PROJECT ADDRESS:
177 N SAN PEDRO RD, SAN RAFAEL, CA 94903

PROJECT DESCRIPTION:
PROJECT CONSISTS OF THE ALTERATION OF BUILDINGS G AND H INCLUDING BUT NOT LIMITED TO :

1. UPGRADE OF THE HVAC, FIRE ALARM AND ELECTRICAL SYSTEM UPGRADES SYSTEMS
2. STRUCTURAL WORK TO SUPPORT BUILDING ALTERATIONS
3. NEW STUDENT RESTROOMS IN BUILDING G AND NEW STAFF RESTROOM IN BUILDING H
4. MINOR SITE IMPROVEMENTS

PROJECT SUMMARY

DIVISION OF THE STATE ARCHITECT (DSA)
DSA OAKLAND REGIONAL OFFICE
1515 CLAY ST, #1201
OAKLAND, CA 94612
P: 510.622.3101

GOVERNING AGENCIES

THIS PROJECT SHALL COMPLY WITH ALL FEDERAL, STATE AND LOCAL CODES INCLUDING, BUT NOT LIMITED TO, THE FOLLOWING:

FEDERAL:
AMERICANS WITH DISABILITIES ACT (ADA)

2010 ADA STANDARDS FOR ACCESSIBLE DESIGN

STATE OF CALIFORNIA PARTIAL LIST OF APPLICABLE CODES

2022 BUILDING STANDARDS ADMINISTRATIVE CODE (CAC)
CALIFORNIA CODE OF REGULATIONS (CCR) PART 1, TITLE 24 C.C.R.

2022 CALIFORNIA BUILDING CODE (CBC)
CALIFORNIA CODE OF REGULATIONS (CCR) TITLE 24, PART 2
(2021 INTERNATIONAL BUILDING CODE WITH THE INTERNATIONAL CODE COUNCIL
WITH 2022 CALIFORNIA AMENDMENTS)

2022 CALIFORNIA ELECTRICAL CODE (CEC)
CALIFORNIA CODE OF REGULATIONS (CCR) TITLE 24, PART 3
(2020 NATIONAL ELECTRICAL CODE OF THE NATIONAL FIRE PROTECTION ASSOCIATION, NFPA, WITH 2019 CALIFORNIA AMENDMENTS)

2022 CALIFORNIA MECHANICAL CODE
CALIFORNIA CODE OF REGULATIONS (CCR) TITLE 24, PART 4
(2021 UNIFORM MECHANICAL CODE OF THE INTERNATIONAL ASSOCIATION OF PLUMBING AND MECHANICAL OFFICIALS, IAPMO, WITH 2022 CALIFORNIA AMENDMENTS)

2022 CALIFORNIA PLUMBING CODE
CALIFORNIA CODE OF REGULATIONS (CCR) TITLE 24, PART 5
(2021 UNIFORM PLUMBING CODE OF THE INTERNATIONS ASSOCIATION OF THE PLUMBING AND MECHANICAL OFFICIALS, IAPMO, WITH 2022 CALIFORNIA AMENDMENTS)

2022 CALIFORNIA ENERGY CODE
CALIFORNIA CODE OF REGULATIONS (CCR) TITLE 24, PART 6

2022 CALIFORNIA FIRE CODE
CALIFORNIA CODE OF REGULATIONS (CCR) TITLE 24, PART 9
(2021 INTERNATIONAL FIRE CODE OF THE INTERNATIONAL CODE COUNCIL, WITH 2022 CALIFORNIA AMENDMENTS)

2022 CALIFORNIA GREEN BUILDING STANDARDS CODE (CAL GREEN CODE)
CALIFORNIA CODE OF REGULATIONS (CCR) TITLE 24, PART 11

2022 CALIFORNIA REFERENCED STANDARDS CODE
CALIFORNIA CODE OF REGULATIONS (CCR) TITLE 24, PART 12

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

PARTIAL LIST OF APPLICABLE STANDARDS:

2022 BUILDING CODE (FOR SFM) REFERENCED STANDARDS CHAPTER 35

NFPA 13	AUTOMATIC SPRINKLER SYSTEM	2022 EDITION
NFPA 17	DRY CHEMICAL EXTINGUISHING SYSTEMS	2021 EDITION
NFPA 17A	WET CHEMICAL SYSTEMS	2021 EDITION
NFPA 72	NATIONAL FIRE ALARM CODE	2022 EDITION
NFPA 80	FIRE DOORS AND OTHER OPENING PROTECTIVES	2019 EDITION
NFPA 2001	CLEAN AGENT FIRE EXTINGUISHING SYSTEMS	2018 EDITION
UL 464	AUDIBLE SIGNAL APPLIANCES	2003 EDITION
UL 521	HEAT DETECTORS FOR FIRE PROTECTION SIGNAL SYSTEMS	1999 EDITION

APPLICABLE STANDARDS
For a list of applicable standards, including California amendments to the NFPA Standards, refer to CBC Chapter 35 and CFC Chapter 80.

APPLICABLE CODES

SVA ARCHITECTS IS THE DESIGNATED ARCHITECT OF RECORD AS REQUIRED BY THE STATE OF CALIFORNIA. THE ARCHITECT OF RECORD SHALL REVIEW SUBMITTALS AND COORDINATE SUBMITTALS AND DEFERRED SUBMITTALS THROUGH THE DIVISION OF THE STATE ARCHITECT. DEFERRED SUBMITTALS SHALL NOT BE INSTALLED UNTIL THEIR DESIGN AND SUBMITTAL DOCUMENTS HAVE BEEN APPROVED BY THE DIVISION OF THE STATE ARCHITECT.

DSA SHALL BE NOTIFIED IN WRITING BY THE OWNER IF THE ARCHITECT OF RECORD IS CHANGED OR IS UNABLE TO CONTINUE TO PERFORM THE DUTIES. THE OWNER SHALL DESIGNATE A SUBSTITUTE ARCHITECT OR ENGINEER OF RECORD WHO SHALL PERFORM ALL OF THE DUTIES REQUIRED OF THE ORIGINAL ARCHITECT OF RECORD.

REVIEW AND COMMENT ON SUBMITTALS AND DEFERRED SUBMITTALS SHALL NOT RELIEVE THE AUTHOR OF THE DOCUMENTS OR THE CONTRACTOR FROM COMPLIANCE WITH ALL APPLICABLE CODES AND THE REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS. THE REVIEW IS ONLY FOR GENERAL CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND GENERAL COMPLIANCE WITH INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR CONFIRMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS, SELECTING FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION, COORDINATING HIS WORK WITH THAT OF OTHER TRADES, AND PERFORMING HIS WORK IN A SAFE AND SATISFACTORY MANNER.

ARCHITECT OF RECORD

STATEMENT OF GENERAL CONFORMANCE

APPLICATION #: 01-121181 **FILE #: 21-39**

THE (**STRUCTURAL, MECHANICAL, PLUMBING, ELECTRICAL AND FIRE ALARM**) DRAWINGS OR SHEETS LISTED IN THE INDEX ON THIS SHEET HAVE BEEN PREPARED BY OTHER DESIGN PROFESSIONALS OR CONSULTANTS WHO ARE LICENSED AND/OR AUTHORIZED TO PREPARE SUCH DRAWINGSIN 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
2. COORDINATION WITH MY PLANS AND SPECIFICATIONS AND IS ACCEPTABLE FOR INCORPORATION INTO THE CONSTRUCTION OF THE PROJECT.

THIS 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 SECTION 4-336, 4-341 AND 4-344 OF TITLE 24, PART 1 (TITLE 24, PART 1 SECTION 4-316(b))

GENERAL CONFORMANCE STATEMENT

OWNER
SAN RAFAEL CITY SCHOOLS
320 NOVA ALBION WAY,
SAN RAFAEL, CA 94903
CONTACT: DAN ZAICH
P: 415.492.3200

STRUCTURAL
KPFF
45 FREMONT STREET
28TH FLOOR
SAN FRANCISCO, CA 94105
CONTACT: BLAKE DILSWORTH
P: 415.989.1004

PROGRAM MANAGER
VAN PELT CONSTRUCTION SERVICES
4707 MANGELS BLVD
FAIRFIELD, CA 94534
CONTACT: HECTOR DELEON
P: 415.492.3215

MEP/FP/LV
tk1sc
15231 LAGUNA CANYON ROAD, SUITE 100
IRVINE,CA 92618
CONTACT: BILL VOLLER
P: 949.750.5800

ARCHITECT
SVA ARCHITECTS
7901 STONERIDGE DR, SUITE 100,
PLEASANTON, CA 94588
CONTACT: VELMA ANELO
P: 510.267.3180

CIVIL
BKF ENGINEERS
300 FRANK OGAWA PLAZA SUITE 380
OAKLAND, CA 94612
CONTACT: KEVIN WONG
P: 510.899.7300

PROJECT DIRECTORY

1. ALL WORK SHALL CONFORM TO TITLE 24, CALIFORNIA CODE OF REGULATIONS (CCR).

2. CHANGES TO THE APPROVED DRAWINGS AND SPECIFICATIONS SHALL BE MADE BY AN ADDENDUM OR A CHANGE ORDER APPROVED BY THE DIVISION OF THE STATE ARCHITECT (DSA), AS REQUIRED BY SECTION 4-338, PART 1, TITLE 24, CCR.

3. A DSA CERTIFIED PROJECT INSPECTOR EMPLOYED BY THE DISTRICT (OWNER) AND APPROVED BY DSA SHALL PROVIDE CONTINUOUS INSPECTION OF THE WORK. THE DUTIES OF THE INSPECTOR ARE DEFINED IN SECTION 4-342, PART 1, TITLE 24, CCR: CLASS 3.

4. CONSTRUCTION CHANGE DOCUMENTS (CAC, SECTION 4-338(C)) MUST BE SIGNED BY A/E OF RECORD, STRUCTURAL ENGINEER, AND DSA. ALSO REQUIRED BY AS REQUIRED BY DSA IR A-6.

5. A COPY OF CCR TITLE 24, PARTS 1 THROUGH 5 MUST BE KEPT ON SITE DURING CONSTRUCTION.

6. WORK SHALL COMPLY WITH THE PROVISIONS OF CHAPTER 33 OF THE CBC AND CFC, "FIRE SAFETY DURING CONSTRUCTION AND DEMOLITION".

7. A DSA ACCEPTED TESTING LABORATORY DIRECTLY EMPLOYED BY THE DISTRICT (OWNER) SHALL CONDUCT ALL THE REQUIRED TESTS AND INSPECTIONS FOR THE PROJECT.

8. THE INTENT OF THESE DRAWINGS AND SPECIFICATIONS IS THAT THE WORK OF THE ALTERATION, REHABILITATION OR RECONSTRUCTION IS TO BE IN ACCORDANCE WITH TITLE 24, CCR. SHOULD ANY EXISTING CONDITIONS SUCH AS DETERIORATION OR NON-COMPLYING CONSTRUCTION BE DISCOVERED WHICH IS NOT COVERED BY THE CONTRACT DOCUMENTS WHEREIN THE FINISHED WORK WILL NOT COMPLY WITH TITLE 24, CCR, A CONSTRUCTION CHANGE DOCUMENT (CCD), OR A SEPERATE SET OF PLANS AND SPECIFICATIONS, DETAILING AND SPECIFYING THE REQUIRED WORK SHALL BE SUBMITTED TO AND APPROVED BY DSA BEFORE PROCEEDING WITH THE WORK. (SECTION 4-317(C), PART 1, TITLE 24, CCR).

9. 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 BEFOR PROJECT COMPLETION. AN ACCEPTANCE TEST IS A FUNCTIONAL PERFORMANCE TEST TO HELP ENSURE THAT NEWLY INSTALLED EQUIPMENT IS OPERATING AND IN COMPLIANCE WITH THE ENERGY CODE.

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

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

ENVELOPE AND PROCESS EQUIPMENT ACCEPTANCE TESTS SHALL BE PERFORMED BY THE INSTALLING CONTRACTOR, ENGINEER/ARCHITECT OF RECORD OR THE OWNER'S AGENT.

A LISTING OF CERTIFIED ATT CAN BE FOUND AT: https://www.energy.ca.gov/programs-and-topics/programs/acceptance-test-technician-certification-provider-program/acceptance.

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

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

10. ALL ADDENDA MUST BE SIGNED BY ARCHITECT AND APPROVED BY DSA. (CAC, SECTION 4-338(B).

11. ALL SUBSTITUTIONS AFFECTING DSA REGULATED ITEMS SHALL BE CONSIDERED AS A CONSTRUCTION CHANGE DOCUMENT OR ADDENDA, AND SHALL BE APPROVED BY DSA PRIOR TO FABRICATION AND INSTALLATION. (CAC, SECTION 4-338(C), IR A-6).

12. PROJECT INSPECTOR AND TESTING LAB MUST BE EMPLOYED BY THE OWNER AND APPROVED BY A/E OF RECORD, STRUCTURAL ENGINEER, AND DSA

GENERAL NOTES

I CERTIFY THAT ALL DRAWINGS OR SHEETS LISTED IN THE INDEX ON THIS SHEET ARE IN GENERAL CONFORMANCE AND HAVE BEEN COORDINATED.

LICENSED ARCHITECT — REGISTERED PROFESSIONAL — No. C-18301 Jan 31, 2025 — STATE OF CALIFORNIA

ADD ALTERNATES:

1. 18' X 18' CANTILEVER SHADE STRUCTURE PER DSA PC-04-121917AND ALL WORK ASSOCIATED WITH INSTALLATION. COORDINATE LOCATION WITH ARCHITECT AND DISTRICT BEFORE COMMENCING WORK. SEE DEMOLITION AND IMPROVEMENTS SITE PLANS FOR MORE INFO. SEE SHADE STRUCTURE DSA APPROVED PRE-CHECKED SHEETS INCLUDED IN THE SET.
2. EVALUATE PORTION OF WALL ON SOUTH ELEVATION OF BUILDING H FOR POTENTIAL WATER DAMAGE TO WALL FRAMING AND/OR INTERIOR AND EXTERIOR BUILDING FINISHES. NOTIFY ARCHITECT OF EVALUATION AND REQUIRED REPAIRS. IF REQUIRED WORK AFFECTS THE BUILDING FRAMING ELEMENTS, A POST APPROVAL DSA APPROVED ADDENDUM/REVISION SHALL BE REQUIRED BEFORE COMMENCING REPAIR WORK.
3. ON SOUTH SIDE OF BUILDING H, REPLACE EXISTING FIBER CEMENT SIDING WITH INTEGRAL COLOR CEMENT PLASTER FINISH AND REQUIRED ACCESSORIES AS REQRUIED TO MATCH EXISTING. SEE SHEET A61.1 FOR CEMENT PLASTER DETAILS. SEE 11, 15, 16//A61.1 FOR CEMENT PLASTER FINISH DETAILS AND 9,10,11/A62.3 STOREFRONT SYSTEM DETAILS.
4. ALL WORK ASSOCIATED WITH INSTALLATION OF CONCRETE RAMP SOUTH OF BUILDING G. REFER SHEETS C300, C500 AND A60.4.

ALTERNATES

THE FOLLOWING ITEMS ARE DESIGN-BUILD SYSTEMS AND WILL BE A DEFERRED SUBMITTAL BY THE CONTRACTOR AT A LATER DATE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENGINEERING AND CALCULATIONS FOR APPLICABLE ITEMS. THE CONTRACTOR SHALL RETAIN THE SERVICES OF A CIVIL OR STRUCTURAL ENGINEER WHO SHALL BE RESPONSIBLE FOR THE DESIGN. THE CONTRACTOR SHALL SUBMIT CALCULATIONS AND SHOP DRAWINGS TO THE ARCHITECT OF RECORD, WHO SHALL REVIEW THEM AND FORWARD THEM TO THE DIVISION OF THE STATE ARCHITECT WITH NOTATION INDICATING THAT THE DEFERRED SUBMITTAL DOCUMENTS HAVE BEEN FOUND TO BE IN GENERAL CONFORMANCE WITH THE DESIGN OF THE BUILDING. THE SUBMITTAL ITEMS SHALL NOT BE INSTALLED UNTIL THEIR DESIGN AND SUBMITTAL DOCUMENTS HAVE BEEN APPROVED BY THE DIVISION OF THE STATE ARCHITECT.

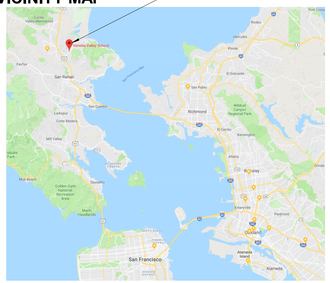
1. ALL STOREFRONT SYSTEMS

FABRICATION AND INSTALLATION OF DEFERRED SUBMITTALS ITEMS SHALL NOT BE STARTED UNTIL CONTRACTOR'S DRAWINGS, SPECIFICATIONS AND ENGINEERING CALCULATIONS FOR THE ACTUAL SYSTEMS TO BE INSTALLED HAVE BEEN ACCEPTED AND SIGNED BY THE ARCHITECT OR STRUCTURAL ENGINEER AND APPROVED BY DSA.

DEFERRED APPROVALS

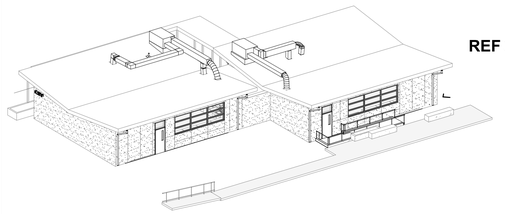
VICINITY MAP

VICINITY MAP

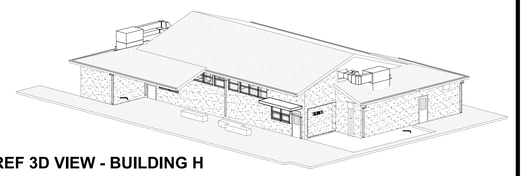


LOCAL STREET MAP

GENERAL CONFORMANCE STATEMENT



REF 3D VIEW - BUILDING G



REF 3D VIEW - BUILDING H

DSA SUBMITTAL

GENERAL

GEN-01	GENERAL INFO AND SHEET INDEX
GEN-03	PROJECT NOTES
GEN-04	ACCESSIBILITY NOTES AND DETAILS
GEN-05	PROJECT COMPLIANCE SIGNAGE
4	
Grand total: 4	

CIVIL

C100	TITLE SHEET & GENERAL NOTES
C200	DEMOLITION PLAN
C201	DEMOLITION PLAN
C300	SITE IMPROVEMENTS
C301	SITE IMPROVEMENTS
C400	CONSTRUCTION DETAILS
C500	EROSION CONTROL
C501	EROSION CONTROL
8	
Grand total: 8	

ARCHITECTURE

A00.1	SITE PLAN - DEMOLITION
A01.1	SITE PLAN - IMPROVEMENTS
A02.1	OCCUPANCY AND SIGNAGE PLAN
A11.G	BUILDING G - FLOOR PLAN AND RCP
A11.H	BUILDING H - FLOOR PLAN AND RCP
A15.1	ROOF PLANS
A21.G	BUILDING ELEVATIONS- BUILDING G
A21.H	BUILDING ELEVATIONS- BUILDING H
A40.G1	INTERIOR ELEVATIONS - BUILDING G
A40.G2	INTERIOR ELEVATIONS - BUILDING G
A40.H1	INTERIOR ELEVATIONS - BUILDING H
A40.H2	INTERIOR ELEVATIONS - BUILDING H
A48.G	BUILDING G - RESTROOMS
A48.H	BUILDING H - RESTROOMS
A50.1	SCHEDULES
A50.2	SCHEDULES - FLOOR FINISH
A60.1	CONSTRUCTION ASSEMBLIES- TYPICAL DETAILS
A60.4	CEILING AND MISC DETAILS
A61.0	ROOF DETAILS
A61.1	WALL AND FLOOR DETAILS
A62.3	DOOR AND STOREFRONT DETAILS
A62.4	WATERPROOFING DETAILS
A64.4	CASEWORK DETAILS AND MISC DETAILS
23	
Grand total: 23	

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

LIGHTING CONTROLS ACCEPTANCE TESTS MST BE PERFORMED BY A CERTIFIED LIGHTING CONTROLS ACCEPTANCE TEST TECHINICIAN (ATT).

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

ENVELOPE AND PROCESS EQUIPMENT ACCEPTANCE TESTS SHALL BE PERFORMED BY THE INSTALLING CONTRACTOR, ENGINEER/ ARCHITECT OF RECORD OR THE OWNER'S AGENT.

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

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

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

STRUCTURAL

S01	TITLE PAGE
S11	GENERAL NOTES
S21-G	BLDG G FOUNDATION & ROOF FRAMING PLAN
S21-H	BLDG H FOUNDATION & ROOF FRAMING PLAN
S41-G	EXTERIOR WALL ELEVATIONS
S41-H	EXTERIOR WALL ELEVATIONS
S50	DETAILS
S51	DETAILS
8	
Grand total: 8	

MECHANICAL

M00-0	MECHANICAL LEGEND ABBREVIATIONS & NOTES
M00-1	MECHANICAL SCHEDULES
M00-2	MECHANICAL TITLE 24 COMPLIANCE FORMS
M00-3	MECHANICAL TITLE 24 COMPLIANCE FORMS
M10-1	MECHANICAL DEMO FLOOR PLAN - BLDG H
M10-2	MECHANICAL DEMO FLOOR PLAN - BLDG G
M11-1	MECHANICAL FLOOR PLAN -BLDG H
M11-2	MECHANICAL FLOOR PLAN -BLDG G
M12-1	MECHANICAL DEMO ROOF PLANS - BLDG G AND H
M13-1	MECHANICAL ROOF PLANS -BLDG G AND H
M30-1	MECHANICAL DETAILS
M30-2	MECHANICAL DETAILS
M40-1	MECHANICAL CONTROLS
13	
Grand total: 13	

ELECTRICAL

E00-0	SYMBOLS LIST
E01-1	SITE PLAN
E11-1	BLDG G -FLOOR PLANS
E11-2	BLDG H -FLOOR PLANS
E12-1	ENLARGED TECHNOLOGY PLAN -BLDG G
E12-2	ENLARGED TECHNOLOGY PLAN -BLDG H
E13-1	ROOF PLANS
E20-1	SINGLE LINE DIAGRAM
E20-2	PANEL SCHEDULES
E20-3	TECHNOLOGY SYSTEMS DIAGRAMS
E20-4	TECHNOLOGY SYSTEMS DIAGRAMS
E20-5	CLASSROOM AV SYSTEMS DIAGRAM
E30-1	FIXTURE SCHEDULES
E30-2	SEQUENCE OF OPERATIONS
E30-3	LIGHTING DISTRIBUTION SPECS
E30-4	DLCS SCHEDULE AND PRODUCT SPECS
E30-5	TITLE 24 INTERIOR -BLDG G
E30-6	TITLE 24 EXTERIOR -BLDG G
E30-7	TITLE 24 INTERIOR -BLDG H
E30-8	TITLE 24 EXTERIOR -BLDG H
E50-1	DETAILS
E60-1	TECHNOLOGY SYSTEMS DETAILS
E60-2	CLASSROOM AV SYSTEMS DETAIL
E60-3	CLASSROOM AV SYSTEMS DETAIL
FA00-1	FIRE ALARM INFORMATION
FA00-2	FIRE ALARM DETAILS
FA00-3	FIRE ALARM RISER DIAGRAM
FA10-1	FIRE ALARM PLAN - BLDG G AND H
28	
Grand total: 28	

PLUMBING

P00-0	LEGENDS AND NOTES
P00-1	SCHEDULES
P01-1	PLUMBING SITE PLAN
P11-1	BLDG G PLUMBING FLOOR PLANS
P11-2	BLDG H PLUMBING FLOOR PLANS
P12-1	PLUMBING DEMO ROOF PLANS - BLDG G ANDH
P13-1	PLUMBING ROOF PLANS - BLDG G AND H
P30-1	DETAILS
8	
Grand total: 8	

SHADE STRUCTURE

T-1.0	TITLE SHEET
T-2.0	UNIT SELECTION
T-3.0	T&I FORMS
16.1-1000	PRODUCT INFORMATION
16.2-2000	SPECIFICATIONS
5	
Grand total: 5	

TOTAL # OF SHEETS: 97

SHEET INDEX

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-121181 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 07/02/2024

OWNER: SAN RAFAEL CITY SCHOOLS

PROJECT NAME: VENETIA VALLEY BLDGS G AND H ALTERATION

CLIENT ADDRESS: 177 N San Pedro Rd, San Rafael, CA 94903

REGISTERED ARCHITECT — REGISTERED PROFESSIONAL — No. C-18301 Jan 31, 2025 — STATE OF CALIFORNIA

REVISIONS:

	DESCRIPTION	DATE
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

PROJECT NO: 2017 / 40104
DATE ISSUED: 06/21/2024
SCALE:

SHEET NUMBER: GEN-01

SHEET TITLE:

GENERAL INFO AND SHEET INDEX

SVA ARCHITECTS

7901 STONERIDGE DR, SUITE 100, PLEASANTON, CA 94588
T 925.374.9884 WWW.SVA-ARCHITECTS.COM

GENERAL NOTES

1. THESE DOCUMENTS AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, ARE THE PROPERTY OF SVA ARCHITECTS, INC., AND ARE NOT TO BE USED, IN WHOLE OR IN PART FOR ANOTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF MVE INSTITUTIONAL INC.

2. THE WORK SHOWN ON THESE DRAWINGS AS EXISTING CONDITIONS WAS PREPARED FROM INFORMATION FURNISHED BY THE OWNER. WHILE THIS INFORMATION IS BELIEVED TO BE RELIABLE, SVA ARCHITECTS, INC. IS NOT RESPONSIBLE FOR THE ACCURACY OR ADEQUACY OF ANY WORK SHOWN AS EXISTING NOR IS MVE INSTITUTIONAL INC. RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH MAY HAVE BEEN INCORPORATED INTO THESE DRAWINGS AS A RESULT.

3. EACH BIDDER SHALL POSSESS AT THE TIME OF BID A CLASS B OR THE APPROPRIATE CLASS C CONTRACTOR'S LICENSE PURSUANT TO PUBLIC CONTRACT CODE SECTION 3300 AND BUSINESS AND PROFESSIONS CODE SECTION 7028.15. THE SUCCESSFUL BIDDER MUST MAINTAIN THE LICENSE THROUGHOUT THE DURATION OF THIS CONTRACT.

4. FIRE SAFETY DURING CONSTRUCTION AND THE DURATION OF THIS CONTRACT:

A. GENERAL: FIRE SAFETY DURING CONSTRUCTION AND DEMOLITION WILL BE ENFORCED IN ACCORDANCE WITH CBC & CFC CHAPTER 33.

B. ACCESS ROADS: FIRE DEPARTMENT ACCESS ROADS SHALL BE ESTABLISHED AND MAINTAINED IN ACCORDANCE WITH SECTION 1410.

C. WATER SUPPLY: WATER MAINS AND HYDRANTS SHALL BE OPERATIONAL IN ACCORDANCE WITH SECTION 1412.

D. BUILDING ACCESS: ACCESS TO BUILDINGS FOR THE PURPOSE OF FIREFIGHTING SHALL BE PROVIDED. CONSTRUCTION MATERIAL SHALL NOT BLOCK ACCESS TO BUILDINGS, HYDRANTS OR FIRE APPLIANCES.

E. ALTERATIONS OF BUILDINGS: SHALL COMPLY WITH APPLICABLE PROVISIONS OF SECTIONS 1405, 1411, 1413, AND 1415.

G. FIRE WATCH: MAINTAIN FIRE WATCH WHEN REQUIRED BY THE BUILDING OFFICIAL AND WHEN EXISTING FIRE PROTECTION SYSTEMS ARE SHUT DOWN FOR ALTERATIONS. FIRE WATCH SHALL REMAIN IN EFFECT UNTIL EXISTING FIRE PROTECTION SYSTEMS ARE RETURNED TO SERVICE OR AS ALLOWED BY THE BUILDING OFFICIAL.

5. PENETRATIONS TO FIRE RATED MATERIALS OR ASSEMBLIES SHALL BE RESTORED TO EQUAL RATING. FIRE STOP SYSTEMS AS LISTED BY UNDERWRITERS LABORATORIES SHALL BE INSTALLED PER FIRE RESISTANCE DIRECTORY. FIRE STOP SYSTEMS SHALL BE AS SPECIFIED.

6. STATEMENT (TITLE 24, PART 6): NONRESIDENTIAL ENERGY STANDARDS COMPLIANCE: THE DESIGN INDICATED HEREIN COMPLIES WITH THE REQUIREMENTS OF THE ENERGY CONSERVATION STANDARDS OF TITLE 24, PART 6, CALIFORNIA CODE OF REGULATIONS. THE PROPOSED BUILDING(S) WILL BE IN COMPLIANCE WITH THE ENERGY CONSERVATION STANDARDS PROVIDED IT (THEY) IS (ARE) BUILT ACCORDING TO THESE DRAWINGS AND SPECIFICATIONS AND PROVIDED ANY FUTURE IMPROVEMENTS ARE COMPLETED ACCORDING TO THE REQUIREMENTS OF TITLE 24, PART 6, CALIFORNIA CODE OF REGULATIONS. THESE PLANS AND SPECIFICATIONS HAVE BEEN PREPARED TO INCLUDE ALL SIGNIFICANT ENERGY CONSERVATION FEATURES REQUIRED FOR COMPLIANCE WITH THE STANDARDS. BUILDING AREAS THAT ARE UNCONDITIONED AND/OR NOT SUBJECT TO THE STANDARDS ARE INDICATED ON THE PLANS.

ENVELOPE MANDATORY MEASURES:

A. INSTALLED INSULATING MATERIALS SHALL HAVE BEEN CERTIFIED BY THE MANUFACTURER TO COMPLY WITH THE CALIFORNIA QUALITY STANDARDS FOR INSULATING MATERIAL.

B. ALL INSULATING MATERIALS SHALL BE INSTALLED IN COMPLIANCE WITH THE FLAME SPREAD RATING AND SMOKE DENSITY REQUIREMENTS OF [TITLE 24, PART 2, CALIFORNIA BUILDING CODE, SECTIONS 719 AND 2603.]

C. ALL EXTERIOR JOINTS AND OPENINGS IN THE BUILDING ENVELOPE THAT ARE POTENTIAL AND OBSERVABLE SOURCES OF AIR LEAKAGE SHALL BE CAULKED, GASKETED, WEATHERSTRIPPED OR OTHERWISE SEALED.

D. SITE CONSTRUCTED DOORS, AND WINDOWS SHALL BE CAULKED BETWEEN THE UNIT AND THE BUILDING, AND SHALL BE WEATHERSTRIPPED (EXCEPT FOR UNFRAMED GLASS DOORS AND FIRE DOORS).

E. MANUFACTURED DOORS AND WINDOWS INSTALLED SHALL HAVE AIR INFILTRATION RATES CERTIFIED BY THE MANUFACTURER IN ACCORDANCE WITH TITLE 24, PART 6, CALIFORNIA CODE OF REGULATIONS, SECTION 116(a)1.

F. MANUFACTURED FENESTRATION PRODUCTS IN THE ENVELOPE OF THE BUILDING, INCLUDING, BUT NOT LIMITED TO, WINDOWS, SLIDING GLASS DOORS, FRENCH DOORS, SKYLIGHTS, CURTAIN WALLS, AND GARDEN WINDOWS MUST BE LABELED FOR U-VALUE IN ACCORDANCE WITH THE (NFRC) NATIONAL FENESTRATION RATING COUNCIL'S INTERIM U-VALUE RATING PROCEDURE.

G. DEMISING WALL INSULATION SHALL BE INSTALLED IN ALL OPAQUE PORTIONS OF FRAMED WALLS (EXCEPT DOORS).

7. INSPECTOR OF RECORD REQUIREMENTS: A. ONE OR MORE INSPECTORS EMPLOYED BY THE OWNER IN ACCORDANCE WITH THE REQUIREMENTS OF TITLE 24 OF THE CALIFORNIA CODE OF REGULATIONS WILL BE ASSIGNED TO THE WORK. THE INSPECTORS DUTIES ARE SPECIFICALLY DEFINED IN SECTION 4-342 OF SAID TITLE 24, PART 1 AND IN ADDITION SHALL BE AS STIPULATED IN INTERPRETATION OF REGULATION DOCUMENT IR A-8. B. INSPECTOR SHALL BE CERTIFIED AS A CLASS [2] INSPECTOR THROUGH THE DIVISION OF THE STATE ARCHITECT INSPECTOR EXAMINATION PROGRAM. INSPECTOR SHALL ALSO BE SPECIFICALLY APPROVED BY THE DIVISION OF THE STATE ARCHITECT FOR THIS PROJECT AT LEAST 10 DAYS PRIOR TO THE START OF ANY WORK FOR THIS PROJECT.

8. ALL WORK SHOWN ON THESE DRAWINGS SHALL COMPLY WITH THE REQUIREMENTS OF TITLE 24, CALIFORNIA CODE OF REGULATIONS (CCR).

9. CHANGES TO THE APPROVED DRAWINGS AND SPECIFICATIONS SHALL BE MADE BY AN ADDENDUM OR A CCD APPROVED BY THE DIVISION OF THE STATE ARCHITECT.

10. GRADING PLANS, DRAINAGE IMPRPOVEMENTS, ROAD AND ACCESS REQUIREMENTS AND ENVIROMENTAL HEALTH CONCIDERATIONS SHALL COMPLY WITH ALL LOCAL ORDINANCES.

11. DRINKING WATER SHALL COMPLY WITH ALL LOCAL HEALTH DEPARTMENT REQUIREMENTS.

12. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE APPLICABLE CODES. ALL ENGINEERING SHALL COMFORM WITH ALL APPLICABLE MUNICIPAL, STATE AND FEDERAL REGULATIONS HAVING JURISDICTION INCLUDING ACCESSIBILITY STANDARDS AND ADA REQUIREMENTS.

13. DO NOT SCALE THE DRAWINGS. THE DRAWINGS ARE NOT NECESSARILY TO SCALE. THE CONTRACTOR SHALL VERIFY ALL CONDITIONS AND DIMENSIONS IN THE FIELD PRIOR TO BIDDING AND START OF CONSTRUCTION. IF DISCREPANCIES ARE FOUND, THE ARCHITECT SHALL BE NOTIFIED FOR CLARIFICATION BEFORE COMMENCING WORK.

14. ALL DIMENSIONS ARE TO FACE OF CONCRETE, FACE OF MASONRY UNITS, CENTERLINE OF COLUMNS AND BEAMS, OR FACE OF STUDS, UNLESS OTHERWIS NOTED. FINISH FLOOR ELEVATIONS ARE TO TOP OF CONCRETE SLAB OR TOP OF INTERIOR PAVING UNLESS NOTED OTHERWISE. CEILING HEIGHT DIMENSIONS ARE TO FINISHED SURFACES UNLESS NOTED OTHERWISE.

15. THE CIVIL, STRUCTURAL, MECHANICAL, PLUMBING, AND ELECTRICAL DRAWINGS ARE SUPPLEMENTARY TO THE ARCHITECTURAL DRAWINGS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO CHECK WITH THE ARCHITECTURAL DRAWINGS BEFORE PROCEEDING WITH INSTALLATION OF CIVIL, STRUCTURAL MECHANICAL, PLUMBING, AND ELECTRICAL WORK. SHOULD THERE BE ANY DISCREPANCIES BETWEEN THE ARCHITECT'S AND THE CONSULTING ENGINEER'S DRAWINGS AND SPECIFICATIONS THAT WOULD CAUSE A CONFLICT, IT SHALL BE BROUGHT TO THE ARCHITECTS ATTENTION FOR CLARIFICATION PRIOR TO INSTALLATION OF SAID WORK. ANY WORK INSTALLED IN CONFLICT WITH THE ARCHITECTURAL DRAWINGS SHALL BE CORRECTED BY THE CONTRACTOR AT HIS EXPENSE AND AT NO ADDITIONAL COST TO THE OWNER OR ARCHITECT.

16. ALL SYMBOLS AND ABBREVIATIONS USED ON THE DRAWINGS ARE CONSIDERED TO BE CONSTRUCTION STANDARDS. IF THE CONTRACTOR HAS QUESTIONS REGARDING ABBREVIATIONS OR THEIR EXACT MEANING, THE ARCHITECT SHALL BE NOTIFIED FOR CLARIFICATION.

17. DETAILS MARKED "TYPICAL" SHALL APPLY IN ALL SIMILAR CASES UNLES SPECIFICALLY INDICATED OTHERWISE.

18. ALL RUBBISH AND DEBRIS RESULTING FROM DEMOLITION AND/OR NEW WORK SHALL BE DISPOSED OF OFF-SITE AND SHALL NOT BE ALLOWED TO ACCUMULATE.

19. SUBMIT SHOP DRAWINGS IN ACCORDANCE WITH SECTION 013000 OF SPECIFICATIONS AND AS REQUIRED BY INDIVIDUAL SPECIFICATION SECTIONS.

20. NO SUBSTITUTIONS WILL BE ALLOWED WITHOUT PRIOR WRITTEN APPROVAL. REQUEST FOR SUBSTITUTION SHALL BE IN ACCORDANCE WITH SECTION 016000 OF SPECIFICATIONS.

21. ALL METAL FRAMING MEMBERS SHALL BE SO ARRANGED AND SPACED AS TO PERMIT INSTALLATION OF PIPE CONDUITS AND DUCT-WORK WITH A MINIMUM OF CUTTING. SHAFT WALLS SHALL BE PROVIDED WITH NECESSARY FRAMES, BRACING, AND SEALANT AROUND THE OPENING.

22. OFFSET STUDS WHERE REQUIRED SO THAT FINISH WALL SURFACE WILL BE FLUSH.

24. DOORS IN RATED WALLS SHALL CONSIST OF SELF-CLOSING, SELF-LATCHING ASSEMBLIES WITH SMOKE AND DRAFT SEALS AT HEAD AND JAMBS. DOOR ASSEMBLY RATINGS SHALL BE AS INDICATED ON DOOR AND ACTIVATED BY SMOKE DETECTORS.

25. INSTALL METAL CORNER BEADS AT ALL EXPOSED GYPSUM BOARD EDGES INSTALL CASING BEADS WHEREVER GYPSUM BOARD, PLASTER, ETC. ABUTS DISSIMILAR FINISH MATERIAL AND PROVIDE SEALANT AS REQUIRED.

26. GYPSUM BOARD SHALL EXTEND TO UNDERSIDE OF STRUCTURE ABOVE AT ALL COLUMNS AND EXTERIOR PERIMETER WALLS UNLESS OTHERWISE NOTED. WELD FURRING CHANNELS TO STEEL COLUMN PRIOR TO FIRE PROOFING WHEN REQUIRED.

27. CONTRACTOR SHALL PROVIDE AND INSTALL ALL STIFFENERS, BRACING, BACK-UP PLATES, AND SUPPORTING BRACKETS REQUIRED FOR THE INSTALLATION OF ALL CASEWORK, STAIR RAILINGS, TOILET ROOM ACCESSORIES AND PARTITIONS, AND OF ALL WALL MOUNTED OR SUSPENDED MECHANICAL, ELECTRICAL, OR MISCELLANEOUS EQUIPMENT.

28. ALL GLAZING SHALL COMPLY WITH THE CONSUMER PRODUCT SAFETY COMMISSION REQUIREMENTS (C.P.S.C.), CFC, AND CBC.

29. CONTACT BETWEEN DISSIMILAR METAL SHALL BE PROTECTED.

30. ALL DOOR SIZES SHOWN ON DOOR SCHEDULE ARE OPENING SIZES. ALLOWANCE FOR THRESHOLDS, ETC. SHALL BE TAKEN OFF DOOR. ALL DOORS AND FRAME SHALL BE REINFORCED WHERE REQUIRED FOR CLOSERS, STOPS, AND HARDWARE.

31. ROOFING SYSTEM SHALL BEAR U.L. LISTING AS A CLASS "A" SYSTEM. ALL MANUFACTURED MATERIALS USED SHALL BEAR THE APPROPRIATE U.L. LABEL.

32. ALL WOOD TRIM, SPACER, FILLER, ETC., THROUGHOUT JOB SHOULD BE FIRE TREATED.

33. INSPECTION AND TESTING LABORATORY MUST BE IN THE EMPLOY OF THE OWNER, NOT THE CONTRACTOR.

34. MINIMUM HEADROOM CLEARANCE AT STAIRS SHALL BE 6'-8" MEASURED VERTICALLY FROM A PLANE PARALLEL AND TANGENT TO THE TREAD NOSING TO THE SOFFIT ABOVE AT ALL POINTS.

35. ALL EXIT DOORS SHALL BE OPERABLE FROM THE INSIDE WITHOUT THE USE OF A KEY OR ANY SPECIAL KNOWLEGE. LOCKING DEVICES SHALL BE OF AN APPROVED TYPE.

36. EXIT SIGNS SHALL HAVE 6" MINIMUM HEIGHT LETTERS AND SHALL CONFORM TO SECTION 1012 OF THE CALIFORNIA BUILDING CODE.

37. FURNISH AND INSTALL ACCESS DOORS, FIRE DAMPERS, ETC. IN CEILING AND WALL CONSTRUCTION LOCATED AS REQUIRED BY INSTALLATION OF MECHANICAL PLUMBING, AND ELECTRICAL WORK AND AS APPROVED BY THE ARCHITECT. PROVIDE RATED ASSEMBLIES IN RATED WALLS AND CEILINGS AND SHALL BE APPROVED BY BUILDING INSPECTOR PRIOR TO INSTALLATION.

38. FURNISH AND INSTALL EMERGENCY LIGHTING AS SPECIFIED AND INDICATED BUT IN NO CASE SHALL THE LIGHT VALUE BE LESS THAN ONE FOOT CANDLE AT FLOOR LEVEL IN ALL EXIT CORRIDORS AND STAIR SHAFTS (CBC SECTION 1006).

39. THERE SHALL BE NO TRENCHES OR EXCAVATIONS 5' OR MORE IN DEPTH INTO WHICH A PERSON IS REQUIRED TO DECEND UNLESS A PERMIT IS OBTAINED FROM THE STATE OF CALIFORNIA DIVISION OF INDUSTRIAL SAFETY PRIOR TO THE ISSUANCE OF A BUILDING OR GRADING PERMIT.

40. THE CONSTRUCTION OR DEMOLITION OF ANY BUILDING, STRUCTURE, SCAFFOLDING OR FALSEWORK MORE THAN 3 STORIES OR 36' IN HEIGHT REQUIRES A PERMIT FROM THE STATE OF CALIFORNIA DIVISION OF INDUSTRIAL SAFETY PRIOR TO THE ISSUANCE OF A BUILDING PERMIT.

41. GLASS DOORS, ADJACENT PANELS AND ALL GLAZED OPENINGS WITHIN 18" OF THE ADJACENT FLOOR SHALL BE GLASS APPROVED FOR IMPACT HAZARD.

42. ALL LIGHT GAUGE METAL STUDS AND BRACING SHALL COMPLY WITH 2013 CALIFORNIA BUILDING CODE.

43. INSTALLATION OF SHORING, UNDERPINNING, AND/OR SLOT CUTTING EXCAVATIONS SHALL BE PERFORMED UNDER THE CONTINUOUS INSPECTION AND APPROVAL OF THE FOUNDATION ENGINEER.

44. ALL CONSTRUCTION SHALL PERFORMED IN ACCORDANCE WITH THE STATE CONSTRUCTION SAFETY ORDERS ENFORCED BY THE STATE DIVISION OF INDUSTRIAL SAFETY.

45. DIMENSIONS AND CONDITIONS AT THE JOB SITE SHALL BE VERIFIED BY ALL CONTRACTORS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO EXAMINE THE EXISTING CONDITIONS PRIOR TO SUBMITTING BIDS TO THE OWNER SINCE PROPOSALS MUST TAKE INTO CONSIDERATION ALL SUCH CONDITIONS THAT MAY AFFECT THE WORK. DISCREPANCIES IN THE DRAWINGS OR BETWEEN THE DRAWINGS AND ACTUAL FIELD CONDITION SHALL BE REPORTED TO THE ARCHITECT. REVISED DRAWINGS OR INSTRUCTIONS SHALL BE ISSUED BY THE OWNER PRIOR TO THE INSTALLATION OF ANY WORK.

46. CONTRACTORS SHALL PROVIDE AND INSTALL ALL CONCRETE HOUSEKEEPING PADS FOR MECHANICAL AND ELECTRICAL EQUIPMENT, AS REQUIRED.

47. ALL GYPSUM WALL BOARD TO BE 5/8" THICK TYPE 'X' UNLESS OTHERWISE NOTED OR REQUIRED FOR SPECIFIC WALL CONSTRUCTION.

48. INSULATION REQUIRED (PER FED. SPEC. HH-1-521E, TYPE III - FIRE RESISTANCE RATED WHERE EXPOSED IN THE EXTERIOR WALL AT THE CEILING PLENUM): ROOF: A. R-30, U.N.O. EXTERIOR WALLS: B. CONCRETE WALLS THEREFORE INSULATION NOT REQUIRED.

49. SUSPENDING CEILING FRAMING SYSTEMS ARE TO BE DESIGNED FOR LATERAL FORCES (CP-0.30 AND WP (MIN) =4SPF) (TABLE 25-A).

50. PROVIDE TEMPERED GLASS AT LOCATIONS REQUIRED BY CBC SECTION 2406 AND BY OTHER APPLICABLE CODE.

51. NOT USED

52. ROOF DRAINS DISCHARGING WATER MUST BE CONDUCTED UNDER THE SIDEWALK

53. DOORS SHALL NOT PROJECT MORE THAN 7 INCHES INTO THE REQUIRED CORRIDOR WIDTH WHEN FULLY OPENED OR MORE THAN ONE HALF INTO THE REQUIRED WIDTH WHEN IN ANY POSITION. (CBC SECTION 1005.7.1)

54. PUBLIC HALLWAYS AND EXIT COURT PASSAGEWAYS TO HAVE 7'-0" CLEAR HEIGHT TO LOWEST PROJECTION. (CBC SECTION 1005.3)

55. OCCUPANCY LOAD SIGNS SHALL BE POSTED IN EACH CLASSROOM, ASSEMBLY ROOM, OR SIMILAR PURPOSE ROOM, HAVING AN OCCUPANT LOAD OF 50 OR MORE.

56. DUCT PENETRATIONS THROUGH PROTECTIVE ELEMENTS OF FIRE RATED CORRIDOR WALLS SHALL BE PROTECTED WITH A COMBINATON FIRE SMOKE DAMPERS PER CBC SECTION 714.

57. NO CHANGES ARE TO BE MADE ON THESE PLANS WITHOUT THE KNOWLEDGE OR CONSENT OF THE ARCHITECT/ENGINEER WHOSE SIGNATURE APPEARS HEREON.

58. THESE DRAWINGS DO NOT CONTAIN THE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY.

59. LOCATIONS OF ALL UTILITIES SHOWN ARE APPROXIMATE AND CONTRACTOR SHALL EXERCISE EXTREME CAUTION IN EXCAVATING AND TRENCHING ON THIS SITE TO AVOID INTERCEPTING EXISTING PIPING OR CONDUITS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE ALL EXISTING UTILITIES WHETHER SHOWN HEREON OR NOT AND TO PROTECT THEM FROM DAMAGE. THE ARCHITECT IS NOT RESPONSIBLE FOR THE LOCATION OF UNDERGROUND UTILITIES OR STRUCTURES WHETHER OR NOT SHOWN OR DETAILED AND INSTALLED BY ANY OTHER CONTRACT. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ARCHITECT SHOULD ANY UNIDENTIFIED CONDITIONS BE DISCOVERED. THE CONTRACTOR SHALL BEAR ALL EXPENSE OF REPAIR OR REPLACEMENT OF UTILITIES OR OTHER PROPERTY DAMAGED BY OPERATIONS IN CONJUNCTION WITH THE PROSECUTION OF THIS WORK.

60. DO NOT SCALE DRAWINGS. THE CONTRACTOR SHALL VERIFY ALL CONDITIONS AND DIMENSIONS IN THE FIELD PRIOR TO BIDDING AND START OF CONSTRUCTION. IF DISCREPANCIES ARE FOUND, THE ARCHITECT SHALL BE NOTIFIED FOR CLARIFICATION BEFORE COMMENCING WORK.

61. ALL DIMENSIONS ARE FACE OF CONCRETE, FACE OF CONCRETE MASONRY UNITS, CENTERLINE OF COLUMNS & BEAMS, OR FACE OF STUDS, UNLESS NOTED OTHERWISE. (NOTE THAT SOME CONCRETE COLUMNS ARE NOT LOCATED ON CENTER OF GRIDLINES) DIMENSIONS ARE TOP OF CONCRETE SLAB OR TOP OF INTERIOR PAVING UNLESS NOTED OTHERWISE.

62. THE PROJECT APPLICANT SHALL COMPLY WITH THE REQUIREMENTS OF THE ENGINEERING DIVISION FOR ALL PUBLIC IMPROVEMENTS.

ACCESSIBILITY NOTES

1. SITE DEVELOPMENT

A. GRADE AND DEVELOP SITE SUCH THAT ALL PRIMARY BUILDING ENTRANCES ARE ACCESSIBLE TO THE PHYSICALLY DISABLED FROM THE PUBLIC WAY AND DISABLED PARKING PROVIDED.

B. ONE ACCESSIBLE ROUTE SHALL CONNECT ACCESSIBLE BUILDINGS, FACILITIES AND SPACES ON THE SAME SITE. WHERE MORE THAN ONE ROUTE IS PROVIDED, ALL ROUTES SHALL BE ACCESSIBLE

C. IF AN ACCESSIBLE ROUTE HAS A CHANGE IN LEVEL GREATER THAN 1/2", THEN A CURB RAMP, RAMP, ELEVATOR, OR PLATFORM LIFT SHALL BE PROVIDED.

D. ALL WALKS, HALLS, CORRIDORS, AISLES, AND OTHER SPACES THAT ARE PART OF AN ACCESSIBLE ROUTE SHALL PROVIDE A MINIMUM CLEAR WIDTH OF 48 INCHES AND A CLEAR HEIGHT OF 80 INCHES.

2. WALKS AND SIDEWALKS

A. WALKS AND SIDEWALKS SUBJECT TO THESE REGULATIONS SHALL HAVE A CONTINUOUS COMMON SURFACE, NOT INTERRUPTED BY STEPS OR BY ABRUPT CHANGES IN LEVEL EXCEEDING 1/2", AND SHALL BE A MINIMUM OF 48 INCHES IN WIDTH.

B. SURFACES WITH A SLOPE OF LESS THAN 6 PERCENT GRADIENT SHALL BE AS SLIP-RESISTANT AS THAT DESCRIBED AS A MEDIUM SALTED FINISH.

C. SURFACES WITH A SLOPE OF 6 PERCENT GRADIENT OR GREATER SHALL BE SLIP-RESISTANT.

D. SURFACE CROSS SLOPES SHALL NOT EXCEED 1:48 (CBC 11B-403.3).

E. WALKS, SIDEWALKS AND PEDESTRIAN WAYS SHALL BE FREE OF GRATINGS WHENEVER POSSIBLE. GRATINGS LOCATED IN THE SURFACE OF ANY OF THESE AREAS, GRID OPENINGS IN THE GRATING SHALL BE LIMITED TO 1/2" IN THE DIRECTION OF TRAFFIC FLOW.

F. ABRUPT CHANGES IN LEVEL ALONG ANY ACCESSIBLE ROUTE SHALL NOT EXCEED 1/2". WHEN CHANGES DO OCCUR, THEY SHALL BE BEVELED WITH A SLOPE NO GREATER THAN 1:2 EXCEPT THAT LEVELS NOT EXCEEDING 1/4" MAY BE VERTICAL.

G. WHEN CHANGES IN LEVELS GREATER THAN 1/2" ARE NECESSARY THEY SHALL COMPLY WITH THE REQUIREMENTS FOR CURB RAMPS OR RAMPS AS REQUIRED.

H. WALKS SHALL BE PROVIDED WITH A LEVEL AREA NOT LESS THAN 60" SQUARE AT A DOOR OR GATE THAT SWINGS TOWARD THE WALK, AND NOT LESS THAN 48" WIDE BY 48" DEEP AT A DOOR OR GATE THAT SWINGS AWAY FROM THE WALK. SUCH WALKS SHALL EXTEND 24" TO THE SIDE OF THE STRIKE EDGE OF A DOOR OR GATE THAT SWINGS TOWARD THE WALK.

J. WHEN THE SLOPE IN THE DIRECTION OF TRAVEL OF ANY WALK EXCEEDS 5%, IT MUST COMPLY WITH THE PROVISIONS FOR PEDESTRIAN RAMPS (PER 2013 CBC 11B-405).

K. ALL WALKS WITH CONTINUOUS GRADIENTS SHALL HAVE LEVEL AREAS AT LEAST 5 FEET IN LENGTH AT INTERVALS NOT EXCEEDING 400 FEET.

3. ENTRANCES AND DOORWAYS

A. PRIMARY ENTRANCES TO BUILDINGS AND FACILITIES SHALL BE MADE ACCESSIBLE TO THE DISABLED.

B. NOT USED.

C. ACCESSIBLE ENTRANCES SHALL BE IDENTIFIED WITH AT LEAST ONE "ISA" SIGN AND WITH ADDITIONAL DIRECTIONAL SIGNS AS REQUIRED VISIBLE FROM APPROACHING PEDESTRIAN WAYS.

D. LATCHING AND LOCKING DOORS THAT ARE HAND ACTIVATED SHALL BE OPERABLE WITH A SINGLE EFFORT BY LEVER TYPE HARDWARE, PANIC BARS, PUSH-PULL ACTIVATING BARS OR OTHER HARDWARE DESIGNED TO PROVIDE PASSAGE WITHOUT REQUIRING THE ABILITY TO GRASP THE OPENING HARDWARE.

E. HAND ACTIVATED DOOR HARDWARE SHALL BE CENTERED BETWEEN 34" AND 44" ABOVE THE FLOOR (CBC 11B-404.2.7).

F. THE FLOOR OR LANDING ON EACH SIDE OF AN ENTRANCE OR PASSAGE DOOR SHALL BE LEVEL AND CLEAR. THE LEVEL AND CLEAR AREA SHALL BE A MINIMUM 60" SQUARE IN THE DIRECTION OF THE DOOR SWING AND A MINIMUM 48" SQUARE OPPOSITE THE DIRECTION OF DOOR SWING (36"x 48" IF THE DOOR HAS ONLY A LATCH OR A CLOSER). THE SQUARES SHALL BE MEASURED AT RIGHT ANGLES TO THE PLANE OF THE DOOR IN ITS CLOSED POSITION. SEE NOTE I BELOW FOR STRIKE SIDE REQUIREMENTS.

G. NOT USED.

H. THE WIDTH OF THE LEVEL AND CLEAR AREA ON THE SIDE TO WHICH THE DOOR SWINGS SHALL EXTEND 24" PAST THE STRIKE EDGE OF THE DOOR FOR EXTERIOR DOORS AND 18" PAST THE STRIKE EDGE FOR INTERIOR DOORS.

I. THE FLOOR OR LANDING SHALL BE NOT MORE THAN 1/2" LOWER THAN THE THRESHOLD OF THE DOORWAY. CHANGE IN LEVEL BETWEEN 1/4" AND 1/2" SHALL BE BEVELED NO GREATER THAN 1:2.

J. THE BOTTOM 10 INCHES OF ALL DOORS EXCEPT SLIDING AND POCKET DOORS SHALL HAVE A SMOOTH UNINTERRUPTED SURFACE TO ALLOW THE DOOR TO BE OPENED BY A WHEELCHAIR FOOTREST WITHOUT CREATING A TRAP OR HAZARDOUS CONDITION.

K. MAXIMUM EFFORT TO OPERATE DOORS SHALL NOT EXCEED 5 LBS FOR EXTERIOR DOORS AND 5 LBS FOR INTERIOR DOORS, SUCH PULL OR PUSH EFFORT SHALL BE APPLIED AT RIGHT ANGLES TO HINGED DOORS AND AT THE CENTER PLANE OF SLIDING OR FOLDING DOORS. COMPENSATING DEVICES OR AUTOMATIC DOOR OPERATORS MAY BE UTILIZED TO MEET THE ABOVE STANDARDS. THE AUTHORITY HAVING JURISDICTION MAY INCREASE THE MAXIMUM EFFORT TO OPERATE FIRE DOORS TO ACHIEVE POSITIVE LATCHING, BUT NOT TO EXCEED 15 LBS MAX.

L. EXIT DOORS MUST OPEN FROM THE INSIDE WITHOUT A KEY, OR ANY SPECIAL KNOWLEDGE OR EFFORT. EXIT DOORS FROM BUILDINGS OR ROOMS SERVING 10 OR FEWER OCCUPANTS MAY HAVE A NIGHT LATCH, DEADBOLT, AS LONG AS THE DOORS CAN STILL BE OPENED FROM THE INSIDE WITHOUT A KEY, SPECIAL KNOWLEDGE OR EFFORT. IN ADDITION, THESE DEVICES ARE NOT MOUNTED MORE THAN 48" ABOVE THE FLOOR. MANUALLY OPERATED EDGE BOLTS, SURFACE MOUNTED FLUSH BOLTS AND SURFACE BOLTS ARE PROHIBITED. WHEN EXIT DOORS ARE USED IN PAIRS AND AUTOMATIC FLUSH BOLTS ARE USED, THE DOOR LEAF WITH THE FLUSH BOLT MUST HAVE NO DOORKNOB OR SURFACE MOUNTED HARDWARE. THE UNLATCHING OF ANY LEAF MUST NOT REQUIRE MORE THAN ONE OPERATION.

M. EVERY REQUIRED EXIT MUST BE LARGE ENOUGH TO PERMIT A DOOR AT LEAST 3'-0" WIDE BY 6'-8" HIGH. EXIT DOORS SHALL OPEN AT LEAST 90 DEGREES AND PROVIDE A CLEAR WIDTH OF AT LEAST 32".

N. THRESHOLDS AT EXTERIOR DOORS SHALL BE NO HIGHER THAN 1/2". SUCH THRESHOLDS SHALL BE BEVELED NO GREATER THAN 1:2.

O. THE FLOOR LANDING IMMEDIATELY OUTSIDE THE ENTRY MAY BE SLOPED UP TO 1/8" PER FOOT IN THE DIRECTION AWAY FROM THE PRIMARY ENTRANCE FOR DRAINAGE.

P. THE SPACE BETWEEN TWO CONSECUTIVE DOOR OPENINGS IN A VESTIBULE, SERVING OTHER THAN A REQUIRED EXIT STAIRWAY, MUST HAVE AT LEAST 48" OF CLEAR SPACE FROM ANY DOOR OPENING INTO THE VESTIBULE WHEN THE DOOR IS OPEN 90 DEGREES FROM ITS CLOSED POSITION. DOORS IN SERIES MUST SWING IN THE SAME DIRECTION OR AWAY FROM THE SPACE BETWEEN THE DOORS.

4. STAIRWAYS

A. STAIRWAYS SHALL HAVE HANDRAILS ON EACH SIDE. STAIRWAYS SHALL HAVE INTERMEDIATE HANDRAILS WHERE REQUIRED SUCH THAT ALL PORTIONS OF THE STAIRWAY WIDTH REQUIRED FOR EGRESS CAPACITY ARE WITHIN 30 INCHES OF A HANDRAIL. INTERMEDIATE HANDRAILS SHALL BE SPACED AT EQUAL INTERVALS WITHIN THE WIDTH OF THE STAIRWAY AND BE CONTINUOUS FOR THE ENTIRE LENGTH.

B. HANDRAILS MUST BE 34 TO 38 INCHES ABOVE THE NOSING OF THE TREADS AND MUST EXTEND IN THE DIRECTION OF THE STAIR RUN FOR AT LEAST 12" BEYOND THE TOP NOSING AND 12" PLUS THE TREAD WIDTH BEYOND THE BOTTOM NOSING. HANDDRAIL EXTENSIONS SHALL BE LEVEL.

C. NOT USED.

D. ENDS SHALL BE RETURNED OR SHALL TERMINATE IN A NEWEL POST OR SAFETY TERMINAL.

E. HANDRAILS PROJECTING FROM A WALL SHALL HAVE A SPACE OF NOT LESS THAN 1-1/2-INCH BETWEEN THE WALL AND THE HANDRAIL.

F. THE HANDGRIP PORTION OF HANDRAILS SHALL BE NOT LESS THAN 1-1/4-INCHES NOR MORE THAN 1 1/2-INCHES IN CROSS-SECTIONAL DIMENSION OR THE SHAPE SHALL PROVIDE AN EQUIVALENT GRIPPING SURFACE AND SHALL HAVE A SMOOTH SURFACE WITH NO SHARP OR ABRASIVE CORNERS AND ALL EDGES MUST HAVE A MINIMUM 1/8" RADIUS.

G. THE UPPER APPROACH AND THE LOWER TREAD OF EACH INTERIOR STAIR FLIGHT SHALL BE MARKED BY A STRIP OF CLEARLY CONTRASTING COLOR THE FULL WIDTH OF THE TREAD AT LEAST 2-INCHES WIDE PLACED PARALLEL TOAND NOT MORE THAN 1-INCH FROM THE NOSE OF THE STEP OR LANDING TO ALERT THE VISUALLY IMPAIRED. THE STRIP SHALL BE OF A MATERIAL THAT IS AT LEAST AS SLIP RESISTANT AS THE OTHER TREADS OF THE STAIR.

H. WHERE STAIRWAYS OCCUR OUTSIDE A BUILDING, THE UPPER APPROACH AND ALL TREADS SHALL BE MARKED BY A STRIP OF CLEARLY CONTRASTING COLOR AT LEAST 2-INCHES WIDE AND PLACED PARALLEL TO AND NOT MORE THAN 1-INCH FROM THE NOSE OF THE STEP OR LANDING TO ALERT THE VISUALLY IMPAIRED. THE STRIP SHALL BE OF A MATERIAL THAT IS AT LEAST AS SLIP RESISTANT AS THE OTHER TREADS OF THE STAIR. A PAINTED STRIP SHALL BE ACCEPTABLE.

I. ALL TREAD SURFACES SHALL BE SLIP RESISTANT.

J. TREADS SHALL HAVE A SMOOTH, ROUNDED OR CHAMFERED EXPOSED EDGES, AND NO ABRUPT EDGES AT THE NOSING (LOWER FRONT EDGE).

K. NOSING SHALL NOT PROJECT MORE THAN 1-1/4 INCH PAST THE FACE OF THE RISER BELOW.

L. NOT USED.

M. STAIR RISERS SHALL BE SOLID PER CBC 11B-504.

5. SANITARY FACILITIES

A. WHEELCHAIR ACCESSIBLE WATER CLOSET COMPARTMENTS SHALL BE EQUIPPED WITH A DOOR THAT HAS AN AUTOMATIC CLOSING DEVICE, AND SHALL HAVE A CLEAR UNOBSTRUCTED OPENING WIDTH OF 32-INCHES WHEN LOCATED AT THE END AND 34-INCHES WHEN LOCATED AT THE SIDE WITH THE DOOR POSITION AT AN ANGLE OF 90 DEGREES FROM ITS CLOSED POSITION.

B. TOILET FLUSH CONTROLS SHALL BE OPERABLE WITH ONE HAND, AND SHALL NOT REQUIRE TIGHT GRASPING, PINCHING, OR TWISTING OF THE WRIST. CONTROLS FOR FLUSH VALVES SHALL BE MOUNTED ON THE WIDE SIDE OF THE TOILET AREAS. THE FORCE REQUIRED TO ACTIVATE CONTROLS SHALL BE NO GREATER THAN 5 POUNDS PER FOOT.

C. WHERE URINALS ARE PROVIDED AT LEAST ONE WITH A RIM PROJECTING A MINIMUM OF 14-INCHES FROM THE WALL AND AT A MAXIMUM OF 17-INCHES ABOVE THE FLOOR SHALL BE PROVIDED.

D. URINAL FLUSH CONTROLS SHALL BE OPERABLE WITH ONE HAND, AND SHALL NOT REQUIRE TIGHT GRASPING, PINCHING, OR TWISTING OF THE WRIST AND SHALL BE MOUNTED NO MORE THAN 44" ABOVE THE FLOOR. THE FORCE REQUIRED TO ACTIVATE CONTROLS SHALL BE NO GREATER THAN 5 POUNDS PER FOOT.

E. HOT WATER AND DRAIN PIPES UNDER LAVATORIES SHALL BE INSULATED OR OTHERWISE COVERED.

F. FAUCET CONTROLS AND OPERATING MECHANISMS SHALL BE OPERABLE WITH ONE HAND AND SHALL NOT REQUIRE TIGHT GRASPING, PINCHING OR TWISTING OF THE WRIST. THE FORCE REQUIRED TO ACTIVATE CONTROLS SHALL BE NO GREATER THAN 5 POUNDS PER FOOT. 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.

G. MIRRORS SHALL BE MOUNTED WITH THE BOTTOM GLASS EDGE NOT MORE THAN 40-INCHES ABOVE THE FLOOR.

H. LOCATE TOWEL, SANITARY NAPKIN, AND WASTE RECEPTACLES WITH ALL OPERABLE PARTS NOT MORE THAN 40-INCHES FROM THE FLOOR.

I. TOILET TISSUE DISPENSERS SHALL BE LOCATED ON THE WALL OR PARTITION WITHIN 7" TO 9" TO CENTERLINE FROM THE FRONT EDGE OF THE TOILET SEAT, MOUTED BELOW THE GRAB BAR, AT A MINIMUM HEIGHT OF 19 INCHES. DISPENSERS SHALL PERMIT CONTINUOUS FLOW AND NOT CONTROL DELIVERY (CBC 11B-604.7).

J. GRAB BARS, TUB AND SHOWER SEATS, FASTENERS AND MOUNTING DEVICES SHALL BE DESIGNED FOR 250 LB. PER LINEAR FOOT LOAD.

K. GRAB BARS:

1. THE DIAMETER OR WIDTH OF THE GRIPPING SURFACE OF A GRAB BAR SHALL BE 1-1/4" TO 1-1/2" OR THE SHAPE SHALL PROVIDE AN EQUIVALENT GRIPPING SURFACE.
2. THE SPACE BETWEEN THE WALL AND THE GRAB BARS SHALL BE 1-1/2".
3. A GRAB BAR AND ANY WALL OR OTHER SURFACE ADJACENT SHALL BE FREE OF ANY SHARP OR ABRASIVE ELEMENTS.
4. GRAB BARS SHALL NOT ROTATE WITHIN THEIR FITTINGS.
5. EDGES SHALL HAVE A MINIMUM RADIUS OF 1/8".

6. SWITCHES CONTROLS AND ELECTRICAL OUTLETS

A. RECEPTACLE OUTLETS SHALL BE 15" MIN ABOVE THE FINISHED FLOOR TO THE BOTTOM OF THE BOX PER CBC 11B-308.1.1.

B. SWITCHES SHALL BE 48" MAX. ABOVE THE FINISHED FLOOR TO THE TOP OF THE BOX (11B-308.1.2).

C. IF REACH IS OVER AN OBSTRUCTION (FOR EXAMPLE, A BASE CABINET) BETWEEN 20" AND 25" IN DEPTH, THE MAXIMUM HEIGHT IS REDUCED TO 44" FOR FORWARD APPROACH, OR 46" FOR SIDE APPROACH PROVIDED THE OBSTRUCTION IS NO MORE THAN 24" IN DEPTH. THE OBSTRUCTION MAY NOT EXTEND MORE THAN 25" FROM THE WALL BENEATH THE CONTROL.

D. THE CENTER OF FIRE ALARM INITIATING DEVICES (BOXES) SHALL BE LOCATED 48" ABOVE THE LEVEL OF THE FLOOR, WORKING PLATFORM, GROUND SURFACE OR SIDEWALK.

E. IF EMERGENCY WARNING SYSTEMS ARE REQUIRED THEY SHALL ACTIVATE A MEANS OF WARNINGTHE HEARING IMPAIRED. FLASHING VISUAL WARNING SHALL HAVE A FREQUENCY OF NOT MORE THAN 60 FLASHES PER MINUTE.

SYMBOLS LEGEND

ABBREVIATIONS

A.B.	ANCHOR BOLT (S)
A.C. PAVING	ASPHALT CONCRETE
ACOUS	ACOUSTIC
AC. T.	ACOUSTICAL TILE
A.D.	AREA DRAIN
ADJ.	ADJUSTABLE
AGG	AGGREGATE
ALT.	ALTERNATE
ALUM.	ALUMINUM
APPROX.	APPROXIMATE
APT.	APARTMENT
ASPH.	ASPHALT
A.S.T.M.	AMERICAN SOCIETY OF TESTING MATERIALS
@	AT
B.B	BOTTOM OF BEAM
BD.	BOARD
BLK.	BLOCK
BLK'G.	BLOCKING
BM.	BEAM
BOT.	BOTTOM
BDRM.	BEDROOM
BR.	BROOM
CAB.	CABINET
CPT.	CARPET
C.B.	CATCH BASIN
CEM.	CEMENT
CEM. PLAS.	CEMENT PLASTER
C.	CENTER LINE
CER.	CERAMIC
C.I.	CAST IRON
CIRC.	CIRCULAR
CLG.	CEILING
CLR.	CLEAR
C.M.T.	CERAMIC MOSAIC TILE
COMPC.	COMPOSITION
CONC.	CONCRETE
CONT.	CONTINUOUS
CTSK.	COUNTERSUNK
CU. FT.	CUBIC FEET
CU. IN.	CUBIC INCH
CU. YD.	CUBIC YARD
D.	DRYER
D.F.	DOUGLAS FIR
D.F.	DRINKING FOUNTAIN
DIA.	DIAMETER
DIM.	DIMENSION
DN.	DOWN
DR.	DOOR
D.S.	DOWN SPOUT
DSP.	DRY STANDPIPE
DUP.	DUPLICATE
DW.	DISHWASHER
DWGS.	DRAWINGS
E.	EAST
EA.	EACH
E.J.	EXPANSION JOINT
ELEVA.	ELEVATOR
ELEV.	ELEVATION
ENCL.	ENCLOSURE
EQ.	EQUAL
EQUIP.	EQUIPMENT
E.W.W.M. MESH	ELECTRIC WELDED WIRE
EXPN.	EXPANSION
EXP.	EXPOSED
EXT.	EXTERIOR
EXTR.	EXTINGUISHER
FHS	FLAT HEAD SCREW
F.A.U.	FORCED AIR UNIT
F.F.	FINISH FLOOR
F.G.	FIXED GLASS
FHWS	FLAT HEAD WOOD SCREW
FIN.	FINISH
FIXT.	FIXTURE
FLASH.	FLASHING
FLR	FLOOR
FLR'G	FLOORING
FLUOR.	FLUORESCENT
F.O.C.	FACE OF CONCRETE
F.O.M.	FACE OF MASONRY
F.O.S.	FACE OF STUD
F.O.W.	FACE OF WALL
F.P.	FIRE PLACE
F.S.	FINISH SURFACE
FREQ.	FREQUENCY
FT.	FEET, FOOT
FTG.	FOOTING
FXC	FIRE EXTINGUISHER & CABINET
GA.	GAUGE
GALV.	GALVANIZED
G.I.	GALVANIZED IRON (STEEL)
GUN.	FUNITE
GYP.	GYPSUM
GYP. BD.	GYPSUM BOARD
H.B.	HOSE BIBB
H.C.	HOLLOW CORE
HD	DEAD
H.M.	HOWLLOW METAL
HORIZ.	HORIZONTAL
HR.	HOUR
I.	IRON
I.D.	INSIDE DIAMETER
INC.	INCORPORATED
INSUL.	INSULATION
INT	INTERIOR
JT.	JOINT
JST.	JOIST
K.	KITCHEN
LAM.	LAMINATED
LAM. PLAS.	LAMINATED PLASTIC
LAV.	LAVATORY
LKR	LOCKER ROOM
LT.	LIGHT
LVR.	LOUVER
M.C.	MEDICINE CABINET
MECH.	MECHANICAL
MEMB.	MEMBRANE
MET.	METAL
MFG.	MANUFACTURE
M.H.	MAN HOLE
MIN.	MINIMUM
MIR.	MIRROR
MTG.	MOUNTING
MTL.	METAL
N.	NORTH
NAT.	NATURAL
N.I.C.	NOT IN CONTRACT
NO.	NUMBER
N.T.S.	NOT TO SCALE
O/	OVER
O.C.	ON CENTER
O.D.	OVERFLOW DRAIN
OPP.	OPPOSITE
OV.	OVEN
OVHD.	OVERHEAD
PB.	PUSHBUTTON
PC	PULL CHAIN
PL	PLATE
P	PROPERTY LINE
PLAS.	PLASTER
PL. GLS.	PLATE GLASS
PLAST.	PLASTER
PLYWD.	PLYWOOD
PNL.	PANEL
PR.	PAIR
PRCST.	PRECAST
PREFAB.	PREFABRICATED
%	[ERCEMT
QRY.	QUARRY
QTY.	QUANTITY
RAD.	RADIUS
R.	RISER
R.A.G.	RETURN AIR GRILLE
RD.	ROAD
R.D.	ROOF DRAIN
RDWD.	REDWOOD
RECP.	RECEPTABLE
REF.	REFERENCE
REF.	REFRIGERATOR
REG.	REGISTER
REINF.	REINFORCEMENT
REQ'D	REQUIRED
RES. FLR.	RESILIENT FLOORING
RET.	RETAINING
RF.	ROOF
RF'G.	ROOFING
RM.	ROOM
RO.	ROUGH
R.O.	ROUGH OPENING
RUB.	RUBBER
R.B.	RUBBER (RESILIENT) BASE
S.	SOUTH
SAF	SELF ADHERED FLASHING
SASM	SELF ADHERED SHEET
S.C.	SOLID CORE
S.D.	STORM DRAIN
SDC	SPECIAL DAY CLASSROOM
SHT.	SHEET
SHT'G	SHEATHING
SIM.	SIMILAR
S&P	SHELF AND POLE
SPECS.	SPECIFICATIONS
SPRKL.	SPRINKLER
SQ. IN.	SQUARE INCH
SQ. FT.	SQUARE FOOT
ST.	STEEL
STOR.	STORAGE
STRUCT.	STRUCTURAL
SUSP.	SUSPENDED
SIM.	SIMILAR
S4S	SMOOTH FOUR SIDES
T	TREAD
T&B	TOP AND BOTTOM
T.B.	TOP OF BEAM
T.C.	TOP OF CURB
T.C.	TOP OF CONCRETE
T.G.	TOP OF GRATE
TEL	TELEPHONE
TEMP.	TEMPERED
T&G	TONGUE AND GROOVE
THK.	THICK
THRESH	THRESHOLD
T.P.	TOP OF PAVING
T.S.	TOP OF SHEATHING
T.W.	TOP OF WALL
TYP.	TYPICAL
UL	UNDERWRITER'S LABEL
ULT.	ULTIMATE
UNFIN.	UNFINISHED
U.R.F.	UNDER ROOF FRAMING
V.A.T.	VINYL ASBESTOS TILE
VENT.	VENTILATOR
VERT.	VERTICAL
VIT.	VITREOUS
VOL.	VOLUME
V.T.	VINYL TILE
W.	WEST
W/	WITH
W.C.	WATER CLOSET
WD.	WOOD
W	WIDE FLANGE (STEEL)
W.G.	WIRE GLASS
W.H.	WATER HEATER
W.I.	WROUGHT IRON
W/O	WITH OUT
WP.	WATERPROOFING
WS	WEATHERSTRIPPING
W.S.P.	WET STANDPIPE
WT.	WEIGHT
YD.	YARD

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-121181 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 07/02/2024

OWNER: SAN RAFAEL CITY SCHOOLS

PROJECT NAME: VENETIA VALLEY BLDGS G AND H ALTERATION

CLIENT ADDRESS: 177 N San Pedro Rd, San Rafael, CA 94903

ROBERT M. SIMONS
Robert M. Simons
No. C-18301
Jan 31, 2025

REVISIONS:

	DESCRIPTION	DATE
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△		
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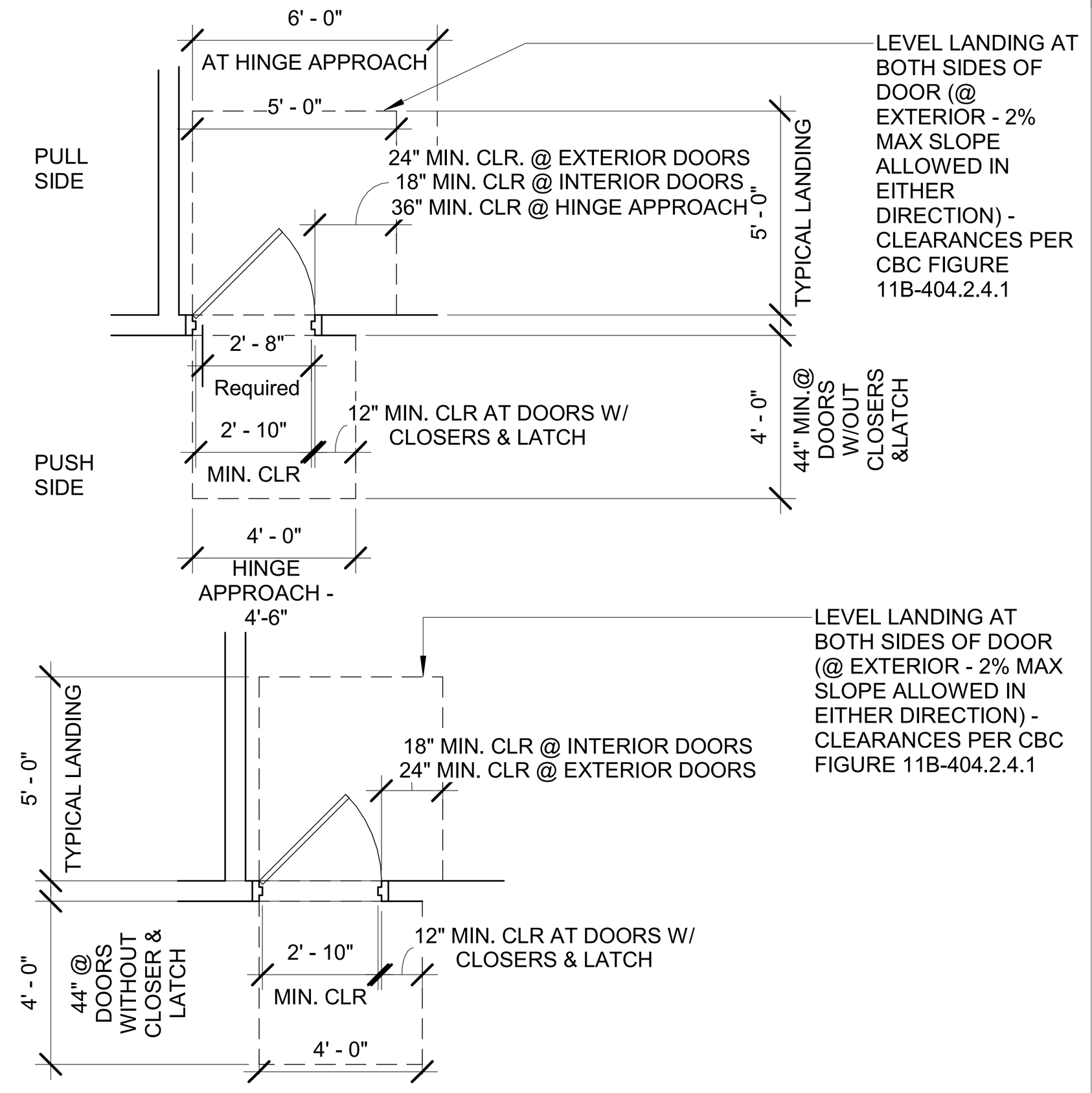
PROJECT NO: 2017 / 40104
DATE ISSUED: 06/21/2024
SCALE: 1 1/2" = 1'-0"
SHEET NUMBER: GEN-03
SHEET TITLE:

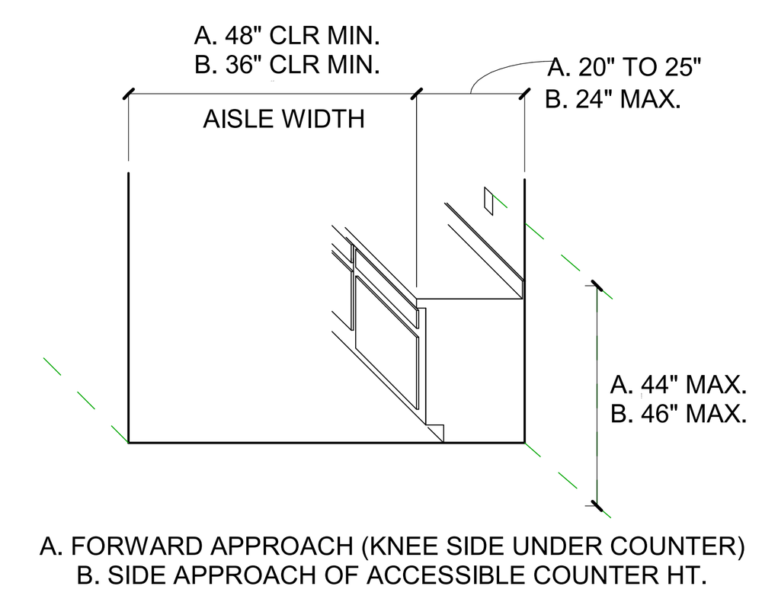
PROJECT NOTES

SVA ARCHITECTS

7901 STONERIDGE DR, SUITE 100, PLEASANTON, CA 94588
T 925.374.9884 WWW.SVA-ARCHITECTS.COM

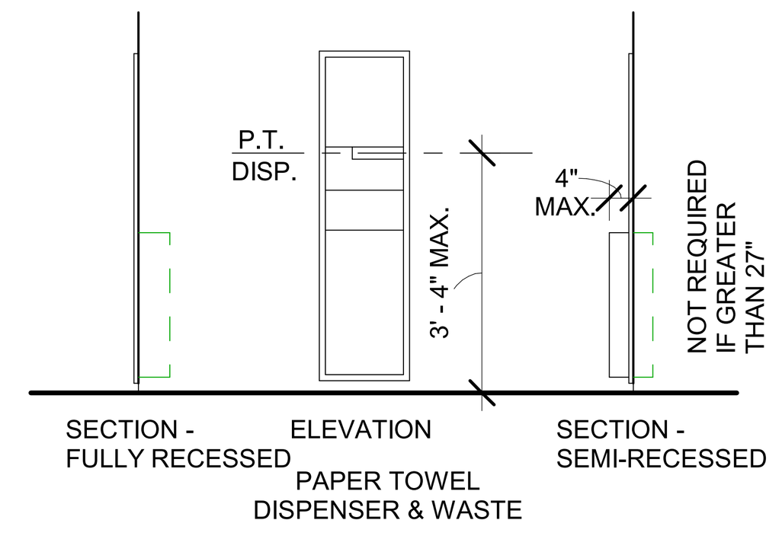


DOOR CLEARANCES 1/4" = 1'-0" 20

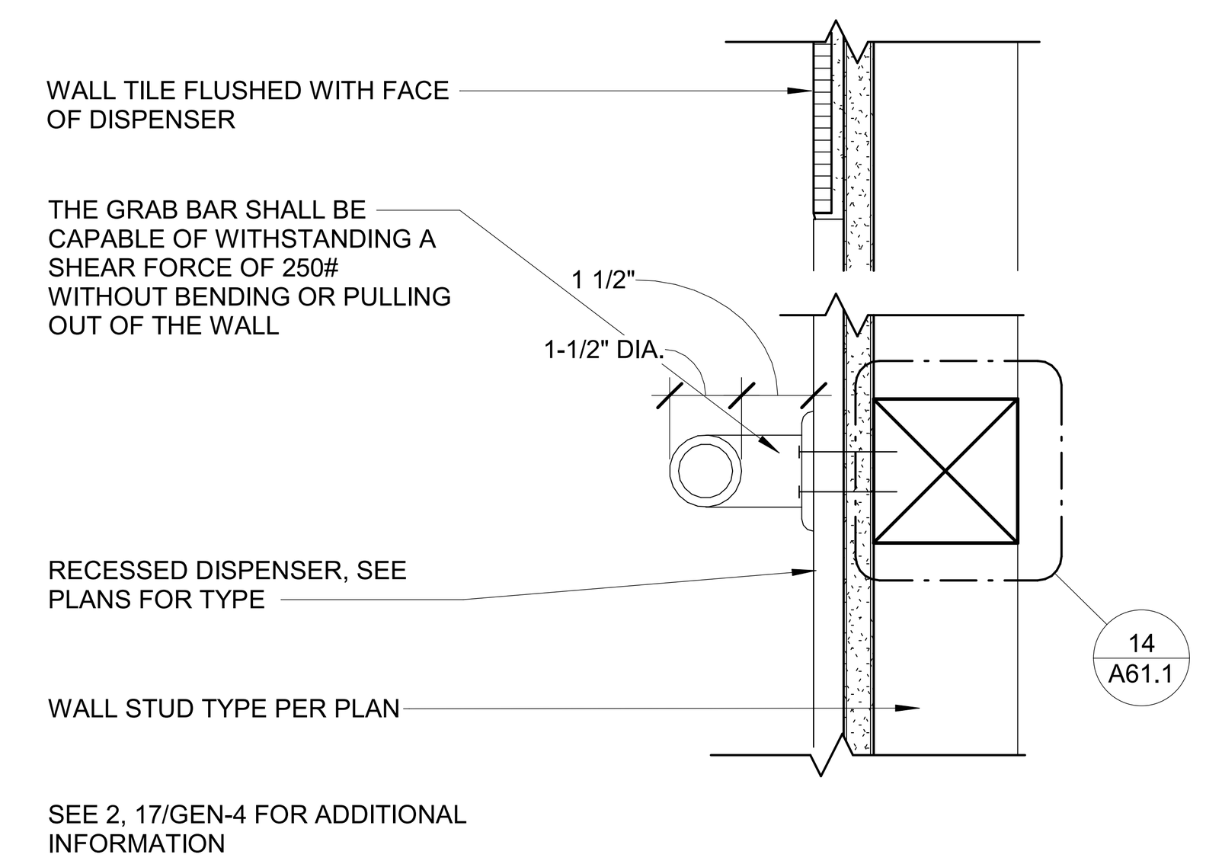


REACH OVER OBSTRUCTION
TYP. WALL MOUNT DIMENSION

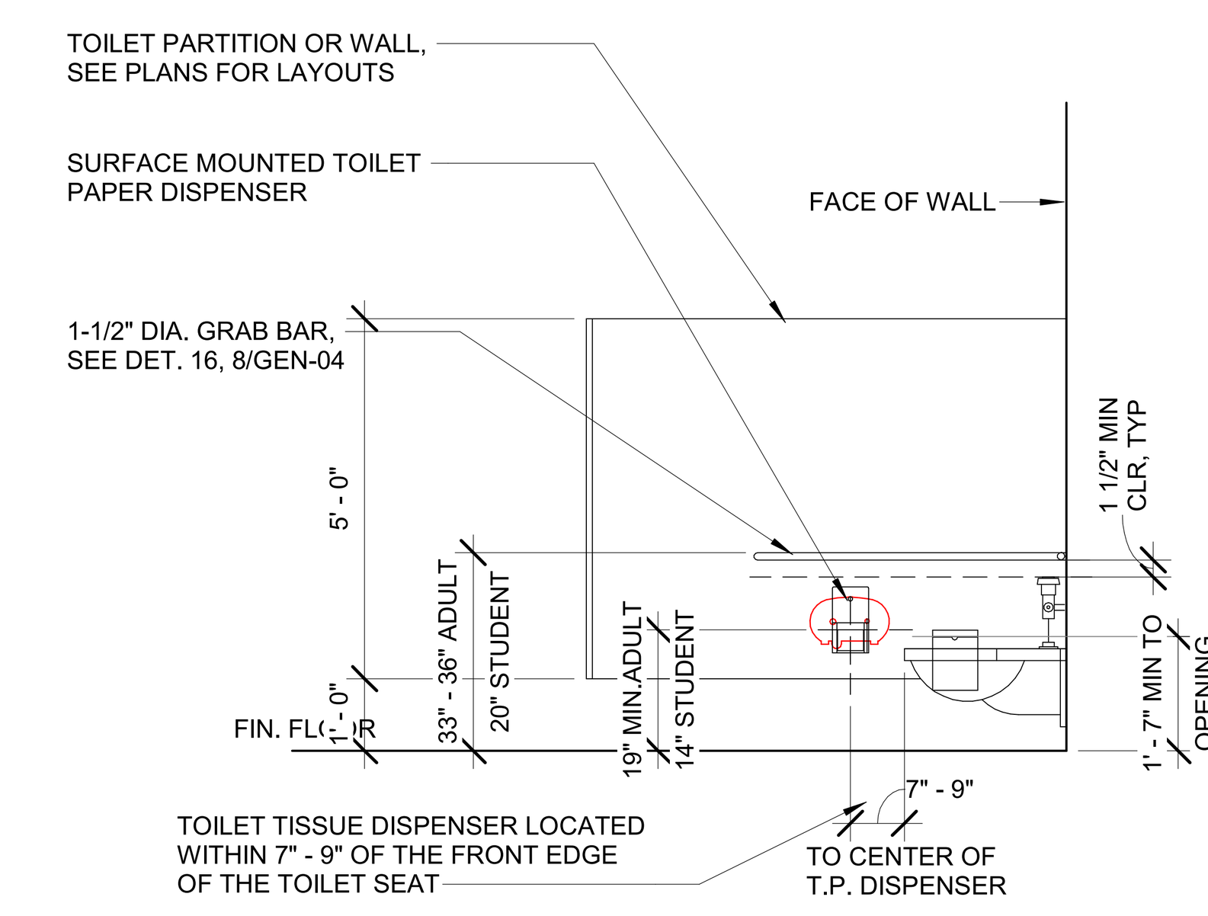
CASEWORK REACH 3/8" = 1'-0" 16



PAPER TOWEL DISPENSER AND WASTE 3/8" = 1'-0" 12

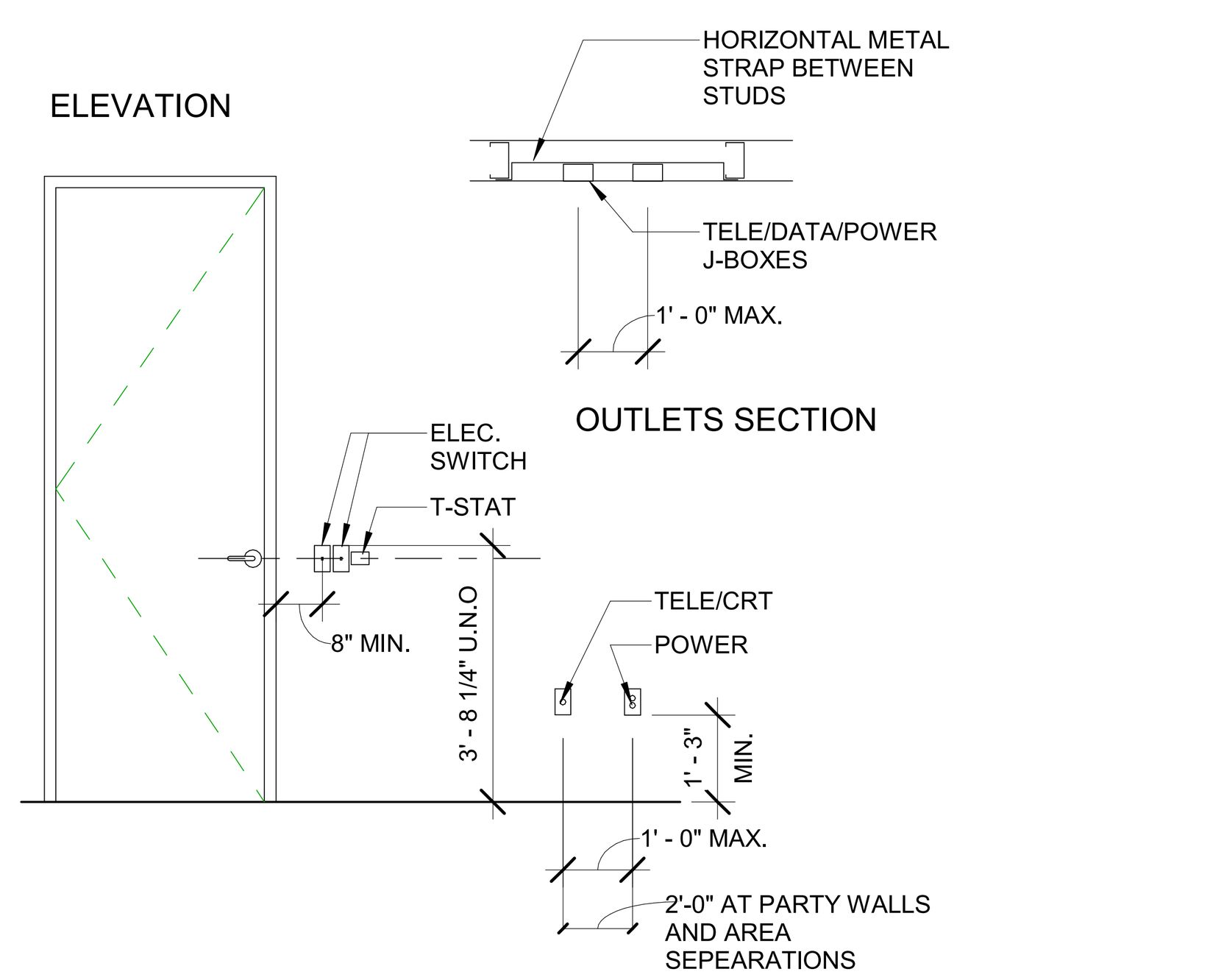


GRAB BAR 3" = 1'-0" 8



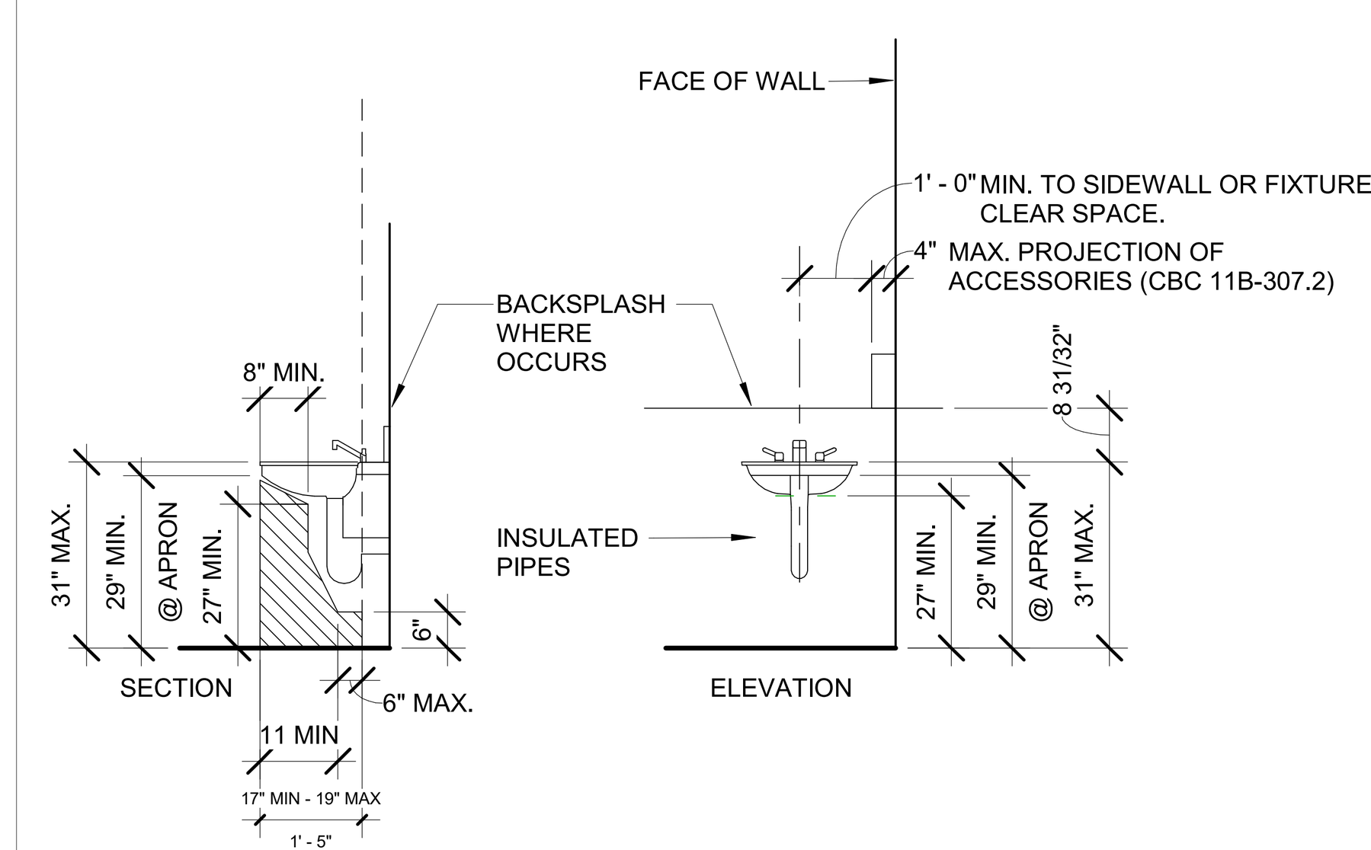
TOILET COMPARTMENT ACCESSORIES
INDIVIDUAL ITEMS

TOILET COMPARTMENT ACCESSORIES 3/8" = 1'-0" 4



REACH RANGES FOR ELECTRICAL SWITCHES, CONTROLS AND OUTLET 11B-308.1.1 & 11B-308.1.2
REACH RANGES FOR THERMOSTATS, SWITCHES, CONTROLS, AND OUTLETS TO BE SHALL COMPLY WITH 11B-308 EXCEPT THAT LOW REACH SHALL BE MEASURED TO THE BOTTOM OF THE OUTLET BOX AND HIGH REACH SHALL BE MEASURED TO THE TOP OF THE OUTLET BOX. ELECTRICAL RECEPTACLE OUTLETS ON BRANCH CIRCUITS OF 30 AMPHERES OR LESS AND COMMUNICATION SYSTEM RECEPTACLES SHALL BE LOCATED NO MORE THAN 48" MEASURED FROM THE TOP OF THE RECEPTACLE OUTLET BOX OR RECEPTACLE HOUSING AND NO LESS THAN 15" MEASURED FROM THE BOTTOM OF THE RECEPTACLE OUTLET BOX OR RECEPTACLE HOUSING TO THE LEVEL OF THE FINISH FLOOR OR WORKING PLATFORM.

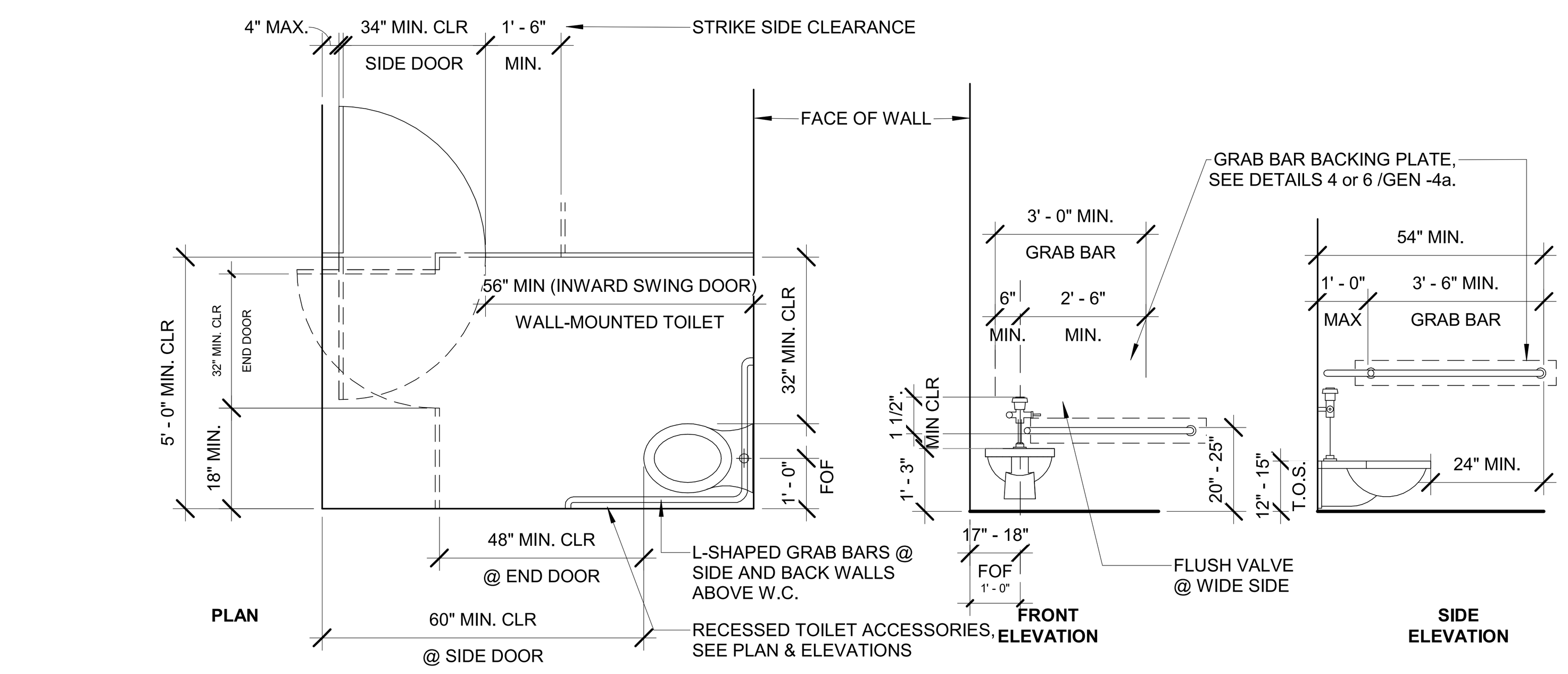
RECEPTACLE AND SWITHCES 3/8" = 1'-0" 19



LAVATORY NOTES:

1. THERE SHALL BE NO SHARP OR ABRASIVE SURFACES UNDER THE LAVATORY.
2. ALL HOT WATER & DRAIN PIPES ACCESSIBLE UNDER LAVATORIES MUST BE INSULATED OR OTHERWISE COVERED.

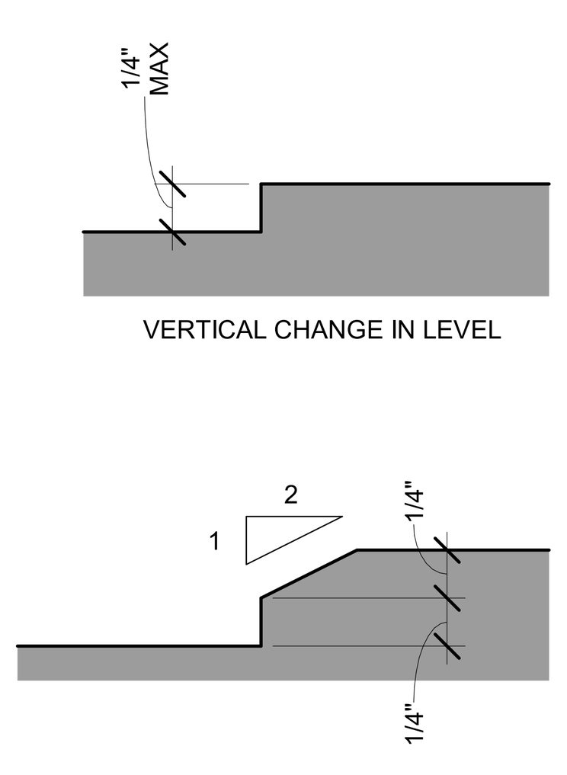
LAVATORY KNEE CLEARANCE KINDER 3/8" = 1'-0" 5



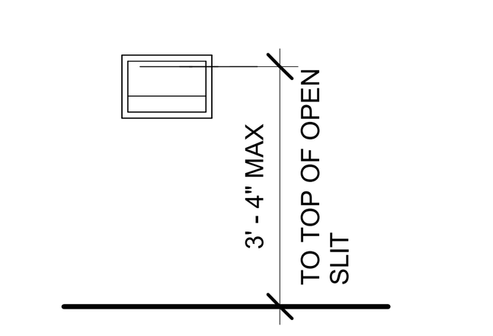
NOTE:

FOR KINDER DIMENSIONS, SEE 1 / GEN-04

WATER CLOSET MOUNTING HEIGHTS-STUDENTS AGE GROUP 5-8 3/8" = 1'-0" 3

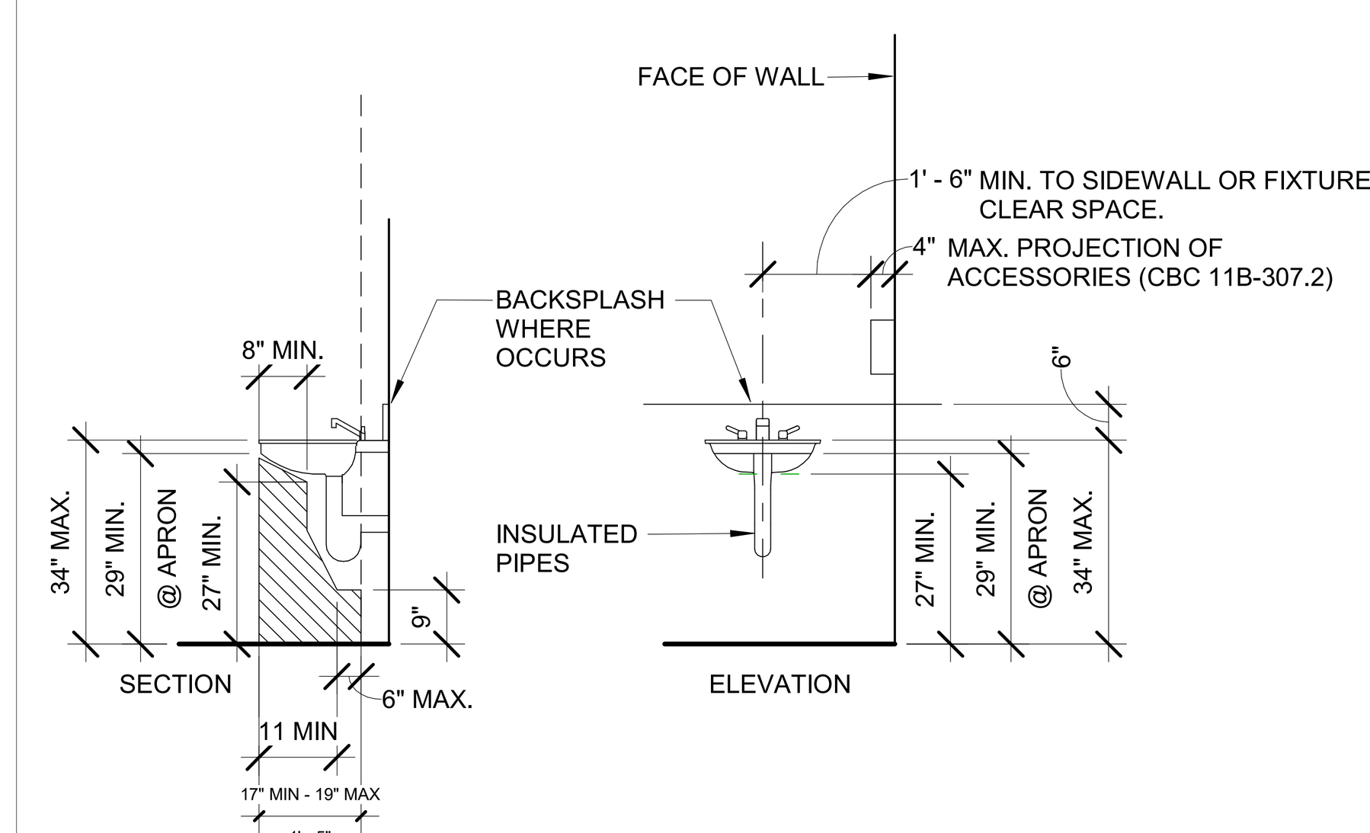


CHANGES IN LEVEL 12" = 1'-0" 18



RECESSED OR SURFACE MTD. SEAT COVER DISPENSOR

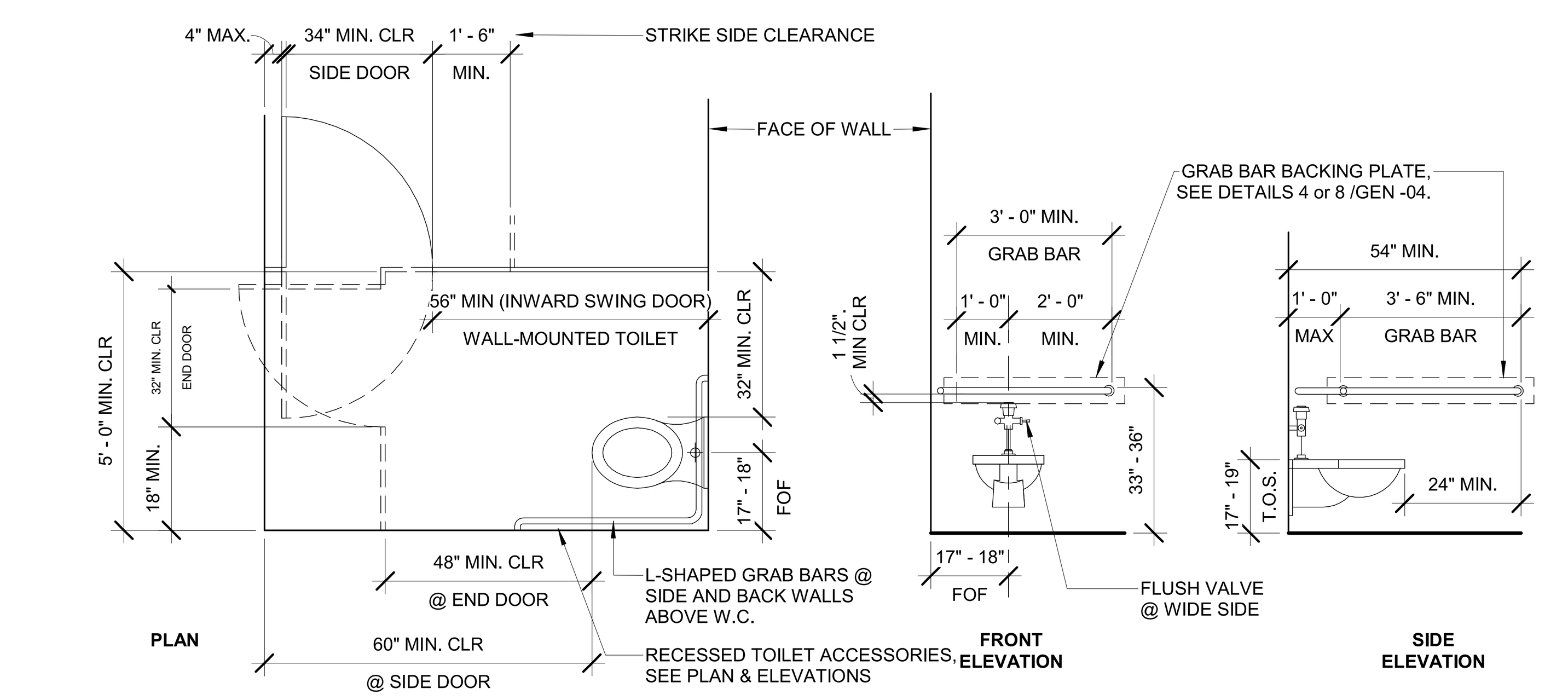
SEAT COVER DISPENSER 3/8" = 1'-0" 14



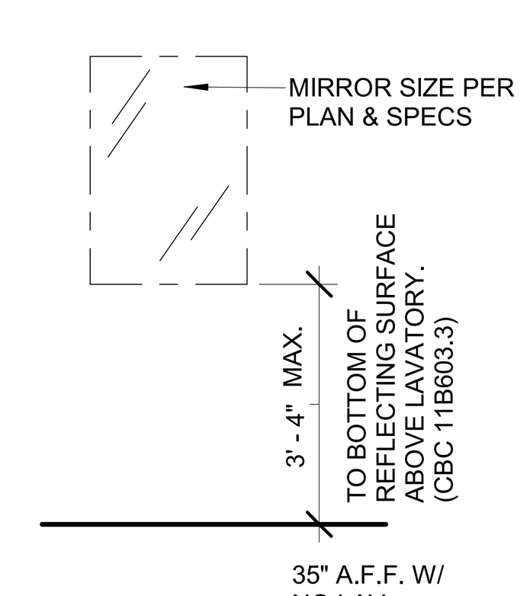
LAVATORY NOTES:

1. THERE SHALL BE NO SHARP OR ABRASIVE SURFACES UNDER THE LAVATORY.
2. ALL HOT WATER & DRAIN PIPES ACCESSIBLE UNDER LAVATORIES MUST BE INSULATED OR OTHERWISE COVERED.

LAVATORY KNEE CLEARANCE 3/8" = 1'-0" 10



WATER CLOSET MOUNTING HEIGHTS- ADULTS 3/8" = 1'-0" 2



MIRROR

MIRROR ABOVE LAVATORY 3/8" = 1'-0" 13

Note: All height dimensions are A.F.F. (or A.F.G. for exterior). All horizontal dimensions are to face-of-finish.

2019 CBC Reference: T: Table, S: Section, F: Figure

	Adult	Ages 3-4	Ages 5-8	Ages 9-12	2016 CBC Reference
Toilet Offset	17"-18"	12"	12"-15"	15"-18"	*T 11B-604.9 S11B-604.2*
Toilet Seat Height	17"-19"	11"-12"	12"-15"	15"-17"	*T 11B-604.9 S11B-604.4*
Top of Grab Bar Gripping Surface	33"-36"	18"-20"	20"-25"	25"-27"	*T 11B-604.9 S11B-609.4*
T.P. Dispenser Outlet (A.F.F. to Outlet)	19" Min.	14"	14"-17"	17"-19"	*T 11B-604.9 S11B-604.7*
T.P. Dispenser centerline in front of W.C.	7"-9" centerline	7"-9" centerline	7"-9" centerline	7"-9" centerline	*S 11B-604.7*
Lav/Sink Rim Height	34" Max.	31" Max.	31" Max.	31" Max.	*S 11B-606.2 S 11B-606.3*
Lav/Sink Knee Clearance	27" Min. (29" Min. at apron for lavatory)	parallel approach permitted	Age 6-8, 24" Min. Age 5, parallel approcah permitted	24" Min.	*S 11B-606.2 F 11B-306.3*
Urinal Height	17" Max.	17" Max.	17" Max.	17" Max.	*S 11B-605.2*
Urinal Projection	13 1/2" Min.	13 1/2" Min.	13 1/2" Min.	13 1/2" Min.	*S 11B-605.2*
Urinal Flush Control Height	44" Max.	44" Max.	36" Max.	44" Max.	*S 11B-605.4*
High D.F. Spout Height	38"-43"	38"-43"	38"-43"	38"-43"	*S 11B-602.7*
Low D.F.Approach, Spout Height, and Spout Location from Front Edge of the Unit Including Bumpers	Front approach per 11B-306, 36" Max. A.F.F., & 5" Max from front edge of the unit	Parallel approach is permitted if spout is 30" Max. A.F.F. & 3 1/2" Max. from front edge of the unit	Parallel approach is permitted if spout is 30" Max. A.F.F. & 3 1/2" Max. from front edge of the unit	Parallel approach is permitted if spout is 30" Max. A.F.F. & 3 1/2" Max. from front edge of the unit	*S 11B-602.2 -Exception S 11B-602.4 S 11B-602.5*
D.F. Operable Parts	6" Max. from front edge of the unit.	6" Max. from front edge of the unit.	6" Max. from front edge of the unit.	6" Max. from front edge of the unit.	*S 11B-602.3*
Cantilever D.F. Projection	18"-19"	18"-19"	18"-19"	18"-19"	*S 11B-602.8*
Toe Clearance at Toilet Partition	9"	12"	12"	12"	*S 11B-604.8.1.4*
Shelf Height	40"-48"	40"-48"	40"-48"	40"-48"	*S 11B-604.8.3*
Restroom Accessory Reach Height	40" Max.	40" Max.	36" Max.	40" Max.	*S 11B-603.5*
Mirror Height (Bottom Edge of Reflecting Surface)	40" Max. (above lav or countertop) 35" Max. (not above lav or countertop)	40" Max. (above lav or countertop) 35" Max. (not above lav or countertop)	37" Max. (above lav or countertop) 35" Max. (not above lav or countertop)	40" Max. (above lav or countertop) 35" Max. (not above lav or countertop)	*S 11B-603.3*
Mirror Height (Bottom Edge of Reflecting Surface) in Dressing, Fitting, & Locker Rooms	20" Max.	20" Max.	20" Max.	20" Max.	*S 11B-803.6*

MOUNTING HEIGHT DIMENSIONS 12" = 1'-0" 1

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-121181 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 07/02/2024

OWNER: SAN RAFAEL CITY SCHOOLS

PROJECT NAME: VENETIA VALLEY BLDGS G AND H ALTERATION

CLIENT ADDRESS: 177 N San Pedro Rd, San Rafael, CA 94903

LICENSED ARCHITECT
ROBERT M. SIMPSON
No. C-18301
Jan 31, 2025
STATE OF CALIFORNIA

REVISIONS:

DESCRIPTION	DATE

PROJECT NO: 2017 / 40104

DATE ISSUED: 06/21/2024

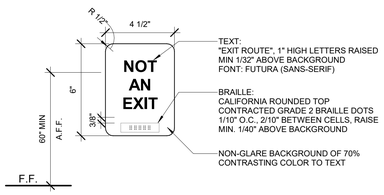
SCALE: As indicated

GEN-04

ACCESSIBILITY NOTES AND DETAILS

SVA ARCHITECTS

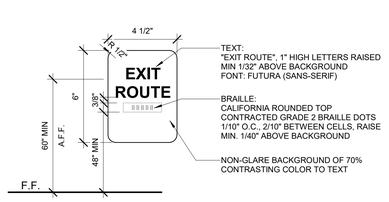
7901 STONERIDGE DR, SUITE 100, PLEASANTON, CA 94588
T 925.374.9884 WWW.SVA-ARCHITECTS.COM



NOTE: PROVIDE MECHANICAL MOUNTING W/ VANDAL RESISTANT FASTENERES. PROVIDE ADHESIVE MOUNTING SYSTEM WHEN ATTACHED TO GLAZING.

SEE 1/GEN-5 FOR ADDITIONAL INFORMATION

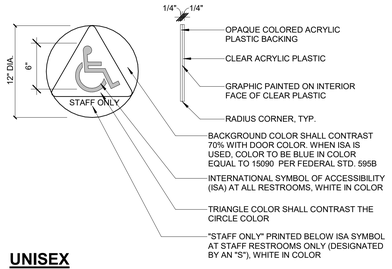
TACTILE NOT AN EXIT SIGN 3" = 1'-0" **16**



NOTE: PROVIDE MECHANICAL MOUNTING W/ VANDAL RESISTANT FASTENERES. PROVIDE ADHESIVE MOUNTING SYSTEM WHEN ATTACHED TO GLAZING.

SEE 1/GEN-5 FOR ADDITIONAL INFORMATION

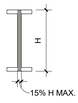
TACTILE EXIT ROUTE SIGN 3" = 1'-0" **12**



UNISEX

NOTE:
ATTACH SIGNS USING THREE FLATHEAD VANDAL RESISTANT COUNTERSUNK SCREWS AND ADHESIVE.
SIGNS SHALL BE CENTERED ON THE DOOR AND MOUNTED 5'-0" ABOVE FINISH FLOOR LINE TO CENTER OF SIGN.

TOILET ROOM DOOR SIGNAGE - UNISEX 1 1/2" = 1'-0" **4**

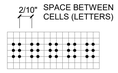


CHARACTER PROPORTIONS

RAISED CHARACTERS ON SIGNS SHALL BE SELECTED FROM FONTS WHERE THE WIDTH OF THE UPPERCASE LETTER "O" IS 60 PERCENT MINIMUM AND 110 PERCENT MAXIMUM OF THE HEIGHT OF THE UPPERCASE LETTER "I".

STROKE PROPORTION

STROKE THICKNESS OF THE UPPERCASE LETTER "I" SHALL BE 15% MAXIMUM OF THE HEIGHT OF THE CHARACTER.

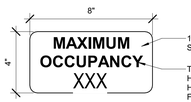


CALIFORNIA CONTRACTED GRADE 2 BRAILLE SHALL BE USED WHEREVER BRAILLE IS REQUIRED. INDIVIDUAL BRAILLE DOTS SHALL EACH BE DISTINCT AND SEPARATE. EACH DOT SHALL BE ROUNDED OR DOMED IN LIEU OF SQUARE SIDED AND FLAT TOPPED. *PER CBC TABLE 11B-703.3.1, DOT BASE DIAMETER SHALL BE 0.059" TO 0.063", DISTANCE BETWEEN TWO DOTS IN THE SAME CELL SHALL BE 0.100", DISTANCE BETWEEN CORRESPONDING DOTS IN ADJACENT CELLS SHALL BE 0.300", DOT HEIGHT SHAL BE 0.025" TO 0.037", AND DISTANCE BETWEEN CORRESPONDING DOTS FROM ONCE CELL DIRECTLY BELOW SHALL BE 0.395" TO 0.400"*

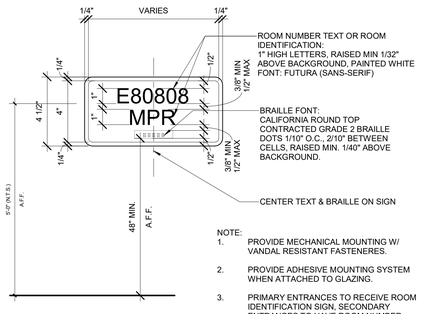
WIDTH TO HEIGHT PROPORTION TEMPLATE

BRAILLE SPACING TEMPLATE PER CALIFORNIA BUILDING CODE (CBC) AND CALIFORNIA CODE OF REGULATIONS (CCR), TITLE 24, PART 2.

TACTILE SIGNAGE TEMPLATES 1 : 1 **19**



OCCUPANT LOAD SIGN1 3" = 1'-0" **15**



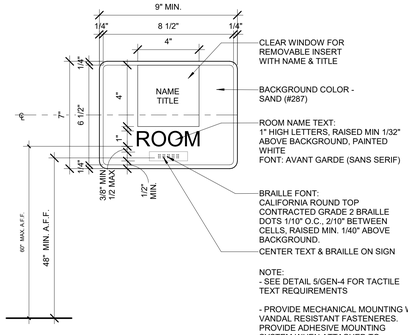
NOTE:
1. PROVIDE MECHANICAL MOUNTING W/ VANDAL RESISTANT FASTENERES.
2. PROVIDE ADHESIVE MOUNTING SYSTEM WHEN ATTACHED TO GLAZING.
3. PRIMARY ENTRANCES TO RECEIVE ROOM IDENTIFICATION SIGN, SECONDARY ENTRANCES TO HAVE ROOM NUMBER U.N.O., REFER ACCESSIBILITY PLAN AND DOOR SCHEDULE.
4. SEE 1/GEN-5 FOR ADDITIONAL INFORMATION.

ROOM NUMBER SIGN 3" = 1'-0" **11**

CBC 11B 703.4 INSTLLATION HEIGHT AND LOCATION FOR TACTILE SIGNS
FOR SIGNLE DOOR, ROOM ID SIGN SHALL BE LOCATED ALONGSIDE DOOR ON LATCH-SIDE WALL.
FOR PAIR OF DOOR WITH INACTIVE LEAF, ROOM ID SIGN SHALL BE LOCATED ON IONACTIVE LEAF.
FOR PAIRS OF DOORS WITH TWO ACTIVE LEAFS, LOCATE ROOM ID SIGN AT RIGHT SIDE WALL.
TACTILE SIGNS SHALL BE LOCATED SO THAT AN 18" SQUARE CLEAR FLOOR SPACE, CENTERED ON THE SIGN IS PROVIDED BEYOND THE ARC OF ANY DOOR SWING.
MOUNTING HEIGHT SHALL BE MAXIMUM 60" A.F.F TO BASELINE OF HIGHEST LINE OF RAISED CHARACTERS AND MINIMUM 48" A.F.F TO BASELINE OF LOWEST LINE OF BRAILLE.

11B-703.1.1.2 INSPECTION
SIGNS AND IDENTIFICATION DEVICES SHALL BE FEILD INSPECTED AFTER INSTALLATION AND APPROVED BY THE ENFORCING AGENCY PRIOR TO THE INSURANCE OF A FINAL CERTIFICATE OF OCCUPANCY PER CHAPTER 1, DIVISION II, SECTION 111, OR FINAL APPROVAL WHERE NO CERTIFICATE OF OCCUPANCY IS ISSUED. THE INSPECTION SHALL INCLUDE, BUT NOT BE LIMITED TO, VERIFICATION THAT BRAILLE DOTS AND CELLS ARE PROPERLY SPACED AND THE SIZE, PROPORTION AND TYPE OF RAISED CHARACTERS ARE IN COMPLIANCE WITH THESE REGULATIONS

SIGNAGE NOTES

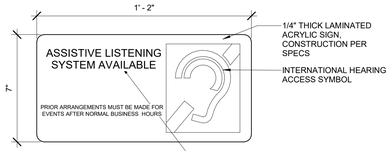


NOTE:
- SEE DETAIL 5/GEN-4 FOR TACTILE TEXT REQUIREMENTS

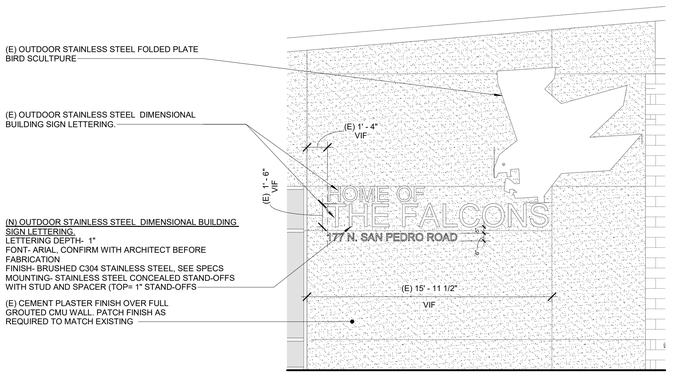
- PROVIDE MECHANICAL MOUNTING W/ VANDAL RESISTANT FASTENERES. PROVIDE ADHESIVE MOUNTING SYSTEM WHEN ATTACHED TO GLAZING.

A5 19 GEN-05

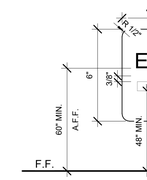
ROOM IDENTIFICATION SIGN (INSERT) 3" = 1'-0" **18**



ASSISTIVE LISTENING SIGN 3" = 1'-0" **14**



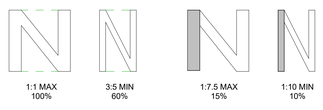
BUILDING ADDRESS SIGNAGE @ (E) BLDG D 1/4" = 1'-0" **2**



NOTE: PROVIDE MECHANICAL MOUNTING W/ VANDAL RESISTANT FASTENERES. PROVIDE ADHESIVE MOUNTING SYSTEM WHEN ATTACHED TO GLAZING.

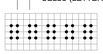
SEE 1/GEN-5 FOR ADDITIONAL INFORMATION

TACTILE EXIT SIGN 3" = 1'-0" **13**



CHARACTER PROPORTIONS

STROKE PROPORTION

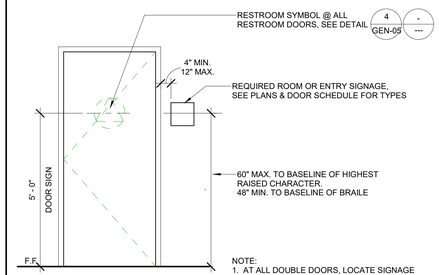


CALIFORNIA CONTRACTED GRADE 2 BRAILLE SHALL BE USED WHEREVER BRAILLE IS REQUIRED. INDIVIDUAL BRAILLE DOTS SHALL EACH BE DISTINCT AND SEPARATE. EACH DOT SHALL BE ROUNDED OR DOMED IN LIEU OF SQUARE SIDED AND FLAT TOPPED.

WIDTH TO HEIGHT PROPORTION TEMPLATE

BRAILLE SPACING TEMPLATE PER CALIFORNIA BUILDING CODE (CBC) AND CALIFORNIA CODE OF REGULATIONS (CCR), TITLE 24, PART 2.

TACTILE SIGNAGE TEMPLATES 1 : 1 **5**



NOTE:
1. AT ALL DOUBLE DOORS, LOCATE SIGNAGE ADJACENT TO JAMB OF INACTIVE LEAF OF DOOR PAIR. PROVIDE 90 DEGREE INHIBITOR TYPE CLOSER ON INACTIVE DOOR.

2. FOR TYPE OF DOOR SIGNAGE AT ALL DOORS, SEE SHEETS A02.D, A02.E1 AND A02.E2.

DOOR ROOM SIGNAGE 1/2" = 1'-0" **1**

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-121181 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 07/02/2024

OWNER: SAN RAFAEL CITY SCHOOLS

PROJECT NAME: VENETIA VALLEY BLDGS G AND H ALTERATION

CLIENT ADDRESS: 177 N San Pedro Rd, San Rafael, CA 94903

LICENSED ARCHITECT
Robert Sinno
No. C-18301
Jan 31, 2025
STATE OF CALIFORNIA

REVISIONS:

	DESCRIPTION	DATE

PROJECT NO: 2017 / 40104
DATE ISSUED: 06/21/2024
SCALE: As indicated

SHEET NUMBER: GEN-05
SHEET TITLE:

PROJECT COMPLIANCE SIGNAGE

SVA ARCHITECTS
7901 STONERIDGE DR, SUITE 100, PLEASANTON, CA 94588
T 925.374.9884 WWW.SVA-ARCHITECTS.COM

VENETIA VALLEY BLDGS G AND H ALTERATION

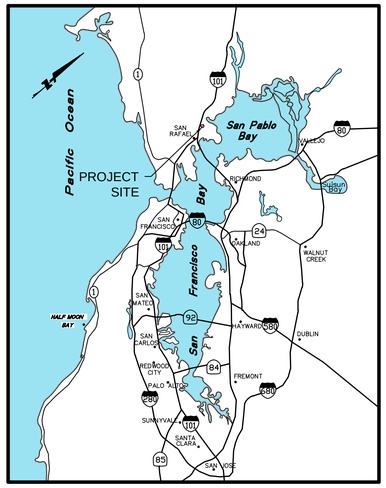
CIVIL CONSTRUCTION DOCUMENTS

177 NORTH SAN PEDRO ROAD, SAN RAFAEL, CA 94903

SHEET INDEX

NUMBER	SHEET	DESCRIPTION
1	C100	TITLE SHEET & GENERAL NOTES
2	C200	DEMOLITION PLAN
3	C201	DEMOLITION PLAN
4	C300	SITE IMPROVEMENTS
5	C301	SITE IMPROVEMENTS
6	C400	CONSTRUCTION DETAILS
7	C500	EROSION CONTROL
8	C501	EROSION CONTROL

VICINITY MAP
NTS



LOCATION MAP
NTS

ABBREVIATIONS

SYMBOL	DESCRIPTION
AB	AGGREGATE BASE
AC	ASPHALT CONCRETE
CONC	CONCRETE
DI	DROP INLET
DIA	DIAMETER
ELEV	ELEVATION
EX	EXISTING
FF	FINISHED FLOOR
FG	FINISHED GRADE
FL	FLOW LINE
FS	FINISHED SURFACE
GB	GRADE BREAK
GC	GUIDE CURB
GR	GRATE
INV	INVERT
L/S	LANDSCAPE
MA	MATCH
O.C.	ON CENTER
RAD	RADIUS
SAD	SEE ARCHITECTURAL DRAWINGS
SD	STORM DRAIN
SDAD	STORM DRAIN AREA DRAIN
SLD	SEE LANDSCAPE DRAWINGS
SS	SANITARY SEWER
SSCO	SANITARY SEWER CLEANOUT
TC	TOP FACE OF CURB
TYP	TYPICAL

CIVIL NOTES

A. GENERAL NOTES

1. THE ENGINEER OF RECORD'S (EOR) SIGNATURE AND/OR SEAL ON THESE CONSTRUCTION DOCUMENTS DO NOT NECESSARILY CONSTITUTE DOCUMENTS THAT HAVE BEEN OFFICIALLY PERMITTED BY THE GOVERNING AGENCY. IT IS THE CONTRACTORS RESPONSIBILITY TO CONFIRM WITH THE EOR AND/OR THE GOVERNING AGENCY ISSUING THE CONSTRUCTION PERMIT THAT THE VERSION OF THE DOCUMENTS THEY INTEND TO UTILIZE FOR CONSTRUCTION REPRESENT THE OFFICIAL PERMITTED DOCUMENTS, IRRESPECTIVE OF WHETHER THE DOCUMENTS CONTAIN THE EOR'S STAMP AND/OR SIGNATURE. EOR IS NOT RESPONSIBLE FOR ANY CONSTRUCTION PERFORMED BY THE CONTRACTOR USING DOCUMENTS NOT OFFICIALLY PERMITTED BY THE GOVERNING AGENCY.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR REQUIRED INSPECTIONS AND SHALL NOTIFY THE APPROPRIATE INDIVIDUAL OR AGENCY TWO (2) WORKING DAYS PRIOR TO THE TIME THAT THE CONTRACTOR WISHES THE INSPECTION TO BE MADE. THE CONTRACTOR SHALL NOTIFY THE CITY ENGINEER TWO (2) WORKING DAYS PRIOR TO REQUIRED INSPECTION.
3. THESE PLANS AND SPECIFICATIONS, INCLUDING GRADES AND STREET DRAINAGE ARE SUBJECT TO MODIFICATION DURING CONSTRUCTION. SHOULD CONDITIONS APPEAR THAT WERE NOT APPARENT DURING DESIGN, ANY SUCH MODIFICATION SHALL BE APPROVED BY THE CITY ENGINEER.
4. CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY FIELD CHANGES MADE WITHOUT WRITTEN AUTHORIZATION FROM THE LOCAL AGENCY ENGINEER AND BKF ENGINEERS. ANY DEVIATIONS OR CHANGES IN THESE PLANS WITHOUT OFFICIAL APPROVAL OF THE DESIGN ENGINEER SHALL ABSOLVE THE DESIGN ENGINEER OF ANY AND ALL RESPONSIBILITY OF SAID DEVIATION OR CHANGE.
5. CONTRACTOR SHALL NOT DESTROY OR ALTER ANY PERMANENT SURVEY POINTS WITHOUT THE CONSENT OF THE CITY ENGINEER. ANY PERMANENT MONUMENTS OR POINTS DESTROYED SHALL BE REPLACED BY A REGISTERED CIVIL ENGINEER OR LICENSED LAND SURVEYOR AT THE CONTRACTOR'S EXPENSE.
6. CONTRACTOR IS RESPONSIBLE FOR MATCHING EXISTING STREETS, SURROUNDING LANDSCAPE AND OTHER IMPROVEMENTS WITH A SMOOTH TRANSITION IN GRADING AND TO AVOID ANY ABRUPT OR APPARENT CHANGES IN GRADES OR CROSS SLOPES, LOW SPOTS OR HAZARDOUS CONDITIONS.
7. CONTRACTOR SHALL ADEQUATELY SHORE EXCAVATIONS TO PREVENT EARTH FROM SLIDING OR SETTLING AND AVOID DAMAGE TO EXISTING ADJACENT IMPROVEMENTS. DAMAGE RESULTING FROM A LACK OF ADEQUATE SHORING SHALL BE THE CONTRACTOR'S RESPONSIBILITY. PROVIDE SHORING IN CONFORMANCE WITH APPLICABLE CONSTRUCTION SAFETY ORDERS OF THE CALIFORNIA DIVISION OF INDUSTRIAL SAFETY AND OSHA WHERE EXCAVATIONS ARE 4 FEET OR MORE IN DEPTH.
8. CONTRACTOR SHALL PROVIDE DUST CONTROL FOR THE ENTIRE PROJECT SITE AT ALL TIMES. THE SITE SHALL BE SPRINKLED WITH WATER AS NECESSARY TO PREVENT DUST NUISANCE.
9. CONTRACTOR SHALL PROVIDE ALL LIGHTS, SIGNS, BARRICADES, FLAGGERS OR OTHER DEVICES NECESSARY TO PROVIDE FOR SAFETY. THE CONTRACTOR SHALL SUBMIT AND OBTAIN APPROVAL OF TRAFFIC CONTROL PLANS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
10. CONTRACTOR SHALL POST EMERGENCY TELEPHONE NUMBERS FOR POLICE, FIRE, AMBULANCE AND THOSE AGENCIES RESPONSIBLE FOR MAINTENANCE OF UTILITIES IN THE VICINITY OF JOB SITE PRIOR TO THE START OF WORK.
11. CONSTRUCTION STAKING SHALL BE DONE BY A CIVIL ENGINEER OR LAND SURVEYOR REGISTERED IN THE STATE OF CALIFORNIA.
12. BKF ENGINEERS DOES NOT SPECIFY NOR RECOMMEND THE USE OR INSTALLATION OF ANY MATERIAL OR EQUIPMENT WHICH IS MADE FROM, OR WHICH CONTAINS ASBESTOS FOR USE IN THE CONSTRUCTION OF THESE IMPROVEMENTS. ANY PARTY INSTALLING OR USING SUCH MATERIALS OR EQUIPMENT SHALL BE SOLELY RESPONSIBLE FOR ALL INJURIES, DAMAGES, OR LIABILITIES OF ANY KIND, CAUSED BY THE USE OF SUCH MATERIALS OR EQUIPMENT. THE PROVISIONS OF THIS NOTE SHALL APPLY UNLESS THEY ARE EXPRESSLY WAIVED IN WRITING BY BKF ENGINEERS.
13. THE GENERAL CONTRACTOR SHALL PROVIDE A QUALIFIED SUPERVISOR ON THE JOB SITE AT ALL TIMES DURING CONSTRUCTION.
14. CONTRACTOR SHALL OBTAIN ANY PERMITS REQUIRED BY THE CITY OF SAN RAFAEL OR WITH OTHER AGENCIES AS REQUIRED FOR HAULING ON LOCAL STREETS.
15. UPON SATISFACTORY COMPLETION OF THE WORK, THE ENTIRE WORK SITE SHALL BE CLEANED UP AND LEFT WITH A SMOOTH AND NEATLY GRADED SURFACE FREE OF CONSTRUCTION WASTE AND RUBBISH OF ANY NATURE BY THE CONTRACTOR TO THE SATISFACTION OF THE CITY ENGINEER.

B. EXISTING CONDITIONS

1. ALL DISTANCES AND DIMENSIONS ARE SHOWN IN FEET AND DECIMALS THEREOF.
2. DATE OF SUPPLEMENTAL TOPOGRAPHIC FIELD SURVEY: 05/18/2023 (BY BKF).
3. LOT LINES & RIGHT-OF-WAY LINES WERE BASED ON RECORD INFORMATION ONLY. A FORMAL BOUNDARY SURVEY MAY REQUIRE THE BENEFIT OF A PRELIMINARY TITLE REPORT.
4. EXISTING AND FUTURE SUBSURFACE IMPROVEMENTS AND UTILITIES SHOWN ON THESE PLANS WERE TAKEN FROM THE BEFORE-MENTIONED SURVEYS AND FUTURE DESIGN DESCRIBED IN NOTE 1. THESE PLANS ARE NOT MEANT TO BE A FULL CATALOG OF EXISTING SUBSURFACE CONDITIONS. CONTRACTOR SHALL CONDUCT FIELD INVESTIGATION TO VERIFY THE LOCATIONS AND ELEVATIONS OF EXISTING SUBSURFACE IMPROVEMENTS AND UTILITIES, WHETHER SHOWN ON PLANS OR NOT, PRIOR TO START OF EXCAVATION. IF DISCREPANCIES BETWEEN EXISTING CONDITIONS AND THESE PLANS ARE DISCOVERED, NOTIFY THE DESIGN ENGINEER IMMEDIATELY AND REQUEST DISCREPANCY BE RESOLVED.
5. IF CONTRACTOR FAILS TO INVESTIGATE KNOWN AND UNKNOWN EXISTING SUBSURFACE IMPROVEMENTS PRIOR TO ANY CONSTRUCTION ACTIVITIES AND UNFORESEEN CONDITIONS ARISE, ALL COSTS AND SCHEDULE IMPACTS WILL BE BORNE BY THE CONTRACTOR.
6. CONTRACTOR SHALL PROVIDE INGRESS AND EGRESS FOR PRIVATE PROPERTIES ADJACENT TO CONSTRUCTION AREAS THROUGHOUT CONSTRUCTION PERIOD.
7. CONTRACTOR SHALL CONTACT USA (UNDERGROUND SERVICES ALERT) AT 1-800-642-2444, AND AFFECTED UTILITY COMPANIES A MINIMUM OF 2 WORKING DAYS PRIOR TO STARTING WORK TO REQUEST UTILITIES BE MARKED.

C. DEMOLITION

1. PRIOR TO COMMENCING DEMOLITION, CONTRACTOR SHALL OBTAIN A PERMIT FROM THE BAY AREA AIR QUALITY MANAGEMENT DISTRICT (BAAQMD) AND REQUIRED SIGN-OFFS FROM THE WATER, SEWER, PLANNING AND RECYCLING DEPARTMENTS. THE PINK DEMOLITION PERMIT APPLICATION IS TO BE COMPLETED PRIOR TO BUILDING DEPARTMENT APPROVAL AND THE START OF WORK. CONTRACTOR MAY CALL BAAQMD FOR QUESTIONS CONCERNING OBTAINING A PERMIT FROM BAAQMD, PHONE NUMBER 415-749-4979 OR EMAIL AT www.baaqmd.gov
2. CONTRACTOR SHALL REMOVE FROM SITE AND DISPOSE OF IN A LAWFUL MANNER EXISTING STRUCTURES, UTILITIES, AND OTHER FEATURES AS INDICATED ON PLANS.
3. CONTRACTOR TO COORDINATE WORK WITH GOVERNING AGENCIES FOR EXISTING FIRE AND DOMESTIC LINES AND STRUCTURES WITHIN LIMIT OF WORK

D. EARTHWORK AND GRADING

1. THE CONTRACTOR SHALL BE RESPONSIBLE TO CONFIRM THE GROUND ELEVATIONS AND OVERALL TOPOGRAPHY OF THE SITE, PRIOR TO START OF CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY BKF ENGINEERS IN WRITING IMMEDIATELY OF ANY DIFFERENCES IN TOPOGRAPHY FROM THAT SHOWN IN THIS PLAN, WHICH MAY REQUIRE CHANGES IN DESIGN AND/OR AFFECT EARTHWORK QUANTITIES.
2. THE CONTRACTOR MAY UNDERCUT THE STREET SUBGRADE DURING ROUGH GRADING IN ORDER THAT THE TRENCH SPOILS MAY BE LEFT IN THE STREET AREA AND COMPACTED DURING FINAL SUBGRADE PRIOR TO PLACEMENT OF BASE ROCK. THE UNDERCUT SHOULD BE ADEQUATE TO ACCEPT ALL TRENCH SPOILS, INCLUDING JOINT TRENCH SPOILS.
3. ALL GRADING, EARTHWORK, AND SITE PREPARATION OPERATIONS ARE TO CONFORM WITH THE GUIDELINES AND REQUIREMENTS CONTAINED IN THE PROJECT, ALONG WITH ANY ASSOCIATED SUPPLEMENTAL DOCUMENTS. ALL GRADING SHOULD ADDITIONALLY BE IN ACCORDANCE WITH THE CLAY CAP CLOSURE PLANS.
4. FILL SHOULD CONSIST OF ONSITE OR IMPORTED SOIL THAT IS NON-CORROSIVE, NON-HAZARDOUS, FREE OF ORGANIC MATTER OR OTHER DELETERIOUS MATERIAL CONTAINS NO ROCK OR LUMPS LARGER THAN FOUR INCHES IN GREATEST DIMENSION, HAS A LIQUID LIMIT OF LESS THAN 40 AND A PLASTICITY INDEX LOWER THAN 12 IS APPROVED, AND COMPACTION SHALL BE IN ACCORDANCE WITH THE SPECIFIED STANDARDS.

E. UTILITIES

1. THE CONTRACTOR SHALL COORDINATE UTILITY RELOCATION WORK WITH RESPONSIBLE AGENCIES.
2. GRAVITY FLOW UTILITIES SHALL BE CONSTRUCTED FROM DOWNSTREAM CONNECTION POINT TO UPSTREAM TERMINUS.
3. PROVIDE MINIMUM 12-INCH VERTICAL CLEARANCE BETWEEN ADJACENT UTILITY PIPES AT UTILITY CROSSINGS UNLESS OTHERWISE NOTED ON PLANS.
4. THE CONTRACTOR SHALL NOTIFY UTILITY PROVIDER MINIMUM 2 WORKING DAYS PRIOR TO COMMENCING WORK OR CONNECTION TO EXISTING UTILITIES. IF EXISTING WATER, STORM DRAIN, SEWER, GAS OR OTHER UTILITY SERVICES ARE DISTURBED OR DAMAGED DURING CONSTRUCTION, NOTIFY UTILITY OWNER IMMEDIATELY.
5. EXISTING UTILITIES TO REMAIN SHALL BE PROTECTED FROM DAMAGE CAUSED BY CONTRACTOR'S WORK.
6. UTILITY STRUCTURES IN PAVED AREAS SHALL BE PROVIDED WITH MATERIALS SUITABLE FOR H-20 LOADING.
7. PIPE LENGTHS SHOWN ON PLANS ARE FOR ENGINEERING CALCULATIONS ONLY AND ARE NOT INTENDED AS BID QUANTITIES OR FOR ORDERING MATERIALS.
8. ALL UNDERGROUND UTILITY WORK SHALL BE DONE TO THE CITY'S SATISFACTION. ALL UNDERGROUND UTILITY WORK SHALL BE INSPECTED BY THE PUBLIC WORKS DEPARTMENT. WATER UTILITY WORK SHALL BE INSPECTED BY FIRE AND PUBLIC WORKS DEPARTMENTS.

F. AS-BUILT DRAWINGS

1. THE CONTRACTOR SHALL KEEP ACCURATE RECORD OF FINAL LOCATION, ELEVATION AND DESCRIPTION OF WORK ON A COPY OF FINAL APPROVED CONSTRUCTION DOCUMENTS. NOTE THE LOCATIONS AND ELEVATIONS OF EXISTING IMPROVEMENTS ENCOUNTERED THAT VARY FROM THE LOCATIONS SHOWN ON THE IMPROVEMENT PLANS. THE CONTRACTOR SHALL PROVIDE COPY OF AS-BUILT INFORMATION TO OWNER AT COMPLETION OF PROJECT AND TO CITY PUBLIC WORKS.

G. STATEMENT OF RESPONSIBILITY

1. CONTRACTOR AGREES THAT, IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, THE CONTRACTOR WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR THE JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY. THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. THE CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY AND HOLD THE CITY, ITS AGENTS, SAN RAFAEL CITY SCHOOLS, OWNER, AND ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXEMPTING LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE ENGINEER.

H. UNAUTHORIZED CHANGES AND USES

1. THE DESIGN ENGINEER PREPARING THESE PLANS WILL NOT BE RESPONSIBLE FOR, OR LIABLE FOR UNAUTHORIZED CHANGES TO OR USES OF THESE PLANS. ALL CHANGES TO THE PLANS MUST BE IN WRITING AND REQUIRE WRITTEN APPROVAL FROM BKF ENGINEERS.

I. SEDIMENTATION AND POLLUTION CONTROL

1. CONTRACTOR TO IMPLEMENT ALL SEDIMENTATION AND POLLUTION CONTROL MEASURES SHOWN ON THE EROSION CONTROL PLANS AND DETAILS INCLUDED IN THESE IMPROVEMENT PLANS.
2. CONTRACTOR TO COORDINATE WITH THE CITY OF SAN RAFAEL PUBLIC WORKS DEPARTMENT ON THE SCHEDULING OF DUST CONTROL METHODS AND LIMITED WATER USE AS REQUIRED BY THE CITY'S WATER CONSERVATION ORDINANCE.
3. CONTRACTOR TO FOLLOW REQUIREMENTS OF THE PROJECT STORM WATER POLLUTION PREVENTION PLAN (SWPPP) THAT WILL BE PREPARED BY BKF ENGINEERS. CONTRACTOR TO COMPLETE THE PROJECT INFORMATION SECTION AND SUBMIT A COPY TO THE ENGINEER PRIOR TO BEGINNING OF WORK. CONTRACTOR AND QSP SHALL UPDATE THE SWPPP AS NECESSARY AND THE PROJECT SMARTS WEBSITE. A COPY OF THE SWPPP SHALL REMAIN ON-SITE THROUGHOUT CONSTRUCTION.
4. TRUCKS TRANSPORTING FILL MATERIAL TO BE COVERED OR PROTECTED IN SUCH A WAY AS TO PREVENT SLOUGHING AND/OR SPILLAGE.
5. CONTRACTOR TO BE RESPONSIBLE FOR DUST CONTROL REQUIRED IN THE PROJECT SPECIFICATIONS.
6. CONTRACTOR TO BE RESPONSIBLE FOR OFF-SITE DAMAGE RESULTING FROM THE LACK OF DUST CONTROL AND TO PROVIDE MITIGATION MEASURES, AT HIS SOLE EXPENSE, AS DIRECTED BY THE COUNTY AND/OR ADJACENT CITY(S).
7. EROSION AND SEDIMENT CONTROL MEASURES TO BE IMPLEMENTED DURING AND AFTER FINAL GRADING. SLOPE PROTECTIVE MATS, SEDIMENT TRAPS, AND/OR DESILTING BASINS TO BE INSTALLED TO CONTROL SEDIMENT TRANSPORTATION. SILT FENCE TO BE PLACED AROUND THE PERIMETER OF THE SITE AND WATERING OF THE SITE TO BE APPLIED CONTINUOUSLY DURING THE GRADING OPERATION IN A MANNER THAT MINIMIZES DUST PROBLEMS DURING AND AFTER CONSTRUCTION HOURS.
8. ALL EXISTING INLETS IN THE VICINITY THAT MAY BE IMPACTED IS TO BE PROTECTED BY INSTALLING SEDIMENT CONTROL MEASURES. MEASURES TO BE MAINTAINED UNTIL GRADING OPERATIONS ARE COMPLETE AND ON-SITE EROSION AND SEDIMENT CONTROL MEASURES ARE FUNCTIONAL. CONTRACTOR TO REMOVE ALL SILT WHICH ENTERS THE CITY MAINTAINED STORM DRAIN SYSTEM IMMEDIATELY AND TO REIMBURSE THE CITY ITS FULL COST ASSOCIATED WITH THE INSPECTION AND REMOVAL OF SUCH SILT. IN THE CASE OF ANY DISPUTE, CONTRACTOR TO BE RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH TV INSPECTION AND REEVALUATION.

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-121181 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 07/02/2024

OWNER: SAN RAFAEL CITY SCHOOLS

PROJECT NAME: VENETIA VALLEY BLDGS G AND H ALTERATION

CLIENT ADDRESS: 177 N San Pedro Rd, San Rafael, CA 94903

REGISTERED PROFESSIONAL ENGINEER
KEVIN M. WONG
No. C 72285
CIVIL
STATE OF CALIFORNIA

REVISIONS:

	DESCRIPTION	DATE
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

PROJECT NO: 2017 / 40104
DATE ISSUED: 06/21/24
SCALE: AS SHOWN

SHEET NUMBER: C100
SHEET TITLE:

TITLE SHEET & GENERAL NOTES

BKF
2100 FRANKLIN STREET
SUITE 4C
OAKLAND, CA 94612
(510) 899-7300
www.bkf.com

2030 FRANKLIN STREET #210 OAKLAND, CA 94612
T 510.267.3180 WWW.SVA-ARCHITECTS.COM

LEGEND

- REMOVE CONCRETE PAVEMENT SECTION TO PROPOSED SUBGRADE
- REMOVE ASPHALT PAVEMENT SECTION TO PROPOSED SUBGRADE
- CLEAR AND GRUB
- EXISTING BUILDING TO BE DEMOLISHED
- REMOVE EXISTING UTILITY LINE
- REMOVE EXISTING UTILITY LINE
- LIMITS OF DEMOLITION
- CAP EXISTING UTILITY LINE

DEMOLITION NOTES

1. CONTRACTOR TO USE CAUTION WHEN WORKING ADJACENT TO EXISTING BUILDING.
2. CONTRACTOR TO CLEAR AND GRUB WITHIN THE LIMITS OF PROPOSED WORK, UNLESS OTHERWISE NOTED ON PLANS.
3. RIM ELEVATIONS FOR EXISTING UTILITY STRUCTURES SHALL BE RAISED TO PROPOSED SURFACE ELEVATIONS.
4. THE UTILITY LINES AND STRUCTURES SHOWN ON THESE PLANS ARE DERIVED FROM RECORD DATA AND/OR SURFACE OBSERVATION AND ARE APPROXIMATE ONLY. ACTUAL LOCATION AND SIZE, TOGETHER WITH THE PRESENCE OF ANY ADDITIONAL UTILITY LINES AND STRUCTURES NOT SHOWN ON THIS PLAN, SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR DURING CONSTRUCTION. CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY UPON DISCOVERY OF ANY DISCREPANCIES BETWEEN EXISTING CONDITIONS IN THE FIELD AND INFORMATION SHOWN ON THESE PLANS.
5. THE CONTRACTOR IS REQUIRED BY STATE LAW TO ACTIVELY RESEARCH THE WORK AREA PRIOR TO COMMENCEMENT OF CONSTRUCTION, REFERENCE ANY MONUMENTS, AND REPLACE THOSE DAMAGED OR REMOVED DURING CONSTRUCTION.
6. THE LIMITS OF DEMOLITION SHOWN ARE APPROXIMATE ONLY. CONTRACTOR IS RESPONSIBLE FOR MATCHING EXISTING SURROUNDINGS, LANDSCAPE AND OTHER IMPROVEMENTS WITH A SMOOTH TRANSITION IN PAVING, CURBS, GUTTERS, AND SIDEWALKS AND AVOIDING ANY ABRUPT OR APPARENT CHANGES IN GRADES OR CROSS SLOPES OR HAZARDOUS CONDITIONS.
7. EXISTING CURB AND SIDEWALK AND LANDSCAPE/IRRIGATION WITHIN THE PROJECT LIMITS THAT ARE DAMAGED OR DISPLACED, EVEN THOUGH THEY WERE NOT TO BE REMOVED, SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR AT NO ADDITIONAL COST.
8. PROTECT ALL EXISTING UTILITIES AND SITE FEATURES FROM BEING DAMAGED, UNLESS OTHERWISE NOTED. ALL UTILITIES AND IMPROVEMENTS THAT BECOME DAMAGED DURING CONSTRUCTION SHALL BE COMPLETELY RESTORED AT NO ADDITIONAL COST TO THE OWNER AND TO THE SATISFACTION OF THE ENGINEER.

GRAPHIC SCALE

(IN FEET)
1 inch = 10 ft.

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-121181 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 07/02/2024

OWNER: SAN RAFAEL CITY SCHOOLS

PROJECT NAME: VENETIA VALLEY BLDGS G AND H ALTERATION

CLIENT ADDRESS: 177 N San Pedro Rd, San Rafael, CA 94903

REGISTERED PROFESSIONAL ENGINEER
KEVIN M. WONG
No. C 72285
CIVIL
STATE OF CALIFORNIA

REVISIONS:

	DESCRIPTION	DATE
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PROJECT NO: 2017 / 40104

DATE ISSUED: 06/21/24

SCALE: AS SHOWN

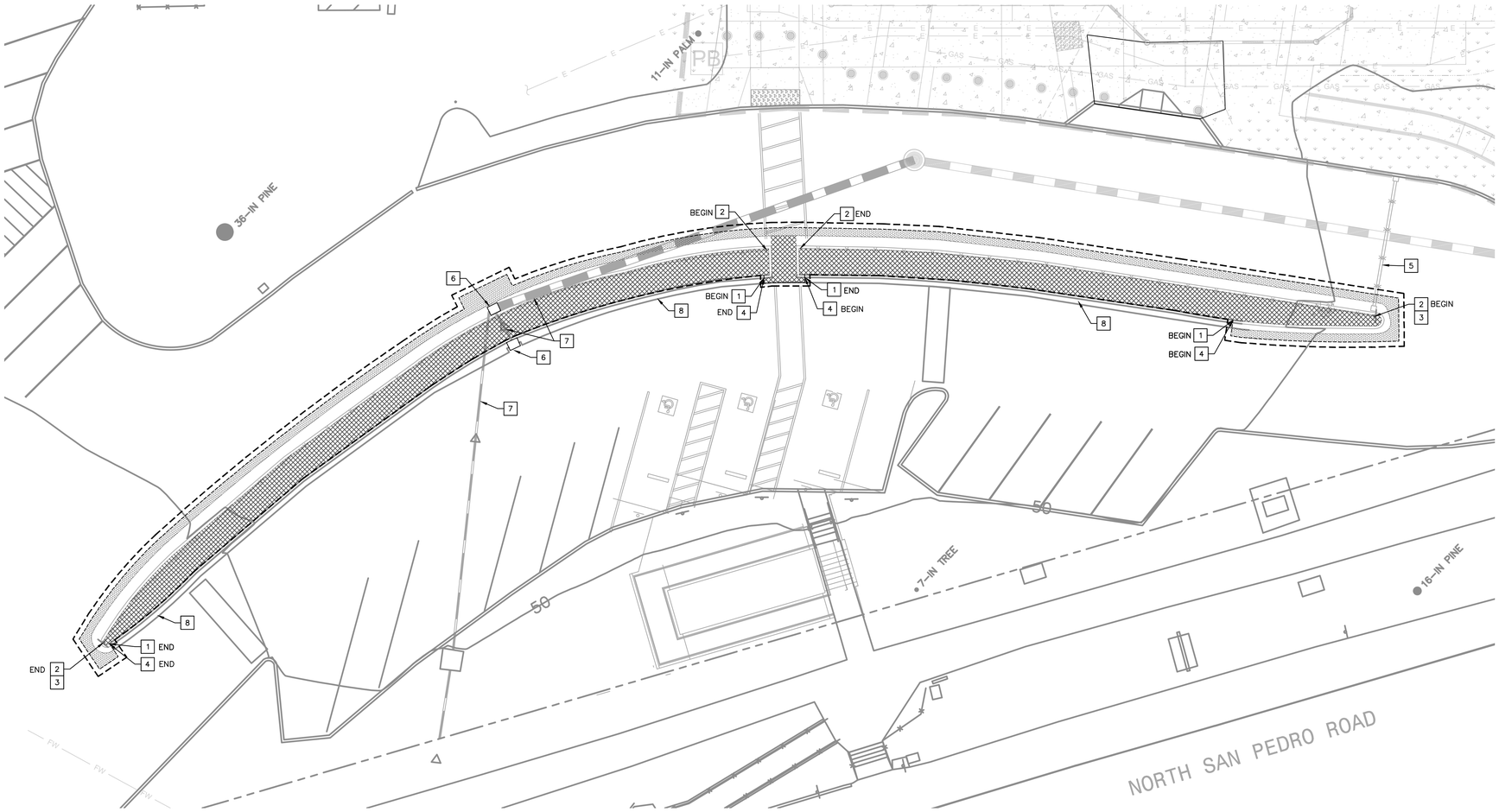
SHEET NUMBER: C200

SHEET TITLE:

DEMOLITION PLAN

BKF
2100 FRANKLIN STREET
SUITE 4C
OAKLAND, CA 94612
(510) 899-7300
www.bkf.com

2030 FRANKLIN STREET #210 OAKLAND, CA 94612
T 510.267.3180 WWW.SVA-ARCHITECTS.COM



LEGEND

- REMOVE CONCRETE PAVEMENT SECTION TO PROPOSED SUBGRADE
- REMOVE ASPHALT PAVEMENT SECTION TO PROPOSED SUBGRADE
- LIMITS OF DEMOLITION
- SAW-CUT

DEMOLITION KEY NOTES

1. REMOVE EXISTING CURB AND GUTTER
2. REMOVE EXISTING FENCE, SALVAGE EXISTING SIGNS ATTACHED TO FENCE, REFER TO NOTE 9
3. REMOVE AND SALVAGE EXISTING SIGNS, REFER TO NOTE 9
4. SAW-CUT EXISTING PAVEMENT
5. REMOVE EXISTING GATE
6. PROTECT EXISTING INLET
7. PROTECT EXISTING STORM DRAIN
8. PROTECT EXISTING CURB

DEMOLITION NOTES

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2. CONTRACTOR TO CLEAR AND GRUB WITHIN THE LIMITS OF PROPOSED WORK, UNLESS OTHERWISE NOTED ON PLANS.
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8. PROTECT ALL EXISTING UTILITIES AND SITE FEATURES FROM BEING DAMAGED, UNLESS OTHERWISE NOTED. ALL UTILITIES AND IMPROVEMENTS THAT BECOME DAMAGED DURING CONSTRUCTION SHALL BE COMPLETELY RESTORED AT NO ADDITIONAL COST TO THE OWNER AND TO THE SATISFACTION OF THE ENGINEER.
9. SALVAGED INFRASTRUCTURE SHALL BE COORDINATED WITH OWNER.

GRAPHIC SCALE

(IN FEET)
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CLIENT ADDRESS: 177 N San Pedro Rd, San Rafael, CA 94903

REGISTERED PROFESSIONAL ENGINEER
KEVIN M. WONG
No. C 72285
CIVIL
STATE OF CALIFORNIA

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PROJECT NO: 2017 / 40104
DATE ISSUED: 06/21/24
SCALE: AS SHOWN

SHEET NUMBER: C201

SHEET TITLE:

DEMOLITION PLAN

BKF
2100 FRANKLIN STREET
SUITE 4C
OAKLAND, CA 94612
(510) 899-7300
www.bkf.com

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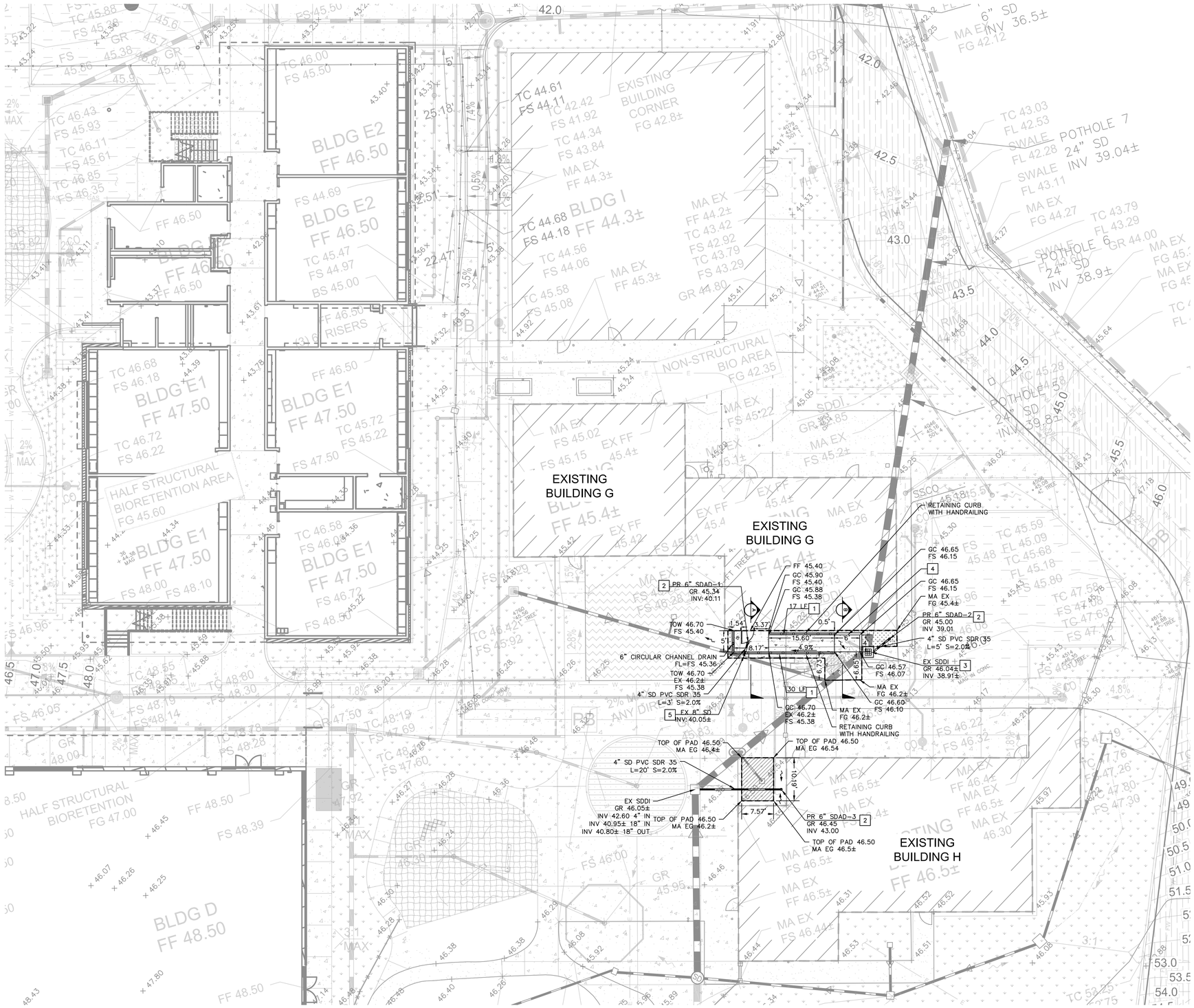
T 510.267.3180 WWW.SVA-ARCHITECTS.COM



ABBREVIATIONS

EG	EXISTING GRADE
FF	FINISH FLOOR
FL	FLOWLINE
GR	GRATE
INV	INVERT
L	LENGTH
MA	MATCH
PR	PROPOSED
PVC	POLYVINYL CHLORIDE
S	SLOPE
SD	STORM DRAIN
SDAD	STORM DRAIN AREA DRAIN
TC	TOP OF CURB
TOW	TOP OF WALL
TP	TOP OF PAVEMENT

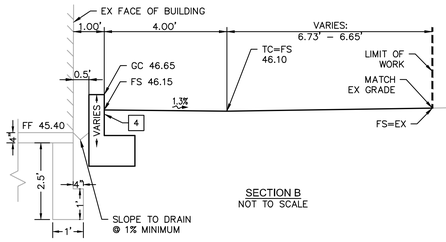
SITE IMPROVEMENT NOTES

1. PROPOSED RETAINING CURB WITH HANDRAIL. TOP OF CURB SHALL BE SET 6" ABOVE THE ADJACENT GRADE. SEE DETAIL 2 ON SHEET C400
2. PROPOSED 6" AREA DRAIN WITH ADA COMPLIANT GRATE. SEE DETAIL 1 ON SHEET C400
3. CONTRACTOR TO REPLACE EXISTING GRATE WITH A HEEL PROOF AND ADA COMPLAINT GRATE. ADJUST GRATE TO FINISH GRADE
4. PROPOSED RETAINING CURB. TOP OF CURB SHALL BE SET 6" ABOVE ADJACENT GRADE. SEE DETAIL 2 ON SHEET C400
5. CONNECT TO EXISTING STORM DRAIN LINE

LEGEND

- LIMIT OF WORK
- CONCRETE 4"/6" AB
- CONCRETE PAD 5" PCC OVER 4" CLASS II AB W/ #4 REBAR 18" O.C. BOTH WAYS
- LANDSCAPE, REPLACE IN KIND

SECTION A
NOT TO SCALE



SECTION B
NOT TO SCALE

GRAPHIC SCALE

(IN FEET)
1 inch = 10 ft.

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CLIENT ADDRESS: 177 N San Pedro Rd, San Rafael, CA 94903

REGISTERED PROFESSIONAL ENGINEER
KEVIN M. WONG
No. C 72285
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PROJECT NO:	2017 / 40104
DATE ISSUED:	06/21/24
SCALE:	AS SHOWN
SHEET NUMBER:	**C300**
SHEET TITLE:	

SITE IMPROVEMENTS

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2100 FRANKLIN STREET
SUITE 4C
OAKLAND, CA 94612
(510) 899-7300
www.bkf.com

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T 510.267.3180 WWW.SVA-ARCHITECTS.COM

OWNER: SAN RAFAEL CITY SCHOOLS

PROJECT NAME: VENETIA VALLEY BLDGS G AND H ALTERATION

CLIENT ADDRESS: 177 N San Pedro Rd, San Rafael, CA 94903

ABBREVIATIONS

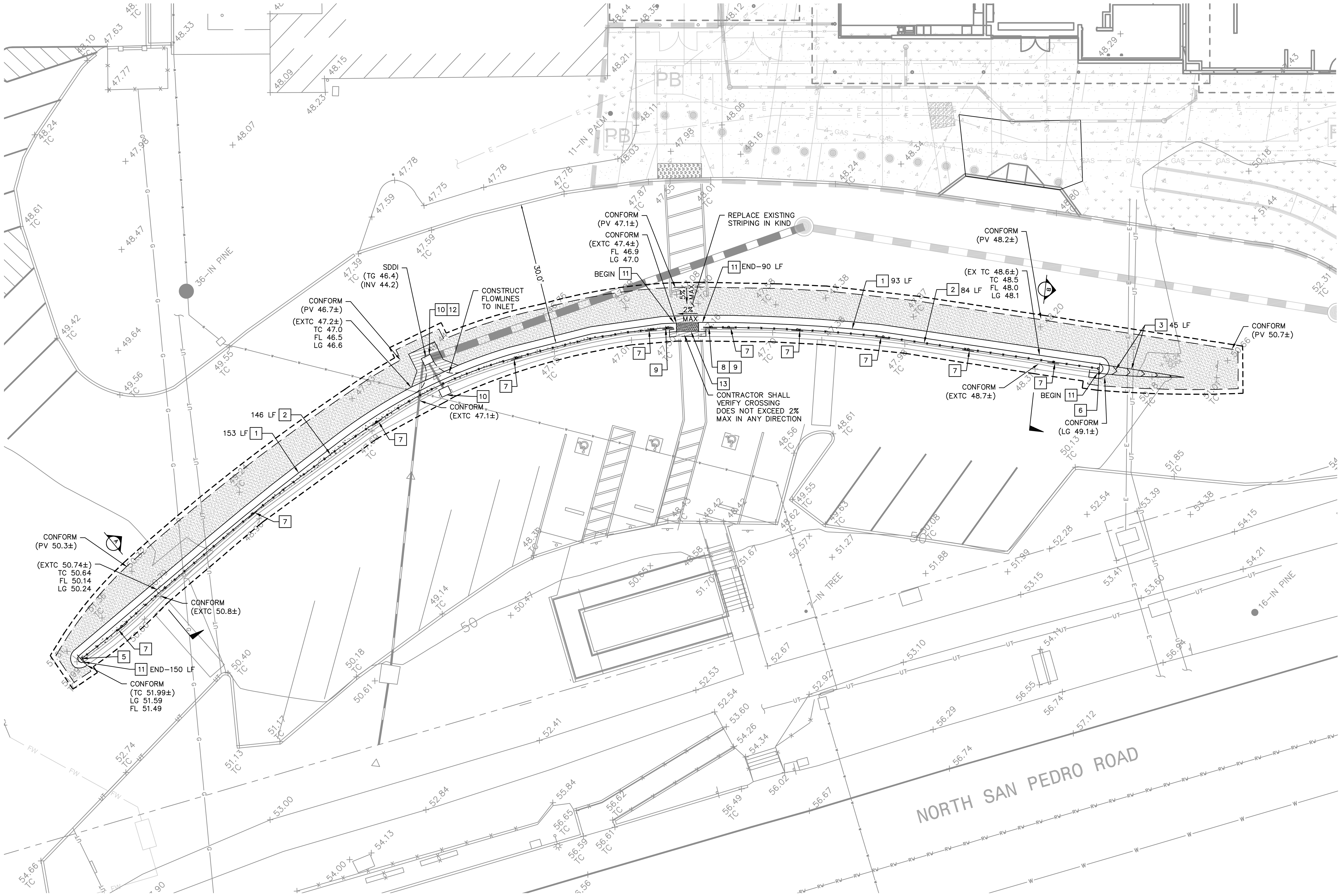
EG	EXISTING GRADE
FF	FINISH FLOOR
FL	FLOWLINE
GR	GRATE
INV	INVERT
L	LENGTH
MA	MATCH
PR	PROPOSED
PVC	POLYVINYL CHLORIDE
S	SLOPE
SD	STORM DRAIN
SDAD	STORM DRAIN AREA DRAIN
TC	TOP OF CURB
TOW	TOP OF WALL
TP	TOP OF PAVEMENT

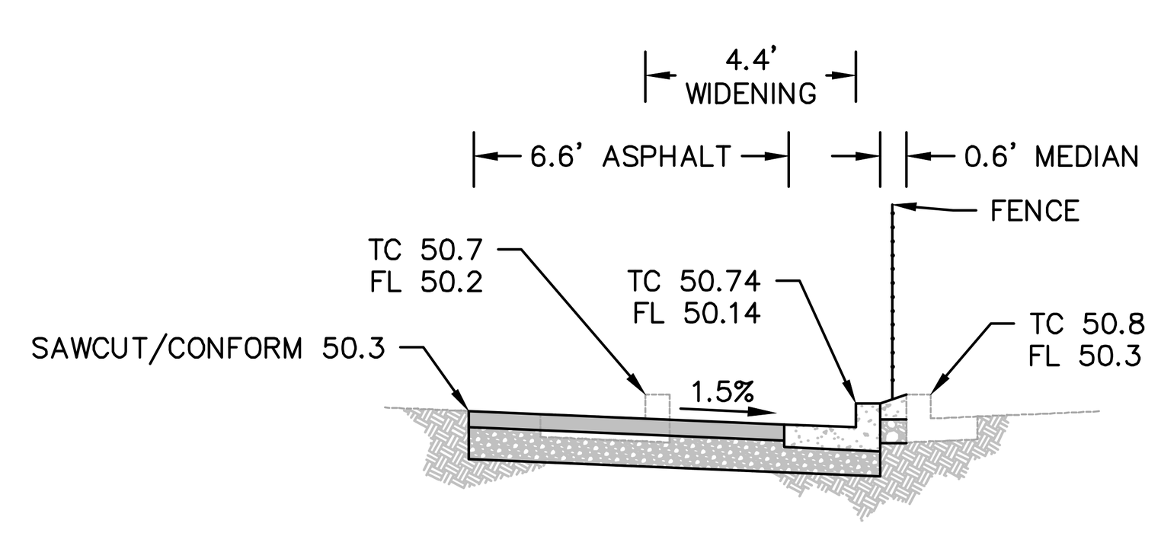
SITE IMPROVEMENT NOTES

1. CONSTRUCT TYPE "A" CURB AND GUTTER PER COUNTY OF MARIN UNIFORM STANDARDS DRAWING NO. 105.
2. PROPOSED 3' CHAIN LINK FENCE, REFER TO DETAIL 17/ A60.4
3. PAINT 4" SOLID WHITE DELINEATOR STRIPING
4. NOT USED
5. INSTALL DO NOT ENTER SIGN AND STOP SIGN, PER COUNTY OF MARIN UNIFORM STANDARDS DRAWING NO. 310.
6. INSTALL PICKUP AND DROP-OFF ONLY SIGN AND AUTOS ONLY LEFT, BUSSES ONLY RIGHT SIGN, PER COUNTY OF MARIN UNIFORM STANDARDS DRAWING NO. 310.
7. INSTALL NO PARKING ANY TIME SIGN, MOUNT TO PROPOSED FENCE
8. INSTALL NO DOGS SIGN AND ALL VISITORS MUST REPORT TO OFFICE UPON ENTERING SCHOOL GROUNDS SIGN, MOUNT TO FENCE
9. INSTALL PICKUP AND DROP-OFF ONLY SIGNS, MOUNT TO FENCE.
10. PROTECT EXISTING INLET
11. PAINT CURB RED
12. REPLACE CURB AND GUTTER INLET GRATE WITH FLAT GRATE (H-20 LOADING AND HEAL PROOF). CONTRACTOR SHALL CONFIRM SIZE PRIOR TO CONSTRUCTION.
13. INSTALL DETECTABLE WARNING PER DETAIL 5 SHEET C400.

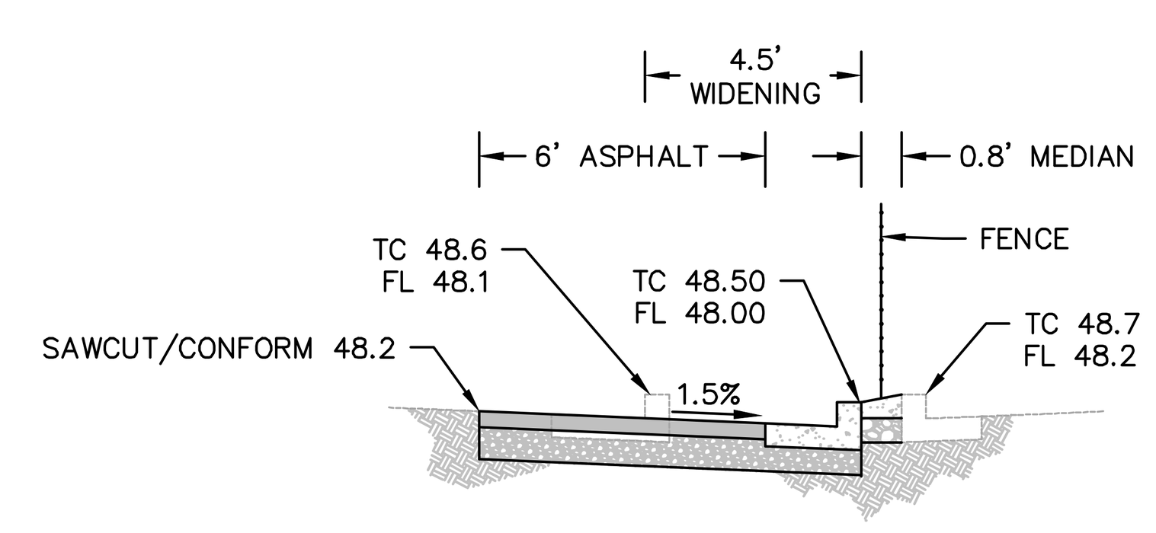
LEGEND

- LIMIT OF WORK
- SAW-CUT
- CURB AND GUTTER
- FENCE
- FLOWLINE
- CONCRETE 4"/6" AB
- CONCRETE PAD 5" PCC OVER 4" CLASS II AB W/ #4 REBAR 18" O.C. BOTH WAYS
- ASPHALT, 2.5"AC/6.5"AB TI 4.0 PER GEOTECHNICAL RECOMMENDATIONS
- DETECTABLE WARNING
- SIGN

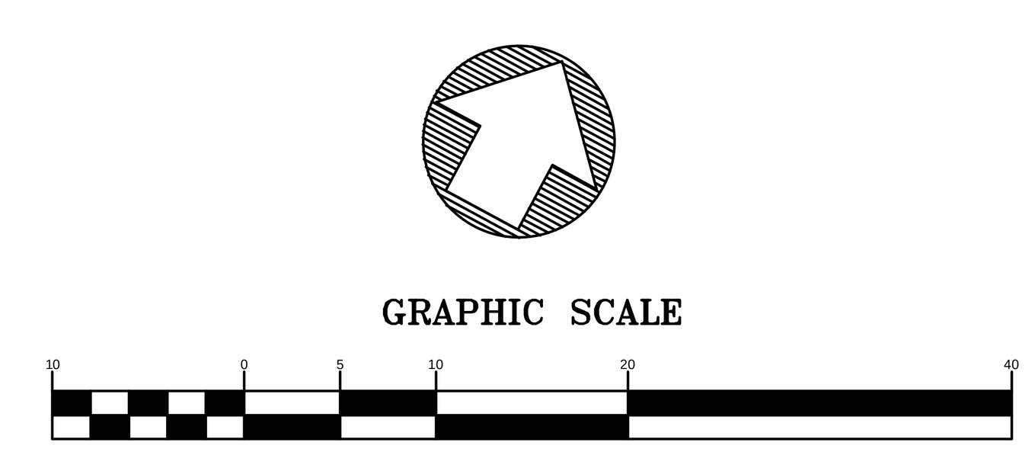




SECTION A
NOT TO SCALE



SECTION B
NOT TO SCALE



GRAPHIC SCALE
(IN FEET)
1 inch = 10 ft.

REVISIONS:

	DESCRIPTION	DATE
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PROJECT NO:	2017 / 40104
DATE ISSUED:	06/21/24
SCALE:	AS SHOWN
SHEET NUMBER:	C301
SHEET TITLE:	

SITE IMPROVEMENTS

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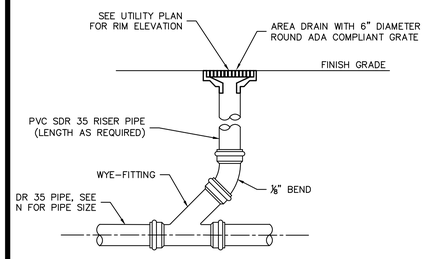
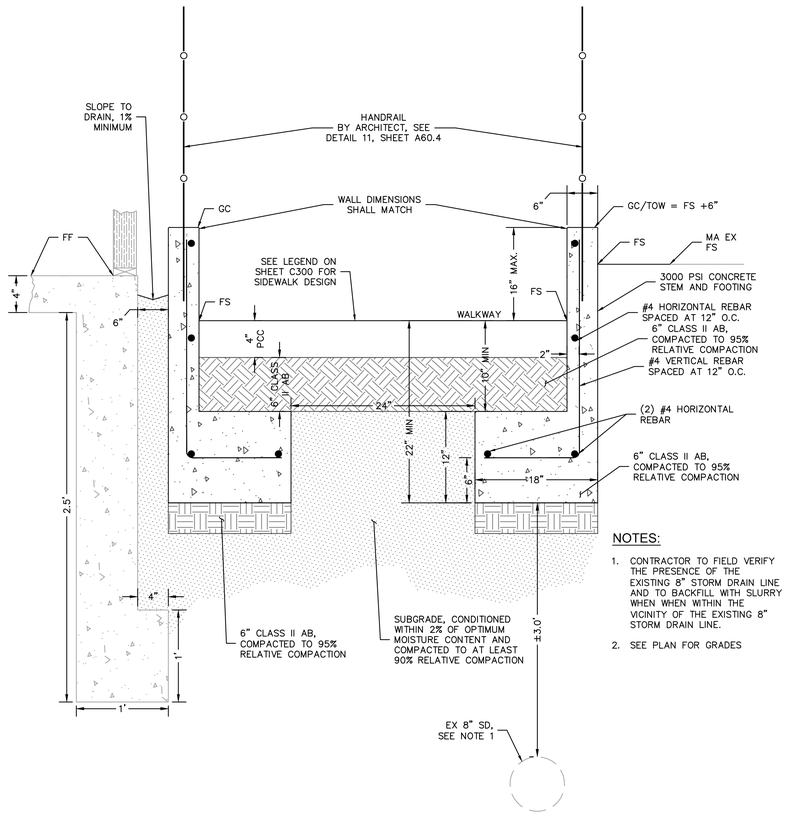
2100 FRANKLIN STREET
SUITE 4C
OAKLAND, CA 94612
(510) 899-7300
www.bkf.com

2030 FRANKLIN STREET #210 OAKLAND, CA 94612
T 510.267.3180 WWW.SVA-ARCHITECTS.COM



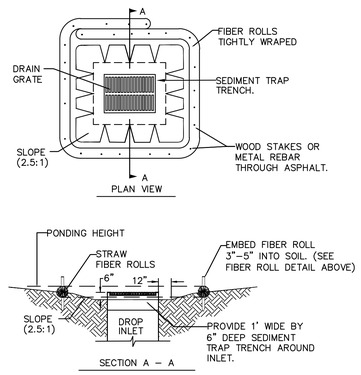
1 AREA DRAIN
NOT TO SCALE



NOTES:

1. CONTRACTOR TO FIELD VERIFY THE PRESENCE OF THE EXISTING 8" STORM DRAIN LINE AND TO BACKFILL WITH SLURRY WHEN WHEN WITHIN THE VICINITY OF THE EXISTING 8" STORM DRAIN LINE.
2. SEE PLAN FOR GRADES

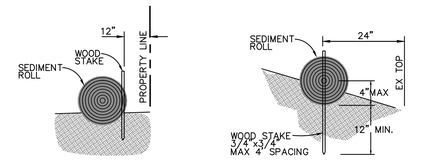
2 RETAINING CURB WITH HANDRAILS
NOT TO SCALE



NOTES:

1. DURING THE DRY SEASON (JUNE 1 TO SEPTEMBER 30) USE INSERTS AT ALL DROP INLETS.
2. INSERTS TO BE INSPECTED AND CLEANED WEEKLY AND AFTER EVERY RAIN EVENT.
3. EMPTY DROP INLET FILTERS WHEN FILTERS APPEAR TO BE HALF FULL.
4. DISPOSE OF TRAPPED SEDIMENT IN ACCORDANCE WITH LOCAL REQUIREMENTS.
5. PLACE FIBER ROLLS AROUND THE INLET CONSISTENT WITH BASIN SEDIMENT BARRIER DETAIL ON THIS SHEET. USE REED & GRAHAM, INC. GEOSYNTHETICS STRAW WATTLE FIBER ROLL (COMES IN 9" X 25' ROLLS) OR EQUIVALENT.
6. FIBER ROLL INSTALLATION REQUIRES THE PLACEMENT AND SECURE STAKING OF THE FIBER ROLL IN A TRENCH, 3"– 5" DEEP, DUG ON CONTOUR. RUNOFF MUST NOT BE ALLOWED TO RUN UNDER OR AROUND FIBER ROLL.
7. THE TOP OF THE STRUCTURE (PONDING HEIGHT) MUST BE WELL BELOW THE GROUND ELEVATION DOWNSLOPE TO PREVENT RUNOFF FROM BY–PASSING THE INLET. EXCAVATION OF A BASIN ADJACENT TO THE DROP INLET OR A TEMPORARY DIKE ON THE DOWNSLOPE OF THE STRUCTURE MAY BE NECESSARY.

