THE LINE SHOWN ABOVE IS
EXACTLY ONE INCH LONG AT THIS
SHEETS ORIGINAL PAGE SIZE

TRACY UNIFIED SCHOOL DISTRICT

MERRILL F WEST HS AGRICULTURE CTE BLDG

INCREMENT 2

1775 W LOWELL AVE
TRACY, CA 95376

Autodesk Docs://3595002100 TUSD AG SHOP R22/3595002100-A-MERRILL WEST-AG SHOP.rvt
10/11/2024 11:42:08 AM

AGENCY
APPROVAL:

HMC
Architects
3595-002-100
2101 CAPITOL AVENUE, SUITE 100,
SACRAMENTO, CA, 95816
916 368 7990 / www.hmcarchitects.com

PROJECT TEAM

OWNER
TRACY UNIFIED SCHOOL DISTRICT
1875 W LOWELL AVENUE, TRACY, CA 95376
(209) 830-3200

ARCHITECT
HMC ARCHITECTS
2101 CAPITOL AVENUE, SACRAMENTO CA 95816
(916) 368-7990

CIVIL ENGINEER
WARREN CONSULTING ENGINEERS
1117 WINDFIELD WAY STE 110, EL DORADO HILLS, CA 95762
(916) 985-1870

MECHANICAL, ELECTRICAL & PLUMBING ENGINEER
OPTIMIZED ENERGY & FACILITIES CONSULTING INC
5734 LONETREE BLVD, ROCKLIN, CA 95765
(916) 626-5518

STRUCTURAL ENGINEER
RW CONSULTING ENGINEERS INC
1450 HARBOR BLVD STE F, W SACRAMENTO, CA 95691
(916) 229-8345

FACILITY:
MERRILL F WEST HIGH SCHOOL
1775 W LOWELL AVE
TRACY, CA 95376

PROJECT:
MERRILL F WEST HS AGRICULTURE CTE BLDG
INCREMENT 2

SHEET NAME:
COVER SHEET

DSA SUBMITTAL

DATE: **10/11/2024** CLIENT PROJ NO:

SHEET:
G0.13

THE LINE SHOWN ABOVE IS EXACTLY ONE INCH LONG AT THIS SHEETS ORIGINAL PAGE SIZE

GENERAL NOTES

1. CONSTRUCTION DOCUMENTS DESCRIBE THE PRODUCTS, SYSTEMS, QUANTITIES, CONFIGURATION, AND PERFORMANCE SPECIFICATIONS THAT DELIVER THE OVERALL DESIGN INTENT OF THE PROJECT.
2. THE CONSTRUCTION DOCUMENT DRAWINGS AND SPECIFICATIONS ARE COMPLEMENTARY, AND WHAT IS REQUIRED BY ONE SHALL BE AS BINDING AS IF REQUIRED BY BOTH.
3. PERFORMANCE BY THE CONSTRUCTION TEAM SHALL BE CONSISTENT WITH THE CONSTRUCTION DRAWINGS AND SPECIFICATIONS AS NECESSARY TO DELIVER THE INDICATED RESULTS OF THE DESIGN INTENT.
4. VERIFY ALL DIMENSIONS, LOCATIONS OF EXISTING UTILITIES, AND CONDITIONS ON THE JOB SITE PRIOR TO THE START OF WORK OR PORTIONS OF THE WORK. NOTIFY THE ARCHITECT IMMEDIATELY OF ANY DISCREPANCIES BETWEEN THE ACTUAL FIELD CONDITIONS AND THE CONSTRUCTION DOCUMENTS. EXISTING CONDITIONS ARE INDICATED AS A RESULT OF FIELD OBSERVATIONS, INFORMATION SHOWN ON AVAILABLE DOCUMENTS AND FIELD CONDITIONS AT THE TIME OF PREPARATION.
5. ALL MATERIALS AND WORKMANSHIP SHALL COMPLY WITH ALL GOVERNING CODES, ORDINANCES, REGULATIONS AND LAWS.
6. THE DESIGN ADEQUACY AND SAFETY OF ERECTION BRACING, SHORING, TEMPORARY SUPPORTS AND SCAFFOLDING IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
7. WHERE ANY CONFLICT OCCURS BETWEEN THE REQUIREMENTS OF LAWS, CODES, ORDINANCES, RULES AND REGULATIONS, THE MOST STRINGENT SHALL GOVERN.
8. IN NO CASE SHALL WORKING DIMENSIONS BE SCALED FROM PLANS, SECTIONS OR DETAILS ON THE DRAWINGS.
9. DETAILS MARKED 'TYPICAL' SHALL APPLY IN ALL CASES UNLESS SPECIFICALLY NOTED OTHERWISE.
10. ENACT ALL MEASURES TO PROTECT AND SAFEGUARD ALL EXISTING ELEMENTS TO REMAIN FROM BEING DAMAGED. REPLACE OR REPAIR EXISTING ELEMENTS DAMAGED BY THE EXECUTION OF THIS CONTRACT TO EQUAL OR BETTER CONDITION.
11. PRIOR TO THE START OF WORK THE CONTRACTOR SHALL COORDINATE BETWEEN THE REQUIREMENTS OF ALL DISCIPLINES HEREIN AND BETWEEN THE REQUIREMENTS OF ALL DRAWINGS AND SPECIFICATIONS IN ORDER THAT ALL ITEMS SATISFACTORILY RELATE TO ONE ANOTHER. NOTIFY ARCHITECT IMMEDIATELY REGARDING ANY ITEMS THAT CANNOT BE COORDINATED.
12. CONTRACTOR SHALL EXCERCISE EXTREME CAUTION IN EXCAVATING AND TRENCHING ON THIS SITE TO AVOID EXISTING DUCTS, PIPING, CONDUIT, ETC. AND TO PREVENT HAZARD TO PERSONNEL AND/OR TO EXISTING UNDERGROUND UTILITIES OR STRUCTURES. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ARCHITECT SHOULD SUCH UNIDENTIFIED CONDITIONS BE DISCOVERED. THESE DRAWINGS AND SPECIFICATIONS DO NOT INCLUDE THE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY.
13. CUTTING, BORING, SAWCUTTING OR DRILLING THROUGH THE EXISTING OR NEW STRUCTURAL ELEMENTS SHALL NOT TO BE STARTED UNTIL THE DETAILS HAVE BEEN REVIEWED AND APPROVED BY THE ARCHITECT, AND STRUCTURAL ENGINEER OF RECORD.
14. ALL WORK SHALL CONFORM TO 2022 EDITION TITLE 24, CALIFORNIA CODE OF REGULATION (CCR)
15. THE LIMIT OF WORK LINE SHOWS THESE DRAWINGS IS AN APPROXIMATE LIMIT OF WORK ONLY. REFER TO CONSULTANT DRAWINGS FOR ADDITIONAL WORK, INCLUDING BUT NOT LIMITED TO INSTALLATION OF CONDUIT, MANHOLES, PULLBOXES, ETC WHICH ARE TO BE PART OF THIS WORK, ALTHOUGH OCCURING OUTSIDE OF SHOWN LIMIT OF WORK LINES.
16. GRADING PLANS, DRAINAGE IMPROVEMENTS, ROAD AND ACCESS REQUIREMENTS AND ENVIRONMENTAL HEALTH CONSIDERATIONS SHALL COMPLY WITH ALL LOCAL ORDINANCES.
17. SAFETY DURING CONSTRUCTION SHALL COMPLY WITH CFC CHAPTER 33.
18. CONTRACTOR IS TO REVIEW AND COMPLY WITH ALL REQUIREMENTS AND MITIGATION MEASURES SET FORTH IN BOTH THE ENVIRONMENTAL IMPACT REPORT (ADDENDUM TO THE ENVIRONMENTAL IMPACT REPORT | SCH NO. 2002071120 INCLUDING ATTACHED BIOLOGICAL RESOURCES TECHNICAL REPORT.
19. NO DUMPING OR PLACING OF ANY DIRT OR DEBRIS SHALL BE ALLOWED OUTSIDE OF THE CONTRACTORS LIMIT OF WORK AREA.
20. FABRICATION AND INSTALLATION OF DEFERRED SUBMITTAL 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 THE DSA. LIST DEFERRED SUBMITTAL ITEMS FOR THIS PROJECT.
21. CHANGE TO THE APPROVED DRAWINGS AND SPECIFICATIONS SHALL BE MADE BY ADDENDA OR CONSTRUCTION CHANGE DOCUMENT (CCD) APPROVED BY DSA, AS REQUIRED BY SECTION 4-338, PART 1, TITLE 24 CCR.
22. A "DSA CERTIFIED" PROJECT INSPECTOR EMPLOYED BY THE DISTRICT (OWNER) AND APPROVED BY DSA SHALL PROVIDE CONTINUOUS INSPECTION OF WORK. THE DUTIES OF THE INSPECTOR ARE DEFINED IN SECTION 4-342, PART 1, TITLE 24, CCR. INSPECTOR TO BE CLASS 1.
23. A DSA ACCEPTED TESTING LABORATORY DIRECTLY EMPLOYED BY THE DISTRICT (OWNER) SHALL CONDUCT ALL THE REQUIRED TESTS AND INSPECTIONS FOR THE PROJECT. THE REPORTS SHALL BE SUBMITTED TO ARCHITECT OF RECORD, STRUCTURAL ENGINEER OF RECORD, OWNER, INSPECTOR OR RECORD, AND THE DSA FIELD ENGINEER. THE REPORTS OF ANY FAILURES OF TESTS AND INSPECTIONS ARE TO BE SUBMITTED TO DSA DISTRICT STRUCTURAL ENGINEER.
24. 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 DSA APPROVED CONTRACT DOCUMENTS WHEREIN THE FINISHED WORK WILL NOT COMPLY WITH TITLE 24, CCR,, A CONSTRUCTION CHANGE DOCUMENT (CCD), OR A SEPARATE SET OF PLANS AND SPECIFICATIONS DETAILING AND SPECIFYING THE REQUIRED WORK SHALL BE SUBMITTED TO AND APPROVED BY DSA BEFORE PROCEEDING WITH THE WORK. (SECTION 4-317(C), PART 1, TITLE 24, CCR)

