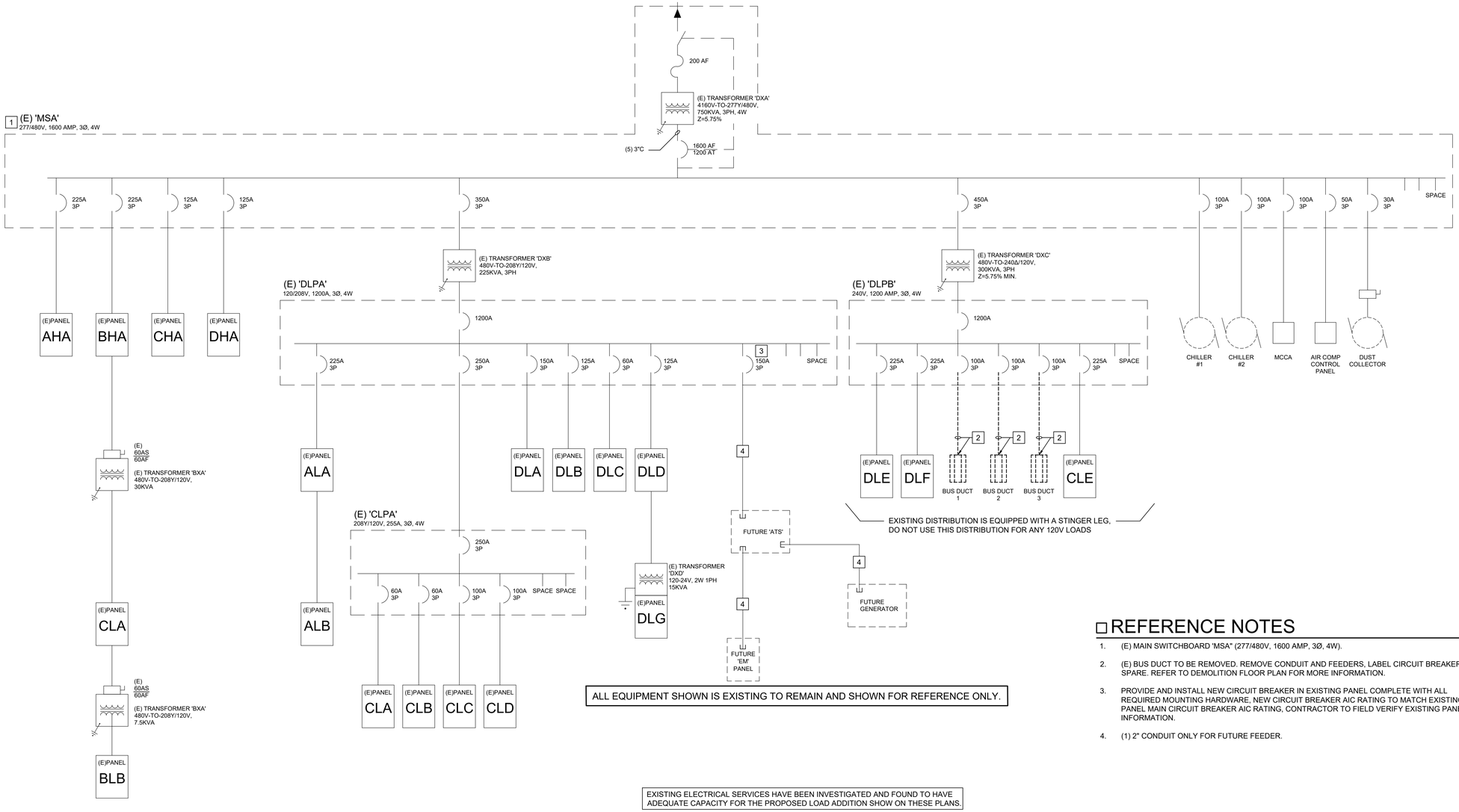
GENERAL NOTES, LEGEND, & ABBREVIATIONS

NO.	REVISION	DATE
1		
2		
3		
4		
5		

PROJECT MANAGER: RP
DRAWN BY: AV | CHECKED BY: JC
DATE: 12/10/2024
PROJECT NUMBER: 3244-01-ED23
SHEET: E-001

100% CD'S

Jan 12, 2026 - 3:10pm - Roger - K:\ENG\2024\24-8108\E-001_GEN NOTES LGND ABBS.dwg



☐ REFERENCE NOTES

1. (E) MAIN SWITCHBOARD 'MSA" (277/480V, 1600 AMP, 3Ø, 4W).
2. (E) BUS DUCT TO BE REMOVED. REMOVE CONDUIT AND FEEDERS, LABEL CIRCUIT BREAKER AS SPARE. REFER TO DEMOLITION FLOOR PLAN FOR MORE INFORMATION.
3. PROVIDE AND INSTALL NEW CIRCUIT BREAKER IN EXISTING PANEL COMPLETE WITH ALL REQUIRED MOUNTING HARDWARE, NEW CIRCUIT BREAKER AIC RATING TO MATCH EXISTING PANEL MAIN CIRCUIT BREAKER AIC RATING, CONTRACTOR TO FIELD VERIFY EXISTING PANEL INFORMATION.
4. (1) 2" CONDUIT ONLY FOR FUTURE FEEDER.

SINGLE LINE DIAGRAM NOTES

A. ALL CONDUCTORS SHALL BE COPPER WITH TYPE [THHN/THWN] INSULATION UNLESS OTHERWISE NOTED.

B. ALL SWITCHES, CIRCUIT BREAKERS AND OTHER EQUIPMENT, AS SPECIFIED, SHALL HAVE TERMINATION PROVISIONS LISTED AND IDENTIFIED FOR USE WITH 75 DEG. CONDUCTORS, AND ALL FEEDER CONDUCTORS, AND CONDUITS, ARE SIZE BASED ON USE OF 75 DEG. C COPPER WIRES TYPE THWN/THHN.

C. ALL EQUIPMENT SHALL HAVE AN APPROVED TESTING LABORATORY LABEL ATTACHED [UL, CSA, ETC.] (CEC 110-2).

D. ALL BOXES AND ENCLOSURES (INCLUDING TRANSFER SWITCHES, GENERATORS, AND POWER PANELS) FOR EMERGENCY CIRCUITS SHALL BE PERMANENTLY MARKED SO THEY WILL BE READILY IDENTIFIED AS A COMPONENT OF AN EMERGENCY CIRCUIT OR SYSTEM, PER NEC 700-9(A).

E. REFER TO PANEL SCHEDULES FOR INDIVIDUAL BRANCH CIRCUIT VOLTAGE DROP AND/OR SINGLE LINE DIAGRAM FOR FEEDER VOLTAGE DROP CALCULATIONS.

F. BRANCH CIRCUIT/FEEDER DISTANCE IS SHOWN FOR REFERENCE ONLY AS THE BASIS OF VOLTAGE DROP CALCULATIONS. CONDUCTOR DISTANCE AS INDICATED SHALL NOT BE USED FOR BIDDING/CONSTRUCTION PURPOSES. SHOULD THE FEEDER DISTANCE EXCEED THE LENGTH NOTED PER INSTALLATION CONDITIONS, NOTIFY THE ENGINEER OF RECORD. TYPICAL.

1 SINGLE LINE DIAGRAM

SCALE:NTS

AGENCY APPROVAL STAMP

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-124867 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 03/12/2026

DSA FILE #: 56-C1
PROJECT TRACKING #: 03-124

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REGISTERED PROFESSIONAL ENGINEER
JEFFREY M. THOMA
NO. 20823
ELECTRICAL
STATE OF CALIFORNIA

EXPIRES: 09/30/26
THOMA #24-8108

OXNARD COLLEGE
OE BUILDING ALTERATIONS
4000 S ROSE AVE. OXNARD, CA 93033

SINGLE LINE DIAGRAM

NO.	REVISION	DATE
1		
2		
3		
4		
5		

PROJECT MANAGER: RP
DRAWN BY: AV
CHECKED BY: JC
DATE: 12/10/2024
PROJECT NUMBER: 3244-01-ED23
SHEET: E-002

100% CD'S

Mar 06, 2026 - 7:58am - Roger - K:\ENG\2024\24-8108\24-8108_ED02_SLD.dwg

BUS RATING: 225A 120/208V , 3PH, 4W
MAIN: 125A MAIN LUG ONLY
SPACES: 42 FULL SIZE EXISTING CB SPACES
AIC RATING: KAIC PA NEL

(E) PANEL DLA

SURFACE MOUNT, NEMA 1
LOCATION: IT ROOM
WITH EQUIPMENT GND BUS

CKT %/D	DIST (FT)	NOTES	LOAD TYPE	CKT	DESCRIPTION	TRIP	POLES	COND SIZE	CONNECTED VA PHASE A	PHASE B	PHASE C	COND SIZE	POLES	TRIP	DESCRIPTION	CKT	LOAD TYPE	NOTES	DIST (FT)	CKT %/D
		4		1	CEILING RECEPTACLE LAB / LECTURE D133	20	1	12	540			12	1	20	IT D140 RECEPTACLE	2		4		
		4		3	CEILING RECEPTACLE LAB / LECTURE D133	20	1	12	500	540		12	1	20	IT D140 RECEPTACLE	4		4		
		4		5	CEILING RECEPTACLE LAB / LECTURE D133	20	1	12		500	900	12	1	20	IT D140 RECEPTACLE	6		4		
		4		7	RECEPTACLES LAB / LECTURE WET PREP D136	20	1	12	540		500	E	1	20	(E) D113,114,116, 107	8		2		
		4		9	RECEPTACLES OFFICE D135	20	1	12	500	720		E	1	20	(E) EF-5, 6, 7	10		2		
		4		11	RECEPTACLES WET PREP D136	20	1	12		500	360	E	1	20	(E) EF-8, 9, 10	12		2		
		2		13	(E) TIMECLOCK	20	1	E	100		390	E	1	20	(E) EF-3, 4	14		2		
		2		15	(E) D105,106,107	20	1	E	696	696		E	1	20	(E) AIR DRYER	16		2		
		2		17	(E) ATTIC LIGHTS	20	1	E		500	120	E	1	20	(E) WTR SOFTENER	18		2		
		2		19	(E) EXT. LTG. PANEL	20	1	E	100		100	E	1	20	(E) EF-13	20		2		
		2		21	(E) BOILER MB-1	20	1	E	696	500		E	1	20	(E) CH-1	22		2		
		2		23	(E) AC-11	20	1	E		696	500	E	1	20	(E) CH-2	24		2		
		2		25	(E) TCA C10,11,13	20	1	E	500	500		E	1	20	(E) HOT WA TER PUMP	26		2		
		2		27	(E) AIR DRYER	20	1	E		500	500	12	1	20	RECEPTACLES LAB / LECTURE WET PREP	28		5		
		2		29	(E) T-STA T/EF-11	20	1	E			500	12	1	20	RECEPTACLES LAB / LECTURE WET PREP	30		5		
		5		31	RECEPTACLES BOOK STORE	20	1	12	540						SPA RE	32				
		5		33	RECEPTACLES LAB / LECTURE WET PREP	20	1	12		540					SPA RE	34				
		5		35	RECEPTACLES LAB / LECTURE WET PREP	20	1	12			500				SPA RE	36				
		5		37	RECEPTACLES LAB / LECTURE WET PREP	20	1	12	500						SPA RE	38				
				39	SPA RE										SPA RE	40				
				41	SPA RE										SPA RE	42				
								CON:	5712	6192	5036									
								25%:	0	0	0									
								SUB:	0	0	0									
								TOT:	5712	6192	5036									
								AMPS	48	52	42									

PA NEL NOTES:

LOA D (VA)	LOA D TY PE LEGEND	
0	R	RECEPTA CLE
0	L	LIGHTING (125% OF CONNECTED LOA D CEC 215.2)
0	M	MECHA NICAL
0	K	KITCHEN A PPLIA NCE
0	N	NON-CONTINUOUS MISC.
0	C	CONTINUOUS MISC. (125% OF CONNECTED LOA D CEC 215.2)

BUS RATING: 225A 120/208V , 3PH, 4W
MAIN: 100A MAIN LUG ONLY
SPACES: 30 FULL SIZE BOLT-ON CB SPA CES
AIC RATING: 10 KAIC EXIST GE PA NEL

(E) PANEL DLB

FLUSH MOUNT, NEMA 1
LOCA TION: LA B
WITH EQUIPMENT GND BUS

CKT %/D	DIST (FT)	NOTES	LOAD TYPE	CKT	DESCRIPTION	TRIP	POLES	COND SIZE	CONNECTED VA PHASE A	PHASE B	PHASE C	COND SIZE	POLES	TRIP	DESCRIPTION	CKT	LOAD TYPE	NOTES	DIST (FT)	CKT %/D
		4	R	1	RECEPTACLES LAB / LECTURE D132	20	1	12	720			12	1	20	RECEPTACLES AQUARIUM D118	2	R	4		
		4	R	3	RECEPTACLES LAB / LECTURE D132	20	1	12		540		12	1	20	RECEPTACLES AQUARIUM D118	4	R	4		
		4	R	5	RECEPTACLES AQUARIUM D118	20	1	12			500	12	1	20	RECEPTACLES AQUARIUM D118	6	R	4		
		4	R	7	RECEPTACLES MISCHANICAL	20	1	12	500		500	10	2	30	OU-1	8		5		
		4	R	9	RECEPTACLES AQUARIUM D118	20	1	12		500		10	2		OU-1	10		5		
		4	R	11	RECEPTACLES AQUARIUM D118	20	1	12			900	12	1	20	DH-1	12		5		
		4	R	13	RECEPTACLES AQUARIUM D118	20	1	12	500		1440	12	1	20	RECEPTACLES LAB / LECTURE D132	14	R	5		
		4	R	15	RECEPTACLES MISCHANICAL	20	1	12	360	500		12	1	20	RECEPTACLES LAB / LECTURE D132	16	R	5		
		5	R	17	RECEPTACLES WET PREP	20	1	10		360	500	12	1	20	RECEPTACLES LAB / LECTURE D132	18	R	5		
		5	R	19	RECEPTACLES WET PREP	20	1	10	500		360	12	1	20	RECEPTACLES AQUARIUM D118	20	R	5		
		5	R	21	RECEPTACLES WET PREP	20	1	10	500	500		12	1	20	RECEPTACLES AQUARIUM D118	22	R	5		
		5	R	23	RECEPTACLES WET PREP	20	1	10			500				SPA CE	24				
		5	N	25	EDF	20	1	10	500						SPA CE	26				
				27	SPA CE					2000		6	2	50	DRYER RECEPTACLE	28		5		
				29	SPA CE						2000	6	2		DRYER RECEPTACLE	30		5		
								CON:	6580	7900	6700									
								25%:	0	0	0									
								SUB:	0	0	0									
								TOT:	6580	7900	6700									
								AMPS	55	66	56									

PA NEL NOTES:

LOA D (VA)	LOA D TY PE LEGEND	
10240	R	RECEPTA CLE
0	L	LIGHTING (125% OF CONNECTED LOA D CEC 215.2)
0	M	MECHA NICAL
0	K	KITCHEN A PPLIA NCE
500	N	NON-CONTINUOUS MISC.
0	C	CONTINUOUS MISC. (125% OF CONNECTED LOA D CEC 215.2)

BUS RATING: 100A 120/208V , 3PH, 4W
MAIN: 50A MAIN LUG ONLY
SPACES: 12 FULL SIZE EXISTING CB SPA CES
AIC RATING: KAIC PA NEL

(E) PANEL DLC

FLUSH MOUNT, NEMA 1
LOCA TION: BOOK STORE
WITH EQUIPMENT GND BUS

CKT %/D	DIST (FT)	NOTES	LOAD TYPE	CKT	DESCRIPTION	TRIP	POLES	COND SIZE	CONNECTED VA PHASE A	PHASE B	PHASE C	COND SIZE	POLES	TRIP	DESCRIPTION	CKT	LOAD TYPE	NOTES	DIST (FT)	CKT %/D
				1	D115										SPA RE	2				
		4		3	RECEPTACLES BOOK STORE OFFICE D125	20	1	12		720					SPA RE	4				
		5		5	RECEPTACLES BOOK STORE D120	20	1	12			720				SPA RE	6				
				7	SPA CE										SPA CE	8				
				9	SPA CE										SPA CE	10				
				11	SPA CE										SPA CE	12				
								CON:	0	720	720									
								25%:	0	0	0									
								SUB:	0	0	0									
								TOT:	0	720	720									
								AMPS	0	6	6									

PA NEL NOTES:

LOA D (VA)	LOA D TY PE LEGEND	
0	R	RECEPTA CLE
0	L	LIGHTING (125% OF CONNECTED LOA D CEC 215.2)
0	M	MECHA NICAL
0	K	KITCHEN A PPLIA NCE
0	N	NON-CONTINUOUS MISC.
0	C	CONTINUOUS MISC. (125% OF CONNECTED LOA D CEC 215.2)

BUS RATING: 225A 277/480V , 3PH, 4W
MAIN: MLO MAIN LUG ONLY
SPACES: 42 FULL SIZE BOLT-ON CB SPA CES
AIC RATING: 10 KAIC EXIST GE PA NEL

(E) PANEL DHA

SURFACE MOUNT, NEMA 1
LOCA TION: ELECTRICA L RM D114
WITH EQUIPMENT GND BUS

CKT %/D	DIST (FT)	NOTES	LOAD TYPE	CKT	DESCRIPTION	TRIP	POLES	COND SIZE	CONNECTED VA PHASE A	PHASE B	PHASE C	COND SIZE	POLES	TRIP	DESCRIPTION	CKT	LOAD TYPE	NOTES	DIST (FT)	CKT %/D
				1	(E) D109, 110, 111, 112										(E) EXIT LIGHT "A"	2				
1.47%	175	4	L	3	BOOK STORE/ OFFICE/ HALLWA Y/ MECH	20	1	12		1626					(E) EXIT LIGHT "B"	4				
1.57%	200	4	L	5	D132/D133/WET PREP/ A QUARIUM	20	1	10			2428				(E) EXIT LIGHT "C"	6				
				7	(E) D101, 02, 03										(E) EXIT LIGHT "D"	8				
				9	REMOVED										(E) EXIT LIGHT "D"	10				
				11	REMOVED										(E) A REA LIGHTS	12				
				13	REMOVED										SPA RE	14				
				15	REMOVED										SPA RE	16				
				17	REMOVED										SPA RE	18				
				19	REMOVED										SPA RE	20				
				21	REMOVED										SPA RE	22				
				23	REMOVED										SPA RE	24				
0.22%	35	4	L	25	INV1/INV2	20	1	12	1204						SPA CE	26				
				27	SPA RE										SPA CE	28				
				29	SPA CE										SPA CE	30				
				31	SPA CE										SPA CE	32				
				33	SPA CE										SPA CE	34				
				35	SPA CE										SPA CE	36				
				37	SPA CE										SPA CE	38				
				39	SPA CE										SPA CE	40				
				41	SPA CE										SPA CE	42				
								CON:	1204	1626	2428									
								25%:	301	407	607									
								SUB:	0	0	0									
								TOT:	1505	2033	3035									
								AMPS	5	7	11									

PA NEL NOTES:

LOA D (VA)	LOA D TY PE LEGEND	
0	R	RECEPTA CLE
5258	L	LIGHTING (125% OF CONNECTED LOA D CEC 215.2)
0	M	MECHA NICAL
0	K	KITCHEN A PPLIA NCE
0	N	NON-CONTINUOUS MISC.
0	C	CONTINUOUS MISC. (125% OF CONNECTED LOA D CEC 215.2)

PANEL SCHEDULE NOTES

1. LONG CONTINUOUS LOAD (LCL). ADDITIONAL 25% ADDED AT BOTTOM OF PANEL. FEEDER CALCULATED AT 125% OF TOTAL CONNECTED LOAD.
2. ROUTE BRANCH CIRCUIT THROUGH LIGHTING CONTROLS. REFER TO SPECIFICATIONS.
3. EXISTING BRANCH CIRCUIT TO REMAIN. NO CHANGE TO CONNECTED LOAD.
4. EXISTING CIRCUIT BREAKER USED FOR NEW LOAD.
5. NEW CIRCUIT BREAKER TO BE ADDED TO EXISTING PANEL.

AGENCY APPROVAL STAMP

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-124867 INC: A
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 03/12/2026

DSA FILE #: 56-C1
PROJECT TRACKING #: 03-124

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REGISTERED PROFESSIONAL ENGINEER JEFFREY M. THOMA NO. 20823 ELECTRICAL STATE OF CALIFORNIA

EXPIRES: 09/30/26
THOMA #24-8108

OXNARD COLLEGE
OE BUILDING ALTERATIONS

4000 S ROSE AVE. OXNARD, CA 93033

ELECTRICAL PANEL SCHEDULES

NO.	REVISION	DATE
1		
2		
3		
4		
5		

PROJECT MANAGER: RP
DRAWN BY: A.V
CHECKED BY: JC
DATE: 12/10/2024
PROJECT NUMBER: 3244-01-ED23
SHEET: E-003

100% CD'S

Jan 12, 2026 - 3:10pm - Roger - K:\ENG\2024\24-8108\24-8108_E003_PANEL SCHED.dwg

(N) LIGHTING INVERTER

INV1

PANEL TYPE: ISOLITE OR ENGINEER APPROVED E
LOCATION: SUPPLIES D141
CONTROL POWER CIRCUIT: DHA-25

RATING: 750
INPUT VOLTAGE: 277
OUTPUT VOLTAGE: 277
ENCLOSURE: NEMA 1
MOUNTING: SURFACE

BREAKER NO.	LOAD DESCRIPTION	TRIP	POLES	COND SIZE	CONNECTED VA PHASE A	NOTES	DIST (LF)	CKT %VD
1	BOOK STORE D120/ LAB LECTURE D133/ HALLWAY D142	20	1	12	602		150	1.89%
2	SPARE	20	1	12				
				CON:	602			
				TOTAL (KVA):	602			
				AMPS:	2			

(N) LIGHTING INVERTER

INV2

PANEL TYPE: ISOLITE OR ENGINEER APPROVED E
LOCATION: SUPPLIES D141
CONTROL POWER CIRCUIT: DHA-25

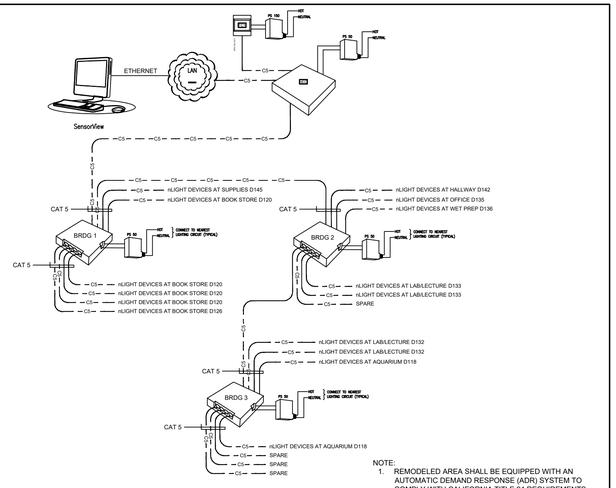
RATING: 750
INPUT VOLTAGE: 277
OUTPUT VOLTAGE: 277
ENCLOSURE: NEMA 1
MOUNTING: SURFACE

BREAKER NO.	LOAD DESCRIPTION	TRIP	POLES	COND SIZE	CONNECTED VA PHASE A	NOTES	DIST (LF)	CKT %VD
1	LAB/LECTURE D132/ AQUARIUM D118	20	1	12	602		150	1.89%
2	SPARE	20	1	12				
				CON:	602			
				TOTAL (KVA):	602			
				AMPS:	2			

LIGHTING CONTROLS SEQUENCE OF OPERATIONS

SPACE	LIGHTING CONTROL SEQUENCE
ENTRY, HALLWAY, BOOK STORE, AQUARIUM	• LIGHTS WILL BE ON PER BUSINESS HOURS • OCCUPANCY: LIGHTS AUTOMATICALLY TURN ON TO 100% WHEN THE USER ENTERS THE ROOM AND 15 MINUTES AFTER SPACE HAS BEEN VACATED, THE LIGHTS WILL AUTOMATICALLY GO TO 50%. • LOW VOLTAGE DIMMER WILL ALLOW OCCUPANT TO CONTROL EACH ZONE. WALL STATION SHALL HAVE ONE BUTTON PER ZONE AS CALLED OUT ON PLAN. • EMERGENCY LIGHTING SHALL TURN ON WHEN NORMAL POWER SHUTS OFF. • LIGHTS IN DAYLIGHT ZONES (WHERE NOTED ON PLANS) WILL AUTOMATICALLY DIM A MINIMUM OF 65% WHEN AVAILABLE DAYLIGHT IS 150% OF DESIGN ILLUMINATION.
OFFICES 250SF OR SMALLER	• LIGHTS WILL BE TURNED ON AUTOMATICALLY. • NUMBER OF ZONES OF LIGHTING CONTROL AS NOTED ON PLANS. • MANUAL DIMMER WILL ALLOW OCCUPANT TO CONTROL EACH ZONE. • LIGHTS IN DAYLIGHT ZONES (WHERE NOTED ON PLANS) WILL AUTOMATICALLY DIM TO A MINIMUM OF 65% WHEN AVAILABLE DAYLIGHT IS 150% OF DESIGN ILLUMINATION. • LIGHTS WILL SHUT-OFF WHEN SPACES ARE UNOCCUPIED VIA OCCUPANCY SENSOR.
LAB/LECTURES	• LIGHTS WILL BE TURNED ON AUTOMATICALLY. • NUMBER OF ZONES OF LIGHTING CONTROL AS NOTED ON PLANS. • MANUAL DIMMER WILL ALLOW OCCUPANT TO CONTROL EACH ZONE. PROVIDE ONE BUTTON FOR A/V PRESENTATION WHERE IT DIMS/TURNS OFF LIGHTS CLOSE TO PROJECTION WALL. • LIGHTS IN DAYLIGHT ZONES (WHERE NOTED ON PLANS) WILL AUTOMATICALLY DIM TO A MINIMUM OF 65% WHEN AVAILABLE DAYLIGHT IS 150% OF DESIGN ILLUMINATION. • LIGHTS WILL SHUT-OFF WHEN SPACES ARE UNOCCUPIED VIA OCCUPANCY SENSOR.
SUPPLIES D141, IT, MECHANICAL	• LIGHTS WILL TURNED ON AND OFF MANUALLY BY OCCUPANT • LIGHTS WILL SHUT-OFF WHEN SAPCES ARE UNOCCUPIED VIA OCCUPANCY SENSOR WHEN SPACE IS VACANT FOR 10-MINUTES. • EMERGENCY LIGHTING SHALL TURN ON WHEN NORMAL POWER SHUTS OFF.

2 LIGHTING CONTROL SEQUENCE OF OPERATION
SCALE: (OPTIONAL TEXT)



NOTE:
1. REMODELED AREA SHALL BE EQUIPPED WITH AN AUTOMATIC DEMAND RESPONSE (ADR) SYSTEM TO COMPLY WITH CALIFORNIA TITLE 24 REQUIREMENTS.

1 LIGHTING CONTROL DIAGRAM
SCALE:

LIGHTING FIXTURE SCHEDULE

TE# 24-8132

Δ	TYPE	MANUFACTURER	CATALOG NUMBER	VOLTAGE	TOTAL INPUT WATTS (W)	LAMP TYPE	NOMINAL LUMEN OUTPUT (L)	LAMP COLOR TEMP (K)	MOUNTING TYPE, DETAIL	DESCRIPTION	COMMENTS
	A1	LITHONIA LIGHTING	CPX-2X4-4000LM-80CRI-35K-SWL-MIN10-ZT-MVOLT	MVOLT	37	LED	4,699	3,500	RECESSED T-BAR, DETAIL 7/E-501	2'X4' RECESSED LED TROFFER FIXTURE	0-10V DIMMING DRIVER, MAXIMUM WEIGHT - 18LBS
	A2	LITHONIA LIGHTING	CPXIP-2X4-4000LM-80CRI-35K-ASWM-MIN10-ZT-MVOLT-IP65	MVOLT	37	LED	4,673	3,500	RECESSED T-BAR, DETAIL 7/E-501	2'X4' RECESSED LED TROFFER FIXTURE. FIXTURES SHALL BE WET LISTED.	0-10V DIMMING DRIVER, MAXIMUM WEIGHT - 18LBS
	C1	LITHONIA LIGHTING	BLWP8-80L-ADSM-GZ10-LP835	MVOLT	69	LED	7,845	3,500	SURFACE MOUNT, DETAIL 5/E-501	8' LINEAR WRAP.	0-10V DIMMING DRIVER, MAXIMUM WEIGHT - 24LBS
	C2	LITHONIA LIGHTING	BLWP4-40L-ADSM-GZ10-LP835	MVOLT	35	LED	4,040	3,500	SURFACE MOUNT, DETAIL 5/E-501	4' LINEAR WRAP.	0-10V DIMMING DRIVER, MAXIMUM WEIGHT - 12LBS
	F8	PEERLESS LIGHTING	PRPID LLP 8FT MSL8 80CRI 35K I300LMF 900LMF DAK ZT 277 SCT F2/48A C210 SQEP	277V	84.0	LED	6,506	3,500	PENDANT, DETAIL 1/E-502	8FT LINEAR DIRECT/INDIRECT PENDANT. HANG FIXTURE WITH AIRCRAFT CABLE SUPPORT WITH SQUARE END CAPS. PROVIDE WITH EMERGENCY CIRCUIT MODULE WHERE REQUIRED PER PLANS.	0-10V DIMMING DRIVER, MAXIMUM WEIGHT - 40LBS
	F12	PEERLESS LIGHTING	PRPID LLP 12FT MSL4 80CRI 35K I300LMF 900LMF DAK ZT 277 SCT F2/48A C210 SQEP	277V	126	LED	9759	3,500	PENDANT, DETAIL 1/E-502	12FT LINEAR DIRECT/INDIRECT PENDANT. HANG FIXTURE WITH AIRCRAFT CABLE SUPPORT WITH SQUARE END CAPS. PROVIDE WITH EMERGENCY CIRCUIT MODULE WHERE REQUIRED PER PLANS.	0-10V DIMMING DRIVER, MAXIMUM WEIGHT - 60LBS
	F16	PEERLESS LIGHTING	PRPID LLP 16FT MSL8 80CRI 35K I300LMF 900LMF DAK ZT 277 SCT F2/48A C210 SQEP	277V	168	LED	13012	3,500	PENDANT, DETAIL 1/E-502	16FT LINEAR DIRECT/INDIRECT PENDANT. HANG FIXTURE WITH AIRCRAFT CABLE SUPPORT WITH SQUARE END CAPS. PROVIDE WITH EMERGENCY CIRCUIT MODULE WHERE REQUIRED PER PLANS.	0-10V DIMMING DRIVER, MAXIMUM WEIGHT - 80LBS
	F24	PEERLESS LIGHTING	PRPID LLP 24FT MSL8 80CRI 35K I600LMF 1000LMF DAK ZT 277 SCT F2/48A C210 SQEP	277V	319.5	LED	19518	3,500	PENDANT, DETAIL 1/E-502	24FT LINEAR DIRECT/INDIRECT PENDANT. HANG FIXTURE WITH AIRCRAFT CABLE SUPPORT WITH SQUARE END CAPS. PROVIDE WITH EMERGENCY CIRCUIT MODULE WHERE REQUIRED PER PLANS.	0-10V DIMMING DRIVER, MAXIMUM WEIGHT - 120LBS
	X	LITHONIA LIGHTING	LQC W 1 G	120/277	3	LED	-	N/A	SURFACE, DETAIL 5/E-501	SINGLE SIDED DIE CAST LED EMERGENCY EXIT SIGN	MAXIMUM WEIGHT - 5LBS
	F4	PEERLESS LIGHTING	PRPID LLP 4FT MSL8 80CRI 35K I300LMF 900LMF DAK ZT 277 SCT F2/48A C210 SQEP	N/A	42.0	LED	3,300	3,500	PENDANT, DETAIL 1/E-502	4FT LINEAR DIRECT/INDIRECT PENDANT. HANG FIXTURE WITH AIRCRAFT CABLE SUPPORT WITH SQUARE END CAPS. PROVIDE WITH EMERGENCY CIRCUIT MODULE WHERE REQUIRED PER PLANS.	0-10V DIMMING DRIVER, MAXIMUM WEIGHT - 20LBS

NOTES
- LUMINAIRE SUPPLIED VOLTAGE TO BE VERIFIED BY ELECTRICAL CONTRACTOR.
- WHERE NOT SPECIFIED; FINISHES TO BE VERIFIED WITH ARCHITECT.

LIGHTING FIXTURE SCHEDULE NOTES

1. ILLUSTRATIONS AND/OR DIMENSIONS ARE APPROXIMATIONS ONLY INTENDED TO REPRESENT BASIC FIXTURE TYPE; DO NOT USE AS EXACT INFORMATION SOURCE. REFER TO MANUFACTURER CUT SHEETS.
2. EXACT LOCATIONS: BEFORE CONSTRUCTION, VERIFY WITH ARCHITECT EXACT LOCATIONS AND MOUNTING HEIGHTS OF ALL LIGHT FIXTURES. SEE ARCHITECTURAL REFLECTED CEILING PLANS AND ELEVATIONS AS APPLICABLE.
3. FIXTURE BRANCH CIRCUIT THROUGH-WIRING: VERIFY AND COMPLY WITH FIXTURE MANUFACTURER RESTRICTIONS AS DETERMINED BY UL & NEC.
4. VERIFY CEILING TYPES/FINISHES FOR ALL RECESSED FIXTURES PRIOR TO FORWARDING SUBMITTALS.
5. LIGHTING FIXTURES MAY COME DIMMABLE AS A STANDARD PRODUCT, BUT MAY NOT NECESSARILY BE USED IN DIMMING APPLICATIONS. WHEN USED IN DIMMING APPLICATIONS, PROVIDE COMPATIBLE DIMMING EQUIPMENT. REFER TO LIGHTING PLANS FOR FIXTURE DIMMING LOCATIONS.
6. ALL LIGHTING FIXTURES PROVIDED SHALL BE FULLY COMPATIBLE WITH THE LIGHTING CONTROL SYSTEM PROVIDED (nLIGHT / SENSOR SWITCH ENABLED / COMPATIBLE). FOR CLARIFICATION, ALL REQUIRED EQUIPMENT MAY NOT NECESSARILY BE SHOWN; CONTRACTOR TO VERIFY AND INCLUDE INFORMATION IN SUBMITTAL SHOP DRAWINGS FOR REVIEW.
7. LUMINAIRES SUPPLIED VOLTAGE TO BE VERIFIED BY ELECTRICAL CONTRACTOR.
8. WHERE NOT SPECIFIED, FINISHES TO BE VERIFY WITH ARCHITECT.

AGENCY APPROVAL STAMP

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-124867 INC: A
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 03/12/2026

DSA FILE #: 56-C1
PROJECT TRACKING #: 03-124

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EXPIRES: 09/30/26
THOMA #24-8108

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4000 S ROSE AVE. OXNARD, CA 93033

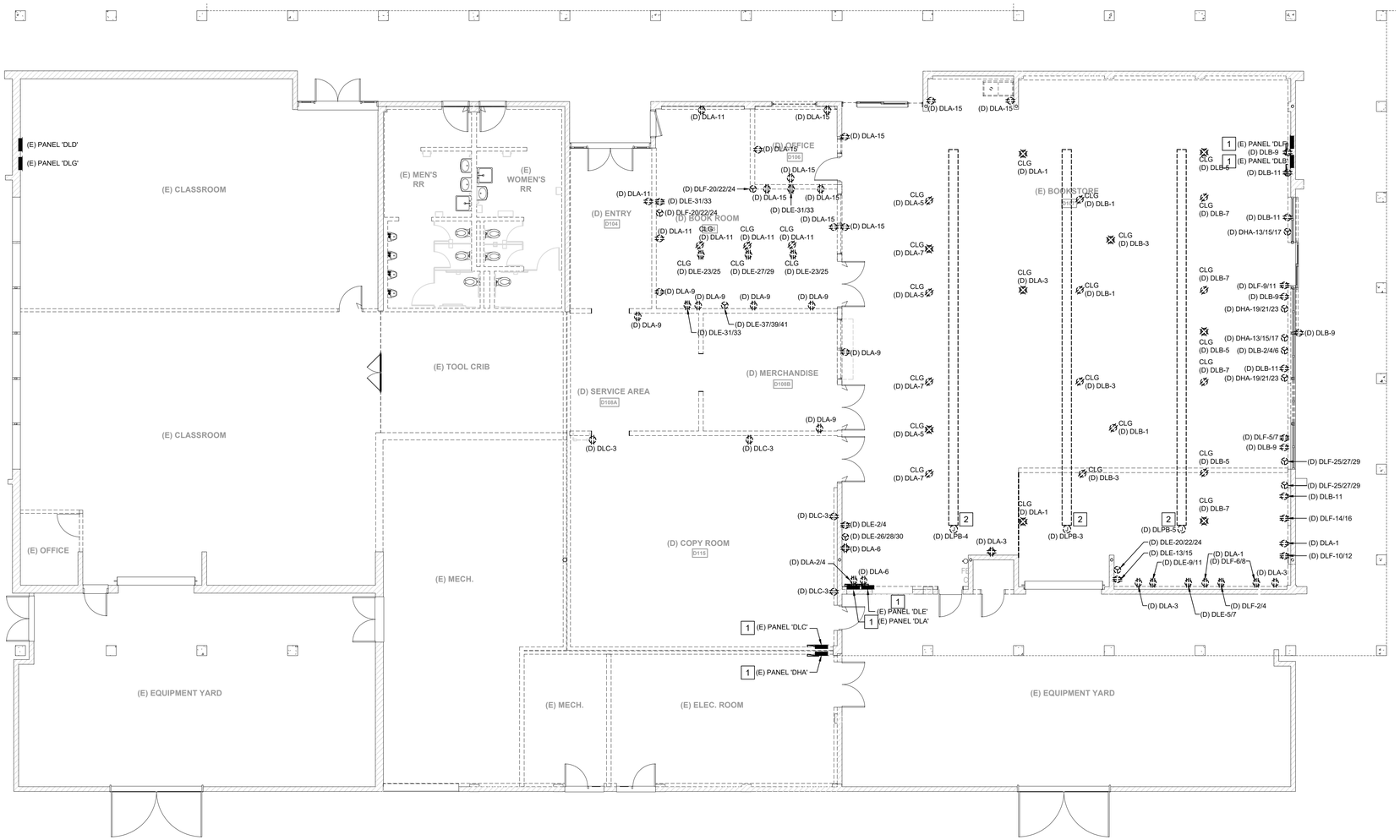
LIGHTING FIXTURE SCHEDULE

NO.	REVISION	DATE
1		
2		
3		
4		
5		

PROJECT MANAGER: RP
DRAWN BY: AV
CHECKED BY: JC
DATE: 12/10/2024
PROJECT NUMBER: 3244-01-ED23
SHEET: E-004

100% CD'S

Mar 06, 2026 - 7:54am - Roger - K:\ENG\2024\24-8108\24-8108_E004_LTG SCHED.dwg



ELECTRICAL DEMOLITION PLAN

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

NORTH

GENERAL DEMOLITION PLAN NOTES

A. REFER TO ARCHITECTURAL DEMOLITION SHEETS FOR ADDITIONAL INFORMATION.

B. EQUIPMENT SHOWN TO BE REMOVED IS SHOWN FOR REFERENCE ONLY. INFORMATION WAS OBTAINED FROM ORIGINAL BUILDING DRAWINGS AND LIMITED FIELD INVESTIGATION AND MAY NOT REPRESENT ALL ELECTRICAL DEMOLITION. FIELD VERIFY CONDITIONS AND DISCONNECT/REMOVE ALL EQUIPMENT AS REQUIRED TO MEET THE INTENT OF THAT SHOWN ON THE LIGHTING AND POWER/SIGNAL DRAWINGS.

C. ALL ELECTRICAL EQUIPMENT SHOWN ON DRAWING (OR REQUIRED) TO BE DEMOLISHED SHALL BE DISCONNECTED, REMOVED AND DISPOSED OF BY ELECTRICAL CONTRACTOR. NO EQUIPMENT (RACEWAYS, BOXES, CABLING, ETC.) SHALL BE ABANDONED IN PLACE AND COVERED BY NEW CONSTRUCTION.

D. CLEAN, REPAIR (AS REQUIRED) AND RELAMP ALL EXISTING LIGHT FIXTURES THAT ARE TO REMAIN AND BE RE-USED TO ASSUME ALL FIXTURE ARE OPERATIONAL UPON COMPLETION OF PROJECT.

E. ANY LIGHT SWITCHES THAT ARE NO LONGER IN USE, WHETHER SHOWN ON THE DEMOLITION PLAN OR NOT, ARE TO HAVE THE DEVICE AND WIRING REMOVED, AND A BLANK COVER PLATE INSTALLED.

F. SCHEDULE ANY OUTAGES WITH OWNER PRIOR TO DE-ENERGIZATION OF ANY BRANCH CIRCUITS OR FEEDERS.

G. DISCONNECTION/REMOVAL OF EXISTING COMMUNICATIONS SYSTEMS COMPONENTS SHALL BE SCHEDULED WITH OWNER AND COORDINATED WITH THEIR VENDORS.

H. SALVAGE ALL REMOVED COMPONENTS (SPEAKERS, GRILLES, TELEPHONE INSTRUMENTS, RADIO HANDSETS, ETC.) SHALL BE SALVAGED TO THE OWNER.

I. INFORMATION SHOWN FOR LOAD DESCRIPTIONS ON EXISTING PANELS WAS GAINED FROM ORIGINAL BUILDING ELECTRICAL PLANS AND SHALL BE FIELD VERIFIED. CONFIRM LOAD ON EACH CIRCUIT OF ALL EXISTING PANELS AND PROVIDE UPDATED TYPEWRITTEN CIRCUIT DIRECTORY (IN PLASTIC SLEEVE) FOR EACH EXISTING PANELBOARD.

J. ANY LOADS REMOVED DURING DEMOLITION SHALL HAVE CONDUCTORS REMOVED BACK TO NEXT REMAINING DEVICE OR TO EXISTING PANELS. ABANDONED BREAKERS SHALL BE LABELED "SPARE".

K. PROVIDE BLANK FILLER PLATES IN DEADFRONTS OF EXISTING PANELBOARDS UPON COMPLETION OF PROJECT WHERE BREAKERS HAVE BEEN REMOVED.

L. PROVIDE NEW PLASTIC, LAMINATED ENGRAVED NAMEPLATES FOR EACH EXISTING PANEL TO MATCH NEW PANELS.

REFERENCE NOTES

1. EXISTING ELECTRICAL PANEL TO BE REMAIN.
2. EXISTING OVERHEAD DUCT TO BE REMOVED.

DEMOLITION PLAN LEGEND

- EXISTING RECEPTACLE TO BE REMOVED
- EXISTING LIGHTING FIXTURE TO BE REMOVED
- EXISTING CONTROL SWITCH TO BE REMOVED
- EXISTING COMMUNICATION OUTLET TO BE REMOVED.
- EXISTING ACCESS POINT TO BE REMOVED.
- EXISTING CLOCK TO BE REMOVED.

AGENCY APPROVAL STAMP

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-124867 INC: A
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 03/12/2026

DSA FILE #: 56-C1
PROJECT TRACKING #: 03-124

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THOMA #24-8108

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ELECTRICAL DEMOLITION PLAN

NO.	REVISION	DATE
1		
2		
3		
4		
5		

PROJECT MANAGER: RP
DRAWN BY: AV
CHECKED BY: JC
DATE: 12/10/2024
PROJECT NUMBER: 3244-01-ED23
SHEET: E-101

100% CD'S

Jan 12, 2026 - 3:10pm - Roger - K:\ENG\2024\24-8108\24-8108_E101_ELEC DEMO PLN.dwg

LIGHTING DEMOLITION PLAN

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

NORTH

GENERAL DEMOLITION PLAN NOTES

A. REFER TO ARCHITECTURAL DEMOLITION SHEETS FOR ADDITIONAL INFORMATION.

B. EQUIPMENT SHOWN TO BE REMOVED IS SHOWN FOR REFERENCE ONLY. INFORMATION WAS OBTAINED FROM ORIGINAL BUILDING DRAWINGS AND LIMITED FIELD INVESTIGATION AND MAY NOT REPRESENT ALL ELECTRICAL DEMOLITION. FIELD VERIFY CONDITIONS AND DISCONNECT/REMOVE ALL EQUIPMENT AS REQUIRED TO MEET THE INTENT OF THAT SHOWN ON THE LIGHTING AND POWER/SIGNAL DRAWINGS.

C. ALL ELECTRICAL EQUIPMENT SHOWN ON DRAWING (OR REQUIRED) TO BE DEMOLISHED SHALL BE DISCONNECTED, REMOVED AND DISPOSED OF BY ELECTRICAL CONTRACTOR. NO EQUIPMENT (RACEWAYS, BOXES, CABLING, ETC.) SHALL BE ABANDONED IN PLACE AND COVERED BY NEW CONSTRUCTION.

D. CLEAN, REPAIR (AS REQUIRED) AND RELAMP ALL EXISTING LIGHT FIXTURES THAT ARE TO REMAIN AND BE RE-USED TO ASSUME ALL FIXTURE ARE OPERATIONAL UPON COMPLETION OF PROJECT.

E. ANY LIGHT SWITCHES THAT ARE NO LONGER IN USE, WHETHER SHOWN ON THE DEMOLITION PLAN OR NOT, ARE TO HAVE THE DEVICE AND WIRING REMOVED, AND A BLANK COVER PLATE INSTALLED.

F. SCHEDULE ANY OUTAGES WITH OWNER PRIOR TO DE-ENERGIZATION OF ANY BRANCH CIRCUITS OR FEEDERS.

G. DISCONNECTION/REMOVAL OF EXISTING COMMUNICATIONS SYSTEMS COMPONENTS SHALL BE SCHEDULED WITH OWNER AND COORDINATED WITH THEIR VENDORS.

H. SALVAGE ALL REMOVED COMPONENTS (SPEAKERS, GRILLES, TELEPHONE INSTRUMENTS, RADIO HANDSETS, ETC.) SHALL BE SALVAGED TO THE OWNER.

I. INFORMATION SHOWN FOR LOAD DESCRIPTIONS ON EXISTING PANELS WAS GAINED FROM ORIGINAL BUILDING ELECTRICAL PLANS AND SHALL BE FIELD VERIFIED. CONFIRM LOAD ON EACH CIRCUIT OF ALL EXISTING PANELS AND PROVIDE UPDATED TYPEWRITTEN CIRCUIT DIRECTORY (IN PLASTIC SLEEVE) FOR EACH EXISTING PANELBOARD.