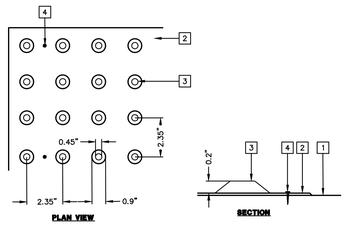
3 DROP INLET SEDIMENT BARRIERS
NOT TO SCALE



INSTALLATION PROCEDURE

1. FIBER ROLLS ARE TUBES MADE FROM POROUS BIODEGRADABLE FIBER STUFFED IN A PHOTO–DEGRADABLE OPEN WEAVE NETTING. THEY ARE APPROX. 8" DIAMETER.
2. FIBER ROLL INSTALLATION REQUIRES THE PLACEMENT AND SECURE STAKING OF THE ROLL IN A TRENCH, 2"–4" DEEP, DUG ON CONTOUR. RUNOFF MUST NOT BE ALLOWED TO RUN UNDER OR AROUND ROLL. ROLLS SHOULD BE ABUTTED SECURELY TO PROVIDE A TIGHT JOINT, NOT OVERLAPPED.
3. TURN ENDS OF FIBER ROLLS UPSLOPE.
4. SILT BUILD–UP AT THE UPSLOPE SIDE OF FIBER ROLLS SHALL BE REMOVED WHEN THE DEPRESSION BECOMES 50% FULL.
5. ANY PLACE WHERE WATER HAS ERODED UNDER THE FIBER ROLL SHALL BE IMMEDIATELY FILLED AS NECESSARY TO PREVENT RECURRENCE.

4 FIBER ROLL
NOT TO SCALE



1 ADJACENT FINISH SURFACE SEE LAYOUT & MATERIALS PLAN.
2 BLACK POLYURETHANE DETECTABLE WARNING MAT W/ OFFSET PATTERN BY DETECTABLE WARNING SYSTEMS.
3 TRUNCATED DOMES
4 ABS ANCHORS FOR SECURING MATT TO SUPPORTING CONCRETE. ANCHORS PROVIDED AND INSTALLED PER MANUFACTURER'S RECOMMENDATION.

NOTES:

1. HARDWARE AND INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
2. TRUNCATED DOMES SHALL BE YELLOW AND APPROXIMATE FS 33538 OF FEDERAL STANDARD 595C IN NON–CURB RAMP LOCATIONS. AT CURB RAMP LOCATIONS, TRUNCATED DOMES SHALL BE A MINIMUM 70% VISUAL CONTRAST WITH THE ADJACENT WALKING SURFACE.

5 DETECTABLE WARNING
NOT TO SCALE

IDENTIFICATION STAMP
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APP: 01-121181 INC:
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CLIENT ADDRESS: 177 N San Pedro Rd, San Rafael, CA 94903

REGISTERED PROFESSIONAL ENGINEER
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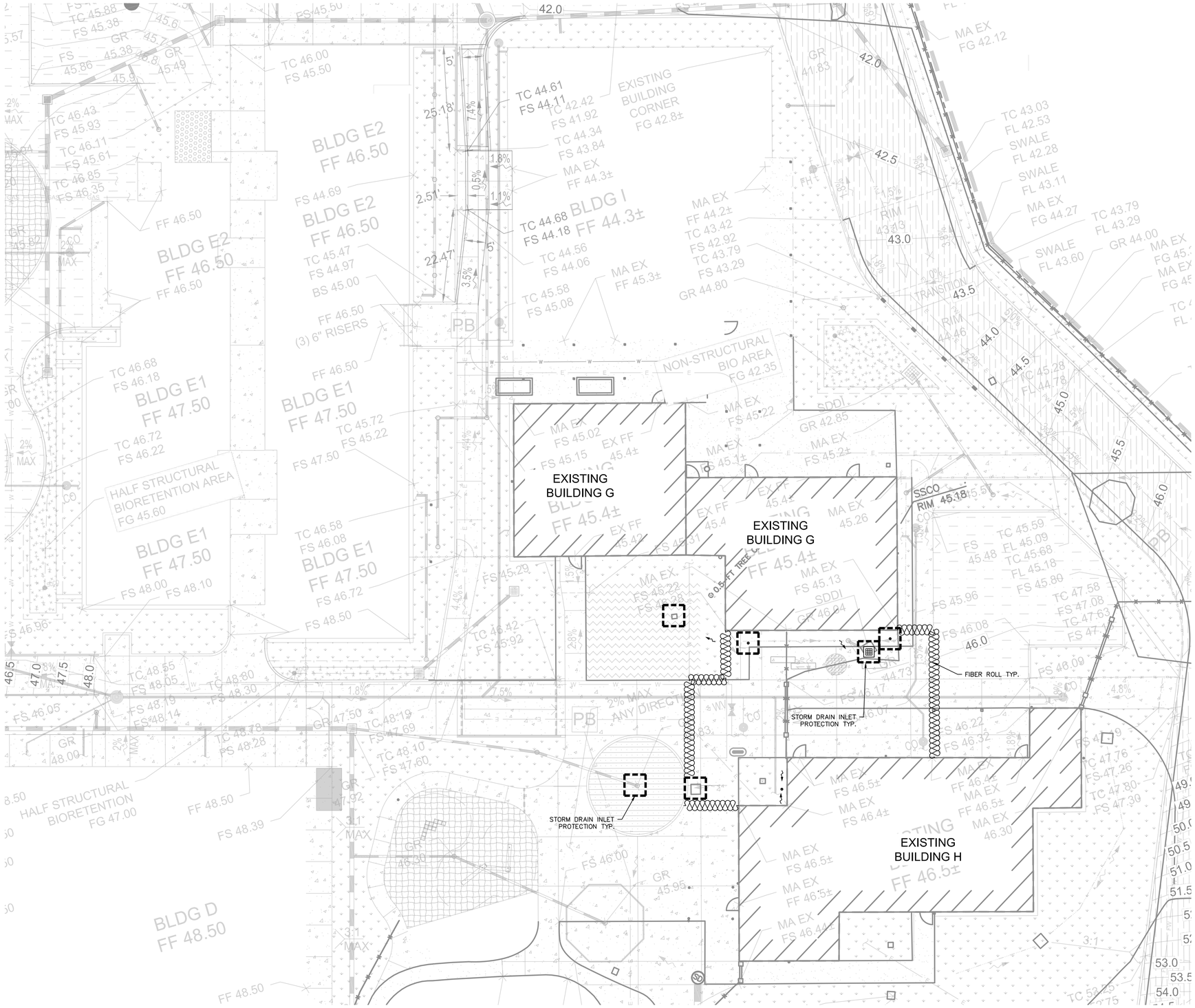
PROJECT NO: 2017 / 40104
DATE ISSUED: 06/21/24
SCALE: AS SHOWN

SHEET NUMBER: C400
SHEET TITLE:

CONSTRUCTION DETAILS

BKF
2100 FRANKLIN STREET
SUITE 4C
OAKLAND, CA 94612
(510) 899-7300
www.bkf.com

2030 FRANKLIN STREET #210 OAKLAND, CA 94612
T 510.267.3180 WWW.SVA-ARCHITECTS.COM



LEGEND

STORM DRAIN INLET PROTECTION (3 / C400)

FIBER ROLL (4 / C400)

EROSION CONTROL NOTES:

1. REFERENCE: "CALIFORNIA STORM WATER BEST MANAGEMENT PRACTICE (BMP) HANDBOOK", LATEST EDITION.
2. CONSTRUCTION AREAS SHOWN ARE CONCEPTUAL. ACTUAL PLACEMENT TO BE DETERMINED BY CONTRACTOR BASED ON CURRENT BEST MANAGEMENT PRACTICES. CONTRACTOR SHALL SUBMIT A CONSTRUCTION STAGING PLAN.
3. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IN EFFECT AND MAINTAINED BY THE CONTRACTOR ON A YEAR–ROUND BASIS UNTIL ALL DISTURBED AREAS ARE STABILIZED UNLESS OTHERWISE PERMITTED BY THE CITY INSPECTOR.
4. AS PART OF THE GRADING OPERATIONS, THE CONTRACTOR SHALL ENSURE THAT THE SITE IS WATERED PRIOR TO THE COMMENCEMENT OF GRADING.
5. ALL INLETS RECEIVING STORM WATER RUNOFF FROM THE PROJECT AREA MUST BE EQUIPPED WITH REQUIRED INLET PROTECTION.
6. ALL PAVED AREAS SHALL BE KEPT CLEAR OF EARTH MATERIALS AND DEBRIS, THE SITE SHALL BE MAINTAINED SO AS TO MINIMIZE SEDIMENT LADEN RUNOFF ENTERING THE STORM DRAIN SYSTEM.
7. ALL CONCRETE SLURRY SHALL BE CONTAINED IN CONCRETE WASH–OUT AREAS DESIGNATED ON–SITE.
8. STOCKPILED EARTHEN MATERIAL SHALL BE EITHER COVERED WITH A TARP OR WATERED SUFFICIENTLY TO ELIMINATE DUST.
9. TEMPORARY EROSION CONTROLS TO STABILIZE ALL DENUDED AREAS UNTIL PERMANENT EROSION CONTROLS ARE ESTABLISHED.
10. DELINEATE WITH FIELD MARKERS CLEARING LIMITS, EASEMENTS, SETBACKS, SENSITIVE OR CRITICAL AREAS, BUFFER ZONES, TREES, AND DRAINAGE COURSES.
11. PERFORM CLEARING AND EARTH MOVING ACTIVITIES ONLY DURING DRY WEATHER.
12. USE SEDIMENT CONTROLS OR FILTRATION TO REMOVE SEDIMENT WHEN DEWATERING AND OBTAIN ALL NECESSARY PERMITS.
13. PROTECT ALL STORM DRAIN INLETS IN VICINITY OF SITE USING SEDIMENT CONTROLS SUCH AS BERMS, FIBER ROLLS, OR FILTERS.
14. TRAP SEDIMENT ON–SITE, USING BMPS SUCH AS SEDIMENT BASINS OR TRAPS, EARTHEN DIKES OR BERMS, SILT FENCES, CHECK DAMS, SOIL BLANKETS OR MATS, COVERS FOR SOIL STOCK PILES, ETC.
15. DIVERT ON–SITE RUNOFF AROUND EXPOSED AREAS; DIVERT OFF–SITE RUNOFF AROUND THE SITE (E.G., SWALES AND DIKES).
16. PROTECT ADJACENT PROPERTIES AND UNDISTURBED AREAS FROM CONSTRUCTION IMPACTS USING VEGETATIVE BUFFER STRIPS, SEDIMENT BARRIERS OR FILTERS, DIKES, MULCHING, OR OTHER MEASURES AS APPROPRIATE.
17. LIMIT CONSTRUCTION ACCESS ROUTES AND STABILIZE DESIGNATED ACCESS POINTS.
18. NO CLEANING, FUELING, OR MAINTAINING VEHICLES ON–SITE, EXCEPT IN A DESIGNATED AREA WHERE WASHWATER IS CONTAINED AND TREATED.
19. STORE, HANDLE, AND DISPOSE OF CONSTRUCTION MATERIALS/WASTES PROPERLY TO PREVENT CONTACT WITH STORMWATER.
20. CONTRACTOR SHALL TRAIN AND PROVIDE INSTRUCTION TO ALL EMPLOYEES/SUBCONTRACTORS RE: CONSTRUCTION BMPS.
21. CONTROL AND PREVENT THE DISCHARGE OF ALL POTENTIAL POLLUTANTS, INCLUDING PAVEMENT CUTTING WASTES, PAINTS, CONCRETE, PETROLEUM PRODUCTS, CHEMICALS, WASHWATER OR SEDIMENTS, RINSE WATER FROM ARCHITECTURAL COPPER, AND NON–STORMWATER DISCHARGES TO STORM DRAINS AND WATERCOURSES.
22. CONTRACTOR SHALL PROVIDE INLET PROTECTION AT THE NEAREST DOWNSTREAM STORM DRAIN ALONG PROJECT SITE.

LOCATION OF CONSTRUCTION ACTIVITIES IS PRELIMINARY AND SHALL BE SUPERSEDED BY FINALIZED CONSTRUCTION ACTIVITY LOCATIONS, SHOWN/UPDATED BY CONTRACTOR.

GRAPHIC SCALE

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OWNER: SAN RAFAEL CITY SCHOOLS

PROJECT NAME: VENETIA VALLEY BLDGS G AND H ALTERATION

CLIENT ADDRESS: 177 N San Pedro Rd, San Rafael, CA 94903

REGISTERED PROFESSIONAL ENGINEER
KEVIN M. WONG
No. C 72285
CIVIL
STATE OF CALIFORNIA

REVISIONS:

	DESCRIPTION	DATE
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PROJECT NO: 2017 / 40104

DATE ISSUED: 06/21/24

SCALE: AS SHOWN

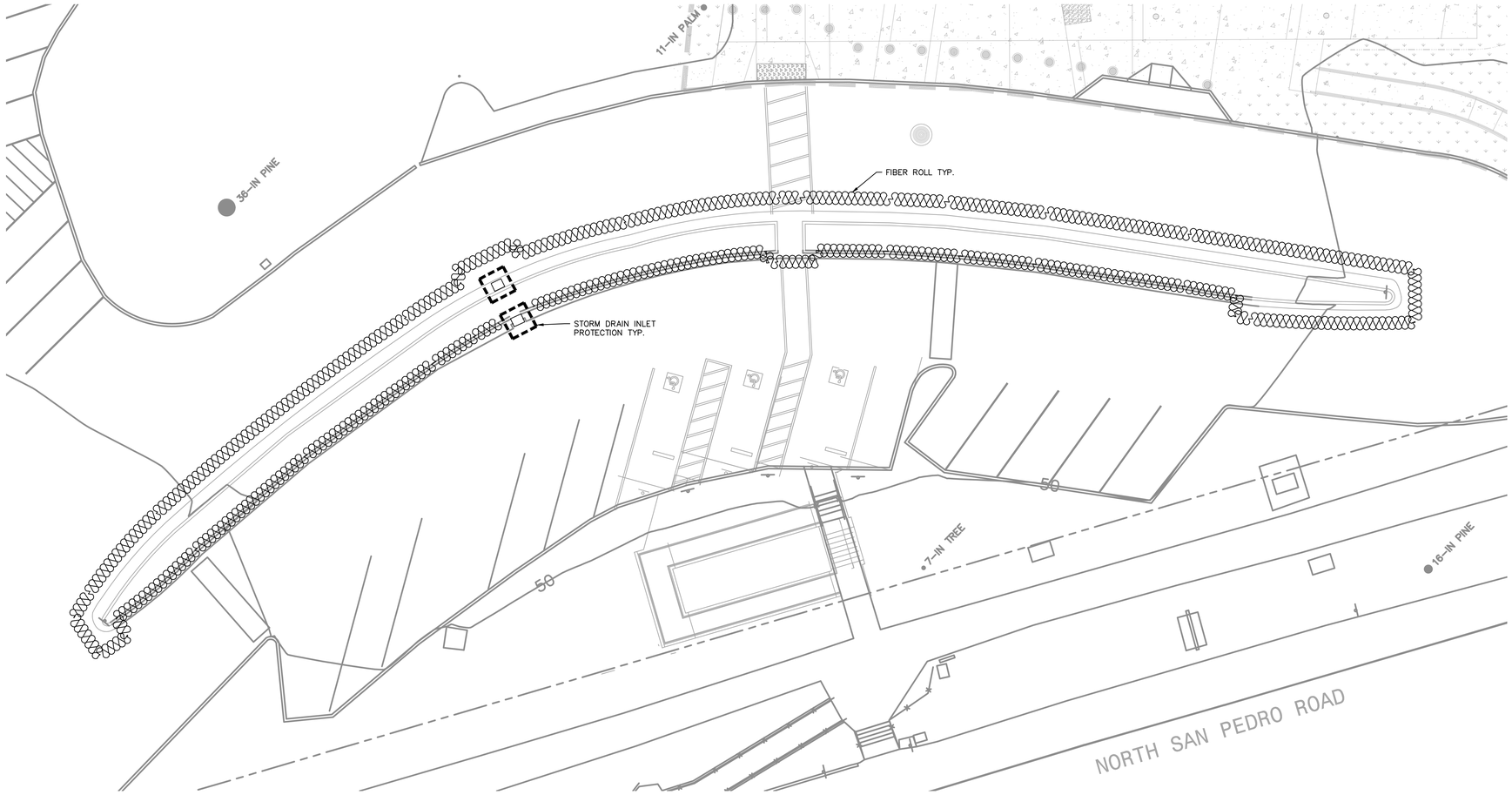
SHEET NUMBER: C500

SHEET TITLE:

EROSION CONTROL

BKF
2100 FRANKLIN STREET
SUITE 4C
OAKLAND, CA 94612
(510) 899-7300
www.bkf.com

2030 FRANKLIN STREET #210 OAKLAND, CA 94612
T 510.267.3180 WWW.SVA-ARCHITECTS.COM



LEGEND

STORM DRAIN INLET PROTECTION (3 / C400)

FIBER ROLL (4 / C400)

EROSION CONTROL NOTES:

1. REFERENCE: "CALIFORNIA STORM WATER BEST MANAGEMENT PRACTICE (BMP) HANDBOOK", LATEST EDITION.
2. CONSTRUCTION AREAS SHOWN ARE CONCEPTUAL. ACTUAL PLACEMENT TO BE DETERMINED BY CONTRACTOR BASED ON CURRENT BEST MANAGEMENT PRACTICES. CONTRACTOR SHALL SUBMIT A CONSTRUCTION STAGING PLAN.
3. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IN EFFECT AND MAINTAINED BY THE CONTRACTOR ON A YEAR–ROUND BASIS UNTIL ALL DISTURBED AREAS ARE STABILIZED UNLESS OTHERWISE PERMITTED BY THE CITY INSPECTOR.
4. AS PART OF THE GRADING OPERATIONS, THE CONTRACTOR SHALL ENSURE THAT THE SITE IS WATERED PRIOR TO THE COMMENCEMENT OF GRADING.
5. ALL INLETS RECEIVING STORM WATER RUNOFF FROM THE PROJECT AREA MUST BE EQUIPPED WITH REQUIRED INLET PROTECTION.
6. ALL PAVED AREAS SHALL BE KEPT CLEAR OF EARTH MATERIALS AND DEBRIS. THE SITE SHALL BE MAINTAINED SO AS TO MINIMIZE SEDIMENT LADEN RUNOFF ENTERING THE STORM DRAIN SYSTEM.
7. ALL CONCRETE SLURRY SHALL BE CONTAINED IN CONCRETE WASH–OUT AREAS DESIGNATED ON–SITE.
8. STOCKPILED EARTHEN MATERIAL SHALL BE EITHER COVERED WITH A TARP OR WATERED SUFFICIENTLY TO ELIMINATE DUST.
9. TEMPORARY EROSION CONTROLS TO STABILIZE ALL DENUDED AREAS UNTIL PERMANENT EROSION CONTROLS ARE ESTABLISHED.
10. DELINEATE WITH FIELD MARKERS CLEARING LIMITS, EASEMENTS, SETBACKS, SENSITIVE OR CRITICAL AREAS, BUFFER ZONES, TREES, AND DRAINAGE COURSES.
11. PERFORM CLEARING AND EARTH MOVING ACTIVITIES ONLY DURING DRY WEATHER.
12. USE SEDIMENT CONTROLS OR FILTRATION TO REMOVE SEDIMENT WHEN DEWATERING AND OBTAIN ALL NECESSARY PERMITS.
13. PROTECT ALL STORM DRAIN INLETS IN VICINITY OF SITE USING SEDIMENT CONTROLS SUCH AS BERMS, FIBER ROLLS, OR FILTERS.
14. TRAP SEDIMENT ON–SITE, USING BMPS SUCH AS SEDIMENT BASINS OR TRAPS, EARTHEN DIKES OR BERMS, SILT FENCES, CHECK DAMS, SOIL BLANKETS OR MATS, COVERS FOR SOIL STOCK PILES, ETC.
15. DIVERT ON–SITE RUNOFF AROUND EXPOSED AREAS; DIVERT OFF–SITE RUNOFF AROUND THE SITE (E.G., SWALES AND DIKES).
16. PROTECT ADJACENT PROPERTIES AND UNDISTURBED AREAS FROM CONSTRUCTION IMPACTS USING VEGETATIVE BUFFER STRIPS, SEDIMENT BARRIERS OR FILTERS, DIKES, MULCHING, OR OTHER MEASURES AS APPROPRIATE.
17. LIMIT CONSTRUCTION ACCESS ROUTES AND STABILIZE DESIGNATED ACCESS POINTS.
18. NO CLEANING, FUELING, OR MAINTAINING VEHICLES ON–SITE, EXCEPT IN A DESIGNATED AREA WHERE WASHWATER IS CONTAINED AND TREATED.
19. STORE, HANDLE, AND DISPOSE OF CONSTRUCTION MATERIALS/WASTES PROPERLY TO PREVENT CONTACT WITH STORMWATER.
20. CONTRACTOR SHALL TRAIN AND PROVIDE INSTRUCTION TO ALL EMPLOYEES/SUBCONTRACTORS RE: CONSTRUCTION BMPS.
21. CONTROL AND PREVENT THE DISCHARGE OF ALL POTENTIAL POLLUTANTS, INCLUDING PAVEMENT CUTTING WASTES, PAINTS, CONCRETE, PETROLEUM PRODUCTS, CHEMICALS, WASHWATER OR SEDIMENTS, RINSE WATER FROM ARCHITECTURAL COPPER, AND NON–STORMWATER DISCHARGES TO STORM DRAINS AND WATERCOURSES.
22. CONTRACTOR SHALL PROVIDE INLET PROTECTION AT THE NEAREST DOWNSTREAM STORM DRAIN ALONG PROJECT SITE.

LOCATION OF CONSTRUCTION ACTIVITIES IS PRELIMINARY AND SHALL BE SUPERSEDED BY FINALIZED CONSTRUCTION ACTIVITY LOCATIONS, SHOWN/UPDATED BY CONTRACTOR.

GRAPHIC SCALE

(IN FEET)
1 inch = 10 ft.

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-121181 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 07/02/2024

OWNER: SAN RAFAEL CITY SCHOOLS

PROJECT NAME: VENETIA VALLEY BLDGS G AND H ALTERATION

CLIENT ADDRESS: 177 N San Pedro Rd, San Rafael, CA 94903

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PROJECT NO: 2017 / 40104

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SCALE: AS SHOWN

SHEET NUMBER: C501

SHEET TITLE:

EROSION CONTROL

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2100 FRANKLIN STREET
SUITE 4C
OAKLAND, CA 94612
(510) 899-7300
www.bkf.com

2030 FRANKLIN STREET #210 OAKLAND, CA 94612
T 510.267.3180 WWW.SVA-ARCHITECTS.COM

1. **DEMOLITION DRAWINGS PREPARED FOR A GENERAL DESCRIPTION OF EXISTING BUILDING COMPONENTS, ASSEMBLIES AND MATERIALS TO BE REMOVED. DEMOLITION CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL EXISTING CONDITION AND QUANTITIES AND PROVIDING ALL REQUIED DEMOLITION WORK REQUIERD TO INSTALL ALL NEW WORK AS REQUIRED IN DRAWINGS AND SPECS.**
2. DEMOLITION CONTRACTOR IS RESPONSIBLE FOR PROVIDING NECESSARY PERMITS REQUIRED BY FEDERAL, STATE AND LOCAL MUNICIPAL AGENCIES HAVING JURISDICTIONAL AUTHORITY OVER ANY ASPECT OF THE DEMOLITION SCOPE.
3. CONTRACTOR TO VERIFY ALL EXISTING CONDITIONS PRIOR TO DEMOLITION WORK.
4. DEMOLITION CONTRACTOR IS RESPONSIBLE FOR REMOVAL AND DISPOSAL OF ALL DEMOLISHED MATERIALS IN A MANNER COMPLIANT TO FEDERAL, STATE AND LOCAL MUNICIPAL REQUIREMENTS AND GUIDELINES.
5. DEMOLITION CONTRACTOR SHALL COORDINATE ALL WORK SCHEDULES WITH OWNER. IN NO CASE SHALL DEMOLITION WORK BE CONDUCTED DURING HOURS PROHIBITED BY LOCAL MUNICIPALITY.
6. CONTRACTOR SHALL SEQUENCE DEMOLITION OF BUILDING ELEMENTS AS REQUIRED FOR NEW WORK AND TO MAINTAIN FUNCTIONALITY DURING SCHOOL HOURS. CONTRACTOR TO COORDINATE DEMOLITION SEQUENCE WITH ARCHITECT PRIOR TO DEMOLITION WORK.
7. PLANS ARE BASED ON EXISTING RECORD DRAWINGS AND VISUAL OBSERVATION. UNIDENTIFIED ITEMS SHALL BE BROUGHT TO THE ATTENTION OF THE OWNERS REPRESENTATIVE PRIOR TO REMOVAL.
8. CONTACT OWNER'S REPRESENTATIVE FOR LIST OF SALVAGEABLE ITEMS.
9. CONTRACTOR TO REFERENCE ENLARGED SITE AND BUILDING PLANS OF EXISTING BUILDINGS IN DOCUMENT FOR ADDITIONAL DEMOLITION INFORMATION.
10. CONTRACTOR TO REFERENCE HAZMAT ABATEMENT REPORT PREPARED BY OTHERS FOR ADDITIONAL INFORMATION.
11. ALSO REFERENCE CIVIL, LANDSCAPE, PLUMBING AND ELECTRICAL DEMOLITION DRAWINGS FOR ADDITIONAL COORDINATION OF ITEMS TO BE REMOVED OR PROTECTED IN PLACE.
12. CONTRACTOR TO NOTE EXISTING TREES TO REMAIN, SEE LANDSCAPE DRAWINGS.
13. CONTRACTOR SHALL PROVIDE ALL TRENCHING REQURIED FOR NEW UNDERGROUND WORK. CONTRACTOR TO PATCH SURFACE AS REQUIRED TO MATCH EXISTING. COORDINATE LOCATION AND ROUTING OF ROUTING WITH ARCHITECT BEFORE CONSTRUCTION. SEE SITE DEMO KEYNOTE D60 FOR MORE INFO.

SHEET NOTES - SITE DEMOLITION NOTES

- D40 EXISTING BUILDING I NIC
- D41 EXISTING BIORETENTION AREA TO REMAIN. PROTECT IN PLACE
- D42 EXISTING BUILDINGS TO BE ALTERED. SEE CIVIL, ARCHITECTURAL, STRUCTURAL AND MEP DRAWINGS FOR MORE INFO.
- D43 REMOVE EXISTING CONCRERTE PAVING AND LANDSCAPING AS AS REQUIRED FOR NEW SITE IMPROVEMENT. SEE CIVIL DRAWINGS FOR MORE INFO.
- D44 DEMO AND PREP EXISTING LANDSCAPING AS REQUIRED FOR HOUSEKEEPING PAD FOR EQUIPMENT SHED. SEE CIVIL AND STRUCTURAL DRAWINGS FOR MORE INFO
- D45 EXISTING ASPHALT SURFACE TO REMAIN. PROTECT IN PLACE
- D46 EXISTING IDF ROOM AND ELECTRICAL ROOM
- D47 EXISTING LANDSCAPING AND OR BIO-RENTENTION AREA TO REMAIN. PROTECT IN PLACE
- D48 NOT USED
- D49 EXISTING TREES AND/OR LANDSCAPING TO REMAIN. PROTECT IN PLACE.
- D50 EXISTING SURFACE PLANTERS, NIC
- D51 EXISTING FIRE HYDRANT, NIC
- D52 EXISTING FIRE ACCESS GATE.
- D53 EXISTING CONCRETE BENCH TO REMAIN
- D54 EXISTING OUTDOOR PLAY AREA TO REMAIN. PROTECT IN PLACE.
- D55 PORTION OF EXISTING CONCRETE SURFACE/WALKWAY TO REMAIN. PROTECT IN PLACE.
- D56 EXISTING CONCRETE RAMP TO REMAIN. PROTECT IN PLACE.
- D57 EXISTING CONCRETE BENCHES. MIGHT BE SHIFTED AS REQUIRED FOR NEW WORK. SEE CIVIL DRAWINGS FOR MORE INFO
- D58 EXISTING CANOPY SYSTEM WITH SURFACE MOUNTED ELECTRICAL CONDUITS, NIC
- D59 ADD ALTERNATE 1 - 18' X 18' CANTILEVER SHADE STRUCTURE PER DSA PC-04-121917. DEMOLISH AND PREP CONCRETE SURFACE AS REQUIRED TO MATCH EXISTING. ENSURE FOOTING DOES NOT INTERFERE WITH ANY EXISTING UNDERGROUND UTILITIES. COORDINATE LOCATION WITH ARCHITECT AND DISTRICT BEFORE COMMENCING WORK. CONTRACTOR TO PROVIDE ALL WORK REQUIRED FOR COMPLETE CANOPY INSTALLATION.
- D60 CONTRACTOR TO PROVIDE ALL INTERIOR AND EXTERIOR TRENCHING AS REQUIRED FOR NEW WORK. SEE SHEET NOTE 13 FOR MORE INFO

KEYNOTES - DEMO SITE PLAN

- ? SITE KEYNOTE
- PROPERTY LINE
- APPROXIMATE LIMIT OF WORK
- ACCESSIBLE PATH OF TRAVEL AS REQUIRED BY SCOPE OF WORK
- EXISTING LANDSCAPE TO REMAIN

PN TN

SITE PLAN - DEMOLITION 1/16" = 1'-0" **2**

LEGEND- SITE PLAN. 1/16" = 1'-0" **?**

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PROJECT NAME: VENETIA VALLEY BLDGS G AND H ALTERATION

CLIENT ADDRESS: 177 N San Pedro Rd, San Rafael, CA 94903

LICENSED ARCHITECT
Robert Simpson
No. C-18301
Jan 31, 2025
STATE OF CALIFORNIA

REVISIONS:

	DESCRIPTION	DATE
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PROJECT NO: 2017 / 40104
DATE ISSUED: 06/21/2024
SCALE: As indicated

SHEET NUMBER: A00.1

SHEET TITLE:

SITE PLAN - DEMOLITION

SVA ARCHITECTS
7901 STONERIDGE DR, SUITE 100, PLEASANTON, CA 94588
T 925.374.9884 WWW.SVA-ARCHITECTS.COM

	FUNCTION	PHASE	SCOPE OF WORK	EXISTING DSA APPLICATION HISTORY DSA App #	Date Certified	OCCUPANCY GROUP	CONSTRUC-TION TYPE	SPRINK-LERED?	# OF STORIES	TABULAR AREA SF *a	ALLOWABLE SF	ACTUAL AREA (SF)
BUILDING A	**LIBRARY**	(E)		BUILDING A APPL # 105957 APPL # 26987	11/30/2016 04/12/1967	A3	V-B	NO	1	6,000		3,258
BUILDING B	**GYM**	(E)		BUILDING B APPL # 18374 APPL # 26987 APPL # 34077 APPL # 34652 APPL # 01-105957	06/22/1960 04/12/1967 04/02/1973 07/12/1973 11/30/2016	A3	V-A	NO	1	11,500	Aa = [11,500 + (11,500 x 0.46)] = (11,500 + 5,290) **= 16,790 SF**	13,626
BUILDING C	**ADMIN**	(E)		BUILDING C APPL # 8426 APPL # 34077 APPL # 01-105957	03/17/1952 04/02/1973 11/30/2016	B	V-B	NO	1	9,000		3,402
BUILDING D	**MULTIPURPOSE**	(E)		BLDG D APPL # 01-117438	7/20/2021	A3	V-B	YES	1	18,000	Aa = 18,000 + (6000 x 0.50*) Aa = 18,000 + 3,00 **Aa = 21,000 SF**	9,708 SF
BUILDING E	**CLASSROOMS**	(E)		BLDG E APPL # 01-117438	7/20/2021	E	V-B	YES	2	28,500	Aa = 28,500 + (9,500 x 0.60*) Aa = 28,500 + 5,700 **Aa = 34,200 SF**	32,068 SF
BUILDING G	**CLASSROOMS**	(E)	MODERNIZATION	BUILDING G APPL # 19093 APPL # 01- 106302	06/28/1960	E	V-B	NO	1	9,500		3,150
BUILDING H	**CLASSROOMS**	(E)	MODERNIZATION	BUILDING H APPL # 19093 APPL # 34077 APPL # 01- 106302	06/28/1960 04/02/1973	E	V-B	NO	1	9,500		3,000
BUILDING I	**CLASSROOMS**	(E)		BUILDING I APPL # 27434	05/11/1967	E	V-B	NO	1	9,500		4,768
BUILDING K	**RESTROOM** (PORTABLE)	(E)		BUILDING K APPL # 01-104884	8/23/2006	E	V-B	NO	1	9,500		540
BUILDING L1-3	**CLASSROOMS** (PORTABLE)	(E)		BUILDING L1-3 APPL # 01-106302	12/20/2016	E	V-B	NO	1	9,500	Aa = [9,500 + (9,500 x 0.50)] = (9,500 + 4,750) **= 14,250 SF**	9,600
BUILDING P1-4	**CLASSROOMS** (PORTABLE) **CLASSROOMS**	(E)		BUILDING P1-4 APPL # 01-111334	6/27/2011	E	V-B	NO	1	9,500		4,220
STUDENT RR ADDITION	**RESTROOM**	FUTURE CONSTRU-CTION		01-120592	IN REVIEW	E	V-B	NO	1	9,500		800
FIELD RESTORATION	**PHYSICAL EDUCATION**	(E)		01-119706	05/05/23							

LEGEND - CODE SUMMARY

ALL EXISTING ITEMS ARE PER DSA # 01-117438

- S49 EXISTING STUDENT RR
- S50 NEW STAFF RR
- S51 EXISTING SIDEWALK IN PUBLIC RIGHT OF WAY TO REMAIN
- S52 EXISTING ACCESSIBLE RAMP PER DSA 01-117438
- S53 EXISTING TRASH ENLOSURE
- S54 EXISTING FIRE HYDRANT
- S55 EXISTING DRINKING FOUNTAIN
- S56 EXISTING FIRE DEPARTMENT CONNECTION. SEE CIVIL AND FIRE PROTECTION DRAWINGS.
- S57 EXISTING POST INDICATOR VALVE
- S58 EXISTING ACCESSIBLE WALKWAY
- S59 EXISTING DRIVEWAY
- S60 EXISTING FIRE ACCESS ROAD
- S61 EXISTING CHAIN LINK FENCE WITH 20' MIN CLEAR FIRE TRUCK ACCESS GATE AND KNOX BOX
- S62 EXISTING CHAIN LINK FENCE WITH PEDESTRIAN AND VEHICULAR GATE
- S63 EXISTING CHAIN LINK FENCE WITH PEDESTRIAN GATE
- S64 NOT USED
- S65 EXISTING FIELD PER DSA #01-119706
- S66 EXISTING TREE
- S67 EXISTING PLAY STRUCTURE TO REMAIN. PROTECT IN PLACE DURING CONSTRUCTION.
- S68 EXISTING PLAY AREA
- S69 EXISTING BIO-RETENTION AREA TO REMAIN. PROTECT IN PLACE
- S70 EXISTING ASPHALT ACCESSIBLE SURFACE
- S71 STUDENT RESTROOM BUILDING UNDER REVIEW PER DSA # 01-120592
- S72 EXISTING NON- ACCESIBLE RAMP
- S73 EXISTING CURB RAMP WITH TRUNCATED DOMES. SEE REFERENCE PHOTO.
- S76 EXISTING CONCRETE BENCHES
- S77 EXISTING ACCESSIBLE DROP-OFF. PROVIDE ACCESS AISLE STRIPING PER DETAIL 4/A60.4
- S79 EXISTING TYPICAL BOLLARDS
- S80 EXISTING ACCESSIBLE PARKING STALLS
- S81 EXISTING SCHOOL SIGN MARQUEE
- S82 EXISTING STREET SIGN TO REMAIN
- S83 EXISTING TRANSFORMER AND MAIN SWITCHBOARD CABINET IN CHAIN LINK FENCE ENCLOSURE
- S84 EXISTING TRUNCATED DOMES
- S85 EXISTING BACKFLOW PREVENTER TO BE RELOCATED
- S86 HOUSEKEEPING PAD FOR FUTURE OFOI EQUIPMENT
- S87 ADD ALTERNATE 1 - 18' X 18' CANTILEVER SHADE STRUCTURE PER DSA PC-04-121917. PATCH ADJACENT CONCRETE SURFACE AS REQUIRED TO MATCH EXISTING
- S88 OUTDOOR DIMENSIONAL LETTERING SIGNAGE FOR CAMPUS ADDRESS. SEE SPECS AND DETAIL 2/GEN-05 FOR MORE INFO
- S89 CHAINLINK FENCE 3' HEIGHT
- S111 ACCESSIBLE ROUTE SIGN (2 LOCATIONS). SEE 20/A01.4(1). CONFIRM DIRECTIONAL ARROW SIGN WITH ARCHITECT BEFORE FABRICATION
- S112 REMOVE PORTION OF AISLE STRIPPING AS DIMENSIONED. PATCH (E) ASPHALT TO MATCH (E).

KEYNOTES - SITE PLAN

PATH OF TRAVEL REQUIREMENTS FOR ALTERATION PROJECTS

THE POT IDENTIFIED IN THESE CONSTRUCTION DOCUMENTS MEETS THE REQUIREMENTS OF THE CURRENT APPLICABLE CALIFORNIA BUILDING CODE (CBC) ACCESSIBILITY PROVISIONS FOR PATH OF TRAVEL REQUIREMENTS FOR ALTERATIONS, ADDITIONS AND STRUCTURAL REPAIRS.

AS PART OF THE DESIGN OF THIS PROJECT, THE POT WAS EXAMINED AND ANY ELEMENTS, COMPONENTS OR PORTIONS OF THE POT THAT WERE DETERMINED TO BE NONCOMPLIANT WITH THE CBC HAVE BEEN IDENTIFIED AND THE CORRECTIVE WORK NECESSARY TO BRING THEM INTO COMPLIANCE HAS BEEN INCLUDED WITHIN THE SCOPE OF THIS PROJECT'S WORK THROUGH DETAILS, DRAWINGS AND SPECIFICATIONS INCORPORATED INTO THESE CONSTRUCTION DOCUMENTS.

ANY NONCOMPLIANT ELEMENTS, COMPONENTS OR PORTIONS OF THE POT THAT WILL NOT BE CORRECTED BY THIS PROJECT BASED ON VALUATION THRESHOLD LIMITATIONS OR A FINDING OF UNREASONABLE HARDSHIP ARE INDICATED IN THESE CONSTRUCTION DOCUMENTS.

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

LEGEND - ACCESSIBLE POT NOTE

- SITE KEYNOTE
- PROPERTY LINE
- APPROXIMATE LIMIT OF WORK
- ACCESSIBLE PATH OF TRAVEL AS REQUIRED BY SCOPE OF WORK
- EXISTING LANDSCAPE TO REMAIN

GENERAL PARKING LOT A
TOTAL # OF ALL EXISTING STAFF STALLS = 15
TOTAL # OF REQUIRED ACCESSIBLE STALLS= 1 (PER CBC TABLE 11B-208.2)
TOTAL # OF PROVIDED ACCESSIBLE STALLS= 2 (1 REGULAR ACCESSIBLE, 1 VAN)

GENERAL PARKING LOT B
TOTAL # OF ALL EXISTING STALLS = 36
TOTAL # OF REQUIRED ACCESSIBLE STALLS= 2 (PER CBC TABLE 11B-208.2)
TOTAL # OF PROVIDED ACCESSIBLE STALLS= 3 (2 REGULAR ACCESSIBLE, 1 VAN)

GENERAL PARKING LOT C
TOTAL # OF ALL EXISTING STALLS = 36
TOTAL # OF REQUIRED ACCESSIBLE STALLS= 2 (PER CBC TABLE 11B-208.2)
TOTAL # OF PROVIDED ACCESSIBLE STALLS= 3 (2 REGULAR ACCESSIBLE, 1 VAN)

PARKING CALC

SITE PLAN - IMPROVEMENTS

1" = 40'-0"

1

LEGEND- SITE PLAN.

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CLIENT ADDRESS: 177 N San Pedro Rd, San Rafael, CA 94903

LICENSED ARCHITECT
CHRISTOPHER M. SVIHUS
No. C-18301
Jan 31, 2025
STATE OF CALIFORNIA

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PROJECT NO: 2017 / 40104
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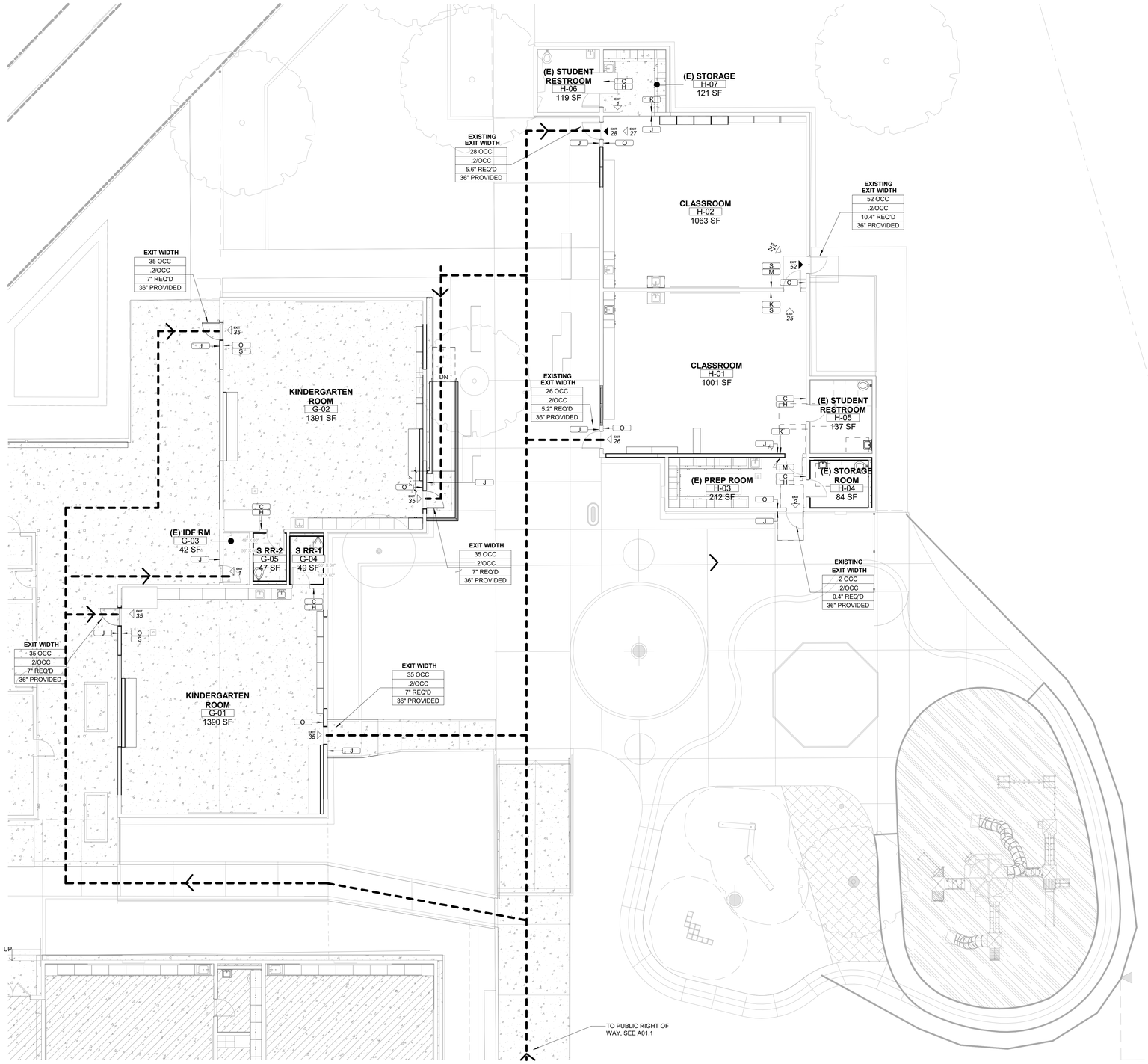
SCALE: As indicated

SHEET NUMBER: A01.1

SHEET TITLE:

SITE PLAN - IMPROVEMENTS

SVA ARCHITECTS
7901 STONERIDGE DR, SUITE 100, PLEASANTON, CA 94588
T 925.374.9884 WWW.SVA-ARCHITECTS.COM



NO.	DESCRIPTION	SHT.
A	NOT USED	
B	NOT USED	
C	NOT USED	
D	NOT USED	
E	NOT USED	
F	NOT USED	
G	NOT USED	
H	RESTROOM SIGN - UNISEX	8/GEN-4
I	NOT USED	
J	TACTILE ROOM IDENTIFICATION SIGN	11/GEN-4
K	TACTILE EXIT ROUTE SIGN	12/GEN-4
L	TACTILE ROOM IDENTIFICATION SIGN W/INSERT	18/GEN-4
M	TACTILE NOT AN EXIT SIGN	16/GEN-4
N	FIRE SPRINKLER RISER ROOM SIGN	16/GEN-4
O	TACTILE EXIT SIGN	13/GEN-4
Q	OCCUPANT LOAD SIGN	15/GEN-4
R		
S	ASSITIVE LISTENING SIGN	14/GEN-4
T	TACTILE EXIT STAIR DOWN SIGN	20/GEN-4
U	BUILDING/CANOPY SIGN	SEE DETAILS

LEGEND - SIGNAGE

BUILDIND G - OCCUPANCY LOAD CALCS

ROOM #	ROOM NAME	FUNCTION	ROOM AREA	OCCUPANCY	Occupant Load Factor	Occupant Load
G-01	KINDERGARTEN ROOM	CLASSROOM	1390 SF	E	20	70
G-02	KINDERGARTEN ROOM	CLASSROOM	1391 SF	E	20	70
G-03	(E) IDF RM	BUILDING SUPPORT	42 SF	E	300	1
G-04	S RR-1	RESTROOM	49 SF	E		
G-05	S RR-2	RESTROOM	47 SF	E		

BUILDIND H - OCCUPANCY LOAD CALCS

ROOM #	ROOM NAME	FUNCTION	ROOM AREA	OCCUPANCY	Occupant Load Factor	Occupant Load
H-01	CLASSROOM	CLASSROOM	1001 SF	E	20	51
H-02	CLASSROOM	CLASSROOM	1063 SF	E	20	54
H-03	(E) PREP ROOM	PROGRAM SUPPORT	212 SF	B	150	2
H-04	(E) STORAGE ROOM	RESTROOM	84 SF	E		
H-05	(E) STUDENT RESTROOM	RESTROOM	137 SF	E		
H-06	(E) STUDENT RESTROOM	RESTROOM	119 SF	E		
H-07	(E) STORAGE	PROGRAM SUPPORT	121 SF	E	150	1

OCCUPANT LOAD TAG
FLOOR EXIT LOAD- PORTION OF FLOOR LOAD AND CONTRIBUTING ROOMS

OCCUPANT LOAD TAG

ACCESSIBLE PATH OF TRAVEL AS REQUIRED BY SCOPE OF WORK

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PROJECT NO: 2017 / 40104
DATE ISSUED: 06/21/2024
SCALE: As indicated

SHEET NUMBER: A02.1

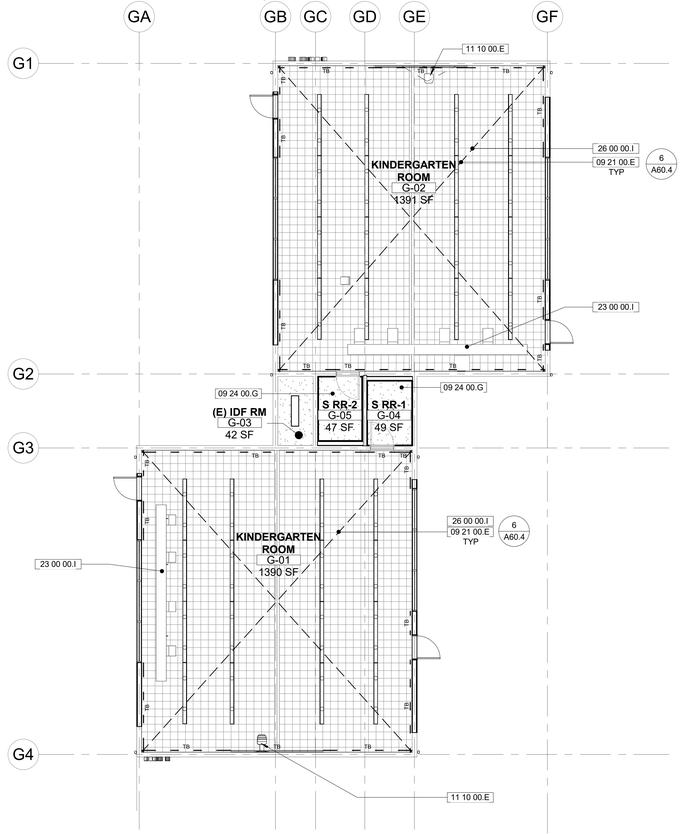
SHEET TITLE:

OCCUPANCY AND SIGNAGE PLAN

SVA ARCHITECTS
7901 STONERIDGE DR, SUITE 100, PLEASANTON, CA 94588
T 925.374.9884 WWW.SVA-ARCHITECTS.COM

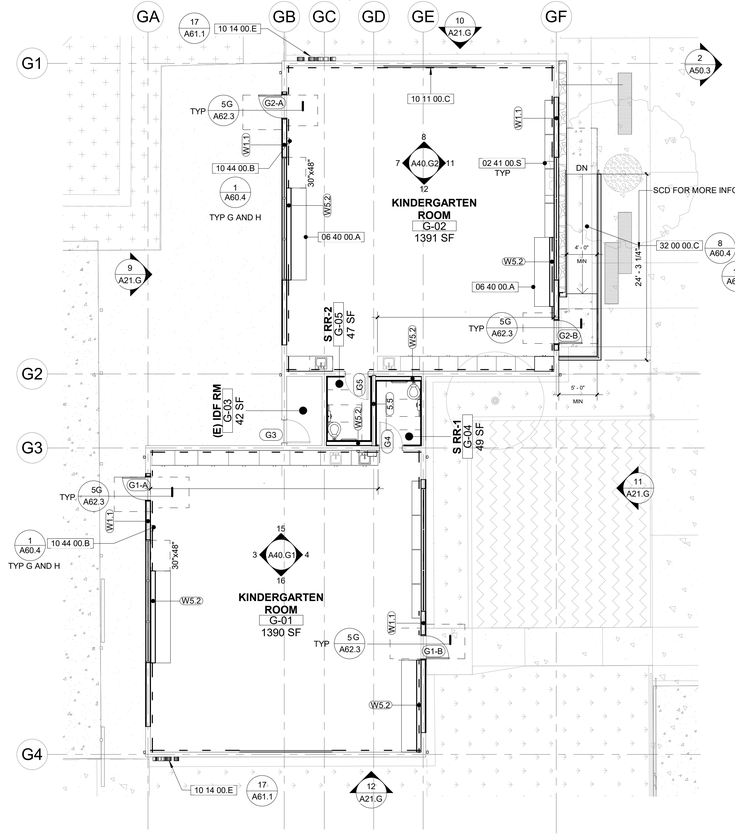
BUILDING G AND H- OCCUPANCY AND SIGNAGE PLAN 1/8" = 1'-0" 1

LEGEND- OCCUPANCY 1/8" = 1'-0" ?



BUILDING G- IMPROVEMENT RCP

1/8" = 1'-0" | 11



BUILDING G- IMPROVEMENT FLOOR PLAN

1/8" = 1'-0" | 3

1. REMOVE AND PATCH EXISTING GYP BOARD FINISH, CEILING FINISH AND/OR EXTERIOR FINISH AS REQUIRED TO CONCEAL NEW AND/OR EXISTING SURFACE MOUNTED INTERIOR AND/OR EXTERIOR CONDUITS. WHERE IMPRACTICAL TO CONCEAL, PROVIDE SURFACE MOUNTED RACEWAY. COLOR TO MATCH ADJACENT SURFACE. SED FOR MORE INFO.
2. ALL EXTERIOR COMPONENTS (INCLUDING BUT NOT LIMITED TO WALLS, DOORS, WOOD WINDOWS, SOFFITS, ROOF GUTTERS, FASCIA, COLUMNS, DOWNSPOUTS, ETC) OF THE EXTERIOR ELEVATIONS AFFECTED BY SCOPE OF WORK TO BE REFINISHED/REPAINTED TO MATCH EXISTING COLOR SCHEME. ALL COMPONENTS TO BE REPAINTED SHOULD BE PREPPED ACCORDINGLY BEFORE REPAINTING. LOW PRESSURE WASH, SEAL AND REPAINT ALL EXISTING EXTERIOR CEMENT PLASTER AND TRIM IF REQUIRED.
3. ALL INTERIOR SURFACES WITHIN SCOPE OF WORK, INCLUDING BUT NOT LIMITED TO WALLS, ROOF JOISTS, COLUMNS, EXPOSED ROOF DECK, CONDUITS, MECHANICAL DUCTS, EXISTING WOOD WINDOW AND DOOR FRAMES, ETCS, TO BE REFINISHED/REPAINTED.
4. ALSO REFERENCE CIVIL, STRUCTURAL, PLUMBING, MECHANICAL AND ELECTRICAL DEMOLITION DRAWINGS FOR ADDITIONAL COORDINATION OF ITEMS TO BE REMOVED OR PROTECTED IN PLACE.
5. RCP NOTES
   - A. SEE NOTE 1 ABOVE.
   - B. ALL EXPOSED METAL SURFACES, METAL WIDE FLANGE BEAMS, PIPING, CONDUITS, DUCTWORK, ETC SHALL BE PAINTED. EXISTING WOOD TRUSS IN BUILDING H TO NOT RECEIVE PAINT AND SHOULD BE PROTECTED IN PLACE.
   - C. PROVIDE ESCUTCHEONS FOR CONDUIT AND PIPE WALL PENETRATIONS WHERE EXPOSED.
   - D. CONTRACTOR TO COORDINATE LOCATION OF ALL DUCTWORK, PIPE AND CONDUIT WALL PENETRATIONS BEFORE FRAMING OR CREATING PENETRATION OPENINGS.
   - E. SEE ELECTRICAL DRAWINGS FOR MORE INFO ON LIGHTING AND EXIT SIGNS. COORDINATE LOCATION OF EXIT SIGNS WITH ARCHITECT BEFORE INSTALLATION.CONTRACTOR TO COORDINATE LIGHT FIXTURE AND AIR REGISTER LAYOUT WITH ARCHITECT PRIOR TO INSTALLATION. FOR SECONDARY SPACES SUCH AS STORAGE ROOMS,AND BUILDING SYSTEM ROOMS, LIGHT FIXTURES TO BE CENTERED IN ROOM BETWEEN OPPOSITE WALLS, UON.
   - F. FOR TYPICAL CEILING DETAILS, SEE SHEETS 6 / A60.4
6. EXISTING CASEWORK AND FURNISHINGS
   - A. EXISTING CUBBIES ARE TO REMAIN. SALVAGE AND RESINSTALL AS REQUIRED.
   - B. EXISTING CASEWORK WORK TO REMAIN IS TO BE REFURBISHED- EXISTING CASEWORK CONSISTS OF WOOD VERNEER BASE CABINETS WITH PLAM COUNTERTOP AND HARDWOOD EDGE BANDING. REFINISH ENTIRE BODY AS REQUIRED TO APPEAR NEW. REPLACE MISSING OR DAMAGED HARDWARE AS REQUIRED. REPAIR DAMAGED PORTIONS OF PLAM COUNTERTOP OR BASECABINET BODY AS REQUIRED.
   - C. EXISTING PLUMBING FIXTURES IN ALL SINK CABINETS ARE TO BE REPLACED. SEE PLUMBING DRAWINGS FOR MORE INFO.

SHEET NOTES - IMPROVEMENTS

?	DESCRIPTION
02 41 00.S	SALVAGED CUBBIES TO BE REINSTALLED
02 41 20.K	EXISTING ROOF WIDE FLANGE FRAMING TO REMAIN. PREP FOR NEW PAINT FINISH
06 40 00.A	CASEWORK, SEE INTERIOR ELEVATIONS, SEE SHEET A64.4
09 21 00.E	ADHERED 1'X1' ACOUSTIC CEILING TILES SYSTEM. SEE DETAIL 6/A60.4 AND SPECS FOR MORE INFO
09 24 00.G	PATCH EXISTING GYP CEILING AS REQUIRED FOR NEW WORK. PREP FOR NEW PAINT FINISH
10 11 00.C	FULL HEIGHT MARKER BOARD WALL WITH ACCESSORIES ,SEE SPECS
10 14 00.E	OUTDOOR STAINLESS STEEL DIMENSIONAL BUILDING SIGN LETTERING. LETTERING DEPTH - 1"; FONT - ARIAL, CONFIRM WITH ARCHITECT BEFORE FABRICATION; FINISH- SEE SPECS; MOUNTING - 1" STAND-OFFS WITH STUD AND SPACER. PROVIDE BLOCKING FOR LETTERING PER DETAIL 17/A61.1. PATCH INTERIOR AND/OR EXTERIOR FINISH AS REQUIRED TO MATCH EXISTING. SEE SPECS FOR MORE INFO
10 44 00.B	FIRE EXISTINGUISHER CABINET- SURFACE
11 10 00.E	WALL MOUNTED SHORT THROW PROJECTOR, SED, SEE SPECS. MOUNT PER DETAIL 8/A64.4
23 00 00.I	EXPOSED PREFINISHED MECHANICAL DUCT SYSTEM, SSD
26 00 00.I	TYP SURFACE MOUNTED LIGHT FIXTURE, SED
32 00 00.C	SLOPED RAMP. FOR DIMENSIONS AND GRADING, SEE SHEET C300

KEYNOTE HEADER

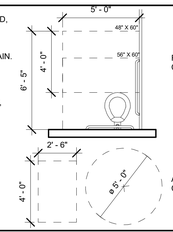
1. DEMOLITION DRAWINGS PREPARED BY THE ARCHITECT ARE FOR A GENERAL DESCRIPTION OF EXISTING BUILDING COMPONENTS, ASSEMBLIES AND MATERIALS TO BE REMOVED. DEMOLITION CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL EXISTING CONDITION AND QUANTITIES AND FOR PROVIDING DEMOLITION AND PATCH WORK REQUIRED TO INSTALL NEW WORK.
2. DEMOLITION CONTRACTOR IS RESPONSIBLE FOR PROVIDING NECESSARY PERMITS REQUIRED BY FEDERAL, STATE AND LOCAL MUNICIPAL AGENCIES HAVING JURISDICTIONAL AUTHORITY OVER ANY ASPECT OF THE DEMOLITION SCOPE.
3. CONTRACTOR TO VERIFY ALL EXISTING CONDITIONS PRIOR TO DEMOLITION WORK.
4. DEMOLITION CONTRACTOR IS RESPONSIBLE FOR REMOVAL AND DISPOSAL OF ALL DEMOLISHED MATERIALS IN A MANNER COMPLIANT TO FEDERAL, STATE AND LOCAL MUNICIPAL REQUIREMENTS AND GUIDELINES.
5. DEMOLITION CONTRACTOR SHALL COORDINATE ALL WORK SCHEDULES WITH OWNER. IN NO CASE SHALL DEMOLITION WORK BE CONDUCTED DURING HOURS PROHIBITED BY LOCAL MUNICIPALITY.
6. PLANS ARE BASED ON EXISTING RECORD DRAWINGS AND VISUAL OBSERVATION. UNIDENTIFIED ITEMS SHALL BE BROUGHT TO THE ATTENTION OF THE OWNERS REPRESENTATIVE PRIOR TO REMOVAL.
7. CONTACT OWNER'S REPRESENTATIVE FOR LIST OF SALVAGEABLE ITEMS.
8. FOR ROOMS NOTED TO RECEIVE NEW CEILING FINISH PER PLANS AND/OR INTERIOR FINISHS SCHEDULE, REMOVE EXISTING CEILING FINISHES (ACOUSTICAL TILE) AND SUBSTRATE (GYPSUM BOARD, PLASTER) AND RELATED ATTACHMENT AND/OR SUSPENSION SYSTEMS.
9. REMOVE EXISTING WALL FINISHES (CERAMIC TILE, VINYL WALL COVERING, PLYWOOD, GYPSUM BOARD SUBSTRATES, PLASTER, ETC.) IN ALL ROOMS DESIGNATED TO RECEIVE NEW WALL FINISHES PER INTERIOR FINISH SCHEDULE.
10. REMOVE EXISTING FLOORING & BASE (CERAMIC TILE, CARPET, PADDING AND ACCESSORIES) IN ALL ROOMS DESIGNATED TO RECEIVE NEW FLOORING AND BASE PER INTERIOR FINISH PLANS.
11. REPAIR ALL SURFACES DESIGNATED TO RECEIVE NEW FLOOR, WALL, AND CEILING FINISHES AS REQUIRED TO PROVIDE A SOUND AND FLUSH SUBSTRATE.
12. REMOVE AND PATCH EXISTING GYP BOARD FINISH, CEILING FINISH AND/OR EXTERIOR FINISH AS REQUIRED TO CONCEAL NEW AND/OR EXISTING SURFACE MOUNTED INTERIOR AND/OR EXTERIOR CONDUITS. WHERE IMPRACTICAL TO CONCEAL, PROVIDE SURFACE MOUNTED RACEWAY. COLOR TO MATCH ADJACENT SURFACE. SED FOR MORE INFO.
13. ALSO REFERENCE CIVIL, STRUCTURAL, PLUMBING, MECHANICAL AND ELECTRICAL DEMOLITION DRAWINGS FOR ADDITIONAL COORDINATION OF ITEMS TO BE REMOVED OR PROTECTED IN PLACE.

SHEET NOTES - DEMOLITION

?	DESCRIPTION
D30	REMOVE PORTION OF EXISTING CONCRETE AND LANSCAPE AS REQUIRED FOR NEW WORK. SCD
D32	REMOVE/MODIFY EXISTING IRRIGATION SYSTEM/NETWORK AS REQUIRED FOR NEW WORK. SLD
D39	REMOVE ALL EXISTING TACKABLE WALL PANELS. PREP WALL FOR NEW WORK
D40	EXISTING WOOD STOREFRONT SYSTEM TO BE REMOVED. PREPARE AREA FOR NEW WORK
D41	REMOVE EXISITNG TEACHING WALL CASEWORK, PREP AREA FOR NEW WORK. PATCH FLOOR FINISH TO MATCH EXISTING.
D42	REMOVE ALL EXISTING LIGHT FIXTURES. SED FOR MORE INFO. PREP AREA FOR NEW WORK. PATCH CEILING AS REQUIRED TO MATCH EXISTING
D43	REMOVE EXISTING LIGHT FIXTURES AND CEILING FINISH. SED FOR MORE INFO. PREP AREA FOR NEW WORK.
D45	REMOVE PLUMBING FIXTURE, SPD FOR MORE INFO. PATCH ADJACENT AREA AS REQUIRED 13 / A61.1
D49	SAWCUT EXISTING CONCRETE SLAB AS REQUIRED FOR NEW PLUMBING WORK. PATCH FLOOR TO MATCH EXISTING
D51	REMOVE EXISTING TALL CABINETS. PREP AREA FOR NEW WORK
D53	REMOVE EXISTING CUSTODIAL SINK AND ASSOCIATED PLUMBING. CAP PLUMBING PIPES AND PATCH AREA TO MATCH EXISTING. SPD FOR MORE INFORMATION.
D54	EXISTING STUDENT CUBBIES CASEWORK TO BE SALVAGED FOR REINSTALLATION. SEE NEW FLOOR PLANS FOR MORE INFO.
D61	REMOVE PORTION OF GYP BOARD CEILING AS REQUIRED FOR NEW WORK. PATCH OR REPLACE TO MATCH EXISTING.
D62	DEMO INTERIOR FINISH AS REQUIRED TO PROVIDE BLOCKING FOR DIMENSIONAL LETTERING. (REMOVE AND REINSTALL CASEWORK AS REQUIRED.) SEE IMPROVEMENT FLOOR PLAN AND BUILDING ELEVATIONS FOR MORE INFO. PATCH AS REQUIRED TO MATCH EXISTING

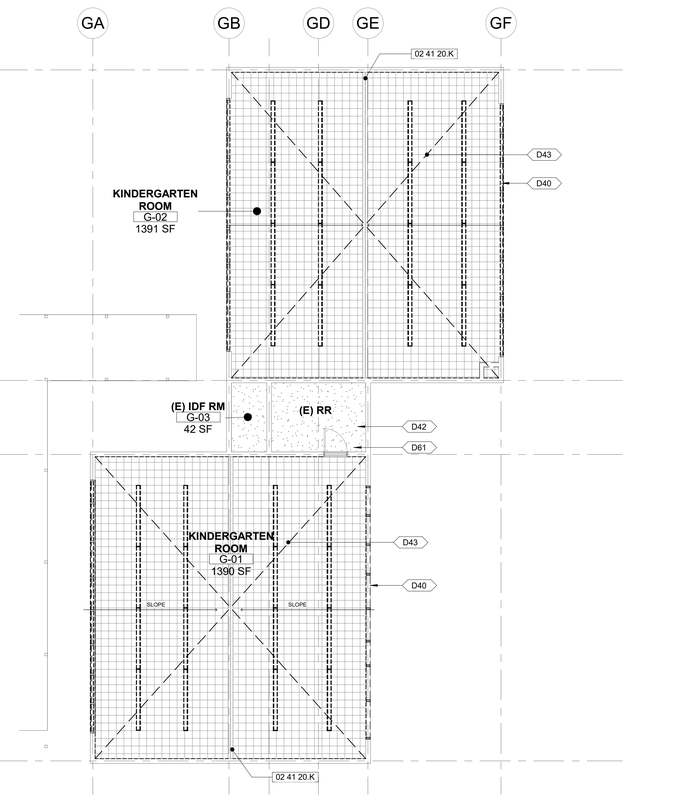
KEYNOTES- DEMOLITION

- ITEM TO BE DEMOLISHED, SEE PLANS AND/OR KEYNOTES FOR INFO
- EXISTING ITEM TO REMAIN. PROTECT IN PLACE
- LEVEL CHANGE
- NEW WALL, SEE PLANS, WALL TYPES AND SSD FOR MORE INFO
- 501 — IMPROVEMENT KEYNOTE
- A4 — STOREFRONT TYPE
- 3.8.1 — WALL TYPE TAG



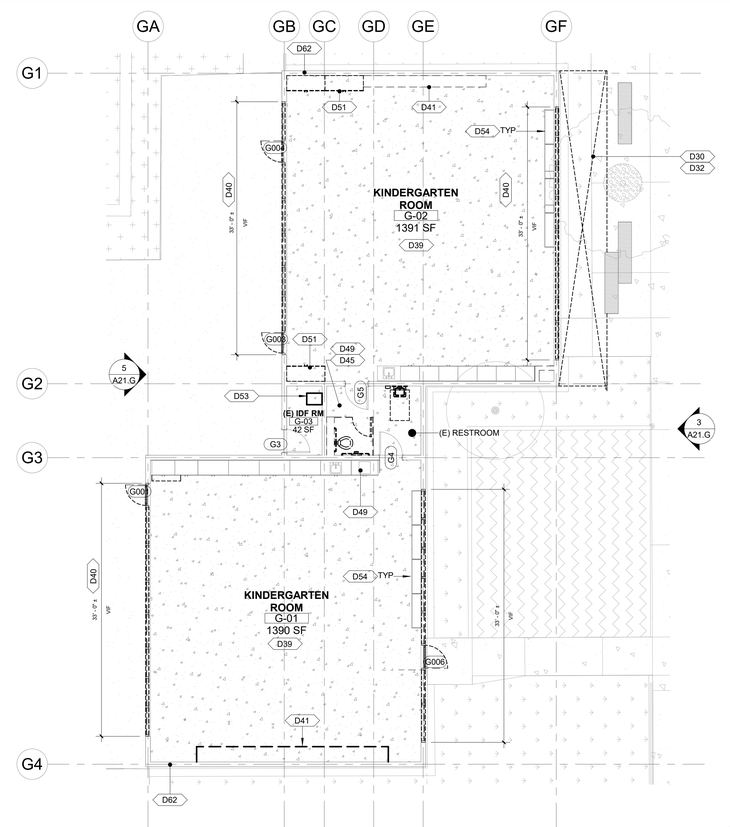
RESTROOM ACCESS CLEARANCE

ACCESSIBILTY CLEARANCE



BUILDING G- DEMO RCP

1/8" = 1'-0" | 9



BUILDING G- DEMO FLOOR PLAN

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

LEGEND- DEMO AND IMPROVEMENT FLOOR PLAN

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-121181 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 07/02/2024

OWNER: SAN RAFAEL CITY SCHOOLS

PROJECT NAME: VENETIA VALLEY BLDGS G AND H ALTERATION

CLIENT ADDRESS: 177 N San Pedro Rd, San Rafael, CA 94903

LICENSED ARCHITECT — Robert Simpson — No. C-18301 Jan 31, 2025 — STATE OF CALIFORNIA

REVISIONS:

	DESCRIPTION	DATE
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		

PROJECT NO: 2017 / 40104

DATE ISSUED: 06/21/2024

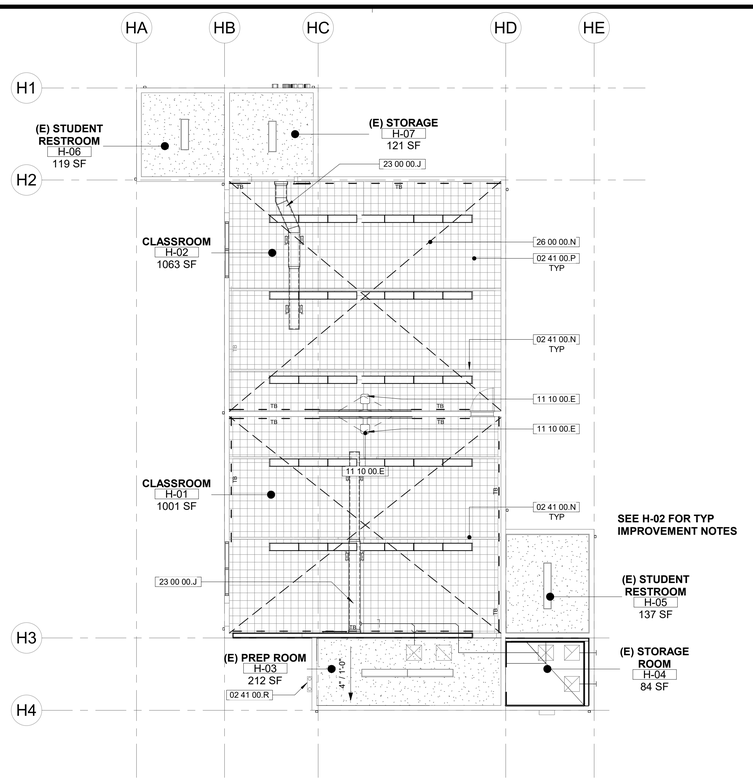
SCALE: As indicated

SHEET NUMBER: A11.G

SHEET TITLE:

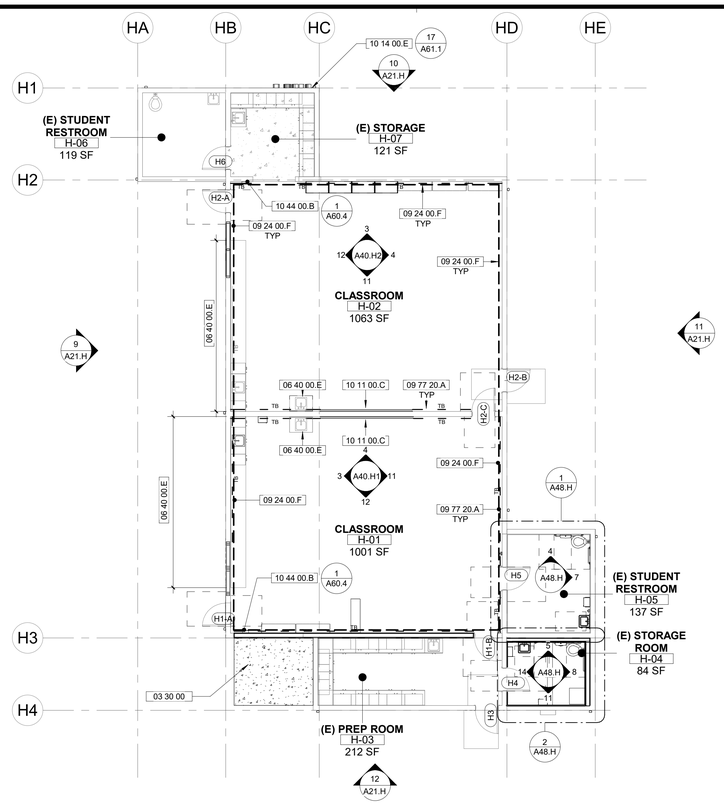
BUILDING G - FLOOR PLAN AND RCP

SVA ARCHITECTS
2901 STONERIDGE DR, SUITE 100, PLEASANTON, CA 94588
T 925.374.9884 WWW.SVA-ARCHITECTS.COM



BUILDING H - IMPROVEMENT RCP

1/8" = 1'-0" | 11



BUILDING H - IMPROVEMENT FLOOR PLAN

1/8" = 1'-0" | 3

1. REMOVE AND PATCH EXISTING GYP BOARD FINISH, CEILING FINISH AND/OR EXTERIOR FINISH AS REQUIRED TO CONCEAL NEW AND/OR EXISTING SURFACE MOUNTED INTERIOR AND/OR EXTERIOR CONDUITS. WHERE IMPRACTICAL TO CONCEAL, PROVIDE SURFACE MOUNTED RACEWAY. COLOR TO MATCH ADJACENT SURFACE. SED FOR MORE INFO.
2. ALL EXTERIOR COMPONENTS (INCLUDING BUT NOT LIMITED TO WALLS, DOORS, WOOD WINDOWS, SOFFITS, ROOF GUTTERS, FASCIA, COLUMNS, DOWNSPOUTS, ETC) OF THE EXTERIOR ELEVATIONS AFFECTED BY SCOPE OF WORK TO BE REFINISHED/REPAINTED TO MATCH EXISTING COLOR SCHEME. ALL COMPONENTS TO BE REPAINTED SHOULD BE PREPPED ACCORDINGLY BEFORE REPAINTING. LOW PRESSURE WASH, SEAL AND REPAINT ALL EXISTING EXTERIOR CEMENT PLASTER AND TRIM IF REQUIRED.
3. ALL INTERIOR SURFACES WITHIN SCOPE OF WORK, INCLUDING BUT NOT LIMITED TO WALLS, ROOF JOISTS, COLUMNS, EXPOSED ROOF DECK, CONDUITS, MECHANICAL DUCTS, EXISTING WOOD WINDOW AND DOOR FRAMES, ETCS, TO BE REFINISHED/REPAINTED.
4. ALSO REFERENCE CIVIL, STRUCTURAL, PLUMBING, MECHANICAL AND ELECTRICAL DEMOLITION DRAWINGS FOR ADDITIONAL COORDINATION OF ITEMS TO BE REMOVED OR PROTECTED IN PLACE.
5. RCP NOTES
   - A. SEE NOTE 1 ABOVE.
   - B. ALL EXPOSED METAL SURFACES, METAL WIDE FLANGE BEAMS, PIPING, CONDUITS, DUCTWORK, ETC SHALL BE PAINTED. EXISTING WOOD TRUSS IN BUILDING H TO NOT RECEIVE PAINT AND SHOULD BE PROTECTED IN PLACE.
   - C. PROVIDE ESCUTCHEONS FOR CONDUIT AND PIPE WALL PENETRATIONS WHERE EXPOSED.
   - D. CONTRACTOR TO COORDINATE LOCATION OF ALL DUCTWORK, PIPE AND CONDUIT WALL PENETRATIONS BEFORE FRAMING OR CREATING PENETRATION OPENINGS.
   - E. SEE ELECTRICAL DRAWINGS FOR MORE INFO ON LIGHTING AND EXIT SIGNS. COORDINATE LOCATION OF EXIT SIGNS WITH ARCHITECT BEFORE INSTALLATION.CONTRACTOR TO COORDINATE LIGHT FIXTURE AND AIR REGISTER LAYOUT WITH ARCHITECT PRIOR TO INSTALLATION. FOR SECONDARY SPACES SUCH AS STORAGE ROOMS,AND BUILDING SYSTEM ROOMS, LIGHT FIXTURES TO BE CENTERED IN ROOM BETWEEN OPPOSITE WALLS, UON.
   - F. FOR TYPICAL CEILING DETAILS, SEE SHEETS 6 A60.4
6. EXISTING CASEWORK AND FURNISHINGS
   - A. EXISTING CUBBIES ARE TO REMAIN. SALVAGE AND RESINSTALL AS REQUIRED.
   - B. EXISTING CASEWORK WORK TO REMAIN IS TO BE REFURBISHED- EXISTING CASEWORK CONSISTS OF WOOD VERNEER BASE CABINETS WITH PLAM COUNTERTOP AND HARDWOOD EDGE BANDING. REFINISH ENTIRE BODY AS REQUIRED TO APPEAR NEW. REPLACE MISSING OR DAMAGED HARDWARE AS REQUIRED. REPAIR DAMAGED PORTIONS OF PLAM COUNTERTOP OR BASECABINET BODY AS REQUIRED.
   - C. EXISTING PLUMBING FIXTURES IN ALL SINK CABINETS ARE TO BE REPLACED. SEE PLUMBING DRAWINGS FOR MORE INFO.

SHEET NOTES - IMPROVEMENTS

?	DESCRIPTION
02 41 00.C	EXISTING RESILIENT FLOORING TO REMAIN. PROTECT IN PLACE. PATCH AS REQUIRED TO MATCH EXISTING
02 41 00.N	EXISTING WOOD TRUSS TO REMAIN. PROTECT IN PLACE
02 41 00.P	EXISTING 1'X1' ACOUSTIC CEILING TILES TO REMAIN. PROTECT IN PLACE. REMOVE AND REPLACE AS REQUIRED FOR NEW WORK. PATCH AS REQUIRED TO MATCH EXISTING. ASSUME 10% OF TILES TO BE REPLACED DUE TO STAINS OR PREVIOUS DAMAGE
02 41 00.R	EXISTING SURFACE MOUNTED ELECTRICAL JUNCTION BOX AND CONDUITS. PROTECT IN PLACE, SED FOR MORE INFO.
03 30 00	CONCRETE HOUSEKEEPING PAD, SEE CIVIL DRAWINGS FOR MORE INFO.
06 40 00.E	EXISTING CASEWORK WITH PLAM COUNTERTOP (WITH HARDWOOD EDGE IN BLDG H) AND WOOD LAMINATE BASE CABINETS TO BE REFURBISHED AND REFINISHED TO APPEAR NEW.
09 24 00.F	PROVIDE 5/8" TYPE X GYP BOARD FINISH AS REQUIRED TO REPLACE WOOD BOARD FINISH. PAINT TO MATCH EXISTING.
09 77 20.A	FABRIC WRAPPED TACAKBLE WALL PANELS, SEE DETAIL 7/A64.4 AND FINISH SCHEDULE FOR MORE INFO.
10 11 00.C	FULL HEIGHT MARKER BOARD WALL WITH ACCESSORIES ,SEE SPECS
10 14 00.E	OUTDOOR STAINLESS STEEL DIMENSIONAL BUILDING SIGN LETTERING. LETTERING DEPTH - 1"; FONT - ARIAL, CONFIRM WITH ARCHITECT BEFORE FABRICATION; FINISH- SEE SPECS; MOUNTING - 1" STAND-OFFS WITH STUD AND SPACER. PROVIDE BLOCKING FOR LETTERING PER DETAIL 17/A61.1. PATCH INTERIOR AND/OR EXTERIOR FINISH AS REQUIRED TO MATCH EXISTING. SEE SPECS FOR MORE INFO
10 44 00.B	FIRE EXISTINGUISHER CABINET- SURFACE
11 10 00.E	WALL MOUNTED SHORT THROW PROJECTOR, SED, SEE SPECS. MOUNT PER DETAIL 8/A64.4
23 00 00.J	EXPOSED MECHANICAL DUCT. SMD FOR MORE INFO.
26 00 00.N	TYP LIGHT FIXTURES.

KEYNOTE HEADER

1. DEMOLITION DRAWINGS PREPARED BY THE ARCHITECT ARE FOR A GENERAL DESCRIPTION OF EXISTING BUILDING COMPONENTS, ASSEMBLIES AND MATERIALS TO BE REMOVED. DEMOLITION CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL EXISTING CONDITION AND QUANTITIES AND FOR PROVIDING DEMOLITION AND PATCH WORK REQUIRED TO INSTALL NEW WORK.
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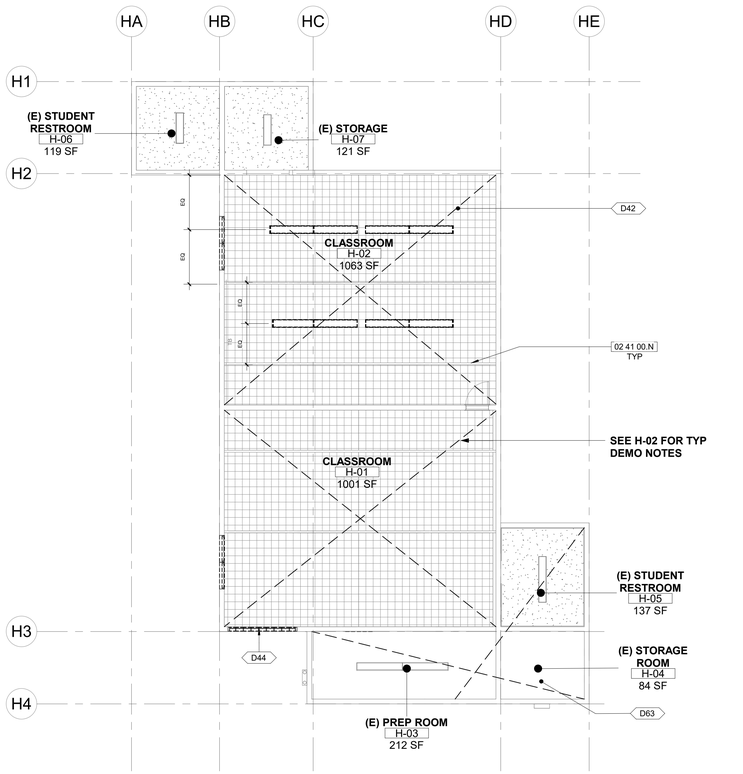
3. CONTRACTOR TO VERIFY ALL EXISTING CONDITIONS PRIOR TO DEMOLITION WORK.
4. DEMOLITION CONTRACTOR IS RESPONSIBLE FOR REMOVAL AND DISPOSAL OF ALL DEMOLISHED MATERIALS IN A MANNER COMPLIANT TO FEDERAL, STATE AND LOCAL MUNICIPAL REQUIREMENTS AND GUIDELINES.
5. DEMOLITION CONTRACTOR SHALL COORDINATE ALL WORK SCHEDULES WITH OWNER. IN NO CASE SHALL DEMOLITION WORK BE CONDUCTED DURING HOURS PROHIBITED BY LOCAL MUNICIPALITY.
6. PLANS ARE BASED ON EXISTING RECORD DRAWINGS AND VISUAL OBSERVATION. UNIDENTIFIED ITEMS SHALL BE BROUGHT TO THE ATTENTION OF THE OWNERS REPRESENTATIVE PRIOR TO REMOVAL.
7. CONTACT OWNER'S REPRESENTATIVE FOR LIST OF SALVAGEABLE ITEMS.
8. FOR ROOMS NOTED TO RECEIVE NEW CEILING FINISH PER PLANS AND/OR INTERIOR FINISHS SCHEDULE, REMOVE EXISTING CEILING FINISHES (ACOUSTICAL TILE) AND SUBSTRATE (GYPSUM BOARD, PLASTER) AND RELATED ATTACHMENT AND/OR SUSPENSION SYSTEMS.
9. REMOVE EXISTING WALL FINISHES (CERAMIC TILE, VINYL WALL COVERING, PLYWOOD, GYPSUM BOARD SUBSTRATES, PLASTER, ETC.) IN ALL ROOMS DESIGNATED TO RECEIVE NEW WALL FINISHES PER INTERIOR FINISH SCHEDULE.
10. REMOVE EXISTING FLOORING & BASE (CERAMIC TILE, CARPET, PADDING AND ACCESSORIES) IN ALL ROOMS DESIGNATED TO RECEIVE NEW FLOORING AND BASE PER INTERIOR FINISH PLANS.
11. REPAIR ALL SURFACES DESIGNATED TO RECEIVE NEW FLOOR, WALL, AND CEILING FINISHES AS REQUIRED TO PROVIDE A SOUND AND FLUSH SUBSTRATE.
12. REMOVE AND PATCH EXISTING GYP BOARD FINISH, CEILING FINISH AND/OR EXTERIOR FINISH AS REQUIRED TO CONCEAL NEW AND/OR EXISTING SURFACE MOUNTED INTERIOR AND/OR EXTERIOR CONDUITS. WHERE IMPRACTICAL TO CONCEAL, PROVIDE SURFACE MOUNTED RACEWAY. COLOR TO MATCH ADJACENT SURFACE. SED FOR MORE INFO.
13. ALSO REFERENCE CIVIL, STRUCTURAL, PLUMBING, MECHANICAL AND ELECTRICAL DEMOLITION DRAWINGS FOR ADDITIONAL COORDINATION OF ITEMS TO BE REMOVED OR PROTECTED IN PLACE.

SHEET NOTES - DEMOLITION

?	DESCRIPTION
D27	EXISTING MECHANICAL DUCT/VENT SYSTEM TO BE REMOVED. PATCH ROOF AND/OR WALL TO MATCH EXISTING. SEE 19/A61.1
D30	REMOVE PORTION OF EXISTING CONCRETE AND LANSCAPE AS REQUIRED FOR NEW WORK. SCD
D32	REMOVE/MODIFY EXISTING IRRIGATION SYSTEM/NETWORK AS REQUIRED FOR NEW WORK. SLD
D37	REMOVE EXISITNG RECESSED FIRE EXTINGUISHER. PREP WALL FOR NEW WORK
D38	REMOVE EXISTING INTERIOR WOOD BOARD/PANELING FINISH ON EXISTING WALL. PREP WALL FOR NEW GYP BOARD FINISH
D39	REMOVE ALL EXISTING TACKABLE WALL PANELS. PREP WALL FOR NEW WORK
D41	REMOVE EXISITNG TEACHING WALL CASEWORK, PREP AREA FOR NEW WORK. PATCH FLOOR FINISH TO MATCH EXISTING.
D42	REMOVE ALL EXISTING LIGHT FIXTURES. SED FOR MORE INFO. PREP AREA FOR NEW WORK. PATCH CEILING AS REQUIRED TO MATCH EXISTING
D44	REMOVE EXISTING WINDOW SHADES
D47	REMOVE EXISTING WINDOWS. PREP AREA FOR NEW WORK
D49	SAWCUT EXISTING CONCRETE SLAB AS REQUIRED FOR NEW PLUMBING WORK. PATCH FLOOR TO MATCH EXISTING
D50	EXISTING WINDOWS TO BE REMOVED. SEE DEMO EXTERIOR ELEVATIONS FOR MORE INFORMATION. PREP AREA FOR NEW WORK.
D54	EXISTING STUDENT CUBBIES CASEWORK TO BE SALVAGED FOR REINSTALLATION. SEE NEW FLOOR PLANS FOR MORE INFO.
D55	EXISTING SINK CASEWORK TO REMAIN. SPD FOR NEW WORK. REFURBISH AND REPAIR CASEWORK AS REQUIRED AFTER TEACHING WALL REMOVAL.
D62	DEMO INTERIOR FINISH AS REQUIRED TO PROVIDE BLOCKING FOR DIMENSIONAL LETTERING. (REMOVE AND REINSTALL CASEWORK AS REQUIRED.) SEE IMPROVEMENT FLOOR PLAN AND BUILDING ELEVATIONS FOR MORE INFO. PATCH AS REQUIRED TO MATCH EXISTING.
D63	REMOVE PORTION OF EXISTING CEILING AND WALLS AS REQUIRED FOR NEW WORK. PATCH TO MATCH EXISTING.
D64	REMOVE EXISTING VCT FLOOR FINISH AS AND PREP SURFACE FOR NEW WORK.
D65	PROVIDE SLECTIVE DEMOLITION WORK REQUIRED FOR NEW STAFF RESTROOM AND EXISTING IDF CABINET RELOCATION. SEE DRAWINGS SHEET NOT 13.ON SHEET A00.1 FOR MORE INFO.

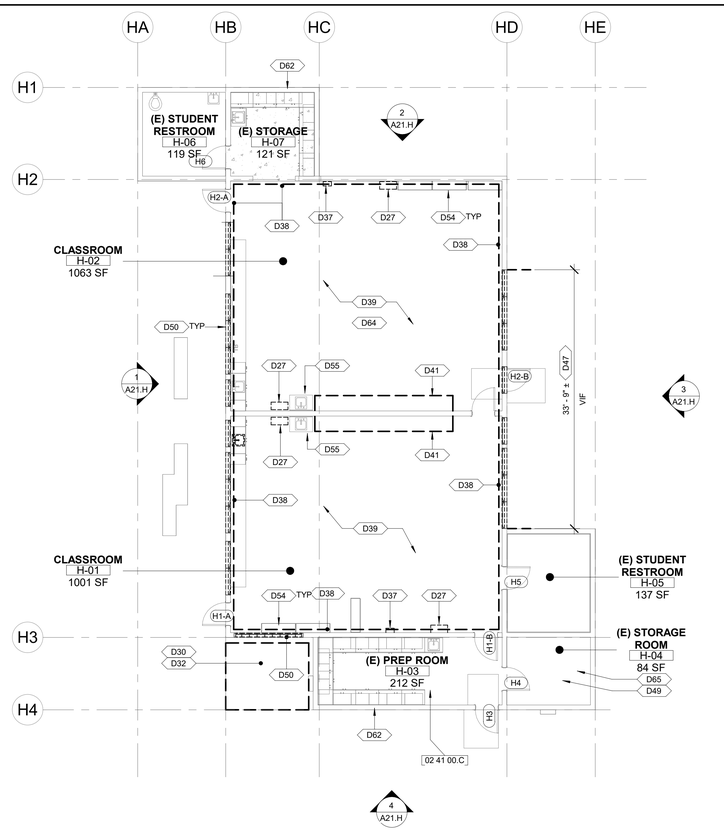
KEYNOTES-DEMOLITION

SEE SHEET A11.G FOR TYPICAL DEMO AND IMPROVEMENT PLAN LEGEND



BUILDING H - DEMO RCP

1/8" = 1'-0" | 9



BUILDING H - DEMO FLOOR PLAN

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

LEGEND- DEMO AND IMPROVEMENT PLAN

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-121181 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 07/02/2024

OWNER: SAN RAFAEL CITY SCHOOLS

PROJECT NAME: VENETIA VALLEY BLDGS G AND H ALTERATION

CLIENT ADDRESS: 177 N San Pedro Rd, San Rafael, CA 94903

LICENSED ARCHITECT — Robert Simpson — No. C-18301 Jan 31, 2025 — STATE OF CALIFORNIA

REVISIONS:

	DESCRIPTION	DATE
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		

PROJECT NO: 2017 / 40104

DATE ISSUED: 06/21/2024

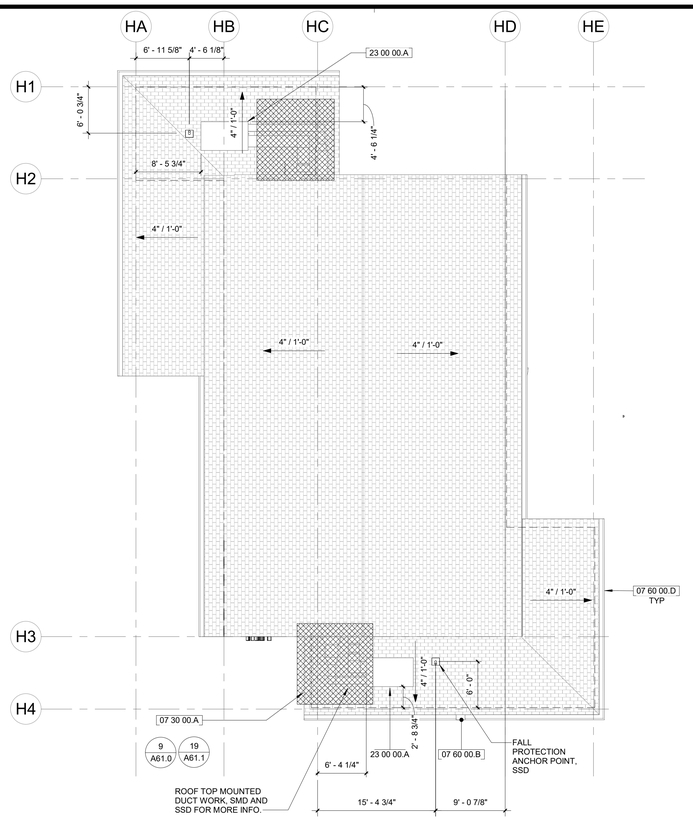
SCALE: As indicated

SHEET NUMBER: A11.H

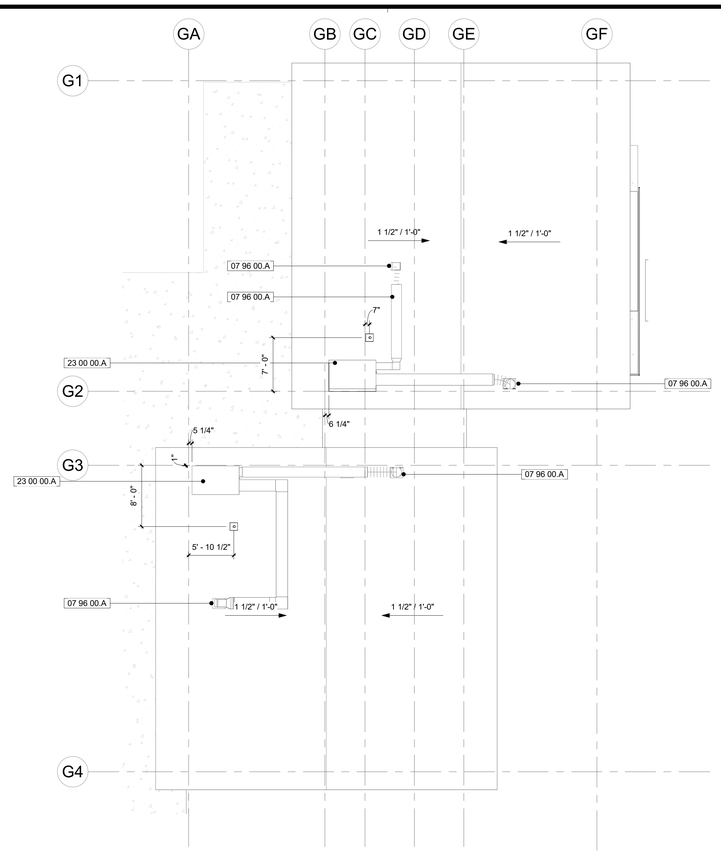
SHEET TITLE:

BUILDING H - FLOOR PLAN AND RCP

SVA ARCHITECTS
7901 STONERIDGE DR, SUITE 100, PLEASANTON, CA 94588
T 925.374.9884 WWW.SVA-ARCHITECTS.COM



BUILDING H - IMPROVEMENT ROOF PLAN | 1/8" = 1'-0" | 11



BUILDING G - IMPROVEMENT ROOF PLAN | 1/8" = 1'-0" | 3

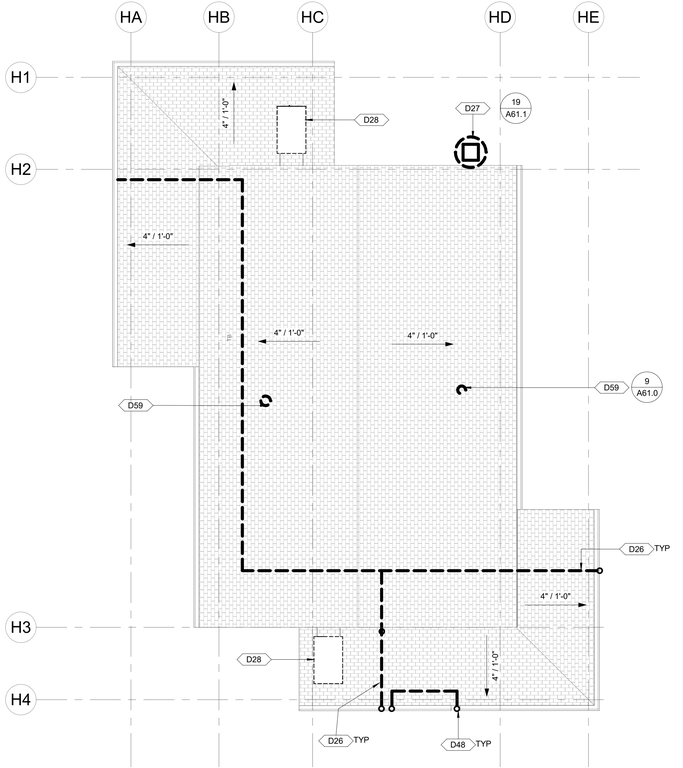
1. REMOVE AND PATCH EXISTING GYP BOARD FINISH, CEILING FINISH AND/OR EXTERIOR FINISH AS REQUIRED TO CONCEAL NEW AND/OR EXISTING SURFACE MOUNTED INTERIOR AND/OR EXTERIOR CONDUITS. WHERE IMPRACTICAL TO CONCEAL, PROVIDE SURFACE MOUNTED RACEWAY. COLOR TO MATCH ADJACENT SURFACE. SED FOR MORE INFO.
2. ALL EXTERIOR COMPONENTS (INCLUDING BUT NOT LIMITED TO WALLS, DOORS, WOOD WINDOWS, SOFFITS, ROOF GUTTERS, FASCIA, COLUMNS, DOWNSPOUTS, ETC) OF THE EXTERIOR ELEVATIONS AFFECTED BY SCOPE OF WORK TO BE REFINISHED/REPAINTED TO MATCH EXISTING COLOR SCHEME. ALL COMPONENTS TO BE REPAINTED SHOULD BE PREPPED ACCORDINGLY BEFORE REPAINTING. LOW PRESSURE WASH, SEAL AND REPAINT ALL EXISTING EXTERIOR CEMENT PLASTER AND TRIM IF REQUIRED.
3. ALL INTERIOR SURFACES WITHIN SCOPE OF WORK, INCLUDING BUT NOT LIMITED TO WALLS, ROOF JOISTS, COLUMNS, EXPOSED ROOF DECK, CONDUITS, MECHANICAL DUCTS, EXISTING WOOD WINDOW AND DOOR FRAMES, ETCS, TO BE REFINISHED/REPAINTED.
4. ALSO REFERENCE CIVIL, STRUCTURAL, PLUMBING, MECHANICAL AND ELECTRICAL DEMOLITION DRAWINGS FOR ADDITIONAL COORDINATION OF ITEMS TO BE REMOVED OR PROTECTED IN PLACE.
5. RCP NOTES
   - A. SEE NOTE 1 ABOVE.
   - B. ALL EXPOSED METAL SURFACES, METAL WIDE FLANGE BEAMS, PIPING, CONDUITS, DUCTWORK, ETC SHALL BE PAINTED. EXISTING WOOD TRUSS IN BUILDING H TO NOT RECEIVE PAINT AND SHOULD BE PROTECTED IN PLACE.
   - C. PROVIDE ESCUTCHEONS FOR CONDUIT AND PIPE WALL PENETRATIONS WHERE EXPOSED.
   - D. CONTRACTOR TO COORDINATE LOCATION OF ALL DUCTWORK, PIPE AND CONDUIT WALL PENETRATIONS BEFORE FRAMING OR CREATING PENETRATION OPENINGS.
   - E. SEE ELECTRICAL DRAWINGS FOR MORE INFO ON LIGHTING AND EXIT SIGNS. COORDINATE LOCATION OF EXIT SIGNS WITH ARCHITECT BEFORE INSTALLATION.CONTRACTOR TO COORDINATE LIGHT FIXTURE AND AIR REGISTER LAYOUT WITH ARCHITECT PRIOR TO INSTALLATION. FOR SECONDARY SPACES SUCH AS STORAGE ROOMS,AND BUILDING SYSTEM ROOMS, LIGHT FIXTURES TO BE CENTERED IN ROOM BETWEEN OPPOSITE WALLS, UON.
   - F. FOR TYPICAL CEILING DETAILS, SEE SHEETS 6 / A60.4
6. EXISTING CASEWORK AND FURNISHINGS
   - A. EXISTING CUBBIES ARE TO REMAIN. SALVAGE AND RESINSTALL AS REQUIRED.
   - B. EXISTING CASEWORK WORK TO REMAIN IS TO BE REFURBISHED- EXISTING CASEWORK CONSISTS OF WOOD VERNEER BASE CABINETS WITH PLAM COUNTERTOP AND HARDWOOD EDGE BANDING. REFINISH ENTIRE BODY AS REQUIRED TO APPEAR NEW. REPLACE MISSING OR DAMAGED HARDWARE AS REQUIRED. REPAIR DAMAGED PORTIONS OF PLAM COUNTERTOP OR BASECABINET BODY AS REQUIRED.
   - C. EXISTING PLUMBING FIXTURES IN ALL SINK CABINETS ARE TO BE REPLACED. SEE PLUMBING DRAWINGS FOR MORE INFO.

SHEET NOTES - IMPROVEMENTS

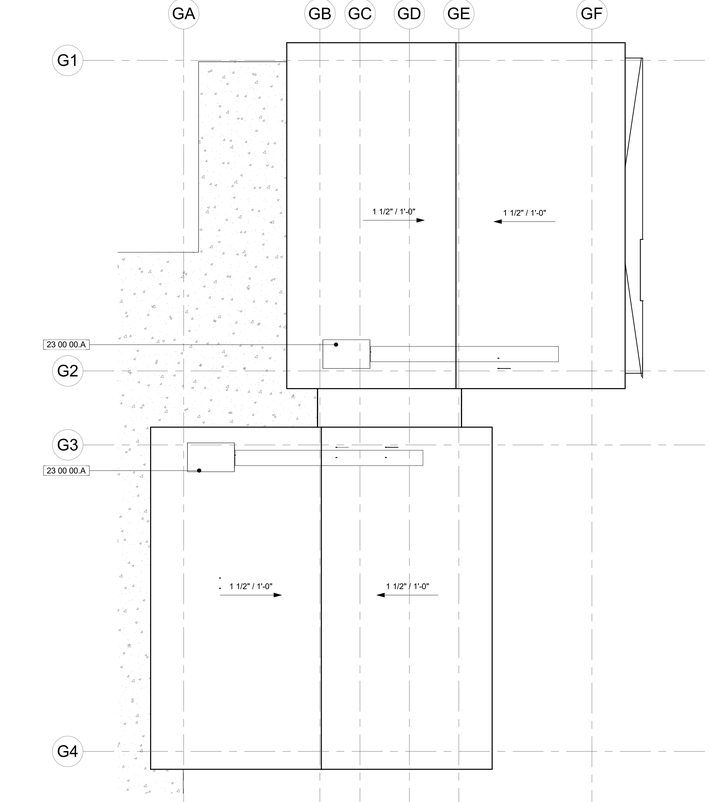
?	DESCRIPTION
07 30 00.A	PATCH EXISTING ASPHALT ROOF AND WALL AS REQUIRED FOR NEW WORK.
07 60 00.B	VERIFY FUNCTION OF PIPE. IF IT IS A GAS PIPE, REMOVE AND CAP AS REQUIRED TO CLEAR GUTTER. EXTEND EXISTING ROOF GUTTERS TO PROVIDE CONTINUOUS GUTTER. FINISH TO MATCH EXISITNG.
07 60 00.D	PAINTED GSM ROOF GUTTER. COLOR PER ARCHITECT AT ASHPHALT SHINGLES. MATCH SSMR AT BUILDING D ROOF.
07 96 00.A	ROOF OPENINGS FOR DUCTS
23 00 00.A	MECHANICAL EQUIPMENT, SMD

KEYNOTE HEADER

1. DEMOLITION DRAWINGS PREPARED BY THE ARCHITECT ARE FOR A GENERAL DESCRIPTION OF EXISTING BUILDING COMPONENTS, ASSEMBLIES AND MATERIALS TO BE REMOVED. DEMOLITION CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL EXISTING CONDITION AND QUANTITIES AND FOR PROVIDING DEMOLITION AND PATCH WORK REQUIRED TO INSTALL NEW WORK.
2. DEMOLITION CONTRACTOR IS RESPONSIBLE FOR PROVIDING NECESSARY PERMITS REQUIRED BY FEDERAL, STATE AND LOCAL MUNICIPAL AGENCIES HAVING JURISDICTIONAL AUTHORITY OVER ANY ASPECT OF THE DEMOLITION SCOPE.
3. CONTRACTOR TO VERIFY ALL EXISTING CONDITIONS PRIOR TO DEMOLITION WORK.
4. DEMOLITION CONTRACTOR IS RESPONSIBLE FOR REMOVAL AND DISPOSAL OF ALL DEMOLISHED MATERIALS IN A MANNER COMPLIANT TO FEDERAL, STATE AND LOCAL MUNICIPAL REQUIREMENTS AND GUIDELINES.
5. DEMOLITION CONTRACTOR SHALL COORDINATE ALL WORK SCHEDULES WITH OWNER. IN NO CASE SHALL DEMOLITION WORK BE CONDUCTED DURING HOURS PROHIBITED BY LOCAL MUNICIPALITY.
6. PLANS ARE BASED ON EXISTING RECORD DRAWINGS AND VISUAL OBSERVATION. UNIDENTIFIED ITEMS SHALL BE BROUGHT TO THE ATTENTION OF THE OWNERS REPRESENTATIVE PRIOR TO REMOVAL.
7. CONTACT OWNER'S REPRESENTATIVE FOR LIST OF SALVAGEABLE ITEMS.
8. FOR ROOMS NOTED TO RECEIVE NEW CEILING FINISH PER PLANS AND/OR INTERIOR FINISHS SCHEDULE, REMOVE EXISTING CEILING FINISHES (ACOUSTICAL TILE) AND SUBSTRATE (GYPSUM BOARD, PLASTER) AND RELATED ATTACHMENT AND/OR SUSPENSION SYSTEMS.
9. REMOVE EXISTING WALL FINISHES (CERAMIC TILE, VINYL WALL COVERING, PLYWOOD, GYPSUM BOARD SUBSTRATES, PLASTER, ETC.) IN ALL ROOMS DESIGNATED TO RECEIVE NEW WALL FINISHES PER INTERIOR FINISH SCHEDULE.
10. REMOVE EXISTING FLOORING & BASE (CERAMIC TILE, CARPET, PADDING AND ACCESSORIES) IN ALL ROOMS DESIGNATED TO RECEIVE NEW FLOORING AND BASE PER INTERIOR FINISH PLANS.
11. REPAIR ALL SURFACES DESIGNATED TO RECEIVE NEW FLOOR, WALL, AND CEILING FINISHES AS REQUIRED TO PROVIDE A SOUND AND FLUSH SUBSTRATE.
12. REMOVE AND PATCH EXISTING GYP BOARD FINISH, CEILING FINISH AND/OR EXTERIOR FINISH AS REQUIRED TO CONCEAL NEW AND/OR EXISTING SURFACE MOUNTED INTERIOR AND/OR EXTERIOR CONDUITS. WHERE IMPRACTICAL TO CONCEAL, PROVIDE SURFACE MOUNTED RACEWAY. COLOR TO MATCH ADJACENT SURFACE. SED FOR MORE INFO.
13. ALSO REFERENCE CIVIL, STRUCTURAL, PLUMBING, MECHANICAL AND ELECTRICAL DEMOLITION DRAWINGS FOR ADDITIONAL COORDINATION OF ITEMS TO BE REMOVED OR PROTECTED IN PLACE.



BUILDING H - DEMO ROOF PLAN | 1/8" = 1'-0" | 9



BUILDING G- DEMO ROOF PLAN | 1/8" = 1'-0" | 1

SHEET NOTES - DEMOLITION

?	DESCRIPTION
D26	EXISTING WALL AND ROOF WOUNTED GAS LINES TO BE REMOVED AND CAPPED, SPD, SMD
D27	EXISTING MECHANICAL DUCT/VENT SYSTEM TO BE REMOVED. PATCH ROOF AND/OR WALL TO MATCH EXISTING. SEE 19/A61.1
D28	EXISTING ROOF TOP HVAC UNIT AND ASSOCIATED CURBS AND ELECTRICAL CONDUITS, WIRES AND GAS PIPES TO BE REMOVED. SSD, SED, SMD FOR MORE INFO. PATCH ROOF AND/OR WALL TO MATCH EXISTING OR PREP AREA FOR NEW WORK, SEE DETAIL 19/A61.0.
D48	VERIFY FUNCTION OF PIPE, IF GAS AND REMOVED WITH HVAC SYSTEM, EXTEND EXISTING ROOF GUTTERS TO PROVIDE CONTINUOUS GUTTER. FINISH TO MATCH EXISITNG.
D59	REMOVE EXISITNG ROOF VENTS AS REQUIRED FOR NEW WORK. PATCH ASHPALT ROOFING TO MATCH EXISTING

KEYNOTES - DEMOLITION

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-121181 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 07/02/2024

OWNER: SAN RAFAEL CITY SCHOOLS

PROJECT NAME: VENETIA VALLEY BLDGS G AND H ALTERATION

CLIENT ADDRESS: 177 N San Pedro Rd, San Rafael, CA 94903

LICENSED ARCHITECT
Robert Simpson
No. C-18301
Jan 31, 2025
STATE OF CALIFORNIA

REVISIONS:

	DESCRIPTION	DATE
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		

PROJECT NO: 2017 / 40104

DATE ISSUED: 06/21/2024

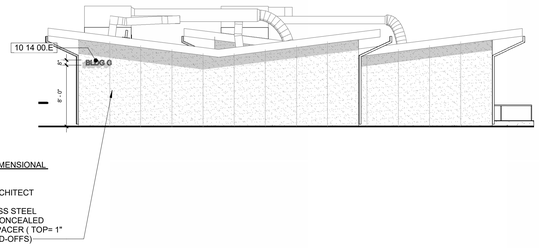
SCALE: As indicated

SHEET NUMBER: A15.1

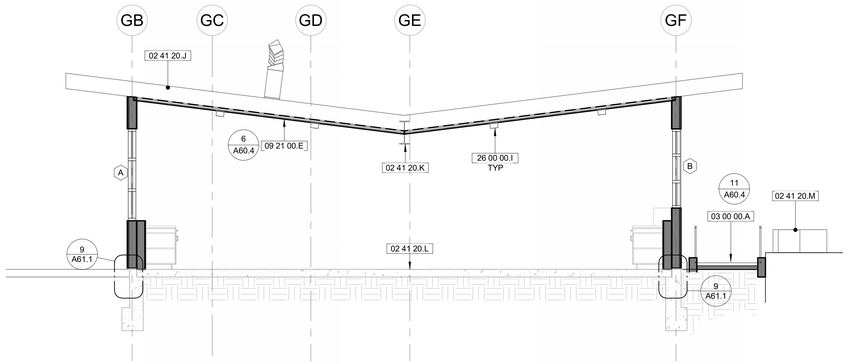
SHEET TITLE:

ROOF PLANS

SVA ARCHITECTS
6 I01 STONERIDGE DR, SUITE 100, PLEASANTON, CA 94588
T 925.374.9884 WWW.SVA-ARCHITECTS.COM



BUILDING G -WEST | 1/8" = 1'-0" | **12**



BUILDING G TYPICAL CROSS SECTION | 1/4" = 1'-0" | **4**

SHEET NOTES - IMPROVEMENTS

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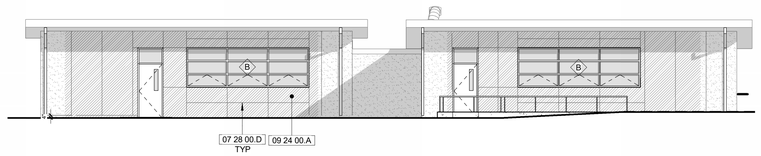
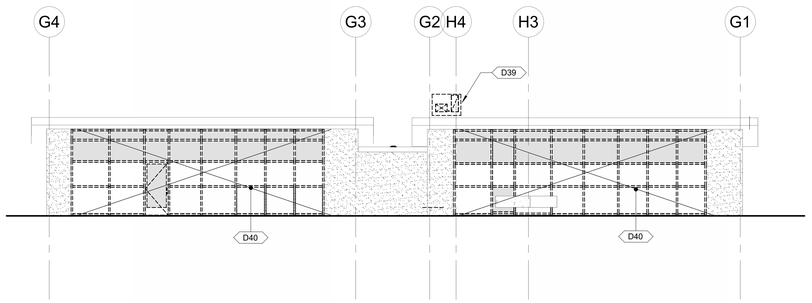


BUILDING G - SOUTH | 1/8" = 1'-0" | **11**



BUILDING G - DEMO SOUTH BLDG ELEV | 1/8" = 1'-0" | **3**

SHEET NOTES - DEMOLITION

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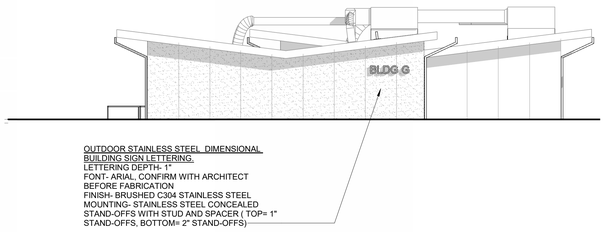
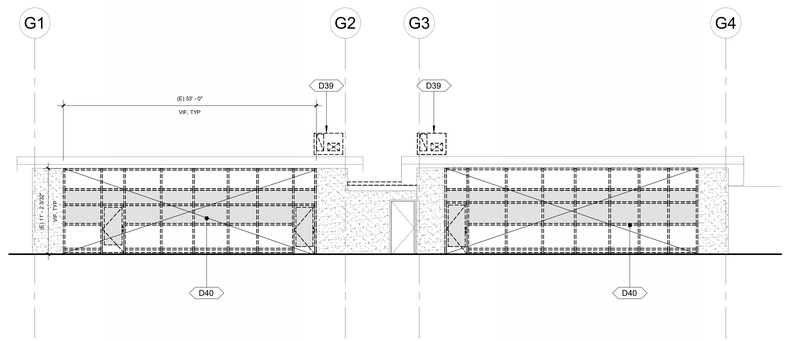


BUILDING G - EAST | 1/8" = 1'-0" | **10**

KEYNOTES-DEMOLITION

?	DESCRIPTION
D39	REMOVE ALL EXISTING TACKABLE WALL PANELS. PREP WALL FOR NEW WORK
D40	EXISTING WOOD STOREFRONT SYSTEM TO BE REMOVED. PREPARE AREA FOR NEW WORK

BUILDING G - IMPROVEMENT NORTH BLDG ELEV | 1/8" = 1'-0" | **9**



BUILDING G - DEMO NORTH BLDG ELEV | 1/8" = 1'-0" | **5**

KEYNOTE - IMPROVEMENTS

?	DESCRIPTION
02 41 20.J	EXISTING ROOF SYSTEM WITH BUILT UP ROOFING. EXISTING ROOF FRAMING - 2X12" @ 24" O.C
02 41 20.K	EXISTING ROOF WIDE FLANGE FRAMING TO REMAIN. PREP FOR NEW PAINT FINISH
02 41 20.L	EXISTING CONCRETE SLAB ON GRADE WITH (E) VCT FINISH. PROTECT PLACE. PATCH AS REQUIRED TO MATCH EXISTING
02 41 20.M	EXISTING CONCRETE BENCH, RELOCATE AS REQUIRED FOR NEW WORK. PROTECT IN PLACE
03 00 00.A	SITE CONCRETE STEPS/WALKWAY AND OR RAMP, SEE SCD, SLD
07 28 00.D	CEMENT PLASTER CONTROL JOINT, SEE DETAILS AND SPECS
09 21 00.E	ADHERED 1'X1' ACOUSTIC CEILING TILES SYSTEM. SEE DETAIL 6/A60.4 AND SPECS FOR MORE INFO
09 24 00.A	CEMENT PLASTER WALL ASSEMBLY WITH ELASTOMERIC COATING
10 14 00.E	OUTDOOR STAINLESS STEEL DIMENSIONAL BUILDING SIGN LETTERING. LETTERING DEPTH - 1"; FONT - ARIAL, CONFIRM WITH ARCHITECT BEFORE FABRICATION; FINISH- SEE SPECS; MOUNTING - 1" STAND-OFFS WITH STUD AND SPACER. PROVIDE BLOCKING FOR LETTERING PER DETAIL 17/A61.1. PATCH INTERIOR AND/OR EXTERIOR FINISH AS REQUIRED TO MATCH EXISTING. SEE SPECS FOR MORE INFO
23 00 00.A	MECHANICAL EQUIPMENT, SMD
26 00 00.I	TYP SURFACE MOUNTED LIGHT FIXTURE, SED

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-121181 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 07/02/2024

OWNER: SAN RAFAEL CITY SCHOOLS

PROJECT NAME: VENETIA VALLEY BLDGS G AND H ALTERATION

CLIENT ADDRESS: 177 N San Pedro Rd, San Rafael, CA 94903

LICENSED ARCHITECT — Robert Simpson — No. C-18301 Jan 31, 2025 — STATE OF CALIFORNIA

REVISIONS:

	DESCRIPTION	DATE
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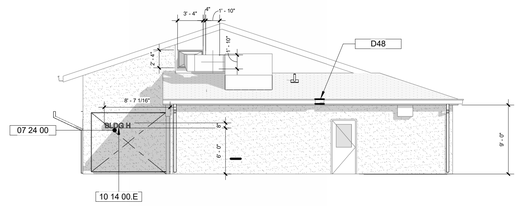
12		

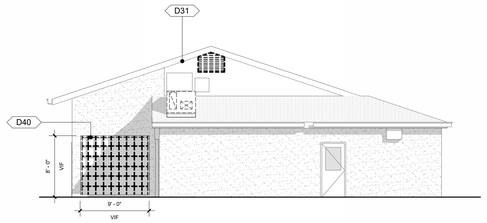
PROJECT NO: 2017 / 40104
DATE ISSUED: 06/21/2024
SCALE: As indicated
SHEET NUMBER: A21.G
SHEET TITLE:

BUILDING ELEVATIONS- BUILDING G

SVA ARCHITECTS
7901 STONERIDGE DR, SUITE 100, PLEASANTON, CA 94588
T 925.374.9884 WWW.SVA-ARCHITECTS.COM



BUILDING H - WEST | 1/8" = 1'-0" | 12



BUILDING H - WEST (DEMO) | 1/8" = 1'-0" | 4

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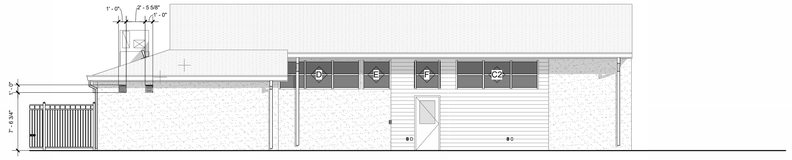
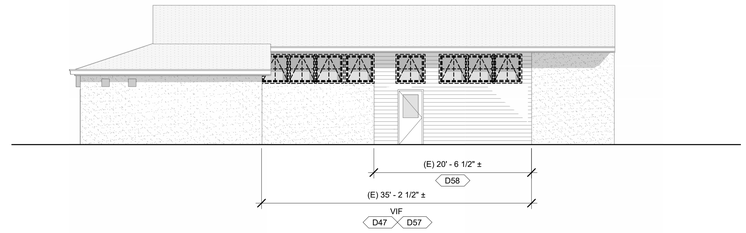
   - A. EXISTING CUBBIES ARE TO REMAIN. SALVAGE AND RESINSTALL AS REQUIRED.
   - B. EXISTING CASEWORK WORK TO REMAIN IS TO BE REFURBISHED- EXISTING CASEWORK CONSISTS OF WOOD VERNEER BASE CABINETS WITH PLAM COUNTERTOP AND HARDWOOD EDGE BANDING. REFINISH ENTIRE BODY AS REQUIRED TO APPEAR NEW. REPLACE MISSING OR DAMAGED HARDWARE AS REQURIED. REPAIR DAMAGED PORTIONS OF PLAM COUNTERTOP OR BASECABINET BODY AS REQUIRED.
   - C. EXISTING PLUMBING FIXTURES IN ALL SINK CABINETS ARE TO BE REPLACED. SEE PLUMBING DRAWINGS FOR MORE INFO.

SHEET NOTES - IMPROVEMENTS



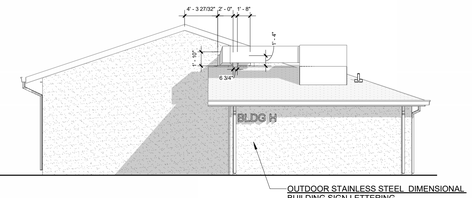
BUILDING H - SOUTH | 1/8" = 1'-0" | 11



BUILDING H - SOUTH (DEMO) | 1/8" = 1'-0" | 3

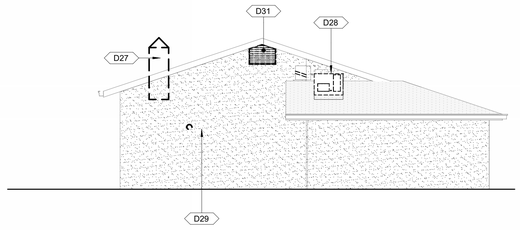
?	DESCRIPTION
D27	EXISTING MECHANICAL DUCT/VENT SYSTEM TO BE REMOVED. PATCH ROOF AND/OR WALL TO MATCH EXISTING. SEE 19/A61.1
D28	EXISTING ROOF TOP HVAC UNIT AND ASSOCIATED CURBS AND ELECTRICAL CONDUITS, WIRES AND GAS PIPES TO BE REMOVED. SSD, SED, SMD FOR MORE INFO. PATCH ROOF AND/OR WALL TO MATCH EXISTING OR PREP AREA FOR NEW WORK, SEE DETAIL 19/A61.0.
D29	REMOVE EXCESS FOAM INSULATION. PATCH CEMENT PLASTER FINISH TO MATCH EXISTING
D31	REMOVE EXISTING EXTERIOR LOUVER.- AREA APPROXIMATELY 4 SF. INFILL OPENING TO MATCH EXISITNG
D34	REMOVE PORTION OF EXISTING FINISH AS REQUIRED FOR NEW AWNING/ROOF INSTALLATION, SAD, SSD AND SPD FOR NEW WORK (13 / A61.1)
D40	EXISTING WOOD STOREFRONT SYSTEM TO BE REMOVED. PREPARE AREA FOR NEW WORK
D47	REMOVE EXISTING WINDOWS. PREP AREA FOR NEW WORK
D48	VERIFY FUNCTION OF PIPE. IF GAS AND REMOVED WITH HVAC SYSTEM, EXTEND EXISTING ROOF GUTTERS TO PROVIDE CONTINUOUS GUTTER. FINISH TO MATCH EXISITNG.
D57	SEE ADD ALTERANTE 2 ON SHEET GEN-01 FOR MORE INFO.
D58	SEE ADD ALTERANTE 3 ON SHEET GEN-01 FOR MORE INFO.

KEYNOTES- DEMOLITION



OUTDOOR STAINLESS STEEL DIMENSIONAL BUILDING SIGN LETTERING.
LETTERING DEPTH- 1"
FONT- ARIAL, CONFIRM WITH ARCHITECT BEFORE FABRICATION
FINISH- BRUSHED C304 STAINLESS STEEL
MOUNTING- STAINLESS STEEL CONCEALED STAND-OFFS WITH STUD AND SPACER (TOP= 1" STAND-OFFS, BOTTOM= 2" STAND-OFFS)

BUILDING H - EAST | 1/8" = 1'-0" | 10

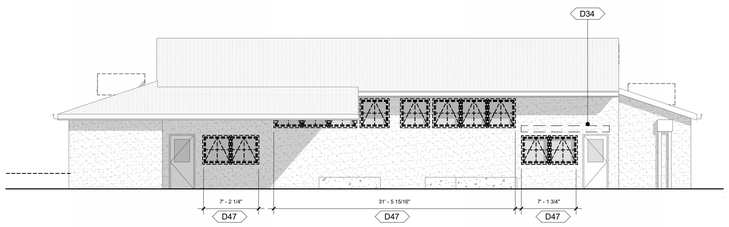


BUILDING H - EAST (DEMO) | 1/8" = 1'-0" | 2

?	DESCRIPTION
07 24 00	INFILL EXTERIOR WALL AS REQUIRED TO MATCH EXISTING. SEE 5/A61.1 FOR REFERENCE WALL TYPE. CONTRACTOR TO NOTIFY ARCHITECT IS EXISTING WALL ASSEMBLY IS DIFFERENT. OVERALLAP EXISTING AND NEW BUILDING UNDERLAYMENT MIN 4". SEE 19/A61.1 FOR INFILL FRAMING DETAILS.
10 14 00.E	OUTDOOR STAINLESS STEEL DIMENSIONAL BUILDING SIGN LETTERING. LETTERING DEPTH - 1"; FONT - ARIAL, CONFIRM WITH ARCHITECT BEFORE FABRICATION; FINISH- SEE SPECS; MOUNTING - 1" STAND-OFFS WITH STUD AND SPACER. PROVIDE BLOCKING FOR LETTERING PER DETAIL 17/A61.1. PATCH INTERIOR AND/OR EXTERIOR FINISH AS REQUIRED TO MATCH EXISTING. SEE SPECS FOR MORE INFO

KEYNOTE - IMPROVEMENTS

BUILDING H - NORTH | 1/8" = 1'-0" | 9



BUILDING H - NORTH (DEMO) | 1/8" = 1'-0" | 1

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-121181 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 07/02/2024

OWNER: SAN RAFAEL CITY SCHOOLS

PROJECT NAME: VENETIA VALLEY BLDGS G AND H ALTERATION

CLIENT ADDRESS: 177 N San Pedro Rd, San Rafael, CA 94903

LICENSED ARCHITECT — Robert M. Sinnott — No. C-18301 Jan 31, 2025 — STATE OF CALIFORNIA

REVISIONS:

	DESCRIPTION	DATE
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2		
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10		
11		
12		

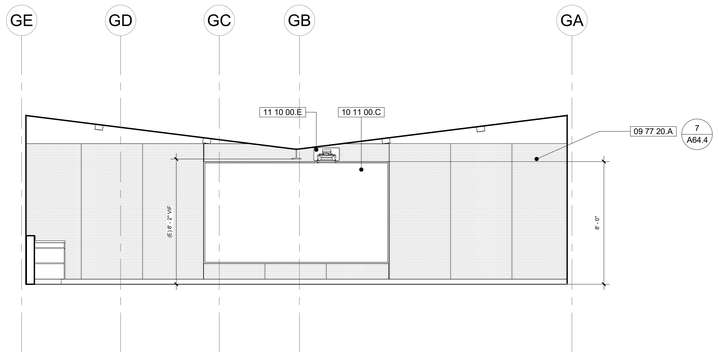
PROJECT NO: 2017 / 40104
DATE ISSUED: 06/21/2024
SCALE: As indicated

SHEET NUMBER: A21.H

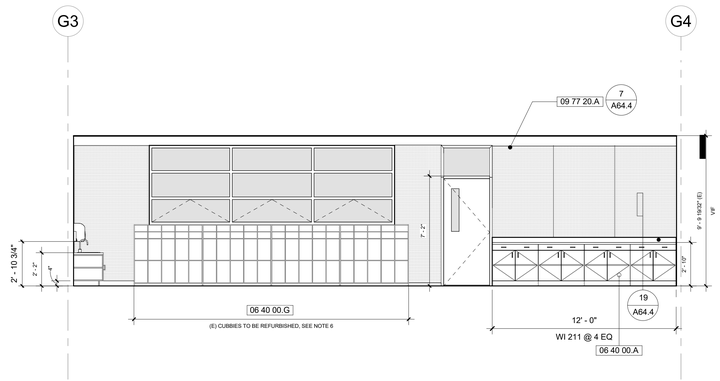
SHEET TITLE:

BUILDING ELEVATIONS- BUILDING H

SVA ARCHITECTS
7901 STONERIDGE DR, SUITE 100, PLEASANTON, CA 94588
T 925.374.9884 WWW.SVA-ARCHITECTS.COM



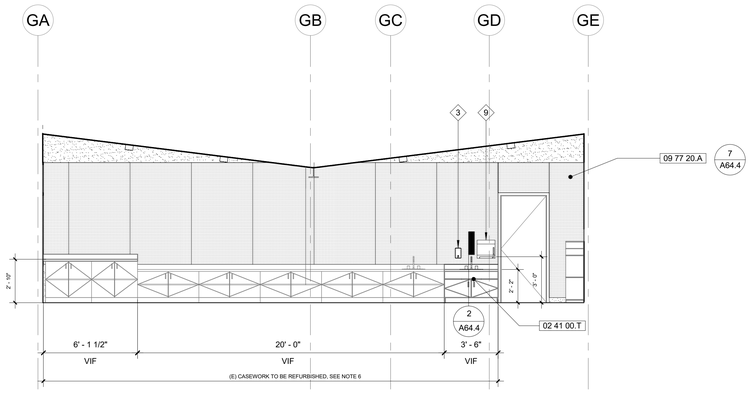
G-01 - WEST INT ELEVATION | 1/4" = 1'-0" | **16**



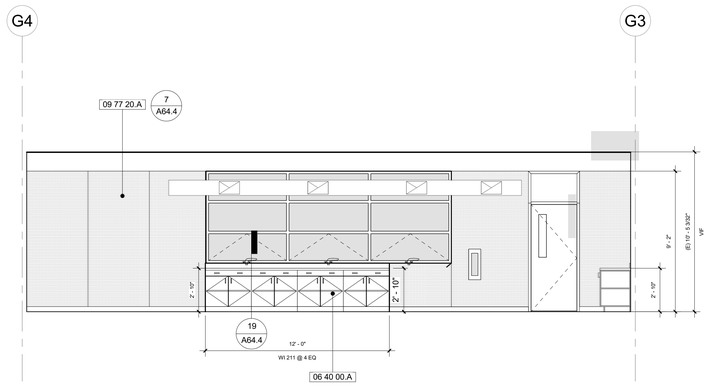
G-01 - EAST INT ELEVATION | 1/4" = 1'-0" | **4**

1. REMOVE AND PATCH EXISTING GYP BOARD FINISH, CEILING FINISH AND/OR EXTERIOR FINISH AS REQUIRED TO CONCEAL NEW AND/OR EXISTING SURFACE MOUNTED INTERIOR AND/OR EXTERIOR CONDUITS. WHERE IMPRACTICAL TO CONCEAL, PROVIDE SURFACE MOUNTED RACEWAY. COLOR TO MATCH ADJACENT SURFACE. SED FOR MORE INFO.
2. ALL EXTERIOR COMPONENTS (INCLUDING BUT NOT LIMITED TO WALLS, DOORS, WOOD WINDOWS, SOFFITS, ROOF GUTTERS, FASCIA, COLUMNS, DOWNSPOUTS, ETC) OF THE EXTERIOR ELEVATIONS AFFECTED BY SCOPE OF WORK TO BE REFINISHED/REPAINTED TO MATCH EXISTING COLOR SCHEME. ALL COMPONENTS TO BE REPAINTED SHOULD BE PREPPED ACCORDINGLY BEFORE REPAINTING. LOW PRESSURE WASH, SEAL AND REPAINT ALL EXISTING EXTERIOR CEMENT PLASTER AND TRIM IF REQUIRED.
3. ALL INTERIOR SURFACES WITHIN SCOPE OF WORK, INCLUDING BUT NOT LIMITED TO WALLS, ROOF JOISTS, COLUMNS, EXPOSED ROOF DECK, CONDUITS, MECHANICAL DUCTS, EXISTING WOOD WINDOW AND DOOR FRAMES, ETCS, TO BE REFINISHED/REPAINTED.
4. ALSO REFERENCE CIVIL, STRUCTURAL, PLUMBING, MECHANICAL AND ELECTRICAL DEMOLITION DRAWINGS FOR ADDITIONAL COORDINATION OF ITEMS TO BE REMOVED OR PROTECTED IN PLACE.
5. RCP NOTES
   - A. SEE NOTE 1 ABOVE.
   - B. ALL EXPOSED METAL SURFACES, METAL WIDE FLANGE BEAMS, PIPING, CONDUITS, DUCTWORK, ETC SHALL BE PAINTED. EXISTING WOOD TRUSS IN BUILDING H TO NOT RECEIVE PAINT AND SHOULD BE PROTECTED IN PLACE.
   - C. PROVIDE ESCUTCHEONS FOR CONDUIT AND PIPE WALL PENETRATIONS WHERE EXPOSED.
   - D. CONTRACTOR TO COORDINATE LOCATION OF ALL DUCTWORK, PIPE AND CONDUIT WALL PENETRATIONS BEFORE FRAMING OR CREATING PENETRATION OPENINGS.
   - E. SEE ELECTRICAL DRAWINGS FOR MORE INFO ON LIGHTING AND EXIT SIGNS. COORDINATE LOCATION OF EXIT SIGNS WITH ARCHITECT BEFORE INSTALLATION.CONTRACTOR TO COORDINATE LIGHT FIXTURE AND AIR REGISTER LAYOUT WITH ARCHITECT PRIOR TO INSTALLATION. FOR SECONDARY SPACES SUCH AS STORAGE ROOMS,AND BUILDING SYSTEM ROOMS, LIGHT FIXTURES TO BE CENTERED IN ROOM BETWEEN OPPOSITE WALLS, UON.
   - F. FOR TYPICAL CEILING DETAILS, SEE SHEETS 6 / A60.4
6. EXISTING CASEWORK AND FURNISHINGS
   - A. EXISTING CUBBIES ARE TO REMAIN. SALVAGE AND RESINSTALL AS REQUIRED.
   - B. EXISTING CASEWORK WORK TO REMAIN IS TO BE REFURBISHED- EXISTING CASEWORK CONSISTS OF WOOD VERNEER BASE CABINETS WITH PLAM COUNTERTOP AND HARDWOOD EDGE BANDING. REFINISH ENTIRE BODY AS REQUIRED TO APPEAR NEW. REPLACE MISSING OR DAMAGED HARDWARE AS REQURIED. REPAIR DAMAGED PORTIONS OF PLAM COUNTERTOP OR BASECABINET BODY AS REQUIRED.
   - C. EXISTING PLUMBING FIXTURES IN ALL SINK CABINETS ARE TO BE REPLACED. SEE PLUMBING DRAWINGS FOR MORE INFO.

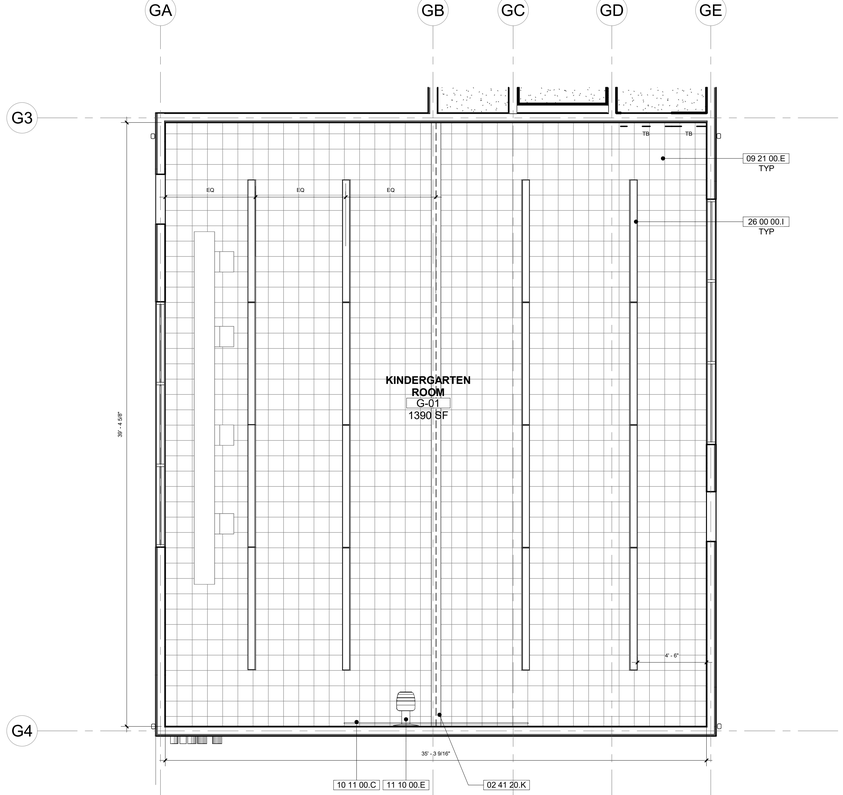
SHEET NOTES - IMPROVEMENTS



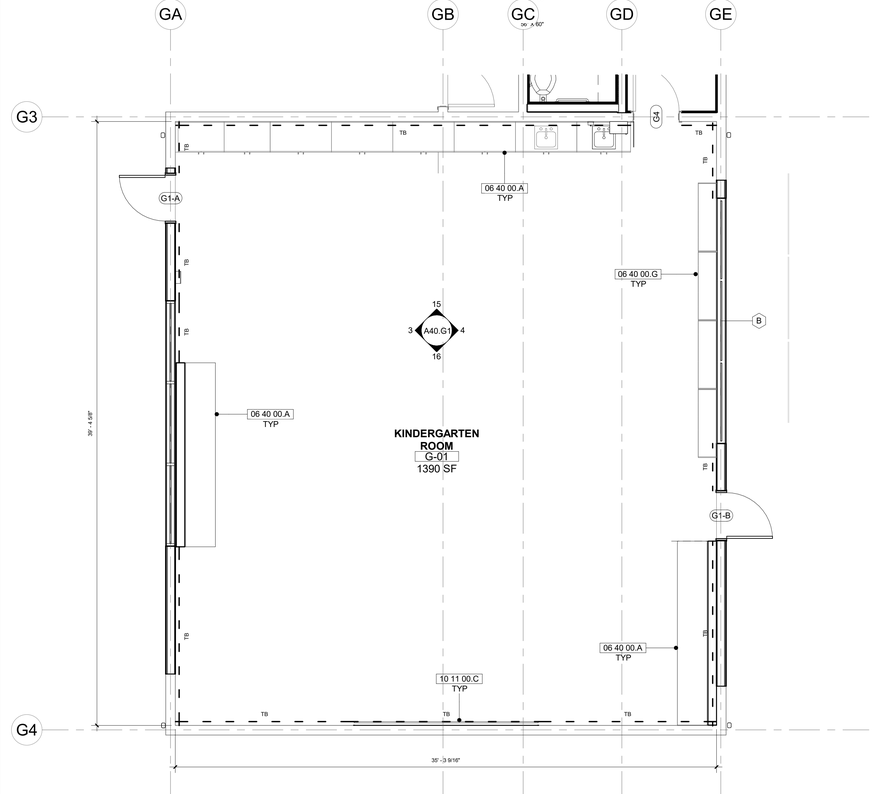
G-01 - SOUTH INT ELEVATION | 1/4" = 1'-0" | **15**



G-01 - NORTH INT ELEVATION | 1/4" = 1'-0" | **3**



ENLR PLAN - G-01 - RCP | 1/4" = 1'-0" | **2**



ENLR PLAN - G-01 | 1/4" = 1'-0" | **1**

FIXTURE

3 SURFACE MOUNTED SOAP DISPENSER - BOBRICK B-2111

9 SURFACE- MOUNTED PAPER TOWEL DISPENSER

* REFER SHEET GEN-04 FOR MOUNTING HEIGHTS AND LOCATIONS FOR ALL ACCESSIBLE RESTROOM ACCESSORIES AND FIXTURES.

ACCESSORY LEGEND KINDERGARTEN ROOM

?	DESCRIPTION
02 41 00.T	(E) BASE CABINET WITH NEW PLUMBING, SPD
02 41 20.K	EXISTING ROOF WIDE FLANGE FRAMING TO REMAIN. PREP FOR NEW PAINT FINISH
06 40 00.A	CASEWORK, SEE INTERIOR ELEVATIONS, SEE SHEET A64.4
06 40 00.G	SALVAGED CUBBIES TO BE REINSTALLED
09 21 00.E	ADHERED 1'X1' ACOUSTIC CEILING TILES SYSTEM. SEE DETAIL 6/A60.4 AND SPECS FOR MORE INFO
09 77 20.A	FABRIC WRAPPED TACAKBLE WALL PANELS, SEE DETAIL 7/A64.4 AND FINISH SCHEDULE FOR MORE INFO.
10 11 00.C	FULL HEIGHT MARKER BOARD WALL WITH ACCESSORIES ,SEE SPECS
11 10 00.E	WALL MOUNTED SHORT THROW PROJECTOR, SED, SEE SPECS. MOUNT PER DETAIL 8/A64.4
26 00 00.I	TYP SURFACE MOUNTED LIGHT FIXTURE, SED

KEYNOTE - IMPROVEMENTS

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CLIENT ADDRESS: 177 N San Pedro Rd, San Rafael, CA 94903

LICENSED ARCHITECT
Robert Simpson
No. C-18301
Jan 31, 2025
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PROJECT NO: 2017 / 40104

DATE ISSUED: 06/21/2024

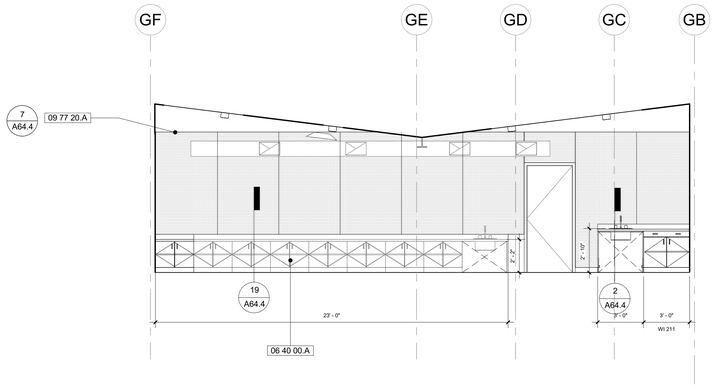
SCALE: As indicated

SHEET NUMBER: A40.G1

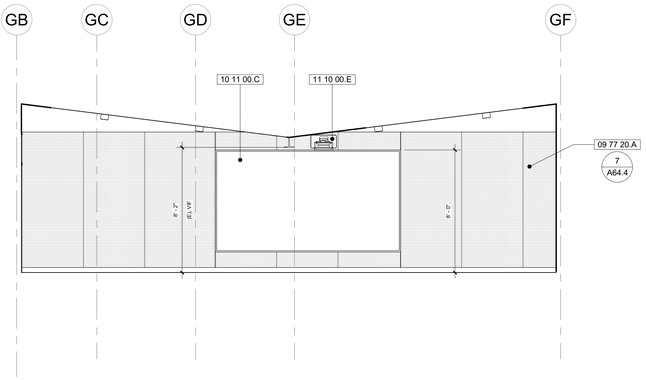
SHEET TITLE:

INTERIOR ELEVATIONS - BUILDING G

SVA ARCHITECTS
7901 STONERIDGE DR, SUITE 100, PLEASANTON, CA 94588
T 925.374.9884 WWW.SVA-ARCHITECTS.COM



G-02 - WEST INT ELEV | 1/4" = 1'-0" | 12



G-02 - EAST INT ELEV | 1/4" = 1'-0" | 8

1. REMOVE AND PATCH EXISTING GYP BOARD FINISH, CEILING FINISH AND/OR EXTERIOR FINISH AS REQUIRED TO CONCEAL NEW AND/OR EXISTING SURFACE MOUNTED INTERIOR AND/OR EXTERIOR CONDUITS. WHERE IMPRACTICAL TO CONCEAL, PROVIDE SURFACE MOUNTED RACEWAY. COLOR TO MATCH ADJACENT SURFACE. SED FOR MORE INFO

2. ALL EXTERIOR COMPONENTS (INCLUDING BUT NOT LIMITED TO WALLS, DOORS, WOOD WINDOWS, SOFFITS, ROOF GUTTERS, FASCIA, COLUMNS, DOWNSPOUTS, ETC) OF THE EXTERIOR ELEVATIONS AFFECTED BY SCOPE OF WORK TO BE REFINISHED/REPAINTED TO MATCH EXISTING COLOR SCHEME. ALL COMPONENTS TO BE REPAINTED SHOULD BE PREPPED ACCORDINGLY BEFORE REPAINTING. LOW PRESSURE WASH, SEAL AND REPAINT ALL EXISTING EXTERIOR CEMENT PLASTER AND TRIM IF REQUIRED.

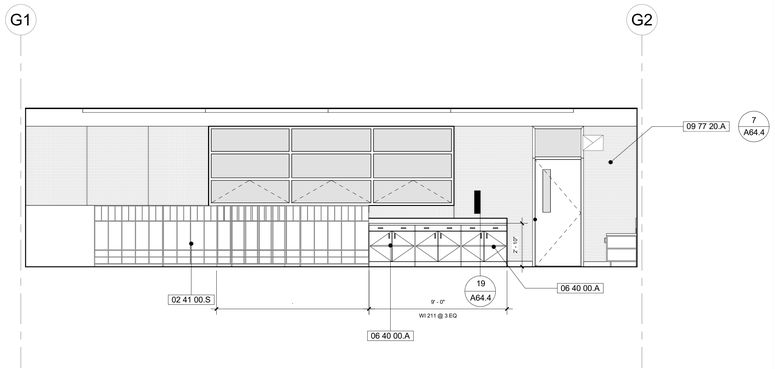
3. ALL INTERIOR SURFACES WITHIN SCOPE OF WORK, INCLUDING BUT NOT LIMITED TO WALLS, ROOF JOISTS, COLUMNS, EXPOSED ROOF DECK, CONDUITS, MECHANICAL DUCTS, EXISTING WOOD WINDOW AND DOOR FRAMES, ETCS, TO BE REFINISHED/REPAINTED.

4. ALSO REFERENCE CIVIL, STRUCTURAL, PLUMBING, MECHANICAL AND ELECTRICAL DEMOLITION DRAWINGS FOR ADDITIONAL COORDINATION OF ITEMS TO BE REMOVED OR PROTECTED IN PLACE.

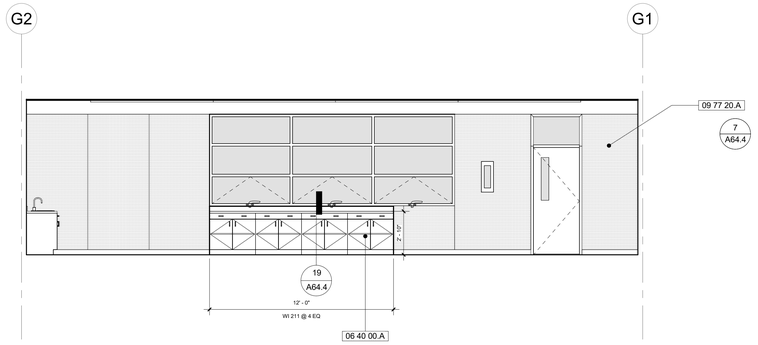
5. RCP NOTES
   - A. SEE NOTE 1 ABOVE.
   - B. ALL EXPOSED METAL SURFACES, METAL WIDE FLANGE BEAMS, PIPING, CONDUITS, DUCTWORK, ETC SHALL BE PAINTED. EXISTING WOOD TRUSS IN BUILDING H TO NOT RECEIVE PAINT AND SHOULD BE PROTECTED IN PLACE.
   - C. PROVIDE ESCUTCHEONS FOR CONDUIT AND PIPE WALL PENETRATIONS WHERE EXPOSED.
   - D. CONTRACTOR TO COORDINATE LOCATION OF ALL DUCTWORK, PIPE AND CONDUIT WALL PENETRATIONS BEFORE FRAMING OR CREATING PENETRATION OPENINGS.
   - E. SEE ELECTRICAL DRAWINGS FOR MORE INFO ON LIGHTING AND EXIT SIGNS. COORDINATE LOCATION OF EXIT SIGNS WITH ARCHITECT BEFORE INSTALLATION.CONTRACTOR TO COORDINATE LIGHT FIXTURE AND AIR REGISTER LAYOUT WITH ARCHITECT PRIOR TO INSTALLATION. FOR SECONDARY SPACES SUCH AS STORAGE ROOMS,AND BUILDING SYSTEM ROOMS, LIGHT FIXTURES TO BE CENTERED IN ROOM BETWEEN OPPOSITE WALLS, UON.
   - F. FOR TYPICAL CEILING DETAILS, SEE SHEETS 6 / A60.4

6. EXISTING CASEWORK AND FURNISHINGS
   - A. EXISTING CUBBIES ARE TO REMAIN. SALVAGE AND RESINSTALL AS REQUIRED.
   - B. EXISTING CASEWORK WORK TO REMAIN IS TO BE REFURBISHED- EXISTING CASEWORK CONSISTS OF WOOD VERNEER BASE CABINETS WITH PLAM COUNTERTOP AND HARDWOOD EDGE BANDING. REFINISH ENTIRE BODY AS REQUIRED TO APPEAR NEW. REPLACE MISSING OR DAMAGED HARDWARE AS REQUIRED. REPAIR DAMAGED PORTIONS OF PLAM COUNTERTOP OR BASECABINET BODY AS REQUIRED.
   - C. EXISTING PLUMBING FIXTURES IN ALL SINK CABINETS ARE TO BE REPLACED. SEE PLUMBING DRAWINGS FOR MORE INFO.

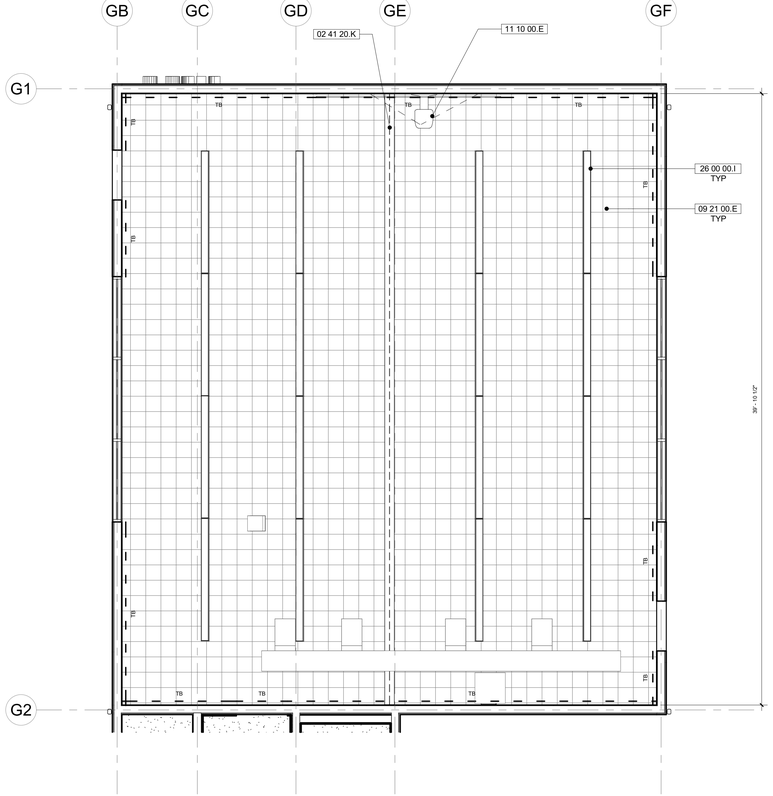
SHEET NOTES - IMPROVEMENTS



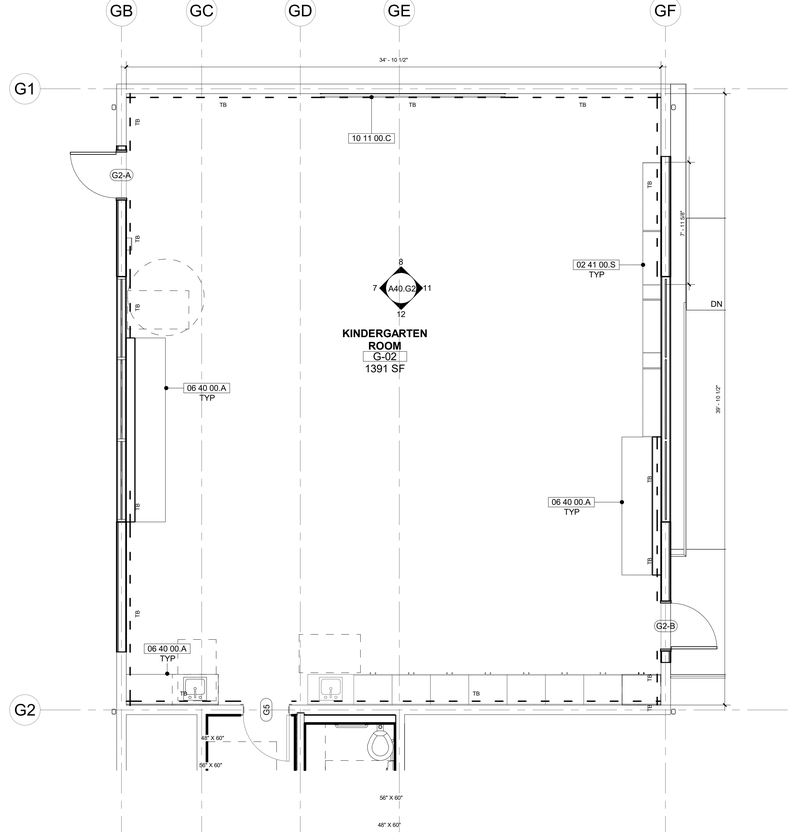
G-02 - SOUTH INT ELEV | 1/4" = 1'-0" | 11



G-02 - NORTH INT ELEV | 1/4" = 1'-0" | 7



ENLR PLAN - G-02 - RCP | 1/4" = 1'-0" | 9



ENLR PLAN - G-02 | 1/4" = 1'-0" | 1

? DESCRIPTION

02 41 00.S	SALVAGED CUBBIES TO BE REINSTALLED
02 41 20.K	EXISTING ROOF WIDE FLANGE FRAMING TO REMAIN. PREP FOR NEW PAINT FINISH
06 40 00.A	CASEWORK, SEE INTERIOR ELEVATIONS, SEE SHEET A64.4
09 21 00.E	ADHERED 1'X1' ACOUSTIC CEILING TILES SYSTEM. SEE DETAIL 6/A60.4 AND SPECS FOR MORE INFO
09 77 20.A	FABRIC WRAPPED TACAKBLE WALL PANELS, SEE DETAIL 7/A64.4 AND FINISH SCHEDULE FOR MORE INFO.
10 11 00.C	FULL HEIGHT MARKER BOARD WALL WITH ACCESSORIES ,SEE SPECS
11 10 00.E	WALL MOUNTED SHORT THROW PROJECTOR, SED, SEE SPECS. MOUNT PER DETAIL 8/A64.4
26 00 00.I	TYP SURFACE MOUNTED LIGHT FIXTURE, SED

KEYNOTE - IMPROVEMENTS

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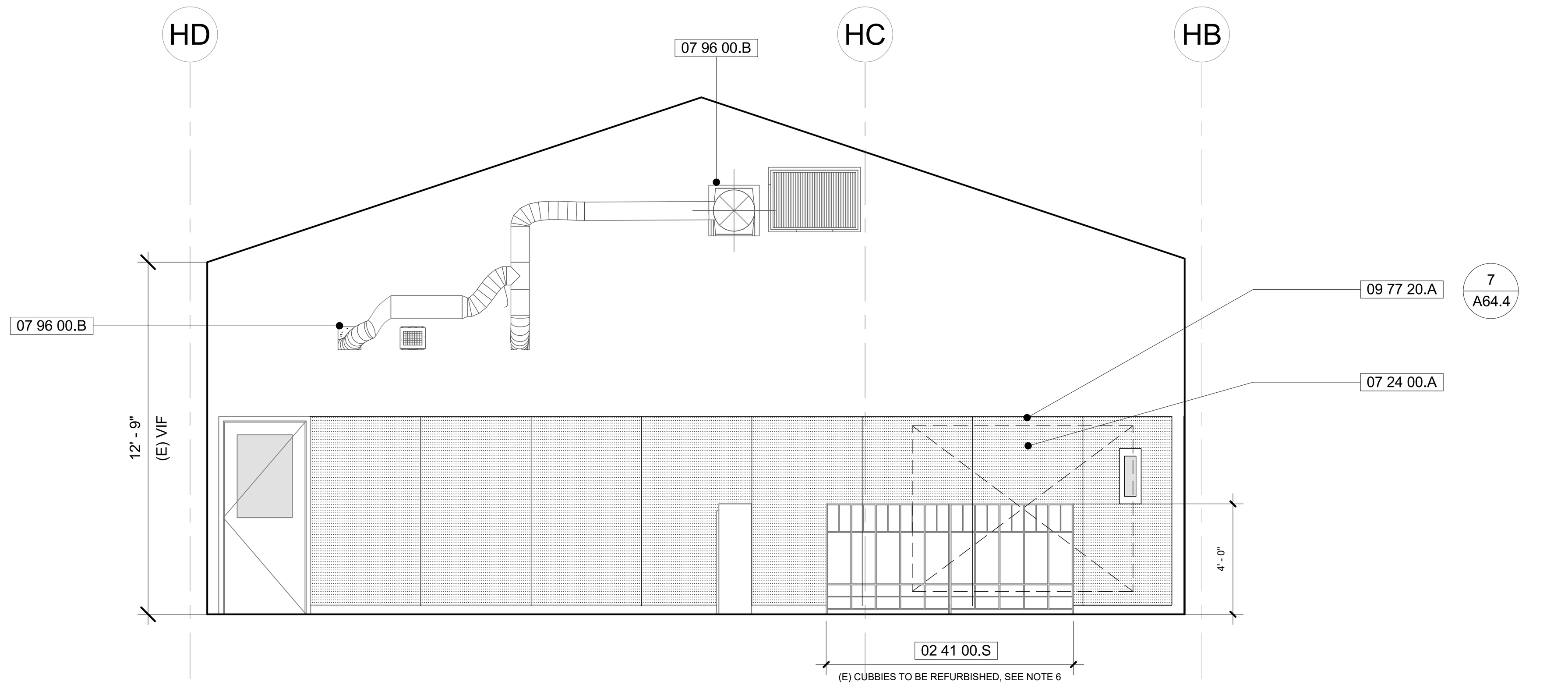
PROJECT NO: 2017 / 40104
DATE ISSUED: 06/21/2024
SCALE: As indicated

SHEET NUMBER: A40.G2

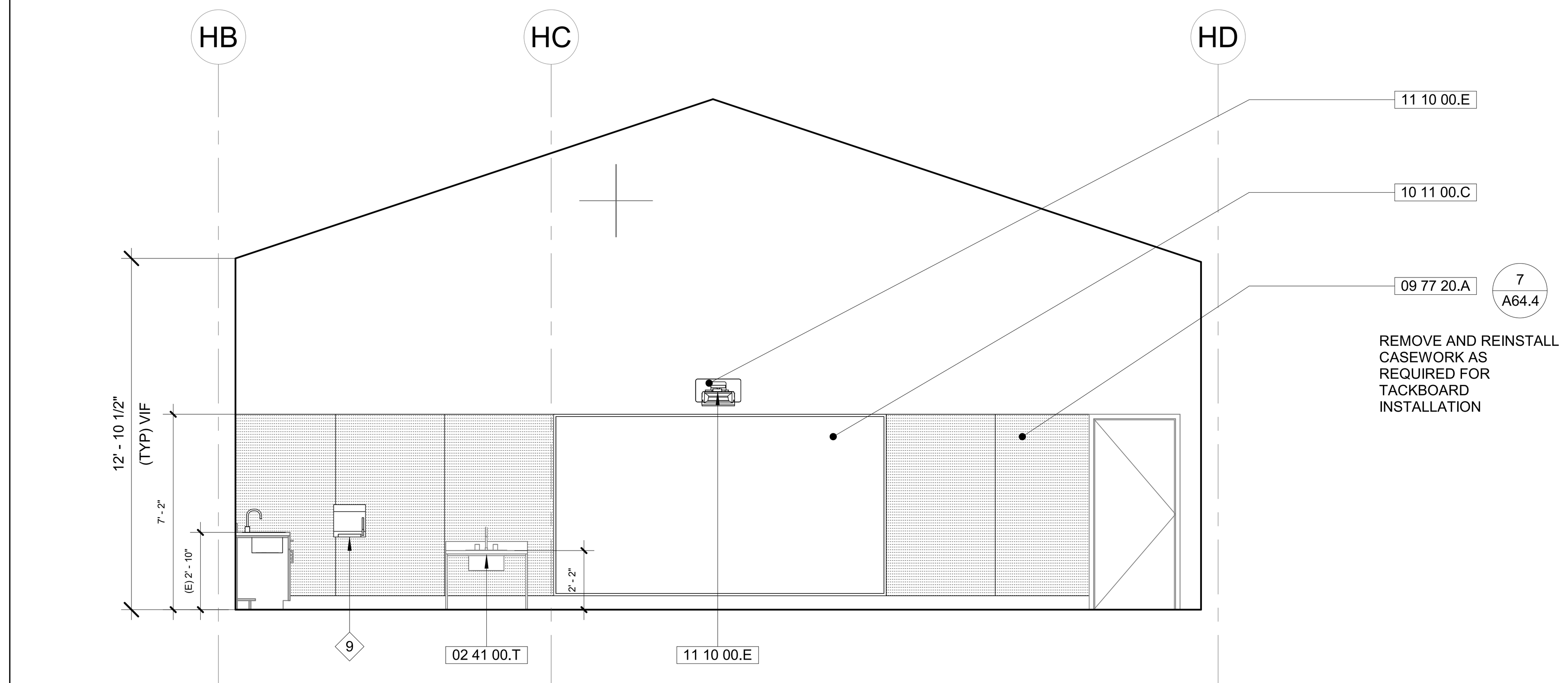
SHEET TITLE:

INTERIOR ELEVATIONS - BUILDING G

SVA ARCHITECTS
7901 STONERIDGE DR, SUITE 100, PLEASANTON, CA 94588
T 925.374.9884 WWW.SVA-ARCHITECTS.COM



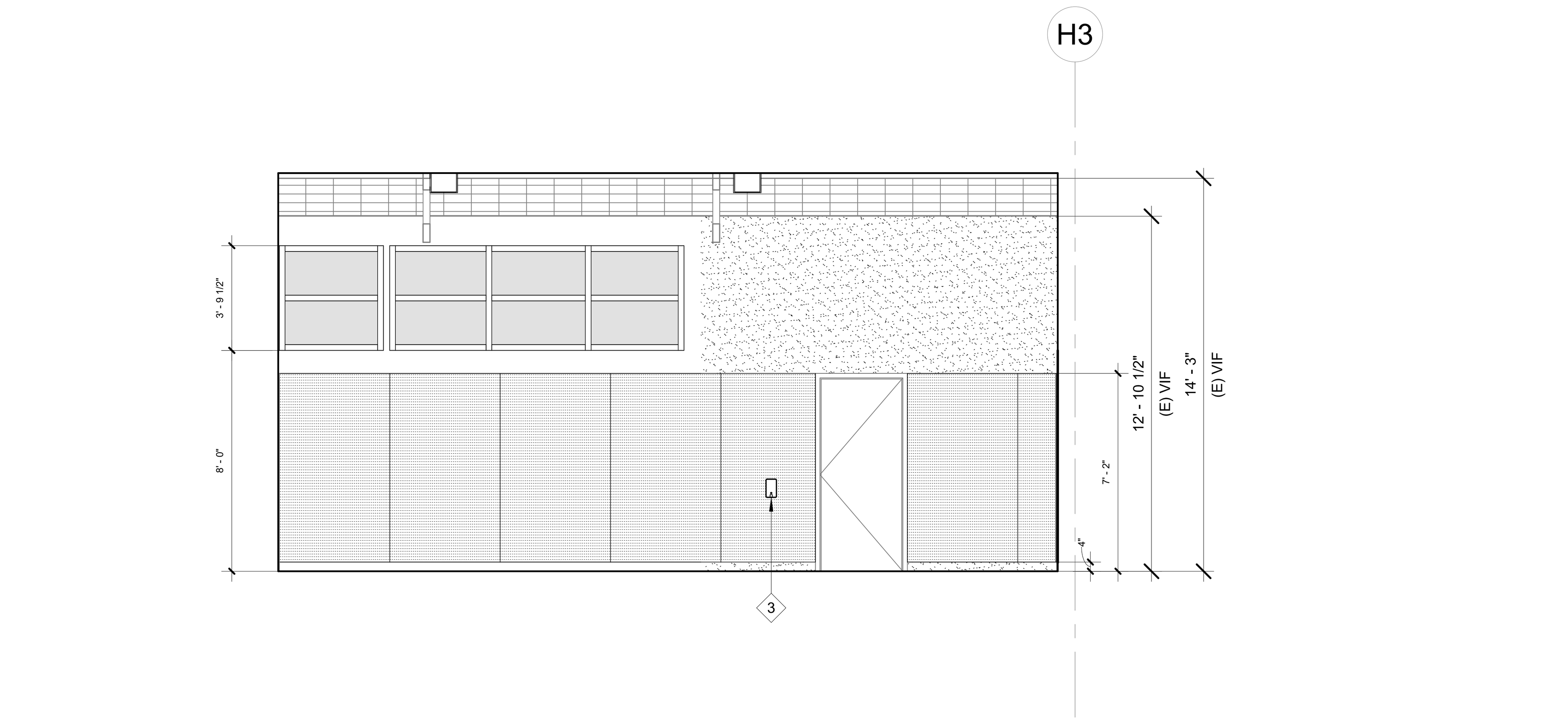
H-01 - WEST INT ELEVATION 1/4" = 1'-0" 12



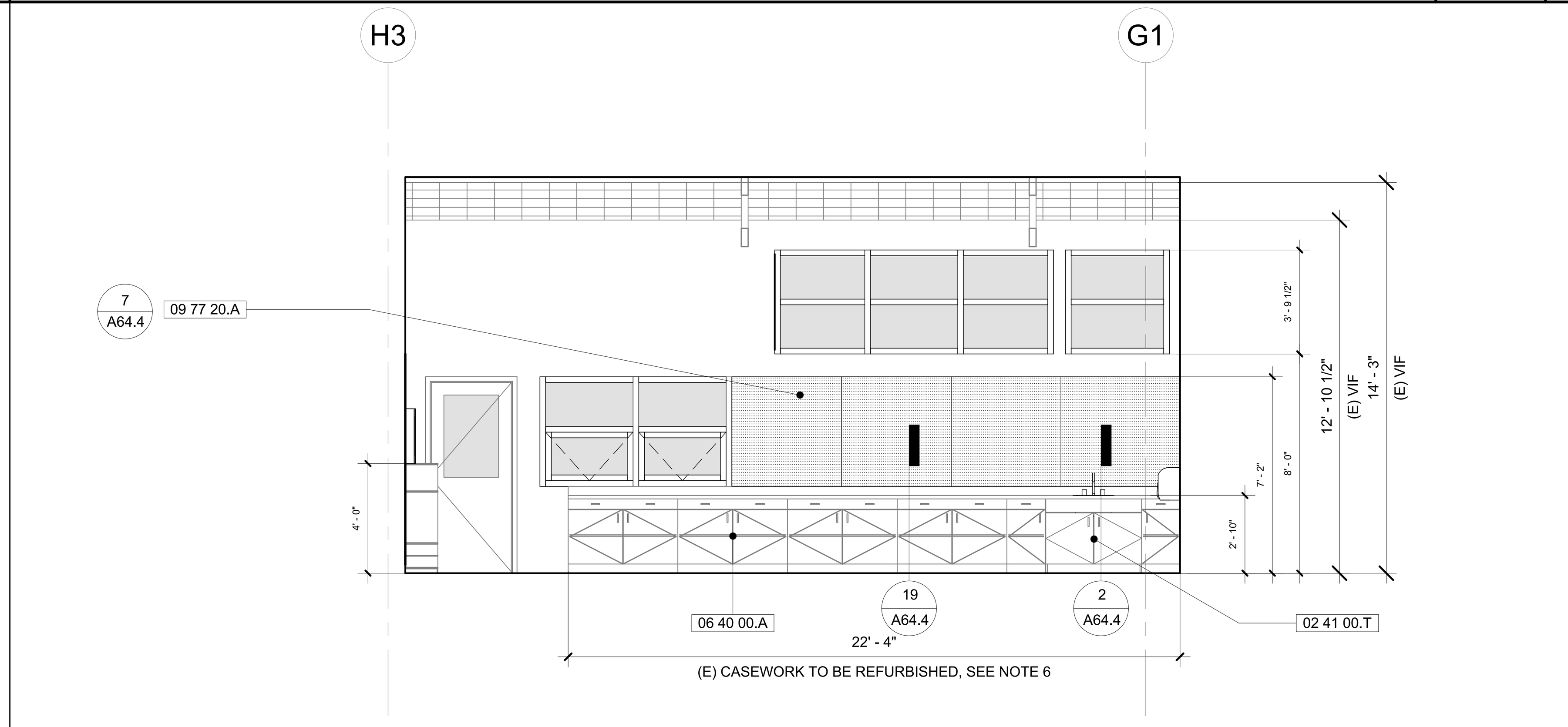
H-01 - EAST INT ELEVATION 1/4" = 1'-0" 4

1. REMOVE AND PATCH EXISTING GYP BOARD FINISH, CEILING FINISH AND/OR EXTERIOR FINISH AS REQUIRED TO CONCEAL NEW AND/OR EXISTING SURFACE MOUNTED INTERIOR AND/OR EXTERIOR CONDUITS. WHERE IMPRACTICAL TO CONCEAL, PROVIDE SURFACE MOUNTED RACEWAY. COLOR TO MATCH ADJACENT SURFACE. SED FOR MORE INFO.
2. ALL EXTERIOR COMPONENTS (INCLUDING BUT NOT LIMITED TO WALLS, DOORS, WOOD WINDOWS, SOFFITS, ROOF GUTTERS, FASCIA, COLUMNS, DOWNSPOUTS, ETC) OF THE EXTERIOR ELEVATIONS AFFECTED BY SCOPE OF WORK TO BE REFINISHED/REPAINTED TO MATCH EXISTING COLOR SCHEME. ALL COMPONENTS TO BE REPAINTED SHOULD BE PREPPED ACCORDINGLY BEFORE REPAINTING. LOW PRESSURE WASH, SEAL AND REPAINT ALL EXISTING EXTERIOR CEMENT PLASTER AND TRIM IF REQUIRED.
3. ALL INTERIOR SURFACES WITHIN SCOPE OF WORK, INCLUDING BUT NOT LIMITED TO WALLS, ROOF JOISTS, COLUMNS, EXPOSED ROOF DECK, CONDUITS, MECHANICAL DUCTS, EXISTING WOOD WINDOW AND DOOR FRAMES, ETCS, TO BE REFINISHED/REPAINTED.
4. ALSO REFERENCE CIVIL, STRUCTURAL, PLUMBING, MECHANICAL AND ELECTRICAL DEMOLITION DRAWINGS FOR ADDITIONAL COORDINATION OF ITEMS TO BE REMOVED OR PROTECTED IN PLACE.
5. RCP NOTES
   A. SEE NOTE 1 ABOVE.
   B. ALL EXPOSED METAL SURFACES, METAL WIDE FLANGE BEAMS, PIPING, CONDUITS, DUCTWORK, ETC SHALL BE PAINTED. EXISTING WOOD TRUSS IN BUILDING H TO NOT RECEIVE PAINT AND SHOULD BE PROTECTED IN PLACE.
   C. PROVIDE ESCUTCHEONS FOR CONDUIT AND PIPE WALL PENETRATIONS WHERE EXPOSED.
   D. CONTRACTOR TO COORDINATE LOCATION OF ALL DUCTWORK, PIPE AND CONDUIT WALL PENETRATIONS BEFORE FRAMING OR CREATING PENETRATION OPENINGS.
   E. SEE ELECTRICAL DRAWINGS FOR MORE INFO ON LIGHTING AND EXIT SIGNS. COORDINATE LOCATION OF EXIT SIGNS WITH ARCHITECT BEFORE INSTALLATION.CONTRACTOR TO COORDINATE LIGHT FIXTURE AND AIR REGISTER LAYOUT WITH ARCHITECT PRIOR TO INSTALLATION. FOR SECONDARY SPACES SUCH AS STORAGE ROOMS,AND BUILDING SYSTEM ROOMS, LIGHT FIXTURES TO BE CENTERED IN ROOM BETWEEN OPPOSITE WALLS, UON.
   F. FOR TYPICAL CEILING DETAILS, SEE SHEETS 6/A60.4
6. EXISTING CASEWORK AND FURNISHINGS
   A. EXISTING CUBBIES ARE TO REMAIN. SALVAGE AND RESINSTALL AS REQUIRED.
   B. EXISTING CASEWORK WORK TO REMAIN IS TO BE REFURBISHED- EXISTING CASEWORK CONSISTS OF WOOD VERNEER BASE CABINETS WITH PLAM COUNTERTOP AND HARDWOOD EDGE BANDING. REFINISH ENTIRE BODY AS REQUIRED TO APPEAR NEW. REPLACE MISSING OR DAMAGED HARDWARE AS REQURIED. REPAIR DAMAGED PORTIONS OF PLAM COUNTERTOP OR BASECABINET BODY AS REQURIED.
   C. EXISTING PLUMBING FIXTURES IN ALL SINK CABINETS ARE TO BE REPLACED. SEE PLUMBING DRAWINGS FOR MORE INFO.

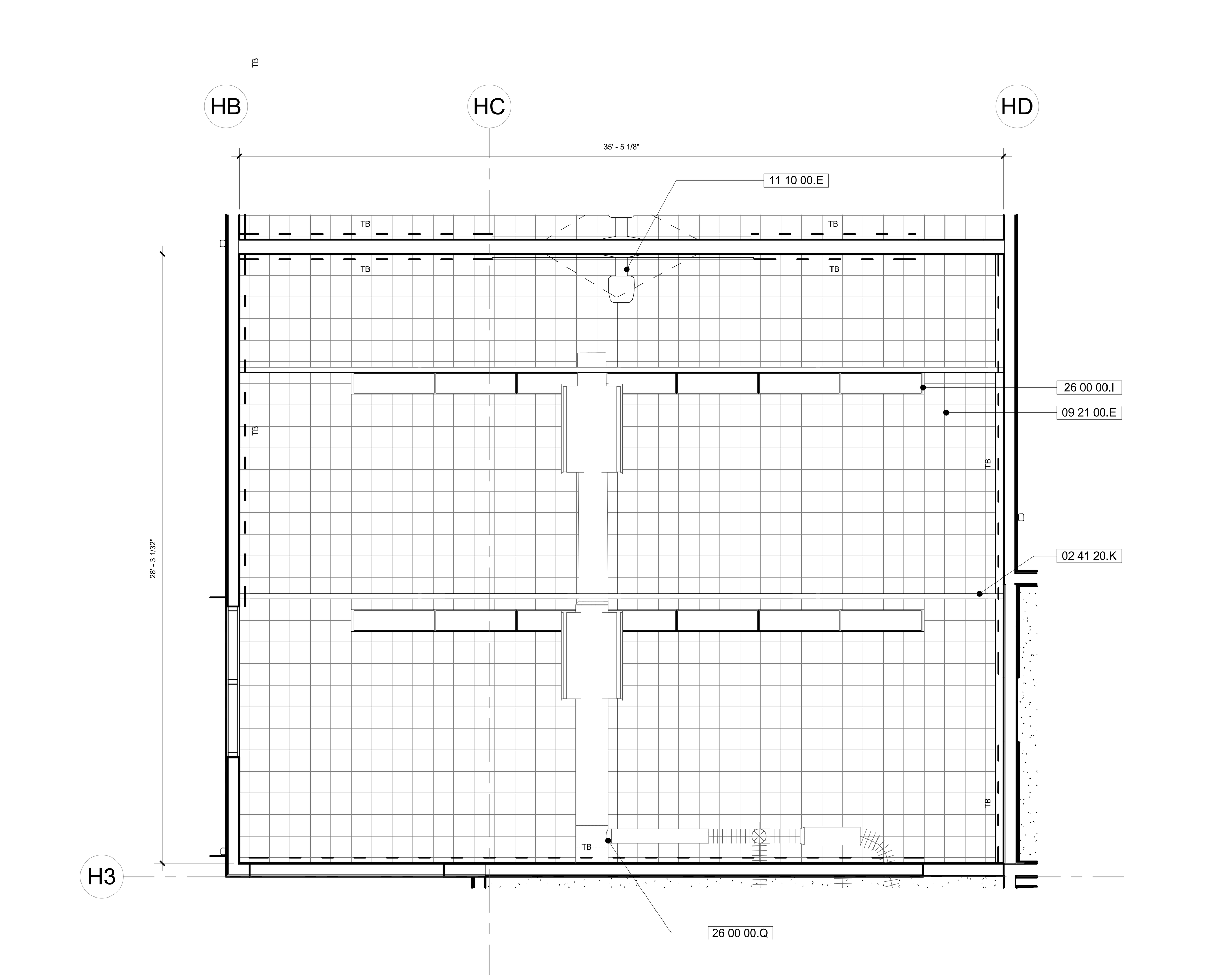
SHEET NOTES - IMPROVEMENTS



H-01 - SOUTH INT ELEVATION 1/4" = 1'-0" 11

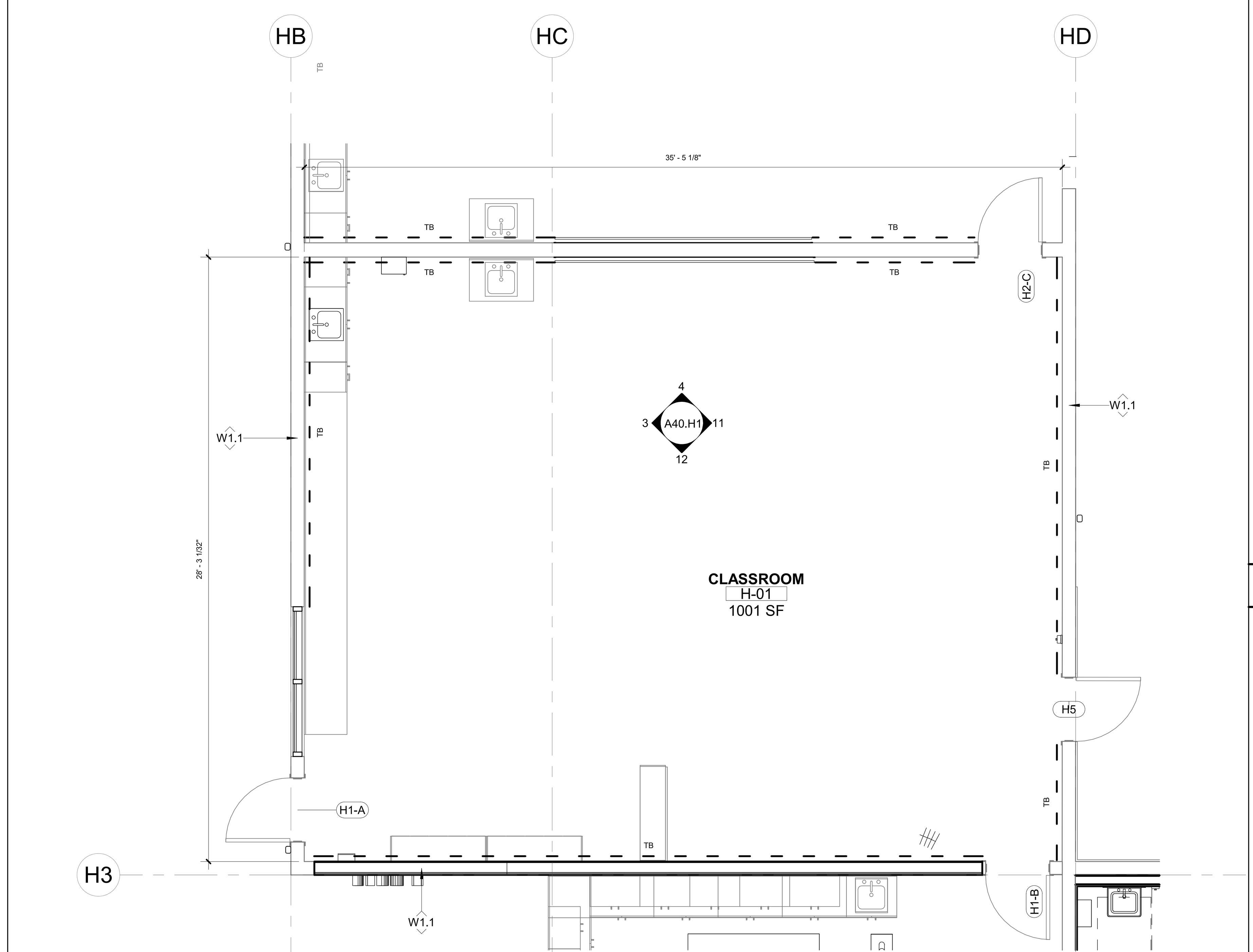


H-01 - NORTH INT ELEVATION 1/4" = 1'-0" 3



SEE H-02 FOR TYP DEMO NOTES

ENLR PLAN - H-01 - RCP 1/4" = 1'-0" 9



ENLR PLAN - H-01 1/4" = 1'-0" 1

#	FIXTURE
3	SURFACE MOUNTED SOAP DISPENSER - BOBRICK B-2111
9	SURFACE- MOUNTED PAPER TOWEL DISPENSER

* REFER SHEET GEN-04 FOR MOUNTING HEIGHTS AND LOCATIONS FOR ALL ACCESSIBLE RESTROOM ACCESSORIES AND FIXTURES.