CODES

PARTIAL LIST OF APPLICABLE CODES

2022	CALIFORNIA ADMINISTRATIVE CODE, PART 1, TITLE 24 C.C.R.
2022	CALIFORNIA BUILDING CODE (CBC), PART 2, TITLE 24 C.C.R. (2021 INTERNATIONAL BUILDING CODE VOLUMES 1 & 2 AND 2022 CALIFORNIA AMENDMENTS)
2022	CALIFORNIA ELECTRICAL CODE (CEC), PART 3, TITLE 24 C.C.R. (2020 NATIONAL ELECTRICAL CODE AND 2022 CALIFORNIA AMENDMENTS)
2022	CALIFORNIA MECHANICAL CODE (CMC) PART 4, TITLE 24 C.C.R. (2021 UNIFORM MECHANICAL CODE AND 2022 CALIFORNIA AMENDMENTS)
2022	CALIFORNIA PLUMBING CODE (CPC), PART 5, TITLE 24 C.C.R. (2021 UNIFORM PLUMBING CODE AND 2022 CALIFORNIA AMENDMENTS)
2022	CALIFORNIA ENERGY CODE (CEC), PART 6, TITLE 24 C.C.R.
2022	CALIFORNIA HISTORICAL BUILDING CODE (CHBC), PART 8, TITLE 24 C.C.R.
2022	CALIFORNIA FIRE CODE, PART 9, TITLE 24 C.C.R. (2021 INTERNATIONAL FIRE CODE AND 2022 CALIFORNIA AMENDMENTS)
2022	CALIFORNIA EXISTING BUILDING CODE (CEBC), PART 10, TITLE 24 C.C.R. (2021 INTERNATIONAL EXISTING CODE AND 2022 CALIFORNIA AMENDMENTS)
2022	CALIFORNIA GREEN BUILDING STANDARDS CODE (CALGREEN), PART 11, TITLE 24 C.C.R.
2022	CALIFORNIA REFERENCED STANDARDS, PART 12,TITLE 24 C.C.R.
TITLE 19	C.C.R., PUBLIC SAFETY, STATE FIRE MARSHAL REGULATIONS.
2019	ASME A17.1/B44-19 SAFETY CODE FOR ELEVATORS AND ESCALATORS
2020	ASME 18.1 - SAFETY STANDARD FOR PLATFORM LIFTS AND STAIRWAY CHAIR LIFTS

PARTIAL LIST OF APPLICABLE STANDARDS

NFPA 13	STANDARD FOR AUTOMATIC FIRE SPRINKLER SYSTEMS (CA AMENDED)	2022 ED.
NFPA 14	STANDARD FOR STANDPIPE AND HOSE SYSTEMS (CA AMENDED)	2019 ED.
NFPA 17	STANDARD FOR DRY CHEMICAL EXTINGUISHING SYSTEMS	2021 ED.
NFPA 17A	STANDARD FOR WET CHEMICAL EXTINGUISHING SYSTEMS	2021 ED.
NFPA 20	STANDARD FOR STATIONARY PUMPS FOR FIRE PROTECTION	2019 ED.
NFPA 22	STANDARD FOR WATER TANKS FOR PRIVATE FIRE PROTECTION	2018 ED.
NFPA 24	STANDARD FOR THE INSTALLATION OF PRIVATE FIRE MAINS AND THEIR APPURTENANCES (CA AMENDED)	2019 ED.
NFPA 72	NATIONAL FIRE ALARM & SIGNALING CODE (CA AMENDED)	2022 ED.
NFPA 80	STANDARD FOR FIRE DOORS AND OTHER OPENING PROTECTIVES	2019 ED.
NFPA 2001	STANDARD ON CLEAN AGENT FIRE EXTINGUISHING SYSTEMS (CA AMENDED)	2018 ED.
UL 300	STANDARD FOR FIRE TESTING OF FIRE EXTINGUISHING SYSTEMS FOR PROTECTION OF COMMERCIAL COOKING EQUIPMENT	2005 (R2014)
UL 464	AUDIBLE SIGNAL APPLIANCES FOR FIRE ALARM AND SIGNALING SYSTEMS, INCLUDING ACCESSORIES	2003 ED.
UL 521	STANDARD FOR HEAT DETECTORS FOR FIRE PROTECTIVE SIGNALING SYSTEMS	1999 ED. (R2005)
UL 1971	STANDARD FOR SIGNALING DEVICES FOR THE HEARING IMPAIRED	2002 ED. (R2018)
ICC 300	STANDARD FOR BLEACHERS, FOLDING AND TELESCOPING SEATING AND GRANDSTANDS	2017 ED.

FOR A COMPLETE LIST OF APPLICABLE NFPA STANDARDS REFER TO 2022 CBC (SFM) CHAPTER 35 AND CALIFORNIA FIRE CODE CHAPTER 80.
SEE CALIFORNIA BUILDING CODE, CHAPTER 35 FOR STATE OF CALIFORNIA AMENDMENTS TO NFPA STANDARDS.

ACCEPTANCE TESTING

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 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 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-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.

PROJECT DESCRIPTION

GENERAL DESCRIPTION OF WORK

INCREMENT 1, PREVIOUS INCREMENT:

CONSTRUCTION OF SITE WORK, FENCING, AND TRASH ENCLOSURE.

GENERAL ALTERATION OF EXISTING ACCESSIBLE PARKING.

RELOCATION OF EXISTING STORAGE CONTAINERS.

INCREMENT 2, THIS INCREMENT:

CONSTRUCTION OF 9700 SF AG SHOP

DEFERRED APPROVAL

NONE

EXEMPTIONS

NONE

SHEET INDEX - INC 2

SHEET INDEX - INC 1

SYMBOL LEGEND

NORTH ARROW
TN / PN
TICK INDICATES PLAN NORTH
ARROW INDICATES TRUE NORTH

ELEVATION CALLOUT (TYPICAL FOR EXTERIOR)
1 / AX.XX
LOCATION ON SHEET
SHEET WHERE ELEVATION IS DRAWN

ELEVATION CALLOUT (TYPICAL FOR INTERIOR)
A1 / A2 / A3 / A4 / AX.XX
LOCATION ON SHEET
SHEET WHERE ELEVATION IS DRAWN

ELEVATION CALLOUT - ALT. (FOR EXTERIOR AND INTERIOR)
18/AX.XX
LOCATION & SHEET WHERE ELEVATION IS DRAWN

SECTION CALLOUT
SIM / 1 / AX.XX
INDICATES A SIMILAR CONDITION
LOCATION ON SHEET
SHEET WHERE SECTION IS DRAWN

DETAIL CALLOUT
SIM / 1 / AX.XX
INDICATES A SIMILAR CONDITION
LOCATION ON SHEET
SHEET WHERE SECTION IS DRAWN

CONTROL OR DATUM POINT
FIRST FLOOR / +0' - 0"
NAME OF ELEVATION (IF APPLICABLE)
ELEVATION ABOVE FINISHED FLOOR

GRID BUBBLE
0 / 0
EXISTING BUILDING GRID SYMBOL
GRID NUMBER
NEW BUILDING GRID SYMBOL

DOOR CALLOUT
101A
DOOR NUMBER

INTERIOR FINISH CALLOUT
FA
MATERIAL FINISH TYPE (SEE FINISH SCHEDULE)

WINDOW CALLOUT
09-WF1
WINDOW NUMBER (SEE WINDOW SCHEDULE)

WALL TYPE CALLOUT
AS6A / AS4A / 55 1FB
WALL TYPE MARK - SEE A10.11
WALL STC RATING
WALL FIRE RATING TYPE

MATCHLINE REFERENCE
X / X
LOCATION ON SHEET
SHEET WHERE PLAN IS DRAWN

KEYNOTE
?
KEYNOTE NUMBER (SEE LEGEND ON SHEET)

ROOM EXITING INFORMATION
OFFICE / 1001 / 150 SF / OL / OLF / EX / 2
AREA (SQ FT)
OCCUPANT LOAD (AREA DIVIDED BY LOAD FACTOR)
OCCUPANT LOAD FACTOR (REFER TO TABLE 1004.5)
OCCUPANCY TYPE
NUMBER OF EXITS REQUIRED (REFER TO TABLE 1006.2.1)

WIC CASEWORK TAG
WI999 / L / WD / HT / DP
MANUFACTURER REFERENCE AND MODEL NUMBER
LOCK
CABINET DEPTH
CABINET HEIGHT
CABINET WIDTH

SHEET NUMBER SYSTEM

DISCIPLINE	SHEET TYPE	BUILDING LETTER, SEGMENT, (USER DEFINED)
G GENERAL	0 CODE ANALYSIS, NOTES	USED ONLY IF REQUIRED IF NOT COLUMN IS OMITTED
C CIVIL	1 SITE PLAN	
L LANDSCAPE	2 FLOOR PLAN	
A ARCHITECTURE	3 CEILING PLAN	
I INTERIORS	4 ROOF PLAN	
Q EQUIPMENT	5 EXTERIOR ELEVATIONS	
S STRUCTURAL	6 SECTIONS	
P PLUMBING	7 ENLARGED PLANS	
M MECHANICAL	8 INTERIOR ELEVATIONS	
E ELECTRICAL	9 SCHEDULES	
FA FIRE ALARM	10 DETAILS	
T TELECOM		
AV AV EQUIPMENT		
K KITCHEN		
FP FIRE PROTECTION		

SERIES ORDER
SHEET TYPE
DISCIPLINE
SEGMENT (IF APPLICABLE)

A A 1 . 1 1 A . A

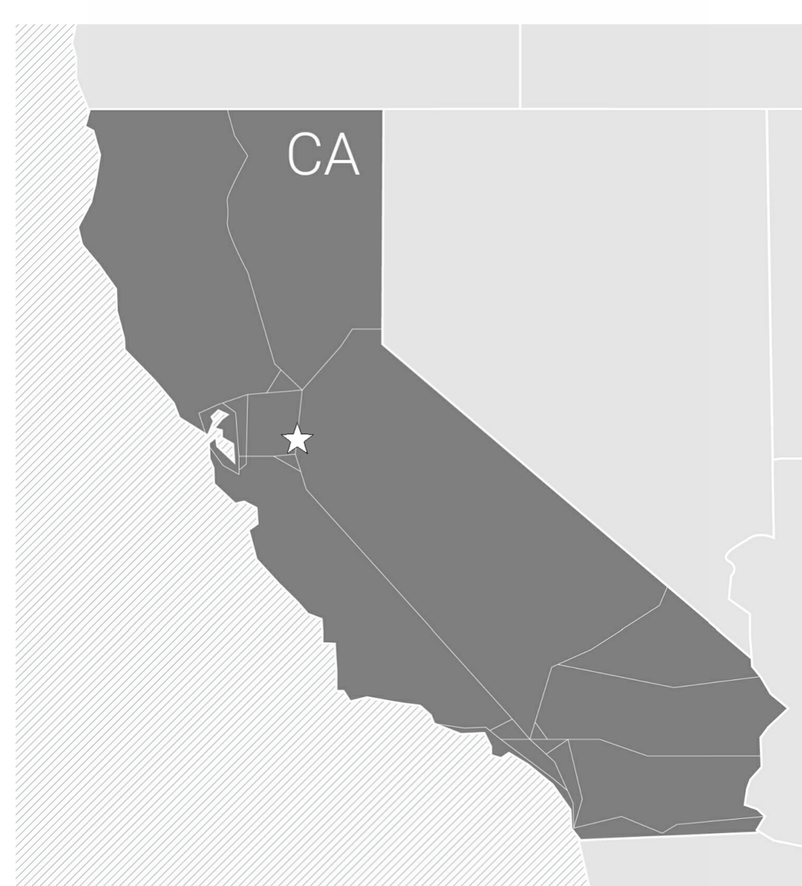
BUILDING LETTER (IF APPLICABLE)
FLOOR LEVEL OR SEQUENTIAL ORDER
USER DEFINED (IF APPLICABLE)