J. ANY LOADS REMOVED DURING DEMOLITION SHALL HAVE CONDUCTORS REMOVED BACK TO NEXT REMAINING DEVICE OR TO EXISTING PANELS. ABANDONED BREAKERS SHALL BE LABELED "SPARE".

K. PROVIDE BLANK FILLER PLATES IN DEADFRONTS OF EXISTING PANELBOARDS UPON COMPLETION OF PROJECT WHERE BREAKERS HAVE BEEN REMOVED.

L. PROVIDE NEW PLASTIC, LAMINATED ENGRAVED NAMEPLATES FOR EACH EXISTING PANEL TO MATCH NEW PANELS.

DEMOLITION PLAN LEGEND

- EXISTING RECEPTACLE TO BE REMOVED
- EXISTING LIGHTING FIXTURE TO BE REMOVED
- EXISTING CONTROL SWITCH TO BE REMOVED
- EXISTING COMMUNICATION OUTLET TO BE REMOVED.
- EXISTING ACCESS POINT TO BE REMOVED.
- EXISTING CLOCK TO BE REMOVED.

AGENCY APPROVAL STAMP

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APP: 03-124867 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 03/12/2026

DSA FILE #: 56-C1
PROJECT TRACKING #: 03-124

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EXPIRES: 09/30/26
THOMA #24-8108

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4000 S ROSE AVE. OXNARD, CA 93033

LIGHTING DEMOLITION PLAN

NO.	REVISION	DATE

PROJECT MANAGER: RP
DRAWN BY: AV
CHECKED BY: JC
DATE: 12/10/2024
PROJECT NUMBER: 3244-01-ED23
SHEET: E-102

100% CD'S

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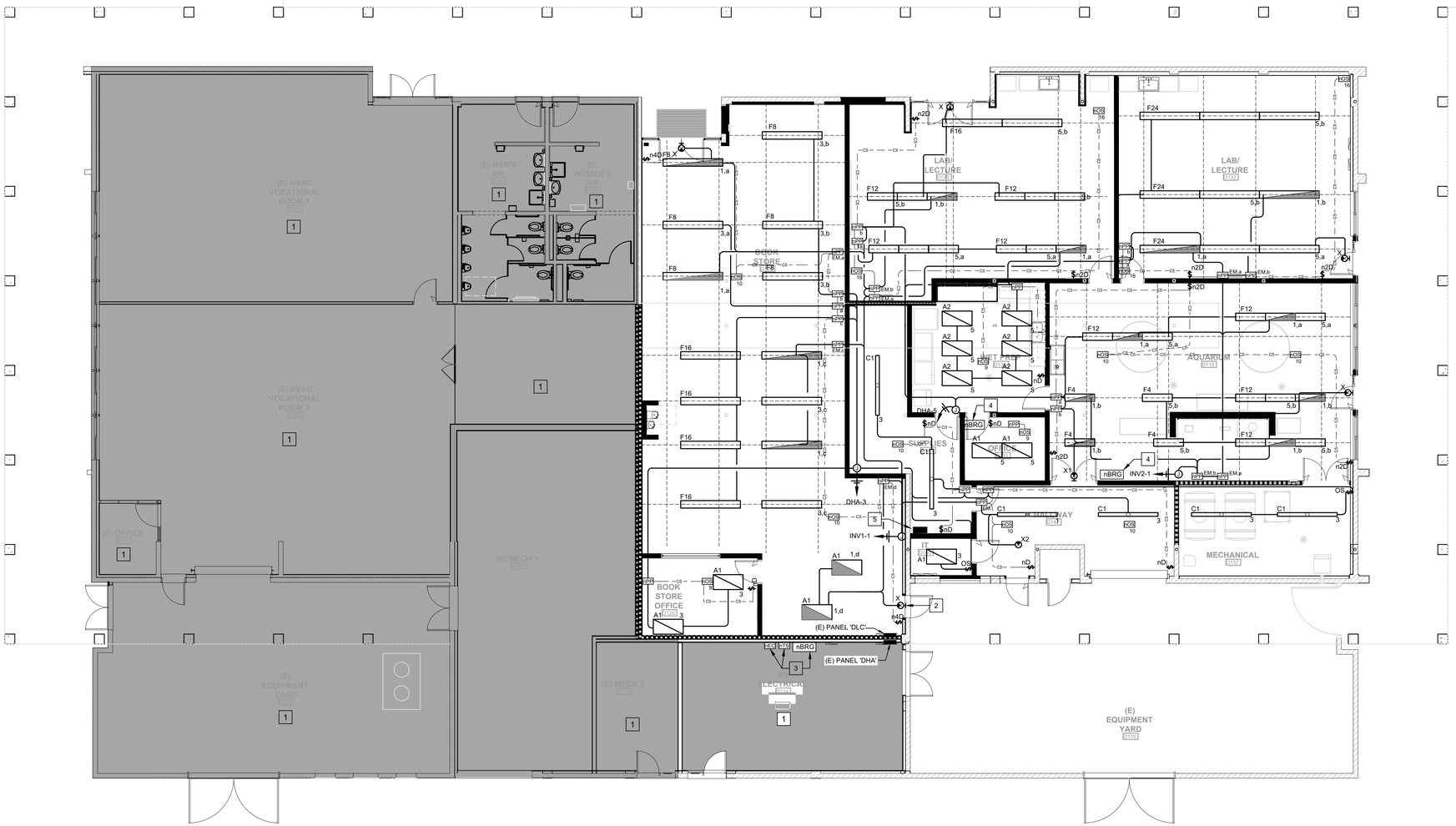

LIGHTING FLOOR PLAN

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

NORTH

GENERAL LIGHTING PLAN NOTES

A. LIGHTING FIXTURE LOCATIONS SHOWN ARE SCHEMATIC. REFER TO ARCHITECTURAL PLANS (REFLECTED CEILING, ELEVATIONS, ETC.) FOR EXACT LOCATIONS AND MOUNTING HEIGHTS PRIOR TO ROUGH-IN.

B. REFER TO ARCHITECT'S REFLECTED CEILING PLAN(S) FOR CEILING HEIGHTS, TYPES, FINISHES, ETC. IN EACH AREA. VERIFY FLANGE TYPES, TRIM KITS, STEM LENGTHS, ETC. FOR ALL FIXTURES PRIOR TO SUBMITTALS.

C. CONFIRM LOCATION OF ALL DOORS SWINGS WITH ARCHITECTURAL PLANS PRIOR TO ROUGH-IN OF SWITCHES.

D. PROVIDE UNSWITCHED HOT LEG OF ROOM LIGHTING BRANCH CIRCUIT TO EACH BATTERY POWERED EMERGENCY LIGHT AND EXIT SIGN FOR CONTINUOUS CHARGING (AS APPLICABLE).

LIGHTING CONTROL GENERAL NOTES

A. CONTRACTOR TO PROVIDE COMPLETE SHOP DRAWINGS DIRECT FROM MANUFACTURER SPECIFIC TO THIS PROJECT FOR THE INTERIOR LIGHTING CONTROL SYSTEM AND USE FOR CONSTRUCTION.

B. VERIFY OCCUPANCY SENSOR SETTING FOR EACH TYPE OF ROOM WITH OWNER AND ADJUST AS DIRECTED BY OWNER.

C. VERIFY EACH RELAY PROGRAMMING WITH OWNER AND PROGRAM EACH AS DIRECTED BY OWNER.

D. PROVIDE OWNER IN SERVICE TRAINING FOR LIGHTING CONTROL SYSTEM.

E. WHERE MULTIPLE CHANNEL CONTROLS HAVE BEEN PROVIDED IN A ROOM OR SPACE, VERIFY FIXTURE ZONING REQUIREMENTS WITH OWNER PRIOR TO PRODUCING SHOP DRAWINGS AND INSTALLATION.

LEGEND

- CONTROL CABLE, CAT 5 LOW VOLTAGE PER SYSTEM REQUIREMENTS ABOVE T-BAR CEILING
- nPP — nLIGHT 0-10V DIMMING POWERPACK TO DIMM FIXTURES (nPP16 D) REFER TO MANUFACTURER WIRING DIAGRAM.
- nTS — nLIGHT DIGITAL TIME CLOCK (nGWY2 GFX)
- nEC — nLIGHT ECLYPSE, 120-277V, OPEN ADR, ENCLOSURE FOR nLIGHT ECYPSE (nECY MVOLT ADR ENC GFXK)
- nBRG — nLIGHT 8-PORT BRIDGE (#nBRG 8). FURNISH WITH POWER SUPPLY #PS-150.
- nOS — nLIGHT LOW VOLTAGE DUAL TECHNOLOGY OCCUPANCY SENSOR WITH 360° COVERAGE.
  - PC-X — PC (ADCX) - EQUIPPED WITH AUTOMATIC DIMMING CONTROL.
  - 9 (nCM PDT 9) - SMALL MOTION COVERAGE.
  - 10 (nCM PDT 10) - LARGE MOTION COVERAGE.
- nOS 16 — nLIGHT LOW VOLTAGE DUAL TECHNOLOGY OCCUPANCY SENSOR WITH CORNER MOUNT 120° WIDE VIEW COVERAGE (nWV PDT 16 KIT)
- nD — nLIGHT SINGLE CHANNEL WITH DIMMING CONTROLS (nLIGHT nPODMA DX)
- n2D — nLIGHT 2 CHANNELS WITH DIMMING CONTROLS (nLIGHT nPODMA 2P DX)
- n4D — 4-CHANNEL (nLIGHT nPODMA 4P DX)
- OS — WALL SWITCH OCCUPANCY SENSOR, 2-BUTTON, PASSIVE INFRARED (SENSOR SWITCH #WSX)
- HORIZONTAL FIXTURE CABLE SUPPORT

LIGHTING CONTROL NOTES:

QUANTITY AND LOCATION OF ALL SENSORS ARE SHOWN FOR DESIGN INTENT. LOW VOLTAGE WIRING AND BRIDGES ARE NOT SHOWN. LIGHTING CONTROL MANUFACTURER SHALL SUBMIT COMPLETE SHOP DRAWING SHOWING PREFERRED LOCATION AND QUANTITY OF SENSORS REQUIRED FOR OPTIMUM SYSTEM PERFORMANCE.

PROVIDE OCCUPANCY SENSOR, WALL OR CEILING MOUNTED AS SHOWN ON THIS PLAN WITH TYPE AND MODEL THAT CAN ACCOMMODATE THE SPACE REQUIREMENT FOR THE ROOM OR AREA.

☐ REFERENCE NOTES

1. SHADED AREA IS OUTSIDE OF SCOPE OF WORK. NO WORK IN THIS AREA.
2. PROVIDED UNSWITCHED BRANCH CIRCUIT CONNECTION TO EXIT SIGNS.
3. FIELD COORDINATE LOCATION OF DIGITAL TIMECLOCK, nLIGHT ECLYPSE, AND BRIDGE WITHIN ELECTRICAL ROOM. REFER TO WIRING DIAGRAM ON DETAIL 1/E-004 FOR LIGHTING CONTROL SYSTEM INTERCONNECTION.
4. FIELD COORDINATE INSTALLATION LOCATION FOR BRIDGE PORT.
5. CONTRACTOR TO INSTALL (2) MID-SIZE INVERTERS (750VA) RATED. 'INV1' AND 'INV2'. BASIS OF DESIGN: ISOLITE E3X. FIELD COORDINATE FINAL LOCATION WITH OWNER/ARCHITECT. SEE DETAIL 9/E-501 FOR INVERTER MOUNTING DETAIL.

AGENCY APPROVAL STAMP

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APP: 03-124867 INC:
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DATE: 03/12/2026

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REGISTERED PROFESSIONAL ENGINEER — JEFFREY M. THOMA — NO. 29623 — ELECTRICAL — STATE OF CALIFORNIA

EXPIRES: 09/30/26
THOMA #24-8108

OXNARD COLLEGE
OE BUILDING ALTERATIONS
4000 S ROSE AVE. OXNARD, CA 93033

LIGHTING FLOOR PLAN

NO.	REVISION	DATE
△		
△		
△		
△		
△		

PROJECT MANAGER: RP
DRAWN BY: AV
CHECKED BY: JC
DATE: 12/10/2024
PROJECT NUMBER: 3244-01-ED23
SHEET: E-201

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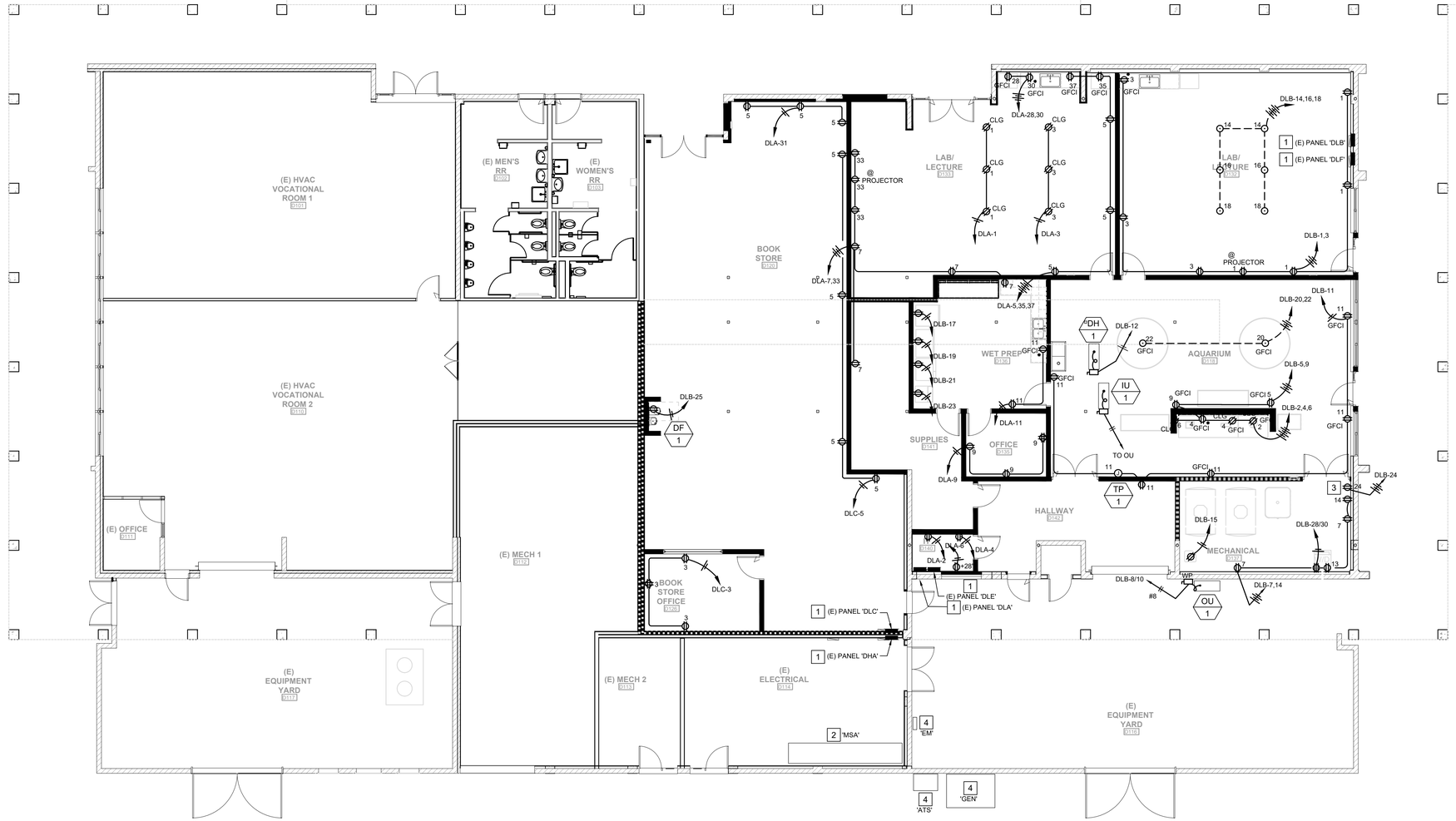

POWER FLOOR PLAN

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

GENERAL POWER PLAN NOTES

A. FUSING: ALL FUSIBLE SAFETY DISCONNECT SWITCHES SHALL BE PROVIDED WITH DUAL-ELEMENT TIME DELAY TYPE FUSES SIZED AND RATED PER EQUIPMENT MANUFACTURERS' RECOMMENDATIONS. VERIFY WITH EQUIPMENT NAMEPLATE BEFORE INSTALLATION.

B. INSTALL SEPARATE NEUTRALS FOR EACH BRANCH CIRCUIT.

C. MOTOR OVERLOAD PROTECTION: WHERE REQUIRED BY NEC ARTICLE 430 PART C AND NOT SHOWN ON PLAN OR PROVIDED INTEGRAL WITH EQUIPMENT, PROVIDE AND INSTALL THERMAL OVERLOAD PROTECTION FOR ALL MOTORS.

D. SPARE CONDUIT FOR RECESSED PANELS: PROVIDE (1) 3/4" SPARE CONDUIT STUB UP TO ACCESSIBLE ABOVE CEILING SPACE AND/OR ACCESSIBLE SPACE BELOW FOR EVERY (3) SPARE BREAKER SPACES AS INDICATED ON PANEL SCHEDULES.

E. DEVICE LOCATIONS SHOWN ARE SCHEMATIC AND APPROXIMATE. EXACT LOCATIONS SHALL BE FIELD VERIFIED DURING ROUGH-IN WITH ARCHITECTURAL ELEVATIONS, CASEWORK SHOP DRAWINGS, FURNITURE, ETC. AND SHALL BE COORDINATED WITH OTHER TRADES TO AVOID CONFLICT WITH OTHER EQUIPMENT.

F. ELECTRICAL AND COMMUNICATIONS OUTLETS SHOWN IN THE SAME LOCATION, SHALL BE MOUNTED ON OPPOSITE SIDES OF THE SAME STUD. COORDINATE BETWEEN ELECTRICAL AND COMMUNICATIONS PLANS.

REFERENCE NOTES

1. EXISTING ELECTRICAL PANEL TO REMAIN, SEE SINGLE LINE DIAGRAM AND REFER TO PANEL SCHEDULES (AS APPLICABLE).
2. EXISTING MAIN SWBD 'MSA' TO REMAIN, SEE SINGLE LINE DIAGRAM.
3. RECEPTACLE FOR MECHANICAL CONTROL PANEL, VERIFY LOCATION WITH MECHANICAL DRAWINGS PRIOR TO INSTALLATION.
4. FUTURE EQUIPMENT LOCATION.

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THOMA #24-8108

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POWER FLOOR PLAN

NO.	REVISION	DATE
1		
2		
3		
4		
5		

PROJECT MANAGER: RP
DRAWN BY: AV
CHECKED BY: JC
DATE: 12/10/2024
PROJECT NUMBER: 3244-01-ED23
SHEET: E-202

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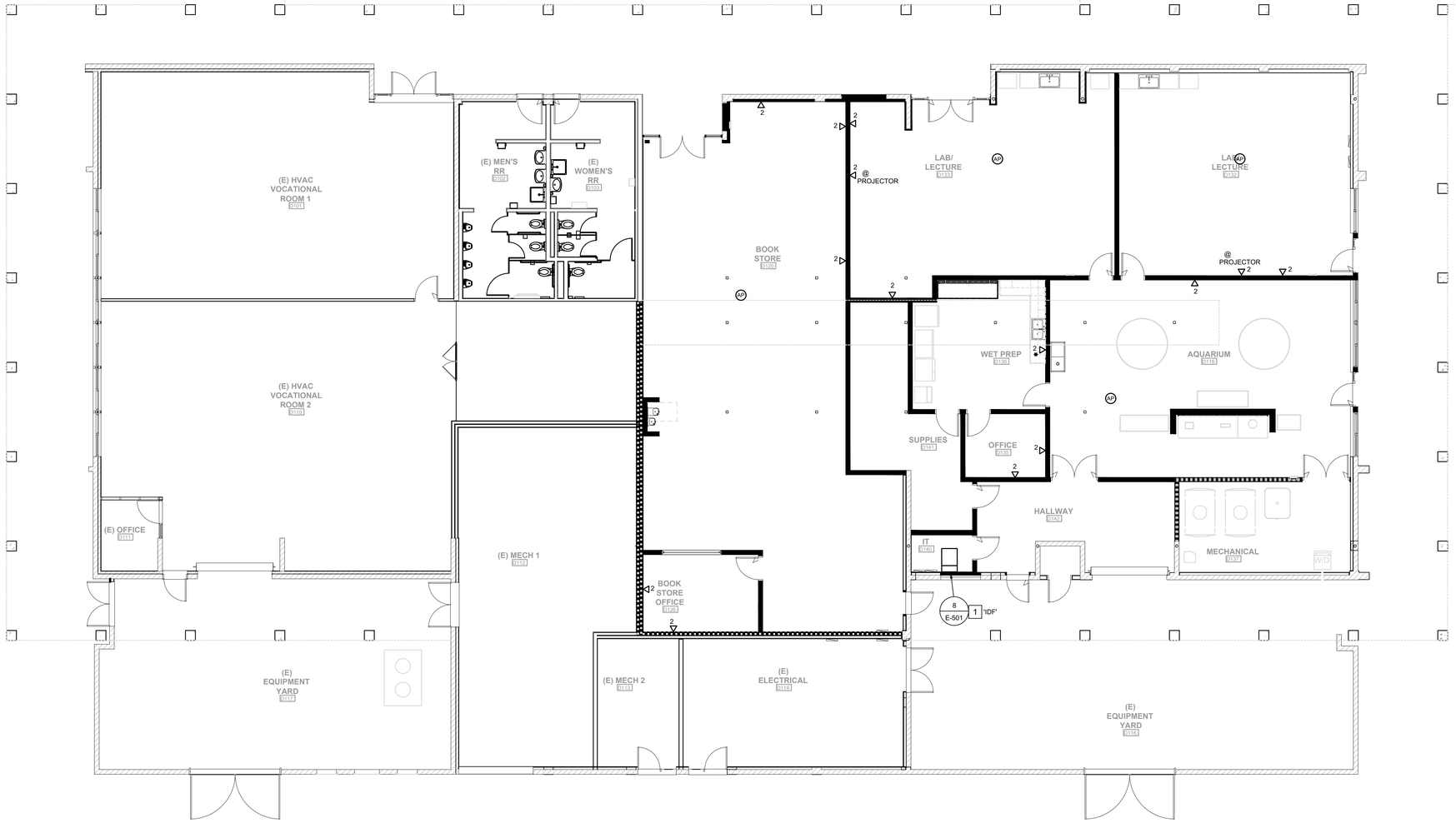

COMMUNICATIONS FLOOR PLAN

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

NORTH

GENERAL COMMUNICATION PLAN NOTES

A. SIGNAL AND COMMUNICATIONS SYSTEMS RACEWAYS AND BOXES: PROVIDE AND INSTALL 4" SQUARE RECESSED JUNCTION BOX WITH 1-GANG RING AND (1) 3/4" CONDUIT STUB TO ACCESSIBLE CEILING SPACE ABOVE OR UNDER FLOOR SPACE BELOW AS APPLICABLE AT EACH WALL TELEPHONE (VOICE), TELEVISION AND DATA OUTLET LOCATION SHOWN ON THE PLANS UNLESS OTHERWISE NOTED. FOR EACH COMBINATION VOICE/DATA OUTLET, PROVIDE AND INSTALL (2) 3/4" CONDUIT STUBS RUN TO NEW DATA RACK.

BEFORE CONSTRUCTION, COORDINATE AND VERIFY ALL DATA AND TELEPHONE LOCATIONS WITH OWNER OR ARCHITECT.

B. VOICE/DATA WIRING: EACH VOICE/DATA OUTLET LOCATION SHOWN ON THE PLANS SHALL HAVE (2) 4 PAIR, 24 GAUGE, CATEGORY 6, UTP CABLES HOMERUN TO THE DATA RACK. TERMINATE AT OUTLET LOCATION WITH OWNER APPROVED JACK. VERIFY SYSTEM REQUIREMENTS WITH OWNER OR ARCHITECT PRIOR TO CONSTRUCTION.

C. DEVICE LOCATIONS SHOWN ARE SCHEMATIC AND APPROXIMATE. EXACT LOCATIONS SHALL BE FIELD VERIFIED DURING ROUGH-IN WITH ARCHITECTURAL ELEVATIONS, CASEWORK SHOP DRAWINGS, FURNITURE, ETC. AND SHALL BE COORDINATED WITH OTHER TRADES TO AVOID CONFLICT WITH OTHER EQUIPMENT.

D. ELECTRICAL AND COMMUNICATIONS OUTLETS SHOWN IN THE SAME LOCATION, SHALL BE MOUNTED ON OPPOSITE SIDES OF THE SAME STUD. COORDINATE BETWEEN ELECTRICAL AND COMMUNICATIONS PLANS.

☐ REFERENCE NOTES

1. NEW WALL MOUNTED DATA RACK, MAX WEIGHT - 300LBS.

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OE BUILDING ALTERATIONS
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COMMUNICATIONS FLOOR PLAN

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SHEET: E-203

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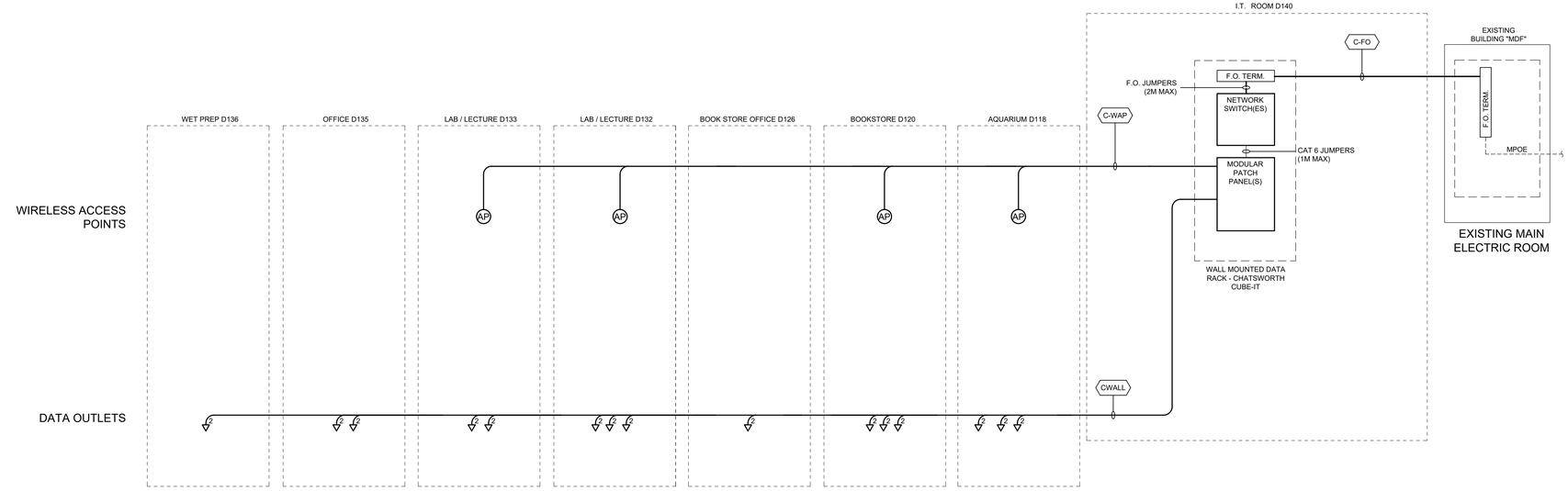
CABLE SCHEDULE	
SYMBOL	DESCRIPTION
C-WAP	(2) CAT6 CABLES (RISER), ORANGE IN COLOR
C-WALL	2-PORT WALL (2) CAT6 CABLE (RISER), YELLOW IN COLOR OUTLET
C-FO	(1) SINGLE-MODE INDOOR/OUTDOOR LOOSE-TUBE FIBER OPTIC CABLE: (24-STRAND) O2S SM
NOTE: KEYSTONES SHALL MATCH CABLE PLANT COLOR	

GENERAL NOTES

A. CAT6 AND CAT6A CABLES, TOTAL LENGTH FROM IDF TO ENDPOINT SHALL NOT BE MORE THAN 295'-0", EC SHALL BRING TO THE ATTENTION OF THE ENGINEER ANY LENGTHS IN EXCESS OF 295'-0" PRIOR TO INSTALLATION / TESTING.

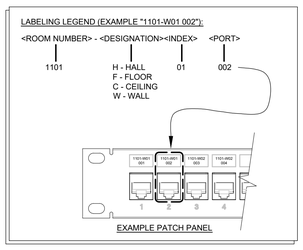
B. CONTRACTOR SHALL COORDINATE WITH DISTRICT IT STAFF FOR INSTALLATION AND SCHEDULING OF NEW EQUIPMENT TO BE PROVIDED BY THE IT DEPT.

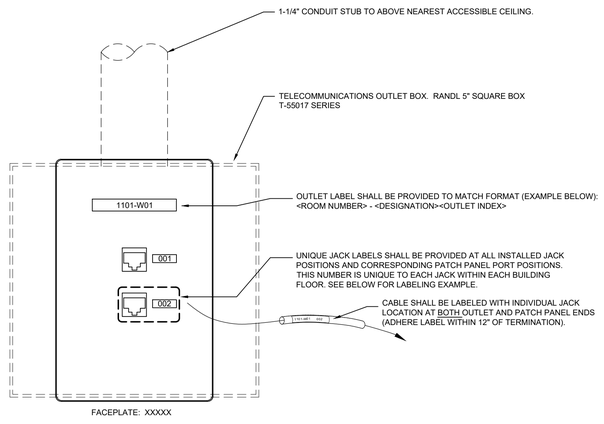
C. VERIFY AND OBTAIN APPROVAL FOR ALL EQUIPMENT PROVIDED WITH DISTRICT IT STAFF PRIOR TO INSTALLATION.



1 COMMUNICATIONS RISER DIAGRAM

SCALE: NTS



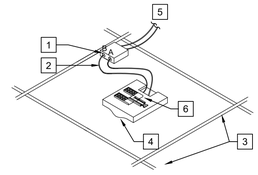


GENERAL NOTES

1. STATION CABLING SHALL BE TERMINATED AS T-568B PAIR COLOR CODING, USING MODULAR JACKS ONLY.
2. ALL STATION CABLES SHALL BE LABELED IDENTICALLY AT OUTLET LOCATION AND IDF/BDF PATCH PANEL. NO EXCEPTIONS.
3. MODULAR JACK COLOR AT BOTH ENDS OF CABLE PLANT, CABLE PLANT COLOR, AND PATCH CABLE COLOR SHALL ALL MATCH.
4. BACK BOX DEPTH AT EACH OUTLET SHALL BE SIZED TO ACCOMMODATE MINIMUM BEND RADIUS OF STATION CABLING, IN COMPLIANCE WITH MANUFACTURER'S RECOMMENDATIONS.
5. LABEL SHALL BE PRINTED AND ADHERED TO OUTLET FACEPLATE OR SHOWN THROUGH TRANSPARENT FACEPLATE WINDOW. LABELS FOR BOTH OUTLET FACEPLATE AND PATCH PANEL PORT LABEL SHALL BE PRINTED USING MANUFACTURER'S RECOMMENDED PRINTING DEVICE AND FONT/STYLE OR SUBMITTED AND APPROVED EQUAL, AND SHALL BE CONSISTENT THROUGHOUT PROJECT INSTALLATION.
6. ROOM NUMBERS SHALL MATCH FINISHED ROOM NAMES, NOT CONSTRUCTION ROOM NAMES. CONTRACTOR SHALL COORDINATE WITH DISTRICT REPRESENTATIVE FOR CONFIRMATION OF FINISHED ROOM NAMES AND FINAL NAMING CONVENTIONS PRIOR TO BEGINNING OF LABELING EXERCISE.

3 TYPICAL MODULAR PHONE / DATA OUTLET

SCALE:



REFERENCE NOTES

1. 2-PORT BISCUIT MOUNTED IN ACCESSIBLE CEILING SPACE. EC SHALL PROVIDE LABELS FOR EACH CABLE AT BISCUIT, AND SHALL TERMINATE (FEMALE) AND TEST BOTH CABLES, AND PROVIDE TEST RESULTS TO OWNER.
2. (2), 2-METER CAT6 PATCH CABLES BETWEEN NEW WIRELESS ACCESS POINT AND CAT6A TERMINATION BISCUIT. ETHERNET "0" PATCH CABLE SHALL BE INSERTED INTO LOWEST 'PoE' PORT ON WIRELESS ACCESS POINT, AND 'A' CABLE ON BISCUIT. ETHERNET "1" SHALL BE PLUGGED INTO FOLLOWING PORTS ON EITHER END.
3. CEILING (WHERE OCCURS), REFER TO ARCH CEILING PLANS. PENETRATIONS THROUGH RATED CEILINGS SHALL BE SEALED SO AS TO MAINTAIN FIRE RATING OF CEILING (APPLICABLE).
4. WIRELESS ACCESS POINT, TO BE PROVIDED BY OWNER AND INSTALLED BY ELECTRICAL CONTRACTOR. EC SHALL NOTIFY OWNER OF ACCESS POINT QUANTITIES AND LOCATIONS A MINIMUM OF 6-WEEKS PRIOR TO INSTALLATION DATE.
5. (2) PURPLE CAT6A CABLES FROM IDF TO BISCUIT. ALL CAT6A CABLE AND TERMINATION HARDWARE (INCLUDING MODULAR JACKS, PATCH CABLES, ETC.) SHALL BE PURPLE IN COLOR.
6. WAP MANUFACTURER PROVIDED T-BAR MOUNTING CLIP. ADHERE STRICTLY TO MANUFACTURER PROVIDED INSTALLATION INSTRUCTIONS.

GENERAL NOTES

ALL HARDWARE NOTED AS "PROVIDED BY OWNER" SHALL BE BROUGHT TO THE ATTENTION OF OWNER REPRESENTATIVE AT NOTICE TO PROCEED FOR SCHEDULING OF EQUIPMENT ARRIVAL WITHIN CONSTRUCTION TIMELINE. ALL HARDWARE SHALL BE INSTALLED BY THE EC UNLESS DIRECTED OTHERWISE BY OWNER.

2 TYPICAL WIRELESS ACCESS POINT MOUNTING

SCALE:

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PROJECT MANAGER: RP
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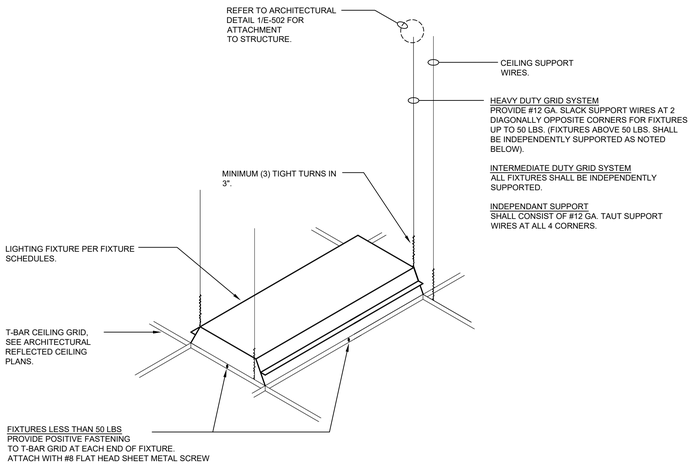
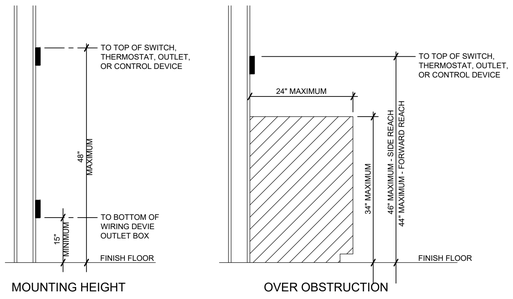


7 LAY-IN TROFFER FIXTURE MOUNTING DETAIL

SCALE:

4 NOT USED

SCALE:

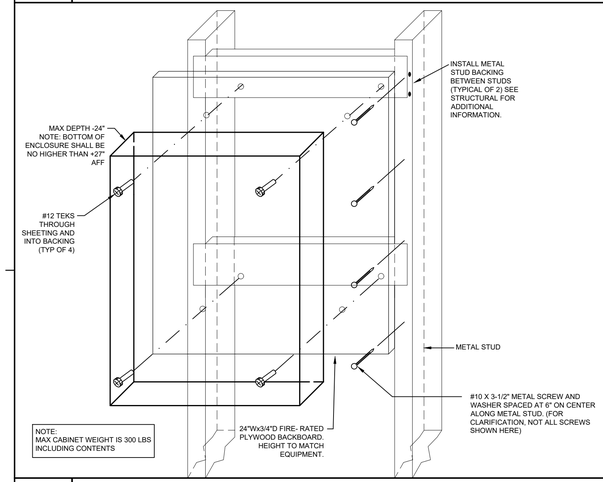


ELECTRICAL SWITCHES: CONTROLS AND SWITCHES INTENDED TO BE USED BY THE OCCUPANT OF THE ROOM OR AREA TO CONTROL LIGHT AND RECEPTACLE OUTLETS, APPLIANCES OR COOLING, HEATING AND VENTILATING EQUIPMENT, SHALL BE LOCATED NO MORE THAN 48 INCHES MEASURED FROM THE TOP OF THE OUTLET BOX NOR LESS THAN 15 INCHES MEASURED FROM THE BOTTOM OF THE OUTLET BOX TO THE LEVEL OF THE FINISH FLOOR OR WORKING PLATFORM. [CBC 11B-308.1.1]

ELECTRICAL RECEPTACLE OUTLETS: ELECTRICAL RECEPTACLE OUTLETS ON BRANCH CIRCUITS OF 30 AMPERES OR LESS AND COMMUNICATION SYSTEM RECEPTACLES SHALL BE LOCATED NO MORE THAN 48 INCHES MEASURED FROM THE TOP OF THE RECEPTACLE OUTLET BOX OR RECEPTACLE HOUSING NOR LESS THAN 15 INCHES MEASURED FROM THE BOTTOM OF THE RECEPTACLE OUTLET BOX OR RECEPTACLE HOUSING TO THE LEVEL OF THE FINISH FLOOR OR WORKING PLATFORM [CBC 11B-308.1.2]

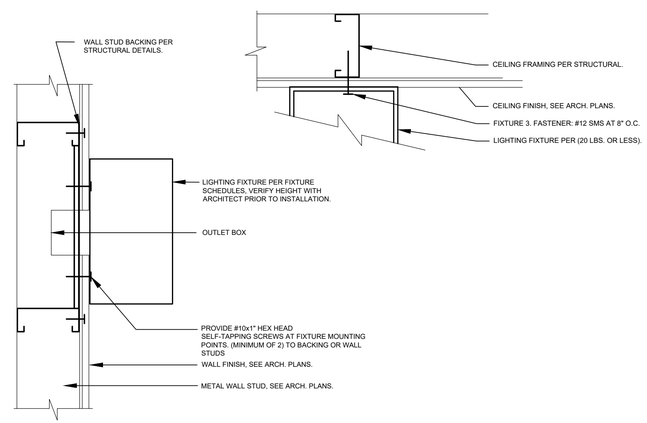
1 TYPICAL ADA DEVICE MOUNTING HEIGHTS

SCALE:



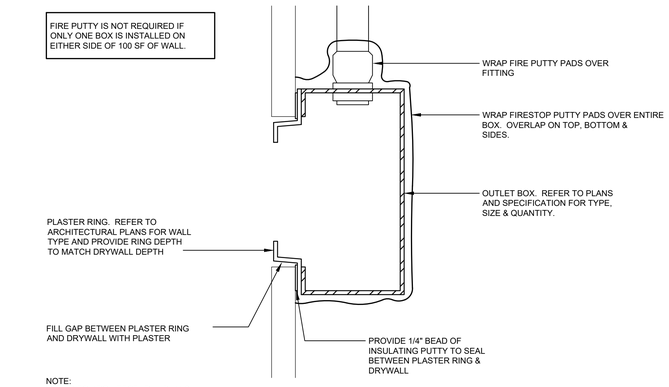
8 DATA CABINET MOUNTING DETAIL

SCALE: NTS



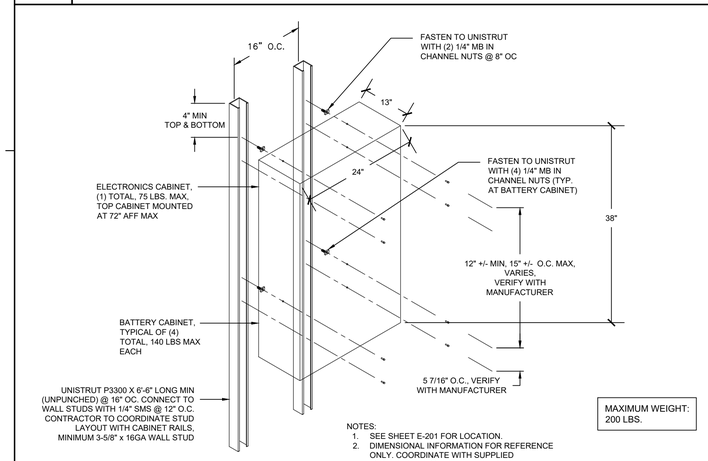
5 WALL/SURFACE FIXTURE MOUNTING DETAIL

SCALE:



2 TYPICAL DEVICE INSTALLATION - RATED WALLS

SCALE:

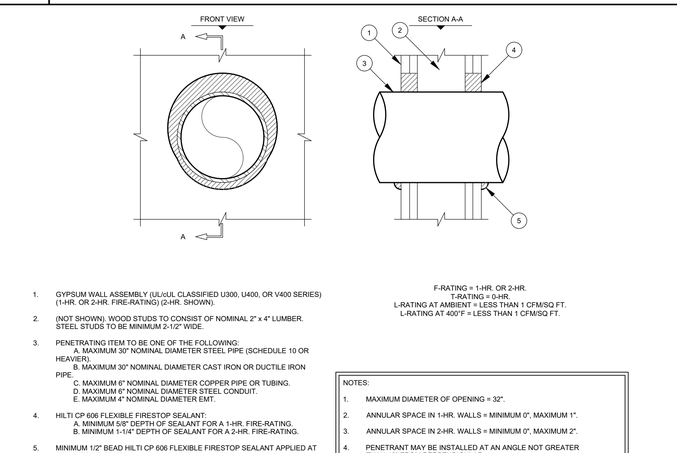


9 LIGHTING INVERTER MOUNTING DETAIL

SCALE:

6 NOT USED

SCALE:



1. GYPSUM WALL ASSEMBLY (UL/cUL CLASSIFIED U300, U400, OR V400 SERIES) (1-HR. OR 2-HR. FIRE-RATING) (2-HR. SHOWN).
2. (NOT SHOWN). WOOD STUDS TO CONSIST OF NOMINAL 2" x 4" LUMBER. STEEL STUDS TO BE MINIMUM 2-1/2" WIDE.
3. PENETRATING ITEM TO BE ONE OF THE FOLLOWING:
   A. MAXIMUM 30" NOMINAL DIAMETER STEEL PIPE (SCHEDULE 10 OR HEAVIER).
   B. MAXIMUM 30" NOMINAL DIAMETER CAST IRON OR DUCTILE IRON PIPE.
   C. MAXIMUM 6" NOMINAL DIAMETER COPPER PIPE OR TUBING.
   D. MAXIMUM 6" NOMINAL DIAMETER STEEL CONDUIT.
   E. MAXIMUM 4" NOMINAL DIAMETER EMT.
4. HILTI CP 606 FLEXIBLE FIRESTOP SEALANT:
   A. MINIMUM 5/8" DEPTH OF SEALANT FOR A 1-HR. FIRE-RATING.
   B. MINIMUM 1-1/4" DEPTH OF SEALANT FOR A 2-HR. FIRE-RATING.
5. MINIMUM 1/2" BEAD HILTI CP 606 FLEXIBLE FIRESTOP SEALANT APPLIED AT POINT OF CONTACT.

F-RATING = 1-HR. OR 2-HR.
T-RATING = 0-HR.
L-RATING AT AMBIENT = LESS THAN 1 CFM/SQ FT.
L-RATING AT 400°F = LESS THAN 1 CFM/SQ FT.

NOTES:
1. MAXIMUM DIAMETER OF OPENING = 32".
2. ANNULAR SPACE IN 1-HR. WALLS = MINIMUM 0", MAXIMUM 1".
3. ANNULAR SPACE IN 2-HR. WALLS = MINIMUM 0", MAXIMUM 2".
4. PENETRANT MAY BE INSTALLED AT AN ANGLE NOT GREATER THAN 45° FROM PERPENDICULAR.

3 METAL PIPE THRU 1-HR GYPSUM WALL DETAIL

SCALE:

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PROJECT TRACKING #: 03-124

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CONSULTING ENGINEER

THOMA ELECTRIC, INC.
P.O. Box 1167 - 3562 Empleo St.
San Luis Obispo, CA 93406
Phone: (805) 543-3850
Fax: (805) 543-3829
cad@thomaelec.com

REGISTERED PROFESSIONAL ENGINEER
JEFFREY M. THOMA
NO. 20823
ELECTRICAL
STATE OF CALIFORNIA

EXPIRES: 09/30/26
THOMA #24-8108

OXNARD COLLEGE
OE BUILDING ALTERATIONS
4000 S ROSE AVE. OXNARD, CA 93033

ELECTRICAL DETAILS

NO.	REVISION	DATE
1		
2		
3		
4		
5		

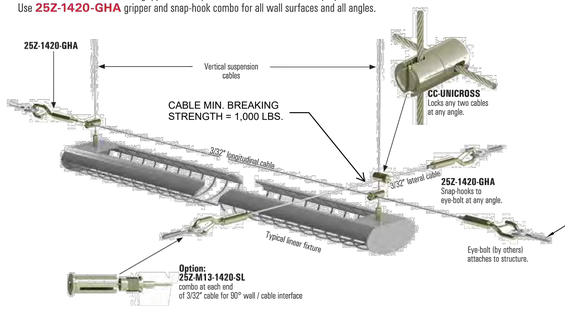
PROJECT MANAGER: RP
DRAWN BY: AV
CHECKED BY: JC
DATE: 12/10/2024
PROJECT NUMBER: 3244-01-ED23
SHEET: E-501

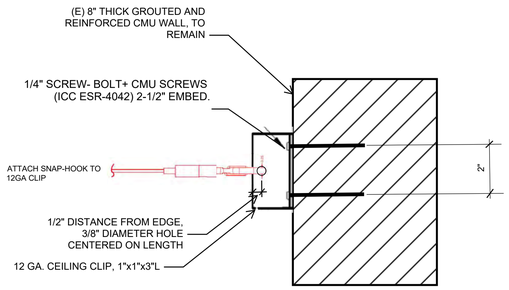
100% CD'S

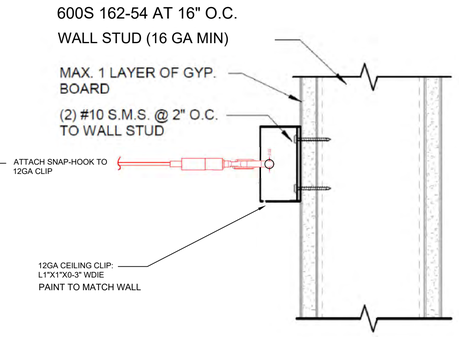
Jan 12, 2026 - 3:10pm - Roger - K:\ENG\2024\24-8108\24-8108_E501_ELEC DETAILS.dwg

System 2: Longitudinal and lateral 3/32" cables run from wall to wall, intersecting each other and vertical cables as close to the fixture as possible. Use the **CC-UNICROSS** at these intersections. Use an adjustable gripper at either end of the 3/32" bulk cable.