ACCESSORY LEGEND KINDERGARTEN ROOM

?	DESCRIPTION
02 41 00.S	SALVAGED CUBBIES TO BE REINSTALLED
02 41 00.T	(E) BASE CABINET WITH NEW PLUMBING, SPD
02 41 20.K	EXISTING ROOF WIDE FLANGE FRAMING TO REMAIN. PREP FOR NEW PAINT FINISH
06 40 00.A	CASEWORK, SEE INTERIOR ELEVATIONS, SEE SHEET A64.4
07 24 00.A	INFILL WINDOW OPENING
07 96 00.B	WALL OPENINGS FOR DUCTS
09 21 00.E	ADHERED 1'X1' ACOUSTIC CEILING TILES SYSTEM. SEE DETAIL 6/A60.4 AND SPECS FOR MORE INFO
09 77 20.A	FABRIC WRAPPED TACAKBLE WALL PANELS, SEE DETAIL 7/A64.4 AND FINISH SCHEDULE FOR MORE INFO.
10 11 00.C	FULL HEIGHT MARKER BOARD WALL WITH ACCESSORIES ,SEE SPECS
11 10 00.E	WALL MOUNTED SHORT THROW PROJECTOR, SED, SEE SPECS. MOUNT PER DETAIL 8/A64.4
26 00 00.I	TYP SURFACE MOUNTED LIGHT FIXTURE, SED
26 00 00.Q	PREFINISHED EXPOSED MECHANICAL DUCT SYSTEM. SMD FOR MORE INFO

KEYNOTE - IMPROVEMENTS

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-121181 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 07/02/2024

OWNER: SAN RAFAEL CITY SCHOOLS

PROJECT NAME: VENETIA VALLEY BLDGS G AND H ALTERATION

CLIENT ADDRESS: 177 N San Pedro Rd, San Rafael, CA 94903

LICENSED ARCHITECT
No. C-18301
Jan 31, 2025
STATE OF CALIFORNIA

REVISIONS:

	DESCRIPTION	DATE

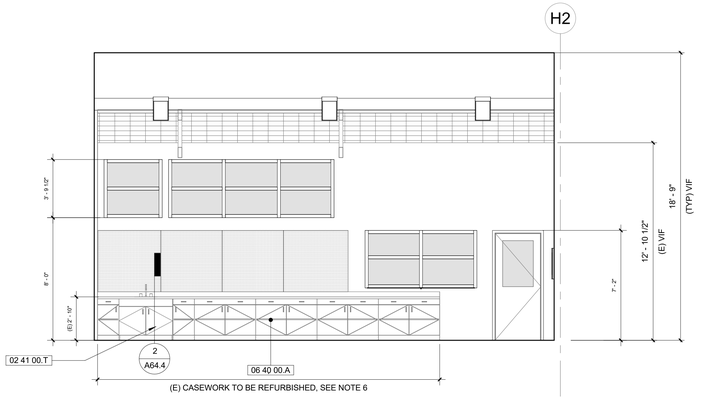
PROJECT NO:	2017 / 40104
DATE ISSUED:	06/21/2024
SCALE:	As indicated
SHEET NUMBER:	A40.H1

SHEET TITLE:

INTERIOR ELEVATIONS - BUILDING H

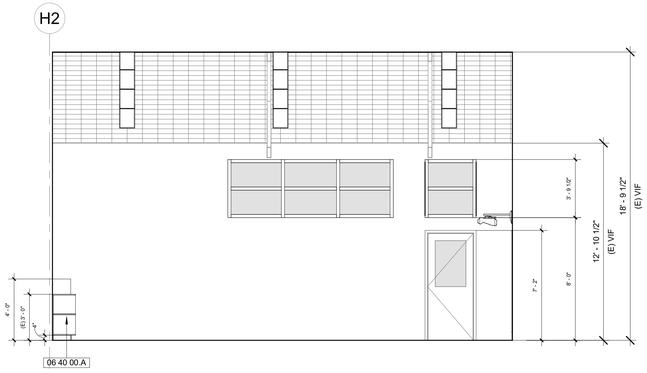
SVA ARCHITECTS

7901 STONERIDGE DR, SUITE 100, PLEASANTON, CA 94588
T 925.374.9884 WWW.SVA-ARCHITECTS.COM



(E) CASEWORK TO BE REFURBISHED, SEE NOTE 6

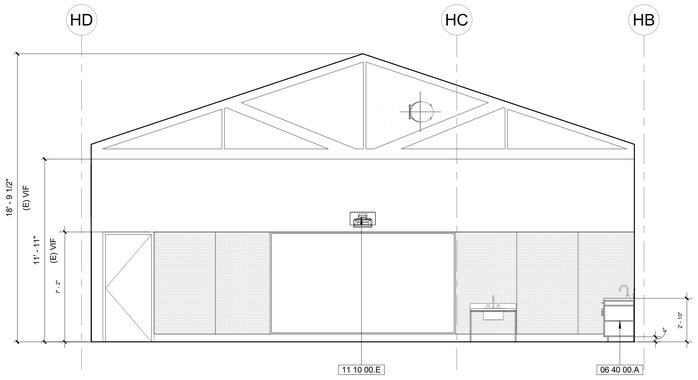
H-02 - WEST INT ELEVATION | 1/4" = 1'-0" | 12



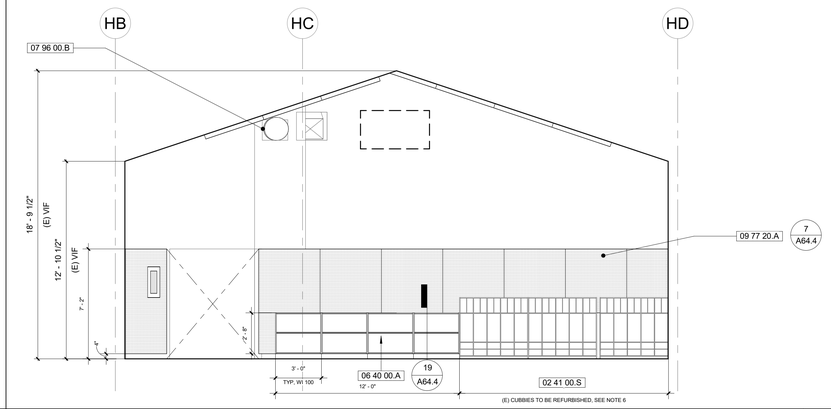
H-02 - EAST INT ELEVATION | 1/4" = 1'-0" | 4

1. REMOVE AND PATCH EXISTING GYP BOARD FINISH, CEILING FINISH AND/OR EXTERIOR FINISH AS REQUIRED TO CONCEAL NEW AND/OR EXISTING SURFACE MOUNTED INTERIOR AND/OR EXTERIOR CONDUITS. WHERE IMPRACTICAL TO CONCEAL, PROVIDE SURFACE MOUNTED RACEWAY. COLOR TO MATCH ADJACENT SURFACE. SED FOR MORE INFO.
2. ALL EXTERIOR COMPONENTS (INCLUDING BUT NOT LIMITED TO WALLS, DOORS, WOOD WINDOWS, SOFFITS, ROOF GUTTERS, FASCIA, COLUMNS, DOWNSPOUTS, ETC) OF THE EXTERIOR ELEVATIONS AFFECTED BY SCOPE OF WORK TO BE REFINISHED/REPAINTED TO MATCH EXISTING COLOR SCHEME. ALL COMPONENTS TO BE REPAINTED SHOULD BE PREPPED ACCORDINGLY BEFORE REPAINTING. LOW PRESSURE WASH, SEAL AND REPAINT ALL EXISTING EXTERIOR CEMENT PLASTER AND TRIM IF REQUIRED.
3. ALL INTERIOR SURFACES WITHIN SCOPE OF WORK, INCLUDING BUT NOT LIMITED TO WALLS, ROOF JOISTS, COLUMNS, EXPOSED ROOF DECK, CONDUITS, MECHANICAL DUCTS, EXISTING WOOD WINDOW AND DOOR FRAMES, ETCS, TO BE REFINISHED/REPAINTED.
4. ALSO REFERENCE CIVIL, STRUCTURAL, PLUMBING, MECHANICAL AND ELECTRICAL DEMOLITION DRAWINGS FOR ADDITIONAL COORDINATION OF ITEMS TO BE REMOVED OR PROTECTED IN PLACE.
5. RCP NOTES
   - A. SEE NOTE 1 ABOVE.
   - B. ALL EXPOSED METAL SURFACES, METAL WIDE FLANGE BEAMS, PIPING, CONDUITS, DUCTWORK, ETC SHALL BE PAINTED. EXISTING WOOD TRUSS IN BUILDING H TO NOT RECEIVE PAINT AND SHOULD BE PROTECTED IN PLACE.
   - C. PROVIDE ESCUTCHEONS FOR CONDUIT AND PIPE WALL PENETRATIONS WHERE EXPOSED.
   - D. CONTRACTOR TO COORDINATE LOCATION OF ALL DUCTWORK, PIPE AND CONDUIT WALL PENETRATIONS BEFORE FRAMING OR CREATING PENETRATION OPENINGS.
   - E. SEE ELECTRICAL DRAWINGS FOR MORE INFO ON LIGHTING AND EXIT SIGNS. COORDINATE LOCATION OF EXIT SIGNS WITH ARCHITECT BEFORE INSTALLATION.CONTRACTOR TO COORDINATE LIGHT FIXTURE AND AIR REGISTER LAYOUT WITH ARCHITECT PRIOR TO INSTALLATION. FOR SECONDARY SPACES SUCH AS STORAGE ROOMS,AND BUILDING SYSTEM ROOMS, LIGHT FIXTURES TO BE CENTERED IN ROOM BETWEEN OPPOSITE WALLS, UON.
   - F. FOR TYPICAL CEILING DETAILS, SEE SHEETS 6 / A60.4
6. EXISTING CASEWORK AND FURNISHINGS
   - A. EXISTING CUBBIES ARE TO REMAIN. SALVAGE AND RESINSTALL AS REQUIRED.
   - B. EXISTING CASEWORK WORK TO REMAIN IS TO BE REFURBISHED- EXISTING CASEWORK CONSISTS OF WOOD VERNEER BASE CABINETS WITH PLAM COUNTERTOP AND HARDWOOD EDGE BANDING. REFINISH ENTIRE BODY AS REQUIRED TO APPEAR NEW. REPLACE MISSING OR DAMAGED HARDWARE AS REQURIED. REPAIR DAMAGED PORTIONS OF PLAM COUNTERTOP OR BASECABINET BODY AS REQUIRED.
   - C. EXISTING PLUMBING FIXTURES IN ALL SINK CABINETS ARE TO BE REPLACED. SEE PLUMBING DRAWINGS FOR MORE INFO.

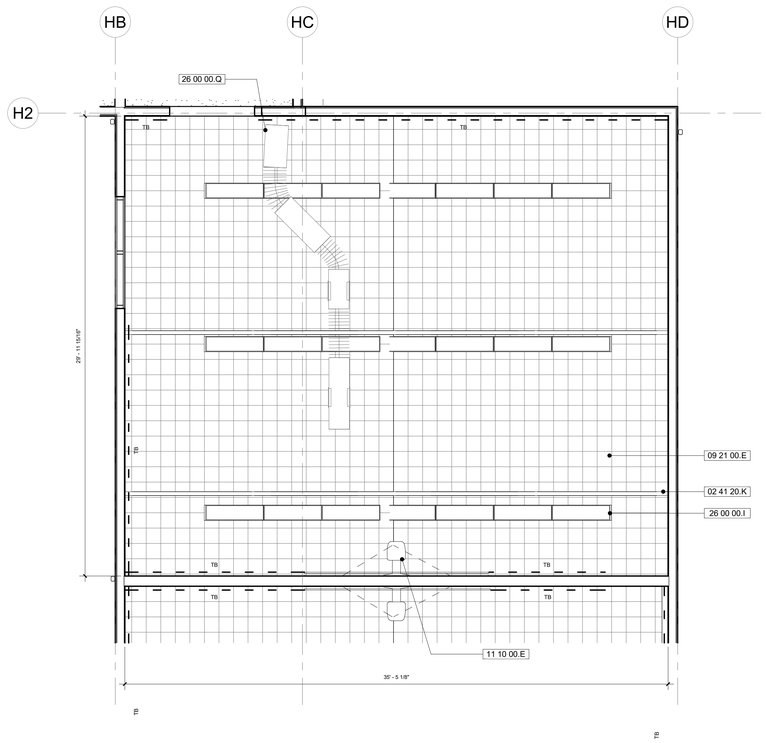
SHEET NOTES - IMPROVEMENTS



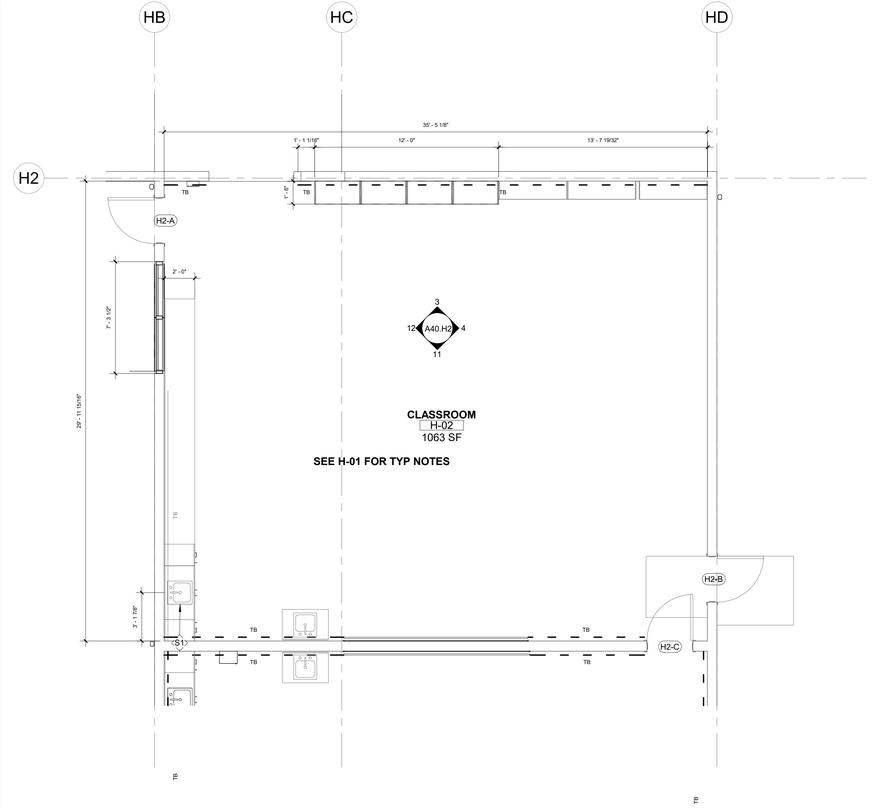
H-02 - SOUTH INT ELEVATION | 1/4" = 1'-0" | 11



H-02 - NORTH INT ELEVATION | 1/4" = 1'-0" | 3



ENLR PLAN - H-02 - RCP | 1/4" = 1'-0" | 9



ENLR PLAN - H-02 | 1/4" = 1'-0" | 1

?	DESCRIPTION
02 41 00.S	SALVAGED CUBBIES TO BE REINSTALLED
02 41 00.T	(E) BASE CABINET WITH NEW PLUMBING, SPD
02 41 20.K	EXISTING ROOF WIDE FLANGE FRAMING TO REMAIN. PREP FOR NEW PAINT FINISH
06 40 00.A	CASEWORK, SEE INTERIOR ELEVATIONS, SEE SHEET A64.4
07 96 00.B	WALL OPENINGS FOR DUCTS
09 21 00.E	ADHERED 1'X1' ACOUSTIC CEILING TILES SYSTEM. SEE DETAIL 6/A60.4 AND SPECS FOR MORE INFO
09 77 20.A	FABRIC WRAPPED TACAKBLE WALL PANELS, SEE DETAIL 7/A64.4 AND FINISH SCHEDULE FOR MORE INFO
11 10 00.E	WALL MOUNTED SHORT THROW PROJECTOR, SED, SEE SPECS. MOUNT PER DETAIL 8/A64.4
26 00 00.I	TYP SURFACE MOUNTED LIGHT FIXTURE, SED
26 00 00.Q	PREFINISHED EXPOSED MECHANICAL DUCT SYSTEM. SMD FOR MORE INFO

KEYNOTE - IMPROVEMENTS

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-121181 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 07/02/2024

OWNER: SAN RAFAEL CITY SCHOOLS

PROJECT NAME: VENETIA VALLEY BLDGS G AND H ALTERATION

CLIENT ADDRESS: 177 N San Pedro Rd, San Rafael, CA 94903

LICENSED ARCHITECT
ROBERT M. SVA
No. C-18301
Jan 31, 2025
STATE OF CALIFORNIA

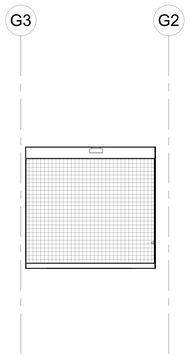
REVISIONS:

	DESCRIPTION	DATE
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		

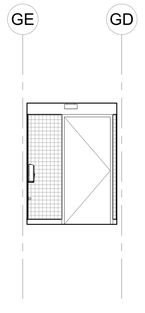
PROJECT NO:	2017 / 40104
DATE ISSUED:	06/21/2024
SCALE:	As indicated
SHEET NUMBER:	**A40.H2**
SHEET TITLE:	

INTERIOR ELEVATIONS - BUILDING H

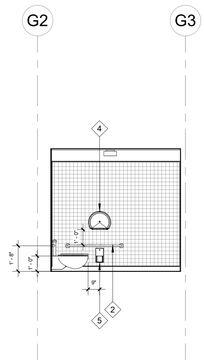
SVA ARCHITECTS
7901 STONERIDGE DR, SUITE 100, PLEASANTON, CA 94588
T 925.374.9884 WWW.SVA-ARCHITECTS.COM



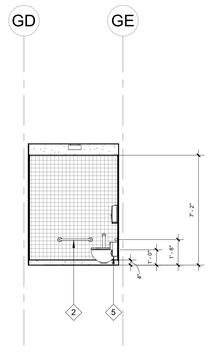
RR G-05 - WEST INT ELEVATION | 1/4" = 1'-0" | 14



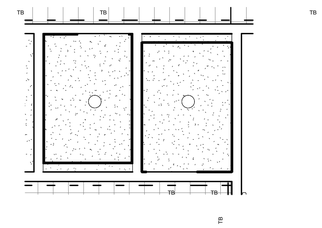
RR G-05 - SOUTH INT ELEVATION | 1/4" = 1'-0" | 11



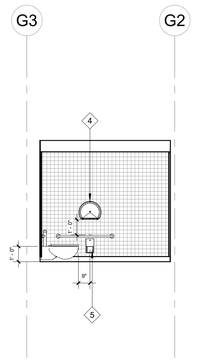
RR G-05 - EAST INT ELEVATION | 1/4" = 1'-0" | 8



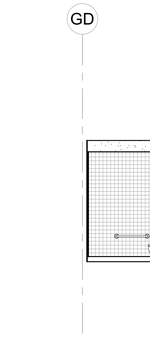
RR G-05 - NORTH INT ELEVATION | 1/4" = 1'-0" | 5



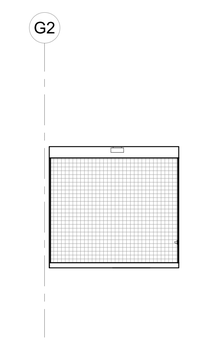
ENLR PLAN - G-05 + G-06 ST RR - RCP | 1/4" = 1'-0" | 2



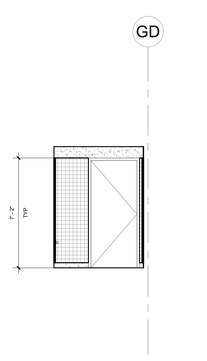
RR G-04 - WEST INT ELEVATION | 1/4" = 1'-0" | 13



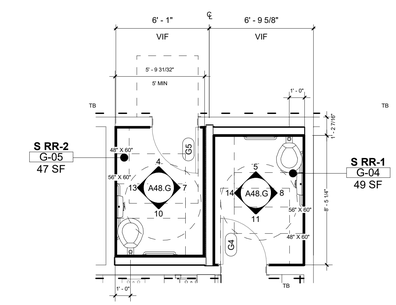
RR G-04 - SOUTH INT ELEVATION | 1/4" = 1'-0" | 10



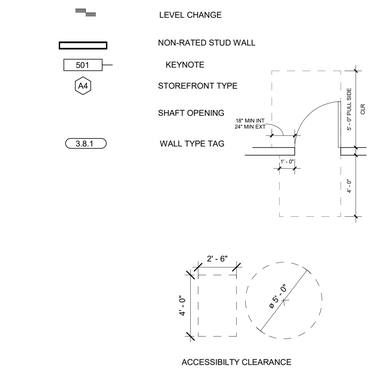
RR G-04 - EAST INT ELEVATION | 1/4" = 1'-0" | 7



RR G-04 - NORTH INT ELEVATION | 1/4" = 1'-0" | 4



ENLR PLAN - G-05 + G-06 ST RR - RCP | 1/4" = 1'-0" | 2



ENLR PLAN - G-05 + G-06 ST RR | 1/4" = 1'-0" | 1

KEYNOTES

RESTROOM ACCESSORY LEGEND

(#)	FIXTURE
1	24" x 36" FRAMED MIRROR, BOBRICK B-290 2436
2	1-1/4" DIA. STAINLESS STEEL GRAB BAR, 42" X 54", BOBRICK B-5897 ATTACHMENT TO WALL PER DET. 4/GEN-04.
3	SURFACE MOUNTED SOAP DISPENSER - OFCI
4	SURFACE- MOUNTED JUMBO TISSUE DISPENSER, OFCI
5	SURFACE- MOUNTED TISSUE DISPENSER, OFCI
6	SURFACE- MOUNTED SANITARY NAPKIN DISPOSAL, BOBRICK B-270
7	SURFACE MOUNTED SEAT COVER DISPENSER, OFOI
8	WALL MOUNTED PAPER TOWEL WASTE RECEPTACLE - BOBRICK B-277
9	PAPER TOWEL DISPENSER, KIMBERLEY CLARK- LEV-R-MATIC* ROLL TOWEL DISPENSER, 09765. CONTRACTOR TO CONFIRM MAKE AND MODEL WITH DISTRICT PRIOR TO PURCHASE- (OFCI)

* REFER SHEET GEN-04 FOR MOUNTING HEIGHTS AND LOCATIONS FOR ALL ACCESSIBLE RESTROOM ACCESSORIES AND FIXTURES.

LEGEND- FLOOR PLAN - KINDER

LEVEL CHANGE

NON-RATED STUD WALL

501 KEYNOTE

A4 STOREFRONT TYPE

SHAFT OPENING

3.8.1 WALL TYPE TAG

ACCESSIBILTY CLEARANCE

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-121181 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 07/02/2024

OWNER: SAN RAFAEL CITY SCHOOLS

PROJECT NAME: VENETIA VALLEY BLDGS G AND H ALTERATION

CLIENT ADDRESS: 177 N San Pedro Rd, San Rafael, CA 94903

LICENSED ARCHITECT
ROBERT M. SVA
No. C-18301
Jan 31, 2025
STATE OF CALIFORNIA

REVISIONS:

	DESCRIPTION	DATE

PROJECT NO: 2017 / 40104

DATE ISSUED: 06/21/2024

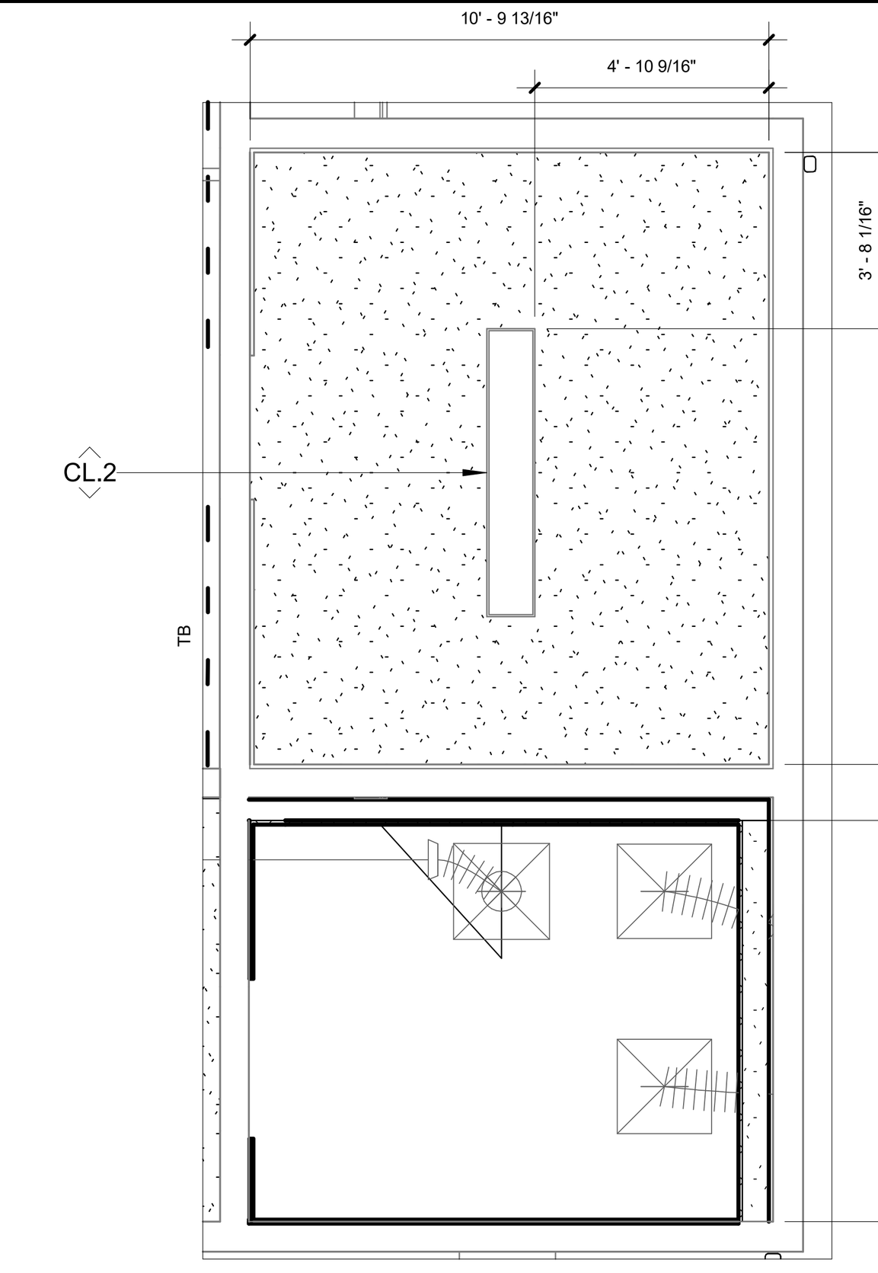
SCALE: As indicated

SHEET NUMBER: A48.G

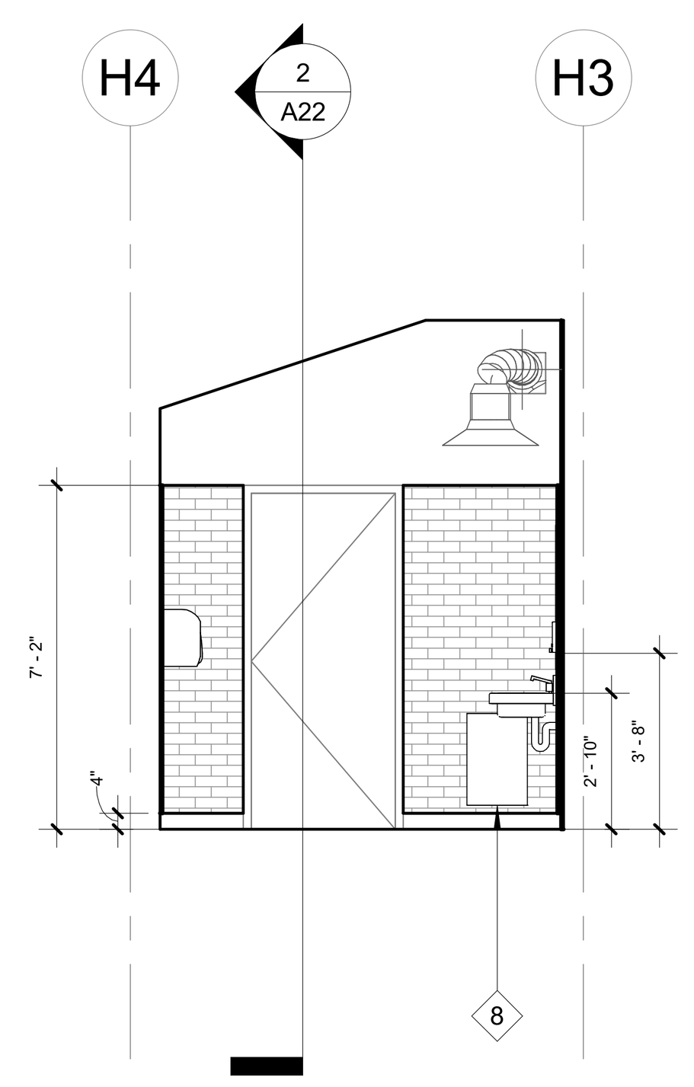
SHEET TITLE:

BUILDING G - RESTROOMS

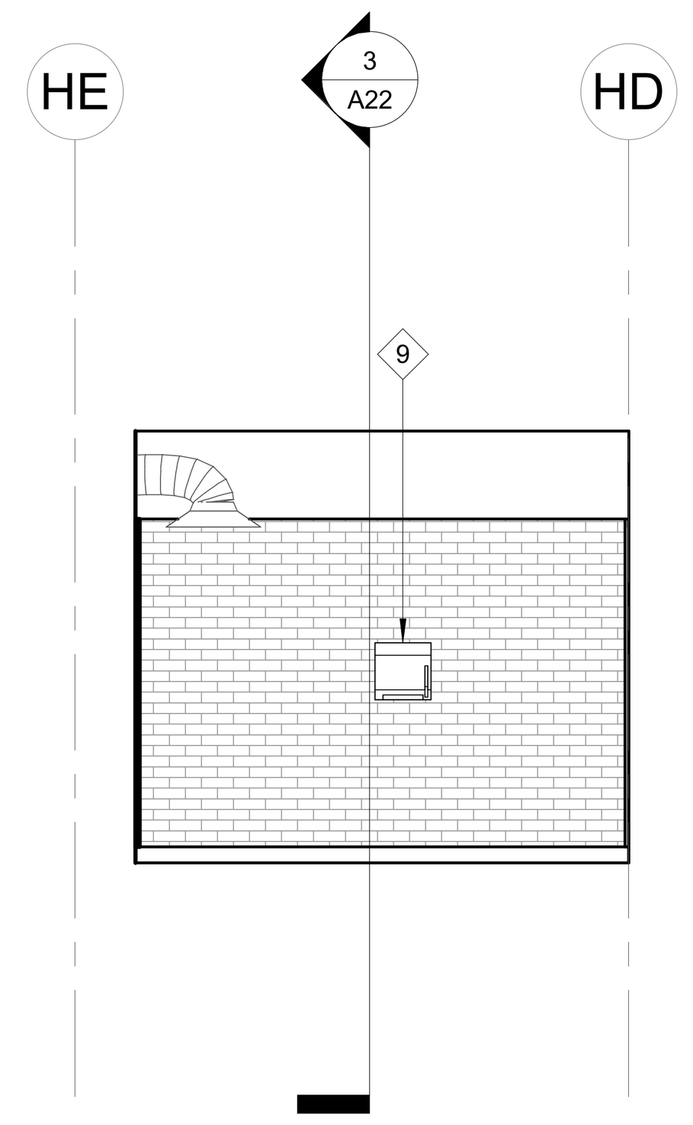
SVA ARCHITECTS
7901 STONERIDGE DR, SUITE 100, PLEASANTON, CA 94588
T 925.374.9884
WWW.SVA-ARCHITECTS.COM



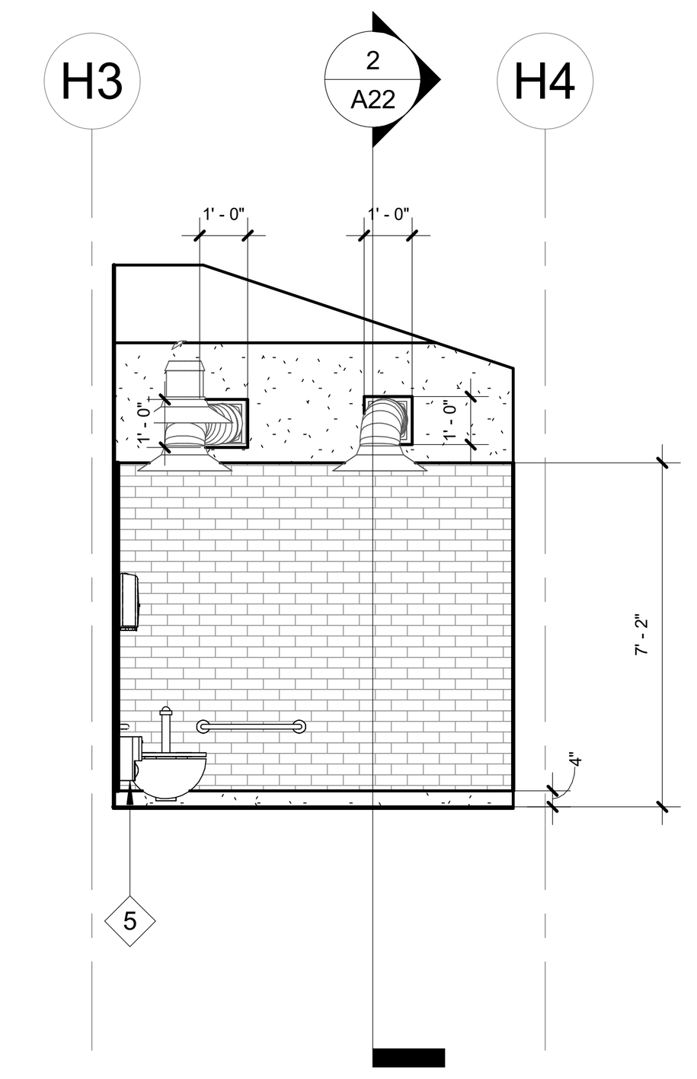
BUILDING H RCP - H-04 + H-05 | 1/4" = 1'-0" | 3



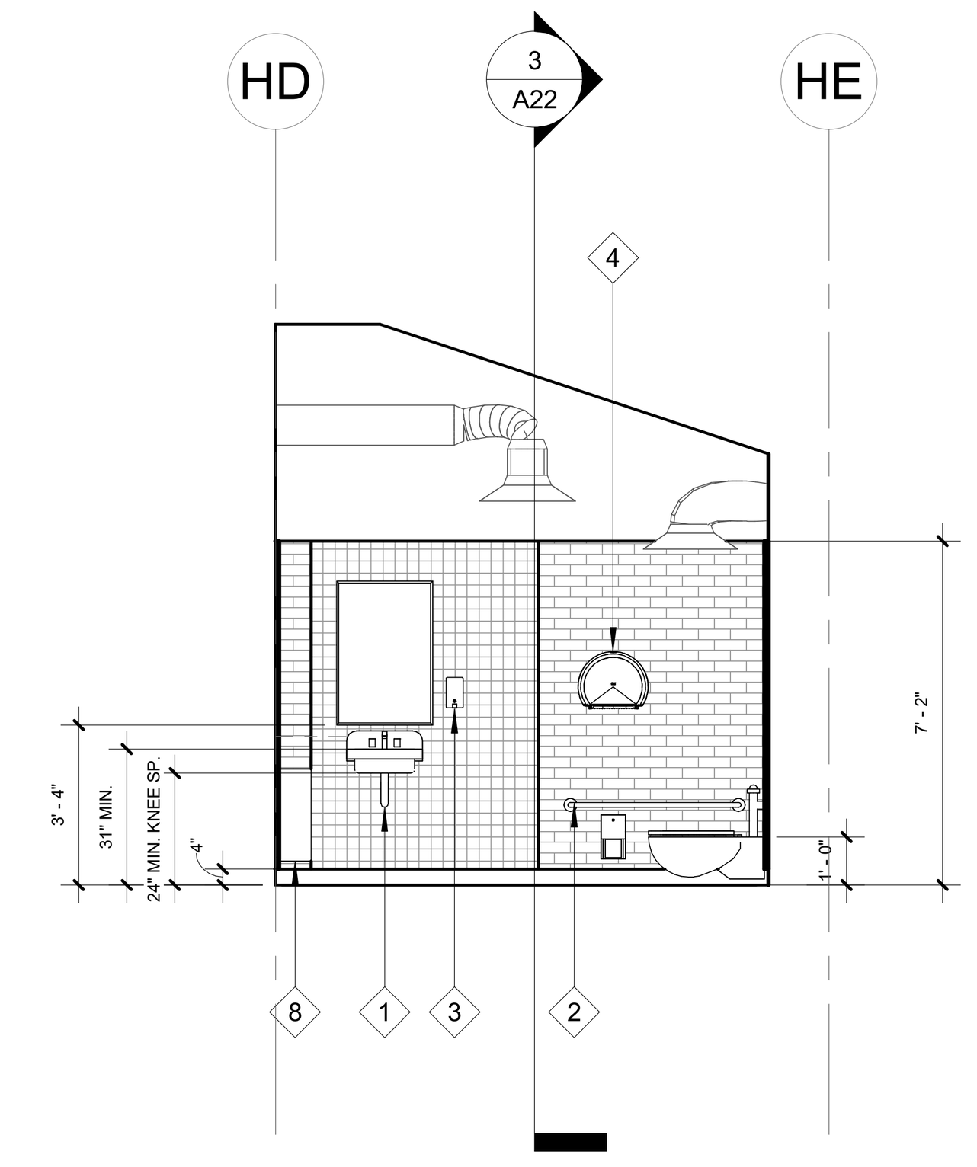
ST.RR H-04- WEST INT ELE | 1/4" = 1'-0" | 14



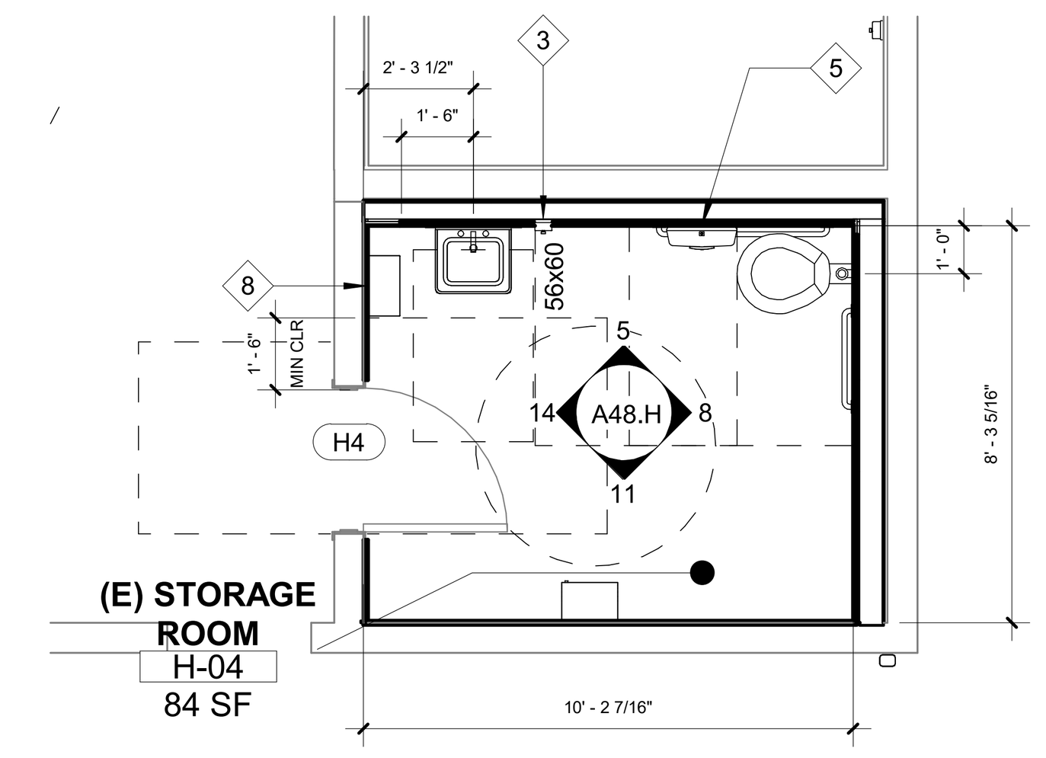
ST.RR H-04- SOUTH INT ELE | 1/4" = 1'-0" | 11



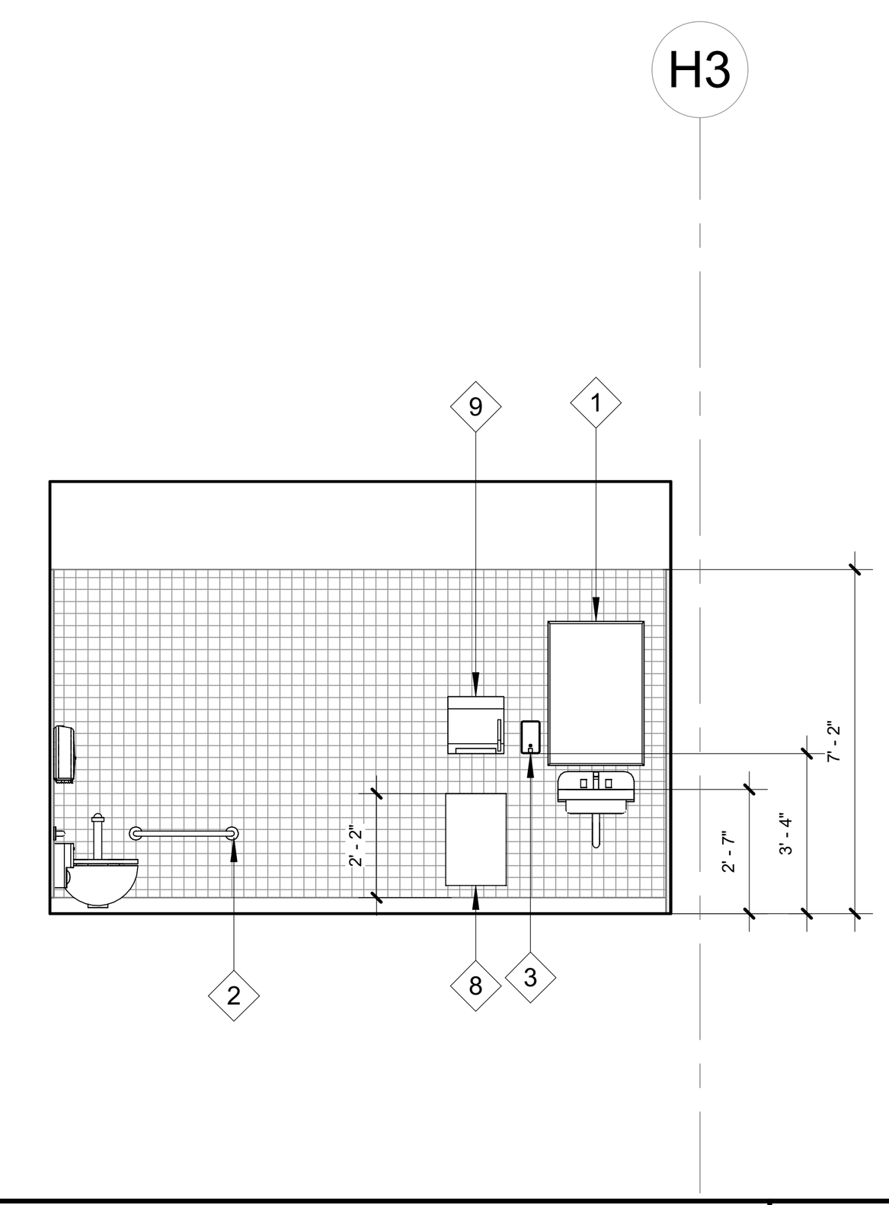
ST.RR H-04- EAST INT ELE | 1/4" = 1'-0" | 8



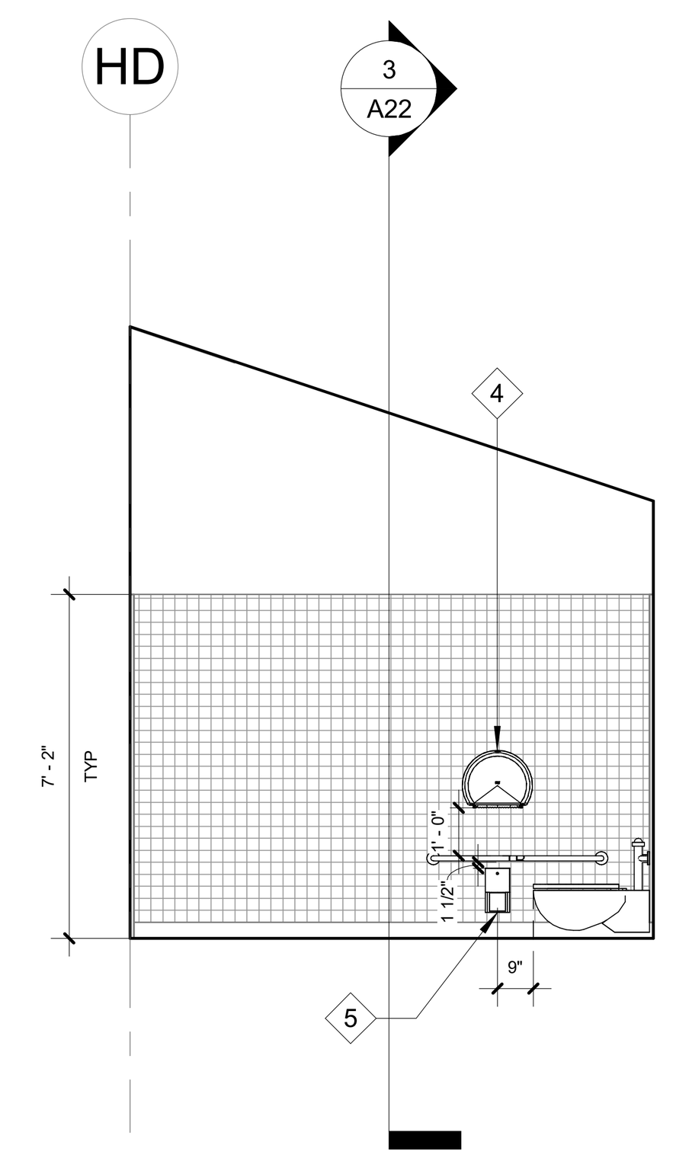
ST.RR H-04- NORTH INT ELE | 1/4" = 1'-0" | 5



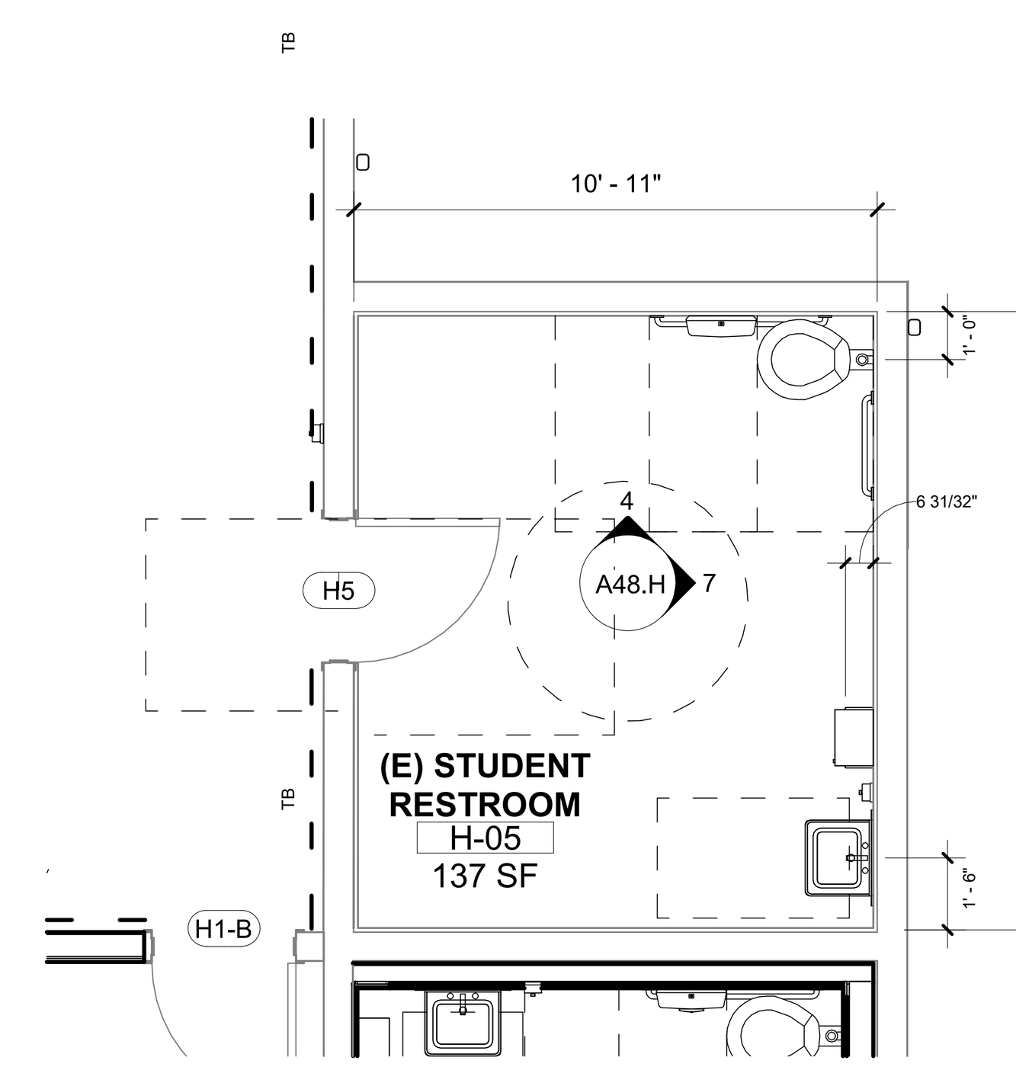
ENLR PLAN - H-04 ST.RR | 1/4" = 1'-0" | 2



(E) ST.RR H-05- EAST INT ELE | 1/4" = 1'-0" | 7



(E) ST.RR H-05- NORTH INT ELE | 1/4" = 1'-0" | 4



(E) ENLR PLAN - H-05 ST.RR | 1/4" = 1'-0" | 1

KEYNOTES

RESTROOM ACCESSORY LEGEND

#	FIXTURE
1	24" x 36" FRAMED MIRROR, BOBRICK B-290 2436
2	1-1/4" DIA. STAINLESS STEEL GRAB BAR, 42" X 54", BOBRICK B-5897 ATTACHMENT TO WALL PER DET. 4/GEN-04.
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4	SURFACE- MOUNTED JUMBO TISSUE DISPENSER, OFCI
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6	SURFACE- MOUNTED SANITARY NAPKIN DISPOSAL, BOBRICK B-270
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* REFER SHEET GEN-04 FOR MOUNTING HEIGHTS AND LOCATIONS FOR ALL ACCESSIBLE RESTROOM ACCESSORIES AND FIXTURES.

LEGEND- FLOOR PLAN - KINDER

LEVEL CHANGE

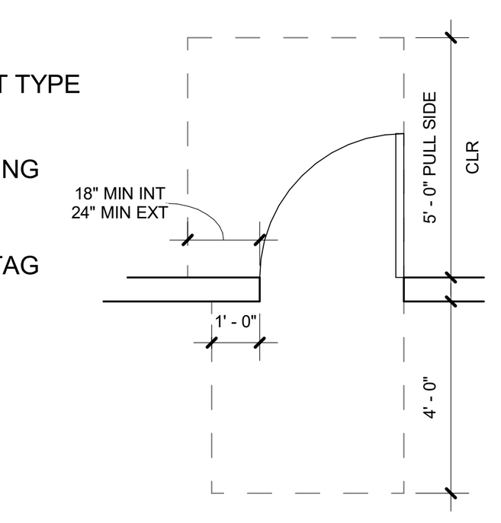
NON-RATED STUD WALL

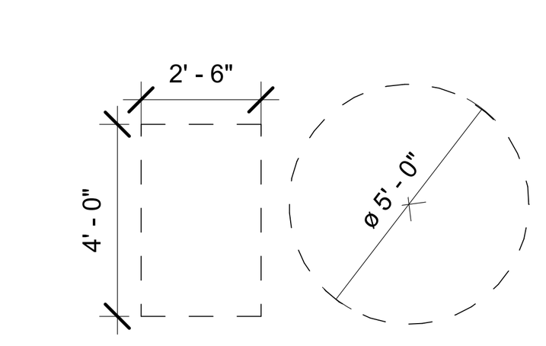
501 KEYNOTE

A4 STOREFRONT TYPE

SHAFT OPENING

3.8.1 WALL TYPE TAG





ACCESSIBILTY CLEARANCE

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-121181 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 07/02/2024

OWNER: SAN RAFAEL CITY SCHOOLS

PROJECT NAME: VENETIA VALLEY BLDGS G AND H ALTERATION

CLIENT ADDRESS: 177 N San Pedro Rd, San Rafael, CA 94903

LICENSED ARCHITECT
ROBERT M. SIMONS
No. C-18301
Jan 31, 2025
STATE OF CALIFORNIA

REVISIONS:

	DESCRIPTION	DATE

PROJECT NO: 2017 / 40104

DATE ISSUED: 06/21/2024

SCALE: As indicated

SHEET NUMBER: A48.H

SHEET TITLE:

BUILDING H - RESTROOMS

SVA ARCHITECTS
7901 STONERIDGE DR, SUITE 100, PLEASANTON, CA 94588
T 925.374.9884 WWW.SVA-ARCHITECTS.COM

ROOM FINISH SCHEDULE - BLDG G							
			FLOOR				
wtwt	ROOM NAME	SPACE DESCRIPTION	FINISH	BASE	WALL FINISH	CEILING FINISH	COMMENTS
G-01	KINDERGARTEN ROOM	CLASSROOM	(E) VCT	RB	GYP/P-E, TWP	ACT-1	
G-02	KINDERGARTEN ROOM	CLASSROOM	(E) VCT	RB	GYP/P-E, TWP	ACT-1	
G-03	(E) IDF RM	BUILDING SUPPORT	(E) CONC	RB	GYP/P-E	GYP/P-E	
G-04	S RR-1	RESTROOM	CT-1	CT/CB	CT-2, CT-4, P-S	GB P-SG	
G-05	S RR-2	RESTROOM	CT-1	CT/CB	CT-2, CT-5, P-SG	GB P-SG	

ROOM FINISH SCHEDULE - BLDG H							
			FLOOR				
wtwt	ROOM NAME	SPACE DESCRIPTION	FINISH	BASE	WALL FINISH	CEILING FINISH	COMMENTS
H-01	CLASSROOM	CLASSROOM	(E) VCT	RB	GYP/P-E, TWP	(E) ACT-1	
H-02	CLASSROOM	CLASSROOM	(E) VCT	RB	GYP/P-E, TWP	(E) ACT-1	
H-03	(E) PREP ROOM	PROGRAM SUPPORT	(E) VCT	RB	GYP/P-E, TWP	(E) ACT-1	
H-04	(E) STORAGE ROOM	RESTROOM	CT-1	CT/CB	CT-2, CT-6, P-SG	GB P-SG	
H-05	(E) STUDENT RESTROOM	RESTROOM	(E) CT	(E) CT/CB	(E) CT	GB P-SG	
H-06	(E) STUDENT RESTROOM	RESTROOM	(E) CT	(E) CT/CB	(E) CT	GB P-SG	
H-07	(E) STORAGE	PROGRAM SUPPORT	(E) VCT	(E) RB	GYP/P-E	GB P-SG	

FLOOR FINISH
CT CERAMIC TILE
EP EPOXY FLOOR FINISH
RSF LINOLEUM FLOOR FINISH

S1-CONC SEALED CONCRETE

WALL BASE MATERIAL
CT CERAMIC TILE
CT/CB 4" CERAMIC TILE COVED BASE, 3/8" RADIUS
RB 4" HIGH RUBBER BASE

WALL MATERIAL
GYP 5/8" GYPSUM BOARD
PLAST CEMENT PLASTER
CTB CEMENTITIOUS TILE BACKER BOARD
GYP-MR MOISTURE RESISTANCE GYP BOARD

WALL FINISHES
CT CERAMIC TILE
FB NON-VINLY COVERED TACK BOARD SURFACE
FRP FIBER REINFORCED POLYMER
PLYWD 3/4" FIRE RATED PLYWOOD SHEATHING

CEILING MATERIAL
ACT-1 ACOUSTICAL CEILING TILE TYPE 1, 2'X4'
ACT-2 ACOUSTICAL CEILING TILE TYPE 2, 2'X4', KITCHEN
GYP GYPSUM BOARD

PAINT FINISH TEXTURE
P-E PAINT EGGSHELL
P-SG PAINT SEMI-GLOSS
P-SGE PAINT SEMI-GLOSS ENAMEL

CERAMIC TILES SCHEME

CT 1- CERAMIC FLOOR TILE- DALTILE KEYSTONE PORCELAIN COLOR BODY 2"X2" MOSAIC TILE

CT 2- CERAMIC WALL TILE FIELD- DALTILE WALL SEMI-GLOSS AND MATTE GLAZED 4"X4" CERAMIC TILE GROUP 1

CT 3- CERAMIC WALL TILE FIELD- DALTILE WALL SEMI-GLOSS AND MATTE GLAZED 4"X12" CERAMIC TILE MODERN DIMENSION

CT 4- CERAMIC WALL TILE ACCENT- DALTILE KEYSTONE PORCELAIN COLOR BODY 1"X1" MOSAIC TILE

CT 5- CERAMIC WALL TILE ACCENT- DALTILE KEYSTONE PORCELAIN COLOR BODY 1"X1" MOSAIC TILE

CT 6- CERAMIC WALL TILE ACCENT- KEYSTONE PORCELAIN COLOR BODY 1X2 MOSAIC TILE

RESILIENT FLOORING SCHEME - ALL RESILIENT FLOORING WILL BE TILE/MODULAR GOOD

RSF-1- CLASSROOM FIELD, CROSS HATCH- 20"X20" MARMOLEUM MODULAR FLOOR TILE, COLOR TBD

RSF-A- CLASSROOM ACCENT, CROSS HATCH- 20"X20" MARMOLEUM MODULAR FLOOR TILE, COLOR TBD

RSF-B- CLASSROOM ACCENT, CROSS HATCH- 20"X20" MARMOLEUM MODULAR FLOOR TILE, COLOR TBD

PAINT COLOR SCHEME

INTERIOR
P1 TYPICAL INTERIOR FIELD COLOR UON
P2 INTERIOR ACCENT COLOR 1
P3 INTERIOR ACCENT COLOR 2

BUILDING EXTERIOR
P10 CEMENT PLASTER COLOR 1
P11 CEMENT PLASTER COLOR 2
P12 CEMENT PLASTER COLOR 3

FINISH SCHEDULE

DOOR SCHEDULE - BUILDING G																
				DOOR			FRAME		DETAILS			HARDWARE				
WT	Phase Created	WIDTH	HEIGHT	TYPE	MATERIAL	FINISH	MATERIAL	FINISH	HEAD DETAIL	JAMB	THRESHOLD	GROUP	PH	EA	Fire Rating	REMARKS
G1-A	New Construction	3' - 0"	7' - 0"	FL	HM	FPFP	HM	FPFP	1/A62.3	1/A62.3	5F,G/A62.3	02	Yes		-	SEE DOOR GENERAL NOTE 23
G1-B	New Construction	3' - 0"	7' - 0"	FL	HM	FPFP	HM	FPFP	1/A62.3	1/A62.3	5F,G/A62.3	02	Yes		-	SEE DOOR GENERAL NOTE 23
G2-A	New Construction	3' - 0"	7' - 0"	FL	HM	FPFP	HM	FPFP	1/A62.3	1/A62.3	5F,G/A62.3	02	Yes		-	SEE DOOR GENERAL NOTE 23
G2-B	New Construction	3' - 0"	7' - 0"	FL	HM	FPFP	HM	FPFP	1/A62.3	1/A62.3	5F,G/A62.3	02	Yes		-	SEE DOOR GENERAL NOTE 23
G3	Existing	3' - 0"	7' - 0"	F	(E)	PTD	HM	PTD				03		Yes	-	
G4	Existing	3' - 0"	7' - 0"	F	(E)	PTD	HM	PTD			5F,G/A62.3	01			-	
G5	Existing	3' - 0"	7' - 0"	F	(E)	PTD	HM	PTD			5F,G/A62.3	01			-	

DOOR SCHEDULE - BUILDING H																
				DOOR			FRAME		DETAILS			HARDWARE				
NUMBER	Phase Created	WIDTH	HEIGHT	TYPE	MATERIAL	FINISH	MATERIAL	FINISH	HEAD DETAIL	JAMB	THRESHOLD	GROUP	PH	EA	Fire Rating	REMARKS
H1-A	Existing	3' - 0"	7' - 0"	G	(E)	PTD	(E)	PTD					Yes			SEE DOOR GENERAL NOTE 23, 24
H1-B	Existing	3' - 0"	7' - 0"	G	(E)	PTD	(E)	PTD					Yes			SEE DOOR GENERAL NOTE 23, 24
H2-A	Existing	3' - 0"	7' - 0"	G	(E)	PTD	(E)	PTD					Yes			SEE DOOR GENERAL NOTE 23, 24
H2-B	Existing	3' - 0"	7' - 0"	G	(E)	PTD	(E)	PTD					Yes			
H2-C	Existing	3' - 0"	7' - 0"	F	(E)	PTD	(E)	PTD					Yes			
H3	Existing	3' - 0"	7' - 0"	G	(E)	PTD	(E)	PTD					Yes			SEE DOOR GENERAL NOTE 23, 24
H4	Existing	3' - 0"	7' - 0"	F	(E)	PTD	(E)	PTD			5A/A62.315A	01				
H5	Existing	3' - 0"	7' - 0"	F	(E)	PTD	(E)	PTD								SEE DOOR GENERAL NOTE 23, 24
H6	Existing	3' - 0"	7' - 0"	F	(E)	PTD	(E)	PTD								

DOOR GENERAL NOTES

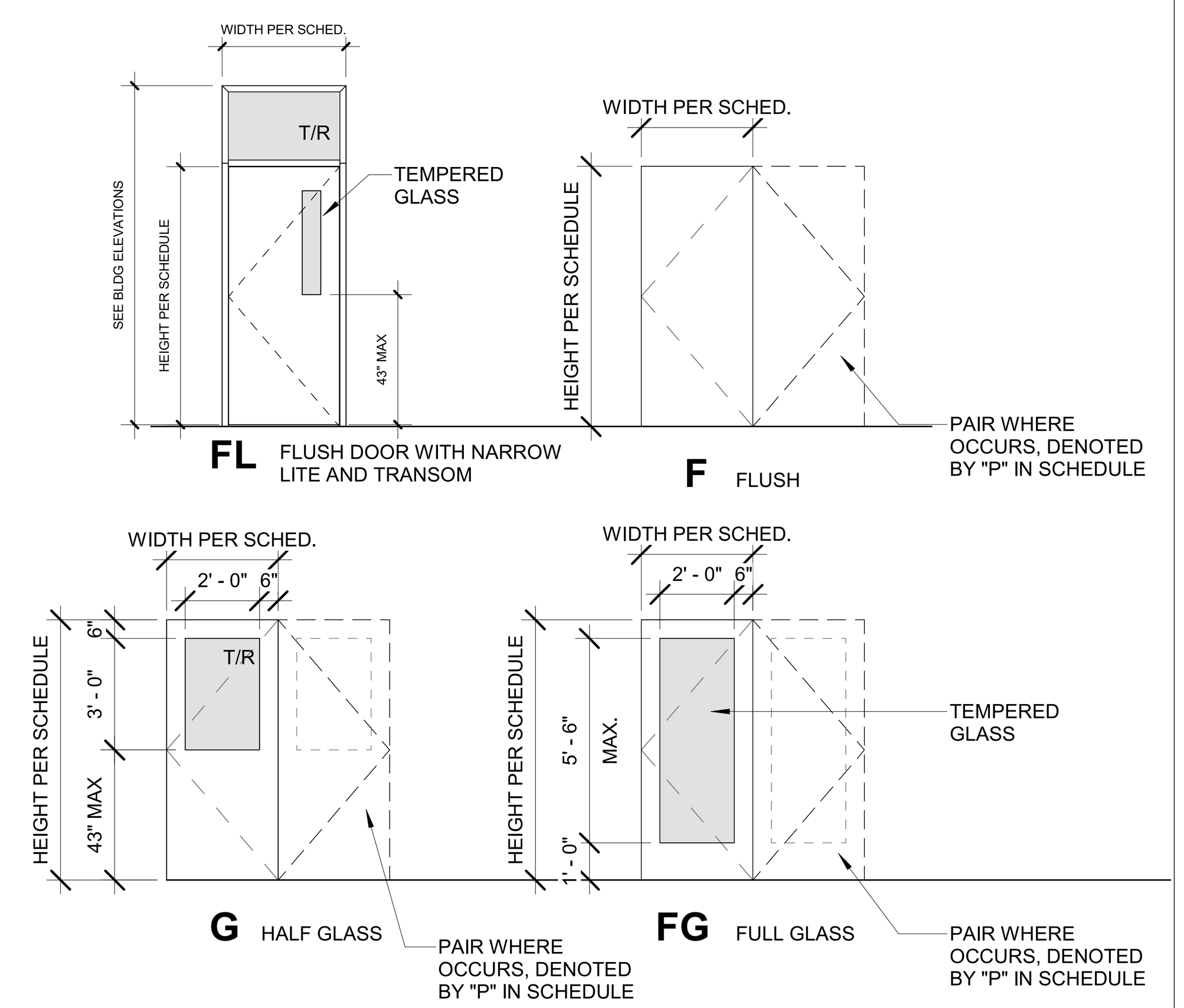
1. LETTER "P" FOLLOWING DOOR TYPE LETTER IN SCHEDULE INDICATES A PAIR OF DOORS. SCHEDULED DIMENSION IS TOTAL FRAME OPENING. BOTH DOOR LEAVES ARE THE SAME SIZE UNLESS OTHERWISE NOTED.
2. LETTER "X" FOLLOWING DOOR TYPE LETTER IN SCHEDULE INDICATES A FIXED PANEL ABOVE DOOR LEAF. DOOR LEAF IS TO BE 7'-0" HIGH. SCHEDULED DIMENSION IS HEIGHT OF ACTIVE DOOR LEAF PLUS FIXED PANEL. FIXED PANEL SHALL BE OF SAME MATERIAL, CONSTRUCTION, THICKNESS, AS FINISH AS ACTIVE DOOR AND PROVIDED BY THE SAME MANUFACTURER AS DOOR.
3. LOUVERS IN FIRE-RATED DOOR ASSEMBLIES TO BE FLFD (FUSIBLE LINK FIRE DAMPER), LOUVERS IN EXTERIOR DOORS TO BE VANDAL-PROOF SECURITY TYPE.
4. GLAZING, ALL GLAZING PANELS IN FIRE-RATED DOOR ASSEMBLIES TO BE RATED GLASS. ALL OTHER GLAZING PANELS IN DOORS TO BE TEMPERED GLASS UNLESS OTHERWISE NOTED.
5. ALL DOORS NOTED AS 1-HOUR, AND 1 1/2-HOUR FIRE-RATED ASSEMBLIES SHALL MEET THE ADDITIONAL REQUIREMENTS OF MAXIMUM 450 F TEMPERATURE RISE ABOVE AMBIENT AFTER 30 MINUTES OF THE FIRE TEST. (CBC SEC. 1005.3.3.5 AND 1005.3.4.4).
6. THICKNESS: ALL DOORS TO BE 1 3/4" THICK UNLESS OTHERWISE NOTED.
7. ALL EXTERIOR DOORS TO HAVE WEATHERSTRIPPING ALL SIDES PER TITLE 24, SECTION T20-1451-1542.
8. ALL WOOD DOORS TO BE SOLID-CORE TYPE.
9. EXIT DOORS SERVING 50 OR MORE OCCUPANTS SHALL OPEN IN THE DIRECTION OF EXIT.
10. EVERY EXIT DOOR SHALL BE OPENABLE FROM THE INSIDE WITHOUT THE USE OF A KEY OR ANY SPECIAL KNOWLEDGE OR EFFORT. ANY SPECIAL LOCKING DEVICES SHALL BE OF THE APPROVED TYPE. CBC CHAPTER 33 AND UFC SECTION 12,104(B).
11. DOOR HARDWARE SHALL COMPLY WITH THE FOLLOWING PER CBC 1133B.2.5
    A. OPERABLE BY A SIMPLE EFFORT, NOT GRASPING WRIST MOVEMENT (LEVERS, PANIC DEVICES, OR PULLS).
    B. 5-LB CLOSURE PRESSURE AT INTERIOR DOORS.
    C. 5-LB CLOSURE PRESSURE AT EXTERIOR DOORS.
    D. 5-LB CLOSURE PRESSURE AT FIRE DOORS.
    E. WHEN FIRE DOORS ARE REQUIRED, THE MAXIMUM EFFORT TO OPERATE THE DOOR MAY BE INCREASED TO THE MINIMUM ALLOWABLE BY THE APPROPRIATE ADMINISTRATIVE AUTHORITY, NOT TO EXCEED 15 POUNDS.
    F.
12. ALL DOORS INDICATED AS FIRE-RATED ASSEMBLIES TO HAVE CLOSURES AND SMOKE SEALS.
13. ON DOORS IN ALUMINUM FRAMES, PROVIDE ARMORED STRIKE ON JAMB OF ALUMINUM FRAME.
14. EXIT DOORS SHALL HAVE A READILY VISIBLE, DURABLE SIGN ON OR ADJACENT TO THE DOOR STATING, "THIS DOOR TO REMAINED UNLOCKED DURING BUSINESS HOURS." THE SIGN SHALL HAVE 1" HIGH LETTERS ON A CONTRASTING BACKGROUND. THE LOCKING DEVICE MUST BE OF A TYPE THAT WILL BE READILY DISTINGUISHABLE AS LOCKED.
15. DOORS SHALL BE A MINUMUM OF 36" WIDE X 80" HIGH WITH NO SINGLE LEAF EXCEEDING 4'-0" IN WIDTH.
16. BOTTOM 10" OF DOOR TO HAVE SMOOTH UNINTERUPTED SURFACE FOR OPENING BY WHEELCHAIR FOOT REST.
17. CENTER OF HARDWARE TO BE 30" TO 40" ABOVE FLOOR. LATCHING AND LOCKING DOOR TO BE OPERABLE WITH A SINGLE EFFORT BY LEVER OR PUSH-PULL TYPE HARDWARE.
18. PROVIDE DOOR SYMBOLS ON DOORWAYS LEADING TO SANITARY FACILITIES (SEE TOILET ROOM DOOR SIGNAGE). CENTER SYMBOLS ON DOORS AT 60" HEIGHT, AND FINISH IN COLOR CONTRASTING TO THAT OF THE DOOR.
19. THRESHOLDS SHALL BE 1/2" HIGH MAXIMUM WITH A 2:1 DEGREE BEVELED EDGE.
20. THRESHOLD HEIGHT BETWEEN 1/4" AND 1/2" SHALL BE BEVELED AT MAZIMUM 50% SLOPE.
21. ALL EXTERIOR DOOR SHALL HAVE PERIMETER DOOR SOUND SEAL/GASKET.
22. EACH DOOR IN A MEANS OF EGRESS FROM A GROUP A, OR ASSEMBLY AREA NOT CLASSIFIED AS AN ASSEMBLY OCCUPANCY, HAVING AN OCCUPANT LOAD OF 50 OR MORE SHALL NOT BE PROVIDED WITH A LATCH OR LOCK UNLESS IT IS PANIC HARDWARE OR FIRE EXIT HARDWARE. BUILDING CODE 1008.1.10 FIRE CODE 1008.1.10
23. PROVIDE RELECTIVE GLASS FILM ON ALL DOOR LITES/GLAZING. AT EXISTING DOORS, REPLACE EXISTING FILM IF DAMAGED OR PROVIDE NEW FILM.
24. PROVIDE NEW PANIC HARDWARE ON EXISTING DOORS.

GLAZING GENERAL NOTES

ALL SAFETY GLAZING WHERE OCCURS SHALL COMPLY WITH 2013 CBC SECTION 2406.

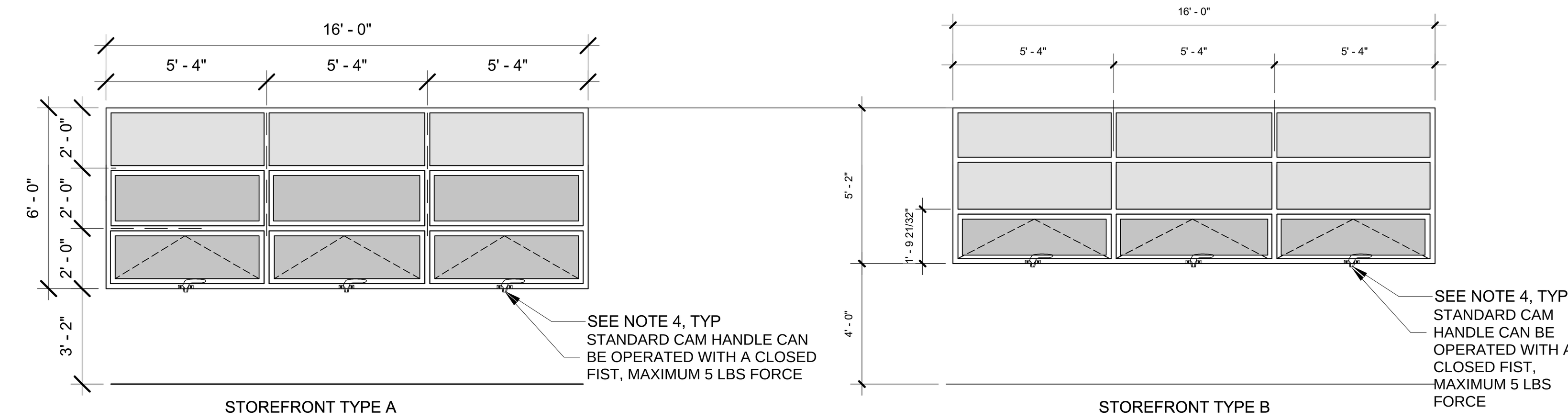
2406.1 HUMAN IMPACT LOADS. INDIVIDUAL GLAZED AREAS, INCLUDING GLASS MIRRORS, IN HAZARDOUS LOCATIONS AS DEFINED IN SECTION 2406.3 SHALL COMPLY WITH SECTIONS 2406.1.1 THROUGH 2406.1.5.

PROVIDE ONE ACCESSIBLE ROTO OPERATOR AT ACCESSIBLE HEIGHT FOR EACH CLASSROOM
AL - ALUMINUM
AC - ANODIZED CLEAR
BZ - ANODIZED BRONZE
CC - CONCEALED CLOSER
CLR - CLEAR
FC - FLOOR CLOSER
FF - FACTORY FINISH
FLFD - FUSIBLE LINK FIRE DAMPER
FP - FIELD PAINT
FPFP - FACTORY PRIMED, FIELD PAINTED
FRA - FIRE RATED ASSEMBLY
FS - FIELD STAINED
GA - GALVANIZED
GL - GLASS OR GLAZING
GS - GALVANIZED STEEL
HM - HOLLOW METAL
KY - FLUOROPOLYMER FINISH (SEE SPECS)
LVR - LOUVER
MF - MILL FINISH
MR - MIRRORED GLASS
MAG - MAGNETIC HOLD OPEN
P - PAINTED (FOR EXISTING FRAMES - PAINT SHALL INCLUDE PREP AND REPAIR OF EXISTING FRAME, TYPICAL)A\
PG - PAINT GRADE
PH - PANIC HARDWARE
PR - PAIR
R - PRIVACY/REFLECTIVE FILM
SCW - SOLID CORE WOOD
SG - STAIN GRAIN
SMC - SURFACE MOUNTED CLOSER
ST - STEEL
SS - STAINLESS STEEL
T/TEMP - TEMPERED

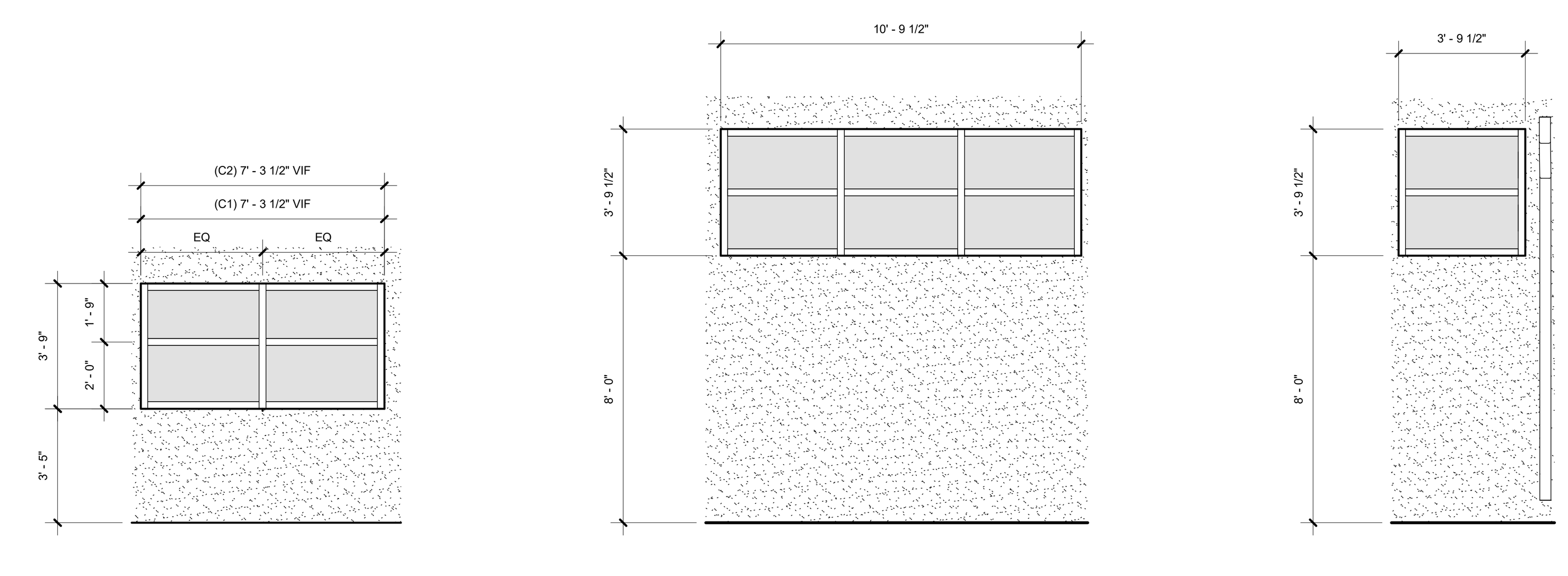


DOOR LEGEND.

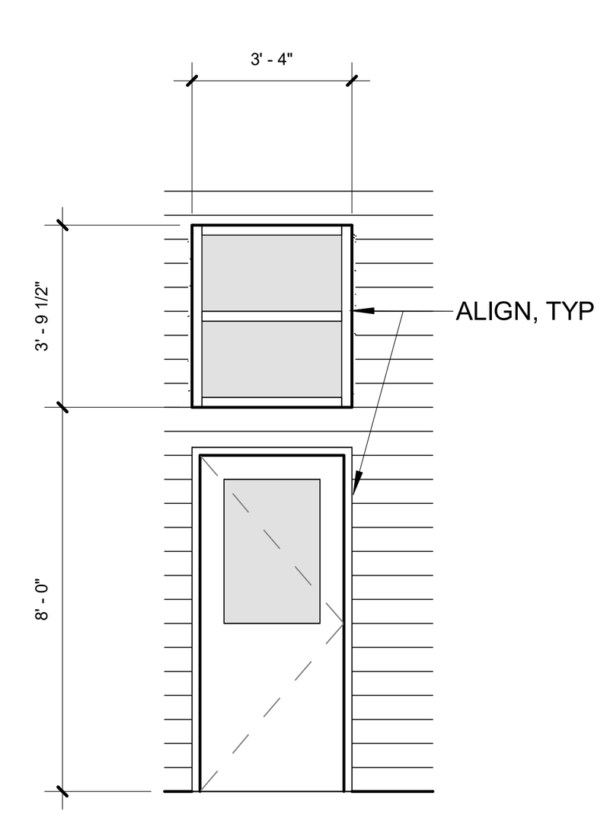
DOOR SCHEDULE



FORT TYPICAL DETAILS, SEE SHEET A62.3



STOREFRONT TYPE C **STOREFRONT TYPE D** **STOREFRONT TYPE E**



STOREFRONT TYPE F

1. SEE SPECIFICATIONS FOR DESIGN CRITERIA REQURIEMENTS OF STOERFRONT AND/OR WINDOW TYPES.
2. ALL GLAZING IN ALL STOREFRONT SYSTEM TO BE TEMPERED.
3. ALL GLAZING BELOW 8' TO RECEIVE REFLECTIVE WINDOW FILM
4. KAWNEER 8225TL PROJECT-IN WINDOW WITH REQUIRED ACCESSORIES INCLUDING STAINLESS STEEL 4 BAR HINGES WITH A 4" LIMIT STOP, TYP.

ABBREVIATIONS
AL - ALUMINUM
FP - FLUOROPOLYMER FINISH, SEE SPECS
FPFP - FACTORY PRIMED FIELD PAINTED
FRG - FIRE-RESISTIVE SAFETY GLAZING (LAMINATED), SEE SPECS
GS - GALVANIZED STEEL
IG - INSULATED GLAZING UNIT
ST - STEEL
SS - STAINLESS STEEL
TG - TEMPERED GLASS

SHEET NOTES - WINDOW AND STOREFRONTS

STOREFRONT SCHEDULE

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-121181 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 07/02/2024

OWNER: SAN RAFAEL CITY SCHOOLS

PROJECT NAME: VENETIA VALLEY BLDGS G AND H ALTERATION

CLIENT ADDRESS: 177 N San Pedro Rd, San Rafael, CA 94903

LICENSED ARCHITECT
ROBERT M. SIMPSON
No. C-18301
Jan 31, 2025
STATE OF CALIFORNIA

REVISIONS:

	DESCRIPTION	DATE

PROJECT NO: 2017 / 40104
DATE ISSUED: 06/21/2024
SCALE: 1/4" = 1'-0"
SHEET NUMBER: **A50.1**
SHEET TITLE:
SCHEDULES

SVA ARCHITECTS

7901 STONERIDGE DR, SUITE 100, PLEASANTON, CA 94588
T 925.374.9884 WWW.SVA-ARCHITECTS.COM

ROOM FINISH SCHEDULE - BLDG G

wtwt	ROOM NAME	SPACE DESCRIPTION	FLOOR FINISH	FLOOR BASE	WALL FINISH	CEILING FINISH	COMMENTS
G-01	KINDERGARTEN ROOM	CLASSROOM	(E) VCT	RB	GYP/P-E, TWP	ACT-1	
G-02	KINDERGARTEN ROOM	CLASSROOM	(E) VCT	RB	GYP/P-E, TWP	ACT-1	
G-03	(E) IDF RM	BUILDING SUPPORT	(E) CONC	RB	GYP/P-E	GYP/P-E	
G-04	S RR-1	RESTROOM	CT-1	CT/CB	CT-2, CT-4, P-S	GB P-SG	
G-05	S RR-2	RESTROOM	CT-1	CT/CB	CT-2, CT-5, P-SG	GB P-SG	

ROOM FINISH SCHEDULE - BLDG H

wtwt	ROOM NAME	SPACE DESCRIPTION	FLOOR FINISH	FLOOR BASE	WALL FINISH	CEILING FINISH	COMMENTS
H-01	CLASSROOM	CLASSROOM	(E) VCT	RB	GYP/P-E, TWP	(E) ACT-1	
H-02	CLASSROOM	CLASSROOM	(E) VCT	RB	GYP/P-E, TWP	(E) ACT-1	
H-03	(E) PREP ROOM	PROGRAM SUPPORT	(E) VCT	RB	GYP/P-E, TWP	(E) ACT-1	
H-04	(E) STORAGE ROOM	RESTROOM	CT-1	CT/CB	CT-2, CT-6, P-SG	GB P-SG	
H-05	(E) STUDENT RESTROOM	RESTROOM	(E) CT	(E) CT/CB	(E) CT	GB P-SG	
H-06	(E) STUDENT RESTROOM	RESTROOM	(E) CT	(E) CT/CB	(E) CT	GB P-SG	
H-07	(E) STORAGE	PROGRAM SUPPORT	(E) VCT	(E) RB	GYP/P-E	GB P-SG	

FLOOR FINISH
CT CERAMIC TILE
EP EPOXY FLOOR FINISH
RSF LINOLEUM FLOOR FINISH

S1-CONC SEALED CONCRETE

WALL BASE MATERIAL
CT CERAMIC TILE
CT/CB 4" CERAMIC TILE COVED BASE, 3/8" RADIUS
RB 4" HIGH RUBBER BASE

WALL MATERIAL
GYP 5/8" GYPSUM BOARD
PLAST CEMENT PLASTER
CTB CEMENTITIOUS TILE BACKER BOARD
GYP-MR MOISTURE RESISTANCE GYP BOARD

WALL FINISHES
CT CERAMIC TILE
FB NON-VINLY COVERED TACK BOARD SURFACE
FRP FIBER REINFORCED POLYMER
PLYWD 3/4" FIRE RATED PLYWOOD SHEATHING

CEILING MATERIAL
ACT-1 ACOUSTICAL CEILING TILE TYPE 1, 2'X4'
ACT-2 ACOUSTICAL CEILING TILE TYPE 2, 2'X4', KITCHEN
GYP GYPSUM BOARD

PAINT FINISH TEXTURE
P-E PAINT EGGSHELL
P-SG PAINT SEMI-GLOSS
P-SGE PAINT SEMI-GLOSS ENAMEL

CERAMIC TILES SCHEME

CT 1- CERAMIC FLOOR TILE- DALTILE KEYSTONE PORCELAIN COLOR BODY 2"X2" MOSAIC TILE

CT 2- CERAMIC WALL TILE FIELD- DALTILE WALL SEMI-GLOSS AND MATTE GLAZED 4"X4" CERAMIC TILE GROUP 1

CT 3- CERAMIC WALL TILE FIELD- DALTILE WALL SEMI-GLOSS AND MATTE GLAZED 4"X12" CERAMIC TILE MODERN DIMENSION

C**T 4- CERAMIC WALL TILE ACCENT**- DALTILE KEYSTONE PORCELAIN COLOR BODY 1"X1" MOSAIC TILE

CT 5- CERAMIC WALL TILE ACCENT- DALTILE KEYSTONE PORCELAIN COLOR BODY 1"X1" MOSAIC TILE

CT 6- CERAMIC WALL TILE ACCENT- KEYSTONE PORCELAIN COLOR BODY 1X2 MOSAIC TILE

RESILIENT FLOORING SCHEME - ALL RESILIENT FLOORING WILL BE TILE/MODULAR GOOD

RSF-1- CLASSROOM FIELD, CROSS HATCH- 20"X20" MARMOLEUM MODULAR FLOOR TILE, COLOR TBD

RSF-A- CLASSROOM ACCENT, CROSS HATCH- 20"X20" MARMOLEUM MODULAR FLOOR TILE, COLOR TBD

RSF-B- CLASSROOM ACCENT, CROSS HATCH- 20"X20" MARMOLEUM MODULAR FLOOR TILE, COLOR TBD

PAINT COLOR SCHEME

INTERIOR
P1 TYPICAL INTERIOR FIELD COLOR UON
P2 INTERIOR ACCENT COLOR 1
P3 INTERIOR ACCENT COLOR 2

BUILDING EXTERIOR
P10 CEMENT PLASTER COLOR 1
P11 CEMENT PLASTER COLOR 2
P12 CEMENT PLASTER COLOR 3

FINISH SCHEDULE

FLOOR FINISH
CT CERAMIC TILE
EP EPOXY FLOOR FINISH
RSF LINOLEUM FLOOR FINISH

S1-CONC SEALED CONCRETE

WALL BASE MATERIAL
CT CERAMIC TILE
EP/CB EPOXY FINISH W/ INTEGRAL 4" COVED BASE, 3/8" RADIUS
RB 4" HIGH RUBBER BASE

WALL MATERIAL
GYP 5/8" GYPSUM BOARD
PLAST CEMENT PLASTER
CTB CEMENTITIOUS TILE BACKER BOARD
GYP-MR MOISTURE RESISTANCE GYP BOARD

SPECIAL WALL FINISHES
FB NON-VINLY COVERED TACK BOARD SURFACE
FRP FIBER REINFORCED POLYMER

WALL FINISHES
CT CERAMIC TILE
FRP FIBER REINFORCED POLYMER
P-E PAINT EGGSHELL
P-SG PAINT SEMI-GLOSS
P-SGE PAINT SEMI-GLOSS ENAMEL

CEILING MATERIAL
ACT-1 ACOUSTICAL CEILING TILE TYPE 1, 2'X4'
GYP GYPSUM BOARD

CEILING FINISHES
P-E PAINT EGGSHELL
P-SG PAINT SEMI-GLOSS

CERAMIC TILES SCHEME

CT 1- CERAMIC FLOOR TILE- DALTILE KEYSTONE PORCELAIN COLOR BODY 2"X2" MOSAIC TILE

CT 2- CERAMIC WALL TILE FIELD- DALTILE WALL SEMI-GLOSS AND MATTE GLAZED 4"X4" CERAMIC TILE GROUP 1

C**T 4- CERAMIC WALL TILE ACCENT**- DALTILE KEYSTONE PORCELAIN COLOR BODY 1"X1" MOSAIC TILE

CT 5- CERAMIC WALL TILE ACCENT- DALTILE KEYSTONE PORCELAIN COLOR BODY 1"X1" MOSAIC TILE

RESILIENT FLOORING SCHEME - ALL RESILIENT FLOORING WILL BE TILE/MODULAR GOOD

RSF-1- CLASSROOM FIELD, CROSS HATCH- 20"X20" MARMOLEUM MODULAR FLOOR TILE, COLOR TBD

RSF-A- CLASSROOM ACCENT, CROSS HATCH- 20"X20" MARMOLEUM MODULAR FLOOR TILE, COLOR TBD

RSF-B- CLASSROOM ACCENT, CROSS HATCH- 20"X20" MARMOLEUM MODULAR FLOOR TILE, COLOR TBD

SPECIALTY WALL FINISHES

FB-1- TACKABLE FABRIC WRAPPED PANELS- FABRIC - MAHARAM FABRIC (ANGORA # 004)

RFP-1 - FIBER REINFORCED PANELS - CRANE - VARITEX- SOUTH BEACH IVORY

CASEWORK

CW -1

BASE CABINETS, UPPER CABINET, TALL CABINET, COUNTERTOP - PHANTOM ECRU 8212K-28
EDGE BAND - F858-PUMICE (TYPICAL)

PAINT COLOR SCHEME

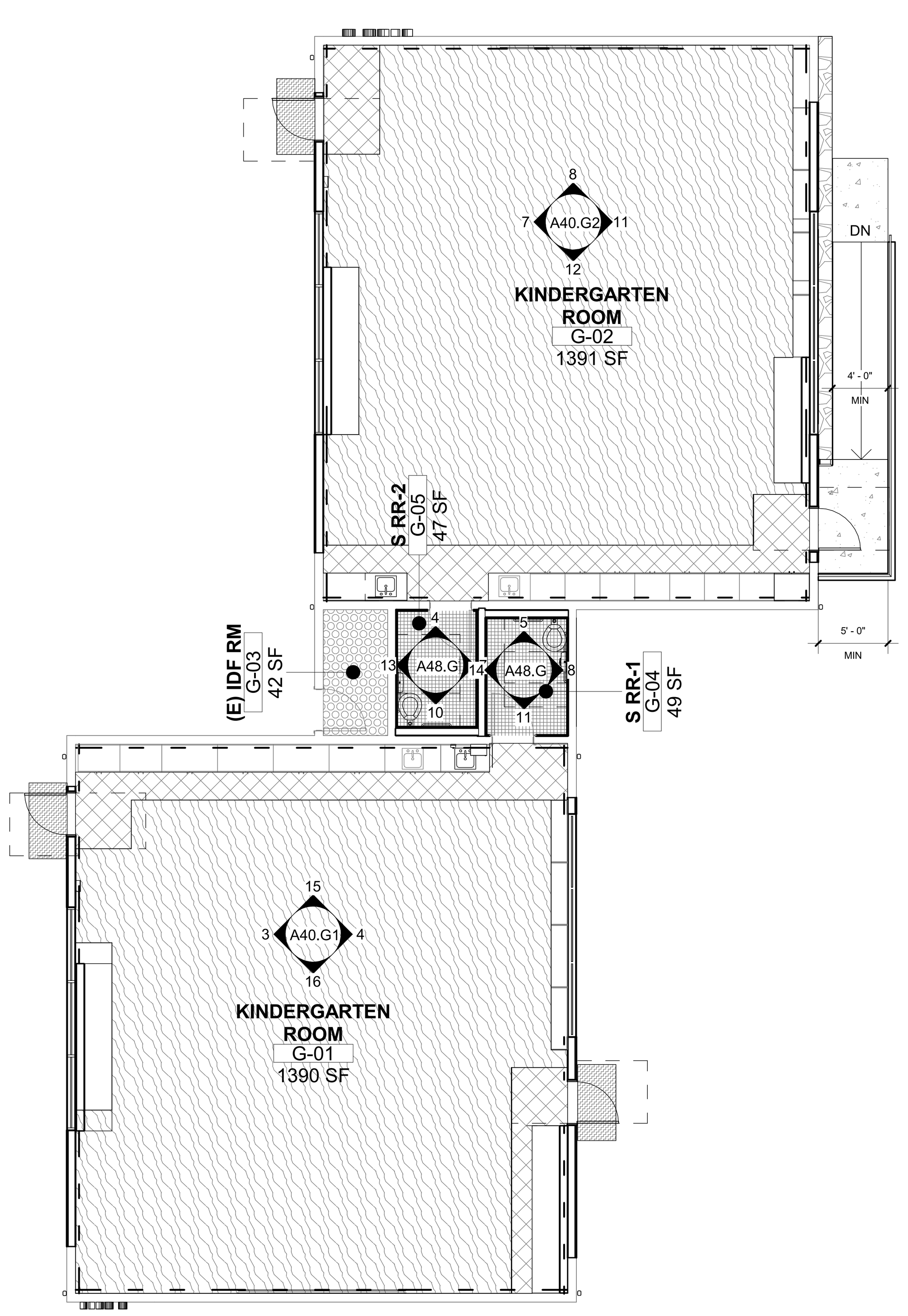
INTERIOR
P1 TYPICAL INTERIOR FIELD COLOR UON
P2 INTERIOR ACCENT COLOR 1
P3 INTERIOR ACCENT COLOR 2

BUILDING EXTERIOR
P10 CEMENT PLASTER COLOR 1
P11 CEMENT PLASTER COLOR 2
P12 CEMENT PLASTER COLOR 3

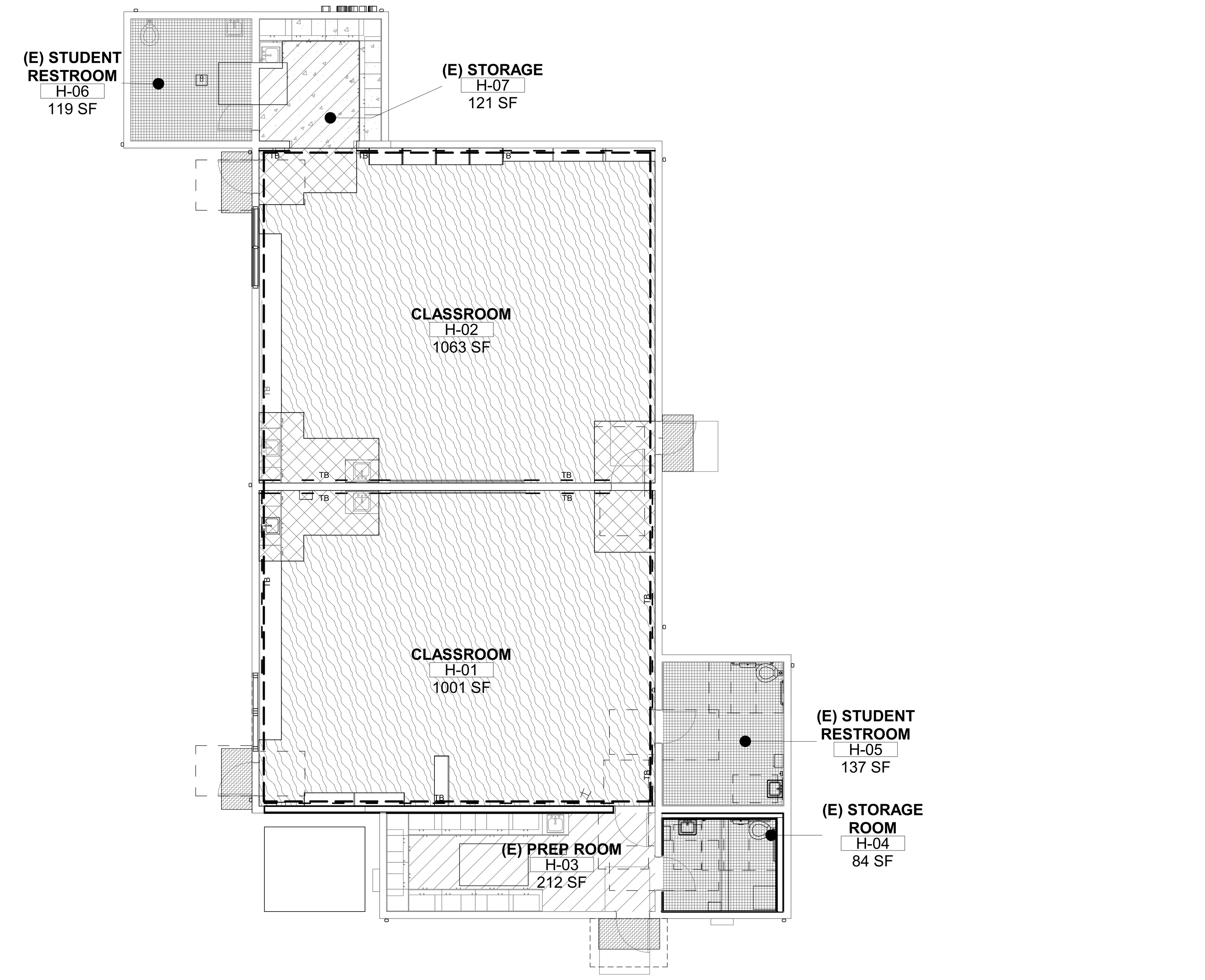
PX WALL ACCENT PAINT EXTENT/SCOPE
CPT-1: Carpet Tiles
RSF-1: FIELD
RSF-A: FINISH FLOOR ACCENT A
RSF-B: FINISH FLOOR ACCENT B
S1-CONC: SEALED CONCRETE
CT-1: RESTROOM FLOOR TILE FIELD
CT-4: RESTROOM FLOOR/WALL TILE ACCENT 2
CT-5: RESTROOM FLOOR/WALL TILE ACCENT 3
CT-6: RESTROOM FLOOR/WALL TILE ACCENT 4 (STAFF RESTROOMS)
CUSTOM FLOOR ENTRY MAT. COLOR TO MATCH ADJACENT ALCOVE ACCENT COLOR/CLASSROOM RSF ACCENT COLORS
EPOXY FLOOR FINISH

FINISH LEGEND - TK

INTERIOR FINISH LEGEND - TK



BUILDING G- FINISH FLOOR PLAN 1/8" = 1'-0" 2



BUILDING H - FINISH FLOOR PLAN 1/8" = 1'-0" 1

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-121181 INC:
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DATE: 07/02/2024

OWNER: SAN RAFAEL CITY SCHOOLS

PROJECT NAME: VENETIA VALLEY BLDGS G AND H ALTERATION

CLIENT ADDRESS: 177 N San Pedro Rd, San Rafael, CA 94903

LICENSED ARCHITECT
No. C-18301
Jan 31, 2025
STATE OF CALIFORNIA

REVISIONS:

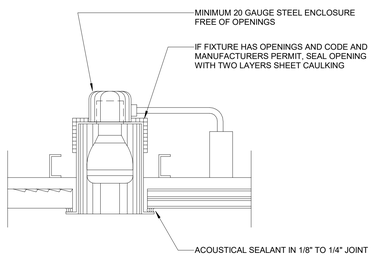
	DESCRIPTION	DATE

PROJECT NO:	2017 / 40104
DATE ISSUED:	06/21/2024
SCALE:	As indicated
SHEET NUMBER:	A50.2
SHEET TITLE:	

SCHEDULES - FLOOR FINISH

SVA ARCHITECTS

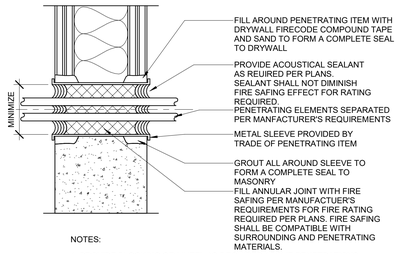
7901 STONERIDGE DR, SUITE 100, PLEASANTON, CA 94588
T 925.374.9884 WWW.SVA-ARCHITECTS.COM



NOTE - AT FRAMED CEILING, LIGHT FIXTURE SHALL ATTACH TO BOTH ADJACENT CEILING JOISTS W/ MIN. (2) #10 SMS EACH JOIST

NON-RATED PLASTER OR DRYWALL CEILING

HEAVY GAUGE LIGHT FIXTURE IN | 3" = 1'-0" | 12



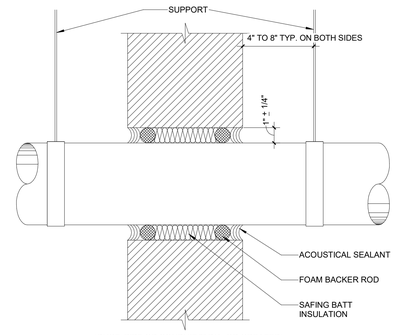
NOTES:

1. PROVIDE BLOCKING OR LINTEL AS REQUIRED ABOVE PENETRATIONS.
2. INTERRUPT INSULATION OUTSIDE PIPES AND DUCT AT PENETRATIONS.
3. DO NOT GROUP DUCT LIKE PIPES IN DETAIL 6.

MULTIPLE PIPES OR CONDUITS THRU DRYWALL OR PLASTER, CONCRETE, FLOOR SIMILAR.

THRU GYPSUM BOARD OR CONCRETE CONSTRUCTION

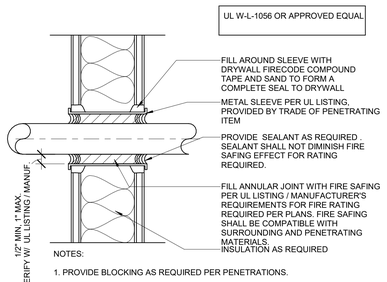
MULTIPLE PIPE PENETRATON THRU | 3" = 1'-0" | 8



(DUCT, PIPE OR CONDUIT 3" DIA. OR GREATER)

NOTE: APPLICABLE AT ALL SOUND-RATED CONSTRUCTION
INCLUDING INTERIOR INSULATED ASSEMBLIES

TYPICAL DUCT/PIPE PENETRATION | 3" = 1'-0" | 4

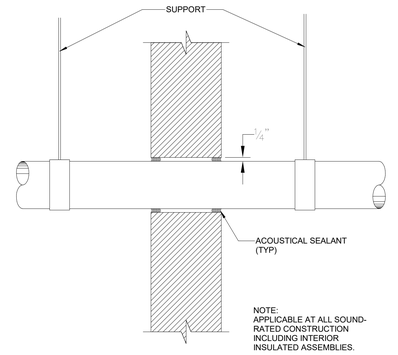


NOTES:

1. PROVIDE BLOCKING AS REQUIRED PER PENETRATIONS.
2. INTERRUPT INSULATION OUTSIDE PIPES AND DUCTS AT PENETRATIONS.
3. AS FAR AS POSSIBLE, SEPARATE PIPES, DUCTS, AND CONDUITS SO THEY CAN BE TREATED INDIVIDUALLY AS ABOVE.
4. 1- HOUR WALL GRAPHICALLY SHOWN, 2-HOUR SIMILAR BUT WITH WALL TYPE PER UL 2 HR ASSEMBLIES

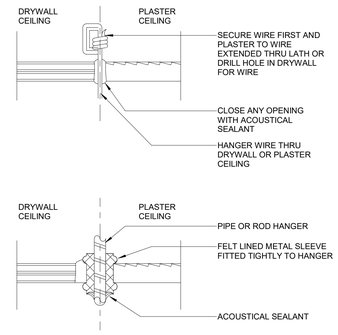
ALL RESILIENTLY-SUPPORTED PIPES, DUCTS OR CONDUITS AND RIGIDLY-SUPPORTED PIPES, DUCTS OR CONDUITS OVER 2 INCHES IN DIAMETER THRU DRYWALL WALLS

THROUGH PENETRATION ACOUSTICAL | 3" = 1'-0" | 7



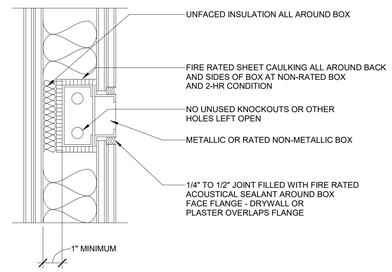
NOTE:
APPLICABLE AT ALL SOUND-RATED CONSTRUCTION INCLUDING INTERIOR INSULATED ASSEMBLIES.

TYPICAL PIPE PENETRATION | 3" = 1'-0" | 3



THRU CEILING FINISH

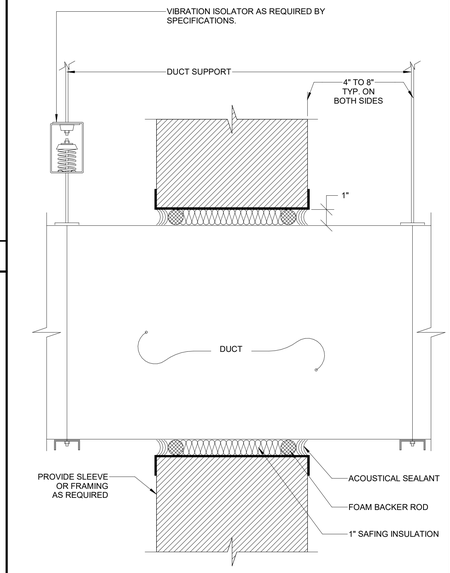
NON-RATED HANGER PENETRATION | 3" = 1'-0" | 14



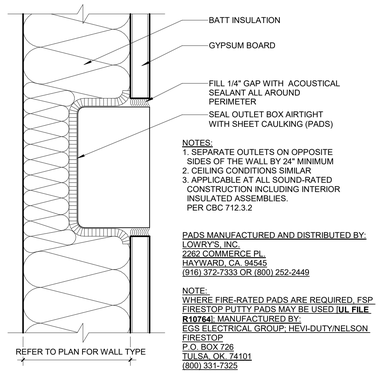
U465 - 1-HR - STEEL STUDS - NON-BEARING WALL

IN DRYWALL OR PLASTER WALL

ELECTRICAL BOX UP TO 16 SQ. IN. | 3" = 1'-0" | 10



DUCT PENETRATION | 3" = 1'-0" | 5



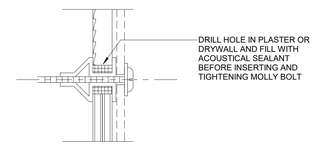
NOTES:
1. SEPARATE OUTLETS ON OPPOSITE SIDES OF THE WALL BY 24" MINIMUM
2. CEILING CONDITIONS SIMILAR
3. APPLICABLE AT ALL SOUND-RATED CONSTRUCTION INCLUDING INTERIOR INSULATED ASSEMBLIES. PER CBC 712.3.2

PADS MANUFACTURED AND DISTRIBUTED BY:
LOWRY'S, INC.
2262 COMMERCE PL.
HAYWARD, CA. 94545
(916) 372-7333 OR (800) 252-2449

NOTE:
WHERE FIRE-RATED PADS ARE REQUIRED, FSP FIRESTOP PUTTY PADS MAY BE USED **(UL FILE R10764)**. MANUFACTURED BY:
EGS ELECTRICAL GROUP; HEVI-DUTY/NELSON FIRESTOP
P.O. BOX 726
TULSA, OK. 74101
(800) 331-7325

REFER TO PLAN FOR WALL TYPE

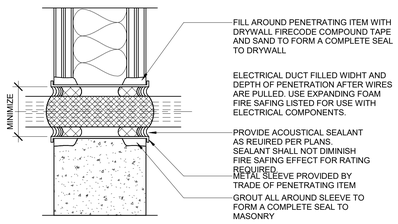
JUNCTION BOX ISOLATION | 6" = 1'-0" | 2



VERIFY WEIGHT OF ITEM TO BE FASTENED WITH THE BOLTS WEIGHT RATING ITEMS OVER 20 POUNDS OR INTENDED TO SUPPORT STRUCTURAL IMPOSED LOADS SHALL BE FASTENED INTO SOLID BLOCKING WITH APPROVED ANCHORS

WALL FINISH FOR SURFACE MOUNTED ELEMENT

NON-STRUCTURAL MOLLY BOLT THRU | 3" = 1'-0" | 13



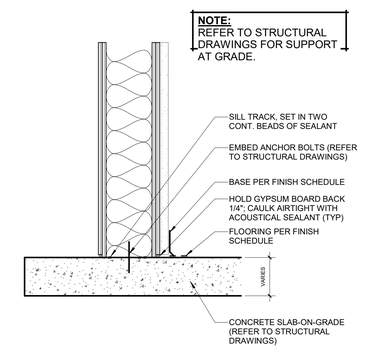
NOTES:

1. PROVIDE BLOCKING OR LINTEL AS REQUIRED ABOVE PENETRATIONS.
2. INTERRUPT INSULATION OUTSIDE PIPES AND DUCT AT PENETRATIONS.
3. DO NOT GROUP DUCT LIKE PIPES IN DETAIL 6.

ELECTRICAL DUCT THRU DRYWALL OR PLASTER, CONCRETE, FLOOR SIMILAR.

THRU GYPSUM BOARD OR CONCRETE CONSTRUCTION

ELECTRICAL DUCT PENETRATION | 3" = 1'-0" | 9



ACOUSTICAL WALL SEALANT | 1 1/2" = 1'-0" | 1

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PROJECT NAME: VENETIA VALLEY BLDGS G AND H ALTERATION

CLIENT ADDRESS: 177 N San Pedro Rd, San Rafael, CA 94903

LICENSED ARCHITECT
Robert Simpson
No. C-18301
Jan 31, 2025
STATE OF CALIFORNIA

REVISIONS:

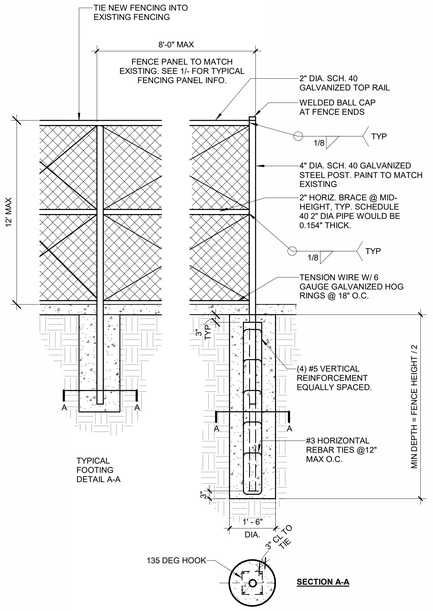
	DESCRIPTION	DATE

PROJECT NO:	2017 / 40104
DATE ISSUED:	06/21/2024
SCALE:	As indicated
SHEET NUMBER:	**A60.1**
SHEET TITLE:	

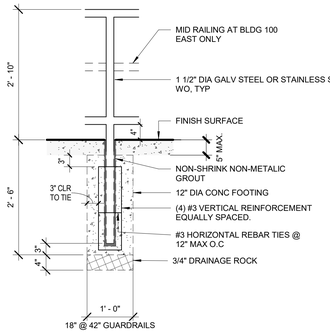
CONSTRUCTION ASSEMBLIES- TYPICAL DETAILS

SVA ARCHITECTS
7901 STONERIDGE DR, SUITE 100, PLEASANTON, CA 94588
T 925.374.9884 WWW.SVA-ARCHITECTS.COM

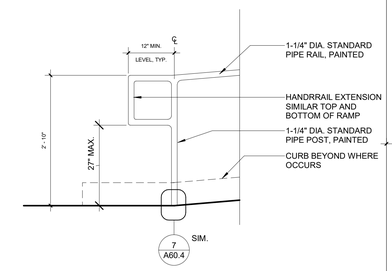
NOTES:
ALL CHAIN LINK FABRIC SHALL BE GALVANIZED. POSTS, RAILS AND CONNECTING HARDWARE SHALL BE GALVANIZED. PROVIDE SHOP DRAWINGS FOR APPROVAL.



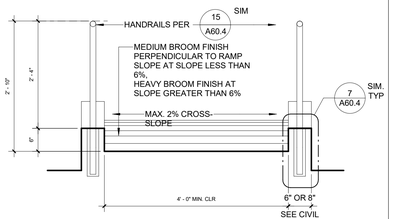
CHAIN LINK FENCE DETAIL | 1/2" = 1'-0" | 17



TYPICAL FOOTING DETAIL | 3/4" = 1'-0" | 15



B- RAMP RAILING (FREESTANDING)

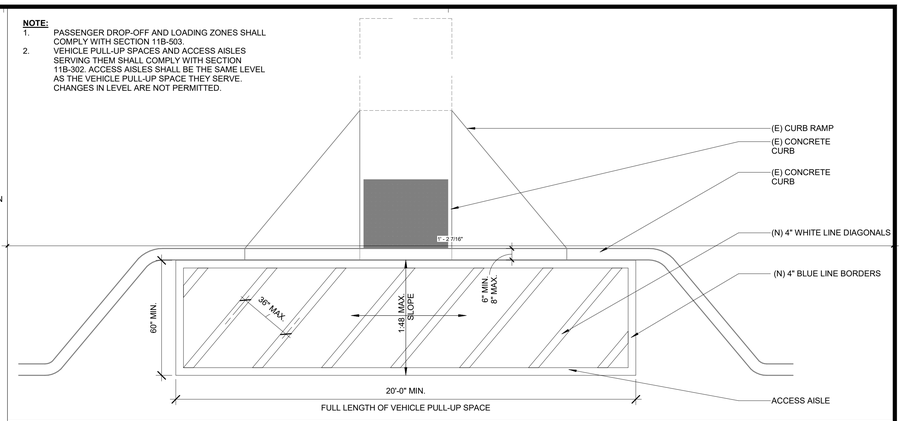


A - RAMP SECTION

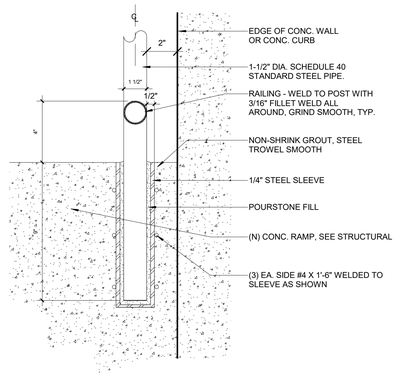
NOTE:
1. MAXIMUM SLOPE OF A RAMP THAT SERVES ANY EXIT WAY, PROVIDES ACCESS FOR PERSON WITH PHYSICAL DISABILITIES OR IS IN THE PATH OF TRAVEL SHALL BE ONE FEET RISE IN TWELVE FEET OF HORIZONTAL RUN (8.33% GRADIENT)
2. SEE CIVIL DRAWINGS FOR MORE INFO

CONCRETE RAMP SECTION | 3/4" = 1'-0" | 11

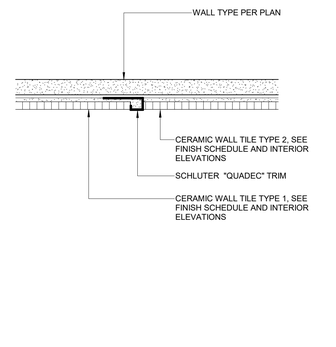
NOTE:
1. PASSENGER DROP-OFF AND LOADING ZONES SHALL COMPLY WITH SECTION 11B-503.
2. VEHICLE PULL-UP SPACES AND ACCESS AISLES SERVING THEM SHALL COMPLY WITH SECTION 11B-302. ACCESS AISLES SHALL BE THE SAME LEVEL AS THE VEHICLE PULL-UP SPACE THEY SERVE. CHANGES IN LEVEL ARE NOT PERMITTED.



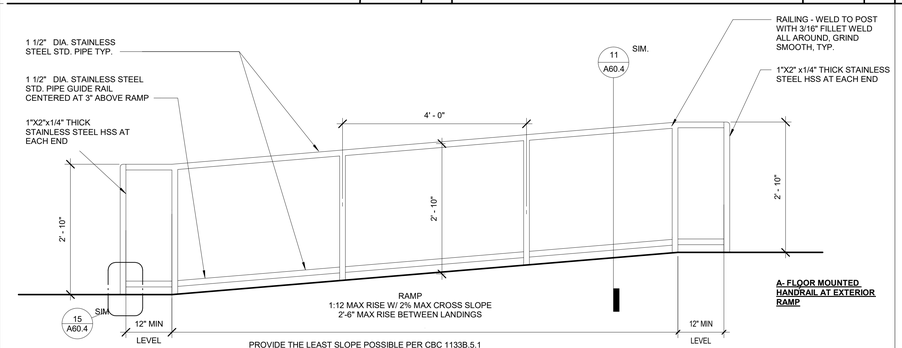
ACCESSIBLE DROP OFF | 3/8" = 1'-0" | 4



RAILING ATTACHMENT @ FRONT RAMP | 3" = 1'-0" | 7

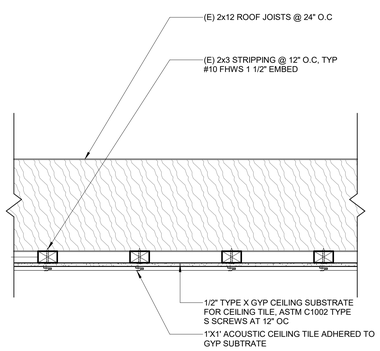


CERAMIC TILE TRANSITION TRIM | 6" = 1'-0" | 3

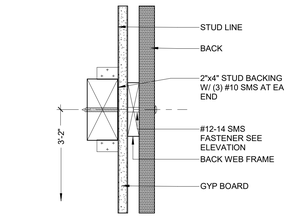


A- RAMP RAILING (FREESTANDING)

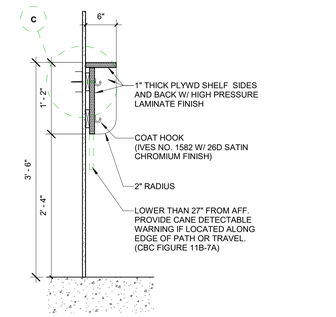
TYP. HANDRAIL SECTIONS | 3/4" = 1'-0" | 8



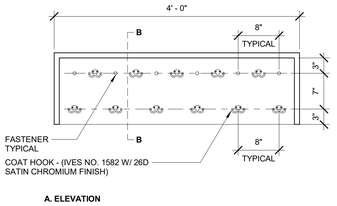
ACT DETAIL CONCEALED | 1 1/2" = 1'-0" | 6



C. DETAIL SCALE: 3" = 1'-0"

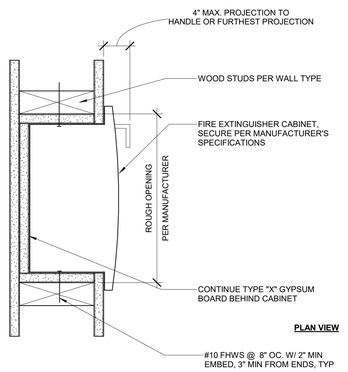


B. SECTION



A. ELEVATION

BACKPACK HOOKS | 1" = 1'-0" | 5



PLAN VIEW

FIRE EXTINGUISHER CABINET | 3" = 1'-0" | 1

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LICENSED ARCHITECT
Robert Simpson
No. C-18301
Jan 31, 2025
STATE OF CALIFORNIA

REVISIONS:

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1		

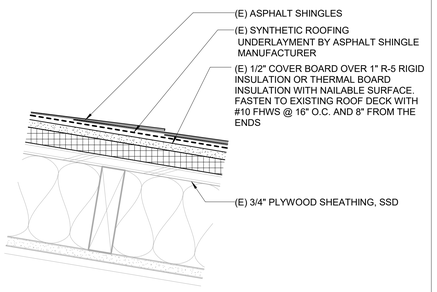
PROJECT NO: 2017 / 40104
DATE ISSUED: 06/21/2024
SCALE: As indicated

SHEET NUMBER: A60.4

SHEET TITLE:

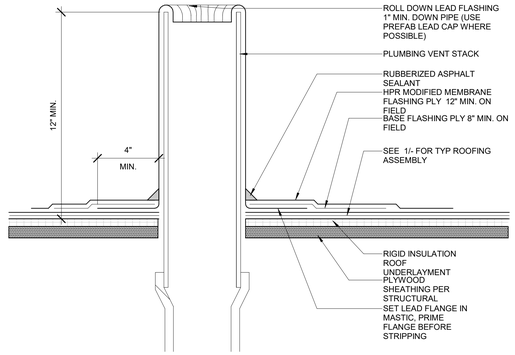
CEILING AND MISC DETAILS

SVA ARCHITECTS
7901 STONERIDGE DR, SUITE 100, PLEASANTON, CA 94588
T 925.374.9884 WWW.SVA-ARCHITECTS.COM

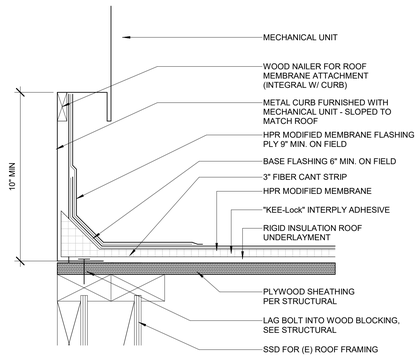


NOTE: PATCH EXISTING ASPHALT SHINGLES, BUILDING UNDERLAYMENT AND PLYWOOD SHEATHING AS REQUIRED. PROVIDE 6" MIN LAP OF EXISTING UNDERLAYMENT OVER NEW UNDERLAYMENT WHERE PATCH IS REQUIRED.

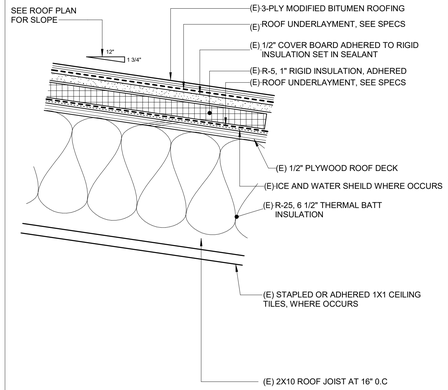
(E) ASPHALT ROOFING AT BLDG H | 3" = 1'-0" | **19**



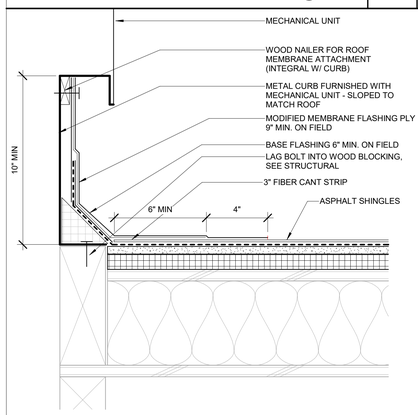
ROOF PIPE PENETRATIO AT BUR | 3" = 1'-0" | **11**



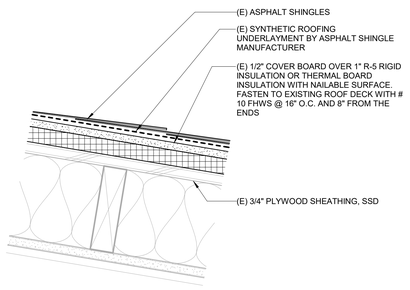
HVAC MFR CURB @ BUR | 3" = 1'-0" | **14**



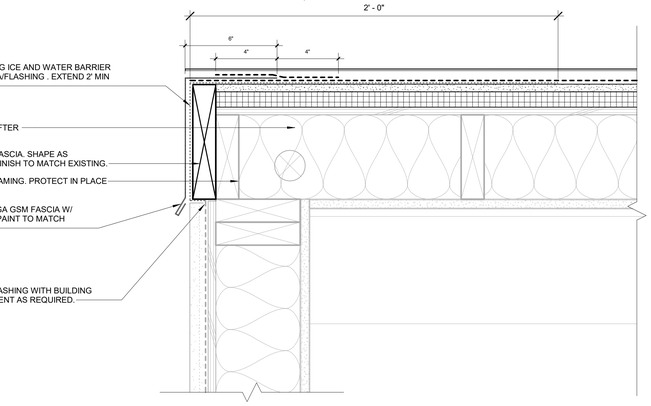
(E) BUR ROOF/CLG ASSEMBLY FOR REF | 3" = 1'-0" | **10**



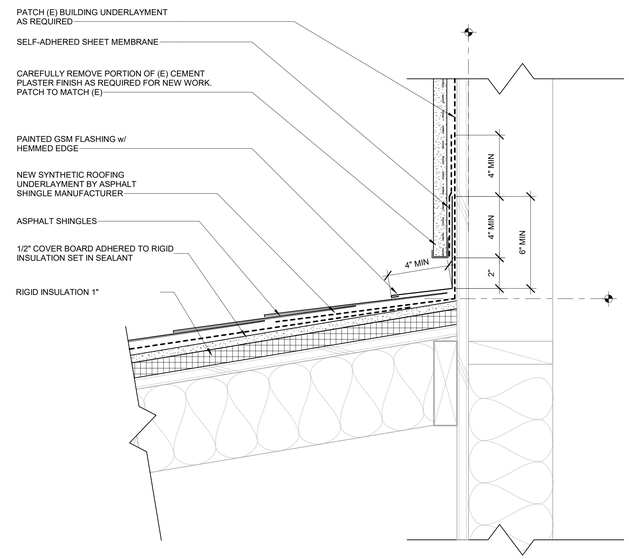
HVAC MFR CURB @ ASPHALT | 3" = 1'-0" | **13**



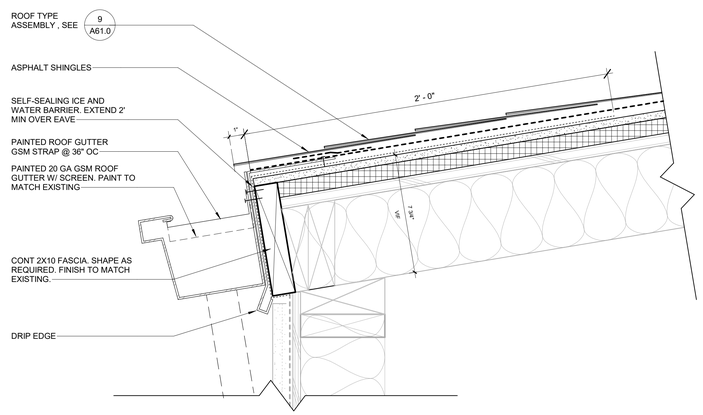
(E) ASPHALT ROOF ASSEMBLY FOR REF | 3" = 1'-0" | **9**



ROOF DETAIL- ASPHALT ROOF, RAKE | 3" = 1'-0" | **4**



ROOF DETAIL- ASPHALT ROOF, RIDGE AT WALL | 3" = 1'-0" | **2**



ROOF DETAIL- ASPHALT ROOF, EAVE | 3" = 1'-0" | **1**

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No. C-18301
Jan 31, 2025
STATE OF CALIFORNIA

REVISIONS:

	DESCRIPTION	DATE
1		
2		
3		
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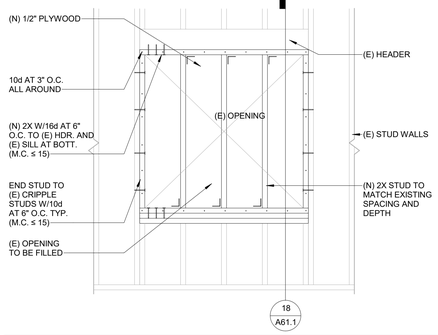
PROJECT NO: 2017 / 40104
DATE ISSUED: 06/21/2024
SCALE: 3" = 1'-0"

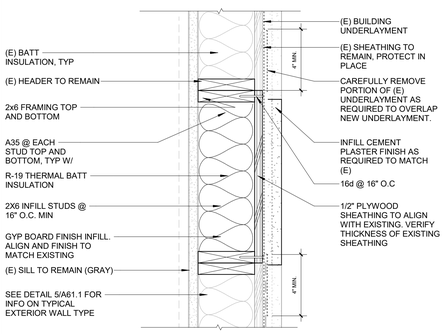
SHEET NUMBER: A61.0
SHEET TITLE:

ROOF DETAILS

SVA ARCHITECTS
7901 STONERIDGE DR, SUITE 100, PLEASANTON, CA 94588
T 925.374.9884 WWW.SVA-ARCHITECTS.COM

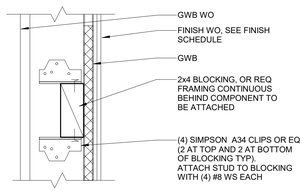


PATCH INFILL ELEVATION | 1" = 1'-0" | 19



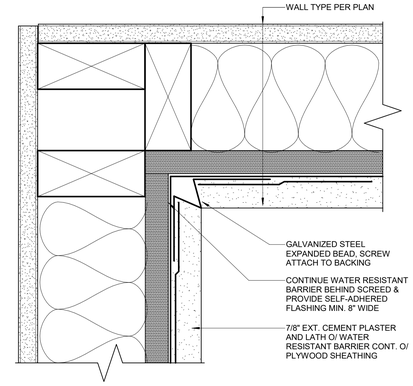
PATCH INFILL DETAIL | 3" = 1'-0" | 18

NOTES:
1. USE FOR MISC ITEMS AS NEEDED MAX. WT.-50 LBS/ LIN. FT.
2. LENGTH, HEIGHT AND LOCATION TO SUIT ITEMS BEING FASTENED. SEE ANCHORAGE DETAIL OF SPECIFIC ITEMS FOR ADDITIONAL INFORMATION.
3. ATTACH TO THREE STUDS MIN.
4. USE DBL. STUDS WHEN STUD IS SUPPORTING MORE THAN (2) BLOCKING STUDS

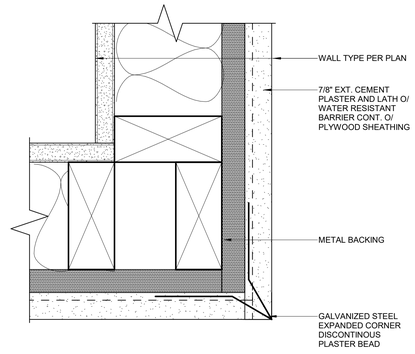


FOR SURFACE MOUNTED MIRRORS, WASTE RECEPTACLES, TOWEL DISPENSERS, WALL MOUNTED DOOR STOPS, ETC. MEETING LOAD MAX

WOOD BACKING DETAIL - TYPE 1 | 3" = 1'-0" | 17

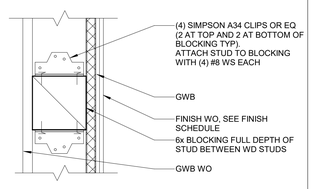


PLASTER INSIDE CORNER | 6" = 1'-0" | 16



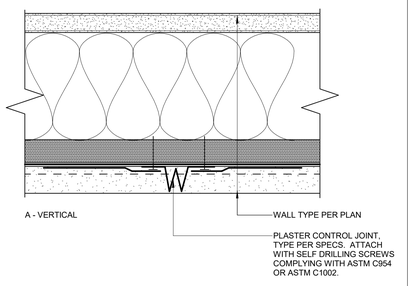
PLASTER OUTSIDE CORNER | 6" = 1'-0" | 15

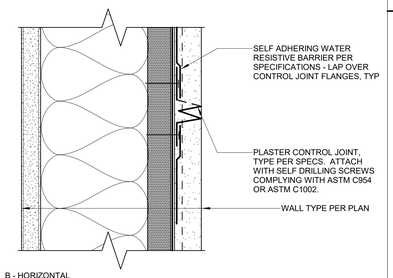
NOTES:
1. USE FOR GRAB BARS AND EQUIPMENT MAX. WT.-300 LBS/ LIN. FT.
2. LENGTH, HEIGHT AND LOCATION TO SUIT ITEMS BEING FASTENED. SEE ANCHORAGE DETAIL OF SPECIFIC ITEMS FOR ADDITIONAL INFORMATION.
3. ATTACH TO THREE STUDS MIN.
4. USE DBL. STUDS WHEN STUD IS SUPPORTING MORE THAN (2) BLOCKING STUDS



FOR FURNITURE, FIXTURES, EQUIPMENT, TOILET PARTITIONS, GRAB BARS

WOOD BACKING DETAIL - TYPE 3 | 3" = 1'-0" | 14

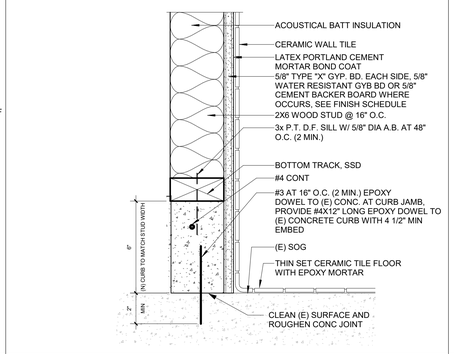




B - HORIZONTAL

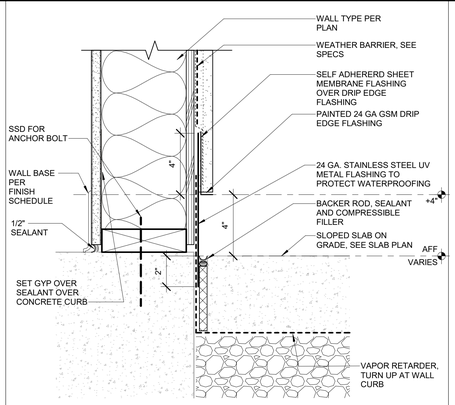
SEE ELEVATIONS FOR LOCATIONS

PLASTER CONTROL JOINTS | 6" = 1'-0" | 11

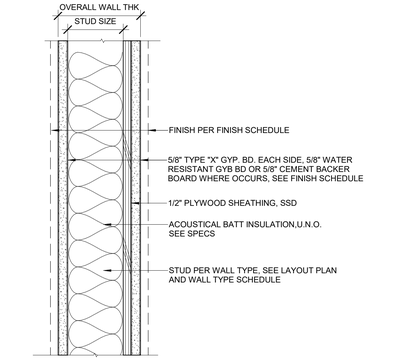


8.1# PLUMBING CHASE- DOUBLE | 3" = 1'-0" | 10

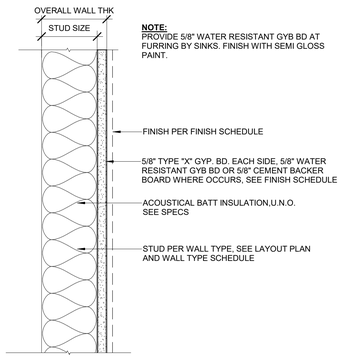
FLOOR INFILL DETAIL | 3" = 1'-0" | 13



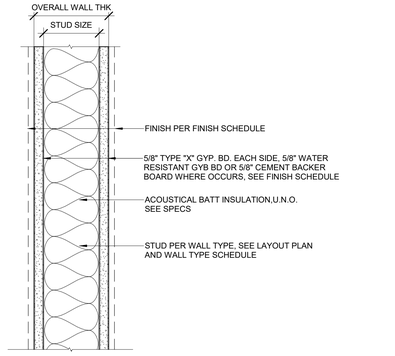
WALL BASE FLASHING @ (E) SOG | 3" = 1'-0" | 9



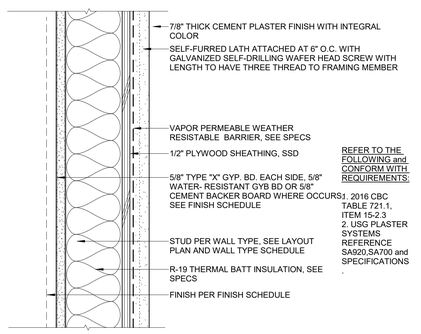
W5.5 INT PART GYP/GYP SINGLE SHEAR | 3" = 1'-0" | 8



W5.2 INT GYP FURRING | 3" = 1'-0" | 7



W5.1 INT PARTITION GYP/GYP | 3" = 1'-0" | 6



EXTERIOR SIDE

W1.1 EXT PLAST/GYP- SINGLE SHEAR | 3" = 1'-0" | 5

1. SEE STRUCTURAL DRAWINGS FOR ADDTIONAL WOOD FRAMING DETAILS. SEE STRUCTURAL DRAWINGS FOR DESIGN HEIGHT LIMITS.
2. PROVIDE WALLL BRIDGING AT 4'-0" O.C. PER STRUCTURAL DETAILS AND NOTES. ALL FURRED WALLS AND DOUBLE WALLS SHALL BE BRACED. SEE STRUCTURAL DRAWINGS.
3. UNLESS NOTED OTHERWISE, ALL WALLS ARE FULL HEIGHT TO FLOOR OR ROOF ABOVE.
4. FOR WALLS SPECIFICALLY ILLUSTRATED AS SPECIFICALLY AS PARTIAL HEIGHT, STOP FRAMING 6" ABOVE FIN. CEILING. SEE STRUCTURAL DRAWINGS FOR REQUIRED BRACING.
5. REFER TO SPECIFICATION DIVISIONS 22, 23 AND 24 FOR HVAC, PLUMBING, AND ELECTRICAL PENETRATION OF WALLS.
6. NOT USED.
7. ALL GYPSUM BOARD SHALL BE 5/8" TYPE X UNLESS NOTED OTHERWISE.
8. INSULATION:
   A. ALL EXTERIOR WALLS INCLUDE R-19 BATT INSULATION.
   B. ALL INTERIOR WALLS SHALL INCLUDE ACOUSTICAL BATT INSULATION.
   C.
9. REFER TO BUILDING PLANS FOR LOCATION OF RATED WALLS.
10. ALL STUD GAUGE AND SPACING TO BE MAINTAINED. ALL LIMITING HEIGHTS ARE BASED ON SSMA (STEEL STUD MANUFACTURERS ASSOCIATION) SYSTEM. THE ALLOWABLE DEFLECTION FOR STUD WALLS SHALL BE:

    L/360 - FOR EXTERNAL WALLS
    L/360 - FOR INTERIOR WALLS WITH STONE, TILE OR WOOD PANEL FINISH AND FOR SHAFT WALLS.
    L/240 - ALL OTHER INTERIOR WALLS.

SHEET NOTES - WALL TYPES/SCHEDULE (WOOD)

1 TYPICAL CEMENT PLASTER EXTERIOR WALL

WALL TYPE	STUD SIZE	STUD SPACING	OVERALL WALL THK	DESIGN HT. LIMITS	DETAIL	REMARKS
1.1	2"X6"	16" O.C.	7 1/2"	SSD, TYP	5 / -	SHEAR WALL
1.2	2"X6"	16" O.C.	8 1/2"		6 / -	

5 TYPICAL INTERIOR PARTITION

WALL TYPE	STUD SIZE	STUD SPACING	OVERALL WALL THK	DESIGN HT. LIMITS	DETAIL	REMARKS
5.1	2"X6"	16" O.C.	7 1/4"	SSD, TYP	7 / -	
5.2	2"X6"	16" O.C.	6 5/8"		8 / -	
5.3	2"X4"	16" O.C.	4 1/8"		9 / -	
5.5	2"X6"	16" O.C.	7 7/8"		10 / -	SHEAR WALL
5.5a	2"X6"	16" O.C.	7 7/8"		11 / -	SHEAR WALL STC 50
5.7	2"X6"	16" O.C.	7 7/8"		12 / -	STC 50

7 TILED PARTITION WALLS - COORDINATE WITH

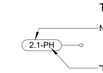
WALL TYPE	STUD SIZE	STUD SPACING	OVERALL WALL THK	DESIGN HT. LIMITS	DETAIL	REMARKS
7.1	6"		7 5/8"	SSD, TYP	15 / -	SEE W5.2 TILE (1 SIDE)

8 PLUMBING CHASE WALLS

WALL TYPE	STUD SIZE	STUD SPACING	OVERALL WALL THK	DESIGN HT. LIMITS	DETAIL	REMARKS
8.1	2"X6"	16" O.C.	SEE PLAN	SSD, TYP	13 SIM / -	TILE (1 SIDE)
8.2	2"X6"	16" O.C.	SEE PLAN		13 / -	TILE (2 SIDE)

WALL TYPE SCHEDULE (WOOD)

TYPICAL WALLS



NUMBER INDICATES WALL TYPE SEE SCHEDULE ABOVE

"PH" INDICATES PARTIAL HEIGHT WALL

WALL TYPE SYMBOL LEGEND

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-121181 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 07/02/2024

OWNER: SAN RAFAEL CITY SCHOOLS

PROJECT NAME: VENETIA VALLEY BLDGS G AND H ALTERATION

CLIENT ADDRESS: 177 N San Pedro Rd, San Rafael, CA 94903

LICENSED ARCHITECT
Robert Simon
No. C-18301
Jan 31, 2025
STATE OF CALIFORNIA

REVISIONS:

	DESCRIPTION	DATE
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12		

PROJECT NO: 2017 / 40104

DATE ISSUED: 06/21/2024

SCALE: As indicated

SHEET NUMBER: A61.1

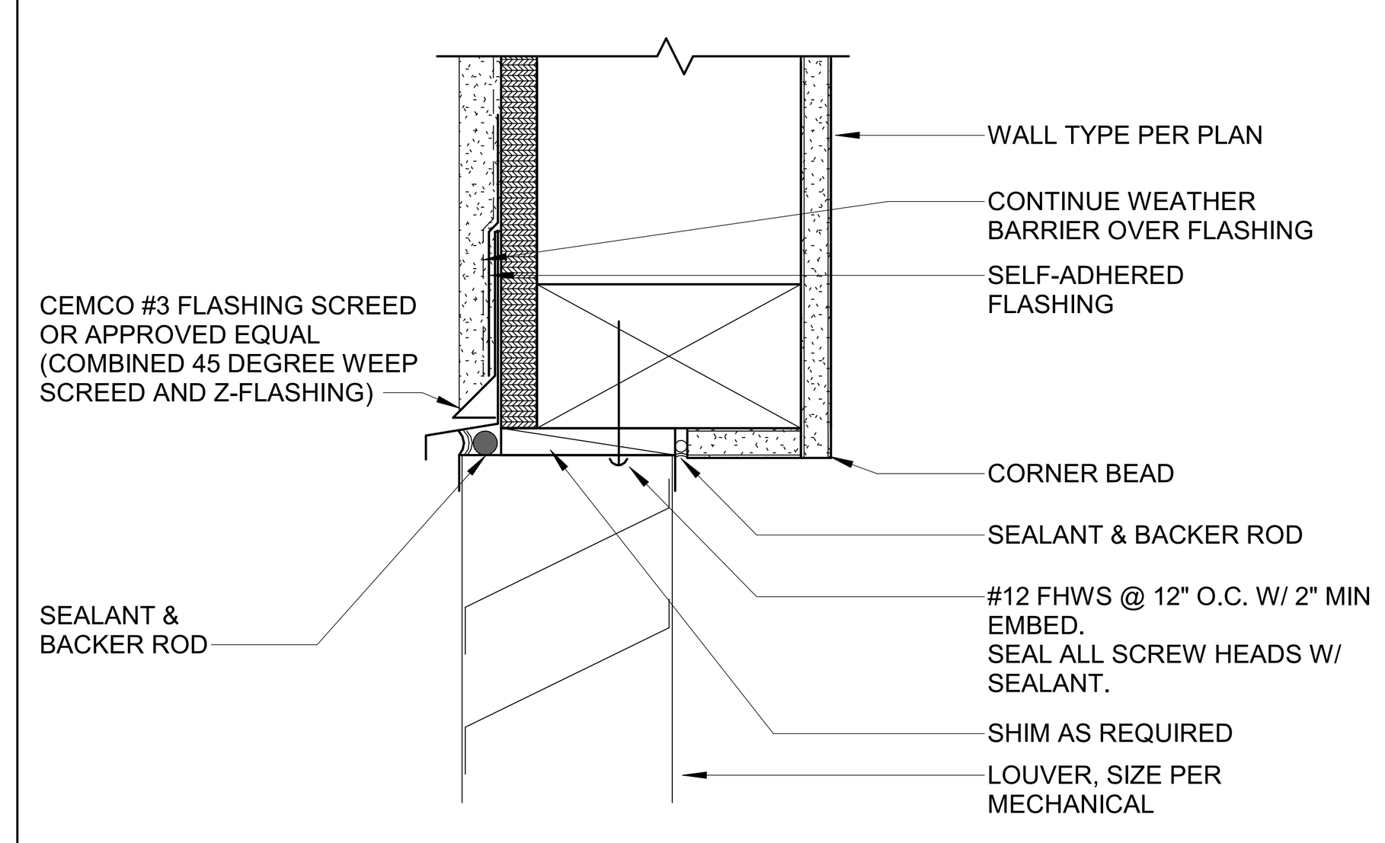
SHEET TITLE:

WALL AND FLOOR DETAILS

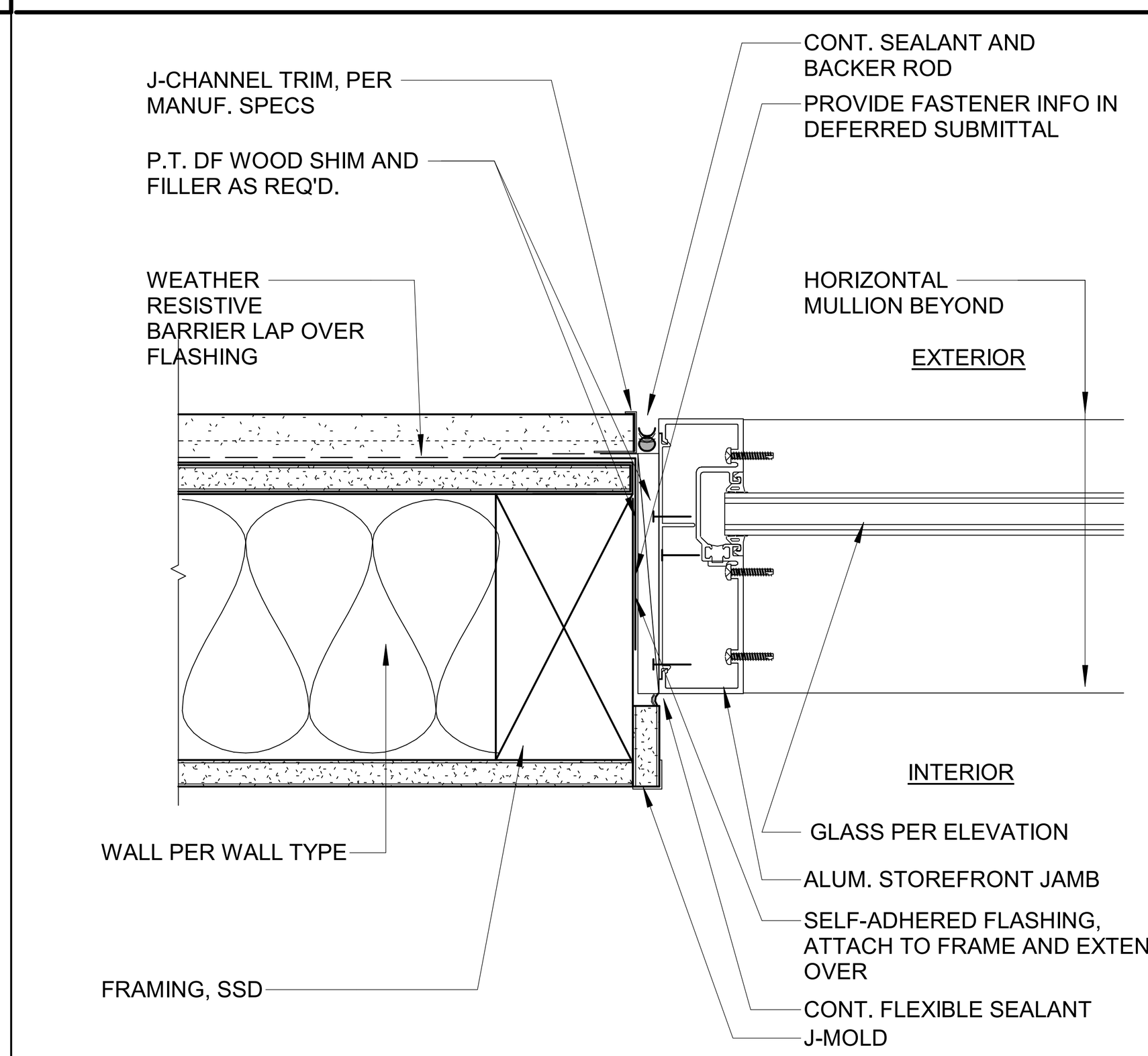
SVA ARCHITECTS
7901 STONERIDGE DR, SUITE 100, PLEASANTON, CA 94588
T 925.374.9884 WWW.SVA-ARCHITECTS.COM

1. FOR TYPICAL STOREFRONT OPENING FLASHING DETAILS, SEE SHEET 9/A62.4

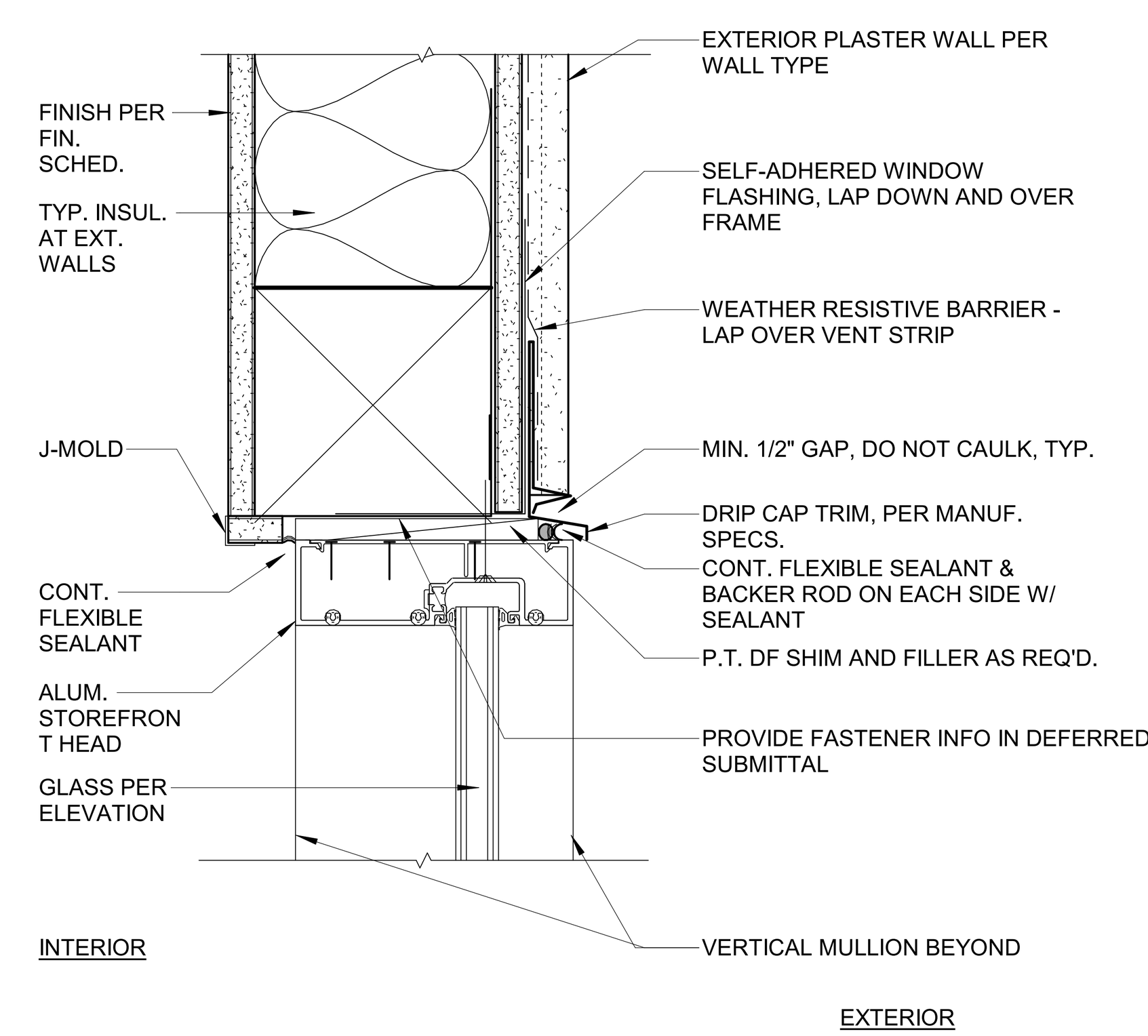
SHEET NOTES - STOREFRONT



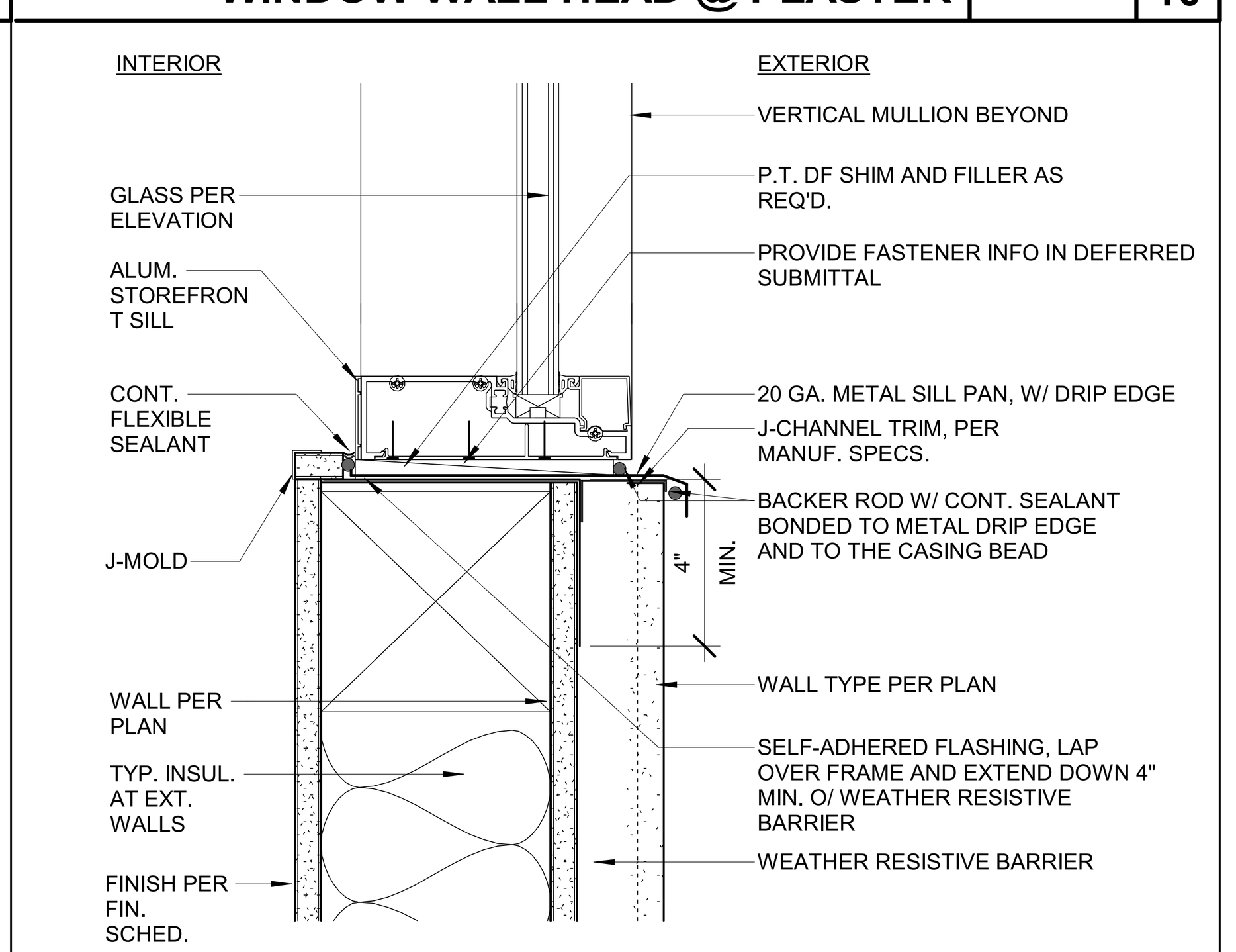
LOUVER HEAD @ PLASTER 3" = 1'-0" **19**



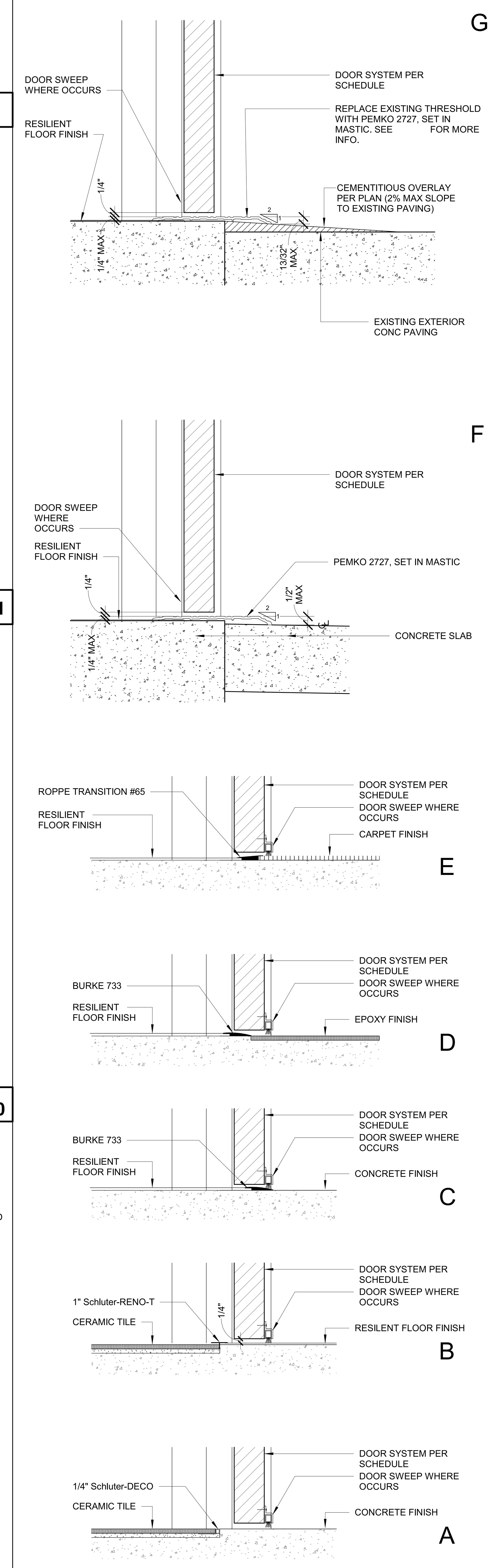
WINDOW WALL JAMB @ PLASTER 3" = 1'-0" **11**



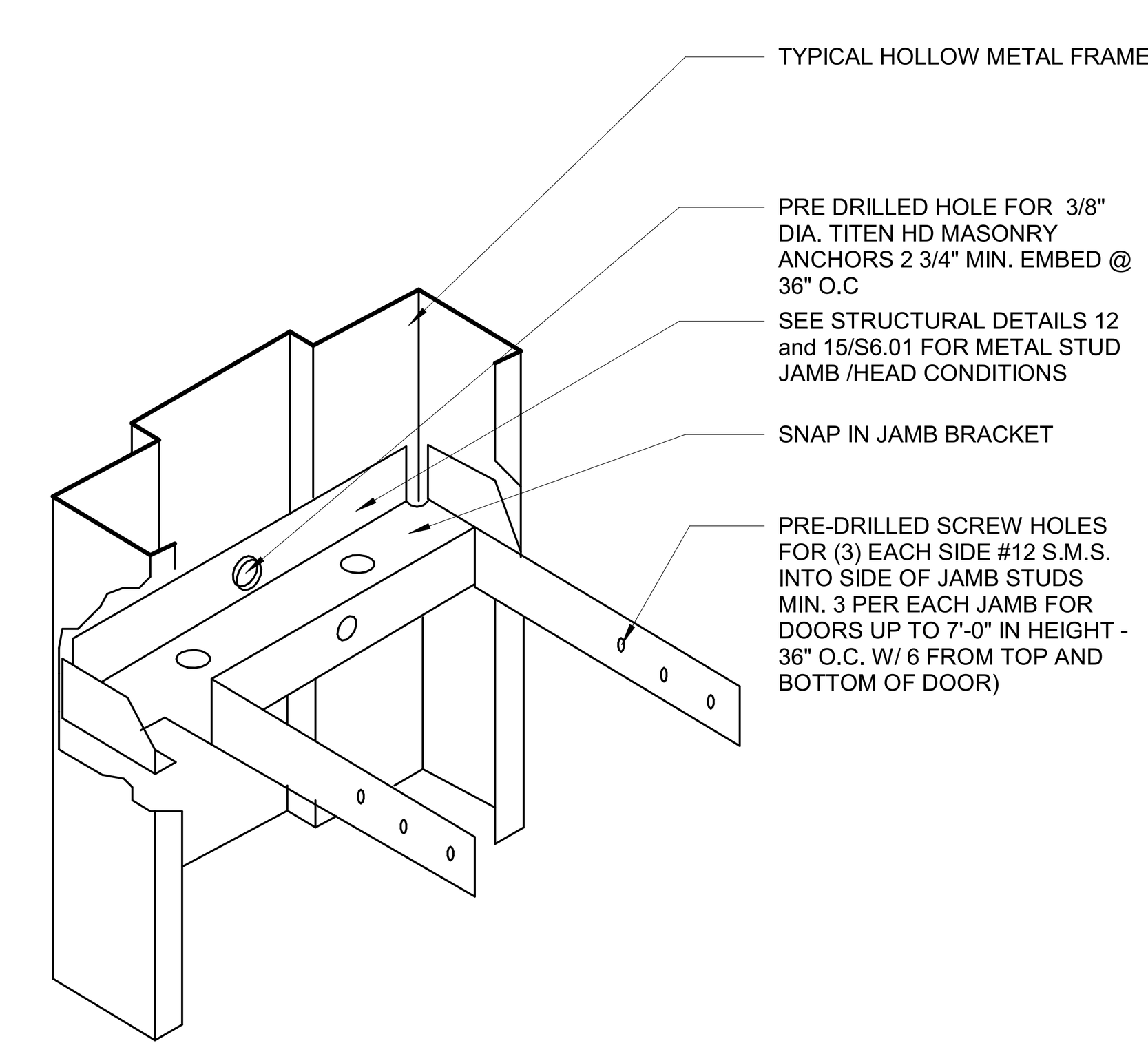
WINDOW WALL HEAD @ PLASTER 3" = 1'-0" **10**



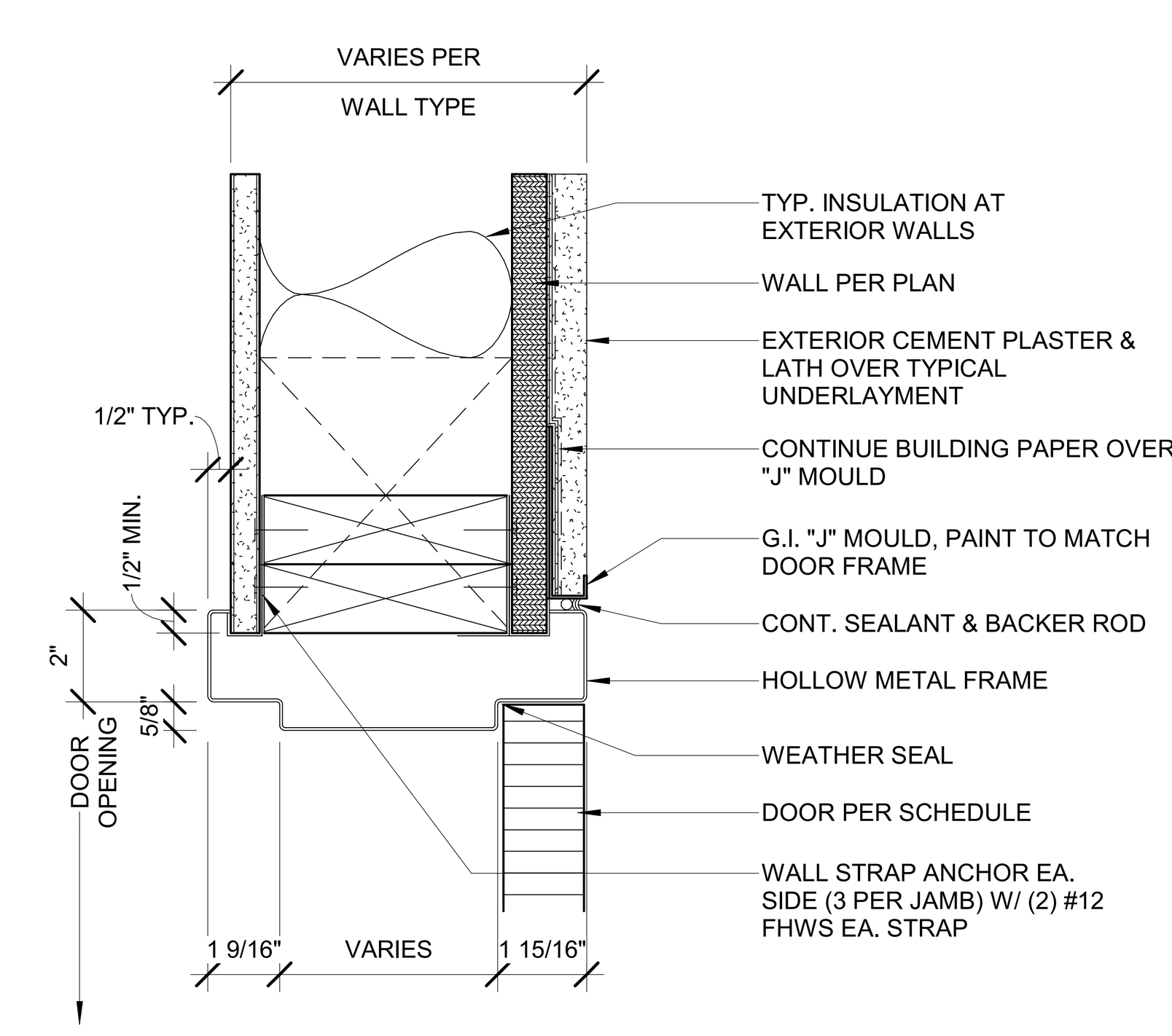
STOREFRONT SILL @ EXT. PLASTER 3" = 1'-0" **9**



THRESHOLD DETAILS 3" = 1'-0" **5**



H.M. DOOR FRAME JAMB ANCHORS 1 1/2" = 1'-0" **2**



TYP EXT HM FRAME JAMB @ WD/PLAS 3" = 1'-0" **1**

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-121181 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 07/02/2024

OWNER: SAN RAFAEL CITY SCHOOLS

PROJECT NAME: VENETIA VALLEY BLDGS G AND H ALTERATION

CLIENT ADDRESS: 177 N San Pedro Rd, San Rafael, CA 94903

LICENSED ARCHITECT
No. C-18301
Jan 31, 2025
STATE OF CALIFORNIA

REVISIONS:

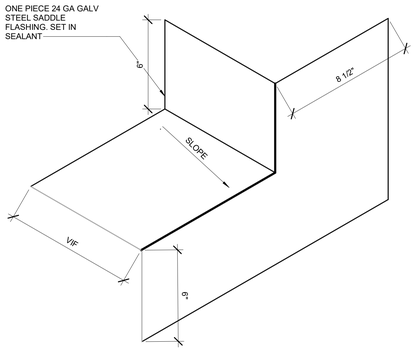
	DESCRIPTION	DATE

PROJECT NO:	2017 / 40104
DATE ISSUED:	06/21/2024
SCALE:	As indicated
SHEET NUMBER:	**A62.3**

SHEET TITLE:

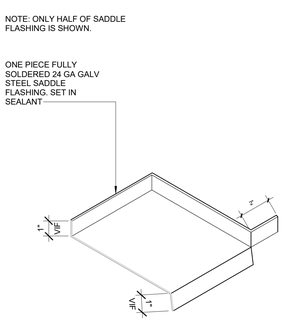
DOOR AND STOREFRONT DETAILS

SVA ARCHITECTS
7901 STONERIDGE DR, SUITE 100, PLEASANTON, CA 94588
T 925.374.9884 WWW.SVA-ARCHITECTS.COM

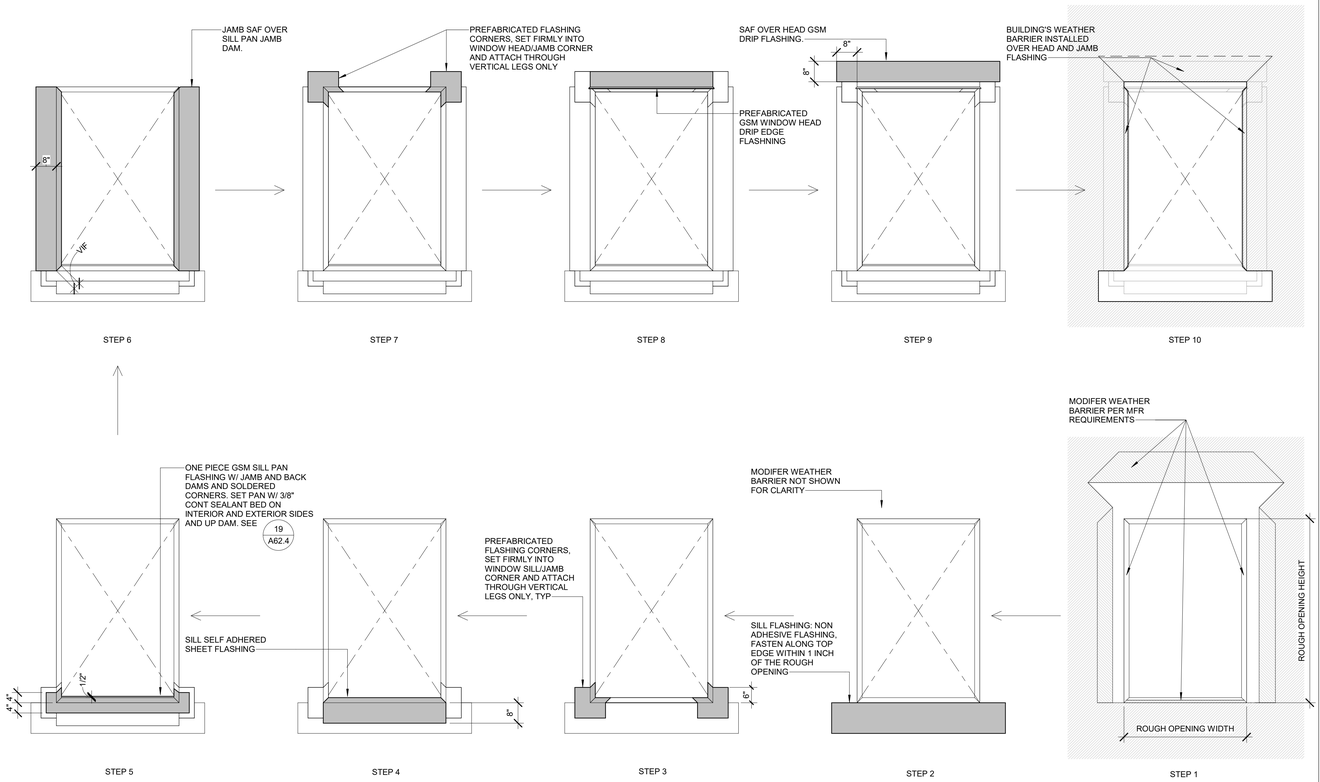


FLASHING DETAILS- PARAPET | 3" = 1'-0" | 16

NOTE: ONLY HALF OF SADDLE
FLASHING IS SHOWN.



FLASHING - WINDOW SILL PAN | 3" = 1'-0" | 19



STOREFRONT WALL OPENING FLASHING | 1/2" = 1'-0" | 9

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-121181 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 07/02/2024

OWNER: SAN RAFAEL CITY SCHOOLS

PROJECT NAME: VENETIA VALLEY BLDGS G AND H ALTERATION

CLIENT ADDRESS: 177 N San Pedro Rd, San Rafael, CA 94903

LICENSED ARCHITECT
ROBERT S. SVA
No. C-18301
Jan 31, 2025
STATE OF CALIFORNIA

REVISIONS:

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PROJECT NO: 2017 / 40104

DATE ISSUED: 06/21/2024

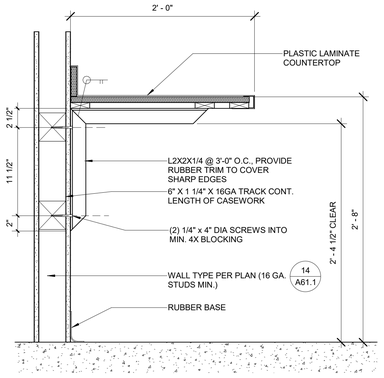
SCALE: As indicated

SHEET NUMBER: A62.4

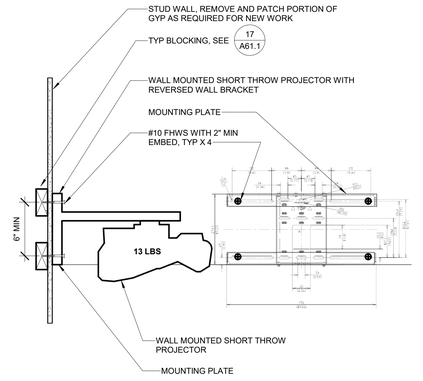
SHEET TITLE:

WATERPROOFING DETAILS

SVA ARCHITECTS
7901 STONERIDGE DR, SUITE 100, PLEASANTON, CA 94588
T 925.374.9884 WWW.SVA-ARCHITECTS.COM



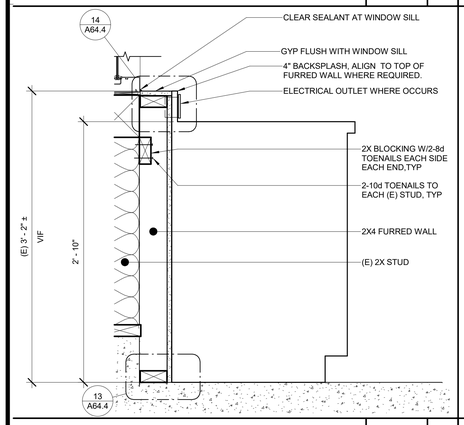
COUNTERTOP AT WALL | 1 1/2" = 1'-0" | 16



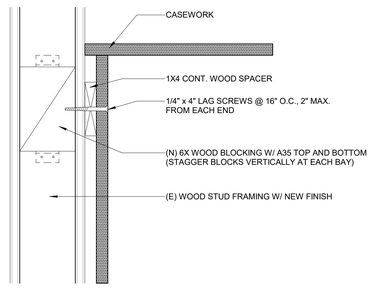
MOUNTING DETAIL- SHORT THROW PROJ. | 1 1/2" = 1'-0" | 8

1. CASEWORK SHALL COMPLY W/ THE REQUIREMENTS OF THE WOODWORK INSTITUTE.
2. ALL CABINET DIMENSIONS INDICATED ARE NOMINAL OUTSIDE DIMENSIONS.
3. FILLER STRIPS ARE REQUIRED AT ENDS OF CABINETS WHERE CABINETS ARE ADJACENT TO WALLS.
4. ALL FILLER STRIPS AT TALL AND WALL CABINETS TO HAVE TOP AND BOTTOM RETURNS.
5. ALL PLAN DIMENSIONS OF CASEWORK ARE CABINET DIMENSIONS ONLY AND DO NOT INCLUDE TOPS.
6. PROVIDE FINISHED END PANELS FOR SUPPORT OF COUNTERTOPS AT UNDERCOUNTER EQUIPMENT OR KNEE SPACES WHERE THERE IS NO ADJACENT WALL OR CABINET THAT CAN BE USE FOR SUPPORT.
7. FINISH ALL EXPOSED PORTIONS OF CASEWORK AND COUNTERTOPS.
8. ALL UNITS, INCLUDING OPEN UNITS, SHALL HAVE CASEWORK MANUFACTURER'S STANDARD CABINET LINER UNLESS OTHERWISE NOTED.
9. ALL TOE SPACES SHALL BE 4" IN HEIGHT AND 3" IN DEPTH AND SHALL RETURN TO WALL WHERE ENDS OF CABINETS ARE EXPOSED.
10. ALL SHELVING SHALL BE ADJUSTABLE UNLESS OTHERWISE NOTED.
11. ALL COUNTERTOPS SHALL BE OF MAXIMUM PRACTICAL LENGTHS REQUIRED TO CONFORM TO OVERALL BASE CABINET DIMENIONS.
12. PROVIDE BACKSPLASH COUNTERTOP RETURN AT ENDS OF COUNTERTOPS WHERE ADJACENT TO WALL OR OTHER FULL HEIGHT CASEWORK.
13. ALL SINKS, SINK TRIM & ELECTRICAL ITEMS SHALL BE FURNISHED BY OTHER THAN THE CASEWORK MANUFACTURER UNLESS OTHERWISE NOTED.
14. ALL COUNTER TOPS SHALL BE PLASTIC LAMINATE UNLESS OTHERWISE NOTED.
15. ALL W.I. CASEWORK TO BE FACE FRAME MODEL.