ABBREVIATIONS

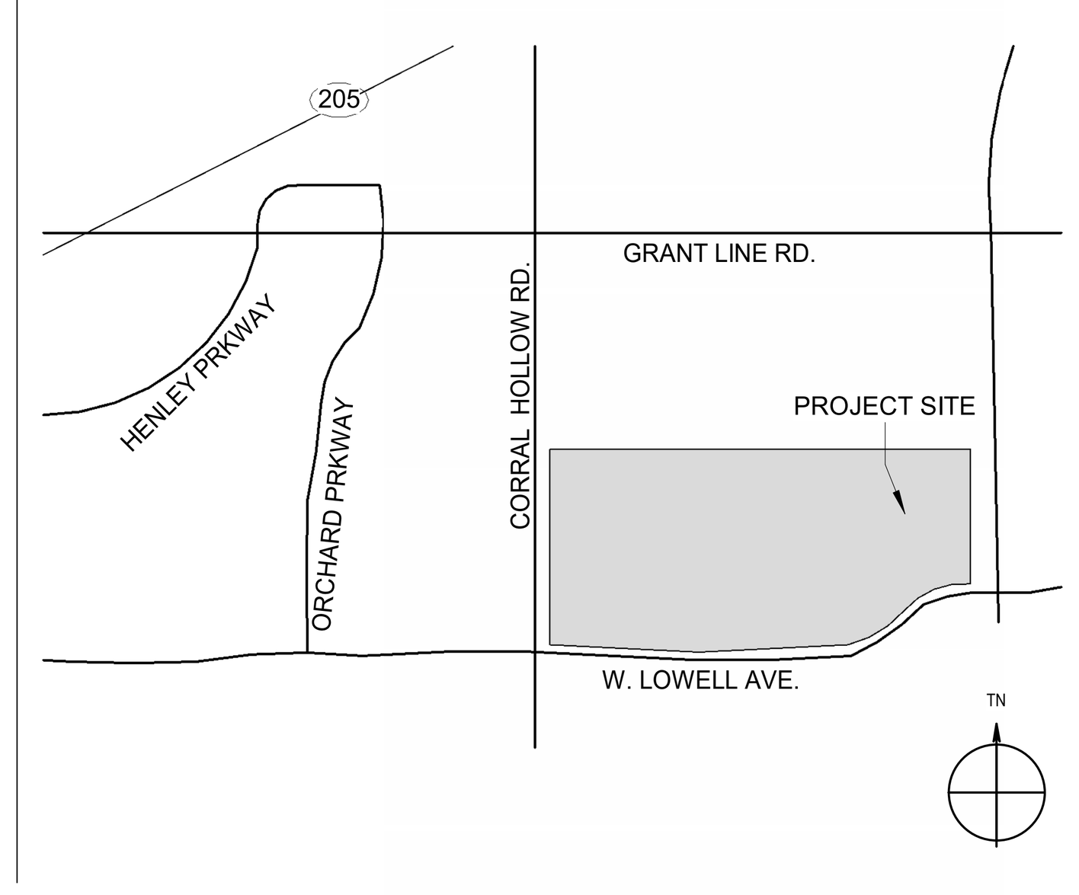
(E)	EXISTING
AB	ANCHOR BOLT
AC PAVING	ASPHALTIC CONCRETE PAVING
ACC	ACCESS/ACCESSIBLE
ACP	ACOUSTICAL CEILING PANEL
ACT	ACOUSTICAL CEILING TILE
ADJ	ADJACENT/ADJUSTABLE
AFF	ABOVE FINISH FLOOR
AGG	AGGREGATE
AHU	AIR HANDLING UNIT
ARCH	ARCHITECTURAL
ATT	ATTENUATION
AUTO	AUTOMATIC
BD	BOARD
BLCG	BLOCKING
BLDG	BUILDING
BUR	BUILT UP ROOFING
CABT	CABINET
CF	CUBIC FEET
CFCI	CONTRACTOR FURNISHED, CONTRACTOR INSTALLED
CFOI	CONTRACTOR FURNISHED, OWNER INSTALLED
CG	CORNER GUARD
CJ	CONTROL JOINT
CL	CENTER LINE
CLF	CHAIN LINK FENCE
CLR	CLEAR
CMU	CONCRETE MASONRY UNIT
CO	CLEANOUT
COL	COLUMN
COMP	COMPRESSION / COMPOSITE
CF	CUBIC FEET
COORD	COORDINATE
CORR	CORRUGATED
CT	CERAMIC TILE
CTSK	COUNTER SKUNK
CW	CURTAINWALL
DEPR	DEPRESSED / DEPRESSION
DF	DRINKING FOUNTAIN
DIM	DIMENSION
DISP	DISPENSER
DS	DOWNSPOUT
DTL	DETAIL
DW	DISHWASHER
DWG	DRAWING
E/W	EACH WAY
EIFS SYSTEM	EXTERIOR INSULATION FINISH
EJ	EXPANSION JOINT
ELEC	ELECTRICAL
ELEV	ELEVATION / ELEVATOR
ENCL	ENCLOSE / ENCLOSURE
EOS	EDGE OF SLAB
EP	ELECTRICAL PANEL
EQ	EQUAL
ESC	EXCUTCHEON
EWC	ELECTRIC WATER COOLER
EXP	EXPOSED
FA	FIRE ALARM
FD	FLOOR DRAIN
FDC	FIRE DEPARTMENT CONNECTION
FE	FIRE EXTINGUISHER
FEC	FIRE EXTINGUISHER W/ CABINET
FF	FINISH FLOOR
FG	FINISH GRADE
FH	FIRE HYDRANT
FHC	FIRE HOSE CABINET
FSH	FLAT HEAD SCREW
FIN	FINISH
FLR	FLOOR
FOC	FACE OF CONCRETE
FOF	FACE OF FINISH
FOM	FACE OF MASONRY
FOS	FACE OF STUD
FP	FIREPROOFING
FR	FIRE RATED
FRG	FIRE RATED GLASS
FRP	FIBERGLASS REINFORCED PLASTIC
FRT	FIRE RETARDANT TREATED
FS	FINISH SURFACE
FTG	FOOTING
GB	GRAB BAR
GFRC	GLASS FIBER REINFORCED CONCRETE
GL	GLASS TYPE
GLB	GLUE LAMINATED BEAM
GYP BD	GYPSUM BOARD
GYP PLAS	GYPSUM PLASTIC
HB	HOSE BIBB
HD	HEAVY DUTY
HDR	HEADER
HDWR	HARDWARE
HGT	HEIGHT
HM	HOLLOW METAL
HP	HIGH POINT
HSS	HOLLOW STEEL SECTION
ID	INSIDE DIAMTER
INT	INTERIOR
INV	INVERT
LANDS	LANDSCAPE
LAV	LAVATORY
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LP	LOW POINT
LT WT	LIGHT WEIGHT
LVR	LOUVER
MACH	MACHINE
MB	MACHINE BOLT
MDF	MEDIUM DENSITY FIBERBOARD
MDO	MEDIUM DENSITY OVERLAY
MECH	MECHANICAL
MED	MEDIUM
MEMB	MEMBRANE
MFR	MANUFACTURER
MH	MANHOLE