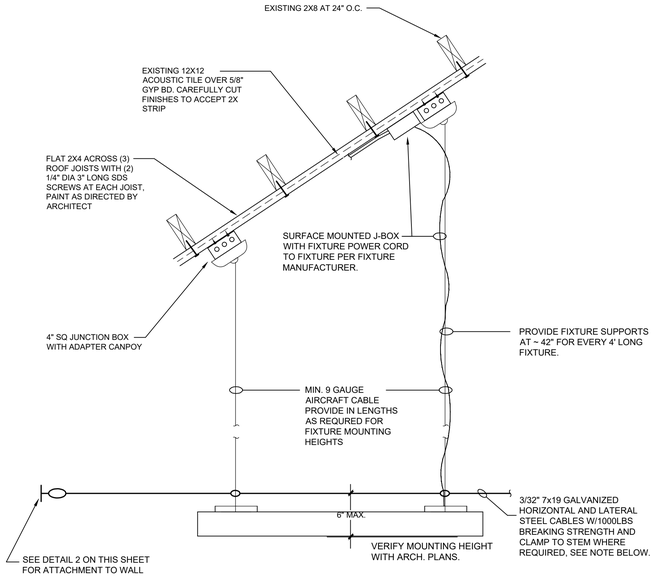
Use **25Z-M13-1420-SL** gripper and coupler combo for cables that run perpendicular to wall surfaces.
Use **25Z-1420-GHA** gripper and snap-hook combo for all wall surfaces and all angles.







2	TYPICAL PENDANT FIXTURE TO WALL DETAIL SCALE:



NOTE:
- PENDANT FIXTURE INSTALLATIONS SHALL ALLOW THE FIXTURE TO SWING 45° IN ANY DIRECTION WITHOUT OBSTRUCTION. IN THE EVENT OBSTRUCTIONS EXIST. AIRCRAFT CABLE(S) SHALL BE INSTALLED AS SHOWN TO RESTRICT THE MOVEMENT OF THE FIXTURE IN THE DIRECTION OF THE OBSTRUCTION. THE HORIZONTAL CABLE SHALL ATTACH TO THE FIXTURE CABLE OR WITH A MANUFACTURER PROVIDED CABLE CLAMP AS SHOWN. AIRCRAFT CABLING TO MATCH AIRCRAFT PROVIDED WITH FIXTURES.

1	TYPICAL PENDANT FIXTURE MOUNTING DETAIL SCALE:

AGENCY APPROVAL STAMP

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-124867 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 03/12/2026

DSA FILE #: 56-C1
PROJECT TRACKING #: 03-124

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ELECTRICAL DETAILS

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5		

PROJECT MANAGER: RP
DRAWN BY: AV
CHECKED BY: JC
DATE: 12/10/2024
PROJECT NUMBER: 3244-01-ED23
SHEET: E-502

100% CD'S

Mar 09, 2026 - 1:22pm - Roger - K:\ENG\2024\24-8108\24-8108_E501_ELEC DETAILS.dwg

V. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

Selections have been made based on information provided in this document. If any selections have been changed by the permit applicant, an explanation should be included in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and any with "-A" in the form name must be completed through an Acceptance Test Technician Certification Provider (ATTCP). For more information visit: http://www.energy.ca.gov/title24/attcp/providers.html

Form/Title	Systems/Spaces To Be Field Verified
NRCA-LTI-02-A - Must be submitted for occupancy sensors and automatic time switch controls.	Whole Building EMCS, Office Area (<250 square feet); Electrical, Mechanical, Telephone Rooms; Storage, General; BookStore/Wet Prep/Aquarium; Hallway D142; Restrooms; Lab/Lecture;
NRCA-LTI-04-A - Must be submitted for demand responsive lighting controls.	Whole Building Demand Response;

P. POWER ADJUSTMENT: LIGHTING CONTROL CREDIT (POWER ADJUSTMENT FACTOR (PAF))

This table includes all areas indicated in Table I or Table K as using a PAF credit described in 140.6(a)3 / 170.2(e)2B.

Conditioned Spaces

01	02								03	04	05	06	07
Area Description	PAF per 140.6(a)2 / 170.2(e)2B[1] (*Can be used in conjunction with other PAF's)								Luminaires Controlled for PAF Credit				Additional Control Credit Allowance (Watts)
	1	2A	2B	3A*	3B*	4*	5*	6*	7*	Luminaire Name or Item Tag	Luminaire Design Watts	Number of Luminaires	Lighting Controlled (Watts)	
				Pick up to one	Pick up to one	Pick up to one[2]	Pick up to one[2]							
Multipurpose	☐	☐	☐	☐	☐	☒	☐	☐	☐	F8	84	7	588	29.40
Multipurpose	☐	☐	☐	☐	☐	☒	☐	☐	☐	F16	168	4	672	33.60
Multipurpose	☐	☐	☐	☐	☐	☒	☐	☐	☐	C1	69	1	69	3.45
Multipurpose	☐	☐	☐	☐	☐	☒	☐	☐	☐	A2	37	6	222	11.10
Multipurpose	☐	☐	☐	☐	☐	☒	☐	☐	☐	F12	126	6	756	37.80
Office Area (<250 square feet)	☐	☐	☐	☐	☐	☒	☐	☐	☐	A1	37	2	74	3.70
Office Area (<250 square feet)	☐	☐	☐	☐	☐	☒	☐	☐	☐	A1	37	2	74	3.70
Storage, General	☐	☐	☐	☐	☐	☒	☐	☐	☐	C1	69	2	138	6.90
Corridor Area	☐	☐	☐	☐	☐	☒	☐	☐	☐	C1	69	2	138	6.90
Lab/Lecturer	☐	☐	☐	☐	☐	☒	☐	☐	☐	F24	319.5	3	958.5	47.925
Lab/Lecturer	☐	☐	☐	☐	☐	☒	☐	☐	☐	F12	126	4	504	25.20
Lab/Lecturer	☐	☐	☐	☐	☐	☒	☐	☐	☐	F16	168	1	168	8.40

08	09	
☐	All spaces applying PAF 5, 6 or 7 include a daylight design meeting requirements in 140.3(d). See Table 5.	**Total Power Adjustment (Watts) CONDITIONED SPACES:**	0.03

[1] FOOTNOTES: PAFs outlined in Table 140.6-A /170.2-L include 1) Daylight continuous dimming plus OFF; 2A) Occupant sensors in offices with one sensor per <= 125 ft^2; 2B) Occupant sensors in offices with one sensor per 126 - 250 ft^2; 3A) Institutional tuning, non-daylit areas and 3B) Institutional tuning, daylit areas; 4) Demand response; 5) Clerestory fenestration; 6) Horizontal slots; 7) Light shelves.

[2] Luminaires that qualify for PAF 5, 6, or 7 can be used in conjunction with PAF 1.

H. INDOOR LIGHTING CONTROLS (Not including PAFs)

This table includes lighting controls for conditioned and unconditioned spaces.

Building Level Controls

01	02	03	
Mandatory Demand Response 110.12(c)	Shut-off controls 130.1(c) / 160.5(b)4C	Field Inspector	
		Pass	Fail
Required >= 4,000W subject to multilevel	Whole Building EMCS	☐	☐

Area Level Controls

04	05	06	07	08	09	10	11	12	
Area Description	Complete Building or Area Category Primary Function Area	Manual Area Controls 130.1(a) / 160.5(b)4A	Multi-Level Controls 130.1(b) / 160.5(b)4B	Shut-Off Controls 130.1(c) // 160.5(b)4C	Primary/Sky lit Daylighting 130.1(d) / 160.5(b)4D	Secondary Daylighting 130.1(d) / 160.5(b)4D	Interlocked Systems 140.6(a)1 / 170.2(e)3A	Field Inspector	
								Pass	Fail
Office Area (<250 square feet)	Office (<=250 square feet)	Readily Accessible	Dimmer	Occupancy Sensor	NA: Rm < 24sf Glazing	NA: Rm < 24sf Glazing	No	☐	☐
Electrical, Mechanical, Telephone Rooms	Electrical Mechanical Telephone Room	Readily Accessible	NA: Enclosed area <1005f	Occupancy Sensor	NA: Rm < 24sf Glazing	NA: Rm < 24sf Glazing	No	☐	☐
Storage, General	All Other Space Types	Readily Accessible	NA: General Ltg <= 0.5W/SF	Occupancy Sensor	NA: Rm < 24sf Glazing	NA: Rm < 24sf Glazing	No	☐	☐
BookStore/Wet Prep/Aquarium	Convention, Conference, Multipurpose and Meeting Center	Readily Accessible	Dimmer	Occupancy Sensor	NA: Rm < 24sf Glazing	NA: Rm < 24sf Glazing	No	☐	☐
Hallway D142	Corridor	Readily Accessible	Dimmer	Occupancy Sensor	NA: Rm < 24sf Glazing	NA: Rm < 24sf Glazing	No	☐	☐
Restrooms	Restroom	Readily Accessible	NA: Restrooms	Occupancy Sensor	NA: General Ltg < 120W	NA: General Ltg < 120W	No	☐	☐
Lab/Lecture	Classroom, Lecture, or Training Vocational	Readily Accessible	Dimmer	Occupancy Sensor	NA: Rm < 24sf Glazing	NA: Rm < 24sf Glazing	No	☐	☐

A. GENERAL INFORMATION

01	Project Location (city)	Oxnard	04 Total Conditioned Floor Area (ft^2) 6,657
02	Climate Zone	6	05 Total Unconditioned Floor Area (ft^2) 0
03	Occupancy Types Within Project (select all that apply):		06 # of Stories (Habitable Above Grade) 1

● Classroom ● Office ● Support Areas ● All Other Occupancies

B. PROJECT SCOPE

This table includes any lighting systems that are within the scope of the permit application and are demonstrating compliance using the prescriptive path outlined in 140.6 / 170.2(e) or 141.0(b)2 / 180.2(b)4 for alterations.

Scope of Work	Conditioned Spaces		Unconditioned Spaces	
01	02	03	04	05
My Project Consists of (check all that apply):	Calculation Method	Area (ft^2)	Calculation Method	Area (ft^2)
☐ New Lighting System				
☐ New Lighting System - Parking Garage				
☒ Altered Lighting System	Area Category Method	6657	Area Category Method	0
Total Area of Work (ft^2)	6657		0	

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

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

Documentation Author Name: Jeffrey M. Thoma	Documentation Author Signature:
Company: Thoma Electric, Inc	Signature Date: 2020-01-19
Address: 3562 Empelo Street	CEA/ HERS Certification Identification (if applicable): E20823
City/State/Zip: San Luis Obispo CA 93406	Phone: 805-543-3850

RESPONSIBLE PERSON'S DECLARATION STATEMENT

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

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

Responsible Designer Name: Jeffrey M. Thoma	Responsible Designer Signature:
Company: Thoma Electric, Inc.	Date Signed: 2020-01-19
Address: 3562 Empelo Street	License: E20823
City/State/Zip: San Luis Obispo Ca 93406	Phone: (805) 543-3850

Q. RATED POWER REDUCTION COMPLIANCE FOR ONE-FOR-ONE ALTERATIONS

This section does not apply to this project.

R. 80% LIGHTING POWER FOR ALL ALTERATIONS - CONTROLS EXCEPTIONS

This section does not apply to this project.

H. INDOOR LIGHTING CONTROLS (Not including PAFs)

	13
	Plan Sheet Showing Daylit Zones:
	E-201

I. LIGHTING POWER ALLOWANCE: COMPLETE BUILDING OR AREA CATEGORY METHODS

Each area complying using the Complete Building or Area Category Methods per 140.6(b) are included in this table. Column 06 indicates if additional lighting power allowances per 140.6(c) or adjustments per 140.6(b) are being used .

Conditioned Spaces

01	02	03	04	05	06
Area Description	Complete Building or Area Category Primary Function Area	Allowed Density (W/ft^2)	Area (ft^2)	Allowed Wattage (Watts)	Additional Allowance / Adjustment
				Area Category	PAF
Multipurpose	Convention, Conference, Multipurpose and Meeting Center	0.75	3,423.4	2,567.6	No / Yes
Office Area (<250 square feet)	Office (<=250 square feet)	0.65	305.2	198.4	No / Yes
Storage, General	All Other Space Types	0.4	293.5	117.4	No / Yes
Corridor Area	Corridor	0.4	329.7	131.9	No / Yes
Elec/Mech/Tel	Electrical Mechanical Telephone Room	0.4	386.1	154.5	No / No
Lab/Lecturer	Classroom, Lecture, or Training Vocational	0.6	1,918.9	1,151.3	No / Yes
		TOTALS:	6,656.8	4,321.1	See Tables J, or P for detail

J. ADDITIONAL ALLOWANCE: AREA CATEGORY METHOD QUALIFYING LIGHTING SYSTEM

This section does not apply to this project.

K. TAILORED METHOD GENERAL LIGHTING POWER ALLOWANCE

This section does not apply to this project.

C. COMPLIANCE RESULTS

If any cell on this table says "DOES NOT COMPLY" or "COMPLIES with Exceptional Conditions" refer to Table D. for guidance.

	Allowed Lighting Power per 140.6(a) / 170.2(e) (Watts)						Adjusted Lighting Power per 140.6(a) / 170.2(e) (Watts)				Compliance Results
	01	02	03	04	05		06	07	08		09
Lighting in conditioned and unconditioned spaces must not be combined for compliance per 140.6(b)1 / 170.2(e)	Complete Building 140.6(c)1	Area Category 140.6(c)2 / 170.2(e)4	Area Category Additional 140.6(c)2G / 170.2(e)4Av (+)	Tailored 140.6(c)3 / 170.2(e)4B (+)	**Total Allowed** (Watts)	≥	Total Designed (Watts)	Adjustments: PAF Lighting Control Credits 140.6(a)2 / 170.2(e)1B (-) Adjustments *Includes Adjustments	**Total Adjusted** (Watts) *Includes Adjustments	=	**05 must be >= 08 140.6 / 170.2(e)**
	(See Table I)	(See Table I)	(See Table J)	(See Table K)			(See Table F)	(See Table P)			
Conditioned		4,321.1	0		= 4,321	≥	4,534	218	= 4316		COMPLIES
Unconditioned					=	≥			=		
Controls Compliance (See Table H for Details)											COMPLIES
Rated Power Reduction Compliance (See Table Q for Details)											

D. EXCEPTIONAL CONDITIONS

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

E. ADDITIONAL REMARKS

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

S. DAYLIGHT DESIGN POWER ADJUSTMENT FACTOR (PAF)

This table documents clerestories, horizontal slots or light shelves meet the requirements in 140.3(d) / 170.2(e)2B if a Power Adjustment Factor was claimed on Table P. These features must be documented on the architectural plans or where appropriate within the construction documents. This PAF also must be verified in the field with an acceptance test per Table U.

01	Compliance Strategy

T. DWELLING UNIT LIGHTING

This section does not apply to this project.

U. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Selections have been made based on information provided in this document. If any selections have been changed by permit applicant, an explanation should be included in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and can be found online

Form/Title
NRCI-LTI-E - Must be submitted for all buildings

L. ADDITIONAL LIGHTING ALLOWANCE: TAILORED WALL DISPLAY

This section does not apply to this project.

M. ADDITIONAL LIGHTING ALLOWANCE: TAILORED FLOOR AND TASK LIGHTING

This section does not apply to this project.

N. ADDITIONAL LIGHTING ALLOWANCE: TAILORED DECORATIVE /SPECIAL EFFECTS

This section does not apply to this project.

O. ADDITIONAL LIGHTING ALLOWANCE: TAILORED VERY VALUABLE MERCHANDISE

This section does not apply to this project.

F. INDOOR LIGHTING FIXTURE SCHEDULE

This table includes all planned permanent and portable lighting other than dwelling unit/ hotel/ motel room lighting. Multifamily dwelling unit and hotel/motel room lighting is documented in Table T. If using Table T to document lighting in multifamily common use areas providing shared provisions for living, eating, cooking or sanitation, those luminaires are not included here.

Designed Wattage: Conditioned Spaces

01	02	03	04	05	06	07	08	09	10	
Name or Item Tag	Complete Luminaire Description	Modular (Track) Fixture	Small Aperture & Color Change[1]	Watts per luminaire[2]	How is Wattage determined	Total Number of Luminaires	Excluded per 140.6(a)3 / 170.2(e)2C	Design Watts	Field Inspector	
									Pass	Fail
A1	A1	No	NA	37	Mfr. Spec	4	No	148	☐	☐
A2	A2	No	NA	37	Mfr. Spec	6	No	222	☐	☐
C1	C1	No	NA	69	Mfr. Spec	7	No	483	☐	☐
C2	C2	No	NA	35	Mfr. Spec	1	No	35	☐	☐
F12	F12	No	NA	126	Mfr. Spec	10	No	1,260	☐	☐
F16	F16	No	NA	168	Mfr. Spec	5	No	840	☐	☐
F24	F24	No	NA	319.5	Mfr. Spec	3	No	958.5	☐	☐
F8	F8	No	NA	84	Mfr. Spec	7	No	588	☐	☐
					Total Designed Watts: CONDITIONED SPACES			4,534		

[1]FOOTNOTE: Design Watts for small aperture and color changing luminaires which qualify per 140.6(a)4B / 170.2(e)2D is adjusted to be 75% /80% of their rated wattage. Table F automatically makes this adjustment, the permit applicant should enter full rated wattage in column 05.

[2]Authority Having Jurisdiction may ask for Luminaire cut sheets to confirm wattage used for compliance per 130.0(c) / 160.5(b). Wattage used must be the maximum rated for the luminaire, not the lamp.

G. MODULAR LIGHTING SYSTEMS

This section does not apply to this project.

AGENCY APPROVAL STAMP

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-124867 INC: 0A
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 03/12/2026

DSA FILE #: 56-C1
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T-24 COMPLIANCE DOCUMENTS

100% CD'S

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PROJECT MANAGER RP
DRAWN BY AV **CHECKED BY** JC
DATE 12/10/2024
PROJECT NUMBER 3244-01-ED23
SHEET E-601

Jan 12, 2026 - 3:10pm - Roger - K:\ENG\2024\24-8108\24-8108_E601_T24.dwg

GENERAL NOTES

A. GENERAL

1. SCOPE
THE DRAWINGS AND THESE GENERAL NOTES DESCRIBE THE SCOPE OF WORK AND SYSTEMS. THE MATERIAL REQUIRED FOR THE WORK SHALL BE CONTRACTOR FURNISHED AND CONTRACTOR INSTALLED, UNLESS SPECIFICALLY NOTED OTHERWISE. THE WORK INCLUDES BUT IS NOT LIMITED TO THE FOLLOWING PRINCIPAL SYSTEMS AND EQUIPMENT. ALL ITEMS NOTED ON THE PLAN WHICH ARE NOT EXPLICITLY STATED AS EXISTING SHALL BE NEW.

2. PERMITS AND CHARGES
OBTAIN AND PAY FOR ALL NECESSARY CONSTRUCTION PERMITS, INSPECTION FEES, AND OTHER CHARGES BY AGENCIES HAVING JURISDICTION.

3. REGULATIONS AND CODES
PROVIDE AND INSTALL ALL MATERIALS IN CONFORMANCE WITH THE 2022 C.E.C., CALIFORNIA ADMINISTRATIVE CODE TITLE 8, AND OTHER CODES AND REGULATIONS HAVING JURISDICTION. INSTALL ALL EQUIPMENT IN ACCORDANCE WITH THE REQUIREMENTS OF THE INSPECTING AUTHORITY AND THE MANUFACTURERS RECOMMENDATIONS.

4. VERIFYING EXISTING CONDITIONS
BEFORE SUBMITTING BID, BECOME THOROUGHLY FAMILIAR WITH ACTUAL EXISTING CONDITIONS AT THE BUILDING. THE INTENT OF THE WORK IS SHOWN ON THE DRAWINGS AND DESCRIBED HEREINAFTER. BY THE ACT OF SUBMITTING A BID PROPOSAL FOR THE WORK, THE CONTRACTOR SHALL BE DEEMED TO HAVE MADE SUCH STUDY AND EXAMINATION AND TO ACCEPT ALL CONDITIONS PRESENT AT THE SITE. NO REQUEST FOR ADDITIONAL PAYMENT WILL BE CONSIDERED AS VALID, DUE TO FAILURE TO ALLOW FOR CONDITIONS WHICH MAY EXIST.

5. COORDINATION
COORDINATE ALL WORK WITH OTHER TRADES. OBTAIN ALL DRAWINGS THAT WILL REQUIRE COORDINATION AND PROVIDE ALL ELECTRICAL CONNECTION REQUIRED WHETHER SHOWN ON ELECTRICAL DRAWINGS OR NOT. ELECTRICAL EQUIPMENT LOCATIONS INDICATED ARE SHOWN DIAGRAMMATICALLY, EXACT LOCATION SHALL BE VERIFIED. SCALING OFF OF DRAWINGS SHALL BE DONE AT CONTRACTORS RISK. DO NOT SCALE DEVICES, LIGHTING FIXTURES OR ANY EQUIPMENT FROM PLANS. LIGHTING FIXTURE QUANTITIES AND LENGTHS SHALL BE CONTRACTORS RESPONSIBILITY. FIXTURES ARE SHOWN FOR CIRCUITING ONLY. CONTRACTOR TO VERIFY SIZES & QUANTITIES PRIOR TO BID.

6. SERVICE CONTINUITY
UNINTERRUPTED EXISTING ELECTRICAL POWER SHALL BE MAINTAINED TO OTHER TRADES FOR TEMPORARY POWER AREAS OF THE SITE DURING CONSTRUCTION. PROVIDE ANY TEMPORARY SERVICES AS MAY BE REQUIRED. IDENTIFY AT BID TIME, ALL WORK TO BE DONE ON PREMIUM TIME AND THE TOTAL OVERTIME MAN-HOURS REQUIRED FOR COMPLETION.

7. AS BUILT
PROVIDE RECORD DRAWINGS IN ACAD TO THE OWNER WITH ALL CHANGES NOTED THEREON AT THE COMPLETION OF THE PROJECT. RECORD DRAWINGS SHALL BE SIGNED AND DATED BY CONTRACTOR PRIOR TO RELEASE OF FINAL RETENTION OF ALL MONIES.

8. GUARANTEE
CONTRACTOR SHALL UNCONDITIONALLY GUARANTEE ALL LABOR AND MATERIALS ON ALL WORK AGAINST DEFECTS IN WORKMANSHIP AND MATERIALS FOR A PERIOD OF ONE YEAR.

9. SHOP DRAWINGS
SUBMIT SHOP DRAWINGS AND MATERIAL LIST FOR REVIEW PRIOR TO COMMENCING ANY WORK. ALL EQUIPMENT TO BEAR U.L. LABEL OR THAT OF ANOTHER ACCEPTABLE TESTING LABORATORY. SHOP DRAWINGS MUST BE STAMPED BY THE CONTRACTOR FOR CONFORMANCE PRIOR TO SUBMITTAL. SUBMIT THREE HARD COPY SETS OF SHOP DRAWINGS FOR REVIEW PRIOR TO PURCHASING ALL BREAKER MOUNTING HARDWARE, DISCONNECT SWITCHES, FUSES, CONTROLLERS, LIGHTING FIXTURES, LIGHT SWITCHES, RECEPTACLES, ETC.

10. CONTRACTOR BID
CONTRACTOR'S BID SHALL BE BASED ON ALL WORK SHOWN ON THE PLANS AND AS SPECIFIED. IF CONTRACTOR PROPOSES TO SUBSTITUTE FOR EQUIPMENT SPECIFIED, HE SHALL SUBMIT HIS REQUEST FOR CONSIDERATION OF THE OWNER AND ENGINEER PRIOR TO BID IN WRITING. ALL SUBSTITUTIONS MUST BE REVIEWED BY THE ENGINEER IN WRITING. SUCH REVIEW SHALL NOT RELIEVE THE CONTRACTOR COMPLYING WITH THE REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS, AND THE CONTRACTOR SHALL BE RESPONSIBLE AT HIS OWN EXPENSE FOR ANY CHARGES RESULTING FROM HIS PROPOSED SUBSTITUTIONS WHICH AFFECT OTHER PARTS OF HIS OWN WORK, THE OWNER, ENGINEER OF RECORD OR THE WORK OF OTHER CONTRACTORS.

B. MATERIAL AND INSTALLATION
ALL WORK AND MATERIAL SHALL CONFORM TO THE LATEST RULES OF THE GOVERNING ELECTRICAL CODE AND INSTALLATION SHALL BE OF THE LATEST INDUSTRY STANDARDS OF WORKMANSHIP.

ALL INSTALLED MATERIALS AND EQUIPMENT SHALL BE LISTED U.L., NRTL OR LISTED AND APPROVED BY AN APPROVED TESTING LABORATORY.

1. CONDUITS
CONDUIT SHALL BE EMT, PVC, IMC, OR RIGID. CONDUIT SHALL BE MANUFACTURED IN ACCORDANCE WITH UL-1. A GROUND WIRE IS REQUIRED IN ALL FLEXIBLE CONDUIT AND UNDERGROUND CONDUIT. BUSHINGS SHALL BE INSTALLED ON ALL COMMUNICATION, TELEPHONE & SPEAKER CONDUITS. PROVIDE 3/16" NYLON PULL STRING IN ALL EMPTY CONDUITS. FLEXIBLE STEEL CONDUIT RUNS SHALL BE LIMITED TO A MAXIMUM LENGTH OF 6 FOOT. ALL CONNECTIONS SHALL BE COMPRESSION & NOT SCREW TYPE.

2. FEEDERS AND BRANCH/CIRCUITS/IDENTIFICATION/CABLES
IDENTIFY FEEDERS WITH THE CORRESPONDING CIRCUIT DESIGNATION AT THE OVER-CURRENT DEVICE, LOAD END, AND IN PULL BOXES WITH E-Z CODE OR OTHER APPROVED WIRE MARKER. IDENTIFY BRANCH CIRCUITS WITH I.D. MARKERS, THE CORRESPONDING CIRCUIT DESIGNATION AT THE OVER-CURRENT DEVICE, AT ALL SPLICES, IN JUNCTION BOXES, AND IN OUTLETS. USE PLASTIC COATED SELF-STICKING MARKERS SUCH AS THOMAS & BETTS E-Z CODE FOR IDENTIFICATION OF CONDUCTORS. IDENTIFY SIGNAL & COMMUNICATION CABLES AT TERMINAL AND OUTLET UNIQUELY WITH PERMANENT LABELING.

3. CONDUCTORS
DELIVER ALL CONDUCTORS TO THE JOB SITE IN ORIGINAL UNBROKEN CARTON OR REEL, PROPERLY TAGGED WITH U.L. LABEL, SIZE, TYPE, MANUFACTURER, TRADE NAME AND THE DATE OF MANUFACTURE. (MUST BE MANUFACTURED WITHIN 6 MONTHS) PROVIDE COPPER CONDUCTORS #12 AWG MINIMUM UNLESS SPECIFICALLY NOTED OTHERWISE ON THE DRAWINGS. PROVIDE STRANDED COPPER CONDUCTORS FOR ALL WIRING. USE CONDUCTORS WITH 90°C THHN/THWN 600 VOLTS INSULATION, UNLESS OTHERWISE NOTED. CONDUCTOR SIZE NO.1 AWG AND SMALLER WITH 90 DEGREE C INSULATION ARE TO USE THE 60 DEGREE COLUMN OF THE CODE, TABLE 310-16, TO DETERMINE AMPACITY. CONDUCTORS #1/0 AWG AND LARGER WITH 75 DEGREE AND 90 DEGREE INSULATION ARE TO USE THE 75 DEGREE COLUMN OF CODE, TABLE 310-16, TO DETERMINE AMPACITY. (110.14C) WHERE THE NUMBER OF CONDUCTORS IN A RACEWAY OR CABLE EXCEEDS THREE, THE ALLOWABLE AMPACITY OF EACH CONDUCTOR SHALL BE REDUCED PER TABLE 310.15(B)(3)(a).

4. STRUCTURAL SUPPORT
EQUIPMENT SHALL BE MOUNTED TO THE BUILDING STRUCTURE IN A SEISMICALLY APPROVED MANNER.

5. ELECTRICAL CERTIFICATION
"ELECTRICIANS" PERFORMING WORK ON THIS PROJECT SHALL BE CURRENTLY CERTIFIED IN ACCORDANCE WITH THE STATE OF CALIFORNIA AB931 AND THE DIVISION OF APPRENTISHIP STANDARDS SECTION 3099.

C. DEMOLITION
1. NOTIFY THE OWNER IMMEDIATELY WHEREVER EXISTING EQUIPMENT IS ENCOUNTERED WHICH MUST BE RELOCATED DUE TO THE NEW CONSTRUCTION, AND WHICH IS NOT INDICATED ON THE PLANS.

2. ALL REMOVED MATERIALS AND EQUIPMENT WHICH ARE SALVAGEABLE SHALL REMAIN THE PROPERTY OF THE OWNER. DELIVER SUCH SALVAGED MATERIALS AND EQUIPMENT ON THE PREMISES AS DIRECTED BY OWNER, AND NEATLY PILE OR STORE THEM AND PROTECT FROM DAMAGE. REMOVE FROM PREMISES AND DISPOSE OF ALL MATERIALS CONSIDERED BY THE OWNER TO BE SCRAP.

3. ALL DEVICES, CIRCUITS CONDUCTORS, FEEDERS ETC., WHEN NOTED TO BE REMOVED, SHALL BE REMOVED TO THE LAST ACTIVE DEVICE. ALL OVER-CURRENT PROTECTION AND DISCONNECT DEVICES NO LONGER UTILIZED BUT REMAINING AS LAST ACTIVE DEVICE SHALL BE LABELED AS 'SPARE'. COORDINATE ALL OUTAGES WITH OWNERS REPRESENTATIVE.

4. DISCONNECT AND MAKE SAFE ALL ELECTRICAL SYSTEMS ON SITE AND IN WALL, FLOORS, AND CEILINGS SCHEDULED FOR REMOVAL.

5. REMOVE, RELOCATE, AND EXTEND EXISTING INSTALLATIONS TO ACCOMMODATE NEW CONSTRUCTION.

6. REMOVE ABANDONED WIRING TO SOURCE OF SUPPLY AND RE-LABEL DEVICES AS SPARES.

7. REMOVE ABANDONED CONDUIT, INCLUDING ABANDONED CONDUIT ABOVE ACCESSIBLE CEILING FINISHES. CUT CONDUIT FLUSH WITH WALLS AND FLOOR, AND PATCH SURFACES.

8. REPAIR ADJACENT CONSTRUCTION AND FINISHES DAMAGED DURING DEMOLITION AND EXTENSION WORK

9. MAINTAIN ACCESS TO EXISTING ELECTRICAL INSTALLATIONS WHICH REMAIN ACTIVE. MODIFY INSTALLATION OR PROVIDE ACCESS PANEL AS APPROPRIATE.

10. BEGINNING OF DEMOLITION MEANS CONTRACTOR ACCEPTS EXISTING CONDITIONS.

D. EXECUTION
1. CAREFULLY PROTECT ALL WALLS, TRIM, FLOORS, EQUIPMENT UTILITY LINES AND MATERIALS. WHEN WORKING ON FINISHED SURFACES, LIMIT DAMAGE TO THE CONFINES AS MUCH AS POSSIBLE AND RESTORE TO THE ORIGINAL CONDITION ALL SURFACES WHICH ARE DAMAGED BECAUSE OF THE INSTALLATION OF THIS WORK.

2. EQUIPMENT, MATERIALS AND SUPPLIES REMOVED FOR PROTECTION SHALL BE REPLACED IN ORIGINAL LOCATIONS. ANY MATERIALS DAMAGED SHALL BE REPLACED WITH NEW MATERIALS OF LIKE KIND AND QUALITY.

3. DO ALL DRILLING, CUTTING, CHANNELING AND PATCHING REQUIRED TO INSTALL ELECTRICAL WORK AS INDICATED OR HEREIN SPECIFIED. ALL HOLES, CURBS, ETC., IN FLOORS, CEILINGS AND WALLS SHALL BE PATCHED, UNLESS INDICATED OTHERWISE. PAINT ALL NEW ELECTRICAL RACEWAYS, CABINETS, ENCLOSURES AND FITTINGS PENETRATING INTO FIRE RATED ENVELOPES, SPACES, ETC.

4. ALL CONDUIT RUNS SHALL BE CONCEALED, UNLESS SHOWN OTHERWISE. PROVIDE A PULL WIRE IN ALL EMPTY CONDUITS.

5. EXISTING CONDITION SHOWN IS FROM AVAILABLE RECORD DRAWINGS AND VISUAL FIELD SURVEY AND SHOWN FOR REFERENCE ONLY. CONTRACTOR SHALL VERIFY ACTUAL EXISTING CONDITION AT SITE.

6. ALL WORK SHOWN IS NEW UNLESS SPECIALLY INDICATED AS EXISTING (X). ALL ELECTRICAL EQUIPMENT MOUNTING AND ANCHORAGE MUST CONFORM WITH LOCAL AND STATE SEISMIC CODES.

G. INSTALLATION
1. IT IS THE INTENT OF THESE PLANS AND SPECIFICATIONS THAT A COMPLETE AND WORKABLE ELECTRICAL INSTALLATION BE PROVIDED FOR ALL THE EQUIPMENT DESCRIBED OR SHOWN AS BEING IN THIS CONTRACT. TOWARD THIS END FURNISH ALL LABOR AND TOOLS NECESSARY AND FURNISH AND INSTALL ALL APPARATUS, MATERIALS AND EQUIPMENT IN A FASHION COMPLYING WITH ALL APPLICABLE CODES, INCLUDING ITEMS REQUIRED BUT NOT NORMALLY SHOWN, SUCH AS LAMPS, COUPLINGS, HANGERS, BRACKETS, CLAMPS, BOXES, CONNECTORS AND HARDWARE. REFER ALSO TO WRITTEN SPECIFICATIONS FOR GENERAL, MECHANICAL AND ELECTRICAL SECTIONS.

2. PROCURE ALL PERMITS FROM LEGALLY CONSTITUTED AUTHORITIES, ARRANGE FOR ALL INSPECTIONS AND PAY ALL COSTS FOR FEES AND TESTS IN CONNECTION THEREWITH. COMPLY WITH CODES: NOTHING IN THESE PLANS AUTHORIZES DEVIATION FROM APPLICABLE CODES.

3. DETERMINE EXACT ROUTING OF CONCEALED FEEDERS AND BRANCH HOMERUNS IN COOPERATION WITH OTHER TRADES TO SIMPLIFY INSTALLATION WHEREVER POSSIBLE BUT SUBJECT TO APPROVAL OF ARCHITECT FOR VISUAL AND STRUCTURAL REASONS.

4. PROVIDE A CODE APPROVED DISCONNECT SWITCH OR BREAKER WITHIN SIGHT OF EVERY MOTOR AND FEED MOTORS NOT EQUIPPED WITH "BUILT IN" PROTECTION THROUGH A MAGNETIC OR MANUAL STARTER WITH OVERLOAD HEATERS SIZED TO COMPLY WITH MOTOR MANUFACTURER'S RECOMMENDATIONS AND APPLICABLE CODES.

5. FOR CONNECTIONS TO EXHAUST FANS, PUMPS, COMPRESSORS, SPACE HEATERS, WATER HEATERS, AQUASTATS, SOLENOID VALVES AND OTHER MECHANICAL EQUIPMENT AND FOR CONDUITS AND WIRE REQUIRED BUT NOT NECESSARILY SHOWN ON THESE DRAWINGS REFER TO MECHANICAL PLANS AND DETERMINE EXACT LOCATIONS UNDER DIRECTION OF HEATING AND VENTILATING CONTRACTOR.

6. DO NOT RUN ANY CONDUIT IN SLAB IF ITS OUTSIDE DIAMETER EXCEEDS 1/3 THE THICKNESS OF THE SLAB. LOCATE CONDUITS WITHIN THE MIDDLE OF THE SLAB. WHERE CONDUITS ARE GROUPED IN PARALLEL RUNS, SPACE THEM 3" OR MORE APART. WHERE CONDUITS CROSS EACH OTHER, THICKEN SLAB PROPORTIONATELY OVER A HORIZONTAL AREA EQUAL TO TEN TIMES THE DIAMETER OF THE LARGEST CONDUIT. REFER ALSO TO DETAILS SHOWN..

7. SIZE OUTLET BOXES IN CONFORMITY WITH CODE FOR NUMBER AND GAUGE OF CONDUCTORS THEREIN, EXCEPT WHERE NOTED TO BE LARGER. MINIMUM BOX SIZE SHALL BE 4" SQUARE BY 1-1/2" DEEP.

8. ALL ELECTRICAL WORK SHALL BE INSTALLED SO AS TO BE READILY ACCESSIBLE FOR OPERATING, SERVICING, MAINTAINING AND REPAIRING. ALL CONDUIT SHALL BE CONCEALED WHERE POSSIBLE. EXPOSED CONDUIT SHALL BE IN STRAIGHT LINES PARALLEL WITH, OR AT RIGHT ANGLES TO, COLUMN LINES OR BEAMS AND SEPARATED BY AT LEAST THREE (3) INCHES FROM WATER LINES WHENEVER THEY RUN LONG SIDE OR ACROSS SUCH LINES. CONDUIT SHALL NOT BE RUN BELOW CABLE TRAYS OR LIGHT FIXTURES WITHOUT SPECIFIC APPROVAL OF THE OWNERS REPRESENTATIVE. HANGERS SHALL BE FASTENED TO STEEL, CONCRETE OR MASONRY, BUT NOT TO PIPING. HANGERS AND SUPPORT SYSTEMS ARE AN INTEGRAL PART OF THE VISUAL ENVIRONMENT. ALL HANGERS AND SUPPORTS EXPOSED TO PUBLIC VIEW MUST BE SHOWN IN DETAIL ON PLANS SUBMITTED TO ENGINEER FOR APPROVAL OF APPEARANCE. ALL HANGERS MUST BE UNIFORMLY SPACED AND NEATLY INSTALLED WITH NO EXCESS MATERIAL BEYOND WHAT IS REQUIRED FOR THE SUPPORT FUNCTION. CONTRACTOR SHALL SELECT ACCESSORIES AND HARDWARE WITH A SMOOTH, NEAT FINISHED APPEARANCE AND PAINT ALL EXPOSED CONDUIT HANGERS TO MATCH THE ADJACENT FINISHES.

9. CONTRACTOR SHALL EXAMINE PLANS AND VERIFY IN FIELD LOCATIONS OF ALL FIRE RATED WALLS, CEILINGS AND FLOORS. CONTRACTOR SHALL SEAL ALL ELECTRICAL SYSTEM PENETRATIONS THROUGH FIRE RATED WALLS, CEILINGS AND FLOORS WITH U.L. LISTED MATERIAL APPROVED BY THE AUTHORITY HAVING JURISDICTION.

10. PANEL CIRCUIT DIRECTORY SHALL COMPLY WITH CEC 408.4.

11. PROVIDE 90% COMPACTION OR SAND SLURRY OVER ALL UNDERGROUND CONDUITS, USE ONLY CLEAN FILL.

H. ADDITIONAL NOTES
1. MARKING - UNDERGROUND SYSTEM SHALL BE LEGIBLY MARKED "UNDERGROUND SYSTEM" AT THE SOURCE. THE MARKING SHALL BE OF SUFFICIENT DURABILITY TO WITHSTAND THE ENVIRONMENT INVOLVED. NEC (250.21)(C)

2. FOR FIRE RATED WALL/CEILING PENETRATION AND/OR MEMBRANE PENETRATION, COMPLETE NRTL CLASSIFICATION SHEETS SHALL BE PROVIDED TO THE INSPECTOR AT THE TIME OF INSPECTION FOR THE LISTED RATED ASSEMBLY.

3. STANDARD NON-LOCKING STRAIGHT-BLADE RECEPTACLES IN 120- AND 250-VOLT CONFIGURATION AT WET/DAMP LOCATION ARE REQUIRED TO BE LISTED WEATHER-RESISTANT TYPE. [CEC 406.8(A)].

I. FIRE ALARM SYSTEM
1. CONTRACTOR SHALL PROVIDE AND INSTALL A FIRE ALARM FCI E3 SYSTEM FOR THE PROJECT AREA TO INCLUDE:

A) SMOKE DETECTORS IN ALL REQUIRED AREAS
B) HEAT DETECTORS IN ALL REQUIRED AREAS
C) DUCT DETECTORS IN ALL REQUIRED SPACES
D) STROBES/SPEAKERS IN ALL REQUIRED AREAS
E) PULL STATIONS AT ALL LEGAL FIRE EXITS
F) TAMPER AND FLOW SWITCHES
G) CARBON MONOXIDE DETECTORS

2. CONTRACTOR SHALL SUBMIT FOR THE OWNERS SIGNED APPROVAL, APPROVED FIRE DEPARTMENT FIRE ALARM DRAWINGS FOR THE PROJECT SPACE.

3. CONTRACTOR SHALL BE BUILDING STANDARD, FCI E3.

4. ALL DEVICES AND EQUIPMENT SHALL BE CALIFORNIA STATE FIRE MARSHALL APPROVED AND CURRENTLY LISTED.

5. CONTRACTOR SHALL WARRANTY ALL DEVICES AND SYSTEMS FOR A PERIOD OF TWO YEARS.

6. CONTRACTOR SHALL PROVIDE A PDF OF FIRE ALARM MANUALS FOR ALL SYSTEMS AND DEVICES IN ADDITION TO 6 (SIX) HARD COPY SETS OF A SYSTEM OPERATIONAL MANUAL TAILORED FOR THE PROJECT SPACE.

7. CONTRACTOR SHALL PROVIDE AN INDIVIDUALLY ADDRESSABLE TOTALLY SUPERVISED SYSTEM WITH BATTERY BACK-UP FOR 24 HOURS OF MONITORING INITIATING CIRCUITS PLUS 30 MINUTES OF ALARM WITH DUAL RATE BATTERY CHARGER.

8. CONTRACTOR SHALL PROVIDE A SATISFACTORY SYSTEM TEST IN THE PRESENCE OF THE OWNER, FIRE PREVENTION BUREAU AND CONSULTING ENGINEER.

9. CONTRACTOR SHALL PROVIDE A CENTRAL MASTER ANNUNCIATOR PANEL IN THE ELECTRICAL ROOM AND A REMOTE PANEL IN AN AREA PER OWNERS REPRESENTATIVE AND LOCAL FIRE MARSHAL.

10. ANNUNCIATOR PANEL SHALL BE NONGRAPHIC WITH NAMEPLATE AND LED FOR EACH DEVICE ADDRESS, WITH AUDIBLE ALARM AND KEYED SILENCE SWITCH.

11. CONTRACTOR SHALL PROVIDE ALL CONNECTION TO POWER PANELS, CONDUIT AND WIRE AND CONNECTIONS REQUIRED TO PROVIDE AN OPERATIONAL FIRE ALARM SYSTEM.

12. UNIQUELY LABEL ALL ADDRESSABLE DEVICES TO MATCH FIRE ALARM PROGRAMMING & AS BUILTS

APPLICABLE CODE: 2022 CBC

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 2022 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, MOVEABLE 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 HAVE A CENTER OF MASS LOCATED 4 FEET OR LESS ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT.

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

THE ANCHORAGE OF ALL MECHANICAL, ELECTRICAL AND PLUMBING COMPONENTS SHALL BE SUBJECT TO THE APPROVAL OF THE DESIGN PROFESSIONAL IN GENERAL RESPONSIBLE CHARGE OR STRUCTURAL ENGINEER DELEGATED RESPONSIBILITY AND ACCEPTANCE BY DSA. THE PROJECT INSPECTOR WILL VERIFY THAT ALL COMPONENTS AND EQUIPMENT HAVE BEEN ANCHORED IN ACCORDANCE WITH 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 2022 CBC, SECTIONS 1617A.1.24, 1617A.1.25 AND 1617A.1.26.

THE METHOD OF SHOWING BRACING AND ATTACHMENTS TO THE STRUCTURE FOR THE IDENTIFIED DISTRIBUTION SYSTEM ARE AS NOTED BELOW. WHEN BRACING AND ATTACHMENTS ARE BASED ON A PRE-APPROVED INSTALLATION GUIDE (E.G. 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 APPROVED DRAWINGS WITH PROJECT SPECIFIC NOTES AND DETAILS

MP☐ MD☐ PP☐ E☐ OPTION 2: SHALL COMPLY WITH HCAI (OSHPD) PREAPPROVAL (OPM#) #_____.