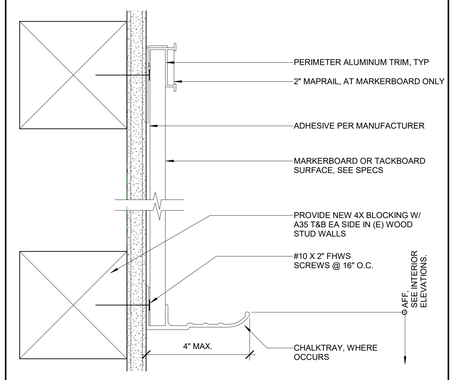
CASEWORK NOTES | 1 : 1 | 4



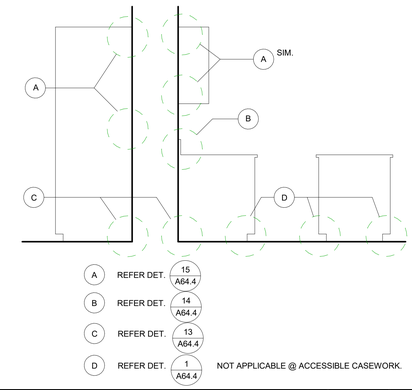
BASE CABINET AT FURRED WALL 1 | 1 1/2" = 1'-0" | 19



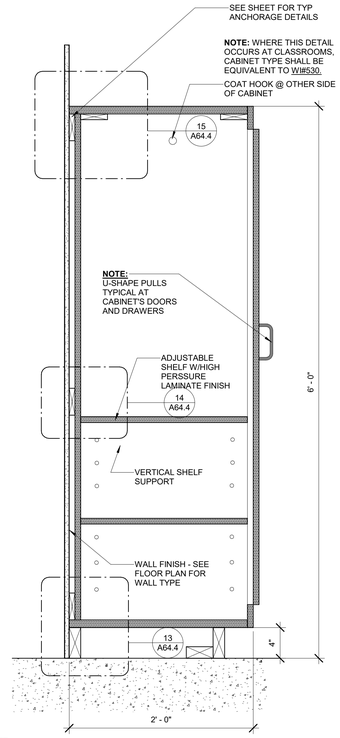
TYP. ANCHORAGE @ WOOD STUD | 3" = 1'-0" | 15



FIXED MARKERBOARD/TACKBOARD | 6" = 1'-0" | 7



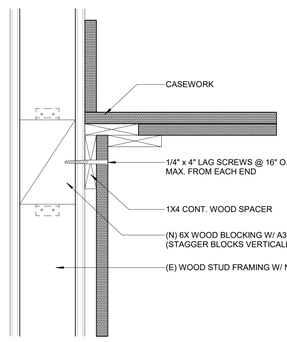
TYPICAL ANCHORAGE | 1/2" = 1'-0" | 3



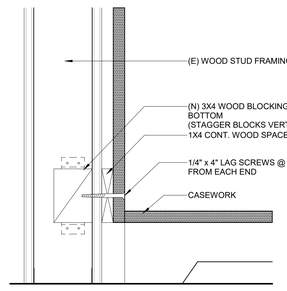
NOTE:

ALL DOORS SHALL BE PROVIDED WITH LOCKS

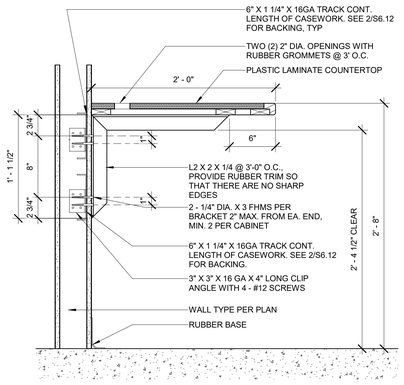
BUILT-IN CASEWORK CABINET SECTION | 1 1/2" = 1'-0" | 17



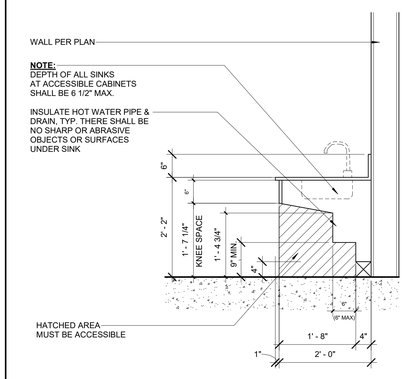
ANCHORAGE (MID) @ WOOD STUD | 3" = 1'-0" | 14



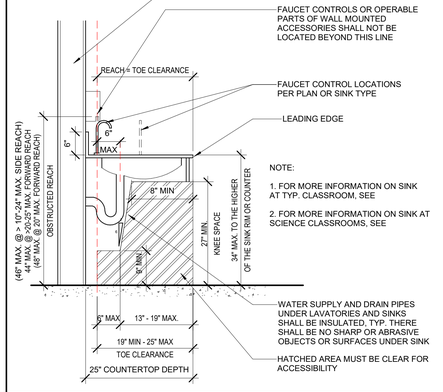
ANCHORAGE (BASE) @ WOOD STUD | 3" = 1'-0" | 13



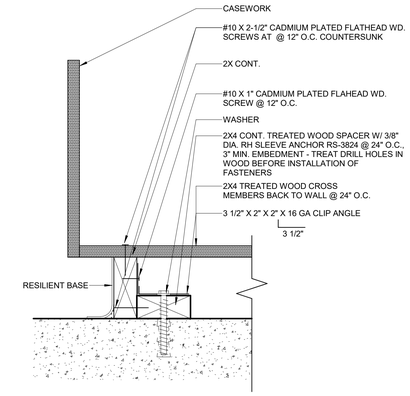
COUNTERTOP AT WALL | 1 1/2" = 1'-0" | 9



ACCESSIBLE CASEWORK- 2'-2" ht. | 3/4" = 1'-0" | 6



ACCESSIBLE W/ BUILT-IN SINK CASEWORK | 3/4" = 1'-0" | 2



BASE ANCHORAGE @ FRONT | 3" = 1'-0" | 1

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-121181 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 07/02/2024

OWNER: SAN RAFAEL CITY SCHOOLS

PROJECT NAME: VENETIA VALLEY BLDGS G AND H ALTERATION

CLIENT ADDRESS: 177 N San Pedro Rd, San Rafael, CA 94903

LICENSED ARCHITECT
Robert Simpson
No. C-18301
Jan 31, 2025
STATE OF CALIFORNIA

REVISIONS:

	DESCRIPTION	DATE
1		

PROJECT NO: 2017 / 40104

DATE ISSUED: 06/21/2024

SCALE: As indicated

SHEET NUMBER: A64.4

SHEET TITLE:

CASEWORK DETAILS AND MISC DETAILS

SVA ARCHITECTS
7901 STONERIDGE DR, SUITE 100, PLEASANTON, CA 94588
T 925.374.9884 WWW.SVA-ARCHITECTS.COM

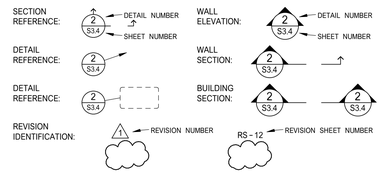
VENETIA VALLEY
BLDG G AND H MODERNIZATION

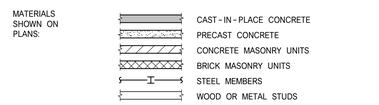
177 N SAN PEDRO ROAD
SAN RAFAEL, CA 94903

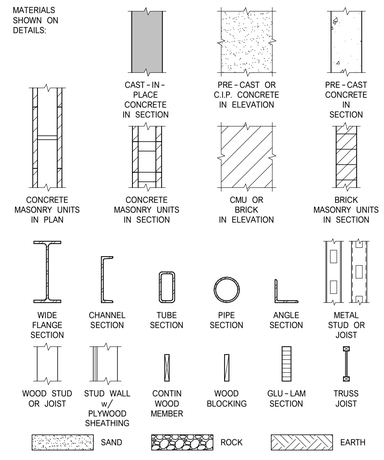
ABBREVIATIONS

A.B.	Anchor Bolt	F.O. STUD	Face of Stud	PLF	Pounds per Linear Foot
ACI	American Concrete Institute	FRMG	Framing	PLY	Plywood
A.D.	Area Drain	F.S.	Far Side	PLYWD	Plywood
ADDL	Additional	FT	Foot or Feet	P.J.P.	Partial Joint Penetration
ADJ	Adjacent	FTG	Footing	PSF	Pounds per Square Foot
A.F.F.	Above Finish Floor			PSI	Pounds per Square Inch
AISC	American Institute of Steel Construction	GA	Gage	PSL	Parallel Strand Lumber
ALT	Alternate	GALV	Galvanized	P/T	Post-Tensioned
APPROX	Approximately	G.B.	Grade Beam	P.T.	Pressure Treated
ARCH	Architect or Architectural	GLB	Glued Laminated Beam	P.T.D.F.	Pressure Treated Douglas Fir
ASPH	Asphalt	GLC	Glued Laminated Column		
ASTM	American Society for Testing and Materials	GR	Grade	R	Radius
A.C.	Asphaltic Concrete, Air Condition	GYP	Gypsum	R.D.	Roof Drain
				RDWD	Redwood
BAL	Balance	HDR	Header	REF	Reference
B.L.	Bottom Lower	HGR	Hanger	REINF	Reinforcing
BLDG	Building	HK	Hook	REQD	Required
BLK	Block	HORIZ	Horizontal	REV	Revision
BLKG	Blocking	H.P.	High Point	RF	Roof
BM	Beam	H.R.	Hard Rock	RM	Room
B.O.	Bottom of	HSS	Hollow Structural Section	R.O.	Rough Opening
BOT	Bottom	HT	Height		
B.P.	Break Point			S	Section Modulus
BRD	Board	I	Moment of Inertia	S.A.D.	See Architectural Drawings
BRG	Bearing	I.D.	Inside Diameter	S.C.D.	See Civil Drawings
BRKT	Bracket	I.F.	Inside Face	SCHED	Schedule
BTWN	Between	INFO	Information	S.E.D.	See Electrical Drawings
B.U.	Bottom Upper	INSUL	Insulation	SF	Square Feet
		INT	Interior	SHT	Sheet
C	Channel			SHTG	Sheathing
CBC	California Building Code	JST	Joist	SIM	Similar
C.I.P.	Cast In Place	JT	Joint	S.J.	Shrinkage Joint, Seismic Joint or Slip Joint
C.J.	Construction or Control Joint			S.L.D.	See Landscape Drawings
CLG	Ceiling	KIPS	1000 Pounds	S.M.D.	See Mechanical Drawings
CL	Center Line	KSF	KIPS Per Square Foot	S.M.F.	Special Moment Frames
CLR	Clear			S.M.S.	Sheet Metal Screw
CMU	Concrete Masonry Unit	L	Angle	S.O.G.	Slab On Grade
COL	Column	LBS	Pounds	SP	Space or Spacing
CONC	Concrete	LL	Live Load	S.P.D.	See Plumbing Drawings
CONN	Connection	LLH	Long Leg Horizontal	SPEC	Specification
CONSTR	Construction	LLV	Long Leg Vertical	SQ.	Square
CONTIN	Continuous	LONGIT	Longitudinal	S.S.D.	See Structural Drawings
C.J.P.	Complete Joint Penetration	L.P.	Low Point	STAGG	Staggered
CTR	Center	L.S.	Low Shrinkage	STD	Standard
CTRD	Centered	LSL	Laminated Strand Lumber	STIFF	Stiffener
CTRSNK	Countersink	LT	Light	STL	Steel
		LVL	Laminated Veneer Lumber	STRUCT	Structural
d	Penny weight	LTWT	Light Weight	SYM	Symmetric
DBL	Double				
DEPR	Depression	MACH	Machine	T & B	Top and Bottom
D.F.	Douglas Fir	MAS	Masonry	T & G	Tongue and Groove
DIA or	Diameter	MATL	Material	T.B.	Tie Beam
DIAG	Diagonal	MAX	Maximum	THK	Thick
DIM	Dimension	M.B.	Machine Bolt	THRU	Through
DL	Dead Load	MC	Miscellaneous Channel	T.L.	Top Lower
DN	Down	M.D.	Mid-depth	T.O.	Top Of
do	Ditto	MECH	Mechanical	T.O.T.S.	Top of Topping Slab
D.W.F.	Deformed Wire Fabric	M.F.	Moment Frame	T.O. CONC	Top of Concrete
DWG	Drawing	MFR	Manufacturer	T.O. PAR	Top of Parapet
		MIN	Minimum	T.O. PLY	Top of Plywood
(E)	Existing	MISC	Miscellaneous	T.O. PL	Top of Plate
EA	Each	MTL	Metal	T.O. SLAB	Top of Slab
E.F.	Each Face			T.O. STL	Top of Steel
E.J.	Expansion Joint	(N)	New	TRANS	Transverse
EL	Elevation	N.A.	Not Applicable	TS	Tube Steel
ELEC	Electrical	N.I.C.	Not In Contract	T.U.	Top Upper
ELEV	Elevator	NO.	Number	TYP	Typical
EMBED	Embedment	N.P.	No Profile		
E.N.	Edge Nail	N.S.	Near Side	UBC	Uniform Building Code
ENCL	Enclosure	N.T.S.	Not To Scale	U.N.O.	Unless Noted Otherwise
ENGR	Engineer				
E.O.	Edge of	o.c.	On Center	V.B.	Vapor Barrier
E.O. MAS	Edge of Masonry	O.D.	Outside Diameter	VENT	Ventilation
E.O. PL	Edge of Plate	O.F.	Outside Face	VERT	Vertical
E.O. SLAB	Edge of Slab	O.H.	Opposite Hand	V.I.F.	Verify In Field
EQ	Equal	OPNG	Opening		
EQPT	Equipment	OPP.	Opposite	W	Wide Flange
E.W.	Each Way	OSB	Oriented Strand Board	w/	With
EXP	Expansion	O.W.S.G.	Open Web Steel Girder	w/o	Without
EXT	Exterior	O.W.S.J.	Open Web Steel Joist	WD	Wood
				WF	Wide Flange
F.D.	Floor Drain	PAR	Parapet	W.P.	Work Point
FDN	Foundation	PC	Piece	W.P.J.	Weakened Plane Joint
F.F.	Finish Floor	P/C	Precast	WT	Weight or Structural T
FIN	Finish	PCF	Pound per Cubic Foot	W.W.F.	Welded Wire Fabric
FLR	Floor	P.D.F.	Powder Driven Fastener		
F.O.	Face of	P.D.P.	Powder Driven Pin		
F.O. CONC	Face of Concrete	PL	Property Line or Plate		
F.O. MAS	Face of Masonry				

SYMBOLS







SHEET INDEX

#	TITLE	ISSUE FOR PERMIT	PERMIT RESUBMITTAL	PERMIT RESUBMIT #2
S01	TITLE PAGE	√	√	√
S11	GENERAL NOTES	√	√	√
S21-G	BLDG G FOUNDATION & ROOF FRAMING PLAN	√	√	√
S21-H	BLDG H FOUNDATION & ROOF FRAMING PLAN	√	√	√
S41-G	EXTERIOR WALL ELEVATIONS	√	√	√
S41-H	EXTERIOR WALL ELEVATIONS	√	√	√
S50	DETAILS	√	√	√
S51	DETAILS	-	-	√

ISSUE LOG KEY
' √ ' ISSUED AS PART OF A SET
' — ' NOT A PART OF ISSUED SET
' * ' ISSUED FOR INFORMATION ONLY
' o ' PREVIOUSLY SUBMITTED FOR PLAN CHECK & PROVIDED FOR INFORMATION ONLY

DATE: 09-11-23 | 03-21-24 | 06-19-24

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-121181 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 07/02/2024

OWNER: SAN RAFAEL CITY SCHOOLS

PROJECT NAME: VENETIA VALLEY BLDGS G AND H ALTERATION

CLIENT ADDRESS: 177 N San Pedro Rd, San Rafael, CA 94903

REGISTERED PROFESSIONAL ENGINEER
DAVID J. ROSSI
No. 4121
STRUCTURAL
STATE OF CALIFORNIA

19 JUN 2024
DATE SIGNED

REVISIONS:

	DESCRIPTION	DATE
1	ISSUE FOR PERMIT	09-11-2023
2	PERMIT RESUBMITTAL	03-21-2024
3	PERMIT RESUBMIT #2	06-19-2024

PROJECT NO: 2300016.00

DATE ISSUED: 06-19-2024

SCALE: NONE

SHEET NUMBER: S01

SHEET TITLE:

TITLE PAGE

kpff
45 Fremont Street, 28th floor
San Francisco, CA 94105
415.989.1004 | kpff.com

SEOR Contact:
david.rossi@kpff.com
Day-to-Day Contact:
brian.biehl@kpff.com

GENERAL NOTES

GENERAL

Dimensions refer to rough concrete surfaces, face of studs, face of concrete block, top of sheathing, or top of slab, unless otherwise indicated. The Contractor shall verify all dimensions prior to the start of construction. The Architect shall be notified of any discrepancies or inconsistencies.

All drawings are considered to be a part of the contract documents. The Contractor shall be responsible for the review and coordination of all drawings and specifications prior to the start of construction. Any discrepancies that occur shall be brought to the attention of the Architect prior to the start of construction so that a clarification can be issued. Any work performed in conflict with the contract documents or any code requirements shall be corrected by the Contractor at their own expense and at no expense to the owner or Architect.

Notes and details on the structural drawings shall take precedence over general notes and typical details. Where no details are given, construction shall be as shown for similar work.

All work shall conform to the minimum standards of the following codes:

2022 California Building Code, which comprises Title 24, Part 2 of the California Code of Regulations, as adopted by the California Building Standards Commission referred to here as "The California Building Code, 2022 Edition" or "the code", and any other regulating agencies which have authority over any portion of the work, including the State of California Division of Industrial Safety, and those additional codes and standards including, but not limited to, the following incorporated codes listed below, and in these structural notes and specifications.

American Society of Civil Engineers: ASCE 7-16 with Supplement 1, Minimum Design Loads for Buildings and Other Structures including Supplement No. 1 and 2.

American Wood Council (AWC): SDPWS-2021 Special Design Provisions for Wind and Seismic

Refer to the architectural drawings for the following:

Dimensions not shown on the structural drawings.
Size and location of all floor and roof openings, except as noted.
Size and location of all interior and exterior non-bearing partitions.
Size and location of all door and window openings, except as noted.
Size and location of inserts for cladding or ornamentation.
Size and location of all concrete curbs, equipment pads, pits, floor drains, slopes, depressed areas, change in level, chamfers, grooves, inserts, etc.
Floor and roof finishes.

Refer to the mechanical, plumbing, and electrical drawings for the following:

Pipe runs, sleeves, hangers, trenches, wall and slab openings, etc., except as noted.
Electrical conduit runs, boxes, and outlets in walls and slabs.
Concrete inserts for electrical, mechanical, or plumbing fixtures.
Size and location of machine or equipment bases or anchor bolts for motor mounts.

The contract structural drawings and specifications represent the finished structure. They do not indicate the method of construction. The Contractor shall provide all measures necessary to protect the structure during construction. Such measures shall include, but not be limited to, bracing and shoring for loads due to construction equipment, etc. Observation visits to the site by the Engineer shall not include inspection of the aforementioned items.

Contractor shall investigate the site, during clearing and earthwork operations, for filled excavations or buried structures, such as cesspools, cisterns, foundations, etc. If any such structures are found, the Engineer shall be notified immediately.

Construction material shall be spread out if placed on framed roof or floor. Load shall not exceed the design live load per square foot. Provide adequate shoring and/or bracing where the structure has not attained the design strength.

Specifications and detailing of all waterproofing and drainage items, although sometimes indicated on the structural drawings for general information purposes only, are solely the design responsibility of others.

Shop drawings, special inspections, and material sampling and testing, when required, are specified in their respective tables in the general notes and in the specifications.

Mandatory Structural Preconstruction Meeting

The Contractor shall coordinate and hold a mandatory structural preconstruction meeting prior to placing underground utilities or preparation of shop drawings for any materials. The structural preconstruction meeting agenda shall be set by the Structural Engineer with input from the Contractor, Architect, and Owner. Project foremen or superintendents (for each sub-contractor) assigned to the Project shall be in attendance for each trade including but not limited to:

Wood framing contractor

DESIGN

Design conforms to the California Building Code, 2022 Edition

Live loads:
Roof (flat) ..... 20 psf
Office ..... 85 psf LL + 15 psf partition load

Wind Analysis:
Basic wind speed, V3S ..... (CBC Figure 1609A.3) VULT = 92 mph
Exposure ..... (CBC Section 1609A.4.3) = C
Internal Pressure Coefficient, GCPI ... (ASCE Table 26.13-1) GCPI = ±0.18

Interior Wall Condition (psf): +20/-25
Corner Wall Condition (psf): +25/-30

(+) Pressures indicate pressure towards wall
(-) Pressures indicate pressure away from wall
Corner conditions - extent of wall from building corner as defined by ASCE

Seismic Analysis:
Seismic Importance Factor, I ..... (ASCE Table 1.5-2) I = 1.0
Risk Category ..... (CBC Table 1604A.5) = II

Site Location, Latitude ..... 38.000921°
Site Location, Longitude ..... -122.524589°

Spectra Accel., Short Period, SS ..... (CBC Figure 1613A.2.1(1)&(2)$S = 1.5 g
Spectra Accel., Long Period, S1 ..... (CBC Figure 1613A.2.1(3)&(4)$1 = 0.6 g
Site Classification ..... (CBC Section 1613A.2.2) = D (Default)
Design Response, Short Period, SDS..... (CBC Section 1613A.2.4) SDS = 1.2 g
Design Response, Long Period, SD1 ..... (CBC Section 1613A.2.4) SD1 = 0.68 g
Seismic Design Category ..... (CBC Table 1613A.2.5(1)&(2)) = D

For Exhaust Hoods and Makeup Air Unit:
Component: Air-side HVAC, fans, air handlers, air conditioning units, cabinet heaters, air distribution boxes, and other mechanical components constructed of sheet metal framing.
Component Amplification Factor: ap = 2.5
Component Response Modification Factor: Rp = 6

Component Overstrength Factor: Ω0 = 2.0
Component Importance Factor: Ip = 1.0

EXISTING CONSTRUCTION

Existing construction shown on the structural drawings was obtained from existing structural drawings "Santa Venetia JR. High School" by PAQUETTE & MAURER, dated August 10th, 1959" for building G and "San Rafael City Schools Shop Addition" by Forell/Elsesser Engineers, dated May 27t, 1971. The Contractor shall verify all existing conditions and shall notify the Architect of all exceptions before proceeding with the work.

The removal, cutting, drilling, etc. of existing work shall be performed with great care and small tools in order not to jeopardize the structural integrity of the building. If existing structural members that are not indicated for removal interfere with the new work, the Engineer shall be notified immediately, and approval obtained, before removal of the existing members.

The Contractor shall safely shore existing construction wherever existing supports are removed to allow installation of the new work. The existing construction shall be connected and/or embedded into the new construction as shown or specified.

CARPENTRY

Framing lumber shall meet the following minimum standard except where otherwise noted:

USE		SPECIES	GRADE	AUTHORITY
Mudsills	2 x 4	D.F.	Standard or Better Pressure Treated	CBC Sec. 2303.1.9
	2 x 6 and larger	D.F.	No. 2 or Better Pressure Treated	CBC Sec. 2303.1.9
Plywood		A.P.A. Grade Marked	CC Exterior or CD Exposure 1	CBC Sec. 2303.1.5 & DOC PS1 & PS2
OSB		A.P.A. Grade Marked	Exterior or CD Exposure 1	CBC Sec. 2303.1.5 & DOC PS1 & PS2
Horizontal framing member:				
4 x 4 and smaller		D.F.	No. 2	WCLIB & WWPA
2 x roof joists and rafters		D.F.	No. 2	WCLIB & WWPA
2 x floor joists		D.F.	No. 2	WCLIB & WWPA
4 x header and beams		D.F.	No. 2	WCLIB & WWPA
6 x 6 and larger		D.F.	No. 1	WCLIB & WWPA
Vertical framing lumber:				
2 x 4 & 3 x 4 studs		D.F.	Stud	WCLIB & WWPA
2 x 6 & 2 x 8 studs		D.F.	No. 2	WCLIB & WWPA
4 x 4 & 4 x 6 posts		D.F.	No. 2	WCLIB & WWPA
4 x 8 & larger posts		D.F.	No. 1	WCLIB & WWPA
6 x 6 & larger posts		D.F.	No. 1	WCLIB & WWPA
All other framing lumber, U.N.O.		D.F.	Standard & Better	WCLIB & WWPA

Solid sawn joists shall be grade stamped "S-DRY" which indicates a moisture content not exceeding 19 percent.

Stud walls shown on plans are nonbearing partitions 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, schedules, and architectural drawings. Where not noted otherwise, stud walls shall be 2 x 4 at 16"o.c.

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.

Unless otherwise noted, all wood sill plates under exterior or shear walls in contact with concrete or masonry shall be bolted to the concrete or masonry with 5/8" diameter x 12" bolts 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.

All lumber in contact with concrete shall be pressure treated lumber with AWPA treatment C2 using either Alkaline Copper Quaternary (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.

At Type III construction, all exterior walls shall use fire retardant treated wood per CBC section 602.3 and CBC section 2303.2. See architectural drawings for construction type delineation and for exterior wall assembly fire-rating delineation.

Fire Retardant Treated lumber and plywood, where indicated on plans or in specifications, shall be in accordance with ASTM E-84 or UL 723 with a flame spread index of 25 or less and no evidence of significant combustion when the test is continued for an additional 20 minute period. Treat in accordance with AWPB LP-3. Lumber shall be Kiln Dried after Treatment to a 19% maximum moisture content. Plywood shall be Kiln Dried after Treatment to a 15% maximum moisture content. For specific labelling requirements, see specifications.

Provide 2 studs, each end, under all 4 x 10 and larger beams or headers at spans larger than 5 feet, 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.

At solid sawn joist provide the following as a minimum, unless shown otherwise:
2" x full depth solid blocking between joists over support.
2" x full depth solid blocking between joists over and below partition walls.

Bridging shall be 2 x solid blocking or approved metal bridging, installed as follows:
Roof joists more than 8" depth, 8'-0"o.c. maximum, not more than 8'-0" from support.
Floor joists more than 8" depth, 8'-0"o.c. maximum, not more than 8'-0" from support.

Provide double joists under partitions running parallel to joists, unless supported by a wall below or shown otherwise. Double joists shall be connected together, see typical built up member details.

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 manufacturer with equivalent load carrying characteristics may be used.

Fire stopping, backing for interior finishes, nonbearing walls, and other non-structural framing are not necessarily shown on structural drawings.

Roof Sheathing

Plywood sheathing shall be (5/8" (19/32" Performance Category), Indent Index 32/16

OSB sheathing shall be 1/2" (15/32" Performance Category), Ident Index 32/16

Wall Sheathing

Plywood sheathing shall be 1/2" (15/32" Performance Category), Ident Index 16/0

OSB sheathing shall be 1/2" (15/32" Performance Category), Ident Index 16/0

Sheathing Installation - Plywood roof and floor sheathing shall be laid with the grain of the outer plies perpendicular to the framing members, shall be continuous over 2 joist bays minimum and end joints shall be staggered. Plywood or OSB Wall sheathing shall be applied vertically.

Unless otherwise noted, plywood or OSB sheathing nails shall be common. Equivalent pneumatically driven nails or staples may be used if fastener manufacturer has received ICC approval according to ESR-1539, or equal. Fasteners to be substituted shall be equivalent in lateral and withdrawal strength to the size of common nail specified.

Use of machine nailing is subject to a satisfactory jobsite demonstration for each project and the approval by the project architect or structural engineer. The approval is subject to continued satisfactory performance. If nail heads penetrate the outer ply more than would be normal for a hand hammer or if minimum allowable edge distances are not maintained, the performance will be deemed unsatisfactory.

Roof Sheathing - Roof sheathing shall be unblocked/blocked where shown. Edge blocking shall be 2x4 flat, minimum, where indicated.

When 1/2" roof sheathing is specified, provide Plyclips or approved equal connector at midspan between each support when rafter spacing exceeds 16"o.c., unless edges are blocked.

For roof sheathing Fire Retardant Treated requirements see architectural drawings and Fire Retardant Treated section above.

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.

For floor sheathing Fire Retardant Treated requirements see architectural drawings and Fire Retardant Treated section above.

Floor Sheathing 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.

Wall Sheathing - All walls that are designated thus ------- on plans shall be sheathed with plywood or OSB sheathing. Block all unsupported edges of sheathing. For Fire Retardant Treated requirements see architectural drawings and Fire Retardant Treated section above.

Typical nailing shall be 10d at 6"o.c. at all edges, and 10d at 12"o.c. at all intermediate supports, unless otherwise noted, see plans.

Plywood or OSB sheathed walls, denoted with a -- symbol, are designated as shear walls and shall be nailed as per the Shear Wall Nailing Schedule.

POWDER ACTUATED FASTENERS - SILL PLATES

Except at wood framed shear walls and exterior walls, wood sill plates may be fastened to the concrete slabs using powder actuated fasteners spaced at 16" o.c. maximum, unless otherwise noted. The fasteners shall be Hilti X-U as manufactured by Hilti, Inc. (ICC Evaluation Report ESR-2269) or approved equal with a current evaluation report from an approved source.

LOW VELOCITY PINS (L.V.P.)

Provide Powder Actuated Fasteners with low velocity charges of size and spacing shown, where L.V.P. is noted on the drawings. The fasteners shall be Hilti X-U as manufactured by Hilti, Inc. (ICC Evaluation Report ESR-2269) or approved equal with a current evaluation report from an approved source.

EPOXY FOR CONCRETE

Epoxy shall be HIT-HY 200 V3 as manufactured by Hilti, Inc. (ICC Evaluation Report ESR-4868). All drilled holes shall be sized according to the manufacturer's recommendations.

EXPANSION ANCHORS

Expansion Anchors shall be KB-TZ2 as manufactured by Hilti, Inc. (ICC Evaluation Report ESR-4266) or approved equal with a current ICC report. All drilled holes shall be sized according to the manufacturer's recommendations.

HIGH STRENGTH SCREW ANCHORS

High-Strength Screw Anchors shall be Titen HD as manufactured by Simpson Strong Tie, Inc. (ICC Evaluation Report ESR-2713) or approved equal with a current ICC report. All drilled holes shall be sized according to the manufacturer's recommendations.

SHOP DRAWING SUBMITTALS

When indicated with a "X", the following items shall have either a) shop drawings or b) certificates of conformance or c) shop drawings, calculations, and details submitted to the architect for review and approval prior to fabrication. When shop drawings, calculations, and details are required, submittals (drawings and calculations) must be signed and stamped by a Civil or Structural Engineer registered in the State of California. For additional information on the contents of the submittals, refer to the project specifications and the specific general notes sections. Submit two prints or an electronic (PDF copy) of calculations (where indicated) and shop drawings to the Architect for review.

Item	Shop Drawings	Certificate[1]	Shop Dwgs, calcs, and Details	Remarks
Statement of Responsibility (for Special Inspections)		X		See CBC 1704.4 and Special Inspection Notes. Do not submit KPFF Drawings.
Expansion Anchors	x			
Epoxy for Bolts or Rebar	x			
Screw Anchors	x			
Powder Actuated Fasteners	x			
Low Velocity Pins, L.V.P.	x			

(1) Certificates shall be dated within 3 months of the submittal.

MATERIAL SAMPLING AND TESTING

See DSA Form 103 for material sampling and testing requirements.

STRUCTURAL OBSERVATION

The structural engineer of record, or their designated engineer, shall provide structural observation of the structural system for general conformance to the approved plans and specifications at significant construction stages and at completion of the structural system, as required by CBC Section 1704A.6. Written reports shall be submitted to the owner's representative, special inspector, contractor, and building official.

The structural observer shall submit to the building official a written statement that the site visits have been made and identify any reported deficiencies which, to the best of the structural observer's knowledge, have not been resolved.

Structural System Components requiring observation in this project include:

Item	Required	Remarks
Shear Wall Nailing and Anchorage	x	

Structural observation does not include or waive the responsibility of the special inspections required by CBC Section 1705A, or other sections of the code as noted elsewhere in the Contract Documents.

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-121181 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 07/02/2024

OWNER: SAN RAFAEL CITY SCHOOLS

PROJECT NAME: VENETIA VALLEY BLDGS G AND H ALTERATION

CLIENT ADDRESS: 177 N San Pedro Rd, San Rafael, CA 94903

REGISTERED PROFESSIONAL ENGINEER
DAVID J. ROSSI
No. 4127
STRUCTURAL
STATE OF CALIFORNIA

19 JUN 2024
DATE SIGNED

REVISIONS:

	DESCRIPTION	DATE
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9		
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PROJECT NO: 2300016.00
DATE ISSUED: 06-19-2024
SCALE: 12" = 1'-0"

SHEET NUMBER: S11

SHEET TITLE:

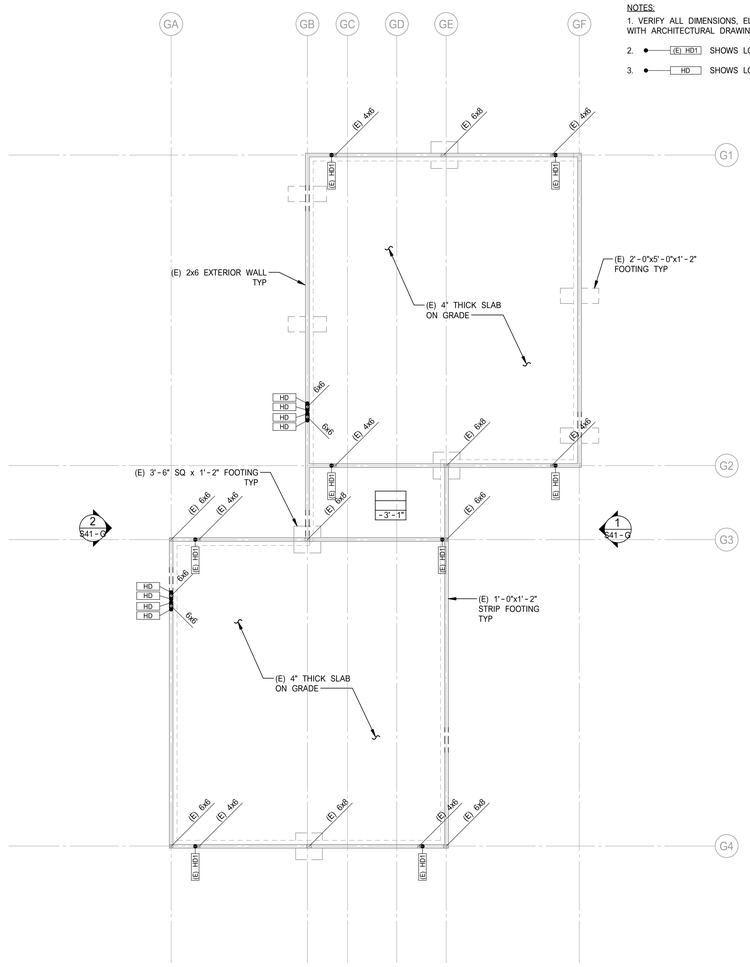
GENERAL NOTES

kpff
45 Fremont Street, 28th floor
San Francisco, CA 94105
415.989.1004 | kpff.com

SEOR Contact:
david.rossi@kpff.com
Day-to-Day Contact:
brian.biehl@kpff.com

NOTES:

1. VERIFY ALL DIMENSIONS, ELEVATIONS, FINISH SURFACES, DRAINS, ETC WITH ARCHITECTURAL DRAWINGS, PRIOR TO START OF CONSTRUCTION.
2. (E) HDT SHOWS LOCATION OF EXISTING HOLDOWNS.
3. HD SHOWS LOCATION OF NEW HOLDOWNS, SEE 1/S51

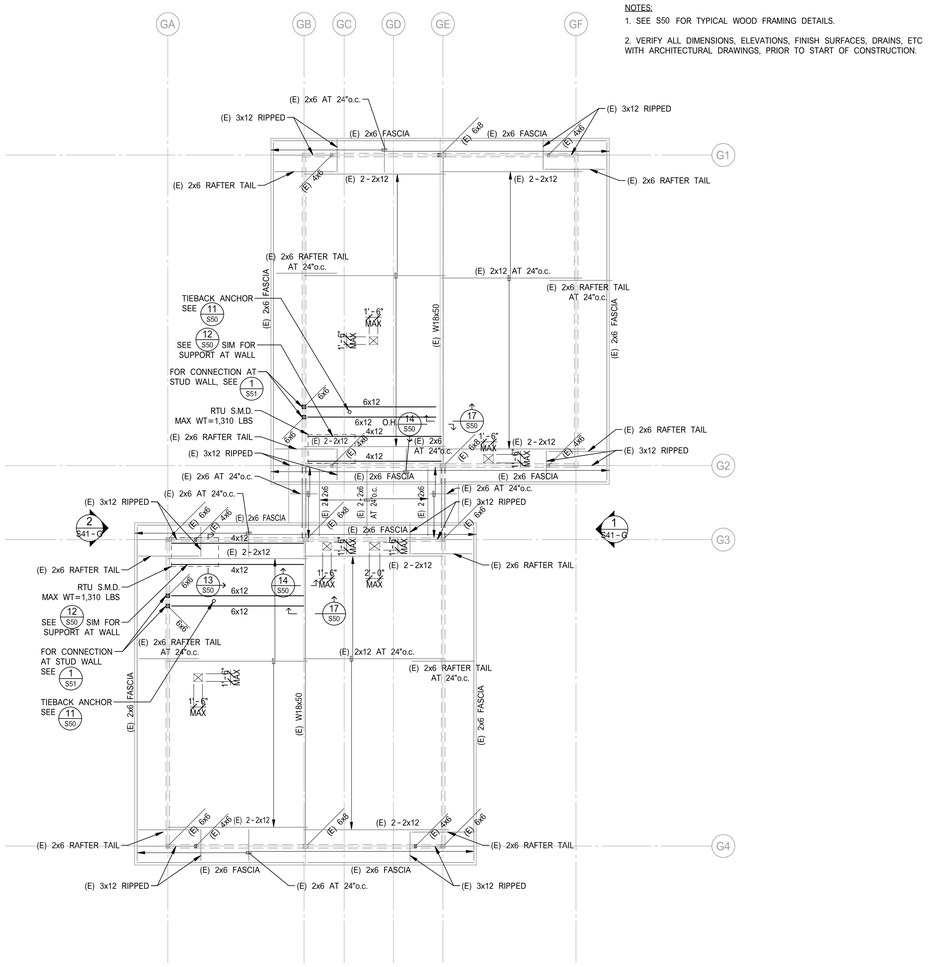


BLDG G FOUNDATION PLAN

SCALE: 1/8" = 1'-0" | KPFF | 1 | S21 - G | REFERENCE NORTH

NOTES:

1. SEE S50 FOR TYPICAL WOOD FRAMING DETAILS.
2. VERIFY ALL DIMENSIONS, ELEVATIONS, FINISH SURFACES, DRAINS, ETC WITH ARCHITECTURAL DRAWINGS, PRIOR TO START OF CONSTRUCTION.



BLDG G ROOF FRAMING PLAN

SCALE: 1/8" = 1'-0" | KPFF | 2 | S21 - G | REFERENCE NORTH

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SCALE: As indicated

SHEET NUMBER: S21-G

SHEET TITLE:

BLDG G FOUNDATION & ROOF FRAMING PLAN

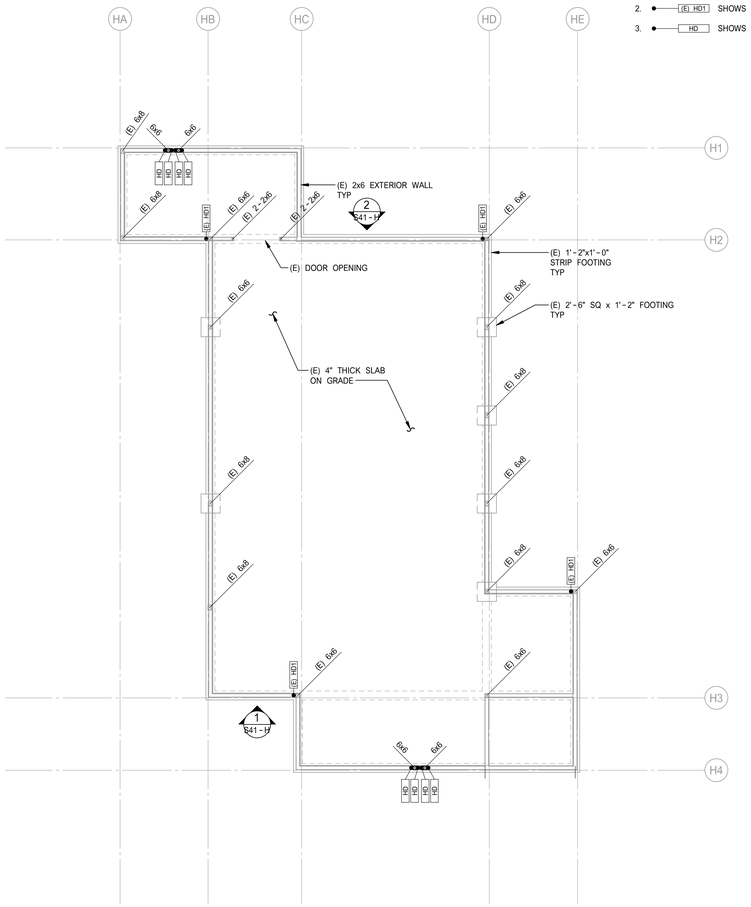
kpff
45 Fremont Street, 28th floor
San Francisco, CA 94105
415.989.1004 | kpff.com

SEOR Contact:
david.rossi@kpff.com
Day-to-Day Contact:
brian.biehl@kpff.com

6/20/2024 10:05:38 AM FC Autodesk Docs://2300016-00_VENETIA VALLEY G & H MODERNIZATION\Venetia Valley G & H Modernization_STRUCT-R2023.rvt

NOTES:

1. VERIFY ALL DIMENSIONS, ELEVATIONS, FINISH SURFACES, DRAINS, ETC WITH ARCHITECTURAL DRAWINGS, PRIOR TO START OF CONSTRUCTION.
2. (E) HD1 SHOWS LOCATION OF EXISTING HOLDOWNS.
3. HD SHOWS LOCATION OF NEW HOLDOWNS, SEE 1/S51

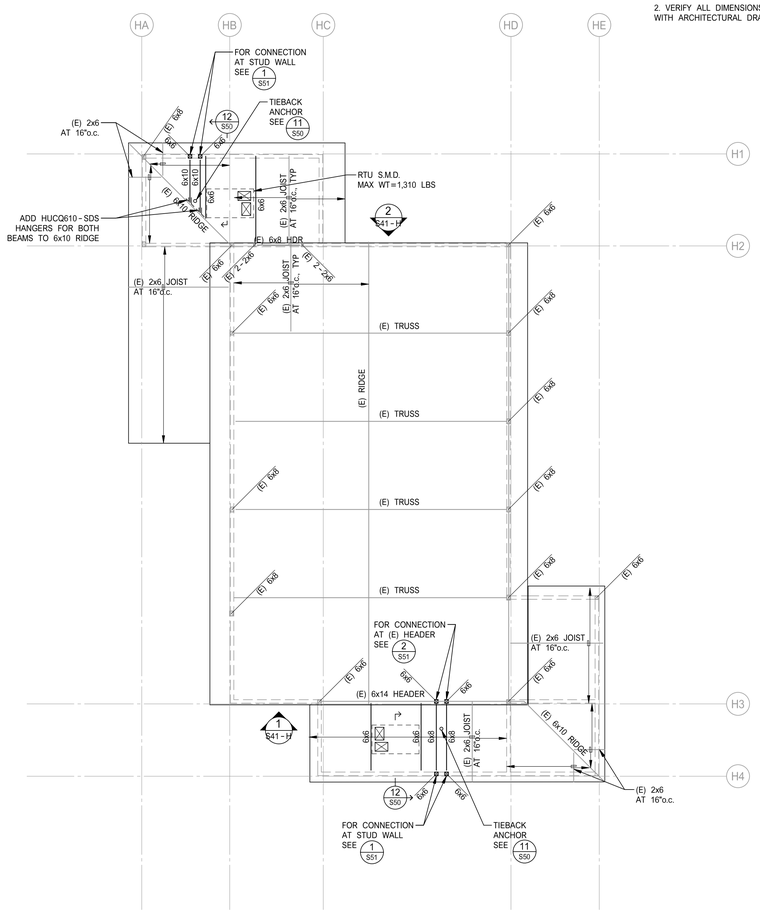


BLDG H FOUNDATION PLAN

SCALE: 1/8" = 1'-0" | KPFF | 1 | S21-H | REFERENCE NORTH

NOTES:

1. SEE S50 FOR TYPICAL WOOD FRAMING DETAILS.
2. VERIFY ALL DIMENSIONS, ELEVATIONS, FINISH SURFACES, DRAINS, ETC WITH ARCHITECTURAL DRAWINGS, PRIOR TO START OF CONSTRUCTION.



BLDG H ROOF FRAMING PLAN

SCALE: 1/8" = 1'-0" | KPFF | 2 | S21-H | REFERENCE NORTH

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SCALE: As indicated

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SHEET TITLE:

BLDG H FOUNDATION & ROOF FRAMING PLAN

kpff
45 Fremont Street, 28th floor
San Francisco, CA 94105
415.989.1004 | kpff.com

SEOR Contact:
david.rossi@kpff.com
Day-to-Day Contact:
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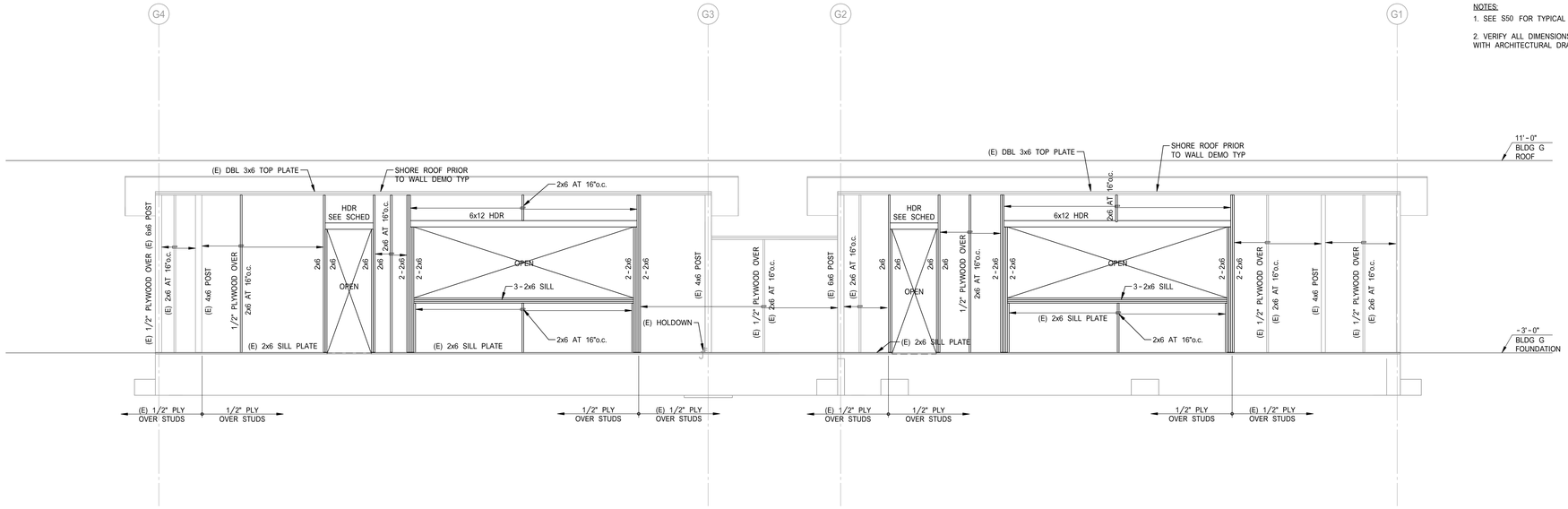
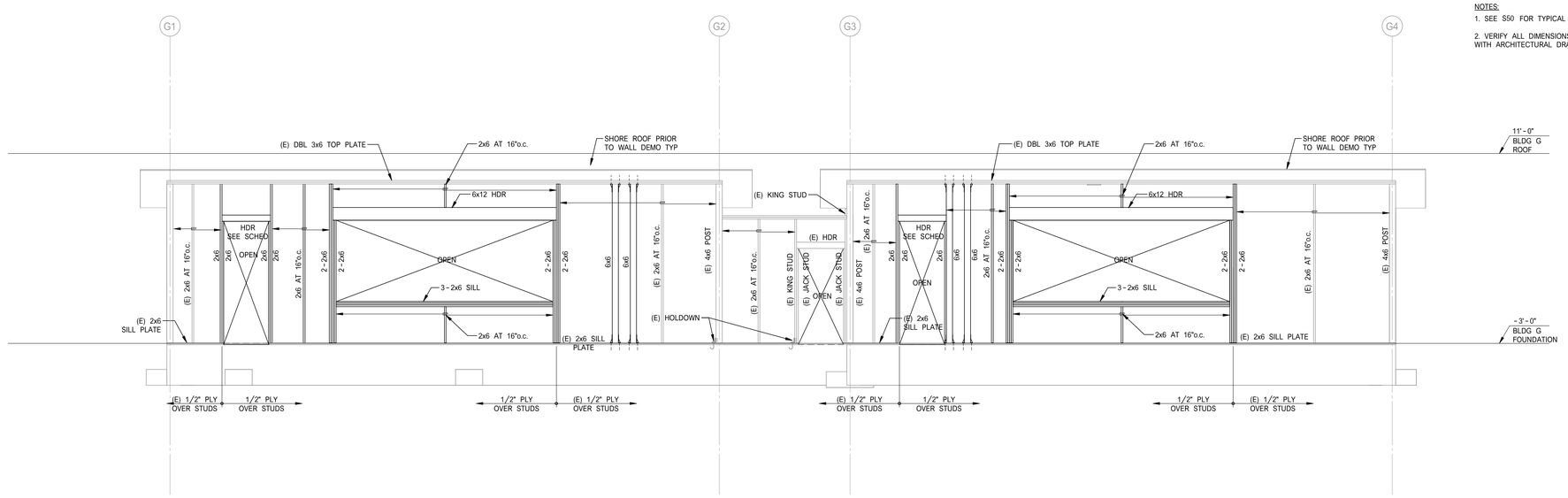


BLDG G - SOUTH ELEVATION

SCALE: 1/4" = 1'-0"	1
KPFF	S41-G



BLDG G - NORTH ELEVATION

SCALE: 1/4" = 1'-0"	2
KPFF	S41-G

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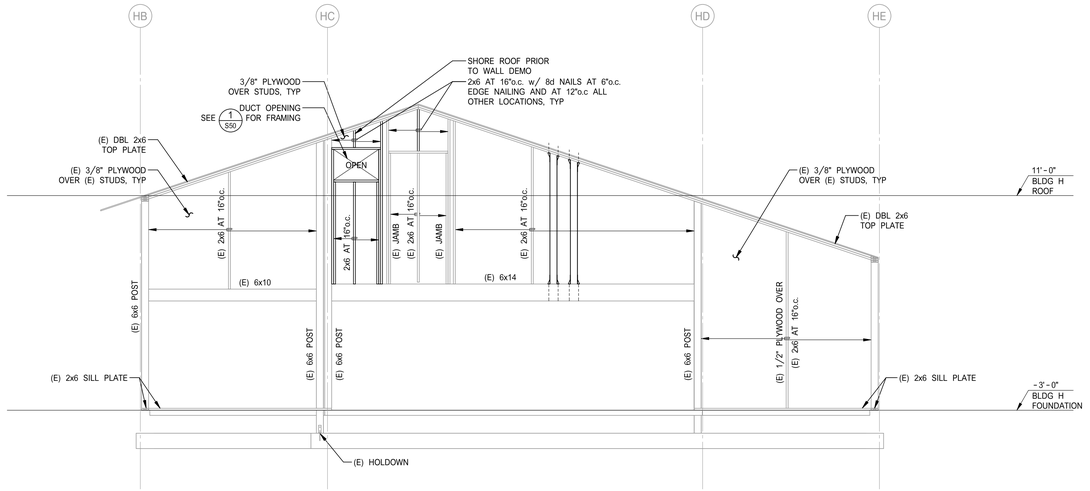
PROJECT NO:	2300016.00
DATE ISSUED:	06-19-2024
SCALE:	As indicated
SHEET NUMBER:	**S41-G**
SHEET TITLE:	

EXTERIOR WALL ELEVATIONS

kpff
45 Fremont Street, 28th floor
San Francisco, CA 94105
415.989.1004 | kpff.com
SEOR Contact:
david.rossi@kpff.com
Day-to-Day Contact:
brian.biehl@kpff.com

NOTES:
1. SEE S50 FOR TYPICAL WOOD FRAMING DETAILS.

2. VERIFY ALL DIMENSIONS, ELEVATIONS, FINISH SURFACES, DRAINS, ETC WITH ARCHITECTURAL DRAWINGS, PRIOR TO START OF CONSTRUCTION.

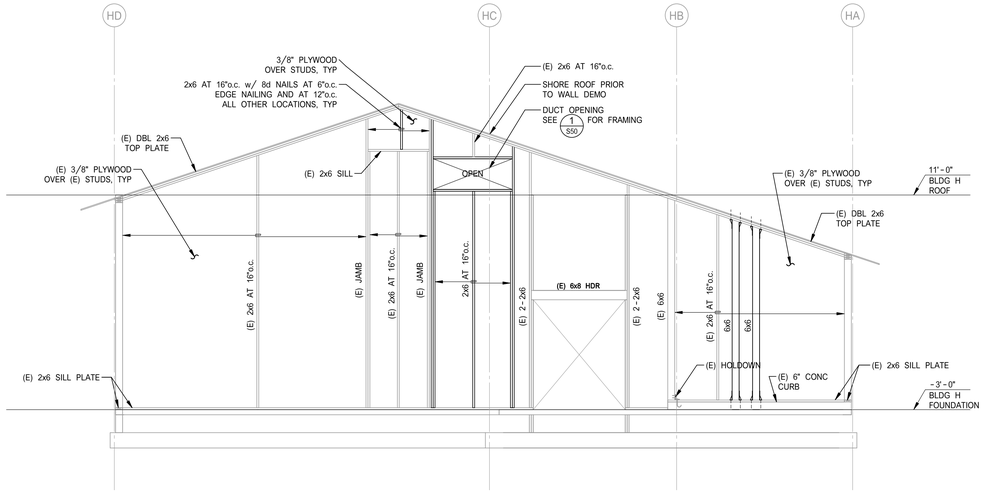


BLDG H - SOUTH ELEVATION

SCALE: 1/4" = 1'-0" | KPFF | 1 | S41-H

NOTES:
1. SEE S50 FOR TYPICAL WOOD FRAMING DETAILS.

2. VERIFY ALL DIMENSIONS, ELEVATIONS, FINISH SURFACES, DRAINS, ETC WITH ARCHITECTURAL DRAWINGS, PRIOR TO START OF CONSTRUCTION.



BLDG H - NORTH ELEVATION

SCALE: 1/4" = 1'-0" | KPFF | 2 | S41-H

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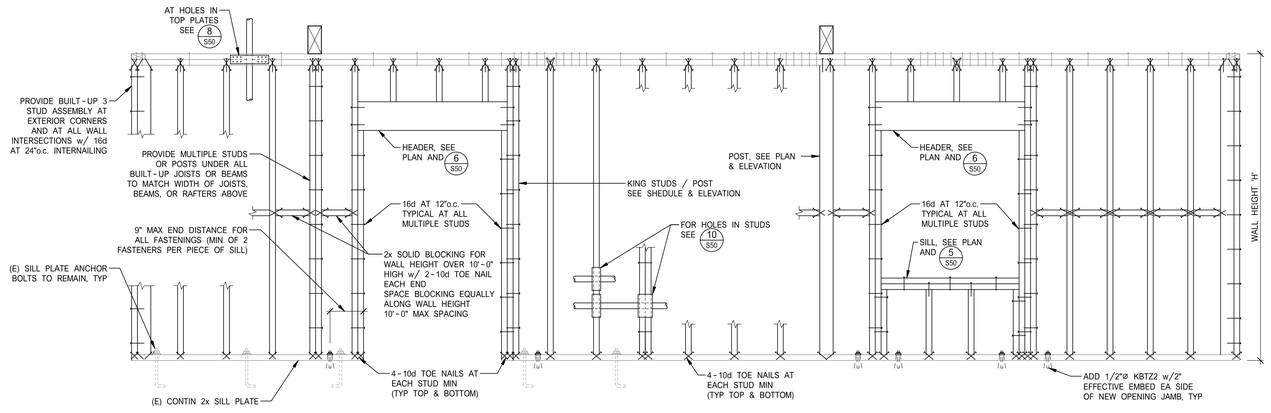
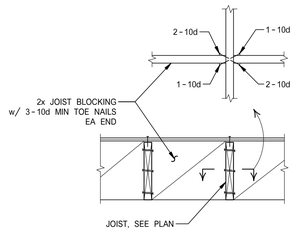


TYPICAL WALL FRAMING DETAILS - EXTERIOR AND INTERIOR BEARING/SHEAR WALLS

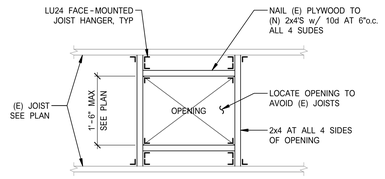
SCALE:		
NONE		1
KPFF	PROJ	S50



2x JOIST BLOCKING

DETAIL

SCALE:		
NONE		2
KPFF	TYP	S50



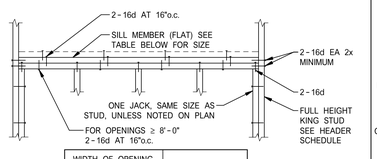
AT ROOF

FRAMING AT OPENING

SCALE:		
NONE		3
KPFF	PROJ	S50

NOT USED

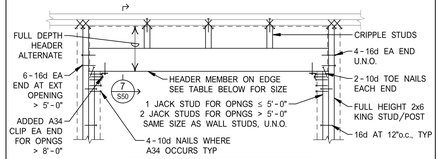
SCALE:		
NONE		4
KPFF	TYP	S50



WIDTH OF OPENING	
3'-0" MAX	1-2x6
5'-0" MAX	2-2x6
8'-0" MAX	3-2x6
OVER 8'-0"	SEE PLAN

SILL SCHEDULE

SCALE:		
NONE		5
KPFF	PROJ	S50

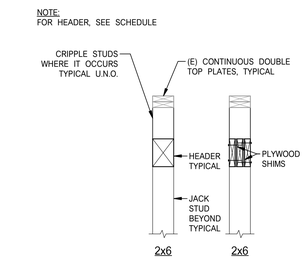


WIDTH OF OPENING	
3'-0" MAX	6x6
5'-0" MAX	6x8
8'-0" MAX	6x10
OVER 8'-0"	SEE PLAN

NOTE: HEADERS NOTED IN TABLE SHALL BE PROVIDED OVER ALL WINDOW, DOOR, AND OTHER OPENINGS, UNLESS NOTED OTHERWISE ON PLANS AND SPECIFIC DETAILS. A FULL DEPTH HEADER MAY BE USED IN LIEU OF THE HEADERS NOTED IN THE TABLE. IF A FULL DEPTH HEADER IS USED, THE CRIPPLE STUDS MAY BE OMITTED.

HEADER SCHEDULE

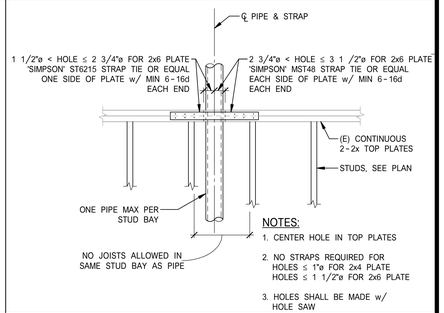
SCALE:		
NONE		6
KPFF	PROJ	S50



TYPICAL HEADERS

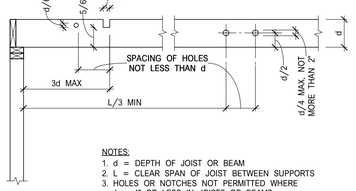
DETAIL

SCALE:		
NONE		7
KPFF	TYP	S50



TOP PLATE STRAP AT PIPE

SCALE:		
NONE		8
KPFF	PROJ	S50

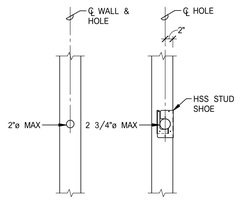


ALLOWABLE IN SOLID SAWN JOISTS OR BEAMS

SOLID SAWN HOLES

SCALE:		
NONE		9
KPFF	TYP	S50

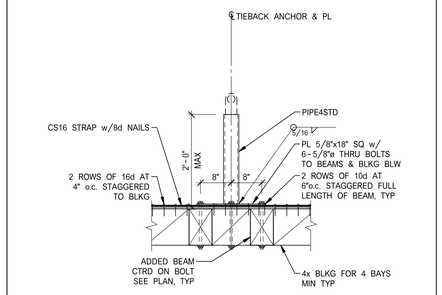
NOTES:
1. NO NOTCHING PERMITTED IN STUDS
2. ALL HOLES SHALL BE DRILLED w/ A HOLE SAW



ALLOWABLE HOLES IN STUDS

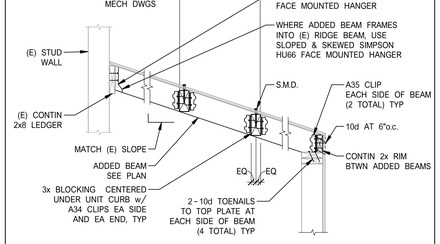
DETAIL

SCALE:		
NONE		10
KPFF	PROJ	S50



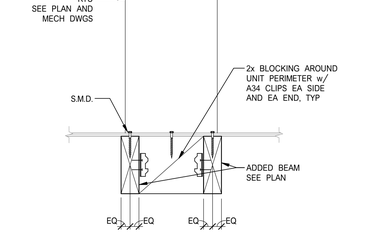
SECTION

SCALE:		
NONE		11
KPFF	PROJ	S50



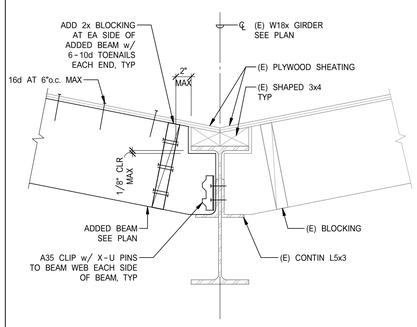
SECTION

SCALE:		
NONE		12
KPFF	PROJ	S50



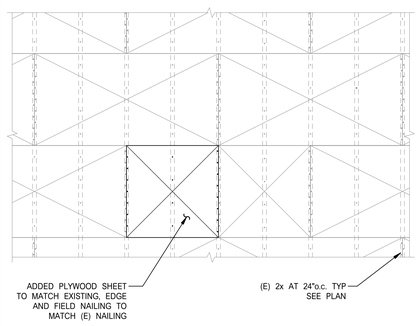
SECTION

SCALE:		
NONE		13
KPFF	PROJ	S50



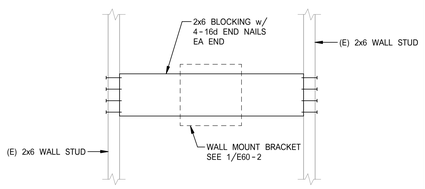
SECTION

SCALE:		
NONE		14
KPFF	PROJ	S50



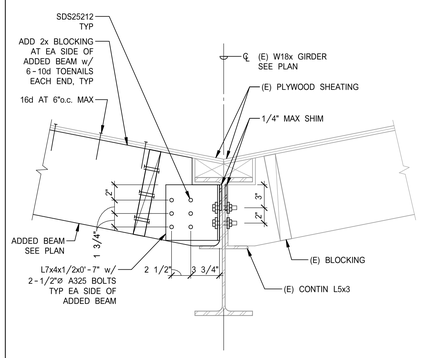
DETAIL

SCALE:		
NONE		15
KPFF	PROJ	S50



DETAIL

SCALE:		
NONE		16
KPFF	PROJ	S50



SECTION

SCALE:		
NONE		17
KPFF	PROJ	S50

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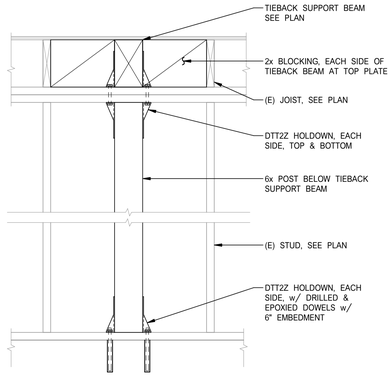
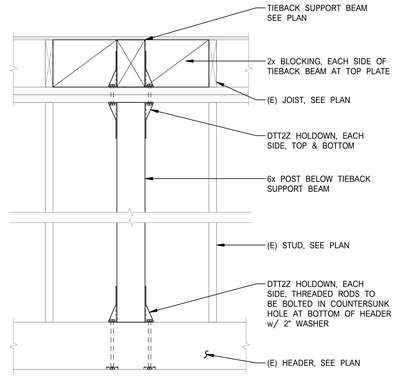


TYPICAL TIEDOWN BEAM CONNECTION

DETAIL | SCALE: 1" = 1'-0" | KPFF | PROJ | 1 | S51



TIEDOWN BEAM CONNECTION AT HEADER

DETAIL | SCALE: 1" = 1'-0" | KPFF | PROJ | 2 | S51

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SEOR Contact:
david.rossi@kpff.com
Day-to-Day Contact:
brian.biehl@kpff.com

ABBREVIATIONS

A/C	AIR CONDITIONING	HWP	HEATING WATER PUMP
ABV	ABOVE	HWR	HEATING WATER RETURN
ACCEPT	ACCEPTANCE	HWS	HEATING WATER SUPPLY
ACU	AIR CONDITIONING UNIT	HX	HEAT EXCHANGER
AD	ACCESS DOOR	ID	INSIDE DIAMETER
ADA	AMERICANS WITH DISABILITIES ACT	IE	INVERT ELEVATION
ADD	ADDITION	IN	INCH
AFF	ABOVE FINISH FLOOR	IW	INDUSTRIAL WASTE
AHJ	AUTHORITY HAVING JURISDICTION	L	LENGTH
AHU	AIR HANDLING UNIT	LBS	POUNDS
AP	ACCESS PANEL	LP	LOW PRESSURE
APPROX	APPROXIMATE	LPC	LOW PRESSURE CONDENSATE
ARCH	ARCHITECTURAL	LPS	LOW PRESSURE STEAM
ARI	AMERICAN REFRIGERATION INSTITUTE	M	MOTOR
AS	AIR SEPARATOR	MA	MIXED AIR
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS	MAU	MAKEUP AIR
AUTO	AUTOMATIC	MAX	MAXIMUM
AUX	AUXILIARY	MC	MECHANICAL CONTRACTOR
AV	AIR VENT	MCC	MOTOR CONTROL CENTER
B	BOILER	MECH	MECHANICAL
BAS	BUILDING AUTOMATION SYSTEM	MIN	MINIMUM
BDD	BACKDRAFT DAMPER	MPC	MEDIUM PRESSURE CONDENSATE
BFF	BELOW FINISH FLOOR	MPS	MEDIUM PRESSURE STEAM
BLDG	BUILDING	MV	MANUAL AIR VENT
BOD	BOTTOM OF DUCT	(N)	NEW
BOP	BOTTOM OF PIPE	N/A	NOT APPLICABLE
BSMT	BASEMENT	NC	NORMALLY CLOSED
BV	BALL VALVE	NO	NORMALLY OPENED
BYV	BUTTERFLY VALVE	NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
C	COMMON, CONDENSATE OR CONDUIT	NIC	NOT IN CONTRACT
CA	CONTROL AIR, or COMBUSTION AIR	NTS	NOT TO SCALE
CAC	CALIFORNIA ADMINISTRATIVE CODE	OA	OUTSIDE AIR
CAP	CAPACITY	OBD	OPPOSED BLADE DAMPER
CAV	CONSTANT AIR VOLUME	OC	ON CENTER
CB	CHILLED BEAM	OD	OUTSIDE DIAMETER
CBC	CALIFORNIA BUILDING CODE	OFCI	OWNER FURNISHED CONTRACTOR INSTALLED
CC	COOLING COIL OR CONTROLS CONTRACTOR	OFOI	OWNER FURNISHED OWNER INSTALLED
CD	CONSTRUCTION DOCUMENTS	P	PUMP OR PRESSURE OR POLE
CEC	CALIFORNIA ELECTRICAL CODE	PC	PUMPED CONDENSATE
CFC	CALIFORNIA FIRE CODE	PCR	PRESSURIZED CONDENSATE RETURN
CFM	CUBIC FEET PER MINUTE	PD	PRESSURE DROP
CH	CHILLER	PE	PNEUMATIC ELECTRIC
CHV	CHECK VALVE	PF	PRE FILTER
CHWP	CHILLED WATER PUMP	PG	PIPE GUIDE OR PRESSURE GAUGE
CHWR	CHILLED WATER RETURN	PH	PHASE
CHWS	CHILLED WATER SUPPLY	PLBG	PLUMBING
CL	CENTERLINE	POC	POINT OF CONNECTION
CLG	CEILING	POD	POINT OF DISCONNECTION
CMC	CALIFORNIA MECHANICAL CODE	PS	PRESSURE SENSOR
CONN	CONNECTION	PSI	POUNDS PER SQUARE INCH
CP	CONTROL PANEL	PSIG	POUNDS PER SQUARE INCH - GAUGE
CPC	CALIFORNIA PLUMBING CODE	QTY	QUANTITY
CV	CONSTANT VOLUME OR CONTROL VALVE	(R)	REMOVE
CWP	CONDENSER WATER PUMP	R	RISERS, RELOCATE OR RISE
CWR	CONDENSER WATER RETURN	RA	RETURN AIR
CWS	CONDENSER WATER SUPPLY	REB	REBALANCE
D	DROP OR DRAIN	REF	RELIEF FAN
DDC	DIRECT DIGITAL CONTROL	REFRIG	REFRIGERANT
DEMO	DEMOLISH / DEMOLITION	REL	RELOCATE
DEPT	DEPARTMENT	REQ'D	REQUIRED
DET	DETAIL	REV	REVISE, REVISION OR REVOLUTIONS
DIA	DIAMETER	RF	RETURN FAN
DIFF	DIFFERENCE	RHC	REHEAT COIL
DISCH	DISCHARGE	RL	REFRIGERANT LIQUID
DN	DOWN	RM	ROOM
DTR	DOWN THRU ROOF	RS	REFRIGERANT SUCTION
DV	DIAPHRAGM VALVE	RTU	ROOFTOP UNIT
DWG	DRAWING	SA	SUPPLY AIR
DX	DIRECT EXPANSION	SAN	SANITARY
(E)	EXISTING TO REMAIN	SD	SMOKE DAMPER
EA	EXHAUST AIR OR EACH	SEN	SENSIBLE
EC	ELECTRICAL CONTRACTOR	SF	SUPPLY FAN OR SQUARE FEET
ECON	ECONOMIZER	SP	STATIC PRESSURE
EF	EXHAUST FAN	SPEC	SPECIFICATION
EL	ELEVATION	SQ FT	SQUARE FEET
ELEC	ELECTRICAL	SQ IN	SQUARE INCH
EQUIP	EQUIPMENT	ST	STRAINER OR SOUND TRAP OR STEAM TRAP
ESP	EXTERNAL STATIC PRESSURE	STD	STANDARD
ET	EXPANSION TANK	STRUC	STRUCTURAL
EXH	EXHAUST	T	THERMOSTAT OR THERMOMETER OR THROAT
FC	FLEXIBLE CONNECTION OR FAIL CLOSED	TCP	TEMPERATURE CONTROL PANEL
FCU	FAN COIL UNIT	TDH	TOTAL DYNAMIC HEAD
FD	FIRE DAMPER	TEMP	TEMPERATURE
FF	FINISH FLOOR OR FINAL FILTER	THRU	THROUGH
FFE	FINISH FLOOR ELEVATION	TI	TENANT IMPROVEMENT
FLR	FLOOR	TOP	TOP OF DUCT
FPB	FAN POWERED BOX	TS	TEMPERATURE SENSOR
FR	FIRE WRAP	TSP	TOTAL STATIC PRESSURE
FSD	FIRE/SMOKE DAMPER	TYP	TYPICAL
FT	FOOT / FEET	UC	UNDERCUT DOOR
G	GAS	UG	UNDERGROUND
GA	GAUGE, GAGE	UH	UNIT HEATER
GALV	GALVANIZED	UNO	UNLESS NOTED OTHERWISE
GLV	GLOBE VALVE	UTR	UP THRU ROOF
GN	GENERAL NOTE	V	VENT
GND	GROUND	VAV	VARIABLE AIR VOLUME
GPM	GALLON PER MINUTE	VD	VOLUME DAMPER
GV	GATE VALVE	VEL	VELOCITY
HC	HEATING COIL	VFD	VARIABLE FREQUENCY DRIVE
HP	HORSEPOWER	W/	WITH
HP	HIGH PRESSURE	W/O	WITHOUT
HP	HEAT PUMP	WG	WATER GAUGE
HPC	HIGH PRESSURE CONDENSATE	WMS	WIRE MESH SCREEN
HPS	HIGH PRESSURE STEAM	WPD	WATER PRESSURE DROP
HRU	HEAT RECOVERY UNIT	WSHP	WATER SOURCE HEAT PUMP
HVAC	HEATING, VENTILATION & AIR CONDITIONING	WT	WEIGHT
HW	HEATING WATER	XFMR	TRANSFORMER

HVAC LEGEND

SYMBOL	DESCRIPTION
GENERAL	
	LIMIT OF DEMOLITION
	POINT OF CONNECTION
XY.ZZZ	KEYNOTE
M	FURNISHED & INSTALLED BY MECHANICAL
ME	FURNISHED BY MECHANICAL INSTALLED BY ELECTRICAL
EM	FURNISHED BY ELECTRICAL INSTALLED BY MECHANICAL
E	FURNISHED & INSTALLED BY ELECTRICAL
(RAR/EAR)	SUPPLY, RETURN, & EXHAUST REGISTER NECK SIZE AIR QUANTITY (C.F.M.)
(REAG)	RELIEF AIR GRILLE NECK SIZE AIR QUANTITY (CFM)
	LINEAR SUPPLY & RETURN # OF SLOTS - SLOT WIDTH CFM/FT TOTAL LENGTH (FT)
DUCTWORK	
	REMOVE EXIST. EQUIP., PIPES, OR DUCT SHOWN HATCHED
	EXIST. DIFFUSER, RETURN AIR GRILLE OR EXHAUST GRILLE TO BE REMOVED
	RELOCATED EXIST. DIFFUSER, RETURN AIR GRILLE OR EXHAUST GRILLE TO
	EXIST. DIFFUSER, RETURN AIR GRILLE OR EXHAUST GRILLE TO REMAIN OR BE RELOCATED
	EXIST. MECHANICAL EQUIPMENT & DUCT
	EXIST. DUCTWORK TO BE REMOVED & CAPPED
	LINEAR DIFFUSER
	SUPPLY AIR
	RETURN AIR
	EXHAUST AIR
14x12 14x12	RECTANGULAR DUCT SIZE (WIDTH x DEPTH IN INCHES)
14"Ø 14"Ø	ROUND DUCT SIZE (WIDTH x DEPTH IN INCHES)
R	DUCT RISE / DUCT DROP
	DUCT WITH SOUND INSULATION
	STAINLESS STEEL DUCTWORK
	FLEXIBLE DUCT
	RECTANGULAR DUCT UP
	RECTANGULAR DUCT DOWN
	DUCT TRANSITION (RECTANGULAR TO ROUND)
D.L./U.C.	DOOR LOUVER OR UNDERCUT
	AUTOMATIC DAMPER (WITH ACTUATOR)
	BACKDRAFT DAMPER
	MANUAL VOLUME DAMPER
FSD	COMBINATION FIRE & SMOKE DAMPER
FD	FIRE DAMPER
CONTROLS (PLAN)	
CO2	CO2 SENSOR
NO2	NITROGEN DIOXIDE SENSOR
H	HUMIDITY SENSOR
O	OXYGEN SENSOR
Tx	ROOM THERMOSTAT & ZONE NUMBER
S	SWITCH (MANUAL WALL MOUNT OR DOOR INTERLOCK)
SD	SMOKE DETECTOR
CM	CARBON MONOXIDE SENSOR
SP	PRESSURE SENSOR (DUCT MOUNTED)
P	PRESSURE SENSOR (ROOM PRESSURE)
V	PURGE EXHAUST CONTROL SWITCH
VH	VISUAL STROBE AND AUDIBLE HORN
RS	REFRIGERANT LEAK DETECTION SENSOR
PIPING	
#"-####	PIPE TAG (E.G. 2"-CHWS)
	PIPE RISE
	PIPE DROP
	PIPE BRANCH
	GATE VALVE
	GLOBE VALVE
	CHECK VALVE
	BALL VALVE
	BUTTERFLY VALVE
	CIRCUIT SETTER
	REDUCER
	STRAINER
	UNION
	AIR VENT VALVE
	PRESSURE GAUGE
	THERMOMETER
	CONTROL VALVE
	PRESSURE REDUCING VALVE
	PRESSURE & TEMPERATURE RELIEF VALVE
	PIPE ANCHOR

GENERAL DEMOLITION NOTES

1. THE MECHANICAL DRAWINGS ARE DIAGRAMMATIC ONLY. DO NOT SCALE THE DRAWINGS TO DETERMINE THE LOCATION OF EQUIPMENT OR UTILITIES. SEE ARCHITECTURAL PLANS, WHERE PROVIDED ON PROJECT, FOR EXTENT OF DEMOLITION.
2. ITEMS NOT INDICATED TO BE REMOVED SHALL BE PROTECTED IN PLACE.
3. OWNER SHALL HAVE FIRST RIGHT OF REFUSAL FOR ALL ITEMS INDICATED TO BE REMOVED. PENDING OWNER'S INSPECTION AND REVIEW, ALL SUCH ITEMS SHALL BE REMOVED INTACT, FULLY FUNCTIONAL AND SUITABLE FOR REUSE, AND SHALL BE PROTECTED FROM DAMAGE. CONTRACTOR SHALL CONFIRM WITH THE DISTRICT REPRESENTATIVE ACCEPTANCE OR REFUSAL OF SUCH ITEMS. ALL ITEMS ACCEPTED BY THE OWNER SHALL BE DELIVERED BY THE CONTRACTOR TO ONSITE STORAGE LOCATIONS AS DIRECTED BY THE DISTRICT REPRESENTATIVE. ALL ITEMS REFUSED BY THE DISTRICT SHALL BE DISPOSED OF BY THE CONTRACTOR IN AN APPROVED MANNER.
4. NO EXISTING EQUIPMENT OR MATERIAL SHALL BE REUSED WITHOUT THE SPECIFIC APPROVAL OF THE DISTRICT REPRESENTATIVE.
5. REMOVAL OF CERTAIN EXISTING WORK WILL BE NECESSARY FOR THE SATISFACTORY PERFORMANCE OF THE GENERAL WORK. NOT ALL EXISTING CONDITIONS ARE DETAILED ON THE DRAWINGS. CONTRACTOR SHALL SURVEY THE SITE AND MAKE ALL NECESSARY CHANGES REQUIRED BASED ON THE EXISTING CONDITIONS FOR THE PROPER INSTALLATION OF NEW WORK.
6. THE EXISTING CONDITIONS SHOWN ARE FROM AVAILABLE RECORD DRAWINGS AND SHOWN FOR REFERENCE CONTRACTOR SHALL VERIFY ACTUAL EXISTING CONDITIONS AT SITE PRIOR TO SUBMITTING BID. ALL DEMOLITION, ALTERATION, EXTENSION, RELOCATION, REHABILITATION WORK SHALL BE INCLUDED IN CONTRACT. NO ADDITIONAL ALLOWANCE OR CHANGE ORDERS WILL BE ACCEPTED.
7. CONTRACTOR IS RESPONSIBLE TO RELOCATE OR REMOVE FROM WALLS, CEILINGS, FLOOR SPACES, ETC. ANY EXISTING PIPING, DUCT, FIRE-SMOKE DAMPERS, OR OTHER MECHANICAL EQUIPMENT WHICH INTERFERES WITH PLANNED REMODEL WORK.
8. NOTIFY THE ENGINEER IMMEDIATELY WHEREVER EXISTING EQUIPMENT IS ENCOUNTERED WHICH MUST BE RELOCATED DUE TO THE NEW CONSTRUCTION, OR NOT INDICATED ON AS-BUILT DRAWINGS OR WAS BURIED UNDERGROUND OR EMBEDDED IN STRUCTURE WALLS.
9. CAREFULLY PROTECT ALL WALLS, TRIM, FLOORS, EQUIPMENT, UTILITY LINES AND MATERIALS. WHEN WORKING ON FINISHED SURFACES, LIMIT DAMAGE TO THE SMALLEST AREA POSSIBLE AND RESTORE TO THE ORIGINAL CONDITION ALL SURFACES WHICH ARE DAMAGED BECAUSE OF THE INSTALLATION OF THIS WORK.
10. EQUIPMENT, MATERIALS AND SUPPLIES TEMPORARILY REMOVED FOR PROTECTION SHALL BE REPLACED IN ORIGINAL LOCATIONS. ANY MATERIALS DAMAGED SHALL BE REPLACED WITH NEW MATERIALS OF LIKE KIND AND QUALITY.
11. DEMOLITION WORK SHALL BE DONE IN A MANNER WHICH WILL NOT CAUSE UNNECESSARY INCONVENIENCE OR DANGER TO USERS OF THE PREMISES AND ADJACENT SITE, AND NOT INTERFERE WITH ITS OPERATION. ANY DEMOLITION WORK TO BE PERFORMED MUST BE PLANNED IN ADVANCE.
12. RESEAL ALL PENETRATIONS OR OPENING THROUGH WALLS, CEILING, FLOORS, ETC., TO MAINTAIN THE RATING OF STRUCTURE.
13. ALL REMOVED MATERIALS AND EQUIPMENT WHICH ARE SALVAGED MATERIALS SHALL REMAIN IN THE PROPERTY OF THE DISTRICT . DELIVER SUCH SALVAGED MATERIALS AND EQUIPMENT ON THE PREMISES AS DIRECTED BY DISTRICT AND NEATLY PILE OR STORE AND PROTECT FROM DAMAGE. DISPOSE OF ALL HAZARDOUS MATERIAL PER FEDERAL, STATE AND LOCAL REGULATIONS AND OTHER AGENCIES HAVING JURISDICTION.
14. ALL DEMOED, ALTERED AND RELOCATED COMPONENTS SHALL BE REFLECTED ON THE AS-BUILT RECORD DOCUMENTS.

PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEM BRACING NOTES

PIPING, DUCTWORK AND ELECTRICAL DISTRIBUTION SYSTEM 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.

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

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

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

☐ MP ☐ MD ☐ PP ☐ E - OPTION 2: SHALL COMPLY WITH THE APPLICABLE OSHPD PRE-APPROVAL (OPM #-0052-13) AS INCLUDED IN THESE DRAWINGS WITH PROJECT SPECIFIC NOTES AND DETAILS.

MECHANICAL GENERAL NOTES

1. ALL DRAWINGS ARE CONSIDERED TO BE PART OF THE CONTRACT DOCUMENT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REVIEW AND COORDINATION OF ALL DRAWINGS PRIOR TO ANY CONSTRUCTION, INCLUDING STRUCTURAL, PLUMBING, AIR CONDITIONING AND ELECTRICAL. ANY DISCREPANCIES THAT OCCUR SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO THE START OF CONSTRUCTION SO THAT A CLARIFICATION CAN BE ISSUED. ANY WORK PERFORMED IN CONFLICT WITH THE CONTRACT DOCUMENTS OR ANY CODE REQUIREMENT SHALL BE CORRECTED BY THE CONTRACTOR AT HIS OWN EXPENSE, AND AT NO EXPENSE TO THE OWNER.
2. ALL SYMBOLS AND ABBREVIATIONS USED ON THE DRAWINGS ARE CONSIDERED TO BE CONSTRUCTION STANDARDS. IF CLARIFICATION IS REQUIRED, THE CONTRACTOR SHALL NOTIFY ENGINEER PRIOR TO PROCEEDING WITH THE WORK.
3. DO NOT SCALE DRAWINGS. ALL DIMENSIONS AND JOB SITE CONDITIONS SHALL BE VERIFIED BY THE CONTRACTOR AT THE JOB SITE PRIOR TO BID SUBMITTAL, START OF CONSTRUCTION AND/OR FABRICATION OF MATERIALS. IF DISCREPANCIES ARE ENCOUNTERED, THE ENGINEER SHALL BE NOTIFIED FOR CLARIFICATION.
4. THE CONTRACTOR SHALL FURNISH ALL MATERIALS, LABOR, EQUIPMENT, TRANSPORTATION AND SERVICES NECESSARY FOR COMPLETION OF THE WORK AND PROVIDE A FULLY OPERATIONAL SYSTEM. ALL MATERIALS AND WORK SHALL COMPLY WITH APPLICABLE CODES AND GOVERNING REGULATIONS AND MEET THE APPROVAL OF THE CITY AND STATE FIRE MARSHALL.
5. CONTRACTOR SHALL PROVIDE AND BE RESPONSIBLE FOR PROTECTION AND REPAIR OF ADJACENT EXISTING SURFACES AND AREAS WHICH MAY BE DAMAGED AS A RESULT OF DEMOLITION AND/OR NEW WORK.
6. ALL EQUIPMENT THAT IS REMOVED AND NOT REUSED SHALL BE COORDINATED WITH, AND/OR RETURNED TO, THE BUILDING OWNER.
7. ALL EXISTING DUCT TAPS THAT ARE REMOVED AND NOT REUSED SHALL BE CAPPED AIRTIGHT AND SEALED WITH "MIRACLE" DUCT SEALER AND D-617 OR EQUAL.
8. VERIFY FINAL LOCATION OF THERMOSTATS WITH ARCHITECT AND/OR TENANT CONSTRUCTION COORDINATOR PRIOR TO ANY INSTALLATION WORK.
9. CONTRACTOR SHALL PROVIDE RECORD/AS BUILT DOCUMENTS TO CONSTRUCTION COORDINATOR, ARCHITECT AND ENGINEER AT COMPLETION OF CONSTRUCTION.
10. MAINTAIN NET FREE AREA EQUAL TO DUCT SIZE WHERE FIRE DAMPERS OCCUR.
11. ROOM THERMOSTATS SHALL BE CAPABLE OF BEING SET TO MAINTAIN SPACE TEMPERATURE SET POINTS FOR 55° F TO 85° F AND SHALL BE CAPABLE OF OPERATING THE HEATING AND COOLING IN SEQUENCE. THERMOSTATS SHALL BE ADJUSTABLE TO PROVIDE A TEMPERATURE RANGE OF UP TO 5° F BETWEEN FULL HEATING AND FULL COOLING BEING SUPPLIED. TEMPERATURE CONTROL SYSTEM SHALL OPERATE IN ACCORDANCE WITH THE BASE BUILDING SEQUENCE OF OPERATION
12. PROVIDE MINIMUM DUCT RADIUS ON ELBOWS AT 1-1/2 TIMES DUCT SIZE.
13. ALL CEILING DIFFUSERS ARE 4-WAY THROW UNLESS NOTED OTHERWISE.
    13.1. DIFFUSERS SHALL BE ADJUSTED BY MECHANICAL CONTRACTOR AND/OR TEST & BALANCE CONTRACTOR FROM 4-WAY TO 3-WAY OR 2-WAY WHEN WITHIN 3'-0" OF ADJACENT WALL OR CORNER. SUBMIT PROPOSED ADJUSTMENTS IN WRITING PRIOR TO ADJUSTING.
14. CONTRACTOR SHALL STRICTLY COORDINATE ALL CEILING DIFFUSERS AND GRILLES WITH ARCHITECTURAL REFLECTED CEILING PLAN. IF ANY DISCREPANCIES ARE ENCOUNTERED THE ENGINEER SHALL BE NOTIFIED FOR CLARIFICATION.
15. RETURN AIR PLENUM SHALL NOT CONTAIN ANY COMBUSTIBLES.
16. MATERIALS EXPOSED WITHIN DUCT OR PLENUM SHALL COMPLY WITH SECTION 602.2 OF THE 2022 CMC. ALL MATERIALS EXPOSED WITHIN THE CEILING PLENUM SHALL HAVE A FLAME-SPREAD INDEX OF NOT MORE THAN 25 AND A SMOKE DEVELOPED RATING OF NOT MORE THAN 50.
17. PROVIDE SMOKE DETECTORS IN MAIN SUPPLY AIR DUCTS OF AIR MOVING SYSTEMS EXCEEDING 2,000 CFM AND COMBINATION OF SYSTEMS SERVING AREAS PERMANENTLY OPEN TO EACH OTHER WHOSE COMBINED SUPPLY AIR EXCEEDS 2,000 CFM PER SECTION 608.0 OF THE 2022 CMC.
18. MECHANICAL REFRIGERATION SYSTEMS SHALL COMPLY WITH REQUIREMENTS OF SECTION 605 OF THE 2022 CFC.
19. ENVIRONMENTAL AIR DUCTS SHALL NOT TERMINATE LESS THAN 3-FT. FROM A PROPERTY LINE, FORCED AIR INLET LOCATED WITHIN 10-FT AND 3-FT FROM OPENINGS INTO A BUILDING, PER CMC 502.2.1.
20. THE CONTRACTOR SHALL COORDINATE ALL CEILING ACCESS PANELS FOR SERVICING MECHANICAL EQUIPMENT/DEVICES WITH THE ARCHITECT AND INTERIOR DESIGNER AS APPLICABLE.
21. PRIOR TO ROUGH-IN OF ELECTRICAL, PROVIDE COORDINATION SHOP DRAWINGS OF T-STAT LOCATIONS TO ARCH./ENG. FOR REVIEW.
22. DUCT SEALING:
    22.1. DUCTWORK SHALL BE SEALED PRIOR TO DELIVERY TO JOB SITE.
    22.2. DUCTWORK SHALL BE SEALED DURING DELIVERY.
    22.3. DUCTWORK SHALL BE SEALED UPON INSTALLATION.
    22.4. OPENINGS INTO EQUIPMENT AND DUCTWORK SHALL BE SEALED DURING CONSTRUCTION.
23. ALL CONTROL WIRING ROUTED IN CEILING PLENUM SHALL BE CLEARLY IDENTIFIED & SECURED TO DUCTWORK OR TIGHT TO STRUCTURE TO PREVENT DAMAGE.
24. THE CONTRACTOR SHALL VERIFY ALL DIFFUSER/GRILLE/REGISTER/BORDER AND FRAME TYPES WITH THE ARCHITECTURAL REFLECTED CEILING PLAN PRIOR TO ORDERING. COORDINATE ALL FINISHES WITH ARCHITECT.
25. THROUGH-PENETRATIONS AND MEMBRANE PENETRATIONS SHALL BE PROTECTED BY AN APPROVED PENETRATION FIRESTOP SYSTEM OR MEMBRANE PENETRATION FIRESTOP SYSTEM INSTALLED AS TESTED IN ACCORDANCE WITH ASTM E 814 OR UL 1479, WITH MINIMUM POSITIVE PRESSURE DIFFERENTIAL OF 0.01 INCH (2.49 PA) OF WATER OR AS OTHERWISE PERMITTED BY CBC, SECTION 714. LISTED THROUGH-PENETRATION FIRESTOP SYSTEMS AND MEMBRANE PENETRATIONS SHALL BE INSTALLED IN ACCORDANCE WITH THE INSTALLATION FOR DETAILS LISTED SYSTEMS. LISTED THROUGH-PENETRATION FIRESTOP SYSTEMS, MEMBRANE PENETRATION PROTECTION AND OTHER PERMITTED MEANS AND METHODS OF PENETRATION PROTECTION SHALL BE SUBMITTED FOR OSHPD FDD REVIEW AND APPROVAL PRIOR TO INSTALLATION.
26. PROVIDE BALANCING VOLUME DAMPERS IN EACH BRANCH DUCT AND IN EACH MAIN DUCT TO PROVIDE FOR COMPLETE AIR BALANCING. PROVIDE ADEQUATE ACCESS. OPPOSED BLADE DAMPERS (OBD'S) ARE NOT CONSIDERED BALANCING DAMPERS. COORDINATE ALL LOCATIONS WITH ARCHITECT'S REFLECTED CEILING PLAN WHERE REMOTE BALANCING DAMPERS ARE REQUIRED.
27. PROVIDE INTERNALLY LINED DUCTWORK FOR SUPPLY AND RETURN AIR PLENUMS ON ALL FAN COILS WITH MINIMUM ONE-INCH THICK ACOUSTICAL DUCT LINER.
28. OUTDOOR AIR SUPPLY AND EXHAUST EQUIPMENT SHALL BE INSTALLED WITH DAMPERS THAT AUTOMATICALLY CLOSE UPON FAN SHUTDOWN.

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 OR MOVABLE EQUIPMENT THAT IS PERMANENTLY ATTACHED (E.G. HARDWIRED) TO THE BUILDING UTILITY SERVICES SUCH AS ELECTRICITY, GAS OR WATER. "PERMANENTLY ATTACHED" SHALL INCLUDE ALL ELECTRICAL CONNECTIONS EXCEPT FOR DUPLEX RECEPTACLES.
3. MOVABLE WHICH IS STATIONED IN ONE PLACE FOR MORE THAN 8 HOURS HEAVIER THAN 400 POUNDS OR HAS A CENTER OF MASS LOCATED 4 FEET OR MORE ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT ARE REQUIRED TO BE ANCHORED WITH TEMPORARY ATTACHMENTS.

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 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 CHANGE 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.

APPLICABLE CODES

2022	CALIFORNIA BUILDING CODE
2022	CALIFORNIA MECHANICAL CODE
2022	CALIFORNIA PLUMBING CODE
2022	CALIFORNIA ELECTRICAL CODE
2022	CALIFORNIA FIRE CODE
2022	CALIFORNIA ENERGY STANDARDS
2022	CAL GREEN CODE
	ALL OTHER APPLICABLE LOCAL AND STATE LAWS AND REGULATIONS

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-121181 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 07/02/2024

OWNER: SAN RAFAEL CITY SCHOOLS

PROJECT NAME: VENETIA VALLEY BLDGS G AND H ALTERATION

CLIENT ADDRESS: 177 N San Pedro Rd, San Rafael, CA 94903

REGISTERED PROFESSIONAL ENGINEER
CHUAN TANG
M29973
EXP 06-30-26
MECHANICAL
STATE OF CALIFORNIA

REVISIONS:

	DESCRIPTION	DATE
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

PROJECT NO:

DATE ISSUED: 06/21/2024

SCALE: As indicated

SHEET NUMBER: M00-0

SHEET TITLE:

MECHANICAL LEGEND ABBREVIATIONS & NOTES

tk1sc COLLABORATIVE
11870 Pierce Street, Suite 160
Riverside, California 92505
951.299.4160 www.tk1sc.com
Project Leader - Nikolas Bruno
Mechanical Lead- William Galarza
tk1sc Job #: BZ304502.000

PACKAGED ROOFTOP HEAT PUMPS

TAG	#	MANUFACTURER	MODEL NUMBER	UNIT TON	SERVICE	AMBIENT TEMPERATURE DB (°F)	SUPPLY FAN		COOLING CAPACITY (BTU/HR)		SEER (EER)	HEATING CAPACITY (BTU/HR)		HSPF	ELECTRICAL			POWER EXHAUST				FILTERS		OA (CFM)	DCV (CFM)	EXISTING UNIT OPERATING WEIGHT (LBS)	NEW UNIT OPERATING WEIGHT (LBS)	ANCHORAGE DETAIL REFERENCE	REMARKS
							AIR FLOW (CFM)	EXTERNAL STATIC PRESSURE (IN WG)	TOTAL CAPACITY (BTU/HR)	SENSIBLE CAPACITY (BTU/HR)		HEAT PUMP	AUX. ELECTRIC HEATER (KW)		MCA	MOCP	VOLTAGE/PH/HG	MOTOR (HP)	MCA	MOCP	VOLTAGE/PH/HG	(NO.) & SIZE	MERV						
AC	G-1	CARRIER	50GCQJ06	5	KINDERGARTEN ROOM G-01	95	2,000	1.0	61,350	47,330	17	5,590		7.5	32	45	208/3/60	0.75	3.75	6.75	208/3/60	(4) 16x16x2	13	450	135	422	1,300	1/M30-1	1, 2, 3, 4, 5, 6, 7, 8, 9, 10
AC	G-2	CARRIER	50GCQJ06	5	KINDERGARTEN ROOM G-02	95	2,000	1.0	61,350	47,330	17	5,590		7.5	32	45	208/3/60	0.75	3.75	6.75	208/3/60	(4) 16x16x2	13	450	135	422	1,300	1/M30-1	1, 2, 3, 4, 5, 6, 7, 8, 9, 10
AC	H-1	CARRIER	50GCQJ06	5	CLASSROOM H-01 AND € TEACHER WORKROOM H-03	95	2,000	1.0	61,350	47,330	17	5,590		7.5	32	45	208/3/60	0.75	3.75	6.75	208/3/60	(4) 16x16x2	13	450	135	422	1,300	1/M30-1	1, 2, 3, 4, 5, 6, 7, 8, 9, 10
AC	H-2	CARRIER	50GCQJ06	5	CLASSROOM H-02	95	2,000	1.0	61,350	47,330	17	5,590		7.5	32	45	208/3/60	0.75	3.75	6.75	208/3/60	(4) 16x16x2	13	450	135	422	1,300	1/M30-1	1, 2, 3, 4, 5, 6, 7, 8, 9, 10

NOTES

1. THE BUILDING WILL BE EQUIPPED WITH A TOTAL COVERAGE SMOKE DETECTION SYSTEM. ELECTRICAL CONTRACTOR WILL PROVIDE CONTROL RELAYS TO SHUT UNIT DOWN UPON AREA DETECTION.
2. PROVIDE 100% O.A. DRY BULB LOCKOUT ECONOMIZERS WITH MODULATING POWER EXHAUST. AC UNIT AND POWER EXHASUT SHALL HAVE SEPARATE POWER CONNECTIONS. BALANCE SPACE TO 0.03" POSITIVE PRESSURE.
3. PROVIDE 2" STATIC DEFLECTION VIBRATION ISOLATION ROOF CURB WITH ACOUSTICAL PACKAGE.
4. PROVIDE WITH HINGED ACCESS PANELS.
5. SINGLE ZONE VAV UNIT.
6. SIDE DISCHARGE CONFIGURATION.
7. PROVIDE WITH FACTORY FLUE DISCHARGE DEFLECTOR.
8. PROVIDE WITH FACTORY BACNET CONTROLLER.
9. INTERLOCK WITH BAS.
10. OPERATING WEIGHT INCLUDES UNIT, ISOLATION CURB AND OTHER SPECIFIED ACCESSORIES.

SOUND ATTENUATORS

TAG	#	MANUFACTURER	MODEL NUMBER	SERVICE	WIDTH (IN)	HEIGHT (IN)	LENGTH (IN)	AIR FLOW (CFM)	AIR PRESSURE DROP (IN WG)	D.I.L. IN OCTAVE BAND (DB) AT DESIGN VELOCITY							OPERATING WEIGHT (LBS)	REMARKS
										63	125	250	500	1K	2K	4K		
SA	G-1S	PRICE	RM60/6B	AC/G-1 SUPPLY	24	20	60	2,000	0.02	5	8	15	27	23	15	11	95	RECTANGULAR MEDIUM VELOCITY SILENCER.
SA	G-1R	PRICE	RM60/6B	AC/G-1 RETURN	24	20	60	2,000	0.02	5	8	16	28	23	15	11	95	RECTANGULAR MEDIUM VELOCITY SILENCER.
SA	G-2S	PRICE	RM60/6B	AC/G-2 SUPPLY	24	20	60	2,000	0.02	5	8	15	27	23	15	11	95	RECTANGULAR MEDIUM VELOCITY SILENCER.
SA	G-2R	PRICE	RM60/6B	AC/G-2 RETURN	24	20	60	2,000	0.02	5	8	16	28	23	15	11	95	RECTANGULAR MEDIUM VELOCITY SILENCER.
SA	H-1S	PRICE	ERM60/6E	AC/H-1 SUPPLY	24	20	42	2,000	0.10	9	15	22	30	36	32	27	100	ELBOW MEDIUM VELOCITY SILENCER.
SA	H-1R	PRICE	ERM60/6E	AC/H-1 RETURN	24	20	42	2,000	0.10	10	17	25	31	38	32	27	100	ELBOW MEDIUM VELOCITY SILENCER.
SA	H-2S	PRICE	ERM60/6E	AC/H-2 SUPPLY	24	20	42	2,000	0.10	9	15	22	30	36	32	27	100	ELBOW MEDIUM VELOCITY SILENCER.
SA	H-2R	PRICE	ERM60/6E	AC/H-2 RETURN	24	20	42	2,000	0.10	10	17	25	31	38	32	27	100	ELBOW MEDIUM VELOCITY SILENCER.

EXHAUST FANS

TAG	#	MANUFACTURER	MODEL NUMBER	SERVICE	TYPE	DRIVE TYPE	AIR FLOW (CFM)	EXTERNAL STATIC PRESSURE (IN WG)	FAN SPEED (RPM)	ELECTRICAL CONNECTION				ANCHORAGE DETAIL REFERENCE	OPERATING WEIGHT (LBS)	REMARKS
										MOTOR HP OR (WATTS)	VOLTAGE (V)	PHASE	HERTZ (HZ)			
EF	1	GREENHECK	SP-A390-VG	(N) STAFF RESTROOM H-04	CEILING FAN	DIRECT	75	0.3	980	(14)	115	1	60	N/A	30	1, 2
EF	2	GREENHECK	SP-A390-VG	(N) STAFF RESTROOM H-04	CEILING FAN	DIRECT	140	0.3	983	(19)	115	1	60	N/A	30	1, 3

NOTES

1. PROVIDE WITH BACKDRAFT DAMPER.
2. INTERLOCK WITH LIGHTS.
3. INTERLOCK WITH LINE VOLTAGE THERMOSTAT.

DIFFUSERS, REGISTERS AND GRILLES

MARK	MANUFACTURER	MODEL NO./ NECK SIZE	DESCRIPTION	MOUNTING 2	THROW	DAMPER 3	COLOR	MAX. NC	REMARKS
CS-1	PRICE	510/ 16X16	LOUVERED DOUBLE DEFLECTION	SURFACE MOUNT	4-WAY	REMOTE	1	20	-
SWS-1	PRICE	510/ SEE PLAN	LOUVERED DOUBLE DEFLECTION	SURFACE MOUNT	-	BRANCH	1	20	-
CR-1	PRICE	530/ 16X16	LOUVERED RETURN GRILLE	LAY-IN	-	BRANCH	1	20	-
CR-2	PRICE	530/ SEE PLAN	LOUVERED RETURN GRILLE	LAY-IN	-	BRANCH	1	20	-
SWR-1	PRICE	530/ SEE PLAN	LOUVERED RETURN GRILLE	SURFACE MOUNT	-	BRANCH	1	20	-
TRAG	PRICE	530/ SEE PLAN	LOUVERED TRANSFER GRILLE	LAY-IN	-	-	1	20	-

REMARKS

1. PROVIDE AIR DISTRIBUTION IN B12 WHITE.
2. REFER TO ARCHITECTURAL REFLECTED CEILING PLAN FOR EXACT CEILING TYPE.
3. PROVIDE BALANCING DAMPERS FOR EVERY INLET AND OUTLET. REFER TO 4/M5.02 FOR REMOTE VOLUME DAMPER DETAIL.

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-121181 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 07/02/2024

OWNER: SAN RAFAEL CITY SCHOOLS

PROJECT NAME: VENETIA VALLEY BLDGS G AND H ALTERATION

CLIENT ADDRESS: 177 N San Pedro Rd, San Rafael, CA 94903

REGISTERED PROFESSIONAL ENGINEER
CHUAN TANG
M29973
EXP. 06-30-26
MECHANICAL
STATE OF CALIFORNIA

REVISIONS:

	DESCRIPTION	DATE
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		

PROJECT NO:
DATE ISSUED: 06/21/2024
SCALE: As indicated

SHEET NUMBER: M00-1
SHEET TITLE:

MECHANICAL SCHEDULES

tk1sc COLLABORATIVE
11870 Pierce Street, Suite 160
Riverside, California 92505
951.299.4160 www.tk1sc.com

Project Leader - Nikolas Bruno
Electrical Lead - Nikolas Bruno
tk1sc Job #: B2304502.000

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: Venetia Valley Bldgs G and H Alteration	**Report Page:** (Page 1 of 20)
Project Address: 177 N San Pedro Rd	**Date Prepared:** 9/5/2023

A. GENERAL INFORMATION

01	Project Location (city)	San Rafael	04	Total Conditioned Floor Area	5155
02	Climate Zone	2	05	Total Unconditioned Floor Area	0
03	Occupancy Types Within Project:		06	# of Stories (Habitable Above Grade)	1

- Classroom

B. PROJECT SCOPE

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

01		02		03	
Air System(s)		Wet System Components		Dry System Components	
☒	Heating Air System	☐	Water Economizer	☒	Air Economizer
☒	Cooling Air System	☐	Pumps	☐	Electric Resistance Heat
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

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 Q for Details)										COMPLIES					

D. EXCEPTIONAL CONDITIONS

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

E. ADDITIONAL REMARKS

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

F. HVAC SYSTEM SUMMARY (DRY & WET SYSTEMS)

Space Conditioning System Information

01	02	03	04	05	06
System Name	Quantity	System Serving	System Status	Space Type	Utilizing Recovered Heat
Kindergarten Room G-02	1	Single zone	Alteration		☐
Kindergarten Room G-01	1	Single zone	Alteration		☐
Classroom H-01 and (E) Teacher Workroom H-03	1	Single zone	Alteration		☐

F. HVAC SYSTEM SUMMARY (DRY & WET SYSTEMS)

Space Conditioning System Information

01	02	03	04	05	06
System Name	Quantity	System Serving	System Status	Space Type	Utilizing Recovered Heat
Kindergarten Room H-02	1	Single zone	Alteration		☐

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)3aii	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[2,3]			Cooling Output[2,3]		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)
Kindergarten Room G-02	Unitary Heat Pumps	Air-cooled, pkg (3 phase)	NA: Altered per 141.0(b)2E and 180.2(b)2	38.79	55.9	0	56.66	47.33	12.98	26.06
Kindergarten Room G-01	Unitary Heat Pumps	Air-cooled, pkg (3 phase)	NA: Altered per 141.0(b)2E and 180.2(b)2	38.79	55.9	0	56.66	47.33	13.02	26.13
Classroom H-01 and (E) Teacher Workroom H-03	Unitary Heat Pumps	Air-cooled, pkg (3 phase)	NA: Altered per 141.0(b)2E and 180.2(b)2	38.79	55.9	0	56.53	47.33	7.38	19.85
Kindergarten Room H-02	Unitary Heat Pumps	Air-cooled, pkg (3 phase)	NA: Altered per 141.0(b)2E and 180.2(b)2	38.79	55.9	0	57.02	47.33	19.32	31.19

[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).*

F. HVAC SYSTEM SUMMARY (DRY & WET SYSTEMS)

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

01	02	03	04	05	06	07	08	09
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
Kindergarten Room G-02	<65,000		HSPF	7.7	7.5	SEER	13.0	17
Kindergarten Room G-01	<65,000		HSPF	7.7	7.5	SEER	13.0	17
Classroom H-01 and (E) Teacher Workroom H-03	<65,000		HSPF	7.7	7.5	SEER	13.0	17
Kindergarten Room H-02	<65,000		HSPF	7.7	7.5	SEER	13.0	17

G. PUMPS

This section does not apply to this project.

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	Kindergarten Room G-02	Quantity	1	Fan System Status	Alteration	System Zoning	all other systems	Serving Dwelling Units	Not Serving Dwelling Units	Fan System Airflow (cfm)	2,000	Site Elevation	40	Economizer	Differential Temperature
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			2,000			464		Manufacturer provided				0.88
			MERV 13-16 Filter upstream of thermal conditioning equipment			2,000			278						
			Hydronic/DX cooling coil or heat pump coil			2,000			278						
			Economizer Return Damper			2,000			92						
			Supply Fan System			2,000			278						
Supply Fan Base Allowance (kW)			Exhuast/Return/Relief/Transfer Fan Base Allowance(kW)						Fan System Allowance (kW)[3]				Fan System Electrical Output (kW)		

H. FAN SYSTEMS & AIR ECONOMIZERS

System Name	Kindergarten Room G-01	Quantity	1	Fan System Status	Alteration	System Zoning	all other systems	Serving Dwelling Units	Not Serving Dwelling Units	Fan System Airflow (cfm)	2,000	Site Elevation	40	Economizer	Differential Temperature
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			2,000			464		Manufacturer provided				0.88
			MERV 13-16 Filter upstream of thermal conditioning equipment			2,000			278						
			Hydronic/DX cooling coil or heat pump coil			2,000			278						
			Economizer Return Damper			2,000			92						
			Supply Fan System			2,000			278						
Supply Fan Base Allowance (kW)			Exhuast/Return/Relief/Transfer Fan Base Allowance(kW)						Fan System Allowance (kW)[3]				Fan System Electrical Output (kW)		

H. FAN SYSTEMS & AIR ECONOMIZERS

System Name	Classroom H-01 and (E) Teacher Workroom H-03	Quantity	1	Fan System Status	Alteration	System Zoning	all other systems	Serving Dwelling Units	Not Serving Dwelling Units	Fan System Airflow (cfm)	2,000	Site Elevation	40	Economizer	Differential Temperature
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			2,000			464		Manufacturer provided				0.88
			MERV 13-16 Filter upstream of thermal conditioning equipment			2,000			278						
			Hydronic/DX cooling coil or heat pump coil			2,000			278						
			Economizer Return Damper			2,000			92						
			Supply Fan System			2,000			278						
Supply Fan Base Allowance (kW)			Exhuast/Return/Relief/Transfer Fan Base Allowance(kW)						Fan System Allowance (kW)[3]				Fan System Electrical Output (kW)		

H. FAN SYSTEMS & AIR ECONOMIZERS

System Name	Kindergarten Room H-02	Quantity	1	Fan System Status	Alteration	System Zoning	all other systems	Serving Dwelling Units	Not Serving Dwelling Units	Fan System Airflow (cfm)	2,000	Site Elevation	40	Economizer	Differential Temperature
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			2,000			464		Manufacturer provided				0.88
			MERV 13-16 Filter upstream of thermal conditioning equipment			2,000			278						
			Hydronic/DX cooling coil or heat pump coil			2,000			278						
			Economizer Return Damper			2,000			92						
			Supply Fan System			2,000			278						
Supply Fan Base Allowance (kW)			Exhuast/Return/Relief/Transfer Fan Base Allowance(kW)						Fan System Allowance (kW)[3]				Fan System Electrical Output (kW)		

[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..*

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

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

Fan Energy Index (FEI)

01	02	03
Name or Item Tag	FEI Exception	FEI

I. SYSTEM CONTROLS

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

01	02	03	04	05	06	07	08	09
System Name	System Zoning	Conditioned Floor Area Being Served (ft²)	Thermostats 110.2(b) & (c)[1], 120.2(a) 160.3(a)2A or 141.0(b)2E & 180.2(b)2	Shut-Off Controls 120.2(e) & 160.3(a)2D	Isolation Zone Controls 120.2(g) & 160.3(a)2F	Demand Response 110.12 120.2(b) & 160.3(a)2B	Supply Air Temp. Reset 140.4(f) & 170.2(c)4D	Window Interlocks per 140.4(n) & 170.2(c)4D
Kindergarten Room G-02	Single zone	<= 25,000 ft²	Setback	Auto Timer Switch	4 Hour Timer	EMCS	Included	NA: HRR dwelling unit
Kindergarten Room G-01	Single zone	<= 25,000 ft²	Setback	Auto Timer Switch	4 Hour Timer	EMCS	Included	NA: HRR dwelling unit
Classroom H-01 and (E) Teacher Workroom H-03	Single zone	<= 25,000 ft²	Setback	Auto Timer Switch	4 Hour Timer	EMCS	Included	NA: HRR dwelling unit
Kindergarten Room H-02	Single zone	<= 25,000 ft²	Setback	Auto Timer Switch	4 Hour Timer	EMCS	Included	NA: HRR dwelling unit

[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

04		05			06			07	
System Name	Kindergarten Room G-02	System Design OA CFM Airflow[1]		65	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[6] 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		
Zone	Classroom (ages 5-18)	1439.3			546.9	0	0	DCV	NA: Not required per §120.1(d)3
								Occ Sensor	NA: Not required space type
17	Total System Required Min OA CFM				547	18	Ventilation for this System Complies?		Yes

04		05			06			07	
System Name	Kindergarten Room G-01	System Design OA CFM Airflow[1]		65	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	

J. VENTILATION AND INDOOR AIR QUALITY

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[6] 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		
Zone	Classroom (ages 5-18)	1439.9			547.2	0	0	DCV	NA: Not required per §120.1(d)3
								Occ Sensor	NA: Not required space type
17	Total System Required Min OA CFM				547	18	Ventilation for this System Complies?		Yes

04		05			06			07	
System Name	Classroom H-01 and (E) Teacher Workroom H-03	System Design OA CFM Airflow[1]		45	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[6] 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		
Zone	Classroom (ages 5-18)	1001			380.4	0	0	DCV	NA: Not required per §120.1(d)3
								Occ Sensor	NA: Not required space type
17	Total System Required Min OA CFM				380	18	Ventilation for this System Complies?		Yes

04		05			06			07	
System Name	Kindergarten Room H-02	System Design OA CFM Airflow[1]		207	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	

J. VENTILATION AND INDOOR AIR QUALITY

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[6] 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		
Zone	Classroom (ages 5-18)	1275			484.5	0	0	DCV	NA: Not required per §120.1(d)3
								Occ Sensor	NA: Not required space type
17	Total System Required Min OA CFM				484	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.

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.

L. DISTRIBUTION (DUCTWORK and PIPING)

Duct Leakage Testing

The answers to the questions below apply to the following duct systems:	Kindergarten Room G-02	**NR/ Common Use:** Duct leakage testing shall not exceed 6% per NA7.5.3 required for these systems?	Yes
		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?	Yes
		Duct leakage testing per CMC Section 603.10.1 required for these systems?	No
11	false		
12	Yes	Duct system provides conditioned air to an occupiable space for a constant volume, single zone, space-conditioning system.	
13	Yes	The space conditioning system serves less than 5,000 ft² of conditioned floor area.	
14	No	The combined surface area of the ducts 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			
The answers to the questions below apply to the following duct systems:	Kindergarten Room G-01	**NR/ Common Use:** Duct leakage testing shall not exceed 6% per NA7.5.3 required for these systems?	Yes

---

L. DISTRIBUTION (DUCTWORK and PIPING)

		Dwelling Units: Total duct leakage of duct system shall not exceed 12% or duct system to outside shall not exceed 6% per RA3.1.4 required for systems?	Yes
		Duct leakage testing per CMC Section 603.10.1 required for these systems?	No
11	false		
12	Yes	Duct system provides conditioned air to an occupiable space for a constant volume, single zone, space-conditioning system.	
13	Yes	The space conditioning system serves less than 5,000 ft² of conditioned floor area.	
14	No	The combined surface area of the ducts 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			
The answers to the questions below apply to the following duct systems:	Classroom H-01 and (E)	**NR/ Common Use:** Duct leakage testing shall not exceed 6% per NA7.5.3 required for these systems?	Yes

---

L. DISTRIBUTION (DUCTWORK and PIPING)

	Teacher Workroom H-03	**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?	Yes
		Duct leakage testing per CMC Section 603.10.1 required for these systems?	No
11	false		
12	Yes	Duct system provides conditioned air to an occupiable space for a constant volume, single zone, space-conditioning system.	
13	Yes	The space conditioning system serves less than 5,000 ft² of conditioned floor area.	
14	No	The combined surface area of the ducts 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			
The answers to the questions below apply to the following duct systems:	Kindergarten Room H-02	**NR/ Common Use:** Duct leakage testing shall not exceed 6% per NA7.5.3 required for these systems?	Yes

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L. DISTRIBUTION (DUCTWORK and PIPING)

		Dwelling Units: Total duct leakage of duct system shall not exceed 12% or duct system to outside shall not exceed 6% per RA3.1.4 required for systems?	Yes
		Duct leakage testing per CMC Section 603.10.1 required for these systems?	No
11	false		
12	Yes	Duct system provides conditioned air to an occupiable space for a constant volume, single zone, space-conditioning system.	
13	Yes	The space conditioning system serves less than 5,000 ft² of conditioned floor area.	
14	No	The combined surface area of the ducts 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.

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-121181 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 07/02/2024

OWNER: SAN RAFAEL CITY SCHOOLS

PROJECT NAME: VENETIA VALLEY BLDGS G AND H ALTERATION

CLIENT ADDRESS: 177 N San Pedro Rd, San Rafael, CA 94903

KWAN TANG
M29973
EXP 06-30-26

REVISIONS:

	DESCRIPTION	DATE
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PROJECT NO:

DATE ISSUED: 06/21/2024

SCALE: As indicated

SHEET NUMBER: M00-2

SHEET TITLE:

MECHANICAL TITLE 24 COMPLIANCE FORMS

tk1sc COLLABORATIVE
11870 Pierce Street, Suite 160
Riverside, California 92505
951.299.4160 www.tk1sc.com

Project Leader - Nikolas Bruno
Electrical Lead - Nikolas Bruno
tk1sc Job #: B2304502.000

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.	Carrier 50GCQJ06; Carrier 50GCQJ06; Carrier 50GCQJ06; Carrier 50GCQJ06;
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".	Carrier 50GCQJ06; Carrier 50GCQJ06; Carrier 50GCQJ06; Carrier 50GCQJ06;
NRCA-MCH-05-A - Air Economizer Controls	Carrier 50GCQJ06; Carrier 50GCQJ06; Carrier 50GCQJ06; Carrier 50GCQJ06;
NRCA-MCH-11-A Automatic Demand Shed Controls	Carrier 50GCQJ06; Carrier 50GCQJ06; Carrier 50GCQJ06; Carrier 50GCQJ06;
NRCA-MCH-12-A FDD for Packaged Direct Expansion Units	Carrier 50GCQJ06; Carrier 50GCQJ06; Carrier 50GCQJ06; Carrier 50GCQJ06;
NRCA-MCH-16-A Supply Air Temperature Reset Controls	Carrier 50GCQJ06; Carrier 50GCQJ06; Carrier 50GCQJ06; Carrier 50GCQJ06;

O. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

NRCA-MCH-18-A Energy Management Control Systems	Carrier 50GCQJ06; Carrier 50GCQJ06; Carrier 50GCQJ06; Carrier 50GCQJ06;

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: WAI MAUNG	Documentation Author Signature: WM
Company: WSP USA	Signature Date: 2023-09-05
Address: 15231 Laguna Canyon Road, Suite 100	CEA / HERS Certification Identification (if applicable): 6C24-CF7C-D36D-0EDC-2BA3-566B-503F-BCAC-7A34-D7C5-93A1-0A69-F126-8013-C27D-9045
City/State/Zip: Irvine CA 92618	Phone: (949)751-5800

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: William Galarza	Responsible Designer Signature: WG
Company: TK1SC	Date Signed: 2023-09-05
Address: 15231 Laguna Canyon Road, Suite 100	License: M32627
City/State/Zip: Irvine CA 92618	Phone: (949)751-5800

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-121181 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 07/02/2024

OWNER: SAN RAFAEL CITY SCHOOLS

PROJECT NAME: VENETIA VALLEY BLDGS G AND H ALTERATION

CLIENT ADDRESS: 177 N San Pedro Rd, San Rafael, CA 94903

REGISTERED PROFESSIONAL ENGINEER
WAN TANG
M29973
EXP 06-30-26
MECHANICAL
STATE OF CALIFORNIA

REVISIONS:

	DESCRIPTION	DATE
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PROJECT NO:
DATE ISSUED: 06/21/2024
SCALE: As indicated

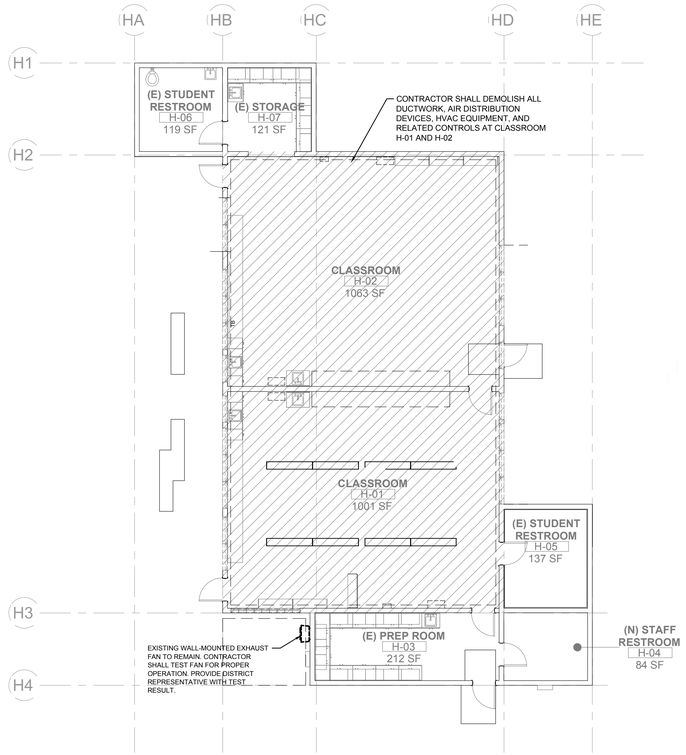
SHEET NUMBER: **M00-3**

SHEET TITLE:

MECHANICAL TITLE 24 COMPLIANCE FORMS

tk1sc COLLABORATIVE
11870 Pierce Street, Suite 160
Riverside, California 92505
951.299.4160 www.tk1sc.com

Project Leader - Nikolas Bruno
Electrical Lead - Nikolas Bruno
tk1sc Job #: B2304502.000



MECHANICAL DEMO FLOOR PLAN - BLDG H | 1/8" = 1'-0" | 1

IDENTIFICATION STAMP
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PROJECT NAME: VENETIA VALLEY BLDGS G AND H ALTERATION

CLIENT ADDRESS: 177 N San Pedro Rd, San Rafael, CA 94903

REGISTERED PROFESSIONAL ENGINEER
CHUAN TANG
M29973
EXP 06-30-26
MECHANICAL
STATE OF CALIFORNIA

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PROJECT NO:
DATE ISSUED: 06/21/2024
SCALE: As indicated

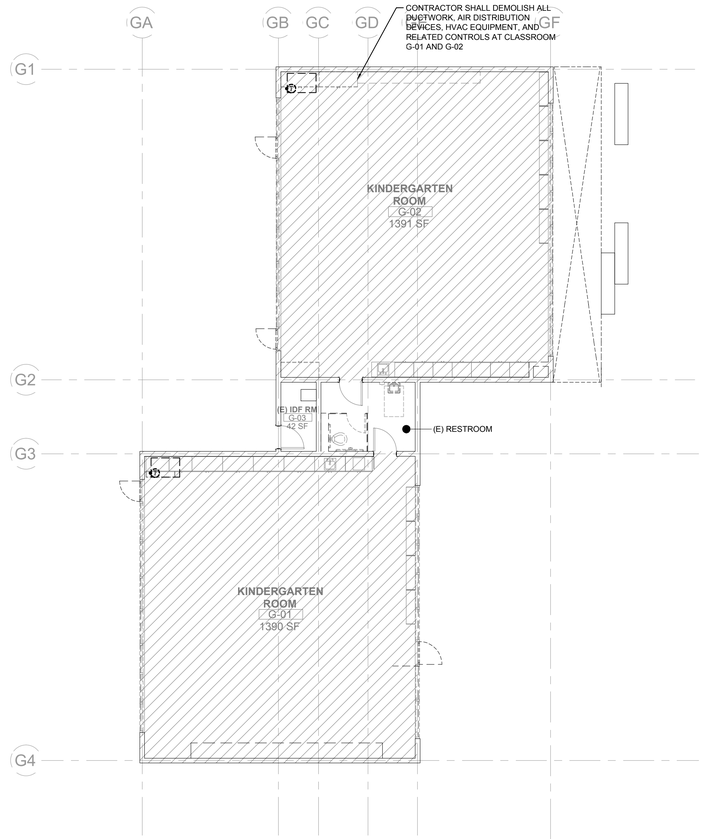
SHEET NUMBER: M10-1
SHEET TITLE:

MECHANICAL DEMO FLOOR PLAN - BLDG H

tk1sc COLLABORATIVE
11870 Pierce Street, Suite 160
Riverside, California 92505
951.299.4160 www.tk1sc.com
Project Leader - Nikolas Bruno
Mechanical Lead- William Galarza
tk1sc Job #: B2304502.000

DEMOLITION NOTE:

1. PRIOR TO START OF DEMOLITION, MEASURE DISTANCE FROM FLOOR TO BOTTOM OF EXISTING SUPPLY AIR DUCT. NEW DUCT SHALL BE INSTALLED AT SAME ELEVATION.



MECHANICAL DEMO FLOOR PLAN - BLDG G | 1/8" = 1'-0" | 1

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PROJECT NAME: VENETIA VALLEY BLDGS G AND H ALTERATION

CLIENT ADDRESS: 177 N San Pedro Rd, San Rafael, CA 94903

REGISTERED PROFESSIONAL ENGINEER
CHIWAN TANG
M29973
EXP 06-30-26
MECHANICAL
STATE OF CALIFORNIA

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PROJECT NO:

DATE ISSUED: 06/21/2024

SCALE: As indicated

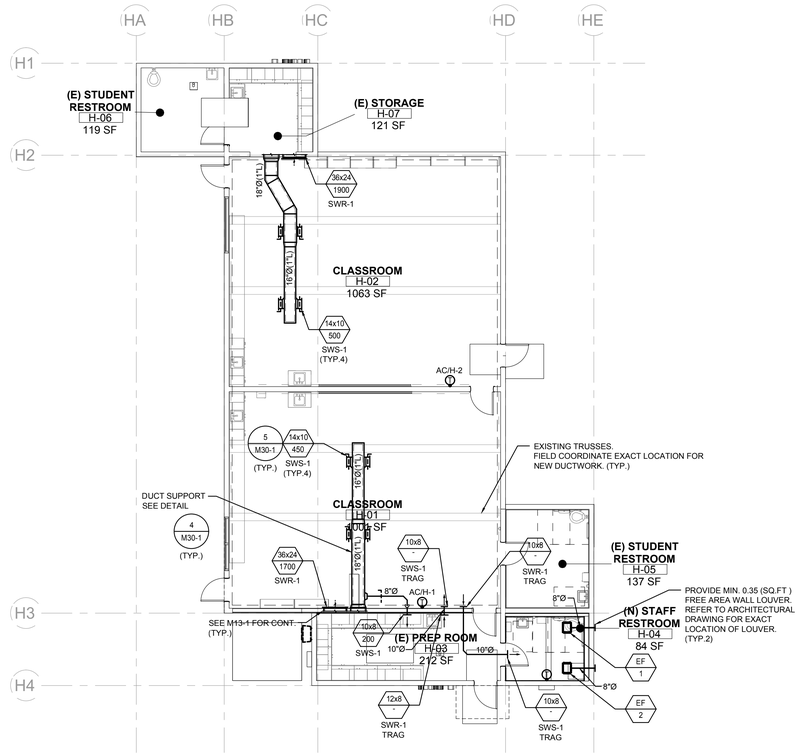
SHEET NUMBER: M10-2

SHEET TITLE:

MECHANICAL DEMO FLOOR PLAN - BLDG G

tk1sc COLLABORATIVE
11870 Pierce Street, Suite 160
Riverside, California 92505
951.299.4160 www.tk1sc.com

Project Leader - Nikolas Bruno
Mechanical Lead- William Galarza
tk1sc Job #: B2304502.000



MECHANICAL FLOOR PLAN - BLDG H | 1/8" = 1'-0" | 1

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PROJECT NAME: VENETIA VALLEY BLDGS G AND H ALTERATION

CLIENT ADDRESS: 177 N San Pedro Rd, San Rafael, CA 94903

REGISTERED PROFESSIONAL ENGINEER
SHAN TANG
M29973
EXP 06-30-26
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STATE OF CALIFORNIA

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PROJECT NO:

DATE ISSUED: 06/21/2024

SCALE: As indicated

SHEET NUMBER: M11-1

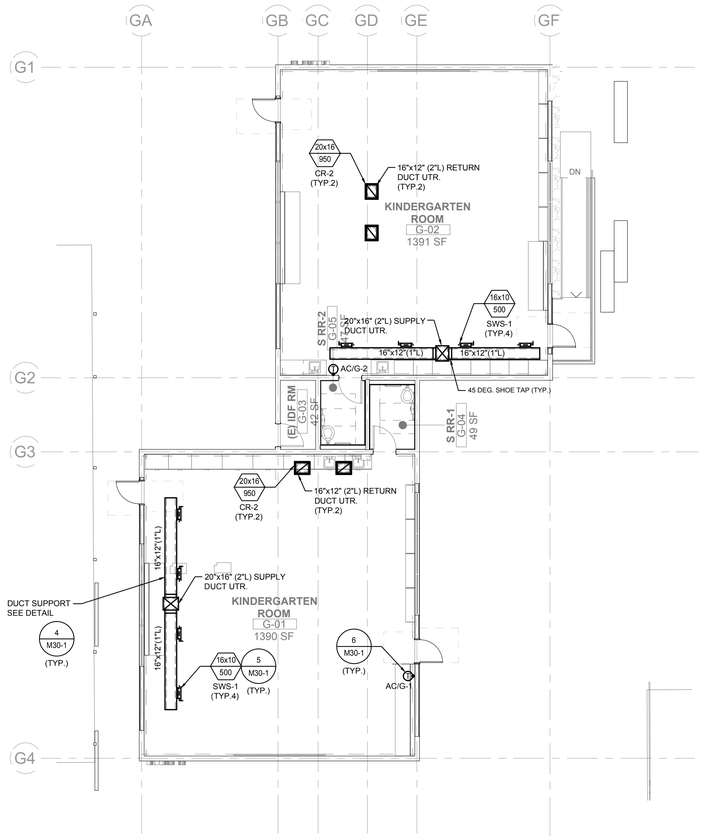
SHEET TITLE:

MECHANICAL FLOOR PLAN - BLDG H

tk1sc COLLABORATIVE
11870 Pierce Street, Suite 160
Riverside, California 92505
951.299.4160 www.tk1sc.com
Project Leader - Nikolas Bruno
Mechanical Lead- William Galarza
tk1sc Job #: B2304502.000

CONSTRUCTION NOTE:

1. ELEVATION OF BOTTOM OF NEW SUPPLY AIR DUCTWORK AT G-01 AND G-02 SHALL MATCH PREVIOUS SUPPLY DUCT. RECONFIGURE RECTANGULAR SIZE AS REQUIRED TO MAINTAIN SAME BOTTOM OF DUCT ELEVATION.



MECHANICAL FLOOR PLAN - BLDG G | 1/8" = 1'-0" | 1

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OWNER: SAN RAFAEL CITY SCHOOLS

PROJECT NAME: VENETIA VALLEY BLDGS G AND H ALTERATION

CLIENT ADDRESS: 177 N San Pedro Rd, San Rafael, CA 94903

REGISTERED PROFESSIONAL ENGINEER
CHUAN TANG
M29973
EXP. 06-30-26
MECHANICAL
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PROJECT NO:

DATE ISSUED: 06/21/2024

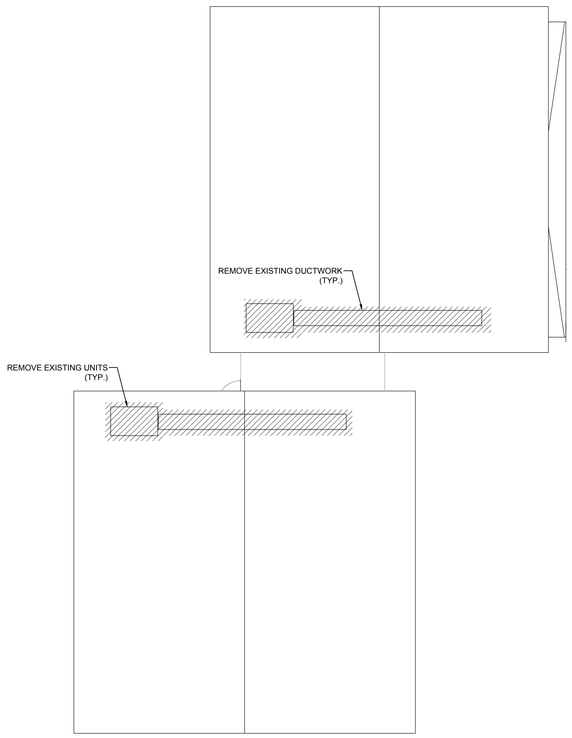
SCALE: As indicated

SHEET NUMBER: M11-2

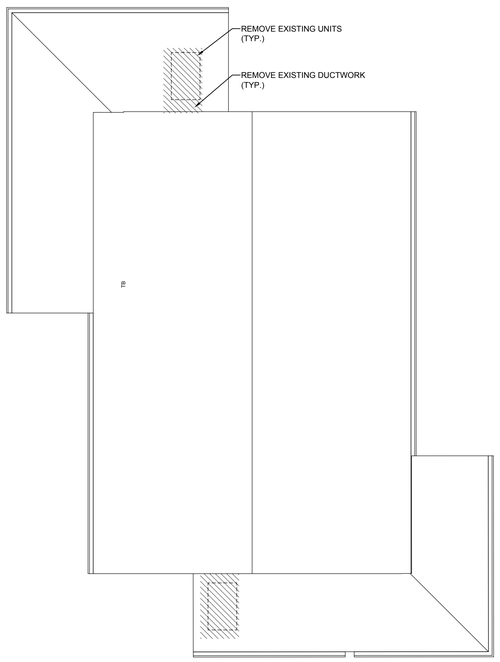
SHEET TITLE:

MECHANICAL FLOOR PLAN - BLDG G

tk1sc COLLABORATIVE
11870 Pierce Street, Suite 160
Riverside, California 92505
951.299.4160 www.tk1sc.com
Project Leader - Nikolas Bruno
Mechanical Lead- William Galarza
tk1sc Job #: B2304502.000



DEMO ROOF PLAN - BLDG G | 1/8" = 1'-0" | 1



DEMO ROOF PLAN - BLDG H | 1/8" = 1'-0" | 2

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-121181 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 07/02/2024

OWNER: SAN RAFAEL CITY SCHOOLS

PROJECT NAME: VENETIA VALLEY BLDGS G AND H ALTERATION

CLIENT ADDRESS: 177 N San Pedro Rd, San Rafael, CA 94903

REGISTERED PROFESSIONAL ENGINEER
CHUAN TANG
M29973
EXP 06-30-26
MECHANICAL
STATE OF CALIFORNIA

REVISIONS:

	DESCRIPTION	DATE
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PROJECT NO:

DATE ISSUED: 06/21/2024

SCALE: As indicated

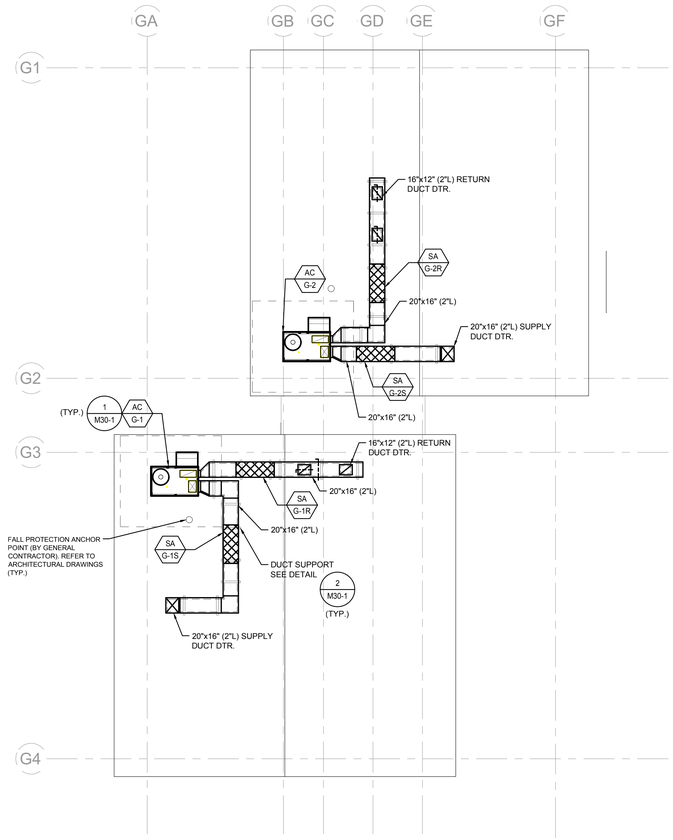
SHEET NUMBER: M12-1

SHEET TITLE:

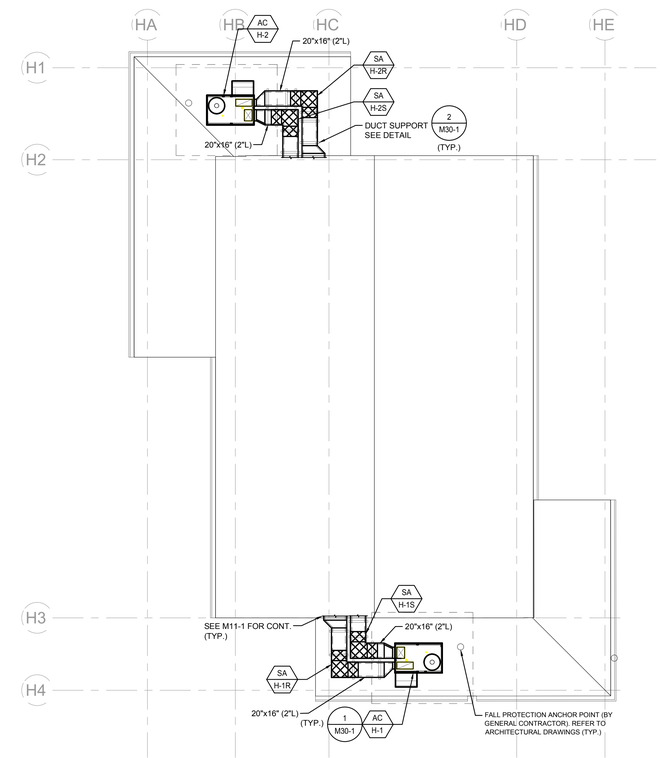
MECHANICAL DEMO ROOF PLANS - BLDG G AND H

tk1sc COLLABORATIVE
11870 Pierce Street, Suite 160
Riverside, California 92505
951.299.4160 www.tk1sc.com

Project Leader - Nikolas Bruno
Mechanical Lead- William Galarza
tk1sc Job #: B2304502.000



ROOF PLAN - BLDG G | 1/8" = 1'-0" | 1



ROOF PLAN - BLDG H | 1/8" = 1'-0" | 2

GENERAL NOTE:

1. PAINT ROOF AND DUCT SUPPORTS.

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APP: 01-121181 INC:
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SS ☑ FLS ☑ ACS ☑
DATE: 07/02/2024

OWNER: SAN RAFAEL CITY SCHOOLS

PROJECT NAME: VENETIA VALLEY BLDGS G AND H ALTERATION

CLIENT ADDRESS: 177 N San Pedro Rd, San Rafael, CA 94903

REGISTERED PROFESSIONAL ENGINEER
CHUAN TANG
M29973
EXP 06-30-26
MECHANICAL
STATE OF CALIFORNIA

REVISIONS:

	DESCRIPTION	DATE
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PROJECT NO:

DATE ISSUED: 06/21/2024

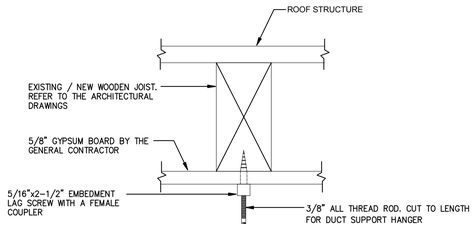
SCALE: As indicated

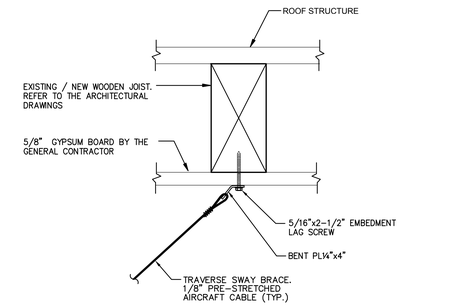
SHEET NUMBER: M13-1

SHEET TITLE:

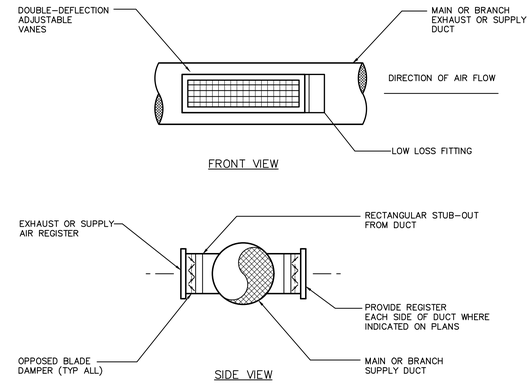
MECHANICAL ROOF PLANS - BLDG G AND H

tk1sc COLLABORATIVE
11870 Pierce Street, Suite 160
Riverside, California 92505
951.299.4160 www.tk1sc.com
Project Leader - Nikolas Bruno
Mechanical Lead- William Galarza
tk1sc Job #: B2304502.000

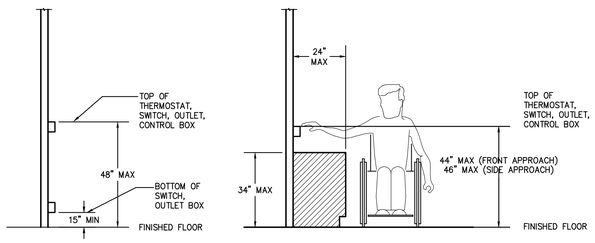




TOP CONNECTION DETAIL | 9

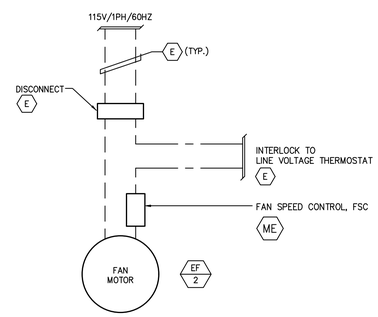


DUCT MOUNTED REGISTER EXPOSED DIFFUSER | 5

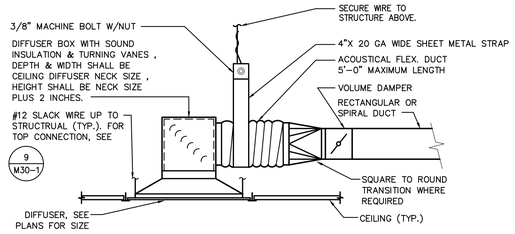


THERMOSTAT MOUNTING DETAIL | 6

EXHAUST FAN CONTROLLED BY LIGHT SWITCH | 10



EXHAUST FAN CONTROLLED BY LINE VOLTAGE THERMOSTAT | 11

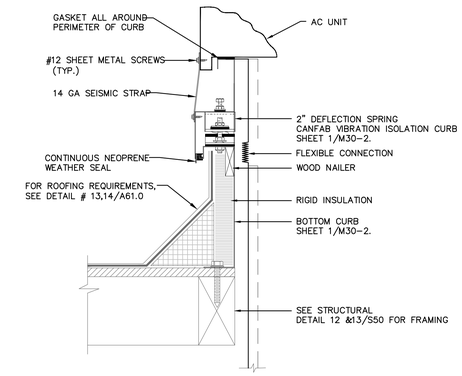


NOTE:
1. FLEXIBLE DUCT CONNECTIONS SHALL BE CASCO SILENT FLEX II OR EQUAL.
2. RETURN AIR REGISTERS AND RELIEF AIR REGISTERS ARE SIMILAR.
3. EXHAUST AIR REGISTERS SIMILAR WITH RIGID DUCT IN LIEU OF FLEX.
4. DIFFUSERS AND REGISTERS TO BE INSTALLED PER SMACNA.
5. CEILING DIFFUSERS AND RETURN AIR GRILLES SHALL BE POSITIVELY ATTACHED TO THE CEILING SUSPENSION MAIN RUNNERS OR TO CROSS RUNNERS WITH THE SAME CARRYING CAPACITY AS THE MAIN RUNNERS.

CEILING DIFFUSER | 7

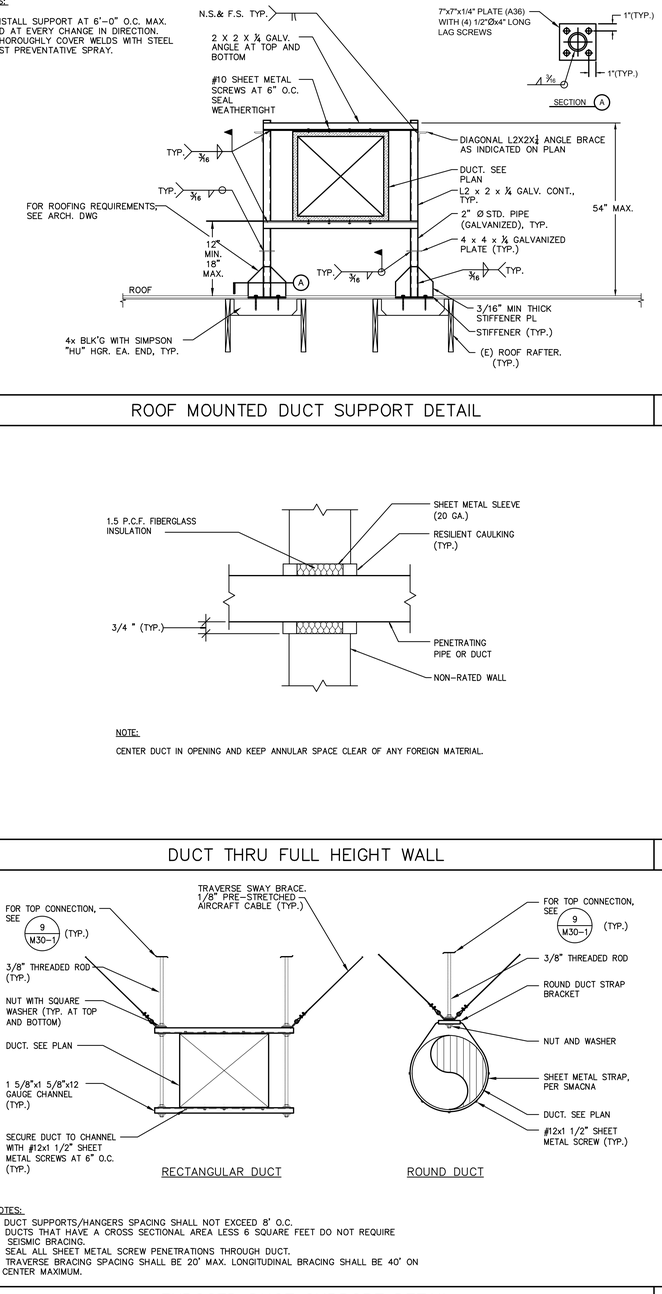
– | 8

NOTE:
1. REFER TO SHEET 1/M30-2. FOR ADDITIONAL ISOLATION CURB AND ANCHORAGE INFORMATION.



ROOFTOP AIR CONDITIONING UNIT MOUNTING DETAIL | 1

NOTES:
1. INSTALL SUPPORT AT 6'-0" O.C. MAX. AND AT EVERY CHANGE IN DIRECTION.
2. THOROUGHLY COVER WELDS WITH STEEL RUST PREVENTATIVE SPRAY.



ROOF MOUNTED DUCT SUPPORT DETAIL | 2

NOTE:
CENTER DUCT IN OPENING AND KEEP ANNULAR SPACE CLEAR OF ANY FOREIGN MATERIAL.

DUCT THRU FULL HEIGHT WALL | 3

NOTES:
1. DUCT SUPPORTS/HANGERS SPACING SHALL NOT EXCEED 8' O.C.
2. DUCTS THAT HAVE A CROSS SECTIONAL AREA LESS 6 SQUARE FEET DO NOT REQUIRE SEISMIC BRACING.
3. SEAL ALL SHEET METAL SCREW PENETRATIONS THROUGH DUCT.
4. TRAVERSE BRACING SPACING SHALL BE 20' MAX. LONGITUDINAL BRACING SHALL BE 40' ON CENTER MAXIMUM.

EXPOSED DUCT SUPPORT DETAIL | 4

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SCALE: As indicated

SHEET NUMBER: M30-1

SHEET TITLE:

MECHANICAL DETAILS

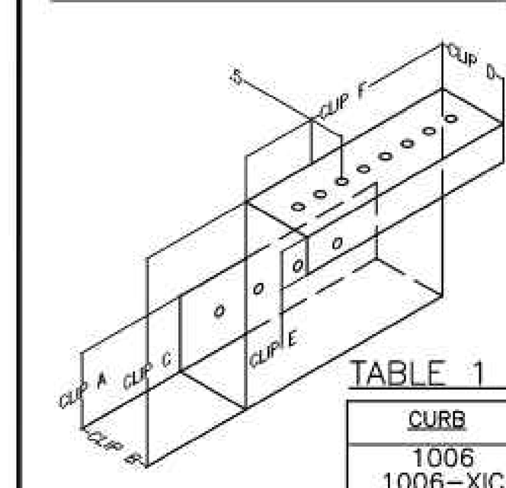
tk1sc COLLABORATIVE
11870 Pierce Street, Suite 160
Riverside, California 92505
951.299.4160 www.tk1sc.com
Project Leader - Nikolas Bruno
Electrical Lead - Nikolas Bruno
tk1sc Job #: B2304502.000

CanFab
CANFAB MANAGEMENT LLC
182 GRANITE STREET, SUITE 101, CORONA, CA 92879
PHONE: (951)278-1830 FAX: (951)278-8444 www.canfab.com canfab@canfab.com

FOR: GROUP A ISO

PART NO:

HOLD DOWN DETAIL



NOTE:
SEE TABLE 1 FOR DESIGNATED HOLD DOWN CLIP PER CURB

TABLE 1 HOLD DOWN CLIP PER CURB

CURB	CLIP	GAUGE	CLIP A [IN]	CLIP B [IN]	CLIP C [IN]	CLIP D [IN]	CLIP E [IN]	CLIP F [IN]
1006 1006-XIC 6060	1909-SHD8-12	12 GA	1.5	2.625	4.5625	1.875	1.0	9.0
3004	3901-SHD8-12	12 GA	1.0	4.81	3.875	2.125	1.0	9.0
4028	4901-SHD8-12	12 GA	2.0	3.0625	4.625	1.875	1.0	9.0
6038	6907-SHD8-12	12 GA	2.0	2.0	3.25	1.875	1.0	9.0

STRUCTURAL REVIEW BY:
MARTIN & associates
REGISTERED PROFESSIONAL ENGINEER GREGORY LOUIS OROZCO No. 4957 STRUCTURAL STATE OF CALIFORNIA
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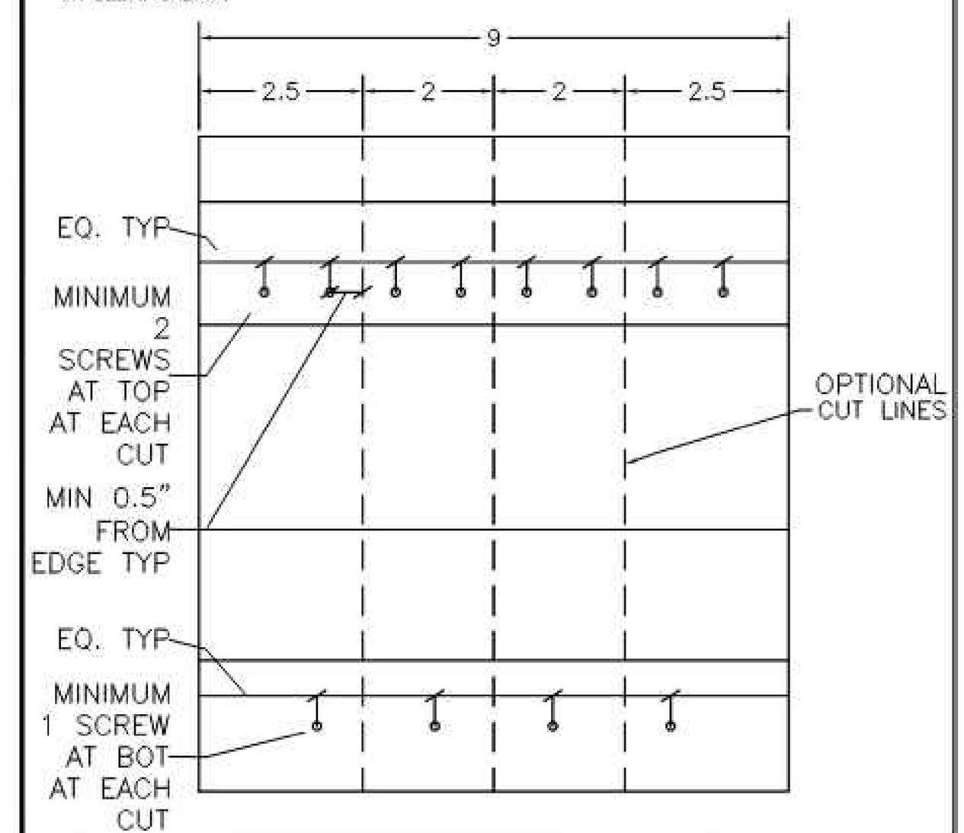
ALTERNATIVE HOLD DOWN DETAIL

NOTE:
APPLICABLE ONLY FOR 9" LONG HOLD DOWN WITH (8) SCREWS AT TOP AND (4) SCREWS AT BOT EQUALLY SPACED

1. INFORMATION SHOWN ON THE STAMPED CANFAB CURB DRAWING IS THE MINIMUM REQUIREMENTS FOR THE CURB CONSTRUCTION AND INSTALLATION. NO STRUCTURAL OBJECTION TO THE USE OF LARGER SIZE SCREWS AND THICKER GAUGE SHEET METAL THAN THE INFORMATION SHOWN ON THE STAMPED CANFAB CURB DRAWING.
2. NO STRUCTURAL OBJECTION TO SHIFTING THE ATTACHMENT CLIPS ALONG THE CURB. FIRST AND LAST CLIP IN THE SERIES OF CLIPS SHALL BE LOCATED PER CLIP LOCATION DETAIL PER STAMPED CANFAB CURB DRAWING. DISTANCE SHIFTED SHALL NOT BE LARGER THAN THE LENGTH OF THE CLIP.
3. NO STRUCTURAL OBJECTION TO CUTTING THE ATTACHMENT CLIPS PER REQUIREMENTS AS SHOWN ON BELOW SKETCH.



CLIP LOCATION DETAIL

NOTE:
SEE TABLE 2 FOR CLIP LOCATION

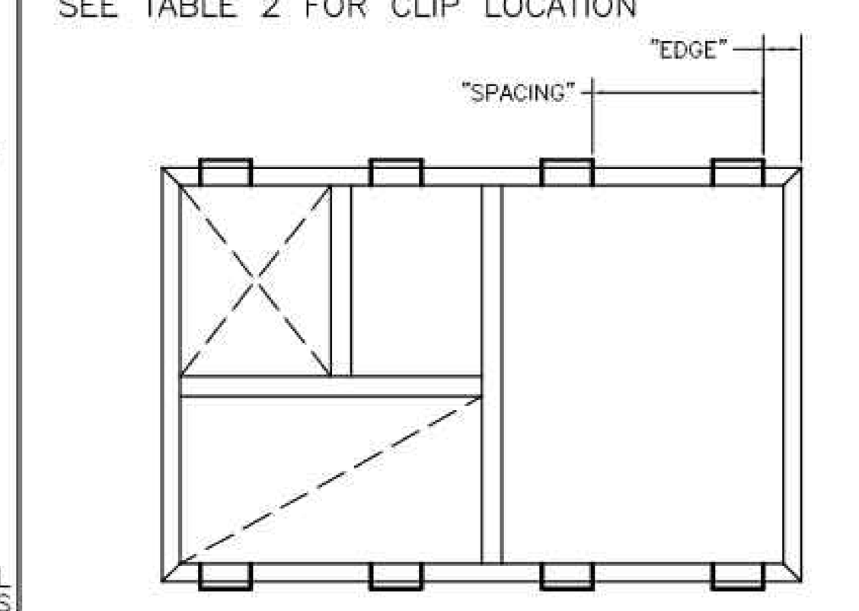


TABLE 2 CLIP LOCATION

CURB	EDGE [IN]	SPACING [IN]
1006, 1006-XIC, 6060	7.75	15.46
3004	7.75	19.00
4028	7.75	18.33
6038	7.75	16.58

PROJECT: IBC 2021/ CBC 2022 DATE: 08.23.23
ENGINEER: DISTRIBUTOR:
DRAWING NUMBER: PAGE 2 OF 3

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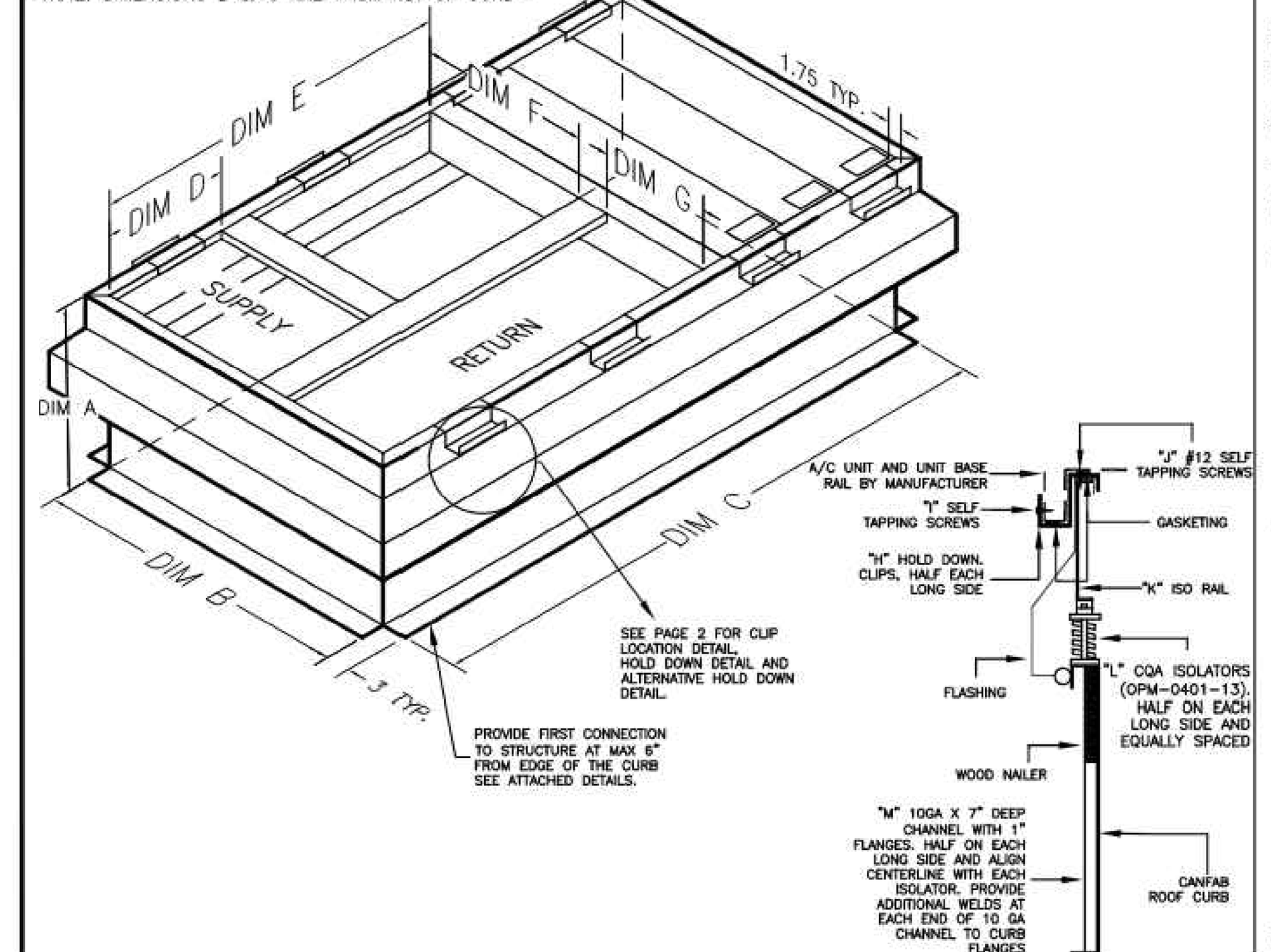
CANFAB MANAGEMENT LLC
182 GRANITE STREET, SUITE 101, CORONA, CA 92879
PHONE: (951)278-1830 FAX: (951)278-8444 www.canfab.com canfab@canfab.com

FOR: GROUP A ISO

PART NO: 1006-XIC

DIM A	DIM B	DIM C	DIM D	DIM E	DIM F	DIM G	DIM H
VARIES MAX 36" SEE TABLE 3	37.1875"	67.375"	14.1875"	32.1875"	20.25"	13.875"	N/A

NOTE: DIMENSIONS B & C ARE FROM I.D. OF CURB



ALL WORK SHALL CONFORM TO THE STANDARD OF 2021 INTERNATIONAL BUILDING CODE & 2022 CALIFORNIA BUILDING CODE.

SEISMIC DESIGN CRITERIA
-SDS = 1.5 ap = 2.5
-I = 1.5 Rp = 2.0

WIND DESIGN CRITERIA
-MAX 60 FT TALL BUILDING
-EXPOSURE C
-175 MPH, 3 SECOND GUST WIND

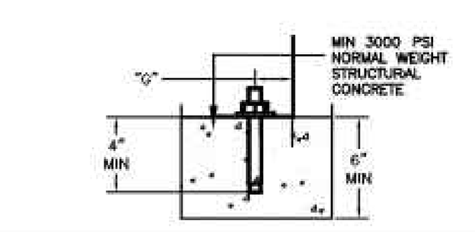
NOTE:
INSTALLER TO VERIFY WITH A LICENSED STRUCTURAL ENGINEER IN THE CORRESPONDING STATE THE ADEQUACY OF THE STRUCTURE FOR LOADS IMPOSED BY THE UNIT AND THE CURB IN ADDITION TO ALL OTHER LOADS.
-INSTALLER TO VERIFY WITH A LICENSED STRUCTURAL ENGINEER IN THE CORRESPONDING STATE THAT THE SEISMIC AND WIND DESIGN CRITERIA NOTED ON THIS DRAWING ARE ADEQUATE FOR THE SITE SPECIFIC VALUES. OTHERWISE, CONTACT CANNON FABRICATION FOR A SITE SPECIFIC ANALYSIS AND DRAWINGS.

CURB CONSTRUCTION
1) ☐ WELDED
2) ☐ BOLTED
3) ☐ FINGERLOCK
-ALL WELDING CONSTRUCTION CERTIFIED TO ANSI/AWS D1.3 STRUCTURAL WELDING CODE-SHEET METAL
-SELF-DRILLING SCREW SHALL MEET ASTM C1513 SPECIFICATION AND INSTALLED PER AISI-S100
-NO GAP IS ALLOWED BETWEEN TWO METAL SHEET SURFACES WHERE SHEET METAL SCREW IS CONNECTED

CURB AND UNIT INFORMATION
"A" GAUGE GALVANIZED STEEL CURB

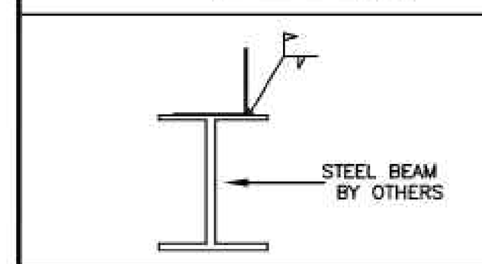
-SEE TABLE 3 FOR ALLOWABLE CURB AND UNIT DIMENSIONAL AND WEIGHT

-SEE TABLE 4 FOR TABULATED CURB AND ANCHORAGE INFORMATION PER VARYING CURB HEIGHT
- ALPHA DESIGNATIONS "A" THRU "M", CAN BE FOUND ON TABLE 4, PAGE 3



ATTACHMENT TO STRUCTURAL CONCRETE

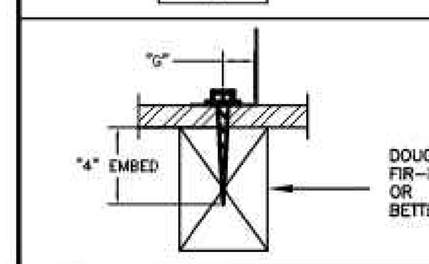
"B" 5/8" HILTI KWIK BOLT TZ2 SS 304, HALF EACH LONG SIDE.
"C" 5/8" HILTI KWIK BOLT TZ2 SS 304, HALF EACH SHORT SIDE.
NOTE:
-MIN 6" AWAY FROM THE NEAREST CONCRETE EDGE (INSTALL PER ICC-ES ESR-4266).
-STRUCTURALLY ACCEPTABLE TO SUBSTITUTE HILTI KBTZ2 STAINLESS STEEL BOLTS WITH HILTI KBTZ2 CARBON STEEL BOLTS ONLY IF ALL THE BOLTS ARE COMPLETELY WATERPROOFED AND PROTECTED AGAINST THE WEATHER.
-BOLTS SHALL BE EQUALLY SPACED



ATTACHMENT TO STRUCTURAL STEEL

1/8" FILLET WELD, 2" LONG, "D" ON CENTER.

NOTE:
-PROVIDE MIN 2 CONNECTIONS WHERE THE CURB SIDE IS SHORTER THAN THE WELD SPACING.
-PROVIDE WELDS ON ALL SIDES



ATTACHMENT TO WOOD

"E" 3/8" LAG SCREWS, HALF EACH LONG SIDE.
"F" 3/8" LAG SCREWS, HALF EACH SHORT SIDE.

NOTE:
-SCREWS SHALL BE EQUALLY SPACED.

STRUCTURAL REVIEW BY:
MARTIN & associates
JOHN A. MARTIN AND ASSOCIATES
REGISTERED PROFESSIONAL ENGINEER GREGORY LOUIS OROZCO No. 4957 STRUCTURAL STATE OF CALIFORNIA
08/31/2023

PROJECT: IBC 2021/CBC 2022 DATE: 08.23.23
ENGINEER: DISTRIBUTOR:
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CANFAB MANAGEMENT LLC
182 GRANITE STREET, SUITE 101, CORONA, CA 92879
PHONE: (951)278-1830 FAX: (951)278-8444 www.canfab.com canfab@canfab.com

FOR: GROUP A ISO

PART NO:

TABLE 3 ALLOWABLE CURB AND UNIT DIMENSION AND WEIGHT

RELATED CURBS	LCURB [IN]	WCURB [IN]	HCURB [IN]	WTCURB [LBS]	LUNIT [IN]	WUNIT [IN]	HUNIT [IN]	WTUNIT [LBS]	CG.LONG [IN]	CG.SHORT [IN]	CG.HEIGHT [IN]
1006 1006-XIC	SEE PAGE 1	SEE PAGE 1	MIN 8	MIN 298,301	74.375	46.75	41.375	MAX 900 FOR 1006 MAX 1100 FOR 1006-XIC	34.625	22.5	20.25
			11	321, 324							
			14	343, 346							
			18	372, 375							
			24	479, 482							
			MAX 36	MAX 592,595							
3004	SEE PAGE 1	SEE PAGE 1	MIN 8	MIN 266	82.25	44.875	32.625	MAX 900	38.6	18.75	HUNIT/2
			11	294							
			14	322							
			18	358							
			24	469							
			MAX 36	MAX 604							
4028	SEE PAGE 1	SEE PAGE 1	MIN 8	MIN 352	83.25	45	43.375	MAX 1316	47	22	HUNIT/2
			11	381							
			14	408							
			18	445							
			24	551							
			MAX 36	MAX 706							
6038	SEE PAGE 1	SEE PAGE 1	MIN 8	MIN 292	69.875	44.25	40.875	MAX 1202	44	22	HUNIT/2
			11	314							
			14	341							
			18	375							
			24	488							
			MAX 36	MAX 614							
6060	SEE PAGE 1	SEE PAGE 1	MIN 8	MIN 300	76.841	47.934	42.004	MAX 869	42	29	HUNIT/2
			11	323							
			14	345							
			18	375							
			24	482							
			MAX 36	MAX 596							

STRUCTURAL REVIEW BY:
MARTIN & associates
REGISTERED PROFESSIONAL ENGINEER GREGORY LOUIS OROZCO No. 4957 STRUCTURAL STATE OF CALIFORNIA
08/31/2023

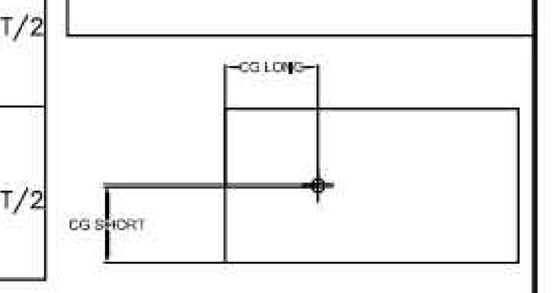

TABLE 4 TABULATED CURB AND ANCHORAGE INFORMATION PER VARYING HEIGHT

		0 < H ≤ 18"	18" < H ≤ 22"	22" < H ≤ 30"	30" < H ≤ 36"
A	CURB THICKNESS	14 GA	14 GA	12 GA	12 GA
B	EXP. ANCHOR	6	6	8	8
C	EXP. ANCHOR	4	4	6	6
D	WELD	24"	24"	24"	18"
E	SCREWS	24	26	28	32
F	SCREWS	12	14	14	14
G	DISTANCE	MAX 0.75"	MAX 0.75"	MAX 0.75"	MAX 0.75"
H	NO. OF CLIPS	8	8	8	8
I	CLIP SMS	(4) #14	(4) #14	(4) #14	(4) #14
J	CLIP SMS	(8) #14	(8) #14	(8) #14	(8) #14
K	ISO RAIL	10 GA 7.5" DEEP X 1" FLANGES			
L	NO. OF ISOLATORS	6 FOR 1006, 3004 AND 6060, 7 FOR 1006 XIC, 8 FOR 4028 AND 6038			
M	NO. OF STIFFENERS	6 FOR 1006, 3004 AND 6060, 7 FOR 1006 XIC, 8 FOR 4028 AND 6038			

PROJECT: IBC 2021/ CBC 2022 DATE: 08.23.23
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– 2

VIBRATION ISOLATOR FOR CARRIER 50GCQJ06 1

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APP: 01-121181 INC:
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SS ☑ FLS ☑ ACS ☑
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OWNER: SAN RAFAEL CITY SCHOOLS
PROJECT NAME: VENETIA VALLEY BLDGS G AND H ALTERATION
CLIENT ADDRESS: 177 N San Pedro Rd, San Rafael, CA 94903

REGISTERED PROFESSIONAL ENGINEER SWAN TANG M29973 EXP 06-30-26 MECHANICAL STATE OF CALIFORNIA

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PROJECT NO:
DATE ISSUED: 06/21/2024
SCALE: As indicated
SHEET NUMBER: M30-2
SHEET TITLE:

MECHANICAL DETAILS

tk1sc COLLABORATIVE
11870 Pierce Street, Suite 160
Riverside, California 92505
951.299.4160 www.tk1sc.com
Project Leader - Nikolas Bruno
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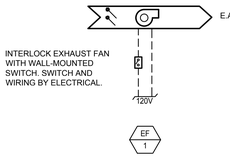


EXHAUST FANS - SWITCH CONTROL

RUN CONDITIONS - SCHEDULED
THE EXHAUST FAN UNIT SHALL BE INTERLOCKED TO RUN WHENEVER WALL-MOUNTED SWITCH IS ON. THE FAN SHALL TURN OFF WHEN THE SWITCH IS SWITCHED OFF.

EXHAUST FAN - WALL MOUNTED SWITCH

SCALE: NONE

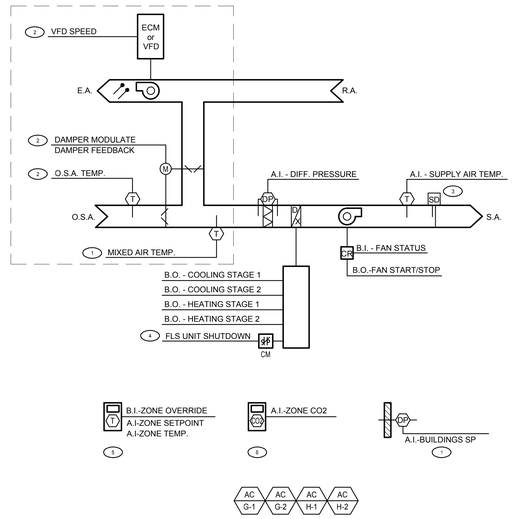
2

KEYNOTES

1. SENSORS FURNISHED BY ECONOMIZER MANUFACTURER, INSTALLED / WIRED BY MECHANICAL CONTRACTOR. CHOICE OF EITHER SUPPLY AIR OR MIXED AIR TEMPERATURE SENSOR WILL BE DETERMINED BY ECONOMIZER MANUFACTURER - FIELD INSTALL AS REQUIRED.
2. DEVICE FURNISHED AND FACTORY INSTALLED BY ECONOMIZER MANUFACTURER. FDD ALARMS SHALL BE INDICATED AT ECONOMIZER CONTROLLER DISPLAY.
3. SMOKE DETECTOR FURNISHED BY FLS, INSTALLED BY MECHANICAL. POWER BY ELECTRICAL, RTU INTERLOCK BY FLS. REFER TO EQUIPMENT SCHEDULES FOR UNITS REQUIRING SUPPLY AIR SMOKE DETECTORS.
4. CONTROL MODULE FURNISHED AND WIRED BY FLS, INSTALLED BY MECHANICAL FOR EMERGENCY UNIT SHUTDOWN. REFER TO EQUIPMENT SCHEDULES FOR UNITS REQUIRING FLS UNIT SHUTDOWN.
5. ROOM TEMPERATURE SENSOR AND CO2 SENSOR MAY BE COMBINED INTO A SINGLE DEVICE.
6. REFER TO PELICAN CONTROLS FOR EXACT TERMINATION OF CO2 SENSOR WIRING.

GENERAL NOTES:

1. UNLESS OTHERWISE NOTED, ALL SENSORS AND CONTROL DEVICES ARE FURNISHED AND FIELD INSTALLED BY THE BAS CONTRACTOR.



SINGLE ZONE VAV ROOFTOP HEAT PUMP UNIT:
UNLESS OTHERWISE NOTED, ALL SETPOINTS AND TIME DELAYS SHALL BE ADJUSTABLE THROUGH THE BAS.

RUN CONDITIONS - SCHEDULED:
THE UNIT SHALL RUN ACCORDING TO A USER DEFINABLE TIME SCHEDULE.

OCCUPIED MODE:
OCCUPIED MODE SHALL BE BETWEEN 6:00AM AND 6:00PM. THE UNIT SHALL MAINTAIN:
- A 75°F COOLING SETPOINT.
- A 70°F HEATING SETPOINT.
- A DEADBAND OF 5°F BETWEEN COOLING AND HEATING.

PRE-OCCUPANCY PURGE MODE [TITLE 24 SECTION 120.1(d)2]:
PRE-OCCUPANCY PURGE MODE SHALL BEGIN 1-HOUR PRIOR TO OCCUPANCY. THE OUTSIDE AIR DAMPER SHALL OPEN TO THE MINIMUM OUTSIDE AIR FLOW POSITION, UNLESS IN ECONOMIZER MODE. THE UNIT SHALL MAINTAIN:
- A 75°F COOLING SETPOINT.
- A 70°F HEATING SETPOINT.
- A DEADBAND OF 5°F BETWEEN COOLING AND HEATING.

MORNING WARM-UP & COOLDOWN (OPTIMAL START) [TITLE 24 SECTION 120.2(k)]:
PRIOR TO SCHEDULED OCCUPANCY, THE BAS SHALL CALCULATE THE REQUIRED WARM-UP OR COOLDOWN TIME FOR EACH ZONE BASED ON THE ZONE'S OCCUPIED SETPOINTS, THE CURRENT ZONE TEMPERATURE, THE OUTDOOR AIR TEMPERATURE, AND A MASS/CAPACITY FACTOR FOR EACH ZONE. THE FACTOR SHALL BE MANUALLY ADJUSTED OR SELF-TUNED BY THE BAS. IF AUTOMATIC, THE TUNING PROCESS SHALL BE TURNED ON OR OFF BY A SOFTWARE SWITCH TO ALLOW THE TUNING TO BE STOPPED AFTER THE SYSTEM HAS BEEN TRAINED.
- WARM-UP OR COOLDOWN MODE SHALL ENABLE THE UNIT BASED ON THE ZONE WITH THE LONGEST CALCULATED TIME REQUIREMENT, BUT NO EARLIER THAN 3 HOURS BEFORE THE START OF THE SCHEDULED OCCUPIED PERIOD, AND SHALL END AT THE SCHEDULED OCCUPIED START HOUR.
- IF WARM-UP OR COOLDOWN MODE BEGINS PRIOR TO PRE-OCCUPANCY PURGE, THE OUTSIDE AIR DAMPER SHALL REMAIN CLOSED UNTIL THE START OF PRE-OCCUPANCY PURGE.

UNOCCUPIED MODE (NIGHT SETBACK):
UNOCCUPIED MODE SHALL BE BETWEEN HOURS OUTSIDE OF THE OCCUPIED MODE SCHEDULE. THE UNIT SHALL MAINTAIN:
- AN 85°F COOLING SETPOINT.
- A 55°F HEATING SETPOINT.

ALARMS SHALL BE PROVIDED AS FOLLOWS:
- HIGH ZONE TEMPERATURE: THE ZONE TEMPERATURE IS GREATER THAN THE COOLING SETPOINT BY 5°F FOR 10 MINUTES. THE ALARM SHALL AUTOMATICALLY CLEAR WHEN THE ZONE TEMPERATURE RETURNS BELOW THE ALARM THRESHOLD FOR 10 MINUTES.
- LOW ZONE TEMPERATURE: THE ZONE TEMPERATURE IS LESS THAN THE HEATING SETPOINT BY 5°F FOR 10 MINUTES. THE ALARM SHALL AUTOMATICALLY CLEAR WHEN THE ZONE TEMPERATURE RETURNS ABOVE THE ALARM THRESHOLD FOR 10 MINUTES.

ZONE SETPOINT ADJUST:
THE OCCUPANT SHALL BE ABLE TO ADJUST THE ZONE TEMPERATURE HEATING AND COOLING SETPOINTS AT THE ZONE SENSOR. THE RANGE OF ADJUSTMENT SHALL BE +/- 2°F

ZONE UNOCCUPIED OVERRIDE:
A TIMED LOCAL OVERRIDE CONTROL SHALL ALLOW AN OCCUPANT TO OVERRIDE THE SCHEDULE AND PLACE THE UNIT INTO AN OCCUPIED MODE FOR 30 MINUTE PERIOD OF TIME. AT THE EXPIRATION OF THIS TIME, CONTROL OF THE UNIT SHALL AUTOMATICALLY RETURN TO THE NORMAL SCHEDULE.

SUPPLY AIR SMOKE DETECTION (AS INDICATED ON EQUIPMENT SCHEDULES):
THE UNIT SHALL BE SHUT DOWN DIRECTLY THROUGH THE SUPPLY AIR SMOKE DETECTOR UPON DETECTION OF SMOKE.

VAV SUPPLY FAN:
THE UNIT FACTORY CONTROLLER SHALL MONITOR THE ZONE TEMPERATURE AND CONTROL BOTH THE SUPPLY AIR TEMPERATURE AND SUPPLY FAN AIRFLOW, AS NEEDED. TO MAINTAIN THE ZONE COOLING AND HEATING SETPOINTS, TO PREVENT SHORT CYCLING, THE SUPPLY FAN SHALL BE SUBJECT TO THE FACTORY MINIMUM RUNTIME SAFETIES.

ALARMS SHALL BE PROVIDED AS FOLLOWS:
- SUPPLY FAN FAILURE: FAN IS COMMANDED ON, BUT THE STATUS IS OFF FOR 1 MINUTE. THE ALARM SHALL AUTOMATICALLY CLEAR WHEN THE STATUS MATCHES THE COMMAND FOR 1 MINUTE.
- SUPPLY FAN IN HAND: FAN IS COMMANDED OFF, BUT THE STATUS IS ON FOR 1 MINUTE. THE ALARM SHALL AUTOMATICALLY CLEAR WHEN THE STATUS MATCHES THE COMMAND FOR 1 MINUTE.

COOLING STAGES:
THE PELICAN CONTROLLER SHALL MEASURE THE ZONE TEMPERATURE AND STAGE THE COOLING TO MAINTAIN ITS ZONE COOLING SETPOINT. TO PREVENT SHORT CYCLING, THE COMPRESSOR(S) SHALL BE SUBJECT TO THE FACTORY PRESET MINIMUM RUNTIMES.

THE COOLING SHALL BE ENABLED WHENEVER:
- THE ZONE TEMPERATURE IS ABOVE THE COOLING SETPOINT.
- AND THE ECONOMIZER IS DISABLED OR FULLY OPEN.
- AND THE SUPPLY FAN STATUS IS ON.
- AND THE HEATING IS NOT ACTIVE.

HEATING STAGES:
THE PELICAN CONTROLLER SHALL MEASURE THE ZONE TEMPERATURE AND STAGE THE HEATING TO MAINTAIN ITS ZONE HEATING SETPOINT. TO PREVENT SHORT CYCLING, THE HEATING SHALL BE SUBJECT TO THE FACTORY MINIMUM RUNTIME SAFETIES.

THE HEATING SHALL BE ENABLED WHENEVER:
- THE ZONE TEMPERATURE IS BELOW THE HEATING SETPOINT.
- AND THE SUPPLY FAN STATUS IS ON.
- AND THE COOLING IS NOT ACTIVE.

ECONOMIZER OUTSIDE AIR DRYBULB LOCKOUT CONTROL - CLIMATE ZONE 02 (94903) [TITLE 24 SECTION 140.4(e)C]:
THE ECONOMIZER CONTROLLER SHALL MEASURE THE ZONE TEMPERATURE AND MODULATE THE ECONOMIZER DAMPERS IN SEQUENCE TO MAINTAIN THE ZONE COOLING SETPOINT. THE OUTSIDE AIR DAMPERS SHALL MAINTAIN A MINIMUM ADJUSTABLE OUTSIDE AIR FLOW WHENEVER OCCUPIED. (SEE THE EQUIPMENT SCHEDULE SHEET FOR THE MINIMUM OUTSIDE AIR FLOW SETTING(S).)

THE ECONOMIZER SHALL BE ENABLED WHENEVER:
- THE OUTSIDE AIR TEMPERATURE IS LESS THAN OR EQUAL TO 73°F.
- AND THE SUPPLY FAN STATUS IS ON.

THE ECONOMIZER SHALL BE DISABLED AND CLOSE TO THE MINIMUM POSITION WHENEVER:
- THE OUTSIDE AIR TEMPERATURE IS GREATER THAN 73°F.
- OR THE MIXED AIR TEMPERATURE IS LESS THAN 45°F.

THE OUTSIDE AND EXHAUST AIR DAMPERS SHALL FULLY CLOSE AND THE RETURN AIR DAMPER SHALL OPEN:
- WHEN THE UNIT IS OFF.
- OR ON LOSS OF SUPPLY FAN STATUS.
- OR THE UNIT'S FACTORY FREEZESTAT HAS TRIPPED.

BUILDING STATIC PRESSURE CONTROL - VFD POWER EXHAUST FAN
DURING OCCUPIED MODE, THE ECONOMIZER CONTROLLER SHALL MEASURE THE BUILDING STATIC PRESSURE AND MODULATE THE POWER EXHAUST FAN VFD TO MAINTAIN A BUILDING STATIC PRESSURE SETPOINT OF 0.02'' WC POSITIVE.

ECONOMIZER FAULT DETECTION DIAGNOSTICS [TITLE 24 SECTION 120.2(i)7]:
ECONOMIZER FAULTS SHALL BE VIEWABLE AT THE ECONOMIZER CONTROLLER DISPLAY SCREEN. THE FOLLOWING FAULTS SHALL BE INDICATED:
1. AIR TEMPERATURE SENSOR FAULT.
2. NOT ECONOMIZING WHEN IT SHOULD.
3. ECONOMIZING WHEN IT SHOULD NOT.
4. DAMPER NOT MODULATING.
5. EXCESS OUTDOOR AIR.

MINIMUM OUTSIDE AIR VENTILATION - DEMAND CONTROLLED VENTILATION (AS INDICATED ON EQUIPMENT SCHEDULES) [TITLE 24 SECTION 120.1(d)4]:
DURING OCCUPIED MODE, THE CONTROLLER SHALL MONITOR THE SPACE CO2 LEVEL AND ENABLE DEMAND CONTROLLED VENTILATION ACCORDING TO THE FOLLOWING:
- WHEN THE CO2 LEVEL IS BELOW 1,000 PPM THE OUTSIDE AIRFLOW SETPOINT SHALL BE THE "DEMAND CONTROL VENTILATION" RATE LISTED IN THE MECHANICAL SCHEDULE.
- WHEN THE CO2 LEVEL HAS BEEN ABOVE 1,000 PPM FOR MORE THAN 10 MINUTES, THEN INCREASE THE OUTSIDE AIR FLOW SETPOINT TO THE "OUTSIDE AIR FLOW" RATE LISTED IN THE MECHANICAL SCHEDULE.

ALARMS SHALL BE PROVIDED AS FOLLOWS:
- HIGH ZONE CO2 LEVEL: THE ZONE CO2 LEVEL IS GREATER THAN 1,200 PPM FOR 30 MINUTES WHEN IN THE OCCUPIED MODE. THE ALARM SHALL AUTOMATICALLY CLEAR WHEN THE ZONE CO2 LEVEL RETURNS BELOW 1,000 PPM FOR 5 MINUTES.

PREFILTER DIFFERENTIAL PRESSURE MONITORING:
THE CONTROLLER SHALL MONITOR THE DIFFERENTIAL PRESSURE ACROSS THE PREFILTER.

ALARMS SHALL BE PROVIDED AS FOLLOWS:
- FILTER CHANGE REQUIRED: THE DIFFERENTIAL PRESSURE ACROSS THE FILTER IS GREATER THAN 0.25" WC FOR 10 MINUTES. THE ALARM SHALL AUTOMATICALLY CLEAR WHEN THE DIFFERENTIAL PRESSURE ACROSS THE FILTER RETURNS BELOW THE ALARM THRESHOLD FOR 10 MINUTES.

SINGLE ZONE VAV ROOFTOP HEAT PUMP 2 STAGE COOLING AND HEATING W/ ECONOMIZER AND POWER EXHAUST

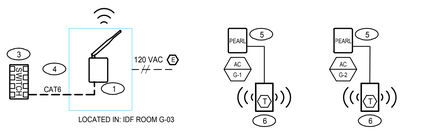
3

GENERAL NOTES:

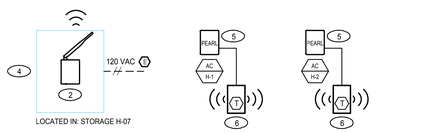
1. BAS CONTRACTOR TO FURNISH AND INSTALL A 120V/24V TRANSFORMER OR OTHER LOW VOLTAGE POWER SUPPLY AS NEEDED FOR EACH ASC, BUILDING NETWORK CONTROLLER, BACNET GATEWAY, ETC. 120V POWER SHALL BE FURNISHED AND INSTALLED BY THE ELECTRICAL CONTRACTOR.
2. BAS CONTRACTOR SHALL PROVIDE TREND LOGS TO MEOR OR CX AGENT UPON REQUEST TO VALIDATE THE SYSTEM PERFORMANCE. BAS CONTRACTOR IS RESPONSIBLE FOR IMPLEMENTING ANY TUNING NECESSARY TO MEET SYSTEM PERFORMANCE REQUIREMENTS AT NO ADDITIONAL COST.
3. BAS GRAPHICAL USER INTERFACE SHALL INCLUDE GRAPHICS FOR EACH SYSTEM CONTROLLED AND/OR MONITORED. GRAPHICS SHALL INCLUDE FLOW DIAGRAMS THAT INDICATE STATUS, SETPOINTS, CURRENT INPUT/OUTPUT VALUES, OPERATOR COMMANDS, ETC WITH THE APPROPRIATE ENGINEERING UNITS. SYSTEM ALARMS SHALL BE DISPLAYED ON THE SCHEMATIC AND SHALL BE COLOR CODED ACCORDING TO THE STATE OF THE ALARM.
4. QUANTITY OF PELICAN WIRELESS RELAY BOARDS WITH ANTENNAS SHALL BE DETERMINED BY THE BAS CONTRACTOR AND ELECTRICAL CONTRACTOR.
5. BAS CONTRACTOR SHALL COORDINATE PELICAN WIRELESS REPEATER EXACT LOCATION WITH DISTRICT AND OTHER TRADES AS REQUIRED.

KEYNOTES:

1. PELICAN WIRELESS GATEWAY TO CONNECT ALL ON-SITE PELICAN WIRELESS CONTROLLERS TO PELICAN WEB INTERFACE.
2. PELICAN WIRELESS REPEATER TO EXTEND WIRELESS RANGE OF GATEWAY. BAS CONTRACTOR TO FURNISH ADDITIONAL REPEATERS AS NEEDED FOR A STABLE SYSTEM AT NO ADDITIONAL COST TO THE CONTRACT.
3. CONNECT TO DISTRICT MANAGED SWITCH. CAT6 CABLE BY BAS CONTRACTOR. BAS CONTRACTOR TO CONFIRM EXACT CABLING REQUIRED BY DISTRICT.
4. NON-METALLIC CONTROL ENCLOSURE FURNISHED AND INSTALLED BY BAS CONTRACTOR.
5. 24V POWER TO PELICAN PEARL AND PELICAN THERMOSTAT SUPPLIED BY UNIT'S ONBOARD 24V TRANSFORMER.
6. PELICAN WIRELESS COMBINATION TEMPERATURE AND CO2 THERMOSTAT.