MO	MASONRY OPENING
MTD	MOUNTED
MTL	METAL
NIC	NOT IN CONTRACT
NR	NON RATED
NRC	NOISE REDUCTION COEFFICIENT
NTS	NOT TO SCALE
O/	OVER
O/A	OVERALL
OC	ON CENTER
OD	OUTSIDE DIAMTER
OFCI	OWNER FURNISHED, CONTRACTOR INSTALLED
OFOI	OWNER FURNISHED, OWNER INSTALLED
OFVI	OWNER FURNISHED, VENDOR INSTALLED
OH	OPPOSITE HAND
OPER	OPERABLE
OPNG	OPENING
ORD	OVERFLOW ROOF DRAIN
P/L	PROPERTY LINE
PA	PUBLIC ADDRESS
PAF	POWDER ACTUATED FASTENER
	PAVING
PCC	PORTLAND CEMENT CONCRETE PAVING
PED	PEDESTRIAN
PERF	PERFORATED
PERIM	PERIMETER
PERP	PERPENDICULAR
PH	PANIC HARDWARE
PIV	POST INDICATOR VALVE
PL	PLATE
PLAM	PLASTIC LAMINATE
PLAS	PLASTER
PLUMB	PLUMBING
PNL	PANEL
PNT	PAINT / PAINTED
POC	POINT OF CONNECTION
POLY ISO	POLYISOCYANURATE
PREFIN	PREFINISHED
PREP	PREP / PREPARATION
PTC	POST TENSIONED CONCRETE
PTD	PAPER TOWEL DISPENSER
PTN	PARTITION
PTS	PNEUMATIC TUBE STATION / SYSTEM
PVC	POLYVINYL CHLORIDE
PVMT	PAVEMENT
QT	QUARRY TILE
R	RADIUS, RISER
RB	RESILIENT BASE
RD	ROOF DRAIN
RECEPT	ECEPTACLE
REF	REFERENCE
REFL	REFLECT(ED), (IVE)
REFL	REFLECT(ED), (IVE)
REFR	REFRIGERATOR
REINF	REINFORCE/REINFORCED/ REINFORCEMENT
REM	REMOVE
RH	ROUND HEAD
RHS	ROUND HEAD SCREW
RO	ROUGH OPENING
ROW	RIGHT OF WAY
SCH	SCHEDULE (FOR PIPE)
SCHED	SCHEDULE / SCHEDULING
SD	STORM DRAIN / SOAP DISPENSER
SECT	SECTION
SG	SAFETY GLASS
SHT	SHEET
SHTG	SHEATHING
SMS	SHEET METAL SCREW
SND	SANITARY NAPKIN DISPOSAL
SOV	SHUT OFF VALVE
SPEC	SPECIFICATIONS
SS	STAINLESS STEEL
STC	SOUND TRAMISSION CLASS
STL	STEEL
STSMS SCREW	SELF TAPPING SHEET METAL
SUSP	SUSPENDED
SV	SHEET VINYL
SYM	SYMMETRICAL
T	TREAD
T&B	TOP AND BOTTOM
TO	TOP OF
TOC	TOP OF CURB / CONCRETE
TOP	TOP OF PARAPET
TOS	TOP OF STEEL
TOW	TOP OF WALL
TPD	TOILET PAPER DISPENSER
TS	TACKABLE SURFACE
U/C	UNDER CABINET (OR COUNTER
UNO	UNLESS NOTED OTHERWISE
UR	URINAL
VAC	VACUUM
VB	VAPOR BARRIER
VCT	VINYL COMPOSITION TILE
VIF	VERIFY IN FIELD
VTR	VENT THROUGH ROOF
VWC	VINYL WALL COVERING
W/	WITH
W/O	WITHOUT
WB	WOOD BASE
WC	WATER CLOSET
WD	WOOD
WDW	WINDOW
WGT	WEIGHT
WH	WATER HEATER
WP	WATERPROOFING/WALL PROTECTION
WR	WATER RESISTANT
WRGB	WATER RESISTANT GYPSUM BOARD
WS	WOOD SCREW
WSCT	WAINSCOT
WWF	WELDED WIRE FABRIC