SYMBOLS

- BRANCH CIRCUIT PANELBOARD - 120/208VAC, 3Ø, 4W.
- BRANCH CIRCUIT PANELBOARD - 3Ø, 4W
- FACP — FIRE ALARM CONTROL PANEL
- CONDUIT RUN CONCEALED ABOVE CEILING OR IN WALLS,
- CONDUIT RUN CONCEALED BELOW FLOOR OR UNDERGROUND
- — C — COMMUNICATIONS/IT CONDUIT & CABLES
- — P — POWER CONDUIT & CONDUCTORS
- FLEXIBLE CONDUIT (WITH GROUND CONDUCTOR, PROVIDE LIQUID TIGHT CONDUIT IN ALL EXPOSED AREAS)
- #10 — HASH MARKS INDICATE QUANTITY OF #12 CONDUCTORS. NO HASH MARKS INDICATE (2)#12AWG. (PROVIDE GROUND CONDUCTOR IN ALL CONDUITS.)
  WHERE NO NUMBER IS INDICATED, THE CONDUCTORS ARE #12AWG(MIN.) CONDUIT SIZE IS AS REQUIRED BY ELECTRICAL CODE. (3/4" CONDUIT MINIMUM).
- 2LA 1-3-5,7 — INDICATES A HOMERUN TO PNL 2LA, CKTS 1-3-5 WITH SHARED NEUTRAL & CKT 7 WITH DEDICATED NEUTRAL.
- 3/4"C-2#12 & 1#12 GND
- 3/4"C-3#12 & 1#12 GND
- 3/4"C-4#12 & 1#12 GND
- 3/4"C-5#12 & 1#12 GND
- #10 — 3/4"C-2#10 & 1#10 GND
- #10 — 3/4"C-3#10 & 1#10 GND
- #10 — 3/4"C-4#10 & 1#10 GND
- #10 — 3/4"C-5#10 & 1#10 GND
  1" CONDUIT MINIMUM IF UNDERGROUND (CONTRACTOR TO PROVIDE DEDICATED NEUTRALS FOR CIRCUITS WHICH DO NOT HAVE COMMON CIRCUIT HANDLE TIES ON BREAKERS FEEDING THE CIRCUITS)
- 1 — SEE KEY NOTE #1 AS INDICATED ON DRAWING
- $P — SWITCH WITH PILOT LIGHT @ 42"AFF
- $3ab — 3-WAY SWITCH, a & b INDICATES LIGHT FIXTURE TO BE SWITCHED (EACH A 3-WAY) MOUNTED @ 42" AFF
- $ — SWITCH MOUNTED @ +42" AFF
- $M — MOTOR RATED SWITCH
- $a,b,c,d — CIRCUIT SWITCH LEGS WALL SWITCHES
- 60AS 35AF 3P — DISCONNECT SWITCH, 60AMP SWITCH, 35 AMP FUSE, 3 POLE W/ OVERCURRENT PROTECTION U.O.N.
- M — 100A UTILITY METER (OR AS NOTED)
- 3P 100AS 60AF — FUSED DISCONNECT SWITCH 100AMP SWITCH RATING WITH 60 AMP FUSES, 3 POLE
- 200AF 150AT 3P — MOLDED CASE CIRCUIT BREAKER 200 AMP FRAME, 150 AMP TRIP RATING, 3 POLE

COLOR CODE FOR CONDUCTORS

PROVIDE CONDUCTOR COLOR CODE AS FOLLOWS:
120/208VAC,3Ø,4W: BLUE,BLACK,RED FOR PHASE CONDUCTORS AND WHITE FOR NEUTRAL, GREEN FOR GROUND.

277/480VAC,3Ø,4W: ORANGE,BROWN,YELLOW FOR PHASE CONDUCTORS AND WHITE FOR NEUTRAL, GREEN FOR GROUND.

DERATING TABLE

NEC #310-8 ADJUSTMENT FACTORS

(a) MORE THAN THREE CURRENT-CARRYING CONDUCTORS IN A RACEWAY OR CABLE. WHERE THE NUMBER OF CURRENT-CARRYING CONDUCTORS IN A RACEWAY OR CABLE EXCEEDS THREE, THE ALLOWABLE AMPACITIES SHALL BE REDUCED AS SHOWN IN THE FOLLOWING TABLE:

NUMBER OF CURRENT-CARRYING CONDUCTORS	PERCENT OF VALUES IN TABLES AS ADJUSTED FOR AMBIENT TEMPERATURE IF NECESSARY
4 THROUGH 6	80
7 THROUGH 9	70
10 THROUGH 20	50
21 THROUGH 30	45
31 THROUGH 40	40
41 AND ABOVE	35

WHERE SINGLE CONDUCTORS OR MULTICONDUCTOR CABLES ARE STACKED OR BUNDLED LONGER THAN 24 INCHES (610 mm) WITHOUT MAINTAINING SPACING AND ARE NOT INSTALLED IN RACEWAYS, THE ALLOWABLE AMPACITY OF EACH CONDUCTOR SHALL BE REDUCED AS SHOWN IN THE ABOVE TABLE.

EXCEPTION NO. 1: WHERE CONDUCTORS OF DIFFERENT SYSTEMS, AS PROVIDED IN SECTION 300-3, ARE INSTALLED IN A COMMON RACEWAY OR CABLE, THE DERATING FACTORS SHOWN ABOVE SHALL APPLY TO THE NUMBER OF POWER AND LIGHTING (ARTICLES 210, 215, 220, AND 230) CONDUCTORS ONLY.

EXCEPTION NO. 2: FOR CONDUCTORS INSTALLED IN CABLE TRAYS, THE PROVISIONS OF SECTION 318-11 SHALL APPLY.

EXCEPTION NO. 3: DERATING FACTORS SHALL NOT APPLY TO CONDUCTORS IN NIPPLES HAVING A LENGTH NOT EXCEEDING 24 INCHES (610mm).

EXCEPTION NO. 4: DERATING FACTORS SHALL NOT APPLY TO UNDERGROUND CONDUCTORS ENTERING OR LEAVING AN OUTDOOR TRENCH IF THOSE CONDUCTORS HAVE PHYSICAL PROTECTION IN THE FORM OF RIGID METAL CONDUIT, INTERMEDIATE METAL CONDUIT, OR RIGID NONMETALLIC CONDUIT HAVING A LENGTH NOT EXCEEDING 10 FEET (3.05m) ABOVE GRADE AND THE NUMBER OF CONDUCTORS DOES NOT EXCEED FOUR.

EXCEPTION NO. 5: FOR OTHER LOADING CONDITIONS, ADJUSTMENT FACTORS AND AMPACITIES SHALL BE PERMITTED TO BE CALCULATED UNDER SECTION 310-15(b)

(FNC): SEE APPENDIX B, TABLE B-310-11 FOR ADJUSTMENT FACTORS FOR MORE THAN THREE CURRENT-CARRYING CONDUCTORS IN A RACEWAY OR CABLE WITH LOAD DIVERSITY.

(b) MORE THAN ONE CONDUIT, TUBE, OR RACEWAY. SPACING BETWEEN CONDUITS, TUBING, OR RACEWAYS SHALL BE MAINTAINED.

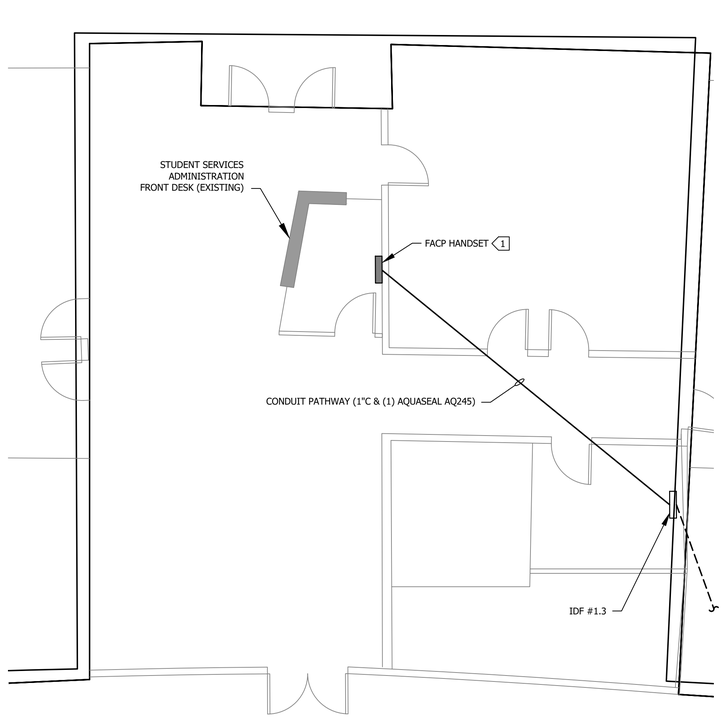
LIST OF DRAWINGS

SHEET #	SHEET DESCRIPTION	SHEET #	SHEET DESCRIPTION
E100	GENERAL NOTES, ABBREVIATIONS, SYMBOLS & DRAWING LIST	E515	FIRE ALARM CUT & DATA SHEETS
E140	PARTIAL SITE PLAN	E516	FIRE ALARM CUT & DATA SHEETS
E150	SITE FIRE ALARM PLAN - EXISTING CONDITION	E517	FIRE ALARM CUT & DATA SHEETS
E151	SITE FIRE ALARM PLAN - NEW WORK	E519	FIRE ALARM MOUNTING DETAIL SHEET
E500	FIRE ALARM GENERAL NOTES, SYMBOLS AND ABBREVIATIONS	E601	FIRE ALARM DETAIL SHEET
E501	BUILDING OE A FIRE ALARM PLAN	E700	FIRE ALARM RISER DIAGRAMS
E502	BUILD

DETAIL #2 KEY NOTES:

1. EXISTING FCI E3 FIRE ALARM STATION (FOR 2-WAY COMMUNICATIONS) WITH:
   - AOM TELF
   - ASM-16
   - INI VGE UTP
   - INI 7100 UTP
   - VOICE PAGING MICROPHONE ASSEMBLY
   - LCD NGA ANNUNCIATOR
   - FIRE FIGHTERS HANDSET

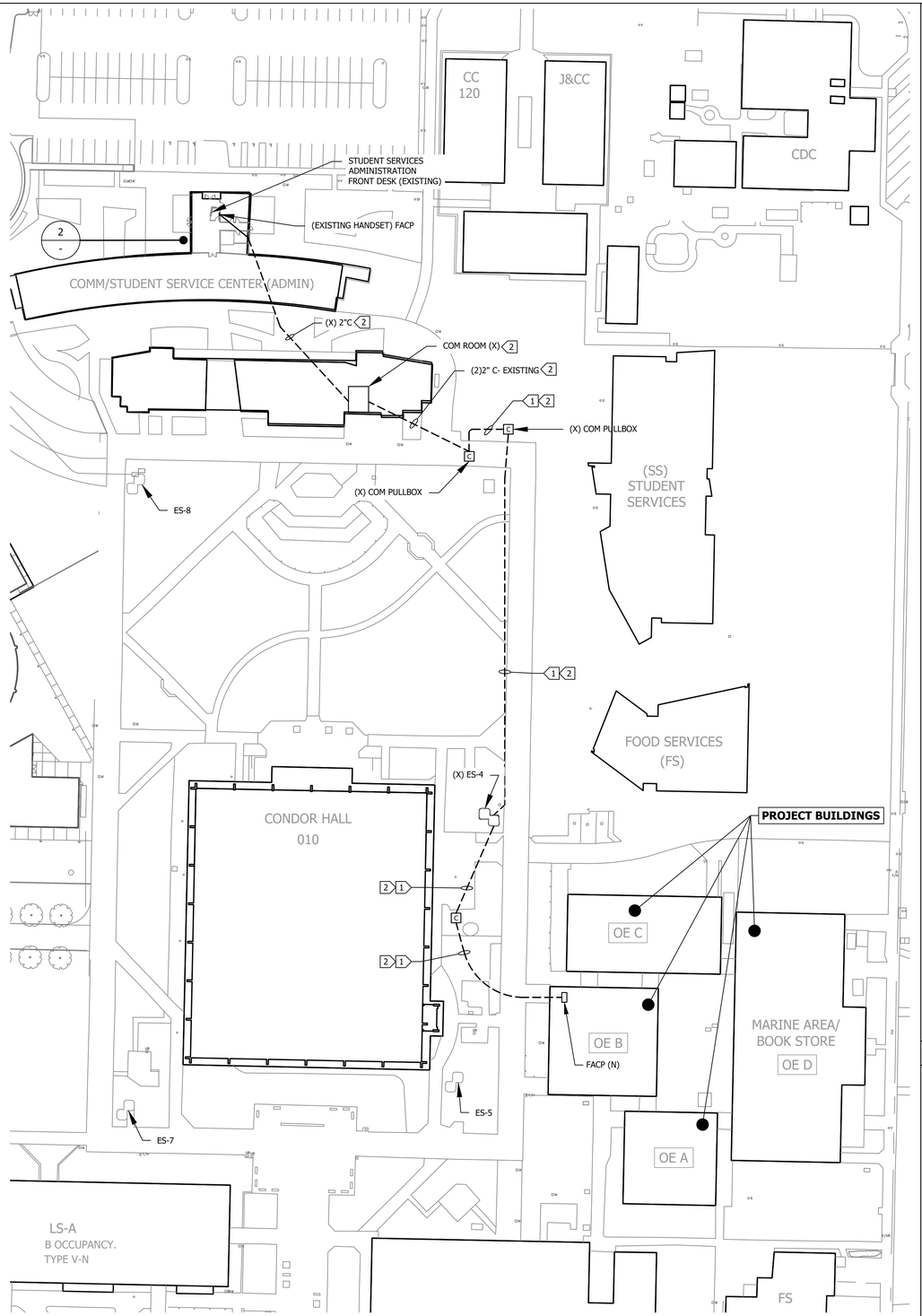
PER DSA #03-121326 DATED 5/03/21



3/16" = 1'-0"
0 1' 4' 8' 12'

ENLARGED FIRE ALARM DETAIL 2
SCALE: 3/16"=1'-0" ADMIN FACILITY - E140

N



SCALE: 1"=50'
0 50 100

PARTIAL SITE PLAN 1
SCALE: 1"=50'-0" - E140

N

SHEET NOTES:

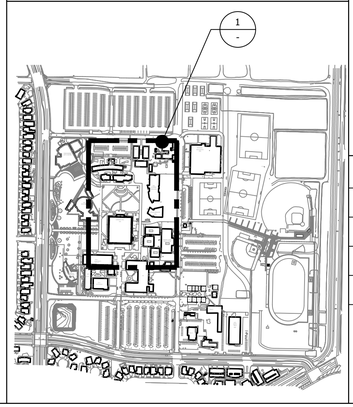
1. VERIFY LOCATION OF ALL BUILDINGS AND APPENDITURES ON ARCHITECTURAL AND CIVIL PLANS.
2. CONTRACTOR SHALL VERIFY LOCATION AND REQUIREMENTS OF ALL ELECTRICAL DEVICES PRIOR TO BID. ROUGH-IN AND INSTALLATION.
3. CONTRACTOR SHALL, IN ROUTING ALL CIRCUITS, INCREASE CONDUCTOR AND CONDUIT SIZE TO ALLOW FOR VOLTAGE DROP SHOULD THE CONTRACTOR EXCEED ROUTING INDICATED ON DRAWING. ENGINEER OF RECORD MUST BE NOTIFIED PRIOR TO ANY DEVIATIONS FROM APPROVED PLAN CHECK (PERMIT SET) DRAWINGS.
4. CONTRACTOR SHALL FIELD VERIFY LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO ANY TRENCHING. CONTRACTOR SHALL PROTECT ALL EXISTING/REMAINING UNDERGROUND UTILITY SYSTEMS IN PLACE. CONTRACTOR SHALL REPAIR ANY UTILITY SYSTEM DAMAGED DURING CONSTRUCTION.
5. ALL CONDUIT 90° CONDUIT BENDS AND RISERS SHALL BE PVC COATED RIGID STEEL.
6. CONTRACTOR SHALL COORDINATE AND PROVIDE ALL SITE ELECTRICAL SERVICE REQUIREMENTS WITH SERVING UTILITY.
7. ALL SERVICE ENTRANCE EQUIPMENT SHOP DRAWINGS SHALL BE SUBMITTED TO THE LOCAL UTILITY COMPANY FOR APPROVAL, WITH WRITTEN APPROVAL RECEIVED PRIOR TO SUBMISSION TO ELECTRICAL ENGINEER FOR APPROVAL.
8. VERIFY LOCATION OF ALL EQUIPMENT AND DEVICES ON ARCHITECTURAL AND CIVIL PLANS.
9. MINIMUM CONDUIT BURIAL DEPTH IS 24".
10. CONTRACTOR TO PROVIDE GROUND CONDUCTORS IN ALL CONDUITS.
11. 1" CONDUIT MINIMUM UNDERGROUND.
12. COORDINATE WORK WITH OTHER TRADES. OBTAIN ALL DRAWINGS THAT WILL REQUIRE COORDINATION AND PROVIDE ALL ELECTRICAL CONNECTIONS, DEVICES, AND WIRING REQUIRED WHETHER SHOWN ON ELECTRICAL DRAWINGS OR NOT.
13. CONTRACTOR SHALL FURNISH AND INSTALL PULL BOXES AS REQUIRED TO INSTALL CONDUCTORS PER CONDUCTOR MANUFACTURERS RECOMMENDATIONS, PER THE NATIONAL ELECTRICAL CODE AND PER LOCAL AUTHORITIES HAVING JURISDICTION.

DETAIL #1 KEY NOTES:

1. EXISTING 4"C.O. COM.
2. PROVIDE & INSTALL NEW WEST PENN AQ 245 (2 PAIR #16 UTP AQUASEAL) FROM EXISTING OE B NEW FACP E3 (FA) SYSTEM (E3) TO ADMINISTRATION BUILDING (E3) FOR 2-WAY COMMUNICATIONS.

PROVIDE SITE FIRE ALARM CONNECTION TO STUDENT SERVICES MASTER STATION FROM OE B FACP.

KEY MAP



IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-124867 INC: A
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 03/12/2026

REV#	DESCRIPTION	DATE
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STAMP

REGISTERED PROFESSIONAL ENGINEER
KENNETH W. LUCCI
No. E 8340
Exp. 09/30/2026
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CONSULTING ELECTRICAL ENGINEERS
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SHEET TITLE: PARTIAL SITE PLAN

PROJECT:
FIRE ALARM FOR
OCCUPATIONAL EDUCATION
BUILDING
OXNARD COLLEGE
OXNARD, CA 93033

DRAWN: LK/DS/IT
CHECKED: K. LUCCI
DATE: 7/2/2025
SCALE: AS NOTED
JOB NO. 24-905
SHEET: E140
OF: SHEETS:

Copyright Lucci and Associates Consulting Electrical Engineers. Deviations from this drawing will not be made without their expressed written permission. L.A.I.# 24-905 PAPER SIZE 36"x24"

DRAWING: G:\24\905\EL\Sheets\24-905 E140.dwg DRAFTER: CM02 DRAWING FILENAME: 24-905 E140 PATHNAME: G:\24\905\EL\Sheets DATE: 6 February 2026 TIME: 4:08 pm
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Drawing:G:\24\905\EL\Sheets\24-905 E140.dwg
Plotted: 6/16/2025 1:59:24 PM
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Plot Device:DWG To PDF.pc3
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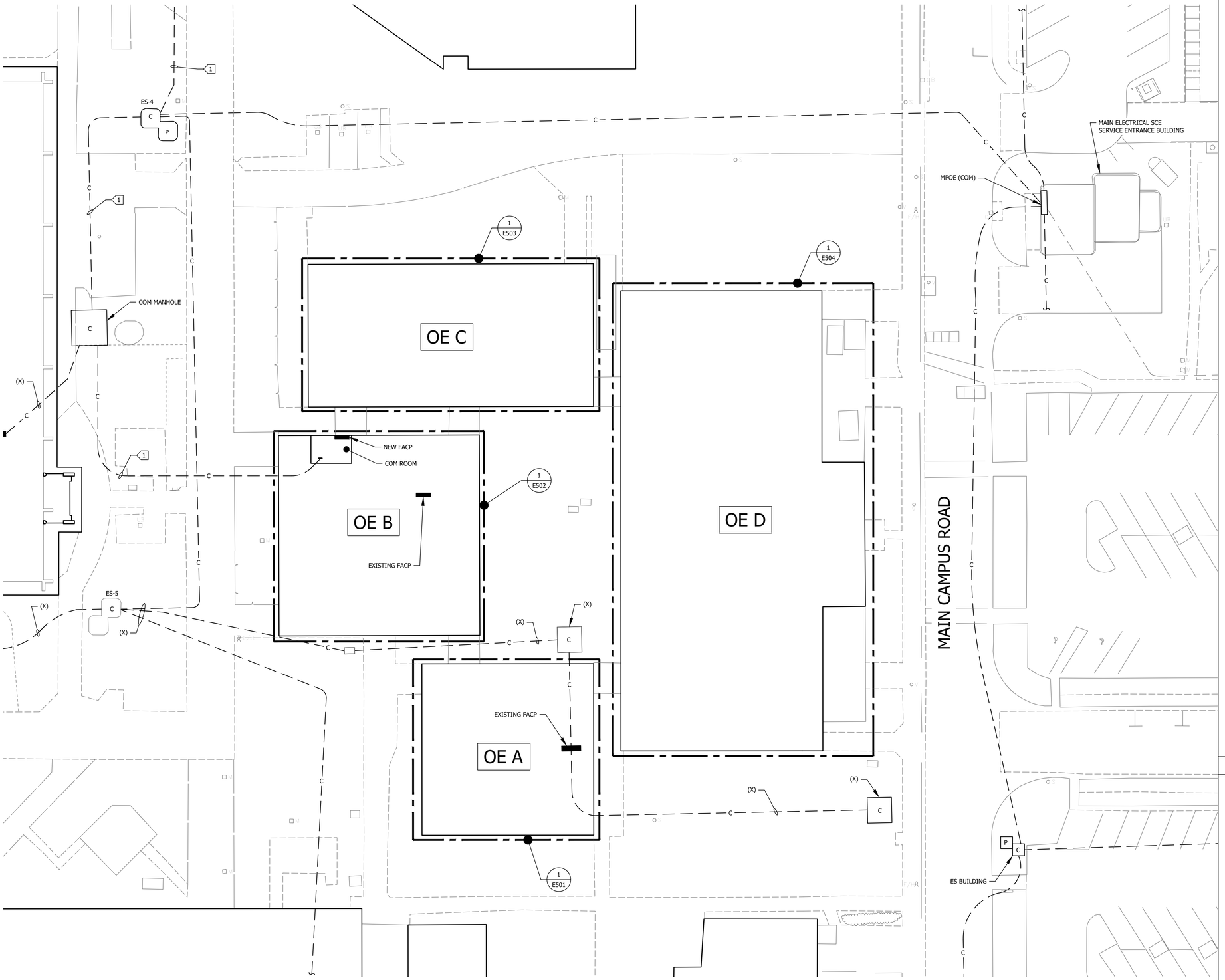

SITE FIRE ALARM PLAN

SCALE: 1"=20'-0" EXISTING CONDITIONS — 1 / E150

SHEET NOTES:

1. FIELD VERIFY LOCATION OF ALL EQUIPMENT/BUILDING.

KEY NOTES:

1 SEE E140 FOR CONDUIT/FEEDERS

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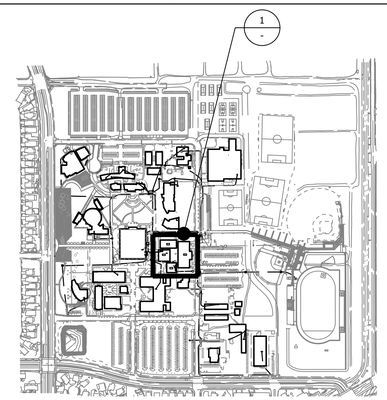
SHEET TITLE: SITE FIRE ALARM PLAN- EXISTING CONDITIONS

PROJECT: FIRE ALARM FOR OCCUPATIONAL EDUCATION BUILDING
OXNARD COLLEGE
OXNARD, CA 93033

KEY MAP



DRAWN:	LK/DS/IT
CHECKED:	K. LUCCI
DATE:	7/2/2025
SCALE:	AS NOTED
JOB NO.	24-905
SHEET:	E150
OF:	SHEETS:

Copyright Lucci and Associates Consulting Electrical Engineers. Deviations from this drawing will not be made without their expressed written permission. L.A.I.# 24-905 PAPER SIZE 36"x24"

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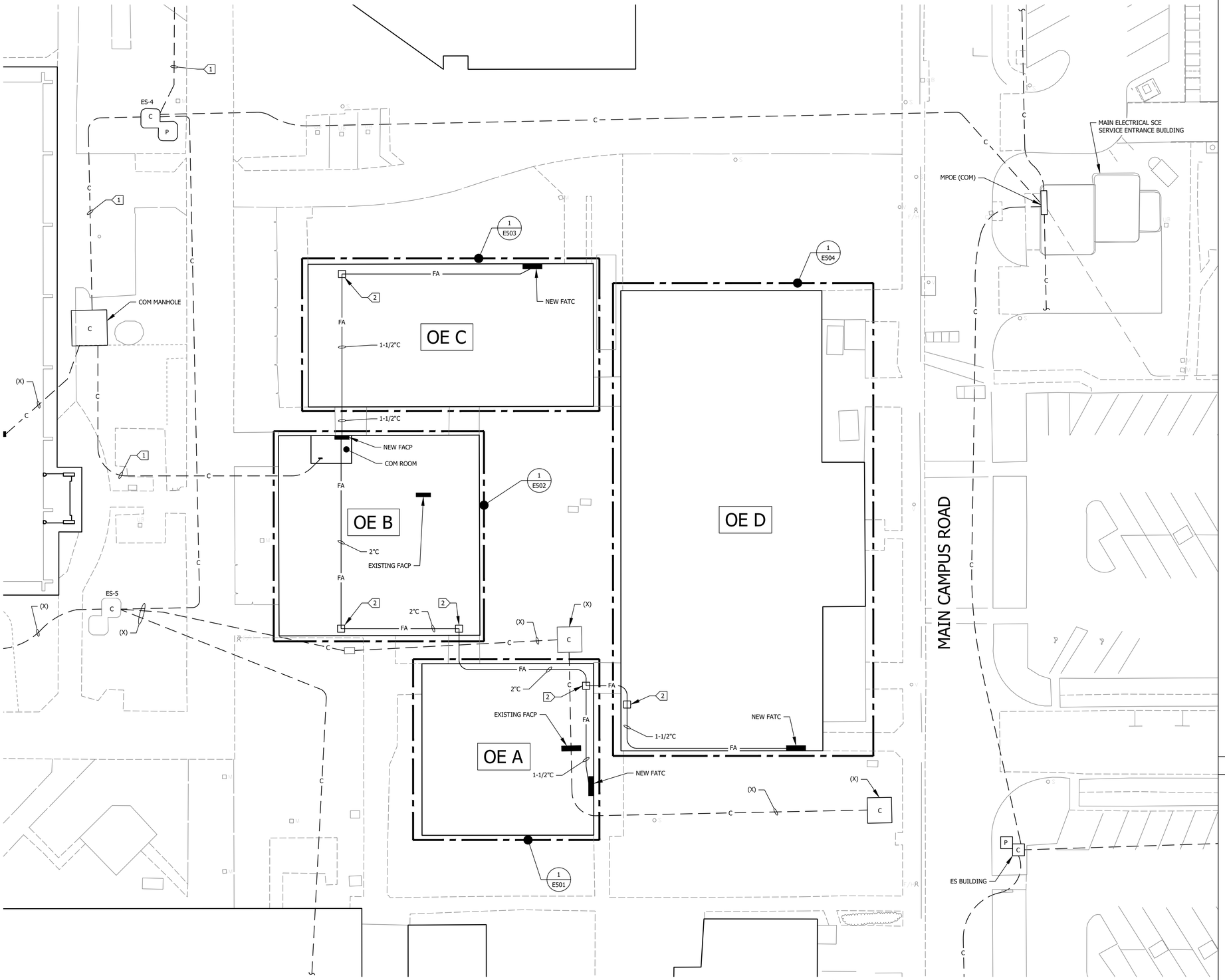

SCALE: 1"=20'
0 20 40

SITE FIRE ALARM PLAN

SCALE: 1"=20'-0" NEW WORK 1 - E151

N

SHEET NOTES:

1. FIELD VERIFY LOCATION OF ALL EQUIPMENT/BUILDING.
2. ALL CORES THRU WALLS SHALL BE X-RAYED AND NO REBAR WITH 6" OF CORE.

KEY NOTES:

1 SEE E140 FOR CONDUIT/FEEDERS.

2 12 x 12" x 24" PULLBOX.

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DATE: 03/12/2026

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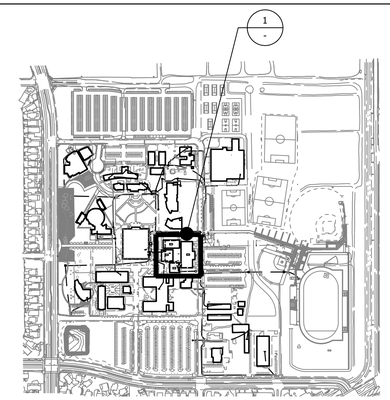
SHEET TITLE: SITE FIRE ALARM PLAN- NEW WORK

PROJECT: FIRE ALARM FOR OCCUPATIONAL EDUCATION BUILDING
OXNARD COLLEGE
OXNARD, CA 93033

KEY MAP



DRAWN: LK/DS/IT
CHECKED: K. LUCCI
DATE: 7/2/2025
SCALE: AS NOTED
JOB NO. 24-905
SHEET: E151
OF: SHEETS:

Copyright Lucci and Associates Consulting Electrical Engineers. Deviations from this drawing will not be made without their expressed written permission. L.A.I.# 24-905 PAPER SIZE 36"x24"

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Plot By: CM02
Attached XREFS:
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G:\24\905\EL\Attachments\Border Matrix 2018.dwg

PROJECT NOTES

GENERAL NOTES

1. ALL WIRE SHALL BE IN CONDUIT PER CFC 907.
2. MANUAL PULL STATIONS WHERE NOTED TO BE MOUNTED AT 48 IN. ABOVE FLOOR SURFACE TO THE TOP OF THE STATION.
3. MOUNT AUDIO VISUAL 80 IN. ABOVE FINISHED FLOOR TO THE BOTTOM OF THE LIGHT
4. MAINTAIN WIRING COLOR CODES.
5. ALL WIRING TO BE AS CALLED FOR IN N.E.C. ARTICLE 760 & CFC 907.
6. IDENTIFY THE FIRE ALARM CIRCUIT AT THE ELECTRICAL PANEL IN RED, PROVIDE A 20A DEDICATED BREAKER LOCKON BREAKER DEVICE AS NOTED ON PLANS (PANEL OT CIRCUIT 40.)
7. DEVICE TYPES AND LOCATIONS ARE SHOWN AS CALLED FOR ON THE BID DOCUMENTS.

FIRE ALARM ZONE SCHEDULE

THE NEW FIRE ALARM SYSTEM IS A FCI E3 ADDRESSABLE TYPE. EACH INITIATING DEVICE IS ANNUNCIATED AS A UNIQUE ADDRESS OR ZONE AT THE PANEL AND ANNUNCIATOR.

F.A. RACEWAY SIZING

MINIMUM CONDUIT SIZE SHALL BE 3/4" DIAMETER AND SHALL NOT EXCEED 40% FILL.

REQUIRED NOTES

THE FIRE ALARM SYSTEM SHALL CONFORM TO ARTICLE 760 OF THE CALIFORNIA ELECTRIC CODE.

INSTALLATION OF THE FIRE ALARM SYSTEM SHALL NOT BE STARTED UNTIL DETAILED PLANS AND SPECIFICATIONS. INCLUDING CALIFORNIA STATE FIRE MARSHAL LISTING NUMBERS FOR EACH COMPONENT OF THE SYSTEM HAVE BEEN APPROVED BY THE CALIFORNIA DEPT. OF THE STATE ARCHITECT'S FIRE MARSHAL.

UPON COMPLETION OF THE INSTALLATION OF THE FIRE ALARM SYSTEM A SATISFACTORY TEST OF THE SYSTEM SHALL BE MADE IN THE PRESENCE OF THE FIRE MARSHAL, OWNER AND ENGINEER OF RECORD.

A MINIMUM OF 48 HOURS NOTICE SHALL BE REQUIRED FOR ANY INSPECTION AND/OR TESTING.

ALL DEVICES OF THE FIRE ALARM SYSTEM SHALL BE APPROVED AND LISTED BY THE CALIFORNIA STATE FIRE MARSHAL.

A STAMPED SET OF APPROVED FIRE ALARM PLANS SHALL BE ON THE JOB SITE AND USED FOR INSTALLATION. ANY DEVIATION FROM APPROVED PLANS, INCLUDING THE SUBSTITUTION OF DEVICES SHALL BE APPROVED BY THE FIRE MARSHAL.

ANY DISCREPANCIES BETWEEN THE DRAWINGS AND THE CODE, OR RECOGNIZED STANDARDS SHALL BE BROUGHT TO THE ATTENTION OF THE INSPECTOR OF RECORD.

A CERTIFICATE OF COMPLIANCE SHALL BE PREPARED BY THE INSTALLER AND GIVEN TO THE FIRE MARSHAL UPON COMPLETION OF THE INSTALLATION.

COMPLETE THE NFPA 72 RECORD OF COMPLETION, TESTING ALL DEVICES AND APPLIANCES. PROVIDE A COPY OF THE COMPLETED RECORD OF COMPLETION TO THE OWNER (SCHOOL DISTRICT), ARCHITECT, LOCAL FIRE AUTHORITY AND DSA VIA THE PROJECT INSPECTOR.

SCOPE OF WORK

PROVIDE A STAND ALONE FIRE ALARM SYSTEM CAPABLE OF BEING NETWORKED TO ACCOMMODATE NEW MODULAR CLASSROOMS. PER CFC 907.2.2.2.

NEW FIRE ALARM SYSTEM WILL INCLUDE MANUAL AND AUTOMATIC DETECTION AND VOICE EVACUATION.

NEW FIRE ALARM SYSTEM WILL BY MONITORED BY A UL LISTED CENTRAL STATION PER CFC 907.6.6 AND UTILIZE ALTERNATE MEANS OF COMMUNICATIONS PER NFPA 72 CHAPTER 26

PROJECT DATA

APPLICABLE CODES:

A. 2022 CALIFORNIA BUILDING CODE (CBC)
B. 2022 CALIFORNIA ELECTRICAL CODE (CEC)
C. 2022 CALIFORNIA MECHANICAL CODE (CMC)
D. 2022 CALIFORNIA PLUMBING CODE (CPC)
E. 2022 CALIFORNIA FIRE CODE (CFC), PART 9, TITLE 24, C.C.R.;
F. TITLE 19, CCD, PUBLIC SAFETY, STATE FIRE MARSHAL REGULATIONS
G. NFPA 72-2022 EDITION
H. CAL/OSHA CONSTRUCTION SAFETY ORDERS
J. ADA, ADAAG, ARS, TITLE 24, CHAPTER 11

BUILDING CLASSIFICATION:

A. OCCUPANCY TYPE: B
B. OCCUPANCY LOAD: –
C. CONSTRUCTION TYPE: V-N
D. FIRE SPRINKLERS: NO IN ALL BUILDINGS
FIRE SUPPRESSION SYSTEM FOR KITCHEN HOOD IN OE-A BUILDING

AGENCIES: DSA

FIRE ALARM INPUTS

1. APPLICABLE STANDARD 2022 NFPA 72
2. INSTALLATION OF THE SYSTEMS SHALL NOT BE STARTED UNTIL DETAILED DESIGN DOCUMENTS AND SPECIFICATION, INCLUDING STATE FIRE MARSHAL LISTING NUMBERS FOR EACH COMPONENT OF THE SYSTEM HAS BEEN APPROVED BY DSA.
3. UPON COMPLETION OF THE INSTALLATION OF THE SYSTEMS, A SATISFACTORY TEST OF THE ENTIRE SYSTEM SHALL BE MADE IN THE PRESENCE OF A DSA PROJECT INSPECTOR.
4. A STAMPED SET OF APPROVED FIRE ALARM DESIGN DOCUMENTS SHALL BE ON THE JOB SITE AND USED FOR INSTALLATION.
5. ANY DISCREPANCIES BETWEEN THE DRAWINGS AND THE CODE OR RECOGNIZED STANDARDS SHALL BE BROUGHT TO THE ATTENTION OF DSA AND THE ARCHITECT/ENGINEER OF THE PROJECT.
6. DSA, ARCHITECT/ENGINEER AND OWNER SHALL BE NOTIFIED A MINIMUM OF 48 HOURS PRIOR TO THE FINAL INSPECTION AND/OR TESTING.
7. ALL PENETRATIONS THROUGH RATED ASSEMBLIES, REQUIRING OPENING PROTECTION SHALL BE PROVIDED WITH A PENETRATION FIRE STOP SYSTEM AS IDENTIFIED IN CBC CHAPTER 7, UL OR OTHER LAB TESTING CRITERIA. APPROVED TYPE OF MATERIALS SHALL BE IDENTIFIED WITHIN THE SPECIFICATION WITHIN THE FIRE ALARM SECTION.
8. WALL MOUNTED VISUAL NOTIFICATION DEVICES SHALL HAVE THEIR BOTTOMS MOUNTED AT 80" MINIMUM AND 96" MAXIMUM FROM FINISHED FLOOR.
9. WALL MOUNTED AUDIBLE NOTIFICATION DEVICES SHALL HAVE THEIR TOPS MOUNTED AT 90" MINIMUM AND 100" MAXIMUM FROM FINISHED FLOOR AND NO CLOSER THAN 6" TO A HORIZONTAL STRUCTURE.
10. AUDIBLE DEVICES TO BE AT LEAST 15 DBA ABOVE THE AVERAGE AMBIENT SOUND LEVEL BUT NOT LESS THAN 75 DBA AT 10 FEET OR MORE THAN 110 DBA AT THE MINIMUM HEARING DISTANCE. SOUND LEVEL SHALL BE MAINTAINED FOR DURATION OF AT LEAST 60 SECTIONS 5 DBA MUST BE MAINTAINED.
11. THE CONTRACTOR SHALL ADJUST/INSTALL ALL DEVICES TO MAXIMIZE PERFORMANCE AND TO MINIMIZE FALSE ALARMS.
12. VISUAL DEVICES SHOULD NOT EXCEED 2 FLASHES PER SECOND AND SHOULD NOT BE SLOWER THAN 1 FLASH EVERY SECOND. THE DEVICE SHALL HAVE A PULSING LIGHT SOURCE NOT LESS THAN 15 CANDELA. VISUAL DEVICES WITHIN 55' FROM EACH OTHER SHALL BE SYNCHRONIZED.
13. UNDERGROUND AND EXTERIOR CONDUITS TO HAVE WATERTIGHT FITTINGS AND WIRE TO BE APPROVAL FOR WET LOCATIONS.
14. ALL FIRE ALARM WIRING SHALL BE FLP OR FPLP (FIRE POWER LIMITED OR FIRE POWER LIMITED PLENUM) AS REQUIRED FOR APPLICATION. WIRING IN CONDUIT ABOVE GROUND MAY BE THHN OR THWN.
15. PER CEC STANDARDS, ALL WIRING IS TO BE PULLED THROUGH EACH JUNCTION BOX AND CONNECTED DIRECTLY TO EACH FIRE DEVICE. DO NOT SPLICE THE WIRE IN UNDERGROUND LOCATIONS. THERE MUST BE AT LEAST 6' OF LEAD WIRE FROM THE BOX TO THE DEVICE. ALL BOXES TO BE SIZED PER CEC.
16. SMOKE DETECTORS SHALL NOT BE ANY CLOSER THAN 1' FROM FIRE SPRINKLERS OR 3' FROM ANY SUPPLY DIFFUSER. IN AREA OF CONSTRUCTION OR POSSIBLE DAMAGE/CONTAMINATION ON NEWLY INSTALLED FIRE ALARM DEVICES SHALL BE COVERED UNTIL THAT AREA IS READY TO BE TURNED OVER TO THE OWNER.
17. ALL FIRE ALARM CIRCUITS SHALL BE IN CONDUIT, SURFACE RACEWAY OR OPEN RUN ABOVE CEILINGS, UNDER FLOORS AND IN WALLS IN A NEAT AND PROTECTED MANOR AS INDICATED ON DESIGN DOCUMENTS. EXPOSED CIRCUITS ARE ONLY PERMITTED WHEN NOTED AS EXPOSED ON DESIGN DOCUMENTS.
18. FIRE ALARM PANEL, REMOTES, AND COMPONENTS SHALL BE SECURED TO MOUNTING SURFACES PER MANUFACTURERS SPECIFICATIONS. NO SINGLE DEVICE SHALL EXCEED THE WEIGHT OF 20 LBS. WITHOUT SPECIAL MOUNTING DETAILS.
19. A DEDICATED BRANCH CIRCUIT SHALL BE PROVIDED FOR FIRE ALARM EQUIPMENT. THIS CIRCUIT SHALL BE ENERGIZED FROM THE COMMON USE AREA PANEL AND SHALL HAVE NO OTHER OUTLETS. THE BREAKER SHALL HAVE A RED LOCKING DEVICE TO BLOCK THE HANDLE IN THE "ON" POSITION. THE CIRCUIT BREAKER SHALL BE LABELED "FIRE ALARM CIRCUIT CONTROL". CIRCUIT ID TO BE LABELED AT FIRE PANEL/EXTENDERS.
20. THE INSTALLING CONTRACTOR SHALL PROVIDE A RECORD OF COMPLETION PER NFPA 72, FIGURE 10.18.2.1.1.
21. CONTROL PANELS, REMOTE ANNUNCIATORS SHALL BE INSTALLED WITH THEIR BOTTOMS MOUNTED AT 48".
22. THE INSTALLING CONTRACTOR SHALL PROVIDE SYSTEM PROGRAMMING FOR SUPERVISORY MONITORING PER CBC SECTION 901.6.2.
23. SUPERVISORY MONITORING SHALL BE TESTED AND VERIFIED AS SENDING CORRECT SIGNALS IN CONJUNCTION WITH FINAL ACCEPTANCE TEST.
24. OWNER SHALL BE RESPONSIBLE FOR ESTABLISHING A FIRE SYSTEM MONITORING CONTRACT OR PROVISIONS.