BUILDING G



BUILDING H

WIRELESS SYSTEM ARCHITECTURE

4

SYMBOL	DESCRIPTION
AFMS	AIR FLOW MEASURING STATION
C	COOLING COIL
H	HEATING COIL
CSR	CURRENT SENSING RELAY OR TRANSMITTER
CO2	CO2 SENSOR - DUCT MOUNTED
CO2	CO2 TRANSMITTER - WALL
DP	DIFFERENTIAL PRESSURE SWITCH OR TRANSMITTER - FILTER
DP	DIFFERENTIAL PRESSURE SWITCH OR TRANSMITTER -DUCT
DP	DIFFERENTIAL PRESSURE TRANSMITTER - BUILDING
H	HUMIDITY TRANSMITTER - WALL
H	HUMIDITY SWITCH
OS	OCCUPANCY SENSOR - WALL
X	FURNISHED AND INSTALLED BY ELECTRICAL
SD	SMOKE DETECTOR
T	TEMPERATURE SENSOR - WALL
T	TEMPERATURE SENSOR - DUCT
T	TEMPERATURE SENSOR - AVERAGING
T	TEMPERATURE SENSOR - OUTDOOR AIR
T	TEMPERATURE SENSOR - PIPE
BACNET ONICON	BTU METER - WITH BACNET INTERFACE
FM	FLOW METER
M	DAMPER WITH ACTUATOR
	BACKDRAFT OR BAROMETRIC RELIEF DAMPER
DP	DIFFERENTIAL PRESSURE SWITCH OR TRANSMITTER, PIPE
M	BUTTERFLY VALVE WITH ACTUATOR
M A AB	2-WAY VALVE WITH ACTUATOR
	PELICAN GW400 WIRELESS GATEWAY AND PELICAN WIRELESS REPEATER
PEARL	PELICAN PEARL ECONOMIZER CONTROLLER
PMI	PELICAN POWER CONTROL MODULE
A.I.	ANALOG INPUT
B.I.	BINARY INPUT
A.O.	ANALOG OUTPUT
B.O.	BINARY OUTPUT
	BUILDING NETWORK CONTROLLER
VAV	VAV CONTROLLER
ASC	APPLICATION SPECIFIC CONTROLLER
MS/TP BACNET AHU VFD	MANUFACTURE'S BACNET INTERFACE
SWITCH	SWITCH

LEGEND & SYMBOLS

1

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-121181 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 07/02/2024

OWNER: SAN RAFAEL CITY SCHOOLS

PROJECT NAME: VENETIA VALLEY BLDGS G AND H ALTERATION

CLIENT ADDRESS: 177 N San Pedro Rd, San Rafael, CA 94903

REGISTERED PROFESSIONAL ENGINEER
CHUAN TANG
M29973
EXP. 06-30-26
MECHANICAL
STATE OF CALIFORNIA

REVISIONS:

	DESCRIPTION	DATE
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		

PROJECT NO:
DATE ISSUED: 06/21/2024
SCALE: As indicated

SHEET NUMBER: M40-1
SHEET TITLE:

MECHANICAL CONTROLS

tk1sc COLLABORATIVE
11870 Pierce Street, Suite 160
Riverside, California 92505
951.299.4160 www.tk1sc.com
Project Leader - Nikolas Bruno
Electrical Lead - Nikolas Bruno
tk1sc Job #: B2304502.000

ABBREVIATIONS

4S/DP	4" SQUARE BY 2-1/8" DEEP BOX
ADA	AMERICAN WITH DISABILITIES ACT
A.F.F.	ABOVE FINISH FLOOR
A.F.G.	ABOVE FINISH GRADE
AWG	AMERICAN WIRE GAUGE
AMP, A	AMPERE
A.I.C. or AIC	AMPERES INTERRUPTING CAPACITY (SYMMETRICAL)
A.F.C. or AFC	AVAILABLE FAULT CURRENT
AF/AT	AMP FRAME, AMP TRIP
AHJ	AUTHORITY HAVING JURISDICTION
AS/AF	AMP SWITCH, AMP FUSE
ATS	AUTOMATIC TRANSFER SWITCH
AVG	AVERAGE
BJ	BONDING JUMPER
BDF	BUILDING DISTRIBUTION FRAME
BR	BRANCH
BLDG	BUILDING
CBC	CALIFORNIA BUILDING CODE
CEC	CALIFORNIA ELECTRICAL CODE
CIRC., CKT.	CIRCUIT
CB	CIRCUIT BREAKER
CSFD	COMBINATION SMOKE FIRE DAMPER
C	CONDUIT
C.O.	CONDUIT ONLY, COMPLETE WITH PULLSTRING
CONN	CONNECTED
CPT	CONTROL POWER TRANSFORMER
CLCB	CURRENT LIMITING CIRCUIT BREAKER
CLF	CURRENT LIMITING FUSE
CT	CURRENT TRANSFORMER
(D)	EXISTING DEVICE TO BE DEMOLISHED
DAS	DISTRIBUTED ANTENNA SYSTEM
DIA	DIAMETER
DISC	DISCONNECT
DIST	DISTRIBUTION
D.P.C.S.	DIMMING PANEL CONTROL STATION
E.C.	ELECTRICAL CONTRACTOR
EMS	ENERGY MANAGEMENT CONTROL SYSTEM
EMT	ELECTRICAL METALLIC TUBING
ENT	ELECTRICAL NON-METALLIC TUBING
EWC	ELECTRIC WATER COOLER
E.P.O.	EMERGENCY POWER OFF
E-O-L	END-OF-LINE CIRCUIT TERMINATOR
EF	EXHAUST FAN
EGC or EG or E/G	EQUIPMENT GROUND (GREEN)
(E)	EXISTING DEVICE TO REMAIN
EP	EXPLOSION PROOF
(ER)	EXISTING DEVICE TO BE RELOCATED
FT or '	FEET
FA or F.A.	FIRE ALARM
FLA	FULL LOAD AMPS
GRD	GROUND
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GFP	GROUND FAULT PROTECTION
GE or GEC	GROUNDING ELECTRODE CONDUCTOR
HACR	HEATING AIR CONDITIONING REFRIGERATION
HOA	HAND-OFF-AUTO
HVAC	HEATING, VENTILATING AND AIR CONDITIONING
H.,W.,D.,L.	HEIGHT, WIDTH, DEPTH, LENGTH
HID	HIGH INTENSITY DISCHARGE
HP	HORSEPOWER
HPS	HIGH PRESSURE SODIUM
IN. or "	INCHES
I/G	ISOLATED GROUND
IBC	INTERNATIONAL BUILDING CODE
I.D.C.S.	INTEGRATED DIMMING CONTROL PANEL
IDF	INTERMEDIATE DISTRIBUTION FRAME
JBOX	JUNCTION BOX
K	DEGREE KELVIN
KCMIL	THOUSAND CIRCULAR MILS
KVA	KILOVOLT AMPERES
KW	KILOWATT
KWH	KILOWATT HOUR
LCL	LONG CONTINUOUS LOAD
LF, L.F.	LINEAR FEET
LTG, LTS	LIGHTING
LPS	LOW PRESSURE SODIUM
MAX.	MAXIMUM
MBJ	MAIN BONDING JUMPER
MDF	MAIN DISTRIBUTION FRAME
MOCP	MAXIMUM OVERCURRENT PROTECTION
MCB	MAIN CIRCUIT BREAKER
MLO	MAIN LUGS ONLY
M.C.	MECHANICAL CONTRACTOR
M	METER
M/M	METER MAIN
MV	MERCURY VAPOR
MH	METAL HALIDE
MIN.	MINIMUM
MCA	MINIMUM CIRCUIT AMPS
MCC	MOTOR CONTROL CENTER
MCM	THOUSAND CIRCULAR MILS
MCP	MOTOR CIRCUIT PROTECTOR
MFR.	MANUFACTURER
MTD	MOUNTED
MW	MICROWAVE
NATS	NON AUTOMATIC DISCONNECT
NEC	NATIONAL ELECTRICAL CODE
NEMA	NATIONAL ELECTRICAL MANUFACTURER'S ASSOCIATION
NC	NORMALLY CLOSED
NO	NORMALLY OPENED
NF	NON-FUSED
NIC	NOT IN CONTRACT
N.T.S.	NOT TO SCALE
NL	NIGHT LIGHT
NO. or #	NUMBER
OFCI	OWNER FURNISHED, CONTRACTOR INSTALLED
%Z	PERCENT IMPEDANCE
PH. or ø	PHASE
PC	PHOTOCELL
P.C.	PLUMBING CONTRACTOR
P	POLE
PVC	POLY VINYL CHLORIDE
PDU	POWER DISTRIBUTION UNIT
PRIMARY	OVER 600 VOLTS
PROVIDE	FURNISH, INSTALL AND CONNECT
PT	POTENTIAL TRANSFORMER
PA	PUBLIC ADDRESS
(R)	DENOTES RELOCATED DEVICE LOCATION.
REC, RECEPT	RECEPTACLE
REF	REFRIGERATOR
RGS	RIGID GALVANIZED STEEL
RMS	ROOT MEAN SQUARE
SCC	SHORT CIRCUIT CURRENT
SCCR	SHORT CIRCUIT CURRENT RATING
SCS	STRUCTURED CABLING SYSTEM
SFD	SMOKE FIRE DAMPER
SECONDARY	600 VOLTS AND LESS
SMACNA	SHEET METAL AND AIR COND. CONTRACTOR'S NAT'L ASSOC.
SQ.	SQUARE
SSBJ	SUPPLY SIDE BONDING JUMPER
SBJ	SYSTEM BONDING JUMPER
TC	TIMECLOCK
TEL/DATA	TELEPHONE AND DATA
TV	TELEVISION
T.V.S.S.	TRANSIENT VOLTAGE SURGE SUPPRESSION
TYP	TYPICAL
U.G.P.S.	UNDERGROUND PULL SECTION
U.O.N.	UNLESS OTHERWISE NOTED
U.P.S. or UPS	UNINTERRUPTABLE POWER SYSTEM
VAV	VARIABLE AIR VOLUME
V	VOLTS
VA	VOLT AMPERES
VD	VOLTAGE DROP
WP	WEATHERPROOF
W	WIRE
XFMR	TRANSFORMER

FIRE ALARM SYSTEM SYMBOLS

SEE FIRE ALARM OR CENTRAL MONITORING SYSTEM DRAWINGS FOR FIRE ALARM SYMBOLS.

SIGNAL SYSTEM SYMBOLS

S	SURFACE WALL MOUNTED COMBINATION ANALOG CLOCK AND PUBLIC ADDRESS SPEAKER WITH BACKBOX AND CONDUCTORS WITH CONCEALED 3/4"C AND CONDUCTORS TO IDF ROOM. FIELD VERIFY MOUNTING HEIGHT PRIOR TO INSTALLATION. REFER TO SPECIFICATIONS.
S	EXTERIOR SURFACE WALL MOUNTED WEATHERPROOF SPEAKER/HORN WITH BACKBOX, BAFFLE, WITH CONCEALED 3/4" CONDUIT AND CONDUCTORS TO IDF ROOM. REFER TO SPECIFICATIONS.
PATC	PUBLIC ADDRESS TERMINAL CABINET COMPLETE - SEE SPECIFICATIONS AND SYSTEM BLOCK DIAGRAM.

SECURITY ALARM SYSTEM SYMBOLS

SECP	EXISTING SECURITY ALARM CONTROL PANEL - SEE SPECIFICATIONS.
SEPS	SECURITY SYSTEM POWER SUPPLY AND TERMINAL CABINET - SEE SPECIFICATIONS.
MS	CEILING MOUNTED SECURITY ALARM DUAL TECHNOLOGY MOTION SENSOR
KP	SECURITY ALARM KEY PAD - SEE SPECIFICATIONS.
DC	SECURITY ALARM RECESSED DOOR CONTACT - SEE SPECIFICATIONS.
— SA —	CONCEALED 3/4"CONDUIT WITH CONDUCTORS PER SECURITY ALARM RISER DIAGRAM AND/OR SPECIFICATIONS.

SURVEILLANCE CAMERA SYSTEM SYMBOLS

CC	SURFACE MOUNT WEATHERPROOF 4S DEEP J-BOX WITH WEATHERPROOF BLANK COVER AND CONCEALED 3/4" CONDUIT-ON TO IDF ROOM. FOR FUTURE CAMERA SYSTEM. REFER TO LAN SYSTEM BLOCK DIAGRAM FOR MORE INFORMATION.

CLASSROOM AUDIOVISUAL SYSTEM SYMBOLS

SEE AV SYSTEM DIAGRAMS AND SYMBOLS SHEETS.

MEP COMPONENT ANCHORAGE NOTE:

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

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

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

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

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

PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEM BRACING NOTE:

PIPING, DUCTWORK AND ELECTRICAL DISTRIBUTION SYSTEMS SHALL BE BRACED TO COMPLY WITH THE FORCES AND DISPLACEMENTS PRESCRIBED IN ASCE 7-16 SECTION 13.3 AS DEFINED IN ASCE 7-16 SECTION 13.6.5, 13.6.6, 13.6.7, 13.6.8; AND 2022 CBC, SECTIONS 1617A.1.24, 1617A.1.25 AND 1616A.1.26.

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

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

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

MP☐ MD☐ PP☐ E☐ OPTION 2: SHALL COMPLY WITH THE APPLICABLE HCAI PRE-APPROVAL (OPM#) #0052-13 & #0043-13.

ANNOTATIONS

A	PANEL CALLOUT, "A" INDICATES PANELBOARD OR EQUIPMENT DESIGNATION.
AC / 2	MECHANICAL EQUIPMENT CALLOUT, "AC" INDICATES UNIT TYPE AND "2" INDICATES UNIT NUMBER. REFER TO MECHANICAL DRAWINGS FOR EXACT LOCATION AND ELECTRICAL REQUIREMENTS.
3 / E-1	DETAIL CALLOUT, "3" INDICATES DETAIL NUMBER "E-1" INDICATES SHEET NUMBER.
2	PLAN NOTE REFERENCE, REFER TO NOTES ON SHEET, OR AS DIRECTED.
△4	REVISION REFERENCE.

Y WYE CONFIGURATION   △ DELTA CONFIGURATION   ⏚ GROUND

TELEPHONE/DATA SYMBOLS

◀	TELEPHONE OUTLET BOX, FLUSH WALL MOUNTED 4S DP BOX WITH SINGLE GANG RING AND CONCEALED 1"C AND DATA CABLE(S) TO IDF ROOM. W = WALL MOUNTED PHONE +44"AFF.
◁	DATA OUTLET BOX, FLUSH WALL MOUNTED 4S DP BOX WITH SINGLE GANG RING AND CONCEALED 1"C AND DATA CABLE(S) TO IDF ROOM.
◀	COMBINATION TELEPHONE AND DATA OUTLET BOX, FLUSH WALL MOUNTED 4S DP BOX WITH SINGLE GANG RING AND CONCEALED 1"C AND DATA CABLE(S) TO IDF ROOM.
◀	TELEPHONE OUTLET BOX FLUSH CEILING MOUNTED 4S DP BOX WITH SINGLE GANG RING AND CONCEALED 1"C AND DATA CABLE(S) TO IDF ROOM. - MOUNT FLUSH IN FLOOR WHEN INDICATED IN A FLOOR BOX SYMBOL.
◁	DATA OUTLET BOX LUSH CEILING MOUNTED 4S DP BOX WITH SINGLE GANG RING AND CONCEALED 1"C AND DATA CABLE(S) TO IDF ROOM. - MOUNT FLUSH IN FLOOR WHEN INDICATED IN A FLOOR BOX SYMBOL.
◀	COMBINATION TELEPHONE AND DATA OUTLET BOX FLUSH CEILING MOUNTED 4S DP BOX WITH SINGLE GANG RING AND CONCEALED 1"C AND DATA CABLE(S) TO IDF ROOM. - MOUNT FLUSH IN FLOOR WHEN INDICATED IN A FLOOR BOX SYMBOL.
◀	TELEPHONE OUTLET BOX, FLUSH WALL MOUNTED 4S DP BOX 6" ABOVE COUNTER OR SPLASH WITH CONCEALED 1"C AND DATA CABLE(S) TO IDF ROOM.
◁	DATA OUTLET BOX, FLUSH WALL MOUNTED 4S DP BOX 6" ABOVE COUNTER OR SPLASH WITH CONCEALED 1"C AND DATA CABLE(S) TO IDF ROOM.
◀	COMBINATION TELEPHONE AND DATA OUTLET BOX, FLUSH WALL MOUNTED 6" ABOVE COUNTER OR SPLASH, 4S DP BOX WITH CONCEALED 1"C AND DATA CABLE(S) TO IDF ROOM.
WAP	FLUSH WALL MOUNTED 4S DP BOX WITH CONCEALED 1"C. AND DATA CABLE(S) TO IDF ROOM. VERIFY HEIGHT PRIOR TO ROUGH-IN. ELECTRONICS ARE OWNER FURNISHED OWNER INSTALLED. WHEN MOUNTED ON EXTERIOR WALL PROVIDE OBERON POLYCARBONATE ENCLOSURE #1015-00 WITH DATA CABLE(S) PER DISTRICT REQUIREMENTS.
— T — — D —	CONCEALED TELEPHONE/DATA CONDUIT RUN, 1" CONDUIT (MIN). SEE TABLE BELOW FOR CONDUIT SIZE VARIATIONS.

T2 = 1-1/4" C.	T3 = 1-1/2" C.	T4 = 2" C.
D2 = 1-1/4" C.	D3 = 1-1/2" C.	D4 = 2" C.

▭	FLUSH MOUNTED, LOCKABLE TERMINAL CABINET WITH TERMINAL STRIPS AS REQUIRED.
▭	SURFACE MOUNTED, LOCKABLE TERMINAL CABINET WITH TERMINAL STRIPS AS REQUIRED.
▨	TELECOM PAINTED BACKBOARD SIZED AS NOTED, REFER TO TELECOM BACKBOARD AND GROUND BUS BAR DETAIL FOR ADDITIONAL REQUIREMENTS.

LIGHTING SYMBOLS

SITE LIGHTING FIXTURE SYMBOLS DEPICTED WITH CAPITAL LETTER(S) ADJACENT TO RESPECTIVE SYMBOL(S) INDICATE(S) LIGHT FIXTURE MOUNTING BASE DETAIL(S). SEE LIGHTING FIXTURE SCHEDULE FOR FIXTURE SYMBOL INFORMATION.

1a	LIGHTING FIXTURE CALL OUT, NUMBER(S) AND/OR UPPER CASE LETTER(S) (i.e. "1") INDICATES FIXTURE TYPE (REFER TO LIGHTING FIXTURE SCHEDULE). LOWER CASE LETTER (i.e. "a") ADJACENT TO FIXTURE TYPE INDICATES BALLAST OPTION (SEE GENERAL LIGHTING FIXTURE SCHEDULE NOTES).
J	INDICATES FINAL CONNECTION TO A LIGHTING FIXTURE, NUMBER OF CONDUCTORS AS REQUIRED.

LIGHTING CONTROL SYMBOLS

SEE THE DISTRIBUTED LIGHTING CONTROL (DLCS) SPECIFICATIONS AND SEQUENCE OF OPERATIONS (SOO) FOR MORE INFORMATION.

—·—·—·—	LOW VOLTAGE WIRING INTERCONNECTING DLCS COMPONENTS AS REQUIRED. SEE DLCS SPECIFICATIONS FOR MORE INFORMATION.
D	WALL MOUNTED DIMMER. SEE SINGE POLE SWITCH SYMBOL FOR RELATED SUBSCRIPTS. QUANTITY OF ADJACENT LOWER CASE LETTERS INDICATES QUANTITY OF DIMMERS REQUIRED. PROVIDE DIMMER TYPE TO MATCH INDICATED BALLAST TYPE AND CONTROL REQUIREMENTS.
X_y	WALL MOUNTED STAND ALONE OCCUPANCY SENSOR.
$\odot_y^H$	WALL MOUNTED SYSTEM-BASED OCCUPANCY SENSOR.
$\odot_y^{H,AV,DM,P}$	1-WAY DIRECTIONAL CEILING MOUNTED, SYSTEM-BASED OCCUPANCY SENSOR.
$\odot_y^{H,AV,DM,P}$	2-WAY DIRECTIONAL CEILING MOUNTED, SYSTEM-BASED OCCUPANCY SENSOR.
$L_y^{K,V}$	LOW VOLTAGE MOMENTARY SWITCHES, WALL MOUNTED, FOR MANUAL ON/OFF SWITCHING, DIMMING, AND OVERRIDE CONTROL OF LIGHTING.
S_{y+}	AUTOMATIC SWITCHING/STEP-DIMMING DAYLIGHTING CONTROLLER USED TO SWITCH OFF LIGHTS WHEN SUFFICIENT NATURAL LIGHT IS PRESENT. REFER TO THE DLCS SOO FOR TARGET ILLUMINATION VALUE.
D_{y+}	AUTOMATIC CONTINUOUS DIMMING DAYLIGHTING CONTROLLER USED TO DIM LIGHTS WHEN SUFFICIENT NATURAL LIGHT IS PRESENT. REFER TO THE DLCS SOO FOR TARGET ILLUMINATION VALUE.

LIGHTING CONTROL SYMBOL SUPERSCRIPT & SUBSCRIPT KEY:

1. "y" INDICATES THAT SWITCH LEG "y" TO BE CONFIGURED PER THE SOO. ADJACENT LOWER CASE LETTERS INDICATES QUANTITY OF SWITCHLEGS TO BE CONTROLLED. EXACT CONTROL FUNCTION IS DETERMINED BY THE BALLAST/DRIVER/FIXTURE TYPE.
2. ADJACENT UPPER CASE LETTER(S) INDICATE THE FOLLOWING:
   AV INDICATES CONNECTION TO A/V CONTROL SYSTEM.
   DM INDICATES DUAL MODE CONTROL AT CORRIDORS, STAIRWELLS AND WAREHOUSE AISLEWAYS
   H INDICATES CONNECTION TO HVAC SYSTEM CONTROLS VIA CONTROLLED DRY-CONTACT CLOSURE.
   K INDICATES LOCKING SWITCH FOR THE SUBSEQUENT LOWER CASE LETTER.
   P INDICATES CONNECTION TO MOVEABLE PARTITION INTERFACE, SENSOR AND STATUS INDICATOR.
   V INDICATES VANDAL RESISTANT SWITCH.
3. ADJACENT LOWER CASE LETTER(S) INDICATE SWITCH LEG(S) CONTROLLED EXCEPT WHERE "DM" INDICATES DUAL MODE CONTROL SWITCH.
4. ADJACENT "+, ++ AND *" INDICATES PORTION OF SWITCHLEG CONTROLLED BY SENSOR WHERE "+" INDICATES PRIMARY SIDELIT DAYLIT ZONE, "++" INDICATES SECONDARY SIDELIT DAYLIT ZONE, AND "*" INDICATES SKYLIT DAYLIT ZONE.

MISCELLANEOUS SYSTEM SYMBOLS

ICP	INVERTER CONTROL PANEL - SEE INVERTER SPECIFICATIONS.
IAP	INVERTER ANNUNCIATOR PANEL - SEE INVERTER SPECIFICATIONS.
GAP	GENERATOR ANNUNCIATOR PANEL - SEE GENERATOR SYSTEM SPECIFICATIONS FOR MORE INFORMATION.
IDCS	INTEGRATED DIMMING CONTROL STATION (IDCS) PANEL - WALL MOUNTED. SEE IDCS SYSTEM SPECIFICATIONS FOR MORE INFORMATION.
DPCS	DIMMING PANEL CONTROL STATION (DPCS) PANEL - WALL MOUNTED. SEE DPCS SYSTEM SPECIFICATIONS FOR MORE INFORMATION.
L	LIGHTING CONTROL SYSTEM LOCAL SWITCH - WALL MOUNTED. SEE LIGHTING CONTROL SYSTEM SPECIFICATIONS FOR MORE INFORMATION.
O	LIGHTING CONTROL SYSTEM OVERRIDE SWITCH - WALL MOUNTED. SEE LIGHTING CONTROL SYSTEM SPECIFICATIONS FOR MORE INFORMATION.
M	LIGHTING CONTROL SYSTEM MASTER SWITCH - WALL MOUNTED. SEE LIGHTING CONTROL SYSTEM SPECIFICATIONS FOR MORE INFORMATION.
R	IDCS/DPCS SYSTEM REMOTE STATION SWITCH - WALL MOUNTED. SEE IDCS SYSTEM AND/OR DPCS SYSTEM SPECIFICATIONS FOR MORE INFORMATION.
P	IDCS/DPCS SYSTEM PARTITION STATION SWITCH - WALL MOUNTED. SEE IDCS SYSTEM AND/OR DPCS SYSTEM SPECIFICATIONS FOR MORE INFORMATION.

BRANCH CIRCUIT SYMBOLS

A-1,3,5	HOME RUN TO PANEL. LETTER DESIGNATES PANEL, NUMBERS INDICATE CIRCUITS. HASH MARKS INDICATE NUMBER OF CONDUCTORS IN CONDUIT RUN, #12 AWG MINIMUM UNLESS OTHERWISE NOTED.
A-1&3&5	HOME RUN TO PANEL. LETTER DESIGNATES PANEL, NUMBERS INDICATE CIRCUITS WITH SEPARATE NEUTRALS. "&" INDICATES SEPARATE NEUTRALS.
A-1+3+5	HOME RUN TO PANEL. LETTER DESIGNATES PANEL, NUMBERS INDICATE CIRCUITS. "+" INDICATES SEPARATE #10 NEUTRAL THROUGHOUT BRANCH CIRCUIT. HASH MARK "" INDICATES AN ISOLATED GROUND CONDUCTOR.
———	CONCEALED CONDUIT OR BRANCH CIRCUIT UNLESS OTHERWISE NOTED. 1/2" CONDUIT MINIMUM, (2) #12 AWG CONDUCTORS MINIMUM.
— — —	CONDUIT OR BRANCH CIRCUIT CONCEALED BELOW GRADE, 3/4" CONDUIT MINIMUM WITH (2) 12 AWG CONDUCTORS MINIMUM AND A CODE SIZED EQUIPMENT GROUND.
—— - ——	SURFACE-MOUNTED CONDUIT OR BRANCH CIRCUIT UNLESS OTHERWISE NOTED. 1/2" CONDUIT MINIMUM, (2) #12 AWG CONDUCTORS MINIMUM.
∼	TANDEM WIRING CONNECTION.
——⊣	CONDUIT STUB OUT, CAP, MARK AND RECORD ON AS-BUILT DRAWINGS
——	CONDUIT CONTINUATION.
	FLEXIBLE CONNECTION AS REQUIRED. NUMBER OF CONDUCTORS AS REQUIRED. VERIFY CONNECTION REQUIREMENTS WITH MANUFACTURER PRIOR TO ROUGH-IN.
⌒●	CONDUIT/ BRANCH CIRCUIT/FEEDER CONTINUATION DOWN WALL TO FLOOR BELOW
⌣○	CONDUIT/ BRANCH CIRCUIT/FEEDER CONTINUATION UP WALL TO FLOOR ABOVE

FLOOR BOX / SPECIALTY WALL BOX / PEDESTAL BOX SYMBOLS

#	ON-GRADE FLOOR BOX. PROVIDE DEVICES PER PLAN. SEE FLOOR BOX SCHEDULE, DETAILS AND SPECIFICATIONS FOR MORE INFORMATION.
#	ABOVE GRADE POKE-THRU DEVICE. PROVIDE DEVICES PER PLAN. SEE FLOOR BOX SCHEDULE, DETAILS AND SPECIFICATIONS FOR MORE INFORMATION.
AV	RECESSED, ADJUSTABLE DEPTH, FLAT PANEL TV/DISPLAY WALL BOX WITH FLUSH GROMMETED COVER PANEL (CHIEF #PAC525F) AND MINIMUM OF (1) 1-1/4"C.O. FROM TOP-MOUNTED L.V. CONDUIT ENTRY BOX TO ACCESSIBLE CEILING. SEE PLANS FOR ANY ADDITIONAL CONDUIT REQUIREMENTS. PROVIDE ADDITIONAL L.V. AND LINE VOLTAGE CONDUIT ENTRY BOXES AS REQUIRED TO ACCOMPLISH WALL BOX CONFIGURATION DEPICTED ON PLANS. FLUSH GROMMETED COVER SHALL BE WHITE, BLACK OR CUSTOM COLOR PER ARCHITECT. WHEN FIELD CONDITIONS PROHIBIT INSTALLATION OF THIS DEVICE (SUCH AS WALL STUD/CAVITY DEPTH OF LESS THAN 2.5" ETC), CONFIRM VIA WRITTEN RFI THE INSTALLATION OF A TRADITIONAL POWER AND DATA RECEPTACLE INSTALLATION ALONG SIDE CCTV/AV JUNCTION BOX CONSISTING OF 2-GANG DEEP JUNCTION BOX/2-GANG RING WITH 1-1/4"C.O. TO ACCESSIBLE CEILING IN ADDITION TO ANY OTHER CONDUIT REQUIREMENTS DEPICTED ON PLANS. REFER TO ARCHITECTURAL PLANS AND ELEVATIONS FOR MOUNTING HEIGHT.
	SINGLE OR DUAL SERVICE RECESSED EXTERIOR WALL BOX - TYPE "WP-A". PROVIDE DEVICES PER PLAN. EACH LV OR UNUSED COMPARTMENT SHALL BE EQUIPPED WITH A 1"C.O. TO THE NEAREST ACCESSIBLE CEILING SPACE U.O.N. SEE EXTERIOR DETAILS AND SPECIFICATIONS FOR MORE INFORMATION.
	SINGLE OR DUAL SERVICE EXTERIOR PEDESTAL - TYPE "WP-C". PROVIDE DEVICES PER PLAN. SEE EXTERIOR DETAILS AND SPECIFICATIONS FOR MORE INFORMATION. ARROW DENOTES DEVICE DOOR LOCATION.

POWER SYMBOLS

ALL RECEPTACLE OUTLETS SHOWN WITH A DIAGONAL SLASH SHALL BE CONTROLLED BY OCCUPANCY SENSOR OR LIGHTING CONTROL PANEL. SEE DISTRIBUTED LIGHTING CONTROLS FOR ADDITIONAL REQUIREMENTS. WHERE DOUBLE DUPLEX RECEPTACLE OUTLETS ARE INDICATED AS CONTROLLED, ONLY A SINGLE DUPLEX RECEPTACLE OUTLET (NON-IG, NON-GCFI TYPE) SHALL BE CONTROLLED. WITHIN ANY CONTROLLED DUPLEX RECEPTACLE OUTLET, ONLY ONE RECEPTACLE SHALL BE CONTROLLED. NOTE THAT FOR FLOOR BOXES OR POKE-THRU DEVICES, THE ASSOCIATED CONTROL RELAY MAY NEED TO BE LOCATED WITHIN THE ELECTRICAL ROOM WHERE THE CONTROLLED CIRCUIT ORIGINATES.

R_a	OCCUPANCY SENSOR/LIGHTING CONTROL SYSTEM CONTROLLED RECEPTACLE RELAY. WHERE LETTER DESIGNATION "a" REPRESENTS OCCUPANCY SENSOR/LIGHTING CONTROL SYSTEM CONTROL ZONE. SEE THE DISTRIBUTED LIGHTING CONTROL SPECIFICATION FOR MORE INFORMATION.
	DUPLEX RECEPTACLE, WALL MOUNTED.
	DOUBLE DUPLEX RECEPTACLE, WALL MOUNTED.
	DUPLEX, GFCI RECEPTACLE, WALL MOUNTED. WP INDICATES WEATHERPROOF, A, B OR C INDICATES THE TYPE OF COVER, REFER TO THE GENERAL PRODUCT SPECIFICATIONS.
	DOUBLE DUPLEX, WALL MOUNTED, WITH (1) GFCI RECEPTACLE AND (1) DUPLEX RECEPTACLE CONNECTED ON LOAD SIDE OF GFCI. WP INDICATES WEATHERPROOF, A, B OR C INDICATES THE TYPE OF COVER, REFER TO THE GENERAL PRODUCT SPECIFICATIONS.
	DUPLEX RECEPTACLE, ONE HALF SWITCHED, WALL MOUNTED.
	DUPLEX, ISOLATED GROUND RECEPTACLE, WALL MOUNTED.
1,3 / 1,3a	COMBINATION DOUBLE DUPLEX: ONE ISOLATED GROUND DUPLEX RECEPTACLE AND ONE DUPLEX RECEPTACLE, WALL MOUNTED.
	COMBINATION DOUBLE DUPLEX: TWO ISOLATED GROUND RECEPTACLES, WALL MOUNTED.
	SIMPLEX RECEPTACLE, WALL MOUNTED.
	SPECIAL RECEPTACLE, WALL MOUNTED. REFER TO PLAN NOTES.
	DUPLEX RECEPTACLE FLUSH IN CEILING - MOUNT FLUSH IN FLOOR WHEN INDICATED IN A FLOOR BOX SYMBOL.
	DOUBLE DUPLEX RECEPTACLE FLUSH IN CEILING - MOUNT FLUSH IN FLOOR WHEN INDICATED IN A FLOOR BOX SYMBOL.
	DUPLEX RECEPTACLE, ONE HALF SWITCHED, FLUSH IN CEILING - MOUNT FLUSH IN FLOOR WHEN INDICATED IN A FLOOR BOX SYMBOL.
	DUPLEX, ISOLATED GROUND RECEPTACLE, FLUSH IN CEILING - MOUNT FLUSH IN FLOOR WHEN INDICATED IN A FLOOR BOX SYMBOL.
1,3 / 1,3a	COMBINATION DOUBLE DUPLEX: ONE ISOLATED GROUND DUPLEX RECEPTACLE AND ONE DUPLEX RECEPTACLE, MOUNTED FLUSH IN CEILING - MOUNT FLUSH IN FLOOR WHEN INDICATED IN FLOOR BOX SYMBOL.
	COMBINATION DOUBLE DUPLEX FLUSH IN CEILING: TWO ISOLATED GROUND RECEPTACLES - MOUNT FLUSH IN FLOOR WHEN INDICATED IN FLOOR BOX SYMBOL.
	SIMPLEX RECEPTACLE FLUSH IN CEILING - MOUNT FLUSH IN FLOOR WHEN INDICATED IN A FLOOR BOX SYMBOL.
	SPECIAL RECEPTACLE FLUSH IN CEILING - MOUNT FLUSH IN FLOOR WHEN INDICATED IN A FLOOR BOX SYMBOL.
	DUPLEX RECEPTACLE, WALL MOUNTED AT 6-INCHES ABOVE COUNTER OR SPLASH.
	DOUBLE DUPLEX RECEPTACLE, WALL MOUNTED AT 6-INCHES ABOVE COUNTER OR SPLASH.
	DUPLEX, GFCI RECEPTACLE, WALL MOUNTED AT 6-INCHES ABOVE COUNTER OR SPLASH. WP INDICATES WEATHERPROOF, A, B OR C INDICATES THE TYPE OF COVER, REFER TO THE GENERAL PRODUCT SPECIFICATIONS.
	DOUBLE DUPLEX, WALL MOUNTED 6-INCHES ABOVE COUNTER OR SPLASH, WITH (1) GFCI RECEPTACLE AND (1) DUPLEX RECEPTACLE CONNECTED ON LOAD SIDE OF GFCI. WP INDICATES WEATHERPROOF, A, B OR C INDICATES THE TYPE OF COVER, REFER TO THE GENERAL PRODUCT SPECIFICATIONS.
	DUPLEX RECEPTACLE, BOTTOM HALF SWITCHED, WALL MOUNTED AT 6-INCHES ABOVE COUNTER OR SPLASH.
	DUPLEX, ISOLATED GROUND RECEPTACLE, WALL MOUNTED AT 6-INCHES ABOVE COUNTER OR SPLASH.
1,3 / 1,3a	COMBINATION DOUBLE DUPLEX: ONE ISOLATED GROUND DUPLEX RECEPTACLE AND ONE DUPLEX RECEPTACLE, WALL MOUNTED AT 6-INCHES ABOVE COUNTER OR SPLASH.
	COMBINATION DOUBLE DUPLEX: TWO ISOLATED GROUND DUPLEX RECEPTACLES, WALL MOUNTED AT 6-INCHES ABOVE COUNTER OR SPLASH.
	SIMPLEX RECEPTACLE, WALL MOUNTED AT 6-INCHES ABOVE COUNTER OR SPLASH.
	SPECIAL RECEPTACLE, WALL MOUNTED AT 6-INCHES ABOVE COUNTER OR SPLASH. REFER TO PLAN NOTES.
WP-B	WET LOCATION-LISTED (RAINTITE-IN-USE) RECEPTACLE - SEE ELECTRICAL SPECIFICATION FOR ADDITIONAL INFORMATION.
WP-D	DAMP LOCATION-LISTED (NOT-RAINTITE-IN-USE) RECEPTACLE - SEE ELECTRICAL SPECIFICATION FOR ADDITIONAL INFORMATION.
	DUPLEX RECEPTACLES WITH TWO 5V, 3.6A USB CHARGING PORTS. PROVIDE COLOR AS REQUIRED IN 15A OR 20A CONFIGURATION AND/OR TAMPER RESISTANT AND/OR HOSPITAL GRADE AS REQUIRED BY PLANS AND THE WIRING DEVICES SECTION OF THE GENERAL ELECTRICAL SPECIFICATIONS. (PASS & SEYMOUR OR EQUAL BY HUBBELL OR LEVITON.)
	QUAD RECEPTACLES WITH TWO 5V, 3.6A USB CHARGING PORTS. PROVIDE COLOR AS REQUIRED IN 15A OR 20A CONFIGURATION AND/OR TAMPER RESISTANT AND/OR HOSPITAL GRADE AS REQUIRED BY PLANS AND THE WIRING DEVICES SECTION OF THE GENERAL ELECTRICAL SPECIFICATIONS. (PASS & SEYMOUR OR EQUAL BY HUBBELL OR LEVITON.)
J	JUNCTION BOX, WALL MOUNTED AT +18-INCHES A.F.F. OR AS NOTED. 4S/DP MINIMUM OR AS REQUIRED BY N.E.C. OR CEC, WHERE ADOPTED.
J	JUNCTION BOX, MOUNTED IN ACCESSIBLE CEILING FOR APPLICATION DENOTED ON PLAN. 4S/DP MINIMUM OR AS REQUIRED BY N.E.C. OR CEC, WHERE ADOPTED.
J	JUNCTION BOX, WALL MOUNTED AT 6-INCHES ABOVE COUNTER OR SPLASH. 4S/DP MINIMUM OR AS REQUIRED BY N.E.C., OR CEC, WHERE ADOPTED.
J	JUNCTION BOX, 4S MINIMUM OR AS REQUIRED BY N.E.C., OR CEC, WHERE ADOPTED. MOUNTED IN ACCESSIBLE CEILING SPACE PER PLAN FOR FLEXIBLE CONNECTION TO PRE-WIRED FURNITURE SYSTEM. MOUNT FLUSH IN FLOOR WHEN INDICATED IN A FLOOR BOX SYMBOL. WHEN SHOWN WITH A DIAGONAL SLASH, THE LAST GENERAL RECEPTACLE CIRCUIT ON THE HOME-RUN CALL OUT SHALL BE CONTROLLED BY THE OCCUPANCY SENSOR. COORDINATE CONTROLLED CIRCUIT CONNECTION REQUIREMENTS WITH FURNITURE SYSTEM MANUFACTURER PRIOR TO ROUGH-IN. SEE DISTRIBUTED LIGHTING CONTROLS FOR ADDITIONAL REQUIREMENTS.
J	JUNCTION BOX, WALL MOUNTED AT +18-INCHES A.F.F., 4S/DP MINIMUM OR AS REQUIRED BY N.E.C., OR CEC, WHERE ADOPTED, FOR FLEXIBLE CONNECTION TO PREWIRED FURNITURE SYSTEM. WHEN SHOWN WITH A DIAGONAL SLASH, THE LAST GENERAL RECEPTACLE CIRCUIT ON THE HOME-RUN CALLOUT SHALL BE CONTROLLED BY THE OCCUPANCY SENSOR. COORDINATE CONTROLLED CIRCUIT CONNECTION REQUIREMENTS WITH FURNITURE SYSTEM MANUFACTURER PRIOR TO ROUGH-IN. SEE DISTRIBUTED LIGHTING CONTROLS FOR ADDITIONAL REQUIREMENTS.
	SURFACE MOUNTED MULTI-OUTLET ASSEMBLY. REFER TO GENERAL PRODUCT SPECIFICATIONS. PROVIDE ALL COMPONENTS NECESSARY FOR A COMPLETE INSTALLATION.
T	THERMOSTAT OUTLET BOX, PROVIDE 1/2" C.O. TO RESPECTIVE MECHANICAL UNIT.
	EXHAUST FAN, OR MOTOR LOAD. REFER TO MECHANICAL, PLUMBING OR KITCHEN DRAWINGS FOR SPECIFIC LOAD REQUIREMENTS OR AS NOTED.
	FLUSH MOUNTED ELECTRICAL PANELBOARD OR LOAD CENTER. REFER TO PANEL SCHEDULE.
	SURFACE MOUNTED ELECTRICAL PANELBOARD OR LOAD CENTER. REFER TO PANEL SCHEDULE.
▨	DISTRIBUTION SWITCHBOARD. REFER TO SINGLE LINE DIAGRAM.
T	TRANSFORMER, REFER TO SINGLE LINE DIAGRAM.
F	FUSED DISCONNECT SWITCH, HP RATED, OR COMBINATION MOTOR STARTER/DISCONNECT SWITCH WITH FUSES PER EQUIPMENT MANUFACTURER AND WEATHERPROOF AS REQUIRED. PROVIDE FINAL CONNECTION TO UNIT EQUIPMENT. SEE MOTORIZED EQUIPMENT SCHEDULE FOR DISCONNECT AND STARTER SIZES.
☐	NON-FUSED DISCONNECT SWITCH, HP RATED AND WEATHERPROOF AS REQUIRED. PROVIDE FINAL CONNECTION TO UNIT EQUIPMENT. SEE MOTORIZED EQUIPMENT SCHEDULE FOR DISCONNECT SIZES.
M	UTILITY COMPANY METER. PROVIDE "CT's" AND "PT's" AS REQUIRED, REFER TO SINGLE LINE DIAGRAM.
A B C	CIRCUIT BREAKER: "A" REPRESENTS CIRCUIT BREAKER AMPERE RATING, "B" REPRESENTS NUMBER OF POLES AND "C" REPRESENTS MISCELLANEOUS BREAKER FEATURES. SHUNT= PROVIDE SHUNT TRIP MECHANISM GFP= GROUND FAULT PROTECTION CLCB= CURRENT LIMITING CIRCUIT BREAKER SS= PROVIDE SOLID STATE CIRCUIT BREAKER LO= PROVIDE PERMANENT LOCK-OPEN (OFF) HARDWARE LC= PROVIDE PERMANENT LOCK-CLOSED (ON) HARDWARE
A B C D	FUSIBLE SWITCH: "A" REPRESENTS SWITCH/FRAME AMPERE RATING, "B" REPRESENTS THE FUSE AMPERE RATING, "C" INDICATES NUMBER OF POLES AND "D" REPRESENTS MISCELLANEOUS FUSE/SWITCH FEATURES. SHUNT= PROVIDE SHUNT TRIP MECHANISM GFP= GROUND FAULT PROTECTION CLF= CURRENT LIMITING FUSE
	GROUND CONNECTION, SIZE AS INDICATED OR AS REQUIRED.
$a,b	SINGLE POLE SWITCHES, WALL MOUNTED. SUBSCRIPTS AT SYMBOL INDICATE THE FOLLOWING:

2 - DOUBLE POLE	LV - LOW VOLTAGE	RL - ROTARY LOCK KEY TYPE
3 - THREE WAY	P - PILOT LIGHT	PB - PUSHBUTTON
4 - FOUR WAY	R - REMOTE CONTROL	S - PROJECTION SCREEN
K - KEY OPERATED	M - MOTOR STARTING	

a, b, c, ETC. - DESIGNATES QUANTITY OF SWITCHES AT EACH LOCATION.

NOTE: ALL WALL SWITCHES CONTROLLING EMERGENCY CIRCUITS SHALL BE ENGRAVED WITH "EMERGENCY".

⊡	EMERGENCY POWER OFF STATION, WALL MOUNTED PER EPO SYSTEM DETAIL.
PB , OR P	PULLBOX, SIZED PER N.E.C. OR AS NOTED.

WALL MOUNTED DEVICE MOUNTING HEIGHT NOTE:

ALL WALL-MOUNTED EQUIPMENT MOUNTING HEIGHTS SHALL BE VERIFIED PRIOR TO ROUGH-IN PER REQUIREMENTS OF THE DEVICE ALIGNMENT AND MOUNTING HEIGHT DETAILS AND SPECIFICATIONS.

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-121181 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 07/02/2024

OWNER: SAN RAFAEL CITY SCHOOLS

PROJECT NAME: VENETIA VALLEY BLDGS G AND H ALTERATION

CLIENT ADDRESS: 177 N San Pedro Rd, San Rafael, CA 94903

RAYMOND W. SWARTZ
No. E15610
Ex. 12/31/2025

REVISIONS:

	DESCRIPTION	DATE
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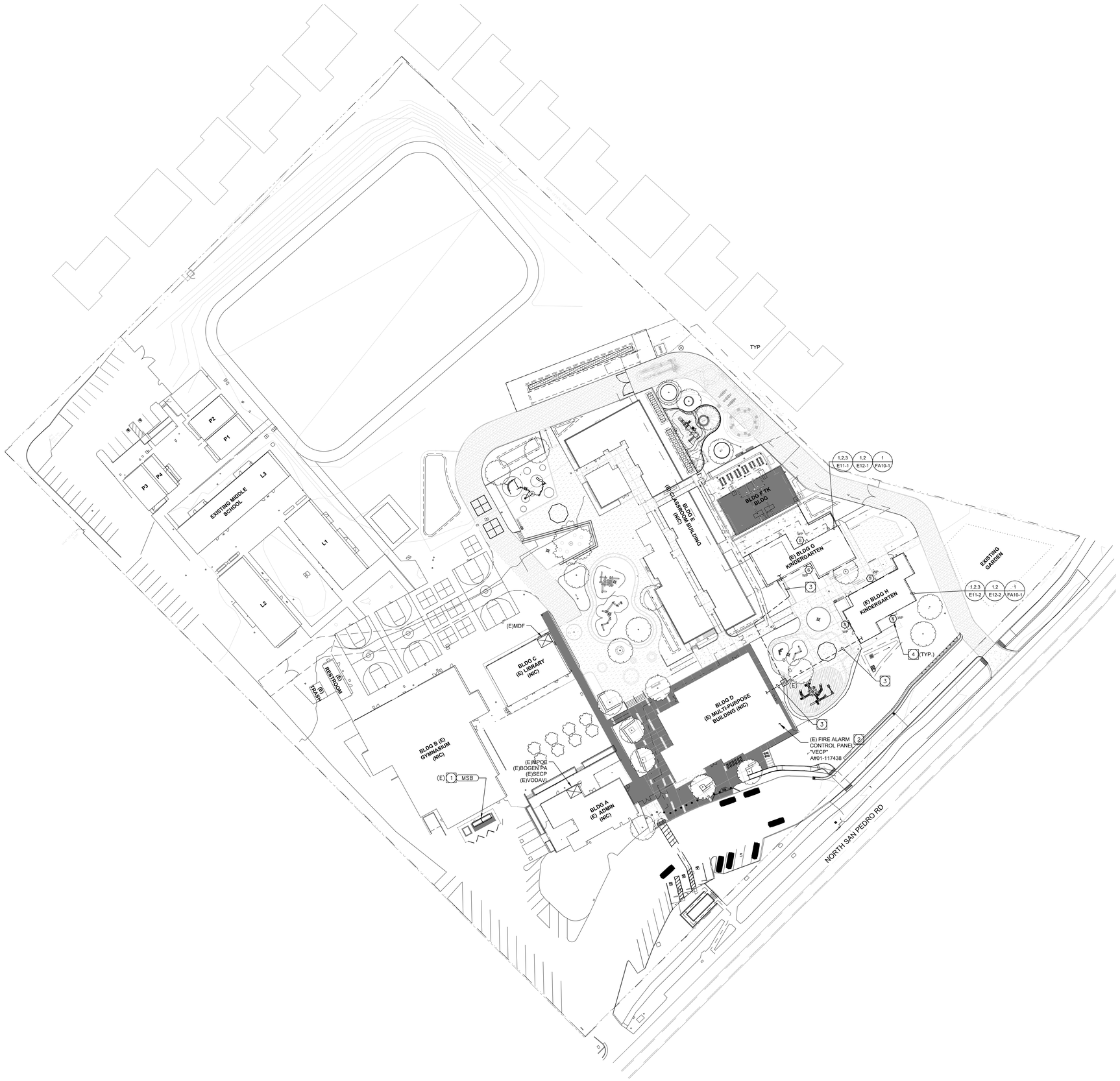
PROJECT NO:
DATE ISSUED: 06/21/2024
SCALE: As indicated
SHEET NUMBER: E00-0
SHEET TITLE:

SYMBOLS LIST

tk1sc COLLABORATIVE
11870 Pierce Street, Suite 160
Riverside, California 92505
951.299.4160 www.tk1sc.com

Project Leader - Nikolas Bruno
Electrical Lead - Nikolas Bruno
tk1sc Job #: B2304502.000



PLAN NOTES:

1. EXISITING 2500A 120/208V 3Ø 4W PG&E SERVICE TO BE PROTECTED IN PLACE.
2. MODIFY EXISTING FIRE ALARM/VOICE EVACUATION CONTROL PANEL AS REQUIRED TO SERVE THE NEW CONSTRUCTION. PROVIDE ADDITIONAL HARDWARE, CONNECTIONS, PROGRAMMING, ETC . AS REQUIRED FOR A COMPLETE AND OPERABLE SYSTEM. VERIFY EXACT LOCATION IN FIELD.
3. PROVIDE THE FOLLOWING CONDUITS WITH CONDUCTORS AS SPECIFIED. 2"C. FIRE ALARM
4. 2W WEATHERPROOF FIRE ALARM SPEAKER.

SITE PLAN GENERAL NOTES:

1. CONTRACTOR SHALL EXERCISE EXTREME CAUTION IN EXCAVATING AND TRENCHING ON THIS SITE TO AVOID EXISTING DUCTS, PIPING OR CONDUITS, ETC., AND TO PREVENT HAZARDS TO PERSONNEL AND/OR DAMAGE TO EXISTING UNDERGROUND UTILITIES OR STRUCTURES WHETHER OR NOT SHOWN AND INSTALLED BY ANY OTHER CONTRACTS. THE ENGINEER IS NOT RESPONSIBLE FOR THE LOCATION OF UNDERGROUND UTILITIES OR STRUCTURES WHETHER OR NOT SHOWN OR DETAILED AND INSTALLED BY ANY OTHER CONTRACTS. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER SHOULD SUCH UNIDENTIFIED CONDITIONS BE DISCOVERED. THESE DRAWINGS AND SPECIFICATIONS DO NOT INCLUDE THE NECESSARY ELEMENTS FOR CONSTRUCTION SAFETY.
2. CALL UNDERGROUND SERVICE ALERT (USA) AT 1 (800) 422-4133 OR APPLICABLE STATE AND LOCAL DIG SAFE OR UNDERGROUND ALERT HOTLINES PRIOR TO CONSTRUCTION START.
3. MINIMUM CONDUIT SIZE SHALL BE 3/4" - U.O.N.
4. MINIMUM CONDUCTOR SIZE SHALL BE #10 AWG. - U.O.N.
5. ALL SITE BRANCH CIRCUITS SHALL INCLUDE AN EQUIPMENT GROUND CONDUCTOR THAT, AT MINIMUM, MATCHES THE SIZE OF THE ASSOCIATED BRANCH CIRCUIT CONDUCTOR. WHERE MULTIPLE BRANCH CIRCUITS ARE ROUTED/GROUPED TOGETHER, THE EQUIPMENT GROUNDING CONDUCTOR SHALL MATCH THE SIZE OF THE LARGEST BRANCH CIRCUIT CONDUCTOR IN THE GROUP.
6. ALL ELECTRICAL EQUIPMENT MOUNTED OUTDOORS SHALL BE WEATHERPROOF (NEMA #3R).
7. ALL CONDUIT ONLY SHALL BE PROVIDED WITH A NYLON PULL STRING.
8. SEE ARCHITECTURAL/LANDSCAPE ARCHITECTURAL PLANS FOR EXACT LOCATIONS OF FIXTURES, PULLBOXES, MANHOLES, OTHER ELECTRICAL DEVICES, ETC. COORDINATE ALL UNDERGROUND STRUCTURES AND CONDUIT ROUTING WITH LANDSCAPE ARCHITECT PRIOR TO ROUGH-IN TO ENSURE THAT SUCH ITEMS ARE NOT PLACED IN CRITICAL LANDSCAPE PLANTING/HARDSCAPE AREAS.
9. UNLESS SPECIFICALLY SHOWN AS (E), (R), (ER), (D), EXISTING OR NON-BOLD, ALL ELECTRICAL DEVICES SHOWN ARE NEW.

SITE PLAN | 1" = 40'-0" | 1

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-121181 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 07/02/2024

OWNER: SAN RAFAEL CITY SCHOOLS

PROJECT NAME: VENETIA VALLEY BLDGS G AND H ALTERATION

CLIENT ADDRESS: 177 N San Pedro Rd, San Rafael, CA 94903

REGISTERED PROFESSIONAL ENGINEER
RAYMOND W. SWIFT
No. E15610
12/31/2025
ELECTRICAL
STATE OF CALIFORNIA

REVISIONS:

	DESCRIPTION	DATE
1		
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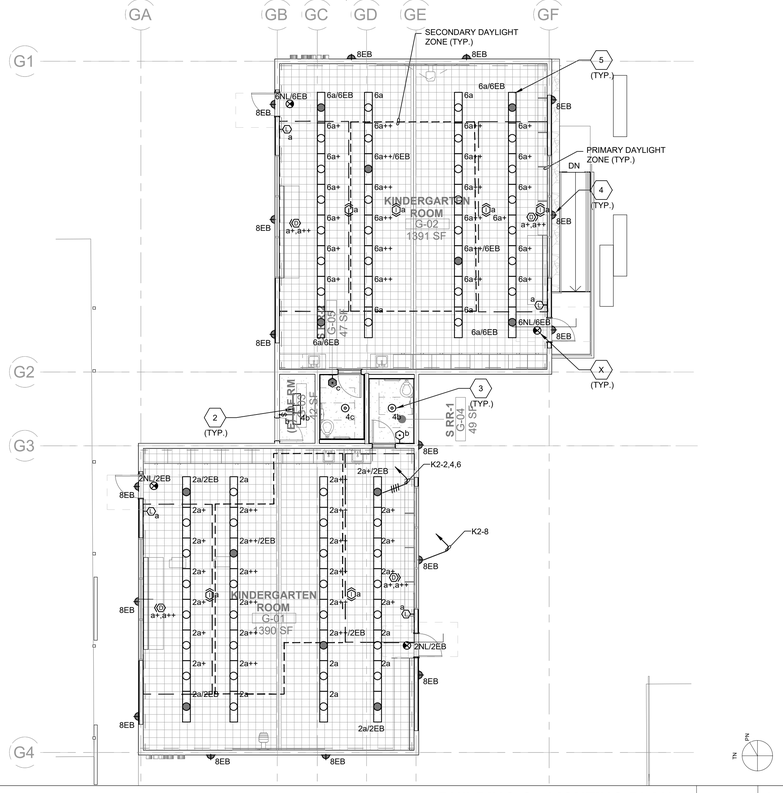
PROJECT NO:
DATE ISSUED: 06/21/2024
SCALE: As indicated

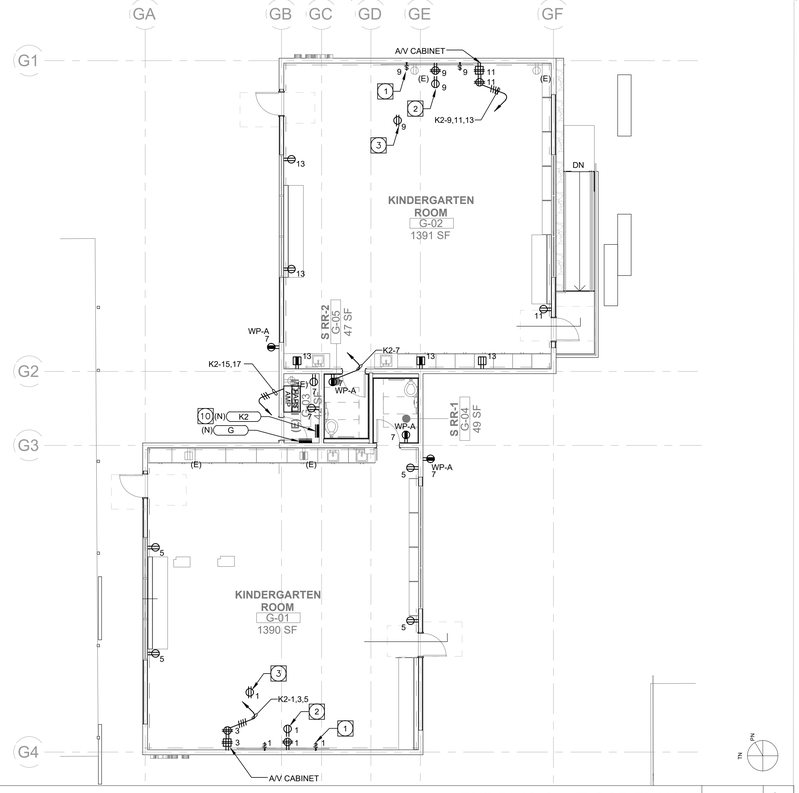
SHEET NUMBER: E01-1
SHEET TITLE:

SITE PLAN

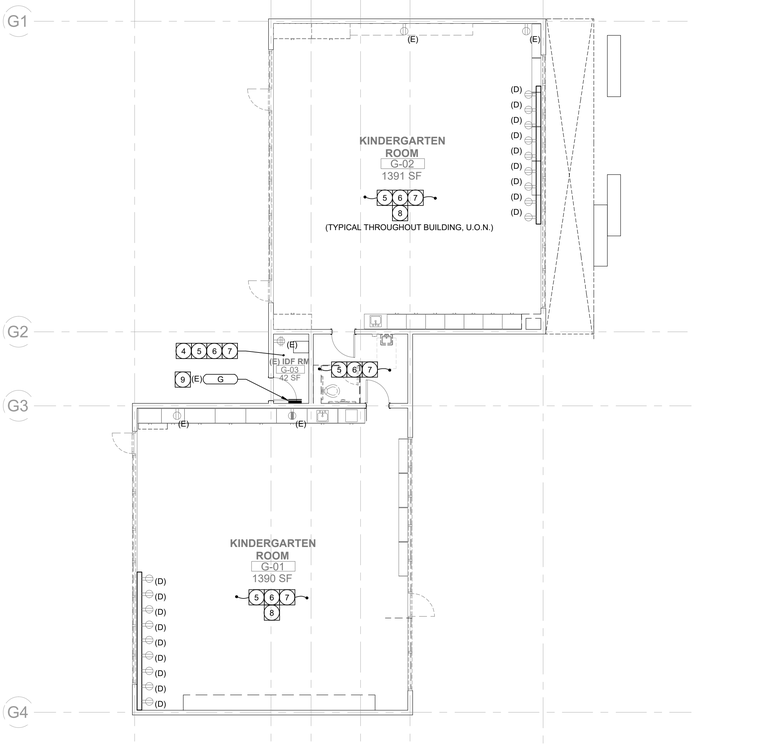
tk1sc COLLABORATIVE
11870 Pierce Street, Suite 160
Riverside, California 92505
951.299.4160 www.tk1sc.com
Project Leader - Nikolas Bruno
Electrical Lead - Nikolas Bruno
tk1sc Job #: BZ304502.000



BUILDING G - LIGHTING PLAN | 1/8" = 1'-0" | **2**



BUILDING G - FLOOR PLAN | 1/8" = 1'-0" | **1**



BUILDING G - DEMO FLOOR PLAN | 1/8" = 1'-0" | **3**

PLAN NOTES:

1. PROVIDE CONNECTION FOR MOTORIZED PROJECTOR SCREEN.
2. PROVIDE DEDICATED OUTLET FOR WALL MOUNTED PROJECTOR. VERIFY LOCATION AND MOUNTING HEIGHT WITH ARCHITECT PRIOR TO ROUGH-IN.
3. PROVIDE DEDICATED OUTLET IN CEILING FOR FUTURE APPLE TV. VERIFY LOCATION WITH ARCHITECT PRIOR TO ROUGH-IN.
4. EXISTING SIGNAL SYSTEMS EQUIPMENT (DATA RACK, TERMINAL CABINETS, POWER SUPPLIES, ETC.) AND ALL ASSOCIATED CONDUIT/DEVICES TO REMAIN - PROTECT IN PLACE.
5. CONTRACTOR TO DEMOLISH EXISTING FIRE ALARM SYSTEM AND ALL ASSOCIATED CONDUIT/DEVICES.
6. CONTRACTOR TO PROTECT IN PLACE EXISTING POWER. EXISTING ASSOCIATED CONCEALED CONDUIT AND WIRING TO REMAIN. EXISTING ASSOCIATED EXPOSED CONDUIT TO BE DISCONNECTED AND REMOVED. PROVIDE NEW CONDUIT AND WIRING CONCEALED IN WALL.
7. CONTRACTOR TO DEMOLISH EXISTING LIGHTING AND ALL ASSOCIATED CONDUIT/DEVICES.
8. CONTRACTOR TO DEMOLISH EXISTING SIGNAL SYSTEMS (DATA, PHONE, SPEAKERS, CLOCKS, INTRUSION ALARM MOTION SENSORS, ETC.) AND ALL ASSOCIATED CONDUIT/DEVICES.
9. PROVIDE NEW PANEL AND RECONNECT EXISTING BRANCH CIRCUIT CONDUIT AND WIRING AS REQUIRED FOR A COMPLETE AND OPERABLE SYSTEM. VERIFY WHICH BRANCH CIRCUITS CONNECT TO EACH CIRCUIT BREAKER IN FIELD PRIOR TO REMOVAL OF EXISTING EQUIPMENT.
10. BACKFEED EXISTING PANEL FROM NEW PANEL MA1. SEE SINGLE LINE DIAGRAM FOR MORE INFORMATION.

NOTES:
- GENERAL CONTRACTOR TO REMOVE ALL SURFACE MOUNTED WIRING AND REPLACE WITH CONDUITS.
- ALL EXISTING EXPOSED CONDUIT AND WIRING TO BE CONCEALED.

GENERAL DEMOLITION NOTES:

1. THE ELECTRICAL DRAWINGS ARE DIAGRAMMATIC ONLY. DO NOT SCALE THE ELECTRICAL DRAWINGS TO DETERMINE THE LOCATION OF EQUIPMENT OR OUTLETS. SEE ARCHITECTURAL PLANS, WHERE PROVIDED ON PROJECT, FOR EXTENT OF DEMOLITION.
2. THE EXISTING CONDITIONS SHOWN ARE FROM AVAILABLE RECORD DRAWINGS AND SHOWN FOR REFERENCE ONLY. CONTRACTOR SHALL VERIFY ACTUAL EXISTING CONDITIONS AT SITE PRIOR TO SUBMITTING BID. ALL DEMOLITION, ALTERATION, EXTENSION, RELOCATION, REHABILITATION WORK SHALL BE INCLUDED IN CONTRACT. NO ADDITIONAL ALLOWANCE OR CHANGE ORDERS WILL BE ACCEPTED.
3. CONTRACTOR IS RESPONSIBLE TO RELOCATE OR REMOVE FROM WALLS, CEILINGS, FLOOR SPACES, ETC. ANY EXISTING CONDUITS, WIRES, BOXES, FITTINGS, FIXTURES OR OTHER ELECTRICAL EQUIPMENT WHICH INTERFERES WITH PLANNED REMODEL WORK. PROVIDE CIRCUIT CONTINUATION REQUIRED FOR ALL EXISTING OUTLETS, FIXTURES, EQUIPMENT, ETC. SCHEDULED TO REMAIN.
4. NOTIFY THE ENGINEER IMMEDIATELY WHEREVER EXISTING EQUIPMENT IS ENCOUNTERED WHICH MUST BE RELOCATED DUE TO THE NEW CONSTRUCTION, OR NOT INDICATED ON "AS-BUILT" DRAWINGS OR WAS BURIED UNDERGROUND OR EMBEDDED IN STRUCTURE WALLS.
5. CAREFULLY PROTECT ALL WALLS, TRIM, FLOORS, EQUIPMENT, UTILITY LINES AND MATERIALS. WHEN WORKING ON FINISHED SURFACES, LIMIT DAMAGE TO THE SMALLER AREA IF POSSIBLE AND RESTORE TO THE ORIGINAL CONDITION ALL SURFACES WHICH ARE DAMAGED BECAUSE OF THE INSTALLATION OF THIS WORK.
6. EQUIPMENT, MATERIALS AND SUPPLIES TEMPORARILY REMOVED FOR PROTECTION SHALL BE REPLACED IN ORIGINAL LOCATIONS. ANY MATERIALS DAMAGED SHALL BE REPLACED WITH NEW MATERIALS OF LIKE KIND AND QUALITY.
7. DEMOLITION WORK SHALL BE DONE IN A MANNER WHICH WILL NOT CAUSE UNNECESSARY INCONVENIENCE OR DANGER TO USERS OF THE PREMISES AND ADJACENT SITE, AND NOT INTERFERE WITH ITS OPERATION. ANY DEMOLITION WORK TO BE PERFORMED MUST BE PLANNED IN ADVANCE.
8. DO ALL DRILLING, CUTTING, ETC. REQUIRED TO DEMOLISH ELECTRICAL WORK AS INDICATED OR PROVIDE BLANK COVER PLATE ON ALL OUTLETS EXPOSED BY REMOVAL OF FIXTURE OR DEVICES.
9. RESEAL ALL PENETRATIONS OR OPENING THROUGH WALLS, CEILING, FLOORS, ETC., TO MAINTAIN THE RATING OF STRUCTURE.
10. ALL REMOVED MATERIALS AND EQUIPMENT WHICH IS SALVAGED MATERIALS SHALL REMAIN IN 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 DAMAGED. DISPOSE OF ALL HAZARDOUS MATERIAL PER GUIDELINE OF THE STATE OF CALIFORNIA DEPARTMENT OF HEALTH SERVICES AND OTHER AGENCIES HAVING JURISDICTION.
11. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDUIT/WIRING RUNS, REUSE AS REQUIRE AND REMOVED ALL UNUSED CONDUIT/WIRING. UNUSED CONDUIT IN INACCESSIBLE LOCATIONS (WALLS TO REMAIN) CAN BE ABANDONED IN PLACE. REMOVE UNUSED WIRING.
12. CONTRACTOR TO VERIFY CIRCUIT NUMBER AND LOADS FOR ALL EXISTING EQUIPMENT PRIOR TO INSTALLATION OF NEW OR RELOCATED ELECTRICAL EQUIPMENT. REASSIGN CIRCUITS AND LOADS ACCORDINGLY. PROVIDE COMPLETE "AS BUILT" DRAWINGS AND TYPEWRITTEN DIRECTORIES FOR PANELS.
13. WHERE NECESSARY TO SHUT OFF UTILITY SERVICES OR CAUSE INTERRUPTION TO POWER OR SIGNAL SYSTEMS WHILE A BUILDING IS OCCUPIED OR THAT EFFECT ADJACENT BUILDINGS, SCHEDULE OUTAGES OR INTERRUPTIONS WITH THE OWNER. BUILDING OCCUPANTS AND/OR ADJACENT BUILDING OWNER(S) AND OCCUPANTS PRIOR TO CONDUCTING OUTAGE(S) OR INTERRUPTIONS.
14. REFER TO ARCHITECTURAL DEMOLITION DRAWING FOR DEMOLITION AREAS. THE SCOPE OF THE DEMOLITION SHALL INCLUDE ALL LABOR, EXISTING ELECTRICAL EQUIPMENT. VERIFY EXACT SCOPE PRIOR TO COMMENCING WORK. REFER TO DEMO PLAN FOR SPECIFIC AREAS NOT IN SCOPE THE SCOPE INCLUDES, BUT IS NOT LIMITED TO THE FOLLOWING:
    - A. LIGHTING: CONTRACTOR TO DEMOLISH ALL EXISTING LIGHTING FIXTURES AND ASSOCIATED CONTROLS, U.O.N.
    - B. POWER: EXISTING POWER SHALL REMAIN, U.O.N.
    - C. ALL EXISTING ELECTRICAL SWITCHGEAR, PANELBOARDS, PULLBOXES, ETC. SHALL REMAIN, U.O.N.
    - D. SIGNAL: CONTRACTOR TO DEMOLISH ALL EXISTING SIGNAL SYSTEMS (CLOCKS, DATA OUTLETS, TELEPHONE OUTLETS, TELEVISION OUTLETS, SPEAKERS, ETC.)
    - E. FIRE ALARM: CONTRACTOR TO DEMOLISH ALL EXISTING FIRE ALARM DEVICES, U.O.N.
    - F. EXTERIOR LIGHTING: CONTRACTOR SHALL DEMOLISH ALL EXISTING EXTERIOR LIGHTING FIXTURES AND ASSOCIATED CONTROLS, U.O.N.
    - G. EXTERIOR POWER, SIGNAL AND FIRE ALARM: CONTRACTOR SHALL DEMOLISH ALL EXISTING EXTERIOR POWER, SIGNAL AND FIRE ALARM DEVICES, U.O.N.
15. WHERE NEW PARTITIONS OR OTHER CONSTRUCTION WILL COVER EXISTING, REMAINING OUTLETS MAKING THEM INACCESSIBLE, RELOCATE THESE OUTLETS AS REQUIRED, OR MAKE OTHER PROVISIONS SO THAT THE OUTLETS WILL REMAIN ACCESSIBLE AND OPERATIONAL.
16. WHERE EXISTING WALLS AND CEILINGS ARE TO REMAIN, PROVIDE BLANK COVER PLATES FOR OUTLETS WHERE EQUIPMENT OR DEVICES ARE REMOVED UNDER THIS CONTRACT. PRIME BLANK PLATES AND PAINT TO MATCH SURROUNDING AREA.
17. WHERE FIXTURES, EQUIPMENT, DEVICES, ETC. ARE SPECIFIED BY THE CONTRACT DOCUMENTS FOR REMOVAL, THE CONTRACTOR SHALL REMOVE ALL CIRCUIT CONDUCTORS/CABLING BACK TO THE NEAREST REMAINING JUNCTION BOX AND/OR POINT OF TERMINATION.
18. RELOCATE EXISTING CONDUITS AND/OR CONDUCTORS/CABLING ROUTING THROUGH AREAS WHERE NEW/REMOVED WALLS ARE SPECIFIED.
19. RELOCATION AND/OR REMOVAL OF EXISTING EQUIPMENT, DEVICES, OUTLETS BOXES, CONDUIT, WIRING, ETC. MAY AFFECT THE OPERATION OF EXISTING, REMAINING ELECTRICAL EQUIPMENT/DEVICES. THE CONTRACTOR SHALL PROVIDE ADDITIONAL MATERIALS AS REQUIRED TO MAINTAIN AND/OR RESTORE CONTINUITY OF SERVICES TO EXISTING REMAINING ELECTRICAL/DEVICES.
20. DISCONNECT ABANDONED CIRCUITS AT EXISTING PANEL BOARDS AND REMOVE WIRE TO LAST REMAINING DEVICES. LABEL ALL ABANDONED CIRCUIT BREAKERS "SPARE".

LIGHTING PLAN GENERAL NOTES:

1. REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATION AND ELEVATION OF ALL LIGHTING FIXTURES AND ALL DEVICES. ALL WALL-MOUNTED DEVICE HEIGHTS SHALL BE VERIFIED WITH THE ARCHITECT PRIOR TO ROUGH-IN.
2. VERIFY EXACT CEILING CONSTRUCTION WITH ARCHITECTURAL REFLECTED CEILING PLAN AND SPECS. PROVIDE LIGHTING FIXTURES WITH ALL NECESSARY MOUNTING HARDWARE.
3. ALL RECESSED FIXTURES SHALL BE PROVIDED WITH ALL STRUCTURAL SUPPORTS AS REQUIRED BY THE IBC, OR CBC WHERE ADOPTED, IN ADDITION TO ANY LOCAL CODES.
4. ALL PERIMETER AND COVE LIGHTING SHALL EXTEND THE FULL LENGTH OF THE WALLS OR COVE. CONTRACTOR TO FIELD MEASURE COVE LENGTH AND ORDER QUANTITY OF FIXTURES AS REQUIRED.
5. ALL LINE VOLTAGE DIMMING BRANCH CIRCUITS SHALL BE PROVIDED WITH A DEDICATED NEUTRAL CONDUCTOR FOR EACH ZONE/CHANNEL.
6. RECESSED FIXTURES LOCATED IN A FIRE-RATED CEILING OR WALL SHALL BE PROVIDED WITH A 5-SIDED, RATED ENCLOSURE SO CONSTRUCTED AS TO ALLOW CODE AND MANUFACTURER-REQUIRED CLEARANCES BETWEEN THE FIXTURE AND THE ENCLOSURE.
7. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR EXIT SIGN CHEVRONS AND NUMBER OF FACES PER EXIT SIGN. ANY DISCREPANCIES BETWEEN EXIT SIGNS SHOWN ON THE ELECTRICAL AND ARCHITECTURAL PLANS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT PRIOR TO ORDERING EXIT SIGNS.
8. WHEN EXPOSED CEILINGS OR OPEN GRID CONDITIONS OCCUR, THE CONTRACTOR WILL NEED TO PROVIDE THE FOLLOWING ITEMS:
    - a. ALL BRANCH CIRCUITS SHALL BE EMT.
    - b. ALL BRANCH CIRCUITS SHALL BE ROUTED ORTHOGONALLY, NEATLY TRAINED, IN PARALLEL TO STRUCTURES OR DUCTWORK. THE TERM "TRAINED" MEANS ALL PARALLEL CONDUITS SHALL MAINTAIN THE SAME SPATIAL RELATIONSHIP WITH EACH OTHER FOR ENTIRE RUN TO INCLUDE RADIUS BENDS AND SWEEPS.
    - c. VISUALLY OBJECTIONABLE BRANCH CIRCUITS WILL BE REROUTED AT THE REQUEST OF THE ARCHITECT AT NO ADDITIONAL COST.
9. ALL LED REMOTE INDICATORS FOR DUCT DETECTORS AND FIRE/SMOKE DAMPERS REQUIRED BY THE LOCAL AHJ SHALL BE LOCATED IN CEILINGS IN COORDINATION WITH ARCHITECT PRIOR TO ANY ROUGH-IN.
10. PROVIDE ADDITIONAL J-BOX NEAR PANEL FOR MULTIPLE HOMERUN CIRCUITRY.
11. UNLESS SPECIFICALLY SHOWN AS (E), (R), (ER), (D), EXISTING OR NON-BOLD, ALL ELECTRICAL DEVICES SHOWN ARE NEW.
12. REFER TO GENERAL POWER PLAN NOTES AND COMMUNICATIONS PATHWAYS GENERAL NOTE FOR ADDITIONAL REQUIREMENTS WHEN POWER AND/OR DATA DEVICES ARE SHOWN ON THIS PLAN.
13. ALL PENETRATIONS THROUGH FIRE RATED WALLS SHALL BE PROTECTED FROM THE SPREAD OF FIRE WITH AN APPROVED FIRESTOP SYSTEM EQUAL OR GREATER THAN THE FIRE RATING OF THE WALL.
14. CONTRACTOR SHALL PROVIDE CONDUIT AND WIRE FOR ALL DEVICES TO PANELBOARD(S) INDICATED ON PLANS FOR A COMPLETE AND OPERABLE SYSTEM.
15. CONTRACTOR SHALL PROVIDE MINIMUM 2#12, 1#12G IN ½" CONDUIT UNLESS OTHERWISE NOTED. REFERENCE WIRE SIZE TABLE CHART BELOW. WHERE REQUIRED, CONDUIT AND WIRE SHALL BE UPSIZED TO MEET THE REQUIREMENT OF THE DEVICE BEING SERVED BY THE BRANCH CIRCUIT. WHERE CONDUIT AND WIRING IS INDICATED AT THE HOME RUN, WIRING AND CONDUIT SHALL CONTINUE AT THAT SIZE FOR THE ENTIRE LENGTH OF THE CIRCUIT.
16. CONTRACTOR SHALL FURNISH ADDITIONAL SWITCHLEGS OR HOT WIRES AS REQUIRED TO MEET THE CONTROL INTENT OF THE DOCUMENTS AND AS REQUIRED BY CODE (I.E. EMERGENCY LIGHTING AND SWITCHED RECEPTACLES).
17. MULTIPLE CIRCUITS MAY BE USED IN A SINGLE RACEWAY. NO MORE THAN (3) DEDICATED CIRCUITS OR (4) CURRENT CARRYING CONDUCTORS SHALL BE INSTALLED IN ANY RACEWAY UNLESS OTHERWISE NOTED. WHERE A COMMON GROUNDED CONDUCTOR IS USED FOR MULTIPLE INDIVIDUAL BRANCH CIRCUITS, PER SECTIONS CEC 200.4, 250.122, 310.15(B)(2), CONDUIT SIZE SHALL BE INCREASED AS REQUIRED FOR THE CONDUCTORS INCLUDING TEMPERATURE DERATING PER CEC TABLE C1.
18. FURNISH AND INSTALL JUNCTION BOXES AS REQUIRED TO MEET MAXIMUM BEND REQUIREMENTS FOR PULLING WIRES PER CEC 358.26. JUNCTION BOXES SHALL BE SIZED AS REQUIRED PER CEC 314.28 UNLESS OTHERWISE NOTED.

277 VOLT, 1 PHASE LOAD:

LOAD (VA)	DISTANCE	CU CONDUCTOR SIZE
0-4432 VA 0-16 AMPS	0-158 FT	#12
	159-250 FT	#10
	251-397 FT	#8

480 VOLT, 3 PHASE LOAD:

LOAD (VA)	DISTANCE	CU CONDUCTOR SIZE
0-13,296 VA (4,432 PER PHASE) 0-16 AMPS	0-45 FT	#12
	46-72 FT	#10
	73-114 FT	#8
13,297-19,994 VA (6,648 PER PHASE) 16-24 AMPS	0-30 FT	#12
	31-48 FT	#10
	49-76 FT	#8

POWER PLAN GENERAL NOTES:

1. ALL RECEPTACLES ON COMMON WALLS SHALL BE SEPARATE BOXES AND OFFSET 24-INCHES MINIMUM.
2. ALL PENETRATIONS THROUGH FIRE RATED WALLS SHALL BE PROTECTED FROM THE SPREAD OF FIRE WITH AN APPROVED FIRESTOP SYSTEM EQUAL OR GREATER THAN THE FIRE RATING OF THE WALL.
3. ALL WALL-MOUNTED DEVICE HEIGHTS SHALL BE VERIFIED WITH THE ARCHITECT PRIOR TO ROUGH-IN.
4. ALL FURNITURE FEED LOCATIONS TO BE VERIFIED WITH ARCHITECT AND FURNITURE VENDOR PRIOR TO ROUGH-IN.
5. ALL FURNITURE WHIPS SHALL BE TRIMMED TO REDUCE EXCESS WHIP LENGTH.
6. WHEN EXPOSED CEILINGS OR OPEN GRID CONDITIONS OCCUR, THE CONTRACTOR WILL NEED TO PROVIDE THE FOLLOWING ITEMS:
    - a. ALL BRANCH CIRCUITS SHALL BE EMT.
    - b. ALL BRANCH CIRCUITS SHALL BE ROUTED ORTHOGONALLY, NEATLY TRAINED, IN PARALLEL TO STRUCTURES OR DUCTWORK. THE TERM "TRAINED" MEANS ALL PARALLEL CONDUITS SHALL MAINTAIN THE SAME SPATIAL RELATIONSHIP WITH EACH OTHER FOR ENTIRE RUN TO INCLUDE RADIUS BENDS AND SWEEPS.
    - c. VISUALLY OBJECTIONABLE BRANCH CIRCUITS WILL BE REROUTED AT THE REQUEST OF THE ARCHITECT AT NO ADDITIONAL COST.
7. EXPOSED CABLE/CONDUCTORS INSTALLED IN A PLENUM SPACE SHALL CONFORM TO NEC, OR CEC WHERE ADOPTED, ARTICLE 300.22(C).
8. PROVIDE G.F.C.I. TYPE RECEPTACLE(S) OR RECEPTACLE(S) PROTECTED BY A GFCI CIRCUIT BREAKER(S) WHEN RECEPTACLES ARE 50A OR LESS, 150V TO GROUND OR LESS AND ARE LOCATED WITHIN 6-FEET OF ANY SINK OR THERAPEUTIC TUB, LAUNDRY AREA, SERVING ANY DRINKING FOUNTAIN OR VENDING MACHINE, WITHIN ANY KITCHEN SPACE, LOCKER ROOM AREA, GARAGE AND BATHROOM SPACE AND/OR LOCATED OUTDOORS. WHERE RECEPTACLES ARE NOT READILY ACCESSIBLE, PROVIDE GFCI CIRCUIT BREAKER(S) TO PROTECT THE RESPECTIVE BRANCH CIRCUIT AND PROVIDE ADDITIONAL NEUTRAL CONDUCTORS IN THE BRANCH CIRCUITING AS REQUIRED TO ENSURE PROPER GFCI FUNCTION.
9. PROVIDE OCCUPANCY SENSOR/LIGHTING CONTROL SYSTEM CONTROLLED RECEPTACLE RELAY(S) AS REQUIRED TO SWITCH CONTROLLED RECEPTACLES. CONNECT BRANCH CIRCUITRY AND CONTROL WIRING AS REQUIRED TO ALLOW OCCUPANCY SENSOR/LIGHTING CONTROL SYSTEM RELAY TO SWITCH STANDALONE AND/OR SYSTEMS FURNITURE CONTROLLED RECEPTACLES AS INDICATED ON PLANS. PROVIDE ADDITIONAL CONDUIT, WIRING AND PATHWAYS NECESSARY TO CONNECT BRANCH CIRCUITRY AND CONTROL WIRING TO REMOTE RELAYS TO INCLUDE RELAY(S) LOCATED ON ALTERNATE FLOORS, IN ELECTRICAL ROOMS, ETC.
10. PROVIDE ADDITIONAL J-BOX NEAR PANEL FOR MULTIPLE HOMERUN CIRCUITRY.
11. UNLESS SPECIFICALLY SHOWN AS (E), (R), (ER), (D), EXISTING OR NON-BOLD, ALL ELECTRICAL DEVICES SHOWN ARE NEW.
12. CONTRACTOR SHALL PROVIDE CONDUIT AND WIRE FOR ALL DEVICES TO PANELBOARD(S) INDICATED ON PLANS FOR A COMPLETE AND OPERABLE SYSTEM.
13. CONTRACTOR SHALL PROVIDE MINIMUM 2#12, 1#12G IN ½" CONDUIT UNLESS OTHERWISE NOTED. REFERENCE WIRE SIZE TABLE CHART BELOW. WHERE REQUIRED, CONDUIT AND WIRE SHALL BE UPSIZED TO MEET THE REQUIREMENT OF THE DEVICE BEING SERVED BY THE BRANCH CIRCUIT. WHERE CONDUIT AND WIRING IS INDICATED AT THE HOME RUN, WIRING AND CONDUIT SHALL CONTINUE AT THAT SIZE FOR THE ENTIRE LENGTH OF THE CIRCUIT.
14. CONTRACTOR SHALL FURNISH ADDITIONAL SWITCHLEGS OR HOT WIRES AS REQUIRED TO MEET THE CONTROL INTENT OF THE DOCUMENTS AND AS REQUIRED BY CODE (I.E. EMERGENCY LIGHTING AND SWITCHED RECEPTACLES).
15. MULTIPLE CIRCUITS MAY BE USED IN A SINGLE RACEWAY. NO MORE THAN (3) DEDICATED CIRCUITS OR (4) CURRENT CARRYING CONDUCTORS SHALL BE INSTALLED IN ANY RACEWAY UNLESS OTHERWISE NOTED. WHERE A COMMON GROUNDED CONDUCTOR IS USED FOR MULTIPLE INDIVIDUAL BRANCH CIRCUITS, PER SECTIONS CEC 200.4, 250.122, 310.15(B)(2), CONDUIT SIZE SHALL BE INCREASED AS REQUIRED FOR THE CONDUCTORS INCLUDING TEMPERATURE DERATING PER CEC TABLE C1.
16. FURNISH AND INSTALL JUNCTION BOXES AS REQUIRED TO MEET MAXIMUM BEND REQUIREMENTS FOR PULLING WIRES PER CEC 358.26. JUNCTION BOXES SHALL BE SIZED AS REQUIRED PER CEC 314.28 UNLESS OTHERWISE NOTED.

VOLTAGE DROP WORKSHEET: REFERENCE ONLY

1. ALL BRANCH CIRCUITS ARE DESIGNED TO LIMIT VOLTAGE DROP 3% OR LESS USING THE FOLLOWING CRITERIA:

208 VOLT, 1 PHASE LOAD:

LOAD (VA)	DISTANCE	CU CONDUCTOR SIZE
0-1000 VA (500 PER PHASE) 0-4.8 AMPS	0-225 FT	#12
	226-360 FT	#10
	361-572 FT	#8
1001-2000 VA (1,000 PER PHASE) 4.8-9.6 AMPS	0-151 FT	#12
	152-240 FT	#10
	241-380 FT	#8
	381-604 FT	#6
2001-3,328 VA (1,664 PER PHASE) 9.6-16 AMPS	0-78 FT	#12
	79-125 FT	#10
	126-198 FT	#8
3329-4,992 VA (2,496 PER PHASE) 16-24 AMPS	0-52 FT	#12
	53-83 FT	#10
	84-132 FT	#8

120 VOLT, 1 PHASE LOAD:

LOAD (VA)	DISTANCE	CU CONDUCTOR SIZE
0-1000 VA 0-8 AMPS	0-130 FT	#12
	131-205 FT	#10
	205-330 FT	#8
1001-1500 VA 8-12.5 AMPS	0-87 FT	#12
	88-138 FT	#10
	139-219 FT	#8
	220-350 FT	#6
1501-1920 VA 12.5-16 AMPS	0-68 FT	#12
	69-108 FT	#10
	109-172 FT	#8
	173-273 FT	#6
1921-2880 VA 16-24 AMPS	0-72 FT	#10
	73-114 FT	#8
	115-182 FT	#6

ANY 3 PHASE LOADS GREATER THAN 30 AMPS ARE SHOWN ON THE FEEDER SCHEDULE OR MOTORIZED EQUIPMENT SCHEDULE WITH ASSOCIATED VOLTAGE DROP LIMITED TO 2% OR LESS.

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-121181 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 07/02/2024

OWNER: SAN RAFAEL CITY SCHOOLS

PROJECT NAME: VENETIA VALLEY BLDGS G AND H ALTERATION

CLIENT ADDRESS: 177 N San Pedro Rd, San Rafael, CA 94903

REGISTERED PROFESSIONAL ENGINEER
RAYMOND W. SWEET
No. E15610
EXP. 12/31/2025
ELECTRICAL
STATE OF CALIFORNIA

REVISIONS:

	DESCRIPTION	DATE
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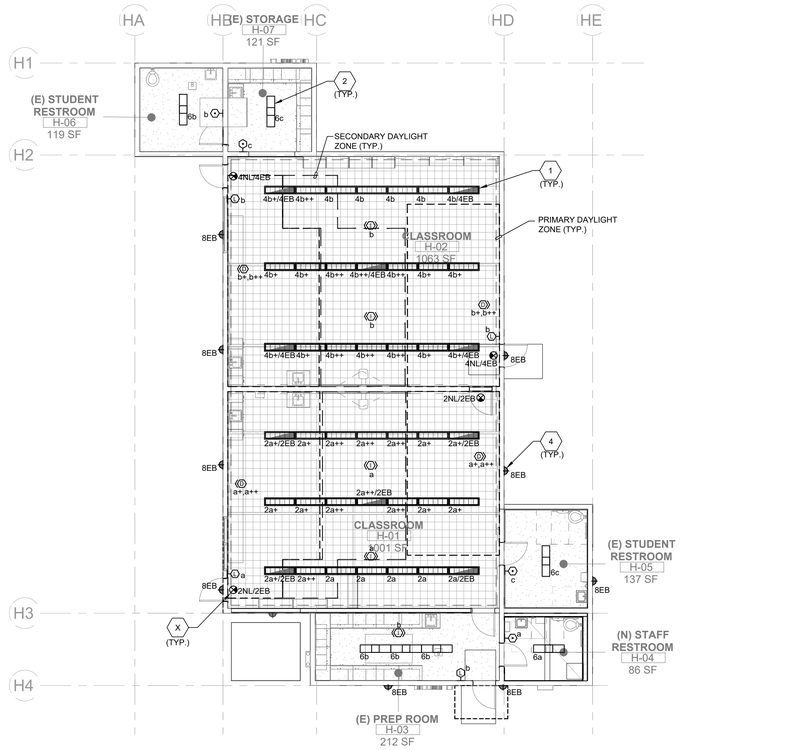
PROJECT NO:
DATE ISSUED: 06/21/2024
SCALE: As indicated

SHEET NUMBER: E11-1
SHEET TITLE:

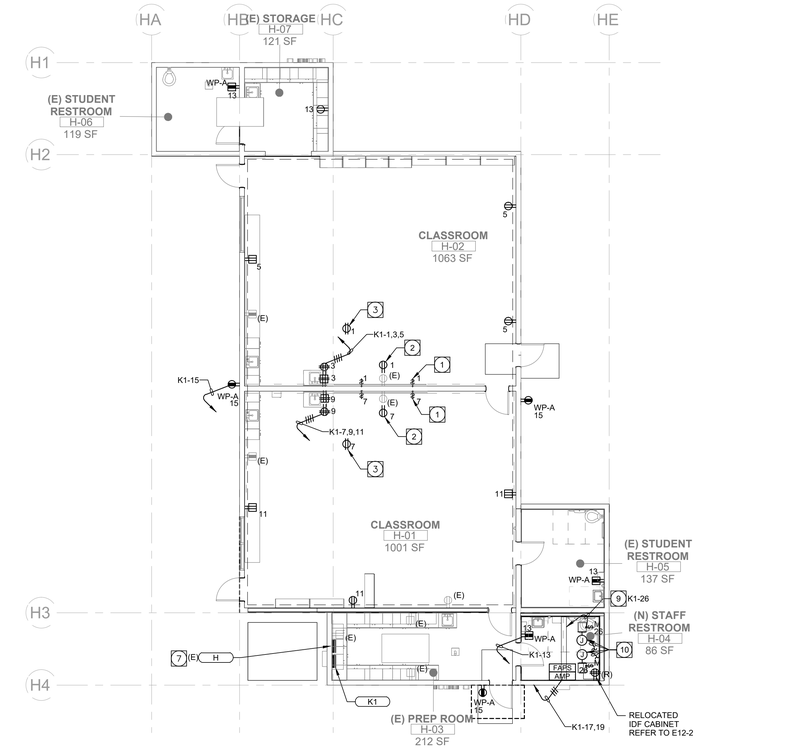
BLDG G -FLOOR PLANS

tk|sc COLLABORATIVE
11870 Pierce Street, Suite 160
Riverside, California 92505
951.299.4160 www.tk1sc.com
Project Leader - Nikolas Bruno
Electrical Lead - Nikolas Bruno
tk1sc Job #: B2304502.000



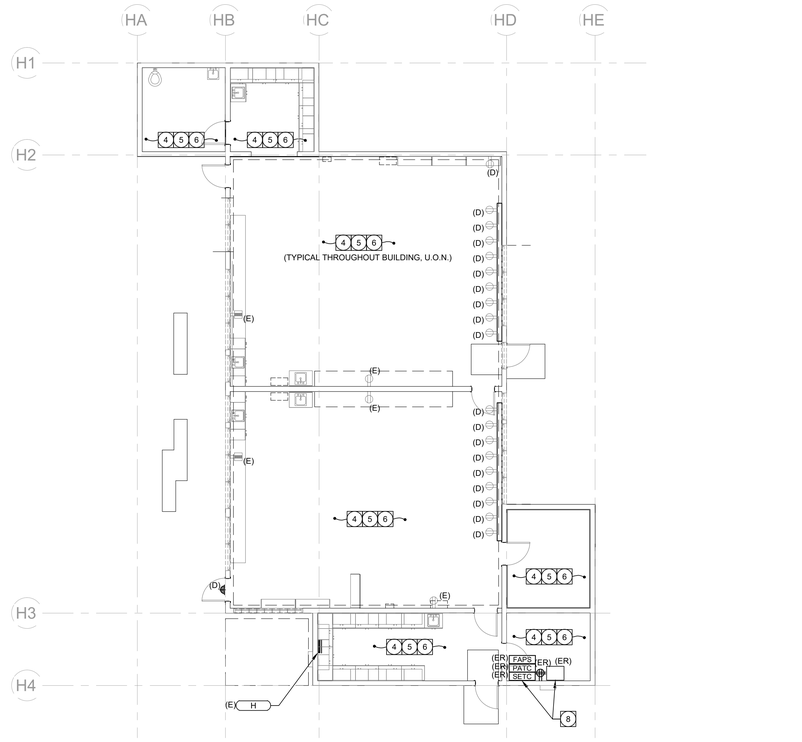
BUILDING H - LIGHTING PLAN

1/8" = 1'-0" | 2



BUILDING H - FLOOR PLAN

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



BUILDING H - DEMO FLOOR PLAN

1/8" = 1'-0" | 3

LIGHTING PLAN GENERAL NOTES:

1. REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATION AND ELEVATION OF ALL LIGHTING FIXTURES AND ALL DEVICES. ALL WALL-MOUNTED DEVICE HEIGHTS SHALL BE VERIFIED WITH THE ARCHITECT PRIOR TO ROUGH-IN.
2. VERIFY EXACT CEILING CONSTRUCTION WITH ARCHITECTURAL REFLECTED CEILING PLAN AND SPECS. PROVIDE LIGHTING FIXTURES WITH ALL NECESSARY MOUNTING HARDWARE.
3. ALL RECESSED FIXTURES SHALL BE PROVIDED WITH ALL STRUCTURAL SUPPORTS AS REQUIRED BY THE IBC, OR CBC WHERE ADOPTED, IN ADDITION TO ANY LOCAL CODES.
4. ALL PERIMETER AND COVE LIGHTING SHALL EXTEND THE FULL LENGTH OF THE WALLS OR COVE. CONTRACTOR TO FIELD MEASURE COVE LENGTH AND ORDER QUANTITY OF FIXTURES AS REQUIRED.
5. ALL LINE VOLTAGE DIMMING BRANCH CIRCUITS SHALL BE PROVIDED WITH A DEDICATED NEUTRAL CONDUCTOR FOR EACH ZONE/CHANNEL.
6. RECESSED FIXTURES LOCATED IN A FIRE-RATED CEILING OR WALL SHALL BE PROVIDED WITH A 5-SIDED, RATED ENCLOSURE SO CONSTRUCTED AS TO ALLOW CODE AND MANUFACTURER-REQUIRED CLEARANCES BETWEEN THE FIXTURE AND THE ENCLOSURE.
7. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR EXIT SIGN CHEVRONS AND NUMBER OF FACES PER EXIT SIGN. ANY DISCREPANCIES BETWEEN EXIT SIGNS SHOWN ON THE ELECTRICAL AND ARCHITECTURAL PLANS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT PRIOR TO ORDERING EXIT SIGNS.
8. WHEN EXPOSED CEILINGS OR OPEN GRID CONDITIONS OCCUR, THE CONTRACTOR WILL NEED TO PROVIDE THE FOLLOWING ITEMS:
   a. ALL BRANCH CIRCUITS SHALL BE EMT.
   b. ALL BRANCH CIRCUITS SHALL BE ROUTED ORTHOGONALLY, NEATLY TRAINED, IN PARALLEL TO STRUCTURES OR DUCTWORK. THE TERM "TRAINED" MEANS ALL PARALLEL CONDUITS SHALL MAINTAIN THE SAME SPATIAL RELATIONSHIP WITH EACH OTHER FOR ENTIRE RUN TO INCLUDE RADIUS BENDS AND SWEEPS.
   c. VISUALLY OBJECTIONABLE BRANCH CIRCUITS WILL BE REROUTED AT THE REQUEST OF THE ARCHITECT AT NO ADDITIONAL COST.
9. ALL LED REMOTE INDICATORS FOR DUCT DETECTORS AND FIRE/SMOKE DAMPERS REQUIRED BY THE LOCAL AHJ SHALL BE LOCATED IN CEILINGS IN COORDINATION WITH ARCHITECT PRIOR TO ANY ROUGH-IN.
10. PROVIDE ADDITIONAL J-BOX NEAR PANEL FOR MULTIPLE HOMERUN CIRCUITRY.
11. UNLESS SPECIFICALLY SHOWN AS (E), (R), (ER), (D), EXISTING OR NON-BOLD, ALL ELECTRICAL DEVICES SHOWN ARE NEW.
12. REFER TO GENERAL POWER PLAN NOTES AND COMMUNICATIONS PATHWAYS GENERAL NOTE FOR ADDITIONAL REQUIREMENTS WHEN POWER AND/OR DATA DEVICES ARE SHOWN ON THIS PLAN.
13. ALL PENETRATIONS THROUGH FIRE RATED WALLS SHALL BE PROTECTED FROM THE SPREAD OF FIRE WITH AN APPROVED FIRESTOP SYSTEM EQUAL OR GREATER THAN THE FIRE RATING OF THE WALL.

POWER PLAN GENERAL NOTES:

1. ALL RECEPTACLES ON COMMON WALLS SHALL BE SEPARATE BOXES AND OFFSET 24-INCHES MINIMUM.
2. ALL PENETRATIONS THROUGH FIRE RATED WALLS SHALL BE PROTECTED FROM THE SPREAD OF FIRE WITH AN APPROVED FIRESTOP SYSTEM EQUAL OR GREATER THAN THE FIRE RATING OF THE WALL.
3. ALL WALL-MOUNTED DEVICE HEIGHTS SHALL BE VERIFIED WITH THE ARCHITECT PRIOR TO ROUGH-IN.
4. ALL FURNITURE FEED LOCATIONS TO BE VERIFIED WITH ARCHITECT AND FURNITURE VENDOR PRIOR TO ROUGH-IN.
5. ALL FURNITURE WHIPS SHALL BE TRIMMED TO REDUCE EXCESS WHIP LENGTH.
6. WHEN EXPOSED CEILINGS OR OPEN GRID CONDITIONS OCCUR, THE CONTRACTOR WILL NEED TO PROVIDE THE FOLLOWING ITEMS:
   a. ALL BRANCH CIRCUITS SHALL BE EMT.
   b. ALL BRANCH CIRCUITS SHALL BE ROUTED ORTHOGONALLY, NEATLY TRAINED, IN PARALLEL TO STRUCTURES OR DUCTWORK. THE TERM "TRAINED" MEANS ALL PARALLEL CONDUITS SHALL MAINTAIN THE SAME SPATIAL RELATIONSHIP WITH EACH OTHER FOR ENTIRE RUN TO INCLUDE RADIUS BENDS AND SWEEPS.
   c. VISUALLY OBJECTIONABLE BRANCH CIRCUITS WILL BE REROUTED AT THE REQUEST OF THE ARCHITECT AT NO ADDITIONAL COST.
7. EXPOSED CABLE/CONDUCTORS INSTALLED IN A PLENUM SPACE SHALL CONFORM TO NEC, OR CEC WHERE ADOPTED, ARTICLE 300.22(C).
8. PROVIDE G.F.C.I. TYPE RECEPTACLE(S) OR RECEPTACLE(S) PROTECTED BY A GFCI CIRCUIT BREAKER(S) WHEN RECEPTACLES ARE 50A OR LESS, 150V TO GROUND OR LESS AND ARE LOCATED WITHIN 6-FEET OF ANY SINK OR THERAPEUTIC TUB, LAUNDRY AREA, SERVING ANY DRINKING FOUNTAIN OR VENDING MACHINE, WITHIN ANY KITCHEN SPACE, LOCKER ROOM AREA, GARAGE AND BATHROOM SPACE AND/OR LOCATED OUTDOORS. WHERE RECEPTACLES ARE NOT READILY ACCESSIBLE, PROVIDE GFCI CIRCUIT BREAKER(S) TO PROTECT THE RESPECTIVE BRANCH CIRCUIT AND PROVIDE ADDITIONAL NEUTRAL CONDUCTORS IN THE BRANCH CIRCUITING AS REQUIRED TO ENSURE PROPER GFCI FUNCTION.
9. PROVIDE OCCUPANCY SENSOR/LIGHTING CONTROL SYSTEM CONTROLLED RECEPTACLE RELAY(S) AS REQUIRED TO SWITCH CONTROLLED RECEPTACLES. CONNECT BRANCH CIRCUITRY AND CONTROL WIRING AS REQUIRED TO ALLOW OCCUPANCY SENSOR/LIGHTING CONTROL SYSTEM RELAY TO SWITCH STANDALONE AND/OR SYSTEMS FURNITURE CONTROLLED RECEPTACLES AS INDICATED ON PLANS. PROVIDE ADDITIONAL CONDUIT, WIRING AND PATHWAYS NECESSARY TO CONNECT BRANCH CIRCUITRY AND CONTROL WIRING TO REMOTE RELAYS TO INCLUDE RELAY(S) LOCATED ON ALTERNATE FLOORS, IN ELECTRICAL ROOMS, ETC.
10. PROVIDE ADDITIONAL J-BOX NEAR PANEL FOR MULTIPLE HOMERUN CIRCUITRY.
11. UNLESS SPECIFICALLY SHOWN AS (E), (R), (ER), (D), EXISTING OR NON-BOLD, ALL ELECTRICAL DEVICES SHOWN ARE NEW.

PLAN NOTES:

1. PROVIDE CONNECTION FOR MOTORIZED PROJECTOR SCREEN.
2. PROVIDE (1) DEDICATED 120V/20A DUPLEX POWER OUTLET FOR WALL MOUNTED AV ULTRA-SHORT-THROW PROJECTOR. VERIFY LOCATION AND MOUNTING HEIGHT WITH ARCHITECT PRIOR TO ROUGH-IN.
3. PROVIDE DEDICATED OUTLET IN CEILING FOR FUTURE APPLE TV. VERIFY LOCATION WITH ARCHITECT PRIOR TO ROUGH-IN.
4. CONTRACTOR TO DEMOLISH EXISTING LIGHTING AND ALL ASSOCIATED CONDUIT/DEVICES.
5. CONTRACTOR TO DEMOLISH EXISTING FIRE ALARM SYSTEM AND ALL ASSOCIATED CONDUIT/DEVICES.
6. CONTRACTOR TO PROTECT IN PLACE EXISTING POWER. EXISTING ASSOCIATED CONCEALED CONDUIT AND WIRING TO REMAIN. EXISTING ASSOCIATED EXPOSED CONDUIT TO BE DISCONNECTED AND REMOVED. PROVIDE NEW CONDUIT AND WIRING CONCEALED IN WALL.
7. BACKFEED EXISTING PANEL FROM NEW PANEL MA1. SEE SINGLE LINE DIAGRAM FOR MORE INFORMATION.
8. EXISTING FIRE ALARM PS, SECURITY CABINET, PA SYSTEM CABINET, AND IDF CABINET TO BE RELOCATED WITHIN THIS ROOM.
9. REFER TO MOTORIZED EQUIPMENT SCHEDULE ON SHEET E13-1 FOR MOTOR FEEDER/ BRANCH CIRCUIT INFORMATION.
10. PROVIDE 3/4" C.O.(S) TO RESPECTIVE CONTROL DEVICE(S) FOR CONTROL WIRING. REFER TO THE EQUIPMENT CONTROL WIRING DIAGRAMS FOR ADDITIONAL INFORMATION.

NOTES:
- GENERAL CONTRACTOR TO REMOVE ALL SURFACE MOUNTED WIRING AND REPLACE WITH CONDUITS.
- ALL EXISTING EXPOSED CONDUIT AND WIRING TO BE CONCEALED.

GENERAL DEMOLITION NOTES:

1. THE ELECTRICAL DRAWINGS ARE DIAGRAMMATIC ONLY. DO NOT SCALE THE ELECTRICAL DRAWINGS TO DETERMINE THE LOCATION OF EQUIPMENT OR OUTLETS. SEE ARCHITECTURAL PLANS, WHERE PROVIDED ON PROJECT, FOR EXTENT OF DEMOLITION.
2. THE EXISTING CONDITIONS SHOWN ARE FROM AVAILABLE RECORD DRAWINGS AND SHOWN FOR REFERENCE ONLY. CONTRACTOR SHALL VERIFY ACTUAL EXISTING CONDITIONS AT SITE PRIOR TO SUBMITTING BID. ALL DEMOLITION, ALTERATION, EXTENSION, RELOCATION, REHABILITATION WORK SHALL BE INCLUDED IN CONTRACT. NO ADDITIONAL ALLOWANCE OR CHANGE ORDERS WILL BE ACCEPTED.
3. CONTRACTOR IS RESPONSIBLE TO RELOCATE OR REMOVE FROM WALLS, CEILINGS, FLOOR SPACES, ETC. ANY EXISTING CONDUITS, WIRES, BOXES, FITTINGS, FIXTURES OR OTHER ELECTRICAL EQUIPMENT WHICH INTERFERES WITH PLANNED REMODEL WORK. PROVIDE CIRCUIT CONTINUATION REQUIRED FOR ALL EXISTING OUTLETS, FIXTURES, EQUIPMENT, ETC. SCHEDULED TO REMAIN.
4. NOTIFY THE ENGINEER IMMEDIATELY WHEREVER EXISTING EQUIPMENT IS ENCOUNTERED WHICH MUST BE RELOCATED DUE TO THE NEW CONSTRUCTION, OR NOT INDICATED ON "AS-BUILT" DRAWINGS OR WAS BURIED UNDERGROUND OR EMBEDDED IN STRUCTURE WALLS.
5. CAREFULLY PROTECT ALL WALLS, TRIM, FLOORS, EQUIPMENT, UTILITY LINES AND MATERIALS. WHEN WORKING ON FINISHED SURFACES, LIMIT DAMAGE TO THE SMALLER AREA IF POSSIBLE AND RESTORE TO THE ORIGINAL CONDITION ALL SURFACES WHICH ARE DAMAGED BECAUSE OF THE INSTALLATION OF THIS WORK.
6. EQUIPMENT, MATERIALS AND SUPPLIES TEMPORARILY REMOVED FOR PROTECTION SHALL BE REPLACED IN ORIGINAL LOCATIONS. ANY MATERIALS DAMAGED SHALL BE REPLACED WITH NEW MATERIALS OF LIKE KIND AND QUALITY.
7. DEMOLITION WORK SHALL BE DONE IN A MANNER WHICH WILL NOT CAUSE UNNECESSARY INCONVENIENCE OR DANGER TO USERS OF THE PREMISES AND ADJACENT SITE, AND NOT INTERFERE WITH ITS OPERATION. ANY DEMOLITION WORK TO BE PERFORMED MUST BE PLANNED IN ADVANCE.
8. DO ALL DRILLING, CUTTING, ETC. REQUIRED TO DEMOLISH ELECTRICAL WORK AS INDICATED OR PROVIDE BLANK COVER PLATE ON ALL OUTLETS EXPOSED BY REMOVAL OF FIXTURE OR DEVICES.
9. RESEAL ALL PENETRATIONS OR OPENING THROUGH WALLS, CEILING, FLOORS, ETC., TO MAINTAIN THE RATING OF STRUCTURE.
10. ALL REMOVED MATERIALS AND EQUIPMENT WHICH IS SALVAGED MATERIALS SHALL REMAIN IN 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 DAMAGED. DISPOSE OF ALL HAZARDOUS MATERIAL PER GUIDELINE OF THE STATE OF CALIFORNIA, DEPARTMENT OF HEALTH SERVICES AND OTHER AGENCIES HAVING JURISDICTION.
11. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDUIT/WIRING RUNS, REUSE AS REQUIRE AND REMOVED ALL UNUSED CONDUIT/WIRING. UNUSED CONDUIT IN INACCESSIBLE LOCATIONS (WALLS TO REMAIN) CAN BE ABANDONED IN PLACE. REMOVE UNUSED WIRING.
12. CONTRACTOR TO VERIFY CIRCUIT NUMBER AND LOADS FOR ALL EXISTING EQUIPMENT PRIOR TO INSTALLATION OF NEW OR RELOCATED ELECTRICAL EQUIPMENT. REASSIGN CIRCUITS AND LOADS ACCORDINGLY. PROVIDE COMPLETE "AS BUILT" DRAWINGS AND TYPEWRITTEN DIRECTORIES FOR PANELS.
13. WHERE NECESSARY TO SHUT OFF UTILITY SERVICES OR CAUSE INTERRUPTION TO POWER OR SIGNAL SYSTEMS WHILE A BUILDING IS OCCUPIED OR THAT EFFECT ADJACENT BUILDINGS, SCHEDULE OUTAGES OR INTERRUPTIONS WITH THE OWNER, BUILDING OCCUPANTS AND/OR ADJACENT BUILDING OWNER(S) AND OCCUPANTS PRIOR TO CONDUCTING OUTAGE(S) OR INTERRUPTIONS.
14. REFER TO ARCHITECTURAL DEMOLITION DRAWING FOR DEMOLITION AREAS. THE SCOPE OF THE DEMOLITION SHALL INCLUDE ALL LABOR, EXISTING ELECTRICAL EQUIPMENT. VERIFY EXACT SCOPE PRIOR TO COMMENCING WORK. REFER TO DEMO PLAN FOR SPECIFIC AREAS NOT IN SCOPE THE SCOPE INCLUDES, BUT IS NOT LIMITED TO THE FOLLOWING:
    A. LIGHTING: CONTRACTOR TO DEMOLISH ALL EXISTING LIGHTING FIXTURES AND ASSOCIATED CONTROLS, U.O.N.
    B. POWER: EXISTING POWER SHALL REMAIN, U.O.N.
    C. ALL EXISTING ELECTRICAL SWITCHGEAR, PANELBOARDS, PULLBOXES, ETC. SHALL REMAIN, U.O.N.
    D. SIGNAL: CONTRACTOR TO DEMOLISH ALL EXISTING SIGNAL SYSTEMS (CLOCKS, DATA OUTLETS, TELEPHONE OUTLETS, TELEVISION OUTLETS, SPEAKERS, ETC.)
    E. FIRE ALARM: CONTRACTOR TO DEMOLISH ALL EXISTING FIRE ALARM DEVICES, U.O.N.
    F. EXTERIOR LIGHTING: CONTRACTOR SHALL DEMOLISH ALL EXISTING EXTERIOR LIGHTING FIXTURES AND ASSOCIATED CONTROLS, U.O.N.
    G. EXTERIOR POWER, SIGNAL AND FIRE ALARM: CONTRACTOR SHALL DEMOLISH ALL EXISTING EXTERIOR POWER, SIGNAL AND FIRE ALARM DEVICES, U.O.N.
15. WHERE NEW PARTITIONS OR OTHER CONSTRUCTION WILL COVER EXISTING, REMAINING OUTLETS MAKING THEM INACCESSIBLE, RELOCATE THESE OUTLETS AS REQUIRED, OR MAKE OTHER PROVISIONS SO THAT THE OUTLETS WILL REMAIN ACCESSIBLE AND OPERATIONAL.
16. WHERE EXISTING WALLS AND CEILINGS ARE TO REMAIN, PROVIDE BLANK COVER PLATES FOR OUTLETS WHERE EQUIPMENT OR DEVICES ARE REMOVED UNDER THIS CONTRACT. PRIME BLANK PLATES AND PAINT TO MATCH SURROUNDING AREA.
17. WHERE FIXTURES, EQUIPMENT, DEVICES, ETC. ARE SPECIFIED BY THE CONTRACT DOCUMENTS FOR REMOVAL, THE CONTRACTOR SHALL REMOVE ALL CIRCUIT CONDUCTORS/CABLING BACK TO THE NEAREST REMAINING JUNCTION BOX AND/OR POINT OF TERMINATION.
18. RELOCATE EXISTING CONDUITS AND/OR CONDUCTORS/CABLING ROUTING THROUGH AREAS WHERE NEW/REMOVED WALLS ARE SPECIFIED.
19. RELOCATION AND/OR REMOVAL OF EXISTING EQUIPMENT, DEVICES, OUTLETS BOXES, CONDUIT, WIRING, ETC. MAY AFFECT THE OPERATION OF EXISTING, REMAINING ELECTRICAL EQUIPMENT/DEVICES. THE CONTRACTOR SHALL PROVIDE ADDITIONAL MATERIALS AS REQUIRED TO MAINTAIN AND/OR RESTORE CONTINUITY OF SERVICES TO EXISTING REMAINING ELECTRICAL/DEVICES.
20. DISCONNECT ABANDONED CIRCUITS AT EXISTING PANEL BOARDS AND REMOVE WIRE TO LAST REMAINING DEVICES. LABEL ALL ABANDONED CIRCUIT BREAKERS "SPARE".

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-121181 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 07/02/2024

OWNER: SAN RAFAEL CITY SCHOOLS

PROJECT NAME: VENETIA VALLEY BLDGS G AND H ALTERATION

CLIENT ADDRESS: 177 N San Pedro Rd, San Rafael, CA 94903

REGISTERED PROFESSIONAL ENGINEER
RAYMOND W. SWEET
No. E15610
12/31/2025
ELECTRICAL
STATE OF CALIFORNIA

REVISIONS:

	DESCRIPTION	DATE
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12		

PROJECT NO:

DATE ISSUED: 06/21/2024

SCALE: As indicated

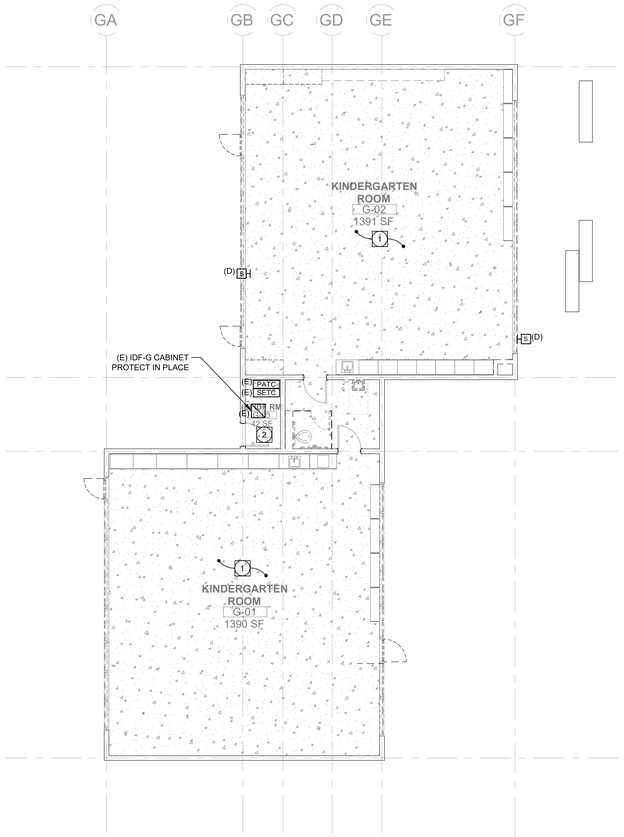
SHEET NUMBER: E11-2

SHEET TITLE:

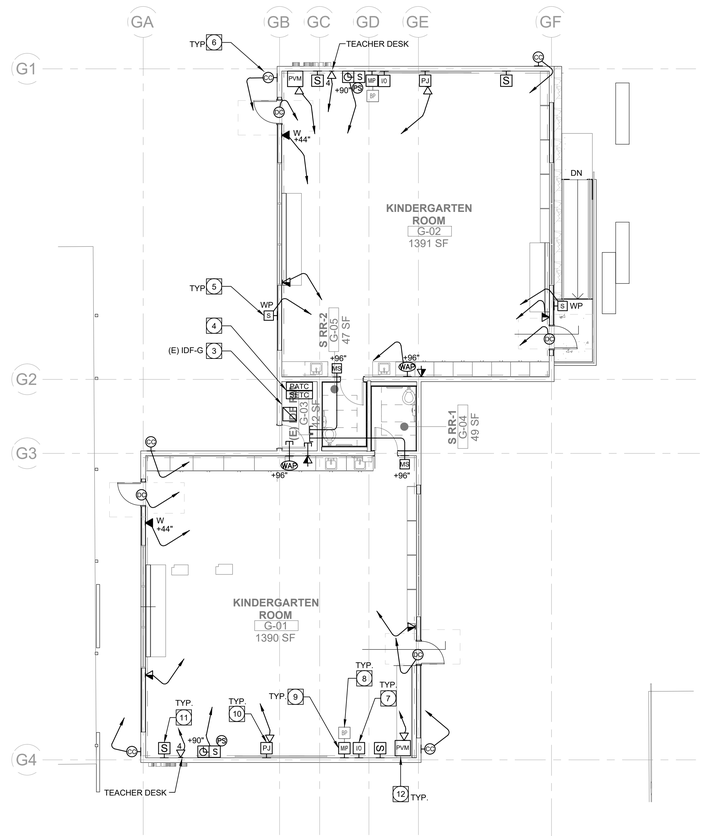
BLDG H -FLOOR PLANS

tk1sc COLLABORATIVE
11870 Pierce Street, Suite 160
Riverside, California 92505
951.299.4160 www.tk1sc.com

Project Leader - Nikolas Bruno
Electrical Lead - Nikolas Bruno
tk1sc Job #: B2304502.000



BUILDING G - DEMO FLOOR PLAN | 1/8" = 1'-0" | 1



BUILDING G - IMPROVEMENT FLOOR PLAN | 1/8" = 1'-0" | 2

TELECOMMUNICATIONS PATHWAYS AND GENERAL NOTES:

1. CONDUITS SHALL BE CONCEALED INSIDE OF WALLS, AND (a) CONTAIN NO CONTINUOUS SECTIONS LONGER THAN 30M (98 FT.), AND (b) CONTAIN NO MORE THAN (2) 90° BENDS OR (1) REVERSE BEND WITHOUT INSTALLING A PULL BOX. SPLIT CONDUITS IN PLACE OF PULL BOXES ARE UNACCEPTABLE.
2. CONDUITS SHALL CONTAIN PLASTIC OR NYLON PULL TAPE RATED AT 200 LBS. WITH A MINIMUM OF 5 FEET OF EXTRA PULL TAPE COILED AT EACH END.
3. CONDUIT BEND RADIUS SHALL BE (a) A MINIMUM OF 6 TIMES THE INTERNAL CONDUIT DIAMETER FOR CONDUITS 2–INCHES IN DIAMETER OR LESS, AND (b) 10 TIMES THE INTERNAL CONDUIT DIAMETER FOR CONDUITS MORE THAN 2–INCHES IN DIAMETER.
4. TERMINATE CONDUIT STUBS AND SLEEVES THAT PROTRUDE THROUGH STRUCTURAL FLOORS 2–INCHEST TO 3–INCHES ABOVE THE FLOOR SURFACE.
5. INSTALL BUSHINGS OR BELL ENDS AS REQUIRED ON ALL CONDUITS.
6. FLEX CONDUIT IS UNACCEPTABLE FOR USE AS A COMMUNICATIONS CONDUIT EXCEPT AT SEISMIC JOINTS AND/OR IF APPROVED IN WRITING BY THE ENGINEER.
7. ALL UNDER SLAB OR IN–SLAB CONDUITS SHALL BE INSTALLED IN A MANNER THAT PREVENTS WATER INFILTRATION OF THE CONDUIT. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE GROUND WATER, RAIN WATER OR CONSTRUCTION WATER IS PREVENTED FROM ENTERING AND/OR REMOVED FROM THE CONDUITS PRIOR TO PLACEMENT OF COMMUNICATIONS CABLES. SEE ELECTRICAL SPECIFICATIONS, DETAILS AND PLANS FOR ADDITIONAL CONDUIT SEALING REQUIREMENTS.
8. WHERE OPEN CEILINGS OCCUR CONDUCTORS SHALL BE INSTALLED INSIDE SURFACE MOUNTED RACEWAY. PROVIDE ALL SURFACE MOUNTED RACEWAY, CONDUITS AND CONDUIT SLEEVES WHETHER OR NOT SHOWN ON THE PLAN DRAWINGS. THIS APPLIES TO ALL LOW VOLTAGE AND SIGNAL SYSTEMS CONDUCTORS INCLUDING DATA, TELEPHONE, SECURITY, PUBLIC ADDRESS, CLOCKS, AUDIO VISUAL, SURVEILLANCE CAMERAS, FIRE ALARM, BMS/EMS, ETCETERA. PAINT ALL EXPOSED SURFACE MOUNTED RACEWAY TO MATCH SURROUNDING SURFACES. REFER TO ARCHITECTURAL NOTES FOR MORE INFORMATION.
9. WHERE INACCESSIBLE CEILINGS OCCUR CONDUCTORS SHALL BE INSTALLED INSIDE CONTINUOUS CONDUIT RACEWAY. PROVIDE ALL CONDUITS AND CONDUIT SLEEVES WHETHER OR NOT SHOWN ON THE PLAN DRAWINGS. THIS APPLIES TO ALL LOW VOLTAGE AND SIGNAL SYSTEMS CONDUCTORS INCLUDING DATA, TELEPHONE, SECURITY, PUBLIC ADDRESS, CLOCKS, AUDIO VISUAL, CATV, SURVEILLANCE CAMERAS, FIRE ALARM, BMS/EMS, ETCETERA.
10. PROVIDE ANY AND ALL CONDUIT SLEEVES AS MAY BE REQUIRED WHENEVER LOW VOLTAGE CONDUCTORS PASS THROUGH AN INTERIOR OR EXTERIOR WALL, FLOOR, OR ANY STRUCTURAL ASSEMBLY. PROPERLY FIRE STOP ALL PENETRATIONS THROUGH FIRE RATED ASSEMBLIES PER THE NEC AND ELECTRICAL SPECIFICATIONS.
11. PROVIDE SOUND STOP MATERIAL FOR ALL CONDUIT PENETRATIONS IN SOUND RATED WALL ASSEMBLIES.
12. ALL PULL BOXES SHALL BE SIZED AND INSTALLED PER ANSI–TIA–569–C. PULL BOXES FOR IN/UNDER SLAB CONDUIT RUNS ARE NOT PERMITTED UNLESS OTHERWISE NOTED. PULL BOXES FOR OVERHEAD CONDUIT RUNS SHALL BE LOCATED ABOVE ACCESSIBLE CEILINGS WITHIN THE ACCESSIBLE CEILING SPACE AND SUPPORTED INDEPENDENTLY FROM THE STRUCTURE AND CONDUIT SUPPORTS. PULL BOXES FOR ROOF MOUNTED OR EXTERIOR ABOVE GRADE APPLICATIONS SHALL BE NEMA 3R RATED. PULL BOXES SHALL BE SIZED ACCORDING TO THE FOLLOWING:

CONDUIT SIZE	WIDTH	LENGTH	DEPTH	WIDTH INCREASE PER ADDITIONAL CONDUIT
1"	4"	16"	3"	2"
2"	8"	36"	4"	5"
3"	12"	48"	5"	6"
4"	15"	60"	8"	8"

FOR OTHER CONDUIT SIZES REFER TO ANSI/TIA–569–C TABLE 12. – LATEST PUBLISHED EDITION.

13. CONDUIT(S) SHALL EXIT A PULL BOX ON THE WALL OPPOSITE THE WALL ENTERED.
14. ALL PULL BOXES INSTALLED ON TOP OF ROOFS OR ATTACHED TO CANOPIES SHALL BE RATED NEMA–3R OR NEMA–4. PROVIDE QUANTITY AND SIZE OF PULL BOXES AS REQUIRED TO COMPLY WITH THESE GENERAL PATHWAY NOTES. PAINT BOXES TO MATCH SURROUNDING SURFACES.
15. ALL CONDUITS INSTALLED ON EXTERIOR OF BUILDINGS AND CANOPIES SHALL BE GALVANIZED. PAINT ALL CONDUITS TO MATCH SURROUNDING SURFACES.
16. PROVIDE LABELING OF EACH CONDUIT PER GENERAL ELECTRICAL SPECIFICATIONS.
17. PROVIDE INTERNAL/EXTERNAL GAS AND WATER TIGHT MECHANICAL SEALING/PLUGGING OF EACH UNDERGROUND BUILDING ENTRY CONDUIT AS SPECIFIED ELSEWHERE IN THE DRAWINGS AND SPECIFICATIONS.
18. ALL CONDUITS AND RACEWAYS EXPOSED TO VIEW (E.G.: OPEN CEILING SPACES) SHALL BE PAINTED TO MATCH SURROUNDING SURFACES. CONDUITS / RACEWAYS INSTALLED ABOVE HARD CEILINGS OR INACCESSIBLE CEILINGS ARE EXEMPT FROM PAINTING.
19. REFER TO ARCHITECTURAL NOTES AND SHEETS FOR ADDITIONAL CONDUIT AND PATHWAY INFORMATION.
19. ELECTRICAL CONTRACTOR SHALL REFERENCE ALL E–SERIES, T–SERIES AND AV–SERIES SHEETS FOR ADDITIONAL CONDUIT REQUIREMENTS.
20. (E) = EXISTING TO REMAIN, (ER) = EXISTING DEVICE TO BE RELOCATED, (R) = RELOCATED DEVICE LOCATION

GENERAL DEMOLITION NOTES:

1. REFER TO SHEET E11.1 FOR ALL GENERAL DEMOLITION NOTES.
2. REFER TO ARCHITECTURAL DEMOLITION DRAWING FOR DEMOLITION AREAS. THE SCOPE OF THE DEMOLITION SHALL INCLUDE ALL LABOR, EXISTING SIGNAL EQUIPMENT U.O.N. VERIFY EXACT SCOPE PRIOR TO COMMENCING WORK. REFER TO DEMO PLAN FOR SPECIFIC AREAS NOT IN SCOPE. THE SCOPE INCLUDES, BUT IS NOT LIMITED TO ALL EXISTING SIGNAL SYSTEMS (CLOCKS, DATA OUTLETS, TELEPHONE OUTLETS, TELEVISION OUTLETS, SPEAKERS, CLOCKS, SECURITY MOTION DETECTORS, ETC.). EXISTING IDF ROOM WITH DATA RACK, AND SIGNAL SYSTEMS TERMINATION EQUIPMENT TO REMAIN – PROTECT IN PLACE.

PLAN NOTES:

1. CONTRACTOR TO DEMOLISH EXISTING SIGNAL SYSTEMS (DATA, PHONE, SPEAKERS, CLOCKS, INTRUSION ALARM MOTION SENSORS, ETC.) AND ALL ASSOCIATED CONDUIT AND DEVICES.
2. EXISTING SIGNAL SYSTEMS EQUIPMENT (DATA RACK, PA SYSTEM TERMINAL CABINET, SECURITY TERMINAL CABINET, POWER SUPPLIES, ETC.) AND ALL ASSOCIATED CONDUIT / DEVICES IN THIS ROOM TO REMAIN - PROTECT IN PLACE.
3. REMOVE ALL EXISTING PATCH PANELS IN EXISTING IDF RACK AND PROVIDE NEW PATCH PANELS IN QUANTITY AS REQUIRED TO TERMINATE ALL CABLES. REFER TO SPECIFICATIONS FOR MORE INFORMATION.
4. MODIFY EXISTING PA TERMINAL CABINET AND SECURITY TERMINAL CABINET/POWER SUPPLY AS REQUIRED TO ACCOMMODATE THE NEW DEVICES. PROVIDE ALL COMPONENTS AS REQUIRED FOR A COMPLETE AND FULLY FUNCTIONAL SYSTEM. REFER TO SPECIFICATIONS FOR MORE INFORMATION.
5. MOUNT PA SPEAKER LEVEL WITH ADJACENT FIRE ALARM DEVICES ON THIS WALL, WITH CONCEALED CONDUIT AND CONDUCTORS TO IDF ROOM.
6. MOUNT WEATHERPROOF BOX HIGH ON WALL WITH CONCEALED CONDUIT-ONLY TO IDF ROOM. FOR FUTURE SURVEILLANCE CAMERA. COORDINATE FINAL MOUNTING HEIGHT IN FIELD PRIOR TO ROUGH-IN.
7. WALL MOUNTED OUTPUT PANEL. PROVIDE 1-GANG DEEP J-BOX. PROVIDE 3/4" C. TO AV HEADEND IN ROOM. MOUNT +18" AFF. PROVIDE SIGNAL CABLE TO AV RACK FOR SUPPORT AND ALS OUTPUT.
8. WALL MOUNTED AV CONTROL PANEL. PROVIDE 3 GANG DEEP J-BOX. PROVIDE CONCEALED 3/4" C. TO AV RACK. MOUNT +44" AFF.
9. WALL MOUNTED AV INPUT PANEL. PROVIDE 2 GANG DEEP J-BOX. PROVIDE CONCEALED 3/4" C. TO AV RACK. MOUNT +18" AFF.
10. WALL MOUNTED AV ULTRA-SHORT-THROW PROJECTOR. PROVIDE 2 GANG DEEP J-BOX NEAR OR BEHIND PROJECTOR HOUSING AND 1-GANG DEEP J-BOX WITH 3/4"C AND DATA DROP TO IDF RACK. PROVIDE CONCEALED 3/4" C. TO AV RACK. MOUNT AT HEIGHT RECOMMENDED BY MANUFACTURER FOR CONDITION. MOUNT ACCORDING TO MANUFACTURERS RECOMMENDATIONS. PROVIDE (1) 120V/20 DUPLEX POWER OUTLET NEAR OR BEHIND PROJECTOR MOUNT HOUSING.
11. WALL MOUNTED AV SPEAKER. PROVIDE CONCEALED 3/4" C. TO AV RACK. MOUNT +84" AFF. MOUNT SPEAKERS FOR EVEN COVERAGE ACROSS SEATING AREA. SEE SHEET E-60-2.
12. WALL MOUNTED AV RACK. MOUNT +84" AFF. PROVIDE (1) 120V/20 DUPLEX POWER OUTLET, AND 1-GANG DEEP J-BOX WITH 3/4"C AND DATA DROP TO IDF RACK. SEE MANUFACTURERS RECOMMENDATIONS FOR MOUNTING.

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-121181 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 07/02/2024

OWNER: SAN RAFAEL CITY SCHOOLS

PROJECT NAME: VENETIA VALLEY BLDGS G AND H ALTERATION

CLIENT ADDRESS: 177 N San Pedro Rd, San Rafael, CA 94903

REGISTERED PROFESSIONAL ENGINEER RAYMOND W. SPROTT No. E15610 12/31/2025 ELECTRICAL STATE OF CALIFORNIA

REVISIONS:

	DESCRIPTION	DATE
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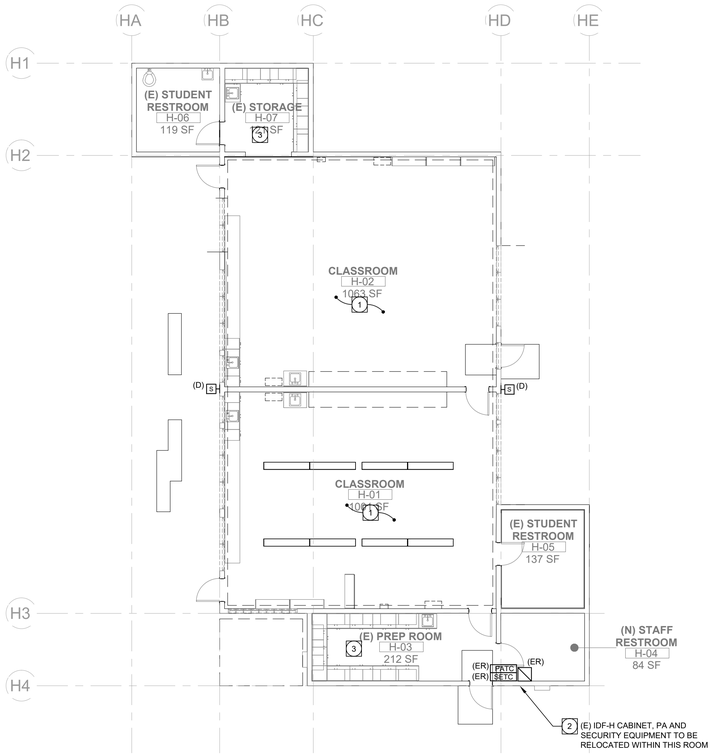
PROJECT NO:
DATE ISSUED: 06/21/2024
SCALE: As indicated

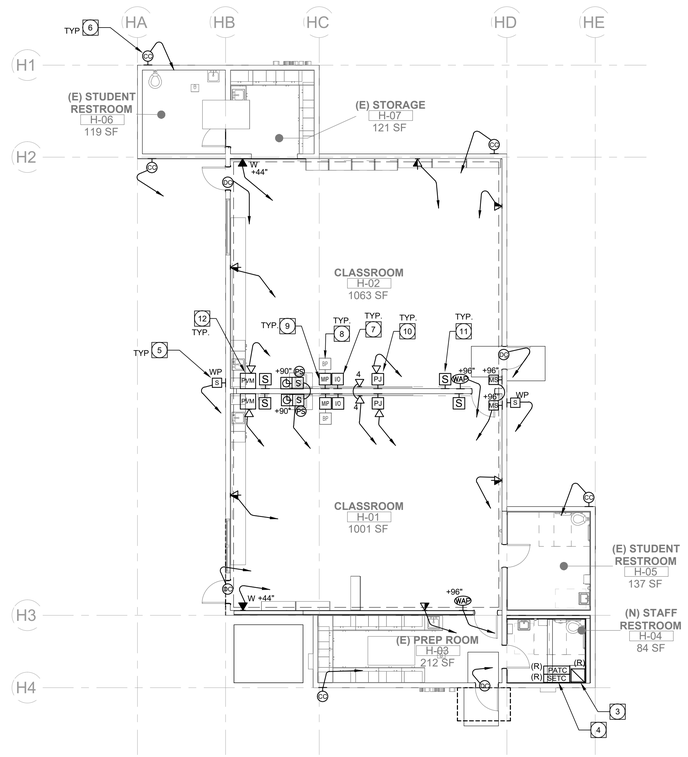
SHEET NUMBER: E12-1
SHEET TITLE:

ENLARGED TECHNOLOGY PLAN - BLDG G

tk1sc COLLABORATIVE
11870 Pierce Street, Suite 160
Riverside, California 92505
951.299.4160 www.tk1sc.com
Project Leader - Nikolas Bruno
Technology Lead - Joe Marotta
tk1sc Job #: B2304502.000



BUILDING H - DEMO FLOOR PLAN | 1/8" = 1'-0" | **1**



BUILDING H - IMPROVEMENT FLOOR PLAN | 1/8" = 1'-0" | **2**

TELECOMMUNICATIONS PATHWAYS AND GENERAL NOTES:

1. CONDUITS SHALL BE CONCEALED INSIDE OF WALLS, AND (a) CONTAIN NO CONTINUOUS SECTIONS LONGER THAN 30M (98 FT.), AND (b) CONTAIN NO MORE THAN (2) 90° BENDS OR (1) REVERSE BEND WITHOUT INSTALLING A PULL BOX. SPLIT CONDUITS IN PLACE OF PULL BOXES ARE UNACCEPTABLE.
2. CONDUITS SHALL CONTAIN PLASTIC OR NYLON PULL TAPE RATED AT 200 LBS. WITH A MINIMUM OF 5 FEET OF EXTRA PULL TAPE COILED AT EACH END.
3. CONDUIT BEND RADIUS SHALL BE (a) A MINIMUM OF 6 TIMES THE INTERNAL CONDUIT DIAMETER FOR CONDUITS 2–INCHES IN DIAMETER OR LESS, AND (b) 10 TIMES THE INTERNAL CONDUIT DIAMETER FOR CONDUITS MORE THAN 2–INCHES IN DIAMETER.
4. TERMINATE CONDUIT STUBS AND SLEEVES THAT PROTRUDE THROUGH STRUCTURAL FLOORS 2–INCHES TO 3–INCHES ABOVE THE FLOOR SURFACE.
5. INSTALL BUSHINGS OR BELL ENDS AS REQUIRED ON ALL CONDUITS.
6. FLEX CONDUIT IS UNACCEPTABLE FOR USE AS A COMMUNICATIONS CONDUIT EXCEPT AT SEISMIC JOINTS AND/OR IF APPROVED IN WRITING BY THE ENGINEER.
7. ALL UNDER SLAB OR IN–SLAB CONDUITS SHALL BE INSTALLED IN A MANNER THAT PREVENTS WATER INFILTRATION OF THE CONDUIT. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE GROUND WATER, RAIN WATER OR CONSTRUCTION WATER IS PREVENTED FROM ENTERING AND/OR REMOVED FROM THE CONDUITS PRIOR TO PLACEMENT OF COMMUNICATIONS CABLES. SEE ELECTRICAL SPECIFICATIONS, DETAILS AND PLANS FOR ADDITIONAL CONDUIT SEALING REQUIREMENTS.
8. WHERE OPEN CEILINGS OCCUR CONDUCTORS SHALL BE INSTALLED INSIDE SURFACE MOUNTED RACEWAY. PROVIDE ALL SURFACE MOUNTED RACEWAY, CONDUITS AND CONDUIT SLEEVES WHETHER OR NOT SHOWN ON THE PLAN DRAWINGS. THIS APPLIES TO ALL LOW VOLTAGE AND SIGNAL SYSTEMS CONDUCTORS INCLUDING DATA, TELEPHONE, SECURITY, PUBLIC ADDRESS, CLOCKS, AUDIO VISUAL, SURVEILLANCE CAMERAS, FIRE ALARM, BMS/EMS, ETCETERA. PAINT ALL EXPOSED SURFACE MOUNTED RACEWAY TO MATCH SURROUNDING SURFACES. REFER TO ARCHITECTURAL NOTES FOR MORE INFORMATION.
9. WHERE INACCESSIBLE CEILINGS OCCUR CONDUCTORS SHALL BE INSTALLED INSIDE CONTINUOUS CONDUIT RACEWAY. PROVIDE ALL CONDUITS AND CONDUIT SLEEVES WHETHER OR NOT SHOWN ON THE PLAN DRAWINGS. THIS APPLIES TO ALL LOW VOLTAGE AND SIGNAL SYSTEMS CONDUCTORS INCLUDING DATA, TELEPHONE, SECURITY, PUBLIC ADDRESS, CLOCKS, AUDIO VISUAL, CATV, SURVEILLANCE CAMERAS, FIRE ALARM, BMS/EMS, ETCETERA.
10. PROVIDE ANY AND ALL CONDUIT SLEEVES AS MAY BE REQUIRED WHENEVER LOW VOLTAGE CONDUCTORS PASS THROUGH AN INTERIOR OR EXTERIOR WALL, FLOOR, OR ANY STRUCTURAL ASSEMBLY. PROPERLY FIRE STOP ALL PENETRATIONS THROUGH FIRE RATED ASSEMBLIES PER THE NEC AND ELECTRICAL SPECIFICATIONS.
11. PROVIDE SOUND STOP MATERIAL FOR ALL CONDUIT PENETRATIONS IN SOUND RATED WALL ASSEMBLIES.
12. ALL PULL BOXES SHALL BE SIZED AND INSTALLED PER ANSI–TIA–569–C. PULL BOXES FOR IN/UNDER SLAB CONDUIT RUNS ARE NOT PERMITTED UNLESS OTHERWISE NOTED. PULL BOXES FOR OVERHEAD CONDUIT RUNS SHALL BE LOCATED ABOVE ACCESSIBLE CEILINGS WITHIN THE ACCESSIBLE CEILING SPACE AND SUPPORTED INDEPENDENTLY FROM THE STRUCTURE AND CONDUIT SUPPORTS. PULL BOXES FOR ROOF MOUNTED OR EXTERIOR ABOVE GRADE APPLICATIONS SHALL BE NEMA 3R RATED. PULL BOXES SHALL BE SIZED ACCORDING TO THE FOLLOWING:

CONDUIT SIZE	WIDTH	LENGTH	DEPTH	WIDTH INCREASE PER ADDITIONAL CONDUIT
1"	4"	16"	3"	2"
2"	8"	36"	4"	5"
3"	12"	48"	5"	6"
4"	15"	60"	8"	8"

FOR OTHER CONDUIT SIZES REFER TO ANSI/TIA–569–C TABLE 12. – LATEST PUBLISHED EDITION.

13. CONDUIT(S) SHALL EXIT A PULL BOX ON THE WALL OPPOSITE THE WALL ENTERED.
14. ALL PULL BOXES INSTALLED ON TOP OF ROOFS OR ATTACHED TO CANOPIES SHALL BE RATED NEMA–3R OR NEMA–4. PROVIDE QUANTITY AND SIZE OF PULL BOXES AS REQUIRED TO COMPLY WITH THESE GENERAL PATHWAY NOTES. PAINT BOXES TO MATCH SURROUNDING SURFACES.
15. ALL CONDUITS INSTALLED ON EXTERIOR OF BUILDINGS AND CANOPIES SHALL BE GALVANIZED, PAINT ALL CONDUITS TO MATCH SURROUNDING SURFACES.
16. PROVIDE LABELING OF EACH CONDUIT PER GENERAL ELECTRICAL SPECIFICATIONS.
17. PROVIDE INTERNAL/EXTERNAL GAS AND WATER TIGHT MECHANICAL SEALING/PLUGGING OF EACH UNDERGROUND BUILDING ENTRY CONDUIT AS SPECIFIED ELSEWHERE IN THE DRAWINGS AND SPECIFICATIONS.
18. ALL CONDUITS AND RACEWAYS EXPOSED TO VIEW (E.G.: OPEN CEILING SPACES) SHALL BE PAINTED TO MATCH SURROUNDING SURFACES. CONDUITS / RACEWAYS INSTALLED ABOVE HARD CEILINGS OR INACCESSIBLE CEILINGS ARE EXEMPT FROM PAINTING.
19. REFER TO ARCHITECTURAL NOTES AND SHEETS FOR ADDITIONAL CONDUIT AND PATHWAY INFORMATION.
19. ELECTRICAL CONTRACTOR SHALL REFERENCE ALL E–SERIES, T–SERIES AND AV–SERIES SHEETS FOR ADDITIONAL CONDUIT REQUIREMENTS.
20. (E) = EXISTING TO REMAIN, (ER) = EXISTING DEVICE TO BE RELOCATED, (R) = RELOCATED DEVICE LOCATION

GENERAL DEMOLITION NOTES:

1. REFER TO SHEET E11.1 FOR ALL GENERAL DEMOLITION NOTES.
2. REFER TO ARCHITECTURAL DEMOLITION DRAWING FOR DEMOLITION AREAS. THE SCOPE OF THE DEMOLITION SHALL INCLUDE ALL LABOR, EXISTING SIGNAL EQUIPMENT U.O.N. VERIFY EXACT SCOPE PRIOR TO COMMENCING WORK. REFER TO DEMO PLAN FOR SPECIFIC AREAS NOT IN SCOPE. THE SCOPE INCLUDES, BUT IS NOT LIMITED TO ALL EXISTING SIGNAL SYSTEMS (CLOCKS, DATA OUTLETS, TELEPHONE OUTLETS, TELEVISION OUTLETS, SPEAKERS, CLOCKS, SECURITY MOTION DETECTORS, ETC.). EXISTING IDF ROOM WITH DATA RACK, AND SIGNAL SYSTEMS TERMINATION EQUIPMENT TO REMAIN – PROTECT IN PLACE.

PLAN NOTES:

1. CONTRACTOR TO DEMOLISH EXISTING SIGNAL SYSTEMS (DATA, PHONE, SPEAKERS, CLOCKS, INTRUSION ALARM MOTION SENSORS, ETC.) AND ALL ASSOCIATED CONDUIT AND DEVICES.
2. EXISTING SIGNAL SYSTEMS EQUIPMENT (DATA RACK, TERMINAL CABINETS, POWER SUPPLIES, ETC.) AND ALL ASSOCIATED CONDUIT/DEVICES TO BE REMOVED FROM WALL AND REINSTALLED AT THE OPPOSITE END OF THE SAME WALL. THERE IS SUFFICIENT CABLE SLACK IN THE FIBER OPTIC CABLE BACKBONE TO MOVE THE WALL MOUNT IDF CABINET WITHOUT REQUIRING NEW BACKBONE CABLE. CONTRACTOR SHALL COORDINATE CABINET REMOVAL AND REINSTALLATION WITH DISTRICT STAFF.
3. RELOCATE EXISTING WALL MOUNT IDF CABINET TO THIS LOCATION. REMOVE ALL EXISTING PATCH PANELS IN EXISTING IDF RACK AND PROVIDE NEW PATCH PANELS IN QUANTITY AS REQUIRED TO TERMINATE ALL CABLES. REFER TO SPECIFICATIONS FOR MORE INFORMATION.
4. MODIFY EXISTING PA TERMINAL CABINET AND SECURITY TERMINAL CABINET/POWER SUPPLY AS REQUIRED TO ACCOMMODATE THE NEW DEVICES. PROVIDE ALL COMPONENTS AS REQUIRED FOR A COMPLETE AND FULLY FUNCTIONAL SYSTEM. REFER TO SPECIFICATIONS FOR MORE INFORMATION.
5. MOUNT PA SPEAKER LEVEL WITH ADJACENT FIRE ALARM DEVICES ON THIS WALL, WITH CONCEALED CONDUIT AND CONDUCTORS TO IDF ROOM.
6. MOUNT WEATHERPROOF BOX HIGH ON WALL WITH CONCEALED CONDUIT-ONLY TO IDF ROOM. FOR FUTURE SURVEILLANCE CAMERA. COORDINATE FINAL MOUNTING HEIGHT IN FIELD PRIOR TO ROUGH-IN.
7. WALL MOUNTED OUTPUT PANEL. PROVIDE 1-GANG DEEP J-BOX. PROVIDE 3/4" C. TO AV HEADEND IN ROOM. MOUNT +18" AFF. PROVIDE SIGNAL CABLE TO AV RACK FOR SUPPORT AND ALS OUTPUT.
8. WALL MOUNTED AV CONTROL PANEL. PROVIDE 3 GANG DEEP J-BOX. PROVIDE CONCEALED 3/4" C. TO AV RACK. MOUNT +44" AFF.
9. WALL MOUNTED AV INPUT PANEL. PROVIDE 2 GANG DEEP J-BOX. PROVIDE CONCEALED 3/4" C. TO AV RACK. MOUNT +18" AFF.
10. WALL MOUNTED AV ULTRA-SHORT-THROW PROJECTOR. PROVIDE 2 GANG DEEP J-BOX NEAR OR BEHIND PROJECTOR HOUSING, AND 1-GANG DEEP J-BOX WITH 3/4"C AND DATA DROP TO IDF RACK. PROVIDE CONCEALED 3/4" C. TO AV RACK. MOUNT AT HEIGHT RECOMMENDED BY MANUFACTURER FOR CONDITION. MOUNT ACCORDING TO MANUFACTURERS RECOMMENDATIONS. PROVIDE (1) 120V/20 DUPLEX POWER OUTLET NEAR OR BEHIND PROJECTOR MOUNT HOUSING.
11. WALL MOUNTED AV SPEAKER. PROVIDE CONCEALED 3/4" C. TO AV RACK. MOUNT +84" AFF. MOUNT SPEAKERS FOR EVEN COVERAGE ACROSS SEATING AREA.
12. WALL MOUNTED AV RACK. MOUNT +84" AFF. PROVIDE (1) 120V/20 DUPLEX POWER OUTLET, AND 1-GANG DEEP J-BOX WITH 3/4"C AND DATA DROP TO IDF RACK. SEE MANUFACTURERS RECOMMENDATIONS FOR MOUNTING.

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-121181 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 07/02/2024

OWNER: SAN RAFAEL CITY SCHOOLS

PROJECT NAME: VENETIA VALLEY BLDGS G AND H ALTERATION

CLIENT ADDRESS: 177 N San Pedro Rd, San Rafael, CA 94903

REGISTERED PROFESSIONAL ENGINEER
RAYMOND W. SWEITZ
No. E15610
12/31/2025
ELECTRICAL
STATE OF CALIFORNIA

REVISIONS:

	DESCRIPTION	DATE
1		
2		
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12		

PROJECT NO:

DATE ISSUED: 06/21/2024

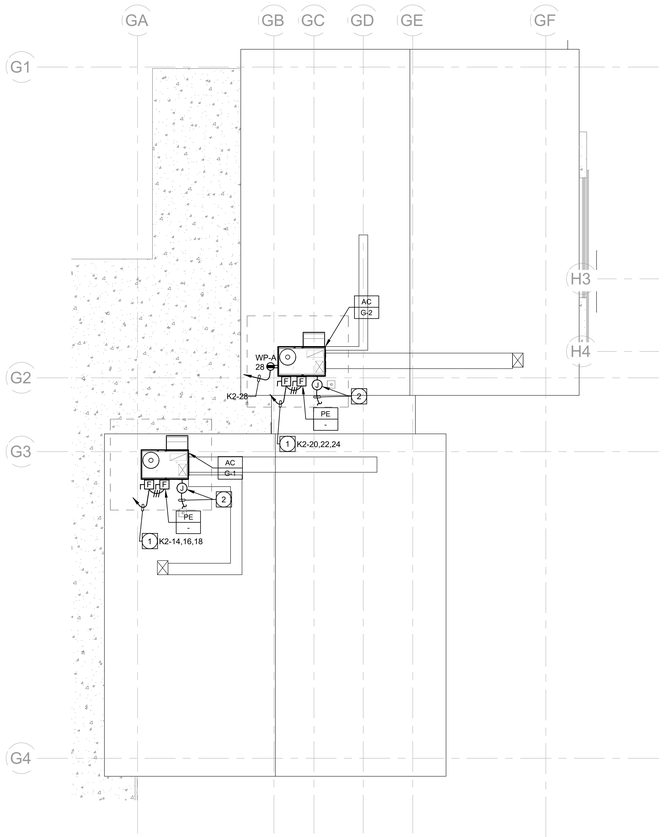
SCALE: As indicated

SHEET NUMBER: E12-2

SHEET TITLE:

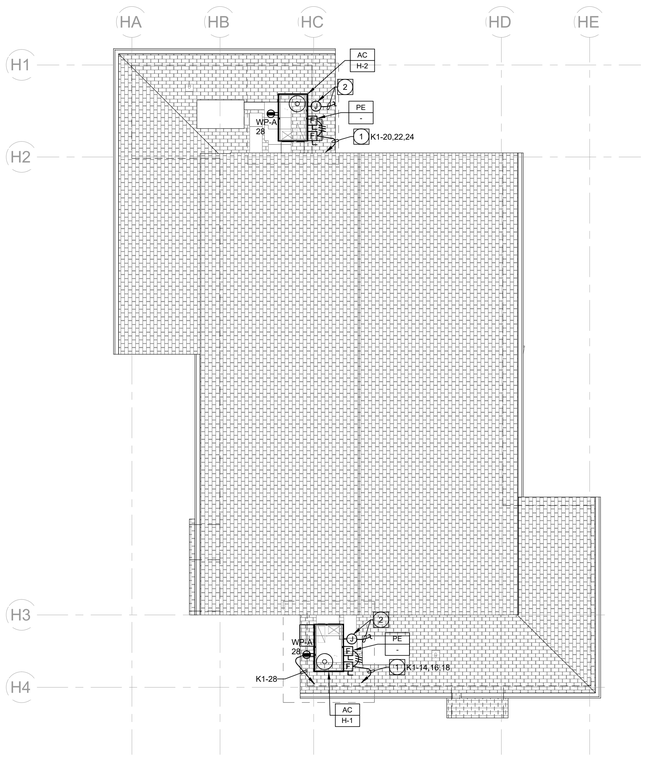
ENLARGED TECHNOLOGY PLAN - BLDG H

tk1sc COLLABORATIVE
11870 Pierce Street, Suite 160
Riverside, California 92505
951.299.4160 www.tk1sc.com
Project Leader - Nikolas Bruno
Technology Lead - Joe Marotta
tk1sc Job #: B2304502.000



ROOF PLAN - BLDG G

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



ROOF PLAN - BLDG H

1/8" = 1'-0" | 2

ROOF PLAN GENERAL NOTES:

1. ELECTRICAL CONTRACTOR SHALL REFER TO MECHANICAL/PLUMBING AND ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS AND CHARACTERISTICS OF ALL EQUIPMENT LISTED IN SCHEDULE. ANY MODIFICATIONS AND/OR ADDITIONAL WORK NECESSARY SHALL BE INCLUDED IN THE BASE BID.
2. ALL TEMPERATURE CONTROL AND INTERLOCK CONDUIT AND WIRING SHALL BE BY ELECTRICAL CONTRACTOR UNLESS OTHERWISE NOTED. SEE MECHANICAL/PLUMBING DRAWINGS FOR ALL INFORMATION.
3. ELECTRICAL CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF ALL CONNECTION POINTS WITH THE EQUIPMENT INSTALLER PRIOR TO ROUGH-IN.
4. ELECTRICAL CONTRACTOR SHALL PROVIDE LOCAL REMOTE DISCONNECTING MEANS FOR ALL ELECTRIC HEATING EQUIPMENT IF REQUIRED BY THE LOCAL ELECTRICAL CODE.
5. ELECTRICAL CONTRACTOR SHALL COORDINATE THE ROUTING OF CONDUIT/WIRING TO ROOF-MOUNTED EQUIPMENT WITH EQUIPMENT INSTALLER PRIOR TO ROUGH-IN. WHERE ROOF-MOUNTED EQUIPMENT IS MANUFACTURED TO BE FED FROM WITHIN MECHANICAL CURB ASSEMBLY - SEPARATE ROOF PENETRATIONS FOR WIRING CONNECTIONS SHALL NOT BE PERMITTED. ALL WIRING SHALL BE BELOW THE ROOF IN AN ACCESSIBLE CEILING SPACE LOCATION.
6. ALL ROOF MOUNTED EQUIPMENT SHALL BE NEMA 3R RATED.
7. UNLESS SPECIFICALLY SHOWN AS (E), (R), (ER), (D), EXISTING OR NON-BOLD, ALL ELECTRICAL DEVICES SHOWN ARE NEW.

PLAN NOTES:

1. REFER TO MOTORIZED EQUIPMENT SCHEDULE FOR MOTOR FEEDER/ BRANCH CIRCUIT INFORMATION.
2. PROVIDE 3/4" C.O.(S) TO RESPECTIVE CONTROL DEVICE(S) FOR CONTROL WIRING. REFER TO THE EQUIPMENT CONTROL WIRING DIAGRAMS FOR ADDITIONAL INFORMATION.

MOTORIZED EQUIPMENT SCHEDULE SPECIFIC NOTES:

A. FUSED AS RECOMMENDED BY MANUFACTURER.

B. MAGNETIC MOTOR STARTER WITH CONTROL TRANSFORMER, AUXILIARY CONTACTS, INDICATOR LIGHT AND H.O.A. SWITCH. VERIFY CONTROL TRANSFORMER VOLTAGE WITH M.C. PRIOR TO ORDERING MATERIAL.

C. ROUTE THROUGH LINE VOLTAGE CONTROL. SEE MECHANICAL AND/OR PLUMBING PLANS FOR ADDITIONAL REQUIREMENTS.

D. VERIFY LOCATION WITH PLUMBING PLANS PRIOR TO ROUGH-IN. CONNECT TO AQUASTAT AND TIME CLOCK AS REQUIRED.

E. REMOTE VFD. PROVIDE EARLY BREAK CONTACTS ON ANY DISCONNECT SWITCHES REQUIRED BY CODE OR SHOWN ON PLANS THAT ARE DOWNSTREAM OF THE REMOTE VFD. PROVIDE CONDUIT AND CONDUCTORS AS REQUIRED TO INTERCONNECT THE CONTACT WITH VFD "ENABLE" TERMINALS. REFER TO MECHANICAL AND/OR PLUMBING PLANS FOR LOCATION. PROVIDE FEEDER(S) TO CONNECT REMOTE VFD AND MOTOR(S) AS REQUIRED.

F. INTEGRAL VFD PROVIDED WITH EQUIPMENT. REFER TO MECHANICAL AND/OR PLUMBING PLANS FOR LOCATION. CONNECT TO VFD AS REQUIRED.

G. INTEGRAL DISCONNECT PROVIDED WITH EQUIPMENT. REFER TO MECHANICAL AND/OR PLUMBING PLANS FOR LOCATION. CONNECT TO INTEGRAL DISCONNECT AS REQUIRED.

H. INTEGRAL DISCONNECT PROVIDED WITH VFD. REFER TO MECHANICAL AND/OR PLUMBING PLANS FOR LOCATION. CONNECT TO INTEGRAL DISCONNECT AS REQUIRED.

J. ROUTE 1 PHASE CONDUCTOR OF EACH UPS ROOM/DATA ROOM EXHAUST FAN BRANCH CIRCUIT THROUGH/AROUND A DEDICATED, CURRENT-OPERATED LOAD MONITORING SWITCH THAT DETECTS OVERLOADS AND UNDERLOADS (INCLUDING FAN BELT BREAKAGE) WITHIN +/- 15 PERCENT OF AVERAGE CURRENT DRAW. LOCATE IN BARRIERED PULL BOX - NEMA 3R FOR WET LOCATIONS - AND CONNECT N.O. CONTACT TO FIRE ALARM MONITORING MODULE (SUPERVISORY SIGNAL). LOCATE PULL BOX WITH DEVICES INDOORS WHERE POSSIBLE AND ADJACENT TO THE SERVING ELECTRICAL DISTRIBUTION EQUIPMENT. PROVIDE LABEL "USPA BATTERY EX. FAN MONITOR" PER LABELING SPECIFICATIONS. (NK TECHNOLOGIES #ASM-NOU-OU-FT - www.nktechnologies.com).

K. ROUTE THROUGH LINE VOLTAGE CONTROL FOR KITCHEN HOOD FIRE SUPPRESSION SYSTEM. SEE MECHANICAL, FIRE ALARM AND FOOD SERVICE PLANS FOR ADDITIONAL REQUIREMENTS.

MOTORIZED EQUIPMENT SCHEDULE GENERAL NOTES:

1. ALL BRANCH CIRCUIT DATA IS BASED UPON METALLIC CONDUITS. IF THE CONTRACTOR ELECTS TO USE NONMETALLIC CONDUITS, AN EQUIPMENT GROUNDING CONDUCTOR SHALL BE INSTALLED PER NEC, OR CEC WHERE ADOPTED, TABLE 250.122 AND THE CONDUIT SIZE SHALL BE INCREASED ACCORDINGLY.
2. ELECTRICAL CONTRACTOR SHALL REFER TO ALL DOCUMENTS RELATED TO THE EQUIPMENT (I.E. SHOP DRAWINGS, CONSTRUCTION DOCUMENTS, ETC.) IN REGARDS TO ELECTRICAL CHARACTERISTICS OF ALL EQUIPMENT LISTED IN THE SCHEDULE. ANY MODIFICATION AND/OR ADDITIONAL WORK NECESSARY SHALL BE INCLUDED IN THE BASE BID.
3. ELECTRICAL CONTRACTOR SHALL CHECK THE ROTATION OF ALL THREE PHASE MOTORS AND CORRECT THE ROTATION IF REVERSED.
4. ELECTRICAL CONTRACTOR SHALL PROVIDE FUSES SIZED PER THE EQUIPMENT NAMEPLATE INFORMATION.
5. DISCONNECT SWITCHES SHALL BE HEAVY DUTY TYPE, EXTERNALLY OPERATED, QUICK MAKE QUICK BREAK AND SHALL BE FUSIBLE OR NON FUSIBLE AS INDICATED. A MAXIMUM VOLTAGE, CURRENT AND HORSEPOWER SHALL BE CLEARLY MARKED ON SWITCH ENCLOSURE. SWITCHES HAVING DUAL RATINGS (HIGHER RATINGS WHEN USED WITH DUAL ELEMENT FUSES) SHALL HAVE RATINGS INDICATED ON METAL PLATES RIVETED OR OTHERWISE PERMANENTLY ATTACHED TO THE ENCLOSURE. WHEN INDICATED, TOGGLE SWITCHES SHALL BE MOTOR RATED FOR THE APPLICATION.
6. STARTERS SHALL BE FULL VOLTAGE, REDUCED VOLTAGE OR COMBINATION DISCONNECT AND STARTER, WITH CONTROL VOLTAGE AS REQUIRED, AS INDICATED ON THE DOCUMENTS RELATED TO THE EQUIPMENT, SUCH AS SHOP DRAWINGS, CONSTRUCTION DOCUMENTS, ETC. STARTERS SHALL INCLUDE MOTOR OVERLOAD PROTECTION, PHASE LOSS AND PHASE UNBALANCE PROTECTION AS REQUIRED.
7. ALL TERMINATIONS AND ENCLOSURES SHALL BE RATED FOR USE WITH 75 DEGREE C CONDUCTORS.
8. COMPLETE INSTALLATION SHALL CONFORM TO THE REQUIREMENTS OF NEC (OR CEC WHERE ADOPTED) ARTICLES 430 AND 440.
9. CONTRACTOR TO COORDINATE WITH ALL OTHER PROJECT TRADES AND WITH OWNER/ TENANT FOR TO OBTAIN RESPECTIVE EQUIPMENT SCCR AND PROVIDE APPROPRIATE PROTECTIVE DEVICES TO LIMIT AVAILABLE FAULT CURRENT TO LESS THAN THE EQUIPMENT NAMEPLATE SCCR PER NEC (OR CEC WHERE ADOPTED) 110.10. SEE POWER SYSTEM STUDY SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
10. UNLESS OTHERWISE NOTED, MOCP VALUES FOR VFD-EQUIPPED DEVICE ARE SIZED PER NEC (OR CEC WHERE ADOPTED) 430.130(A).1. CONTRACTOR SHALL COORDINATE WITH ALL OTHER PROJECT TRADES AND WITH OWNER/ TENANT (IF PROVIDING EQUIPMENT ON PROJECT) TO OBTAIN NAMEPLATE VFD-EQUIPPED DEVICE MOCP VALUE FROM MANUFACTURER INSTALLATION INSTRUCTIONS AND PROVIDE APPROPRIATE PROTECTIVE DEVICES TO COMPLY WITH NEC (OR CEC WHERE ADOPTED) 430.130(A).2.

MOTORIZED EQUIPMENT SCHEDULE

ITEM	DESCRIPTION	EQUIPMENT RATING								DISC. SW. SIZE STARTER SIZE	CIRCUIT DATA CONDUIT - WIRE	SPECIFIC NOTES
				MOTOR		VFD						
		VOLTS	PH.	HP	FLA	FLA	MCA	MOCP	SCCR			
AC G-1	AIR CONDITIONER -	208	3	-	-	-	32	45	-	60AS/45AF 3P	1 1/4"C - 4#6, #8GND. -	A
AC G-2	AIR CONDITIONER -	208	3	-	-	-	32	45	-	60AS/45AF 3P	1 1/4"C - 4#6, #8GND. -	A
AC H-1	AIR CONDITIONER -	208	3	-	-	-	32	45	-	60AS/45AF 3P	1 1/4"C - 4#6, #8GND. -	A
AC H-2	AIR CONDITIONER -	208	3	-	-	-	32	45	-	60AS/45AF 3P	1 1/4"C - 4#6, #8GND. -	A
PE -	POWER EXHAUST -	208	3	0.75	-	-	3.75	6.75	-	30AS/15AF 3P	3/4"C. - 2#12, 1#12GND. -	A
EF 1	EXHAUST FAN -	115	1	-	14W	-	-	-	-	FSM 1	3/4"C. - 2#12, 1#12GND. -	C
EF 2	EXHAUST FAN -	115	1	-	19W	-	-	-	-	FSM 1	3/4"C. - 2#12, 1#12GND. -	C
- -	- -	-	-	-	-	-	-	-	-	- -	- -	-
- -	- -	-	-	-	-	-	-	-	-	- -	- -	-
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IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-121181 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 07/02/2024

OWNER: SAN RAFAEL CITY SCHOOLS

PROJECT NAME: VENETIA VALLEY BLDGS G AND H ALTERATION

CLIENT ADDRESS: 177 N San Pedro Rd, San Rafael, CA 94903

REGISTERED PROFESSIONAL ENGINEER
RAYMOND W. SWITZ
No. E15610
12/31/2025
ELECTRICAL
STATE OF CALIFORNIA

REVISIONS:

	DESCRIPTION	DATE
1		
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PROJECT NO:

DATE ISSUED: 06/21/2024

SCALE: As indicated

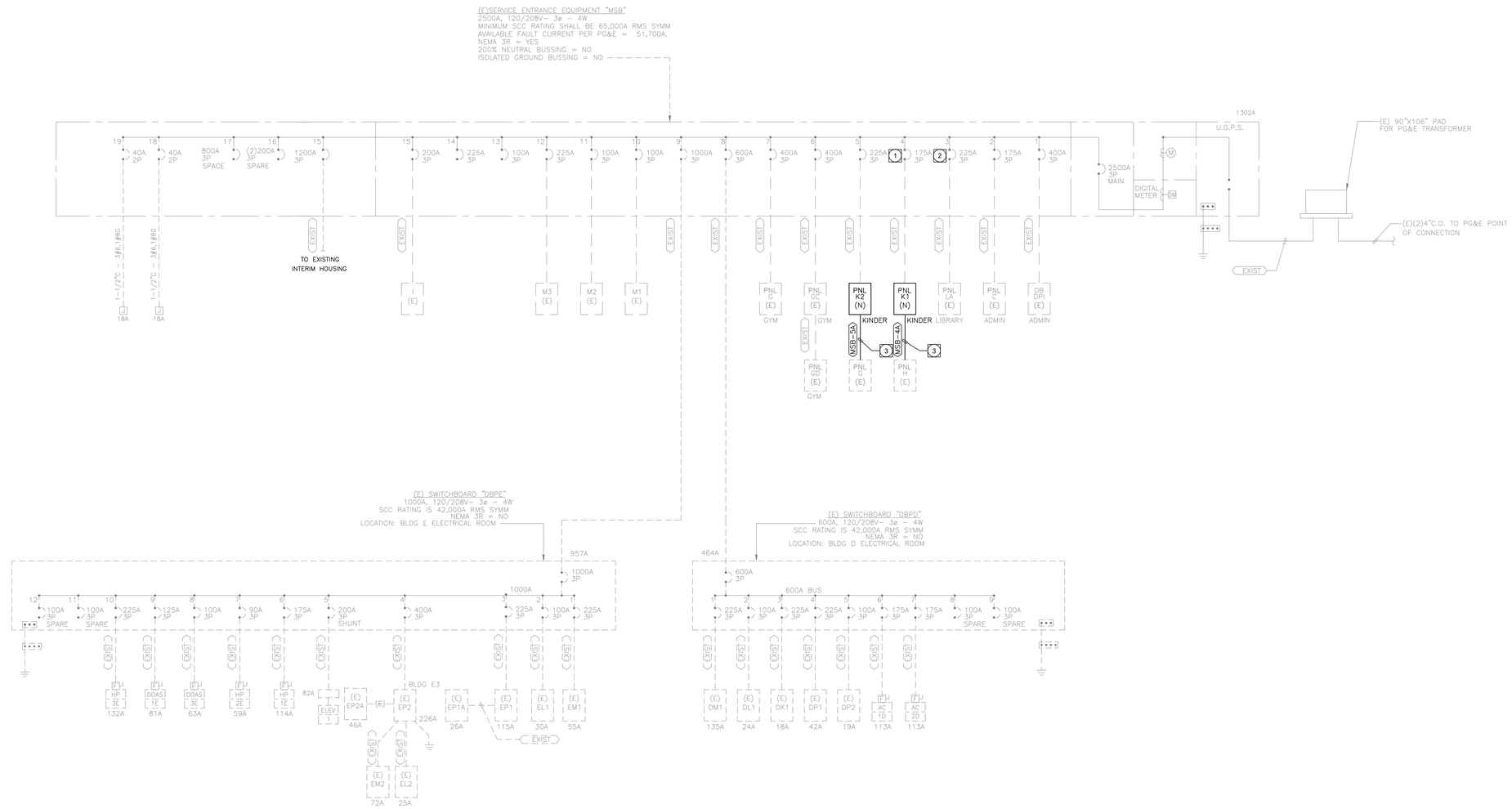
SHEET NUMBER: E13-1

SHEET TITLE:

ROOF PLANS

tk1sc COLLABORATIVE
11870 Pierce Street, Suite 160
Riverside, California 92505
951.299.4160 www.tk1sc.com

Project Leader - Nikolas Bruno
Electrical Lead - Nikolas Bruno
tk1sc Job #: B2304502.000



SINGLE LINE DISTRIBUTION DIAGRAM (1)

FEEDER SCHEDULE

FEEDER	CONDUIT AND CONDUCTORS	LOAD (A)	DISTANCE (FT)	V.D. (%)	AVAIL. FAULT CURRENT (A)	NOTES
MSB-4A	1 1/2"C - 4#1, #6G	53A	10'	0.08	<10K	TO PANELBOARD "K2" BUILDING H
MSB-5A	2 1/2"C - 4#4/0, #2G	71A	10'	0.08	<10K	TO PANELBOARD "K1" BUILDING G

SPECIFIC SINGLE LINE NOTES:

1. REPLACE EXISTING 225A PANEL WITH NEW. CONNECT TO EXISTING FEEDER. RECONNECT EXISTING CIRCUITS NOT BEING DEMOLISHED TO NEW PANEL.
2. REPLACE EXISTING 175A PANEL WITH NEW. CONNECT TO EXISTING FEEDER. RECONNECT EXISTING CIRCUITS NOT BEING DEMOLISHED TO NEW PANEL.
3. BACKFEED EXISTING PANEL FROM NEW PANEL AS SHOWN. SEE FEEDER SCHEDULE FOR CONDUIT AND CONDUCTOR SIZING.

GENERAL SINGLE LINE DIAGRAM NOTES:

1. ALL SWITCHGEAR SHALL BE SQUARE D OR EQUAL BY CUTLER-HAMMER, G.E., SIEMENS, IEM, OR Z-POWER AND DISTRIBUTION.
2. ALL ITEMS DEPICTED ON THE SINGLE LINE DRAWINGS SHALL BE ASSUMED AS NEW U.O.N.
3. ALL OVERCURRENT DEVICES IN AN INDIVIDUAL PIECE OF EQUIPMENT SHALL HAVE AN AIC RATING EQUAL TO THE OVERALL RATING OF THE EQUIPMENT. SERIES-RATING OF DEVICES WITHIN A PIECE OF EQUIPMENT IS NOT ALLOWED. SEE SPECIFICATIONS FOR MORE INFORMATION.
4. ALL SWITCHBOARDS, SWITCHGEAR, AND PANELBOARDS SHALL HAVE A SHORT-CIRCUIT CURRENT RATING NOT LESS THAN THE AVAILABLE FAULT CURRENT. THE AVAILABLE FAULT CURRENT AND THE DATE THE CALCULATION WAS PERFORMED SHALL BE FIELD MARKED ON THE ENCLOSURE AT THE POINT OF SUPPLY.
5. SERIES RATED DEVICES SHALL HAVE BEEN INVESTIGATED BY U.L. IN COMBINATION WITH THE END USE EQUIPMENT AND IN THE EQUIPMENT IN WHICH THESE DEVICES ARE USED AND SHALL BE MARKED WITH A SERIES RATING. ALL EQUIPMENT SHALL BE MARKED IN ACCORDANCE WITH NEC (OR CEC-WHERE ADOPTED) REQUIREMENTS. SEE SPECIFICATIONS FOR MORE INFORMATION. WHERE SERIES RATINGS ARE ALLOWED, THE EQUIPMENT SHALL BE LEGIBLY MARKED IN THE FIELD TO INDICATE A SERIES COMBINATION RATING WHICH SHALL BE READILY VISIBLE AND STATE THE FOLLOWING:

   CAUTION - SERIES COMBINATION SYSTEM RATED AT ??,???
   AMPERES. USE ONLY IDENTIFIED REPLACEMENT COMPONENTS IN
   THIS SYSTEM.

   WHERE ??,??? REPRESENTS AVAILABLE FAULT CURRENT. SEE SPECIFICATIONS FOR PLACARD REQUIREMENTS.
6. ALL TERMINATIONS AND ENCLOSURES SHALL BE RATED FOR USE WITH 75 DEGREE CELSIUS CONDUCTORS.
7. ALL SERVICE ENTRANCE EQUIPMENT RATED AT 400A OR GREATER SHALL BE PROVIDED WITH A BACKFEED-RATED, SOLID STATE MAIN OVERCURRENT DEVICE AND BUSSING RATED AT 100% OPERATION (1000A/sq.in. FOR CU, 750A/sq.in. FOR AL). NO HEAT RISE RATED BUSSING ALLOWED. NON-SERVICE ENTRANCE SWITCHBOARDS AND DISTRIBUTION BOARDS LARGER THAN 600A SHALL BE PROVIDED WITH BUSSING RATED FOR 100% OPERATION - SEE SPECIFICATION FOR CIRCUIT BREAKER REQUIREMENTS. ALL NON-SERVICE ENTRANCE SWITCHBOARDS AND DISTRIBUTION BOARD MAIN OVERCURRENT DEVICES SHALL BE BACKFEED-RATED. BACKFEED RATINGS SHALL COMPLY WITH NEC, OR CEC WHERE ADOPTED, 710.15 (E) AND 705.12(B)(4). SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS REGARDING CIRCUIT BREAKERS.
8. PROVIDE CIRCUIT BREAKER ARC ENERGY REDUCTION MAINTENANCE SWITCHING PER NEC, OR CEC WHERE ADPOPTED, 240.87(B)(3) FOR ANY CIRCUIT BREAKER, 1200A FRAME AND LARGER. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
9. ALL SWITCHBOARDS AND DISTRIBUTION BOARDS SHALL HAVE:
   a. TIN-PLATED ALUMINUM BUSSING WITH RECTANGULAR CROSS SECTION. HORIZONTAL AND VERTICAL BUSSING SHALL BE FULL LENGTH AND SHALL HAVE PROVISIONS FOR FUTURE EXTENSIONS. ALL BUSSING SHALL HAVE MINIMUM WITHSTAND RATING EQUAL TO THE AVAILABLE FAULT CURRENT INDICATED. ALL VERTICAL AND HORIZONTAL BUSSING SHALL BE RATED AT FULL CAPACITY IN ALL SWITCHBOARD AND DISTRIBUTION BOARD SECTIONS. PROVIDE 100% NEUTRAL BUSSING MINIMUM UNLESS OTHERWISE NOTED. PROVIDE FULL LENGTH GROUND BUS AND, WHERE INDICATED ON PLANS, ISOLATED GROUND BUSSING. PROVIDE REAR WIRE WAY IN ALL SWITCHBOARD SECTIONS.
   b. LUGS SUITABLE FOR USE WITH COPPER OR ALUMINUM CONDUCTORS LISTED FOR USE WITH 75 DEGREE CELSIUS AMPACITY CONDUCTORS.
   c. PERMANENT PLACARD(S) MARKED PER THE SPECIFICATIONS AND PER NEC (OR CEC-WHERE ADOPTED) SECTIONS 225.37, 230.2(E), 690.56, 692.56, 700.7, 701.7, 702.7, AND 705.10 AND IFC (OR CFC - WHERE ADOPTED) SECTION 608.2.6.1. DENOTING THE PRESENCE OF ADDITIONAL SERVICES, PHOTOVOLTAIC SYSTEMS, FUEL CELLS, EMERGENCY, STATIONARY BATTERY STORAGE SYSTEMS, OR STAND-BY POWER SOURCES AS APPLICABLE.
10. CONTRACTOR SHALL SUBMIT SWITCHBOARD SHOP DRAWINGS TO THE SERVING UTILITY FOR APPROVAL PRIOR TO FABRICATION. CONTRACTOR SHALL SECURE CONFIRMATION THAT THE PROPOSED SWITCHBOARD COMPLIES WITH ELECTRIC UTILITY COMPANY REGULATIONS.
11. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS PER THE SPECIFICATIONS FOR SWITCHBOARDS, DISTRIBUTION BOARDS, TRANSFORMERS, PANEL BOARDS, AND ALL OTHER DEVICES SHOWN ON THE SINGLE LINE, PRIOR TO FABRICATION.
12. ALLOWABLE DIMENSIONS IN MAIN ELECTRICAL ROOM ARE A CRITICAL COORDINATION ITEM. CONTRACTOR SHALL PROVIDE 1/4"= 1'-0" SCALE DRAWINGS WITH SWITCHGEAR SUBMITTALS SHOWING THAT ALL PROPOSED EQUIPMENT WILL FIT IN THE SPACE PROVIDED. SUBMITTALS WITHOUT THIS DRAWING SHALL BE REJECTED AS INCOMPLETE.
13. UNLESS SPECIFICALLY SHOWN AS (E), (R), (ER), (D), EXISTING OR NON-BOLD, ALL ELECTRICAL DEVICES SHOWN ARE NEW.
14. WHERE REQUIRED BY THE LOCAL AUTHORITY HAVING JURISDICTION OR WHERE A NEW GROUND FAULT PROTECTIVE DEVICE IS BEING INSTALLED, A GROUND FAULT SYSTEM TEST SHALL BE CONDUCTED BY AN INDEPENDENT TESTING AGENCY PER NEC (OR CEC-WHERE ADOPTED) 230.95(C). THE GROUND FAULT SYSTEM TEST SHALL BE PERFORMED IN THE PRESENCE OF THE LOCAL AUTHORITY HAVING JURISDICTION. VERIFICATION OF DEVICE SETTINGS PER THE POWER SYSTEMS STUDY SPECIFICATION SHALL BE PERFORMED BY THE SAME INDEPENDENT TESTING AGENCY. THE GROUND FAULT TEST RESULTS SHALL BE DELIVERED TO THE ENGINEER OF RECORD. DURING THE CONSTRUCTION PHASE OF THE PROJECT, ALL NEW GROUND FAULT RELAYS SHALL BE SET AT THE LOWEST AVAILABLE TIME DELAY AND PICK-UP SETTINGS.

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-121181 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 07/02/2024

OWNER: SAN RAFAEL CITY SCHOOLS

PROJECT NAME: VENETIA VALLEY BLDGS G AND H ALTERATION

CLIENT ADDRESS: 177 N San Pedro Rd, San Rafael, CA 94903

REGISTERED PROFESSIONAL ENGINEER
RAYMOND W. SWATT
No. E15610
12/31/2025
ELECTRICAL
STATE OF CALIFORNIA

REVISIONS:

	DESCRIPTION	DATE
1		
2		
3		
4		
5		
6		
7		
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9		
10		
11		
12		

PROJECT NO:

DATE ISSUED: 06/21/2024

SCALE: As indicated

SHEET NUMBER: E20-1

SHEET TITLE:

SINGLE LINE DIAGRAM

tk1sc COLLABORATIVE
11870 Pierce Street, Suite 160
Riverside, California 92505
951.299.4160 www.tk1sc.com
Project Leader - Nikolas Bruno
Electrical Lead - Nikolas Bruno
tk1sc Job #: B2304502.000

(E)PANEL G

MOUNTING SURFACE | DOUBLE LUG NO | VOLTS 120/208 | MAIN M.L.O
NEMA 3R NO | 200% NEUTRAL NO | PHASE 3 | BUS 225A
FEED THRU NO | I/G BUS NO | WIRE 4 | A.I.C. 10,000

NOTES	LOCATION	A	B	C	LTG	CONV	KIT	RECP	MISC	BKR	CIRC		CIRC	BKR	MISC	RECP	KIT	CONV	LTG	A	B	C	LOCATION	NOTES
	(E) GENERAL LOAD	500								20/1	1		2	20/1						500			(E) GENERAL LOAD	
	(E) GENERAL LOAD		500							20/1	3		4	20/1							500		(E) GENERAL LOAD	
	(E) GENERAL LOAD			500						20/1	5		6	20/1								500	(E) GENERAL LOAD	
	(E) GENERAL LOAD	500								20/1	7		8	20/1						500			(E) GENERAL LOAD	
	(E)DF CABINET		500							20/1	9		10	20/1							500		(E) GENERAL LOAD	
	(E) EXHAUST FAN EF-1			1176	-					20/1	11		12	20/1								500	(E) GENERAL LOAD	
	(E) GENERAL LOAD	500								20/1	13		14	20/1						500			(E) GENERAL LOAD	
	(E) GENERAL LOAD		500							20/1	15		16	20/1							500		(E) GENERAL LOAD	
	(E) GENERAL LOAD			500						20/1	17		18	20/1								500	(E) GENERAL LOAD	
	(E) GENERAL LOAD	500								20/1	19		20	20/1						500			(E) GENERAL LOAD	
	(E) GENERAL LOAD		500							20/1	21		22	20/1							500		(E) GENERAL LOAD	
	(E) GENERAL LOAD			500						20/1	23		24	20/1								500	(E) GENERAL LOAD	
	(E) GENERAL LOAD	500								20/1	25		26	20/1						500			(E) GENERAL LOAD	
	(E) GENERAL LOAD		500							20/1	27		28	20/1							500		(E) GENERAL LOAD	
	(E) GENERAL LOAD			500						20/1	29		30	20/1								500	(E) GENERAL LOAD	
	(E) GENERAL LOAD	500								20/1	31		32										SPARE	
	(E) GENERAL LOAD		500							20/1	33		34										SPARE	
	(E) GENERAL LOAD			500						20/1	35		36										SPARE	
	(E) GENERAL LOAD	500								20/1	37		38										SPARE	
	(E) GENERAL LOAD		500							20/1	39		40										SPARE	
	(E) GENERAL LOAD			500						20/1	41		42										SPARE	

A= 6000 VA | B= 6000 VA | C= 6676 VA
PHASE A LCL= 0 VA | PHASE B LCL= 0 VA | PHASE C LCL= 294 VA
PHASE A W/LCL= 6000 VA | PHASE B W/LCL= 6000 VA | PHASE C W/LCL= 6970 VA
TOTAL VA= 18676 | TOTAL LCL= 294 | TOTAL VA W/LCL= 18970
AMPS= **53** | HIGH PHASE AMPS= **58**

PANEL K1

MOUNTING SURFACE | DOUBLE LUG NO | VOLTS 120/208 | MAIN 175A
NEMA 3R NO | 200% NEUTRAL NO | PHASE 3 | BUS 225A
FEED THRU NO | I/G BUS NO | WIRE 4 | A.I.C. 10,000

NOTES	LOCATION	A	B	C	LTG	CONV	KIT	RECP	MISC	BKR	CIRC		CIRC	BKR	MISC	RECP	KIT	CONV	LTG	A	B	C	LOCATION	NOTES
	REC. H-02	360						2		20/1	1		2	20/1					21	596			LTG. H-01	
	REC. H-02		540					3		20/1	3		4	20/1					21		596		LTG. H-02	
	REC. H-02			540				3		20/1	5		6	20/1					6			246	LTG. SUPPORT	
	REC. H-01	360						2		20/1	7		8	20/1					9	225			LTG. EXTERIOR	
	REC. H-01		720					4		20/1	9		10	20/1									SPARE	
	REC. H-01			540				3		20/1	11		12	20/1									SPARE	
	REC. SUPPORT	720						4		20/1	13		14	20/1	2					4663			AC/H-1 + POWER EXH	
	REC. EXTERIOR		540					3		20/1	15		16	20/1	-						4663		-----	
AE	FAPS-H			500					1	20/1	17		18	20/1	-							4663	-----	
AE	AMP-H	500							1	20/1	19		20	20/1	2					4663			AC/H-2 + POWER EXH	
	SPARE									20/1	21		22	20/1	-						4663		-----	
	SPARE									20/1	23		24	20/1	-							4663	-----	
	SPARE									20/1	25		26	15/1	2					33			EXH FANS EF/1 & 2	
	SPACE										27		28	20/1		2					360		ROOF RECEPTS	
	SPACE										29		30										SPACE	
	SPACE										31		32										SPACE	
	SPACE										33		34										SPACE	
	SPACE										35		36										SPACE	
	SPACE										37		38	100/3						8300			PANEL H	
	SPACE										39		40	--							8660		----	
	SPACE										41		42	--								8580	----	

A= 20420 VA | B= 20742 VA | C= 19732 VA
PHASE A LCL= 205 VA | PHASE B LCL= 149 VA | PHASE C LCL= 62 VA
PHASE A W/LCL= 20626 VA | PHASE B W/LCL= 20891 VA | PHASE C W/LCL= 19794 VA
TOTAL VA= 60894 | TOTAL LCL= 416 | TOTAL VA W/LCL= 61310
AMPS= **170** | HIGH PHASE AMPS= **174**

(E)PANEL H

MOUNTING SURFACE | DOUBLE LUG NO | VOLTS 120/208 | MAIN M.L.O.
NEMA 3R NO | 200% NEUTRAL NO | PHASE 3 | BUS 100A
FEED THRU NO | I/G BUS NO | WIRE 4 | A.I.C. 10,000

NOTES	LOCATION	A	B	C	LTG	CONV	KIT	RECP	MISC	BKR	CIRC		CIRC	BKR	MISC	RECP	KIT	CONV	LTG	A	B	C	LOCATION	NOTES
	(E) GENERAL LOAD	500								20/1	1		2	20/1						500			(E) LTG H-1	
	(E) LTG H-6,H-7		500							20/1	3		4	20/1							500		(E) GENERAL LOAD	
	(E) LTG. H-2			500						20/1	5		6	20/1								500	(E) LTG H-3,H-4	
	(E) GENERAL LOAD	500								20/1	7		8	20/1						500			(E) OUTSIDE LTGS	
	(E) GENERAL LOAD		500							20/1	9		10	20/1							500		(E) GENERAL LOAD	
	(E) GENERAL LOAD			500	-					20/1	11		12	20/1								500	(E) GENERAL LOAD	
	(E) GENERAL LOAD	500								20/1	13		14	20/1						500			(E) GENERAL LOAD	
	(E) GENERAL LOAD		500							20/1	15		16	20/1							500		(E) GENERAL LOAD	
	(E) GENERAL LOAD			500						20/1	17		18	20/1								500	(E) GENERAL LOAD	
	(E) GENERAL LOAD	500								20/1	19		20	20/1						500			(E) GENERAL LOAD	
	(E) GENERAL LOAD		500							20/1	21		22	20/1							500		(E) GENERAL LOAD	
	(E) GENERAL LOAD			500						20/1	23		24	20/1								500	(E) GENERAL LOAD	
	(E) GENERAL LOAD	500								20/1	25		26	20/1						500			(E) GENERAL LOAD	
	(E) GENERAL LOAD		500							20/1	27		28	20/1							500		(E) GENERAL LOAD	
	(E) IDF			500						20/1	29		30	20/1								500	(E) GENERAL LOAD	
	(E) FACP	500								20/1	31		32	20/1						900			(E) GENERAL LOAD	
	(E) REC		500							20/1	33		34	20/1							1080		(E) CONDUIT	
	(E) REC			500						20/1	35		36	20/1								1560	(E) CONDUIT	
	(E) GENERAL LOAD	500								20/1	37		38	20/1						1400			(E) CONDUIT	
	(E) GENERAL LOAD		500							20/1	39		40	20/1							1580		(E) CONDUIT	
	(E) REC			500						20/1	41		42	20/1								1000	(E) GENERAL LOAD	

A= 8300 VA | B= 8660 VA | C= 8580 VA
PHASE A LCL= 0 VA | PHASE B LCL= 0 VA | PHASE C LCL= 125 VA
PHASE A W/LCL= 8300 VA | PHASE B W/LCL= 8660 VA | PHASE C W/LCL= 8705 VA
TOTAL VA= 25540 | TOTAL LCL= 125 | TOTAL VA W/LCL= 25665
AMPS= **71** | HIGH PHASE AMPS= **73**

PANEL K2

MOUNTING SURFACE | DOUBLE LUG NO | VOLTS 120/208 | MAIN 225A
NEMA 3R NO | 200% NEUTRAL NO | PHASE 3 | BUS 225A
FEED THRU NO | I/G BUS NO | WIRE 4 | A.I.C. 10,000

NOTES	LOCATION	A	B	C	LTG	CONV	KIT	RECP	MISC	BKR	CIRC		CIRC	BKR	MISC	RECP	KIT	CONV	LTG	A	B	C	LOCATION	NOTES
	REC. G-01	720								20/1	1		2	20/1					32	909			LTG. G-01	
	REC. G-01		720							20/1	3		4	20/1					3		93		(E) GENERAL LOAD	
	REC. G-01			720						20/1	5		6	20/1					32			909	LTG G-02	
	REC. G-04,G-05	900								20/1	7		8	20/1					16	400			LTG EXTERIOR	
	REC. G-02		720							20/1	9		10	20/1									SPARE	
	REC. G-02			900						20/1	11		12	20/1									SPARE	
	REC. G-02	900								20/1	13		14	20/1	2					4663			ACG-1 + POWER EXH	
AE	FAPS-G		500							20/1	15		16	20/1	-						4663		-----	
AE	AMP-G			500						20/1	17		18	20/1	-							4663	-----	
	SPARE	500								20/1	19		20	20/1	2					4663			ACG-2 + POWER EXH	
	SPARE		500							20/1	21		22	20/1	-						4663		-----	
	SPARE									20/1	23		24	20/1	-							4663	-----	
	SPACE										25		26	20/1									SPARE	
	SPACE										27		28	20/1		2					360		ROOF RECEPTS	
	SPACE										29		30										SPACE	
	SPACE										31		32										SPACE	
	SPACE										33		34										SPACE	
	SPACE										35		36										SPACE	
	SPACE										37		38	100/3						6000			PANEL G	
	SPACE										39		40	--							6000		-----	
	SPACE										41		42	--								6676	-----	

A= 19655 VA | B= 18219 VA | C= 19031 VA
PHASE A LCL= 327 VA | PHASE B LCL= 23 VA | PHASE C LCL= 227 VA
PHASE A W/LCL= 19982 VA | PHASE B W/LCL= 18242 VA | PHASE C W/LCL= 19258 VA
TOTAL VA= 56905 | TOTAL LCL= 576 | TOTAL VA W/LCL= 57483
AMPS= **160** | HIGH PHASE AMPS= **167**

AS-BUILT PANEL DIRECTORY NOTE:

BRANCH CIRCUIT LOCATIONS NOTED WITH "(E)" INDICATE EXISTING CIRCUIT(S). THE IDENTITIES OF THESE CIRCUITS ARE BASED ON EXISTING PANEL DIRECTORIES AND/OR LIMITED AS-BUILT INFORMATION. CONTRACTOR SHALL FIELD VERIFY EACH BRANCH CIRCUIT AND PROVIDE COMPLETE, TYPED AS-BUILT PANEL DIRECTORIES AS REQUIRED THAT DISTINGUISH EACH CIRCUIT PER NEC, OR CEC WHERE ADOPTED, ART 408.1 AND 408.4. COMPLETED DIRECTORIES SHALL BE SUBMITTED TO THE ELECTRICAL INSPECTOR PRIOR TO FINAL ELECTRICAL INSPECTION. INCLUDE ALL COSTS IN BID.

EXISTING CIRCUIT BREAKER NOTE:

PROVIDE BREAKER INTERLOCK WITH ADJACENT BREAKER(S) FOR ANY MULTI-WIRE BRANCH CIRCUIT. BREAKER INTERLOCK GROUPING SHALL BE BY BRANCH CIRCUIT GROUP (i.e. MULTIPLE CIRCUITS SHARING A COMMON NEUTRAL (NEC, OR CEC WHERE ADOPTED, 210.4(B).) COMMON YOKE (NEC, OR CEC WHERE ADOPTED, 210.7) OR FURNITURE SYSTEM NEC OR CEC WHERE ADOPTED, 605.5 AND 605.7). WHERE AN EXISTING PANEL IS BEING ALTERED OR MODIFIED IN ANY WAY, CONTRACTOR SHALL INCLUDE ALL COSTS IN BASE BID TO ADD BREAKER INTERLOCKS TO EXISTING MULTI-WIRE BRANCH CIRCUITS BASED ON CONTRACTOR'S INVESTIGATION OF EXISTING CONDITIONS.

GENERAL PANEL SCHEDULE NOTES:

1. WHERE PANEL IS INDICATED TO INCLUDE FEED THRU LUGS, PROVIDE FEED THROUGH LUGS AT THE OPPOSITE END OF THE PANELBOARD FROM THE PANELBOARD MAIN LUGS.
2. WHERE PANEL IS INDICATED TO INCLUDE DOUBLE LUGS, PROVIDE A DOUBLE LUG KIT AT THE SAME END OF THE PANELBOARD AS THE PANELBOARD MAIN LUGS.
3. WHERE PANEL IS INDICATED TO INCLUDE 200% NEUTRAL, PROVIDE PANELBOARDS UL LISTED AS HAVING NEUTRAL BUSSES RATED TO CARRY 200 PERCENT OF THE CURRENT CARRYING CAPACITY OF THE PHASE BUSSING. OTHERWISE, NEUTRAL BUSSING TO BE FULL SIZE AND RECTANGULAR.
4. WHERE PANEL IS INDICATED TO INCLUDE AN I/G BUS, PROVIDE PANELBOARDS WITH AN ISOLATED GROUND BUS, DRILLED AND TAPPED FOR NUMBER OF ISOLATED GROUND CONDUCTORS SHOWN, AS WELL AS FOR ALL SPARES AND SPACES SHOWN ON THE PANELBOARD.
5. WHERE PANEL CIRCUIT BREAKER RATING IS SHOWN AS SERIES RATED, PROVIDE CIRCUIT BREAKERS IN PANELBOARD WHICH ARE SERIES RATED WITH THE UPSTREAM SYSTEM FOR THE AVAILABLE FAULT CURRENT. THE PANELBOARD SHALL BE MARKED WITH THE SERIES CONNECTED RATINGS, AS WELL AS ALL MARKING AS REQUIRED BY THE NEC, OR CEC WHERE ADOPTED, 240.86(B).
6. WHERE PANEL IS INDICATED AS RECESSED OR FLUSH MOUNTED, PROVIDE SPARE CONDUITS STUBBED UP INTO THE ACCESSIBLE CEILING SPACE. PROVIDE ONE (1) 3/4" CONDUIT ONLY FOR EACH THREE (3) SPARES OR SPACES, MINIMUM OF TWO (2). EACH CONDUIT SHALL BE TAGGED, CAPPED AND MARKED FOR FUTURE USE.
7. ALL BUSSING SHALL BE TIN PLATED ALUMINUM.
8. ALL CIRCUIT BREAKERS USED AS SWITCHES SHALL BE UL LISTED AND LABELED "SWD" FOR SWITCHING DUTY.
9. PROVIDE BREAKER INTERLOCK WITH ADJACENT BREAKER(S) FOR ANY MULTI-WIRE BRANCH CIRCUIT. BREAKER INTERLOCK GROUPING SHALL BE BY BRANCH CIRCUIT GROUP (i.e. MULTIPLE CIRCUITS SHARING A COMMON NEUTRAL (NEC, OR CEC WHERE ADOPTED, 210.4(B).) COMMON YOKE (NEC, OR CEC WHERE ADOPTED, 210.7), OR FURNITURE SYSTEM NEC OR CEC WHERE ADOPTED, 605.5 AND 605.7). WHERE AN EXISTING PANEL IS BEING ALTERED OR MODIFIED IN ANY WAY, CONTRACTOR SHALL INCLUDE ALL COSTS IN BASE BID TO ADD BREAKER INTERLOCKS TO EXISTING MULTI-WIRE BRANCH CIRCUITS BASED ON CONTRACTOR'S INVESTIGATION OF EXISTING CONDITIONS.
10. PROVIDE BREAKER LOCK OFF DEVICE ON ANY CIRCUIT BREAKER FEEDING A TRANSFORMER AS REQUIRED, PER NEC, OR CEC WHERE ADOPTED, 450.14. WHERE AN EXISTING PANEL IS BEING ALTERED OR MODIFIED IN ANY WAY, CONTRACTOR SHALL INCLUDE ALL COSTS IN BASE BID TO ADD BREAKER LOCK-OFF DEVICES TO EXISTING TRANSFORMER CIRCUIT BREAKERS BASED ON CONTRACTOR'S INVESTIGATION OF EXISTING CONDITIONS.
11. ALL CIRCUIT BREAKERS SHALL BE BOLT-ON TYPE AND SHALL BE SUITABLE FOR 75 DEGREE AMPACITY CONDUCTORS.
12. PANELS SHALL BE OF THE DEAD FRONT SAFETY TYPE. PANELS SHALL BE MINIMUM 20" WIDE AND 5-3/4" DEEP UNLESS OTHERWISE NOTED ON PLAN.
13. COORDINATE WITH APPLICABLE TRADE TO INSURE RECESSED MOUNTED PANELBOARDS WILL SEAT FLUSH IN THE WALLS PROVIDED. PANEL TRIMS SHALL HAVE CONCEALED DOORS AND FASTENERS WITH FLUSH TYPE COMBINATION LOCK AND CATCH, TWO MILLED TYPE KEYS SUPPLIED WITH EACH PANEL. ALL LOCKS SHALL BE KEYED ALIKE AND EACH DOOR SHALL HAVE A PLASTIC COVERED DIRECTORY FRAME WITH A TYPED IDENTIFICATION CARD OF ALL CIRCUIT AND PANEL NUMBERS FOR BRANCH CIRCUIT PANELBOARDS.
14. UPON PROJECT COMPLETION, CONTRACTOR SHALL INSTALL TYPED AS-BUILT PANEL DIRECTORIES IN EACH PANEL WITHIN THE MFGR-PROVIDED DIRECTORY HOLDER. THE DIRECTORY SHALL CLEARLY IDENTIFY EACH CIRCUIT TO ITS CLEAR, EVIDENT, AND SPECIFIC PURPOSE OR USE. EACH CIRCUIT IDENTITY SHALL INCLUDE SUFFICIENT DETAIL TO ALLOW EACH CIRCUIT TO BE DISTINGUISHED FROM ALL OTHERS PER NEC, OR CEC WHERE ADOPTED, ART 408.1 AND 408.4. HANDWRITTEN DIRECTORIES ARE UNACCEPTABLE. COPIES OF AS-BUILT PANEL SCHEDULES SHALL BE PLACED IN PANEL DIRECTORIES. E.C. TO INCLUDE ALL COSTS REQUIRED FOR LARGER-THAN-STANDARD CUSTOM PANEL DIRECTORY HOLDERS TO ACCOMMODATE COPIES OF AS-BUILT PANEL SCHEDULES.
15. PANELBOARDS SHALL BE MANUFACTURED BY G.E., CUTLER-HAMMER, SIEMENS, OR SQUARE "D". FUSED PANEL BOARDS SHALL BE BY COOPER BUSSMANN.
16. PROVIDE SHOP DRAWING SUBMITTAL PER THE ELECTRICAL SPECIFICATION SUBMITTAL REQUIREMENTS FOR EACH PANEL DEPICTING CONFORMANCE WITH THE ABOVE NOTES AND SCHEDULES.

SPECIFIC PANEL SCHEDULE NOTES:

"A" PROVIDE LOCK-ON DEVICE.
"B" PROVIDE PERMANENT LOCK-OFF DEVICE THAT SHALL REMAIN IN PLACE WITH OR WITHOUT THE LOCK INSTALLED, PER NEC, OR CEC WHERE ADOPTED, SECTION 110.25.
"C" PROVIDE SHUNT TRIP DEVICE.
"D" PROVIDE GFCI TYPE DEVICE.
"E" PROVIDE A RED CIRCUIT BREAKER.
"F" PROVIDE A NEW BREAKER TO MATCH THE EXISTING IN PANEL.
"G" EXISTING BREAKER WITH NEW LOAD.
"H" PROVIDE AFCI TYPE DEVICE COMPLYING WITH NEC, OR CEC WHERE ADOPTED, 210.12(A),(B),(C).

PANEL SCHEDULE INDEX

-	G	K1
-	H	K2
-	-	

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-121181 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 07/02/2024

OWNER: SAN RAFAEL CITY SCHOOLS

PROJECT NAME: VENETIA VALLEY BLDGS G AND H ALTERATION

CLIENT ADDRESS: 177 N San Pedro Rd, San Rafael, CA 94903

REGISTERED PROFESSIONAL ENGINEER RAYMOND W. SWETT No. E15610 12/31/2025 ELECTRICAL STATE OF CALIFORNIA

REVISIONS:

	DESCRIPTION	DATE

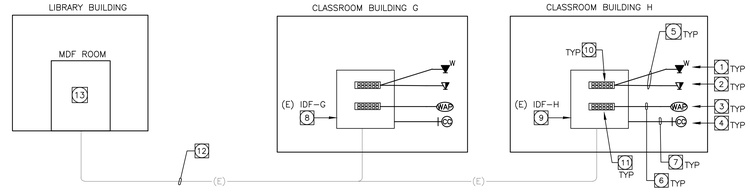
PROJECT NO:
DATE ISSUED: 06/21/2024
SCALE: As indicated

SHEET NUMBER: **E20-2**

SHEET TITLE:

PANEL SCHEDULES

tk|sc COLLABORATIVE
11870 Pierce Street, Suite 160
Riverside, California 92505
951.299.4160 www.tk1sc.com
Project Leader - Nikolas Bruno
Electrical Lead - Nikolas Bruno
tk1sc Job #: B2304502.000



LAN-VOIP SYSTEM GENERAL INSTALLATION NOTES:

1. DRAWINGS AND LAYOUTS ARE PRIMARILY DIAGRAMMATIC IN NATURE. CONTRACTOR IS RESPONSIBLE FOR FINAL FOOTAGES AND EXACT LOCATIONS.
2. REFERENCE DISTRICT STANDARDS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
3. CONTRACTOR SHALL PROVIDE ALL FIBER OPTIC RACK-MOUNTED ENCLOSURES, PANELS, BREAKOUT KITS, PANELS, CONNECTORS, COUPLERS, ADAPTERS, SPLICE TRAYS, PATCH CORDS, GROUNDING CONNECTIONS, AND ALL OTHER COMPONENTS NECESSARY FOR A COMPLETE AND OPERABLE FIBER OPTIC CABLING SYSTEM. CONTRACTOR SHALL VERIFY FIBER CONNECTOR TYPES WITH DISTRICT PRIOR TO ORDERING MATERIALS.
4. ALL LAN, WIRELESS LAN, AND VOIP TELEPHONE SYSTEM ACTIVE ELECTRONICS INCLUDING BUT NOT LIMITED TO LAN SWITCHES, GBIC MODULES, VOIP TELEPHONE SETS, VOIP TELEPHONE SERVER (INCLUDING ALL FIRMWARE AND SOFTWARE), LAN SERVERS, WIRELESS ACCESS POINTS, ROUTERS, AND INDIVIDUAL WORKSTATIONS AND MONITORS SHALL BE OWNER-FURNISHED CONTRACTOR-INSTALLED UNLESS OTHERWISE NOTED ON THE PLAN DRAWINGS AND SPECIFICATIONS. IN EACH IDF ROOM, CONTRACTOR SHALL PROVIDE RACK MOUNTED UPS APC SMART-UPS RT 5000VA WITH A MINIMUM RUN TIME OF 2-HOURS AND AVAILABLE 20% POWER EXPANSION CAPABILITY. CONTRACTOR SHALL VERIFY INPUT AND OUTPUT CONNECTIONS WITH DISTRICT PRIOR TO ROUGH-IN.
5. ALL FIBER OPTIC CABLE INSTALLED BETWEEN MDF AND IDF ROOM SHALL BE **SINGLE MODE OS2 12-STRAND** INDOOR/OUTDOOR/RISER-RATED CABLE, UNLESS OTHERWISE NOTED IN THE DISTRICT STANDARDS AND PROJECT SPECIFICATIONS.
6. CONTRACTOR SHALL TERMINATE AND TEST ALL FIBER OPTIC CABLE STRANDS, BOTH ENDS, IN ACCORDANCE WITH THE DISTRICT STANDARDS AND PROJECT SPECIFICATIONS.
7. PROVIDE AND INSTALL ALL **CAT-6 AND CAT-6A** PATCH CORDS AND SINGLE MODE FIBER OPTIC PATCH CORDS IN THE COLORS, QUANTITIES AND LENGTHS PER THE DISTRICT STANDARDS AND PROJECT SPECIFICATIONS. INSTALL ALL PATCH CORDS TO THE OWNER'S SATISFACTION. VERIFY PATCH CORD COLOR AND LENGTHS WITH OWNER PRIOR TO ORDERING MATERIALS. UNLESS OTHERWISE NOTED IN STANDARDS OR SPECIFICATIONS, PROVIDE **ONE (1) 3-FOOT AND ONE (1) 10-FOOT CAT-6** PATCH CORD FOR EVERY **CAT-6** AND CAT-6A CABLE TERMINATED. UNLESS OTHERWISE NOTED IN STANDARDS OR SPECIFICATIONS, AT EACH NEW IDF PROVIDE (1) SINGLE MODE DUPLEX 1-METER FIBER PATCH CORD FOR EACH 12 STRANDS TERMINATED, AND AT THE MDF PROVIDE (1) SINGLE MODE DUPLEX 3-METER FIBER PATCH CORD FOR EACH 12 STRANDS TERMINATED. INCLUDE ALL COSTS IN BASE BID.
8. VERIFY ALL QUANTITIES AND LOCATIONS WITH PLAN DRAWINGS AND SPECIFICATIONS.
9. CONTRACTOR SHALL COORDINATE ALL DEMOLITION WORK WITH THE DISTRICT I.T. DEPARTMENT PRIOR TO COMMENCING WORK.

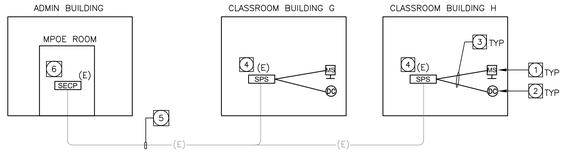
LAN-VOIP SYSTEM BLOCK DIAGRAM KEY NOTES:

1. VOIP SURFACE MOUNTED WALL PHONE DEVICE. MOUNT +44" A.F.F. QUANTITY AND LOCATIONS PER PLAN DRAWINGS. SEE SPECIFICATIONS AND FACEPLATE DETAILS FOR MORE INFORMATION. TELEPHONE IS OWNER FURNISHED OWNER INSTALLED.
2. TRIPLE JACK SURFACE WALL MOUNTED OUTLET. QUANTITY AND LOCATIONS PER PLAN DRAWINGS. SEE SPECIFICATIONS AND FACEPLATE DETAILS FOR MORE INFORMATION.
3. SURFACE WALL MOUNTED WIRELESS ACCESS POINT OUTLET.QUANTITY AND LOCATIONS PER PLAN DRAWINGS. SEE SPECIFICATIONS AND FACEPLATE DETAILS FOR MORE INFORMATION. ELECTRONICS ARE OWNER FURNISHED OWNER INSTALLED.
4. FLUSH 4S DEEP J-BOX WITH WEATHERPROOF BLANK COVER AND CONDUT-ONLY FOR FURTURE OWNER-FURNISHED OWNER-INSTALLED CCTV SURVEILLANCE CAMERA. SEE FACEPLATE DETAILS FOR ADDITIONAL REQUIREMENTS.
5. **CATEGORY-6** UTP 4-PAIR CABLE(S). CABLE QUANTITIES AT EACH DEVICE PER FACEPLATE DETAILS. TERMINATE ON FACEPLATE AT DEVICE LOCATION AND ON **CAT-6 PATCH PANEL** AT IDF LOCATIONS. SEE PLAN DRAWINGS FOR LOCATIONS AND QUANTITIES. SEE FACEPLATE DETAILS FOR MORE INFORMATION.
6. **CATEGORY-6A** UTP 4-PAIR CABLE(S). CABLE QUANTITIES AT EACH DEVICE PER FACEPLATE DETAILS. TERMINATE ON FACEPLATE AT DEVICE LOCATION AND ON **CAT-6A PATCH PANEL** AT IDF LOCATIONS. SEE PLAN DRAWINGS FOR LOCATIONS AND QUANTITIES. SEE FACEPLATE DETAILS FOR MORE INFORMATION.
7. 1" CONDUIT-ONLY FROM DEVICE TO IDF CABINET
8. EXISTING IDF RACK, QUANTITY AND LOCATIONS PER PLAN DRAWINGS. REPLACE EXISTING **CATEGORY-6** AND CATEGORY-6A PATCH PANELS WITH NEW PATCH PANELS WITH QUANTITY AS REQUIRED TO TERMINATE ALL CABLES. SEE SPECIFICATIONS FOR MORE INFORMATION. CONTRACTOR SHALL REFER TO LAN SYSTEM GENERAL NOTES ON THIS SHEET FOR SPECIFIC REQUIREMENTS. LAN NETWORK SWITCHES AND UPS EQUIPMENT ARE OWNER FURNISHED CONTRACTOR INSTALLED.
9. MOVE EXISTING IDF RACK WITH THE ROOM, SEE FLOOR PLAN FOR NEW LOCATION. EXISTING FIBER BACKBONE IS SUFFICIENT TO REACH NEW LOCATION. REPLACE EXISTING **CATEGORY-6** AND CATEGORY-6A PATCH PANELS WITH NEW PATCH PANELS WITH QUANTITY AS REQUIRED TO TERMINATE ALL CABLES. SEE SPECIFICATIONS FOR MORE INFORMATION. CONTRACTOR SHALL REFER TO LAN SYSTEM GENERAL NOTES ON THIS SHEET FOR SPECIFIC REQUIREMENTS. LAN NETWORK SWITCHES AND UPS EQUIPMENT ARE OWNER FURNISHED CONTRACTOR INSTALLED.
10. RACK MOUNT **CATEGORY-6** PATCH PANEL. QUANTITY AS REQUIRED TO TERMINATE ALL CAT-6 CABLES ON THIS PROJECT. SEE SPECIFICATIONS FOR MORE INFORMATION.
11. RACK MOUNT **CATEGORY-6A** PATCH PANEL. QUANTITY AS REQUIRED TO TERMINATE ALL CAT-6A CABLES ON THIS PROJECT. SEE SPECIFICATIONS FOR MORE INFORMATION.
12. EXISTING FIBER OPTIC BACKBONE TO REMAIN. SHOWN FOR REFERENCE ONLY.
13. EXISTING MDF EQUIPMENT TO REMAIN. SHOWN FOR REFERENCE ONLY.

LAN-VOIP SYSTEM DIAGRAM

SCALE: N.T.S.

1



BLOCK DIAGRAM KEY NOTES:

1. SURFACE MOUNTED DUAL TECHNOLOGY MOTION SENSOR DEVICE WITH MOUNTING BRACKET. QUANTITY AND LOCATIONS PER PLAN DRAWINGS. SEE DISTRICT STANDARDS AND SPECIFICATIONS FOR MORE INFORMATION.
2. RECESSED DOOR CONTACT DEVICE. QUANTITY AND LOCATIONS PER PLAN DRAWINGS. SEE DISTRICT STANDARDS AND SPECIFICATIONS FOR MORE INFORMATION.
3. DEVICE CABLE PER MANUFACTURER REQUIREMENTS AND RECOMMENDATIONS. CABLE SHALL BE INSTALLED IN CONCEALED CONDUIT.
4. EXISTING WALL MOUNTED TERMINAL CABINET. PROVIDE ADDITIONAL TERMINAL BLOCKS, POPITS, ZONE EXPANDERS, POWER SUPPLY, ETCETERA AS REQUIRED FOR A COMPLETE AND FULLY FUNCTIONAL SYSTEM.
5. EXISTING BACKBONE CABLING, SHOW FOR REFERENCE ONLY.
6. EXISTING FIRST ALARM SECURITY SYSTEM HEAD END EQUIPMENT. MODIFY AS REQUIRED TO INCORPORATE ALL EXISTING AND NEW DEVICES ON THIS CAMPUS. PROVIDE ADDITIONAL POWER SUPPLIES, ZONE EXPANDERS, TERMINAL BLOCKS, POPITS, PROGRAMMING, ETCETERA AS REQUIRED FOR A COMPLETE AND FULLY FUNCTIONAL SYSTEM.

SECURITY INTRUSION ALARM SYSTEM GENERAL NOTES:

1. CONTRACTOR'S WORK INCLUDES REMOVING ALL EXISTING DETECTION DEVICES AND DEVICE WIRING IN BUILDINGS G AND H, AND PROVIDE ALL COMPONENTS, DEVICES, WIRING, CONDUIT, WIREMOLD, SOFTWARE, PROGRAMMING, CONFIGURATIONS, ZONE EXPANDERS, POPITS, TERMINAL CABINETS, BATTERIES, POWER SUPPLIES, FASTENERS, CONDUIT/SLEEVE FIRE STOPPING, LABOR, EQUIPMENT, SUPPLIES, LABELS, TESTING ACCESSORIES AND TRAINING REQUIRED FOR A COMPLETE AND FULLY FUNCTIONING SECURITY DETECTION SYSTEM.
2. ALL CABLING SHALL BE BY MANUFACTURERS REQUIREMENTS UNLESS OTHERWISE NOTED IN DISTRICT SPECIFICATIONS.
3. ALL EXTERIOR / UNDERGROUND CABLE TO BE WET LOCATION RATED. ALL CABLING SHALL BE RATED FOR THE ENVIRONMENT FOR WHICH IT IS INSTALLED, PER CALIFORNIA ELECTRICAL CODE AND TIA-568-C.
4. PROVIDE ZONE EXPANDERS AS REQUIRED FOR MOST EFFICIENT AND ECONOMICAL DISTRIBUTION AND EXPANSION (ONE POINT / ZONE PER MOTION DETECTOR AND DOOR CONTACT).
5. ALL DEVICES ARE TO BE WIRED INDEPENDENTLY, NO LOOPS FOR DATA, DEVICE OR POWER.
6. POWER SUPPLY FOR MOTION DETECTOR SHALL BE PROVIDED WITH AUTOMATIC SWITCHOVER TO BATTERY ON AC FAIL.
7. EVERY ROOM WITH A WINDOW SHALL HAVE ONE OR MORE MOTION DEVICES TO PROPERLY COVER THE AREA WIRED ON SEPARATE ZONES, INDIVIDUALLY BACK TO PANEL / TERMINAL CABINET.
8. LOCATE EQUIPMENT IN LOCKABLE TERMINAL CABINET INSIDE MDF/IDF ROOMS UNLESS OTHERWISE NOTED.
9. LABEL ALL CABLES WITH SCHOOL'S DESIGNATED ROOM NUMBER / LOCATION ON PLASTIC COATED CABLE MARKERS WRAPPED AROUND CABLE AT EACH END OF THE CABLE, AND IN EACH TERMINAL CABINET, VAULT, MANHOLE AND PULL BOX.
10. CONTRACTOR SHALL PROGRAM ALL ZONES ACCORDING TO DISTRICT'S DIRECTIONS. SEE DISTRICT PROJECT MANAGER FOR IDENTIFICATION OF ALL ZONE AREAS.
11. CONDUCTORS SHALL BE INSTALLED IN CONCEALED CONDUIT. PROVIDE SURFACE MOUNTED WIREMOLD RACEWAY OR EXPOSED PATHWAYS IN ALL OPEN-CEILING AND NON-ACCESSIBLE CEILING LOCATIONS. ALL EXPOSED CONDUITS SHALL BE PAINTED TO MATCH SURROUNDING SURFACES.
12. REFERENCE DISTRICT SPECIFICATIONS AND STANDARDS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
13. REFERENCE NEC ARTICLE 725 FOR ADDITIONAL INFORMATION FOR UNLISTED (OSP) CABLING ENTERING A BUILDING. RELATED NEC ARTICLES 770, 800, AND 820.

SECURITY INTRUSION ALARM SYSTEM DIAGRAM

SCALE: N.T.S.

2

ASSISTIVE LISTENING SYSTEM NOTES:

1. ALL ALS EQUIPMENT SHALL BE BY LISTEN TECHNOLOGIES TO MATCH EXISTING MANUFACTURER ON SITE.
2. PROVIDE PORTABLE ASSISTIVE LISTENING SYSTEM(S) (ALS) IN ACCORDANCE WITH 2022 CBC TITLE 24 PART 2 VOLUME 1 SECTION 11B-219 AND COMPLY WITH SECTION 11B-706. ALL EQUIPMENT SHALL COMPLY WITH FEDERAL CODE FCC PART 15.
3. PROVIDE QUANTITY OF PORTABLE RECEIVERS, PORTABLE TRANSMITTERS, EAR SPEAKERS, NECK LOOPS, LAPEL MICROPHONES, RECHARGEABLE BATTERIES, ETCETERA, AS REQUIRED FOR COMPLETE, FULLY FUNCTIONAL PORTABLE SYSTEMS, AND IN ACCORDANCE WITH THE CALIFORNIA BUILDING CODE.
4. PER APRIL 2020 DSA CODE APPEAL INTERPRETATION, SCHOOL FACILITIES MAY USE THE FOLLOWING ALTERNATIVE PROVISION (PER DSA REVIEWER KAI FISHMAN): FOR EACH SCHOOL, PROVIDE 2 PORTABLE ASSISTIVE LISTENING SYSTEMS, EACH WITH A TRANSMITTER AND A MINIMUM OF 2 RECEIVERS FOR USE IN CLASSROOMS WITHOUT AUDIO AMPLIFICATION. THE ASSISTIVE LISTENING RECEIVERS AND TRANSMITTER SHALL BE STORED IN THE SCHOOL SITE ADMINISTRATION OFFICE UNTIL REQUESTED.

   IN ADDITION, PROVIDE AN ASSISTIVE LISTENING SYSTEM FOR ASSEMBLY AREAS SUCH AS MULTI-PURPOSE ROOMS, CAFETERIAS, LECTURE HALLS OR OTHER ASSEMBLY AREAS. IF THE ROOM HAS NO FIXED SEATING, CALCULATE THE NUMBER OF SEATS USING 7 SF PER OCCUPANT. PROVIDE 4% OF ASSISTIVE LISTENING RECEIVERS FOR TOTAL NUMBER OF SEATS IN EACH ASSEMBLY AREA, BUT NO LESS THAN 2. THE ASSISTIVE LISTENING RECEIVERS SHOULD BE STORED IN OR NEAR THE ASSEMBLY AREA.
5. TWENTY-FIVE (25) PERCENT OF THE PORTABLE RECEIVERS SHALL COME EQUIPPED WITH HEARING-AID COMPATIBLE NECK LOOPS. SEVENTY-FIVE (75) PERCENT OF THE PORTABLE RECEIVERS SHALL COME EQUIPPED WITH EAR SPEAKERS.
6. PROVIDE ALS SIGNAGE IN THE QUANTITIES AND LOCATIONS AS INDICATED IN ARCHITECTURAL DRAWINGS, AND AS REQUIRED BY 2022 CBC AND 2010 ADA STANDARDS.
7. PRIOR TO ORDERING ALS EQUIPMENT, CONTRACTOR SHALL PERFORM A RADIO FREQUENCY (RF) TEST TO DETERMINE AND IDENTIFY ANY POTENTIAL RF INTERFERENCE. CONTRACTOR SHALL BE RESPONSIBLE TO SELECT ALS SYSTEM RADIO FREQUENCIES THAT DO NOT RECEIVE RF INTERFERENCE FROM OTHER BUILDING SYSTEMS SUCH AS LIGHTING, POWER, GENERATORS, HVAC, COMPUTERS, AUDIO, PAGING, ETC. FINAL SYSTEM TESTING SHALL BE CONDUCTED WITH ALL BUILDING SYSTEMS TURNED ON TO VERIFY THE ALS SYSTEM IS FREE OF INTERFERENCE. IF RF INTERFERENCE IS DETECTED WITHIN THE FIRST 30 DAYS AFTER PROJECT COMPLETION, CONTRACTOR SHALL REPLACE ALS EQUIPMENT WITH EQUIPMENT ON ANOTHER FREQUENCY AT NO ADDITIONAL COST TO THE OWNER. CONTRACTOR SHALL INCLUDE ALL COSTS IN BASE BID.
8. THE ASSISTIVE LISTENING SYSTEM SIGNS SHALL BE PROVIDED BY THE CONTRACTOR. SIGNS SHALL COMPLY WITH ALS SIGN DETAIL ON G-SERIES SHEETS. THE ASSISTIVE LISTENING SYSTEM SIGNS SHALL ALSO MEET THE REQUIREMENTS AS SET FORTH IN THE FOLLOWING SECTION OF THE 2010 ADA STANDARDS:

   216.10. ASSISTIVE LISTENING SYSTEMS. EACH ASSEMBLY AREA REQUIRED BY 219 TO PROVIDE ASSISTIVE LISTENING SYSTEMS SHALL PROVIDE SIGNS INFORMING PATRONS OF THE AVAILABILITY OF THE ASSISTIVE LISTENING SYSTEM. ASSISTIVE LISTENING SIGNS SHALL COMPLY WITH 703.5 AND SHALL INCLUDE THE INTERNATIONAL SYMBOL OF ACCESS FOR HEARING LOSS COMPLYING WITH 703.7.2.4.

   EXCEPTION: WHERE TICKET OFFICES OR WINDOWS ARE PROVIDED, SIGNS SHALL NOT BE REQUIRED AT EACH ASSEMBLY AREA PROVIDED THAT SIGNS ARE DISPLAYED AT EACH TICKET OFFICE OR WINDOW INFORMING PATRONS OF THE AVAILABILITY OF ASSISTIVE LISTENING SYSTEMS.
9. THE PORTABLE ASSISTIVE LISTENING SYSTEM SHALL CONFORM TO THE FOLLOWING SECTIONS OF 2022 CALIFORNIA BUILDING CODE (CBC):

   11B-706 ASSISTIVE LISTENING SYSTEMS

   11B-706.1 GENERAL. ASSISTIVE LISTENING SYSTEMS REQUIRED IN ASSEMBLY AREAS CONFERENCE AND MEETING ROOMS SHALL COMPLY WITH SECTION 11B-706.

   11B-706.2 RECEIVER JACKS. RECEIVERS REQUIRED FOR USE WITH AN ASSISTIVE LISTENING SYSTEM SHALL INCLUDE A 1/8 INCH (3.5MM) STANDARD MONO JACK.

   11B-706.3 RECEIVER HEARING-AID COMPATIBILITY. RECEIVERS REQUIRED TO BE HEARING-AID COMPATIBLE SHALL INTERFACE WITH TELECOILS IN HEARING AIDS THROUGH THE PROVISION OF NECK LOOPS.

   11B-706.4 SOUND PRESSURE LEVEL.ASSISTIVE LISTENING SYSTEMS SHALL BE CAPABLE OF PROVIDING A SOUND PRESSURE LEVEL OF 110 DB MINIMUM AND 118 DB MAXIMUM WITH A DYNAMIC RANGE ON THE VOLUME CONTROL OF 50 DB.

   11B-706.5 SIGNAL-TO-NOISE RATIO. THE SIGNAL-TO-NOISE RATIO FOR INTERNALLY GENERATED NOISE IN ASSISTIVE LISTENING SYSTEMS SHALL BE 18 DB MINIMUM.

   11B-706.6 PEAK CLIPPING LEVEL. PEAK CLIPPING SHALL NOT EXCEED 18 DB OF CLIPPING RELATIVE TO THE PEAKS OF SPEECH.
10. PROVIDE MANUFACTURER'S 3 YEAR (MINIMUM) WARRANTY FOR ALL PORTABLE TRANSMITTERS AND RECEIVERS, AND 3 YEAR (MINIMUM) WARRANTY ON ALL STATIONARY TRANSMITTERS.
11. PROVIDE CARRYING / CHARGING CASES AND RECHARGEABLE BATTERIES IN SUFFICIENT QUANTITY TO SIMULTANEOUSLY CHARGE ALL PORTABLE RECEIVERS AND PORTABLE TRANSMITTERS TOGETHER.
12. FINAL SYSTEM TESTING SHALL BE CONDUCTED WITH ALL BUILDING SYSTEMS TURNED ON (LIGHTING, HVAC, POWER, ETC.) TO VERIFY THE ALS SYSTEM IS FREE FROM LOCAL RF INTERFERENCE. IF RF INTERFERENCE IS DETECTED WITHIN THE FIRST 30 DAYS AFTER PROJECT ACCEPTANCE, THE CONTRACTOR SHALL REPLACE ALS EQUIPMENT WITH EQUIPMENT TURNED TO A DIFFERENT FREQUENCY AT NO ADDITIONAL COST TO THE OWNER. CONTRACTOR SHALL INCLUDE ALL COSTS IN BASE BID.
13. CONTRACTOR SHALL PERFORM FINAL TESTING IN THE PRESENCE OF THE OWNER OR OWNER'S REPRESENTATIVE, TO VERIFY SYSTEM FUNCTIONALITY.
14. CONTRACTOR SHALL PROVIDE 2 HOURS OF ON-SITE INSTRUCTION OF OWNER'S DESIGNATED PERSONNEL IN THE OPERATION AND MAINTENANCE OF THE ALS SYSTEMS.
15. CONTRACTOR SHALL PROVIDE 2 PRINTED COPIES OF THE OWNER'S MANUAL TO THE OWNER UPON FINAL SYSTEM ACCEPTANCE.

ASSISTIVE LISTENING SYSTEM

SCALE: N.T.S.

3

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-121181 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 07/02/2024

OWNER: SAN RAFAEL CITY SCHOOLS

PROJECT NAME: VENETIA VALLEY BLDGS G AND H ALTERATION

CLIENT ADDRESS: 177 N San Pedro Rd, San Rafael, CA 94903

REGISTERED PROFESSIONAL ENGINEER
RAYMOND W. SWEET
No. E15610
12/31/2025
ELECTRICAL
STATE OF CALIFORNIA

REVISIONS:

	DESCRIPTION	DATE
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PROJECT NO:

DATE ISSUED: 06/21/2024

SCALE: As indicated

SHEET NUMBER: E20-3

SHEET TITLE:

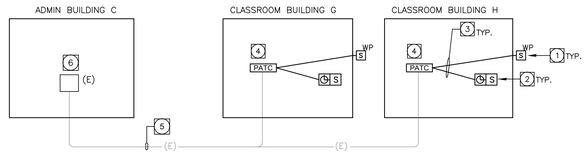
TECHNOLOGY SYSTEMS DIAGRAMS

tk1sc COLLABORATIVE
11870 Pierce Street, Suite 160
Riverside, California 92505
951.299.4160 www.tk1sc.com

Project Leader - Nikolas Bruno
Technology Lead - Joe Marotta
tk1sc Job #: B2304502.000

PUBLIC ADDRESS SYSTEM GENERAL INSTALLATION NOTES:

1. DRAWINGS AND LAYOUTS ARE PRIMARILY DIAGRAMMATIC IN NATURE. CONTRACTOR IS RESPONSIBLE FOR FINAL FOOTAGES AND EXACT LOCATIONS.
2. VERIFY ALL QUANTITIES AND LOCATIONS WITH PLAN DRAWINGS AND SPECIFICATIONS.
3. EXISTING TERMINAL CABINETS AND UNDERGROUND BACKBONE CABLING TO REMAIN PROTECTED IN PLACE UNLESS OTHERWISE NOTED.
4. PROVIDE NEW PUBLIC ADDRESS SPEAKERS, BACK BOXES, CABLING, TERMINAL CABINETS, TERMINAL BLOCKS, AMPLIFIERS, ETCETERA, AS REQUIRED FOR A COMPLETE AND FULLY FUNCTIONAL SYSTEM. PROVIDE HEAD END PROGRAMMING AND ZONING PER THE DISTRICT'S DIRECTION. CONTRACTOR SHALL COORDINATE PROGRAMMING REQUIREMENTS WITH THE DISTRICT IN THE FIELD.
5. DEVICE CABLE PER MANUFACTURER REQUIREMENTS AND RECOMMENDATIONS. CABLE SHALL BE INSTALLED IN CONDUIT OR WIREMOLD RACEWAY WHEN INSTALLED IN HARD LID, OPEN CEILINGS, AND NON ACCESSIBLE CEILING AREAS.
6. ALL NEW CABLE SHALL BE RATED FOR THE ENVIRONMENT IN WHICH IT IS INSTALLED, PER THE CEC AND CBC CODES.
7. CONTRACTOR SHALL TERMINATE, TEST AND LABEL ALL CABLES IN ACCORDANCE WITH THE DISTRICT STANDARDS AND PROJECT SPECIFICATIONS.
8. SET AND ADJUST ALL SPEAKER SOUND LEVELS TO THE SATISFACTION OF THE DISTRICT.
9. REFERENCE DISTRICT STANDARDS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.



PUBLIC ADDRESS SYSTEM BLOCK DIAGRAM KEY NOTES:

1. EXTERIOR SURFACE WALL MOUNTED PUBLIC ADDRESS WEATHER RESISTANT SPEAKER/HORN WITH BACKBOX AND WEATHERPROOF BAFFLE. MATCH EXISTING TYPE ON CAMPUS. QUANTITY AND LOCATIONS PER PLAN DRAWINGS. PAINT TO MATCH SURROUNDING SURFACES. SEE DISTRICT STANDARDS AND SPECIFICATIONS FOR MORE INFORMATION.
2. SURFACE WALL MOUNTED COMBINATION ANALOG CLOCK AND PUBLIC ADDRESS SPEAKER WITH BACK BOX. MATCH EXISTING TYPE ON CAMPUS. QUANTITY AND LOCATIONS PER PLAN DRAWINGS. FIELD VERIFY MOUNTING HEIGHT PRIOR TO INSTALLATION.
3. DEVICE CABLE PER MANUFACTURER REQUIREMENTS AND RECOMMENDATIONS. CABLE SHALL BE INSTALLED IN CONDUIT OR WIREMOLD RACEWAY WHEN INSTALLED IN EXPOSED AREAS.
4. EXISTING WALL MOUNTED TERMINAL CABINET. PROVIDE ADDITIONAL TERMINAL BLOCKS, ETC. AS REQUIRED FOR A COMPLETE AND FULLY FUNCTIONAL SYSTEM.
5. EXISTING BACKBONE CABLE SHOWN FOR REFERENCE ONLY
6. EXISTING BOGEN PUBLIC ADDRESS SYSTEM HEAD END EQUIPMENT. MODIFY AS REQUIRED TO INCORPORATE ALL EXISTING AND NEW DEVICES ON THIS CAMPUS. PROVIDE ADDITIONAL AMPLIFIERS, TERMINAL BLOCKS, PROGRAMMING, ETC AS REQUIRED FOR A COMPLETE AND FULLY FUNCTIONAL SYSTEM.

PUBLIC ADDRESS SYSTEM BLOCK DIAGRAM

SCALE: N.T.S.

1

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RAYMOND W. SWATZ
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PROJECT NO:
DATE ISSUED: 06/21/2024
SCALE: As indicated

SHEET NUMBER: E20-4

SHEET TITLE:

TECHNOLOGY SYSTEMS DIAGRAMS

tk1sc COLLABORATIVE
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Project Leader - Nikolas Bruno
Technology Lead - Joe Marotta
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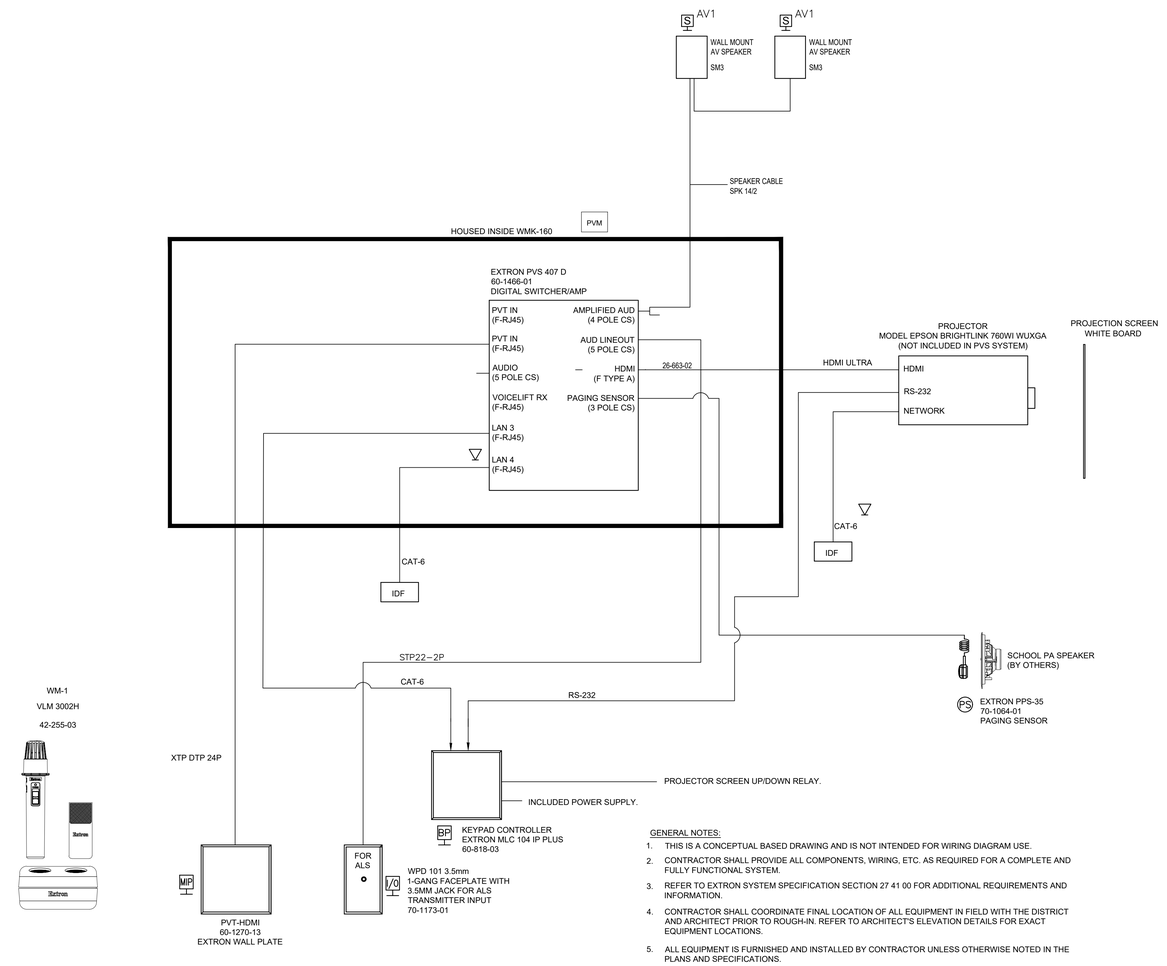
SINGLE INPUT SYSTEMS-AUDIO VISUAL EQUIPMENT SCHEDULE

SYMBOL	DESCRIPTION	MOUNTING HEIGHT	BACKBOX/CONDUIT REQUIREMENTS
BP	KEYPAD CONTROLLER EXTRON MLC 104 IP PLUS 60-818-03	+44" A.F.F.	FLUSH 3-GANG WITH (2) 1-1/4" CONDUITS STUBBED TO ACCESSIBLE CEILING. UTILIZE CONDUIT THROUGHOUT WHERE NO ACCESSIBLE CEILING OCCURS.
MIP	VIDEO/ AUDIO TRANSMITTER PVT-HDMI 60-1335-13 EXTRON WALL PLATE - LOCATE AT TEACHER'S DESK	+18" A.F.F.	FLUSH 2-GANG WITH (1) 1-1/4" CONDUIT STUBBED TO ACCESSIBLE CEILING. UTILIZE CONDUIT THROUGHOUT WHERE NO ACCESSIBLE CEILING OCCURS.
I/O	1-GANG EXTRON WALL PLATE WITH 3.5MM JACK AND CABLING FOR PORTABLE ALS TRANSMITTER WPD 101 3.5mm 70-1173-01	+18" A.F.F.	FLUSH 1-GANG WITH (1) 1-1/4" CONDUIT STUBBED TO ACCESSIBLE CEILING. UTILIZE CONDUIT THROUGHOUT WHERE NO ACCESSIBLE CEILING OCCURS.
VR	EXTRON VOICELIFT R.F. RECEIVER CEILING MOUNTED VLR 302	SURFACE MOUNT TO THE CEILING	SEE FLOOR PLANS FOR MORE INFORMATION.
S AV1	WALL MOUNTED PENDANT SPEAKER SM3 42-133-03	SUSPEND FROM CEILING. REFER TO ARCHITECT'S SHEETS FOR REQUIRED PLACEMENT	SEE FLOOR PLANS FOR MORE INFORMATION.
PVM	DIGITAL SWITCHER/AMPLIFIER EXTRON MODEL: PVS 407 D, 60-1466-01 EXTRON POWER SUPPLY	MOUNT INSIDE WMK-160. REFER TO ARCHITECT'S ELEVATION SHEETS FOR REQUIRED HEIGHTS	ELECTRICAL CONTRACTOR TO PROVIDE 120V 20A RECEPTACLE INSIDE THE CONTROLLER PANEL AND COORDINATE INSTALLATION IN FIELD WITH LOW VOLTAGE CONTRACTOR.
▽	DATA OUTLET FOR DIGITAL CONTROLLER/ TV SCREEN	INSTALL INSIDE THE PMK 560, AND BEHIND THE TV MONITOR. REFER TO ARCHITECT'S ELEVATIONS.	SEE FLOOR PLANS FOR MORE INFORMATION.
CABLING:	PROVIDE LENGTHS AND QUANTITIES AS REQUIRED FOR ALL DEVICES AND EQUIPMENT		UTILIZE CONDUIT THROUGHOUT WHERE NO ACCESSIBLE CEILING OCCURS.
VOICE LIFT:	EXTRON R.F. VOICE LIFT MICROPHONES: (1) PENDANT AND (1) HANDHELD (1) CHARGING STATION 42-255-03		NONE



GENERAL NOTES:

1. THIS IS A CONCEPTUAL BASED DRAWING AND IS NOT INTENDED FOR WIRING DIAGRAM USE.
2. CONTRACTOR SHALL PROVIDE ALL COMPONENTS, WIRING, ETC. AS REQUIRED FOR A COMPLETE AND FULLY FUNCTIONAL SYSTEM.
3. REFER TO EXTRON SYSTEM SPECIFICATION SECTION 27 41 00 FOR ADDITIONAL REQUIREMENTS AND INFORMATION.
4. CONTRACTOR SHALL COORDINATE FINAL LOCATION OF ALL EQUIPMENT IN FIELD WITH THE DISTRICT AND ARCHITECT PRIOR TO ROUGH-IN. REFER TO ARCHITECT'S ELEVATION DETAILS FOR EXACT EQUIPMENT LOCATIONS.
5. ALL EQUIPMENT IS FURNISHED AND INSTALLED BY CONTRACTOR UNLESS OTHERWISE NOTED IN THE PLANS AND SPECIFICATIONS.

CLASSROOM-AUDIO VISUAL WIRING DIAGRAM

SCALE: N.T.S.

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IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-121181 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 07/02/2024

OWNER: SAN RAFAEL CITY SCHOOLS

PROJECT NAME: VENETIA VALLEY BLDGS G AND H ALTERATION

CLIENT ADDRESS: 177 N San Pedro Rd, San Rafael, CA 94903

REGISTERED PROFESSIONAL ENGINEER RAYMOND W. SWEET No. E15610 12/31/2025 ELECTRICAL STATE OF CALIFORNIA

REVISIONS:

	DESCRIPTION	DATE
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PROJECT NO:

DATE ISSUED: 06/21/2024

SCALE: As indicated

SHEET NUMBER: E20-5

SHEET TITLE:

CLASSROOM AV SYSTEMS DIAGRAM

tk1sc COLLABORATIVE
11870 Pierce Street, Suite 160
Riverside, California 92505
951.299.4160 www.tk1sc.com
Project Leader - Nikolas Bruno
Electrical Lead - Nikolas Bruno
tk1sc Job #: B2304502.000

LIGHTING FIXTURE SCHEDULE NOTES:

A. GENERAL NOTES:

1. THE LIGHTING FIXTURES, LAMPS, BALLASTS, POWER SUPPLIES, DRIVERS AND TRANSFORMERS FOR THIS PROJECT HAVE BEEN SPECIFIED TO ENSURE THAT SPECIFIC AESTHETIC AND PERFORMANCE REQUIREMENTS WILL BE SATISFIED. THESE PRODUCTS HAVE BEEN CAREFULLY RESEARCHED AND EACH SPECIFIED ITEM HAS UNIQUE QUALITIES WHICH WERE DETERMINED TO BE ESSENTIAL IN SATISFYING THE OWNER'S, ARCHITECT'S, ENGINEER'S AND LIGHTING CONSULTANT'S DESIGN CRITERIA.
2. CONTRACTOR SHALL PROVIDE ALL MATERIALS AS DETAILED ON DRAWINGS AND/OR SCHEDULES, AND LABOR AS REQUIRED TO ACHIEVE A COMPLETE AND OPERATING LIGHTING SYSTEM.
3. CONTRACTOR SHALL NOTIFY THE ELECTRICAL ENGINEER AND/OR LIGHTING CONSULTANT OF ANY PROVISIONS OF THE SPECIFICATION THAT IS IN CONFLICT WITH LOCALLY ENFORCED CODES.
4. CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ARCHITECT OF ANY REQUIRED MODIFICATIONS THAT ARE NOT SHOWN ON THE DRAWINGS.
5. ALL ELECTRICAL MATERIAL SHALL BE IN NEW & UNDAMAGED CONDITION WHEN INSTALLED. ALL EQUIPMENT SHALL BE LISTED BY A NATIONALLY RECOGNIZED TESTING LABORATORY.
6. ALL DIMENSIONS & MEASUREMENTS FOUND ON PLANS ARE APPROXIMATE. CONTRACTOR SHALL VALIDATE ALL DIMENSIONS PRIOR TO ORDERING MATERIAL TO INCLUDE MAKING FIELD MEASUREMENTS BASED ON ACTUAL SITE CONDITIONS TO DEVELOP COMPLETE ORDERS AND INSTALL SYSTEMS PER DRAWINGS AND SPECIFICATIONS.
7. REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATION AND ELEVATION OF ALL LIGHTING FIXTURES AND ASSOCIATED DEVICES AND EQUIPMENT.
8. PRIOR TO AIMING/ADJUSTING ACTIVITIES, COMMISSIONING OR PUNCHWALK COMMENCEMENT, CONTRACTOR SHALL PROPERLY TEST AND VERIFY ALL CIRCUITRY AND CONTROL WIRING AND IMPLEMENT ALL CONTROLS PROGRAMMING.

B. INSTALLATION:

1. LOCATIONS OF THE FIXTURES SHALL BE PER THE ARCHITECTURAL REFLECTED CEILING PLAN(S) AND SHALL BE COORDINATED AT TIME OF ROUGH IN. CONFLICTS BETWEEN THE ARCHITECTURAL REFLECTED CEILING PLAN(S) AND THE ELECTRICAL/LIGHTING DESIGN PLAN(S) SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT IN WRITING PRIOR TO ORDERING FIXTURES.
2. LIGHTING DRAWINGS REPRESENT THE DESIGN INTENT OF THE EQUIPMENT, DEVICES, ETC. TO BE CONNECTED AND THE CIRCUITS TO WHICH THEY ARE TO BE CONNECTED. CONTRACTOR SHALL INSTALL ALL CONDUIT, J-BOXES AND ADDITIONAL HARDWARE AND DEVICES AS REQUIRED FOR A COMPLETE AND OPERATING SYSTEM.
3. ALL LIGHTING FIXTURES SHALL BE MOUNTED AND INDIVIDUALLY SUPPORTED IN ACCORDANCE WITH APPLICABLE CODES. FIXTURES SHALL BE FURNISHED AND INSTALLED WITH ALL REQUIRED MOUNTING DEVICES, HARDWARE AND ACCESSORIES.
4. CONTRACTOR TO VERIFY LIGHTING FIXTURE MOUNTING HARDWARE IS COMPATIBLE WITH APPROVED MOUNTING CONDITIONS. MOUNTING CONDITIONS MUST ALLOW FOR AIMING AND ADJUSTING OF LIGHTING FIXTURES ON SITE.
5. CONTRACTOR TO INCLUDE AIMING/ADJUSTING LABOR AFTER DARK AS REQUIRED FOR ANY ADJUSTABLE LIGHTING FIXTURE AND FOR EACH INDIVIDUAL LIGHTING FIXTURE HEAD OR LAMP HOLDER IN A MULTI-FIXTURE/MULTI-LAMP ASSEMBLY. LIGHTING FIXTURES TO BE AIMED/ADJUSTED PER THE DIRECTION OF OWNER, ARCHITECT AND/OR LIGHTING CONSULTANT.
6. CONTRACTOR TO SUPPLY ADEQUATE SUPPORT INCLUDING LADDERS, LIFTS OR OTHER EQUIPMENT REQUIRED TO ACCESS LIGHTING FIXTURES AT THE TIME OF FOCUS, INCLUDING EVENING OR NIGHT WORK AS MAY BE REQUIRED DUE TO SCHEDULE CONFLICT OR DAYLIGHT IMPACT. AIMING/ADJUSTING LABOR SHALL BE PREPARED FOR WORK WITH COMMON HAND TOOLS TO MAKE ADJUSTMENTS AND MINOR REPAIRS DURING AIMING.
7. ALL COVE MOUNTED LIGHTING FIXTURES SHALL EXTEND THE FULL LENGTH OF THE COVE. CONTRACTOR TO FIELD MEASURE COVE LENGTH AND ORDER QUANTITY OF LIGHTING FIXTURES AS REQUIRED. PROVIDE COMPLETE MANUFACTURER SHOP DRAWINGS OF BUILT-IN COVE OR LINEAR LIGHTING SYSTEMS.
8. CONTRACTOR TO REPLACE ALL INOPERATIVE LAMPS, LED ARRAYS OR SYSTEMS AT THE END OF THE CONSTRUCTION PHASE PRIOR TO THE FOCUS AND PROGRAMMING PHASE AND AGAIN PRIOR TO OWNER OCCUPANCY OR PROJECT OPENING.
9. ALL POLE MOUNTED FIXTURES, POST MOUNTED FIXTURES AND BOLLARDS SHALL BE PROVIDED WITH A STRUCTURAL FOOTING AS DETAILED ELSEWHERE IN THE DRAWINGS. FOOTING SIZE TO BE PROVIDED BY STRUCTURAL ENGINEER. REFERENCE FIXTURE SCHEDULE AND DETAILS FOR MORE INFORMATION.
10. ALL EXIT SIGNS SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE LOCAL FIRE PREVENTION CODE AUTHORITY. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL NECESSARY HARDWARE SUCH THAT ALL EXIT SIGNS ARE INSTALLED IN AN APPROVED VISIBLE LOCATION. THE CONTRACTOR SHALL VERIFY CHEVRONS AND NUMBER OF FACES PER EXIT SIGN WITH ARCHITECTURAL REFLECTED CEILING PLAN(S). ANY DISCREPANCIES BETWEEN EXIT SIGNS DEPICTED ON ARCHITECTURAL AND ELECTRICAL PLANS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT PRIOR TO ORDERING EXIT SIGNS.

C. SUBMITTALS AND SUBSTITUTIONS:

1. CONTRACTOR TO SUBMIT FOR APPROVAL ON THE PRODUCTS THEY INTEND TO FURNISH WITHIN TEN (10) DAYS OF AWARD OF CONTRACT. FAILURE TO SUBMIT WITHIN DEADLINE CONSTITUTES A GUARANTEE THAT ONLY THE BASE SPECIFIED PRODUCTS WILL BE SUPPLIED AND THAT NO OTHER PRODUCTS, WHETHER LISTED AS ALTERNATES OR NOT, WILL BE CONSIDERED.
2. CONTRACTOR TO PROVIDE A SUBMITTAL/SHOP DRAWING SUBMITTAL FOR EACH LIGHTING FIXTURE TYPE INCLUDING ACCESSORIES, BALLAST(S), POWER SUPPLIES, DRIVER(S) TRANSFORMER(S), AND INTEGRAL EMERGENCY BATTERIES AND TEST SWITCHES. ANY LIGHTING FIXTURE SUBMITTAL PROVIDED WITHOUT SPECIFIC LIGHTING FIXTURE'S ACCESSORIES, BALLAST, POWER SUPPLY, DRIVER, TRANSFORMER OR BATTERY INFORMATION SHALL BE REJECTED AS INCOMPLETE.
3. SUBSTITUTIONS OF THE SPECIFIED PRODUCTS ARE STRICTLY PROHIBITED - UNLESS APPROVED AS STATED HEREIN. LIGHTING FIXTURE SUBSTITUTIONS SHALL BE FORMALLY PRESENTED TO THE ELECTRICAL ENGINEER AND/OR LIGHTING CONSULTANT, BY APPOINTMENT ONLY, AT LEAST TEN (10) WORKING DAYS PRIOR TO BID TIME. THE SUBMITTAL MATERIAL SHALL INCLUDE THE FOLLOWING ITEMS.
   a. A COMPLETE AND OPERATING SAMPLE, WIRED FOR 120V OPERATION, WITH LAMP, CORD AND PLUG.
   b. A COMPLETE PHOTOMETRIC REPORT, FOR THE PROPOSED SUBSTITUTE PRODUCT, USING THE SPECIFIED LAMP OR LED TYPE AND WATTAGE, INCLUDING TABULATED CANDLEPOWER VALUES, COEFFICIENT OF UTILIZATION, AND AN ISO-FOOT-CANDLE DIAGRAM. PRORATED DATA WILL NOT BE ACCEPTABLE. THE PHOTOMETRIC REPORT MUST BE DONE IN ACCORDANCE WITH PUBLISHED I.E.S. TESTING PROCEDURES AND CERTIFIED BY A REGISTERED ELECTRICAL ENGINEER.
   c. A CURRENT ORIGINAL CATALOG DATA SHEET WITH LIGHTING FIXTURE CATALOG NUMBERS. MODIFIED DATA SHEETS WILL NOT BE ACCEPTABLE.
   d. A SIGNED COPY OF THE "SUBSTITUTION COMPLIANCE FORM", LOCATED IN THE DIVISION 1 SPECIFICATION, STATING THAT IF THE PROPOSED SUBSTITUTION IS ACCEPTED, THE PROJECT SCHEDULE WILL NOT BE NEGATIVELY AFFECTED. IF THE COMPLETION OF THE PROJECT IS DELAYED BECAUSE OF THE APPROVED SUBSTITUTION, THE CONTRACTOR WILL BE RESPONSIBLE FOR PAYMENT OF ANY ESTABLISHED LIQUIDATED DAMAGES.
   e. FOR SPECIFIC INTERIOR FIXTURE SUBSTITUTIONS, WHEN DIRECTED BY THE ELECTRICAL ENGINEER AND/OR LIGHTING CONSULTANT, A POINT-BY-POINT SCALED COMPUTER PRINTOUT SHALL BE PROVIDED VERIFYING THE ILLUMINATION LEVELS FOR THE SPECIFIC INTERIOR AREA. IF THE SUBSTITUTED FIXTURE IS AN EMERGENCY FIXTURE, THE REPORT SHALL BE RUN IN BOTH NORMAL AND EMERGENCY MODES. THIS REPORT SHALL BE CONFIGURED WITH SPECIFIC CONSTRAINTS, AS DIRECTED BY THE ENGINEER OF RECORD. THE REPORT MUST SHOW THAT THE SUBSTITUTED FIXTURE PROVIDES PERFORMANCE EQUAL TO OR BETTER THAN THE LIGHTING LEVELS OF THE SPECIFIED PRODUCT.
   f. FOR ALL EXTERIOR FIXTURE SUBSTITUTIONS, A POINT-BY-POINT SCALED COMPUTER PRINTOUT SHALL BE PROVIDED VERIFYING THE ILLUMINATION LEVELS FOR THE ENTIRE SITE PLAN BASED ON USING THE PROPOSED ALTERNATIVE FIXTURES. THE REPORT MUST SHOW THAT THE SUBSTITUTED FIXTURE PROVIDES PERFORMANCE EQUAL TO, OR BETTER THAN THE LIGHTING LEVELS AND UNIFORMITY RATIOS (MAX:MIN AND AVG:MIN) OF THE SPECIFIED PRODUCT. THIS REPORT SHALL BE CONFIGURED WITH THE FOLLOWING CONSTRAINTS.
      i. THE SPACING INCREMENT OR POINTS ON THE VERIFICATION REPORT SHALL NOT EXCEED TEN (10) FEET IN EITHER DIRECTION.
      ii. THE PHOTOMETRIC CALCULATION SHALL BE BASED ON PROVIDING MAINTAINED FOOT-CANDLE LEVELS USING MEAN LAMP LUMENS AND A LIGHT LOSS FACTOR, AS DIRECTED BY THE ENGINEER OF RECORD.
   iii. THE PHOTOMETRIC CALCULATION SHALL SHOW ANY ADDITIONAL ENERGY AND/OR ENERGY COSTS, FOR A TEN YEAR PERIOD, AS COMPARED TO THE ORIGINALLY SPECIFIED ITEM. THE TOTAL COSTS FOR THESE EXPENSES WILL BE DEDUCTED FROM THE CONTRACT COST.
4. DURING THE BIDDING PROCESS, THE CONTRACTOR SHALL REFER TO THE LIGHTING FIXTURE SCHEDULES ON THE ARCHITECTURAL PLANS (IF PROVIDED ON PROJECT), LIGHTING DESIGN PLANS/SPECIFICATIONS (IF PROVIDED ON PROJECT), AND THE ELECTRICAL PLANS. ANY DISCREPANCIES BETWEEN THEM INCLUDING, BUT NOT LIMITED TO, PART NUMBERS AND FIXTURE DESCRIPTIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT, ELECTRICAL ENGINEER, AND LIGHTING DESIGNER WITH PRE-BID RFI(S). WHERE DISCREPANCIES ARE DISCOVERED WHEN THERE IS INSUFFICIENT TIME TO ISSUE PRE-BID RFI(S), THE BASE BID SHALL INCORPORATE THE MOST COSTLY VERSION OF THE DISCREPANCY AND SHALL BE MEMORIALIZED IN AN RFI OR AS A BID CLARIFICATION. PROVIDING A VOLUNTARY DEDUCTIVE ALTERNATE BID CLARIFYING FIXTURE SCHEDULE DISCREPANCIES IS ALSO AN ACCEPTABLE FORM OF DISCREPANCY DOCUMENTATION.
5. FIXTURE FINISHES:
   a. ALL FIXTURE FINISHES AND COLORS, UNLESS NOTED AS PREMIUM OR CUSTOM, SHALL BE SELECTED FROM THE MANUFACTURERS STANDARD COLOR OPTIONS AS LISTED ON THE FIXTURE SPECIFICATION SHEET. STANDARD FINISH SHALL BE SELECTED BY THE ARCHITECT, INTERIOR DESIGNER OR OWNER. THIS DIRECTION WILL BE PROVIDED IN THE SHOP DRAWING REVIEW PROCESS.
   b. ALL FIXTURES INDICATED WITH A PREMIUM OR CUSTOM COLOR SHALL BE ASSIGNED A CUSTOM COLOR REFERENCE NUMBER (SUCH AS RAL#) OR PROVIDE FIVE (5) PAINT CHIPS FOR MANUFACTURER TO USE TO MATCH COLOR. PREMIUM OR CUSTOM FINISH SHALL BE SELECTED BY THE ARCHITECT, INTERIOR DESIGNER OR OWNER. THIS DIRECTION WILL BE PROVIDED IN THE SHOP DRAWING REVIEW PROCESS.
6. THE LIGHTING FIXTURE MODEL NUMBER MAY INDICATE A FIXTURE OPTION THAT THE CONTRACTOR MUST IDENTIFY PRIOR TO ORDERING/PROVIDING SUBMITTALS, INCLUDING, BUT NOT LIMITED TO: VOLTAGE, MOUNTING CONDITION/HARDWARE, FINISH, DIMMING REQUIREMENTS/BALLAST INFORMATION. GENERALLY, CONTRACTOR-SELECTED OPTIONS ARE DENOTED IN THE PART NUMBER WITH BRACKETS EX: [VOLTS?]
   a. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING AND PROVIDING ALL HANGERS, CLIPS AND NECESSARY HARDWARE TO INSTALL THE FIXTURE IN THE ENVIRONMENT AS SHOWN ON THE ARCHITECTURAL PLANS. ALL FIXTURES SHALL BE PROVIDED WITH ALL REQUIRED STRUCTURAL SUPPORTS AS REQUIRED BY THE CURRENTLY ADOPTED CODES.
   b. VOLTAGES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO ORDERING - SEE ELECTRICAL DRAWINGS FOR BRANCH CIRCUIT INFORMATION. IT IS POSSIBLE THAT FIXTURES WILL BE REQUIRED IN VARIOUS VOLTAGES.
7. "NO KNOWN EQUAL" LIGHTING FIXTURE PRICING/BIDDING NOTES:
   a. EACH FIXTURE IDENTIFIED AS "NO KNOWN EQUAL" ON THIS PROJECT SHALL BE BID IN A "LINE ITEM" FORMAT. A PER UNIT MATERIAL COST SHALL BE PROVIDED FOR EACH "NO KNOWN EQUAL" FIXTURE. THIS PRICE SHALL INCLUDE LAMPS AS WELL AS ALL OTHER REQUIRED MATERIALS REQUIRED FOR INSTALLATION. THE FIXTURE PRICE QUOTED WILL BE UTILIZED, PRIOR TO SHOP DRAWING APPROVAL, FOR "ADDING" AND/OR "DELETING" ANY QUANTITY OF THE FIXTURE.
   b. A UNIT COST SHALL BE SUBMITTED FOR EACH "NO KNOWN EQUAL" FIXTURE. SUBMIT THE PRICING AS PART OF THE BID FORM ON A SEPARATE 8 1/2" X 11" SHEET.
   c. FAILURE TO SUBMIT A LINE ITEM FOR EACH "NO KNOWN EQUAL" FIXTURE MAY RESULT IN THE REJECTION, REFUSAL, OR NON-ACCEPTANCE OF THE CONTRACTOR'S BID.
8. FIXTURES IDENTIFIED AS "NO KNOWN EQUAL - OWNER STANDARD" OR "CAMPUS STANDARD" ARE TO BE PROVIDED AS SPECIFIED, WITH SUBSTITUTIONS STRICTLY PROHIBITED. SEE ADDITIONAL NOTES FOR "NO KNOW EQUAL" BIDDING REQUIREMENTS.

D. LIGHTING FIXTURE SPECIFICATIONS:

1. ALL EXTERIOR LIGHTING EQUIPMENT SHALL BE RATED FOR WET LOCATION AND THE IP RATING OF ALL EQUIPMENT, INCLUDING BALLAST, POWER SUPPLY AND TRANSFORMER ENCLOSURES SHALL CONFORM TO THE CONDITIONS IN WHICH THE LIGHTING FIXTURE IS MOUNTED.
2. ALL BALLASTS, POWER SUPPLIES, DRIVERS AND/OR TRANSFORMERS THAT ARE REMOTELY LOCATED SHALL BE INSTALLED AS NEAR TO THE LIGHTING FIXTURE(S) AS POSSIBLE, HIDDEN FROM PUBLIC VIEW IN AN ACCESSIBLE COMPARTMENT THAT IS WELL VENTILATED. CONTRACTOR TO COORDINATE LOCATION(S) WITH ARCHITECT PRIOR TO ROUGH-IN.
3. ALL TRANSFORMERS SHALL BE FUSED ON THE SECONDARY SIDE.
4. COLOR FILTERS SHALL BE GLASS OR DICHROIC UNLESS OTHERWISE INDICATED ON DRAWINGS.
5. CONTRACTOR TO PROVIDE 20% ADDITIONAL COLOR FILTERS FOR EACH COLOR AND SIZE.
6. CONTRACTOR TO VERIFY THAT ALL LIGHTING FIXTURES SPECIFIED WITH A COLOR FILTER ARE SUPPLIED WITH ANY AND ALL ATTACHMENT DEVICES FOR THE FILTER.
7. ALL TRACK LIGHTING FIXTURES SHALL BE PROVIDED WITH THE APPROPRIATE TRACK SYSTEM WHICH SHALL INCLUDE ALL MISCELLANEOUS COMPONENTS REQUIRED, AS WELL A ANY REQUIRED CIRCUIT LIMITERS FOR A COMPLETE INSTALLATION. TRACK LENGTH(S) SHALL BE PER DRAWINGS.

E. DRIVERS / TRANSFORMERS:

1. [OPTION?] IN FIXTURE MODEL NUMBER INDICATE THAT THE FIXTURE DRIVER TYPE AND QUANTITY MUST BE VERIFIED BY THE CONTRACTOR USING FIXTURE CALLOUT INFORMATION AND FIXTURE SWITCHING CONFIGURATION INFORMATION.
2. CONTINUOUS DIMMING AND CONTROLLABLE LED:
   a. PROVIDE CONTROLLABLE LED DIMMING DRIVERS (INTEGRAL OR REMOTE) WITH POWER FACTOR GREATER THAN 0.85 AND MAXIMUM THD OF 20% AT FULL LOAD.
   b. PRIOR TO BID CONTRACTOR TO VERIFY DRIVER COMPATIBILITY WITH DIMMERS, DIMMING CONTROL SYSTEM(S) AND DISTRIBUTED LIGHTING CONTROL SYSTEM(S) WITH RESPECTIVE LIGHTING MANUFACTURER(S) AND LIGHTING/DIMMING CONTROL SYSTEM MANUFACTURERS. IF COMPATIBILITY DOCUMENTATION IS UNAVAILABLE FOR A GIVEN LED FIXTURE/LIGHTING CONTROL SYSTEM COMBINATION, CONTRACTOR SHALL INCLUDE COSTS IN THE BASE BID FOR RESPECTIVE LIGHTING MANUFACTURER AND LIGHTING CONTROLS MANUFACTURER TO TEST/WARRANT COMPATIBILITY OF SAID COMBINATIONS.
   c. CONTINUOUS LED DIMMING DRIVERS SHALL BE AT MINIMUM 4-WIRE 0-10V 10% DIMMING (HOT, NEUTRAL, DIM+, DIM-).

F. EMERGENCY FIXTURES / BATTERY PACKS:

1. LIGHT FIXTURES INDICATED AS EMERGENCY SHALL BE IDENTIFIED / PROVIDED AS FOLLOWS:
   a. INTEGRAL BATTERY PACK (EB):
      3a/3EB - FIXTURE CONNECTED TO CIRCUIT "3", CONTROL SWITCHLEG "a" - WITH THE BATTERY CHARGING LEAD CONNECTED TO A CONSTANT HOT CIRCUIT "3".
      3NL/3EB - FIXTURE CONNECTED TO A CONSTANT HOT CIRCUIT "#3". BATTERY CHARGING LEAD CONNECTED TO A CONSTANT HOT CIRCUIT "3".
   b. REMOTE BACK-UP SOURCE (EM):
      3a/3EM - ROUTED THROUGH A U.L. LISTED TRANSFER RELAY (LC & D #GR-2001E/S) FOR SWITCHED CONTROLS OR A U.L. LISTED TRANSFER SWITCH (BODINE #GTD SERIES DEVICE) FOR DIMMING CONTROLS. CONNECTED TO A CONSTANT HOT EMERGENCY CIRCUIT "3". SEE DISTRIBUTED LIGHTING CONTROL SPECIFICATIONS FOR DEVICE REQUIREMENTS WHEN CONTROLLED BY OCCUPANCY SENSORS.
      3NL/3EM - FIXTURE CONNECTED TO A CONSTANT HOT EMERGENCY CIRCUIT "3".
   c. REMOTE BACK-UP SOURCE (EM) NOTES:
      - ALL REMOTE BACK UP SOURCE (EM) FIXTURES SHALL BE PROVIDED WITH AN IN LINE FUSE. PROVIDE ADDITIONAL LABELING TO INDICATE FIXTURE IS PROTECTED BY A FUSE.
2. EMERGENCY BATTERY PACK NOTES:
   a. PROVIDE INTEGRAL TEST SWITCH / CHARGE LIGHT OPTION FOR ALL EMERGENCY BATTERY PACKS INSTALLED IN LIGHT FIXTURES.
   b. ALL RECESSED DOWNLIGHTS SUPPLIED WITH A BATTERY PACK SHALL BE PROVIDED WITH AN INTEGRAL COMBINATION TEST SWITCH / CHARGING INDICATOR LIGHT- MOUNTED INSIDE THE REFLECTOR. REMOTE TEST SWITCH / CHARGING LIGHTS ARE NOT ALLOWED. THE TEST SWITCH / CHARGING INDICATOR LIGHT SHALL NOT SECURELY ATTACHED TO THE REFLECTOR WITH 18" OF SLACK LEADS, FOR EASY REMOVAL OF THE REFLECTOR ASSEMBLY.
   c. ALL BATTERY PACKS AND ALL COMBINATION LED BATTERY PACK/EMERGENCY DRIVERS SHALL BE UL924 LISTED.
   d. PRIOR TO BID, CONTRACTOR SHALL VERIFY WITH FIXTURE MANUFACTURER(S) THAT EMERGENCY BATTERY PACKS ARE MANUFACTURED TO BE INTEGRAL TO FIXTURE HOUSINGS.
   e. SHOULD THE SPECIFIED LED EMERGENCY BATTERY PACK(S) NOT FIT WITHIN A GIVEN FIXTURE(S) OR SHOULD THE FIXTURE NOT BE MANUFACTURED TO ACCOMMODATE A BATTERY PACK, CONTRACTOR SHALL INCLUDE ALL COSTS IN BASE BID TO LOCATE/CONNECT SELF-TESTING MINI INVERTER(S) (IOTA #ILS SERIES OF BODINE#ELI-S-[WATT?]) REMOTELY FROM THE FIXTURE(S) IN THE NEAREST ELECTRICAL ROOM OR TO LOCATE EMERGENCY BATTERY PACK(S) REMOTELY FROM THE FIXTURE ABOVE THE NEAREST ACCESSIBLE CEILING.
   f. LED BATTERY PACKS SHALL PROVIDE A MINIMUM OF 90 MINUTES OF EMERGENCY ILLUMINATION, AND SHALL BE RATED AT A MINIMUM OF 10 WATTS, OR AS SPECIFIED. WHERE A FIXTURE TYPE IS UNAVAILABLE WITH A 10W BATTERY PACK OR WHERE THE WATTAGE IS NOT SPECIFIED ON THE PLANS, INCLUDE ALL COST IN BASE BID TO PROVIDE THE HIGHEST WATTAGE AVAILABLE ON THE FIXTURE CUTSHEET. ANY LISTED EQUAL FIXTURE OR ANY SUBSTITUTION OFFERED BY THE CONTRACTOR MUST ALSO HAVE BATTERY PACKS CAPABLE OF PRODUCING THE SAME OR MORE LUMENS WHEN ON BATTERY AS OUTLINED ABOVE. ACCEPTABLE MANUFACTURES: BODINE OR IOTA.
   g. TO MAINTAIN UL LISTING OF LED FIXTURE, FIXTURE MANUFACTURER(S) SHALL INSTALL LED EMERGENCY BATTERY PACKS AT THE FACTORY AND OBTAIN A UL LISTING FOR THE FIXTURE WITH EMERGENCY BATTERY PACK. FIELD-INSTALLATION OF LED EMERGENCY BATTERY PACK(S) IS PROHIBITED.
   h. PROVIDE DAMP LOCATION VERSION IN ALL DAMP LABEL INSTALLATIONS.

LIGHTING FIXTURE SCHEDULE

SYMBOL	TYPE	MANUFACTURER AND MODEL NUMBER	FIXTURE VA/ WATTS	LAMP/ LAMP OPTION	GENERAL DESCRIPTION
	1	FINELITE HP-4-P-ID-(LENGTH AS INDICATED)-S-835-F-120-SCFC-10% EQUAL BY: LITHONIA OR PRUDENTIAL	7.1W/FT	LED/3500K	PENDANT MOUNTED LINEAR DIRECT/INDIRECT LED, EXTRUDED ALUMINUM BODY. PROVIDE WITH EMERGENCY BATTERY PACK WITH TEST SWITCH WHEN INDICATED ON PLANS. MINIMUM 80CRI, I70, 114LM/WATT. 0-10V DIMMING. (GENERAL CLASSROOMS) – –
	2	COOPER EATON – METALUX 4SNLED-LD4-41SL-LW-UNV-(EL14W)-L835-CD-U EQUAL BY: LITHONIA OR PRUDENTIAL	41/41	LED/3500K	SURFACE MOUNTED STRIP LIGHT FOR USE WITH 41WATT 4100LUMEN LED AT 3500K INTEGRAL 0-10V DIMMING DRIVER. FULL FROSTED ACRYLIC LENS. PROVIDE EMERGENCY BATTERY PACK WITH TEST SWITCH WHEN INDICATED ON PLANS. (BACK OF HOUSE) MINIMUM 80CRI, I70, 50LM/WATT –
	3	PRESCOLITE LC6LED SERIES LC6ML-DM1-UNV-6LCML-24L-40-8-VR – EQUAL BY: LITHONIA OR PRUDENTIAL	26W	LED/4000K	RECESSED, LED DOWNLIGHT WITH 6" APERTURE, 0-10V DIMMING DRIVE, 2400 LUMEN OUTPUT, VANDAL RESISTANT, LISTED FOR WET LOCATIONS. INDICATED ON PLANS. (RESTROOM) –
	4	EATON FAILSAFE TRE11-LD4-25W-35K-OPL-BK-UNV-ED-C1 (EL12W/CSTC) EQUAL BY: LITHONIA OR PRUDENTIAL	25/25	LED/3500K	11" ROUND WALL MOUNTED FIXTURE WITH ACRYLLIC LENS. WET LOCATION LISTED VANDAL PROOF, LED 3500K, 725 LUMENS. PROVIDE WITH EMERGENCY BATTERY PACK AS INDICATED ON PLANS. IP65 RATED, MOUNT AT 7'-0"AFF. PROVIDE BACKBOX FOR ALL FIXTURES. MINIMUM 80CRI, I70, 50LM/WATT (GENERAL PEDESTRIAN EXTERIOR) –
	5	FINELITE HP-4-SM-D-(LENGTH AS INDICATED)-B-835-F-120-SCFC-10% EQUAL BY: LITHONIA OR PRUDENTIAL	7.1W/FT	LED/3500K	SURFACE MOUNTED LINEAR LED, EXTRUDED ALUMINUM BODY, 379 LUMENS PER FOOT. PROVIDE WITH EMERGENCY BATTERY PACK WITH TEST SWITCH WHEN INDICATED ON PLANS. MINIMUM 80CRI, I70. 0-10V DIMMING. REFER TO MOUNTING DETAIL 3/E50-1. (GENERAL CLASSROOMS) –
OR	X	SURE-LITES CX SERIES CX-6-X-2C-G – EQUAL BY: MC PHILBEN OR LITHONIA	2	LED	DIE-CAST ALUMINUM EXIT SIGN WITH HINGED AND LATCHED BRUSHED ALUMINUM STENCIL FACEPLATE AND BLACK HOUSING, GREEN LETTERING, SINGLE OR DOUBLE FACE AND DIRECTIONAL ARROWS AS INDICATED ON DRAWINGS. UNIVERSAL MOUNTING, DUAL VOLTAGE, TWO CIRCUIT. –
	XL	ISOLITE #2040-70-G-10-BA – – EQUAL BY: MC PHILBEN	SELF-LUM	SELF-LUM	SELF-LUMINOUS LOW LEVEL EXIT SIGN, SINGLE FACE, GREEN FACE COLOR, 10 YEAR SERVICE LIFE, BRUSHD ALUMINUM FRAME COLOR, SURFACE MOUNT. – – –

SEE GENERAL LIGHTING FIXTURE SCHEDULE NOTES FOR CRITICAL FIXTURE SPECIFICATION AND ORDERING INFORMATION.

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-121181 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 07/02/2024

OWNER: SAN RAFAEL CITY SCHOOLS

PROJECT NAME: VENETIA VALLEY BLDGS G AND H ALTERATION

CLIENT ADDRESS: 177 N San Pedro Rd, San Rafael, CA 94903

REGISTERED PROFESSIONAL ENGINEER RAYMOND W. SWITZ No. E15610 12/31/2025 ELECTRICAL STATE OF CALIFORNIA

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SHEET TITLE:

FIXTURE SCHEDULES

tk1sc COLLABORATIVE
11870 Pierce Street, Suite 160
Riverside, California 92505
951.299.4160 www.tk1sc.com

Project Leader - Nikolas Bruno
Electrical Lead - Nikolas Bruno
tk1sc Job #: B2304502.000

AREA TYPE	OCC SENSOR					INTERIOR DAYLIGHT SENSOR			EXTERIOR PHOTOCELL		ASTRONOMICAL TIME CLOCK CONTROLS			LOCAL CONTROL			SYSTEM			NOTES	REMARKS
ALL VALUES ARE BASED ON CALIFORNIA TITLE 24 2022 LIGHTING CONTROLFOR NON-RESIDENTIAL BUILDINGS	AUTO ON WHEN OCCUPANCY DETECTED (PERCENTAGE OF NOMINAL FC)	MANUAL ON (WHEN SWITCH / BUTTON IS PRESSED)	PRIMARY OCCUPANCY SENSOR ZONE REDUCED OUTPUT OR OFF	REDUCED OUTPUT OR OFF DURING NORMAL HOURS	REDUCED OUTPUT OR OFF AFTER NORMAL HOURS	AUTO OFF AT TARGET FC FIXTURES DIM TO OFF	AUTO DIM AT TARGET FC FIXTURES REMAIN ON AT LOWEST LEVEL	TARGET ILLUMINATION LEVEL NOMINAL FOOTCANDLE & METER HEIGHT	EXTERIOR PHOTOCELL ON	EXTERIOR PHOTOCELL OFF	BEGIN NORMAL OPERATING HOURS (ASTRONOMICAL TIME CLOCK TURN ON)	END NORMAL OPERATING HOURS (ASTRONOMICAL TIME CLOCK TURN OFF)	AFTER NORMAL HOURS OVERRIDE CANNOT EXCEED 2 HOURS PER §130.1(c)3.B	ON / OFF	ON / OFF / RAISE / LOWER DIMMING	SCENE SELECTOR (1) SCENE GEN. LTG ONLY - NO DECORATIVE (1) SCENE ALL OFF OR "CLOSED"	PLUG LOAD CONTROL MUST BE CAPABLE OF TURNING OFF IN RESPONSE TO DEMAND RESPONSE SIGNAL	DEMAND RESPONSE LIGHTING REDUCTION FOR SYSTEMS HAVING >4,000W LIGHTING POWER REFER TO TITLE 24 DOCUMENTATION TO CONFIRM IF REQ'D	PROGRAMMING NOTES PLEASE SEE BELOW	
CLASSROOM	ON AT 70%	ON AT 100%	OFF AFTER 5 MIN.	-	-	-	•	40-50 FC +30" AFF	-	-	-	-	-	-	•	○	-	•	A,B,D	CONFIRM SWITCH TYPE PREFERENCE WITH OWNER. PROVIDE SCENE SELECTOR SWITCH IF MORE THAN ONE LIGHTING PRESET IS REQUIRED (E.G. "AV MODE").
CLASSROOM > 0.7 W PER SQ FT	ON AT 70%	ON AT 100%	OFF AFTER 5 MIN.	-	-	-	•	35 FC +30" AFF	-	-	-	-	-	-	•	○	-	•	A,B,D	CONFIRM SWITCH TYPE PREFERENCE WITH OWNER PRIOR TO RELEASE OF ORDER. MULTI-ZONE LIGHTING SCENARIO WILL REQUIRE SCENE SELECTOR. PROVIDE SCENE SELECTOR SWITCH IF MORE THAN ONE LIGHTING PRESET IS REQUIRED (E.G. "AV MODE"). PROVIDE SEPARATE CONTROL ZONE FOR LIGHTING ADJACENT TO PROJECTION SCREENS OR TV MONITORS.
ELECTRICAL ROOM, MECHANICAL ROOM, TELECOMMUNICATIONS ROOM	-	-	-	-	-	-	-	'10 FC +5' AFF	-	-	-	-	-	•	-	-	-	-	-	LOCAL TOGGLE SWITCH ONLY
RESTROOMS (1) STALL	ON AT 100%	-	5 MIN. TO OFF	-	-	-	-	20 FC +15"	-	-	-	-	-	•	-	-	-	-	-	§130.1(b) EXCEPTION 2 - DIMMABLE LUMINAIRES NOT REQUIRED. §130.1(c)5 - OCCUPANCY SENSORS REQUIRED. §130.1(a) - PROVIDE MANUAL AREA CONTROL IN RESTROOM.
PARKING GARAGE																					
EXTERIOR LIGHTING, TIMECLOCK / PHOTOCELL CONTROL																					
EXTERIOR FAÇADE & OUTDOOR DINING	-	-	-	-	-	-	-	-	•	•	PERIOD 1: ON 100% AT DUSK - PERIOD 2: DIM 50% AT 02:30	OFF AT DAWN	•	-	-	-	-	-	J,L,M	§130.2(C) LIGHTS SHALL BE OFF DURING DAYTIME; LIGHTS SHALL BE AUTOMATICALLY CONTROLLED BY TIME-BASED SCHEDULING CONTROLS. §130.2(c) 3 NO MORE THAN 1,500W OF LIGHTING CONTROLLED FROM A SINGLE SENSOR. §130.2(c)3Di - EXTERIOR FACADE & OUTDOOR DINIUNG ARE EXEMPT FROM MOTION SENSOR REQUIREMENT.

PROGRAMMING NOTES

NOTES: A. PROVIDE DAYLIGHTING CONTROL FOR PRIMARY AND SECONDARY DAYLIT OR SKYLIT ZONES WERE REQUIRED. DAYLIGHTING IS NOT NECESSARY WHEN AREAS DO NOT INCLUDE SKYLIGHTS OR GLAZING < 24 SQ FT OR SKYLIT+PRIMARY SIDELIT ZONE IS LESS THAN 120W. LUMINAIRES IN OR AT LEAST 50% WITHIN DAYLIGHTING ZONES MUST BE CONTROLLED.

B. CONTROLLED BY OCCUPANCY SENSOR: AUTO AND / OR MANUAL ON UNLESS OVERRIDDEN BY DAYLIGHTING SENSORS.
C. MANUAL CONTROL WALL STATIONS FOR THESE AREAS SHALL BE LOCATED IN THE NEAREST BACK OF HOUSE CLOSET, CONTROL BOOTH, ELECTRICAL ROOM, ETC. TO PREVENT UNAUTHORIZED USERS FROM ADJUSTING LIGHTING LEVELS.

D. CONFIGURE LIGHTING CONTROL TO PROVIDE PROPORTIONATE RAISE / LOWER OF ALL ROOM LIGHTING TOGETHER, REGARDLESS OF LOCATION IN DAYLIGHTING AND NON-DAYLIGHTING ZONES WHERE THEY OCCUR.
E. PROVIDE RS-232 OR ETHERNET CONNECTION TO AV SYSTEM TO ALLOW RECALL OF LIGHTING PRESETS BY AV SYSTEM WITHIN THIS ROOM, IF REQUESTED BY OWNER.
F. PROVIDE CONTROLLED RECEPTACLES IN THIS ROOM AS REQUIRED. CONTROLLED RECEPTACLE MUST BE WITHIN 6'-0" OF UNCONTROLLED RECEPTACLE.
G. PROVIDE AUTOMATIC TRANSFER RELAY, BRANCH CIRCUIT ELTS OR OTHER APPROVED METHOD WITH FACP INPUT TO FORCE LIGHTS ON TO FULL DURING LOSS OF NORMAL POWER OR DURING A FIRE ALARM EVENT. UNLESS SPECIFIED WITH A MANUAL EMERGENCY CONDITION RELEASE, LIGHTING SHALL RESTORE TO NORMAL OPERATION WHEN POWER IS RESTORED OR ALARM CONDITION IS CLEARED.

H. LIGHTING IN THIS SPACE MAY BE CONTROLLED FROM A STAGE LIGHTING SYSTEM. THE STAGE LIGHTING SYSTEM SHALL BE PROVIDED WITH A TITLE 24 COMPLIANT LIGHTING CONTROL PROCESSOR AND COMPATIBLE OCCUPANCY AND DAYLIGHT SENSORS AS REQUIRED FOR COMPLIANCE.
I. NOT USED
J. CONFIRM OPERATING HOURS WITH OWNER PRIOR TO FINAL PROGRAMMING.
K. REQUIRES CONNECTION TO BUILDING AUTOMATION SYSTEM (BAS) WHEN SUCH SYSTEM IS PRESENT.
L. FIXTURES WITHOUT OCCUPANCY SENSORS SHALL HAVE LOW END TRIM ADJUSTED TO MAINTAIN MINIMUM ILLUMINATION LEVELS.
M. LIGHTING CONTROL SYSTEM SHALL HAVE ASTRONOMICAL TIME CLOCK AND DUAL MODE CAPABILITY FOR "AFTER HOURS" CONTROL OF LIGHTING.
N. PERFORMANCE SPACE, NO DAYLIGHTING REQUIRED. TARGET ILLUMINATION LISTED ONLY FOR REFERENCE IN THIS COLUMN.

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-121181 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 07/02/2024

OWNER: SAN RAFAEL CITY SCHOOLS

PROJECT NAME: VENETIA VALLEY BLDGS G AND H ALTERATION

CLIENT ADDRESS: 177 N San Pedro Rd, San Rafael, CA 94903

REGISTERED PROFESSIONAL ENGINEER
RAYMOND W. SWATT
No. E15610
12/31/2025
ELECTRICAL
STATE OF CALIFORNIA

REVISIONS:

	DESCRIPTION	DATE
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

PROJECT NO:
DATE ISSUED: 06/21/2024
SCALE: As indicated

SHEET NUMBER: E30-2
SHEET TITLE:

SEQUENCE OF OPERATIONS

tk1sc COLLABORATIVE
11870 Pierce Street, Suite 160
Riverside, California 92505
951.299.4160 www.tk1sc.com
Project Leader - Nikolas Bruno
Electrical Lead - Nikolas Bruno
tk1sc Job #: BZ304502.000

DISTRIBUTED LIGHTING CONTROLS SYSTEM SPECIFICATIONS (OCCUPANCY / VACANCY SENSORS AND DAYLIGHTING CONTROLS):

1. SEE LIGHTING PLAN DRAWINGS FOR DISTRIBUTED LIGHTING CONTROL SYSTEM (DLCS) SPECIFICS, SPACE SPECIFIC CONFIGURATIONS/REQUIREMENTS, AS WELL AS FIXTURE BALLAST/DRIVER CONFIGURATIONS.

2. ALL PRODUCTS SHALL BE BACKED BY A FIVE YEAR MANUFACTURER'S WARRANTY.

3. ALL PRODUCTS LISTED IN THIS SPECIFICATION ARE BASED UPON PRODUCTS LISTED ON THIS SHEET. THE FEATURES AND CHARACTERISTICS OF THE PRODUCT LITERATURE AND SPECIFICATION SHEETS AVAILABLE ON THE VARIOUS MANUFACTURER'S WEB-SITES ARE INCLUDED IN THE REQUIREMENT OF THESE SPECIFICATIONS. ALL DLCS NETWORKED/NON-NETWORKED SYSTEM-BASED AND STANDALONE COMPONENTS SHALL BE PROVIDED BY A SINGLE MANUFACTURER.

4. DLCS COMPONENTS SHALL BE COMPLIANT WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL ENERGY CODES.

5. ALL NETWORKED AND NON-NETWORKED SYSTEM-BASED DLCS SYSTEMS SHALL BE COMPLIANT WITH AND CERTIFIED TO THE FOLLOWING SECURITY STANDARDS SET FORTH IN THE LATEST PUBLISHED VERSION OF THE DESIGNLIGHTS CONSORTIUM'S "NETWORKED LIGHTING CONTROL SYSTEM TECHNICAL REQUIREMENTS" DOCUMENT (VERSION 4.0 OR LATEST PUBLISHED VERSION):

   - DLCS COMPONENTS: UL2900-1 UL STANDARD FOR SOFTWARE CYBER SECURITY FOR NETWORK-CONNECTABLE PRODUCTS.

   - DLCS DESIGN PROCESS: UL 2900-1 UL STANDARD FOR SOFTWARE CYBER SECURITY FOR NETWORK- CONNECTABLE PRODUCTS AND/OR ISO/IEC 27001 STANDARD FOR INFORMATION SECURITY MANAGEMENT SYSTEMS.

   - DLCS CLOUD SERVICES: ANY ASSOCIATED DLCS CLOUD SERVICES SHALL MEET THE REQUIREMENTS OF ISO/IEC 27017 (WITH 27001) STANDARD FOR CODE OF PRACTICE FOR INFORMATION SECURITY CONTROLS FOR CLOUD SERVICES.

   WHERE THE MANUFACTURER CANNOT DEMONSTRATE COMPLIANCE WITH THE ABOVE REQUIREMENTS, THE DLCS MANUFACTURER SHALL PROVIDE A COMPREHENSIVE PRODUCT-SPECIFIC IT SECURITY STATEMENT FOR REVIEW BY THE OWNER. THE DLCS SHALL NOT BE CONNECTED TO AN OWNER-FURNISHED NETWORK WITHOUT PRIOR WRITTEN PERMISSION BY THE OWNER,

   ADDITIONALLY, WHERE INSTALLED IN THE STATE OF CALIFORNIA, SYSTEM-BASED DLCS SYSTEMS SHALL BE COMPLIANT WITH CA STATE ASSEMBLY BILL NO. 375 CALIFORNIA PRIVACY ACT OF 2018 AND CA STATE SENATE BILL NO 327 INFORMATION PRIVACY FOR CONNECTED DEVICES.

6. WHERE THE DLCS SCHEDULE INDICATES A SPECIFIC "SYSTEM TOPOLOGY" OPTION, PROVIDE ONE OF THE FOLLOWING:

   "NETWORKED" - PROVIDE A SYSTEM-BASED DLCS THAT COMMUNICATES USING A MANUFACTURER-SPECIFIC DLCS NETWORK ALLOWING BI-DIRECTIONAL FLOW OF INFORMATION BETWEEN DEVICES SUCH AS ROOM CONTROLLERS, SENSORS, RELAY PANELS AND NETWORK CONTROLLERS. PROVIDE A DLCS GUI AND RELATED SOFTWARE TO FACILITATE REMOTE DLCS DEVICE PARAMETERS CHANGES, REMOTE CONTROL ANY DLCS ELEMENT OR DEVICE, REMOTE SCHEDULE CHANGES/IMPLEMENTATIONS, AND REMOTE DLCS COMMISSIONING AND TROUBLESHOOTING. A NETWORKED SYSTEM TOPOLOGY SHALL BE CONFIGURED TO RESPOND TO LOCAL UTILITY DEMAND RESPONSE SIGNALS.

   "NON-NETWORKED" - PROVIDE A SYSTEM-BASED DLCS THAT COULD BE MADE TO COMMUNICATE USING A MANUFACTURER-SPECIFIC DLCS NETWORK, BUT FOR THIS PROJECT IS CONFIGURED WITHOUT ANY NETWORK CONNECTIVITY OR NETWORK COMPONENTS, EXCEPT FOR ANY NETWORK COMPONENTS REQUIRED FOR DUAL MODE CONTROL FOR CORRIDORS, WAREHOUSE AISLES ETC OR WHERE REQUIRED FOR BAS INTEGRATION REQUIRED IN THE DLCS SCHEDULE OR ELSEWHERE IN THE DRAWINGS AND SPECIFICATIONS. IN A "NON-NETWORKED" DLCS, DEMAND RESPONSE CAPABILITY IS NOT REQUIRED.

   "STAND ALONE" - PROVIDE INDIVIDUAL WALL SENSORS/CONTROLS - OPERATING AT 120V OR 277V. GENERALLY, STANDALONE COMPONENT INSTALLATIONS ARE TO BE AVOIDED AND ARE LIMITED TO USE IN SMALL ROOMS WHERE ADVANCED CONTROLS, DIMMING CAPABILITY, DEMAND RESPONSE, DUAL MODE CONTROL AND/OR NETWORK CONNECTIVITY ARE NOT REQUIRED BY APPLICABLE ENERGY CODE AND WHERE ACCEPTABLE TO AN END-USER.

7. WHERE THE DLCS SCHEDULE INDICATES A SPECIFIC "COMMUNICATIONS TOPOLOGY" OPTION, PROVIDE ONE OF THE FOLLOWING:

   "WIRED" - PROVIDE WIRING, AS REQUIRED, TO INTERCONNECT DLCS DEVICES. WIRING MAY BE A COMBINATION OF LOW AND LINE VOLTAGE CONDUCTORS BASED ON SPECIFIC MANUFACTURER REQUIREMENTS.

   "WIRELESS" - PROVIDE WIRELESS CONNECTIVITY BETWEEN WALL CONTROLS, WALL, CEILING OR FIXTURE-INTEGRATED SENSORS, ROOM CONTROLLERS, WIRELESS ROUTER(S), AND WIRELESS NETWORK BRIDGES. CONTRACTOR SHALL PROVIDE WIRELESS ROUTERS, QTY AS REQUIRED, TO MAINTAIN ROBUST COMMUNICATIONS WITH ALL WIRELESS DEVICES. ROBUST MEANS THAT A CHANGE OF VALUE FROM OR TO ANY DLCS SYSTEM COMPONENT FROM OR TO AN APPLICABLE WIRELESS ROUTER/BRIDGE OCCURS IN LESS THAN 3 SECONDS.

   "HYBRID" - WHERE A SOLELY WIRELESS DLCS TOPOLOGY IS DEEMED INADEQUATE BASED ON OPERATIONAL OR AESTHETIC REASONS, A WIRELESS TOPOLOGY SHALL BE AUGMENTED WITH WIRED SYSTEM TO FORM A HYBRID COMMUNICATIONS TOPOLOGY. AREAS REQUIRING WIRED CONNECTIVITY SHALL BE OUTLINED ON THE LIGHTING PLANS AND UNLESS OTHERWISE INDICATED, ALL RESTROOMS SHALL BE PROVIDED WITH DUAL TECHNOLOGY OCCUPANCY SENSORS WHICH REQUIRE WIRED CONNECTIVITY AND WIRED POWER SUPPLY. A NETWORKED, SYSTEM-BASED DLCS INSTALLED WITH A HYBRID COMMUNICATIONS TOPOLOGY SHALL APPEAR IN THE USER GUI/SOFTWARE AS A SINGLE UNIFIED SYSTEM. SEPARATE GUI SOFTWARE INTERFACES FOR THE WIRED AND WIRELESS PORTIONS OF THE DLCS ARE UNACCEPTABLE.

9. WHERE THE DLCS SCHEDULE REQUIRES FIXTURE-INTEGRATED SENSORS, PROVIDE OCCUPANCY AND/OR DAYLIGHT SENSORS INTEGRATED WITHIN SPECIFIED FIXTURE TYPE THAT ALSO INTEGRATE INTO THE DLCS. SEE THE LIGHTING FIXTURE SCHEDULE FOR AFFECTED FIXTURE TYPE(S). WHERE INTEGRATED SENSORS DO NOT MEET OCCUPANCY/DAYLIGHT SENSOR COVERAGE REQUIREMENTS, CONTRACTOR SHALL AUGMENT COVERAGE WITH ADDITIONAL CEILING MOUNTED SENSORS AS REQUIRED AND AS A PART OF THE BASE BID.

10. WHERE THE DLCS SCHEDULE REQUIRES THE DLCS TO INTEGRATE WITH THE PROJECT'S BUILDING AUTOMATION SYSTEM (BAS) - SEE THE DLCS START-UP, BUILDING AUTOMATION SYSTEM (BAS) INTEGRATION, COMMISSIONING, & TRAINING PORTION OF THIS SPECIFICATION FOR ADDITIONAL REQUIREMENTS.

11. WHERE THE DLCS SCHEDULE INDICATES "WIRELESS" OR "HYBRID" COMMUNICATIONS TOPOLOGIES AND ALSO ALLOWS WIRELESS DLCS COMPONENT BATTERY USAGE, PROVIDE BATTERIES WITHIN THE WIRELESS DLCS COMPONENTS INDICATED IN LIEU OF LINE OR LOW VOLTAGE POWER SOURCES.

12. DLCS COMPONENTS SHALL BE BE PROVIDED AS FOLLOWS:

    a. STANDALONE: WALL MOUNTED OCCUPANCY SENSORS SHALL BE UL LISTED AND HAVE A MINIMUM LOAD CAPACITY OF 800 WATTS AT 120 VOLTS AND 1200 WATTS AT 277 VOLTS. WALL SENSORS SHALL ALSO BE DECORA STYLE, WITH A LOW-PROFILE APPEARANCE AND A HARD LENS FOR DURABILITY. SENSOR SHALL UTILIZE PASSIVE INFRARED TECHNOLOGY (PIR) AND ULTRASONIC/MICROPHONIC TECHNOLOGY. UNIT SHALL BE RATED FOR 120/277 VOLT WITH NO MINIMUM LOAD, COMPATIBLE WITH ALL THE SPECIFIED BALLASTS, PROVIDED WITH A NEUTRAL CONNECTION (NO LEAKAGE TO GROUND) AND NO LEAKAGE TO LOAD IN THE "OFF" MODE. SENSOR SHALL BE UTILIZED IN SPACES NOT EXCEEDING 150 SQ.FT. SINGLE RELAY SENSORS SHALL BE CONFIGURED WITH THE RELAY IN A "MANUAL ON/ AUTO OFF" SETTING. DUAL RELAY SENSORS SHALL BE CONFIGURED WITH THE FIRST RELAY IN A "AUTOMATIC ON/ AUTOMATIC OFF" SETTING AND THE SECOND RELAY IN A "MANUAL ON/ AUTOMATIC OFF" SETTING. FACTORY STANDARD COLOR TO BE APPROVED BY ARCHITECT.

    b. SYSTEM-BASED (NETWORK OR NON-NETWORK): THE OCCUPANCY SENSOR SYMBOL SHALL REPRESENT A LOW VOLTAGE, WALL MOUNTED OCCUPANCY SENSOR CONNECTED TO A CONTROL UNIT(S) AS REQUIRED. SENSOR SHALL BE DECORA STYLE WITH A LOW-PROFILE APPEARANCE, HAVE ON/OFF/RAISE/LOWER BUTTONS, AND A HARD LENS FOR DURABILITY. FACTORY STANDARD COLOR TO BE APPROVED BY ARCHITECT.

       SYSTEM-BASED (NETWORK OR NON-NETWORK) OR STANDALONE CEILING MOUNTED OCCUPANCY SENSORS SHALL SHALL REPRESENT A LOW VOLTAGE, CEILING-MOUNTED OCCUPANCY SENSOR WITH A LOW-PROFILE APPEARANCE AND SHALL BE CONFIGURED IN ONE OF THE FOLLOWING WAYS AS INDICATED ON THE DRAWINGS:

       - AUTO ON: a/b

       - SWITCHED: AUTO ON a / MANUAL ON b

       - CONTINUOUS DIMMED: AUTO ON 50% a / MANUAL ON 100% a

    c. SENSOR(S) SHALL UTILIZE DUAL TECHNOLOGY (PIR AND ULTRASONIC/MICROPHONIC TECHNOLOGY) WITH 360 DEGREE COVERAGE. IN SPACES WITH DESKTOP ACTIVITIES, THE COVERAGE SHALL BE "HAND MOTION" AND SHALL NOT EXCEED 500 SQ. FT. AT A MAXIMUM CEILING HEIGHT OF 10 FT. IN CORRIDORS, STORAGE ROOMS AND OTHER SPACES WITH NON-DESKTOP ACTIVITIES, COVERAGE SHALL BE "HALF-STEP, WALKING MOTION" AND SHALL NOT EXCEED 1200 SQ. FT. AT A MAXIMUM CEILING HEIGHT OF 10 FT. PIR-ONLY WIRELESS OCCUPANCY SENSORS SHALL NOT BE UTILIZED IN RESTROOMS OR LOCKER ROOMS.

    d. "H" AT THE OCCUPANCY SENSOR INDICATES CONNECTION TO AUXILIARY OUTPUT CONTROL DEVICE FOR CONTROL OF A THIRD PARTY DEVICE VIA LOW-VOLTAGE CONTACT CLOSURES - 1 AMP @ 24V AC/DC. NC/NO RELAYS SHALL BE CONNECTED TO A CONTROLLER TO PERFORM THE AUXILIARY CONTROL REQUIREMENTS INDICATED BY THE DRAWINGS.

    e. OCCUPANCY SENSORS LOCATED WITHIN CORRIDORS, HALLWAYS, STAIRWAYS/WELLS, AISLEWAYS WITHIN WAREHOUSE SPACES, AND IN OTHER AREAS PER PLANS AND/OR SOO SHALL BE CONFIGURED TO CREATE DUAL MODE CONTROL FUNCTIONALITY PER THE SOO/ZONE SCHEDULE. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL DEVICES AND WIRING REQUIRED FOR DUAL MODE OPERATIONS AND ANY PROGRAMMING/CONFIGURATION OF TIME-BASED OPERATING PARAMETERS. COORDINATE WITH OWNER TO DETERMINE BUSINESS HOUR/AFTER BUSINESS HOUR MODES. IF THE PLANS IDENTIFY A NEW OR EXISTING LIGHTING CONTROL PANEL AS THE SOURCE OF DUAL MODE TIMING, E.C. SHALL INCLUDE ALL COSTS TO INSTALL ANY NECESSARY I/O TERMINALS, CARDS, ETC. TO MAKE THE SYSTEM FULLY FUNCTIONAL.

    f. NETWORK SYSTEM-BASED DLCS SYSTEMS SHALL PROVIDE/RESULT IN "LADDERLESS COMMISSIONING" OF DAYLIGHT CONTROLS. AT A MINIMUM, NETWORK ACQUIRED DATA SHALL PROVIDE CT-BASED LIGHTING POWER (WATTS) MEASUREMENTS PER THE COMMISSIONING PORTION OF THESE REQUIREMENTS. PROVIDE NETWORKED CONTROL UNITS/POWER PACKS/INTERFACES AND MISCELLANEOUS EQUIPMENT AS FOLLOWS:

       1) NETWORK SEGMENT MANAGER OR BORDER ROUTER WITH NATIVE BACnet IP - QUANTITY AS REQUIRED BASED UPON A MAXIMUM OF 100 LOCAL ROOM NETWORKS PER SEGMENT AND A MINIMUM OF ONE SEGMENT MANAGER PER FLOOR. THIS EQUIPMENT SHALL BE LOCATED IN THE TYPICAL FLOOR ELECTRICAL ROOM.

       2) NETWORK BRIDGE CONNECTING THE SEGMENT MANAGER TO THE CONTROLLER SUB/LOCAL NETWORK.

       3) ALL CORRIDORS, WAREHOUSE AISLE WAYS, AND STAIRWELLS SHALL BE PROVIDED WITH DUAL MODE CORRIDOR/STAIRWAY CONTROLS TO INCLUDE CEC-LISTED TIME CLOCK(S), ROUTERS, OR SYSTEM GATEWAYS, INTERPOSING RELAYS (WHEN INTERFACING WITH EXISTING CEC-LISTED RELAY PANELS), WIRING, 120V POWER, PROGRAMMING, ETC. NECESSARY FOR A COMPLETE AND FUNCTIONING CONTROL SYSTEM.

       4) INCLUDE ALL COSTS IN BASE BID TO PROVIDE 120V CIRCUIT(S) AND RECEPTACLE(S) NECESSARY TO POWER ALL DEMAND RESPONSE EQUIPMENT.

       5) PROVIDE DATA OUTLET/PATHWAY, DATA CABLING (IF REQUIRED ELSEWHERE BY PROJECT DOCUMENTS), AND CONNECTION TO THE PROJECT'S LOCAL AREA NETWORK.

       6) INCLUDE ALL COSTS IN BASE BID TO PROVIDE 120V CIRCUIT(S) AND RECEPTACLE(S) NECESSARY TO POWER ALL NETWORK SEGMENT MANAGERS, SWITCHES AND ROUTERS.

       7) DEMONSTRATE DLCS RESPONSE TO A SIMULATED DEMAND RESPONSE REQUEST AS PART OF THE LIGHTING COMMISSIONING PROCESS. WHERE MORE THAN ONE WIRING TOPOLOGY AND/OR ZONE IS REQUIRED TO ACCOMPLISH DEMAND RESPONSE - ALL WIRING TOPOLOGIES AND ZONES SHALL BE TESTED ACCORDINGLY. SEE DLCS SOO FOR POWER REDUCTION PERCENTAGES BY ROOM TYPE THAT SHALL BE UTILIZED IN THE SIMULATED DEMAND RESPONSE TESTING.

    g. WHERE INDICATED ON DRAWINGS, PROVIDE DLCS DAYLIGHTING CONTROLS AS FOLLOWS:

       1) AUTOMATIC SWITCHING DAYLIGHTING CONTROLS SHALL BE PROVIDED TO SWITCH SELECTED FIXTURES AND/OR LAMPS OFF AND ON BASED UPON LIGHTING LEVELS PRESENT IN THE CONTROLLED SPACE. THE DAYLIGHTING CONTROLS SHALL BE CONNECTED TO THE CONTROL UNIT. THE SENSOR SHALL UTILIZE AN INTEGRAL PHOTO DIODE TO MEASURE AMBIENT LIGHT LEVELS. CONTROLS SHALL BE FULLY ADJUSTABLE FROM 1 TO 6,500 FOOTCANDLES AND SHALL BE PROVIDED WITH AN ADJUSTABLE TIME DELAY AND ADJUSTABLE DEAD BAND SETTINGS.

       2) AUTOMATIC DIMMING DAYLIGHTING CONTROLS SHALL BE PROVIDED TO CONTINUOUSLY DIM SELECTED FIXTURES/LAMPS UP AND DOWN BASED UPON LIGHTING LEVELS PRESENT IN THE CONTROLLED SPACE. THE SENSOR SHALL UTILIZE AN INTERNAL PHOTO DIODE TO MEASURE AMBIENT LIGHT LEVELS. 0-10 VOLT DIMMING CONTROLS SHALL RANGE FROM 0.2 VOLTS TO 10 VOLTS, WITH AMBIENT LIGHTING SET POINTS FROM 1-6,500 FOOTCANDLES.

       3) AUTOMATIC DAYLIGHTING CONTROLS SHALL BE CONNECTED TO CONTROL UNITS TO PERFORM THE FIXTURE SWITCHING/DIMMING REQUIREMENTS INDICATED BY THE DRAWINGS - CONNECTIONS DIRECTLY TO A BALLAST ARE NOT ALLOWED.

       4) DAYLIGHT SENSOR SHALL PROVIDE CONTROLS FOR UP TO THREE DISTINCT LIGHTING ZONES TO ALLOW SEPARATE CONTROL OF PRIMARY DAYLIT, SECONDARY DAYLIT, AND SKYLIT ZONES.

    h. PROVIDE CONTROL UNITS AND SYSTEM FUNCTIONALITY AS FOLLOWS:

       1) CONTINUOUS DIMMING CONTROLS: SYSTEM-BASED WALL OR CEILING MOUNTED OCCUPANCY SENSORS (CONTINUOUS DIMMED - AUTO ON 50%/MANUAL ON 100%) SHALL BE PROVIDED WITH CONTROL UNITS TO PERFORM THE FIXTURE DIMMING REQUIREMENTS INDICATED BY THE BALLAST AND FIXTURE TYPE. SWITCH LEG INDICATED OUTSIDE THE PARENTHESIS TO BE CONFIGURED AS "AUTO ON 50%/MANUAL ON 100%" FOR CONTINUOUS DIMMED. SWITCH LEGS INSIDE PARENTHESIS INDICATES A MANUAL ACTION REQUIRED TO INCREASE LIGHTING LEVELS ABOVE 50%. CONTROL UNITS WITH INTEGRAL TRANSFORMERS SHALL BE UTILIZED TO PROVIDE POWER TO OCCUPANCY SENSORS AND OTHER CONTROL DEVICES. CONTROL UNITS SHALL BE LOCATED WITHIN JUNCTION BOXES AND NOT EXPOSED IN THE CEILING SPACE. CONTROL UNIT SHALL BE 120/277 VOLT RATED WITH NO MINIMUM LOAD, COMPATIBLE WITH ALL THE SPECIFIED BALLASTS PROVIDED WITH A NEUTRAL CONNECTION (NO LEAKAGE TO GROUND) AND NO LEAKAGE TO LOAD IN THE "OFF" MODE. ADDITIONAL RELAY ZONES MAY BE REQUIRED FOR THE ADDITION OF PRIMARY DAYLIT, SECONDARY DAYLIT, AND PRIMARY SKYLIT UTILIZING THE SAME CONTROL CHANNEL. (I.E. EVEN THOUGH A SINGLE LETTER "a" IS INDICATED AT THE PRIMARY SENSOR), ADDITIONAL RELAYS WOULD BE REQUIRED FOR THE "a+" (PRIMARY SIDELIT DAYLIT ZONE), "a++" (SECONDARY SIDELIT DAYLIT ZONE), AND "a*" (SKYLIT DAYLIT ZONE). WHERE MORE THAN ONE CIRCUIT/THREE SWITCH LEGS/THREE RELAY ZONES ARE REQUIRED, PROVIDE ADDITIONAL FULL FEATURE CONTROL UNITS AS REQUIRED.

       2) WHERE ADDITIONAL 120/ 277 VOLT DEVICES, RECEPTACLES, OR BRANCH CIRCUITS ARE BEING CONTROLLED BY THE ROOM CONTROLLER, AN ADDITIONAL CONTROL UNIT SHALL BE PROVIDED AS REQUIRED.

       3) THE OCCUPANCY SENSOR CONTROLLED RECEPTACLE BRANCH CIRCUIT RELAY, CONNECTED TO THE SPACE'S DISTRIBUTED LIGHTING CONTROL OCCUPANCY SENSOR RELAY, SHALL TURN ON WHEN THE ROOM IS OCCUPIED, REGARDLESS OF THE CONFIGURATION OF THE LIGHTING CONTROL STATE - I.E. AUTO ON/MANUAL ON. SEE THE DISTRIBUTED LIGHTING CONTROL SPECIFICATION FOR MORE INFORMATION. EVEN THOUGH A SINGLE SYMBOL IS INDICATED, MULTIPLE RELAYS MAY BE REQUIRED TO CONTROL THE REQUIRED NUMBER OF SWITCHLEGS/CIRCUITS.

       4) LOW VOLTAGE WALL CONTROLS SHALL BE DECORA STYLE, LOW-VOLTAGE, MOMENTARY SWITCHES WITH COLOR TO MATCH OTHER WALL DEVICES/SWITCHES. LOWER CASE LETTERS INDICATE SWITCHING CONFIGURATION. PROVIDE SWITCHING OR DIMMING CONTROL DEVICES AS REQUIRED BY DRAWINGS.

          DIMMING - NUMBER OF SWITCHES AS REQUIRED - 4 ZONES/YOKE MAX. EACH CONTROL ZONE TO HAVE A DEDICATED RAISE AND LOWER BUTTONS. FACTORY STANDARD COLOR BY ARCHITECT. EACH MULTI-ZONE DIMMING CONTROL STATION SHALL BE PROVIDED WITH MASTER ON AND MASTER OFF BUTTON IN ADDITION TO THE INDIVIDUAL CONTROL ZONE BUTTONS.

          WHERE INDICATED, PROVIDE VANDAL RESISTANT, HIGH ABUSE SWITCH CONNECTED TO THE DLCS INPUT/OUTPUT INTERFACE DEVICE FOR ON/ OFF AND DIMMING CONTROLS. SWITCHES LOCATED IN HIGH ABUSE AREAS (EXTERIOR AREAS OR AREAS SUBJECT TO WASH-DOWN ETC.) OR IDENTIFIED ON PLANS AS HIGH-ABUSE SWITCHES SHALL BE VANDAL RESISTANT, STAINLESS STEEL, TOUCH SENSITIVE AND AVAILABLE WITH UP TO TWO BUTTONS IN A SINGLE GANG. EACH HIGH ABUSE SWITCH SHALL BE ABLE TO BE PROGRAMMED FOR ON, OFF, TOGGLE OR MAINTAIN OPERATION. SWITCHES MUST BE CAPABLE OF HANDLING ELECTROSTATIC DISCHARGES OF AT LEAST 30,000 VOLTS (1CMSPARK) WITHOUT ANY INTERRUPTION OR FAILURE IN OPERATION.

          WHERE INDICATED, PROVIDE A LOCKING SINGLE POLE SWITCH CONNECTED TO THE ROOM CONTROLLER VIA A INPUT/OUTPUT INTERFACE DEVICE FOR ON/OFF CONTROLS. DIRECT CONNECTION OF THE KEYED SWITCH ON THE LOAD SIDE OF THE CONTROLLER IS PROHIBITED. PROVIDE AT LEAST THREE (3) KEYS TO OWNER AT CONCLUSION OF PROJECT. ADJACENT SWITCH SHALL ONLY BRING LIGHTS FULL ON. KEYED SWITCH ALLOWS MANUAL OFF FUNCTIONALITY. DIMMER SWITCH ALLOWS AUTO-ON 50% OVERRIDE TO 100% ALL-ON AND SHALL NOT ALLOW LIGHTING LEVELS TO DECREASE IN ANY WAY.

    i. WHEN LIGHTING SYSTEM IS INDICATED WITH A CONNECTION TO A REMOTE EMERGENCY POWER SOURCE (I.E. AN INVERTER OR GENERATOR) PROVIDE UL924 LISTED INTERFACE EQUIPMENT TO ALLOW THE OVERRIDE OF THE LOCAL SWITCHING AND/OR DIMMING CONTROLS DURING A POWER OUTAGE.

    j. WHEN LIGHTING FIXTURES/CONTROLS ARE PROVIDED WITH LUTRON 3-WIRE DIMMING BALLASTS, AN INTERFACE DEVICE SHALL BE PROVIDED TO ALLOW 0-10V CONTROL OF LUTRON 3-WIRE DIMMING BALLASTS. MOUNT INTERFACE IN A NEMA1 ENCLOSURE IN ACCESSIBLE CEILING SPACE ADJACENT TO ITS ASSOCIATED CONTROL UNIT.

    k. WHEN LIGHTING FIXTURES/CONTROLS ARE LINE VOLTAGE DIMMED OR PROVIDED ELECTRONIC LOW-VOLTAGE, MAGNETIC LOW-VOLTAGE, NEON/COLD CATHODE, LUTRON "TU-WIRE" DIMMING BALLASTS, AN INTERFACE DEVICE SHALL BE PROVIDED TO ALLOW LINE VOLTAGE CONTROL. MOUNT INTERFACE IN A NEMA1 ENCLOSURE IN ACCESSIBLE CEILING SPACE ADJACENT TO ITS ASSOCIATED CONTROL UNIT.

    l. WHEN AV SYSTEM INTERFACE IS INDICATED, PROVIDE TWO-WAY CAPABLE RS-232 COMMUNICATIONS INTERFACE TO ALLOW AV CONTROL SYSTEM TO CALL ADDRESSABLE LIGHTING/ROOM SCENES. COMMUNICATIONS INTERFACE SHALL PROVIDE FEEDBACK TO THE AV CONTROL SYSTEM FOR LIGHT LEVEL STATUS.

    m. WHEN MOVEABLE PARTITION INTERFACE IS INDICATED, PROVIDE ALL COMPONENTS, SENSORS, WIRING, POWER SUPPLIES AND PROGRAMMING NECESSARY TO MONITOR AND REPORT MOVEABLE PARTITION(S) OPEN/CLOSED STATUS. DLCS SYSTEM SHALL AUTOMATICALLY ADOPT SINGLE ROOM OR MULTI-ROOM CONTROL PROFILES AS REQUIRED BY PARTITION STATUS.

    n. WHEN NETWORKED LIGHTING CONTROL RELAY PANEL(S) ARE INDICATED, PROVIDE ALL COMPONENTS, WIRING, AND PROGRAMMING NECESSARY TO INTEGRATE RELAY PANELS WITHIN THE DLCS SYSTEM.

13. GENERAL SYSTEM REQUIREMENTS:

    a. ALL EQUIPMENT SHALL FEATURE A PRE-SET DEFAULT OPERATION. UPON INITIAL POWER UP, THE SYSTEM SHALL AUTOMATICALLY IDENTIFY THE DEVICES ON THE LOCAL NETWORK, THEN ENTERS THE PRE-SET CONFIGURATION TO ALLOW BASIC OPERATION OF ALL DEVICES. IN MOST APPLICATIONS THE RELATIONSHIP BETWEEN QUANTITY OF LOADS, SWITCHES AND OCCUPANCY SENSORS WILL NOT REQUIRE ANY ADJUSTMENTS - ALTHOUGH AN ADJUSTMENT TO THE AUTOMATIC SETTINGS SHALL BE INCLUDED IN THE BASE BID.

    b. ALL EQUIPMENT SHALL FEATURE A CONFIGURATION (CONFIG) BUTTON ON MOST DEVICES THAT ALLOWS EASY ACCESS TO THE INTEGRATED AUTO-CONFIGURATION TECHNOLOGY TO MODIFY SYSTEM OPERATION. FUNCTIONALITY OF THE CONFIG BUTTON SHALL BE STANDARDIZED THROUGHOUT THE PRODUCT LINE, AS IS THE OPERATION OF THE CONFIG LED INDICATORS.

    c. NETWORK DLCS SYSTEM CONTROL/CONFIGURATION SOFTWARE SHALL BE PRE-CONFIGURED TO THE MAXIMUM EXTENT POSSIBLE OFF-SITE AT THE DLCS FACTORY OR ENGINEERING FACILITY. THE CONTRACTOR SHALL DOCUMENT EVERY NETWORK COMPONENT'S LOCATION (ROOM AND FLOOR NUMBER) AND ITS' RESPECTIVE SERIAL NUMBER OR OTHER DEVICE IDENTIFIER ON A FULL SIZE FLOOR PLAN IN PDF FORMAT. HANDWRITTEN DOCUMENTATION IS UNACCEPTABLE. THE PREFERRED ACCEPTABLE METHOD OF NETWORK COMPONENT DOCUMENTATION IS COLLECTION OF FACTORY-PROVIDED, SELF-ADHESIVE, BAR-CODE IDENTIFIERS DESIGNED TO BE REMOVED FROM NETWORK COMPONENTS AS THEY ARE INSTALLED IN THE FIELD. BAR CODES IDENTIFIERS SHALL BE APPLIED TO A PAPER COPY OF A FLOOR PLAN WHICH SHALL BE PROVIDED TO THE FACTORY FOR USE IN OFF-SITE DLCS NETWORK PROGRAMMING AND CONFIGURATION. THE RESULTS OF EITHER METHOD SHALL BE SCANNED AND SUBMITTED AS A PART OF THE PROJECT CLOSEOUT DOCUMENTATION.

    d. NETWORK SYSTEMS SHALL BE INSTALLED BY VENDOR-CERTIFIED CONTRACTOR FIELD PERSONNEL TO PERFORM NETWORK INSTALLATIONS INCLUDING ACCURATE, REPEATABLE COMMUNICATIONS CABLING TERMINATIONS (BOTH LAN AND MS/TP TYPE). INCLUDE CERTIFICATES FOR EACH CERTIFIED INSTALLER TO BE UTILIZED ON THE PROJECT AS A PART OF THE PROJECT SUBMITTALS. A CERTIFIED FIELD INSTALLER SHALL BE ON-SITE SUPERVISING COMMUNICATIONS CABLING AND CABLING TERMINATIONS AT ALL TIMES WHEN THIS WORK IS OCCURRING ON THE PROJECT.

    e. ANY BATTERY-POWERED DLCS COMPONENTS SHALL BE PROVIDED WITH A 10 YEAR EXPECTED BATTERY LIFE. EACH COMPONENT SHALL BE PROVIDED WITH BOTH A LOCAL LOW BATTERY INDICATION ON EACH DEVICE AND A SOFTWARE-BASED LOW BATTERY ALARM. WHERE A WIRELESS DLCS SYSTEM COMPONENT IS AVAILABLE EITHER AS A BATTERY POWERED DEVICE OR A LINE/LOW VOLTAGE POWERED DEVICE, PROVIDE THE LINE/LOW VOLTAGE VERSION ALONG WITH ANY LINE OR LOW VOLTAGE WIRING, CONDUIT AND BACK BOXES TO LIMIT THE NUMBER OF BATTERIES WITHIN THE DLCS INSTALLATION TO A MINIMUM.

14. INSTALLATION OF CONTROL UNITS, OCCUPANCY/VACANCY SENSORS AND DAYLIGHTING CONTROLS:

    a. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO LOCATE AND AIM SENSORS IN THE CORRECT LOCATION REQUIRED FOR COMPLETE AND PROPER VOLUMETRIC COVERAGE PER THE MANUFACTURER'S RECOMMENDATIONS. ROOMS SHALL HAVE NINETY (90) TO ONE HUNDRED (100) PERCENT COVERAGE AND SHALL ACCOMMODATE ALL HABITS OF SINGLE OR MULTIPLE OCCUPANTS AT ANY LOCATION WITHIN THE ROOM. THE LOCATIONS AND QUANTITIES OF SENSORS SHOWN ON THE DRAWINGS ARE DIAGRAMMATIC AND INDICATE ONLY THE ROOMS THAT ARE TO BE PROVIDED WITH SENSORS. THE CONTRACTOR SHALL PROVIDE ADDITIONAL SENSORS AS REQUIRED TO PROPERLY AND COMPLETELY COVER THE RESPECTIVE ROOM. WHERE PIR-ONLY WIRELESS CEILING OR FIXTURE-INTEGRAL OCCUPANCY SENSORS ARE UTILIZED, PROVIDE QUANTITY AS REQUIRED TO MAINTAIN THE SAME COVERAGE AND SAME MOVEMENT DETECTION SENSITIVITY AS PROVIDED BY WIRED DUAL TECHNOLOGY SENSORS. ADDITIONALLY, IT MAY BE NECESSARY FOR THE CONTRACTOR TO MAKE ADJUSTMENTS, CHANGE THE LOCATION OR TYPE OF SENSOR TO OBTAIN PROPER OPERATION IN A SPECIFIC ROOM. THE USE OF FACTORY-SUPPLIED INTERNAL MASKING (PIR) SHALL BE PROVIDED/INSTALLED AS REQUIRED TO LIMIT DETECTION TO WITHIN THE CONTROLLED SPACE ONLY. WHERE MASKING IS NOT AVAILABLE AS A FACTORY-SUPPLIED ITEM, ALTERNATE FACTORY-SUPPLIED MEANS OF COMPLIANCE OR METHODS MAY BE ACCEPTABLE. THE CONTRACTOR SHALL HAVE FINAL RESPONSIBILITY FOR PROPER OPERATION OF THE SYSTEM IN EACH ROOM AND SHOULD THEREFORE MAKE LABOR ALLOWANCES FOR CHANGES AND ADJUSTMENTS.

    b. CEILING MOUNTED SENSORS SHOULD BE LOCATED IN THE SPACE TO BE COVERED, A MINIMUM OF 4', PREFERABLY 5', AWAY FROM THE LATCH SIDE OF THE DOOR, 2" TO 3" AWAY FROM THE WALL AND 3' TO 4' FROM AN AIR SUPPLY REGISTER. DO NOT MOUNT SENSORS OVER A DOORWAY OR BEHIND A FULL HEIGHT DOOR. SENSORS SHALL BE AIMED IN THE DIRECTION OF THE SPACE TO BE COVERED. DO NOT AIM SENSORS TOWARD A DOORWAY. THE USE OF FACTORY SUPPLIED INTERNAL MASKING (PIR) SHALL BE PROVIDED/INSTALLED AS REQUIRED TO LIMIT DETECTION TO WITHIN THE CONTROLLED SPACE ONLY.

    c. ALL SENSORS SHALL BE ADJUSTED PER THE DLCS SOO/ZONE SCHEDULE. WHERE A ROOM TYPE IS NOT INDICATED ON THE DLCS SOO, ADJUST FOR FOR A TIME DELAY OF TWENTY (20) MINUTES.

    d. EACH DAYLIGHTING CONTROL SYSTEM/ZONE SHALL BE INSTALLED/ADJUSTED AS FOLLOWS:

       1) AUTOMATIC SWITCHING/DIMMING CONTROL PLACEMENT: IT IS IMPORTANT TO SELECT A LOCATION IN THE DAYLIGHTING ZONE WHERE THE DAYLIGHT CONTRIBUTION IS REPRESENTATIVE OF THE DAYLIGHTING THROUGHOUT THE ZONE. A GOOD LOCATION IS OFTEN BETWEEN THE WINDOW AND/OR DAYLIGHTING SOURCE AND THE FIRST ROW OF LIGHTING FIXTURES. AVOID INSTALLATIONS WITHIN 6'-0" OF A WINDOW, MORE THAN 15'-0" FROM A WINDOW, AND LESS THAN 4'-0" TO A LIGHTING FIXTURE WITH INDIRECT DISTRIBUTION.

       2) AUTOMATIC STEP-DIMMED/CONTINUOUS DIMMING CONTROLS SHALL NOT BE OPERATIONAL UNTIL THE LAMPS HAVE HAD AN OPPORTUNITY TO "BURN IN" - TYPICALLY A MINIMUM OF 10 HOURS - OR GREATER AS RECOMMENDED BY THE RESPECTIVE LAMP AND BALLAST MANUFACTURERS.

       3) AUTOMATIC SWITCHING/STEP-DIMMED CONTROL SETTINGS:

          CONTRACTOR TO UTILIZE THE PHOTOSENSOR AUTOMATIC CALIBRATION AND SETPOINT FUNCTIONS TO ESTABLISH THE OPTIMAL ON/OFF SETPOINTS, TIME DELAYS AND DEADBAND SETTINGS FOR EACH CONTROL ZONE INDICATED WITH DAYLIGHTING CONTROLS.

       4) AUTOMATIC CONTINUOUS DIMMING CONTROL SETTINGS SHALL BE SET USING AN ILLUMINANCE METER, AT A LOCATION FURTHEST FROM THE DAYLIGHT SOURCE, AS FOLLOWS:

          - NIGHT CONDITIONS/SETTING: SET AND ADJUST THE ILLUMINANCE LEVELS TO BE PER THE "TARGET ILLUMINATION" SYMBOL VALUE - SEE DLCS SOO/ZONE SCHEDULE. THE VALUE MUST BE AT OR BELOW THE "TARGET ILLUMINATION" SYMBOL VALUE.

          - DAY CONDITIONS/SETTING: WITH WINDOW COVERINGS IN THE "OPEN" POSITION AND THE DAYLIGHT CONTRIBUTION (LIGHTS OFF) AT A MAXIMUM OF 75% OF THE "TARGET ILLUMINATION" SYMBOL VALUE, SET AND ADJUST THE COMBINED ARTIFICIAL ILLUMINATION AND DAYLIGHTING ILLUMINATION TO MEET THE SYMBOL VALUE AT THE SAME LOCATION/POSITION OF THE NIGHT SETTINGS.

          - RAMP UP/DOWN RATES/CUT-OFF TIME DELAY.

    e. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ARRANGE A PRE-INSTALLATION MEETING WITH THE MANUFACTURER'S FACTORY AUTHORIZED REPRESENTATIVE, AT THE PROJECT, TO VERIFY PLACEMENT OF SENSORS AND INSTALLATION CRITERIA.

    f. PROPER JUDGMENT MUST BE EXERCISED IN EXECUTING THE INSTALLATION SO AS TO ENSURE THE BEST POSSIBLE INSTALLATION IN THE AVAILABLE SPACE AND TO OVERCOME LOCAL DIFFICULTIES DUE TO SPACE LIMITATIONS OR INTERFERENCE OF BUILDING STRUCTURAL COMPONENTS.

    g. CONNECT ALL DEVICES AS REQUIRED. UNLESS PROHIBITED BY LOCAL CODE, CONNECTIONS SHALL BE MADE WIRELESSLY OR WITH PLENUM-RATED CABLING ROUTED NEATLY INTO AND ABOVE THE ACCESSIBLE CEILING. CABLES SHALL BE SUPPORTED WITH DEDICATED SUPPORT WIRES AND J-HOOKS. WHERE LOCAL CODE OR PROJECT SPECIFICATIONS REQUIRES LOW VOLTAGE CABLING TO BE ROUTED IN CONDUIT, INCLUDE ALL COSTS IN BASE BID TO PROVIDE APPROPRIATELY-SIZED SYSTEM OF CONDUITS AND JUNCTION BOXES TO ROUTE CONNECTION CABLING. J-BOXES/CONTROLLERS SHALL BE LOCATED ABOVE ACCESSIBLE CEILINGS AND NEVER IN HARD-LID CEILING AREAS. PRE-TERMINATED CABLING SHALL BE PROVIDED BY THE SYSTEM MANUFACTURER AND SHALL BE GREEN IN COLOR UNLESS IT IS ROUTED IN AN EXPOSED CEILING CONDITION WHERE IT SHALL BE BLACK, WHITE OR GRAY AS DIRECTED BY THE ARCHITECT.

    h. INSTALL LINE VOLTAGE CONDUCTORS, LOW VOLTAGE CONDUCTORS AND COMMUNICATIONS CABLING BETWEEN LIGHTING FIXTURES AND DLCS COMPONENTS PER THE DLCS MANUFACTURER'S RECOMMENDATIONS REGARDING CONDUCTOR ROUTING, CONDUCTOR SEPARATION AND CONDUCTOR TERMINATIONS. CONTRACTOR SHALL UTILIZE INSTALLATION MEANS AND METHODS THAT DO NOT COMPROMISE THE DLCS SYSTEM WARRANTY.

    i. WHERE CODE OR LOCAL AHJ REQUIREMENTS REQUIRE THE INSTALLATION OF ALL LOW-VOLTAGE CONDUCTORS TO BE INSTALLED IN CONDUIT - CONTRACTOR TO PROVIDE ALL REQUIRED MANUFACTURER SPECIFIC EQUIPMENT JUNCTION BOXES AND CONDUIT ADAPTERS AS REQUIRED.

    j. UNLESS PROHIBITED BY LOCAL CODE, ALL CONTROL UNITS SHALL BE PLENUM-RATED. WHERE CONTROL UNITS ARE LOCATED IN EXPOSED CEILING SPACES, INCLUDE ALL COSTS IN BASE BID TO PROVIDE APPROPRIATELY-SIZED VENTILATED CONTROL UNIT ENCLOSURES FOR CONCEALMENT. COLOR OF ENCLOSURE PER ARCHITECT.

15. DLCS START-UP, BUILDING AUTOMATION SYSTEM (BAS) INTEGRATION, COMMISSIONING, & TRAINING

    a. PRIOR TO NETWORK SYSTEM FACTORY START-UP, THE CONTRACTOR SHALL 1) TEST ALL COMMUNICATIONS CABLING FOR SHORTS, POLARITY REVERSALS AND BAD TERMINATIONS/CONNECTIONS AND MAKE NECESSARY REPAIRS AND 2) DEMONSTRATE FULL CONNECTIVITY TO ALL NETWORK AND LOCAL (IN-ROOM) DEVICES VIA MS/TP CAPTURE OR OTHER VENDOR SPECIFIC TESTING PROCESS. CONTRACTOR SHALL PROVIDE A TEST REPORT OUTLINING TEST COMPLETION AND ANY REPAIRS MADE AND CERTIFY THAT NETWORK DEVICE AND LOCAL DEVICE CONNECTIVITY HAS BEEN ACHIEVED PRIOR TO SCHEDULED FACTORY START-UP. BASED ON PAST PROJECT EXPERIENCE, FAILURE TO PERFORM ANY OF THE ABOVE STEPS HAS RESULTED IN BOTH VERY INEFFICIENT FACTORY START-UP AND PROJECT DELIVERY DELAY. ANY ADDITIONAL COSTS ARISING OUT OF A FAILURE TO COMPLETE THIS TESTING SHALL BE BORNE SOLELY BY THE CONTRACTOR.

    b. NETWORK SYSTEMS SHALL BE INSPECTED, STARTED UP, CONFIGURED AND PROGRAMMED BY FACTORY START-UP TECHNICIANS TO MEET THE INTENDED INTEGRATION AND CONTROLS SCENARIOS AND FUNCTIONALITY DESIRED BY THE SYSTEM USER. EFFORT SHALL INCLUDE REQUESTING ANY END-USER SPECIFIC NETWORK ADDRESSING OR OTHER INSTRUCTIONS FOR THE DLCS TO RESIDE ON THE END-USER LAN. FOR PROJECTS WHERE THE END-USER DOES NOT WANT THE DLCS TO COMMUNICATE WITH THE END-USER LAN, CONTRACTOR SHALL PROVIDE AND CONFIGURE ALL DLCS NETWORK COMPONENTS AS REQUIRED FOR THE SYSTEM TO FUNCTION IN ISOLATION WITHOUT PERMANENT LAN OR INTERNET ACCESS.

    c. WHERE THE DLCS SCHEDULE INDICATES BAS INTEGRATION IS REQUIRED OR WHERE REQUIRED PER MECHANICAL & MECHANICAL CONTROLS DRAWINGS AND SPECIFICATIONS, THE CONTRACTOR'S DLCS FACTORY TECHNICIAN SHALL ASSIST THE BAS CONTRACTOR WITH DLCS POINT INTEGRATION. THE PRIMARY OBJECTIVE OF DLCS INTEGRATION WITH THE BAS IS TO ALLOW FOR OCCUPANCY-BASED HVAC SETBACK, TO ENABLE/CONTROL LIGHTING SCHEDULES AND TO INTEGRATE ZONE OR AREA OCCUPANCY LIGHTING STATUS INTO A BAS GRAPHICAL USER INTERFACE DISPLAY BASED ON ARCHITECTURAL FLOOR PLAN(S). SECONDARY OBJECTIVES INCLUDE; REMOTE TROUBLESHOOTING OF USER COMPLAINTS, INTEGRATION INTO FUTURE CONTINUOUS COMMISSIONING SYSTEMS ETC AND AS OUTLINED IN THE MECHANICAL CONTROLS DRAWINGS AND SPECIFICATIONS AND AS FOLLOWS:

       1) THE PRIMARY PROTOCOL FOR INTEGRATION SHALL BE BACNET PER ANSI/ASHRAE 135-2016 – OR LATEST PUBLISHED STANDARD.

       2) WHERE A DLCS NETWORK COMPONENT IS BTL (BACNET TESTING LAB)-LISTED, IT SHALL BE LABELED AS SUCH. WHERE A DLCS NETWORK COMPONENT IS FOUND TO CAUSE BACNET INTEGRATION ISSUES, THE DLCS MANUFACTURER SHALL BE RESPONSIBLE FOR ALL COSTS RELATED TO BOTH TROUBLESHOOTING THE ISSUE AND THE ULTIMATE RESOLUTION OF THE ISSUE TO INCLUDE COSTS ASSOCIATED WITH USE OF BACNET PROTOCOL ANALYZERS TO IDENTIFY THE PROBLEM UP TO AND INCLUDING LABOR, MATERIAL, EQUIPMENT, SOFTWARE CODING, FIRMWARE REVISIONS, AND RECOMMISSIONING ASSOCIATED WITH REPAIR, REPLACEMENT AND/OR ADDITIONAL COMPONENTS NEEDED TO CORRECT THE INTEGRATION ISSUE.

       3) THE DLCS NETWORK SHALL BROADCAST ANY OCCUPANCY SENSOR STATUS VIA CHANGE OF VALUE TO THE BAS IN LESS THAN 5 SECONDS. POLLING BY THE DLCS AS A METHOD OF OBTAINING OCCUPANCY SENSOR VALUES IS UNACCEPTABLE DUE TO EXCESSIVE LATENCY AND RESULTANT SLOW SYSTEM RESPONSE TIME.

       4) WHILE THE DLCS SHALL BE CAPABLE OF PROVIDING A MUCH LARGER VARIETY OF BACNET POINTS, THE FOLLOWING ARE REQUIRED FOR BASIC INTEGRATION AT A MINIMUM (SEE MECHANICAL DRAWINGS AND SPECIFICATIONS FOR SPECIFIC POINT INTEGRATION REQUIREMENTS):

          - INTERIOR DLCS POINTS
          -- ROOM OCCUPANCY STATE: REPORTS OCCUPIED VS UNOCCUPIED.
          -- INDIVIDUAL OCCUPANCY SENSOR STATE: REPORTS OCCUPIED VS UNOCCUPIED AREA(S).
          -- LOAD/RELAY STATE: REPORTS LIGHT FIXTURE ON /OFF STATUS.
          -- LOAD DIMMING LEVEL: REPORTS AUTOMATIC OR MANUAL DIMMING STATUS.
          -- DAYLIGHT SENSOR INHIBITING: REPORTS DAY LIGHT SENSOR HOLDING LIGHTS AT A DIMMED LEVEL.
          -- ROOM SCHEDULE STATE: REPORTS NORMAL VS AFTER HOURS SCHEDULE MODE.

          - EXTERIOR DLCS POINTS
          -- RELAY PANEL SCHEDULE STATE: REPORTS NORMAL VS AFTER HOURS SCHEDULE MODE.
          -- INDIVIDUAL RELAY STATE: REPORTS LIGHT FIXTURE ZONE ON /OFF STATUS.

       5) A PROJECT-SPECIFIC BACNET OBJECT NAMING PROTOCOL SHALL BE DEVELOPED AND PROVIDED BY THE MECHANICAL CONTROLS/BAS CONTRACTOR TO BE USED BY THE DLCS CONTRACTOR IN NAMING DLCS BACNET OBJECTS INTEGRATED INTO THE BAS. CONFIRM DLCS ADDRESSING/OBJECT NAMING SCHEME WITH MECHANICAL CONTROLS/BAS CONTRACTOR PRIOR TO IMPLEMENTING IN ORDER TO REDUCE INTEGRATION CONFLICTS.

       6) ALL OF THE ABOVE POINTS, USING THE OBJECT NAMING SCHEME PROVIDED BY THE MECHANICAL CONTROLS/BAS CONTRACTOR, SHALL BE PROVIDED TO THE BAS CONTRACTOR IN AN ELECTRONIC TABLE FORMAT TO INCLUDE; BACNET OBJECT NAME, OBJECT SERIAL NUMBER, ROOM NAME AND NUMBER FOR EACH DEVICE ON THE PROJECT. FOR RELAY PANEL-BASED OBJECTS, PROVIDE ROOM NAMES OR EXTERIOR LIGHTING ZONE NAMES AS APPROPRIATE. PROVIDE BUILDING NUMBER FOR EACH DEVICE WHERE THE PROJECT CONSISTS OF MORE THAN ONE BUILDING. SEE MECHANICAL CONTROLS DRAWINGS AND SPECIFICATIONS FOR ADDITIONAL FORMATTING REQUIREMENTS.

       7) IN ADDITION TO A POINTS LIST TABLE, PROVIDE A SHOP DRAWING DEPICTING; THE LOCATION OF EACH OCCUPANCY AND DAYLIGHT SENSOR AND EACH SENSOR OBJECT NAME. WHERE RELAY PANELS ARE PROVIDED, ALSO INDICATE EACH INTERIOR AND EXTERIOR RELAY PANEL ZONE CONTROL AREA.

       8) INCLUDE SUFFICIENT MEETING AND COORDINATION EFFORT WITH THE BAS AND MECHANICAL CONTRACTORS TO REVIEW THE ABOVE INFORMATION. WHERE OCCUPANCY SENSOR ZONES DO NOT CORRESPOND TO HVAC VARIABLE AIR VOLUME (VAV) ZONES, EC/DLCS VENDOR SHALL ASSIST THE BAS AND MECHANICAL CONTRACTORS IN RESOLVING THE CONFLICT THROUGH TROUBLESHOOTING DEVICE/OBJECT NAMING SCHEMES.

    d. UPON COMPLETION OF THE INSTALLATION, THE SYSTEM SHALL BE COMPLETELY COMMISSIONED BY THE MANUFACTURER'S FACTORY AUTHORIZED TECHNICIAN WHO WILL VERIFY ALL ADJUSTMENTS AND SENSOR PLACEMENT TO ENSURE A TROUBLE-FREE INSTALLATION. THIS COMMISSIONING EFFORT SHALL BE PERFORMED IN A MANNER THAT MEETS ALL APPLICABLE FEDERAL, STATE, LOCAL ENERGY CODES AND/OR LEED CERTIFICATION PROGRAMS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FILLING OUT ALL APPLICABLE PAPERWORK AND/OR FORMS. CONTRACTOR TO PROVIDE A COPY OF THE COMPLETED FORMS TO THE ENGINEER OF RECORD PRIOR TO THE PUNCH LIST SITE VISIT FOR REVIEW AND POSSIBLE RECOMMENDATION OF SETTING REVISIONS.

       CONTRACTOR SHALL INCLUDE ALL COST IN THE BASE BID AND PROVIDE THE FOLLOWING WORK FOR EVERY CONTROL ZONE:

       - INITIAL SETTINGS AS INDICATED ON SOO/ZONE SCHEDULE.

       - COMMISSIONING OF EACH LIGHTING CONTROL DEVICE/ZONE PER NOTES BELOW.

       - A FOLLOW UP SETTING(S) ADJUSTMENT, AS DICTATED BY THE ELECTRICAL ENGINEER, BASED UPON A REVIEW OF THE RESULTS OF THE CONTRACTOR'S COMMISSIONING EFFORT AND FINAL PUNCH LIST.

    e. REGARDLESS OF THE LESSER REQUIREMENTS OF ANY AHJ COMMISSIONING FORMS, THE FOLLOWING MINIMUM COMMISSIONING ITEMS MUST BE COMPLETED FOR EACH DEVICE/LIGHTING CONTROL ZONE:

       - MEASURED LIGHTING POWER (KW) AT THE FULLY DIMMED CONDITION.

       - MEASURED LIGHTING POWER (KW) AT FULL LIGHT OUTPUT.

       - ONLY LIGHTING FIXTURES IN THE DAYLIGHTING ZONE ARE AFFECTED BY THE DAYLIGHTING CONTROLS.

       - LIGHTING POWER IS REDUCED BY AT LEAST 50% IN WINDOW DAYLIT AREAS AND 65% IN SKYLIGHT DAYLIT AREAS.

       - DEMAND RESPONSE TESTING, RECORDING, PRE-TEST, "OCCUPIED" STEADY-STATE LIGHTING POWER (KW) & SIMULATED DEMAND RESPONSE LIGHTING POWER (KW) DEMONSTRATING AN OVERALL 10% ENERGY REDUCTION.

       - DIMMING SYSTEMS PROVIDE FLICKER FREE OPERATION.

       - ILLUMINATION LEVELS, LOCATIONS OF MEASUREMENTS, SPECIFIC DEVICE SETTINGS ARE DOCUMENTED ON AS-BUILTS.

    f. AS PART OF THE "RECORD DRAWINGS", INDICATE ON THE REFLECTED CEILING PLAN THE EXACT LOCATION (CEILING TILE OR ACCESS PANEL) OF ANY ABOVE CEILING DEVICE.

    g. WHEN THE PROJECT REQUIRES TWENTY-FIVE (25) OR MORE CEILING MOUNTED SENSORS, CONTRACTOR TO PROVIDE A REMOTE CONTROL PROGRAMMING/CONTROL DEVICE, AND HAND IT TO THE OWNER AT THE END OF THE PROJECT.

    h. THE CONTRACTOR TO INCLUDE ALL COSTS TO ENSURE THAT PROGRAMMING IS PERFORMED BY A FACTORY PERSON OR AUTHORIZED TECHNICIAN. FACTORY TECHNICIAN TO ALSO PROVIDE USER/OWNER TRAINING AT TURNOVER OF BUILDING WITH A SECOND TRAINING 60 TO 90 DAYS AFTER OCCUPANCY. TRAINING TO INCLUDE SYSTEM OVERVIEW, TRAINING ON SYSTEM SOFTWARE, PREVENTATIVE MAINTENANCE, SERVICE AND SUPPORT INFORMATION THAT IS DEEMED NECESSARY TO FAMILIARIZE THE OWNER'S PERSONNEL WITH THE OPERATION, USE, MAINTENANCE, ADJUSTMENT, AND PROBLEM SOLVING DIAGNOSIS OF THE OCCUPANCY SENSING DEVICES AND LIGHTING CONTROL SYSTEMS.

SYMBOLS / REPRESENTATIVE GRAPHIC IMAGES

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-121181 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 07/02/2024

OWNER: SAN RAFAEL CITY SCHOOLS

PROJECT NAME: VENETIA VALLEY BLDGS G AND H ALTERATION

CLIENT ADDRESS: 177 N San Pedro Rd, San Rafael, CA 94903

No. E15610
12/31/2025

REVISIONS:

	DESCRIPTION	DATE
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PROJECT NO:
DATE ISSUED: 06/21/2024
SCALE: As indicated
SHEET NUMBER: E30-3
SHEET TITLE:

LIGHTING DISTRIBUTION SPECS

tk1sc COLLABORATIVE
11870 Pierce Street, Suite 160
Riverside, California 92505
951.299.4160 www.tk1sc.com

Project Leader - Nikolas Bruno
Electrical Lead - Nikolas Bruno
tk1sc Job #: B2304502.000

DLCS SCHEDULE

SYSTEM TOPOLOGY	COMMUNICATION TOPOLOGY	FIXTURE INTEGRATED SENSING	BAS INTEGRATION	WIRELESS DLCS COMPONENT BATTERY USAGE	REMARKS
NETWORKED	WIRED	NO	NO	NONE	

DISTRIBUTED LIGHTING CONTROL SYSTEM REQUIREMENTS:

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE FURNISHING OF ALL MATERIAL, LABOR, EQUIPMENT, AND SERVICES, IN CONNECTION WITH THE INSTALLATION OF A COMPLETE AND FULLY FUNCTIONING AND CODE COMPLIANT INSTALLATION.
2. IT IS THE INTENT OF THE CONTRACT DOCUMENTS, WHICH ARE PRESENTED IN A DIAGRAMMATIC FORMAT, TO PROVIDE CONTRACTOR INFORMATION THAT SUPPLEMENTS AND ENHANCES THE GENERALLY ACCEPTED CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES EMPLOYED IN CONNECTION WITH INSTALLATION OF THIS TYPE OF PRODUCT/SYSTEM.
3. THE CONTRACTOR SHALL ALSO INCORPORATE THE REQUIREMENTS OF THE MANUFACTURER'S INSTALLATION INSTRUCTIONS/WARRANTY REQUIREMENTS AS PART OF THE REQUIREMENTS OF THE CONSTRUCTION DOCUMENTS. IN THE EVENT OF A CONFLICT BETWEEN THE CONTRACT DOCUMENT REQUIREMENTS AND THE MANUFACTURER'S INSTALLATION REQUIREMENTS, THE MORE STRINGENT REQUIREMENTS SHALL APPLY - UNLESS THE MORE STRINGENT REQUIREMENT VOIDS APPLICABLE WARRANTIES OR VIOLATES THE REQUIREMENTS OF THE LOCAL AUTHORITY HAVING JURISDICTION. ANY SUCH CONFLICT SHALL IMMEDIATELY BE BROUGHT TO THE ATTENTION OF THE ENGINEER IN WRITING THROUGH THE FORMAL RFI PROCESS.
4. REFER TO THE ASSOCIATED SCHEDULES, SCHEMATICS, DRAWINGS, AND SPECIFICATIONS FOR DETAILED INFORMATION/REQUIREMENTS ON THIS PRODUCT/SYSTEM.
5. CONTRACTOR IS RESPONSIBLE TO VERIFY LIGHT FIXTURE DIMMING PROTOCOLS ARE COMPATIBLE WITH THE DLCS.
6. SECURITY STANDARD CERTIFICATIONS, SHOP DRAWINGS AND COMPONENT SUBMITTALS SHALL BE SUBMITTED PER THE GENERAL SPECIFICATION REQUIREMENTS SHOWING ALL COMPONENTS, WIRING CONFIGURATIONS AND PROGRAMMING SCHEDULES. SCALED SHOP DRAWINGS DEPICTING/IDENTIFYING ALL SYSTEM COMPONENT LOCATIONS SHALL BE PROVIDED. SUBMITTALS SHALL BE MADE SPECIFIC TO THE PROJECT - GENERIC SUBMITTALS AND SUBMITTALS WITHOUT SCALED SHOP DRAWINGS SHALL BE REJECTED.

nLIGHT:

WALL BOX SENSORS:
- STANDALONE SINGLE RELAY = #WSXA-PDT
- STANDALONE DUAL RELAY = #WSXA-PDT-2P
- SYSTEM-BASED DIMMING CONTROL = #nWSXA-PDT-LV-DX

CEILING SENSORS:
- ONE-WAY DIRECTIONAL = (WIRED) #NRM-PDT-9 W/MASKING AS REQUIRED; (WIRELESS/LOW VOLTAGE) #RCMS-PDT-9-G2 W/ MASKING AS REQUIRED; (WIRELESS/BATTERY) #RCMSB-7/45/45A-G2
- 360 DEGREE COVERAGE = #NRM-PDT-9 STANDARD RANGE; #(WIRED) NRM-PDT-10 EXTENDED RANGE/CORRIDOR #RCMS-PDT-9-G2; (WIRELESS/LOW VOLTAGE) #RCMS-PDT-10 EXTENDED RANGE/ CORRIDOR
- EMBEDDED FIXTURE SENSOR = (WIRELESS/LOW VOLTAGE) #RES7-PDT-G2 INDOOR (WIRELESS/LOW VOLTAGE) #RMSOD, RSDGR-127-G2 (WIRELESS/LOW VOLTAGE) #SBOR EXTERIOR (WIRELESS/BATTERY) #RCMSB-7/45/45A-G2

DAYLIGHT SENSORS:
- CLOSED LOOP SENSOR = (WIRED) #NES-ADCX OR #NRM-ADCX (ONLY IF REQUIRED BY CLG. TYPE)
- ONE-WAY DIRECTIONAL = (WIRELESS) #RCMS-G2
- EMBEDDED FIXTURE SENSOR = (WIRELESS) #RES7

CONTROL UNITS:
- SWITCH / STEPPED DIMMING = (WIRED) #NPP-16/#NSP-16 (WIRELESS) #RPP20-G2 NUMBER OF RELAYS AS REQUIRED.
- CONTINUOUS DIMMING (O-10V) = (WIRED) #NPP16-D (WIRELESS) #RPP20-D-G2 NUMBER OF RELAYS AS REQUIRED.
- CONTINUOUS DIMMING (UNIVERSAL) = (WIRED) #NSP5-PCD. NUMBER OF RELAYS AS REQUIRED. (WIRELESS) UTILIZE 0-10V PHASE DIMMING ADAPTER.
- AUXILIARY INPUT/ OUTPUT CONTROL = #NAR-40
- RECEPTACLE CONTROL = (WIRED) #NPP20 PL (WIRELESS) #RPP20-G2
- AV SYSTEM SERIAL INTERFACE = #nIO X (SCREENS / AV SYSTEM INTEGRATION)
- HVAC CONTROL = #NAR-40
- MOVEABLE PARTITION INTERFACE & SENSOR = #FRESCO TOUCH PANEL #NFCS-7TSN (PER SPACE). #NIO-1S POWER PACK (SENSOR POWER), & #ENTERTAINMENT NETWORKS PARTITION SENSOR W/BOTTOM COVER (www.entertainmetworks.com).
- DUAL MODE CORRIDOR/STAIRWAY/AISLEWAY = CONTROL INPUT #NDTC

WALL CONTROLS:
- DIMMING = (WIRED) #NPODMA-DX SERIES (WIRELESS) #RPODB-DX (# OF DIMMERS AS REQUIRED - 4 / YOKE MAX)
- KEYED SWITCH = #NIO INPUT INTERFACE W/LEVITON #1221-2L-? KEYED SWITCH
- TOUCH SCREEN = 7-INCH CAPACITIVE TOUCH #FCS-7TSN-[DMX?]-[FINISH?] W/ ACUITY FCS-PS10 24V POWER SUPPLY; 3.5-INCH CAPACITIVE TOUCH #NPOD TOUCH INCLUDES ACUITY PS150 24V POWER SUPPLY

NETWORK COMM COMPONENTS:
- GATEWAY = #NECY-MVOLT BAC ADR ENC GFXK WITH ENCLOSURE
- BRIDGE = #NBRG-8-KIT

NETWORK RELAY PANELS: ARP INTENCXX NLT XXFCR MVOLT, QTY AS REQUIRED, TO INCLUDE SPARE RELAYS SHOWN IN SCHEDULES.

EMERGENCY POWER INTERFACE:
- SWITCHING / STEP DIMMING = (WIRED) NPP16-ER (WIRELESS) #RPP20-ER-G2 NUMBER OF RELAYS AS REQUIRED, NORMAL CIRCUIT REQUIRED.
- SWITCH / STEPPED DIMMING = (WIRELESS) #RPP20-EM-G2. NUMBER OF RELAYS AS REQUIRED, NORMAL CIRCUIT NOT REQUIRED, GENERATOR AND DELAYED TRANSFER INVERTER ONLY.
- CONTINUOUS DIMMING = (WIRED) #NPP16-D-ER
- CONTINUOUS DIMMING (0-10V) = (WIRELESS) #RPP20-D-ER-G2. NUMBER OF RELAYS AS REQUIRED, NORMAL CIRCUIT REQUIRED. (WIRELESS) #RPP20-D-EM-G2. NUMBER OF RELAYS AS REQUIRED, NORMAL CIRCUIT NOT REQUIRED EXCEPT WHERE GENERATOR AND DELAYED TRANSFER INVERTER POWER IS USED.

LOAD INTERFACE DEVICE:
- LUTRON COMPONENTS = LUTRON #BCI-0-10.
- REVERSE PHASE DIMMING COMPONENTS = (WIRED) #NSP5-PCD-ELV120 OR LUTRON #PHPM-PA-DV-WH (WIRELESS) #PCDM & RPP20DG2/
- FORWARD PHASE DIMMING COMPONENTS = (WIRED) #NSP5-PCD-MLV OR LUTRON #PHPM-PA-DV-WH (WIRELESS) LUTRON #BCI-0-10/LUTRON #PHPM-PA-DV-WH
- 2 & 3 WIRE DIMMING COMPONENTS = (WIRED) #NSP5-PCD-2W/3W OR LUTRON #PHPM-PA-DV-WH

WATTSTOPPER:

WALL BOX SENSORS:
- STANDALONE SINGLE RELAY = #DW-100
- STANDALONE 0-10V DIMMING WITH SINGLE RELAY = #PW-311
- STANDALONE DUAL RELAY = #DW-200
- SYSTEM-BASED DIMMING CONTROL = #LMDW-102

CEILING SENSORS:
- ONE-WAY DIRECTIONAL = (WIRED) #LMDC-100 WITH MASKING AS REQUIRED (PIR-ONLY WIRELESS) #LMPC-600 SERIES WITH MASKING AS REQUIRED.
- 360 DEGREE COVERAGE = (WIRED) #LMDC-100 (PIR-ONLY WIRELESS) #LMPC-600 SERIES

DAYLIGHT SENSORS:
- OPEN LOOP SENSOR = (WIRED) #LMLS-500 (1-3 ZONE) (WIRELESS) #LMDL-600 (1-3 ZONE)
- CLOSED LOOP SENSOR = (WIRED) #LMLS-400 (1 ZONE ONLY)
- REMOTE CONTROL = #LMCT-100 (HAND TO OWNER AT COMPLETION OF PROJECT.)

CONTROL UNITS:
- SWITCHED = (WIRED) #LMRC-10? (NUMBER OF RELAYS AS REQUIRED) (WIRELESS) #LMRC-6??MCC
- CONTINUOUS DIMMING (O-10V, WIRED) = #LMRC-217 (NUMBER OF RELAYS AS REQUIRED).
- CONTINUOUS DIMMING (O-10V, WIRELESS) = #LMRC-67?MCC (NUMBER OF RELAYS AS REQUIRED).
- CONTINUOUS DIMMING (UNIVERSAL, WIRED) = #LMRC-227 (NUMBER OF RELAYS AS REQUIRED).
- RECEPTACLE CONTROL = #LMPL-101 OR LMPL-201 (WHERE MORE THAN 4 RECEPTACLE CONTROL UNIT SARE TIED TOGETHER) #BZ-250 (WHEN USING WIRELESS CONTROL UNIT) #LMPL-67? (WHEN AVAILABLE)
- HVAC CONTROL = (WIRED) #LMRL-100 (WIRELESS) #LMRC-6??MCC
- AV SYSTEM SERIAL INTERFACE = (WIRED) #LMDI-100 ADD WIRELESS BRIDGE FOR WIRELESS SYSTEM.
- MOVEABLE PARTITION INTERFACE & SENSOR = PARTITION INTERFACE - #LMIO-102 PARTITION SWITCH/STATUS INDICATOR - #LMPS-104 POWER PACK - #BZ-50 (SENSOR POWER) PARTITION SENSOR - #ENTERTAINMENT NETWORKS SENSOR W/ BOTTOM COVER (www.entertainmentworks.com). ADD WIRELESS BRIDGE FOR WIRELESS SYSTEM.
- DUAL MODE CORRIDOR/STAIRWAY/AISLEWAY CONTROL INPUT = #LMZC-301, UNLESS OTHERWISE NOTED.

WALL CONTROLS:
- DIMMING = (WIRED) #LMSW-101/102/103/104/108 (# OF SWITCHES AS REQUIRED 4/YOKE MAX) (WIRELESS) #LMDM-601 (# OF SWITCHES AS REQUIRED 4/YOKE MAX)
- KEYED SWITCH = #LMIO-101 INPUT INTERFACE W/ LEVITON #1221-2L-? KEYED SWITCH
- TOUCH SCREEN = 4.3-INCH CAPACITIVE TOUCH #LMEQ-41 W/ WATTSTOPPER #LMTI-100-[VOLT] INJECTOR

NETWORK COMM COMPONENTS:
- ZONE SEGMENT MANAGER = (WIRED OR WIRELESS) #LMSM-3E/#LMSM-6E W/#LMSM-ENC1 ENCLOSURE.
- NETWORK BRIDGE / ROUTER / SWITCH = (WIRED) #LMBC-300/#NB-ROUTER/#NB-SWITCH (WIRELESS) #LMBC-600/#LMBR-650/#NB-SWITCH
- NETWORK WIRING = (WIRED) #LM-MSTP.

NETWORK RELAY PANEL: LMCP8, 24, OR 48

EMERGENCY POWER INTERFACE:

POWER FAILURE ONLY:
- SWITCHING / STEP DIMMING = #ELCU-200 BYPASS DEVICE.
- CONTINUOUS DIMMING = #ELCU-200 BYPASS DEVICE.

POWER FAILURE OR FIRE ALARM ACTIVATION:
- SWITCHING / STEP DIMMING = LVS #EPC2 BYPASS DEVICE W/ LVS REMOTE POWER SUPPLY (#TR-A-2)
- 0-10V DIMMING = LVS #EPC2D BYPASS DEVICE W/ LVS REMOTE POWER SUPPLY (#TR-A-2)
- REVERSE/FORWARD PHASE DIMMING = LVS #EPCDFATS BRANCH CIRCUIT EMERGENCY TRANSFER SWITCH (BCELTS)

REMOTE POWER SUPPLY SHALL UTILIZE UNSWITCHED EMERGENCY CIRCUIT SERVING RESPECTIVE EMERGENCY FIXTURES.

LOAD INTERFACE DEVICE:
- LUTRON COMPONENTS = LUTRON #BCI-0-10.
- REVERSE/FORWARD PHASE DIMMING COMPONENTS = LUTRON #PHPM-PA-DV-WH.

LUTRON CONTROLS (VIVE):

WALL BOX SENSORS:
- STANDALONE SINGLE RELAY (DUAL TECH) = #MS-A102-XX
- STANDALONE DUAL RELAY (DUAL TECH) = #MS-A202-XX
- SYSTEM-BASED DIMMING CONTROL = (0-10V) #MS-Z101-XX (FORWARD PHASE) #MSCL-OP153M-XX

OCCUPANCY SENSORS:
- WALL MOUNT HALLWAY COVERAGE = #LRF2-OHLB-P-WH
- WALL MOUNT 180 DEGREE ONE-WAY DIRECTIONAL = #LRF2-OWLB-P-WH (1500 S.F. MAXIMUM)
- WALL MOUNT 90 DEGREE (CORNER) COVERAGE = #LRF2-OKLB-P-WH (1225 S.F. MAXIMUM)
- CEILING MOUNT 360 DEGREE COVERAGE = #LRF2-OCR2B-P-WH (600 S.F. MAXIMUM)

DAYLIGHT SENSORS:
- OPEN LOOP SENSOR = #LRF2-DCRB-WH

RF CONTROL UNITS:
- 8A, 0-10V ZONE CONTROLLER = #RMJS-8T-DV-B
- 5A, SWITCHING ZONE CONTROLLER = #RMJS-5R-DV-B
- 16A, SWITCHING ZONE CONTROLLER = #RMJS-16R-DV-B
- 20A, SWITCHING RECEPTACLE CONTROLLER = #RMJS-20R-DV-B
- 20A WIRELESS RECEPTACLE (SPLIT) = #CAR2S-20-STR
- 20A WIRELESS RECEPTACLE (DUAL) = #CAR2S-20-DTR
- 0-10V FIXTURE CONTROLLER = #FCJS-010
- ECOSYSTEM DIGITAL FIXTURE CONTROLLER = #FCJS-ECO
- MAESTRO RF 6A SWITCH (120V) = #MRF2S-6ANS-XX
- MAESTRO RF 8A SWITCH (DUAL VOLTAGE) = #MRF2S-8S-DV-XX
- MAESTRO RF DIMMER (CFL/LED/INC/HAL FORWARD PHASE = #MRF2S-6CL-XX
- MAESTRO RF DIMMER (ELV REVERSE PHASE) = #MRF2S-6ELV-XX
- MAESTRO RF DIMMER (INC/MLV) = #MRF2S-6ND-120-XX
- ACCESSORY DIMMER (MULTI-LOCATION, 3-WAY, 4-WAY) = #MA-R-XX
- CONTACT CLOSURE OUTPUT DEVICE = #RMJS-CCO1-24-B

WALL CONTROLS:
- WIRELESS 4 BUTTON, ENGRAVABLE = #PJ2-4B (# OF DIMMERS AS REQUIRED - 4 / YOKE MAX)
- WIRELESS BASIC ZONE/SCENE CONTROL = NON-ENGRAVABLE #PJ2-2BRL- (# OF DIMMERS AS REQUIRED); #PJ2-3BRL- (# OF DIMMERS AS REQUIRED)
- TOUCH SCREEN = EXTRON 5-INCH TOUCH SCREEN #60-1561-[FINISH?] W/ REMOTE IP LINK PROCESSOR #IPL-T-SI

NETWORK COMM COMPONENTS:
- VIVE WIRELESS HUB (WITH BACNET) = #CPN-IRV-5 (HJS-2-FM)

NETWORK RELAY PANEL: NOT AVAILABLE

LOAD INTERFACE DEVICE:
- 0-10V TO 3-WIRE FLUORESCENT INTERFACE = #BCI-0-10
- PHASE ADAPTIVE DIMMING INTERFACE (REVERSE/FORWARD PHASE) = LUTRON #PHPM-PA-DV-WH
- 3-WIRE FLUORESCENT TO PHASE ADAPTIVE INTERFACE = #PHPM-WBX-DV-WH
- ECOSYSTEM DIGITAL TO 0-10V INTERFACE = #TVI-LMF-2A

COOPER LIGHTING SOLUTIONS NETWORK LIGHTING CONTROL (WaveLinx Wired/Wireless):

WALL BOX SENSORS:
- STANDALONE SINGLE RELAY = #ONW-D-1001-MV-N SERIES
- STANDALONE DUAL RELAY = #ONW-D-1001-DMV-N SERIES
- STANDALONE SINGLE RELAY WITH 0-10VDC = #OSW-D-010 SERIES
- SYSTEM-BASED WALLBOX = NOT AVAILABLE

CEILING SENSORS:
- ONE-WAY DIRECTIONAL = (WIRED) #OAC-DT-501 & SPP-MV (WIRED DIGITAL PIR) #MTS6 (MASKING) (PIR BATTERY WIRELESS) #CWPD-1500 (MASKING) (PIR LINE-POWERED WIRELESS)#WTA
- 360 DEG COVERAGE = (WIRED) #OAC-DT-1000/OAC-DT-2000 & SPP-MV (WIRED DIGITAL PIR) #MTS6/MTS12 (PIR BATTERY WIRELESS) #CWPD-1500 (PIR LINE POWERED WIRELESS) #WTA (WIRELESS FIXTURE) #SWPD1 (<15FT) #SWPD2 (7-15FT) #SWPD3 (15-40FT)

DAYLIGHT SENSORS:
- OPEN LOOP SENSOR = (WIRED DIGITAL) #MTS6/MTS12 (WIRELESS-BATTERY) #CWPD-1500 (WIRELESS LINE-POWERED) #WTA (WIRELESS FIXTURE) #SWPD1 (<15FT) #SWPD2 (7-15FT) #SWPD3 (15-40FT) #WOLC-7P-10A (7PIN EXTERIOR)

CONTROL UNITS:
- SWITCH/CONTINUOUS DIMMING (0-10V) = (DIGITAL) #DAC-DC1 OR DAC-DC2 (ONE PER ZONE) (WIRELESS) #WSP-MV-010/#WSP-CA-010 (ONE PER ZONE)
- CONTINUOUS DIMMING (UNIVERSAL) = ONE OF THE ABOVE PLUS #LDCM-PL/#PD216
- AUXILIARY INPUT = (DIGITAL) #UIM (WIRELESS) #WSP-CA-010
- OUTPUT CONTROL = (DIGITAL) #RI-2-NA
- RECEPTACLE CONTROL = (DIGITAL) #HPRS-MV-DC1 (WIRELESS) #WSP-MV-010 (WIRELESS RECEPTACLE) #WR20
- HVAC CONTROL = #TRELLIX BACNET (OPTIONAL) #-R OPTION ON OCCUPANCY SENSOR.
- AV SYSTEM INTERFACE = #TRELLIX API
- MOVEABLE PARTITION INTERFACE & SENSOR = (DIGITAL) #UIM/IRTR (WIRELESS) #NA
- DUAL MODE COORIDOR/STAIRWAY/AISLEWAY = CONTROL INPUT PROGRAMMING THROUGH SYSTEM DEMAND RESPONSE. #TRELLIX SERVER LICENSE ADR-2.0b

WALL CONTROLS:
- DIMMING = (DIGITAL) #DW-TSB-RL (WIRELESS-BATTERY) #WB-RL SERIES (WIRELESS LINE POWERED) #W-RL SERIES. ALL DEVICES ARE UP TO 5 ZONE/SCENE OR MIX WITH DIMMING.
- TOUCH SCREEN = (DIGITAL) #TSE-55 OR #TSC-80 (WIRELESS) #TSE-57
- KEYED SWITCH = (DIGITAL) #UIM (WIRELESS) #WSP-CA-010 ALL USE LEVITON #1221-2L-? KEYED SWITCH

NETWORK COMM COMPONENTS:
- NETWORK ADAPTER = (WIRED) #EG2 (WIRELESS/WIRED) #TRELLIX SERVER

NETWORK RELAY PANELS: ILUMIN PLUS SERIES 12, 24, OR 48

EMERGENCY POWER INTERFACE:
- SWITCH / CONTINUOUS DIMMING (0-10V) = (DIGITAL) #DACI-DC1 OR DAC-DC2 (WIRELESS) #WSP/CEPC-2-D

POWER FAILURE ONLY:
- SWITCHING / STEP DIMMING = #ELCU-200 BYPASS DEVICE.
- CONTINUOUS DIMMING = #ELCU-200 BYPASS DEVICE.

POWER FAILURE OR FIRE ALARM ACTIVATION:
- SWITCHING / STEP DIMMING = LVS #EPC2 BYPASS DEVICE W/ LVS REMOTE POWER SUPPLY (#TR-A-2)
- 0-10V DIMMING = LVS #EPC2D BYPASS DEVICE W/ LVS REMOTE POWER SUPPLY (#TR-A-2)
- REVERSE/FORWARD PHASE DIMMING = LVS #EPCDFATS BRANCH CIRCUIT EMERGENCY TRANSFER SWITCH (BCELTS)

REMOTE POWER SUPPLY SHALL UTILIZE UNSWITCHED EMERGENCY CIRCUIT SERVING RESPECTIVE EMERGENCY FIXTURES

LOAD INTERFACE DEVICE:
- FORWARD PHASE DIMMING = (ALL SYSTEMS) PD216-120or277
- REVERSE PHASE DIMMING COMPONENTS = (ALL SYSTEMS) LDCM-PL

NETWORK INTERFACE: (WIRED) #EG2 (WIRELESS/WIRED) #TRELLIX SERVER

STAND ALONE ROOM CONTROLLER: WHEN REQUIRED TO HAVE NON NETWORK CONTROL, USE ROOM CONTROLLER RCSD-PL OR RCSDE-PL AND ASSOCIATED SYSTEM COMPONENTS

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-121181 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 07/02/2024

OWNER: SAN RAFAEL CITY SCHOOLS

PROJECT NAME: VENETIA VALLEY BLDGS G AND H ALTERATION

CLIENT ADDRESS: 177 N San Pedro Rd, San Rafael, CA 94903

REGISTERED PROFESSIONAL ENGINEER RAYMOND W. SWEET No. E15610 EXP. 12/31/2025 ELECTRICAL STATE OF CALIFORNIA

REVISIONS:

	DESCRIPTION	DATE
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

PROJECT NO:

DATE ISSUED: 06/21/2024

SCALE: As indicated

SHEET NUMBER: E30-4

SHEET TITLE:

DLCS SCHEDULE AND PRODUCT SPECS

tk1sc COLLABORATIVE
11870 Pierce Street, Suite 160
Riverside, California 92505
951.299.4160 www.tk1sc.com
Project Leader - Nikolas Bruno
Electrical Lead - Nikolas Bruno
tk1sc Job #: B2304502.000

STATE OF CALIFORNIA
Indoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			**NRCC-LTI-E**
Project Name:	Venetia Valley MS	**Report Page:**	**(Page 5 of 7)**
Project Address:	177 N San Pedro RD	**Date Prepared:**	8/1/2023

K. TAILORED METHOD GENERAL LIGHTING POWER ALLOWANCE

This section does not apply to this project.

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.

P. POWER ADJUSTMENT: LIGHTING CONTROL CREDIT (POWER ADJUSTMENT FACTOR (PAF))

This section does not apply to this project.

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.

STATE OF CALIFORNIA
Indoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			**NRCC-LTI-E**
Project Name:	Venetia Valley MS	**Report Page:**	**(Page 3 of 7)**
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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
1	TYPE 1	No	NA	28.4	Mfr. Spec	64	No	1,817.6	☐	☐
2	TYPE 2	No	NA	41	Mfr. Spec	1	No	41	☐	☐
3	TYPE 3	No	NA	26	Mfr. Spec	2	No	52	☐	☐
						Total Designed Watts: CONDITIONED SPACES		1,911		

[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.

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 Auto Time Switch	☐	☐

STATE OF CALIFORNIA
Indoor Lighting
CALIFORNIA ENERGY COMMISSION

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This document is used to demonstrate compliance with requirements in 110.9, 110.12(c), 130.0, 130.1, 140.6 and 141.0(b)2 for indoor lighting scopes using the prescriptive path for nonresidential and hotel/motel occupancies. It is also used to document compliance with requirements in 160.5, 170.2(e) and 180.2(b)4 for indoor lighting scopes using the prescriptive path for multifamily occupancies. Multifamily includes dormitory and senior living facilities.

A. GENERAL INFORMATION

01	Project Location (city)	San Rafael	04	Total Conditioned Floor Area (ft²)	3,280
02	Climate Zone	2	05	Total Unconditioned Floor Area (ft²)	0
03	Occupancy Types Within Project (select all that apply):		06	# of Stories (Habitable Above Grade)	1

● Classroom ● 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 (ft²)	Calculation Method	Area (ft²)
☒ New Lighting System	Area Category Method	3280	Area Category Method	0
☐ New Lighting System - Parking Garage				
Total Area of Work (ft²)	3280		0	

STATE OF CALIFORNIA
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CALIFORNIA ENERGY COMMISSION

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S. DAYLIGHT DESIGN POWER ADJUSTMENT FACTOR (PAF)

This section does not apply to this project.

T. DWELLING UNIT LIGHTING

This section does not apply to this project.

U. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Form/Title
NRCI-LTI-E - Must be submitted for all buildings

V. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

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 Time Switch;
NRCA-LTI-04-A - Must be submitted for demand responsive lighting controls.	Whole Building Demand Response;

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H. INDOOR LIGHTING CONTROLS (Not including PAFs)

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)2A	Field Inspector	
								Pass	Fail
					13				
					Plan Sheet Showing Daylit Zones:				

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(a) are being used .

Conditioned Spaces

01	02	03	04	05	06	
Area Description	Complete Building or Area Category Primary Function Area	Allowed Density (W/ft²)	Area (ft²)	Allowed Wattage (Watts)	Additional Allowance / Adjustment	
					Area Category	PAF
CLASSROOM	Classroom, Lecture, or Training Vocational	0.6	3,100	1,860	No	No
ELECTRICAL ROOMS	Electrical Mechancial Telephone Room	0.4	60	24	No	No
RESTROOMS	Restroom	0.65	120	78	No	No
		TOTALS:	3,280	1,962	See Tables J, or P for detail	

J. ADDITIONAL ALLOWANCE: AREA CATEGORY METHOD QUALIFYING LIGHTING SYSTEM

This section does not apply to this project.

STATE OF CALIFORNIA
Indoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			**NRCC-LTI-E**
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Project Address:	177 N San Pedro RD	**Date Prepared:**	8/1/2023

C. COMPLIANCE RESULTS

If any cell on this table says "DOES NOT COMPLY" or "COMPLIES with Exceptional Conditions" refer to Table D. for guidance.

Lighting in conditioned and unconditioned spaces must not be combined for compliance per 140.6(b)1 / 170.2(e)	Allowed Lighting Power per 140.6(b) / 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
	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 (-)	**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		1,962	0		= 1,962	≥	1,911	0	= 1911				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.

STATE OF CALIFORNIA
Indoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			**NRCC-LTI-E**
Project Name:	Venetia Valley MS	**Report Page:**	**(Page 7 of 7)**
Project Address:	177 N San Pedro RD	**Date Prepared:**	8/1/2023

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

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

Documentation Author Name: Ray W. Swartz	Documentation Author Signature:
Company: WSP USA	Signature Date: 2023-08-01
Address: 15231 Laguna Canyon Road	CEA/ HERS Certification Identification (if applicable):
City/State/Zip: Irvine CA 92618	Phone:

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: Ray W. Swartz	Responsible Designer Signature:
Company: tk1sc	Date Signed: 2023-08-01
Address: 15231 Laguna Canyon Road	License: E15610
City/State/Zip: Irvine CA 92618	Phone:

TITLE 24 PROCEDURES FOR TESTING AND ADJUSTING

CONTRACTOR SHALL BE RESPONSIBLE FOR ALL WORK ASSOCIATED WITH FINAL INSPECTION AND APPLICABLE ACCEPTANCE REQUIREMENT PROCEDURES. INCLUDE ALL COSTS IN THE BASE BID. THIS SHALL INCLUDE, BUT NOT BE LIMITED TO, CONSTRUCTION INSPECTION, MEASUREMENTS, MONITORING, FUNCTIONAL TESTING, CALIBRATING, ETC. CONTRACTOR SHALL ASSUME THE ROLE OF "FIELD TECHNICIAN" AND "RESPONSIBLE PERSON" AS DEFINED IN STATE OF CALIFORNIA 2022 BUILDING ENERGY EFFICIENCY STANDARDS NONRESIDENTIAL COMPLIANCE MANUAL SECTIONS 13.1.2.2 AND 13.1.2.3.

LIGHTING CONTROL ACCEPTANCE TESTING AND ADJUSTING PROCEDURES - REFER TO NRCA-LTI-02-A DOCUMENTS.

AUTOMATIC DAYLIGHT CONTROL ACCEPTANCE TESTING AND ADJUSTING PROCEDURES - REFER TO NRCA-LTI-03-A DOCUMENTS.

DEMAND RESPONSE LIGHTING CONTROL ACCEPTANCE TESTING AND ADJUSTING PROCEDURES - REFER TO NRCA-LTI-04-A DOCUMENTS.

INSTITUTIONAL TUNING PAF ACCEPTANCE TESTING AND ADJUSTING PROCEDURES - REFER TO NRCA-LTI-05-A DOCUMENTS.

OUTDOOR LIGHTING CONTROL ACCEPTANCE TESTING AND ADJUSTING PROCEDURES - REFER TO NRCA-LTO-02-A DOCUMENTS.