EVACS LEGEND

SYMBOL	DESCRIPTION	MODEL #	C.S.F.M. #	BACK BOX REQUIREMENTS
INCC-C	HONEYWELL INCC-C INTELLIGENT COMMAND CENTER WITH + HANDSET (E3 EXPANDABLE EMERGENCY EVACUATION SYSTEM)	GAMEWELL-FCI	7165-1703:0125	WITH ENCLOSURE
FACP	FIRE ALARM CONTROL PANEL W/ EVACS *	HONEYWELL INCC-C	7165-1703:0125	SURFACE MOUNT
DOC	FIRE ALARM DOCUMENT BOX	SPACE AGE	–	SURFACE MOUNT
P	MANUAL PULL STATION	GAMEWELL-FCI MS-7AF	7150-1703:0170	SINGLE GANG BOX
SD	SMOKE DETECTOR W/ BASE	NOTIFIER FSP-951	7272-0028:0503	4" SQ. BOX W/ 3" ROUND RING
H	HEAT DETECTOR W/ BASE - 135°	GAMEWELL-FCI ATD-L3R	7270-1703:0502	4" SQ. BOX W/ 3" ROUND RING
H_A	HEAT DETECTOR W/ BASE - 190°	GAMEWELL-FCI ATD-L3H	7270-1703:0502	4" SQ. BOX W/ 3" ROUND RING
SV	SPEAKER/STROBE CEILING MOUNTED	SYSTEM SENSOR SRSCWLED	7320-1653:0505	4" SQ. BOX W/ 3" ROUND RING
SV	SPEAKER/STROBE COMBO, WALL MOUNT	SYSTEM SENSOR SPSWLED	7320-1653:0505	4" SQ. DEEP BOX
SP	OUTDOOR SPEAKER, RED	SYSTEM SENSOR SPRK	7320-1653:0201	4" SQ. BOX W/ 3" ROUND RING
AOM	ADDRESSABLE MODULE	HONEY WELL AOM-2RF	7300-1703:0102	4" SQ. DEEP BOX
BD	BEAM DETECTOR	HONEYWELL OS1-R1-GW	7260-1703:0506	PER MANUFACTURER/OSP-002 PROVIDE WITH REMOTE TEST STATION

+ SLP DISPLAY INCC-MIC CABINET/BACK BOX

* INCLUDES:
- AOM TELF
- ASM-16
- INI VGE UTP
- INI 7100 UTP
- VOICE PAGING MICROPHONE ASSEMBLY
- LCD NGA ANNUNCIATOR
- FIRE FIGHTERS HANDSET
- HWF2-COM

SEE E512

DATA SHEETS & CSFM SHEETS ARE PROVIDED ON E510-E518 SHEETS

WIRE CHART

SYMBOL	CIRCUIT DESCRIPTION	CONDUCTOR COLOR	WIRE IN CONDUIT	NO CONDUIT NO PLENUM	NO CONDUIT IN PLENUM	UNDERGROUND / WET SYMBOL	WIRE IN CONDUIT UNDERGROUND/WET	CLASS
SBUS	SBUS COMM CIRCUIT - POWER	YELLOW / BLUE	2 CONDUCTOR 2/14 STRANDED TYPE THHN	2 CONDUCTOR 2/14 FPLR SOLID OR STRANDED TWISTED/ UNSHIELDED	2 CONDUCTOR 2/14 FPLP SOLID OR STRANDED TWISTED/ UNSHIELDED	SBUSU	2 CONDUCTOR 2/14 TYPE THWN	B
	SBUS COMM CIRCUIT - DATA	RED / BLACK	2 CONDUCTOR 2/18 FPL SOLID TWISTED/ SHIELDED	2 CONDUCTOR 2/18 FPLR SOLID TWISTED/ SHIELDED	2 CONDUCTOR 2/18 FPLP SOLID TWISTED/ SHIELDED		2 CONDUCTOR 2/16 FPL STRANDED TWISTED/ SHIELDED WEST PENN#AQ294	B
Z	SIGNAL LINE CIRCUIT (SLC)	RED / BLACK	2 CONDUCTOR 2/16 FPL SOLID TWISTED/UNSHIELDED	2 CONDUCTOR 2/16 FPLR SOLID TWISTED/UNSHIELDED	2 CONDUCTOR 2/16 FPLP SOLID TWISTED/UNSHIELDED	ZU	2 CONDUCTOR 2/16 FPL STRANDED TWISTED/ SHIELDED WEST PENN#AQ225	B
V	VISUAL APPLIANCE CIRCUIT	YELLOW / BLIE RED / BLACK ORANGE / BROWN	2 CONDUCTOR 2/12 STRANDED TYPE THHN	2 CONDUCTOR 2/12 FPLR SOLID TWISTED/UNSHIELDED	2 CONDUCTOR 2/12 FPLP SOLID TWISTED/UNSHIELDED	VU	2 CONDUCTOR 2/12 STRANDED TYPE THWN	B
S	SPEAKER APPLIANCE CIRCUIT	RED / BLACK	2 CONDUCTOR 2/16 FPL STRANDED TWISTED/ SHIELDED	2 CONDUCTOR 2/16 FPLR STRANDED TWISTED/ SHIELDED	2 CONDUCTOR 2/16 FPLP STRANDED TWISTED/ SHIELDED	SU	2 CONDUCTOR 2/16 FPL STRANDED TWISTED/ SHIELDED WEST PENN#AQ294	B
Y	HANDSET/COM CIRCUIT	RED/BLACK/ BROWN/BLUE	2 PAIR 2/16 FPC TWISTED/UNSHIELDED	2 PAIR 2/16 FPC TWISTED/UNSHIELDED	2 PAIR 2/16 FPC TWISTED/UNSHIELDED	SU	2 PAIR 16/4 FPC TWISTED/UNSHIELDED WEST PENN#AQ245	B

FIRE ALARM OUTPUTS

FIRE ALARM INPUTS

CONTROL MATRIX

	CONTROL UNIT ANNUNCIATION				NOTIFICATION					REQUIRED FIRE SAFETY CONTROL								
	ACTUATE COMMON ALARM SIGNAL INDICATOR	ACTUATE AUDIBLE ALARM SIGNAL	ACTUATE COMMON TROUBLE SIGNAL INDICATOR	ACTUATE COMMON TROUBLE SIGNAL	DISPLAY CHANGE OF STATUS MESSAGE ON LCD DISPLAY	DISPLAY MESSAGE ON LCD DISPLAY	TRANSMIT FIRE ALARM SIGNAL TO SUPERVISING STATION	TRANSMIT SUPERVISORY SIGNAL TO SUPERVISING STATION	TRANSMIT TROUBLE SIGNAL TO SUPERVISING STATION	ACTIVATE INTELLIGENT VOICE EVACUATION	ACTIVATE MANUAL OVER RIDE OF SPEAKERS "ALL CALL"	SYSTEM WILL BE 100% OPERATIONAL ON BATTERY BACK UP						
MANUAL PULL STATION	●	●			●	●	●	●		●								
AREA HEAT DETECTOR/SMOKE DETECTOR/DUCT DETECTOR	●	●			●	●	●	●		●								
MICROPHONE KEY											●							
FIRE ALARM SYSTEM AC POWER FAIL			●	●	●	●			●			●						
FIRE ALARM SYSTEM LOW BATTERY			●	●	●	●			●			●						
FIRE ALARM AMPLIFIER AC POWER FAIL			●	●	●	●			●			●						
FIRE ALARM AMPLIFIER SYSTEM LOW BATTERY			●	●	●	●			●									
GROUND FAULT			●	●	●	●			●									
SIGNAL LINE "SHORT"			●	●	●	●			●									
NOTIFICATION "OPEN" CIRCUIT			●	●	●	●			●									

ALL DEVICES ARE NEW, NO EXISTING RECORD DRAWINGS NEEDED

FIRE ALARM ADDRESSABLE DEVICE IDENTIFICATION KEY

d-15 (IDENTIFICATION MATCHES ACTUAL LED DISPLAY IN "FACP" OR "ANN")

- 1 OR 2 DIGIT NUMBER OF ADDRESSABLE DEVICE
- "d" DESIGNATED ADDRESSABLE "DEVICE"

FIRE ALARM N.A.C. DEVICE NUMBERING KEY

S OR V - X

- NUMBER OF DEVICE IN CIRCUIT.
- NOTIFICATION APPLIANCE CIRCUIT TYPE (S=SPEAKER, V=VISUAL)

IDENTIFICATION STAMP
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APP: 03-124867 INC:
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SS ☑ FLS ☑ ACS ☑
DATE: 03/12/2026

REV#	DESCRIPTION	DATE
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REGISTERED PROFESSIONAL ENGINEER
KENNETH W. LUCCI
No. E 8340
Exp. 09/30/2026
ELECTRICAL
STATE OF CALIFORNIA

LUCCI & ASSOCIATES
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SHEET TITLE: FIRE ALARM GENERAL NOTES, SYMBOLS AND ABBREVIATIONS

PROJECT: FIRE ALARM FOR OCCUPATIONAL EDUCATION BUILDING
OXNARD COLLEGE
OXNARD, CA 93033

DRAWN: LK/DS/IT
CHECKED: K. LUCCI
DATE: 7/2/2025
SCALE: AS NOTED
JOB NO. 24-905
SHEET: E500
OF: SHEETS:

Copyright Lucci and Associates Consulting Electrical Engineers. Deviations from this drawing will not be made without their expressed written permission. L.A.I.# 24-905 PAPER SIZE 36"x24"

DRAWING: G:\24\905\EL\Sheets\24-905 E500.dwg DRAFTER: CM02 DRAWING FILENAME: 24-905 E500 PATHNAME: G:\24\905\EL\Sheets DATE: 6 February 2026 TIME: 4:08 pm
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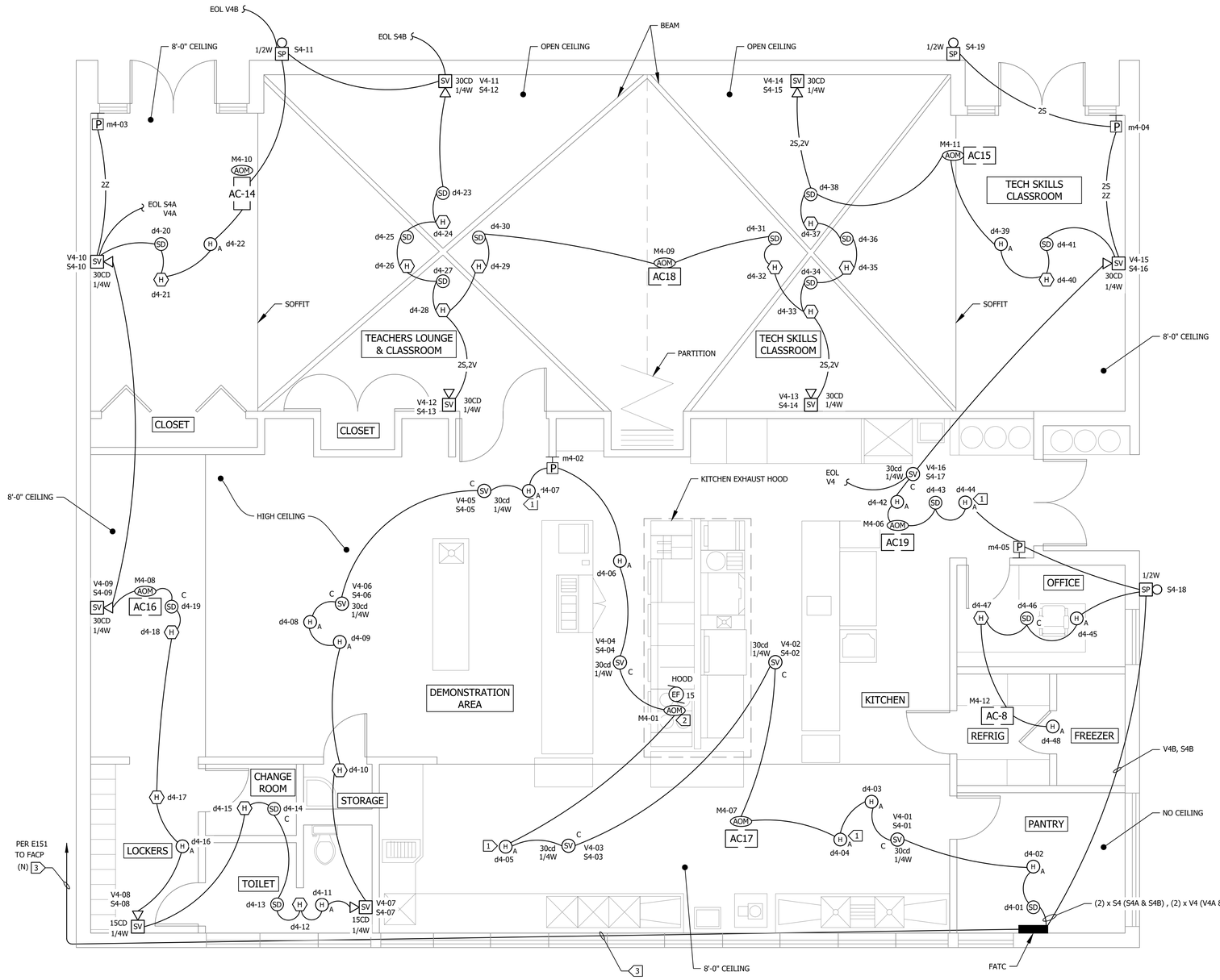
SAVE DATE: 1/27/2026 3:58:41 PM
Drafter:CM02 Paper Size: 11.0 Drawing:G:\24\905\EL\Sheets\24-905 E500.dwg Plotted: 06 FEB 2026 4:08 PM By: CM02 Attached XREFs: ACAD-A1FV2021.ctb,ansi36.ctb,24-905 TB.dwg
Drafter: CM01: G:\24\905\EL\Sheets\24-905 E500.dwg; DATE: JAN 27, 2026 TIME: 10:41 AM

PATHNAME: G:\24\905\ELSheets
SAVE DATE: 1/27/2026 3:08:12 PM
DRAFTER: CM02
DRAWING FILENAME: 24-905 E501
DATE: 6 February 2026
TIME: 4:08 pm
DRAWING: G:\24\905\ELSheets\24-905 E501.dwg
PLOT BY: CM02
PLOT DATE: 2/6/2026 4:08:43 PM



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

BUILDING OE A FIRE ALARM PLAN

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

1 / E501

N

SHEET NOTES:

1. 3/4" CONDUIT MINIMUM UNLESS OTHERWISE NOTED.
2. CONTRACTOR SHALL FURNISH AND INSTALL PULL BOXES AS REQUIRED TO INSTALL FIRE ALARM CABLING PER CABLE MANUFACTURERS RECOMMENDATIONS.
3. MAXIMUM 270 DEGREE OF BEND BETWEEN PULL POINTS.
4. UNIQUELY LABEL BOTH ENDS OF ALL CABLING.

H A IS HEAT DETECTOR IN ATTIC/ON BOTTOM OF ROOF.

SHEET NOTES:

1. HIGH TEMP HEAT DETECTOR TYPICAL IN KITCHEN.
2. CONNECT TO AUX CONTACTS OF KITCHEN EXHAUST FAN EMERGENCY FIRE SUPPRESSOR SYSTEM & FACP ANNUNCIATION.
3. PER F.A. RISER DIAGRAM.

PROVIDE ACCESS PANELS IN ALL HARD LID CEILINGS (FIRE RATE AS NECESSARY) TO ACCESS FA DEVICES.

COOKING OCCURS IN THIS BUILDING

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REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
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REV#	DESCRIPTION	DATE
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REGISTERED PROFESSIONAL ENGINEER
KENNETH W. LUCCI
No. E 8340
Exp. 09/30/2026
ELECTRICAL
STATE OF CALIFORNIA

LUCCI & ASSOCIATES
CONSULTING ELECTRICAL ENGINEERS
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SHEET TITLE: BUILDING OE A FIRE ALARM PLAN

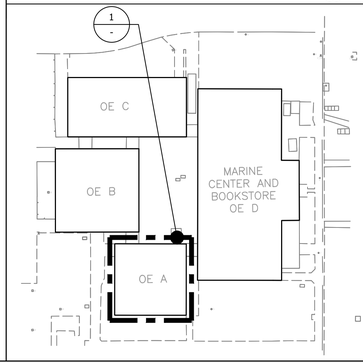
PROJECT: FIRE ALARM FOR OCCUPATIONAL EDUCATION BUILDING
OXNARD COLLEGE
OXNARD, CA 93033

BUILDING DATA:

BUILDING CLASSIFICATION:
A. OCCUPANCY TYPE: B
B. CONSTRUCTION TYPE: V-N
SPRINKLERED: NOT
D. ONE STORY

AGENCIES:
A. DIVISION OF THE STATE ARCHITECT

KEY MAP



DRAWN:	LK/DS/IT
CHECKED:	K. LUCCI
DATE:	7/2/2025
SCALE:	AS NOTED
JOB NO.	24-905
SHEET:	E501
OF:	SHEETS:

Copyright Lucci and Associates Consulting Electrical Engineers. Deviations from this drawing will not be made without their expressed written permission. L.A.I.# 24-905 PAPER SIZE 36"x24"

Drafter:CM02 Paper Size: 12.0
Drawing:G:\24\905\ELSheets\24-905 E501.dwg
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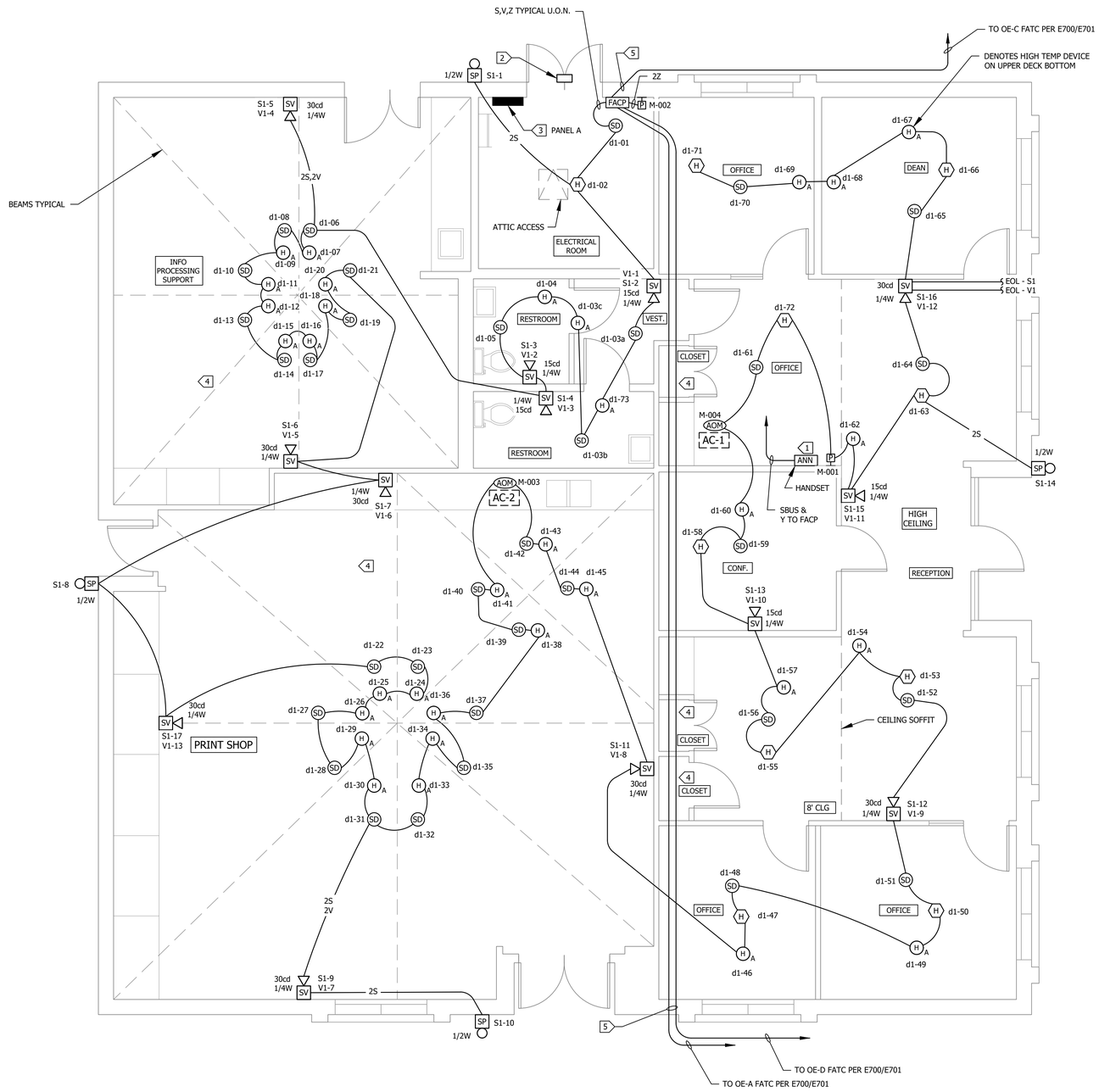


SCALE: 1/4"=1'-0"

0 2' 4' 8'

BUILDING OE B FIRE ALARM PLAN

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

1 - E502

N

SHEET NOTES:

1. 3/4" CONDUIT MINIMUM UNLESS OTHERWISE NOTED.
2. CONTRACTOR SHALL FURNISH AND INSTALL PULL BOXES AS REQUIRED TO INSTALL FIRE ALARM CABLING PER CABLE MANUFACTURERS RECOMMENDATIONS.
3. MAXIMUM 270 DEGREE OF BEND BETWEEN PULL POINTS.
4. UNIQUELY LABEL BOTH ENDS OF ALL CABLING.

SHEET NOTES:

1. ANNUNCIATOR WITH HANDSET.
2. PUT LABELS ON EXTERIOR DOOR 'ELECTRICAL ROOM' & 'FIRE ALARM PANEL INSIDE'.
3. PROVIDE NEW RED BREAKER, 20A, 1P, DEDICATED TO FACP & ANN. FROM PANEL A CIRCUIT #6.
4. OPEN CEILING.
5. X-RAY ALL WALL CORES, DO NOT CORE HOLES WITHIN 6" OF REBAR.

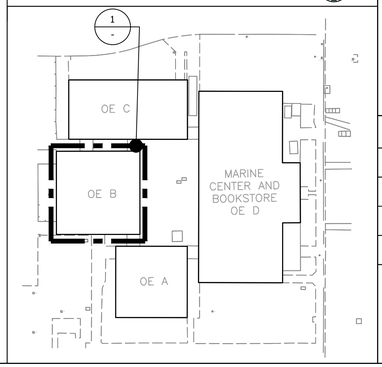
NO INTERIOR FIRE RATED WALLS

BUILDING DATA:

BUILDING CLASSIFICATION:
- A. OCCUPANCY TYPE: B
- B. CONSTRUCTION TYPE: V-N SPRINKLERED: NOT
- D. ONE STORY

AGENCIES:
- A. DIVISION OF THE STATE ARCHITECT

KEY MAP



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DIV. OF THE STATE ARCHITECT
APP: 03-124867 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 03/12/2026

REV#	DESCRIPTION	DATE
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REGISTERED PROFESSIONAL ENGINEER KENNETH W. LUCCI No. E 8340 Exp. 09/30/2026 ELECTRICAL STATE OF CALIFORNIA

LUCCI & ASSOCIATES
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SHEET TITLE: BUILDING OE B FIRE ALARM PLAN

PROJECT: FIRE ALARM FOR OCCUPATIONAL EDUCATION BUILDING OXNARD COLLEGE OXNARD, CA 93033

DRAWN: LK/DS/IT
CHECKED: K. LUCCI
DATE: 7/2/2025
SCALE: AS NOTED
JOB NO. 24-905
SHEET: E502
OF: SHEETS:

Copyright Lucci and Associates Consulting Electrical Engineers. Deviations from this drawing will not be made without their expressed written permission. L.A.I.# 24-905 PAPER SIZE 36"x24"

DRAWING: G:\24\905\ELL\Sheets\24-905 E502.dwg DRAFTER: CM02 DATE: 6 February 2026 TIME: 4:08 pm
PATHNAME: G:\24\905\ELL\Sheets SAVE DATE: 1/27/2026 3:08:04 PM PLOT BY: CM02 PLOT DATE: 2/6/2026 4:08:47 PM
DRAWING FILENAME: 24-905 E502
Drafter:CM02 Paper Size: 12.9
Drawing:G:\24\905\ELL\Sheets\24-905 E502.dwg
Date/Time: 2/6/2026 4:08:47 PM
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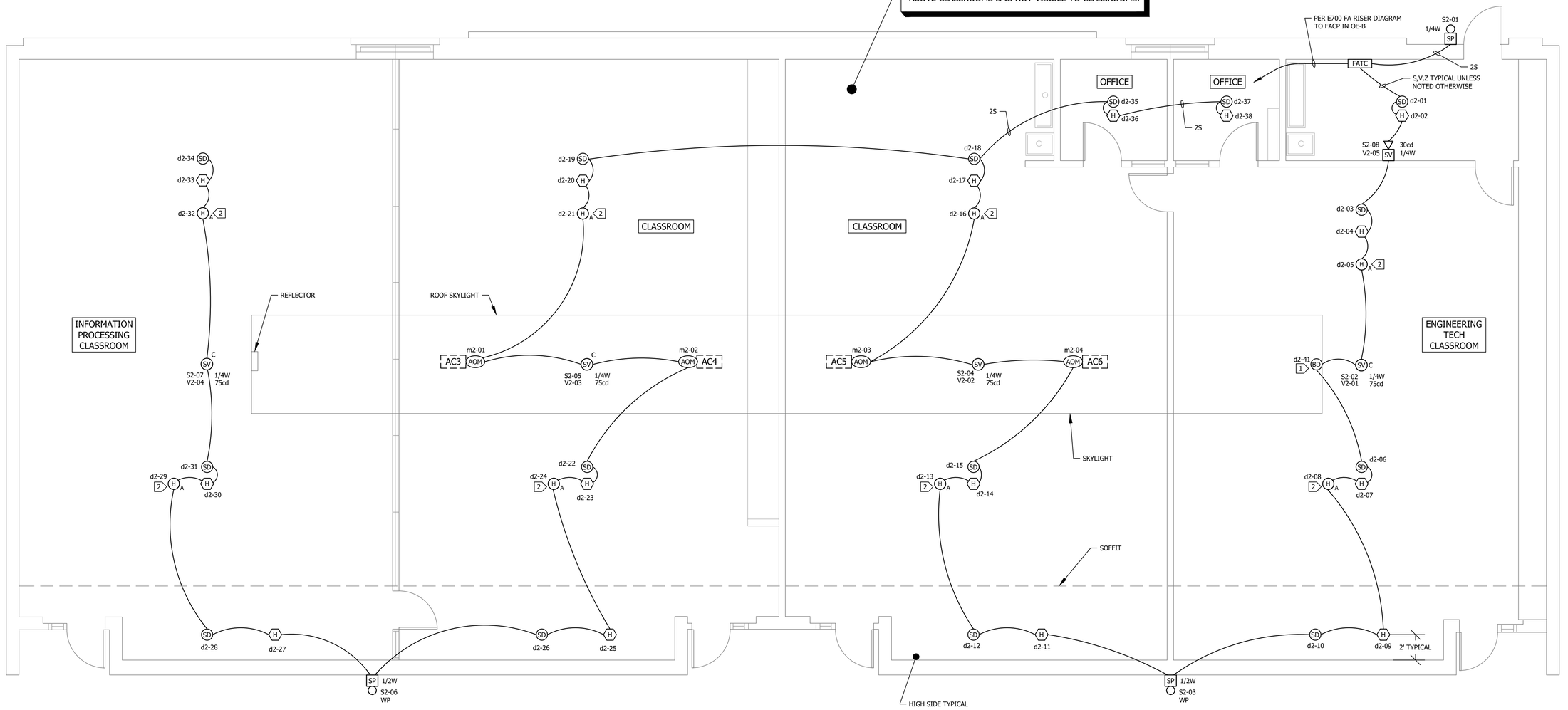
DRAWING: G:\24\905\ELI\Sheets\24-905 E503.dwg DRAFTER: CM02 DRAWING FILENAME: 24-905 E503 PATHNAME: G:\24\905\ELI\Sheets SAVE DATE: 1/27/2026 3:07:54 PM PLOT BY: CM02 DATE: 6 February 2026 TIME: 4:08 pm PLOT DATE: 2/6/2026 4:08:50 PM

ALL CLASSROOM CEILINGS AT 9'-0" AFF - SKYLIGHT IS ABOVE CLASSROOMS & IS NOT VISIBLE TO CLASSROOMS.



PROVIDE ACCESS PANELS IN ALL HARD LID CEILINGS (FIRE RATE AS NECESSARY) TO ACCESS FA DEVICES.

BUILDING DATA:

BUILDING CLASSIFICATION:
- A. OCCUPANCY TYPE: B
- B. CONSTRUCTION TYPE: V-N SPRINKLERED: NOT
- D. ONE STORY

AGENCIES:
- A. DIVISION OF THE STATE ARCHITECT

SHEET NOTES:

1. BEAM DETECTOR, INSTALL WITH DIRECT LINE OF SIGHT TO REFLECTOR. INSTALL 2 FOOT ABOVE BOTTOM OF SKYLIGHT FRAME & NO INDIRECT SUNLIGHT.
2. IN ROOF AREA ON BOTTOM OF ROOF.

SHEET NOTES:

1. 3/4" CONDUIT MINIMUM UNLESS OTHERWISE NOTED.
2. CONTRACTOR SHALL FURNISH AND INSTALL PULL BOXES AS REQUIRED TO INSTALL FIRE ALARM CABLING PER CABLE MANUFACTURERS RECOMMENDATIONS.
3. MAXIMUM 270 DEGREE OF BEND BETWEEN PULL POINTS.
4. UNIQUELY LABEL BOTH ENDS OF ALL CABLING.

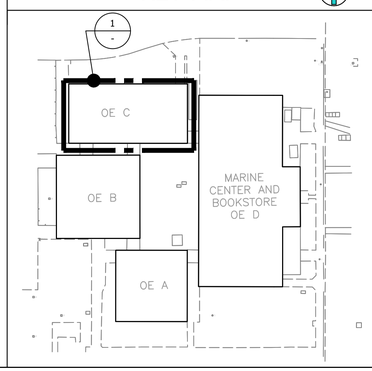
SCALE: 1/4"=1'-0"
0 2' 4' 8'

BUILDING OE C FIRE ALARM PLAN

SCALE: 1/4"=1'-0" OE-2 TO OE-5 - 1 - E503

N

KEY MAP



IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-124867 INC:
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DATE: 03/12/2026

REV#	DESCRIPTION	DATE
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REGISTERED PROFESSIONAL ENGINEER KENNETH W. LUCCI No. E 8340 Exp. 09/30/2026 ELECTRICAL STATE OF CALIFORNIA

CONSULTING ELECTRICAL ENGINEERS
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SHEET TITLE: BUILDING OE C FIRE ALARM PLAN

PROJECT: FIRE ALARM FOR OCCUPATIONAL EDUCATION BUILDING OXNARD COLLEGE OXNARD, CA 93033

DRAWN: LK/DS/IT
CHECKED: K. LUCCI
DATE: 7/2/2025
SCALE: AS NOTED
JOB NO. 24-905
SHEET: E503
OF: SHEETS:

Copyright Lucci and Associates Consulting Electrical Engineers. Deviations from this drawing will not be made without their expressed written permission. L.A.I.# 24-905 PAPER SIZE 36"x24"

Plotter=CM01 Paper Size: 22.0
Drawing:G:\24\905\ELI\Sheets\24-905 E503.dwg
Data Link Path:
Attached XREFS:
XREF:G:\24\905\ELI\Sheets\24-905 TB.dwg
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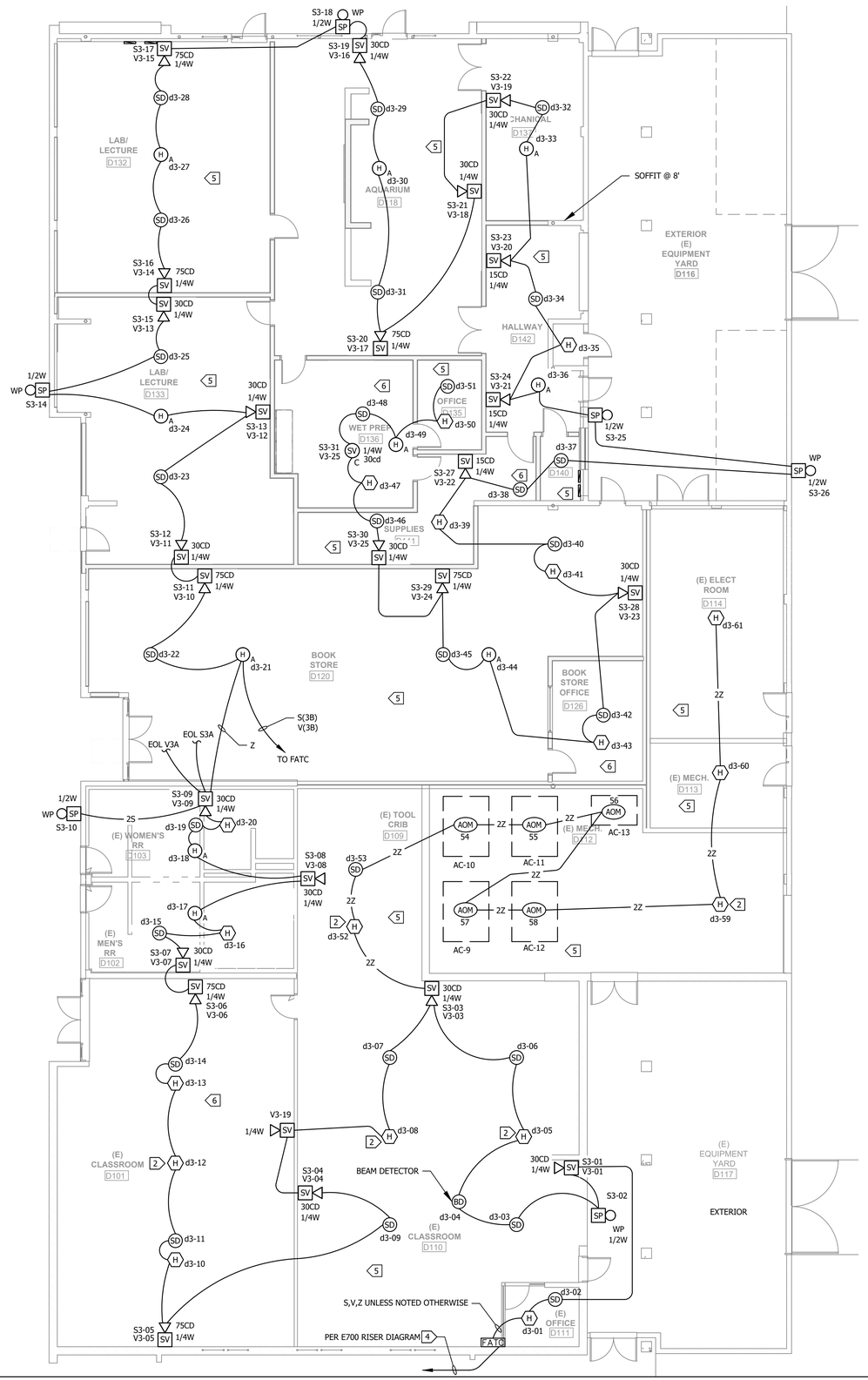
Plotter: CM01: G:\24\905\ELI\Sheets\24-905 E503.dwg: DATE: FEB 22, 2025 TIME: 12:27 PM



SHEET NOTES:

1. 3/4" CONDUIT MINIMUM UNLESS OTHERWISE NOTED.
2. CONTRACTOR SHALL FURNISH AND INSTALL PULL BOXES AS REQUIRED TO INSTALL FIRE ALARM CABLING PER CABLE MANUFACTURERS RECOMMENDATIONS.
3. MAXIMUM 270 DEGREE OF BEND BETWEEN PULL POINTS.
4. UNIQUELY LABEL BOTH ENDS OF ALL CABLING.

SHEET NOTES:

1. ATTIC.
2. HIGH TEMP.
3. INSTALL APPROXIMATELY 2 FOOT ABOVE BOTTOM OF SKYLIGHT FRAME WITH DIRECT LINE OF SIGHT TO REFLECTOR.
4. PER FA RISER DIAGRAM.
5. OPEN TO ABOVE.
6. DROP CEILING.

PROVIDE ACCESS PANELS IN ALL HARD LID CEILINGS (FIRE RATE AS NECESSARY) TO ACCESS FA DEVICES.

BUILDING DATA:	
BUILDING CLASSIFICATION:	A. OCCUPANCY TYPE: B B. CONSTRUCTION TYPE: V-N SPRINKLERED: NOT D. ONE STORY
AGENCIES:	A. DIVISION OF THE STATE ARCHITECT

BUILDING OE D FIRE ALRM PLAN

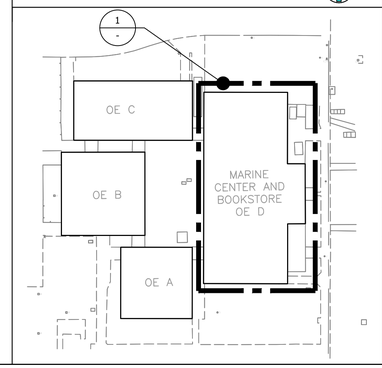
SCALE: 1/8"=1'-0"

1 / E504

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

N

KEY MAP



IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-124867 INC: A
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 03/12/2026

REV#	DESCRIPTION	DATE
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REGISTERED PROFESSIONAL ENGINEER
KENNETH W. LUCCI
No. E 8340
Exp. 09/30/2026
ELECTRICAL
STATE OF CALIFORNIA

LUCCI & ASSOCIATES
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SHEET TITLE: BUILDING OE D FIRE ALARM PLAM

PROJECT: FIRE ALARM FOR OCCUPATIONAL EDUCATION BUILDING
OXNARD COLLEGE
OXNARD, CA 93033

DRAWN: LK/DS/IT
CHECKED: K. LUCCI
DATE: 7/2/2025
SCALE: AS NOTED
JOB NO. 24-905
SHEET: E504
OF: SHEETS:

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DRAWING: G:\24\905\EL\Sheets\24-905 E504.dwg DRAFTER: CM02 DRAWING FILENAME: 24-905 E504 PATHNAME: G:\24\905\EL\Sheets DATE: 6 February 2026 TIME: 4:08 pm
SAVE DATE: 1/27/2026 3:08:29 PM PLOT BY: CM02 PLOT DATE: 2/6/2026 4:08:54 PM
Drafter:CM02 Paper Size: 11.0
Drawing:G:\24\905\EL\Sheets\24-905 E504.dwg
Plotted: 2/6/2026 4:08:54 PM
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XREF:G:\24\905\EL\Sheets\24-905 TB.dwg
XREF:G:\24\905\EL\Sheets\24-905 E00.dwg
XREF:G:\24\905\EL\Sheets\OE BUILDING - FIRE ALARM PLAN.dwg

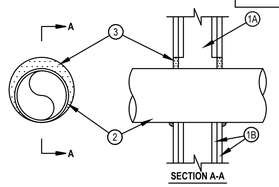
Plotter: CM01: G:\24\905\EL\Sheets\24-905 E504.dwg; DATE: JUN 24, 2025 TIME: 11:10 AM

FIRE STOPPING DETAIL

C UL US
Underwriters Laboratories, Inc.
to UL 1479 and CAN/ULC-S115

System No. W-L-1054

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Ratings —1 and 2 Hr (See Items 1 and 3)	F Ratings — 1 and 2 Hr (See Items 1 and 3)
T Rating — 0 Hr	FT Rating — 0 Hr
L Rating at Ambient — Less Than 1 CFM/sq ft	FH Ratings —1 and 2 Hr (See Items 1 and 3)
L Rating at 400 F — Less Than 1 CFM/sq ft	FTH Rating — 0 Hr
	FTH Rating — 0 Hr
	L Rating at Ambient — Less Than 1 CFM/sq ft L Rating at 400 F — Less Than 1 CFM/sq ft



SECTION A-A

1. Wall Assembly — The 1 or 2 hr fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300 or U400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
   A. Studs — Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. (51 by 102 mm) lumber spaced 16 in. (406 mm) OC. Steel studs to be min 2-1/2 in. (64 mm) wide and spaced max 24 in. (610 mm) OC. When steel studs are used and the diam of opening exceeds the width of stud cavity, the opening shall be framed on all sides using lengths of steel stud installed between the vertical studs and screw-attached to the steel studs at each end. The framed opening in the wall shall be 4 to 6 in. (102 to 152 mm) wider and 4 to 6 in. (102 to 152 mm) higher than the diam of the penetrating item such that, when the penetrating item is installed in the opening, a 2 to 3 in. (51 to 76 mm) clearance is present between the penetrating item and the framing on all four sides.
   B. Gypsum Board* — 5/8 in. (16 mm) thick, 4 ft (122 cm) wide with square or tapered edges. The gypsum board type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300 or U400 Series Design in the UL Fire Resistance Directory. Max diam of opening is 32-1/4 in. (819 mm) for steel stud walls. Max diam of opening is 14-1/2 in. (368 mm) for wood stud walls.

   The F and FH Ratings of the firestop system are equal to the fire rating of the wall assembly.
2. Through-Penetrants — One metallic pipe, conduit or tubing to be installed either concentrically or eccentrically within the firestop system. The annular space shall be min 0 in. to max 2-1/4 in. (57 mm). Pipe may be installed with continuous joint contact. Pipe, conduit or tubing may be installed at an angle not greater than 45 degrees from perpendicular. Pipe, conduit or tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipes, conduits or tubing may be used:
   A. Steel Pipe — Nom 30 in. (762 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe.
   B. Iron Pipe — Nom 30 in. (762 mm) diam (or smaller) cast or ductile iron pipe.
   C. Conduit — Nom 4 in. (102 mm) diam (or smaller) steel electrical metallic tubing or 6 in. (152 mm) . diam steel conduit.
   D. Copper Tubing — Nom 6 in. (152 mm) diam (or smaller) Type L (or heavier) copper tubing.
   E. Copper Pipe — Nom 6 in. (152 mm) diam (or smaller) regular (or heavier) copper pipe.
3. Fill, Void or Cavity Material* — Sealant — Min 5/8 in. (16 mm) thickness of fill material applied within the annulus, flush with both surfaces of wall. At the point or continuous contact locations between pipe and wall, a min 1/2 in. (13 mm) diam bead of fill material shall be applied at the pipe wall interface on both surfaces of wall.

   HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS-One Sealant or FS-ONE MAX Intumescent Sealant

* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

Hilti Firestop Systems

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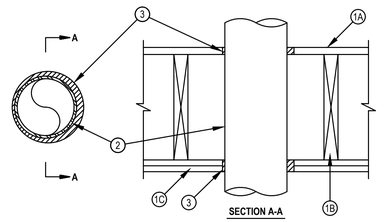
FIRE STOPPING DETAIL

C UL US
Classified by
Underwriters Laboratories, Inc.
to UL 1479 and CAN/ULC-S115

System No. F-C-1059

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Rating — 1 and 2 Hr	F Rating — 1 and 2 Hr
T Rating — 1 and 2 Hr	FT Rating — 1 and 2 Hr
L Rating At Ambient — Less Than 1 CFM/sq ft	FH Rating — 1 and 2 Hr
L Rating At 400 F — 4 CFM/sq ft	FTH Rating — 1 and 2 Hr
W Rating — Class 1 (See Item 4)	L Rating At Ambient — Less Than 1 CFM/sq ft
	L Rating At 400 F — 4 CFM/sq ft



SECTION A-A

1. Floor-Ceiling Assembly — The 1 or 2 hr fire-rated solid or trussed lumber joist floor-ceiling assembly shall be constructed of the materials and in the manner specified in the individual L500 Series Floor-Ceiling Designs in the UL Fire Resistance Directory. The F, FH Rating of the firestop system is equal to the rating of the floor-ceiling and wall assemblies. The T, FT and FTH Rating of the firestop system is 0 hr for 1 hr rated floor ceiling assembly and 1/2 hr for 2 hr rated floor ceiling assembly. The general construction features of the floor-ceiling assembly are summarized below:
   A. Flooring System — Lumber or plywood subfloor with finish floor of lumber, plywood or Floor Topping Mixture* as specified in the individual Floor-Ceiling Design. Max diam of opening shall be 7-5/8 in. (194 mm).
   B. Wood Joists* — Nom 10 in (254 mm) deep (or deeper) lumber, steel or combination lumber and steel joists, trusses or Structural Wood Members* with bridging as required and with ends firestopped.
   C. Gypsum Board* — Thickness, type, number of layers and fasteners shall be as specified in the individual Floor-Ceiling Design. Max diam of opening shall be 7-5/8 in. (194 mm).
   D. Furring Channels — (Not Shown) (As required) Resilient galvanized steel furring installed in accordance with the manner specified in the individual L500 Series Designs in the Fire Resistance Directory.

1.1 Chase Wall — (Not Shown, Optional)—The through penetrants (Item 2) may be routed through a 1 or 2 hr fire-rated single, double or staggered wood stud/gypsum wallboard chase wall having a fire rating consistent with that of the floor-ceiling assembly. The chase wall shall be constructed of the materials and in the manner specified in the individual U300 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features :
   A. Studs — Nom 2 by 8 in. (51 by 203 mm) lumber or double nom 2 by 6 in. (51 by 152 mm) lumber studs.
   B. Sole Plate — Nom 2 by 8 in. (51 by 203 mm) lumber or parallel 2 by 6 in. (51 by 152 mm) lumber plates, tightly butted. Max diam of opening shall be 7-5/8 in. (194 mm).
   C. Top Plate — The double top plate shall consist of two nom 2 by 8 in. (51 by 203 mm) lumber plates or two sets of nom 2 by 6 in. (51 by 152 mm) lumber plates tightly butted. Max diam of opening is 7-5/8 in. (194 mm).
   D. Gypsum Board* — Thickness, type, number or layers and fasteners shall be as specified in individual Wall and Partition Designs.
2. Through Penetrants — One metallic tubing, pipe or conduit to be installed concentrically or eccentrically within the firestop system. Annular space between pipe or conduit and edge of opening to be min 1/4 in. (6 mm) and max 3/4 in. (19 mm). Pipe, tubing or conduit to be rigidly supported on both sides of floor-ceiling assembly. The following types and sizes of metallic pipes, tubing or conduit may be used:
   A. Steel Pipe — Nom 6 in. (152 mm) diam (or smaller) Schedule 40 (or heavier) steel pipe.
   B. Iron Pipe — Nom 6 in. (152 mm) diam (or smaller) cast or ductile pipe.
   C. Conduit — Nom 4 in. (102 mm) diam (or smaller) steel electrical metallic tubing or nom 6 in. diam (or smaller) steel conduit.
   D. Steel Flexible Metal Conduit + — Nom 2 in. (51 mm) diam (or smaller) steel flexible metal conduit.

   See Flexible Metal Conduit (DXUZ) category in the Electrical Construction Materials Directory for names of manufacturers.
3. Fill, Void or Cavity Material*—Sealant — Min 5/8 in. (16 mm) or 1-1/4 in. (32 mm) thickness of sealant applied within annular space, flush with the bottom surface of gypsum wallboard or lower top plate for 1 and 2 hr floors respectively. Min. 3/4 in. (19 mm) thickness of sealant applied within annular space, flush with top surface of floor or sole plate.

   HILTI INC — FS-ONE Sealant or FS-ONE MAX Intumescent Sealant

+Bearing the UL Listing Mark.

* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

Hilti Firestop Systems

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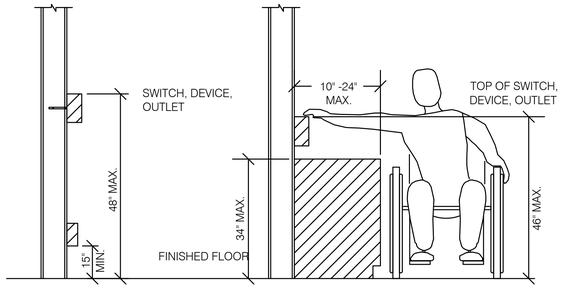
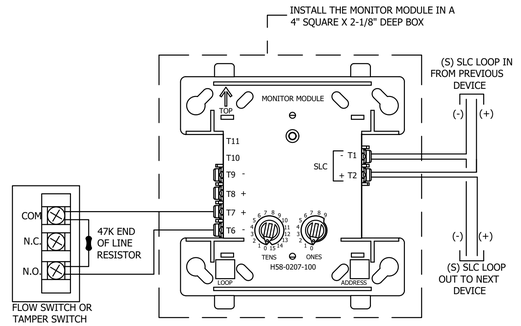
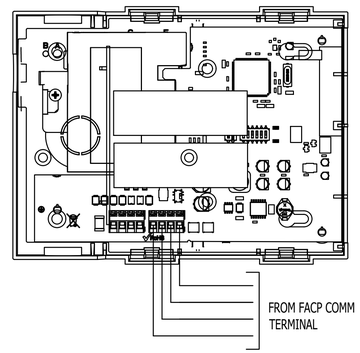
MOUNTING HEIGHT OVER OBSTRUCTION



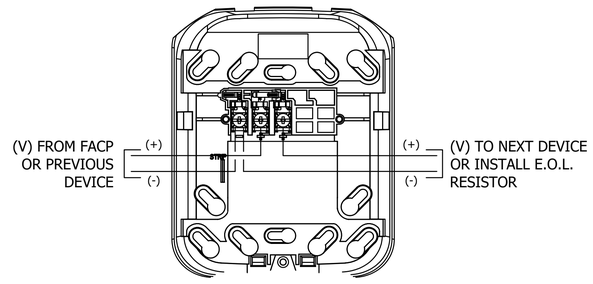
SILENT KNIGHT MONITOR MODULE WIRING DETAIL



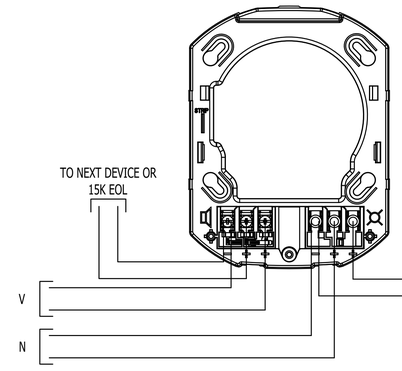
CELLULAR COMMUNICATOR WIRING DETAIL



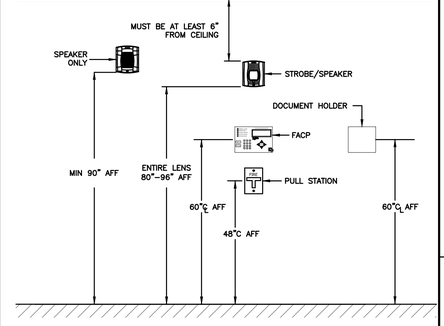
SYSTEM SENSOR HORN STROBE WIRING DETAIL



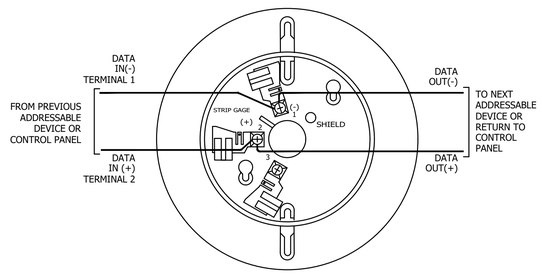
SYSTEM SENSOR SPEAKER/STROBE WIRING DETAIL



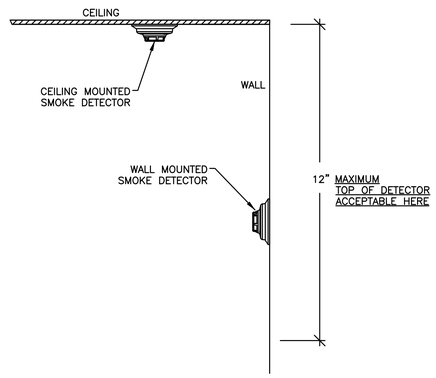
ANNUNCIATOR WIRING DETAIL



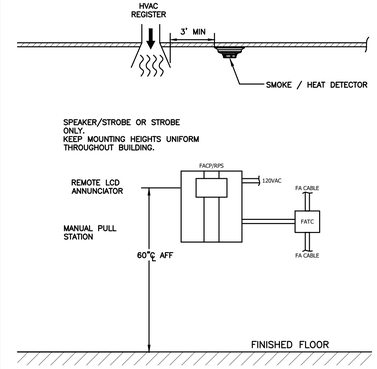
SILENT KNIGHT DETECTOR WIRING DETAIL



SMOKE DETECTOR MOUNTING DETAIL



MOUNTING HEIGHT & ROUGH-IN DETAIL



IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-124867 INC: A
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 03/12/2026

REV#	DESCRIPTION	DATE
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STAMP

REGISTERED PROFESSIONAL ENGINEER
KENNETH W. LUCCI
No. E 8340
Exp. 09/30/2026
ELECTRICAL
STATE OF CALIFORNIA

LUCCI & ASSOCIATES
CONSULTING ELECTRICAL ENGINEERS
3251 CORTE MALPASO, #511
CAMARILLO, CA 93011-8094
PHONE (805) 389-4520 FAX (805) 389-6519

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SHEET TITLE: FIRE ALARM DETAIL SHEET

PROJECT: FIRE ALARM FOR OCCUPATIONAL EDUCATION BUILDING OXNARD COLLEGE OXNARD, CA 93033

DRAWN: LK/DS/IT
CHECKED: K. LUCCI
DATE: 7/2/2025
SCALE: AS NOTED
JOB NO. 24-905
SHEET: E510
OF: SHEETS:

Copyright Lucci and Associates Consulting Electrical Engineers. Deviations from this drawing will not be made without their expressed written permission. L.A.I.# 24-905 PAPER SIZE 36"x24"

DATE: 6 February 2026 TIME: 4:08 pm PLOT DATE: 2/6/2026 4:08:57 PM
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CALIFORNIA DEPARTMENT OF FORESTRY & FIRE PROTECTION
OFFICE OF THE STATE FIRE MARSHAL
FIRE ENGINEERING & INVESTIGATIONS DIVISION
BUILDING MATERIALS LISTING PROGRAM

LISTING SERVICE

LISTING No.:	7165-1703:0125
CATEGORY:	7165 - FIRE ALARM CONTROL UNIT (COMMERCIAL)
LISTEE:	GAMEWELL-FCI 12 Clintonville Road, Northford, CT, 06472 Contact: Brant, Lisa 2034846105 Email: lisa.brant@honeywell.com
DESIGN:	Model E3 Series® BROADBAND and E3 Series® CLASSIC Voice Evacuation System. The E3 Systems may also work in conjunction with all the sub-assemblies of listee's 7100 Series Control Panel and NetSOLO systems (CSFM Listing No. 7165-1703:0105 and 6911-1703:0116, and 6911-1703:0118). Unit conveys all fire alarm, audio evacuation, voice paging, and fire fighter communications. Power-limited; non-coded, automatic, manual, smoke control, water flow, sprinkler supervisory, local auxiliary, central station, remote station, and proprietary service. Refer to listee's data sheet for additional detailed product description and operational considerations. System components: ILI-MB-E3; Intelligent Loop Interface Master Board PM-9, PM-9G; Power Supply ILI-95-MB-E3, ILI-95-S-E3; Loop Interface Subassemblies E3BB-FLUSH-LCD; Enclosure for ICD-E3 E3BB-BA/-RA/-BAA/-RAA/-BB/-RB/-BC/-RC/-BD; Cabinets RPT-E3-FO; or Repeater Sub-assembly, Fiber Optic or RPT-E3-UTP; Repeater Sub-assembly, Unshielded twisted pair wire LCD-E3; LCD Keypad Display *LCD-SLP; LCD Touchscreen Display Screen DACT-E3 sub-assembly; Digital alarm communicator transmitter ILI-S-E3; Intelligent Loop Unit, Expansion Board ANX-SR, ANX-MR-FO, ANX-MR-UTR; Addressable Node Expanders Sub Assembly INCC-E; Intelligent Network Enclosure INCC; Intelligent Network Central Command INI-VG, INI-VGC-UTP, INI-VGC-FO, INI-VGX-UTP; Intelligent Network Interface Sub Assembly INI-VGX-FO, INI-VGE-UTP, INI-VGE-FO; Intelligent Network Interface Sub Assembly ASM-16; Annunciator Switch Sub Assembly INX; Network Audio Transponder Enclosure ANU-48; Annunciator Sub Assembly NGA; Touch Screen LCD Display Sub Assembly LCD-7100; Remote LCD Display SBB-C4, SBB-D4; Backbox FCI-VDR-D4B, FCI-DR-C4B, FCI-CR-D4B; Doors with locks AA-100, AA-120; Amplifiers AM-50-25, AM-50-70; Amplifier Sub Assembly CHG120; Battery Charger with Cabinet BC-1/FCI-LBB; Backbox IPDACT-2; IP Digital Alarm Communicator FPJ; Firefighters's Telephone Jack Receptacle FHS; Portable Firefighters's Telephone Handset 7100 Series#; Fire Alarm Control Panel or INI-7100 UTP#; Intelligent Network Interface Sub-assembly, [Twisted, unshielded wire] or INI-7100 FO#; Intelligent Network Interface
RATING:	120 V, 60 Hz, 3.5 A Primary; 24 V dc, 9A Secondary
INSTALLATION:	In accordance with listee's printed installation instructions, NFPA 72, applicable codes and ordinances, and in a manner acceptable to the authority having jurisdiction.
MARKING:	Listee's name, model designation, electrical rating, and UL label.
APPROVAL:	Listed as fire alarm control unit for use with separately listed electrically and functionally compatible initiating and indicating devices. Suitable for high-rise applications when used with the above voice evacuation systems. This control unit can generate a distinctive three-pulse Temporal Pattern Fire Alarm Evacuation Signal (for total evacuation) in accordance with NPFA 72. This control unit meets the requirements of UL Standard 864, 9th Edition.
NOTES:	For Fire Alarm Verification Feature (delay of alarm signaling), the Retard/Reset/Restart period shall be 30 seconds or less.

*Revision 09-18-20 VWW

This listing is based upon technical data submitted by the applicant. OSFM Fire Engineering staff has reviewed the test results and/or other data but does not make an independent verification of any claims. This listing is not an endorsement or recommendation of the item listed. This listing should not be used to verify correct operational requirements or installation criteria. Refer to listee's data sheet, installation instructions and/or other suitable information sources.

Date Issued: 05/10/2025 **Listing Expires: 06/30/2026**

Authorized By: **Michael Huang**, Program Coordinator
Fire Engineering & Investigations Division

E3 SERIES® FIRE ALARM CONTROL PANEL TECHNICAL SPECIFICATIONS

System
Operating Voltage: 24 VDC
Operating Temperature: Not to exceed the range of 32°-120° F (0 -49° C)
Relative Humidity: Not to exceed 93%, non-condensing at 90° F (32° C)
Primary Power Supply: 9 amps @ 55 AH capacity

Temperature and Humidity Ranges
This system meets NFPA requirements for operation at 0 – 49°C/32 – 120°F and at a relative humidity 93% ± 2% RH (noncondensing) at 32°C ± 2°C (90°F ± 3°F). However, the useful life of the system's standby batteries and the electronic components may be adversely affected by extreme temperature ranges and humidity. Therefore, it is recommended that this system and its peripherals be installed in an environment with a normal room temperature of 15 – 27°C/60 – 80°F.

Standards
The E3 Series fire alarm control panel is designed to comply with the following standards:

UL Standards
UL 864
- Automatic Fire Detector Alarm
- Manual Fire Alarm
- Waterflow Alarm
- Supervisory
- Releasing Device Service
- Releasing/Pre-Action Deluge
- Releasing/Agent Releasing
- Automatic Smoke Alarm,
- Non-coded and Master Coded Operation

UUKL for Smoke Control
UL 2572, 2nd Edition for Mass Notification Systems

NFPA Standards
NFPA 13 - Standard for Installation of Sprinkler Systems
NFPA 16 - Standard for Foam-Water Sprinkler and Foam Water Spray Systems
NFPA 72 - National Fire Alarm Code:
Central Station Fire Alarm Systems
- Auxiliary Fire Alarm Systems
- Proprietary Fire Alarm Systems
- Local Fire Alarm Systems
- Remote Station Fire Alarm Systems

NFPA 13 Sprinkler
NFPA 12A Halon 1301
NFPA 15 Water Spray

STANDARDS (Continued)
NFPA 16 Foam Water
NFPA 750 Water Mist

NFPA 12 CO2 Carbon Dioxide
NFPA 17 Dry Chemical/17A Wet Chemical
Seismic Codes

UL Standards
The E3 Series Control Panel is designed to comply with the following standards:
UL Standards: UL 864
UL 2572, Mass Notification

Agency Listings and Approvals
These listings and approvals apply to the modules specified in this document. In some cases, certain modules or applications may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.
UL: S1869, 2572 for Mass Notification
FM: 3025415
MEA FDNY: 6175, COA #: 231-06-E
CSFM: 7165-1703:0125
City of Chicago: Class 1, Class 2, High Rise
City of Denver Approved
The VMC Group, Reference Certificate of Compliance: VMA-45894-02C (Revision 1)
ISO 9001 Certification

Honeywell Gamewell-FCI
12 Clintonville Road
Northford, CT 06472-1610
203.484.7161
www.gamewell-fci.com

9020-0637 | T | 06/20
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UL® is a registered trademark of Underwriter's Laboratories Inc.

This document is not intended to be used for installation purposes. We try to keep our product information up-to-date and accurate. We cannot cover all specific applications or anticipate all requirements. All specifications are subject to change without notice.

Country of origin: U.S.A.

E3 SERIES® FIRE ALARM CONTROL PANEL

Expandable Emergency Evacuation System

The E3 Series® fire alarm control panel is a flexible modular emergency evacuation fire system.

E3 Series with LCD-SLP Display *E3 Series with LCD-E3 Display*

GENERAL

The E3 Series® Expandable Emergency Evacuation System by Gamewell-FCI is in the forefront of the latest generation of fire alarm control panels. The E3 Series System is designed for use in virtually any application because it features a modular assembly that is configured per project requirements. Employing the new high-speed Velociti® sensors, the E3 Series provides previously unattainable polling speed and response together with the flexibility demanded by today's emergency evacuation systems. In addition to the sensors' high-speed polling rate, the Velociti Series of sensors feature bi-polar LEDs that flash green for normal polling, and light red steadily to indicate an alarm.

The E3 Series is equipped with an 80-character LCD-E3 alphanumeric LCD displayor 4.3" color touchscreen LCD-SLP display. Up to six keyboard LCD displays may be remotely located. In addition, you can install five of the familiar LCD-7100/RAN-7100 remote displays. The displays show instant system status information and can be Connected in any desired area of an installation.

FEATURES AND BENEFITS

- Offers Class B, Class A or Class X* signaling line circuits
- IBC Seismic Certified
- Listed under UL® Standard 864, 10th Edition
- Listed under UL Standard UL 2572 for Mass Notification
- UL Listed for smoke control (dedicated and non-dedicated) when properly configured
- UL Listed and FM Approved for Pre-action/ Deluge and Agent Releasing
- Provides two to 244 SLCs, each supporting 159 sensors, 159 modules and 159 addressable sounder bases
- 625K bits per second ARCNET communications using wire, fiber, or mixed configurations for installation flexibility
- High-speed 32 bit processor and 8100 event history log
- Advanced Boolean logic-based programming such as AND, OR, NOT, time delay and calendar functions configurable via computer programming
- Supports up to (16) ASM-16 addressable switch or ANU-48 LED driver modules per ILI-MB-E3/ILI95-MB-E3
- Two Class A or Class B, notification appliance circuits rated at 2.0 amps. per circuit
- Integral city connection
- Up to 9 levels of sensitivity adjustment
- Flexible 115,200 baud high speed RS-232 interface
- 40 character user-defined text per device
- Supports the following:
  - 15 LCD-SLP displays/annunciators
  - 6 LCD-E3 displays/annunciators
  - 5 LCD-7100/RAN-7100 remote LED annunciators per ILI-MB-E3/ ILI95-MB-E3
- Polls 318 devices in less than two seconds
- Activate up to 159 outputs in less than five seconds
- LED's blink associated device address during Walk Test.
- Fully digital, high-precision protocol
- Drift compensation
- Pre-Alarm adjustable between 15 levels for both Alert and Action
- Day/night automatic sensing adjustment Sensitivity windows:
  - Ion 0.05 - 2% obscuration
  - Photo 1 - 3% obscuration
  - Laser 0.02 - 2% obscuration
- MCS Acclimate 2.5 -4%, also self-adjustable options:
  - 1-2%
  - 2-3%
  - 3-4%
- HARSH 1-3% obscuration
- Each Loop Card has its own integral processor providing maximum survivability on loss of any other component. SLC provides full response on loss of any other system processor
- Optional programmable switches can be configured to enable, disable or group any combination of output devices
- Integrated point or Grouped Cross Zoning allows for numerous devices installed at any location to cooperate and determine alarm condition
- Automatic detector sensitivity testing
- Signals DIRTY and VERY DIRTY detector maintenance alerts

GENERAL

A high-speed 32-bit processor can easily implement a wide array of applications used in small office buildings or used in multi-complex, high-rise installations. The 64 node networking is made possible by 625K bits per second ARCNET communications using twisted-pair copper cable, fiber-optic cable, or a combination of both. In addition, the Addressable Node Expander (ANX) board expands the network to 122 nodes. The basic E3 Series is equipped with the following modules:

- PM-9 Power Supply
- ASM-16 (Addressable Switch Module)
- ILI-MB-E3/ILI95-MB-E3 (Intelligent Loop Interface-Main Board)
- ILI-S-E3/ILI95-S-E3 (Intelligent Loop Interface-Expansion Board)
- LCD-E3 (LCD Keypad Display)

The ASM-16 features 16 software programmable switches, each accompanied by red, green and yellow LEDs that can be programmed to indicate the operation of the switches. Additional ASM-16 modules may be added to expand the operation to a plateau previously unimagined.

The Intelligent Loop Interface - Expansion Board (ILI-S-E3/ILI95-S-E3 provides the E3 Series control panel with two additional electrically isolated signaling line circuits. The layout is similar to the ILI-MB-E3/ ILI95-MB-E3 with the exception that a number of components are omitted. It occupies one node on the Broadband network.

Each ILI-MB-E3/ILI95-MB-E3 can support as many as sixteen ANU-48 LED Driver modules supporting hundreds of LEDs on a third party graphic annunciator to use for remote annunciation. The ANU-48 modules may be installed in any Listed remote annunciator. It can be remotely located via an RS-485 serial interface. An array of cabinets allows for neat, compact, attractive installations.

INSTALLATION

The E3 Series Expandable Emergency Evacuation System offers four cabinet size options. A typical cabinet includes a backbox, an inner door, and an outer door. The E3 Series cabinet assembly is a compact 19 3/8" (49 cm) wide, wall-mounted enclosure.

- Cabinet A includes the following four options:
  - Cabinet A1 inner door mounted to the backbox. The backbox houses one NGA module.
  - Cabinet A2 inner door mounted to the backbox. The backbox houses one LCD-E3 module.
  - Two or three-bay inner door mounted to the backbox.
  - The backbox typically houses one LCD-E3, or one NGA, and one or two ASM-16 modules.
- Cabinet B contains a space for the following modules installed inside the backbox:
  - ILI-MB-E3
  - ILI95-MB-E3
  - PM-9
  - PM-9G

Additional module options mounted on the backbox include the following:
- ANX
- ILI-S-E3
- RPT-E3-UTP
- DACT-E3
- ILI95-S-E3

The 2-bay inner door houses one LCD-E3 module and one ASM-16 module.

- Both Cabinets C and D include the following:
  - Pre-assembled outer door that provides visibility to the fire fighter's phone handset and a microphone voice messaging system.
  - Two inner door panel selections that may contain optional modules to meet the facility operation requirements.

In the Cabinet B, C and D backboxes, the ANX appears in the same place as the ILI-MB-E3/ILI95-MB-E3 and PM-9/PM-9G. For information on the installation instructions for any of the E3 Series cabinets, refer to the E3 Series" Expandable Emergency Evacuation Manual, Part Number: LS10080-051GF-E.

For other options including information on the system's compatibility with the retrofit equipment, refer to the panel's installation manual, P/N:LS10080-051GF-E or the Compatibility Addendum for Gamewell-FCI Manuals, P/N: 9000-0427-L8.

ORDERING INFORMATION

ILI-MB-E3: Intelligent Loop Interface-Main Board
ILI95-MB-E3: Intelligent Loop Interface-Main Board
ILI-S-E3: Intelligent Loop Interface-Expansion Board
ILI95-S-E3: Intelligent Loop Interface-Expansion Board
ANX-SR: Addressable Node Expander-Single Ring
ANX-MR-FO: Addressable Node Expander-Multi-Ring Fiber Optic
ANX-MR-UTP: Addressable Node Expander-Multi-Ring Twisted-pair
LCD-E3: LCD-E3, LCD Keypad Display
LCD-SLP: LCD Color Touchscreen with five programmable switches
RPT-E3-UTP: Network Repeater, unshielded, twisted-pair
FML-E3: Multi-Mode Fiber-Optic Module
FSL-E3: Single-Mode Fiber-Optic Module
DACT-E3: Digital Alarm Communicator Transmitter
ANU-48: ANU-48 LED Driver Module
ASM-16: Addressable Switch Module
NGA: LCD Network Graphic Annunciator
PM-9: Power Supply Module, 120 VAC
PM-9G: Power Supply Module, 220/240 VAC
LCD-7100: Remote LCD Display
RAN-7100: Remote LCD Display
Note: For additional information on the cabinets, refer to the E3 Series Cabinets data sheet (Part Number: 9020-0649).

Seismic Battery Bracket Kits
For information on the types of Seismic Battery Bracket Kits that are available, the Seismic Battery Bracket Kit Part Numbers and the Installation Instructions, refer to the following documents:

- Seismic Battery Bracket Installation Guide, P/N: 53839
- E3 Series Cabinets Data Sheet, P/N: 9020-0649

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REGISTERED PROFESSIONAL ENGINEER
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No. E 8340
Exp. 09/30/2026
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SHEET TITLE: FIRE ALARM CUT & DATA SHEETS

PROJECT: FIRE ALARM FOR OCCUPATIONAL EDUCATION BUILDING
OXNARD COLLEGE
OXNARD, CA 93033

DRAWN: LK/DS/IT
CHECKED: K. LUCCI
DATE: 7/2/2025
SCALE: AS NOTED
JOB NO. 24-905
SHEET: E511
OF: SHEETS:

Copyright Lucci and Associates Consulting Electrical Engineers. Deviations from this drawing will not be made without their expressed written permission. L.A.I.# 24-905 PAPER SIZE 36"x24"

DRAWING: G:\24\905\ELI\Sheets\24-905 E511.dwg DRAFTER: CM02 DATE: 6 February 2026 TIME: 4:09 pm
PATHNAME: G:\24\905\ELI\Sheets SAVE DATE: 1/27/2026 10:56:17 AM PLOT BY: CM02 PLOT DATE: 2/6/2026 4:09:01 PM

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DATE: 6 February 2026 TIME: 4:09 pm PLOT DATE: 2/6/2026 4:09:08 PM
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PATHNAME: G:\24\905\EL\Sheets
DRAWING FILENAME: 24-905 E512
DRAFTER: CM02
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Honeywell | Addressable Devices

Velociti Series® AOM-2RF

Addressable Output Relay Control Module

General

The Gamewell-FCI Velociti® Series, addressable output relay control module (AOM-2RF) allows a Gamewell-FCI analog addressable fire alarm control panel to switch discrete relay contacts by code command. The relay provides two isolated sets of Form-C contacts which transfer simultaneously. Circuit connections to the relay contacts are not supervised by the module.

The Velociti® Series use a communication protocol that substantially increases the speed of communication between the SLC devices and certain Gamewell-FCI analog addressable fire alarm control panels. These devices operate in a grouped fashion. If one of the devices in the group has a status change, the panel's microprocessor stops the group poll and concentrates on the single device. The net result produces a superior response speed up to five times greater than earlier designs.

The AOM-2RF Module is designed for installation in the signaling line circuit of any Gamewell-FCI analog addressable fire alarm control panel. The module contains a panel controlled LED. The AOM-2RF is designed to mount in a 4" (10.16 cm) square junction box 2 1/8" (5.53 cm) deep.

AOM-2RF

Ordering Information

AOM-2RF: Addressable output relay control module

Table 1 lists the relay contact ratings.

CURRENT RATING	MAXIMUM VOLTAGE	LOAD DESCRIPTION	APPLICATION
3A	30 VDC	Resistive	Non-Coded
2A	30 VDC	Resistive	Coded
0.9A	110 VDC	Resistive	Non-Coded
0.5A	125 VAC	Resistive	Non-Coded
0.5A	30 VDC	Inductive (L/R=5ms)	Coded
1A	30 VDC	Inductive (L/R=2ms)	Coded
0.5A	125 VAC	Inductive (PF=.35)	Non-Coded
0.7A	75 VAC	Inductive	Non-Coded

Table 1: Relay Contact Ratings

FEATURES & BENEFITS

- Listed under UL® Standard 864
- Offers two sets of Form "C" contacts
- Provides visual rotary, decimal switch addressing (01-159)
- Includes a bi-color LED that flashes green whenever the module is addressed, and lights steady red upon activation*
- Designed as a compact size to allow easy installation

Note 1: Only the red LED is operative in panels that do not operate in Velociti® mode
*Note 2: The bi-color LED functionality is not available on the GWF-7075 panel.

Velociti Series® AOM-2RF Technical Specifications

SYSTEMS

Supervisory Current: .000375 amps.
Average Operating Current:
255 uA (Velociti Mode)
230 uA (CLIP Mode)
Alarm Current: .0065 amps.
Operating Temperature: 32° to 120° F (0° to 49° C)
Relative Humidity: 10 to 93% relative humidity (non-condensing)
Dimensions: 4 1/2" H x 4" W x 1 1/4"
(11.4 x 10.2 x 3.2 cm)

TEMPERATURE AND HUMIDITY RANGES

This system meets NFPA requirements for operation at 0 – 49°C/32 – 120°F and at a relative humidity 93% ± 2% RH (noncondensing) at 32°C ± 2°C (90°F ± 3°F). However, the useful life of the system's standby batteries and the electronic components may be adversely affected by extreme temperature ranges and humidity. Therefore, it is recommended that this system and its peripherals be installed in an environment with a normal room temperature of 15 – 27°C/60 – 80°F.

STANDARDS

The Velociti Series® AOM-2RF is designed to comply with the following standard:
UL Standard: UL 864 9th Edition

AGENCY LISTINGS AND APPROVALS

These listings and approvals apply to the modules specified in this document. In some cases, certain modules or applications may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.
UL: S1913
FM: 3023594
FDNY: COA-219-02-E Vol. VI
CSFM: 7300-1703:0102
ISO 9001 Certification

For a complete listing of all compliance approvals and certifications, please visit: http://www.gamewell-fci.com/en-US/documentation/Pages/Listings.aspx

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This document is not intended to be used for installation purposes. We try to keep our product information up-to-date and accurate. We cannot cover all specific applications or anticipate all requirements. All specifications are subject to change without notice.

For more information
Learn more about Gamewell-FCI's Velociti Series® AOM-2RF and other products available by visting www.Gamewell-FCI.com

Honeywell Gamewell-FCI
12 Clintonville Road
Northford, CT 06472-1610
203.484.7161
www.honeywell.com

9020-0625 | | 04/19
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CALIFORNIA DEPARTMENT OF FORESTRY & FIRE PROTECTION
OFFICE OF THE STATE FIRE MARSHAL
FIRE ENGINEERING & INVESTIGATIONS DIVISION
BUILDING MATERIALS LISTING PROGRAM

LISTING SERVICE

LISTING No.:	7300-1703:0102
PARENT LISTING No.:	7300-1653:0103
CATEGORY:	7300 - FIRE ALARM CONTROL UNIT ACCESSORIES/MISC. DEVICES
LISTEE:	GAMEWELL-FCI 12 Clintonville Road, Northford, CT, 06472 Contact: Brant, Lisa 2034846105 Email: lisa.brant@honeywell.com
DESIGN:	Models AMM-4, *AMM-4F, AMM-2 and *AMM-2F monitor modules and Models AOM, AOM-2, AOM-2R, *AOM-2RF, AOM-2S and *AOM-2SF control modules. Refer to listee's data sheet for detailed product description and operational considerations.
RATING:	
INSTALLATION:	In accordance with listee's printed installation instructions, applicable codes and ordinances and in a manner acceptable to the authority having jurisdiction.
MARKING:	Listee's name, model designation, electrical rating and UL label.
APPROVAL:	Listed as accessories for use with separately listed compatible control units. System Sensor Model SMB500 surface mount box (CSFM Listing No. 7300-1653:103) may be used as an enclosure for these modules
NOTES:	FORMERLY: 7300-0694:178

12-4-07

This listing is based upon technical data submitted by the applicant. OSFM Fire Engineering staff has reviewed the test resultsand/or other data but does not make an independent verification of any claims. This listing is not an endorsement or recommendation of the item listed. This listing should not be used to verify correct operational requirements or installation criteria.Refer to listee's data sheet, installation instructions and/or other suitable information sources.

Date Issued: 07/03/2025 **Listing Expires: 06/30/2026**

Authorized By: **Michael Huang** , Program Coordinator
Fire Engineering & Investigations Division

CALIFORNIA DEPARTMENT OF FORESTRY & FIRE PROTECTION
OFFICE OF THE STATE FIRE MARSHAL
FIRE ENGINEERING & INVESTIGATIONS DIVISION
BUILDING MATERIALS LISTING PROGRAM

LISTING SERVICE

LISTING No.:	7150-1703:0170
PARENT LISTING No.:	7150-0028:0199
CATEGORY:	7150 - FIRE ALARM PULL BOXES
LISTEE:	GAMEWELL-FCI 12 Clintonville Road, Northford, CT, 06472 Contact: Brant, Lisa 2034846105 Email: lisa.brant@honeywell.com
DESIGN:	Model MS-7ASF fire alarm single action pull station and MS-7LR*, MS-7LRA* fire alarm pull boxes intended for agent releasing device. Refer to listee's data sheet for detailed product description and operational considerations.
RATING:	
INSTALLATION:	In accordance with listee's printed installation instructions, applicable codes and ordinances and in a manner acceptable to the authority having jurisdiction.
MARKING:	Listee's name, model number, rating, and UL label.
APPROVAL:	Listed as fire alarm pull boxes for use with separately listed compatible fire alarm control units. Refer to listee's Installation Instruction Manual for details. * These manual pull boxes meet the requirements of UL Standard 38, 1999 Edition and California amendments.
NOTES:	

*Updated 09-17-09 fm

This listing is based upon technical data submitted by the applicant. OSFM Fire Engineering staff has reviewed the test resultsand/or other data but does not make an independent verification of any claims. This listing is not an endorsement or recommendation of the item listed. This listing should not be used to verify correct operational requirements or installation criteria.Refer to listee's data sheet, installation instructions and/or other suitable information sources.

Date Issued: 07/03/2025 **Listing Expires: 06/30/2026**

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OFFICE OF THE STATE FIRE MARSHAL
FIRE ENGINEERING & INVESTIGATIONS DIVISION
BUILDING MATERIALS LISTING PROGRAM

LISTING SERVICE

Authorized By: **Michael Huang** , Program Coordinator
Fire Engineering & Investigations Division

MS-7 Series Technical Specifications

SYSTEMS

Material: Lexan®
Contact Ratings: 0.25 amps. @ 30 VAC/VDC (resistive)
Dimensions: 5 5/8" H x 4 1/4" W x 1 1/4" D
(14 x 10.1 x 3.2 cm)
Operating Temperature:
(MS-7AF, MS-7ASF): 32° to 120° F (0° to 49° C)
(MS-7LOB): -30° to 150° F (-35° to 66° C)
Relative Humidity :
(MS-7AF, MS-7ASF): 10 to 93% (non-condensing)
(MS-7LOB): 85% ± 5% @ 86° ± 3.6° (30° ± 2° C)
Alarm Current: .0030 amp. 0.007 for LED
Supervisory Current:
(MS-7AF, MS-7ASF): .00030 amps.

TEMPERATURE AND HUMIDITY RANGES

This system meets NFPA requirements for operation at 0 – 49°C/32 – 120°F and at a relative humidity 93% ± 2% RH (noncondensing) at 32°C ± 2°C (90°F ± 3°F). However, the useful life of the system's standby batteries and the electronic components may be adversely affected by extreme temperature ranges and humidity. Therefore, it is recommended that this system and its peripherals be installed in an environment with a normal room temperature of 15 – 27°C/60 – 80°F.

STANDARDS

The MS-7 Series is designed to comply with the following standard:
UL Standard: UL 864 9th Edition

AGENCY LISTINGS AND APPROVALS

These listings and approvals apply to the modules specified in this document. In some cases, certain modules or applications may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.
UL: S2465
FM: 3023594
MEA FDNY: 67-02-E Vol. VII
CSFM:
7160-1703:0119
7160-1703:0170
7160-1703:0109
ISO 9001 Certification

For a complete listing of all compliance approvals and certifications, please visit: http://www.gamewell-fci.com/en-US/documentation/Pages/Listings.aspx

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Honeywell | Addressable Devices

MS-7 Series

Manual Fire Alarm Pull Stations

General

The Gamewell-FCI, MS-7 Series manual fire alarm pull stations are available in a wide variety of configurations. The pull stations comply with the Americans with Disabilities Act (ADA) 5-lb. maximum pull force requirement. Operating instructions and Braille text are engraved in the handle. All pull stations include a key lock/reset which is keyed alike with the Gamewell-FCI fire alarm control panels and other manual fire alarm pull stations.

MS-7 Series

MS-7AF Velociti Addressable Station

The MS-7AF Velociti® Series addressable station is a double action pull station designed for installation in the signaling line circuit of Gamewell-FCI analog addressable control panels. Activation of the pull station causes its assigned address to register at the fire alarm control panel. The door contains an LED which flashes green in normal condition and lights steady red when the station has been activated.* The station features screw terminals.

MS-7ASF Velociti Addressable Station

The MS-7ASF Velociti® Series addressable pull station is a single action station designed for installation in the signaling line circuit of Gamewell-FCI analog addressable control panels. Activation of the station causes its assigned address to register at the control panel. The door contains an LED which flashes green in normal condition and lights steady red when the pull station is activated.* The station features screw terminals.

The Velociti® Series pull stations use a communication protocol that substantially increases the speed of communication between the sensors and certain Gamewell-FCI analog addressable fire alarm controls. These devices operate in a grouped fashion. If one of the devices in the group has a status change, the panel's microprocessor stops the group poll and focuses on the single device. The net effect offers a response speed up to five times greater than earlier designs.

MS-7 Double Action Station

The MS-7 double action pull station is used with conventional fire alarm control panels. It features a set of single pole contacts and screw terminals for connection to an initiating circuit.

FEATURES & BENEFITS

- Addressable stations compatible with all Gamewell-FCI analog addressable fire alarm controls
- Conventional stations suitable for use with any UL® Listed control panel
- The pull stations (MS-7LOB) are Listed for outdoor applications
- Complies with ADA pull force requirements
- Offers surface or semi-flush mounting
- Shock and vibration resistant
- Both single and double action pull stations available
- Includes a tumbler lock for test and reset keyed alike with analog addressable fire alarm controls

*Only the red LED is operative in panels that do not operate in Velociti mode

MS-7S Single Action Station

The MS-7S single action pull station is used with conventional fire alarm control panels. It features a set of single pole contacts and wire leads for connection to an initiating circuit.

MS-7SP Double Action Station

The MS-7SP is a double action pull station similar to the MS-7 station, with the additional feature of including both English and Spanish instructions molded into the unit.

MS-7LR Dual-action Agent Release Station

The MS-7LR is designed for use with the Gamewell-FCI fire alarm control panels with releasing capabilities and Flex Series releasing systems. It features a set of single pole contacts and screw terminals used to connect to an initiating circuit.

MS-7LRA Agent Release Station with Abort

The MS-7LRA is designed for use with the Gamewell-FCI fire alarm control panels with releasing capabilities and Flex Series releasing systems where system abort capabilities are required. It consists of the following:

- An MS-7LR mounted on a plate with an abort switch
- LED indicators that signal system normal and system activated status

MS-7LOB Double Action Station (Listed for Outdoor Applications)

The MS-7LOB station must be mounted on a Model SB-I/O backbox. In retrofit applications, the pull station is UL Listed for use with the WP-10 backbox. It is intended for use with conventional control panels and has a set of single pole contacts and screw terminals.

Mounting

The MS-7 interior pull stations may be surface mounted or semi-flush mounted on a standard double-gang, or 4-inch (10.2 cm) square electrical box. An optional trim ring (BG12TR) may also be used for semi-flush mounting.

NYC-Plate

The NYC-Plate provides the backplate for the manual pull station. (See Figure 1).

Figure 1 NYC-Plate

Ordering Information

MS-7: Double action station
MS-7AF:** Velociti addressable double action station
MS-7ASF:** Velociti addressable single action station
MS-7S: Single action station, wire leads
MS-7SP: Double action station, English and Spanish instructions
MS-7LR: Agent release station, dual-action
MS-7LRA: Agent release station with abort switch, LED indicators, dual- action
MS-7LOB: Double action station, outdoor use (Includes SB-I/O - Indoor/outdoor use backbox)
SB-I/O: Indoor/outdoor use backbackbox
SB-10: Surface backbox
BG12TR: Trim ring for semi-flush mount, plastic
NY-PLATE: NYC backplate for manual pull station

**For use with the Gamewell-FCI analog addressable control panels only.

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SHEET TITLE: FIRE ALARM CUT & DATA SHEETS

PROJECT: FIRE ALARM FOR OCCUPATIONAL EDUCATION BUILDING
OXNARD COLLEGE
OXNARD, CA 93033

DRAWN: LK/DS/IT
CHECKED: K. LUCCI
DATE: 7/2/2025
SCALE: AS NOTED
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SHEET: E512
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DRAWING: G:\24\905\ELSheets\24-905 E513.dwg DRAFTER: CM02 DRAWING FILENAME: 24-905 E513
SAVE DATE: 6/16/2025 11:56:37 AM

SPECIFICATIONS

Sensitivity:
- UL Applications: 0.5% to 4.0% per foot obscuration.
- ULC Applications: 0.5% to 3.5% per foot obscuration

Size: 2.0" (51mm) high; base determines diameter
- **– B300-6 series:** 6.1" (15.6 cm) diameter
- **– B501 series:** 4" (10.2 cm) diameter

For a complete list of detector bases see DN-60981

Shipping weight: 3.4 oz. (95 g)

Operating temperature range:
- FSP-951 Series: 32°F to 122°F (0°C to 50°C)
- FSP-951T Series: 32°F to 100°F(0°C to 38°C)
- FSP-951R Series installed in DNR/DNRA/DNRW, -4°F to 158°F (-20°C to 70°C)

UL/ULC Listed Velocity Range: 0-4000 ft/min. (1219.2 m/min.), suitable for installation in ducts

Relative humidity: 10% – 93% non-condensing

Thermal ratings: fixed-temperature set point 135°F (57°C), rate-of-rise detection 15°F (8.3°C) per minute, high temperature heat 190°F (88°C)

ELECTRICAL SPECIFICATIONS

Voltage range: 15 - 32 volts DC peak

Standby current (max. avg.): 200µA @ 24 VDC (one communication every 5 seconds with LED enabled)

Max current: 4.5 mA @ 24 VDC ("ON")

DETECTOR SPACING AND APPLICATIONS

NOTIFIER recommends spacing detectors in compliance with NFPA 72. In low airflow applications with smooth ceiling, space detectors 30 feet (9.1m). For specific information regarding detector spacing, placement, and special applications refer to NFPA 72. A *System Smoke Detector Application Guide*, document SPAG91, is available at **www.systemsensor.com.**

Listings and Approvals

Listings and approvals below apply to the FSP-951 Series detectors. In some cases, certain modules may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.
- UL/ULC Listing: S1115
- FM Approved
- CSFM: 7272-0028:0503

ISO 9001 CERTIFIED

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We try to keep our product information up-to-date and accurate.
We cannot cover all specific applications or anticipate all requirements.
All specifications are subject to change without notice.

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Country of Origin: Mexico

NOTIFIER
12 Clintonville Road
Northford, CT 06472
203.484.7161
www.notifier.com

NOTIFIER® by Honeywell

NOTIFIER® by Honeywell

FSP-951 Series Addressable Photoelectric Smoke Detectors

The NOTIFIER® FSP-951 Series intelligent plug-in smoke detectors are designed for both performance and aesthetics, and are direct replacements for the FSP-851 Series. A new modern, sleek, contemporary design and enhanced optical sensing chamber is engineered to sense smoke produced by a wide range of combustion sources in accordance with more stringent code standards.

The FSP-951 Series detector sensitivity can be programmed in the control panel software. Sensitivity is continuously monitored and reported to the panel. Point ID capability allows each detector's address to be set with rotary, decimal address switches, providing exact detector location for selective maintenance when chamber contamination reaches an unacceptable level. Dual electronic thermistors add 135°F (57°C) fixed temperature thermal sensing on the FSP-951T. The FSP-951R is a remote test capable detector for use with DNR Series duct detector housings. FSP-951 series detectors are available for both FlashScan® and CLIP applications as designated.

Features

SLC LOOP:
- Two-wire SLC loop connection
- Unit uses base for wiring
- Compatible with FlashScan® and CLIP protocol systems
- Stable communication technique with noise immunity

ADDRESSING:
- Addressable by device
- Rotary, decimal addressing (Refer to the *NOTIFIER panel manuals* for device capacity.)

ARCHITECTURE:
- Sleek, low-profile, stylish design
- Unique single-source design to respond quickly and dependably to a broad range of fires
- Integral communications and built-in device-type identification
- Built-in tamper resistant feature
- Remote test feature from the panel
- Walk test with address display (an address on 121 will blink the detector LED: 12-[pause]-1 *(FlashScan systems only)*
- Built-in functional test switch activated by external magnet
- Removable cover and insect-resistant screen for simple field cleaning
- Expanded color options

OPERATION:
- Designed to meet UL 268 7th Edition
- Factory preset at 1.5% nominal sensitivity for panel alarm threshold level
- LED "blinks" when the unit is polled (communicating with the fire panel) and latches in alarm.
- Low standby current

MECHANICALS:
- Sealed against back pressure
- SEMS screws for wiring of the separate base
- Designed for direct-surface or electrical-box mounting
- Plugs into separate base for ease of installation and maintenance
- Separate base allows interchange of photoelectric, ionization and thermal sensors

OPTIONS:
- Optional relay, isolator, and sounder bases

Installation

FSP-951 Series plug-in intelligent smoke detectors use a detachable base to simplify installation, service and maintenance. Installation instructions are shipped with each detector.

Mount detector base (all base types) on an electrical backbox which is at least 1.5" (3.81 cm) deep. For a chart of compatible junction boxes, see *DN-60054*.

NOTE: *Because of the inherent supervision provided by the SLC loop, end-of-line resistors are not required. Wiring "T-taps" or branches are permitted for Class "B" wiring only.*
When using relay or sounder bases, consult the ISO-X(A) installation sheet I56-1380 for device limitations between isolator modules and isolator bases.

Construction

These detectors are constructed of fire-resistant plastic. The FSP-951 Series plug-in intelligent smoke detectors are designed to commercial standards and offer an attractive appearance.

Operation

Each FSP-951 Series detector uses one of the panel's addresses (total limit is panel dependent) on the NOTIFIER Signaling Line Circuit (SLC). It responds to regular polls from the control panel and reports its type and the status. If it receives a test command from the panel (or a local magnet test), it stimulates its electronics and reports an alarm. It blinks its LEDs when polled and turns the LEDs on when commanded by the panel. The FSP-951 Series offers features and performance that represent the latest in smoke detector technology.

Product Line Information

NOTE: *"-IV" suffix indicates CLIP and FlashScan device.*

FSP-951: White, low-profile intelligent photoelectric sensor, FlashScan only

FSP-951A: Same as FSP-951 but with ULC listing

FSP-951-IV: Ivory, low-profile intelligent photoelectric sensor

FSP-951A-IV: Same as FSP-951-IV but with ULC listing

FSP-951T: White, same as FSP-951 but includes a built-in 135°F (57°C) fixed-temperature thermal device, FlashScan only

FSP-951TA: Same as FSP-951T but with ULC listing

FSP-951T-IV: Ivory, same as FSP-951T but includes a built-in 135°F (57°C) fixed-temperature thermal device

FSP-951TA-IV: Same as FSP-951T-IV but with ULC listing

FSP-951R: White, low-profile intelligent photoelectric sensor, remote test capable, for use with DNR/DNRW, FlashScan only

FSP-951RA: Same as FSP-951R but with ULC listing, for use with DNRA

FSP-951R-IV: Ivory, low-profile intelligent photoelectric sensor, remote test capable, for use with DNR/DNRW

FSP-951RA-IV: Same as FSP-951R-IV but with ULC listing, for use with DNRA

INTELLIGENT BASES

NOTE: *For details on intelligent bases, see DN-60981.*

B300-6: White, 6" base, standard flanged low-profile mounting base *(CSFM: 7300-1653:0109)*

B300-6-IV: Ivory,6" base, standard flanged low-profile mounting base *(CSFM: 7300-1653:0109)*

B300A-6: Same as B300-6, ULC listed

B300A-6-IV: Ivory, 6" standard flanged low-profile mounting base, ULC listed

B300-6-BP: Bulk pack of B300-6, package contains 10

B501-WHITE: White, 4" standard European flangeless mounting base. UL/ULC listed *(CSFM: 7300-1653:0109)*

B501-BL: Black, 4" standard European flangeless mounting base. UL/ULC listed *(CSFM: 7300-1653:0109)*

B501-IV: Ivory color, 4" standard European flangeless mounting base. UL/ULC listed *(CSFM: 7300-1653:0109)*

B501-WHITE-BP: Bulk pack of B501-WHITE contains 10

B224RB-WH: White, relay base (*CSFM: 7300-1653:0216)*

B224RB-IV: Ivory, relay base (*CSFM: 7300-1653:0216)*

B224RBA-WH: White, relay base, ULC listing

B224RBA-IV: Ivory, relay base, ULC listing

B224BI-WH: White, isolator detector base (CSFM: 7300-1653:0216)

B224BI-IV: Ivory isolator detector base (CSFM: 7300-1653:0216)

B224BIA-WH: White, isolator detector base, ULC listing

B224BIA-IV: Ivory isolator detector base, ULC listing

B200S-WH: White, Intelligent addressable sounder base capable of producing sound output in high or low volume with ANSI Temporal 3, ANSI Temporal 4, continuous tone, marching tone, and custom tone. Uses FlashScan protocol. *(CSFM: 7300-1653:0213)*

B200S-IV: Ivory, Intelligent addressable sounder base capable of producing sound output in high or low volume with ANSI Temporal 3, ANSI Temporal 4, continuous tone, marching tone, and custom tone. Uses FlashScan protocol. *(CSFM: 7300-1653:0213)*

B200SA-WH: Same as B200S-WH, ULC listing

B200SA-IV: Same as B200S-IV, ULC listing

B200SCOA-WH: White, Intelligent, programmable sounder base in English/French (required in Canada for ULC applications with CO Series detector applications

B200SCOA-IV: Ivory Intelligent, programmable sounder base in English/French (required in Canada for ULC applications with CO Series detector applications, ULC listing

B200S-LF-WH: White, Low Frequency Intelligent, programmable sounder base. Produces a fundamental frequency of 520 Hz +/- 10% with a square wave or its equivalent; designed to meet the NFPA 72 sleeping space requirement. (*CSFM: 7300-1653:0238)*

B200S-LF-IV: Ivory, Low Frequency Intelligent, programmable sounder base. Produces a fundamental frequency of 520 Hz +/- 10% with a square wave or its equivalent; designed to meet the NFPA 72 sleeping space requirement. (*CSFM: 7300-1653:0238)*

B200SR-WH: White, Intelligent sounder base capable of producing sound output with ANSI Temporal 3 or continuous tone. Intended for retrofit applications. *(CSFM: 7300-1653:0213)*

B200SR-IV: Ivory, Intelligent sounder base capable of producing sound output with ANSI Temporal 3 or continuous tone. Intended for retrofit applications. *(CSFM: 7300-1653:0213)*

B200SRA-WH: Same as B200SR-WH with, ULC listing

B200SRA-IV: Same as B200SR-IV in ivory color, ULC listing

B200SR-LF-WH: White, Low Frequency Intelligent, programmable sounder base. Produces a fundamental frequency of 520 Hz +/- 10% with a square wave or its equivalent; designed to meet the NFPA 72 sleeping space requirement. Intended for retrofit applications. (*CSFM: 7300-1653:0238)*

B200SR-LF-IV: Ivory, Low Frequency Intelligent, programmable sounder base. Produces a fundamental frequency of 520 Hz +/- 10% with a square wave or its equivalent; designed to meet the NFPA 72 sleeping space requirement. Intended for retrofit applications. (*CSFM: 7300-1653:0238)*

MOUNTING KITS AND ACCESSORIES

TR300: White, replacement flange for B210LP(A) base

TR300-IV: Ivory, replacement flange for B210LP(A) base

RA100Z(A): Remote LED annunciator. 3-32 VDC. Mounts to a U.S. single-gang electrical box. For use with B501(A) and B300-6(A).

M02-04-00: Test magnet

M02-09-00: Test magnet with telescoping handle

CK300: Color Kit (includes cover and trim ring), white, 10-pack

CK300-IV: Color Kit (includes cover and trim ring), ivory, 10-pack

CK300-BL: Color Kit (includes cover and trim ring), black, 10-pack

CALIFORNIA DEPARTMENT OF FORESTRY & FIRE PROTECTION
OFFICE OF THE STATE FIRE MARSHAL
FIRE ENGINEERING & INVESTIGATIONS DIVISION
BUILDING MATERIALS LISTING PROGRAM

LISTING SERVICE

LISTING No.:	7272-0028:0503
CATEGORY:	7272 - SMOKE DETECTOR-SYSTEM TYPE-PHOTOELECTRIC
LISTEE:	Notifier One Fire-Lite Place, Northford, CT, 06472 Contact: Brant, Lisa 2034846105 Email: lisa.brant@honeywell.com
DESIGN:	Models FSP-951, FSP-951-SELFT, FSP-951R, FSP-951T, FSP-951T-ISO, NP-200, NP-200R, and NP-200T analog addressable, photoelectric smoke detectors for open area and duct installations. Models FSP-951T, FSP-951T-SELFT, FSP-951T-ISO and NP-200T have complementary heat detectors. All models are similar except for population/depopulation of components on the Printed Wiring Board for the intended features. *All models may be followed by a two digit suffix, indicating the color of the detector's enclosure: no suffix for white, -IV for ivory, -BL for black. Refer to listee's Installation and Maintenance Instruction for additional detailed product description and operational considerations.
RATING:	24 VDC
INSTALLATION:	In accordance with listee's printed installation instructions, applicable codes and ordinances, and in a manner acceptable to the authority having jurisdiction.
MARKING:	Listee's name, model number, electrical rating, and UL label.
APPROVAL:	Listed as photoelectric smoke detectors. Detectors are for use with separately listed bases: Model B710LP (CSFM No. 7300-0028:0173); System Sensor Models B224BI, B224RB (CSFM No. 7300-1653:0126); B200S, B200SR (CSFM No. 7300-1653:0213); B200S-LF, B200SR-LF (CSFM No. 7300-1653:0238); B501, B210LP, B300-6, B300-6-IS (CSFM No. 7300-1653:0109). System Sensor duct detector housings Models DNR and DNRW (CSFM No. 3240-1653:0209) and separately listed compatible fire alarm control units. The Models FSP-951-SELFT and FSP-951T-SELFT are not Listed for use in duct environments. Refer to manufacturer's Installation Manual for details. All models comply with the applicable requirements in ANSI/UL 268, Smoke Detectors for Fire Alarm Systems, 7th Edition.
NOTES:	The photoelectric type detectors are generally more effective at detecting slow, smoldering fires that smolder for hours before bursting into flame. Sources of these fire may include cigarettes burning in the couched or bedding. The ionization type detectors are generally more effective at detecting fast, flaming fires that consume combustible materials rapidly and spread quickly. Sources of these fires include paper burning in a waste container or a grease fire in the kitchen.