ALL LIGHTING CONTROLS TESTING AND ADJUSTING DOCUMENTS NOTED ABOVE ARE AVAILABLE FROM THE CALIFORNIA ENERGY COMMISSION WEB SITE AT:
https://www.energy.ca.gov/programs-and-topics/programs/building-energy-efficiency-standards/2022-building-energy-efficiency-5

TITLE 24 GENERAL NOTE

CONTRACTOR SHALL BE RESPONSIBLE FOR ALL WORK ASSOCIATED WITH FINAL INSPECTION AND APPLICABLE ACCEPTANCE REQUIREMENT PROCEDURES. INCLUDE ALL COSTS IN THE BASE BID. THIS SHALL INCLUDE, BUT NOT BE LIMITED TO, CONSTRUCTION INSPECTION, MEASUREMENTS, MONITORING, FUNCTIONAL TESTING, CALIBRATING, ETC. CONTRACTOR SHALL ASSUME THE ROLE OF "FIELD TECHNICIAN" AND "RESPONSIBLE PERSON" AS DEFINED IN STATE OF CALIFORNIA 2022 BUILDING ENERGY EFFICIENCY STANDARDS NONRESIDENTIAL COMPLIANCE MANUAL SECTION 14.1.2.

SEE STATE OF CALIFORNIA 2022 BUILDING ENERGY EFFICIENCY STANDARDS SECTIONS 10-103(a)3A AND 10-103(a)3B AND SECTION 130.4 FOR MORE INFORMATION.

SEE STATE OF CALIFORNIA 2022 BUILDING ENERGY EFFICIENCY STANDARDS NONRESIDENTIAL COMPLIANCE MANUAL CHAPTER 14 FOR MORE DETAILED REQUIREMENTS / INFORMATION.

SEE STATE OF CALIFORNIA 2022 BUILDING ENERGY EFFICIENCY STANDARDS RESIDENTIAL COMPLIANCE MANUAL CHAPTER 2 FOR MORE DETAILED REQUIREMENTS / INFORMATION.

PROVIDE COMPLETED INSTALLATION CERTIFICATE(S) AND CERTIFICATE(S) OF ACCEPTANCE AS REQUIRED TO THE SATISFACTION OF THE ENFORCEMENT AGENCY.

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-121181 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 07/02/2024

OWNER: SAN RAFAEL CITY SCHOOLS

PROJECT NAME: VENETIA VALLEY BLDGS G AND H ALTERATION

CLIENT ADDRESS: 177 N San Pedro Rd, San Rafael, CA 94903

REGISTERED PROFESSIONAL ENGINEER
RAYMOND W. SWARTZ
No. E15610
12/31/2025
ELECTRICAL
STATE OF CALIFORNIA

REVISIONS:

	DESCRIPTION	DATE
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

PROJECT NO:
DATE ISSUED: 06/21/2024
SCALE: As indicated

SHEET NUMBER: E30-5

SHEET TITLE:

TITLE 24 INTERIOR - BLDG G

tk1sc COLLABORATIVE
11870 Pierce Street, Suite 160
Riverside, California 92505
951.299.4160 www.tk1sc.com
Project Leader - Nikolas Bruno
Electrical Lead - Nikolas Bruno
tk1sc Job #: B2304502.000

STATE OF CALIFORNIA
Outdoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-LTO-E
Project Name:	Venetia Valley MS	Report Page:	(Page 5 of 7)
Project Address:	177 N San Pedro RD	Date Prepared:	8/1/2023

I. LIGHTING POWER ALLOWANCE (per 140.7 / 170.2(e))

This table includes areas using allowance calculations per 140.7 / 170.2(e). General Hardscape Allowance is per Table 140.7-A/Table 170.2-R while "Use it or lose it" Allowances are per Table 140.7-B /Table 170.2-S. Indicate which allowances are being used to expand sections for user input. Luminaires that qualify for one of the "Use it or lose it" allowances shall not qualify for another "Use it or lose it" allowance. Outdoor lighting attached to multifamily buildings and controlled from the inside of a dwelling unit are included in Table H. and are not included here. All other multifamily outdoor lighting is included here.

01				
	"Use it or lose it" Allowance (select all that apply) (select all that apply)			
☒ General Hardscape Allowance Table I (below)	☐ Per Application Table J	☐ Sales Frontage Table K	☐ Ornamental Table L	☐ Per Specific Area Table M

Calculated General Hardscape Lighting Power Allowance per Table 140.7-A for Nonresidential & Hotel/Motel

02	03	04	05	06	07	08	09
Area Description	Area Wattage Allowance (AWA)			Linear Wattage Allowance (LWA)			Total General AWA + LWA (Watts)
	Illuminated Area (ft²)	Allowed Density (W/ft²)	Area Allowance (Watts)	Perimeter Length (lf)	Allowed Density (W/lf)	Linear Allowance (Watts)	
PEDESTRIAN HARDSCAPE	2550	0.021	53.6	540	0.2	108	162
					Initial Wattage Allowance for Entire Site (Watts):		250
					Instances of Initial Wattage Allowance (LZ 0 only)[1]		
					Total General Hardscape Allowance (Watts):		412

J. LIGHTING ALLOWANCE: PER APPLICATION

This section does not apply to this project.

K. LIGHTING ALLOWANCE: SALES FRONTAGE

This section does not apply to this project.

L. LIGHTING ALLOWANCE: ORNAMENTAL

This section does not apply to this project.

STATE OF CALIFORNIA
Outdoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-LTO-E
Project Name:	Venetia Valley MS	Report Page:	(Page 3 of 7)
Project Address:	177 N San Pedro RD	Date Prepared:	8/1/2023

F. OUTDOOR LIGHTING FIXTURE SCHEDULE

For new or altered lighting systems demonstrating compliance with 140.7 / 170.2(e)6 all new luminaires being installed and any existing luminaires remaining or being moved within the spaces covered by the permit application are included in the Table below. For altered lighting systems using the Existing Power method per 141.0(b)2L only new luminaires being installed and replacement luminaires being installed as part of the project scope are included (ie, existing luminaires remaining or existing luminaires being moved are not included). Outdoor lighting attached to multifamily buildings and controlled from the inside of a dwelling unit are included in Table H. and are not included here. All other multifamily outdoor lighting is included here.

Designed Wattage:

01	02		03	04	05	06	07	08	09	10	
Name or Item Tag	Complete Luminaire Description		Watts per luminaire[1, 2]	How is Wattage determined	Total Number Luminaires[2]	Luminaire Status[3]	Excluded per 140.7(a) / 170.2(e)6A	Design Watts	Cutoff Req. > 6,200 initial lumen output 130.2(b) / 160.5(c)1[4]	Field Inspector	
										Pass	Fail
4	TYPE 4	☐ Linear	25	Mfr. Spec	16	New	☐	400	NA: < 6200 lumens	☐	☐
							Total Design Watts:	400			

* NOTES: Selections with a * require a note in the space below explaining how compliance is achieved.
EX: Luminaire is lighting a statue; EXCEPTION 2 to 130.2(b)

[1] *FOOTNOTES: Authority Having Jurisdiction may ask for Luminaire cut sheets to confirm wattage used for compliance per 130.0(c) / 160.5(b)*
[2] *For linear luminaires, wattage should be indicated as W/lf instead of Watts/luminaire. Total linear feet should be indicated in column 05 instead of number of luminaires.*
[3] *Select "New" for new luminaires in a new outdoor lighting project, or for added luminaires in an alteration. Select "Altered" for replacement luminaires in an alteration. Select "Existing to Remain" for existing luminaires within the project scope that are not being altered and are remaining. Select "Existing Reinstalled" for existing luminaires which are being removed and reinstalled as part of the project scope.*
[4] *Compliance with mandatory shielding requirements is required for luminaires with initial lumen output >= 6,200 unless exempted by 130.2(b)/ 160.5(c)*

G. SHIELDING REQUIREMENTS (BUG)

This section does not apply to this project.

STATE OF CALIFORNIA
Outdoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-LTO-E
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This document is used to demonstrate compliance with requirements in 110.9, 130.0, 130.2, 140.7, and 141.0(b)2L for outdoor lighting scopes using the prescriptive path for nonresidential and hotel/motel occupancies. It is also used to document compliance with requirements in 160.5, 170.2(e)6, 180.1(a) and 180.2(b)4Bv for outdoor lighting scopes using the prescriptive path for multifamily and mixed-use occupancies. Multifamily includes dormitory and senior living facilities.

A. GENERAL INFORMATION

01	Project Location (city)	San Rafael	04	Total Illuminated Hardscape Area (ft²)	2550
02	Climate Zone	2			
03	Outdoor Lighting Zone per Title 24 Part 1 10.114 or as designated by Authority Having Jurisdiction (AHJ):				
☐	LZ-0: Very Low - Undeveloped Parkland	☐ LZ-2: Moderate - Urban Clusters	☐ LZ-4: High - Must be reviewed by CA Energy Commission for Approval		
☐	LZ-1: Low - Rural Areas	☒ LZ-3: Moderately High - Urban Areas			
05	Occupancy Types within Project				
● Classroom ● Support Areas ● Warehouse					

B. PROJECT SCOPE

This table includes outdoor lighting systems that are within the scope of the permit application and are demonstrating compliance using the prescriptive path outlined in 140.7 / 170.2(e)6 or 141.0(b)2L / 180.2(b)4Bv for alterations.

My Project Consists of:

01	02		
☒ New Lighting System	Must Comply with Allowances from 140.7 / 170.2(e)6		
☐ Altered Lighting System	Is your alteration increasing the connected lighting load (Watts)?	○ Yes	○ No
03	04	05	
% of Existing Luminaires Being Altered[1]	Sum Total of Luminaires Being Added or Altered	Calculation Method	
☐ < 10% ☐ >= 10% and < 50% ☐ >= 50%			

Please proceed to Table F. Outdoor Lighting Fixture Schedule to define the project's luminaires.

[1] *FOOTNOTES: % of Existing Luminaires Being Altered = (Sum Total of Luminaires Being Added or Altered / Existing Luminaires within the Scope of the Permit Application) x 100.*

STATE OF CALIFORNIA
Outdoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-LTO-E
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Project Address:	177 N San Pedro RD	Date Prepared:	8/1/2023

M. LIGHTING ALLOWANCE: PER SPECIFIC AREA

This section does not apply to this project.

N. EXISTING CONDITIONS POWER ALLOWANCE (alterations only)

This section does not apply to this project.

O. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Form/Title
NRCI-LTO-E - Must be submitted for all buildings

P. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

There are no NRCA forms required for this project.

STATE OF CALIFORNIA
Outdoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-LTO-E
Project Name:	Venetia Valley MS	Report Page:	(Page 4 of 7)
Project Address:	177 N San Pedro RD	Date Prepared:	8/1/2023

H. OUTDOOR LIGHTING CONTROLS

This table demonstrates compliance with controls requirements for all new or altered luminaires installed as part of the permit application. For alteration projects, luminaires which are existing to remain (ie untouched) and luminaires which are removed and reinstalled (wiring only) do not need to be included in this table even if they are within the spaces covered by the permit application.
Outdoor lighting for nonresidential buildings, parking garages and common service areas in multifamily buildings must be documented separately from outdoor lighting attached to multifamily buildings and controlled from the inside of a dwelling unit

Mandatory Controls for Nonresidential Occupancies, Parking Garages & Common Areas in Multifamily Buildings

01	02	03	04	05	
Area Description	Shut-Off 130.2(c)1 / 160.5(c)	Auto-Schedule 130.2(c)2 / 160.5(c)	Motion Sensor 130.2(c)3 / 160.5(c)	Field Inspector	
				Pass	Fail

[1] *FOOTNOTE: Text has been abbreviated, please refer to Table 160.5-A to confirm compliance with the specific light source technologies listed.*
[2] *Authority having jurisdiction may ask for cutsheets or other documentation to confirm compliance of light source.*
[3] *Recessed luminaires marked for use in fire-rated installations, and recessed luminaires installed in non-insulated ceilings are excepted from ii and iii.*

STATE OF CALIFORNIA
Outdoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-LTO-E
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Project Address:	177 N San Pedro RD	Date Prepared:	8/1/2023

C. COMPLIANCE RESULTS

Results in this table are automatically calculated from data input and calculations in Tables F through N. Note: If any cell on this table says "COMPLIES with Exceptional Conditions" refer to Table D. Exceptional Conditions for guidance or see applicable Table referenced below.

Calculations of Total Allowed Lighting Power (Watts) 140.7 / 170.2(e)6 or 141.0(b)2L / 180.2(b)4Bv											Compliance Results			
01		02		03		04		05		06		07		08	09
General Hardscape Allowance 140.7(d)1 / 170.2(e)6 (See Table I)	+	Per Application 140.7(d)2 / 170.2(e)6 (See Table J)	+	Sales Frontage 140.7(d)2 (See Table K)	+	Ornamental 140.7(d)2 / 170.2(e)6 (See Table L)	+	Per Specific Area 140.7(d)2 / 170.2(e)6 (See Table M)	OR	Existing Power Allowance 141.0(b)2L / 180.2(b)4Bv (See Table N)	=	**Total Allowed** (Watts)	≥	**Total Actual** (Watts)	**07 must be >= 08**
412	+	---	+	---	+	---	+	---	OR	---	=	412	≥	400	COMPLIES
Shielding Compliance (See Table G for Details)															N/A
Controls Compliance (See Table H for Details)															Not applicable

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.

STATE OF CALIFORNIA
Outdoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-LTO-E
Project Name:	Venetia Valley MS	Report Page:	(Page 7 of 7)
Project Address:	177 N San Pedro RD	Date Prepared:	8/1/2023

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

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

Documentation Author Name: Ray W. Swartz	Documentation Author Signature:
Company: WSP USA	Signature Date: 2023-08-01
Address: 15231 Laguna Canyon Road	CEA/ HERS Certification Identification (if applicable):
City/State/Zip: Irvine CA 92618	Phone:

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: Ray W. Swartz	Responsible Designer Signature:
Company: tk1sc	Date Signed: 2023-08-01
Address: 15231 Laguna Canyon Road	License: E15610
City/State/Zip: Irvine CA 92618	Phone:

TITLE 24 PROCEDURES FOR TESTING AND ADJUSTING

CONTRACTOR SHALL BE RESPONSIBLE FOR ALL WORK ASSOCIATED WITH FINAL INSPECTION AND APPLICABLE ACCEPTANCE REQUIREMENT PROCEDURES. INCLUDE ALL COSTS IN THE BASE BID. THIS SHALL INCLUDE, BUT NOT BE LIMITED TO, CONSTRUCTION INSPECTION, MEASUREMENTS, MONITORING, FUNCTIONAL TESTING, CALIBRATING, ETC. CONTRACTOR SHALL ASSUME THE ROLE OF "FIELD TECHNICIAN" AND "RESPONSIBLE PERSON" AS DEFINED IN STATE OF CALIFORNIA 2022 BUILDING ENERGY EFFICIENCY STANDARDS NONRESIDENTIAL COMPLIANCE MANUAL SECTIONS 13.1.2.2 AND 13.1.2.3.

LIGHTING CONTROL ACCEPTANCE TESTING AND ADJUSTING PROCEDURES - REFER TO NRCA-LTI-02-A DOCUMENTS.

AUTOMATIC DAYLIGHT CONTROL ACCEPTANCE TESTING AND ADJUSTING PROCEDURES - REFER TO NRCA-LTI-03-A DOCUMENTS.

DEMAND RESPONSE LIGHTING CONTROL ACCEPTANCE TESTING AND ADJUSTING PROCEDURES - REFER TO NRCA-LTI-04-A DOCUMENTS.

INSTITUTIONAL TUNING PAF ACCEPTANCE TESTING AND ADJUSTING PROCEDURES - REFER TO NRCA-LTI-05-A DOCUMENTS.

OUTDOOR LIGHTING CONTROL ACCEPTANCE TESTING AND ADJUSTING PROCEDURES - REFER TO NRCA-LTO-02-A DOCUMENTS.

ALL LIGHTING CONTROLS TESTING AND ADJUSTING DOCUMENTS NOTED ABOVE ARE AVAILABLE FROM THE CALIFORNIA ENERGY COMMISSION WEB SITE AT:
https://www.energy.ca.gov/programs-and-topics/programs/building-energy-efficiency-standards/2022-building-energy-efficiency-5

TITLE 24 GENERAL NOTE

CONTRACTOR SHALL BE RESPONSIBLE FOR ALL WORK ASSOCIATED WITH FINAL INSPECTION AND APPLICABLE ACCEPTANCE REQUIREMENT PROCEDURES. INCLUDE ALL COSTS IN THE BASE BID. THIS SHALL INCLUDE, BUT NOT BE LIMITED TO, CONSTRUCTION INSPECTION, MEASUREMENTS, MONITORING, FUNCTIONAL TESTING, CALIBRATING, ETC. CONTRACTOR SHALL ASSUME THE ROLE OF "FIELD TECHNICIAN" AND "RESPONSIBLE PERSON" AS DEFINED IN STATE OF CALIFORNIA 2022 BUILDING ENERGY EFFICIENCY STANDARDS NONRESIDENTIAL COMPLIANCE MANUAL SECTION 14.1.2.

SEE STATE OF CALIFORNIA 2022 BUILDING ENERGY EFFICIENCY STANDARDS SECTIONS 10-103(a)3A AND 10-103(a)3B AND SECTION 130.4 FOR MORE INFORMATION.

SEE STATE OF CALIFORNIA 2022 BUILDING ENERGY EFFICIENCY STANDARDS NONRESIDENTIAL COMPLIANCE MANUAL CHAPTER 14 FOR MORE DETAILED REQUIREMENTS / INFORMATION.

SEE STATE OF CALIFORNIA 2022 BUILDING ENERGY EFFICIENCY STANDARDS RESIDENTIAL COMPLIANCE MANUAL CHAPTER 2 FOR MORE DETAILED REQUIREMENTS / INFORMATION.

PROVIDE COMPLETED INSTALLATION CERTIFICATE(S) AND CERTIFICATE(S) OF ACCEPTANCE AS REQUIRED TO THE SATISFACTION OF THE ENFORCEMENT AGENCY.

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-121181 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 07/02/2024

OWNER: SAN RAFAEL CITY SCHOOLS

PROJECT NAME: VENETIA VALLEY BLDGS G AND H ALTERATION

CLIENT ADDRESS: 177 N San Pedro Rd, San Rafael, CA 94903

REGISTERED PROFESSIONAL ENGINEER
RAYMOND W. SWARTZ
No. E15610
12/31/2025
ELECTRICAL
STATE OF CALIFORNIA

REVISIONS:

	DESCRIPTION	DATE
1		
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9		
10		

PROJECT NO:
DATE ISSUED: 06/21/2024
SCALE: As indicated

SHEET NUMBER: E30-6
SHEET TITLE:

TITLE 24 EXTERIOR - BLDG G

tk1sc COLLABORATIVE
11870 Pierce Street, Suite 160
Riverside, California 92505
951.299.4160 www.tk1sc.com
Project Leader - Nikolas Bruno
Electrical Lead - Nikolas Bruno
tk1sc Job #: B2304502.000

STATE OF CALIFORNIA
Indoor Lighting CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-LTI-E
Project Name:	Venetia Valley MS	Report Page:	(Page 5 of 6)
Project Address:	177 N San Pedro RD	Date Prepared:	8/1/2023

S. DAYLIGHT DESIGN POWER ADJUSTMENT FACTOR (PAF)

This section does not apply to this project.

T. DWELLING UNIT LIGHTING

This section does not apply to this project.

U. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Form/Title
NRCI-LTI-E - Must be submitted for all buildings

V. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

There are no NRCA forms required for this project.

STATE OF CALIFORNIA
Indoor Lighting CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-LTI-E
Project Name:	Venetia Valley MS	Report Page:	(Page 3 of 6)
Project Address:	177 N San Pedro RD	Date Prepared:	8/1/2023

G. MODULAR LIGHTING SYSTEMS

This section does not apply to this project.

H. INDOOR LIGHTING CONTROLS (Not including PAFs)

This table includes lighting controls for conditioned and unconditioned spaces.

Building Level Controls

01	02	03	
		Field Inspector	
Mandatory Demand Response 110.12(c)	Shut-off controls 130.1(c) / 160.5(b)4C	Pass	Fail
Required >= 4,000W subject to multilevel	Whole Building Auto Time Switch	☐	☐

Area Level Controls

04	05	06	07	08	09	10	11	12	
								Field Inspector	
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)2A	Pass	Fail
								13	
								Plan Sheet Showing Daylit Zones:	

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(a) are being used .

J. ADDITIONAL ALLOWANCE: AREA CATEGORY METHOD QUALIFYING LIGHTING SYSTEM

This section does not apply to this project.

STATE OF CALIFORNIA
Indoor Lighting CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-LTI-E
Project Name:	Venetia Valley MS	Report Page:	(Page 1 of 6)
Project Address:	177 N San Pedro RD	Date Prepared:	8/1/2023

This document is used to demonstrate compliance with requirements in 110.9, 110.12(c), 130.0, 130.1, 140.6 and 141.0(b)2 for indoor lighting scopes using the prescriptive path for nonresidential and hotel/motel occupancies. It is also used to document compliance with requirements in 160.5, 170.2(e) and 180.2(b)4 for indoor lighting scopes using the prescriptive path for multifamily occupancies. Multifamily includes dormitory and senior living facilities.

A. GENERAL INFORMATION

01	Project Location (city)	San Rafael	04	Total Conditioned Floor Area (ft²)	0
02	Climate Zone	2	05	Total Unconditioned Floor Area (ft²)	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 (ft²)	Calculation Method	Area (ft²)
☐ New Lighting System				
☐ New Lighting System - Parking Garage				
☒ Altered Lighting System	Area Category Method	0	Area Category Method	0
Total Area of Work (ft²)	0		0	

STATE OF CALIFORNIA
Indoor Lighting CALIFORNIA ENERGY COMMISSION

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Project Name:	Venetia Valley MS	Report Page:	(Page 6 of 6)
Project Address:	177 N San Pedro RD	Date Prepared:	8/1/2023

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

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

Documentation Author Name: Ray W. Swartz	Documentation Author Signature:
Company: WSP USA	Signature Date: 2023-08-01
Address: 15231 Laguna Canyon Road	CEA/ HERS Certification Identification (if applicable):
City/State/Zip: Irvine CA 92618	Phone:

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: Ray W. Swartz	Responsible Designer Signature:
Company: tk1sc	Date Signed: 2023-08-01
Address: 15231 Laguna Canyon Road	License: E15610
City/State/Zip: Irvine CA 92618	Phone:

STATE OF CALIFORNIA
Indoor Lighting CALIFORNIA ENERGY COMMISSION

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K. TAILORED METHOD GENERAL LIGHTING POWER ALLOWANCE

This section does not apply to this project.

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.

P. POWER ADJUSTMENT: LIGHTING CONTROL CREDIT (POWER ADJUSTMENT FACTOR (PAF))

This section does not apply to this project.

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.

STATE OF CALIFORNIA
Indoor Lighting CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-LTI-E
Project Name:	Venetia Valley MS	Report Page:	(Page 2 of 6)
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C. COMPLIANCE RESULTS

If any cell on this table says "DOES NOT COMPLY" or "COMPLIES with Exceptional Conditions" refer to Table D. for guidance.

Lighting in conditioned and unconditioned spaces must not be combined for compliance per 140.6(b)1 / 170.2(e)	Allowed Lighting Power per 140.6(b) / 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
	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 (-)	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					=	≥			=		
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.

F. INDOOR LIGHTING FIXTURE SCHEDULE

This section does not apply to this project.

TITLE 24 PROCEDURES FOR TESTING AND ADJUSTING

CONTRACTOR SHALL BE RESPONSIBLE FOR ALL WORK ASSOCIATED WITH FINAL INSPECTION AND APPLICABLE ACCEPTANCE REQUIREMENT PROCEDURES. INCLUDE ALL COSTS IN THE BASE BID. THIS SHALL INCLUDE, BUT NOT BE LIMITED TO, CONSTRUCTION INSPECTION, MEASUREMENTS, MONITORING, FUNCTIONAL TESTING, CALIBRATING, ETC. CONTRACTOR SHALL ASSUME THE ROLE OF "FIELD TECHNICIAN" AND "RESPONSIBLE PERSON" AS DEFINED IN STATE OF CALIFORNIA 2022 BUILDING ENERGY EFFICIENCY STANDARDS NONRESIDENTIAL COMPLIANCE MANUAL SECTIONS 13.1.2.2 AND 13.1.2.3.

LIGHTING CONTROL ACCEPTANCE TESTING AND ADJUSTING PROCEDURES - REFER TO NRCA-LTI-02-A DOCUMENTS.

AUTOMATIC DAYLIGHT CONTROL ACCEPTANCE TESTING AND ADJUSTING PROCEDURES - REFER TO NRCA-LTI-03-A DOCUMENTS.

DEMAND RESPONSE LIGHTING CONTROL ACCEPTANCE TESTING AND ADJUSTING PROCEDURES - REFER TO NRCA-LTI-04-A DOCUMENTS.

INSTITUTIONAL TUNING PAF ACCEPTANCE TESTING AND ADJUSTING PROCEDURES - REFER TO NRCA-LTI-05-A DOCUMENTS.

OUTDOOR LIGHTING CONTROL ACCEPTANCE TESTING AND ADJUSTING PROCEDURES - REFER TO NRCA-LTO-02-A DOCUMENTS.

ALL LIGHTING CONTROLS TESTING AND ADJUSTING DOCUMENTS NOTED ABOVE ARE AVAILABLE FROM THE CALIFORNIA ENERGY COMMISSION WEB SITE AT:
https://www.energy.ca.gov/programs-and-topics/programs/building-energy-efficiency-standards/2022-building-energy-efficiency-5

TITLE 24 GENERAL NOTE

CONTRACTOR SHALL BE RESPONSIBLE FOR ALL WORK ASSOCIATED WITH FINAL INSPECTION AND APPLICABLE ACCEPTANCE REQUIREMENT PROCEDURES. INCLUDE ALL COSTS IN THE BASE BID. THIS SHALL INCLUDE, BUT NOT BE LIMITED TO, CONSTRUCTION INSPECTION, MEASUREMENTS, MONITORING, FUNCTIONAL TESTING, CALIBRATING, ETC. CONTRACTOR SHALL ASSUME THE ROLE OF "FIELD TECHNICIAN" AND "RESPONSIBLE PERSON" AS DEFINED IN STATE OF CALIFORNIA 2022 BUILDING ENERGY EFFICIENCY STANDARDS NONRESIDENTIAL COMPLIANCE MANUAL SECTION 14.1.2.

SEE STATE OF CALIFORNIA 2022 BUILDING ENERGY EFFICIENCY STANDARDS SECTIONS 10-103(a)3A AND 10-103(a)3B AND SECTION 130.4 FOR MORE INFORMATION.

SEE STATE OF CALIFORNIA 2022 BUILDING ENERGY EFFICIENCY STANDARDS NONRESIDENTIAL COMPLIANCE MANUAL CHAPTER 14 FOR MORE DETAILED REQUIREMENTS / INFORMATION.

SEE STATE OF CALIFORNIA 2022 BUILDING ENERGY EFFICIENCY STANDARDS RESIDENTIAL COMPLIANCE MANUAL CHAPTER 2 FOR MORE DETAILED REQUIREMENTS / INFORMATION.

PROVIDE COMPLETED INSTALLATION CERTIFICATE(S) AND CERTIFICATE(S) OF ACCEPTANCE AS REQUIRED TO THE SATISFACTION OF THE ENFORCEMENT AGENCY.

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-121181 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 07/02/2024

OWNER: SAN RAFAEL CITY SCHOOLS

PROJECT NAME: VENETIA VALLEY BLDGS G AND H ALTERATION

CLIENT ADDRESS: 177 N San Pedro Rd, San Rafael, CA 94903

REGISTERED PROFESSIONAL ENGINEER
RAYMOND W. SWARTZ
No. E15610
07/31/2025
ELECTRICAL
STATE OF CALIFORNIA

REVISIONS:

	DESCRIPTION	DATE
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

PROJECT NO:
DATE ISSUED: 06/21/2024
SCALE: As indicated

SHEET NUMBER: E30-7

SHEET TITLE:

TITLE 24 INTERIOR - BLDG H

tk1sc COLLABORATIVE
11870 Pierce Street, Suite 160
Riverside, California 92505
951.299.4160 www.tk1sc.com
Project Leader - Nikolas Bruno
Electrical Lead - Nikolas Bruno
tk1sc Job #: B2304502.000

STATE OF CALIFORNIA
Outdoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-LTO-E
Project Name:	Venetia Valley MS	**Report Page:**	**(Page 5 of 7)**
Project Address:	177 N San Pedro RD	**Date Prepared:**	8/1/2023

I. LIGHTING POWER ALLOWANCE (per 140.7 / 170.2(e))

This table includes areas using allowance calculations per 140.7 / 170.2(e). General Hardscape Allowance is per Table 140.7-A/Table 170.2-H while "Use it or lose it" Allowances are per Table 140.7-B /Table 170.2-S. Indicate which allowances are being used to expand sections for user input. Luminaires that qualify for one of the "Use it or lose it" allowances shall not qualify for another "Use it or lose it" allowance.
Outdoor lighting attached to multifamily buildings and controlled from the inside of a dwelling unit are included in Table H. and are not included here. All other multifamily outdoor lighting is included here.

	01				
	"Use it or lose it" Allowance (select all that apply) (select all that apply)				
☒ General Hardscape Allowance Table I (below)	☐ Per Application Table J	☐ Sales Frontage Table K	☐ Ornamental Table L	☐ Per Specific Area Table M	

Calculated General Hardscape Lighting Power Allowance per Table 140.7-A for Nonresidential & Hotel/Motel

02	03	04	05	06	07	08	09
Area Description	Area Wattage Allowance (AWA)			Linear Wattage Allowance (LWA)			Total General AWA + LWA (Watts)
	Illuminated Area (ft²)	Allowed Density (W/ft²)	Area Allowance (Watts)	Perimeter Length (lf)	Allowed Density (W/lf)	Linear Allowance (Watts)	
PEDESTRIAN HARDSCAPE	1790	0.021	37.6	456	0.2	91.2	129
					Initial Wattage Allowance for Entire Site (Watts):		250
					Instances of Initial Wattage Allowance (LZ 0 only)[1]		
					Total General Hardscape Allowance (Watts):		379

J. LIGHTING ALLOWANCE: PER APPLICATION

This section does not apply to this project.

K. LIGHTING ALLOWANCE: SALES FRONTAGE

This section does not apply to this project.

L. LIGHTING ALLOWANCE: ORNAMENTAL

This section does not apply to this project.

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CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance
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Report Version: 2022.0.000
Schema Version: rev 20220101
Documentation Software: EnergyPro
Compliance ID: EnergyPro-2945-0823-1163
Report Generated: 2023-08-01 16:20:49

STATE OF CALIFORNIA
Outdoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-LTO-E
Project Name:	Venetia Valley MS	**Report Page:**	**(Page 3 of 7)**
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F. OUTDOOR LIGHTING FIXTURE SCHEDULE

For new or altered lighting systems demonstrating compliance with 140.7 / 170.2(e)6 all new luminaires being installed and any existing luminaires remaining or being moved within the spaces covered by the permit application are included in the Table below. For altered lighting systems using the Existing Power method per 141.0(b)2L only new luminaires being installed and replacement fuminaires being installed as part of the project scope are included (ie, existing luminaires remaining or existing luminaires being moved are not included). Outdoor lighting attached to multifamily buildings and controlled from the inside of a dwelling unit are included in Table H. and are not included here. All other multifamily outdoor lighting is included here.

Designed Wattage:

01	02		03	04	05	06	07	08	09	10	
Name or Item Tag	Complete Luminaire Description		Watts per luminaire[1, 2]	How is Wattage determined	Total Number Luminaires[2]	Luminaire Status[3]	Excluded per 140.7(a) / 170.2(e)6A	Design Watts	Cutoff Req. > 6,200 initial lumen output 130.2(b) / 160.5(c)1[4]	Field Inspector	
										Pass	Fail
4	TYPE 4	☐ Linear	25	Mfr. Spec	10	New	☐	250	NA: < 6200 lumens	☐	☐
							Total Design Watts:	250			

* NOTES: Selections with a * require a note in the space below explaining how compliance is achieved.
EX: Luminaire is lighting a statue; EXCEPTION 2 to 130.2(b)

[1] FOOTNOTES: Authority Having Jurisdiction may ask for Luminaire cut sheets to confirm wattage used for compliance per 130.0(c) / 160.5(b)
[2] For linear luminaires, wattage should be indicated as W/lf instead of Watts/luminaire. Total linear feet should be indicated in column 05 instead of number of luminaires.
[3] Select "New" for new luminaires in a new outdoor lighting project, or for added luminaires in an alteration. Select "Altered" for replacement luminaires in an alteration. Select "Existing to Remain" for existing luminaires within the project scope that are not being altered and are remaining. Select "Existing Reinstalled" for existing luminaires which are being removed and reinstalled as part of the project scope.
[4] Compliance with mandatory shielding requirements is required for luminaires with initial lumen output >= 6,200 unless exempted by 130.2(b)/ 160.5(c)

G. SHIELDING REQUIREMENTS (BUG)

This section does not apply to this project.

Registration Number:
CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance
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STATE OF CALIFORNIA
Outdoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-LTO-E
Project Name:	Venetia Valley MS	**Report Page:**	**(Page 1 of 7)**
Project Address:	177 N San Pedro RD	**Date Prepared:**	8/1/2023

This document is used to demonstrate compliance with requirements in 110.9, 130.0, 130.2, 140.7, and 141.0(b)2L for outdoor lighting scopes using the prescriptive path for nonresidential and hotel/motel occupancies. It is also used to document compliance with requirements in 160.5, 170.2(e)6, 180.1(a) and 180.2(b)4Bv for outdoor lighting scopes using the prescriptive path for multifamily and mixed-use occupancies. Multifamily includes dormitory and senior living facilities.

A. GENERAL INFORMATION

01	Project Location (city)	San Rafael	04	Total Illuminated Hardscape Area (ft²)	1790
02	Climate Zone	2			
03	Outdoor Lighting Zone per Title 24 Part 1 10.114 or as designated by Authority Having Jurisdiction (AHJ):				
☐	LZ-0: Very Low - Undeveloped Parkland	☐ LZ-2: Moderate - Urban Clusters	☐	LZ-4: High - Must be reviewed by CA Energy Commission for Approval	
☐	LZ-1: Low - Rural Areas	☒ LZ-3: Moderately High - Urban Areas			
05	Occupancy Types within Project				

● Classroom ● Office ● Support Areas ● Warehouse

B. PROJECT SCOPE

This table includes outdoor lighting systems that are within the scope of the permit application and are demonstrating compliance using the prescriptive path outlined in 140.7 / 170.2(e)6 or 141.0(b)2L / 180.2(b)4Bv for alterations.

My Project Consists of:

01	02
☐ New Lighting System	Must Comply with Allowances from 140.7 / 170.2(e)6
☒ Altered Lighting System	Is your alteration increasing the connected lighting load (Watts)? ● Yes ○ No

03	04	05
% of Existing Luminaires Being Altered[1]	Sum Total of Luminaires Being Added or Altered	Calculation Method
☐ < 10% ☐ >= 10% and < 50% ☐ >= 50%	0	

Please proceed to Table F. Outdoor Lighting Fixture Schedule to define the project's luminaires.

[1] FOOTNOTES: % of Existing Luminaires Being Altered = [Sum Total of Luminaires Being Added or Altered / Existing Luminaires within the Scope of the Permit Application) x 100.

Registration Number:
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STATE OF CALIFORNIA
Outdoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-LTO-E
Project Name:	Venetia Valley MS	**Report Page:**	**(Page 6 of 7)**
Project Address:	177 N San Pedro RD	**Date Prepared:**	8/1/2023

M. LIGHTING ALLOWANCE: PER SPECIFIC AREA

This section does not apply to this project.

N. EXISTING CONDITIONS POWER ALLOWANCE (alterations only)

This section does not apply to this project.

O. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Form/Title
NRCI-LTO-E - Must be submitted for all buildings

P. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

There are no NRCA forms required for this project.

Registration Number:
CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance
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STATE OF CALIFORNIA
Outdoor Lighting
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CERTIFICATE OF COMPLIANCE			NRCC-LTO-E
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H. OUTDOOR LIGHTING CONTROLS

This table demonstrates compliance with controls requirements for all new or altered luminaires installed as part of the permit application. For alteration projects, luminaires which are existing to remain (ie untouched) and luminaires which are removed and reinstalled (wiring only) do not need to be included in this table even if they are within the spaces covered by the permit application.
Outdoor lighting for nonresidential buildings, parking garages and common service areas in multifamily buildings must be documented separately from outdoor lighting attached to multifamily buildings and controlled from the inside of a dwelling unit

Mandatory Controls for Nonresidential Occupancies, Parking Garages & Common Areas in Multifamily Buildings

01	02	03	04	05	
Area Description	Shut-Off 130.2(c)1 / 160.5(c)	Auto-Schedule 130.2(c)2 / 160.5(c)	Motion Sensor 130.2(c)3 / 160.5(c)	Field Inspector	
				Pass	Fail

[1] FOOTNOTE: Text has been abbreviated, please refer to Table 160.5-A to confirm compliance with the specific light source technologies listed.
[2] Authority having jurisdiction may ask for cutsheets or other documentation to confirm compliance of light source.
[3] Recessed luminaires marked for use in fire-rated installations, and recessed luminaires installed in non-insulated ceilings are excepted from ii and iii.

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STATE OF CALIFORNIA
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C. COMPLIANCE RESULTS

Results in this table are automatically calculated from data input and calculations in Tables F through N. Note: If any cell on this table says "COMPLIES with Exceptional Conditions" refer to Table D. Exceptional Conditions for guidance or see applicable Table referenced below.

Calculations of Total Allowed Lighting Power (Watts) 140.7 / 170.2(e)6 or 141.0(b)2L / 180.2(b)4Bv												Compliance Results			
01		02		03		04		05		06		07		08	09
General Hardscape Allowance 140.7(d)1 / 170.2(e)6 (See Table I)	+	Per Application 140.7(d)2 / 170.2(e)6 (See Table J)	+	Sales Frontage 140.7(d)2 (See Table K)	+	Ornamental 140.7(d)2 / 170.2(e)6 (See Table L)	+	Per Specific Area 140.7(d)2 / 170.2(e)6 (See Table M)	OR	Existing Power Allowance 141.0(b)2L / 180.2(b)4Bv (See Table N)	=	**Total Allowed** (Watts)	≥	**Total Actual** (Watts)	**07 must be >= 08**
379	+	---	+	---	+	---	+	---	OR	---	=	379	≥	250	COMPLIES
								Shielding Compliance (See Table G for Details)							N/A
								Controls Compliance (See Table H for Details)							Not applicable

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.

Registration Number:
CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance
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STATE OF CALIFORNIA
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Project Address:	177 N San Pedro RD	**Date Prepared:**	8/1/2023

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

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

Documentation Author Name: Ray W. Swartz	Documentation Author Signature:
Company: WSP USA	Signature Date: 2023-08-01
Address: 15231 Laguna Canyon Road	CEA/ HERS Certification Identification (if applicable):
City/State/Zip: Irvine CA 92618	Phone:

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: Ray W. Swartz	Responsible Designer Signature:
Company: tk1sc	Date Signed: 2023-08-01
Address: 15231 Laguna Canyon Road	License: E15610
City/State/Zip: Irvine CA 92618	Phone:

Registration Number:
CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance
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Report Generated: 2023-08-01 16:20:49

TITLE 24 PROCEDURES FOR TESTING AND ADJUSTING

CONTRACTOR SHALL BE RESPONSIBLE FOR ALL WORK ASSOCIATED WITH FINAL INSPECTION AND APPLICABLE ACCEPTANCE REQUIREMENT PROCEDURES. INCLUDE ALL COSTS IN THE BASE BID. THIS SHALL INCLUDE, BUT NOT BE LIMITED TO, CONSTRUCTION INSPECTION, MEASUREMENTS, MONITORING, FUNCTIONAL TESTING, CALIBRATING, ETC. CONTRACTOR SHALL ASSUME THE ROLE OF "FIELD TECHNICIAN" AND "RESPONSIBLE PERSON" AS DEFINED IN STATE OF CALIFORNIA 2022 BUILDING ENERGY EFFICIENCY STANDARDS NONRESIDENTIAL COMPLIANCE MANUAL SECTIONS 13.1.2.2 AND 13.1.2.3.

LIGHTING CONTROL ACCEPTANCE TESTING AND ADJUSTING PROCEDURES - REFER TO NRCA-LTI-02-A DOCUMENTS.

AUTOMATIC DAYLIGHT CONTROL ACCEPTANCE TESTING AND ADJUSTING PROCEDURES - REFER TO NRCA-LTI-03-A DOCUMENTS.

DEMAND RESPONSE LIGHTING CONTROL ACCEPTANCE TESTING AND ADJUSTING PROCEDURES - REFER TO NRCA-LTI-04-A DOCUMENTS.

INSTITUTIONAL TUNING PAF ACCEPTANCE TESTING AND ADJUSTING PROCEDURES - REFER TO NRCA-LTI-05-A DOCUMENTS.

OUTDOOR LIGHTING CONTROL ACCEPTANCE TESTING AND ADJUSTING PROCEDURES - REFER TO NRCA-LTO-02-A DOCUMENTS.

ALL LIGHTING CONTROLS TESTING AND ADJUSTING DOCUMENTS NOTED ABOVE ARE AVAILABLE FROM THE CALIFORNIA ENERGY COMMISSION WEB SITE AT:
https://www.energy.ca.gov/programs-and-topics/programs/building-energy-efficiency-standards/2022-building-energy-efficiency-5

TITLE 24 GENERAL NOTE

CONTRACTOR SHALL BE RESPONSIBLE FOR ALL WORK ASSOCIATED WITH FINAL INSPECTION AND APPLICABLE ACCEPTANCE REQUIREMENT PROCEDURES. INCLUDE ALL COSTS IN THE BASE BID. THIS SHALL INCLUDE, BUT NOT BE LIMITED TO, CONSTRUCTION INSPECTION, MEASUREMENTS, MONITORING, FUNCTIONAL TESTING, CALIBRATING, ETC. CONTRACTOR SHALL ASSUME THE ROLE OF "FIELD TECHNICIAN" AND "RESPONSIBLE PERSON" AS DEFINED IN STATE OF CALIFORNIA 2022 BUILDING ENERGY EFFICIENCY STANDARDS NONRESIDENTIAL COMPLIANCE MANUAL SECTION 14.1.2.

SEE STATE OF CALIFORNIA 2022 BUILDING ENERGY EFFICIENCY STANDARDS SECTIONS 10-103(a)3A AND 10-103(a)3B AND SECTION 130.4 FOR MORE INFORMATION.

SEE STATE OF CALIFORNIA 2022 BUILDING ENERGY EFFICIENCY STANDARDS NONRESIDENTIAL COMPLIANCE MANUAL CHAPTER 14 FOR MORE DETAILED REQUIREMENTS / INFORMATION.

SEE STATE OF CALIFORNIA 2022 BUILDING ENERGY EFFICIENCY STANDARDS RESIDENTIAL COMPLIANCE MANUAL CHAPTER 2 FOR MORE DETAILED REQUIREMENTS / INFORMATION.

PROVIDE COMPLETED INSTALLATION CERTIFICATE(S) AND CERTIFICATE(S) OF ACCEPTANCE AS REQUIRED TO THE SATISFACTION OF THE ENFORCEMENT AGENCY.

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-121181 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 07/02/2024

OWNER: SAN RAFAEL CITY SCHOOLS

PROJECT NAME: VENETIA VALLEY BLDGS G AND H ALTERATION

CLIENT ADDRESS: 177 N San Pedro Rd, San Rafael, CA 94903

RAYMOND W. SWARTZ
No. E15610
12/31/2025
ELECTRICAL
STATE OF CALIFORNIA

REVISIONS:

	DESCRIPTION	DATE
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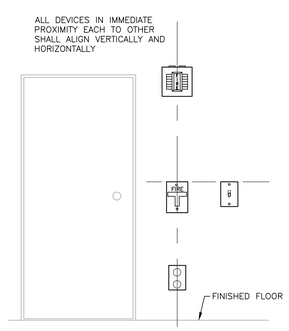
PROJECT NO:
DATE ISSUED: 06/21/2024
SCALE: As indicated

SHEET NUMBER: E30-8

SHEET TITLE:

TITLE 24 EXTERIOR - BLDG H

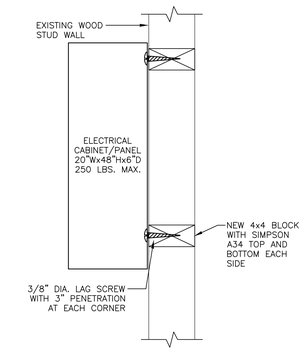
tk1sc COLLABORATIVE
11870 Pierce Street, Suite 160
Riverside, California 92505
951.299.4160 www.tk1sc.com
Project Leader - Nikolas Bruno
Electrical Lead - Nikolas Bruno
tk1sc Job #: B2304502.000



ALL DEVICE HEIGHTS DEPICTED SHALL BE MODIFIED AS REQUIRED BY GOVERNING BUILDING CODES. CONTRACTOR TO VERIFY/RECONCILE APPLICABLE CODE REQUIREMENTS AND ANY DEVICE HEIGHT REQUIREMENTS DEPICTED ON ARCHITECTURAL OR INTERIOR DESIGN PLANS & SPECIFICATIONS PRIOR TO DEVICE ROUGH-IN. CONFLICTS OR LACK OF MOUNTING HEIGHT SPECIFICITY ON THE ARCHITECTURAL OR INTERIOR DESIGN PLANS & SPECIFICATIONS SHALL BE CAUSE FOR THE CONTRACTOR TO ISSUE A FORMAL WRITTEN RFI FOR RESOLUTION. DEVICE MOUNTING HEIGHT CLARIFICATIONS/SPECIFICATIONS SHALL NOT RESULT IN AN ADDITIONAL COST TO THE OWNER – CONTRACTOR SHALL INCLUDE ALL COSTS IN BASE BID.

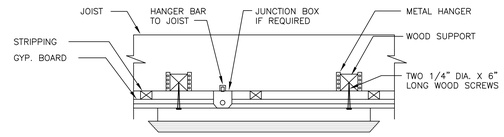
DEVICE ALIGNMENT & MOUNTING HEIGHT DETAILS (1)

SCALE: N.T.S.



SURFACE PANEL MOUNTING (2)

SCALE: N.T.S.



TYPICAL SURFACE MOUNTED FIXTURE MOUNTING DETAIL (3)

SCALE: N.T.S.

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OWNER: SAN RAFAEL CITY SCHOOLS

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CLIENT ADDRESS: 177 N San Pedro Rd, San Rafael, CA 94903

REGISTERED PROFESSIONAL ENGINEER
RAYMOND W. SWITZ
No. E15610
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PROJECT NO:

DATE ISSUED: 06/21/2024

SCALE: As indicated

SHEET NUMBER: E50-1

SHEET TITLE: DETAILS

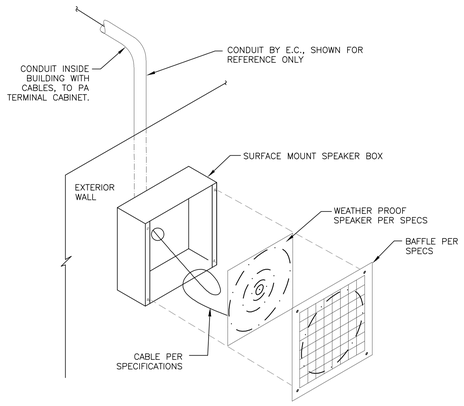
tk1sc COLLABORATIVE
11870 Pierce Street, Suite 160
Riverside, California 92505
951.299.4160 www.tk1sc.com

Project Leader - Nikolas Bruno
Electrical Lead - Nikolas Bruno
tk1sc Job #: B2304502.000

WHERE THE FOLLOWING SYMBOLS ARE INDICATED ON THE ELECTRICAL DRAWINGS, ARCHITECTURAL DRAWINGS AND/OR STRUCTURED CABLING SYSTEM DRAWINGS:

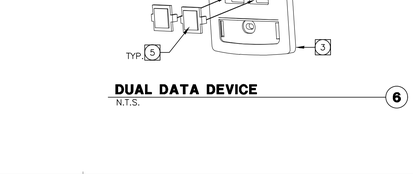
WP

THE FOLLOWING SHALL BE PROVIDED, AS DEPICTED IN THE FOLLOWING DIAGRAMMATIC CONNECTIVITY DETAIL.



NOTES:
1. SEE ARCHITECTURAL PLANS FOR ADDITIONAL DETAILS.
2. SURFACE MOUNT SPEAKER BOX TO WALL. PROVIDE WEATHERPROOF SEAL.
3. CONTRACTOR SHALL PAINT BACKBOX AND BAFFLE TO MATCH SURROUNDING SURFACES.
4. PROVIDE CABLING PER SYSTEM SPECIFICATIONS.
5. VERIFY FINAL MOUNTING HEIGHT WITH OWNER IN FIELD PRIOR TO ROUGH-IN.
6. MAX. INSTALLED WEIGHT 6.5 POUNDS.

SURFACE MOUNT PUBLIC ADDRESS SPEAKER 4
N.T.S.



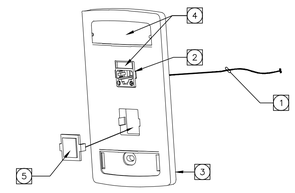
GENERAL NOTES:
1. THE REAR FRAME MUST BE SECURED TO WALL AT (6) LOCATIONS AND ARE INTENDED TO GO THROUGH 3/4" PLYWOOD BACKBOARD INTO WALL:
   METAL STUD: PROVIDE #14 x 3" SMS WITH HEX WASHER HEADS CENTERED ON METAL WALL STUDS, 6 TOTAL, 3 PER STUD.
   WOOD STUD: PROVIDE 1/4" DIAMETER X 3" LAG SCREWS AND WASHERS CENTERED ON WOOD WALL STUDS, 6 TOTAL, 3 PER STUD.
2. CONTRACTOR TO INSTALL CABINET TO BACKBOARD. E.C. TO INSTALL PAINTED PLYWOOD BACKBOARD. SEE SPECIFICATIONS FOR MORE INFORMATION.
3. MAXIMUM TOTAL EQUIPMENT WEIGHT: 100 POUNDS.

IDF CABINET WALL MOUNTING DETAIL 5
N.T.S.

WHERE THE FOLLOWING SYMBOLS ARE INDICATED ON THE ELECTRICAL DRAWINGS, ARCHITECTURAL DRAWINGS AND/OR STRUCTURED CABLING SYSTEM DRAWINGS:

W+44"

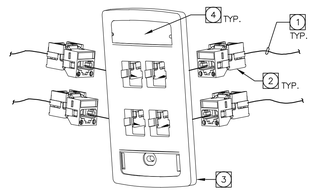
THE FOLLOWING SHALL BE PROVIDED, AS DEPICTED IN THE FOLLOWING DIAGRAMMATIC CONNECTIVITY DETAIL.



SINGLE DATA DEVICE 1
N.T.S.

WHERE THE FOLLOWING SYMBOLS ARE INDICATED ON THE ELECTRICAL DRAWINGS, ARCHITECTURAL DRAWINGS AND/OR STRUCTURED CABLING SYSTEM DRAWINGS:

THE FOLLOWING SHALL BE PROVIDED, AS DEPICTED IN THE FOLLOWING DIAGRAMMATIC CONNECTIVITY DETAIL.

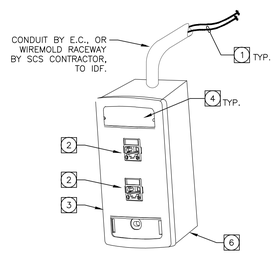


QUAD DATA DEVICE 2
N.T.S.

WHERE THE FOLLOWING SYMBOLS ARE INDICATED ON THE ELECTRICAL DRAWINGS, ARCHITECTURAL DRAWINGS AND/OR STRUCTURED CABLING SYSTEM DRAWINGS:

WAP

THE FOLLOWING SHALL BE PROVIDED, AS DEPICTED IN THE FOLLOWING DIAGRAMMATIC CONNECTIVITY DETAIL.

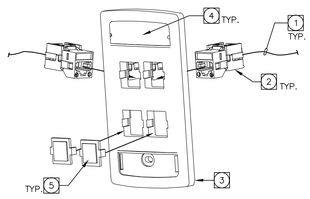


NOTE: WIRELESS ACCESS POINT ELECTRONICS ARE OWNER FURNISHED OWNER INSTALLED.

WIRELESS ACCESS POINT OUTLET 3
N.T.S.

WHERE THE FOLLOWING SYMBOLS ARE INDICATED ON THE ELECTRICAL DRAWINGS, ARCHITECTURAL DRAWINGS AND/OR STRUCTURED CABLING SYSTEM DRAWINGS:

THE FOLLOWING SHALL BE PROVIDED, AS DEPICTED IN THE FOLLOWING DIAGRAMMATIC CONNECTIVITY DETAIL.



DUAL DATA DEVICE 6
N.T.S.

FACEPLATE NOTES:

1. PROVIDE (1) CAT-6A, 4 PAIR UTP CABLE(S) TO RESPECTIVE IDF RACK. TERMINATE STATION END(S) IN STATION CONNECTOR(S) PER DETAILS. TERMINATE RACK END(S) ON CAT-6A PATCH PANEL(S) PER DETAILS.
2. PROVIDE DATA CAT-6A STATION CONNECTOR. COLOR OF CONNECTOR PER SPECIFICATIONS.
3. PROVIDE FACEPLATE. FACEPLATE MATERIAL AND FINISH SHALL MATCH ADJACENT AND NEARBY POWER FACEPLATES.
4. PROVIDE FACEPLATE LABELING PER SPECIFICATIONS. SEE SPECIFICATIONS FOR ALL OTHER LABELING REQUIREMENTS.
5. BLANK INSERT. ALL UNUSED OPENINGS SHALL BE COVERED WITH A BLANK INSERT MATCHING THE COLOR OF THE FACEPLATE.
6. SINGLE GANG SURFACE MOUNT BACK BOX (TE/AMP #558251-3)

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PROJECT NAME: VENETIA VALLEY BLDGS G AND H ALTERATION

CLIENT ADDRESS: 177 N San Pedro Rd, San Rafael, CA 94903

REGISTERED PROFESSIONAL ENGINEER RAYMOND W. SWEITZER No. E15610 EXP. 12/31/2025 ELECTRICAL STATE OF CALIFORNIA

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PROJECT NO:

DATE ISSUED: 06/21/2024

SCALE: As indicated

SHEET NUMBER: E60-1

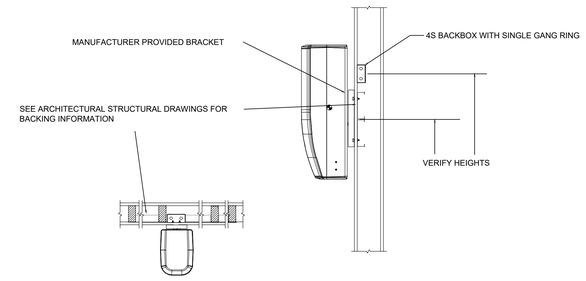
SHEET TITLE:

TECHNOLOGY SYSTEMS DETAILS

tk1sc COLLABORATIVE
11870 Pierce Street, Suite 160
Riverside, California 92505
951.299.4160 www.tk1sc.com
Project Leader - Nikolas Bruno
Technology Lead - Joe Marotta
tk1sc Job #: B2304502.000

1. WEIGHT LIMIT = 30 LBS INCLUDING MOUNT, HARDWARE AND SPEAKER
2. REFER TO REFER TO ARCHITECTURAL DETAILS FOR BACKING DETAILS
3. PROVIDE (4) ¼" DIA. TECKS SCREWS
4. PROVIDE JBL MTC-CBT-FM2 MOUNTING BRACKET
5. COORDINATE POWER AND SIGNAL J-BOX LOCATION WITH BUILDING STRUCTURE.

NOTE: SEE AV DRAWINGS FOR J-BOX AND CONDUIT FOR TYPE AND SIZE.



WALL MOUNTED SPEAKER 1

SCALE: 1"-1'

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PROJECT NAME: VENETIA VALLEY BLDGS G AND H ALTERATION

CLIENT ADDRESS: 177 N San Pedro Rd, San Rafael, CA 94903

REGISTERED PROFESSIONAL ENGINEER
RAYMOND W. SWEITZ
No. E15610
12/31/2025
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PROJECT NO:

DATE ISSUED: 06/21/2024

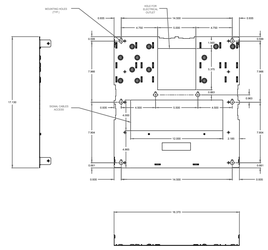
SCALE: As indicated

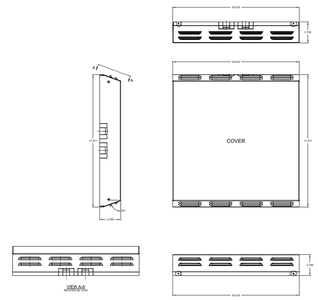
SHEET NUMBER: E60-2

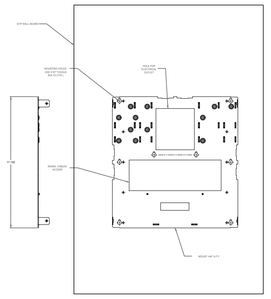
SHEET TITLE:

CLASSROOM AV SYSTEMS DETAIL

tk1sc COLLABORATIVE
11870 Pierce Street, Suite 160
Riverside, California 92505
951.299.4160 www.tk1sc.com
Project Leader - Nikolas Bruno
Technology Lead - Joe Marotta
tk1sc Job #: B2304502.000







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DATE: 07/02/2024

OWNER: SAN RAFAEL CITY SCHOOLS

PROJECT NAME: VENETIA VALLEY BLDGS G AND H ALTERATION

CLIENT ADDRESS: 177 N San Pedro Rd, San Rafael, CA 94903

REGISTERED PROFESSIONAL ENGINEER
RAYMOND W. SWIFT
No. E15610
12/31/2025
ELECTRICAL
STATE OF CALIFORNIA

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PROJECT NO:

DATE ISSUED: 06/21/2024

SCALE: As indicated

SHEET NUMBER: E60-3

SHEET TITLE:

CLASSROOM AV SYSTEMS DETAIL

tk1sc COLLABORATIVE
11870 Pierce Street, Suite 160
Riverside, California 92505
951.299.4160 www.tk1sc.com
Project Leader - Nikolas Bruno
tk1sc Job #: B2304502.000

FIRE ALARM NOTES

1. WALL MOUNTED, AUDIBLE NOTIFICATION DEVICES SHALL HAVE THEIR TOPS MOUNTED AT 90" MINIMUM AND 100" MAXIMUM ABOVE THE FINISHED FLOOR, AND NO CLOSER THAN 6" TO A HORIZONTAL STRUCTURE. (NFPA 72, SECTION 18.4.8.1). ALL WALL MOUNTED VISUAL APPLIANCES AND COMBINATION AUDIBLE/VISUAL APPLIANCES SHALL HAVE THEIR BOTTOMS MOUNTED AT 80" MINIMUM AND 96" MAXIMUM ABOVE FINISHED FLOOR AS MEASURED TO THE LENS. (NFPA 72, SECTION 18.5.5.1)
2. ALL EQUIPMENT SHALL BE U.L. AND C.S.F.M. LISTED.
3. ALL FIRE ALARM WIRING SHALL BE FLP (FIRE POWER LIMITED) OR FPLP (FIRE POWER LIMITED PLENUM) AS REQUIRED FOR APPLICATION. WIRING IN CONDUIT ABOVE GROUND MAY BE THHN OR THWN.
4. PER THE CEC, ALL WIRING IS TO BE PULLED THROUGH EACH JUNCTION BOX AND CONNECTED DIRECTLY TO EACH FIRE DEVICE. DO NOT SPLICE THE WIRE. THERE MUST BE AT LEAST 6' OF LEAD WIRE FROM THE BOX TO THE DEVICE. ALL BOXES TO BE SIZED PER CEC AND SHALL HAVE THEIR COVERS PAINTED RED WHERE APPLICABLE.
5. DO NOT DEVIATE FROM CONDUIT RUNS AS SHOWN ON FLOOR PLANS WITHOUT PRIOR APPROVAL FROM ELECTRICAL ENGINEER. FACTORS SUCH AS EXCESSIVE VOLTAGE DROP, ADDITIONAL PARTS, ENGINEERING, ETC., THAT ARE A RESULT OF CONDUIT RUN DEVIATIONS SHALL BE THE SOLE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR.
6. ALL FAN SHUTDOWN FUNCTIONS, DAMPER CLOSURES AND ASSOCIATED MECHANICAL SYSTEM FIRE ALARM INTERFACE SHALL BE BY MECHANICAL CONTRACTOR, AND SHALL BE COORDINATED WITH FIRE ALARM SYSTEM.
7. ALL DUCT SMOKE DETECTORS SHALL BE MOUNTED BY THE MECHANICAL CONTRACTOR. DUCT SMOKE DETECTORS EXPOSED TO THE WEATHER SHALL BE C.S.F.M. LISTED FOR OUTDOOR INSTALLATION, AND WEATHER PROTECTED BY THE MECHANICAL CONTRACTOR. ALL AIR VELOCITY TESTING SHALL BE PERFORMED BY THE MECHANICAL CONTRACTOR.
8. ALL FIRE ALARM DEVICE BACKBOXES, FIRE ALARM TERMINAL CABINETS, GUTTERS, JUNCTION BOXES AND ASSOCIATED CONDUITS SHALL BE FURNISHED AND INSTALLED BY ELECTRICAL CONTRACTOR UNLESS OTHERWISE NOTED. REFER TO FIRE ALARM SYMBOL LIST AND/OR MOUNTING DETAILS FOR ADDITIONAL INFORMATION. SYSTEM SUPPLIER PROVIDED BACKBOXES SHALL BE INSTALLED BY ELECTRICAL CONTRACTOR UNLESS OTHERWISE NOTED.
9. SMOKE DETECTOR TESTING SHALL BE PERFORMED TO ENSURE THAT EACH DETECTOR IS WITHIN ITS LISTED AND MARKED SENSITIVITY RANGE USING THE METHODS RECOMMENDED PER CFC, SECTION 907.8.4 AND NFPA 72, SECTION 14.4.4.3.4.
10. ALL WIRING, INITIATING DEVICES AND ANNUNCIATOR PANEL SHALL BE SUPERVISED TO THE PRINCIPAL POINT OF ANNUNCIATION. THE FIRE ALARM CONTROL PANEL TO SUPERVISE THE ANNUNCIATOR PANEL, ALL INITIATING AND INDICATING DEVICE CIRCUITS.
    A. INITIATING DEVICE CIRCUITS (IDC): CLASS B
    B. SIGNALING LINE CIRCUITS (SLC): CLASS B
    C. NOTIFICATION APPLIANCE CIRCUITS (NAC): CLASS B
11. ALL WIRING SHALL BE CUT FOR IN AND OUT. WIRING SHALL NOT BE LOOPED THROUGH DEVICES.
12. POINT AND COMMON ANNUNCIATION AND T–TAPPING ARE PROHIBITED. (T–TAPPING IS ALLOWABLE ON SLC LOOPS).
13. PROVIDE 3/4" CONDUIT FROM FIRE ALARM CONTROL PANEL TO TELEPHONE BACKBOARD FOR OWNER PROVIDED CENTRAL STATION MONITORING, WHEN APPLICABLE.
14. CONTRACTOR TO FIELD VERIFY AND PROVIDE DECIBEL METER FOR TESTING OF AMBIENT NOISE LEVELS AUDIBLE DEVICES TO BE AT LEAST 15 DBA ABOVE THE AVERAGE AMBIENT SOUND LEVEL BUT NOT LESS THAN 75 DBA AT 10 FEET OR 5 DBA ABOVE THE MAXIMUM SOUND LEVEL BUT NOT MORE THAN 110 DBA AT THE MINIMUM HEARING DISTANCE. SOUND LEVEL SHALL BE MAINTAINED FOR DURATION OF AT LEAST 60 SECONDS. (CFC, SECTION 907.5.2.1.1) THE CONTRACTOR SHALL ADJUST/INSTALL ALL DEVICES TO MAXIMIZE PERFORMANCE AND TO MINIMIZE FALSE ALARMS. PROVIDE UPDATED PLANS AND CALCULATIONS THROUGH THE "CHANGE ORDER" PROCESS WHEN INSTALLING ADDITIONAL DEVICES.
15. 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.
16. ALL FIRE ALARM CIRCUITS SHALL BE IN CONDUIT, APPROVED SURFACE RACEWAY OR OPEN RUN ABOVE CEILINGS, UNDER FLOORS AND IN WALLS IN A NEAT AND PROTECTED MANNER AS INDICATED ON THE DESIGN DOCUMENTS. EXPOSED CIRCUITS ARE ONLY PERMITTED WHEN NOTED AS EXPOSED ON DESIGN DOCUMENTS. ALL CONDUITS SHALL BE 3/4" MINIMUM. CONTRACTOR TO VERIFY CONDUIT FILL PRIOR TO INSTALLATION.
17. ALL FLOW SWITCHES SHALL BE 2 WIRE WITH NON–ELECTRONIC RETARD TYPE SIMILAR TO THE SYSTEM SENSOR MODEL "WFD SERIES" ONLY.
18. ALL DEVICES IN THE ALARM SYSTEM SHALL BE COMPATIBLE AND INSTALLED PER MANUFACTURER'S SPECIFICATIONS.
19. SYSTEM SHALL BE FURNISHED AND INSTALLED BY AN AUTHORIZED DISTRIBUTOR.
20. FIRE ALARM SYSTEM INSTALLATION COMPANY SHALL BE UL LISTED (UUJS).
21. FIRE ALARM PANEL, REMOTES, AND COMPONENTS SHALL BE SECURED TO MOUNTING SURFACES PER MANUFACTURER'S SPECIFICATIONS. NO SINGLE DEVICE SHALL EXCEED THE WEIGHT OF 20 LBS. WITHOUT SPECIAL MOUNTING DETAILS.
22. SMOKE DETECTOR SHALL NOT BE ANY CLOSER THAN 1 FOOT FROM FIRE SPRINKLERS OR 3 FEET FROM ANY SUPPLY DIFFUSER. IN THE AREA OF CONSTRUCTION OR WHERE POSSIBLE DAMAGE/CONTANMINATION COULD OCCUR ON NEWLY INSTALLED FIRE ALARM DEVICES, DEVICES SHALL BE COVERED UNTIL THAT AREA IS READY TO BE TURNED OVER TO THE OWNER. DETECTORS THAT HAVE BEEN INSTALLED PRIOR TO FINAL CLEAN–UP BY ALL TRADES SHALL BE CLEANED OR REPLACED IN ACCORDANCE WITH CFC, SECTION 907. CLEANING OR REPLACEMENT OF DEVICES THAT WERE MOUNTED AT THE REQUEST OF THE CONTRACTOR WILL NOT BE PERFORMED WITHOUT WRITTEN AUTHORIZATION THAT ASSUMES FINANCIAL RESPONSIBILITY FOR COSTS INCURRED. TESTING OF DETECTORS SHALL BE PERFORMED PER NFPA 72, SECTION 14.4.5.3 AND CFC, SECTION 907.8.4.
23. PER CBC, SECTION 11B–309 ACTIVATION OF INITIATING DEVICE SHALL NOT REQUIRE MORE THAN 5 LBS. (22.2N) OF FORCE OR REQUIRE TIGHT GRASPING PINCHING, OR TWISTING OF WRIST.
24. THE SYSTEM SHALL CONFORM TO CALIFORNIA CODE OF REGULATIONS (CCR) TITLES 19 AND 24 AS APPLICABLE TO THIS PROJECT.
25. THE VOICE/ALARM COMMUNICATION SYSTEM VOICE MESSAGE SHALL COMPLY WITH NFPA 72, SECTIONS 18.4 AND 24.4 FOR GENERAL REQUIREMENTS, INTELLIGIBILITY, AUDIBILITY, MESSAGE PRIORITY, TONES, ETC.
26. A DEDICATED 120V 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 AND BE LABELED AS FOLLOWS:
    A. "FIRE ALARM" FOR FIRE ALARM SYSTEMS
    B. "EMERGENCY COMMUNICATIONS" FOR EMERGENCY COMMUNICATION SYSTEMS, OR
    C. "FIRE ALARM/ECS" FOR COMBINATION FIRE ALARM AND COMMUNICATIONS SYSTEMS.
27. WHERE A DETECTOR IS INSTALLED ABOVE THE CEILING, THE DETECTOR SHALL BE EASILY ACCESSIBLE AND THE LOCATION OF THE DETECTOR SHALL BE CLEARLY MARKED. FOR DUCT SMOKE DETECTORS A REMOTE TEST STATION SHALL BE PROVIDED. ELECTRICAL CONTRACTOR SHALL FURNISH ACCESS PANELS TO AREAS THAT REQUIRE SERVICING, TROUBLE SHOOTING, ETC.
28. THE "END OF LINE RESISTANCE" OF EACH CIRCUIT SHALL BE TESTED IN THE PRESENCE OF THE I.O.R. AND SHALL NOT EXCEED THE LISTED MANUFACTURER'S MINIMUM OPERATING VOLTAGE.
29. UNDERGROUND AND EXTERIOR CONDUITS TO HAVE WATERTIGHT FITTINGS AND WIRE LISTED FOR WET LOCATIONS, IN ACCORDANCE WITH CEC, SECTIONS 110.11, 300.5(B), 300.6, 300.9, 310.10, AND 760.3(D).
30. FIRE ALARM SYSTEM IS A FULLY AUTOMATIC SYSTEM. CONTRACTOR TO UTILIZE AREA COVERAGE SMOKE DETECTORS AND ADDRESSABLE CONTROL RELAYS FOR THE SHUTDOWN AND/OR CLOSURE OF HVAC UNITS AND COMBINATION SMOKE/FIRE DAMPERS. CONTROL RELAYS TO BE LOCATED WITHIN 3FT OF THE CONTROLLED CIRCUIT OR APPLIANCE PER NFPA 72, SECTION 21.2.4.
31. PROVIDE (VIA CHANGE ORDER PROCESS) APPROPRIATE MANUFACTURER PRODUCT DATA SHEETS AND APPLICABLE CSFM LISTINGS FOR ALL SUBSTITUTED MANUFACTURER'S MATERIAL, EQUIPMENT OR APPLIANCES, TO DSA PRIOR TO START OF INSTALLATION.
32. CONTRACTOR SHALL PROVIDE FIRE WATCH FOR ALL OCCUPIED AREAS OF WORK WHERE THE REQUIRED FIRE ALARM SYSTEM IS OUT OF SERVICE FOR THE DURATION OF THE SYSTEM OUTAGE. FIRE WATCH AND SYSTEM/EQUIPMENT SHALL BE PER CFC, SECTION 901.7.
33. EMERGENCY VOICE/ALARM COMMUNICATION SYSTEMS SHALL BE DESIGNED AND INSTALLED IN ACCORDANCE WITH NFPA 72. THE OPERATION OF ANY AUTOMATIC FIRE DETECTOR, SPRINKLER WATERFLOW DEVICE OR MANUAL FIRE ALARM BOX SHALL AUTOMATICALLY SOUND AN ALERT TONE FOLLOWED BY VOICE INSTRUCTIONS GIVING APPROVED INFORMATION AND DIRECTIONS FOR A GENERAL OR STAGED EVACUATION IN ACCORDANCE WITH THE FIRE SAFETY EVACUATION PLANS REQUIRED BY CFC, SECTION 404 PER CBC/CFC, SECTION 907.5.2.2
34. EMERGENCY VOICE/ALARM COMMUNICATION SYSTEMS SHALL HAVE THE CAPABILITY TO BROADCAST LIVE VOICE MESSAGES BY PAGING ZONES ON A SELECTIVE AND ALL–CALL BASIS PER CBC/CFC, SECTION 907.5.2.2.2.
35. EMERGENCY VOICE/ALARM COMMUNICATION SYSTEMS SHALL BE PROVIDED WITH AN APPROVED EMERGENCY POWER SOURCE PER CBC/CFC, SECTION 907.5.2.2.5.
36. UPON DETECTION OF CARBON MONOXIDE THE FIRE ALARM SYSTEM SHALL PRODUCE A FOUR–PULSE TEMPORAL PATTERN SIGNAL WITHIN THE BUILDING AND COMPLY WITH NFPA 720, SECTION 5.8.6.5.
37. ALL MEMBRANE AND THROUGH–PENETRATIONS OF RATED ASSEMBLIES SHALL BE PROTECTED BY AN APPROVED FIRE STOP SYSTEM AS IDENTIFIED IN CBC, CHAPTER 7, UL OR OTHER LAB TESTING CRITERIA. APPROVED TYPES OF MATERIALS SHALL BE IDENTIFIED WITHIN THE FIRE ALARM SECTION OF THE PROJECT SPECIFICATIONS.
38. CONTROL PANELS AND REMOTE ANNUNCIATORS SHALL BE INSTALLED WITH THEIR BOTTOMS MOUNTED AT 48" ABOVE THE FINISHED FLOOR.

SEQUENCE OF OPERATIONS

DEVICE ACTION	120 VOLT POWER FAILURE	SYSTEM TROUBLE, WIRING FAULT OR OPEN, GROUND FAULT, SYSTEM LOW BATTERY, CIRCUIT SHORT	AREA SMOKE DETECTOR	CARBON MONOXIDE DETECTOR	AREA or ATTIC HEAT DETECTOR
SOUND CONTROL PANEL TROUBLE BUZZER	YES	YES	NO	YES	NO
SOUND CONTROL PANEL SUPERVISORY BUZZER	NO	NO	NO	YES	NO
SOUND CONTROL PANEL ALARM BUZZER	NO	NO	YES	YES	YES
ACTIVATE RELAY FOR CENTRAL STATION MONITORING	YES	YES	YES	YES	YES
ANNUNCIATE AT FIRE ALARM CONTROL PANEL (ALARM)	NO	NO	YES	YES	YES
ANNUNCIATE AT FIRE ALARM CONTROL PANEL (TROUBLE)	YES	YES	NO	NO	NO
ANNUNCIATE AT REMOTE ANNUNCIATOR PANEL (ALARM)	NO	NO	YES	YES	YES
ANNUNCIATE AT REMOTE ANNUNCIATOR PANEL (TROUBLE)	YES	YES	NO	NO	NO
ACTIVATE AUDIBLE NOTIFICATION ALARM SIGNAL THROUGHOUT CAMPUS	NO	NO	YES	NO	YES
ACTIVATE VISUAL NOTIFICATION ALARM SIGNAL THROUGHOUT CAMPUS	NO	NO	YES	NO	YES
ACTIVATE AUDIBLE NOTIFICATION ALARM SIGNAL THROUGHOUT BLDG	NO	NO	YES	YES	YES
ACTIVATE VISUAL NOTIFICATION ALARM SIGNAL THROUGHOUT BLDG	NO	NO	YES	YES	YES
SHUT DOWN ASSOCIATED AIR HANDLING (HVAC) THROUGHOUT BUILDING	NO	NO	YES	NO	NO
NOTIFY FIRE DEPARTMENT VIA MONITORING STATION –	NO	NO	YES	YES	YES

FIRE ALARM WIRE LEGEND

WIRE DESIGNATION	WIRE IN CONDUIT	WIRE IN CONDUIT UNDERGROUND/WET LOC.	UNDERGROUND/WET WIRE DESIGNATION
INITIATING CIRCUIT Z	2 CONDUCTOR #18 FPL TWISTED/ UNSHIELDED WITH OVERALL JACKET	2 CONDUCTOR #18 FPL TWISTED/ UNSHIELDED WITH OVERALL JACKET	INITIATING CIRCUIT ZU
POWER CKT. (24VDC) P	2 CONDUCTOR #14 THHN STRANDED	2 CONDUCTOR #12 STRANDED TYPE THWN	POWER CKT. (24VDC) PU
NETWORK CONTROL C	2 CONDUCTOR #12 THHN STRANDED	2 CONDUCTOR #12 STRANDED TYPE THWN	NETWORK CONTROL CU
ANNUNCIATOR D	4 CONDUCTOR #18 FPL TWISTED/ UNSHIELDED WITH OVERALL JACKET	4 CONDUCTOR #18 FPL TWISTED/ UNSHIELDED WITH OVERALL JACKET	ANNUNCIATOR DU
AUDIBLE LOOP B	2 CONDUCTOR #18 FPL TWISTED/ SHIELDED WITH OVERALL JACKET	2 CONDUCTOR #18 FPL TWISTED/ SHIELDED WITH OVERALL JACKET	AUDIBLE LOOP BU
S–BUS S	2–PAIR 4 CONDUCTOR #16 FPLR	2–PAIR 4 CONDUCTOR #16 FPLR	S–BUS SU
AUDIBLE (SPEAKER) A	2 CONDUCTOR #16 FPL TWISTED/ SHIELDED WITH OVERALL JACKET	2 CONDUCTOR #16 FPL TWISTED/ SHIELDED WITH OVERALL JACKET	AUDIBLE (SPEAKER) AU
VISUAL (STROBE) V	2 CONDUCTOR #12 FPL TWISTED/ UNSHIELDED WITH OVERALL JACKET	2 CONDUCTOR #12 FPL TWISTED/ UNSHIELDED WITH OVERALL JACKET	VISUAL (STROBE) VU

NOTE:
1. ALL WIRE TO BE CLASS 'B' PATHWAY SURVIVABILITY LEVEL 1.
2. ALL WIRE MODEL NUMBERS ARE WEST PENN. APPROVED EQUAL BY OTHER MANUFACTURER IS ACCEPTABLE.
3. COLOR CODE ALL FIRE ALARM CONDUCTORS PER DISTRICT STANDARDS. VERIFY COLOR SCHEMES PRIOR TO ORDERING FIRE ALARM CONDUCTORS.

FIRE ALARM SYSTEM TESTING NOTES:

1. INSTALLATION OF THE SYSTEMS SHALL NOT BE STARTED UNTIL DETAILED DESIGN DOCUMENTS AND SPECIFICATIONS, INCLUDING STATE FIRE MARSHAL LISTING NUMBERS FOR EACH COMPONENT OF THE SYSTEM HAS BEEN APPROVED BY DSA.
2. A STAMPED SET OF APPROVED FIRE ALARM DESIGN DOCUMENTS SHALL BE ON THE JOB SITE AND USED FOR INSTALLATION.
3. DISTRICT SHALL PROVIDE A CERTIFIED IMPARTIAL FIRE ALARM INSPECTOR. DSA, ARCHITECT/ENGINEER AND OWNER SHALL BE NOTIFIED A MINIMUM OF 48 HOURS PRIOR TO THE FINAL INSPECTION AND/OR TESTING.
4. 100% OF THE SYSTEM IN CONTRACT WILL BE TESTED AND INSPECTED WITH THE CONTRACTOR OR CONTRACTOR'S SUB AND DISTRICT'S ETS STAFF MEMBER PRESENT. INSPECTION WILL INCLUDE, BUT NOT BE LIMITED TO, REMOVING STROBES/HORNS TO CHECK FOR "T–TAPS", REMOVING J–BOX COVERS TO CHECK WIRE GAGE AND SPLICES.
5. FOLLOW ALL REQUIREMENTS AND INSTRUCTIONS PROVIDED BY MANUFACTURER UPON INSTALLATION OF MANUFACTURER'S PRODUCTS AND DEVICES.
6. PRIOR TO REQUESTING FINAL APPROVAL OF THE INSTALLATION, THE INSTALLING CONTRACTOR SHALL FURNISH A WRITTEN STATEMENT TO THE FIRE CODE OFFICIAL THAT THE SUBJECT FIRE PROTECTION SYSTEM HAS BEEN INSTALLED IN ACCORDANCE WITH APPROVED PLANS AND HAS BEEN TESTED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AND THE APPROPRIATE INSTALLATION STANDARD. 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. ANY DEVIATIONS FROM THE DESIGN STANDARDS SHALL BE NOTED AND COPIES OF THE APPROVALS FOR SUCH DEVIATIONS SHALL BE ATTACHED TO THE WRITTEN STATEMENT. (CFC, SECTION 901.2.1)
7. UPON COMPLETION OF SYSTEM INSTALLATION, THE SYSTEM SHALL BE TESTED IN THE PRESENCE OF AND IN A MANNER ACCEPTABLE TO DSA/I.O.R. CONTRACTOR SHALL SUPPLY NECESSARY TESTING EQUIPMENT, INCLUDING A "SOUND LEVEL METER" TO CHECK ACCEPTABLE NOISE LEVELS OF AUDIBLE DEVICES. PROVIDE TEST RESULTS PER NFPA 72 TO ARCHITECT, D.S.A., I.O.R. AND TO LOCAL FIRE AUTHORITY, PER CFC, SECTION 907.8.2.
8. INSPECTION, TESTING AND MAINTENANCE SHALL BE IN COMPLIANCE WITH NFPA 72, CHAPTER 14, REACCEPTANCE TESTING SHALL BE IN COMPLIANCE WITH NFPA 72, SECTION 14.4.2.
9. THE LOCAL FIRE AUTHORITY SHALL BE NOTIFIED FOR TESTING. THE FIRE AUTHORITY SHALL BE PRESENT AND SHALL BEAR WITNESS FOR TESTING PROCEDURES. DOCUMENTATION FOR WHETHER THE FIRE AUTHORITY WAS PRESENT AND WITNESSED TESTING SHALL BE DOCUMENTED AS PART OF TESTING PROCEDURES DOCUMENTATION.
10. PRIOR TO COMPLETION OF FIRE ALARM SYSTEM THE TWO WAY COMMUNICATION SYSTEM SHALL BE TESTED AND CERTIFIED VIA NFPA 72 EMERGENCY COMMUNICATION SYSTEM SUPPLEMENTARY RECORD OF INSPECTION AND TESTING FORM.
11. THE INSTALLING CONTRACTOR SHALL PROVIDE A COMPLETED RECORD OF COMPLETION PER NFPA 72, FIGURE 7.8.2(A) THROUGH (I) AS APPLICABLE. A COMPLETE RECORD OF THE TESTS AND OPERATIONS OF EACH SYSTEM SHALL BE KEPT UNTIL THE NEXT TEST AND FOR ONE YEAR AFTER PER NFPA 72, SECTION 7.7.1.
12. FIRE ALARM SYSTEM DOCUMENTS SHALL BE HOUSED IN THE DOCUMENT CABINET. THE DOCUMENT CABINET SHALL BE INSTALLED AT THE SYSTEM CONTROL UNIT OR AT ANOTHER APPROVED LOCATION AT THE PROTECTED PREMISES AS REQUIRED BY NFPA 72, SECTION 7.7.2.
13. THE INSTALLING CONTRACTOR SHALL PROVIDE SYSTEM PROGRAMMING FOR SUPERVISORY MONITORING PER CFC, SECTION 907.6.6. SUPERVISORY MONITORING SHALL BE TESTED AND VERIFIED AS SENDING CORRECT SIGNALS IN CONJUNCTION WITH FINAL ACCEPTANCE TEST. OWNER SHALL BE RESPONSIBLE FOR ESTABLISHING AND MAINTAINING A FIRE ALARM SYSTEM MONITORING CONTRACT.
14. THE VOICE/ALARM COMMUNICATION SYSTEM VOICE MESSAGE SHALL COMPLY WITH NFPA 72 SECTIONS 18.4 AND 24.4 FOR GENERAL REQUIREMENTS, INTELLIGIBILITY, AUDIBILITY, MESSAGE PRIORITY, TONES, ETC. REFER TO NFPA 72 ANNEX D, D.1 THROUGH D.6 FOR DETERMINING THE FUNDAMENTALS OF TEST PROTOCOL AND METHOD OF MEASURING INTELLIGIBILITY.

FIRE ALARM SYMBOL LIST

SYMBOL	DESCRIPTION	MODEL	MANUFACTURER	BACKBOX	MOUNTING HEIGHT	C.S.F.M. NUMBER
VECP	(E)FIRE ALARM / VOICE EVACUATION SYSTEM CONTROL PANEL A#01–117438	NFS2–3030/ DVC–EM NCA–2 (DISPLAY)	NOTIFIER	EXISTING	EXISTING	EXISTING
AMP	VOICE EVACUATION AUDIO AMPLIFIER	DAA2 SERIES	NOTIFIER	PROVIDED	5'–6'' A.F.F. TO TOP	7165–0028:0224
FAPS	FIRE ALARM POWER SUPPLY	FCPS–24S6	NOTIFIER	PROVIDED	5'–6'' A.F.F. TO TOP	7315–0028:0225
FATC	FIRE ALARM TERMINAL CABINET	N/A	BY ELECTRICIAN	18"SQ. x 6"D U.N.O. (RED)	VERIFY IN FIELD	N/A
SD	AREA SMOKE DETECTOR (ADDRESSABLE PHOTO)	FSP–951 B300–6 (BASE)	NOTIFIER	4S DEEP BOX W/ 3–0 RING	CEILING	7272–0028:0503 7300–1653:0109
HD	AREA HEAT DETECTOR (ADDRESSABLE FIXED 190°F)	FST–951H B300–6 (BASE)	NOTIFIER	4S DEEP BOX W/ 3–0 RING	ABOVE ACCESSIBLE CEILING, U.O.N.	7270–0028:0502 7300–1653:0109
CO	FIRE/CO DETECTOR (ADDRESSABLE FIRE/CO) WITH SOUNDER BASE	FCO–951 B200S (BASE)	NOTIFIER	4S DEEP BOX W/ 3–0 RING	CEILING	7272–0028:0510 7300–1653:0213
CR	FIRE ALARM RELAY CONTROL MODULE	FRM–1	NOTIFIER	4S DEEP BOX	VERIFY IN FIELD	7300–0028:0219
S WP	FIRE ALARM SPEAKER (WEATHERPROOF/WALL)	SPRK (RED)	SYSTEM SENSOR	WP BACKBOX PROVIDED	90'' A.F.F. TO TOP	7320–1653:0201
SF cd	FIRE ALARM SPEAKER/STROBE (CEILING)	SPSCWL (WHITE)	SYSTEM SENSOR	4S DEEP BOX W/ 4S EXTENSION	CEILING	7320–1653:0505
SF CO cd	FIRE ALARM SPEAKER/ STROBE (CEILING) SEE SYMBOL LIST NOTE 2	SPSCWL–P (WHITE)	SYSTEM SENSOR	4S DEEP BOX W/ 4S EXTENSION	CEILING	7320–1653:0505
SYNC	AUDIBLE/VISUAL SYNC MODULE	MDL3	SYSTEM SENSOR	5S DEEP BOX W/ 5S EXTENSION	VERIFY IN FIELD	7300–1653:0202
J	FIRE ALARM JUNCTION BOX	N/A	BY ELECTRICIAN	4S BOX, U.N.O.	VERIFY IN FIELD	N/A

A.F.F.	ABOVE FINISHED FLOOR	N/A	NOT APPLICABLE
E.O.L.	END OF LINE RESISTOR	U.N.O.	UNLESS NOTED OTHERWISE
(E)	EXISTING DEVICE	VL	VERIFY LOCATION IN FIELD
F.B.O.	FURNISHED BY OTHERS	WP	WEATHERPROOF DEVICE
TSP	TWISTED SHIELDED PAIR	cd	INDICATED CANDELA RATING OF STROBE DEVICE

GENERAL FIRE ALARM SYMBOL LIST NOTES:

1. CONFIRM NOTIFICATION DEVICE COLOR (WHITE OR RED) WITH ARCHITECT PRIOR TO ANY ORDER OR INSTALLATION. COLOR TO BE INDICATED IN SHOP DRAWING SUBMITTAL.
2. NOTIFICATION APPLIANCES USED FOR SIGNALING OTHER THAN FIRE (IE. CARBON MOXONIDE (CO) DETECTION) SHALL NOT HAVE THE WORD 'FIRE' OR ANY FIRE SYMBOL IN ANY FORM (I.E., STAMPED, IMPRINTED, ETC.) ON THE APPLIANCE VISIBLE TO THE PUBLIC (NFPA 72 18.3.3.2).
3. NUMBER ADJACENT TO VISUAL DEVICES INDICATES MINIMUM CANDELLA RATING OF STROBE DEVICE.
4. UPON DETECTION OF CARBON MONOXIDE THE FIRE ALARM SYSTEM SHALL PRODUCE A FOUR–PULSE TEMPORAL PATTERN SIGNAL WITHIN THE BUILDING.

PLAN REVIEW REQUIREMENTS AND APPLICABLE CODES AND STANDARDS

1.0 FIRE ALARM PLAN REVIEW

A. FIRE ALARM PLAN REVIEW

1. AS PART OF THE FIRE ALARM PLAN REVIEW, PLANS AND SPECIFICATIONS FOR THE FIRE ALARM SYSTEM HAVE BEEN INCLUDED FOR REVIEW AND COMMENT BY THE DIVISION OF THE STATE ARCHITECT, FIRE & LIFE SAFETY.
2. THE FLOOR PLANS AND SPECIFICATIONS INCLUDE THE FOLLOWING : LOCATIONS OF ALL ALARM–INITIATING AND SIGNALING DEVICES, CONTROL AND TROUBLE SIGNALING EQUIPMENT (FIRE ALARM CONTROL PANEL, BUILDING ANNUNCIATION (FIRE ALARM ANNUNCIATOR).

B. FIRE ALARM COMPONENTS

1. PROVIDE CALIFORNIA STATE FIRE MARSHAL LISTING SHEETS AND U.L. LISTING NUMBERS FOR EACH COMPONENT.
2. EQUIPMENT POWER CONNECTIONS.
3. RISER DIAGRAM SHOWING EACH COMPONENT.
4. VOLTAGE DROP CALCULATIONS.
5. POWER CONNECTIONS TO APPLICABLE COMPONENTS.
6. WIRE AND/OR CABLING TYPES AND SIZES.
7. PROVIDE CATALOG DATA SHEETS FOR ALL FIRE ALARM SYSTEM COMPONENTS.
8. CONTRACTOR TO FURNISH STATEMENT OF COMPLIANCE BEFORE REQUESTING FINAL APPROVAL OF INSTALLATION IN ACCORDANCE WITH CFC, SECTION 901.2.1.
9. A SATISFACTORY TEST OF THE ENTIRE SYSTEM SHALL BE MADE IN THE PRESENCE OF THE PROJECT INSPECTOR AND, IF APPLICABLE, LOCAL FIRE AUTHORITY.
10. THE INSTALLER SHALL SUPPLY THE OWNER WITH A WRITTEN OPERATING, TESTING AND MAINTENANCE INSTRUCTIONS, POINT–TO–POINT AS BUILT DRAWINGS AND EQUIPMENT SPECIFICATIONS. AS BUILT RECORDS SHALL BE MAINTAINED ON PREMISES FOR A MINIMUM OF THREE YEARS PER CFC, SECTION 901.6.3.

C. SCOPE OF WORK

1. INSTALL A FULLY AUTOMATIC, ADDRESSABLE, FIRE ALARM SYSTEM WITH AN EMERGENCY VOICE/ALARM COMMUNICATION SYSTEM WITHIN ALL BUILDINGS IN SCOPE OF PROJECT AS DEFINED PER CFC, SECTION 907.2.3 AND NFPA 72.
2. FIRE ALARM SYSTEM SHALL TRANSMIT THE ALARM, SUPERVISORY AND TROUBLE SIGNALS TO AN APPROVED SUPERVISING STATION IN ACCORDANCE WITH NFPA 72. THE SUPERVISING STATION SHALL BE U.L. LISTED AS UUFX (CENTRAL STATION) PER CFC, SECTION 907.6.6.3.

2.0 LIST OF CURRENT CALIFORNIA CODE OF REGULATIONS

APPLICABLE CODES AS OF JANUARY 1, 2023

2022 California Administrative Code (CAC), Part 1, Title 24, C.C.R.

2022 California Building Code (CBC), Volumes 1 & 2, Part 2, Title 24, C.C.R.
(2021 International Building Code of the International Code Council, with California Amendments.)

2022 California Electrical Code (CEC), Part 3, Title 24, C.C.R.
(2020 National Electric Code of the National FIre Protection Assoc., NFPA)

2022 California Mechanical Code (CMC), Part 4, Title 24, C.C.R.
(2021 Uniform Mechanical Code of the International Association of Plumbing and Mechanical Officials, IAPMO.)

2022 California Plumbing Code (CPC), Part 5, Title 24, C.C.R.
(2021 Uniform Plumbing Code of the International Association of Plumbing and Mechanical Officials, IAPMO.)

2022 California Green Building Standards Code (CALGreen), Part 11, Title 24, C.C.R.

2022 California Energy Code, Part 6, Title 24, C.C.R.

2022 California Historical Building Code, Title 24, C.C.R.

2022 California Fire Code (CFC), Part 9, Title 24, C.C.R.
(2021 International Fire Code with California Amendments)

2022 California Existing Building Code (CEBC), Part 10, Title 24, C.C.R.
(2021 International Existing Building Code of the International Code Council, with amendments)
For Title III: ADA Standards for Accessible Design (Appendix A of 28 CFR Part 36.)

2022 California Referenced Standards Code, Part 12, Title 24, C.C.R.

LIST OF FEDERAL CODES AND STANDARDS (if applicable)

Americans with Disabilities Act (ADA), Title II or Title III

For Title II: Uniform Federal Accessibility Standards (UFAS) or ADA Standards for Accessible Design (Appendix A of 28 CFR Part 36.)

Americans with Disabilties Act Accessibility Guidelines (ADAAG)
(with amendments through September 2002)

PARTIAL LIST OF APPLICABLE NFPA STANDARDS:

NFPA 13–Automatic Sprinkler Systems (CA Amended)	2022 Edition
NFPA 14–Standpipes Systems (CA Amended)	2019 Edition
NFPA 17–Standard for Dry Chemical Extinguishing Systems	2021 Edition
NFPA 17a–Standard for Wet Chemical Systems	2021 Edition
NFPA 20–Installation Stationary Pumps for Fire Protection	2019 Edition
NFPA 22–Water tanks for Private Fire Protection	2019 Edition
NFPA 24–Installation of Private Fire Service Mains (CA Amended)	2019 Edition
NFPA 72–National Fire Alarm and Signaling Code (CA Amended)	2022 Edition
NFPA 80–Fire Door and Other Opening Protectives	2019 Edition
NFPA 92–Standard for Smoke Control Systems	2015 Edition
NFPA 253–Critical Radiant Flux of Floor Covering Systems	2019 Edition
NFPA 720–Carbon Monoxide (CO) Detection and Warning	2015 Edition
NFPA 2001–Clean Agent Fire Extinguishing Systems (CA Amended)	2018 Edition
ICC 300–ICC Standards on Bleachers, Folding and Telescoping Seating and Grandstands	2017 Edition
UL 38–Manual Operating Signal Boxes (with revisions through February 2, 2005 as amended)	1999 Edition
UL 268–Smoke Detectors for Fire Alarm Systems	2009 Edition
UL 268A–Smoke Detectors Duct Applications (with revisions through October 22, 2003 as amended)	2009 Edition
UL 300–Fire Testing of Fire Extinguishing Systems for Protection Of Restaurant Cooking Areas (with revisions through December 2014 as amended)	2005 Edition
UL 464–Audible Signal Appliances (with revisions through October 10, 2003 as amended)	2003 Edition
UL 521–Heat Detectors for Fire Protective Signaling Systems (with revisions through July 20, 2005 as amended)	1999 Edition
UL 864–Control Units for Fire Protective Signaling Systems (with revisions through December 2014)	2003 Edition

Reference code section for NFPA Standards–2022 CBC (SFM) Chapter 35
See Chapter 35 for State of California amendments to NFPA Standards.

COMPLETE FIRE ALARM SUBMITTAL

AUTOMATIC ADDRESSABLE FIRE ALARM SYSTEM WITH EMERGENCY VOICE/ALARM COMMUNICATION SYSTEM

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-121181 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 07/02/2024

OWNER: SAN RAFAEL CITY SCHOOLS

PROJECT NAME: VENETIA VALLEY BLDGS G AND H ALTERATION

CLIENT ADDRESS: 177 N San Pedro Rd, San Rafael, CA 94903

RAYMOND W. SWARTZ
No. E15610
Exp. 12/31/2025

REVISIONS:

	DESCRIPTION	DATE
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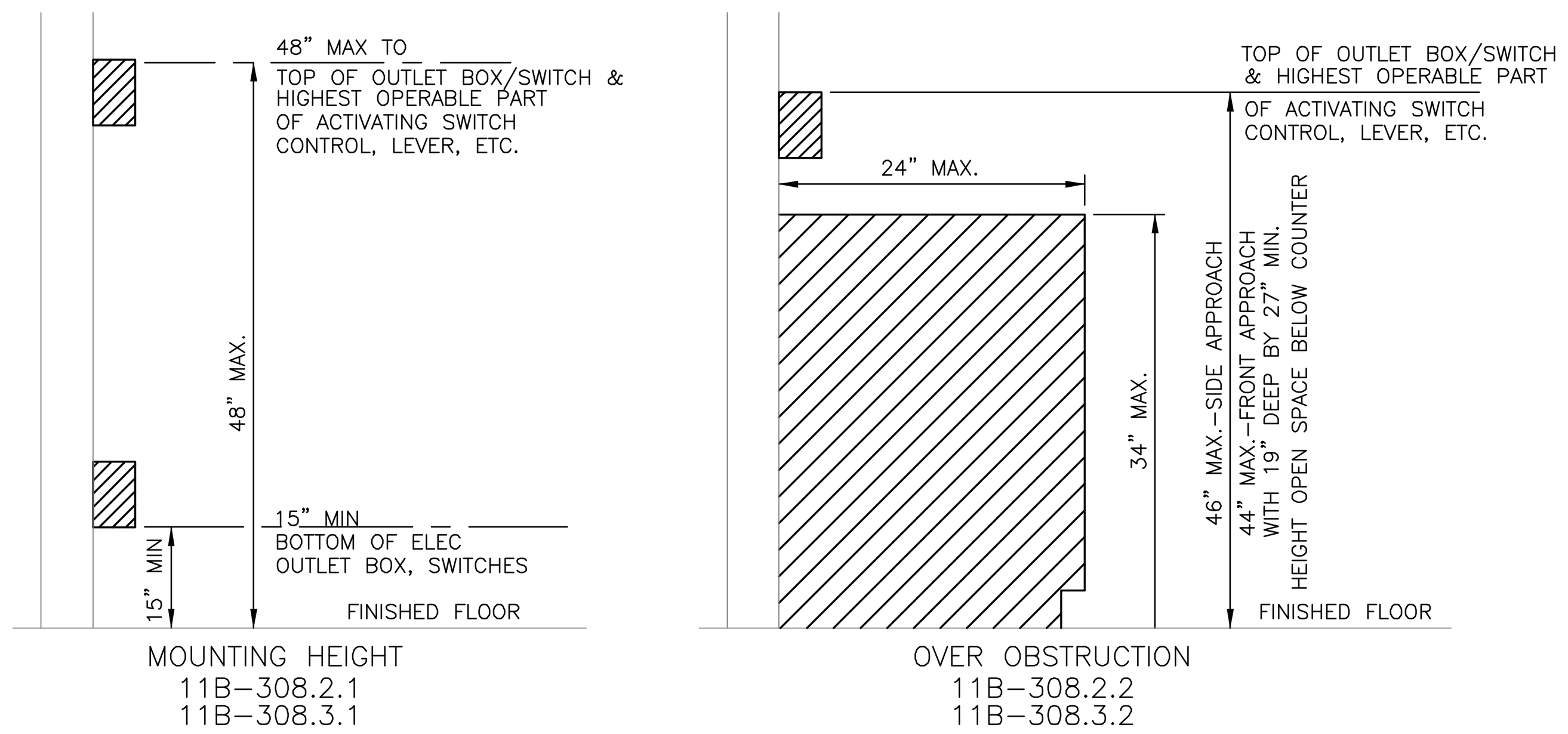
△		
△		

PROJECT NO:
DATE ISSUED: 06/21/2024
SCALE: As indicated
SHEET NUMBER: FA00-1
SHEET TITLE:

FIRE ALARM INFORMATION

tk1sc COLLABORATIVE
11870 Pierce Street, Suite 160
Riverside, California 92505
951.299.4160 www.tk1sc.com

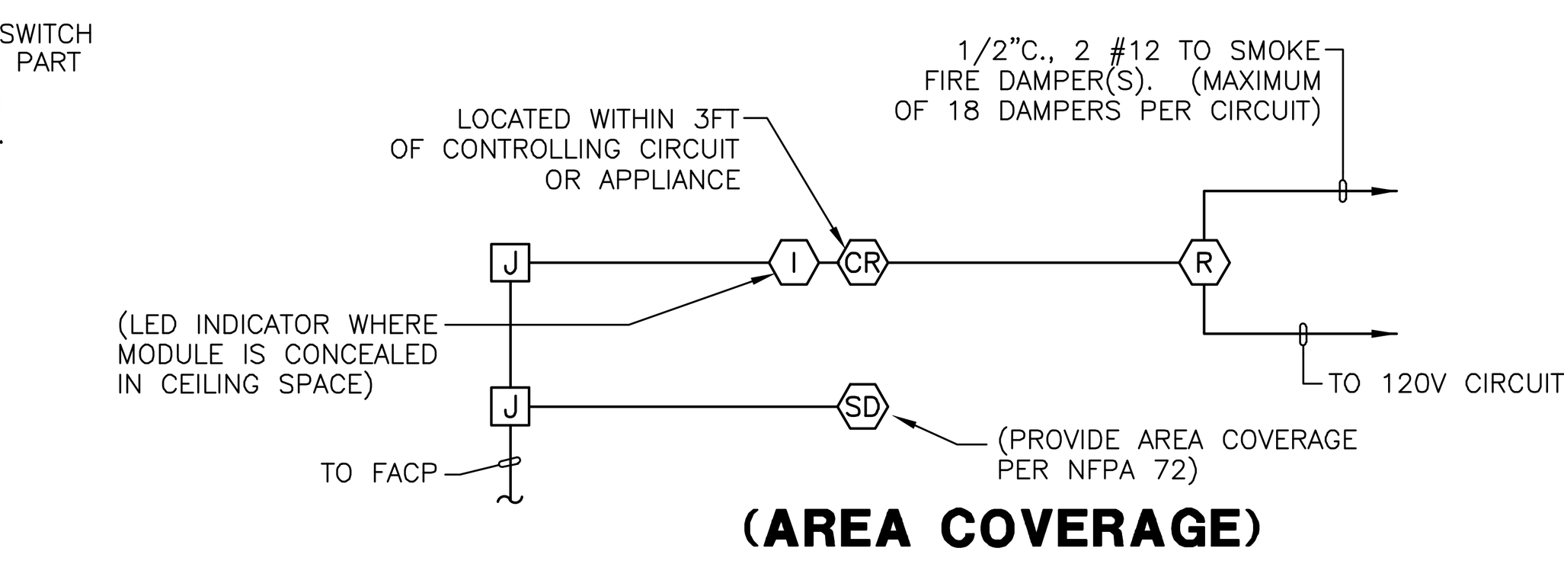
Project Leader - Nikolas Bruno
Electrical Lead - Nikolas Bruno
tk1sc Job #: B2304502.000



ALL DEVICE HEIGHTS DEPICTED SHALL BE MODIFIED AS REQUIRED BY GOVERNING BUILDING CODES. CONTRACTOR TO VERIFY/RECONCILE APPLICABLE CODE REQUIREMENTS AND ANY DEVICE HEIGHT REQUIREMENTS DEPICTED ON ARCHITECTURAL OR INTERIOR DESIGN PLANS & SPECIFICATIONS PRIOR TO DEVICE ROUGH-IN. CONFLICTS OR LACK OF MOUNTING HEIGHT SPECIFICITY ON THE ARCHITECTURAL OR INTERIOR DESIGN PLANS & SPECIFICATIONS SHALL BE CAUSE FOR THE CONTRACTOR TO ISSUE A FORMAL WRITTEN RFI FOR RESOLUTION. DEVICE MOUNTING HEIGHT CLARIFICATIONS/SPECIFICATIONS SHALL NOT RESULT IN AN ADDITIONAL COST TO THE OWNER - CONTRACTOR SHALL INCLUDE ALL COSTS IN BASE BID.

MOUNTING HEIGHT OVER OBSTRUCTION DETAIL (12)

SCALE: NTS

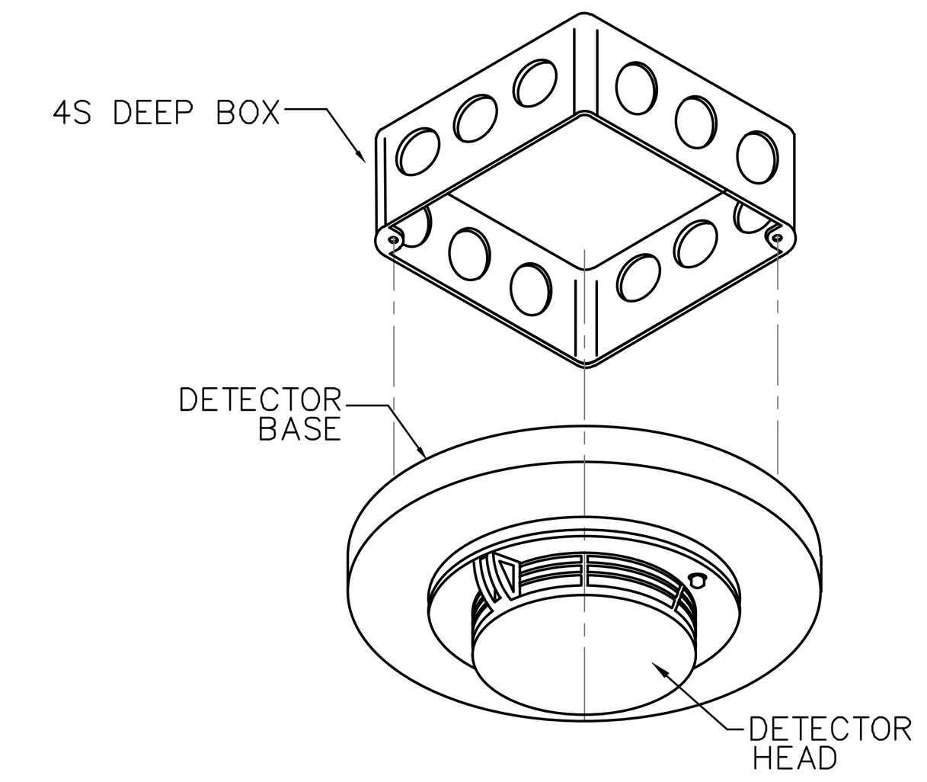


(AREA COVERAGE)

Note:
PER CMC 605.8, When the automatic activation of a smoke damper or a combination smoke-fire damper occurs, the HVAC system serving such dampers shall immediately shut down. ALL HVAC UNITS CONTAINING COMBINATION SMOKE FIRE DAMPERS AS PART OF THEIR DUCTING SYSTEM SHALL BE PROVIDED WITH SHUNT RELAYS AND DEVICES FOR IMMEDIATE SHUT DOWN UPON THE ACTIVATION / CLOSURE OF ASSOCIATED COMBINATION SMOKE FIRE DAMPERS.

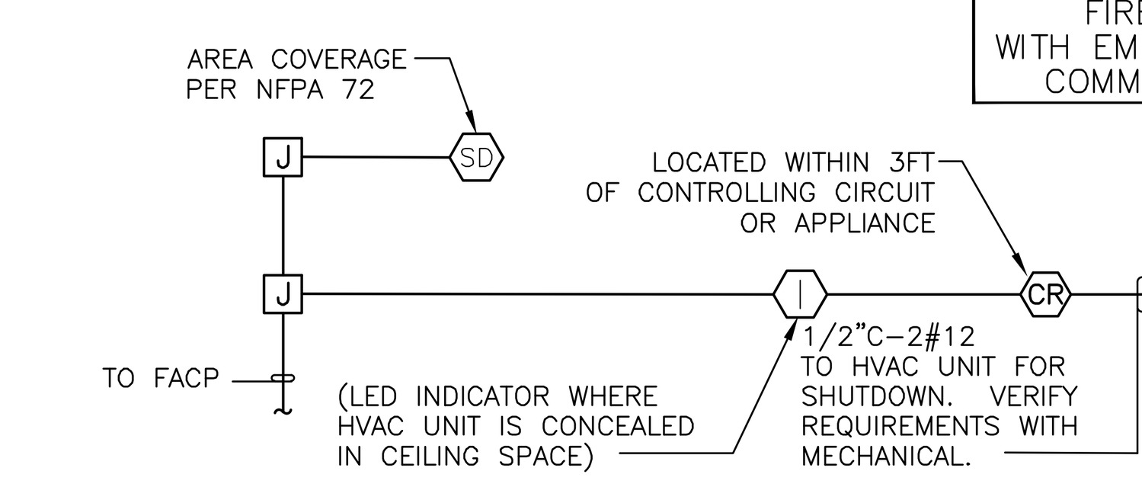
SMOKE/FIRE DAMPER SCHEMATIC (3)

SCALE: N.T.S.



DETECTOR MOUNTING DETAIL (8)

SCALE: N.T.S.

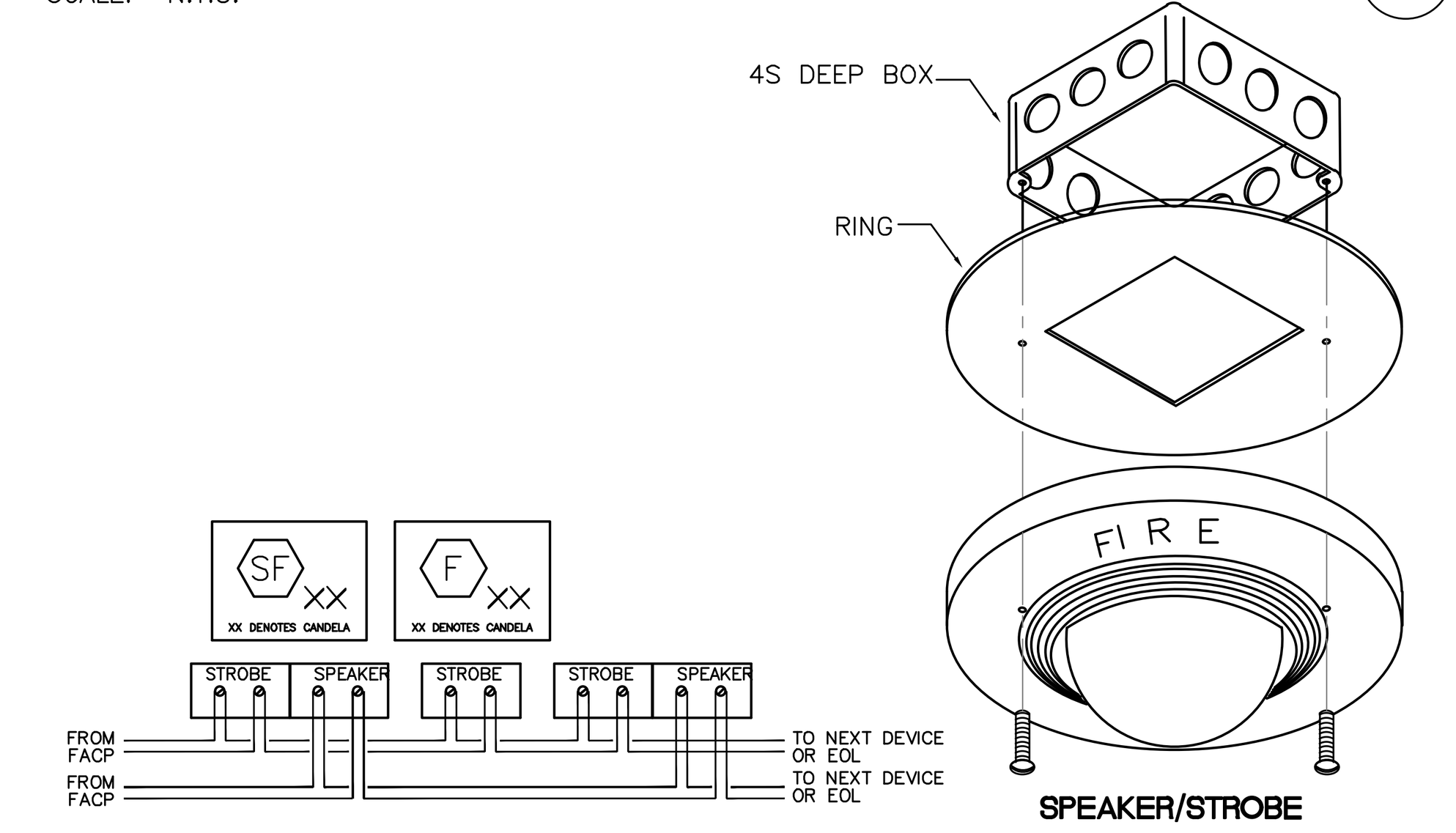


HVAC SHUT DOWN SCHEMATIC (AREA COVERAGE) (4)

SCALE: N.T.S.

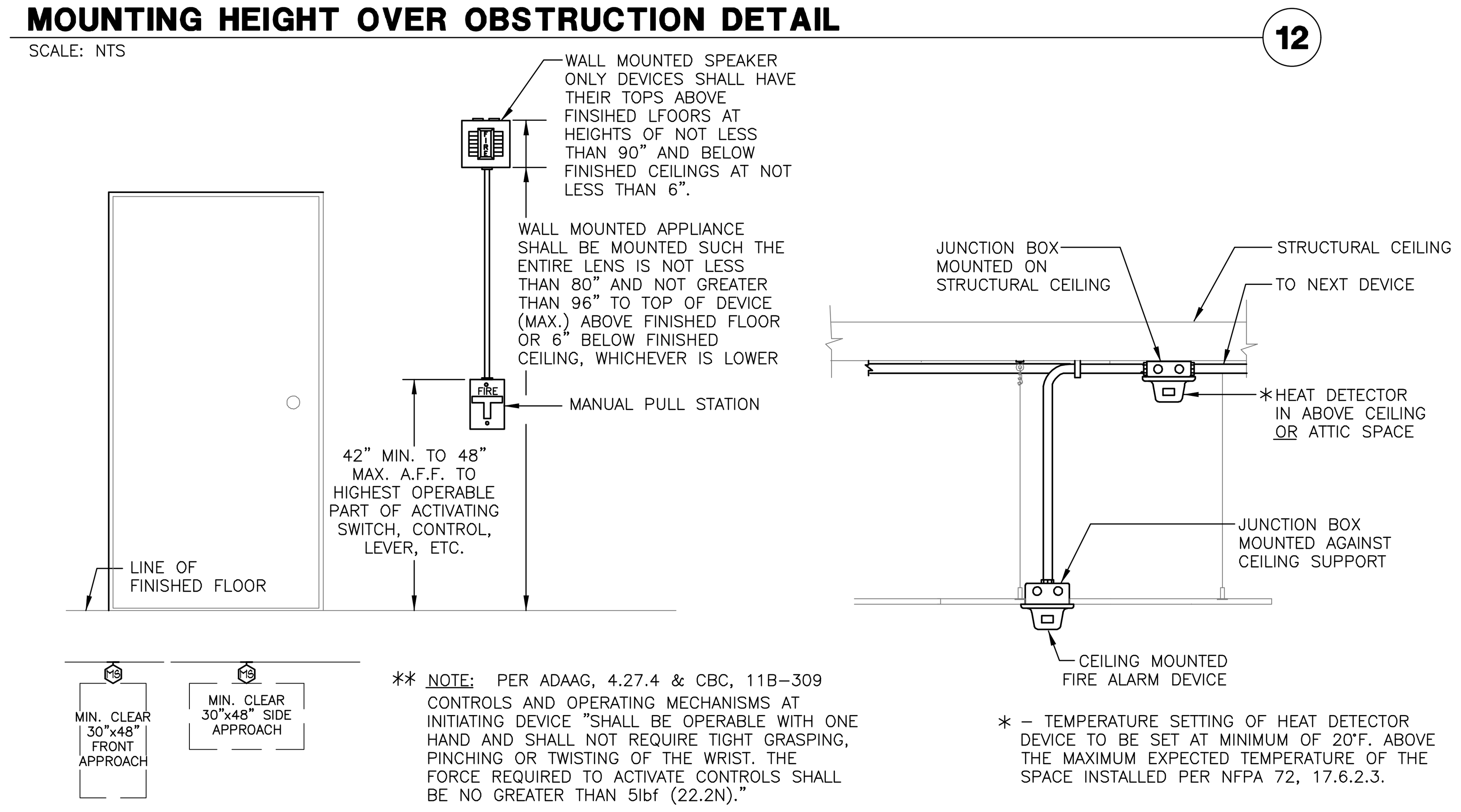
COMPLETE FIRE ALARM SUBMITTAL

AUTOMATIC ADDRESSABLE FIRE ALARM SYSTEM WITH EMERGENCY VOICE/ALARM COMMUNICATION SYSTEM



CEILING MTD. AUDIBLE/VISUAL (3)

SCALE: N.T.S.

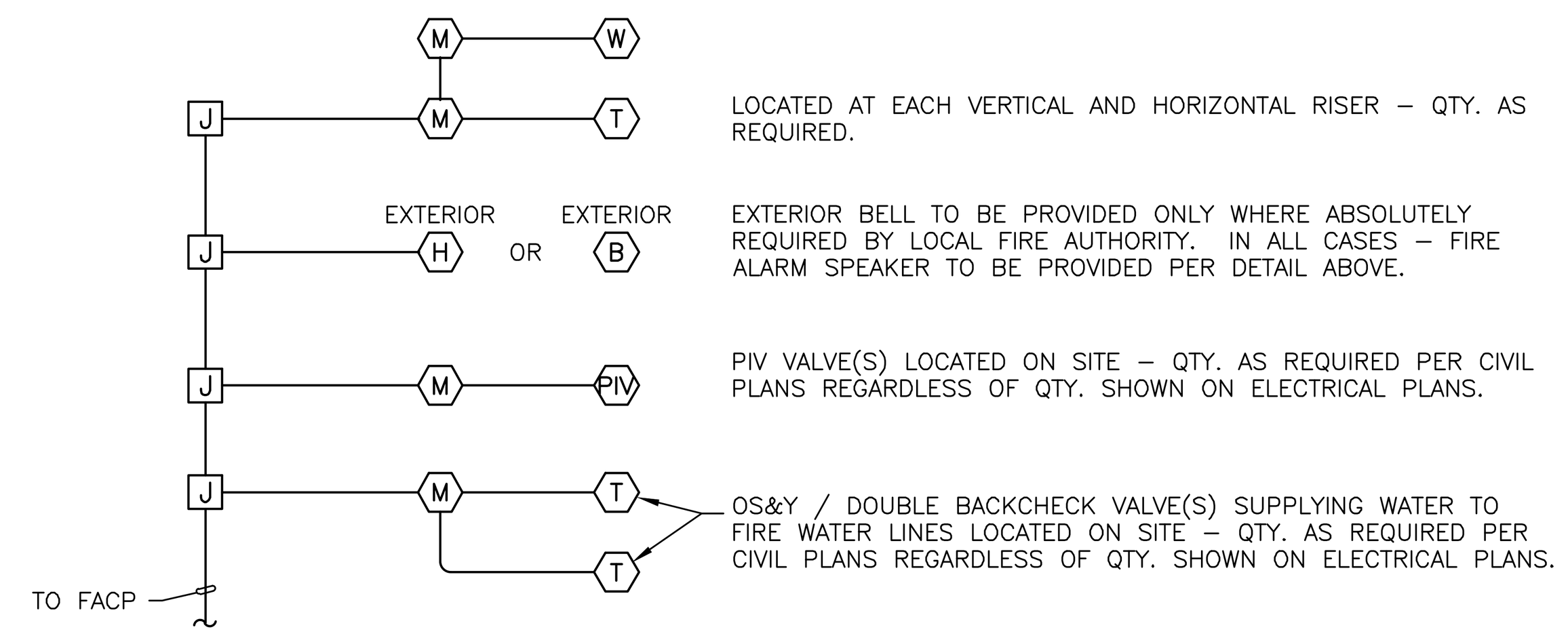


** NOTE: PER ADAAG, 4.27.4 & CBC, 11B-309 CONTROLS AND OPERATING MECHANISMS AT INITIATING DEVICE "SHALL BE OPERABLE WITH ONE HAND AND SHALL NOT REQUIRE TIGHT GRASPING, PINCHING OR TWISTING OF THE WRIST. THE FORCE REQUIRED TO ACTIVATE CONTROLS SHALL BE NO GREATER THAN 5lbf (22.2N)."

* - TEMPERATURE SETTING OF HEAT DETECTOR DEVICE TO BE SET AT MINIMUM OF 20°F. ABOVE THE MAXIMUM EXPECTED TEMPERATURE OF THE SPACE INSTALLED PER NFPA 72, 17.6.2.3.

DEVICE MOUNTING DETAILS (11)

SCALE: N.T.S.



LOCATED AT EACH VERTICAL AND HORIZONTAL RISER - QTY. AS REQUIRED.

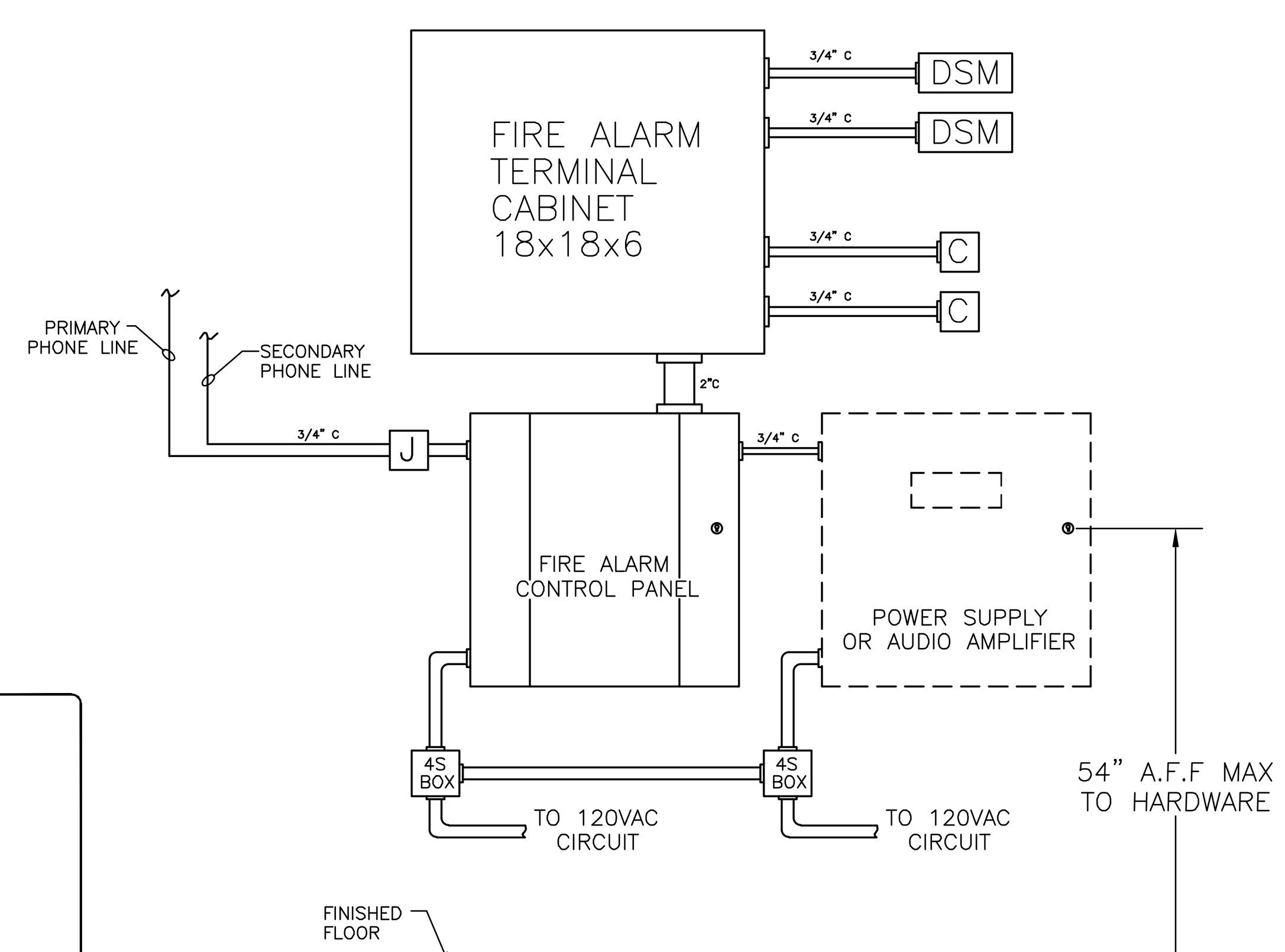
EXTERIOR BELL TO BE PROVIDED ONLY WHERE ABSOLUTELY REQUIRED BY LOCAL FIRE AUTHORITY. IN ALL CASES - FIRE ALARM SPEAKER TO BE PROVIDED PER DETAIL ABOVE.

PIV VALVE(S) LOCATED ON SITE - QTY. AS REQUIRED PER CIVIL PLANS REGARDLESS OF QTY. SHOWN ON ELECTRICAL PLANS.

OS&Y / DOUBLE BACKCHECK VALVE(S) SUPPLYING WATER TO FIRE WATER LINES LOCATED ON SITE - QTY. AS REQUIRED PER CIVIL PLANS REGARDLESS OF QTY. SHOWN ON ELECTRICAL PLANS.

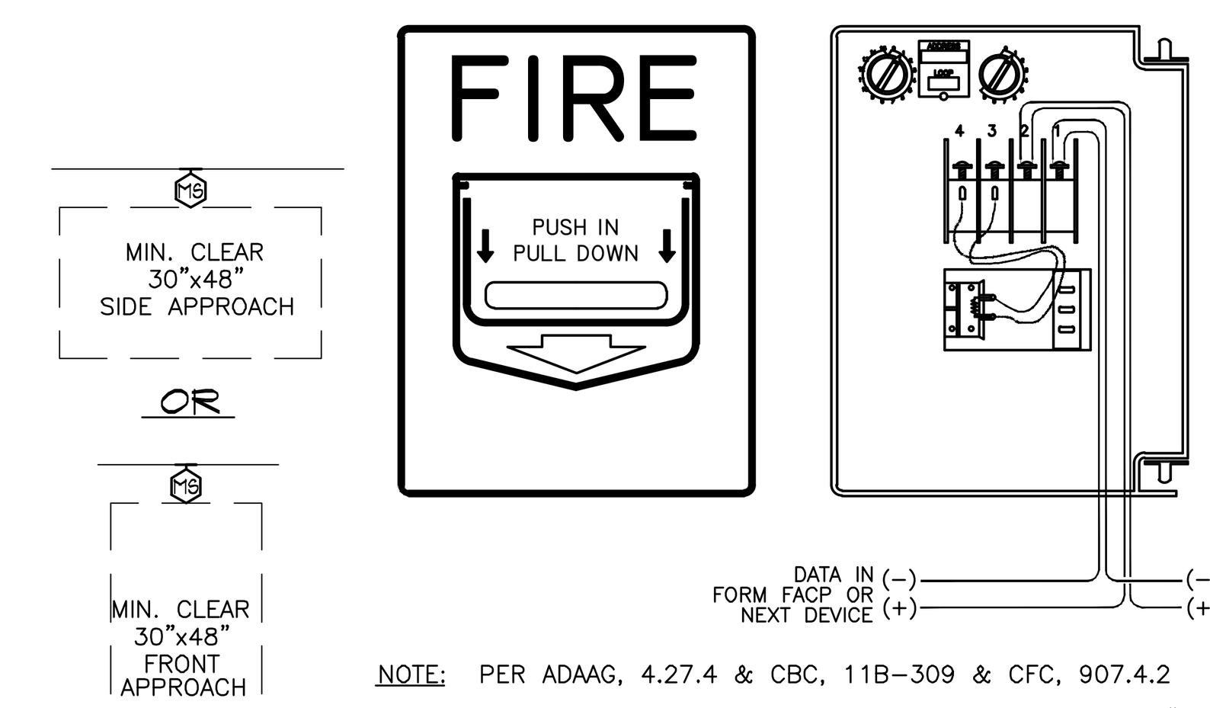
SPRINKLER SYSTEM CONNECTION SCHEMATIC (7)

SCALE: N.T.S.



FIRE ALARM PANEL/POWER SUPPLY MOUNTING ELEVATION (6)

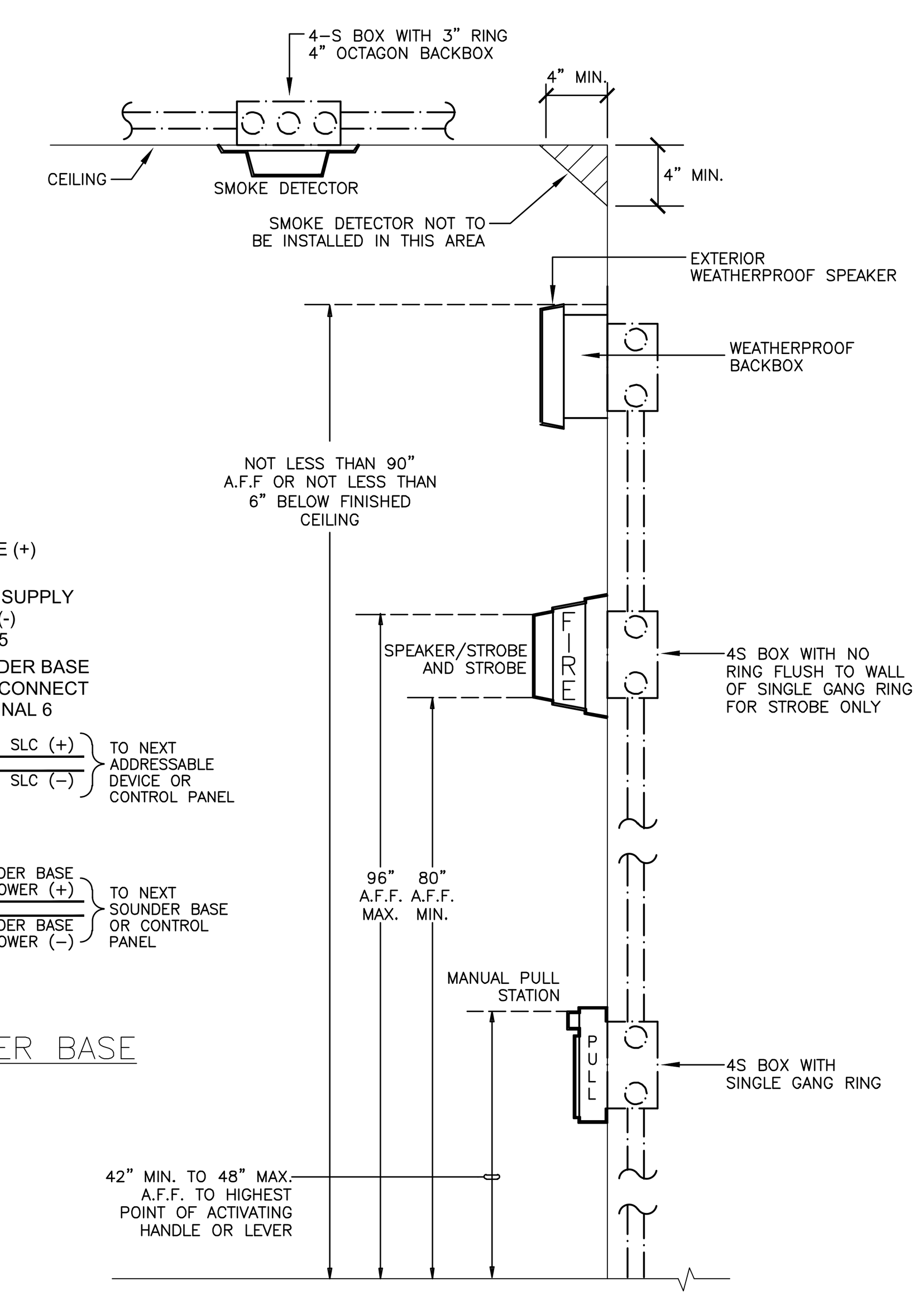
SCALE: N.T.S.



NOTE: PER ADAAG, 4.27.4 & CBC, 11B-309 & CFC, 907.4.2
CONTROLS AND OPERATING MECHANISMS AT INITIATING DEVICE "SHALL BE OPERABLE WITH ONE HAND AND SHALL NOT REQUIRE TIGHT GRASPING, PINCHING OR TWISTING OF THE WRIST. THE FORCE REQUIRED TO ACTIVATE CONTROLS SHALL BE NO GREATER THAN 5lbs (22.2N)."

PULL STATION DETAIL (2)

SCALE: N.T.S.

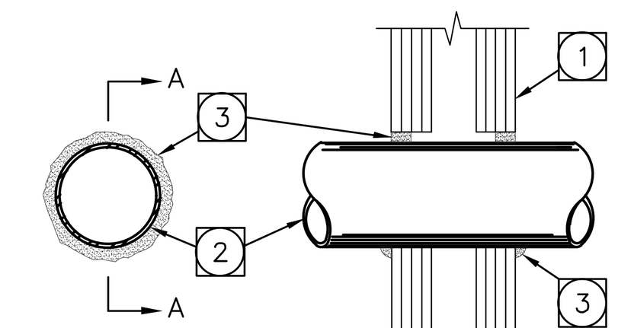


GENERAL NOTES:

1. THE ENTIRE LENS OF STROBE LIGHTS MUST BE BETWEEN 80" AND 96" ABOVE FLOOR FINISH. (NFPA 72, 18.5.5)
2. MANUAL FIRE ALARM BOXES SHALL BE INSTALLED IN ACCORDANCE WITH CFC, SECTIONS 907.4 THROUGH 907.5.
3. WHEN APPLICABLE, MANUAL FIRE ALARM BOXES SHALL BE LOCATED NOT MORE THAN 5 FEET FROM THE ENTRANCE TO EACH EXIT. ADDITIONAL MANUAL FIRE ALARM BOXES SHALL BE LOCATED SO THAT TRAVEL DISTANCE TO THE NEAREST BOX DOES NOT EXCEED 200 FEET. (CFC, 907.4.2.1)

MOUNTING HEIGHT DETAIL (1)

SCALE: N.T.S.



PENETRATION THRU GYPSUM BOARD WALL

NO SCALE

System No.W-L-1252
January 22, 2015
F Ratings - 1, 2, 3 and 4 Hr (See Items 1 and 3)
T Ratings - 0 Hr
L Rating At Ambient - less than 1 CFM/sq ft
L Rating At 400 F - less than 1 CFM/sq ft

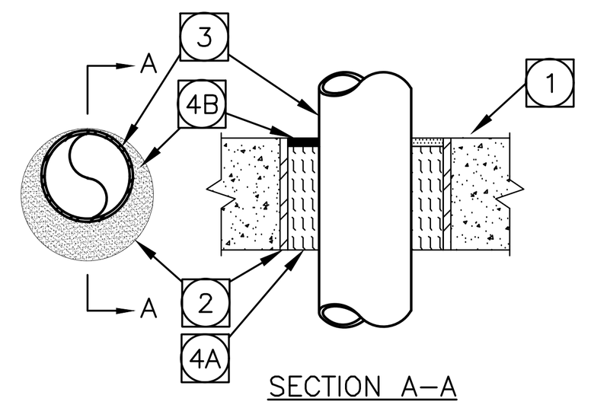
1. Wall Assembly - The 1, 2, 3 or 4 hr fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner described in the individual U400, V400 or W400 Series Wall or Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
   A. Studs - Wall framing may consist of steel channel studs. Steel studs to be min 3-1/2 in. (89 mm) wide by 1-3/8 in. (35 mm) deep channels spaced max 24 in. (610 mm) OC.
   B. Gypsum Board* - Nom 1/2 or 5/8 in. (13 or 16 mm) thick, 4 ft. (122 cm) wide with square or tapered edges. The gypsum wallboard 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 26 in. (660 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. Through Penetrant - One metallic pipe, conduit or tube to be installed either concentrically or eccentrically within the firestop system. The annular space between the pipe, conduit or tube and periphery of opening shall be min 0 in. (point contact) to max 7/8 in. (22 mm). Pipe, conduit or tube to be rigidly supported on both sides of wall assembly.
   A. Steel Pipe - Nom 4 in. (102 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe.
   B. Iron Pipe - Nom 4 in. (102 mm) diam (or smaller) cast or ductile iron pipe.
   C. Conduit - Nom 4 in. (102 mm) diam (or smaller) rigid steel conduit.
   D. Conduit - Nom 4 in. (102 mm) diam (or smaller) steel electrical metallic conduit.
   E. Copper Tubing - Nom 4 in. (102 mm) diam (or smaller) Type L (or heavier) copper tubing.
   F. Copper Pipe - Nom 4 in. (102 mm) diam (or smaller) Regular (or heavier) copper pipe.

3. Fill, Void or Cavity Material* - Sealant - 1. Fill material applied within annulus , flush with both surfaces of wall. Type and thickness of sealant is dependent on F and FH Ratings as indicated in Table below. An additional 1/2 in. (13 mm) diameter bead of sealant applied at penetrant/gypsum board interface at point contact location on both surfaces of wall.
HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC -- FS-ONE Sealant, FS-ONE MAX Intumescent Sealant or CP 606 Sealant

F, FH RATINGS (HR)	SEALANT TYPE	SEALANT THICKNESS, IN. (MM)
1,2	FS-ONE, FS-ONE MAX OR CP 606	5/8 (16)
3	FS-ONE, FS-ONE MAX OR CP 606	1 (25)
4	FS-ONE, FS-ONE MAX	1 (25)

*Bearing the UL Classification Marking



PENETRATION THRU CONCRETE WALL OR FLOOR

NO SCALE

System No. C-AJ-1630
DECEMBER 20, 2013
F Ratings - 2, 3, and 4 Hr (See Item 4)
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
W Rating - Class I (See Item 4)

1. Floor or Wall Assembly - 1. See Configuration A above. Reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/cu meter) concrete as specified in the Table in Item 4 below. Wall may also be constructed of any UL Classified Concrete Blocks'. Max diam of sleeved opening is 32 in. (813 mm).
See Concrete Blocks (CAZT) category in the Fire Resistance Directory for names of manufacturers.

1A. Floor Assembly - See Configuration B above. Min 6 in. (152 mm) thick UL Classified hollow-core Precast Concrete Units'. Max diam of opening is 7 in. (178 mm).
See Precast Concrete Units (CFTV) category in the Fire Resistance Directory for names of manufacturers.

2. Steel Sleeve (Optional) - Nom 32 in. (813 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe sleeve cast or grouted into floor or wall assembly, flush with both surfaces of floor or wall. As an option, sleeve may extend max 2 in. above top surface of floor or beyond one or both surfaces of wall. Steel sleeve may be used in 2 and 3 hr F Rated systems only.

3. Through Penetrants - One metallic pipe, conduit or tubing to be installed either concentrically or eccentrically within the firestop system. Pipe, conduit or tubing to be rigidly supported on both sides of floor or wall assembly. See Table in Item 4 for sizes of penetrants A, B, D and E that may be used. See Item 3C below for size of conduit that may be used. The annular space shall be as specified in Table in Item 4 below. The following types and sizes of metallic pipes, conduits or tubing may be used:
   A. Steel Pipe - -- Schedule 10 (or heavier) steel pipe.
   B. Iron Pipe - Cast or ductile iron pipe.
   C. Conduit - Nom 4 in. (102 mm) diam (or smaller) steel electrical metallic tubing or nom 6 in. (152 mm) diam (or smaller) steel conduit.
   D. Copper Tubing - Type L (or heavier) copper tubing.
   E. Copper Pipe - Regular (or heavier) copper pipe.

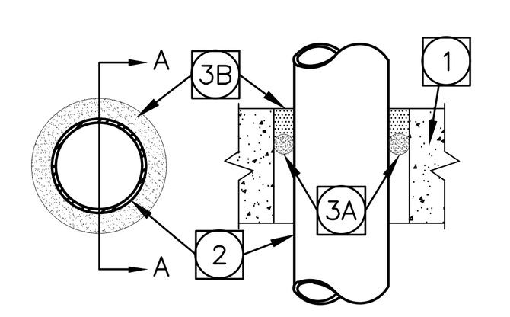
4. Firestop System - The F Rating of the system is dependent upon the type of concrete, thickness of concrete, annular space, fill and packing material thickness, packing material density and penetrant size as shown in the Table below. W Rating applies to annular spaces of min 0 in. (point contact) to max 1-7/8 in. and to Configuration A detail only.

F RATING HR	MIN THICK CONCRETE IN.	ANNULAR SPACE IN.	MIN THICK PACKING MTL IN.	MIN DENSITY PACKING MTL PCF KG/CU MTR	MIN THICK FILL MTL IN.	PENETRANT SIZE IN. DIAM (OR SMALLER) D,E COPPER	PENETRANT SIZE IN. DIAM (OR SMALLER) A,B STEEL IRON
2	5-1/2(140)	0 TO 1-7/8 (0 TO 48)	5 (127)	4 (64)	1/2 (13)	4 (102)	16 (406)
3	4-1/2(114)	0 TO 2-1/8 (0 TO 54)	4-1/4 (108)	4 (64)	1/4 (6)	6 (152)	30 (762)
4	5-1/2(140)	0 TO 1-7/8 (0 TO 48)	5 (127)	4 (64)	1/2 (13)	4 (102)	8 (203)

A. Packing Material -- Min 4-1/4 or 5 in. (108 or 127 mm) thickness of min 4.0 pcf (64 kg/cu meter) mineral wool batt insulation firmly packet into opening as a permanent form as specified in the Table above. Packing material to be recessed from top surface of floor or top end of sleeve, or from both surfaces of wall or ends of sleeve, as required to accommodate the required thickness of fill material. For hollow-core floor applications as shown in Configuration B, one half of the required thickness of mineral wool packing material shall be installed flush with the bottom surface of the floor and the remaining half of the mineral wool packing material installed at the top of the opening and recessed from the top surface of the floor to accommodate the required thickness of the fill material.

B. Fill, Void or Cavity Material' -- Caulk -- Min 1/4 or 1/2 in. (6 or 13 mm) thickness of fill material as specified in the Table above applied within the annulus, flush with top surface of floor or top end of sleeve, or with both surfaces of wall or ends of sleeve. At the point contact location beMeen pipe and concrete or sleeve, a min 1/2 in. (13 mm) diam bead of fill material shall be applied. As an option, for hollow-core floors, the packing material (Item 4A) on the bottom surface of the floor may be recessed to accommodate a 1/4 in. (6 mm) depth of fill material installed flush with bottom surface of floor.
HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC -- CFS-S SIL GG (floors or walls) and CFS-S SIL SL (floors only)

'Bearing the UL Classification Mark



PENETRATION THRU CONCRETE FLOOR

NO SCALE

SYSTEM NO C-AJ-1276
April 20, 2012
F RATING-3 HR
T RATING-0 HR

Floor or Wall Assembly - 1. Floor or Wall Assembly -- Min 4-1/2 in. (114 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m3) concrete. Wall may also be constructed of any UL Classified Concrete Blocks*. Max diam of opening is 6 in. (152 mm).

See Concrete Blocks (CAZT) category in the Fire Resistance Directory for names of manufacturers.

2. Through Penetrants - One metallic pipe, conduit or tubing to be centered within the firestop system. A nom annular space of 3/4 in. (19 mm) is required within the firestop system. Pipe, conduit or tubing to be rigidly supported on both sides of floor or wall assembly. The following types and sizes of metallic pipes, conduits or tubing may be used:
   A. Steel Pipe - Nom 4 in. (102 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe.
   B. Conduit - Nom 4 in. (102 mm) diam (or smaller) steel electrical metallic tubing or steel conduit.

3. Firestop System - The firestop system shall consist of the following:
A. Packing or Forming Materials -- Optional -- One of the following packing or forming materials may be used:

A1. Foam Backer Rod -- Foam backer rod tightly packed into the opening as a permanent form. Packing material to be recessed from the top surface of floor or both surfaces of wall as required to accommodate the required thickness of putty.

A2. Mineral Wool Batt Insulation -- Min 4 pcf (64 kg/m3), tightly packed into the opening as a permanent form. Packing material to be recessed from the top surface of floor or both surfaces of wall as required to accommodate the required thickness of putty.

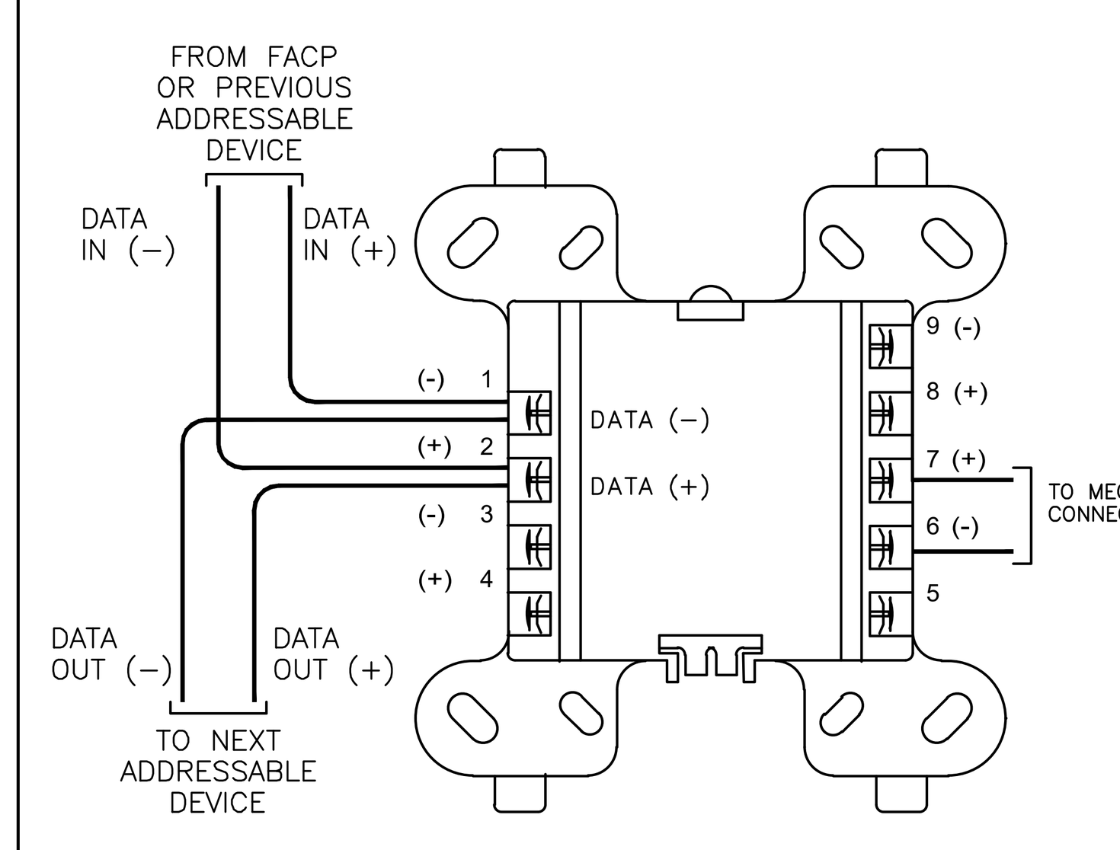
A3. Forming Material* -- Forming material to be foamed into the opening as a permanent form. Forming material to be recessed from the top surface of floor or both surfaces of wall as required to accommodate the required thickness of putty.
HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC -- CF812 or CF-AS CJP Foam Sealant

B. Fill, Void or Cavity Material* -- Putty -- Min 1 in. (25 mm) thickness of putty applied within the annulus, flush with top surface of floor or with both surfaces of wall.
HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC -- CP 618 Firestop Putty Stick

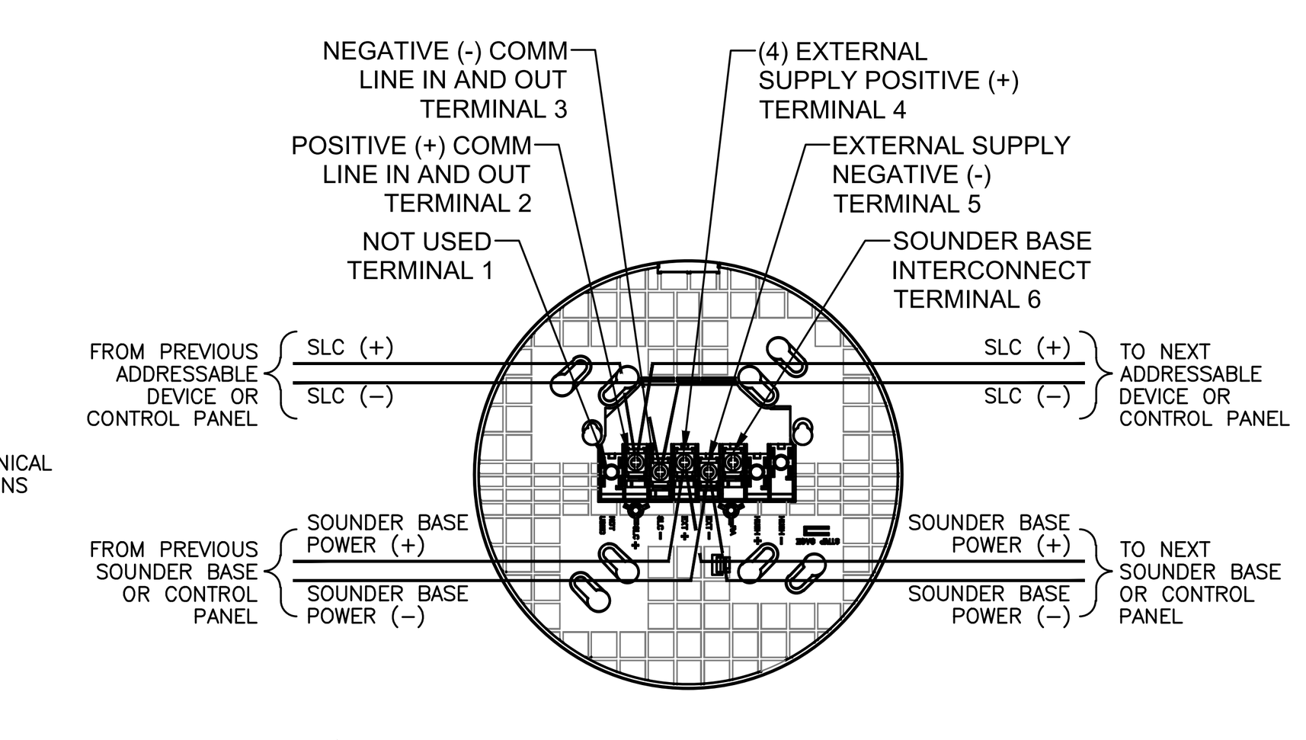
*Bearing the UL Classification Mark

THROUGH RATED WALL OR FLOOR PENETRATIONS (U.L. LISTINGS) (10)

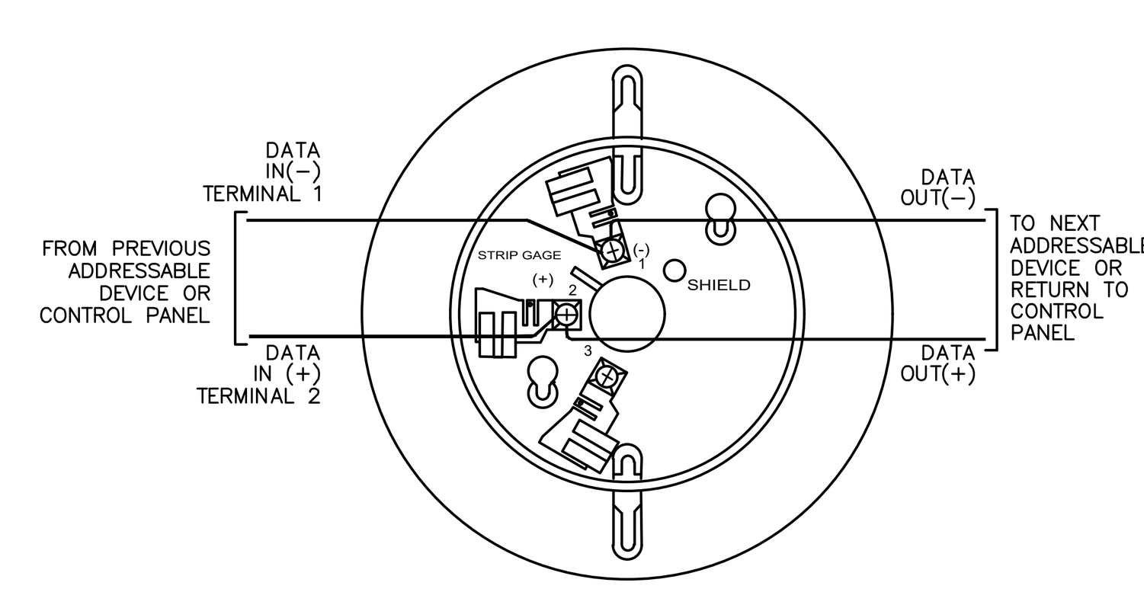
SCALE: N.T.S.



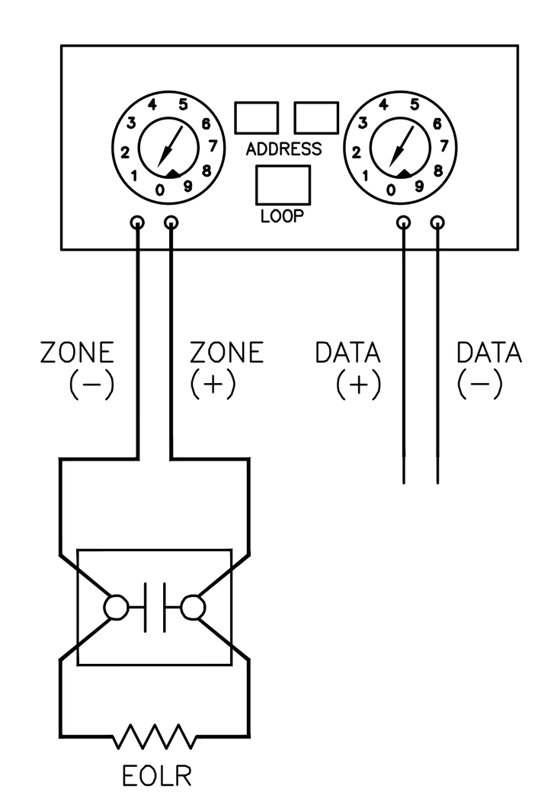
CONTROL MODULE WIRING



FIRE/CO DETECTOR WITH SOUNDER BASE



ADDRESSABLE SMOKE, HEAT DETECTOR



MANUAL PULL STATION

DEVICE WIRING DETAILS (5)

SCALE: N.T.S.

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-121181 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 07/02/2024

OWNER: SAN RAFAEL CITY SCHOOLS

PROJECT NAME: VENETIA VALLEY BLDGS G AND H ALTERATION

CLIENT ADDRESS: 177 N San Pedro Rd, San Rafael, CA 94903

REGISTERED PROFESSIONAL ENGINEER No. E15610 12/31/2025 ELECTRICAL STATE OF CALIFORNIA

REVISIONS:

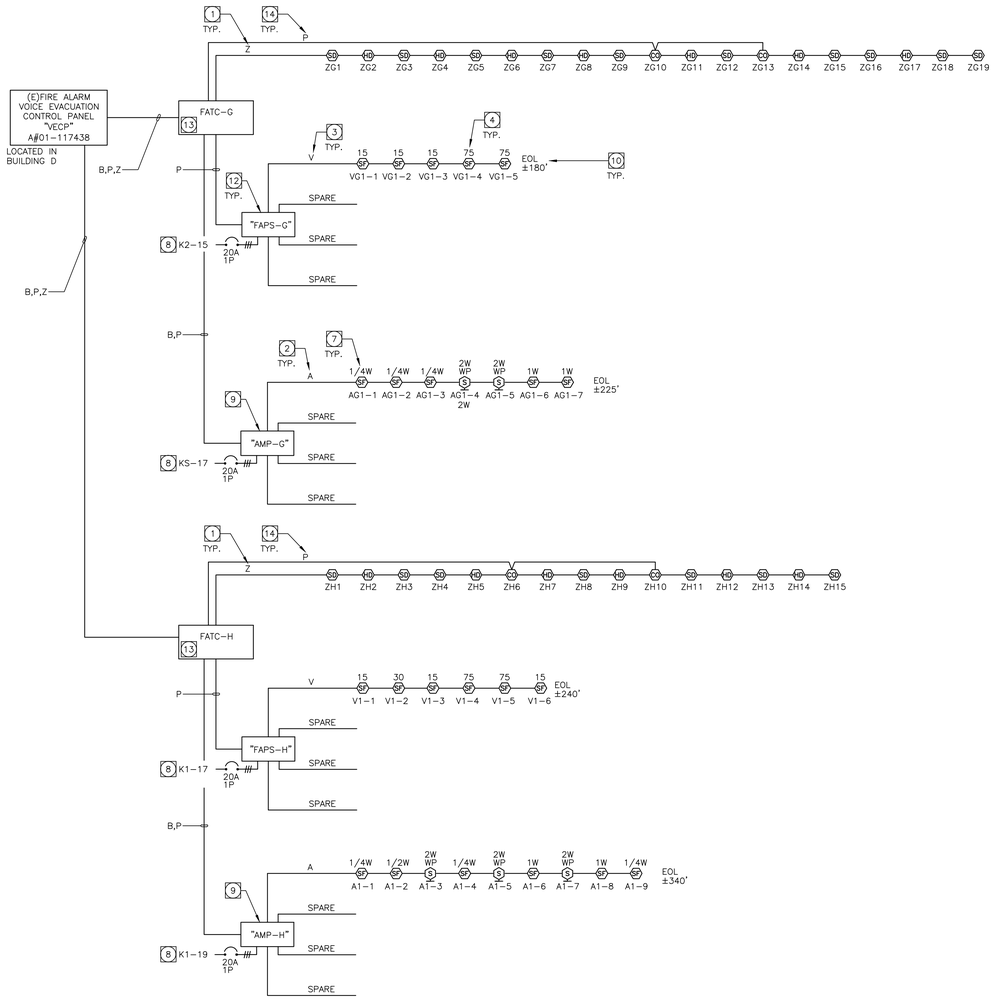
DESCRIPTION	DATE

PROJECT NO:
DATE ISSUED: 06/21/2024
SCALE: As indicated
SHEET NUMBER: FA00-2
SHEET TITLE:

FIRE ALARM DETAILS

tk1sc COLLABORATIVE
11870 Pierce Street, Suite 160
Riverside, California 92505
951.299.4160 www.tk1sc.com

Project Leader - Nikolas Bruno
Electrical Lead - Nikolas Bruno
tk1sc Job #: B2304502.000



RISER DIAGRAM SPECIFIC NOTES:

1. 'Z' INDICATES ZONABLE/ADDRESSABLE CIRCUIT, PROVIDE 2#18 TWISTED PAIR PER CIRCUIT. SEE WIRE LEGEND FOR ADDITIONAL INFORMATION.
2. 'A' INDICATES AUDIBLE SPEAKER CIRCUIT, SEE WIRE LEGEND FOR ADDITIONAL INFORMATION.
3. 'V' INDICATES VISIBLE STROBE CIRCUIT, SEE WIRE LEGEND FOR ADDITIONAL INFORMATION.
4. NUMBER INDICATES CANDELA RATING OF STROBE DEVICE.
5. PROVIDE (2) DEDICATED PHONE LINES (LAND LINES) FOR FIRE ALARM SYSTEM MONITORING. CONTRACTOR TO SUPPLY UDACT (UNIVERSAL DIGITAL ALARM COMMUNICATOR TRANSMITTER) WHEN NOT SUPPLIED WITH CONTROL PANEL.
6. FIRE ALARM ANNUNCIATOR PANEL (FAAP), VERIFY WITH DISTRICT REPRESENTATIVE, A.H.J. AND ARCHITECT FOR EXACT LOCATION
7. INDICATES WATTAGE FOR SPEAKER.
8. PROVIDE 3/4"C. WITH 2#12, 1#12 GRD. TO 120V DEDICATED CIRCUIT FOR POWER. PROVIDE 20AMP, 1-POLE CIRCUIT BREAKER WITH APPROVED LOCK-ON DEVICE. RED INDICATOR AND IDENTIFIED AS "FIRE ALARM CONTROL CIRCUIT" (NFPA 72, SECTION 10.6.5.2). CONNECT AS REQUIRED. PROVIDE ALL REQUIRED MOUNTING HARDWARE. MATCH A.I.C. RATING OF DEVICES USED.
9. FIRE ALARM DIGITAL AUDIO AMPLIFIER (AMP). SEE SYMBOL LIST FOR ADDITIONAL INFORMATION.
10. INDICATES LENGTH OF WIRE IN FEET. SEE WIRING DIAGRAM FOR WIRE TYPES. SEE VOLTAGE DROP CALCULATIONS FOR PERCENT DROPPED AND ADDITIONAL INFORMATION.
11. CONNECT AS REQUIRED TO HVAC UNIT FOR UNIT SHUT-DOWN. REFER TO DETAIL X, SHEET XX-XX FOR ADDITIONAL REQUIREMENTS.
12. FIRE ALARM POWER SUPPLY (FAPS), PROVIDE DEDICATED 120V CIRCUIT WITH RED INDICATOR AND APPROVED LOCK-ON DEVICE PER PLANS.
13. FIRE ALARM TERMINAL CABINET (FATC), LETTER INDICATES BUILDING AREA CABINET IS LOCATED.
14. 'P' INDICATES 24VDC POWER CIRCUIT, FOR DETECTOR SOUNDER BASE. SEE WIRE LEGEND FOR ADDITIONAL INFORMATION.

FIRE ALARM GENERAL NOTES:

1. NOTIFICATION DEVICES IN ROOMS CONTAINING (2) OR MORE AUDIBLE AND/OR (2) OR MORE VISUAL DEVICES SHALL BE SYNCHRONIZED PER NFPA 72. THIS SHALL INCLUDE AUDIBLE AND VISUAL DEVICES LOCATED IN ADJACENT/ADJOINING SPACES.
2. DO NOT DEVIATE FROM CONDUIT RUNS AS SHOWN ON FLOOR PLANS WITHOUT PRIOR APPROVAL FROM SYSTEM SUPPLIER / ENGINEER. FACTORS SUCH AS EXCESSIVE VOLTAGE DROP, ADDITIONAL PARTS, ENGINEERING, ETC. THAT ARE A RESULT OF CONDUIT RUN DEVIATIONS SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
3. DETECTORS SHALL NOT BE LOCATED IN A DIRECT AIR-FLOW, NOR CLOSER THAN 3 FEET (915 mm) FROM ANY AIR SUPPLY DIFFUSER.
4. THE AUDIBLE ALARM NOTIFICATION APPLIANCES SHALL PROVIDE A SOUND PRESSURE LEVEL OF 15 dBA ABOVE THE AVERAGE AMBIENT SOUND LEVEL OR 5 dBA ABOVE THE MAXIMUM SOUND LEVEL HAVING DURATION OF AT LEAST 60 SECONDS, WHICHEVER IS GREATER, IN EVERY OCCUPIED SPACE WITHIN THE BUILDING PER CFC SECTION 907.5.2.1.1. THE MINIMUM SOUND PRESSURE LEVEL SHALL BE 60 dBA PER NFPA 72, TABLE A.18.4.3.
5. THE AUDIBLE ALARM SIGNAL SHALL BE THE STANDARD FIRE ALARM EVACUATION SIGNAL, ANSI S34.1 AUDIBLE EMERGENCY EVACUATION SIGNAL, "THREE PULSE TEMPORAL PATTERN", AS DESCRIBED IN NFPA 72. EXCEPTION: THE USE OF THE EXISTING EVACUATION SIGNALING SCHEME SHALL BE PERMITTED WHERE APPROVED BY THE ENFORCING AGENT. (CFC, SECTION 907.5.2.1.3)
6. THE EXISTING CAMPUS FIRE ALARM SYSTEM SHALL BE MAINTAINED AND OPERATIONAL AT ALL TIMES DURING ALTERATIONS AND CONSTRUCTION. WHEN PORTIONS OF THE SYSTEM REQUIRE ALTERATIONS, THE REMAINDER OF THE SYSTEM SHALL BE KEPT IN SERVICE. IF NECESSARY TO SHUT DOWN ENTIRE FIRE ALARM SYSTEM, CONTRACTOR SHALL PROVIDE A FIRE WATCH FOR ALL OCCUPIED AREAS OF WORK WHERE THE REQUIRED FIRE ALARM SYSTEM IS OUT OF SERVICE FOR THE DURATION OF THE SYSTEM OUTAGE. FIRE WATCH AND SYSTEM/EQUIPMENT IDENTIFICATIONS SHALL BE PER CFC, SECTION 901.7. LOCAL FIRE AUTHORITY SHALL BE NOTIFIED 48 HOURS IN ADVANCE OF ANY SHUT DOWN.
7. EMERGENCY VOICE/ALARM COMMUNICATION SYSTEMS SHALL BE DESIGNED AND INSTALLED IN ACCORDANCE WITH NFPA 72. THE OPERATION OF ANY AUTOMATIC FIRE DETECTOR, SPRINKLER WATERFLOW DEVICE OR MANUAL FIRE ALARM BOX SHALL AUTOMATICALLY SOUND AN ALERT TONE FOLLOWED BY VOICE INSTRUCTIONS GIVING APPROVED INFORMATION AND DIRECTIONS FOR A GENERAL OR STAGED EVACUATION IN ACCORDANCE WITH THE FIRE SAFETY EVACUATION PLANS REQUIRED BY CFC SECTION 404 PER CBC/CFC SECTION 907.5.2.2.
8. EMERGENCY VOICE/ALARM COMMUNICATION SYSTEMS SHALL HAVE THE CAPABILITY TO BROADCAST LIVE VOICE MESSAGES BY PAGING ZONES ON A SELECTIVE AND ALL-CALL BASIS PER CBC/CFC, SECTION 907.5.2.2.2.
9. EMERGENCY VOICE/ALARM COMMUNICATION SYSTEMS SHALL BE PROVIDED WITH AN APPROVED EMERGENCY POWER SOURCE PER CBC/CFC, SECTION 907.5.2.2.5.

VOLTAGE DROP CALCULATIONS GENERAL NOTES:

1. THE LISTED MANUFACTURE OPERATING VOLTAGE RANGE FOR EQUIPMENT AND DEVICES ARE AS FOLLOWS:

   DEVICES = 16 – 33 VDC (STROBES), 70.7 VDC (SPEAKERS)
   EQUIPMENT = +24VDC FILTERED, REGULATED
   BATTERY = 20.4 VDC END OF USEFUL LIFE PER NFPA 72 HANDBOOK AND UL 864.

2. VOLTAGE DROP OPERATING VOLTAGE FORMULA:

   $\left(\frac{\text{WIRE LENGTH x TOTAL CURRENT AMPS x 21.6}}{\text{CIRC. MILS.}}\right)$ = VOLTS DROPPED

   $\left(\frac{\text{VOLTS DROPPED x 100}}{20.4}\right)$ = % VOLTS DROPPED

   VOLTS DROPPED – 20.4 = OPERATING VOLTAGE

BATTERY CALCULATIONS GENERAL NOTE:

1. CONTRACTOR TO PROVIDE BATTERY MANUFACTURER DATE STAMP PER NFPA 72. TYPICAL FOR ALL CONTROL PANELS, POWER SUPPLY PANELS AND AUDIO AMPLIFIER PANELS.

COMPLETE FIRE ALARM SUBMITTAL
AUTOMATIC ADDRESSABLE FIRE ALARM SYSTEM WITH EMERGENCY VOICE/ALARM COMMUNICATION SYSTEM

BATTERY SIZING CALCULATION

PROJECT NAME: VENETIA VALLEY ES
PANEL LOCATION: BUILDING D - ROOM D112 IDF
DATE PERFORMED: June 10, 2024

(E) VECP

QTY.	DEVICE NAME	STD-BY (AMPS)		ALARM (AMPS)	
	EXISTING DEVICES				
1	CONTROL PANEL	0.3400	0.3400	0.3400	0.3400
1	VOICE COMMAND	0.4400	0.4400	0.4400	0.4400
1	AUDIO AMPLIFIER	0.4000	0.4000	0.5000	0.5000
1	PULL STATION	0.0003	0.0003	0.0003	0.0003
49	SMOKE DETECTOR	0.0004	0.0196	0.0004	0.0196
2	HEAT DETECTOR (CEILING)	0.0003	0.0006	0.0003	0.0006
22	CO/SMOKE DETECTOR (CLG)	0.0003	0.0066	0.0003	0.0066
24	MULTICRITERIA DETECTOR	0.0002	0.0048	0.0070	0.1680
2	30cd STROBE (WALL)	0.0000	0.0000	0.0940	0.1880
2	135cd STROBE (WALL)	0.0000	0.0000	0.2280	0.4560
9	15cd STROBE (CEILING)	0.0000	0.0000	0.0660	0.5940
4	30cd STROBE (CEILING)	0.0000	0.0000	0.0940	0.3760
2	75cd STROBE (CEILING)	0.0000	0.0000	0.1580	0.3160
3	SYNC MODULE	0.0000	0.0000	0.0150	0.0450
6	MONITOR MODULE	0.0003	0.0018	0.0003	0.0018
13	CONTROL MODULE	0.0002	0.0026	0.0002	0.0026
1	ANNUNCIATOR	0.0750	0.0750	0.1000	0.1000
	NEW DEVICES				
17	SMOKE DETECTOR	0.0004	0.0061	0.0004	0.0061
13	HEAT DETECTOR (ATTIC)	0.0003	0.0039	0.0003	0.0039
4	CO/SMOKE DETECTOR (CLG)	0.0002	0.0008	0.0005	0.0020
4	CO SOUNDER BASE	0.0005	0.0020	0.0350	0.1400
		0.0000	0.0000	0.0000	0.0000
		0.0000	0.0000	0.0000	0.0000
		0.0000	0.0000	0.0000	0.0000
	TOTALS =		1.3041		3.7065

STAND-BY LOAD = 1.3041 ALARM LOAD = 3.7065 AMPS
STAND-BY TIME = 24 ALARM TIME = 15 MINS

STAND-BY = 31.2989 ALARM = 0.9266 AMP HRS

TOTAL = STAND-BY + ALARM
= 31.30 + 0.93
= 32.23 Ah (AMP HRS)
MULTIPLY BY DERATING FACTOR OF 1.25 = 40.28 Ah (AMP HRS)

MINIMUM BATTERY SIZE = 40.28 AMPERE HOURS
EXISTING (2) 55AH 12VDC BATTERIES SUFFICIENT FOR 24VDC OPERATION OF EXISTING AND NEW DEVICES

BATTERY SIZING CALCULATION

PROJECT NAME: VENETIA VALLEY ES
PANEL LOCATION: BUILDING G
DATE PERFORMED: June 10, 2024

FAPS-G

QTY.	DEVICE NAME	STD-BY (AMPS)		ALARM (AMPS)	
1	POWER SUPPLY	0.0900	0.0900	0.0900	0.0900
	15cd STROBE (WALL)	0.0000	0.0000	0.0660	0.0000
3	15cd STROBE (CEILING)	0.0000	0.0000	0.0660	0.1980
	30cd STROBE (CEILING)	0.0000	0.0000	0.0940	0.0000
2	75cd STROBE (CEILING)	0.0000	0.0000	0.1580	0.3160
1	SYNC MODULE	0.0000	0.0000	0.0150	0.0150
		0.0000	0.0000	0.0000	0.0000
		0.0000	0.0000	0.0000	0.0000
		0.0000	0.0000	0.0000	0.0000
	TOTALS =		0.0900		0.6190

STAND-BY LOAD = 0.0900 ALARM LOAD = 0.6190 AMPS
STAND-BY TIME = 24 ALARM TIME = 15 / 60 HRS

STAND-BY = 2.1600 ALARM = 0.1548 AMP HRS

TOTAL = STAND-BY + ALARM
= 2.16 + 0.15
= 2.31 Ah (AMP HRS)
MULTIPLY BY DERATING FACTOR OF 1.25 = 2.89 Ah (AMP HRS)

MINIMUM BATTERY SIZE = 2.89 AMPERE HOURS
PROVIDE MIN. (2) 7AH 12VDC BATTERIES AS REQUIRED FOR 24VDC OPERATION

BATTERY SIZING CALCULATION

PROJECT NAME: VENETIA VALLEY ES
PANEL LOCATION: BUILDING G
DATE PERFORMED: June 10, 2024

AMP-G

QTY.	DEVICE NAME	STD-BY (AMPS)		ALARM (AMPS)	
1	AUDIO AMPLIFIER	0.4000	0.4000	0.5500	0.5500
3	SPEAKER (1/4W)	0.0000	0.0000	0.0035	0.0105
	SPEAKER (1/2W)	0.0000	0.0000	0.0071	0.0000
2	SPEAKER (1W)	0.0000	0.0000	0.0143	0.0286
2	WP SPEAKER (2W)	0.0000	0.0000	0.0283	0.0566
1	SYNC MODULE	0.0000	0.0000	0.0150	0.0150
		0.0000	0.0000	0.0000	0.0000
		0.0000	0.0000	0.0000	0.0000
		0.0000	0.0000	0.0000	0.0000
	TOTALS =		0.4000		0.6607

STAND-BY LOAD = 0.4000 ALARM LOAD = 0.6607 AMPS
STAND-BY TIME = 24 ALARM TIME = 15 / 60 HRS

STAND-BY = 9.6000 ALARM = 0.1652 AMP HRS

TOTAL = STAND-BY + ALARM
= 9.60 + 0.17
= 9.77 Ah (AMP HRS)
MULTIPLY BY DERATING FACTOR OF 1.25 = 12.21 Ah (AMP HRS)

MINIMUM BATTERY SIZE = 12.21 AMPERE HOURS
PROVIDE MIN. (2) 18AH 12VDC BATTERIES AS REQUIRED FOR 24VDC OPERATION

BATTERY SIZING CALCULATION

PROJECT NAME: VENETIA VALLEY ES
PANEL LOCATION: BUILDINGH
DATE PERFORMED: June 10, 2024

FAPS-H

QTY.	DEVICE NAME	STD-BY (AMPS)		ALARM (AMPS)	
1	POWER SUPPLY	0.0900	0.0900	0.0900	0.0900
3	15cd STROBE (CEILING)	0.0000	0.0000	0.0660	0.1980
1	30cd STROBE (CEILING)	0.0000	0.0000	0.0940	0.0940
2	75cd STROBE (CEILING)	0.0000	0.0000	0.1580	0.3160
1	SYNC MODULE	0.0000	0.0000	0.0150	0.0150
		0.0000	0.0000	0.0000	0.0000
		0.0000	0.0000	0.0000	0.0000
		0.0000	0.0000	0.0000	0.0000
	TOTALS =		0.0900		0.7130

STAND-BY LOAD = 0.0900 ALARM LOAD = 0.7130 AMPS
STAND-BY TIME = 24 ALARM TIME = 15 / 60 HRS

STAND-BY = 2.1600 ALARM = 0.1783 AMP HRS

TOTAL = STAND-BY + ALARM
= 2.16 + 0.18
= 2.34 Ah (AMP HRS)
MULTIPLY BY DERATING FACTOR OF 1.25 = 2.92 Ah (AMP HRS)

MINIMUM BATTERY SIZE = 2.92 AMPERE HOURS
PROVIDE MIN. (2) 7AH 12VDC BATTERIES AS REQUIRED FOR 24VDC OPERATION

BATTERY SIZING CALCULATION

PROJECT NAME: VENETIA VALLEY ES
PANEL LOCATION: BUILDING H
DATE PERFORMED: June 10, 2024

AMP-H

QTY.	DEVICE NAME	STD-BY (AMPS)		ALARM (AMPS)	
1	AUDIO AMPLIFIER	0.4000	0.4000	0.5500	0.5500
3	SPEAKER (1/4W)	0.0000	0.0000	0.0035	0.0105
1	SPEAKER (1/2W)	0.0000	0.0000	0.0071	0.0071
2	SPEAKER (1W)	0.0000	0.0000	0.0143	0.0286
3	WP SPEAKER (2W)	0.0000	0.0000	0.0283	0.0849
1	SYNC MODULE	0.0000	0.0000	0.0150	0.0150
		0.0000	0.0000	0.0000	0.0000
		0.0000	0.0000	0.0000	0.0000
		0.0000	0.0000	0.0000	0.0000
	TOTALS =		0.4000		0.6961

STAND-BY LOAD = 0.4000 ALARM LOAD = 0.6961 AMPS
STAND-BY TIME = 24 ALARM TIME = 15 / 60 HRS

STAND-BY = 9.6000 ALARM = 0.1740 AMP HRS

TOTAL = STAND-BY + ALARM
= 9.60 + 0.17
= 9.77 Ah (AMP HRS)
MULTIPLY BY DERATING FACTOR OF 1.25 = 12.22 Ah (AMP HRS)

MINIMUM BATTERY SIZE = 12.22 AMPERE HOURS
PROVIDE MIN. (2) 18AH 12VDC BATTERIES AS REQUIRED FOR 24VDC OPERATION

VOLTAGE DROP CALCULATIONS
VENETIA VALLEY ES

DEVICE	UL MAX. CURRENT AMPS	NO	VISUAL CIRCUIT VG1	NO	VISUAL CIRCUIT SPARE	NO	VISUAL CIRCUIT SPARE	NO	VISUAL CIRCUIT SPARE	NO	VISUAL CIRCUIT VH1	NO	VISUAL CIRCUIT SPARE	NO	VISUAL CIRCUIT SPARE	NO	VISUAL CIRCUIT SPARE
STROBE (CEILING) 15 CD	0.060	3	0.180		0.000		0.000		0.000	3	0.180		0.000		0.000		0.000
STROBE (CEILING) 30 CD	0.086		0.000		0.000		0.000		0.000	1	0.086		0.000		0.000		0.000
STROBE (CEILING) 75 CD	0.142	2	0.284		0.000		0.000		0.000	2	0.284		0.000		0.000		0.000
TOTAL CURRENT ON CIRCUIT			0.464 AMPS		0.000 AMPS		0.000 AMPS		0.000 AMPS		0.550 AMPS		0.000 AMPS		0.000 AMPS		0.000 AMPS
TOTAL WIRE LENGTH IN FEET			180								240						
%VOLTAGE DROP			**1.35**		**0.00**		**0.00**		**0.00**		**2.14**		**0.00**		**0.00**		**0.00**
WIRE SIZE			#12		#12		#12		#12		#12		#12		#12		#12
CIRCUIT LOCATION			FAPS-G		FAPS-G		FAPS-G		FAPS-G		FAPS-H		FAPS-H		FAPS-H		FAPS-H
VOLTS DROPPED			**0.28**		**0.00**		**0.00**		**0.00**		**0.44**		**0.00**		**0.00**		**0.00**

VOLTAGE DROP CALCULATIONS
VENETIA VALLEY ES

DEVICE	UL MAX. CURRENT AMPS	NO	AUDIBLE CIRCUIT AG1	NO	AUDIBLE CIRCUIT SPARE	NO	AUDIBLE CIRCUIT SPARE	NO	AUDIBLE CIRCUIT SPARE	NO	AUDIBLE CIRCUIT AH1	NO	AUDIBLE CIRCUIT SPARE	NO	AUDIBLE CIRCUIT SPARE	NO	AUDIBLE CIRCUIT SPARE
SPEAKER 1/4W (INTERIOR)	0.004	3	0.012		0.000		0.000		0.000	3	0.012		0.000		0.000		0.000
SPEAKER 1/2W (INTERIOR)	0.007		0.000		0.000		0.000		0.000	1	0.007		0.000		0.000		0.000
SPEAKER 1W (INTERIOR)	0.014	2	0.028		0.000		0.000		0.000	2	0.028		0.000		0.000		0.000
WP SPEAKER 2W (EXTERIOR	0.028	2	0.056		0.000		0.000		0.000	3	0.084		0.000		0.000		0.000
TOTAL CURRENT ON CIRCUIT			0.096 AMPS		0.000 AMPS		0.000 AMPS		0.000 AMPS		0.131 AMPS		0.000 AMPS		0.000 AMPS		0.000 AMPS
TOTAL WIRE LENGTH IN FEET			225								340						
%VOLTAGE DROP			**0.89**		**0.00**		**0.00**		**0.00**		**1.83**		**0.00**		**0.00**		**0.00**
WIRE SIZE			#16		#16		#16		#16		#16		#16		#16		#16
CIRCUIT LOCATION			AMP-G		AMP-G		AMP-G		AMP-G		AMP-H		AMP-H		AMP-H		AMP-H
VOLTS DROPPED			**0.18**		**0.00**		**0.00**		**0.00**		**0.37**		**0.00**		**0.00**		**0.00**

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-121181 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 07/02/2024

OWNER: SAN RAFAEL CITY SCHOOLS

PROJECT NAME: VENETIA VALLEY BLDGS G AND H ALTERATION

CLIENT ADDRESS: 177 N San Pedro Rd, San Rafael, CA 94903

REGISTERED PROFESSIONAL ENGINEER RAYMOND W. SINGER No. E15610 EXP. 12/31/2025 ELECTRICAL STATE OF CALIFORNIA

REVISIONS:

	DESCRIPTION	DATE
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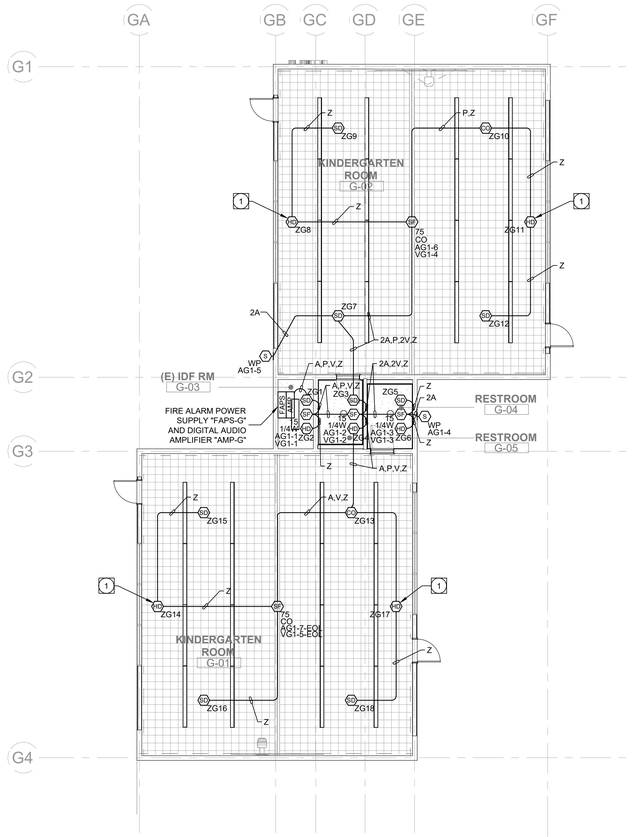
PROJECT NO:
DATE ISSUED: 06/21/2024
SCALE: As indicated

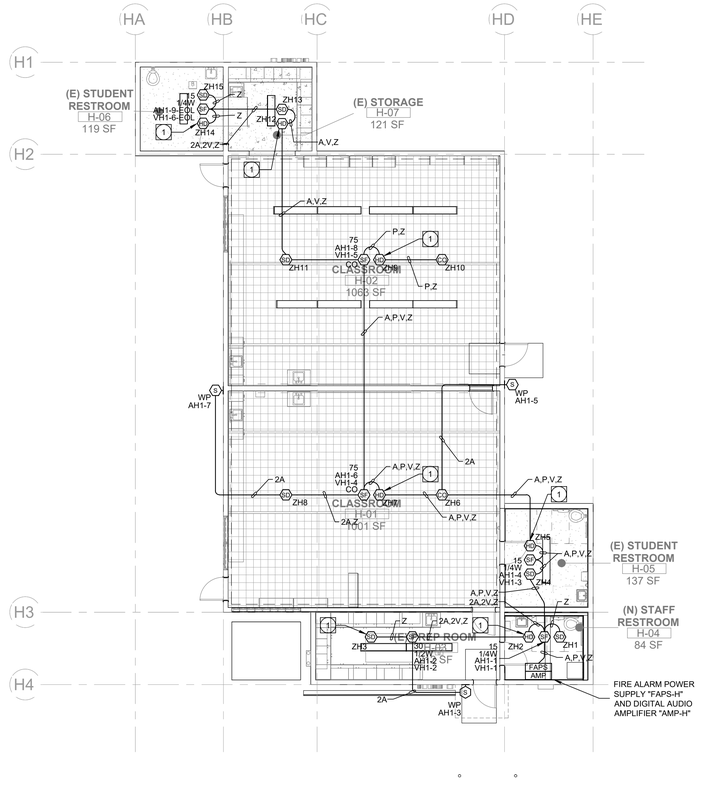
SHEET NUMBER: FA00-3

SHEET TITLE:

FIRE ALARM RISER DIAGRAM

tk1sc COLLABORATIVE
11870 Pierce Street, Suite 160
Riverside, California 92505
951.299.4160 www.tk1sc.com
Project Leader - Nikolas Bruno
Electrical Lead - Nikolas Bruno
tk1sc Job #: B2304502.000





FIRE ALARM PLAN - BLDG G | 1/8" = 1'-0" | **1**

FIRE ALARM PLAN - BLDG H | 1/8" = 1'-0" | **2**

COMPLETE FIRE ALARM SUBMITTAL
AUTOMATIC ADDRESSABLE FIRE ALARM SYSTEM WITH EMERGENCY VOICE/ALARM COMMUNICATION SYSTEM

VOICE EVACUATION SPEAKER NOTE:
– ALL INTERIOR SPEAKERS SHALL BE 70 VRMS TAPPED AT 1 WATT, U.O.N.
– ALL EXTERIOR SPEAKERS SHALL BE 70 VRMS TAPPED AT 2 WATTS, U.O.N.