*Revision 10-10-22 VWW

This listing is based upon technical data submitted by the applicant. OSFM Fire Engineering staff has reviewed the test results and/or other data but does not make an independent verification of any claims. This listing is not an endorsement or recommendation of the item listed. This listing should not be used to verify correct operational requirements or installation criteria. Refer to listee's data sheet, installation instructions and/or other suitable information sources.

Date Issued: 05/06/2025 **Listing Expires: 06/30/2026**

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-124867 INC: A
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 03/12/2026

REV#	DESCRIPTION	DATE
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STAMP

REGISTERED PROFESSIONAL ENGINEER
KENNETH W. LUCCI
No. E 8340
Exp. 09/30/2026
ELECTRICAL
STATE OF CALIFORNIA

CONSULTING ELECTRICAL ENGINEERS
3251 CORTE MALPASO, #311
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SHEET TITLE: FIRE ALARM CUT & DATA SHEETS

PROJECT: FIRE ALARM FOR OCCUPATIONAL EDUCATION BUILDING
OXNARD COLLEGE
OXNARD, CA 93033

DRAWN: LK/DS/IT
CHECKED: K. LUCCI
DATE: 7/2/2025
SCALE: AS NOTED
JOB NO. 24-905
SHEET: E513
OF: SHEETS:

Copyright Lucci and Associates Consulting Electrical Engineers. Deviations from this drawing will not be made without their expressed written permission. L.A.I.# 24-905 PAPER SIZE 36"x24"

Drafter:CM02 Paper Size: 12.0
Drawing:G:\24\905\ELSheets\24-905 E513.dwg
File No: 24-905 E513
Attached XREFS:
Attached Images:G:\com\24-905 TB.dwg

PLOT DATE: 2/6/2026 4:09:22 PM
TIME: 4:09 pm
DATE: 6 February 2026
PLOT BY: CM02
SAVE DATE: 2/6/2026 4:04:37 PM
PATHNAME: G:\24\905\ELSheets
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DRAWING FILENAME: 24-905 E514
DRAWING: G:\24\905\ELSheets\24-905 E514.dwg
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Drawing:G:\24\905\ELSheets\24-905 E514.dwg
Plot By: Christopher Mohr
Attached XREFS:
Attached Images:G:\Work\24-905 TB.dwg

CALIFORNIA DEPARTMENT OF FORESTRY & FIRE PROTECTION
OFFICE OF THE STATE FIRE MARSHAL
FIRE ENGINEERING & INVESTIGATIONS DIVISION
BUILDING MATERIALS LISTING PROGRAM

LISTING SERVICE

LISTING No.:	7270-0028:0502
CATEGORY:	7270 - HEAT DETECTOR
LISTEE:	Notifier One Fire-Lite Place, Northford, CT, 06472 Contact: Brant, Lisa 2034846105 Email: lisa.brant@honeywell.com
DESIGN:	Models FST-951, *FST-951-SELFT, FST-951H, NH-200, NH-200H (fixed temperature) and FST-951R, NH-200R (fixed temperature with Rate-of-Rise) electronic heat detectors. Refer to listee's data sheet for additional detailed product description and operational considerations.
RATING:	Models FST-951, *FST-951-SELFT, and NH-200 (fixed temperature): 135°F Models FST-951H and NH-200H (fixed temperature): 190°F Models FST-951R and NH-200R (fixed temperature with rate of rise): 135°F
INSTALLATION:	In accordance with listee's printed installation instructions, applicable codes and ordinances, and in a manner acceptable to the authority having jurisdiction.
MARKING:	Listee's name, model number, electrical ratings, and UL label.
APPROVAL:	Listed as heat detectors for use with Notifier base B710LP (CSFM No. 7300-0028:0173); System Sensor bases B501, B210LP, B300-6, B300-6-IS (CSFM No. 7300-1653:0109); B224BI, B224RB (CSFM No. 7300-1653:0126); B200S, B200SR (CSFM No. 7300-1653:0213); B200S-LF, B200SR-LF (CSFM No. 7300-1653:0238); and separately listed compatible fire alarm control units. Refer to listee's Installation Instructions Manual for details.
NOTES:	

*Revision 1-26-21
VWW

CALIFORNIA DEPARTMENT OF FORESTRY & FIRE PROTECTION
OFFICE OF THE STATE FIRE MARSHAL
FIRE ENGINEERING & INVESTIGATIONS DIVISION
BUILDING MATERIALS LISTING PROGRAM

LISTING SERVICE

This listing is based upon technical data submitted by the applicant. OSFM Fire Engineering staff has reviewed the test results and/or other data but does not make an independent verification of any claims. This listing is not an endorsement or recommendation of the item listed. This listing should not be used to verify correct operational requirements or installation criteria. Refer to listee's data sheet, installation instructions and/or other suitable information sources.

Date Issued: 05/08/2025 **Listing Expires: 06/30/2026**

Authorized By: **Michael Huang**, Program Coordinator
Fire Engineering & Investigations Division

Velociti® Series 3 Detectors Technical Specifications

SYSTEMS

Thermal Intelligent Detector
Physical Specifications
Height: 2.0 inches (51 mm) installed in B300-6 base
Diameter:
6.1 inches (15.6 cm) installed in B300-6 base
4 inches (10.2 cm) installed in B501 base
Shipping Weight: 3.4 oz (95 g)
Operating Temperature Range:
Thermal 135° F fixed: -4° F to 100° F (-20° C to 38° C)
Thermal 135° F rate-of-rise: -4° F to 100° F (-20° C to 38° C)
Thermal 190° F rate-of-rise: -4° F to 135° F (-20° C to 57° C)
Operating Humidity Range: 10% to 93% non-condensing
Rate-of-Rise Detection: : Responds to greater than 15°F/minute or 135°F (8.3° C/minute or 57°C
Electrical Specifications
Voltage Range: : 15 to 32 VDC
Standby Current (@ 24 VDC): 200 uA (one communication every 5 seconds with green LED enabled)
Max Alarm Current (max.): : 2 mA @ 24 VDC (one communication every 5 seconds with red LED enabled)
Max Current (max.): : 4.5 mA @ 24 VDC (one communication every 5 seconds with amber LED enabled)
Isolator Load Rating: : 0.0063

STANDARDS

The Velociti® Series 3 Thermal Detectors are designed to comply with the following standard:
UL Standard: UL 268

AGENCY LISTINGS AND APPROVALS

These listings and approvals apply to the modules specified in this document. In some cases, certain modules or applications may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.
UL: S2332
FM: 3023594
MEA-FDNY: 219-02-E Vol. VI
CSFM: 7270-1703-0502
ISO 9001 Certification

For a complete listing of all compliance approvals and certifications, please visit: http://www.gamewell-fci.com/en-US/documentation/Pages/Listings.aspx

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UL® is a registered trademark of Underwriter's Laboratories Inc.

This document is not intended to be used for installation purposes. We try to keep our product information up-to-date and accurate. We cannot cover all specific applications or anticipate all requirements. All specifications are subject to change without notice.

For more information
Learn more about Gamewell-FCI's Velociti® Series 3 Detectors and other products available by visiting www.Gamewell-FCI.com

Honeywell Gamewell-FCI
12 Clintonville Road
Northford, CT 06472-1610
203.484.7161
www.honeywell.com

9020-0620 | G | 04/2018
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Honeywell | Addressable Devices

Velociti® Series 3 Detectors

Thermal Detectors

Description

The Gamewell-FCI, Velociti® Series 3 intelligent thermal detectors with integral communication provide point location for alarm communication and selective maintenance. Designed in a modern bright white color, the Velociti Series 3 is aesthetically pleasing for today's contemporary buildings.

The Velociti Series 3 heat detectors are intelligent addressable detectors with point ID capability that enable each detector address to be set with rotary address switches providing exact device locations. The thermal detector continually monitors the detected temperature and reports it to the fire alarm control panel. The modern design and expanded color options support a variety of contemporary aesthetic demands. In addition, each detector is constructed for exceptional installation and maintenance efficiency. Velociti Series 3 thermal detectors provide cost-effective, intelligent property protection using the following single thermistor:

- ATD-L3 offers 135°F fixed thermal detection.
- ATD-L3R offers 135°F fixed and rate-of-rise thermal detection.
- ATD-L3H provides fixed high-temperature detection at 190°F .

For legacy installations, service detectors are available in the classic ivory color that will operate in both Velociti and CLIP protocol for backwards compatibility. Service models are designated by the -IV part number that appears after the detector model.

Note: The E3 Series® and S3 Series panels support both the Velociti® and CLIP™ protocols, and the GWF-7075 panel supports only the Velociti® protocol. To obtain a complete list of panels that are listed to Velociti Series 3 detectors, refer to the Compatibility Addendum for Gamewell-FCI Manuals, P/N:9000-0427-L8.

Thermal Detector

FEATURES & BENEFITS

- Complies with UL® 268 7th Edition
- Designed with a new profile to offer modern and improved aesthetics
- Contains a built-in functional test switch activated by an external magnet
- Supports a low standby current
- Provides rotary address switches (01-159)
- Supplies optional relay, isolator, or sounder bases (standard or low frequency)
- Includes dual LEDs used for 360º visibility
- Offers expanded color options

Ordering Information

NOTE: "-IV" suffix indicates Ivory color model.
NOTE: "-BL" suffix indicates Black color model.
NOTE: "WH" suffix indicates Bright White color model.
ATD-L3: Thermal heat detector, 135°F fixed, bright white, Velociti
ATD-L3-IV: Thermal heat detector, 135°F fixed, ivory, Velociti/CLIP
ATD-L3R: Thermal heat detector, 135°F rate of rise, bright white, Velociti
ATD-L3R-IV: Thermal heat detector, 135°F rate of rise, ivory, Velociti/CLIP
ATD-L3H: Thermal heat detector, 190°F high temp, bright white, Velociti
ATD-L3H-IV: Thermal heat detector, 190°F high temp, ivory, Velociti/CLIP
Intelligent Bases
For details on intelligent bases, refer to Data Sheet P/N: 9021-60540.
B501-White: 4" Flangeless mounting base, bright white
B501-White-BP: 4" Flangeless mounting base bulk pack, bright white
B501-IV: 4" Flangeless mounting base, ivory
B501-BL
4" Flangeless mounting base,
B300-6: 6" Flanged mounting base, bright white
B300-6-IV: 6" Flanged mounting base, ivory
B300-6-BP: 6" Flanged mounting base bulk pack
B200SR-WH: Standard sounder base, bright white
B200SR-IV: Standard sounder base, ivory
B200S-WH: Intelligent addressable sounder base, bright white
B200S-IV: Intelligent addressable sounder base, ivory
B200SR-LF-WH: Standard low frequency sounder base, bright white
B200SR-LF-IV: Standard low frequency sounder base, ivory
B200S-LF-WH: Intelligent addressable low frequency sounder base, bright white
B200S-LF-IV: Intelligent addressable low frequency sounder base, ivory
B224RB-WH: Relay base, bright white
B224RB-IV: Relay base, ivory
B224BI-WH: Isolator base, bright white
B224BI-IV: Isolator base, ivory

Ordering Information

Accessories

SMB600: Surface Mounting Kit (flanged)
TR300: Accessory Flange Ring for B300 6" Base, bright white
TR300-IV: Accessory Flange Ring for B300 6" Base, ivory
RA100Z: Remote LED annunciator, 3-32 VDC
The annunciator mounts to a U.S. single-gang electrical box. For use with B501 and B300-6.
CK300: Bright White detector kit (Pack of 10)
CK300-IR: White, detector color kit for use with MCS-COF Series Detectors. (Pack of 10)
CK300-IV: Ivory, detector color kit. (Pack of 10)
CK300-IR-IV: Ivory, detector color kit for use with MCS-COF Series detectors. (Pack of 10)
CK300-BL: Black detector kit (Pack of 10)
CK300-IR-Bl: Black, detector color kit for use with MCS-COF Series detectors. (Pack of 10)
M02-04-01: Detector test magnet.
M02-09-00: Test magnet with telescoping handle.
XR2B: Detector removal tool. Allows the installation and/or removal of the detector heads from the bases in high ceiling applications.
XP-4: Extension pole for XR2B. Shipped with three, 5-foot (1.524,m) sections.

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-124867 INC: A
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SS ☑ FLS ☑ ACS ☑
DATE: 03/12/2026

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STAMP
REGISTERED PROFESSIONAL ENGINEER
KENNETH W. LUCCI
No. E 8340
Exp. 09/30/2026
ELECTRICAL
STATE OF CALIFORNIA

CONSULTING ELECTRICAL ENGINEERS
3251 CORTE MALPASO, #311
CAMARILLO, CA 93012-8094
PHONE (805) 389-6520 FAX (805) 389-6519

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SHEET TITLE: FIRE ALARM CUT & DATA SHEETS

PROJECT:
FIRE ALARM FOR
OCCUPATIONAL EDUCATION
BUILDING
OXNARD COLLEGE
OXNARD, CA 93033

DRAWN: LK/DS/IT
CHECKED: K. LUCCI
DATE: 7/2/2025
SCALE: AS NOTED
JOB NO. 24-905
SHEET: E514
OF: SHEETS:

Copyright Lucci and Associates Consulting Electrical Engineers. Deviations from this drawing will not be made without their expressed written permission. L.A.I.# 24-905 PAPER SIZE 36"x24"

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PLOT BY: CM02 PLOT DATE: 2/6/2026 4:09:35 PM
Drafter:CM02 - Paper Size: 12.9
Drawing:G:\24\905\ELSheets\24-905 E515.dwg
Plot By: CM02 Plot Date: 2/6/2026
Material: 24905
Xrefs: G:\24\905\ELUse\24-905 TB.dwg

CALIFORNIA DEPARTMENT OF FORESTRY & FIRE PROTECTION
OFFICE OF THE STATE FIRE MARSHAL
FIRE ENGINEERING & INVESTIGATIONS DIVISION
BUILDING MATERIALS LISTING PROGRAM

LISTING SERVICE

LISTING No.:	7320-1653:0505
CATEGORY:	7320 - SPEAKERS
LISTEE:	System Sensor, Unincorporated Div of Honeywell Int'l Inc. 3825 Ohio Ave, St. Charles, IL, 60174 Contact: Brant, Lisa 2034846105 Email: lisa.brant@honeywell.com
DESIGN:	System Sensor Indoor Models: SPRL and SPWL Wall Speakers; SPCRL and SPCWL Ceiling Speakers; SPSRL, SPSWL, SPSRL-P, SPSRL-SP, SPSWL-P, SPSWL-ALERT and SPSWL-CLR-ALERT Wall Speaker Strobes; SPSCRL, SPSCWL, SPSCWL-P, SPSCWL-SP and SPSCWL-CLR-ALERT Ceiling Speaker Strobes. Wall Bezel Parts: BZSPR-P, BZSPR-AL, BZSPR-EV, BZSPR-AG, BZSPR-PG, BZSPR-F and BZSPR-SP, BZSPW-P, BZSPW-AL, BZSPW-EV, BZSPW-AG, BZSPW-PG, BZSPW-F and BZSPW-SP, Ceiling Bezel Parts: BZSPRC-P, BZSPRC-AL, BZSPRC-EV, BZSPRC-AG, BZSPRC-PG, BZSPRC-F and BZSPRC-SP, BZSPWC-P, BZSPWC-AL, BZSPWC-EV, BZSPWC-AG, BZSPWC-PG, BZSPWC-F and BZSPWC-SP, Wall Trim Rings for Speaker Strobes: TR2 and TR2W Ceiling Trim Rings for Speaker Strobes: TRC2 and TRC2W. Wall Surface Mounted Back Boxes: SBBSPRL and SBBSPWL, Ceiling Surface Mounted Back Boxes: SBBCRL and SBBCWL Refer to listee's data sheet for detailed product description and operational considerations.
RATING:	25 or 70.7 VAC, 1/4, 1/2, 1, 2 Watt outputs. Regulated 12 VDC and 24 VDC/FWR is for 2-wire strobe portion.
INSTALLATION:	In accordance with listee's printed installation instructions, NFPA 72, applicable codes & ordinances and in a manner acceptable to the authority having jurisdiction.
MARKING:	Listee's name, model number, electrical rating, and UL label.
APPROVAL:	Listed as speakers and speaker-strobes when used with separately listed compatible fire alarm control units. Suitable for indoor use, dry and damp environments. *Listed with software code, S05-0048-001 for low temperature compensation. Authority having jurisdiction should be consulted prior to installation. Refer to listee's Installation Instruction Manual for details.
NOTES:	

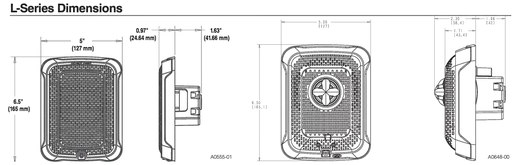
02-27-17 gt

This listing is based upon technical data submitted by the applicant. OSFM Fire Engineering staff has reviewed the test results and/or other data but does not make an independent verification of any claims. This listing is not an endorsement or recommendation of the item listed. This listing should not be used to verify correct operational requirements or installation criteria. Refer to listee's data sheet, installation instructions and/or other suitable information sources.

Date Issued: 04/30/2025 **Listing Expires: 06/30/2026**

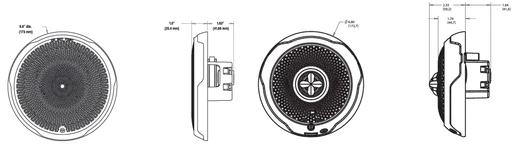
Authorized By: **Michael Huang**, Program Coordinator
Fire Engineering & Investigations Division

L-Series Dimensions



Wall-Mount Speaker

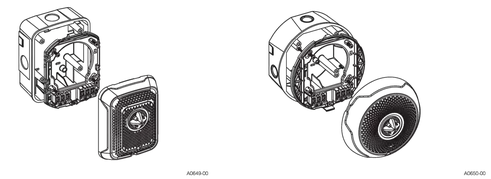
Wall-Mount Speaker Strobe



Ceiling-Mount Speaker

Ceiling-Mount Speaker Strobe

L-Series with LED: Surface Mount Back Box



Wall-Mount Speaker Strobe with SBBSPSRL/SBBSPWL Surface Mount Back Box

Ceiling-Mount Speaker Strobe with SBBCRL/SBCWL Surface Mount Back Box

SYSTEM SENSOR®

L-Series Speakers and L-Series with LED Speaker Strobes

System Sensor L-Series and L-Series with LED audible visible notification products are rich with features guaranteed to cut installation times and maximize profits with lower current draw and modern aesthetics.

Features

- LED technology provides lower current draw
- Digital Volt Meter (DVM) diagnostic test points for Speaker Strobes
- Common aesthetics across the L-Series platform
- Tamper-resistant construction
- Field-selectable candela settings on wall units: 15, 30, 75, 95, 110, 135, and 185
- Field-selectable candela settings on ceiling units: 15, 30, 75, 95, 115, 150, and 177
- Rotary switches for candela, speaker voltage (25 and 70.7 Vrms) and power settings (¼, ½, 1, and 2 watts)
- Mounting plate provides plug-in design for easier installation and shorting springs to check wiring continuity
- Electrically compatible with legacy SpectrAlert, SpectrAlert Advance and L-series devices at 16-33 VDC
- Synchronization through use of UL approved power supplies that support System Sensor Sync protocol or System Sensor MDL Sync Module
- Speakers and Speaker strobes listed for wall or ceiling use
- No extension ring required
- Speakers offer high fidelity and high volume sound output
- 520 Hz capable with compatible Fire alarm control panel (FACP)

The System Sensor L-Series and L-Series with LED platform offers the most versatile and easy-to-use line of speakers and speaker strobes in the industry with lower current draw and modern aesthetics. LED lighting technology offers significantly lower current draw compared to older Xenon bulbs across a full candela range. This improves design flexibility for notification appliance circuits (NACs) while also reducing power supply requirements allowing for simpler and lower cost installations.

Flexible design options meet virtually any application requirement: wall or ceiling mount, red or white color choices, bezel kits for alternate markings and languages, and LED color lenses for distinctive visual signaling. In addition, installers can easily adapt devices using field selectable candela, using rotary switches.

The L-Series and L-Series with LED line is developed to simplify installation. All devices feature plug-in designs with minimal intrusion into the back box, making installations fast and foolproof while virtually eliminating costly and time-consuming ground faults. The universal mounting plate includes an onboard shorting spring, so installers can test wiring continuity before the device is installed.

The low harmonic distortion of the speaker offers high fidelity sound output while offering high volume sound output for use in high ambient noise applications.

In addition, the System Sensor L-Series with LED notification appliances offer a new diagnostic test point feature that allows you to measure device voltage with a digital voltage meter (DVM) without removing the appliance from the wall or ceiling. The DVM test points are discreetly located on the face of the notification appliance which enable faster troubleshooting and end of line (EOL) voltage checks while greatly reducing the risk of misplacing or damaging appliances during troubleshooting.

Agency Listings

SIGNALING UL LISTED Speaker-Strobes: 64048 | UL LISTED Speakers: 64048 | SIGNALING UL LISTED Speakers: 64048 | FM APPROVED 3057363 3057493 | 7135-1653:0535 7135-1653:0502 7325-1653:0505

L-Series with LED: Ordering Information

Model	Description
L-Series with LED Speaker Strobes	
SPSCRLED	2-WIRE, SPEAKER STROBE LED RED CEILING
SPSCRLED-B	2-WIRE, SPEAKER STROBE LED RED CEILING BILINGUAL
SPSCRLED-BT	2-WIRE, SPEAKER STROBE LED RED CEILING BILINGUAL WITH TRIM
SPSCWLED	2-WIRE, SPEAKER STROBE LED WHITE CEILING
SPSCWLED-B	2-WIRE, SPEAKER STROBE LED WHITE CEILING BILINGUAL
SPSCWLED-BT	2-WIRE, SPEAKER STROBE LED WHITE CEILING BILINGUAL WITH TRIM
SPSCWLED-T	2-WIRE, SPEAKER STROBE LED WHITE CEILING WITH TRIM
SPSCWLED-TP	2-WIRE, SPEAKER STROBE LED WHITE CEILING PLAIN WITH TRIM
SPSCWLED-CLR-ALERT	2-WIRE, SPEAKER STROBE LED WHITE CEILING ALERT CLEAR LENS
SPSCWLED-P	2-WIRE, SPEAKER STROBE LED WHITE CEILING PLAIN
SPSCWLED-SP	2-WIRE, SPEAKER STROBE LED WHITE CEILING FUEGO
SPSRLED	2-WIRE, SPEAKER STROBE LED RED WALL
SPSRLED-B	2-WIRE, SPEAKER STROBE LED RED WALL BILINGUAL
SPSRLED-P	2-WIRE, SPEAKER STROBE LED RED WALL PLAIN
SPSRLED-SP	2-WIRE, SPEAKER STROBE LED RED WALL FUEGO
SPSWLED	2-WIRE, SPEAKER STROBE LED WHITE WALL
SPSWLED-B	2-WIRE, SPEAKER STROBE LED WHITE WALL BILINGUAL
SPSWLED-ALERT	2-WIRE, SPEAKER STROBE LED WHITE WALL ALERT AMBER LENS
SPSWLED-CLR-ALERT	2-WIRE, SPEAKER STROBE LED WHITE WALL ALERT CLEAR LENS
SPSWLED-P	2-WIRE, SPEAKER STROBE LED WHITE WALL PLAIN
L-Series Speaker	**Description**
SPCRL	2-WIRE, SPEAKER RED CEILING
SPCWL	2-WIRE, SPEAKER WHITE CEILING
SPRL	2-WIRE, SPEAKER RED WALL
SPWL	2-WIRE, SPEAKER WHITE WALL
Accessories	**Description**
SBBSPRL	BACK BOX, WALL, SPEAKER, RED
SBBSPWL	BACK BOX, WALL, SPEAKER, WHITE
SBBCRL	BACK BOX, CEILING, SPEAKER, RED
SBBCWL	BACK BOX, CEILING, SPEAKER, WHITE
TR-2	TRIM RING, WALL, RED
TR-2W	TRIM RING, WALL, WHITE
TRC-2	TRIM RING, CEILING, RED
TRC-2W	TRIM RING, CEILING, WHITE
LED Lenses	**Description**
LENS-A3	Lens LED Amber Wall/Ceiling
LENS-B3	Lens LED Blue Wall/Ceiling
LENS-G3	Lens LED Green Wall/Ceiling
LENS-R3	Lens LED Red Wall/Ceiling
Bezels	**Description**
BZSPR	WALL RED BEZEL KIT
BZSPW	WALL WHITE BEZEL KIT
BZSPRC	CEILING RED BEZEL KIT
BZSPWC	CEILING WHITE BEZEL KIT

Notes for Bezels:
†Each bezel pack ships in a package of 5.
Add one of the following extensions for print/language options: -F (FIRE), -AL (ALERT), -EV (EVAC), -AG (AGENT), -P (Plain), -FR (FEU), -PG (FOGO), -SP (FUEGO), -SPE (FUEGO/FIRE)
Bezels for use only with Speaker Strobes

Product Specifications

Physical / Electrical Specifications	
Standard Operating Temperature	32°F to 120°F (0°C to 49°C)
Humidity Range	10 to 93% non-condensing
Power	¼, ½, 1, 2 Watts
Frequency Range	400 to 4000 Hz
Maximum Supervisory Voltage (Speakers)	50 VDC
Maximum Supervisory Voltage (Strobe)	33 VDC
Strobe Flash Rate	1 Flash Per Second
Nominal Voltages, Speakers	25 Volts or 70.7 Volts (nominal)
Nominal Voltage, Strobe	Regulated 24 VDC
Operating Voltage Range, Strobe	16 to 33 VDC
Input Terminal Wire Gauge	12 to 18 AWG

Dimensions	
Wall Speaker Strobes (including lens)	6.5"L x 5.00" W x 2.3" D (165.1mm L x 127mm W x 58.4mm D)
Wall Speaker Strobes (including lens) with SBBSPRL/WL Surface Mount Back Box	6.62" L x 5.12" W x 4.55" D (168.1mm L x 130mm W x 115.5mm D)
Ceiling Speaker Strobes (including lens)	6.8" diameter x 2.33" D (172.7mm x 59.2mm)
Ceiling Speaker Strobes (including lens) with SBBCRL/WL Surface Mount Back Box	6.9" diameter x 4.83" D (176mm x 122.7mm)
Wall SPL Speakers	6.5"L x 5.00" W x 0.97" D (165.1mm L x 127mm W x 23mm D)
Wall Speakers with SBBSPRL/WL Surface Mount Back Box	6.62" L x 5.12" W x 3.2" W (168.1mm x 130mm x 81.2mm)
Ceiling SPC Speakers	6.8" diameter x 1.0" D (173mm x 25mm)
Ceiling Speakers with SBBCRL/WL Surface Mount Back Box	6.9" diameter x 3.5" D (176mm x 89mm)

NOTE: SBBSPRL/WL Surface Mount Back Box intended for speaker strobes and speakers.

Minimum Speaker Strobe Sound Output	¼ W	½ W	1 W	2 W
UL Reverberant (dBA @ 10 ft)	76	79	82	83
UL Anechoic (dBA @ 10 ft)	76	79	82	83

Minimum Speaker Only Sound Output	¼ W	½ W	1 W	2 W
UL Reverberant (dBA @ 10 ft)	79	82	85	88
UL Anechoic (dBA @ 10 ft)	79	82	85	88

UL / ULC Maximum Strobe Current Draw (mA)

UL/ULC Max Strobe Current Draw (mA RMS)	
Candela Rating	**16 to 33 Volts DC**
15	18
30	22
75	70
95	75
110	85
115	90
135	105
150	110
177	115
185	120
FCP*	(future)

*FCP Fire Control Panel, future use

SYSTEM SENSOR
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www.systemsensor.com
3333 Unity Drive, Mississauga, ON L5L 3S6 Canada
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www.systemsensor.ca

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AVDS-62174.A • 09/29/2024

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-124867 INC: A
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 03/12/2026

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REGISTERED PROFESSIONAL ENGINEER
KENNETH W. LUCCI
No. E 8340
Exp. 09/30/2026
ELECTRICAL
STATE OF CALIFORNIA

LUCCI & ASSOCIATES
CONSULTING ELECTRICAL ENGINEERS
3251 CORTE MALPASO, #311
CAMARILLO, CA 93012-8094
PHONE (805) 389-6520 FAX (805) 389-6519

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SHEET TITLE: FIRE ALARM CUT & DATA SHEETS

PROJECT: FIRE ALARM FOR OCCUPATIONAL EDUCATION BUILDING OXNARD COLLEGE OXNARD, CA 93033

DRAWN: LK/DS/IT
CHECKED: K. LUCCI
DATE: 7/2/2025
SCALE: AS NOTED
JOB NO. 24-905
SHEET: E515
OF: SHEETS:

Copyright Lucci and Associates Consulting Electrical Engineers. Deviations from this drawing will not be made without their expressed written permission. L.A.I.# 24-905 PAPER SIZE 36"x24"

PATHNAME: G:\24\905\ELSheets
SAVE DATE: 6/16/2025 1:17:16 PM
DRAWING: G:\24\905\ELSheets\24-905 E516.dwg
DRAWING FILENAME: 24-905 E516
DRAFTER: CM02
PLOT BY: CM02
DATE: 6 February 2026
PLOT DATE: 2/6/2026 4:09:49 PM
TIME: 4:09 pm
Drafter:CM02 - Paper Size: 12 X
Drawing:G:\24\905\ELSheets\24-905 E516.dwg
Xref:G:\24\905\ELSheets\24-905 TB.dwg
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CALIFORNIA DEPARTMENT OF FORESTRY & FIRE PROTECTION
OFFICE OF THE STATE FIRE MARSHAL
FIRE ENGINEERING & INVESTIGATIONS DIVISION
BUILDING MATERIALS LISTING PROGRAM

LISTING SERVICE

LISTING No.:	7320-1653:0201
CATEGORY:	7320 - SPEAKERS
LISTEE:	System Sensor, Unincorporated Div of Honeywell Int'l Inc. 3825 Ohio Ave, St. Charles, IL, 60174 Contact: Brant, Lisa 2034846105 Email: lisa.brant@honeywell.com
DESIGN:	Models SPR,SPW,SPRV, and SPWV SpectrAlert Speakers - Rectangular enclosure. Models SPCW, SPCR, SPCWV, and SPCRV SpectrAlert Speakers with round enclosure. Models SPSR, SPSRH, SPSW, SPSW-ALERT, SPSW-CLR-ALERT, *SPSWK-CLR-ALERT, SPSWH, SPSRV, and SPSWV SpectrAlert Speaker/Strobe with rectangular enclosure. Models SPSCR, SPSCRH, SPSCW, *SPSCWK-CLR-ALERT, SPSCWH, SPSCRV, SPSCRVH, SPSCWV, and SPSCWVH SpectrAlert Speaker/Strobe with round enclosure. Model SPSCW-CLR-ALERT Speaker/Strobe. Model SPSW-ALERT has amber lens and is intended for non-fire use. All models identified are intended for indoor use mounted on the wall or ceiling. Models with a "K" in the suffix are suitable for indoor or outdoor use with an operating temperature rating of -40°C to +66°C (-40°F to +151°F) and have a NEMA 4X enclosure rating when used with models PWBB, PWBBW (wall) or the model PWBBCW (ceiling) plastic weatherproof back boxes or with Model MWBBW (Wall), MWBB (Wall) or MWBBCW (Ceiling) metal weatherproof back boxes. Models with a "- P" in the suffix have plain housings with no lettering on the enclosure. Models not containing "- P", in the suffix have English lettering reading "FIRE" on the housing. Refer to listee's data sheet for additional detailed product description and operational considerations.
RATING:	Nominal Voltage: 25 Vrms or 70 Vrms Power Settings: ¼, ½, 1, 2 Watts Frequency Range: 400 - 4000 Hz
INSTALLATION:	In accordance with listee's printed installation instructions, NFPA 72, applicable codes & ordinances and in a manner acceptable to the authority having jurisdiction.
MARKING:	Listee's name, model number, electrical rating and UL label.
APPROVAL:	Listed as speaker/strobes when used with separately listed compatible fire alarm control units. Suitable for wall or ceiling mount. These speaker/strobes do not generate a distinctive three-pulse temporal code pattern (for total evacuation) as required per NFPA 72, 2010 edition. If required, the appliances must be used with a fire alarm control unit that can generate the temporal pattern signal.
NOTES:	

*Corrected 02-06-12 bh

This listing is based upon technical data submitted by the applicant. OSFM Fire Engineering staff has reviewed the test results and/or other data but does not make an independent verification of any claims. This listing is not an endorsement or recommendation of the item listed. This listing should not be used to verify correct operational requirements or installation criteria. Refer to listee's data sheet, installation instructions and/or other suitable information sources.

Date Issued: 04/30/2025 **Listing Expires: 06/30/2026**

Authorized By: **Michael Huang**, Program Coordinator
Fire Engineering & Investigations Division

UL Current Draw Data

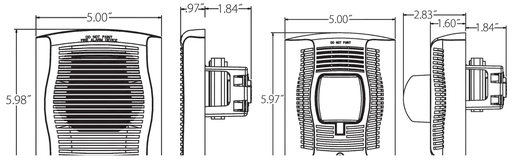
UL Max. Strobe Current Draw (mA RMS)		8 to 17.5 Volts		16 to 33 Volts	
	Candela	DC	FWR	DC	FWR
Standard Candela Range	15	123	128	66	71
	15/75	142	148	77	81
	30	NA	NA	94	96
	75	NA	NA	158	153
	95	NA	NA	181	176
	110	NA	NA	202	195
	115	NA	NA	210	205
High Candela Range	135	NA	NA	228	207
	150	NA	NA	246	220
	177	NA	NA	281	251
	185	NA	NA	286	258
Sound Output					
UL Reverberant (dBA @ 10 ft.)		2W	1W	½ W	¼ W
Outdoor Speaker		90	87	84	81
Outdoor Speaker/Strobe		89	86	83	80

Candela Derating

For K series products used at low temperatures, listed candela ratings must be reduced in accordance with this table.

Strobe Output (cd)	
Listed Candela	**Candela rating at –40°F**
15	Do not use below 32°F
15/75	
30	
75	44
95	70
110	110
115	115
135	135
150	150
177	177
185	185

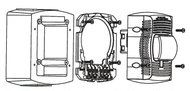
Dimensions



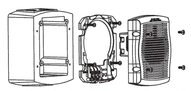
Wall-Mount Outdoor Speaker — Wall-Mount Outdoor Speaker Strobe

AVS011301

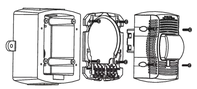
Surface Mounting



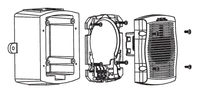
Wall-Mount Speaker Strobe with Plastic Weatherproof Back Box



Wall-Mount Speaker with Plastic Weatherproof Back Box



Wall-Mount Speaker Strobe with Metal Weatherproof Back Box



Wall-Mount Speaker with Metal Weatherproof Back Box

Ordering Information for SpectrAlert® Advance Outdoor Speakers and Speaker Strobes

Wall Mount		
White	**Red**	**Description**
SPWK	SPRK	Outdoor Speaker (includes plastic weatherproof back box)
SPWK-R	SPRK-R	Outdoor Speaker (does not include plastic weatherproof back box)
SPSWK	SPSRK	Outdoor Speaker Strobe, Standard cd (includes plastic weatherproof back box)
SPSWK-P	SPSRK-P	Plain Outdoor Speaker Strobe, Standard cd(includes plastic weatherproof back box)
SPSWK-R	SPSRK-R	Outdoor Speaker Strobe, Standard cd(does not include weatherproof back box)
SPSWK-CLR-ALERT	—	Outdoor Speaker Strobe, Standard cd, Clear Lens, ALERT Printed (includes plastic weatherproof back box)
—	SPSRHK	Outdoor Speaker Strobe, High cd (135,150,177,185) (includes plastic weatherproof back box)
Accessories		
White	**Red**	**Description**
MWBBW	MWBB	Wall, Metal Weatherproof Back Box

Notes:
All -P models have a plain housing (no "FIRE" marking on cover)
"Standard cd" refers to strobes that include 15, 15/75, 30, 75, 95, 110, and 115 candela settings. "High cd" refers to strobes that include 135, 150, 177, and 185 candela settings. **When replacing standard outdoor units, both the device and back box must be replaced.**

SYSTEM SENSOR

3825 Ohio Avenue • St. Charles, IL 60174
Phone: 800-SENSOR2 • Fax: 630-377-6495

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Product specifications subject to change without notice. Visit systemsensor.com for current product information, including the latest version of this data sheet.
AVS011301 • 09/12

SYSTEM SENSOR

Outdoor, Selectable-Output Speaker Strobes and Dual-Voltage Evacuation Speakers for Wall Applications

SpectrAlert® Advance outdoor, selectable-output speaker strobes and dual-voltage evacuation speakers meet virtually any outdoor application requirement.

SPECTRALERT ADVANCE

Features

- Weatherproof per NEMA 4X, IP56
- Rated from -40°F to 151°F
- Plug-in design reduces ground faults
- Universal mounting plate with onboard shorting spring that tests wiring continuity before devices are installed
- Field-selectable candela settings: 15, 15/75, 30, 75, 95, 110, 115, 135, 150, 177, and 185
- Automatic selection of 12- or 24-volt operation at 15 and 15/75 candela
- Rotary switch for speaker voltage (25 and 70.7 Vrms) and power settings (1/4, 1/2, 1 and 2 watts)
- Compatible with System Sensor synchronization protocol and legacy SpectrAlert products
- Tamper-resistant construction
- Listed for ceiling or wall mounting

Agency Listings

SIGNALING UL LISTED 7580 — FM APPROVED 7320-1653:201 — MEA approved 10-09-E

SpectrAlert Advance offers the broadest line of outdoor speakers and speaker strobes in the industry. From metal and plastic outdoor back boxes, to white and red plastic housings, to wall and ceiling mounting options, SpectrAlert Advance can meet virtually any application requirement.

Wall-mount outdoor speakers and speaker strobes can be used indoors or outdoors in wet or dry applications, and can provide reliable operation from –40°F to 151°F. These speakers provide a broad frequency response range, low harmonic distortion and maintain a high sound pressure level at all tap settings to provide accurate and intelligible broadcast of evacuation messages.

Like the entire SpectrAlert Advance line, wall-mount outdoor speakers and speaker strobes include a variety of features that increase application flexibility and simplify installation. First, field-selectable settings, including candela, speaker voltage and power settings, and automatic selection of 12- or 24-volt operation enable installers to easily adapt devices to meet requirements.

Next, these devices use a universal mounting plate with an onboard shorting spring that ensures wiring continuity before devices are installed, so installers can verify proper wiring without mounting the devices and exposing them to potential construction damage. Once the plates are mounted, all SpectrAlert Advance devices utilize a plug-in design with a single captured screw to speed installation and virtually eliminate costly ground faults.

Outdoor devices ship with weatherproof plastic back boxes (metal back boxes are available separately) that accommodate in-and-out wiring for daisy chaining devices. Plastic back boxes feature removable side flanges and improved resistance to saltwater corrosion. Knock-outs located on the back eliminate the need to drill holes for screw-in mounting. Plastic and metal weatherproof back boxes come with ¾-inch top and bottom conduit entries and ¾-inch knock-outs at the back. A screw-in NPT plug with an O-ring gasket for a watertight seal is included with each back box.

SpectrAlert® Advance Outdoor Speaker and Speaker Strobe Specifications

Architectural/Engineering Specifications

General
SpectrAlert Advance outdoor speakers and speaker strobes shall mount to a weatherproof back box. A universal mounting plate shall be used for mounting ceiling and wall products. The notification appliance circuit and amplifier wiring shall terminate at the universal mounting plate. Also, SpectrAlert Advance speaker strobes, when used with the Sync•Circuit™ Module accessory, shall be powered from a non-coded notification appliance circuit output and shall operate on a nominal 12 or 24 volts. When used with the Sync•Circuit Module, 12-volt-rated notification appliance circuit outputs shall operate between 8.5 and 17.5 volts; 24-volt-rated notification appliance circuit outputs shall operate between 16.5 and 33 volts. Outdoor SpectrAlert Advance products shall operate between –40°F and 151°F from a regulated DC, or full-wave rectified, unfiltered power supply.

Speaker
Speaker shall be a System Sensor SpectrAlert Advance Model _____ dual-voltage transformer speaker capable of operating at 25.0 or 70.7 nominal Vrms. Speaker shall be listed to Underwriters Laboratories Standard S4048 for outdoor fire protective signaling systems. Speaker shall have a frequency range of 400 to 4,000 Hz and shall have an operating temperature from –40°F to 150.8°F. Speaker shall have power taps and wattage settings that are selected by rotary switches. The speaker must be installed with its weatherproof back box in order to remain outdoor approved per UL listing S4048. The speaker shall be suitable for use in air handling spaces and wet environments.

Speaker Strobe Combination
The speaker strobe shall be a System Sensor Model _____ listed to UL 1638 and UL 1480 and be approved for fire protective signaling systems. Speaker shall be capable of operating at 25.0 or 70.7 nominal Vrms and shall have a frequency range of 400 to 4,000 Hz. Speaker shall have power taps that are selected by rotary switch. The strobe shall consist of a xenon flash tube with associated lens/reflector system and operate on either 12 or 24 volts. The strobe shall also feature selectable candela output, providing options for 15 or 15/75 candela when operating on 12 volts and 15, 15/75, 30, 75, 110, 115, 135, 150, 177 or 185 candela when operating on 24 volts. The strobe shall comply with the Americans with Disabilities Act requirement for visible signaling appliances, flashing at 1 Hz over the strobe's entire operating voltage range. The speaker strobe must be installed with its weatherproof back box in order to remain outdoor approved per UL. The speaker strobe shall be suitable for use in wet environments.

Physical Specifications	
Operating Temperature	–40°F to 151°F (–40°C to 66°C)
Dimensions, Wall-Mount	
SPS Speaker Strobe	6.0″L × 5.0″W × 4.7″D (including lens and speaker)
SP Speaker	6.0″L × 5.0″W × 2.9″D
Dimensions, Wall-Mount Weatherproof Back Box	6.5″L × 5.5″H × 2.9″D
Electrical/Operating Specifications	
Nominal Voltage (speakers)	25 V or 70.7 V (nominal)
Maximum Supervisory Voltage (speakers)	50 VDC
Strobe Flash Rate	1 flash per second
Nominal Voltage (strobes)	Regulated 12 VDC/FWR or regulated 24 DC/FWR
Operating Voltage Range (includes fire alarm panels with built in sync)	8 to 17.5 V (12 V nominal) or 16 to 33 V (24 V nominal)
Operating Voltage with MDL3 Sync Module	8.5 to 17.5 V (12 V nominal) or 16.5 to 33 V (24 V nominal)
Frequency Range	400 to 4,000 Hz
Power	¼, ½, 1, 2 watts

AVS011301

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-124867 INC: A
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 03/12/2026

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STAMP
REGISTERED PROFESSIONAL ENGINEER KENNETH W. LUCCI No. E 8340 Exp. 09/30/2026 ELECTRICAL STATE OF CALIFORNIA

CONSULTING ELECTRICAL ENGINEERS
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CAMARILLO, CA 93012-8094
PHONE (805) 389-4520 FAX (805) 389-6519

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SHEET TITLE: FIRE ALARM CUT & DATA SHEETS

PROJECT:
FIRE ALARM FOR
OCCUPATIONAL EDUCATION
BUILDING
OXNARD COLLEGE
OXNARD, CA 93033

DRAWN: LK/DS/IT
CHECKED: K. LUCCI
DATE: 7/2/2025
SCALE: AS NOTED
JOB NO. 24-905
SHEET: E516
OF: SHEETS:

Copyright Lucci and Associates Consulting Electrical Engineers. Deviations from this drawing will not be made without their expressed written permission. L.A.I.# 24-905 PAPER SIZE 36"x24"

DATE: 6 February 2026 TIME: 4:09 pm
PATHNAME: G:\24\905\ELSheets SAVE DATE: 6/16/2025 1:22:08 PM
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PLOT BY: CM02 PLOT DATE: 2/6/2026 4:09:56 PM
DRAWING: G:\24\905\ELSheets\24-905 E517.dwg

CALIFORNIA DEPARTMENT OF FORESTRY & FIRE PROTECTION
OFFICE OF THE STATE FIRE MARSHAL
FIRE ENGINEERING & INVESTIGATIONS DIVISION
BUILDING MATERIALS LISTING PROGRAM

LISTING SERVICE

LISTING No.:	7260-1703:0506
CATEGORY:	7260 - SMOKE DETECTION SYSTEM-BEAM TYPE
LISTEE:	GAMEWELL-FCI 12 Clintonville Road, Northford, CT, 06472 Contact: Brant, Lisa 2034846105 Email: lisa.brant@honeywell.com
DESIGN:	Model OSI-RI-GW reflected type projected beam detector. Refer to listee's data sheet for additional detailed system description and operational considerations.
RATING:	15.0 to 32.0 Vdc
INSTALLATION:	In accordance with listee's printed installation instructions, applicable codes & ordinances and in a manner acceptable to the authority having jurisdiction.
MARKING:	Listee's name, model number, electrical rating and UL label.
APPROVAL:	Listed as a reflected type projected beam detector for use with separately listed compatible fire alarm control unit. Authority having jurisdiction should be consulted prior to installation. Refer to listee's Installation Instruction Manual for details.
NOTES:	

12-12-18 gt

This listing is based upon technical data submitted by the applicant. OSFM Fire Engineering staff has reviewed the test results and/or other data but does not make an independent verification of any claims. This listing is not an endorsement or recommendation of the item listed. This listing should not be used to verify correct operational requirements or installation criteria. Refer to listee's data sheet, installation instructions and/or other suitable information sources.

Date Issued: 05/08/2025 **Listing Expires: 06/30/2026**

Authorized By: **Michael Huang**, Program Coordinator
Fire Engineering & Investigations Division

OSI-RI-GW

Intelligent Single-ended Reflective Imaging Beam Smoke Detector

The OSI-RI-GW delivers rapid installation, trouble-free detection, and a minimalist design for challenging open-area applications.

The OSI-RI-GW single-ended beam smoke detector is easy to install and adjust. Only the head unit needs to be wired, and the "eyeball" can be aimed without adjusting the detector mounting.

The OSI-RI-GW intelligent addressable reflector-type linear optical beam smoke detector is uniquely suited for protecting large open areas with high ceilings where spot-type smoke detectors are difficult to install and maintain. Ideal applications are warehouses, malls, aircraft hangers, arenas and concert halls. The beam operates primarily on the principle of light obscuration using infrared. The OSI-RI-GW detector is a combined transmitter/receiver and is compatible with 7075 Series, S3 Series, and E3 Series® fire alarm control panels in Velociti® mode.

Fast and Easy Alignment
Aligning the imager to the reflector is extremely intuitive, fast, and accurate, thanks to the CMOS imager contained in a movable "eyeball" that can move vertically and horizontally. Four LED arrows help the user find the imager's perfect alignment with the reflector. Once the optimum alignment is found, indicated by all green arrows, the lens is locked with a slide lever. A paintable cover is then placed over the front to secure the lever in locked position.

Resistant to Building Movement, Sunlight, and Foreign Object Intrusion
The receiver imager automatically tracks the reflector in case of building movement or support structure movement. This allows the OSI-RI-GW to be highly resistant to movement, eliminating the number one cause of false alarms and/or faults with traditional beam detectors.

Optical filtering, high-speed image acquisition and intelligent software algorithms provide the system with highly improved resistance to false alarms from sunlight, reflected sunlight or any other very bright light sources. Advanced smoke imaging techniques allow the detector to avoid false alarms from partial and sudden blockage from foreign object intrusion.

Time-saving Automatic Sensitivity Setting
Unique in the market, the sensitivity of the detector is selected and set automatically at the optimum sensitivity based on the size of the reflector measured in the field of view.

Drift Compensation
The detector will adjust its detection thresholds in line with any long-term signal reduction of the beam caused by dust or other contamination of the optical surfaces.

Equipped with Built-in Imager Heater
The imager ships standard with an internal heating option to prevent condensation on the optical surface. (External power supply required.)

FEATURES AND BENEFITS

- Combined transmitter/receiver unit
- Wide 12° field of view
- Fast, easy, and intuitive beam alignment indicated by LED directional arrows
- 50° horizontal and 20° vertical beam adjustment
- Long range coverage of 16-328 ft (5-100m) is standard; no separate long-range kit required
- Automatic sensitivity threshold level setting
- Resistant to building movement; tolerates +/- 1° movement
- Resistant to strong light sources; does not alarm when saturated by sunlight
- Resistant to solid object intrusion
- Remote test station capable for electronic simulated smoke test from ground level
- Status LED indicators visible from the front and bottom
- Automatic drift compensation
- Paintable housing/cover
- Removable plug-in terminal blocks
- Built-in imager heater
- Optional reflector heater kit available

Honeywell
Gamewell FCI

OSI-RI-GW TECHNICAL SPECIFICATIONS

PHYSICAL

Dimensions (Detector): Height 6" (152.4 mm); Width 10" (254 mm); Depth 4.5" (114.3 mm)
Dimensions (Reflector): Height 9.06" (230 mm); Width 7.87" (200 mm)
Weight (Installed): 2.48 lbs (1.12 kg)
Weight (Shipping): 3.91 lbs (1.77 kg)
Wire Gauge for Terminals: 14 AWG (2.08 mm²)

ELECTRICAL

OSI-RI-GW
Operating Voltage Range:
Nominal: 24 VDC
Minimum: 15 VDC
Maximum: 32.0 VDC
Maximum Standby Current:
13 mA @ 32 VDC
14 mA @ 24 VDC
20 mA @ 15 VDC
Maximum Alarm Current (LED on):
22 mA @ 32 VDC
15 mA @ 24 VDC
22 mA @ 15 VDC
Maximum Devices per SLC Loop:
The number of OSID-R devices are limited due to SLC current draw restrictions. Current draws listed above must be considered in coordination with any other devices on a circuit. In general, this limits the number of OSID-R detectors to up to 4 detectors per loop on a dedicated circuit on **Gamewell-FCI** panels. Any non-beam devices, increased distances or higher gauge wiring on the circuit will decrease available current and total capacity of OSID-R detectors.
Available panel current:
- **7075 Series:** 165 ma supervisory current
- **7100 Series:** 90 ma supervisory current
- **E3 Series:** 100 ma supervisory current
- **S3 Series:** 100 ma supervisory current

BEAMHKR
Voltage Range: 15 to 32 V
Maximum Current: 450 mA Max at 32 V
Power Consumption:
7.7 W @ 24 V
15 W @ 32 V
RTS151KEY
Voltage Range: 10.2 to 32 VDC
Current Range: 9 mA Min to 11 mA Max

ENVIRONMENTAL

Operating Temperature: UL-Listed for use from 32°F to 100°F (0°C to 37.8°C).
Application Temperature Range: -4°F to 131°F (-20°C to +55°C)
Humidity Range: 0 to 95% relative humidity, non-condensing

OPERATIONAL

Protection Range: 16 ft to 328 ft (5 m to 100 m)
Adjustment Angle: 20 degrees vertical, 50 degrees horizontal
Sensitivity Levels: Level 1 25%, Level 2 30%, Level 3 40%, Level 4 50%
Test/Reset Features: Local alarm test switch, local alarm reset switch, Remote test and reset switch (compatible with RTS151 and RTS151KEY-A) test stations), OSID-R test filter.
Smoke Detector Spacing: On smooth ceilings, 30-60 feet between projected beams and not more than one-half that spacing between a projected beam and a sidewall. Other spacing may be used depending on the ceiling height, airflow characteristics, and response requirements. See NFPA 72.

AGENCY LISTINGS

UL: S911
FM: PR449231
CSFM: 7260-1703:0506

PRODUCT LINE INFORMATION

OSI-RI-GW: Intelligent imaging beam smoke detector including reflector
OSP-002: Laser alignment tool
OSP-004: Test filter, 10 pack
RTS151: Remote test station
RTS151KEY: Test and reset station with key lock, flush mount
BEAMHKR: Heater kit for the reflector
6500-MMK: Multi-mount accessory for ceiling or wall mounting with additional mounting adjustment

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Country of origin: Mexico

Honeywell Gamewell-FCI
12 Clintonville Road
Northford, CT 06472-1610
203.484.7161
www.gamewell-fci.com

9021-61044 | D | 07/20
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SS ☑ FLS ☑ ACS ☑
DATE: 03/12/2026

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REGISTERED PROFESSIONAL ENGINEER
KENNETH W. LUCCI
No. E 8340
Exp. 09/30/2026
ELECTRICAL
STATE OF CALIFORNIA

CONSULTING ELECTRICAL ENGINEERS
321 CORTE MALPASO, #311
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SHEET TITLE: FIRE ALARM CUT & DATA SHEETS

PROJECT:
FIRE ALARM FOR
OCCUPATIONAL EDUCATION
BUILDING
OXNARD COLLEGE
OXNARD, CA 93033

DRAWN: LK/DS/IT
CHECKED: K. LUCCI
DATE: 7/2/2025
SCALE: AS NOTED
JOB NO. 24-905
SHEET: E517
OF: SHEETS:

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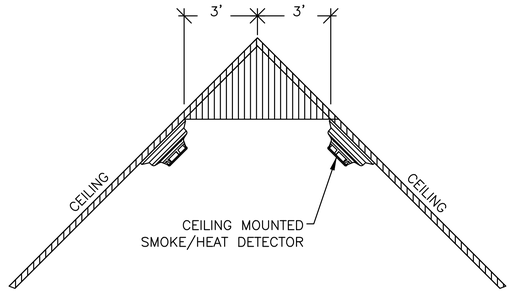
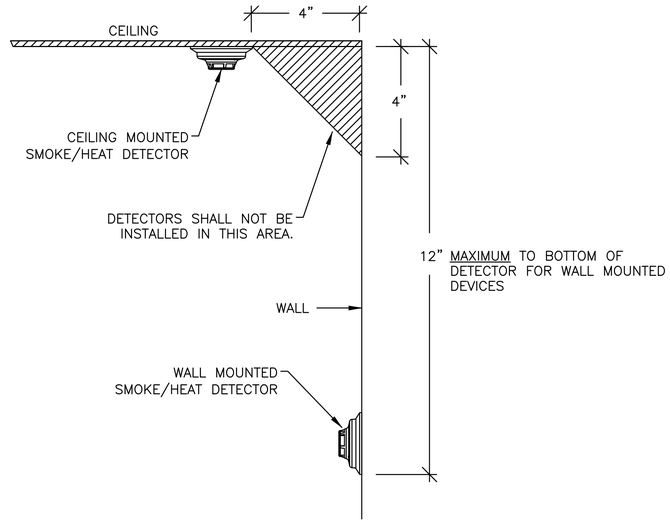
Drafter:CM02 Paper Size: 13.5
Drawing: G:\24\905\ELSheets\24-905 E517.dwg
Attached XREFs:
Attached XREFs:G:\Inv\24-905 TB.dwg

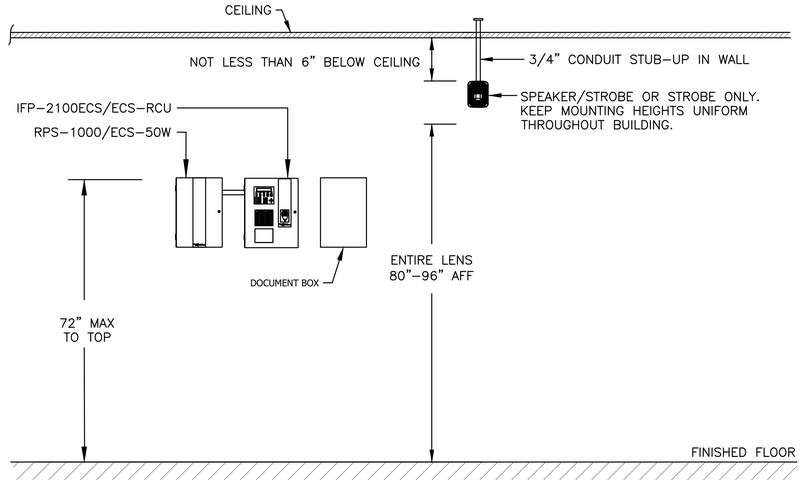
SLOPED CEILING MOUNTING DETAIL



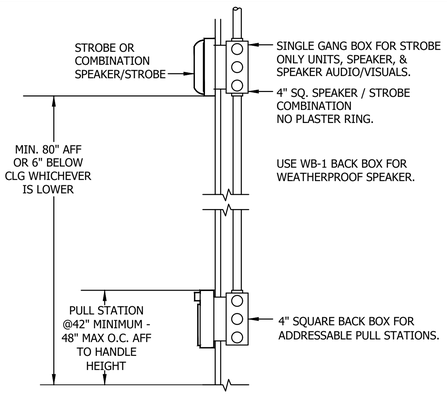
SMOKE/HEAT/CO DETECTOR MOUNTING DETAIL



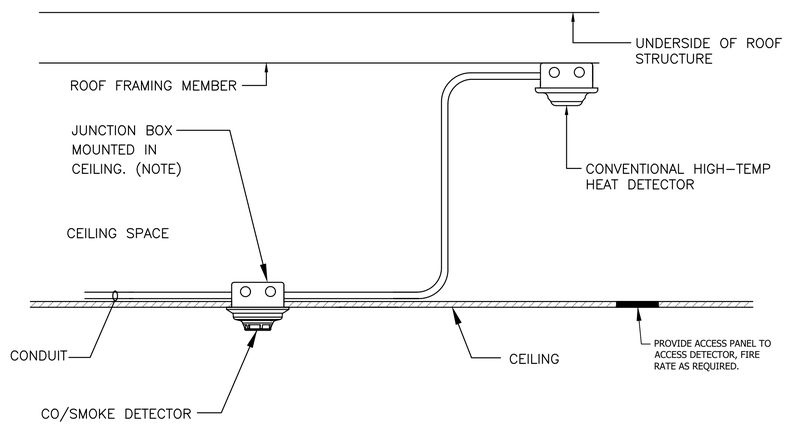
COMMON MOUNTING HEIGHT DETAIL



MOUNTING HEIGHT DETAIL

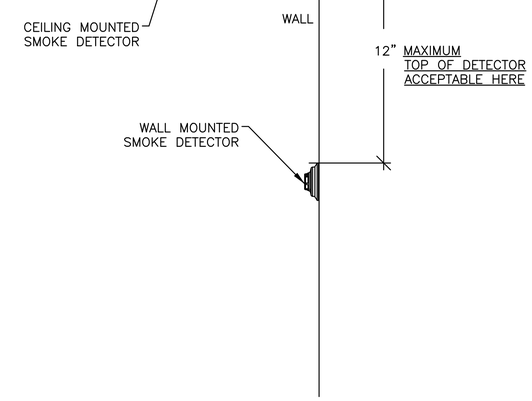


ATTIC SPACE HI-TEMP HEAT DETECTOR DETAIL



NOTE: T-TAPPING ALLOWED ON SLC SIGNALLING CIRCUIT.

SMOKE DETECTOR MOUNTING DETAIL



IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
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REGISTERED PROFESSIONAL ENGINEER
KENNETH W. LUCCI
No. E 8340
Exp. 09/30/2026
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STATE OF CALIFORNIA

LUCCI & ASSOCIATES
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SHEET TITLE: FIRE ALARM DEVICE MOUNTING DETAIL SHEET

PROJECT: FIRE ALARM FOR OCCUPATIONAL EDUCATION BUILDING
OXNARD COLLEGE
OXNARD, CA 93033

DRAWN: LK/DS/IT
CHECKED: K. LUCCI
DATE: 7/2/2025
SCALE: AS NOTED
JOB NO. 24-905
SHEET: E519
OF: SHEETS:

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Attached IMAGES:
Attached PDFS:G:\24\905\EL\Xrefs\24-905 TB.dwg

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DATE: 6 February 2026 TIME: 4:10 pm
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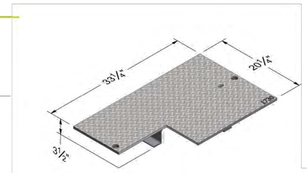
B1730

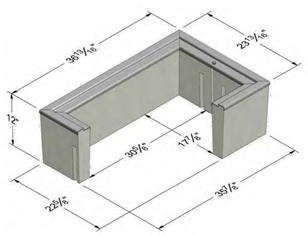
CHRISTY®



COVER

Style:	Flush
Material:	Steel Checker Plate
Model:	20" x 33"
Weight:	111 lbs
Options:	Special Markings
Surface:	Skid Resistant & Marked*
Coefficient of Friction:	>0.6 ASTM 1028
Performance:	H20, AASHTO M309

Cover comes standard with permanent markings for manufacturer, load rating, model size and manufacturing location.



BODY

Material:	Reinforced Concrete with Steel Frame
Model:	24" x 37"
Weight:	268 lbs
Wall Type:	Straight
Mouseholes:	0
Performance:	H20, AASHTO M309

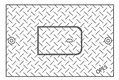
COVER

Bolt Down Locking
Galvanizing
Power or Com Marker

LOAD RATING / NOTES

TRAFFIC RATED
AASHTO H20

Actual load rating is determined by the box and cover combination.



Reader Door Detail

WARNING: Cancer and Reproductive Harm - www.P65Warnings.ca.gov

All information contained on this sheet is current at the time of publication.
Oldcastle reserves the right to discontinue or update product information without notice.

Revision 12/06/18
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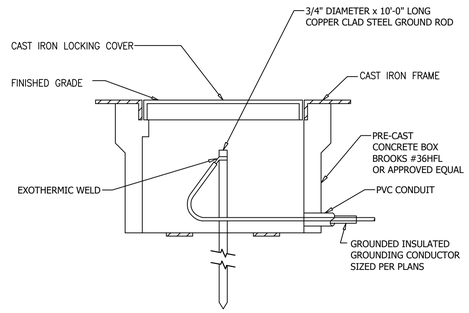
(800) 735-5566

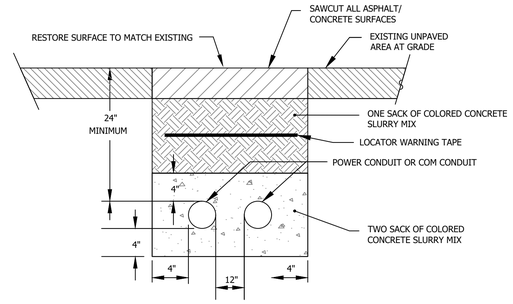
CHRISTY PULL BOX DETAIL 6
SCALE: NONE - E601 -



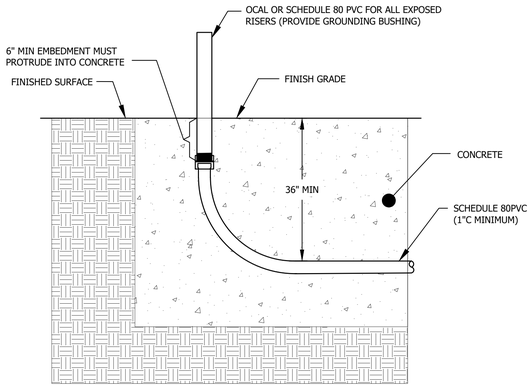
GROUND WELL DETAIL 5
SCALE: NONE - E601 -

DETAIL NOTES:

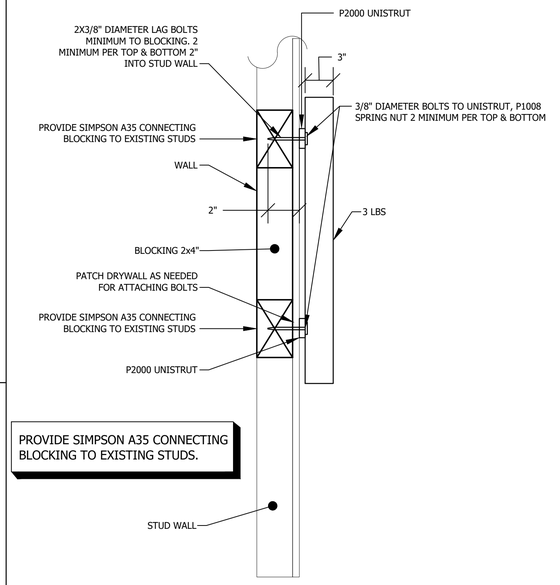
1. ALL CONDUITS TO BE PROVIDED WITH LABELED METERED 3/16 PULLSTRINGS OR MULE TAPE THEIR ENTIRE LENGTH.
2. ALL CONDUITS BENDS SHALL BE FACTORY BENDS WITH MINIMUM 12 TIMES DIAMETER BEND RADIUS.
3. ALL FEEDERS TO BE PER ELECTRICAL SINGLE LINE.



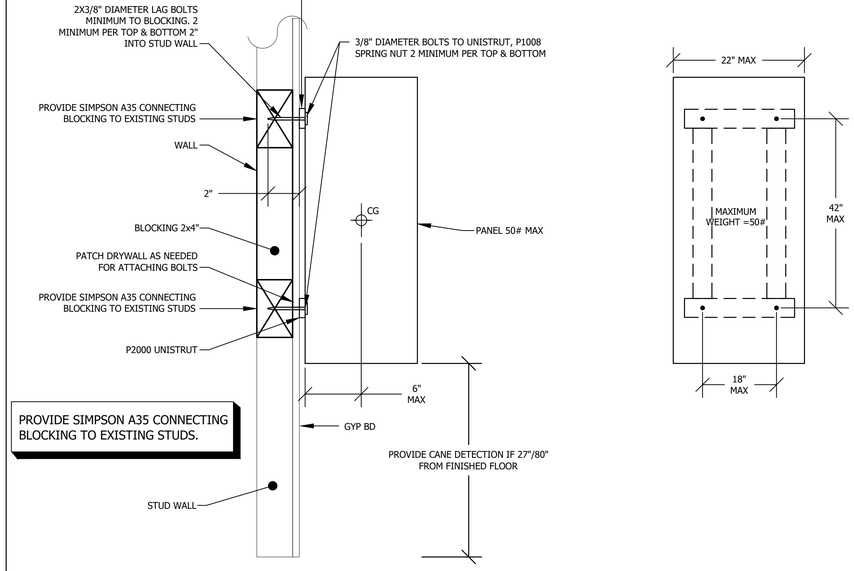
DUCTBANK SECTION 4
SCALE: NTS TYPICAL POWER & COM - E601 -



CONDUIT PENETRATION DETAIL 3
SCALE: NONE - E601 -



FA DOCUMENT CABINET (12" x 13" x 3") 2
SCALE: NONE - E601 -



FIRE ALARM PANEL ANCHORAGE WOODEN WALL - SURFACE 1
SCALE: NONE - E601 -

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KENNETH W. LUCCI
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Exp. 09/30/2026
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STATE OF CALIFORNIA

CONSULTING ELECTRICAL ENGINEERS
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SHEET TITLE: FIRE ALARM DETAIL SHEET

PROJECT: FIRE ALARM FOR OCCUPATIONAL EDUCATION BUILDING OXNARD COLLEGE OXNARD, CA 93033

DRAWN: LK/DS/IT
CHECKED: K. LUCCI
DATE: 7/2/2025
SCALE: AS NOTED
JOB NO. 24-905
SHEET: E601
OF: SHEETS:

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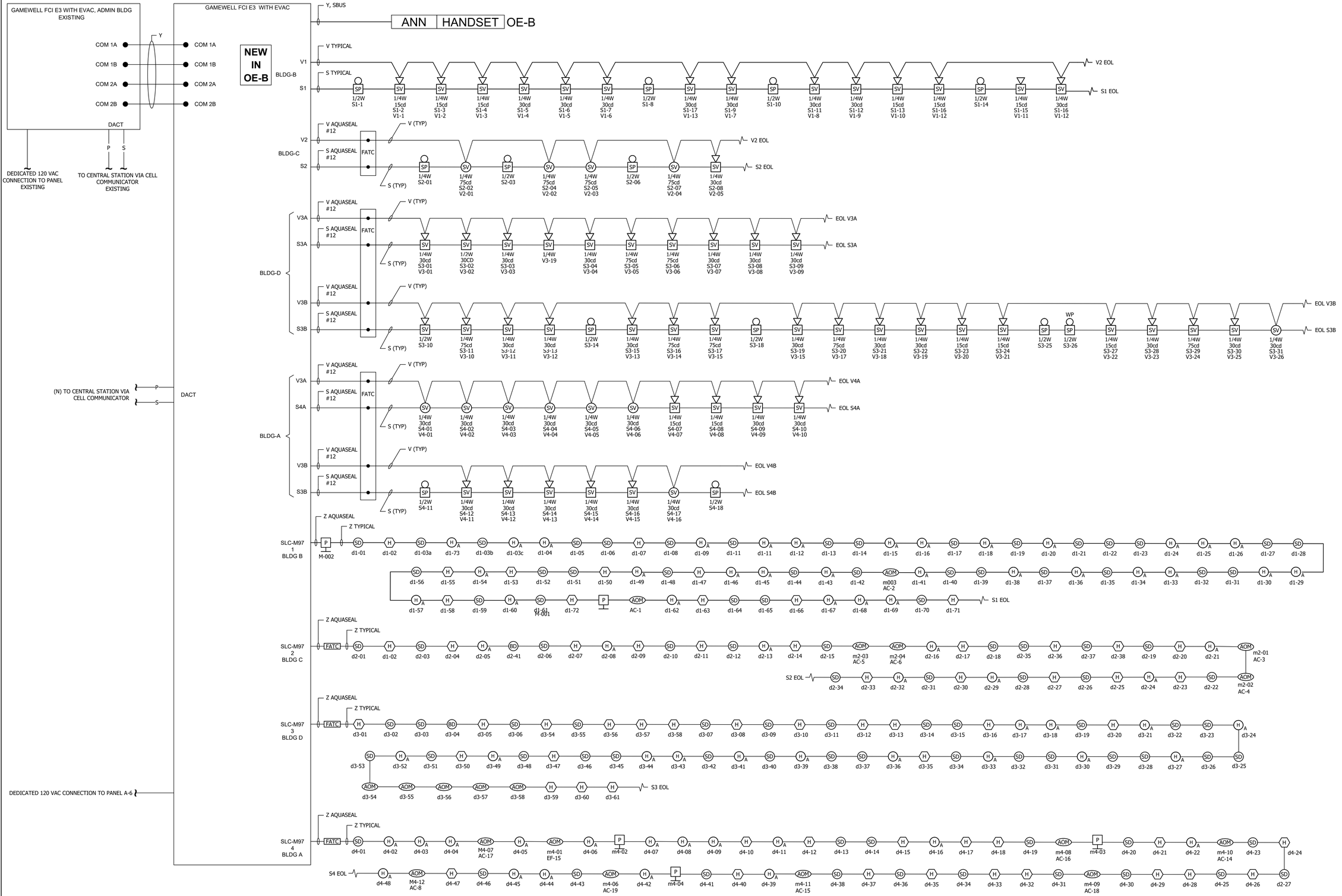
Material:24905
Xref:G:\24\905\EL\Xrefs\24-905 TS.dwg



FIRE ALARM RISER DIAGRAM

SCALE: NONE

1 - E700

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DATE: 03/12/2026

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KENNETH W. LUCCI
No. E 8340
Exp. 09/30/2026
ELECTRICAL
STATE OF CALIFORNIA

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CONSULTING ELECTRICAL ENGINEERS
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CAMARILLO, CA 93012
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SHEET TITLE: FIRE ALARM RISER DIAGRAM

PROJECT: FIRE ALARM FOR OCCUPATIONAL EDUCATION BUILDING
OXNARD COLLEGE
OXNARD, CA 93033

DRAWN: LK/DS/IT
CHECKED: K. LUCCI
DATE: 7/2/2025
SCALE: AS NOTED
JOB NO. 24-905
SHEET: E700
OF: SHEETS:

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DRAFTER: CM02 DATE: 6 February 2026 TIME: 4:10 pm
PATHNAME: G:\24\905\EL\Sheets
DRAWING FILENAME: 24-905 E700
PLOT BY: CM02 PLOT DATE: 2/6/2026 4:10:09 PM
SAVE DATE: 2/6/2026 4:06:41 PM
Drafter=CM02; Paper Size= 22.0
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Bubble Scale= 1.000
Attached XREFS
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DATE: 6 February 2026 TIME: 4:10 pm PLOT DATE: 2/6/2026 4:10:13 PM
DRAFTER: CM02 PLOT BY: CM02
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SAVE DATE: 7/2/2025 3:12:16 PM
DRAWING: G:\24\905\ELSheets\24-905 E701.dwg

Global Project Values:
Project Name: OXNARD COLLEGE OE BLDGS
Project ID:
Prepared By: LAI
Date: 2/25/2025
Standby Hours: 24
Alarm Mins: 120
Derating 1.2

Panel ID: ECS-50
Location: BLDGS OE-A, OE-B, OE-C, OE-D
MODEL: ECS-50W AUDIO AMPLIFIER

Ckt.#	Circuit Name	Qty	Current Draw Standby	Alarm
ECS-50W-25	ECS-50W Amplifier 25 Volts*	1	0.085	0.525
ECS-50W-70.7	ECS-50W Amplifier 70.7 Volts*		0.000	0.000
ECS-CE4	4 Zone Expander		0.000	0.000
Watts	Enter Number of Watts @ 25Vrms**	29	N/A	1.972
Watts	Enter Number of Watts @ 70.7Vrms**		N/A	0.000
	Total Standby Current (AMPS)		0.085	2.497
	Standby Time In Hours		24	2.000
	Total Standby AH Required		2.040	4.994
	Total Combined AH Required		7.03	
	Multiply By The Derating Factor		1.20	
	Minimum Battery AmpHours Required		**8.44**	

50 SPEAKER AT .25W & 13 SPEAKERS AT .5 WATT = 19 WATT

PROVIDE 18AH MINIMUM BATTERY

VOLTAGE DROP CALCULATIONS - VISUAL APPLIANCE CIRCUITS

PANEL ID	CKT #	15cd STROBE 0.043 QTY.	15cd STROBE 0.043 AMP	30cd STROBE 0.063 QTY.	30cd STROBE 0.063 AMP	75cd STROBE 0.107 QTY.	75cd STROBE 0.107 AMP	110cd STROBE 0.148 QTY.	110cd STROBE 0.148 AMP	15cd HORN-STROBE 0.054 QTY.	15cd HORN-STROBE 0.054 AMP	30cd HORN-STROBE 0.071 QTY.	30cd HORN-STROBE 0.071 AMP	75cd HORN-STROBE 0.137 QTY.	75cd HORN-STROBE 0.137 AMP	110cd HORN-STROBE 0.185 QTY.	110cd HORN-STROBE 0.185 AMP	- 0.000 QTY.	- 0.000 AMP	(I) TOTAL CURRENT	x	LENGTH FT.	x	21.6	÷	CIR MILS 14awg	=	VOLTS DROPPED	÷	24(V)	x	100	% VOLTAGE DROP
FACP	V1	5	0.215	8	0.504		0.000		0.000		0.000		0.000		0.000		0.000		0.000	0.719	x	350	x	21.6	÷	6530	=	0.832	÷	24	x	100	**3.5**
FACP	V2		0.000	2	0.126	4	0.428		0.000		0.000		0.000		0.000		0.000		0.000	0.554	x	250	x	21.6	÷	6530	=	0.458	÷	24	x	100	**1.9**
FACP	V3A		0.000	7	0.441	2	0.214		0.000		0.000		0.000		0.000		0.000		0.000	0.655	x	480	x	21.6	÷	6530	=	1.040	÷	24	x	100	**4.3**
FACP	V3B	2	0.086	8	0.504	5	0.535		0.000		0.000		0.000		0.000		0.000		0.000	1.125	x	500	x	21.6	÷	6530	=	1.861	÷	24	x	100	**7.8**
FACP	V4A	2	0.086	7	0.441		0.000		0.000		0.000		0.000		0.000		0.000		0.000	0.527	x	280	x	21.6	÷	6530	=	0.488	÷	24	x	100	**2.0**
FACP	V4B		0.000	7	0.441		0.000		0.000		0.000		0.000		0.000		0.000		0.000	0.441	x	390	x	21.6	÷	6530	=	0.569	÷	24	x	100	**2.4**

I x FEET x 21.6 = VOLTAGE DROPPED
C.M.

I = TOTAL CIRCUIT CURRENT
FEET = ONE WAY DISTANCE IN FEET MEASURED FROM SOURCE TO THE LAST DEVICE
21.6 = FORMULA CONSTANT
C.M. = CROSS SECTIONAL AREA OF CONDUCTOR IN CIRCULAR MILS. SEE CHART BELOW

WIRE SIZE	WIRE RESISTANCE	CIR. MILS
AWG 12	1.59 PER 1000'	6530
AWG 14	2.52 PER 1000'	4110

USE #12 TO FATC FROM FACP

VOLTAGE DROP CALCULATIONS - SPEAKER APPLIANCE CIRCUITS

PANEL ID	CKT #	1/4 WATT 0.017 QTY.	1/4 WATT 0.017 AMP	1/2 WATT 0.034 QTY.	1/2 WATT 0.034 AMP	1 WATT 0.068 QTY.	1 WATT 0.068 AMP	2 WATT 0.132 QTY.	2 WATT 0.132 AMP	- 0.000 QTY.	- 0.000 AMP	- 0.000 QTY.	- 0.000 AMP	- 0.000 QTY.	- 0.000 AMP	- 0.000 QTY.	- 0.000 AMP	- 0.000 QTY.	- 0.000 AMP	(I) TOTAL CURRENT	x	LENGTH FT.	x	21.6	÷	CIR MILS 14awg	=	VOLTS DROPPED	÷	24(V)	x	100	% VOLTAGE DROP
AMP	S1	13	0.221	4	0.136		0.000		0.000		0.000		0.000		0.000		0.000		0.000	0.357	x	350	x	21.6	x	4110	=	0.657	÷	24	x	100	**2.7**
AMP	S2	7	0.119	2	0.068		0.000		0.000		0.000		0.000		0.000		0.000		0.000	0.187	x	340	x	21.6	x	4110	=	0.334	÷	24	x	100	**1.4**
AMP	S3	17	0.289	4	0.136		0.000		0.000		0.000		0.000		0.000		0.000		0.000	0.425	x	300	x	21.6	x	4110	=	0.670	÷	24	x	100	**2.8**
AMP 4	S4A	8	0.136	3	0.102		0.000		0.000		0.000		0.000		0.000		0.000		0.000	0.238	x	350	x	21.6	x	4110	=	0.438	÷	24	x	100	**1.8**
AMP 4	S4B	8	0.136		0.000		0.000		0.000		0.000		0.000		0.000		0.000		0.000	0.136	x	350	x	21.6	x	4110	=	0.250	÷	24	x	100	**1.0**

I x FEET x 21.6 = VOLTAGE DROPPED
C.M.

I = TOTAL CIRCUIT CURRENT
FEET = ONE WAY DISTANCE IN FEET MEASURED FROM SOURCE TO THE LAST DEVICE
21.6 = FORMULA CONSTANT
C.M. = CROSS SECTIONAL AREA OF CONDUCTOR IN CIRCULAR MILS. SEE CHART BELOW

WIRE SIZE	WIRE RESISTANCE	CIR. MILS
AWG 12	1.59 PER 1000'	6530
AWG 14	2.52 PER 1000'	4110
AWG 16	4.02 PER 1000'	2580

USE #12 TO FATC FROM FACP

FCI E3
Version 04.16.18

Global Project Values:
Project Name: OE BUILDINGS
Project ID:
Prepared By: K. LUCCI
Date: 2/25/2025
NEW
Standby Hours: 24
Alarm Mins: 15
Derating Factor: 1.2
Voltage Drop Warning Threshold % : 10

Panel ID: FACP - OE
Location:
Model: IFP-300/ECS Fire Alarm Control Panel
Volts: 24 VDC
Max NAC Current: 3.0 Amps
Max Panel Current: 6.0 Amps

Part.#	Description	Qty	Current Draw Standby	Alarm	Wire AWG & Type	Ohms Per 1000 Ft.	Length(ft) One-Way	Actual Ohms	Volts @ EOL	%Drop
FCI-E3	Fire Alarm Control Unit	1	0.190	0.250						
MS-7AF	Smoke detector	93	0.0279	0.0279				#REF!		
ASD-LS3	Fire-CO detector	0	0.0000	0.0000						
ATD-L3H	Heat detector	126	0.0378	0.0378						
NAC #1	Notification Appl Circuit	cfg.	0.000	0.593	#12 Solid	1.59		0.00	20.40	0.00%
NAC #2	Notification Appl Circuit	cfg.	0.000	0.491	#12 Solid	1.59		0.00	20.40	0.00%
NAC #3	Notification Appl Circuit	cfg.	0.000	1.505	#12 Solid	1.59		0.00	20.40	0.00%
NAC #4	Notification Appl Circuit	cfg.	0.000	0.968	#12 Solid	1.59		0.00	20.40	0.00%
	Total Standby Current (Amps)		0.256	3.873	Total Alarm Current (Amps)					
	Standby Time In Hours		24	0.250	Alarm Time In Minutes / 60		(15 Mins)			
	Total Standby AH Required		6.137	0.968	Total Alarm AH Required					
	Total Combined AH Required		7.10							
	Multiply By The Derating Factor		1.20							
	Minimum Battery AmpHours Required		**8.53**							

Battery size to be supplied **36 Ah Minimum**

Configure Circuits | Print Page

FCI E3
Version 04.16.18

EXISTING

Global Project Values:
Project Name: OE BUILDINGS
Project ID:
Prepared By: KEN LUCCI
Date: 2/25/2025
EXISTING
Standby Hours: 24
Alarm Mins: 15
Derating Factor: 1.2
Voltage Drop Warning Threshold % : 10

Panel ID: FACP ADMIN
Location: FRONT DESK ADMIN DEB
Model: IFP-300/ECS Fire Alarm Control Panel
Volts: 24 VDC
Max NAC Current: 3.0 Amps
Max Panel Current: 6.0 Amps

Part.#	Description	Qty	Current Draw Standby	Alarm	Wire AWG & Type	Ohms Per 1000 Ft.	Length(ft) One-Way	Actual Ohms	Volts @ EOL	%Drop
FCI-E3	Fire Alarm Control Unit	1	0.190	0.250						
								#REF!		
					#12 Solid	(Amps)				
					Alarm Time In Minutes / 60		(15 Mins)			
	Total Standby Current (Amps)		0.190	0.250	Total Alarm AH Required					
	Standby Time In Hours		24	0.250						
	Total Standby AH Required		4.560	0.063						
	Total Combined AH Required		4.62							
	Multiply By The Derating Factor		1.20							
	Minimum Battery AmpHours Required		**5.55**							

Battery size to be supplied **18 Ah Minimum**

Configure Circuits | Print Page

OE BUILDINGS VOLTAGE DROP AND BATTERY CALCULATIONS

SCALE: NONE

1 - E701

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-124867 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 03/12/2026

REV#	DESCRIPTION	DATE
	.	.
	.	.
	.	.
	.	.
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	.	.
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STAMP

REGISTERED PROFESSIONAL ENGINEER
KENNETH W. LUCCI
No. E 8340
Exp. 09/30/2026
ELECTRICAL
STATE OF CALIFORNIA

LUCCI & ASSOCIATES
CONSULTING ELECTRICAL ENGINEERS
3251 CORTE MALPASO, #311
CAMARILLO, CA 93012-8894
PHONE (805) 389-6520 FAX (805) 389-6519

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SHEET TITLE: BUILDING OE - VOLTAGE DROP AND BATTERY CALCULATIONS

PROJECT: FIRE ALARM FOR OCCUPATIONAL EDUCATION BUILDING
OXNARD COLLEGE
OXNARD, CA 93033

DRAWN: LK/DS/IT
CHECKED: K. LUCCI
DATE: 7/2/2025
SCALE: AS NOTED
JOB NO. 24-905
SHEET: E701
OF: SHEETS:

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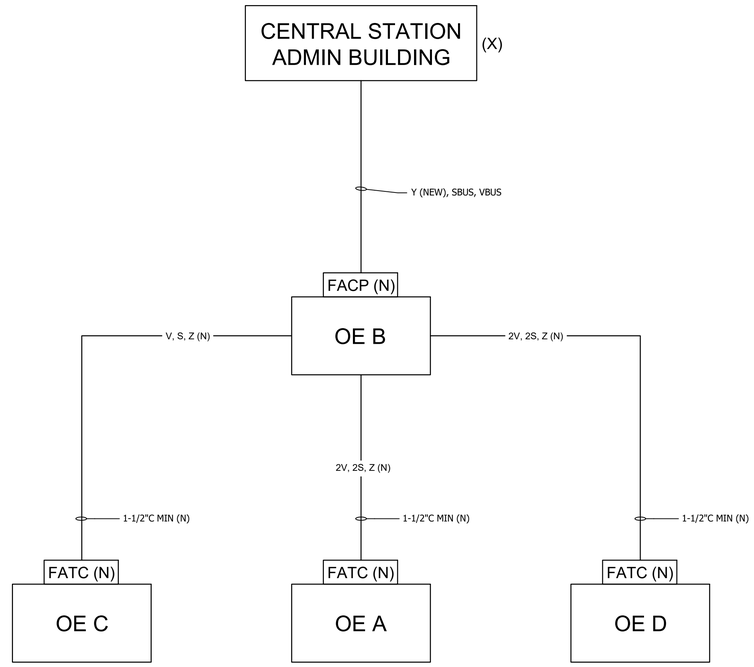
Drafter: CM02 Paper Size: 11.0
Drawing: G:\24\905\ELSheets\24-905 E701.dwg
Attached XREFS:
Attached Images:
Attached Shapes:
Attached OLE Objects:
Attached TB Any:

Drafter: CM01: G:\24\905\ELSheets\24-905 E701.dwg: DATE: JUN 24, 2025 TIME: 8:15 AM



SITE FA RISER DIAGRAM 1

SCALE: NONE - E702

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APP: 03-124867 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 03/12/2026

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REGISTERED PROFESSIONAL ENGINEER
KENNETH W. LUCCI
No. E 8340
Exp. 09/30/2026
ELECTRICAL
STATE OF CALIFORNIA

LUCCI & ASSOCIATES
CONSULTING ELECTRICAL ENGINEERS
321 CORTE MALPASO, #311
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SHEET TITLE: SITE FA RISER DIAGRAM

PROJECT:
FIRE ALARM FOR
OCCUPATIONAL EDUCATION
BUILDING
OXNARD COLLEGE
OXNARD, CA 93033

DRAWN: LK/DS/IT
CHECKED: K. LUCCI
DATE: 7/2/2025
SCALE: AS NOTED
JOB NO. 24-905
SHEET: E702
OF: SHEETS:

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DRAWING: G:\24\905\EL\Sheets\24-905 E702.dwg
DRAFTER: CM02 DRAWING FILENAME: 24-905 E702 PATHNAME: G:\24\905\EL\Sheets
PLOT BY: CM02 DATE: 6 February 2026 TIME: 4:10 pm
SAVE DATE: 7/2/2025 3:07:05 PM PLOT DATE: 2/6/2026 4:10:18 PM

EMERgency 24

999 East Touhy Ave.
Suite 500
Des Plaines, IL 60018

Central Station Monitored Alarm System

Certificate of Installation

This is to certify that EMERgency24, Inc. monitors an alarm system installed at the premises of:

Name:_____ Installation Date:_____

Address:_____ City:_____ State:_____ Zip:_____

The alarm system is monitored for the following conditions:

☐ Burglary	☐ Fire	☐ Medical Emergency
☐ Autotest	☐ Holdup/Panic	☐ Open/Close Supervision
☐ Radio Supervision	☐ 2-Way Voice Supervision	☐ Other:_____

Installation Company:_____ Date:_____

Authorized Signature:_____ Title:_____

FM APPROVED

Project ID# PR463729
Issued

Certificate of Compliance

This is to certify that the central station service company indicated below is listed in the Approval Guide, a publication of FM Approvals, as eligible to use the <FM> Approval mark in conjunction with protected property installations it has Placarded as being in compliance with the equipment and service requirements of FM Approval Standard 3011 *CENTRAL STATION SERVICE FOR FIRE ALARMS AND PROTECTIVE EQUIPMENT SUPERVISION*.

CENTRAL STATION SERVICE - The installation, testing and maintenance of signaling systems wherein fire alarm and related supervisory, trouble and test signals are initiated at a subscribing property and monitored at a constantly attended central station where properly trained personnel take prescribed action on those signals including retransmission of the signals, dispatch of runners to the protected property and appropriate record keeping. FM Approved central station service is required to be provided under a single contract.

This central station service company was examined and Approved in accordance with FM Approval Standard 3011 (Effective Date April 1999) for the following category:

( ) **CENTRAL STATION COMPANY (COMPLETE SERVICE)** - Capable of providing all aspects of central station service as described above.

(X) CENTRAL STATION COMPANY (MONITORING ONLY) - Capable of providing only monitoring, retransmission, dispatch and record keeping aspects as described above. All other aspects of central station service must be subcontracted to an FM Approved CENTRAL STATION COMPANY (COMPLETE SERVICE) or an FM Approved FIRE ALARM SERVICE – LOCAL COMPANY.

( ) **FIRE ALARM SERVICE - LOCAL COMPANY** - Capable of providing only installation, testing, maintenance and runner service aspects as described above. All other aspects of central station service must be subcontracted to an FM Approved CENTRAL STATION COMPANY (COMPLETE SERVICE) or an FM Approved CENTRAL STATION COMPANY (MONITORING ONLY).

Company:
EMERgency 24
999 E Touhy Ave, Suite 500
Des Plaines IL 60018
United States

Service Center(s)
Same

THIS CERTIFICATE EXPIRES ON DECEMBER 31, 2025
Continued Approval requires a satisfactory re-examination prior to the date shown above.

To verify the availability of the Approved product, please refer to www.approvalguide.com

FM Approvals®
Member of the FM Global Group

FM Approvals
1151 Boston-Providence Turnpike
Norwood, MA 02062

David Waite
AVP, Technical Team Manager
Electrical Systems

UL

Party Site No.: **596581**
Expires: **31-Dec-2025**

CERTIFICATE OF COMPLIANCE

THIS IS TO CERTIFY that the Alarm / Service Company identified below is included by - UL Solutions (UL) in its UL Product iQ directories as eligible to use the UL Listing Mark in connection with Certificated Systems. The only evidence of compliance with UL's requirements is the issuance of a UL Certificate for the System and the Certificate is active under UL's Certificate Verification Service. This Certificate does not apply in any way to the communication channel between the protected property and any facility that monitors signals from the protected property.

Listed Service From: DES PLAINES , ILLINOIS

Alarm / Service Company: (596581)

EMERGENCY TWENTY-FOUR INC
999 E TOUHY AVE STE 500
DES PLAINES , Illinois 60018-2749 UNITED STATES

The Alarm / Service Company is Listed in the following Certificate Service Categories:

File	Vol No.	CCN	Listing Category
BP5643	1	CVSU	Monitoring Stations, Residential
S2585	1	UUFX	Central-station Protective Signaling Services

THIS CERTIFICATE EXPIRES ON 31-DEC-25

"LOOK FOR THE UL ALARM / SYSTEM CERTIFICATE"

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-124867 INC: A
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 03/12/2026

REV#	DESCRIPTION	DATE
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	.	.
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SHEET TITLE: CERTIFICATION PAGE

PROJECT:
FIRE ALARM FOR
OCCUPATIONAL EDUCATION
BUILDING
OXNARD COLLEGE
OXNARD, CA 93033

DRAWN: LK/DS/IT
CHECKED: K. LUCCI
DATE: 7/2/2025
SCALE: AS NOTED
JOB NO. 24-905
SHEET: E703
OF: SHEETS:

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SAVE DATE: 6/26/2025 11:34:44 AM

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PLOT BY: CM02

DRAFTER: CM02
DATE: 6 February 2026

DRAWING: G:\24\905\ELSheets\24-905 E703.dwg
TIME: 4:10 pm
PLOT DATE: 2/6/2026 4:10:20 PM

Drafter:CM02 Paper Size: 12.0
Drawing:G:\24\905\ELSheets\24-905 E703.dwg
Plot By: CM02 on 6/26/2025
Attached XREFS:
Attached Image Files:G:\xref\24-905 TB.dwg