FIRE ALARM PLAN GENERAL NOTES:

1. NOTIFICATION DEVICES IN ROOMS CONTAINING (2) OR MORE AUDIBLE AND/OR (2) OR MORE VISUAL DEVICES SHALL BE SYNCHRONIZED PER NFPA 72. THIS SHALL INCLUDE AUDIBLE AND VISUAL DEVICES LOCATED IN ADJACENT/ADJOINING SPACES.
2. DO NOT DEVIATE FROM CONDUIT RUNS AS SHOWN ON FLOOR PLANS WITHOUT PRIOR APPROVAL FROM SYSTEM SUPPLIER / ENGINEER. FACTORS SUCH AS EXCESSIVE VOLTAGE DROP, ADDITIONAL PARTS, ENGINEERING, ETC. THAT ARE A RESULT OF CONDUIT RUN DEVIATIONS SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
3. DETECTORS SHALL NOT BE LOCATED IN A DIRECT AIR–FLOW, NOR CLOSER THAN 3 FEET (915 mm) FROM ANY AIR SUPPLY DIFFUSER.
4. THE AUDIBLE ALARM NOTIFICATION APPLIANCES SHALL PROVIDE A SOUND PRESSURE LEVEL OF 15 dBA ABOVE THE AVERAGE AMBIENT SOUND LEVEL OR 5 dBA ABOVE THE MAXIMUM SOUND LEVEL HAVING DURATION OF AT LEAST 60 SECONDS, WHICHEVER IS GREATER, IN EVERY OCCUPIED SPACE WITHIN THE BUILDING PER CFC SECTION 907.5.2.1.1. THE MINIMUM SOUND PRESSURE LEVEL SHALL BE 60 dBA PER NFPA 72, TABLE A.18.4.3.
5. THE VOICE/ALARM COMMUNICATION SYSTEM VOICE MESSAGE SHALL COMPLY WITH NFPA 72, SECTIONS 18.4 AND 24.4 FOR GENERAL REQUIREMENTS, INTELLIGIBILITY, AUDIBILITY, MESSAGE PRIORITY, TONES, ETC.
6. REFER TO ARCHITECTURAL EXTERIOR ELEVATIONS FOR PRECISE OUTLET LOCATIONS.
7. REFER TO ARCHITECTURAL REFLECTED CEILING PLAN FOR EXACT LOCATION OF ALL CEILING MOUNTED DEVICES.
8. IF SHIELDED WIRE IS USED, THE FOLLOWING MUST BE OBSERVED.
   A. METALLIC CONTINUITY OF THE SHIELD MUST BE MAINTAINED AND INSULATED THROUGHOUT THE ENTIRE LENGTH OF THE CABLE.
   B. THE ENTIRE LENGTH OF THE CABLE MUST HAVE A RESISTANCE GREATER THAN 1 MEGOHM TO EARTH.
9. ALL PENETRATIONS THROUGH FIRE RATED WALLS SHALL BE PROTECTED FROM THE SPREAD OF FIRE WITH AN APPROVED FIRE STOP SYSTEM EQUAL TO OR GREATER THAN THE FIRE RATING OF THE STRUCTURE / SURFACE BEING PENETRATED AS IDENTIFIED IN CBC CHAPTER 7, UL OR OTHER LAB TESTING CRITERIA. APPROVED TYPES OF MATERIALS SHALL BE IDENTIFIED WITHIN THE FIRE ALARM SECTION OF THE PROJECT SPECIFICATIONS.
10. A SYSTEM GROUND MUST BE PROVIDED FOR EARTH DETECTION AND LIGHTNING PROTECTION DEVICES. THIS CONNECTION SHALL BE MADE TO AN APPROVED DEDICATED EARTH CONNECTION PER CEC, ARTICLE 250.
11. WIRING IN DUCTS, PLENUMS AND OTHER AIR HANDLING SPACES MUST BE INSTALLED IN ACCORDANCE WITH CEC.
12. UNDERGROUND WIRING MUST BE FREE OF ALL WATER.
13. ALL FIRE ALARM SYSTEM CONDUCTORS SHALL BE RUN IN A DEDICATED FIRE ALARM CONDUIT SYSTEM.
14. WHERE A DETECTOR IS INDICATED TO BE INSTALLED ABOVE THE CEILING AND NO ACCESS TO THE CEILING SPACE EXISTS, THE ELECTRICAL CONTRACTOR SHALL FURNISH ACCESS PANELS. THE DETECTOR SHALL BE EASILY ACCESSIBLE AND THE LOCATION OF THE DETECTOR SHALL BE CLEARLY MARKED.
15. FIRE ALARM SYSTEM UTILIZES A COMPLETE COVERAGE, FULLY AUTOMATIC SYSTEM. PROVIDE RELAY MODULE(S) AT FATC/FACP LOCATIONS FOR CONTROL OF HVAC SHUT DOWN, SMOKE/FIRE DAMPER CLOSURE AND DOOR HOLD RELEASES.
16. WHERE NEW DEVICES (AND ASSOCIATED CONDUIT) CANNOT PHYSICALLY BE MOUNTED CONCEALED IN WALLS, RUN IN PANDUIT SURFACE RACEWAY/WIREWAY (AND DEVICES SHALL BE MOUNTED ON SURFACE OUTLET BOXES). REFER TO SPECIFICATIONS. PROVIDE SIZE OF RACEWAY TO ACCOMMODATE THE REQUIRED CONDUCTORS. WHERE CONDUIT IS INDICATED, PROVIDE SURFACE RACEWAY WITH AN EQUAL CROSS SECTION TO THE DIAMETER OF THE CONDUIT INDICATED.
17. DETECTOR SENSITIVITY SHALL BE TESTED USING MANUFACTURER'S CALIBRATED SENSITIVITY INSTRUMENT OR OTHER CALIBRATED TESTING METHOD. (CFC, SECTIONS 907.8.3 AND 907.8.4)
18. THE VOICE/ALARM COMMUNICATION SYSTEM VOICE MESSAGE SHALL COMPLY WITH NFPA 72 SECTIONS 18.4 AND 24.4 FOR GENERAL REQUIREMENTS, INTELLIGIBILITY, AUDIBILITY, MESSAGE PRIORITY, TONES, ETC. REFER TO NFPA 72 ANNEX D, D.1 THROUGH D.6 FOR DETERMINING THE FUNDAMENTALS OF TEST PROTOCOL AND METHOD OF MEASURING INTELLIGIBILITY.
19. UPON DETECTION OF CARBON MONOXIDE THE FIRE ALARM SYSTEM SHALL PRODUCE A FOUR–PULSE TEMPORAL PATTERN SIGNAL WITHIN THE BUILDING AND COMPLY WITH NFPA 720, SECTION 5.8.6.5.

PLAN NOTES:

1 MOUNT FIRE ALARM DEVICE WITHIN 3' OF PEAK.

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-121181 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 07/02/2024

OWNER: SAN RAFAEL CITY SCHOOLS

PROJECT NAME: VENETIA VALLEY BLDGS G AND H ALTERATION

CLIENT ADDRESS: 177 N San Pedro Rd, San Rafael, CA 94903

REGISTERED PROFESSIONAL ENGINEER RAYMOND W. SIMONS No. E15610 07/31/2025 ELECTRICAL STATE OF CALIFORNIA

REVISIONS:

	DESCRIPTION	DATE
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PROJECT NO:
DATE ISSUED: 06/21/2024
SCALE: As indicated

SHEET NUMBER: FA10-1
SHEET TITLE:

FIRE ALARM PLAN - BLDG G AND H

tk1sc COLLABORATIVE
11870 Pierce Street, Suite 160
Riverside, California 92505
951.299.4160 www.tk1sc.com
Project Leader - Nikolas Bruno
Electrical Lead - Nikolas Bruno
tk1sc Job #: B2304502.000

ANCHORAGE & BRACING NOTES

MEP COMPONENT ANCHORAGE NOTE:

ALL MECHANICAL, PLUMBING AND ELECTRICAL COMPONENTS SHALL BE ANCHORED AND INSTALLED PER THE DETAILS ON THE DSA APPROVED CONSTRUCTION DOCUMENTS. THE FOLLOWING COMPONENTS SHALL BE ANCHORED OR BRACED TO MEET THE FORCE AND DISPLACEMENT REQUIREMENTS PRESCRIBED IN THE 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 OR MOVABLE EQUIPMENT THAT IS PERMANENTLY ATTACHED (E.G. HARDWIRED) TO THE BUILDING UTILITY SERVICES SUCH AS ELECTRICITY, GAS OR WATER, "PERMANENTLY ATTACHED" SHALL INCLUDE ALL ELECTRICAL CONNECTIONS EXCEPT FOR DUPLEX RECEPTACLES.
3. MOVABLE WHICH IS STATIONED IN ONE PLACE FOR MORE THAN 8 HOURS HEAVIER THAN 400 POUNDS OR HAS A CENTER OF MASS LOCATED 4 FEET OR MORE ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT ARE REQUIRED TO BE ANCHORED WITH TEMPORARY ATTACHMENTS.

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 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 CHANGE 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 7–10 SECTION 13.3 AS DEFINED IN ASCE 7–16 SECTIONS 13.6.5, 13.6.6, 13.6.7, AND 13.6.8; AND 2022 CBC, SECTIONS 1616A.1.24, 1616A.1.25 AND 1616A.1.26.

THE METHOD OF SHOWING BRACING AND ATTACHMENTS TO THE STRUCTURE FOR THE IDENTIFIED DISTRIBUTION SYSTEM ARE AS NOTED BELOW. WHEN BRACING AND ATTACHMENTS ARE BASED ON A PRE–APPROVED INSTALLATION GUIDE (E.G., OSHPD OPM FOR 2022 CBC OR LATER), COPIES OF THE BRACING SYSTEM INSTALLATION GUIDE OR MANUAL SHALL BE AVAILABLE ON THE JOBSITE PRIOR TO THE START OF AND DURING THE HANGING AND BRACING OF THE DISTRIBUTION SYSTEMS. THE STRUCTURAL ENGINEER OF RECORD SHALL VERIFY THE ADEQUACY OF THE STRUCTURE TO SUPPORT THE HANGER AND BRACE LOADS.

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

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

MP ☐ MD ☐ PP ☐ E ☐ OPTION 2: SHALL COMPLY WITH THE APPLICABLE OSHPD PRE–APPROVAL (OPM #–0052–13) AS INCLUDED IN THESE DRAWINGS WITH PROJECT SPECIFIC NOTES AND DETAILS.

PIPING MATERIALS

1. SANITARY SEWER , VENT AND STORM DRAIN PIPING BELOW GROUND :	SERVICE WEIGHT NO–HUB CAST IRON PIPE & FITTINGS CONFORMING TO THE REQUIREMENTS CISPI STANDARD 301, ASTM A 888 OR ASTM A74 WITH TYPE 304 STAINLESS STEEL HEAVY DUTY NO–HUB COUPLINGS. PROVIDE PIPE WRAP ON ALL UNDERGROUND PIPING IN ACCORDANCE WITH ANSI/AWWA STANDARDS C105 /A21.5–93. BED AND BACKFILL WITH CLEAN SAND, 6" THICK ALL AROUND PIPE.
2. SOIL , WASTE VENT , STORM DRAIN PIPING ABOVE GROUND :	SERVICE WEIGHT NO–HUB CAST IRON PIPE & FITTINGS CONFORMING TO THE REQUIREMENTS OF CISPI STANDARD 301, ASTM A888 OR ASTM A74 WITH TYPE 304 STAINLESS STEEL STANDARD DUTY NO–HUB COUPLINGS.
3. WATER PIPING BELOW GROUND :	TYPE 'K' COPPER WITH BRAZED JOINTS.
4. WATER PIPING ABOVE GROUND :	TYPE 'L' COPPER WITH LEAD–FREE SOLDERED JOINTS.
5. CONDENSATE DRAIN PIPING :	TYPE 'M' COPPER WITH SOLDERED JOINTS.
6. INSULATION OF DOMESTIC HOT WATER SUPPLY AND HOT WATER RETURN PIPING :	GLASS FIBER PIPE INSULATION WITH FACTORY APPLIED WHITE JACKET, J–M MICRO–LOK 650AP, 1" THICK FOR PIPE SIZES OF 1/2" TO 1"., AND 1 1/2" THICK FOR PIPE SIZES TO 1 1/4" AND LARGER. INSULATE FITT–INGS AND VALVES W/ PREFORMED INSULATION WITH PVC PREMOLDED ONE PIECE FITTING COVER BY J.M. ZESTON. ADHERE LONGITUDINAL LAPS AND BUTTS OF STRIPS OF JACKET W/ FACTORY APPLIED PRESSURE SENSITIVE TAPE SYSTEM, J–M AP–T. FLANGES AND UNIONS SHALL NOT BE COVERED.
7. INSULATION OF INTERIOR CONDENSATE DRAIN PIPING :	AP ARMFLEX CLOSED–CELL ELASTOMERIC FOAM INSULATION. FLAME–SPREAD INDEX OF 25 OR LESS AND SMOKE–DEVELOPED INDEX OF 50 OR LESS. 1/2 INCH THICK FOR 4 INCH DIAMETER PIPE AND LESS.

8. ALL OF THE ABOVE SHALL COMPLY WITH THE SPECIFICATIONS.

NOTE:
ALL PIPE, FITTINGS, FIXTURES, ETC. THAT CONTACT POTABLE WATER FOR HUMAN CONSUMPTION SHALL SHOW APPROVAL TO NSF 61, ANNEX "G". EFFECTIVE JANUARY 1, 2010, THE LEAD CONTENT OF THE WETTED SURFACE AREA OF THE PIPES, FITTINGS AND FIXTURES CONVEYING POTABLE WATER FOR HUMAN CONSUMPTION, OF NOT MORE THAN 0.25%, SHALL BE DETERMINED PURSUANT TO A PRESCRIBED FORMULA AS DETERMINED BY THIRD PARTY CERTIFIERS TO NSF STANDARD 61, ANNEX "G". REFERENCE SECTION 604.10, CALIFORNIA PLUMBING CODE, 2022 EDITION, AND HEALTH & SAFETY CODE SECTION 116875.

TITLE 24 MANDATORY MEASURES

APPLICABLE	TITLE 24 MANDATORY MEASURES
	EQUIPMENT AND SYSTEMS EFFICIENCY
☒	ANY APPLIANCE FOR WHICH THERE IS A CALIFORNIA STANDARD ESTABLISHED IN THE APPLIANCE EFFICIENCY STANDARDS MAY BE INSTALLED ONLY IF THE MANUFACTURER HAS CERTIFIED TO THE COMMISSION, AS SPECIFIED IN THOSE REGULATIONS , THAT THE APPLIANCE COMPLIES WITH THE APPLICABLE STANDARD FOR THAT APPLIANCE .
☒	PIPING SYSTEMS SHALL BE INSULATED IN ACCORDANCE WITH REQUIREMENTS OF THE TITLE 24 STANDARDS AND ALL CODES HAVING THE JURISDICTION .
	SERVICE WATER HEATING SYSTEMS
☐	THE FOLLOWING SERVICE WATER HEATING SYSTEMS AND EQUIPMENT MAY BE INSTALLED ONLY IF THE MANUFACTURER HAS CERTIFIED THAT THE EQUIPMENT MEETS OR EXCEEDS ALL APPLICABLE EFFICIENCY REQUIREMENTS LISTED IN 113 OF THE ENERGY EFFICIENCY STANDARDS : GAS–FIRED NON–STORAGE TYPES >200,000 BTU/HR .
☐	UNFIRED SERVICE WATER HEATER STORAGE TANKS AND BACKUP TANKS FOR SOLAR WATER HEATING SYSTEMS SHALL HAVE EITHER : EXTERNAL INSULATION WITH AN INSTALLED R–VALUE OF AT LEAST R–12 , INTERNAL AND EXTERNAL INSULATION WITH A COMBINED R–VALUE OF AT LEAST R–16 , OR SUFFICIENT INSULATION SO THAT THE HEAT LOSS OF THE TANK SURFACE BASED ON AN 80° F WATER–AIR TEMPERATURE DIFFERENCE SHALL SHALL BE LESS THAN 6.5 BTU / HR / SF .
☒	IF A CIRCULATING HOT WATER SYSTEM IS INSTALLED , IT SHALL HAVE A CONTROL CAPABLE OF AUTOMATICALLY TURNING OFF THE CIRCULATING PUMP(S) WHEN HOT WATER IS NOT REQUIRED .
☒	LAVATORIES IN RESTROOMS OF PUBLIC FACILITIES SHALL BE EQUIPPED WITH:
☒	OUTLET DEVICES THAT LIMIT THE FLOW OF HOT WATER TO A MAXIMUM OF 0.5 GALLONS PER MINUTE .
☐	FOOT ACTUATED CONTROL VALVES , AND OUTLET DEVICES THAT LIMIT THE FLOW OF HOT WATER TO A MAXIMUM OF 0.75 GALLONS PER MINUTE .
☒	LAVATORIES IN RESTROOM OF PUBLIC FACILITIES SHALL BE EQUIPPED WITH CONTROLS TO LIMIT THE OUTLET TEMPERATURE TO 110° F. PROVIDE WITH WATTS #LFMMV

PLUMBING GENERAL NOTES

1. SEE ARCHITECTURAL DRAWINGS FOR EXACT LOCATION OF ALL PLUMBING FIXTURES, DRAINS AND EQUIPMENT.
2. COORDINATE ALL LOCATIONS, SIZES AND ELEVATIONS OF ALL SLEEVES THROUGH BEAMS, SLABS AND FOOTINGS WITH STRUCTURAL AND ARCHITECTURAL DRAWINGS.
3. ALL HORIZONTAL WASTE LINES SHALL BE RUN AT A MINIMUM SLOPE OF 1/4" PER FOOT UNLESS OTHERWISE NOTED ON PLAN.
4. ALL HORIZONTAL STORM DRAINS AND OVERFLOW DRAIN LINES SHALL BE RUN AT A SLOPE OF 1/8" PER FOOT UNLESS OTHERWISE NOTED ON PLAN.
5. COORDINATE AND VERIFY EXACT LOCATION, SIZE, POINTS OF CONNECTION AND INVERT ELEVATIONS OF UTILITY SERVICE PIPING BEFORE TRENCHING OR INSTALLATION.
6. COORDINATE WITH ARCHITECTURAL DRAWINGS FOR WALL AND PARTITION CONSTRUCTION AND THICKNESS WHERE PLUMBING PIPING OR EQUIPMENT IS INDICATED.
7. THE LOCATION AND ELEVATION OF ALL PLUMBING PIPING SHALL BE VERIFIED AND COORDINATED WITH ALL OTHER TRADES, STRUCTURAL CONDITIONS AND BUILDING CONSTRUCTION PRIOR TO START OF INSTALLATION.
8. ALL VALVES AND COCKS SHALL BE LOCATED TO BE READILY ACCESSIBLE. WHERE VALVES ARE INSTALLED WITHIN OR BEHIND WALLS, PARTITIONS OR CEILINGS, AN ACCESS PANEL SHALL BE INSTALLED.
9. ALL OUTLETS FOR FUTURE CONNECTIONS SHALL BE INSTALLED SO AS TO PERMIT EASY CONNECTION – COORDINATE WITH DUCT WORK, STRUCTURAL CONDITIONS AND ARCHITECTURAL LAYOUT.
10. ALL PLUGGED OR CAPPED WASTE OUTLETS FOR FUTURE CONNECTIONS SHALL BE INSTALLED ABOVE CEILING WITH PIPE INVERT +4 INCHES ABOVE THE CEILING.
11. ALL PLUGGED OR CAPPED VENT OUTLETS FOR FUTURE CONNECTIONS SHALL BE INSTALLED ABOVE CEILING WITH PIPE INVERT 12" FROM BOTTOM OF SLAB.
12. ALL WALL MOUNTED ACCESS PANELS AND WALL CLEANOUTS SHALL BE MOUNTED AS LOW AS POSSIBLE UNLESS NOTED OTHERWISE OR AS INDICATED IN ARCHITECTURAL PLANS OR AS REQUIRED. CONTRACTOR SHALL GET ARCHITECT AND ENGINEER APPROVAL FOR ALL LOCATIONS PRIOR TO INSTALLATION OF WALL GYPSUM BOARD.
13. THESE DRAWINGS ARE DIAGRAMMATIC . THE LOCATION & ELEVATION OF ALL PLUMBING PIPING IS APPROXIMATE AND SHALL BE VERIFIED AND COORDINATED WITH ALL OTHER TRADES, STRUCTURAL CONDITIONS AND BUILDING CONSTRUCTION PRIOR TO START OF INSTALLATION.
14. PENETRATIONS OF PIPES, ETC, IN WALLS REQUIRING PROTECTED OPENINGS SHALL BE FIRE STOPPED. FIRE STOP MATERIAL SHALL BE A TESTED ASSEMBLY APPROVED BY THE STATE FIRE MARSHAL.
15. ALL HOT WATER PIPE SHALL BE INSULATED INCLUDING PIPING IN THE WALLS.
16. WATER SUPPLY AND DRAIN PIPES UNDER LAVATORIES AND SINKS SHALL BE INSULATED OR OTHERWISE CONFIGURED TO PROTECT AGAINST CONTACT. THERE SHALL BE NO SHARP OR ABRASIVE SURFACES UNDER LAVATORIES AND SINKS.
17. ALL REQUIRED CLEANOUTS SHALL BE INSTALLED AS PER SECTION 707.0 OF THE PLUMBING CODE.
18. CLEANOUTS FOR BUILDING STORM DRAINS SHALL COMPLY WITH THE REQUIREMENTS OF SECTION 719.0 OF THE PLUMBING CODE.
19. DIELECTRIC UNIONS SHALL BE USED AT ALL POINTS OF CONNECTION WHERE THERE IS A DISSIMILARITY OF METALS.
20. ALL VENTS THROUGH ROOF SHALL MAINTAIN A MINIMUM OF 10 FT. CLEARANCE AND 3 FEET ABOVE OF ANY WINDOW, DOOR, OPENING, AIR INTAKE OR VENT SHAFT.
21. HOT WATER TEMPERATURE LIMITATION DEVICE SHALL BE INSTALLED FOR PUBLIC LAVATORIES, SHOWERS & TUBS (WHIRLPOOL) IN ACCORDANCE WITH ASSE 1070 & 1069, RESPECTIVELY.
22. PROVIDE WALL CLEANOUTS TO ALL SINKS, LAVATORIES AND URINALS.
23. ALL MECHANICAL EQUIPMENT PRODUCING CONDENSATE DRAIN MUST BE PIPED AND DISCHARGED TO THE NEAREST APPROVED RECEPTOR. SIZE CONDENSATE PIPING PER SECTION 814.3 CPC 2022.
24. ALL PLUMBING FIXTURES MATERIALS AND FINISHES SHALL BE DETERMINE BY THE ARCHITECT AND/OR OWNER'S REPRESENTATIVE. IF ANY PART OF THE DRAWINGS ARE UNCLEAR OR CONTRADICTORY, THE MOST EXPENSIVE OPTION SHALL PREVAIL DURING BID PERIOD.

CALIFORNIA GREEN BUILDING STANDARD TABLE 5.303.3 STANDARDS FOR PLUMBING FIXTURES AND FIXTURE FITTINGS

REQUIRED STANDARDS

WATER CLOSETS (TOILETS) – FLUSHOMETER VALVE TYPE SINGLE FLUSH, MAXIMUM FLUSH VOLUME	ASME A 112.19.2/ CSA B45.1 – 1.28 GAL (4.8 L)
WATER CLOSETS (TOILETS) – FLUSHOMETER VALVE TYPE DUAL FLUSH, MAXIMUM FLUSH VOLUME	ASME A 112.19.14 AND USEPA WATERSENSE TANK – TYPE HIGH–EFFICIENCY TOILET SPECIFICATION – 1.28 GAL (4.8 L)
URINALS, MAXIMUM FLUSH VOLUME	ASME A 112.19.2/ CSA B45.1 – 0.5 GAL (1.9 L)
PUBLIC LAVATORY FAUCETS: MAXIMUM FLOW RATE – 0.5 GPM (1.9 L/ MIN)	ASME A 112.18.1/ CSA B125.1
PUBLIC METERING SELF–CLOSING FAUCETS: MAXIMUM WATER USE – 0.20 GAL (1.0 L) PER METERING CYCLE	ASME A 112.18.1/ CSA B125.1

LEGEND

SYMBOL	ABBR.	DESCRIPTION
	S OR W	SOIL OR WASTE ABOVE FLOOR OR GRADE
	S OR W	SOIL OR WASTE BELOW FLOOR OR GRADE
GW	GW	GREASE WASTE BELOW FLOOR OR GRADE
AW	AW	ACID WASTE ABOVE FLOOR OR GRADE
AW	AW	ACID WASTE BELOW FLOOR OR GRADE
SD	SD	STORM DRAIN ABOVE FLOOR OR GRADE
SD	SD	STORM DRAIN BELOW FLOOR OR GRADE
OD	OD	OVERFLOW DRAIN ABOVE FLOOR OR GRADE
OD	OD	OVERFLOW DRAIN BELOW FLOOR OR GRADE
	V	SANITARY VENT
	CW	COLD WATER
ICW	ICW	INDUSTRIAL COLD WATER
RW	RW	RECYCLED / RECLAIMED WATER
	HW	HOT WATER
	HWR	HOT WATER RETURN
F	F	FIRE MAIN
D	D	INDIRECT DRAIN LINE
CD	CD	CONDENSATE DRAIN
SCD	SCD	SECONDARY CONDENSATE DRAIN
PCD	PCD	PUMPED CONDENSATE DRAIN
G	G	FUEL GAS
MG	MG	MEDIUM PRESSURE FUEL GAS, 5 PSI
TP	TP	TRAP PRIMER
RTP	RTP	RECYCLED WATER TRAP PRIMER
		DIRECTION OF FLOW
	P.G.	PRESSURE GAUGE W/PETE COCK
	G.C.	GAS COCK
	P.R.V.	PRESSURE REDUCING VALVE
	G.V.	GATE VALVE
	L.B.V.	LOCKING BALL VALVE
	FCO	FLOOR CLEANOUT
	WCO	WALL CLEANOUT
		DOWN
		RISE
		UNION
%		SLOPE IN DIRECTION OF FLOW
	W.H.A.	WATER HAMMER ARRESTOR
	P.O.C.	POINT OF CONNECTION
	RPBP	REDUCED PRESSURE BACKFLOW PREVENTER
(E)	EXIST. (E)	EXISTING
	ABV.	ABOVE
	A.F.F.	ABOVE FINISHED FLOOR
	A.P.	ACCESS PANEL
	ASS'Y	ASSEMBLY
	BEH.	BEHIND
	BEL.	BELOW
	BLDG.	BUILDING
	BMCS	BUILDING MANAGEMENT AND CONTROL SYSTEM
	C.I.	CAST IRON
	CLG.	CEILING
	COTG	CLEANOUT TO GRADE
	CO.	CLEAN OUT
	CONT.	CONTINUATION
	FFE	FINISHED FLOOR ELEVATION
	DET.	DETAIL
	DN	DOWN
	DWG'S	DRAWINGS
	EA	EACH
	ELEC.	ELECTRIC
	EQUIP	EQUIPMENT
	FH	FIRE HYDRANT
	FIN	FINISHED
	FU	FIXTURE UNIT
	FLR	FLOOR
	FR.	FROM
	GPF	GALLONS PER FLUSH
	GPM	GALLONS PER MINUTE
	GR	GRADE
	HDR	HEADER
	I.E.	INVERT ELEVATION
	MECH	MECHANICAL
	S.O.C.	SHUT–OFF COCK
	TYP	TYPICAL
	VTR	VENT THROUGH ROOF
	W/	WITH

APPLICABLE CODES

2022 CALIFORNIA BUILDING CODE (CBC: PART 2 , TITLE 24 , CCR)
(BASED ON 2021 INTERNATIONAL BUILDING CODE)

2022 CALIFORNIA ELECTRICAL CODE (CEC: PART 3 , TITLE 24 , CCR)
(BASED ON 2020 NATIONAL ELECTRICAL CODE)

2022 CALIFORNIA MECHANICAL CODE (CMC: PART 4 , TITLE 24 , CCR)
(BASED ON 2021 UNIFORM MECHANICAL CODE)

2022 CALIFORNIA PLUMBING CODE (CPC: PART 5 , TITLE 24 , CCR)
(BASED ON 2021 UNIFORM PLUMBING CODE)

2022 CALIFORNIA FIRE CODE (CFC: PART 9, TITLE 24, CCR.)
(BASED ON 2021 INTERNATIONAL FIRE CODE)

2022 CALIFORNIA ENERGY CODE.

2022 CALIFORNIA GREEN BUILDING CODE.

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-121181 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 07/02/2024

OWNER: SAN RAFAEL CITY SCHOOLS

PROJECT NAME: VENETIA VALLEY BLDGS G AND H ALTERATION

CLIENT ADDRESS: 177 N San Pedro Rd, San Rafael, CA 94903

REGISTERED PROFESSIONAL ENGINEER ... TANG ... No. M29973 EXP. 06-30-24 ... MECHANICAL ... STATE OF CALIFORNIA

REVISIONS:

	DESCRIPTION	DATE
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PROJECT NO:

DATE ISSUED: 06/21/2024

SCALE: As indicated

SHEET NUMBER: P00-0

SHEET TITLE:

LEGENDS AND NOTES

tk1sc COLLABORATIVE
11870 Pierce Street, Suite 160
Riverside, California 92505
951.299.4160 www.tk1sc.com
Project Leader - Nikolas Bruno
Plumbing Lead - Ramon Cecena
tk1sc Job #: B2304502.000

WATER SYSTEM CALCULATION

AVAILABLE PRESSURE AT BLDG EXTERIOR = 60 P.S.I.

LOSSES:

(E) 4" METER @ 1200 GPM = 2.5 P.S.I.

(E) 4" RPBP @ 1200 GPM = 7.0 P.S.I.

STATIC LOSS (0.433 X 15 FT.) = 6.49 P.S.I.

RESIDUAL FIXTURE = 25 P.S.I.

TOTAL = 40.99 P.S.I.

PRESSURE AVAILABLE FOR FRICTION LOSS: 60 PSI – 40.99 PSI = 19.1 P.S.I.

188 FT. 250 FT.

SYSTEM EQUIVALENT LENGTH:
(METER TO RESIDUAL FIXTURE) = 250 + 25% = 312.5 FT.

ALLOWABLE AVERAGE LOSS DUE TO FRICTION
PER 100 FT. OF PIPE: 19.1 PSI / 312.5 FT. X 100 FT. = 6.0 PSI/100 FT.

COLD WATER SYSTEM SIZING IS BASED ON 3 PSI /100' OR 8 FT. PER SECOND MAXIMUM VELOCITY, WHICHEVER RESTRICTION IS GREATER.

HOT WATER SYSTEM SIZING IS BASED ON 3 PSI /100' OR 5 FT. PER SECOND MAXIMUM VELOCITY, WHICHEVER RESTRICTION IS GREATER.

NOTE:
DOMESTIC HOT AND COLD WATER PIPE SIZING IS IN ACCORDANCE WITH THE REQUIREMENTS OF THE 2022 CALIFORNIA PLUMBING CODE, APPENDIX "A"

DOMESTIC WATER PIPE SIZING SCHEDULE

(BASED ON 3 PSI/100 FT. OR MAX. VELOCITY OF 8 FPS COLD & 5 FPS HOT)

SIZE	MAXIMUM FIXTURE UNITS			VELOCITY (FT./SEC.)		G.P.M.	
	FLUSH TANK		FLUSH VALVE	HW	CW	HW	CW
	HW	CW					
½"	1	1	0	2.6	2.6	1.9	1.9
¾"	6	6	0	3.2	3.2	4.9	4.9
1"	13	13	0	3.9	3.9	10	10
1¼"	24	24	0	4.4	4.4	17.4	17.4
1½"	47	47	10	4.9	4.9	27	27
2"	120	158	64	5.0	5.9	48	56.5

PLUMBING FIXTURE SCHEDULE

UNIT NO.	DESCRIPTION	ROUGH-IN SIZES					REMARKS
		TRAP	W	V	CW	HW	
WC-1	WATER CLOSET (ACCESSIBLE) A.S. AFWALL #2856.128	INT.	4"	2"	1"	–	WALL-HUNG, 1.28 GPF MANUAL-OPERATED FLUSH VALVE SLOAN #111-1.28 W/ OLSONITE TOILET SEAT #95SSCT; JR SMITH #0210Y CARRIER
WC-2	WATER CLOSET (ACCESSIBLE) A.S. AFWALL #2856.128	INT.	4"	2"	1"	–	SAME AS WC-1 FOR ACCESSIBLE TYPE, MOUNTED FOR ADULT (CBC/ADA); REFER TO ARCH PLANS WITH JR SMITH #0210Y CARRIER
L-1	LAVATORY (ACCESSIBLE) A.S. LUCERNE #0355.012	2"	2"	1-1/2"	1/2"	–	WALL-HUNG, WITH MANUAL FAUCET AT 0.35 GPM CHICAGO #3600-E39VPAB W/ #1017 MOUNT AT ACCESSIBLE HEIGHT (CBC/ADA). REFER TO ARCH TO MOUNTING HEIGHT. PROVIDE WITH MCGUIRE SUPPLY & DRAIN PROWRAP & TMV-1
S-1	CLASSROOM SINK (ACCESSIBLE) JUST #CRSF-ADA-1928-AGR-R	1-1/2"	2"	1-1/2"	1/2"	–	SINGLE COMPARTMENT, STAINLES STEEL W/ MANUAL WRIST-BLADE FAUCET AT 1.5 GPM. CHICAGO #350-G8AE36-317XKAB. BUBBLER 748-665ABCP
S-2	EXISTING CLASSROOM SINK TO REMAIN	--	--	--	--	–	FAUCET; CHICAGO CHICAGO CHICAGO #350-G8AE36-317XKAB. BUBBLER 748-665ABCP REPLACE EXISTING PIPING UNDER SINK INCLUDING P-TRAP, DRAIN PIPES, AND WATER SUPPLY. INCLUDE NEW PIPING WITH PROWRAP.
SS-1	SERVICE SINK A.S. FLORWELL #7741.000 WITH #7745.811	3"	3"	2"	3/4"	3/4"	FLOOR MOUNTED, CORNER TYPE, ENAMELED CAST IRON W/ VINYL RIM GUARD, 3" OUTLET, W/ TOP BRACE FAUCET, BUCKET HOOK, VB AND HOSE; CHICAGO FAUCET #897-RCP
DF-1	DRINKING FOUNTAIN (ACCESSIBLE)	2"	2"	1-1/2"	1/2"	–	ELKAY #VRCTLDDWSK: FILTERED MECHANICALLY ACTIVATED, 8GPH @ 50° F, 18 GAUGE, BOTTLE FILLER. PROVIDE MOUNTING FRAME AND BRACKET, 120v, SINGLE PHASE. PROVIDE 1 GFCI QUAD RECEPTACLE.
TMV-1	THERMOSTATIC MIXING VALVE WATTS #LFMMV	–	–	–	–	–	TEMPERATURE-LIMITING DEVICE FOR LAVATORIES; SET OUTLET TEMPERATURE TO 105°F
FS-1	FLOOR SINK J.R.SMITH #3150Y-12	2"	2"	2"	1/2" TP	–	ACID RESISTANT COATED, CAST IRON DRAIN, DOME STRAINER & DECK CLAMP, 3/4 GRATE FOR DISCHARGE PIPES.
FD-1	FLOOR DRAIN J.R.SMITH #2005	2"	2"	1-1/2"	1/2" TP	–	JR SMITH #2005-A COMPLETE WITH TRAP PRIMER CONNECTION. SEE FLOOR PLANS FOR EXACT SIZE.
TP-1	TRAP PRIMER PPP #P1-500	–	–	–	1/2"	–	AND DISTRIBUTION UNIT BEHIND ACCESS PANEL
WHA	WATER HAMMER ARRESTER PPP #SC SERIES	–	–	–	–	–	PISTON OPERATED
HB-1	HOSE BIBB (INTERIOR) ACORN #8121-LF	–	–	–	3/4"	–	WITH VACUUM BREAKER
HB-2	HOSE BIBB (EXTERIOR) ACORN #8104	–	–	–	3/4"	–	HOSE & SUPPLY BOX WITH VACUUM BREAKER

INSTANTANEOUS WATER HEATER

UNIT NO.	MANUFACTURER & MODEL NO.	SERVICE	REC @ 56° △T (GPM)	REC @ 46° △T (GPM)	REC @ 55° △T (GPM)	ELECTRICAL				OPER. WT. LBS.	REMARKS
						KW	V	PH	HZ		
IWH-1	EEMAX MODEL AM004277T	DOMESTIC HOT WATER	0.35	--	--	4.1	277	1	60	10	NON-THERMOSTATIC INSTANTANEOUS WATER HEATER WITH REPLACEABLE CARTRIDGE;LEAD-FREE WITH HIGH-TEMPERATURE LIMIT. SEE DETAIL 1/P30-1
IWH-2	EEMAX MODEL AM10277T	DOMESTIC HOT WATER	--	1.5	--	10.0	277	1	60	10	NON-THERMOSTATIC INSTANTANEOUS WATER HEATER WITH REPLACEABLE CARTRIDGE;LEAD-FREE WITH HIGH-TEMPERATURE LIMIT. SEE DETAIL 1/P30-1.

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PROJECT NO:

DATE ISSUED: 06/21/2024

SCALE: As indicated

SHEET NUMBER: P00-1

SHEET TITLE:

SCHEDULES

tk1sc COLLABORATIVE
11870 Pierce Street, Suite 160
Riverside, California 92505
951.299.4160 www.tk1sc.com

Project Leader - Nikolas Bruno
Plumbing Lead - Ramon Cecena
tk1sc Job #: B2304502.000

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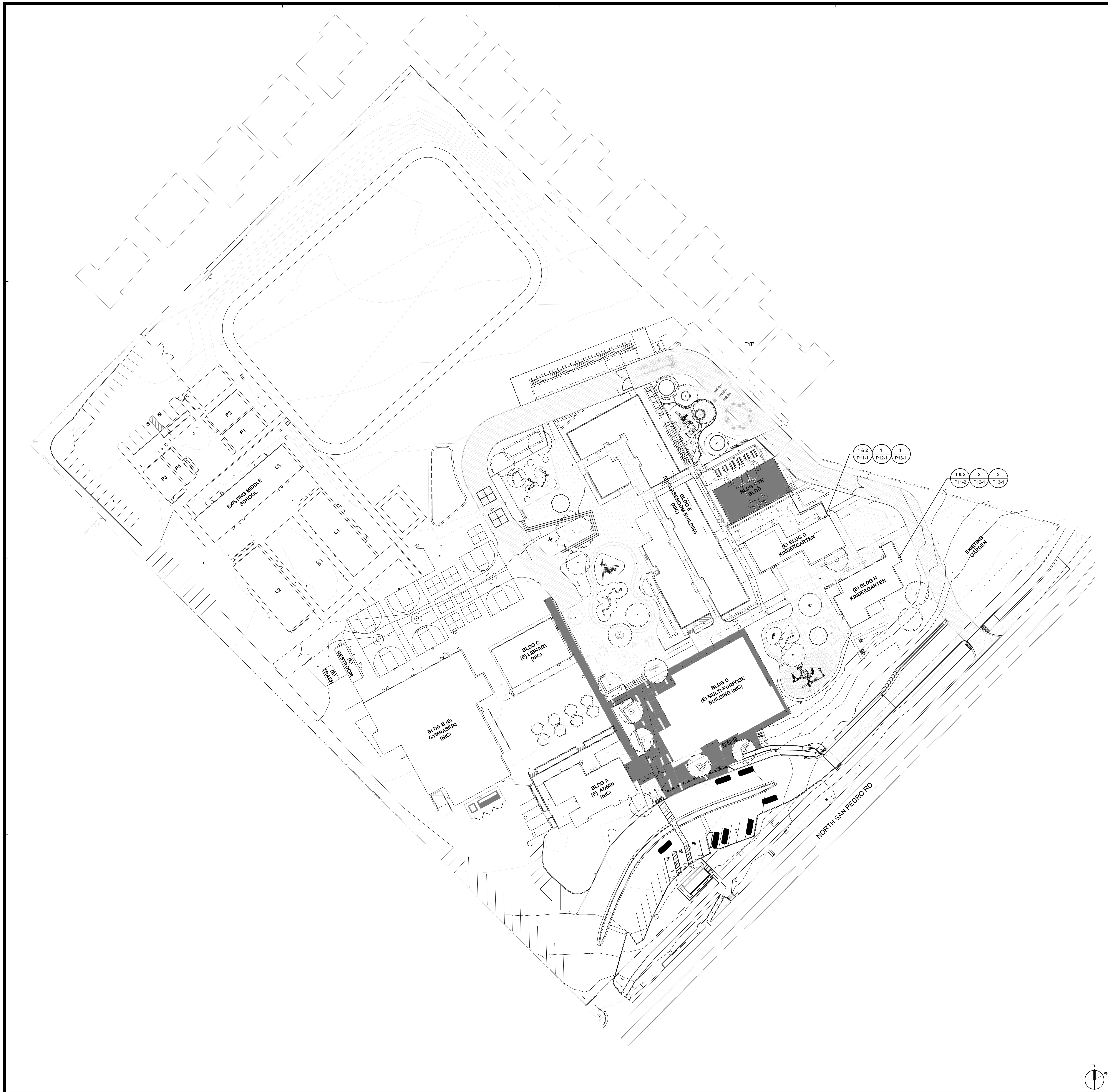

PLUMBING SITE PLAN 1" = 40'-0" 1

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SHEET NUMBER: P01-1

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PLUMBING SITE PLAN

tk1sc COLLABORATIVE
11870 Pierce Street, Suite 160
Riverside, California 92505
951.299.4160 www.tk1sc.com
Project Leader - Nikolas Bruno
Plumbing Lead - Ramon Cecena
tk1sc Job #: B2304502.000

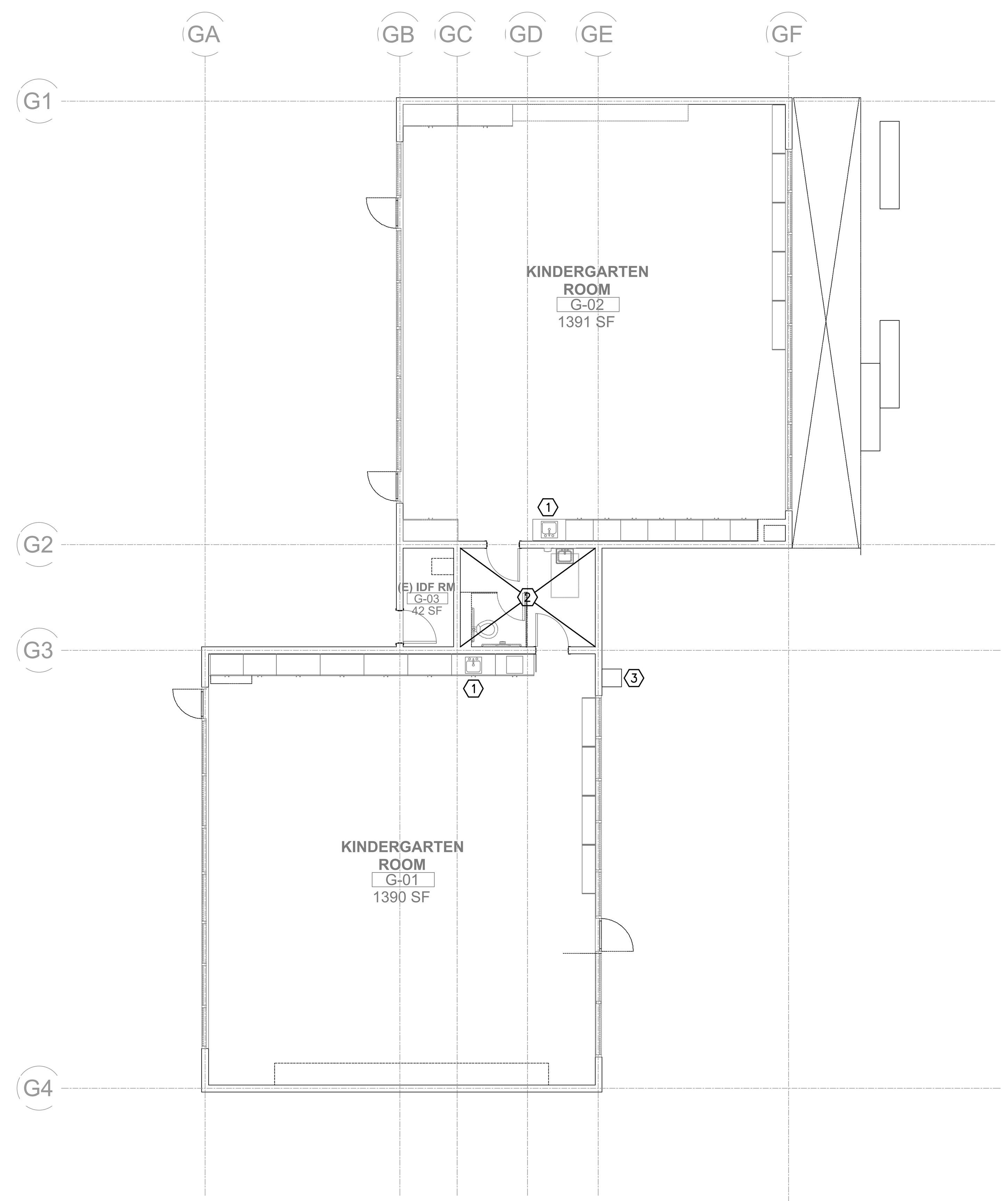
BUILDING G - REMODEL FLOOR PLAN 1/8" = 1'-0" 2

GENERAL NOTES:

1. ALL WASTE SHALL SLOPE 2% UNLESS OTHERWISE NOTED ON PLANS.
2. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING PIPING PRIOR TO BEGINNING WORK.
3. CONTRACTOR SHALL FIELD VERIFY EXISTING PIPING CONDITIONS WITHIN THE ROOM OR VICINITY WHERE NEW WORK IS PERFORMED AND NOTIFY ARCHITECT OF RECOMMENDED REPAIRS ARE BEYOND SCOPE OF WORK.
4. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATION OF ALL PLUMBING FIXTURES.
5. REPLACE EXISTING EXTERIOR HOSE BIBS WITH HB-2.

KEYED NOTES:

1. REPLACE FAUCET, DRAIN PIPES, WATER SUPPLIES AND RECONNECT TO EXISTING SINK.
2. REWORK CAPPED PIPING IN WALL; EXTEND, ROUGH-IN AND CONNECT TO REPLACEMENT PLUMBING FIXTURE UNIT.
3. EXTEND NEW 2"S, 1-½"V, ¾"CW AND CONNECT TO EXISTING NEARBY UTILITIES.
4. EXTEND NEW 4"S, 2"V, 1-½"CW AND CONNECT TO EXISTING NEARBY UTILITIES.



BUILDING G - DEMO FLOOR PLAN 1/8" = 1'-0" 1

GENERAL NOTES:

1. EXACT CONDITIONS AND LOCATIONS OF ALL PLUMBING PIPING NOT KNOWN, CONTRACTOR SHALL FIELD VERIFY EXACT LOCATION OF PIPING BEFORE BEGINNING OF WORK. NOTIFY ARCHITECT OF ANY MAJOR DISCREPANCIES IN PLANS BEFORE STARTING OF WORK.
2. CONTRACTOR SHALL FIELD VERIFY EXISTING PIPING CONDITIONS WITHIN THE ROOM OR VICINITY WHERE NEW WORK IS PERFORMED AND NOTIFY ARCHITECT OF RECOMMENDED REPAIRS THAT ARE BEYOND SCOPE OF WORK.

DEMOLITION NOTES:

1. EXISTING CLASSROOM SINK TO REMAIN. REMOVE EXISTING FAUCET, DRAIN PIPES, WATER SUPPLIES UNDER SINK AND PREPARE FOR REPLACEMENT UNDER REMODEL PHASE.
2. REMOVE EXISTING RESTROOM PLUMBING FIXTURES; CAP PIPING IN WALL, BELOW FLOOR, AND/OR ABOVE CEILING. PREPARE FOR RECONNECTION OF REPLACEMENT UNIT UNDER RENOVATION PHASE.
3. REMOVE EXISTING DRINKING FOUNTAIN; CAP PIPING IN WALL, BELOW FLOOR, AND/OR ABOVE CEILING. PREPARE FOR RECONNECTION OF REPLACEMENT UNIT UNDER RENOVATION PHASE.

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REVISIONS:

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BLDG G PLUMBING FLOOR PLANS

tk1sc COLLABORATIVE
11870 Pierce Street, Suite 160
Riverside, California 92505
951.299.4160 www.tk1sc.com
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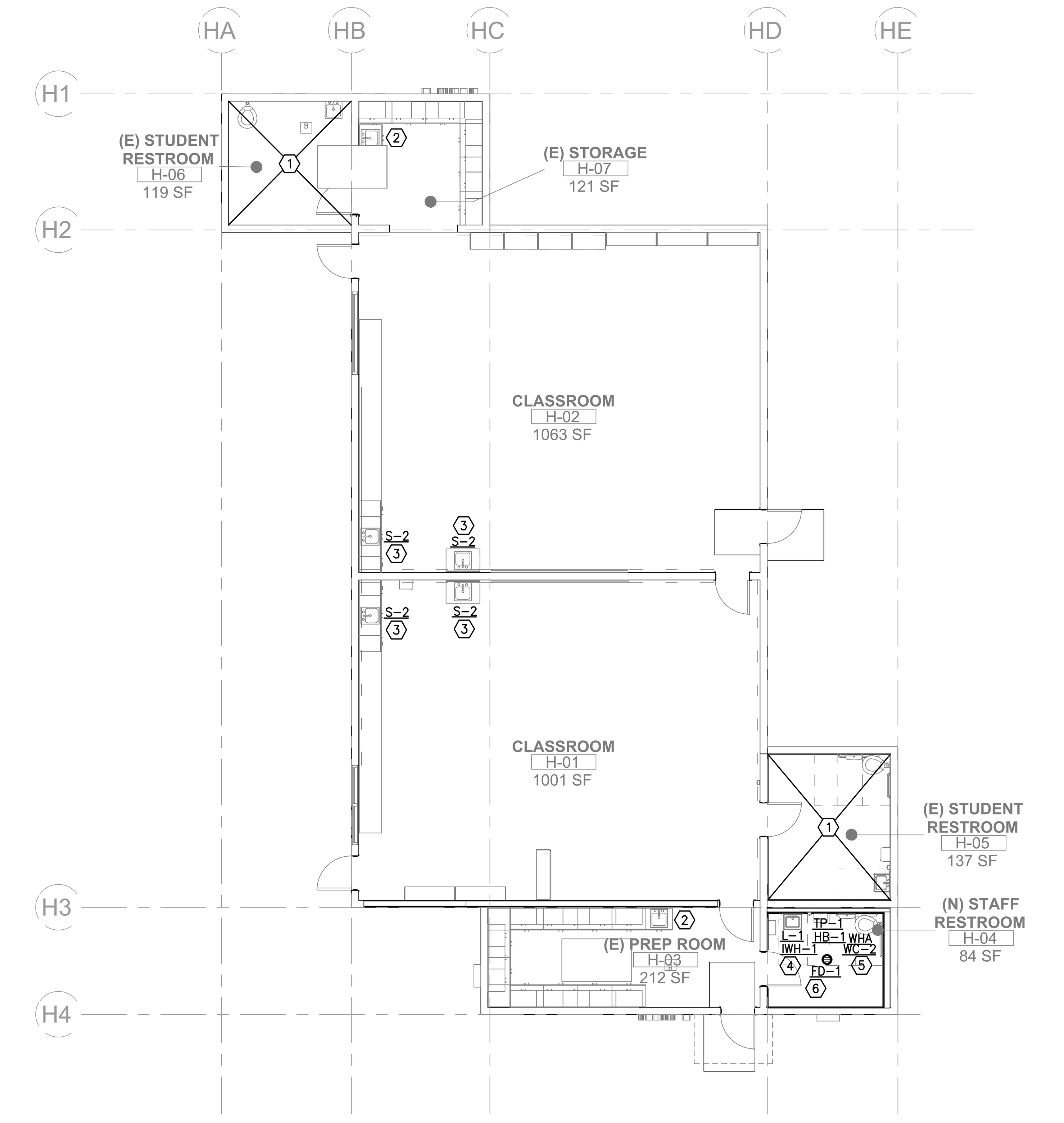
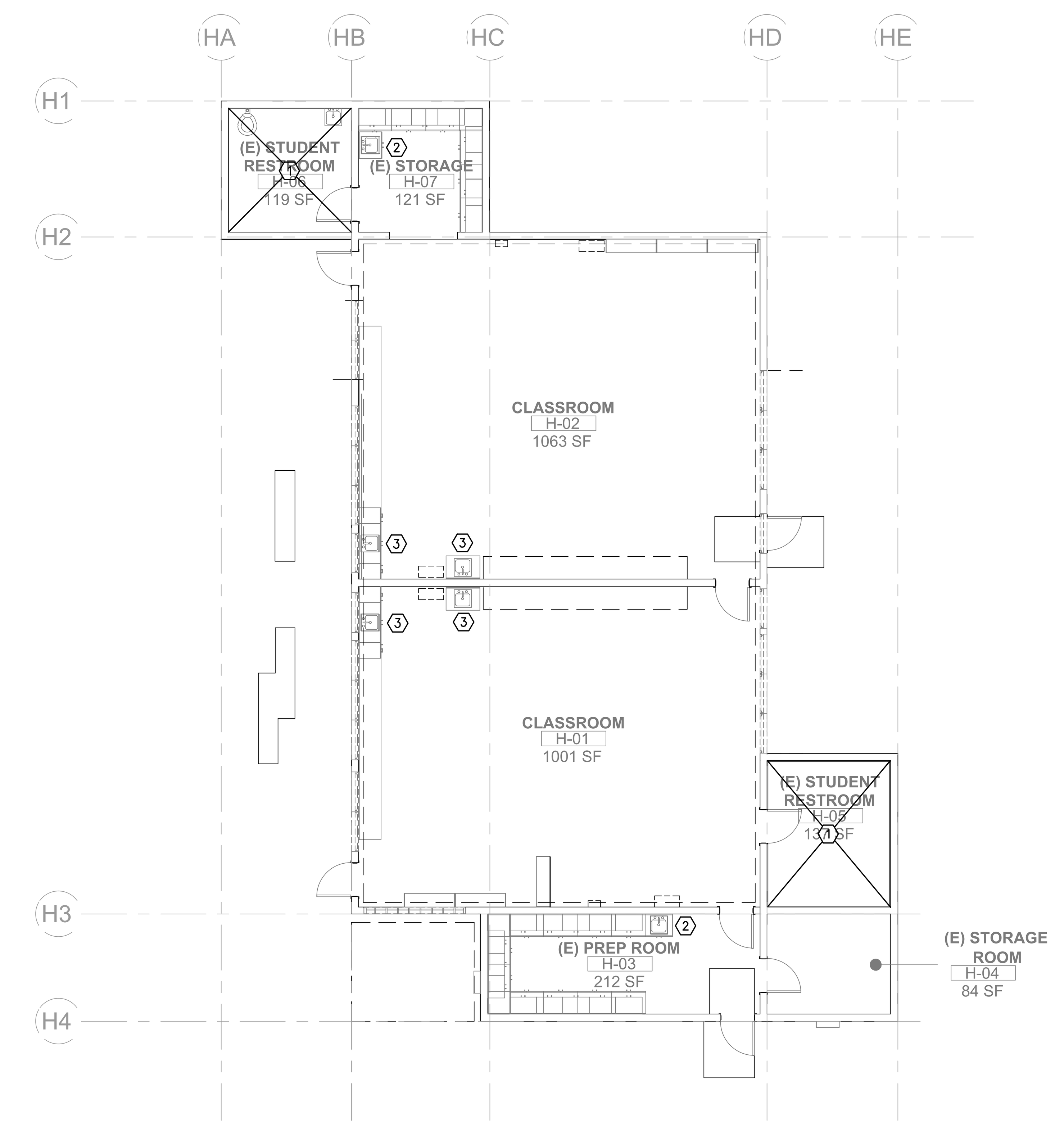


BUILDING H - REMODEL FLOOR PLAN 1/8" = 1'-0" **1**



BUILDING H - DEMO FLOOR PLAN 1/8" = 1'-0" **2**

GENERAL NOTES:

1. ALL WASTE SHALL SLOPE 2% UNLESS OTHERWISE NOTED ON PLANS.
2. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING PIPING PRIOR TO BEGINNING WORK.
3. CONTRACTOR SHALL FIELD VERIFY EXISTING PIPING CONDITIONS WITHIN THE ROOM OR VICINITY WHERE NEW WORK IS PERFORMED AND NOTIFY ARCHITECT OF RECOMMENDED REPAIRS ARE BEYOND SCOPE OF WORK.
4. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATION OF ALL PLUMBING FIXTURES.
5. REPLACE EXISTING EXTERIOR HOSE BIBS WITH HB-2.

KEYED NOTES:

⟨1⟩ EXISTING RESTROOM FIXTURES TO REMAIN.

⟨2⟩ EXISTING PLUMBING FIXTURE TO REMAIN.

⟨3⟩ REPLACE FAUCET, DRAIN PIPES, WATER SUPPLIES AND RECONNECT TO EXISTING SINK.

⟨4⟩ EXTEND NEW 2"S, 1-½"V, ¾"H&CW AND CONNECT TO EXISTING NEARBY UTILITIES.

⟨5⟩ EXTEND NEW 4"S, 2"V, 1-½" CW AND CONNECT TO EXISTING NEARBY UTILITIES.

⟨6⟩ EXTEND NEW 2"S, 1-½"V, ½"CW AND CONNECT TO EXISTING NEARBY UTILITIES.

GENERAL NOTES:

1. EXACT CONDITIONS AND LOCATIONS OF ALL PLUMBING PIPING NOT KNOWN, CONTRACTOR SHALL FIELD VERIFY EXACT LOCATION OF PIPING BEFORE BEGINNING OF WORK. NOTIFY ARCHITECT OF ANY MAJOR DISCREPANCIES IN PLANS BEFORE STARTING OF WORK.
2. CONTRACTOR SHALL FIELD VERIFY EXISTING PIPING CONDITIONS WITHIN THE ROOM OR VICINITY WHERE NEW WORK IS PERFORMED AND NOTIFY ARCHITECT OF RECOMMENDED REPAIRS THAT ARE BEYOND SCOPE OF WORK.

DEMOLITION NOTES:

⟨1⟩ EXISTING RESTROOM FIXTURES TO REMAIN.

⟨2⟩ EXISTING PLUMBING FIXTURE TO REMAIN.

⟨3⟩ EXISTING CLASSROOM SINK TO REMAIN. REMOVE EXISTING FAUCET, DRAIN PIPES, WATER SUPPLIES UNDER SINK AND PREPARE FOR REPLACEMENT UNDER REMODEL PHASE.

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-121181 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 07/02/2024

OWNER: SAN RAFAEL CITY SCHOOLS

PROJECT NAME: VENETIA VALLEY BLDGS G AND H ALTERATION

CLIENT ADDRESS: 177 N San Pedro Rd, San Rafael, CA 94903

REGISTERED PROFESSIONAL ENGINEER
TJWAN TANG
No. M29973
EXP. 06-30-24
STATE OF CALIFORNIA

REVISIONS:

	DESCRIPTION	DATE
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PROJECT NO.:

DATE ISSUED: 06/21/2024

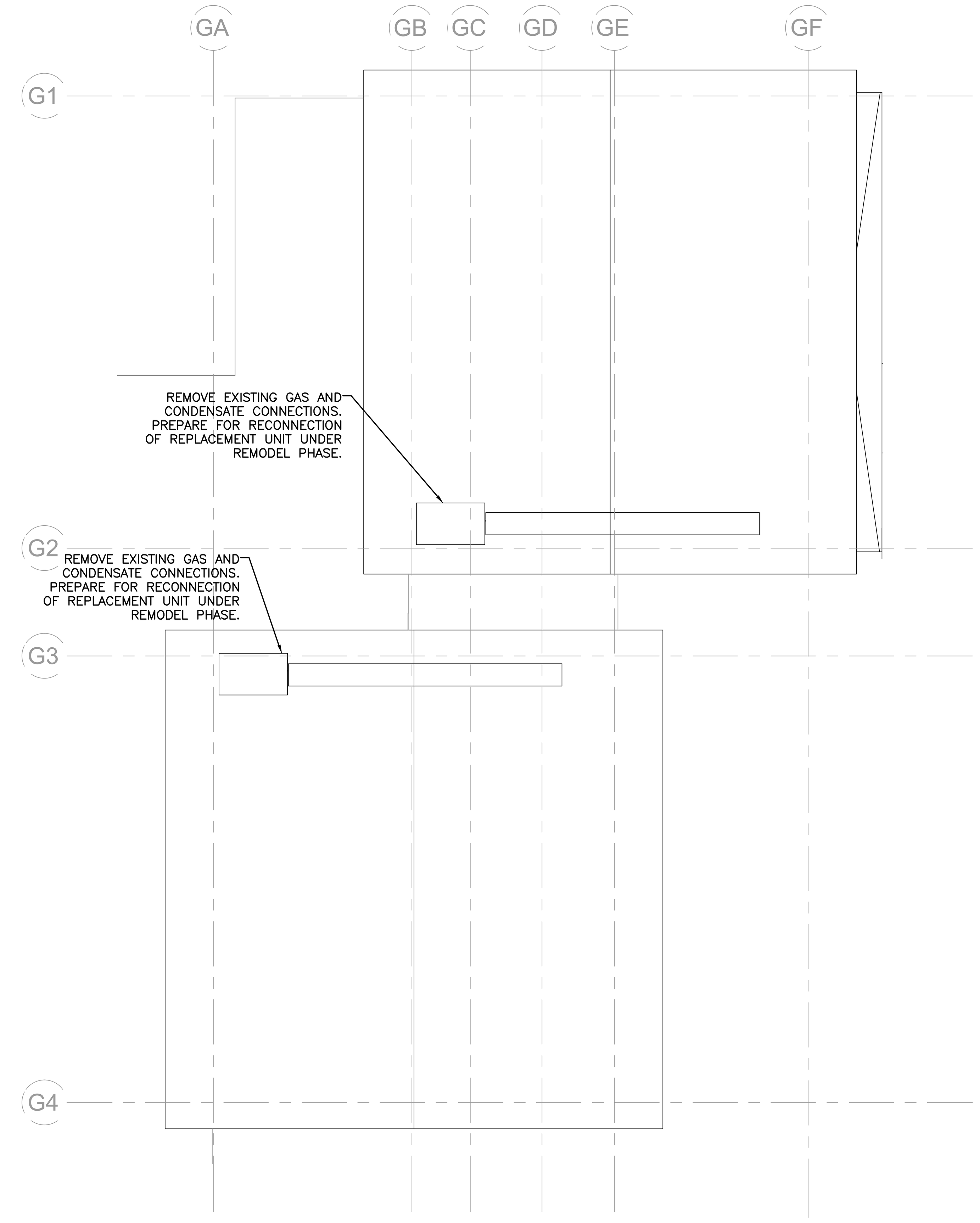
SCALE: As indicated

SHEET NUMBER: **P11-2**

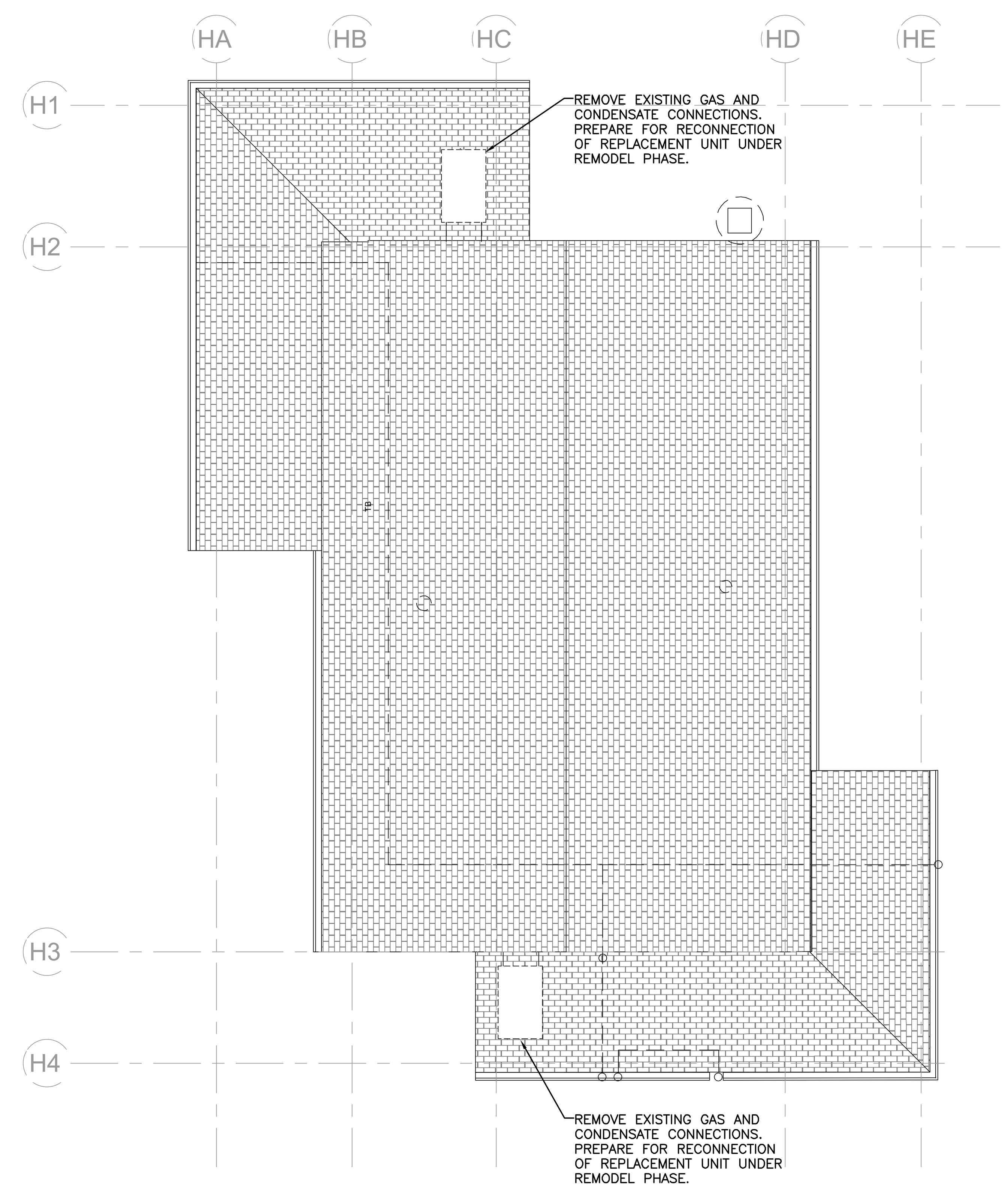
SHEET TITLE:

BLDG H PLUMBING FLOOR PLANS

tk1sc
COLLABORATIVE
11870 Pierce Street, Suite 160
Riverside, California 92505
951.299.4160 www.tk1sc.com
Project Leader - Nikolas Bruno
Plumbing Lead - Ramon Cecena
tk1sc Job #: B2304502.000



DEMO ROOF PLAN - BLDG G 1/8" = 1'-0" 1



DEMO ROOF PLAN - BLDG H 1/8" = 1'-0" 2

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-121181 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 07/02/2024

OWNER: SAN RAFAEL CITY SCHOOLS

PROJECT NAME: VENETIA VALLEY BLDGS G AND H ALTERATION

CLIENT ADDRESS: 177 N San Pedro Rd, San Rafael, CA 94903

REGISTERED PROFESSIONAL ENGINEER
No. M29973
EXP. 06-30-24
STATE OF CALIFORNIA

REVISIONS:

	DESCRIPTION	DATE
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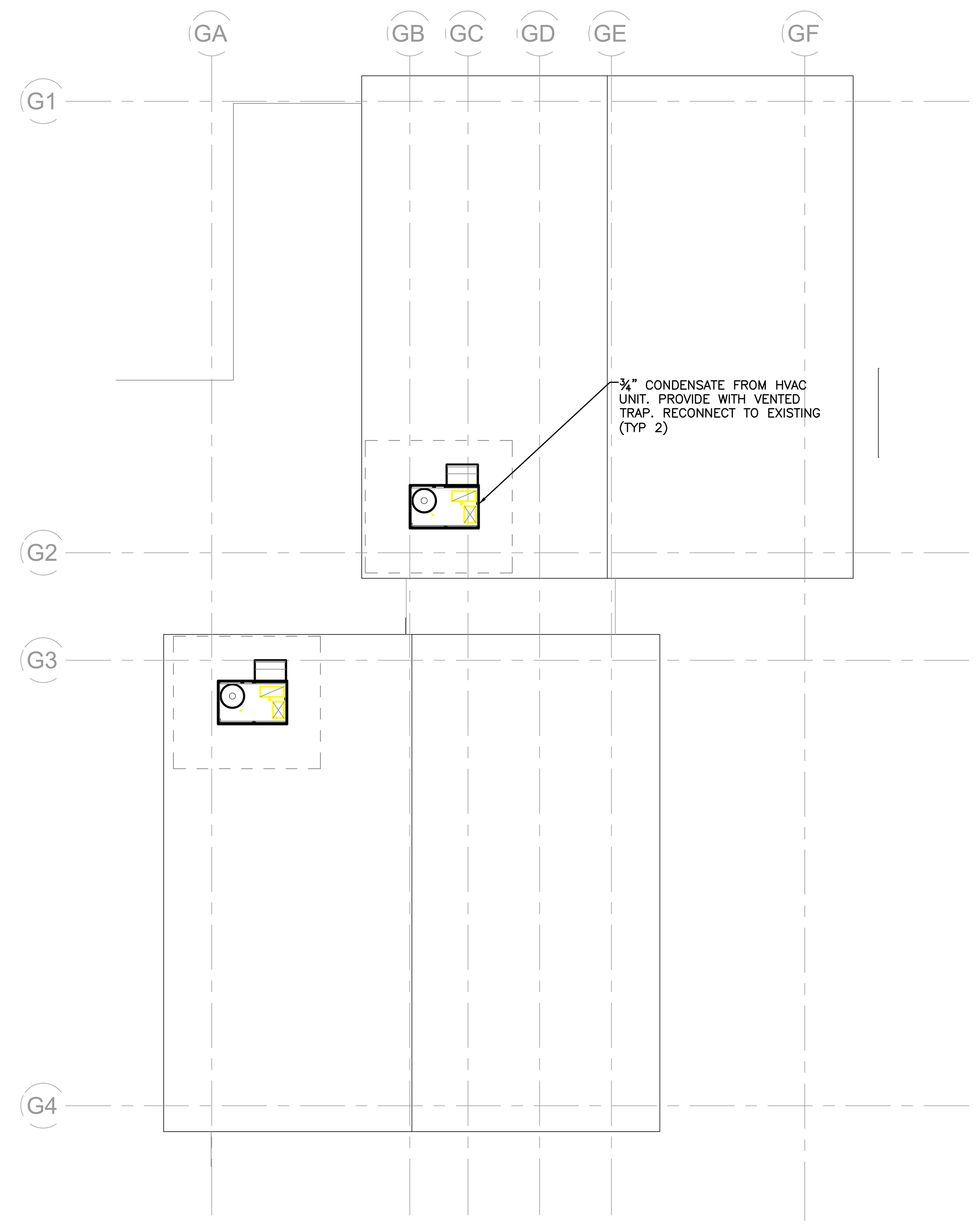
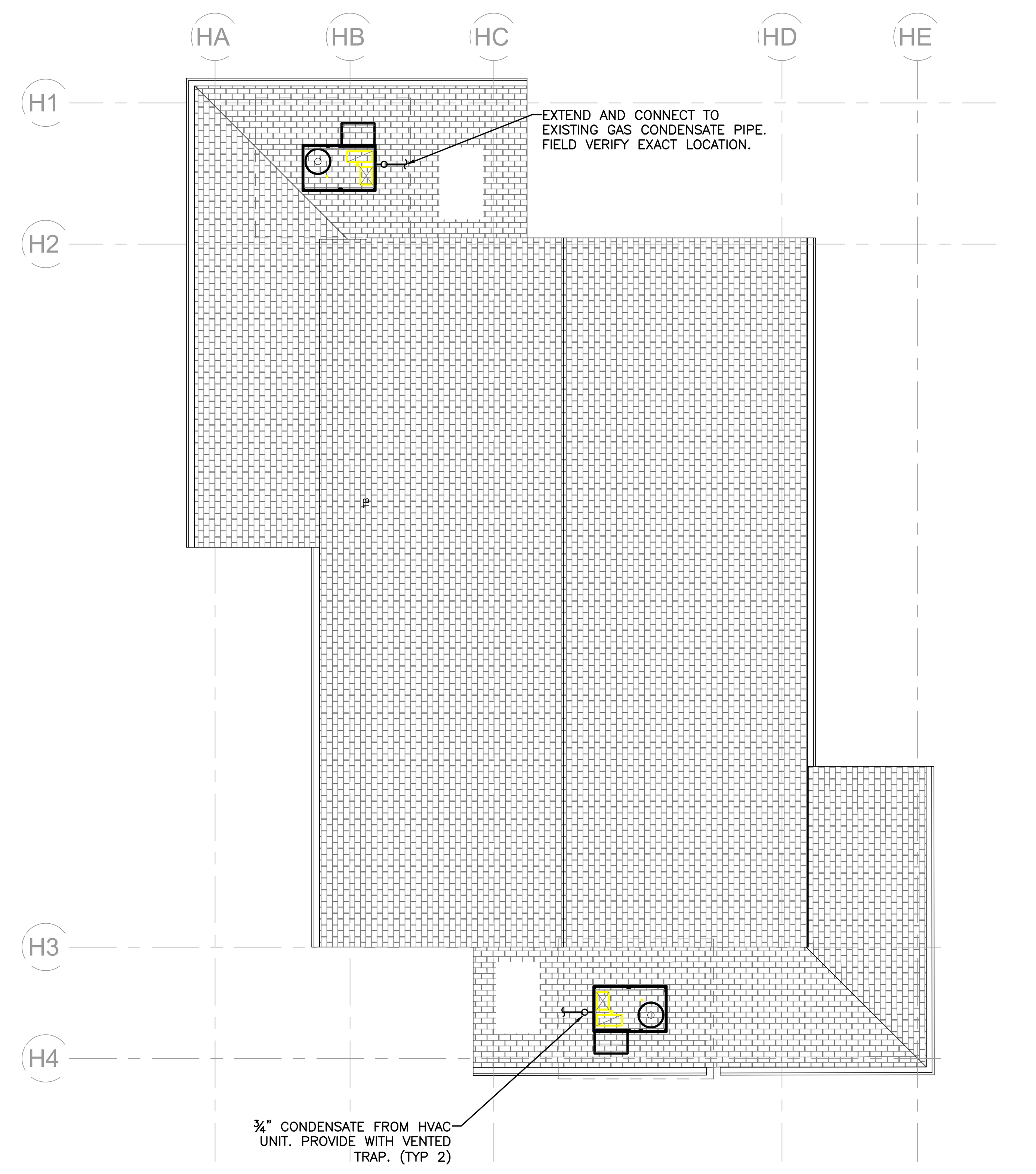
PROJECT NO:
DATE ISSUED: 06/21/2024
SCALE: As indicated
SHEET NUMBER: **P12-1**
SHEET TITLE:

PLUMBING DEMO ROOF PLANS - BLDG G AND H

tk1sc COLLABORATIVE
11870 Pierce Street, Suite 160
Riverside, California 92505
951.299.4160 www.tk1sc.com
Project Leader - Nikolas Bruno
Plumbing Lead - Ramon Cecena
tk1sc Job #: B2304502.000



ROOF PLAN - BLDG G | 1/8" = 1'-0" | 1



ROOF PLAN - BLDG H | 1/8" = 1'-0" | 2

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-121181 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 07/02/2024

OWNER: SAN RAFAEL CITY SCHOOLS

PROJECT NAME: VENETIA VALLEY BLDGS G AND H ALTERATION

CLIENT ADDRESS: 177 N San Pedro Rd, San Rafael, CA 94903

REGISTERED PROFESSIONAL ENGINEER
No. M29973
EXP. 06-30-24
STATE OF CALIFORNIA

REVISIONS:

	DESCRIPTION	DATE
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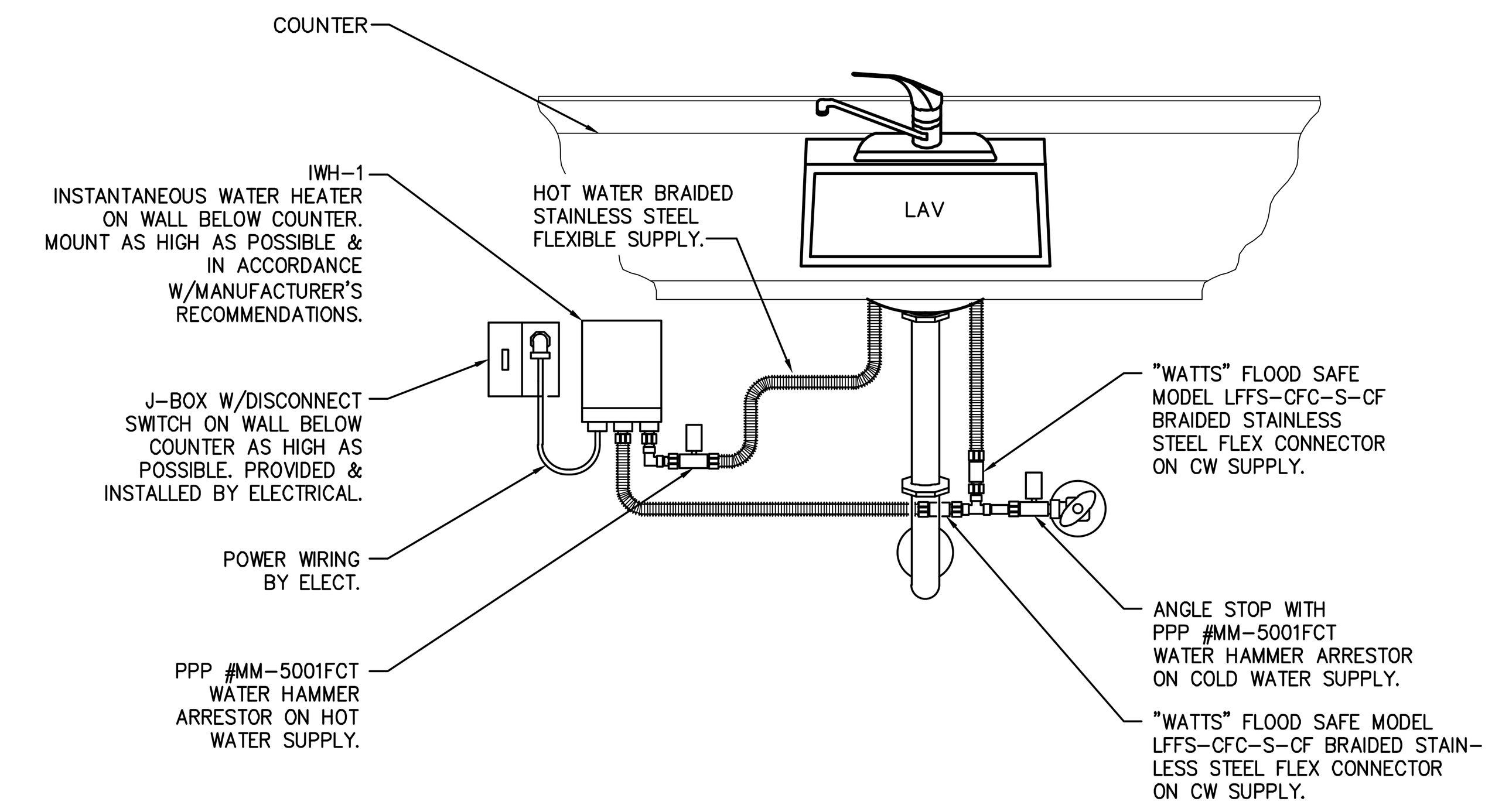
PROJECT NO:
DATE ISSUED: 06/21/2024
SCALE: As indicated
SHEET NUMBER: P13-1
SHEET TITLE:

PLUMBING ROOF PLANS - BLDG G AND H

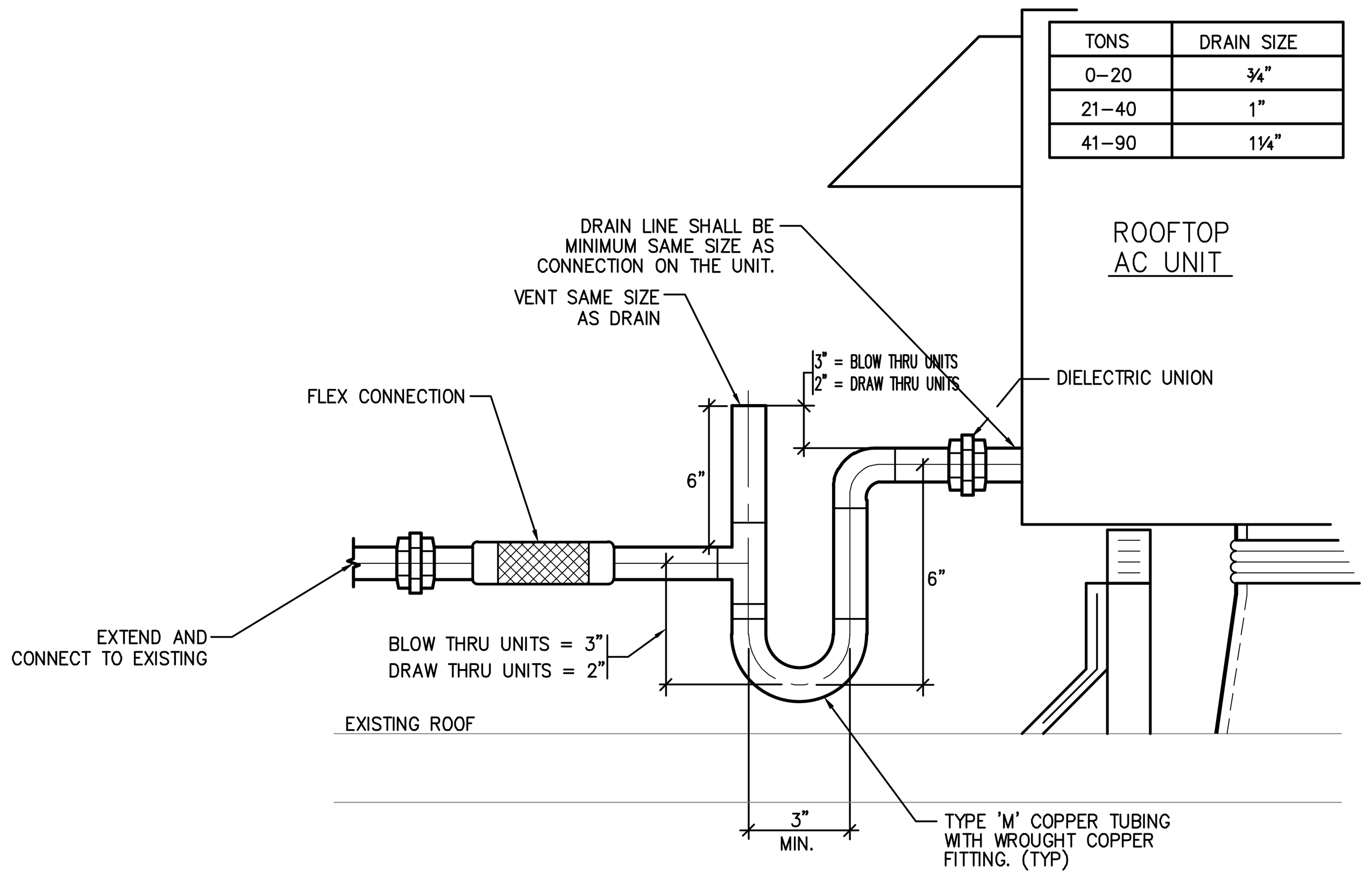
tk1sc COLLABORATIVE
11870 Pierce Street, Suite 160
Riverside, California 92505
951.299.4160 www.tk1sc.com
Project Leader - Nikolas Bruno
Plumbing Lead - Ramon Cecena
tk1sc Job #: B2304502.000

GENERAL NOTES:

1. THE INSTANTANEOUS WATER HEATER SHALL BE PROVIDED WITH INTEGRAL ⅜" REDUCER FITTING ON INLET & OUTLET CONNECTIONS.



--	8	--	4	INSTANTANEOUS WATER HEATER (SINK)	1
--	9	--	5	NOT USED	2
--	10	--	6		



TONS	DRAIN SIZE
0-20	¾"
21-40	1"
41-90	1¼"

--	11	--	7	CONDENSATE CONNECTION AT ROOF TOP UNIT	3

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APP: 01-121181 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 07/02/2024

OWNER: SAN RAFAEL CITY SCHOOLS

PROJECT NAME: VENETIA VALLEY BLDGS G AND H ALTERATION

CLIENT ADDRESS: 177 N San Pedro Rd, San Rafael, CA 94903

REGISTERED PROFESSIONAL ENGINEER
No. M29973
EXP. 06-30-24
STATE OF CALIFORNIA

REVISIONS:

	DESCRIPTION	DATE
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PROJECT NO:
DATE ISSUED: 06/21/2024
SCALE: As indicated
SHEET NUMBER: P30-1
SHEET TITLE:

DETAILS

tk1sc COLLABORATIVE
11870 Pierce Street, Suite 160
Riverside, California 92505
951.299.4160 www.tk1sc.com
Project Leader - Nikolas Bruno
Plumbing Lead - Ramon Cecena
tk1sc Job #: B2304502.000

USASHADE
& Fabric Structures, Inc.

FABRIC SHADE STRUCTURE

DSA P.C. 04-121917

GENERAL NOTES:

1. ALL WORK SHALL CONFORM TO THE 2022 EDITION OF THE TITLE 24, CALIFORNIA CODE OF REGULATIONS (CCR).
2. ALL WORK SHALL BE IN COMPLIANCE WITH CFC CHAPTER 33 - FIRE SAFETY DURING CONSTRUCTION AND DEMOLITION.
3. SEE INDIVIDUAL STRUCTURAL DRAWINGS FOR SPECIFIC DESIGN NOTES AND LOADING.
4. PRIOR TO SUBMITTAL ARCHITECT OF RECORD SHALL IDENTIFY PC MODEL(S) SELECTED BY END USER ON SHEETS T-1.0 AND T-2.0 BY CHECKING THE APPROPRIATE BOX ASSOCIATED WITH SELECTED PC MODEL(S), EXCLUDE SHEETS FOR MODELS NOT SELECTED.

PLANS FOR SPECIFIC APPLICATION SHALL INCLUDE THE FOLLOWING:

1. COMPLETE SCOPE OF WORK INCLUDING THE SHADE STRUCTURE MODEL NUMBER, P.C. NUMBER, AND SPECIFIC SIZE OF THE SHADE STRUCTURE(S).
2. PROVIDE A CODE ANALYSIS, INCLUDING ACTUAL SHADE STRUCTURE AREA (SQ. FT.), OCCUPANCY TYPE (A-3), AND TYPE OF CONSTRUCTIONS (V-B). INDICATE OCCUPANT LOAD FACTOR (2022 CBC, SECTION 1004).
3. ACTUAL DIMENSIONS OF SHADE STRUCTURES.
4. DIMENSIONS FROM ADJACENT STRUCTURES AND PROXIMITY OF ASSUMED OR ACTUAL PROPERTY LINES.
5. INDICATE LOCATIONS OF FIRE EXTINGUISHERS WITHIN 75 FEET.
6. SHOW LOCATION OF AUDIBLE FIRE ALARM.
7. ALL SADDLES, CLAMPS AND FITTINGS SHALL CONFORM TO THE GUIDELINES AS SPECIFIED IN APPENDICES "A, B, & C", RESPECTIVELY, IN ASCE/SEI 19-16, "STRUCTURAL APPLICATIONS OF STEEL CABLES FOR BUILDINGS."
8. ARCHITECTS OF RECORD TO DETERMINE IF SPECIFIC SITE IS LOCATED IN A MAPPED GEOLOGIC HAZARD ZONE. GEOHAZARD REPORTS REQUIREMENTS SHALL COMPLY WITH DSA IR A-4.
9. ARCHITECTS OF RECORD TO DETERMINE IF SPECIFIC SITE IS LOCATED IN A MAPPED FIRE HAZARD SEVERITY ZONE OR WILDLAND INTERFACE AREA.

FOR SNOW LOAD MODELS ONLY:

10. INDICATE DIMENSIONS FROM THE ROOF TO THE HIGHER STRUCTURE OR TERRAIN FEATURE. MINIMUM DIMENSION OF 20'-0" FOR SNOW LOAD MODEL (ASCE 7-16).
11. ACTUAL SITE ELEVATION (FEET) TO DETERMINE IF THE SITE OCCURS AT OR BELOW THE UPPER ELEVATION LIMIT FOR THE GROUND SNOW LOAD SHOWN IN ASCE 7-16.

P.C. NOTES

PLANS FOR SPECIFIC APPLICATION SHALL INCLUDE THE FOLLOWING:

LIST OF APPLICABLE CODES:

- 2022 CALIFORNIA ADMINISTRATIVE CODE (CAC), PART 1, TITLE 24 C.C.R.
- 2022 CALIFORNIA BUILDING CODE (CBC), PART 2, TITLE 24 C.C.R.
- 2022 CALIFORNIA ELECTRICAL CODE (CEC) , PART 3, TITLE 24 C.C.R.
- 2022 CALIFORNIA MECHANICAL CODE (CMC), PART 4, TITLE 24 C.C.R.
- 2022 CALIFORNIA PLUMBING CODE (CPC), PART 5, TITLE 24 C.C.R.
- 2022 CALIFORNIA ENERGY CODE (CEC), PART 6, TITLE 24 C.C.R.
- 2022 CALIFORNIA FIRE CODE, PART 9, TITLE 24 C.C.R.
- 2022 CALIFORNIA EXISTING BUILDING CODE (CEBC), PART 10, TITLE 24 C.C.R.
- 2022 CALIFORNIA GREEN BUILDING STANDARDS CODE (CALGREEN), PART 11, TITLE 24 C.C.R.
- 2022 CALIFORNIA REFERENCED STANDARDS CODE, PART 12, TITLE 24 C.C.R.
- TITLE 19 C.C.R., PUBLIC SAFETY, STATE FIRE MARSHAL REGULATIONS

APPLICABLE STANDARDS:

FOR A LIST OF APPLICABLE STANDARDS, INCLUDING CALIFORNIA AMENDMENTS TO THE NFPA STANDARDS, REFER TO CBC CHAPTER 35 AND CFC CHAPTER 80.

APPLICABLE CODES

SITE SPECIFIC PARAMETERS

INSTRUCTIONS: DESIGN PROFFESIONAL SHALL CHECK THE APPROPRIATE SELECTION BOXES BELOW AND ENTER THE DESIGN PARAMETERS APPLICABLE TO THE SPECIFIC PROJECT SITE

SEISMIC

SELECT ONE

- ☐ DESIGN BASED ON SITE CLASS $D_{default}$
  NO GEOTECHNICAL INVESTIGATION REQUIRED
  Ss = _____ Fa = 1.2
- ☑ DESIGN BASED ON SITE CLASS DETERMINED PER CHAPTER 20 OF ASCE 7-16
  GEOTECHNICAL INVESTIGATION PROVIDED
  SITE CLASS: ☑ C ☐ D
  Ss = 1.5 Fa = 1.2 PER ASCE 7-16 SUPPL 3, TABLE 11.4-1
- ☐ DESIGN BASED ON SITE CLASS SPECIFIC GROUND MOTION HAZARD ANALYSIS PER CHAPTER 21 OF ASCE 7-16
  SHORT-PERIOD DESIGN SPECTRAL RESPONSE PARAMETER, S_{DS}, SHALL BE AS SPECIFIED IN GEOTECHNICAL INVESTIGATION
  CGS APPROVAL REQUIRED
  NOT ELIGIBLE FOR OTC REVIEW
  SITE CLASS: ☐ C ☐ D

S_{DS} = 2/3 Fa Ss = 1.2 ≤ 2.0

C_R = 1.6 USED IN DESIGN

SEISMIC DESIGN CATEGORY: ☐ D ☐ E

CODE ANALYSIS			
OCCUPANCY GROUP	OCCUPANT LOAD FACTOR	TOTAL OCCUPANT LOAD	SHADE STRUCTURE AREA (ft²)

SITE SPECIFIC PARAMETERS

MANUFACTURER:

USA SHADE & FABRIC STRUCTURES
2580 ESTERS BOUVLEVARD, SUITE 100
DFW AIRPORT, TEXAS 75261
PH. 800-966-5005
W. www.usa-shade.com

ARCHITECT:

HIGGINSON ARCHITECTS, INC.
DAVID HIGGINSON, AIA, PRINCIPAL ARCHITECT
34247 YUCAIPA BOULEVARD, SUITE D
YUCAIPA, CALIFORNIA 92399
PH. 909-499-0058
E. dhigginson@higginsonarchitects.com
W. www.higginsonarchitects.com

LICENSED ARCHITECT · DAVID HIGGINSON · C19168 · 10-31-25 RENEWAL DATE · STATE OF CALIFORNIA

STRUCTURAL ENGINEER:

MARK LOWE, S.E.
c/o USA SHADE AND FABRIC STRUCTURES

REGISTERED PROFESSIONAL ENGINEER · MARK ALBERT LOWE · No. 3693 · STRUCTURAL · STATE OF CALIFORNIA

ARCHITECT / ENGINEER

✓	SHEET NO.	SHEET DESCRIPTION	UNIT STRUCTURE TYPE	MAX. UNIT SIZE	UNIT MODEL NUMBER
X	T-1.0	TITLE SHEET			
X	T-2.0	UNIT SELECTION			
X	T-3.0	T&I FORMS			
	1.1-1000	PRODUCT INFORMATION	HIP	20' x 30' x 15'	DSA4012030-22
	1.2-2000	REACTIONS	HIP	20' x 30' x 15'	DSA4012030-22
	2.1-1000	PRODUCT INFORMATION	HIP	30' x 30' x 15'	DSA4013030-22
	2.2-2000	REACTIONS	HIP	30' x 30' x 15'	DSA4013030-22
	3.1-1000	PRODUCT INFORMATION	HIP	30' x 40' x 15'	DSA4013040-22
	3.2-2000	REACTIONS	HIP	30' x 40' x 15'	DSA4013040-22
	4.1-1000	PRODUCT INFORMATION	HIP	40' x 40' x 15'	DSA4014040-22
	4.2-2000	REACTIONS	HIP	40' x 40' x 15'	DSA4014040-22
	5.1-1000	PRODUCT INFORMATION	HIP	20' x 30' x 12'	DSA401203012-22
	5.2-2000	REACTIONS	HIP	20' x 30' x 12'	DSA401203012-22
	6.1-1000	PRODUCT INFORMATION	HIP	30' x 30' x 12'	DSA401303012-22
	6.2-2000	REACTIONS	HIP	30' x 30' x 12'	DSA401303012-22
	7.1-1000	PRODUCT INFORMATION	HIP	30' x 40' x 12'	DSA401304012-22
	7.2-2000	REACTIONS	HIP	30' x 40' x 12'	DSA401304012-22
	8.1-1000	PRODUCT INFORMATION	HIP (20 psf SNOW LOAD)	20' x 30' x 15'	DSA401S2030-22
	8.2-2000	REACTIONS	HIP (20 psf SNOW LOAD)	20' x 30' x 15'	DSA401S2030-22
	9.1-1000	PRODUCT INFORMATION	JOINED HIPS	VARIES	DSA401J-22
	9.2-1001	DETAILS	JOINED HIPS	VARIES	DSA401J-22
	9.3-2000	REACTIONS	JOINED HIPS	VARIES	DSA401J-22
	10.1-1000	PRODUCT INFORMATION	QUAD JOINED HIPS	VARIES	DSA401Q-22
	10.2-1001	DETAILS	QUAD JOINED HIPS	VARIES	DSA401Q-22
	10.3-2000	REACTIONS	QUAD JOINED HIPS	VARIES	DSA401Q-22
	11.1-1000	PRODUCT INFORMATION	FULL CANTILEVER HIP SINGLE	20' x 30' x 15'	DSA2022030-22
	11.2-2000	REACTIONS	FULL CANTILEVER HIP SINGLE	20' x 30' x 15'	DSA2022030-22
	12.1-1000	PRODUCT INFORMATION	FULL CANTILEVER HIP JOINED	20' x 200' x 15'	DSA3022060-22
	12.2-2000	REACTIONS	FULL CANTILEVER HIP JOINED	20' x 200' x 15'	DSA3022060-22
	13.1-1000	PRODUCT INFORMATION	SINGLE POST PYRAMID	14' x 14' x 12'	DSA1031414-22
	13.2-2000	REACTIONS	SINGLE POST PYRAMID	14' x 14' x 12'	DSA1031414-22
	14.1-1000	PRODUCT INFORMATION	SINGLE POST PYRAMID	20' x 20' x 12'	DSA1032020-22
	14.2-2000	REACTIONS	SINGLE POST PYRAMID	20' x 20' x 12'	DSA1032020-22
	15.1-1000	PRODUCT INFORMATION	SINGLE POST PYRAMID CANTILEVER	14' x 14' x 12'	DSA1241414-22
	15.2-2000	REACTIONS	SINGLE POST PYRAMID CANTILEVER	14' x 14' x 12'	DSA1241414-22
X	16.1-1000	PRODUCT INFORMATION	SINGLE POST PYRAMID CANTILEVER	20' x 20' x 12'	DSA1242020-22
X	16.2-2000	REACTIONS	SINGLE POST PYRAMID CANTILEVER	20' x 20' x 12'	DSA1242020-22
	17.1-1000	PRODUCT INFORMATION	MARINER PEAK	30' x 30' x 15'	DSA4073030-22
	17.2-2000	REACTIONS	MARINER PEAK	30' x 30' x 15'	DSA4073030-22
	18.1-1000	PRODUCT INFORMATION	MARINER PEAK	30' x 40' x 18'	DSA4073040-22
	18.2-2000	REACTIONS	MARINER PEAK	30' x 40' x 18'	DSA4073040-22
	19.1-1000	PRODUCT INFORMATION	MARINER PEAK JOINED	30' x 133' x 15'	DSA407J3060-22
	19.2-2000	REACTIONS	MARINER PEAK JOINED	30' x 133' x 15'	DSA407J3060-22
	20.1-1000	PRODUCT INFORMATION	MARINER PEAK QUAD	60' x 60' x 15'	DSA407Q6060-22
	20.2-2000	REACTIONS	MARINER PEAK QUAD	60' x 60' x 15'	DSA407Q6060-22
	21.1-1000	PRODUCT INFORMATION	TRI TRUSS HIP SINGLE WIDE	20' x 30' x 15'	DSA2062030-22
	21.2-2000	REACTIONS	TRI TRUSS HIP SINGLE WIDE	20' x 30' x 15'	DSA2062030-22
	22.1-1000	PRODUCT INFORMATION	TRI TRUSS HIP JOINED	20' x 200' x 15'	DSA3052060-22
	22.2-2000	REACTIONS	TRI TRUSS HIP JOINED	20' x 200' x 15'	DSA3052060-22
	23.1-1000	PRODUCT INFORMATION	TENSION SAILS THREE POINT	30' x 133' x 15'	DSA30730-22
	23.2-2000	REACTIONS	TENSION SAILS THREE POINT	30' x 133' x 15'	DSA30730-22
	24.1-1000	PRODUCT INFORMATION	TENSIONS SAILS FOUR POINT	20' x 200' x 15'	DSA4182020-22
	24.2-2000	REACTIONS	TENSIONS SAILS FOUR POINT	20' x 200' x 15'	DSA4182020-22
	25.1-1000	PRODUCT INFORMATION	TENSIONS SAILS FOUR POINT	30' x 133' x 15'	DSA4183030-22
	25.2-2000	REACTIONS	TENSIONS SAILS FOUR POINT	30' x 133' x 15'	DSA4183030-22
	26.1-1000	PRODUCT INFORMATION	TRIANGLE	25' x 25' x 15'	DSA30125-22
	26.2-2000	REACTIONS	TRIANGLE	25' x 25' x 15'	DSA30125-22
	27.1-1000	PRODUCT INFORMATION	TRIANGLE	40' x 40' x 15'	DSA30140-22
	27.2-2000	REACTIONS	TRIANGLE	40' x 40' x 15'	DSA30140-22
	28.1-1000	PRODUCT INFORMATION	HEXAGON	Ø40' X 15'	DSA60340-22
	28.2-2000	REACTIONS	HEXAGON	Ø40' X 15'	DSA60340-22
	29.1-1000	PRODUCT INFORMATION	HEXAGON	Ø60' X 15'	DSA60360-22
	29.2-2000	REACTIONS	HEXAGON	Ø60' X 15'	DSA60360-22

TOTAL SHEET COUNT: 63 SHEETS

SHEET INDEX

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-121181 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 07/02/2024

USASHADE & Fabric Structures®
CORPORATE HEADQUARTERS
2580 ESTERS BLVD. SUITE 100
DFW AIRPORT, TX, 75261
800-966-5005

CERTIFICATIONS:
IAS CERTIFICATION No: FA-428
CLARK COUNTY MANUFACTURER CERTIFICATION NUMBER (NEVADA): 355

CUSTOMER:
San Rafael City Schools

PROJECT NAME:
Venetia Valley School

LOCATION:
177 N. San Pedro Road
San Rafael, CA 94903

MODEL NUMBER:

APPROVED
DIV. OF THE STATE ARCHITECT
APP: 04-121917 PC
REVIEWED FOR
SS ☑ FLS ☑ ACS ☒ CG ☐
DATE: 10/30/2023

STRUCTURE TYPE:

SCALE : VARIES

DRAWING SIZE:
D

PRE-CHECK (PC) DOCUMENT
Code : 2022 CBC
A separate project application for construction is required.

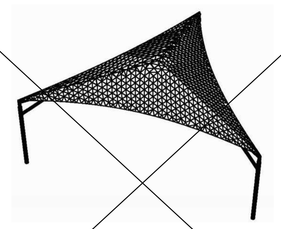
Eng. By :	DWH	2/14/23
Design By :	DWH	2/14/23
Approved By :	DWH	2/14/23

DRAWING DESCRIPTION:

DWG.
TITLE SHEET

SHEET
T-1.0

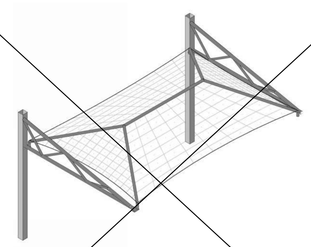
REV.



STRUCTURE MODEL:	DSA30125-22	SEE SHEET 26.1-1000
MAX. SIZE:	25' x 25' x 15'	
MAX. AREA:	271 SQ. FT.	
MAX. OCCUPANCY:	18 PERSONS	
STRUCTURE MODEL:	DSA30140-22	SEE SHEET 27.1-1000
MAX. SIZE:	40' x 40' x 15'	
MAX. AREA:	692 SQ. FT.	
MAX. OCCUPANCY:	46 PERSONS	

FOR DSA 103 TESTING & INSPECTIONS SAMPLE, SEE PC T-3.0 & PC T-4.0

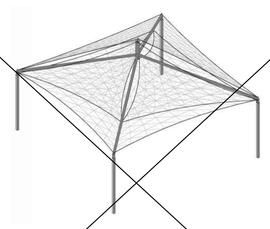
TRIANGLE



STRUCTURE MODEL:	DSA2062030-22	SEE SHEET 21.1-1000
MAX. SIZE:	20' x 30' x 15'	
MAX. AREA:	600 SQ. FT.	
MAX. OCCUPANCY:	40 PERSONS	

FOR DSA 103 TESTING & INSPECTIONS SAMPLE, SEE PC T-3.0 & PC T-4.0

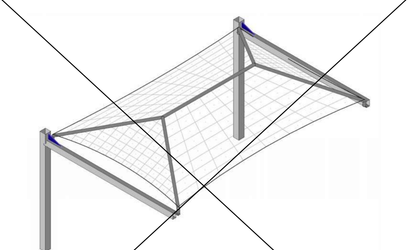
TRI-TRUSS HIP SINGLE WIDE



STRUCTURE MODEL:	DSA4073030-22	SEE SHEET 17.1-1000
MAX. SIZE:	30' x 30' x 15'	
MAX. AREA:	600 SQ. FT.	
MAX. OCCUPANCY:	40 PERSONS	
STRUCTURE MODEL:	DSA4073040-22	SEE SHEET 18.1-1000
MAX. SIZE:	30' x 40' x 15'	
MAX. AREA:	1,200 SQ. FT.	
MAX. OCCUPANCY:	80 PERSONS	

FOR DSA 103 TESTING & INSPECTIONS SAMPLE, SEE PC T-3.0 & PC T-4.0

MARINER PEAK

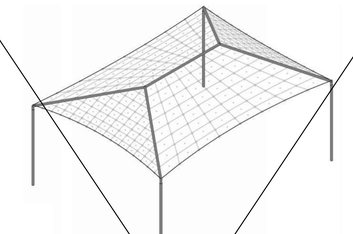


X

STRUCTURE MODEL:	DSA2022030-22	SEE SHEET 11.1-1000
MAX. SIZE:	20' x 30' x 15'	
MAX. AREA:	600 SQ. FT.	
MAX. OCCUPANCY:	40 PERSONS	

FOR DSA 103 TESTING & INSPECTIONS SAMPLE, SEE PC T-3.0 & PC T-4.0

FULL CANTILEVER HIP SINGLE



STRUCTURE MODEL:	DSA4012030-22	SEE SHEET 1.1-1000
MAX. SIZE:	20' x 30' x 15'	
MAX. AREA:	600 SQ. FT.	
MAX. OCCUPANCY:	40 PERSONS	
STRUCTURE MODEL:	DSA4013030-22	SEE SHEET 2.1-1000
MAX. SIZE:	30' x 30' x 15'	
MAX. AREA:	900 SQ. FT.	
MAX. OCCUPANCY:	60 PERSONS	
STRUCTURE MODEL:	DSA4013040-22	SEE SHEET 3.1-1000
MAX. SIZE:	30' x 40' x 15'	
MAX. AREA:	1,200 SQ. FT.	
MAX. OCCUPANCY:	80 PERSONS	
STRUCTURE MODEL:	DSA401203012-22	SEE SHEET 4.1-1000
MAX. SIZE:	20' x 30' x 12'	
MAX. AREA:	600 SQ. FT.	
MAX. OCCUPANCY:	40 PERSONS	
STRUCTURE MODEL:	DSA401303012-22	SEE SHEET 5.1-1000
MAX. SIZE:	30' x 30' x 12'	
MAX. AREA:	900 SQ. FT.	
MAX. OCCUPANCY:	60 PERSONS	
STRUCTURE MODEL:	DSA401304012-22	SEE SHEET 6.1-1000
MAX. SIZE:	30' x 40' x 12'	
MAX. AREA:	1,200 SQ. FT.	
MAX. OCCUPANCY:	80 PERSONS	
STRUCTURE MODEL:	DSA4014040-22	SEE SHEET 7.1-1000
MAX. SIZE:	40' x 40' x 12'	
MAX. AREA:	1,600 SQ. FT.	
MAX. OCCUPANCY:	106 PERSONS	
STRUCTURE MODEL:	DSA401S2030-22 (20 psf SNOW LOAD)	SEE SHEET 8.1-1000
MAX. SIZE:	20' x 30' x 15'	
MAX. AREA:	600 SQ. FT.	
MAX. OCCUPANCY:	40 PERSONS	

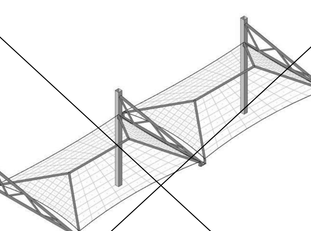
FOR DSA 103 TESTING & INSPECTIONS SAMPLE, SEE PC T-3.0 & PC T-4.0

HIP

STRUCTURE MODEL:	DSA60340-22	SEE SHEET 28.1-1000
MAX. SIZE:	Ø40' x 15'	
MAX. AREA:	1,040 SQ. FT.	
MAX. OCCUPANCY:	69 PERSONS	
STRUCTURE MODEL:	DSA60360-22	SEE SHEET 29.1-1000
MAX. SIZE:	Ø60' x 15'	
MAX. AREA:	2,338 SQ. FT.	
MAX. OCCUPANCY:	156 PERSONS	

FOR DSA 103 TESTING & INSPECTIONS SAMPLE, SEE PC T-3.0 & PC T-4.0

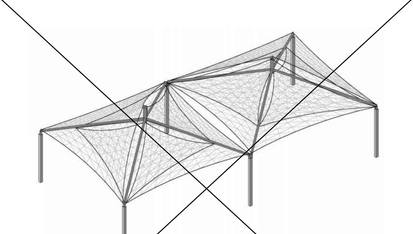
HEXAGON



STRUCTURE MODEL:	DSA3052060-22	SEE SHEET 22.1-1000
MAX. SIZE:	20' x 200' x 15'	
MAX. AREA:	4,000 SQ. FT.	
MAX. OCCUPANCY:	266 PERSONS	

FOR DSA 103 TESTING & INSPECTIONS SAMPLE, SEE PC T-3.0 & PC T-4.0

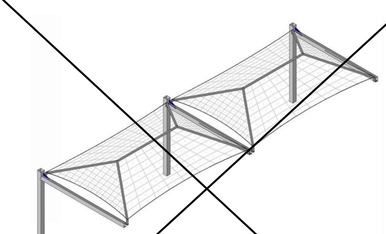
TRI-TRUSS HIP JOINED



STRUCTURE MODEL:	DSA407J3060-22	SEE SHEET 19.1-1000
MAX. SIZE:	30' x 133' x 15'	
MAX. AREA:	3,990 SQ. FT.	
MAX. OCCUPANCY:	266 PERSONS	

FOR DSA 103 TESTING & INSPECTIONS SAMPLE, SEE PC T-3.0 & PC T-4.0

MARINER PEAK JOINED

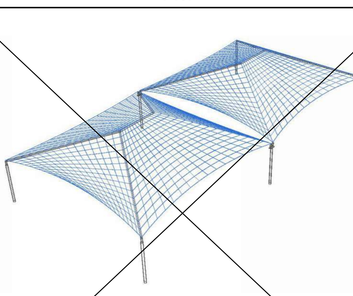


X

STRUCTURE MODEL:	DSA3022060-22	SEE SHEET 12.1-1000
MAX. SIZE:	20' x 200' x 15'	
MAX. AREA:	4,000 SQ. FT.	
MAX. OCCUPANCY:	266 PERSONS	

FOR DSA 103 TESTING & INSPECTIONS SAMPLE, SEE PC T-3.0 & PC T-4.0

FULL CANTILEVER HIP JOINED



STRUCTURE MODEL:	DSA401J-22	SEE SHEET 9.1-1000
MAX. SIZE:	VARIES, SEE JOINED HIP UNIT SHEET	
MAX. AREA:	VARIES	
MAX. OCCUPANCY:	VARIES	

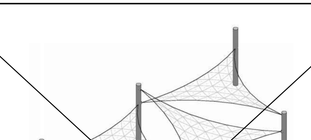
FOR DSA 103 TESTING & INSPECTIONS SAMPLE, SEE PC T-3.0 & PC T-4.0

JOINED HIP

STRUCTURE MODEL:	DSA4182020-22	SEE SHEET 24.1-1000
MAX. SIZE:	20' x 200' x 15'	
MAX. AREA:	4,000 SQ. FT.	
MAX. OCCUPANCY:	266 PERSONS	
STRUCTURE MODEL:	DSA4183030-22	SEE SHEET 25.1-1000
MAX. SIZE:	30' x 133' x 15'	
MAX. AREA:	3,990 SQ. FT.	
MAX. OCCUPANCY:	266 PERSONS	

FOR DSA 103 TESTING & INSPECTIONS SAMPLE, SEE PC T-3.0 & PC T-4.0

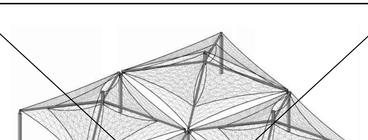
NOT USED



STRUCTURE MODEL:	DSA30730-22	SEE SHEET 23.1-1000
MAX. SIZE:	30' x 133' x 15'	
MAX. AREA:	3,990 SQ. FT.	
MAX. OCCUPANCY:	266 PERSONS	

FOR DSA 103 TESTING & INSPECTIONS SAMPLE, SEE PC T-3.0 & PC T-4.0

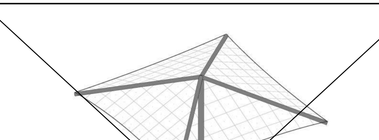
TENSIONS SAILS THREE-POINT



STRUCTURE MODEL:	DSA407Q8060-22	SEE SHEET 20.1-1000
MAX. SIZE:	60' x 60' x 15'	
MAX. AREA:	3,600 SQ. FT.	
MAX. OCCUPANCY:	240 PERSONS	

FOR DSA 103 TESTING & INSPECTIONS SAMPLE, SEE PC T-3.0 & PC T-4.0

MARINER PEAK QUAD



STRUCTURE MODEL:	DSA1031414-22	SEE SHEET 13.1-1000
MAX. SIZE:	14' x 14' x 12'	
MAX. AREA:	196 SQ. FT.	
MAX. OCCUPANCY:	13 PERSONS	
STRUCTURE MODEL:	DSA1032020-22	SEE SHEET 14.1-1000
MAX. SIZE:	20' x 20' x 12'	
MAX. AREA:	400 SQ. FT.	
MAX. OCCUPANCY:	26 PERSONS	

FOR DSA 103 TESTING & INSPECTIONS SAMPLE, SEE PC T-3.0 & PC T-4.0

SINGLE POST PYRAMID

STRUCTURE MODEL:	DSA401Q-22	SEE SHEET 10.1-1000
MAX. SIZE:	VARIES, SEE QUAD HIP UNIT SHEET	
MAX. AREA:	VARIES	
MAX. OCCUPANCY:	VARIES	

FOR DSA 103 TESTING & INSPECTIONS SAMPLE, SEE PC T-3.0 & PC T-4.0

QUAD HIP

STRUCTURE MODEL:	DSA4183030-22	SEE SHEET 25.1-1000
MAX. SIZE:	30' x 133' x 15'	
MAX. AREA:	3,990 SQ. FT.	
MAX. OCCUPANCY:	266 PERSONS	

FOR DSA 103 TESTING & INSPECTIONS SAMPLE, SEE PC T-3.0 & PC T-4.0

NOT USED

STRUCTURE MODEL:	DSA4182020-22	SEE SHEET 24.1-1000
MAX. SIZE:	20' x 200' x 15'	
MAX. AREA:	4,000 SQ. FT.	
MAX. OCCUPANCY:	266 PERSONS	
STRUCTURE MODEL:	DSA4183030-22	SEE SHEET 25.1-1000
MAX. SIZE:	30' x 133' x 15'	
MAX. AREA:	3,990 SQ. FT.	
MAX. OCCUPANCY:	266 PERSONS	

FOR DSA 103 TESTING & INSPECTIONS SAMPLE, SEE PC T-3.0 & PC T-4.0

TENSIONS SAILS FOUR-POINT

X

STRUCTURE MODEL:	DSA1241414-22	SEE SHEET 15.1-1000
MAX. SIZE:	14' x 14' x 12'	
MAX. AREA:	196 SQ. FT.	
MAX. OCCUPANCY:	13 PERSONS	
STRUCTURE MODEL:	DSA1242020-22	SEE SHEET 16.1-1000
MAX. SIZE:	20' x 20' x 12'	
MAX. AREA:	400 SQ. FT.	
MAX. OCCUPANCY:	26 PERSONS	

FOR DSA 103 TESTING & INSPECTIONS SAMPLE, SEE PC T-3.0 & PC T-4.0

SINGLE POST PYRAMID CANTILEVER

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-121181 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 07/02/2024

USA SHADE & Fabric Structures®

CORPORATE HEADQUARTERS
2580 ESTERS BLVD. SUITE 100
DFW AIRPORT, TX, 75261
800-966-5005

CERTIFICATIONS:

IAS CERTIFICATION No: FA-428

CLARK COUNTY MANUFACTURER CERTIFICATION NUMBER (NEVADA): 355

CUSTOMER:
San Rafael City Schools

PROJECT NAME:
Venetia Valley School

LOCATION:
177 N. San Pedro Road
San Rafael, CA 94903

MODEL NUMBER:

APPROVED
DIV. OF THE STATE ARCHITECT
APP: 04-121917 PC
REVIEWED FOR
SS ☑ FLS ☑ ACS ☒ CG ☐
DATE: 10/30/2023

STRUCTURE TYPE:

SCALE : VARIES

DRAWING SIZE:
D

PRE-CHECK (PC) DOCUMENT
Code : 2022 CBC
A separate project application for construction is required.

Eng. By :	DWH	2/14/23
Design By :	DWH	2/14/23
Approved By :	DWH	2/14/23

DRAWING DESCRIPTION:

DWG.
UNIT SELECTION

SHEET
T-2.0

REV.

REGISTERED PROFESSIONAL ENGINEER
MARK ALBERT DOANE
No. 3693
STRUCTURAL
STATE OF CALIFORNIA
10/18/2023

LICENSED ARCHITECT
DAVID MIGLIONICO
C19168
10-31-25
RENEWAL DATE
STATE OF CALIFORNIA

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS, 2022 CBC

Application Number: 04-121917
School Name: PC FABRIC SHADE STRUCTURES
School District: USA SHADE AND FABRIC STRUCTURES
DSA File Number:
Increment Number:
Date Created: 2023-02-15 15:23:09

2022 CBC

IMPORTANT: This form is only a summary list of structural tests and some of the special inspections required for the project. Generally, the structural tests and special inspections noted on this form are those that will be performed by the Geotechnical Engineer of Record, Laboratory of Record, or Special Inspector. The actual complete test and inspection program must be performed as detailed on the DSA approved documents. The appendix at the bottom of this form identifies work NOT subject to DSA requirements for special inspection or structural testing. The project inspector is responsible for providing inspection of all facets of construction, including but not limited to, special inspections not listed on this form such as structural wood framing, high-load wood diaphragms, cold-formed steel framing, anchorage of non-structural components, etc., per Title 24, Part 2, Chapter 17A (2022 CBC).

****NOTE:** Undefined section and table references found in this document are from the CBC, or California Building Code.

KEY TO COLUMNS

1. TYPE	2. PERFORMED BY
Continuous – Indicates that a continuous special inspection is required	**GE (Geotechnical Engineer)** – Indicates that the special inspection shall be performed by a registered geotechnical engineer or his or her authorized representative.
Periodic – Indicates that a periodic special inspection is required	**LOR (Laboratory of Record)** – Indicates that the test or special inspection shall be performed by a testing laboratory accepted in the DSA Laboratory Evaluation and Acceptance (LEA) Program. See CAC Section 4-335.
Test – Indicates that a test is required	**PI (Project Inspector) –** Indicates that the special inspection may be performed by a project inspector when specifically approved by DSA.
	SI (Special Inspection) – Indicates that the special inspection shall be performed by an appropriately qualified/approved special inspector.

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (SOILS), 2022 CBC

Table 1705A.6, Table 1705A.7, Table 1705A.8

Application Number: 04-121917
School Name: PC FABRIC SHADE STRUCTURES
School District: USA SHADE AND FABRIC STRUCTURES
DSA File Number:
Increment Number:
Date Created: 2023-02-15 15:23:09

Geotechnical Reports: Project does NOT have and does NOT require a geotechnical report

	S1. GENERAL:			
	Test or Special Inspection	**Type**	**Performed By**	**Code References and Notes**
☑	**a.** Verify that: • Site has been prepared properly prior to placement of controlled fill and/or excavations for foundations. • Foundation excavations are extended to proper depth and have reached proper material. • Materials below footings are adequate to achieve the design bearing capacity.	**See Notes**	**PI**	Refer to specific items identified in the Appendix listing exemptions for limitations. Placement of controlled fill exceeding 12" depth under foundations is not permitted without a geotechnical report.

	S2. SOIL COMPACTION AND FILL:			
	Test or Special Inspection	**Type**	**Performed By**	**Code References and Notes**
☑	**a.** Verify use of proper materials, densities and inspect lift thicknesses, placement and compaction during placement of fill.	**Continuous**	**LOR***	* Under the supervision of a geotechnical engineer or LOR's engineering manager. Refer to specific items identified in the Appendix listing exemptions for limitations.
☑	**b.** Compaction testing.	**Test**	**LOR***	* Under the supervision of a geotechnical engineer or LOR's engineering manager. Refer to specific items identified in the Appendix listing exemptions for limitations.

	S3. DRIVEN DEEP FOUNDATIONS (PILES):			
	Test or Special Inspection	**Type**	**Performed By**	**Code References and Notes**
☐	**a.** Verify pile materials, sizes and lengths comply with the requirements.	**Continuous**	**GE***	* By geotechnical engineer or his or her qualified representative.
☐	**b.** Determine capacities of test piles and conduct additional load tests as required.	**Test**	**LOR***	* Under the supervision of the geotechnical engineer.

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (SOILS), 2022 CBC

Table 1705A.6, Table 1705A.7, Table 1705A.8

Application Number: 04-121917
School Name: PC FABRIC SHADE STRUCTURES
School District: USA SHADE AND FABRIC STRUCTURES
DSA File Number:
Increment Number:
Date Created: 2023-02-15 15:23:09

	Test or Special Inspection	**Type**	**Performed By**	**Code References and Notes**
☐	**c.** Inspect driving operations and maintain complete and accurate records for each pile.	**Continuous**	**GE***	* By geotechnical engineer or his or her qualified representative.
☐	**d.** Verify locations of piles and their plumbness, confirm type and size of hammer, record number of blows per foot of penetration, determine required penetrations to achieve design capacity, record tip and butt elevations and record any pile damage.	**Continuous**	**GE***	* By geotechnical engineer or his or her qualified representative.
☐	**e.** Steel piles.	Provide tests and inspections per STEEL section below.		
☐	**f.** Concrete piles and concrete filled piles.	Provide tests and inspections per CONCRETE section below.		
☐	**g.** For specialty piles, perform additional inspections as determined by the registered design professional in responsible charge.	*	*	* As defined on drawings or specifications.

	S4. CAST-IN-PLACE DEEP FOUNDATIONS (PIERS):			
	Test or Special Inspection	**Type**	**Performed By**	**Code References and Note**
☑	**a.** Inspect drilling operations and maintain complete and accurate records for each pier.	**Continuous**	**PI**	Continuous inspection to be provided by project inspector. Refer to specific items identified in the Appendix listing exemptions for limitations.
☑	**b.** Verify pier locations, diameters, plumbness and lengths.Record concrete or grout volumes.	**Continuous**	**PI**	Continuous inspection to be provided by project inspector. Refer to specific items identified in the Appendix listing exemptions for limitations.
☑	**c.** Concrete piers.	Provide tests and inspections per CONCRETE section below.		

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (SOILS), 2022 CBC

Table 1705A.6, Table 1705A.7, Table 1705A.8

Application Number: 04-121917
School Name: PC FABRIC SHADE STRUCTURES
School District: USA SHADE AND FABRIC STRUCTURES
DSA File Number:
Increment Number:
Date Created: 2023-02-15 15:23:09

	Test or Special Inspection	**Type**	**Performed By**	**Code References and Notes**
	S5. RETAINING WALLS:			
	Test or Special Inspection	**Type**	**Performed By**	**Code References and Notes**
☐	**a.** Placement, compaction and inspection of backfill.	**Continuous**	**GE***	**1705A.6.1.** * By geotechnical engineer or his or her qualified representative. (See section S2 above).
☐	**b.** Placement of soil reinforcement and/or drainage devices.	**Continuous**	**GE***	* By geotechnical engineer or his or her qualified representative.
☐	**c.** Segmental retaining walls; inspect placement of units, dowels, connectors, etc.	**Continuous**	**GE***	* By geotechnical engineer or his or her qualified representative. See DSA IR 18-2.
☐	**d.** Concrete retaining walls.	Provide tests and inspections per CONCRETE section below.		
☐	**e.** Masonry retaining walls.	Provide tests and inspections per MASONRY section below.		

	S6. OTHER SOILS:			
	Test or Special Inspection	**Type**	**Performed By**	**Code References and Notes**
☐	**a.** Soil Improvements	**Test**	**GE***	Submit a comprehensive report documenting final soil improvements constructed, construction observation and the results of the confirmation testing and analysis to CGS (California Geological Survey) for final acceptance. * By geotechnical engineer or his or her qualified representative.
☐	**b.** Inspection of Soil Improvements	**Continuous**	**GE***	* By geotechnical engineer or his or her qualified representative.
☐	**c.**			

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (CONCRETE), 2022 CBC

Table 1705A.3; ACI 318-19 Sections 26.12 & 26.13

Application Number: 04-121917
School Name: PC FABRIC SHADE STRUCTURES
School District: USA SHADE AND FABRIC STRUCTURES
DSA File Number:
Increment Number:
Date Created: 2023-02-15 15:23:09

	C1. CAST-IN-PLACE CONCRETE			
	Test or Special Inspection	**Type**	**Performed By**	**Code References and Notes**
☑	**a.** Verify use of required design mix.	**Periodic**	**SI**	**Table 1705A.3 Item 5, 1910A.1.**
☑	**b.** Identifiy, sample, and test reinforcing steel.	**Test**	**LOR**	**1910A.2;** ACI 318-19 Ch.20 and Section 26.6.1.2; DSA IR 17-10. (See Appendix (end of this form) for exemptions.)
☑	**c.** During concrete placement, fabricate specimens for strength tests, perform slump and air content tests, and determine the temperature of the concrete.	**Test**	**LOR**	**Table 1705A.3 Item 6**; ACI 318-19 Sections 26.5 & 26.12.
☑	**d.** Test concrete (f'_c).	**Test**	**LOR**	**1905A.1.17;** ACI 318-19 Section 26.12.
☑	**e.** Batch plant inspection: **Eliminated**	**See Notes**	**SI**	Default of **'Continuous'** per **1705A.3.3**. If approved by DSA, batch plant inspection may be reduced to **'Periodic'** subject to requirements in Section **1705A.3.3.1,** or eliminated per **1705A.3.3.2.** See IR 17-13. (See Appendix (end of this form) for exemptions.)
☐	**f.** Welding of reinforcing steel.	Provide special inspection per STEEL, Category S/A4(d) & (e) and/or S/A5(g) & (h) below.		

	C2. PRESTRESSED / POST-TENSIONED CONCRETE (IN ADDITION TO SECTION C1):			
	Test or Special Inspection	**Type**	**Performed By**	**Code References and Notes**
☐	**a.** Sample and test prestressing tendons and anchorages.	**Test**	**LOR**	**1705A.3.4, 1910A.3**
☐	**b.** Inspect placement of prestressing tendons.	**Periodic**	**SI**	**1705A.3.4, Table 1705A.3 Items 1 & 9.**

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (CONCRETE), 2022 CBC

Table 1705A.3; ACI 318-19 Sections 26.12 & 26.13

Application Number: 04-121917
School Name: PC FABRIC SHADE STRUCTURES
School District: USA SHADE AND FABRIC STRUCTURES
DSA File Number:
Increment Number:
Date Created: 2023-02-15 15:23:09

	Test or Special Inspection	**Type**	**Performed By**	**Code References and Notes**
☐	**c.** Verify in-situ concrete strength prior to stressing of post-tensioning tendons.	**Periodic**	**SI**	**Table 1705A.3 Item 13.** Special inspector to verify specified concrete strength test prior to stressing.
☐	**d.** Inspect application of post-tensioning or prestressing forces and grouting of bonded prestressing tendons.	**Continuous**	**SI**	**1705A.3.4, Table 1705A.3 Item 9;** ACI 318-14 Section 26.13

	C3. PRECAST CONCRETE (IN ADDITION TO SECTION C1):			
	Test or Special Inspection	**Type**	**Performed By**	**Code References and Notes**
☐	**a.** Inspect fabrication of precast concrete members.	**Continuous**	**SI**	ACI 318-19 Section 26.13.
☐	**b.** Inspect erection of precast concrete members.	**Periodic**	**SI***	**Table 1705A.3 Item 10.** * May be performed by PI when specifically approved by DSA.
☐	**c.** For precast concrete diaphragm connections or reinforcement at joints classified as moderate or high deformability elements (MDE or HDE) in structures assigned to Seismic Design Category D, E or F, inspect such connections and reinforcement in the field for: 1. Installation of the embedded parts 2. Completion of the continuity of reinforcement across joints. 3. Completion of connections in the field.	**Continuous**	**SI**	Table 1705A.3; ACI 318-19 Section 26.13.1.3; ACI 550.5
☐	**d.** Inspect installation tolerances of precast concrete diaphragm connections for compliance with ACI 550.5.	**Periodic**	**SI**	Table 1705A.3; ACI 318-19 Section 26.13.1.3; ACI 550.5

DSA 103-22: LISTING OF STRUCTURAL TESTS & SPECIAL INSPECTIONS (CONCRETE), 2022 CBC

Table 1705A.3; ACI 318-19 Sections 26.12 & 26.13

Application Number: 04-121917
School Name: PC FABRIC SHADE STRUCTURES
School District: USA SHADE AND FABRIC STRUCTURES
DSA File Number:
Increment Number:
Date Created: 2023-02-15 15:23:09

	C4. SHOTCRETE (IN ADDITION TO SECTION C1):			
	Test or Special Inspection	**Type**	**Performed By**	**Code References and Notes**
☐	**a.** Inspect shotcrete placement for proper application techniques.	**Continuous**	**SI**	**1705A.3.9, Table 1705A.3 Item 7, 1908A.1, 1908A.2, 1908A.3.** See ACI 506.2-13 Section 3.4, ACI 506R-16.
☐	**b.** Sample and test shotcrete (f'_c).	**Test**	**LOR**	**1908A.2, 1705A.3.9**

	C5. POST-INSTALLED ANCHORS:			
	Test or Special Inspection	**Type**	**Performed By**	**Code References and Notes**
☐	**a.** Inspect installation of post-installed anchors	**See Notes**	**SI***	**1617A.1.19, Table 1705A.3 Item 4a (Continuous) & 4b (Periodic), 1705A.3.8** (See Appendix (end of this form) for exemptions). ACI 318-14 Sections 17.8 & 26.13. * May be performed by the project inspector when specifically approved by DSA.
☐	**b.** Test post-installed anchors.	**Test**	**LOR**	**1910A.5.** (See Appendix (end of this form) for exemptions.)

	C6. OTHER CONCRETE:			
	Test or Special Inspection	**Type**	**Performed By**	**Code References and Notes**
☐	**a.**			

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1705A.2.1, Table 1705A.2.1; AISC 303-16, AISC 341-16, AISC 358-16, AISC 360-16; AISI S100-20; RCSC 2014; AWS D1.1, AWS D1.2, AWS D1.3, AWS D1.4, AWS D1.8

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	S/A1. STRUCTURAL STEEL, COLD-FORMED STEEL AND ALUMINUM USED FOR STRUCTURAL PURPOSES			
	Test or Special Inspection	**Type**	**Performed By**	**Code References and Notes**
☑	**a.** Verify identification of all materials and: • Mill certificates indicate material properties that comply with requirements. • Material sizes, types and grades comply with requirements.	**Periodic**	*	**Table 1705A.2.1 Item 3a–3c.** 2202A.1**;** AISI S100-20 Section A3.1 & A3.2, AISI S240-20 Section A3 & A5, AISI S220-20 Sections A4 & A6. * By special inspector or qualified technician when performed off-site.
☑	**b.** Test unidentified materials	**Test**	**LOR**	**2202A.1.**
☑	**c.** Examine seam welds of HSS shapes	**Periodic**	**SI**	DSA IR 17-3.
☑	**d.** Verify and document steel fabrication per DSA-approved construction documents.	**Periodic**	**SI**	Not applicable to cold-formed steel light-frame construction, except for trusses (**1705A.2.4**).
☐	**e.** Buckling restrained braces.	**Test**	**LOR**	Testing and special inspections in accordance with IR 22-4.

	S/A2. HIGH-STRENGTH BOLTS: SEE STRUCTURAL NOTES ON SERIES 1000 SHEETS FOR JOINT TYPE			
	Test or Special Inspection	**Type**	**Performed By**	**Code References and Notes**
☑	**a.** Verify identification markings and manufacturer's certificates of compliance conform to ASTM standards specified in the DSA-approved documents.	**Periodic**	**SI**	**Table 1705A.2.1 Items 1a & 1b, 2202A.1;** AISC 360-16 Section A3.3, J3.1, and N3.2; RCSC 2014 Section 1.5 & 2.1; DSA IR 17-8 & DSA IR 17-9.
☑	**b.** Test high-strength bolts, nuts and washers.	**Test**	**LOR**	**Table 1705A.2.1 Item 1c, 2213A.1**; RCSC 2014 Section 7.2; DSA IR 17-8.
☑	**c.** Bearing-type (“snug tight”) connections.	**Periodic**	**SI**	**Table 1705A.2.1 Item 2a, 1705A.2.6, 2204A.2**; AISC 360-16 J3.1, J3.2, M2.5 & N5.6; RCSC 2014 Section 9.1; DSA IR 17-9.
☑	**d.** Pretensioned and slip-critical connections.	*	**SI**	**Table 1705A.2.1 Items 2b & 2c, 1705A.2.6, 2204A.2;** AISC 360-16 J3.1, J3.2, M2.5 & N5.6; RCSC 2014 Sections 9.2 & 9.3; DSA IR 17-9. *“Continuous” or “Periodic” depends on the tightening method used.

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1705A.2.1, Table 1705A.2.1; AISC 303-16, AISC 341-16, AISC 358-16, AISC 360-16; AISI S100-20; RCSC 2014; AWS D1.1, AWS D1.2, AWS D1.3, AWS D1.4, AWS D1.8

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	S/A3. WELDING:			
	Test or Special Inspection	**Type**	**Performed By**	**Code References and Notes**
☑	**a.** Verify weld filler material identification markings per AWS designation listed on the DSA-approved documents and the WPS.	**Periodic**	**SI**	**1705A.2.5, Table 1705A.2.1 Items 4 & 5**; AWS D1.1 and AWS D1.8 for structural steel; AWS D1.2 for Aluminum; AWS D1.3 for cold-formed steel; AWS D1.4 for reinforcing steel; DSA IR 17-3.
☑	**b.** Verify weld filler material manufacturer’s certificate of compliance.	**Periodic**	**SI**	DSA IR 17-3.
☑	**c.** Verify WPS, welder qualifications and equipment.	**Periodic**	**SI**	DSA IR 17-3.

	S/A4. SHOP WELDING (IN ADDITION TO SECTION S/A3):			
	Test or Special Inspection	**Type**	**Performed By**	**Code References and Notes**
☑	**a.** Inspect groove welds, multi-pass fillet welds, single pass fillet welds > 5/16", plug and slot welds.	**Continuous**	**SI**	**Table 1705A.2.1 Items 5a.1–4;** AISC 360-16 (and AISC 341-16 as applicable); DSA IR 17-3.
☑	**b.** Inspect single-pass fillet welds ≤ 5/16”, floor and roof deck welds.	**Periodic**	**SI**	**1705A.2.2, Table 1705A.2.1 Items 5a.5 & 5a.6;** AISC 360-16 (and AISC 341-16 as applicable); DSA IR 17-3.
☐	**c.** Inspect welding of stairs and railing systems.	**Periodic**	**SI**	**1705A.2.1**; AISC 360-16 (and AISC 341-16 as applicable); AWS D1.1 & D1.3; DSA IR 17-3.
☐	**d.** Verification of reinforcing steel weldability other than ASTM A706.	**Periodic**	**SI**	**1705A.3.1**; AWS D1.4; DSA IR 17-3. Verify carbon equivalent reported on mill certificates.
☐	**e.** Inspect welding of reinforcing steel.	**Continuous**	**SI**	**Table 1705A.2.1 Item 5b, 1705A.3.1, Table 1705A.3 Item 2, 1903A.8;** AWS D1.4; DSA IR 17-3.

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1705A.2.1, Table 1705A.2.1; AISC 303-16, AISC 341-16, AISC 358-16, AISC 360-16; AISI S100-20; RCSC 2014; AWS D1.1, AWS D1.2, AWS D1.3, AWS D1.4, AWS D1.8

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	Test or Special Inspection	**Type**	**Performed By**	**Code References and Notes**
	S/A5. FIELD WELDING (IN ADDITION TO SECTION S/A3):			
	Test or Special Inspection	**Type**	**Performed By**	**Code References and Notes**
☐	**a.** Inspect groove welds, multi-pass fillet welds, single pass fillet welds > 5/16", plug and slot welds.	**Continuous**	**SI**	**Table 1705A.2.1 Items 5a.1–4;** AISC 360-16 (AISC 341-16 as applicable); DSA IR 17-3.
☐	**b.** Inspect single-pass fillet welds ≤ 5/16”.	**Periodic**	**SI**	**Table 1705A.2.1 Item 5a.5;** AISC 360-16 (AISC 341-16 as applicable); DSA IR 17-3.
☐	**c.** Inspect end-welded studs (ASTM A-108) installation (including bend test).	**Periodic**	**SI**	**2213A.2**; AISC 360-16 (AISC 341-16 as applicable); AWS D1.1; DSA IR 17-3.
☐	**d.** Inspect floor and roof deck welds.	**Periodic**	**SI**	**1705A.2.2, Table 1705A.2.1 Item 5a.6;** AISC 360-16 (AISC 341-16 as applicable); AWS D1.3; DSA IR 17-3.
☐	**e.** Inspect welding of structural cold-formed steel.	**Periodic**	**SI***	**1705A.2.5; AWS D1.3; DSA IR 17-3.** The quality control provisions of AISI S240-20 Chapter D shall also apply. * May be performed by the project inspector when specifically approved by DSA.
☐	**f.** Inspect welding of stairs and railing systems.	**Periodic**	**SI***	**1705A.2.1;** AISC 360-16 (AISC 341-16 as applicable); AWS D1.1 & D1.3; DSA IR 17-3. * May be performed by the project inspector when specifically approved by DSA.
☐	**g.** Verification of reinforcing steel weldability.	**Periodic**	**SI**	**1705A.3.1**; AWS D1.4; DSA IR 17-3. Verify carbon equivalent reported on mill certificates.
☐	**h.** Inspect welding of reinforcing steel.	**Continuous**	**SI**	**Table 1705A.2.1 Item 5b, 1705A.3.1, Table 1705A.3 Item 2, 1903A.8;** AWS D1.4; DSA IR 17-3.

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1705A.2.1, Table 1705A.2.1; AISC 303-16, AISC 341-16, AISC 358-16, AISC 360-16; AISI S100-20; RCSC 2014; AWS D1.1, AWS D1.2, AWS D1.3, AWS D1.4, AWS D1.8

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	Test or Special Inspection	**Type**	**Performed By**	**Code References and Notes**
	S/A6. NONDESTRUCTIVE TESTING:			
	Test or Special Inspection	**Type**	**Performed By**	**Code References and Notes**
☐	**a.** Ultrasonic	**Test**	**LOR**	**1705A.2.1, 1705A.2.5;** AISC 341-16 J6.2, AISC 360-16 N5.5; AWS D1.1, AWS D1.8; DSA IR 17-2.
☐	**b.** Magnetic Particle	**Test**	**LOR**	**1705A.2.1, 1705A.2.5;** AISC 341-16 J6.2, AISC 360-16 N5.5; AWS D1.1, AWS D1.8; DSA IR 17-2.
☐	**c.**	**Test**	**LOR**	

	S/A7. STEEL JOISTS AND TRUSSES:			
	Test or Special Inspection	**Type**	**Performed By**	**Code References and Notes**
☐	**a.** Verify size, type and grade for all chord and web members as well as connectors and weld filler material; verify joist profile, dimensions and camber (if applicable); verify all weld locations, lengths and profiles; mark or tag each joist.	**Continuous**	**SI**	**1705A.2.3, Table 1705A.2.3;** AWS D1.1; DSA IR 22-3 for steel joists only. **1705A.2.4;** AWS D1.3 for cold-formed steel trusses.

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1705A.2.1, Table 1705A.2.1; AISC 303-16, AISC 341-16, AISC 358-16, AISC 360-16; AISI S100-20; RCSC 2014; AWS D1.1, AWS D1.2, AWS D1.3, AWS D1.4, AWS D1.8

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	Test or Special Inspection	**Type**	**Performed By**	**Code References and Notes**
	S/A8. SPRAYED FIRE-RESISTANT MATERIALS:			
	Test or Special Inspection	**Type**	**Performed By**	**Code References and Notes**
☐	**a.** Examine structural steel surface conditions, inspect application, take samples, measure thickness and verify compliance of all aspects of application with DSA-approved documents.	**Periodic**	**SI**	**1705A.15, 1705A.1, 1705A.2, 1705A.3, 1705A.4.**
☐	**b.** Test density.	**Test**	**LOR**	**1705A.15.1, 1705A.15.5, ASTM E736**
☐	**c.** Bond strength adhesion/cohesion.	**Test**	**LOR**	**1705A.15.1, 1705A.15.4, ASTM E605**

	S/A9. ANCHOR BOLTS AND ANCHOR RODS:			
	Test or Special Inspection	**Type**	**Performed By**	**Code References and Notes**
☐	**a.** Anchor Bolts and Anchor Rods	**Test**	**LOR**	Sample and test anchor bolts and anchor rods not readily identifiable per procedures noted in DSA IR 17-11.
☐	**b.** Threaded rod not used for foundation anchorage.	**Test**	**LOR**	Sample and test threaded rods not readily identifiable per procedures noted in DSA IR 17-11.

	S/A10. STORAGE RACK SYSTEMS:			
	Test or Special Inspection	**Type**	**Performed By**	**Code References and Notes**
☐	**a.** Materials used, to verify compliance with one or more of the material test reports in accordance with the approved construction documents.	**Periodic**	**SI**	Table 1705A.13.7
☐	**b.** Fabricated storage rack elements.	**Periodic**	**SI**	1704A.2.5; Table 1705A.13.7

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1705A.2.1, Table 1705A.2.1; AISC 303-16, AISC 341-16, AISC 358-16, AISC 360-16; AISI S100-20; RCSC 2014; AWS D1.1, AWS D1.2, AWS D1.3, AWS D1.4, AWS D1.8

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	Test or Special Inspection	**Type**	**Performed By**	**Code References and Notes**
☐	**c.** Storage rack anchorage installation.	**Periodic**	**SI**	ANSI/MH16.1 Section 7.3.2; Table 1705A.13.7
☐	**d.** Completed storage rack system to indicate compliance with the approved construction documents.	**Periodic**	**SI***	Table 1705A.13.7; * May be preformed by the project inspector when specifically approved by DSA.

	S/A11. Other Steel			
	Test or Special Inspection	**Type**	**Performed By**	**Code References and Notes**
☐	**a.**			

GENERAL DSA-103 NOTES:

1. THE SAMPLE DSA-103 FORM PROVIDED ON THIS SHEET IS FOR ILLUSTRATIVE PURPOSES ONLY TO ASSIST IN THE COMPLETION OF SPECIFIC DSA-103 FORMS FOR FUTURE PROJECTS.
2. A CURRENT DSA-103 FORM IS TO BE COMPLETED FOR EACH APPLICATION THAT THIS P.C. DOCUMENT IS BEING INCORPORATED INTO AND ALL SAMPLE DSA-103 SHEETS ARE TO BE CROSSED OUT ON THIS SHEET

ADDITIONAL TESTING AND INSPECTION NOTES:

1. THE PROJECT INSPECTOR AND TESTING AGENCY SHALL BE EMPLOYED BY THE SCHOOL DISTRICT AND APPROVED BY DSA AND THE ARCHITECT OF RECORD.
2. A "DSA CERTIFIED" PROJECT INSPECTRO EMPLOYED BY THE DISTRICT (OWNER) AND APPROVED BY DSA SHALL PROVIDE CONTINUOUS INSPECTION OF THE WORK. THE DUTIES OF THE INSPECTOR ARE DEFINED IN SECTION 4-342, PART 1, TITLE 24, CCR.
3. THE SITE PROJECT INSPECTOR SHALL BE CLASS 2.
4. A DSA ACCEPTED TESTING LABORATORY DIRECTLY EMPLOYED BY THE DISTRICT (OWNER) SHALL CONDUCT ALL THE RQUIRED TEST AND INSPECTIONS FOR THE PROJECT.
5. THE COSTS OF THE PROJECT INSPECTOR AND TESTING AGENCY SHALL BE BORN BY THE SCHOOL DISTRICT.
6. COPIES OF THE VERIFIED REPORTS SHALL BE SENT TO DSA, THE ARCHITECT, THE SCHOOL DISTRICT, THE CONTRACTOR, AND THE PROJECT INSPECTOR.
7. THE IN-PLANT INSPECTOR SHALL BE A WELDING SPECIAL INSPECTOR FOR MATERIAL VERIFICATION AND WELDING.
8. PER 2022 CBC, SECTION 1705A.3.3, BATCH PLANT INSPECTION MAY BE WAIVED WHEN THE FOLLOWING REQUIREMENTS ARE MET:
   - 8.1. A LICENSED WEIGHMASTER SHALL POSITIVELY IDENTIFY QUANTITY OF MATERIALS AND CERTIFY EACH LOAD BY A BATCH TICKET.
   - 8.2. BATCH TICKETS, INCLUDING MATERIAL QUANTITIES AND WEIGHTS SHALL ACCOMPANY THE LOAD, SHALL BE TRANSMITTED TO THE INSPECTOR OF RECORD BY THE TRUCK DRIVER WITH LOAD IDENTIFIED THEREON. THE LOAD SHALL NOT BE PLACED WITHOUT A BATCH TICKET IDENTIFYING THE MIX. THE INSPECTOR OF RECORD SHALL KEEP A DAILY RECORD OF PLACEMENTS, IDENTIFYING EACH TRUCK, IT'S LOAD, TIME OF RECEIPT AT THE JOBSITE, AND APPROXIMATE LOCATION OF DEPOSIT IN THE STRUCTURE AND SHALL MAINTAIN A COPY OF THE DAILY RECORD AS REQUIRED BY THE ENFORCING AGENCY.

No. 3693
10/18/2023

C19168
10-31-25
RENEWAL DATE

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-121181 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 07/02/2024

THESE PLANS AND SPECIFICATIONS ARE THE PROPERTY OF USA SHADE AND FABRIC STRUCTURES AND SHALL NOT BE REPRODUCED WITHOUT THEIR WRITTEN

USASHADE
& Fabric Structures®

CORPORATE HEADQUARTERS
2580 ESTERS BLVD. SUITE 100
DFW AIRPORT, TX, 75261
800-966-5005

CERTIFICATIONS:
IAS CERTIFICATION No: FA-428
CLARK COUNTY MANUFACTURER
CERTIFICATION NUMBER (NEVADA): 355

CUSTOMER:
San Rafael City Schools

PROJECT NAME:

LOCATION:
Venetia Valley School
177 N. San Pedro Road
San Rafael, CA 94903

MODEL NUMBER:

APPROVED
DIV. OF THE STATE ARCHITECT
APP: 04-121917 PC
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑ CG ☐
DATE: 10/30/2023

STRUCTURE TYPE:

SCALE : VARIES

DRAWING SIZE:
D

PRE-CHECK (PC)
DOCUMENT
Code : 2022 CBC
A separate project application
for construction is required.

Eng. By :	**DWH**	**2/14/23**
Design By :	**DWH**	**2/14/23**
Approved By :	**DWH**	**2/14/23**

DRAWING DESCRIPTION:

DWG. **T&I FORMS**

SHEET **T-3.0**

REV.

DSA 103 (SAMPLE) - STATEMENT OF STRUCTURAL TESTS AND INSPECTIONS

GENERAL NOTES

1.- SPECIAL INSPECTION REQUIREMENTS SHALL FOLLOW THE ATTACHED SAMPLE TEST AND INSPECTION LIST (T & I LIST) APPROVED BY DSA. THE SHOP WELDING INSPECTION SHALL INCLUDE WELDING OF ALL STEEL MEMBERS AND IDENTIFICATION OF STEEL THROUGH MILL CERTIFICATE OR MATERIAL TESTING, UNCERTIFIED STEEL SHALL BE TESTED TO THE REQUIREMENTS OF CBC 2022 CHAPTER 17A. THE FIELD SPECIAL INSPECTION SHALL INCLUDE COMPRESSION CYLINDER TESTS FOR THE CONCRETE FOUNDATION.

2.- STRUCTURE SHALL BE IN THE LOCATION SHOWN ON THE SITE SPECIFIC DSA APPLICATION DRAWING.

3.- FOUNDATION DESIGN BASED ON CBC 2022, TABLE 1806A.2, SOIL CLASS 5 (ALLOWABLE FOUNDATION PRESSURE 1500 PSF)

4.- DESIGN PER FOLLOWING CODES: CBC 2022 (CHAPTER 35), ASCE 7-16, AISC 360-16, AISC 341-16, ACI 318-19, ASCE 55-16 & ASCE 19-16

STRUCTURAL STEEL
1.- FABRICATION OF THE STEEL STRUCTURES SHALL BE PERFORMED BY SHADE STRUCTURES OR AN AUTHORIZED LICENSEE. MATERIAL TESTING (OR MILL CERTIFICATES) AND INSPECTION OF WELDING SHALL BE CONDUCTED PER CBC 2022 SECTIONS 1704A, 1705A, 1705A.2, AND TABLE 1705A.2.1.

2.- ONLY CALIFORNIA LICENSED CONTRACTORS AUTHORIZED BY SHADE STRUCTURES SHALL INSTALL THE SHADE STRUCTURES.

3.- ALL WORK SHALL CONFORM TO CBC 2022 EDITION, TITLE 24, CALIFORNIA CODE OF REGULATIONS (CCR)

4.- ALL GALVANIZED STEEL TUBE PRODUCTS MANUFACTURED BY ALLIED TUBE & CONDUIT FOR THIS STRUCTURE SHALL BE, AND CONFORM TO ASTM A500-16 GRADE C, IN ITS' ENTIRETY.
TYPICAL MECHANICAL PROPERTIES ARE:
ROUND TUBE GRADE C 46,000 PSI YIELD STRESS MINIMUM / 62,000 PSI TENSILE STRESS MINIMUM

5.- ALL STRUCTURAL SHAPES SHALL BE COLD FORMED HSS ASTM A500 GRADE C, UNLESS OTHERWISE NOTED. TYPICAL MECHANICAL PROPERTIES ACHIEVED FOR HSS PRODUCTS:
SQUARE AND RECTANGULAR 50,000 PSI YIELD STRESS / 62,000 PSI TENSILE STRESS
ROUND PIPE 50,000 PSI YIELD STRESS / 62,000 PSI TENSILE STRESS

6.- ALL PLATES PRODUCTS SHALL COMPLY WITH ASTM A572 GRADE 50.

7.- STRUCTURAL STEEL SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH A.I.S.C. SPECIFICATIONS.

8.- ALL WELDING TO CONFORM WITH AMERICAN WELDING SOCIETY STANDARDS AND SHALL BE INSPECTED BY AN AWS/CWI INSPECTOR. AWS D1.1 FOR HOT ROLLED. AWS D1.3 FOR SHEET/COLD FORMED. AWS D1.8 SEISMIC SUPPLEMENT.

9.- ALL FULL PENETRATION WELD SHALL BE CONTINUOUSLY INSPECTED PER AWS D1.1 & D1.8.

10.- SHOP CONNECTIONS SHALL BE WELDED UNLESS NOTED OTHERWISE. ALL FILLET WELDS SHALL BE A MINIMUM OF 3/16" ER70SX ELECTRODES UNLESS OTHERWISE NOTED. GMAW IS ACCEPTABLE.

11.- ALL STAINLESS STEEL BOLTS SHALL COMPLY WITH ASTM F-593, YIELD STRENGTH= 45 KSI, TENSILE STRENGTH= 85 KSI MINIMUM, ALLOY GROUP 2, CONDITION CW2. ALL NUTS SHALL COMPLY WITH ASTM F-594 ALLOY GROUP 2, CONDITION CW2. REFERRING TO RCSC, ASTM F-593 IS NOT CONSIDERED AS HIGH STRENGTH BOLTS. BOLTS, ITEM 7, SHALL BE TIGHTENED TO A SNUG TIGHT CONDITION (ST).

12.- ALL HIGH STRENGTH BOLTS SHALL COMPLY WITH ASTM F3125 GRADE A325 N (GALVANIZED). ALL NUTS SHALL COMPLY WITH ASTM A563DH, AND WASHERS SHALL COMPLY WITH ASTM F436. HIGH STRENGTH BOLTS, ITEM 11, SHALL BE TIGHTENED TO A PRE-TENSIONED (PT) CONDITION. PER TABLE 4.1 OF SPECIFICATION FOR STRUCTURAL JOINTS USING HIGH STRENGTH BOLTS (RCSC 2020), ITEM 11 SHALL BE INSTALLED PER SECTION 8.2 AND INSPECTED PER SECTION 9.2. FAYING SURFACE CLASS A OR B IS NOT REQUIRED. SPECIFIED MINIMUM PRE-TENSION IS 51 KIPS. TESTING AND INSPECTION IS REQUIRED PER DSA-103 18D PT-FULLY PRE-TENSIONED CONNECTIONS. ALL NUTS SHALL BE LUBRICATED WITH A LUBRICANT CONTAINING A VISIBLE DYE SO A VISUAL CHECK CAN BE MADE FOR THE LUBRICANT AT THE TIME OF THE FIELD INSTALLATION. NUT TESTING SHALL FOLLOW ONE OF THESE METHODS: TURN OF THE NUT (1/4 OR 1/2 TURN), DYE WASHER OR TORQUE WRENCH. THE INSPECTOR AND GC TO DETERMINE WHAT METHOD TO USE PRIOR TO START THE BOLTING. WASHERS SHALL BE GALVANIZED PER ASTM F2329.

13.- ALL STRUCTURAL STEEL (ITEMS FROM NOTE 5) AND ALUMINUM SHALL BE POWDER COATED WITH ONE SHOP COAT (2.5 MILS MIN.) OF ZINC-RICH PRIMER, UNDERCOAT, AND FINISH COAT, OR EQUIVALENT PAINT SYSTEM. THIS COAT IS A WEATHER RESISTANT POWDER COATING BASED ON POLYESTER TGIC (MANUFACTURED BY SHERWIN WILLIAMS, ASKO NOBEL, PPG OR TIGER DRYLAC). TO ACHIEVE OPTIMUM ADHESION, IT IS RECOMMENDED THAT THE PROPER TREATMENT AND DRYING TAKE PLACE BEFORE COATING. POLYESTER POWDER (TGIC) SPECIFICATIONS SHALL BE AS FOLLOWS:
- PENCIL HARDNESS (ASTM D-3363). - HUMIDITY (ASTM D-2247).
- SOLVENT RESISTANCE (PCI METHOD) - 50 DBL RUBS SL. SOFTNESS.

14.- ALL STEEL ROUND TUBING (ITEMS FROM NOTE 4) SHALL BE TRIPLE COATED FOR RUST PROTECTION USING THE IN-LINE ELECTROPLATING COAT PROCESS. TUBING SHALL BE INTERNALLY COATED WITH ZINC AND ORGANIC COATINGS TO PREVENT CORROSION AS MANUFACTURED BY ALLIED TUBE & CONDUIT.

15.- ALL EXPOSED STEEL FASTENERS SHALL BE STAINLESS STEEL (TYPE 304 MINIMUM), HOT DIP GALVANIZED (ASTM A153, CLASS D MINIMUM OR ASTM F2329) AS APPLICABLE. OR PROTECTED WITH CORROSION PREVENTIVE COATING THAT DEMONSTRATED NO MORE THAN 2% OF RED RUST IN MINIMUM 1,000 HOURS OF EXPOSURE IN SALT SPRAY TEST PER ASTM B117. ZINC-PLATED FASTENERS DO NOT COMPLY WITH THIS REQUIREMENT.

CONCRETE SPECIFICATION
1.- CONCRETE SHALL BE SAMPLED AND TESTED PER CBC 2022 SECTION 1903A & SHALL BE INSPECTED PER SECTION 1903A.

2.- CONCRETE TO BE F'c= 4500 PSI, TYPE V CEMENT PLUS POZZOLAN OR SLAG CEMENT, MAXIMUM WATER/CEMENT RATIO OF 0.45, PER ACI 318-19 CHAPTER 19. (NO ADMIXTURES CONTAINING CALCIUM CHLORIDE WILL BE USED.) REINFORCING STEEL SHALL CONFORM TO ASTM A-615 GRADE 60 AND TO BE Fy= 60000 PSI , MIN. GR. 60. ALSO COATED ACCORDING TO ASTM A767/ A767M, STANDARD SPECIFICATION FOR ZINC-COATING (GALVANIZED) STEEL BARS FOR CONCRETE REINFORCEMENT.

3.- ALL ANCHOR BOLTS SET IN NEW CONCRETE (WHEN APPLICABLE) SHALL COMPLY WITH ASTM F-1554 GRADE 36 (GALVANIZED PER ASTM A153, CLASS D MINIMUM OR ASTM F2329).
ANCHOR BOLT'S DIAMETER NEEDS TO BE AS FOLLOW:
A) ANCHOR BOLT Ø1 1/4"

4.- CERTIFIED MILL TEST REPORTS ARE TO BE PROVIDED FOR EACH SHIPMENT OF REINFORCEMENT.

5.- ALL NON-SHRINK GROUT SHALL HAVE A MINIMUM 28 DAYS COMPRESSIVE STRENGTH OF 5000 PSI, AND SHALL COMPLY THE REQUIREMENTS OF ASTM C109, ASTM C939, ASTM C1090, ASTM C1107, WHEN APPLICABLE.

6.- CONCRETE EXPOSED TO FREEZING-AND-THAWING CYCLES SHALL BE AIR ENTRAINED PER ACI 318 SECTION 19.3.3.

FABRIC SPECIFICATION
1.- FABRIC SHALL BE MANUFACTURED BY MULTIKNIT LTD., WHICH MEETS THE SPECIFICATIONS LISTED ON PAGE 2000, AND SHALL BE FABRICATED FROM POLYETHYLENE MATERIALS. MINIMUM SEAM LENGTH 3/4".

2.- THE FABRIC SHALL RETAIN 80% OF ITS TENSILE AND TEARING STRENGTH AFTER ULTRAVIOLET EXPOSURE PER ASTM G53 USING A 313 NM LIGHT SOURCE FOR 500 HOURS WHILE MOISTENED FOR 1 HOUR EVERY 12 HOURS.

3.- PROVIDE CERTIFICATION BY MANUFACTURER AND STATE FIRE MARSHAL TO SCHOOL'S DISTRICT INSPECTOR OF RECORD AT SITE SPECIFIC INSTALLATION. COPY OF FIRE CERTIFICATION SHALL BE SENT TO DSA.

4.- FABRIC SHALL REQUIRE ANNUAL INSPECTION AND MAINTENANCE BY THE DISTRICT. FIRE TEST ON FABRIC: NFPA 701 TEST 2 AND ASTM E 84 EXTENDED 30 MINUTES TEST. FLAME SPREAD INDEX (FSI): 10. SMOKE DEVELOPED INDEX (SDI): 50. FABRIC IS ACCEPTABLE FOR USE IN WILDLIFE URBAN INTERFACE AREA.

5.- FABRIC TOP NEEDS TO BE REMOVED IF SNOW EXCEEDING 5 PSF ARE ANTICIPATED, FABRIC TOP NEEDS TO BE REMOVED IF WINDS EXCEEDING 115 MPH ARE ANTICIPATED.

6.- A VISUAL INSPECTION LOOKING FOR TEAR AND ABNORMAL WEAR IN FABRIC MATERIAL AND THREAD IS REQUIRED PRIOR TO RE-INSTALLATION. USA SHADE & FABRIC STRUCTURES SHALL BE NOTIFIED IF SIGNIFICANT DAMAGE IS PRESENT BEFORE RE-INSTALLATION.

AIRCRAFT CABLE
1.- FOR FABRIC ATTACHMENT USE 1/4" 7x19 GALV. CABLE PER ASTM A1023/A1023M, WITH A BREAKING STRENGTH VALUE OF 7,000 LBS. CABLE SHALL BE TENSIONED TO 300 LBS MINIMUM AND 500 LBS MAXIMUM. THE MAXIMUM CALCULATED CABLE ALLOWABLE CAPACITY IS Sa=2386 LB.
2.- CABLES SHALL BE FED THROUGH THE FABRIC SLEEVES AROUND THE PERIMETER OF THE CANOPY AND TENSIONED UNTIL THE FABRIC PANELS (DESIGNED PURPOSELY UNDERSIZED) REACH A TAUT APPEARANCE. ANY LONG TERM CABLE SAG SHALL BE MINIMIZED DURING THE MAINTENANCE RE-TIGHTING VISITS AS REQUIRED.

CBC PC DESIGN NOTES

BUILDING CODE	CBC 2022 (BASED ON IBC 2021)
FLOOR LIVE LOAD	N/A
ROOF LIVE LOAD	RLL 5 PSF

ALLOWABLE SOIL PRESSURE:
DL + LL (CONC FTG) 1500 PSF
DL + LL + SEISMIC (CONC FTG) 1500 PSF
LATERAL BEARING DESIGN VALUE 100 PSF/FT BELOW NATURAL GRADE, PER TABLE 1806A.2

TWO TIMES THE TABULAR VALUE IS USED (200 PSF/FT)
PER CBC SECTION 1806A.3.4.
ALLOWABLE PIER FRICTIONAL RESISTANCE 250 PSF MAXIMUM
BASED ON SECTION 1810A.3.3.1.4 (ONE-SIXTH OF THE BEARING VALUE).
UPLIFT FRICTIONAL RESISTANCE HAVE A SAFETY FACTOR OF 3.

ROOF SNOW LOAD	5 PSF
ICE LOAD	ZERO PSF
FLOOD HAZARD AREA	ZONE X

WHEN A SITE SPECIFIC PROJECT IS LOCATED IN A FLOOD ZONE OTHER THAN ZONE X, A LETTER STAMPED AND SIGNED FROM A SOILS ENGINEER IS NEEDED TO VALIDATE THE ALLOWABLE SOIL VALUES SPECIFIED IN THE PC ARE STILL APPLICABLE.

WIND DESIGN DIRECTIONAL PROCEDURE: ASCE 7-16, SECTION 27.3.2
NOTE: WIND DESIGN IS LIMITED TO UNOBSTRUCTED CLEAR FLOW CONDITION

-BASIC DESIGN WIND SPEED (3 SEC GUST)	V	115 MPH
-ASD WIND LOAD (CBC 2022 SEC. 1603A.1.4)	V_{ASD}	90 MPH
-WIND EXPOSURE FACTOR	C	
-TOPOGRAPHIC FACTOR	Kzt	1
-RISK CATEGORY	II	
-VELOCITY PRESSURE EXPOSURE COEFFICIENT	Kz	0.85
-VELOCITY PRESSURE	qz	24.46 PSF

SEISMIC DESIGN:
-SITE CLASS D
NOTE: UNLESS A SITE-SPECIFIC GROUND MOTION HAZARD ANALYSIS IS PERFORMED, THE SM1 VALUE INCREASED BY 50% SHALL BE LESS THAN THE DESIGN CRITERIA STATED HEREIN.

-SPECTRAL RESPONSE COEFFICIENTS	SS	3.00g
	S1	1.389g
	SDS	2.00
	SD1	1.39

-LATERAL FORCE RESISTING SYSTEM G.2 ORDINARY CANTILEVERED COLUMN SYSTEM.

-SEISMIC IMPORTANCE FACTOR	Ie	1.0
-DESIGN BASE SHEAR AT BASE	V	2586 LB
-SEISMIC RESPONSE COEFFICIENTS	Cs	1.6
-RESPONSE MODIFICATION FACTOR	R	1.25
-ANALYSIS PROCEDURE		EQUIVALENT LATERAL FORCE
-RISK CATEGORY		II
-SEISMIC DESIGN CATEGORY		E
-SITE COEFFICIENT CATEGORY	Fa	1.2
	Fv	1.5
-REDUNDANCY FACTOR	ρ	1.3

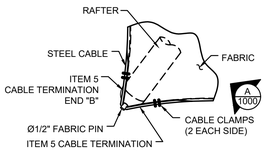
GEOHAZARD REPORT IS NOT REQUIRED FOR OPEN FABRIC STRUCTURES 1,600 SQF OR LESS COMPLYING WITH THE REQUIREMENTS OF IR A-4 SECTION 3.1.1. OPEN FABRIC SHADE STRUCTURES GREATER THAN 1,600 SQUARE FEET UP TO A MAXIMUM OF 4,000 SQUARE FEET AND COMPLYING WITH THE REQUIREMENTS NOTED IN IR A-4 SECTION 3.1.1 DO NOT REQUIRE A GEOHAZARD REPORT PROVIDED A GEOTECHNICAL REPORT INDICATES THAT NO LIQUEFACTION POTENTIAL EXISTS.

ARCHITECT OF RECORD TO DETERMINE IF SPECIFIC SITE IS IN GEOLOGIC HAZARD ZONE. GEOHAZARD REPORT REQUIREMENTS PER DSA IR A-4.

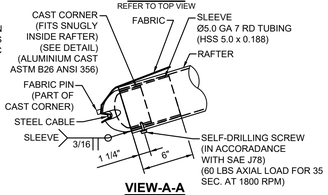
PC OPTIONS SHALL NOT INCLUDE LIQUEFIABLE SOIL (EXCEPTION: OPEN FABRIC SHADE STRUCTURES 1,600 SQUARE FEET OR LESS COMPLYING WITH REQUIREMENTS OF IR A-4 SECTION 3.1.1). IF STRUCTURE IS LOCATED IN AN AREA WITH LIQUEFIABLE SOIL OR SITE CLASS F, OVER-THE-COUNTER SUBMITTAL IS NOT ALLOWED AND REGULAR PROJECT SUBMITTAL IS REQUIRED. IF SITE IS NOT IN A MAPPED LIQUEFACTION HAZARD ZONE, IT MAY BE PRESUMED THAT NO LIQUEFACTION HAZARD EXISTS ON THAT SITE UNLESS A SITE-SPECIFIC GEOTECHNICAL REPORT IDENTIFIES SUCH HAZARD.

MINIMUM FOUNDATION SETBACK LIMIT IN ADJACENT SLOPE: THE DEPTH OF REQUIRED PIER EMBEDMENT SHALL START FROM AN ELEVATION THAT CORRESPONDS WITH A HORIZONTAL CLEAR DISTANCE OF 14 FEET THAT INTERSECT WITH THE SLOPE (DAYLIGHTING). IF SETBACK LIMITS ARE SMALLER THAN CBC REQUIRES, A SITE-SPECIFIC SOILS REPORT IS REQUIRED.

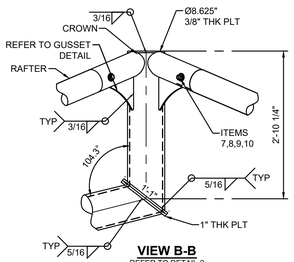
MINIMUM CLASS 2 PROJECT INSPECTOR REQUIRED.



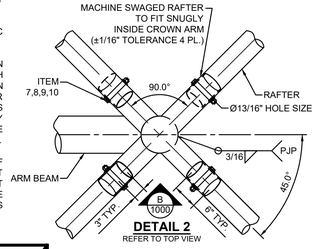
DETAIL 1
REFER TO TOP VIEW



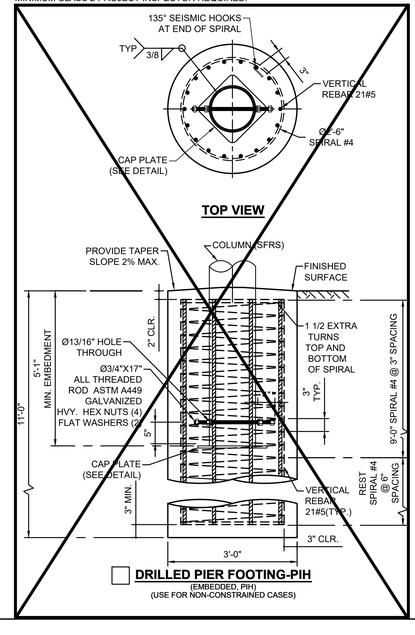
VIEW-A-A
REFER TO DETAIL-1



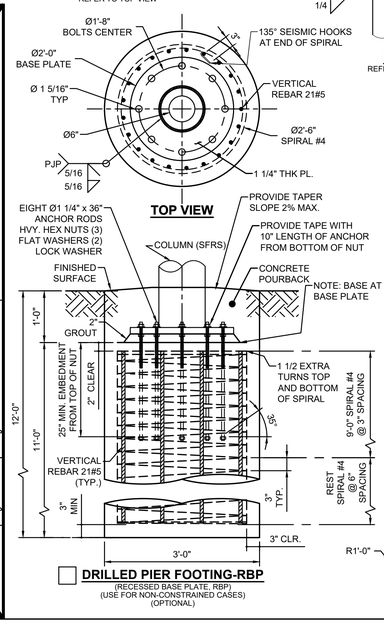
VIEW B-B
REFER TO DETAIL-2



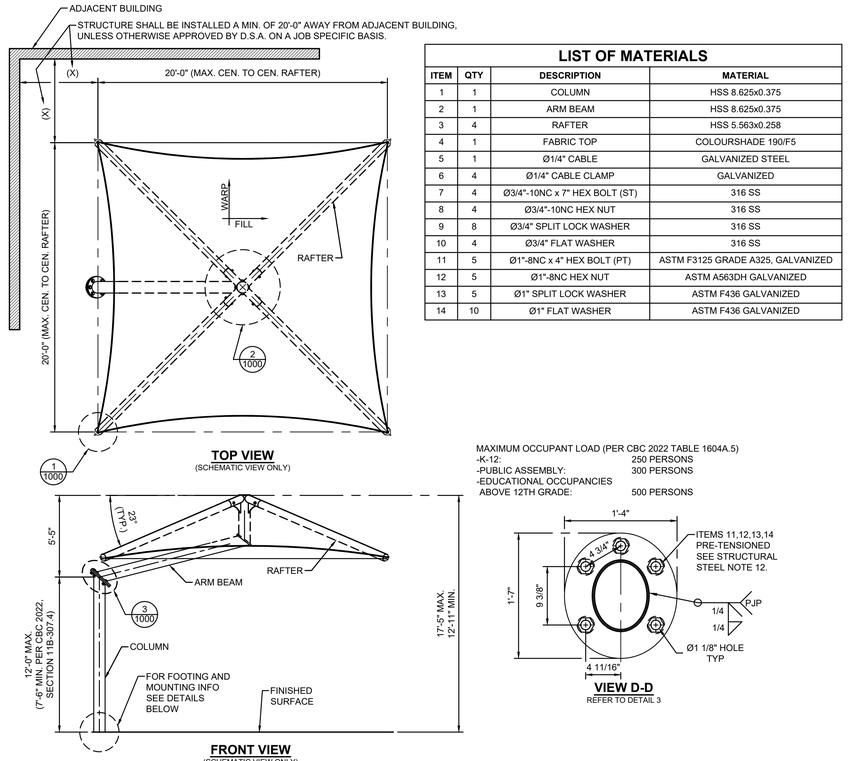
DETAIL 2
REFER TO TOP VIEW



DRILLED PIER FOOTING-PIH
(EMBEDDED, PIH)
(USE FOR NON-CONSTRAINED CASES)



DRILLED PIER FOOTING-RBP
(RECESSED BASE PLATE, RBP)
(USE FOR NON-CONSTRAINED CASES)
(OPTIONAL)



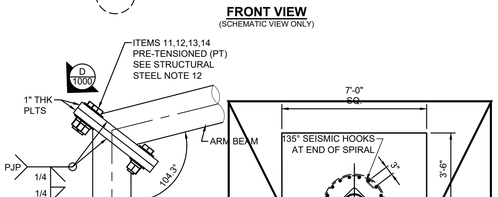
TOP VIEW
(SCHEMATIC VIEW ONLY)

FRONT VIEW
(SCHEMATIC VIEW ONLY)

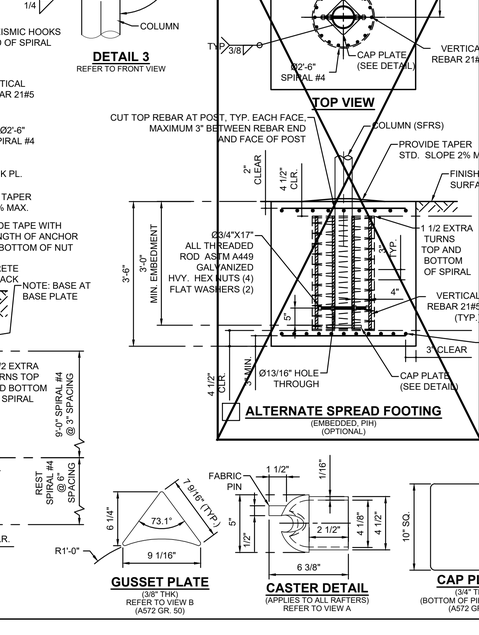
MAXIMUM OCCUPANT LOAD (PER CBC 2022 TABLE 1604A.5)

-K-12:	250 PERSONS
-PUBLIC ASSEMBLY:	300 PERSONS
-EDUCATIONAL OCCUPANCIES ABOVE 12TH GRADE:	500 PERSONS

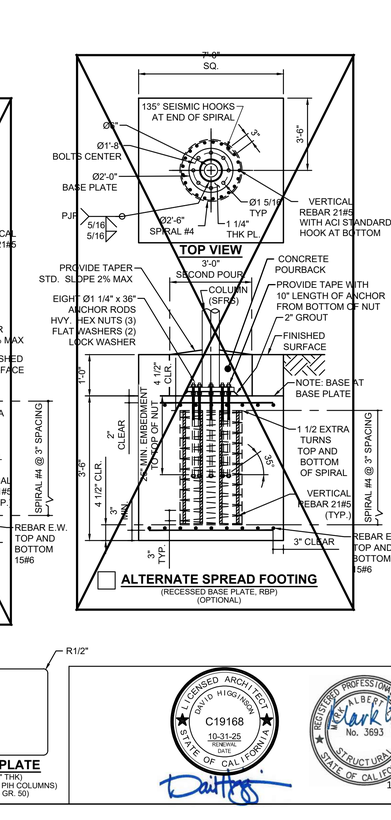
VIEW D-D
REFER TO DETAIL 3



DETAIL 3
REFER TO FRONT VIEW



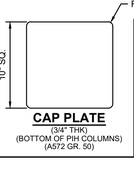
ALTERNATE SPREAD FOOTING
(EMBEDDED, PIH)
(OPTIONAL)



ALTERNATE SPREAD FOOTING
(RECESSED BASE PLATE, RBP)
(OPTIONAL)

GUSSET PLATE
(3/8" THK)
REFER TO VIEW B (A572 GR. 50)

CASTER DETAIL
(APPLIES TO ALL RAFTERS)
REFER TO VIEW A



CAP PLATE
(3/4" THK)
(BOTTOM OF PIH COLUMNS)
(A572 GR. 50)

LIST OF MATERIALS			
ITEM	QTY	DESCRIPTION	MATERIAL
1	1	COLUMN	HSS 8.625x0.375
2	1	ARM BEAM	HSS 8.625x0.375
3	4	RAFTER	HSS 5.563x0.258
4	1	FABRIC TOP	COLOURSHADE 190/F5
5	1	Ø1/4" CABLE	GALVANIZED STEEL
6	4	Ø1/4" CABLE CLAMP	GALVANIZED
7	4	Ø3/4"-10NC x 7" HEX BOLT (ST)	316 SS
8	4	Ø3/4"-10NC HEX NUT	316 SS
9	8	Ø3/4" SPLIT LOCK WASHER	316 SS
10	4	Ø3/4" FLAT WASHER	316 SS
11	5	Ø1"-8NC x 4" HEX BOLT (PT)	ASTM F3125 GRADE A325, GALVANIZED
12	5	Ø1"-8NC HEX NUT	ASTM A563DH GALVANIZED
13	5	Ø1" SPLIT LOCK WASHER	ASTM F436 GALVANIZED
14	10	Ø1" FLAT WASHER	ASTM F436 GALVANIZED

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 01-121181 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 07/02/2024

USASHADE & Fabric Structures
CORPORATE HEADQUARTERS
2580 ESTERS BLVD. SUITE 100
DFW AIRPORT, TX, 75261
800-966-5005

CERTIFICATIONS:
IAS CERTIFICATION No: FA-428
CLARK COUNTY MANUFACTURER CERTIFICATION NUMBER (NEVADA): 355

CUSTOMER:
San Rafael City Schools

PROJECT NAME:
Venetia Valley School

LOCATION:
177 N. San Pedro Road
San Rafael, CA 94903

MODEL NUMBER:
DSA1242020-22

APPROVED
DIV. OF THE STATE ARCHITECT
APP: 04-121917 PC
REVIEWED FOR
SS ☑ FLS ☑ ACS ☒ CG ☐
DATE: 10/30/2023

STRUCTURE TYPE:
SINGLE POST PYRAMID CANTILEVER DSA

SIZE: MAXIMUM
20' x 20' x 12'e MAX.

SCALE : NONE

DRAWING SIZE: D

PRE-CHECK (PC) DOCUMENT
Code : 2022 CBC
A separate project application for construction is required.

Eng. By :	HH	12/01/22
Design By :	OS	12/01/22
Approved By :	MB	12/01/22

DRAWING DESCRIPTION:
PRODUCT INFORMATION

DWG. DSA1242020-22

SHEET 16.1-1000

REV. NC

LICENSED ARCHITECT DAVID HIGGINS C19168 10-31-25 RENEWAL DATE STATE OF CALIFORNIA
REGISTERED PROFESSIONAL ENGINEER ALBERT Clark Lane No. 3693 STRUCTURAL STATE OF CALIFORNIA
10/18/2023

FLAME RETARDANT

Fabric Registration

LICENSE NUMBER: F-052001

COLOURSHADE 190/F5

Product Marketed by:

MULTIKNIT (PTY) LTD
BOX 798 WHITE RIVER 1240
MPUMALANGA SOUTH AFRICA, ,

Issue Date : 05/08/2023
Expiration Date : 06/30/2024

This product meets the minimum requirements of flame resistance established by the California State Fire Marshal for products identified in Section 13115, California Health and Safety Code. The scope of the approved use of this product is provided in the current edition of the CALIFORNIA APPROVED LIST OF FLAME RETARDANT CHEMICALS AND FABRICS, GENERAL AND LIMITED APPLICATIONS CONCERNS published by the California State Fire Marshal.

Issued By Cortney Walker
Fire Engineering License Manager
Fire Engineering & Investigations Division

Reviewed and Approved By Patricia Setter
Deputy State Fire Marshal III
Fire Engineering & Investigations Division

OFFICE OF THE STATE FIRE MARSHAL

Please visit calfire.govmotus.org for more information on Licensing and Permitting with CAL FIRE

Page 1 of 1

Multiknit INTERNATIONAL

190/F5 Fire rated specifications

Standard range

Revision 0 28-Oct-12

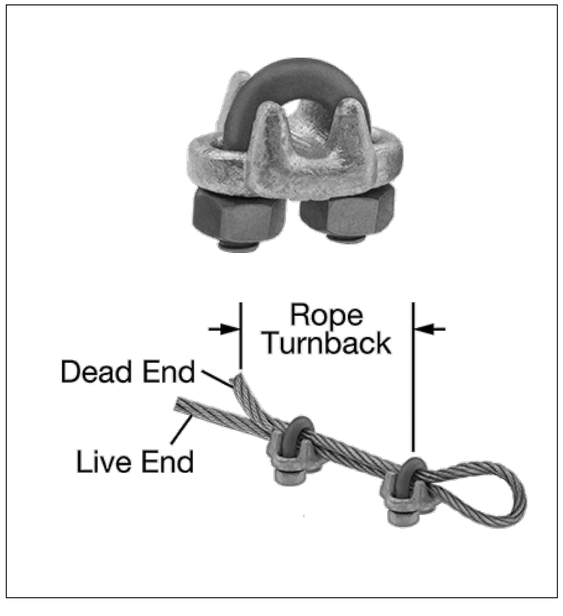
Colour	Shade %	UV Block %	Average GSM	Average Warp break strength kgs	Average Elongation %	Average Weft break strength kgs	Average Elongation %	Average Burst Kpa	Average Burst to Mass ratio
Desert Sand	80	92	185	50	40	72	73	156	0.84
Blue	80	85	185	50	40	72	73	156	0.84
Brown	85		185	50	40	72	73	156	0.84
Green	80	85	185	50	40	72	73	156	0.84
Red	80	86	185	50	40	72	73	156	0.84
Silver	80	81	185	50	40	72	73	156	0.84
Terracotta	75	82	185	50	40	72	73	156	0.84
Yellow	80	89	185	50	40	72	73	156	0.84
				110 LB		159 LB		3258 PSF	

CONVERSION TO IMPERIAL UNITS:
185 GSM = .0378 psf
50 KGS = 110 Lb
72 KGS = 159 Lb
156 Kpa = 3258 psf

Notes:
- 190/F5 conforms to The California State Fire Marshal Title 19 Test for Small scale Fabrics
- Tear tests are done using a 50mm wide strip and a cross head speed of 500mm/min
- This report has been compiled using the mean results from all tests conducted on the given sample by our Quality Control Laboratory. the information provided is considered to be a good reflection of the relevant properties of the fabric tested. These results must only be used as an indication of the quality and characteristics of the fabric tested.
Company cannot be held responsible or liable in any way whatsoever should this information differ to that of a registered testing institution.

pp
Deon Joubert
General Manager - Multiknit (Pty) Ltd

Tommy Rogers
Managing Director - Multiknit (Pty) Ltd



FORGED WIRE ROPE CLAMP

FITTING TYPE: ROPE CLAMP
FABRICATION: FORGED
MATERIAL: GALVANIZED STEEL
FOR WIRE ROPE DIAMETER: 1/4"
NUMBER OF CLAMPS REQUIRED: 2
ROPE TURNBACK: 4 3/4"
FOR WIRE ROPE CONSTRUCTION: 7 × 19
ATTACHMENT TYPE: LOOP
CLAMP
WIDTH: 1 7/16"
HEIGHT: 1 3/8"
THICKNESS: 1 1/4"
REQUIRED INSTALLATION TOOL: TORQUE WRENCH
REQUIRED TORQUE: 15 FT.-LBS.
CAPACITY: 80% OF THE ROPE'S CAPACITY
SPECIFICATIONS MET ASME B30.26, FED. SPEC. FF-C-450

Aircraft Cable

Preformed, made in accordance with commercial specifications military and federal specification rope available.

Carbon Steel (Aircraft Cable) - Galvanized cable has the highest strength and greatest fatigue life of the materials offered. It has good to fair corrosion resistance in rural to industrial atmosphere environments. This material is most widely used for small diameter cables. Tin over galvanized cable offers greater corrosion resistance and reduced friction over pulleys.

7 x 19

7 x 19 Dia. (In)	7 x 19 Approx. Wt 1000 Ft/lbs	Galvanized Min. Breaking Strengths (lbs)
3/32	17.	1,000
1/8	29.	2,000
5/32	45.	2,800
3/16	65.	4,200
7/32	86.	5,600
1/4	110.	7,000
9/32	139.	8,000
5/16	173.	9,800
3/8	243.	14,400

IDENTIFICATION STAMP
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APP: 04-121917 PC
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑ CG ☐
DATE: 10/30/2023

STRUCTURE TYPE:
SINGLE POST PYRAMID CANTILEVER DSA

SIZE: MAXIMUM
20' x 20' x 12'e MAX.

SCALE : NONE

DRAWING SIZE:
D

PRE-CHECK (PC) DOCUMENT
Code : 2022 CBC
A separate project application for construction is required.

Eng. By :	HH	12/01/22
Design By :	OS	12/01/22
Approved By :	MB	12/01/22

DRAWING DESCRIPTION:
SPECIFICATIONS

DWG.
DSA1242020-22

SHEET
16.2-2000

REV.
NC

LICENSED ARCHITECT
DAVID HIGGINSON
C19168
10-31-25
RENEWAL DATE
STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER
MARK ALBERT CLARK
No. 3693
STRUCTURAL
STATE OF CALIFORNIA

10/18/2023