NOTE:
OTHER ABBREVIATIONS USED ON THESE DRAWINGS ARE CONSIDERED STANDARDS IN THE BUILDING INDUSTRY. CONTACT ARCHITECT FOR NECESSARY CLARIFICATION.

STATE MAP



VICINITY MAP



STATEMENT OF GENERAL CONFORMANCE

(X) THE DRAWINGS OR SHEETS LISTED ON THE INDEX SHEET WITH AN (*)
( ) THIS DRAWING PAGE OF SPECIFICATIONS/CALCULATIONS

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

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

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

I CERTIFY THAT:

ALL DRAWINGS OR SHEETS LISTED ON THE SHEET INDEX WITH AN (*) IS/ARE IN GENERAL CONFORMANCE WITH THE PROJECT DESIGN AND HAS/HAVE BEEN COORDINATED WITH THE PROJECT PLANS AND SPECIFICATIONS.

SIGNATURE
ARCHITECT OR ENGINEER DESIGNATED TO BE IN GENERAL RESPONSIBLE CHARGE

DATE

PRINT NAME

X-00000
LICENSE NUMBER

01-01-22
EXPIRATION DATE

AGENCY APPROVAL:

TRACY UNIFIED SCHOOL DISTRICT

HMC Architects
3595-002-100
2101 CAPITOL AVENUE, SUITE 100,
SACRAMENTO, CA, 95816
916 368 7990 / www.hmcarchitects.com

ISSUE

Δ	DESCRIPTION	DATE

FACILITY:
MERRILL F WEST HIGH SCHOOL
1775 W LOWELL AVE
TRACY, CA 95376

PROJECT:
MERRILL F WEST HS AGRICULTURE CTE BLDG INCREMENT 2

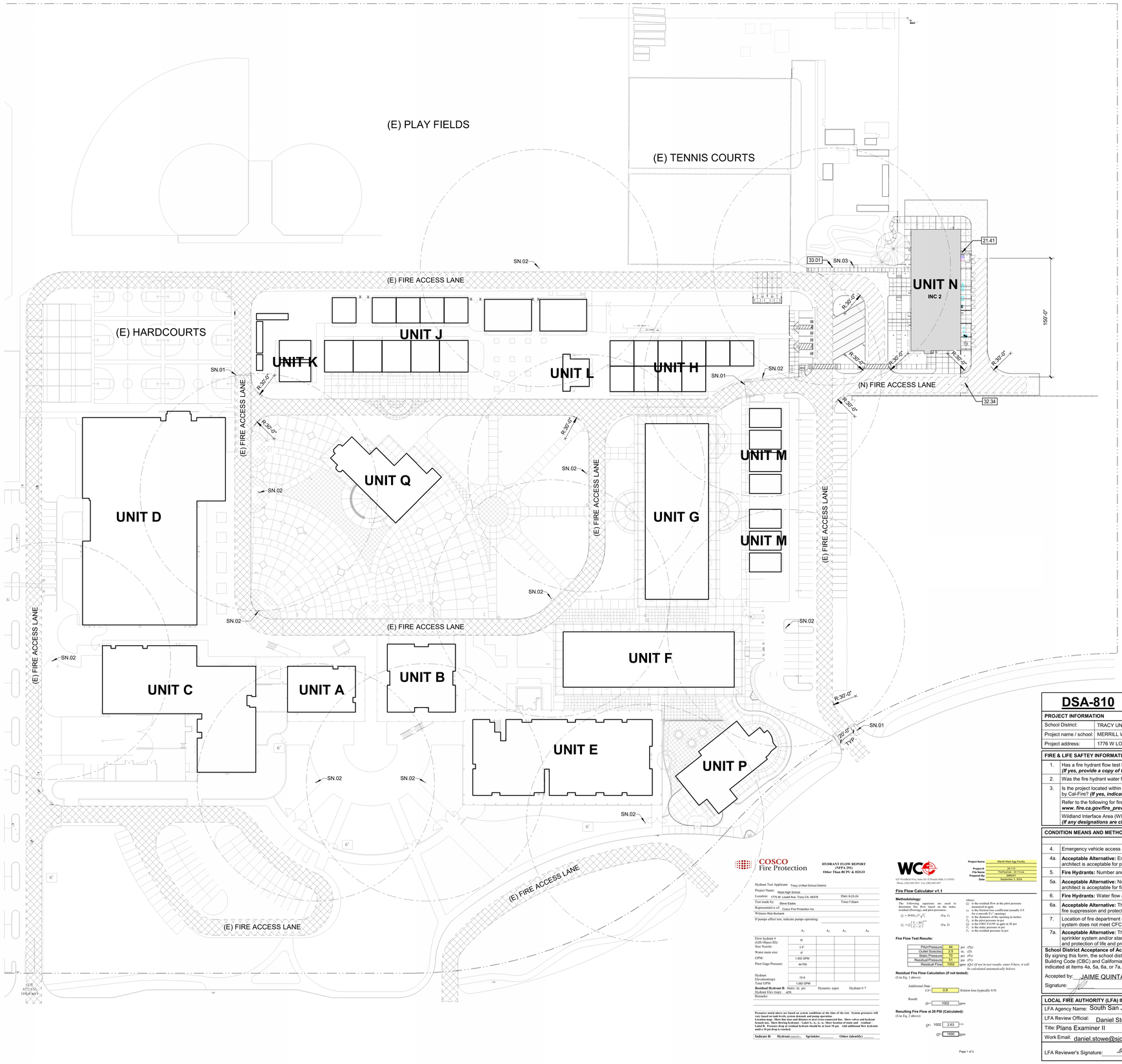
SHEET NAME:
PROJECT DATA SHEET

DSA SUBMITTAL

DATE: **10/11/2024** CLIENT PROJ NO:

SHEET:
G0.14

PLEASE RECYCLE



LEGEND

- PROPERTY LINE
- UNIT DESIGNATION / FUTURE BUILDING
- UNIT DESIGNATION / EXISTING BUILDINGS
- LANDSCAPE AREA
- CONCRETE WALK / PAVING
- ASPHALT CONCRETE PAVING
- PAVERS
- FIRE HYDRANT
- FIRE DEPARTMENT CONNECTION

BUILDING DESIGNATIONS

UNIT A	-	ADMINISTRATION
UNIT B	-	LIBRARY
UNIT C	-	CAFETERIA
UNIT D	-	GYMNASIUM
UNIT E	-	CLASSROOMS
UNIT F	-	CLASSROOMS
UNIT G	-	CLASSROOMS
UNIT H	-	RELOCATABLE CLASSROOMS
UNIT J	-	RELOCATABLE CLASSROOMS
UNIT K	-	RELOCATABLE CLASSROOMS
UNIT L	-	RESTROOMS
UNIT M	-	RELOCATABLE CLASSROOMS
UNIT N	-	NEW AG SHOP
UNIT P	-	PERFORMING ARTS CLASSROOMS
UNIT Q	-	CLASSRROOMS

SHEET NOTES

SN.01 (E) GATE WITH KNOX LOCK BOX
SN.02 (E) FIRE HYDRANT
SN.03 (E) FDC; PROTECT IN PLACE

KEYNOTES

21.41	FIRE RISER | SEE FIRE PROTECTION DRAWINGS
32.34	CHAIN LINK DOUBLE SWING GATE WITH KNOX LOCK BOX; KNOX LOCK PER LOCAL FIRE AUTHORITY STANDARDS
33.01	FIRE HYDRANT | CIVIL

COSCO Fire Protection

HYDRANT FLOW REPORT (NFPA 291) Other Than BCPU & H2GO

Hydrant Test Applicant: Tracy Unified School District
Project Name: West High School
Location: 1776 W. Lowell Ave. Tracy CA. 95376 Date: 8-23-24
Test made by: Steve Eades Time:7:00am
Representative of: Cosco Fire Protection Inc.
Witness: Rick Burbank
If pumps affect test, indicate pumps operating:

	A_1	A_2	A_3	A_4
Flow hydrant # (GIS Object ID):	16			
Size Nozzle:	2.5"			
Water main size:	8"			
GPM:	1,002 GPM			
Pitot Gage Pressure:	44 PSI			
Hydrant Elevation(ave):	-10 ft			
Total GPM	1,002 GPM			

Residual Hydrant B: Static 70 psi Dynamic: psi Hydrant #: ?
Hydrant Elev.(top): -67ft
Remarks:

Pressures noted above are based on system conditions at the time of the test. System pressures will vary based on tank levels, system demand, and pump operation.
Indicate hydrant locations, fire department connections, and underground line. Show valves and hydrant branch size. Show flowing hydrants - Label A1, A2, A3, A4. Show location of static and residual - Label B. Pressure drop at residual hydrant should be at least 10 psi. Add additional flow hydrants until a 10 psi drop is reached.

Indicate B: Hydrant (name) #: Sprinkler Other (identify)

WC

107 Woodland Way, Suite 102 Rancho Palos Verdes, CA 90275
Phone: (562) 905-1071 Fax: (562) 905-1077

Project Name: Merrill West Ag Facility
Project #: 24-113
File Name: FireFlow Calc - 24-113.xls
Prepared By: Steve Eades
Date: September 3, 2024

Fire Flow Calculator v1.1

Methodology
The following equations are used to determine the flow based on the static, residual (flowing), and pitot pressures:

$$Q_r = 29.83 c_d d_r^2 \sqrt{p_r} \quad \text{(Eq. 1)}$$

$$Q_f = Q_r \left(\frac{p_s - p_f}{p_s - p_r}\right)^{0.54} \quad \text{(Eq. 2)}$$

where:
Q_r = the residual flow at the pitot pressure measured in gpm
c_d = the friction loss coefficient (usually 0.9 for a smooth $2\frac{1}{2}$" opening)
d_r = the diameter of the opening in inches
p_r = the pitot pressure in psi
Q_f = the FIRE FLOW in gpm at 20 psi
p_s = the static pressure in psi
p_f = the residual pressure in psi

Fire Flow Test Results:

Pitot Pressure	44	psi (Pp)
Outlet Size(dia)	2.5	in. (D)
Static Pressure	70	psi (Ps)
Residual Pressure	53	psi (Pr)
Residual Flow	1002	gpm (Qr) *(if not in test results, enter 0 here, it will be calculated automatically below)*

Residual Fire Flow Calculation (if not tested):
(Use Eq. 1 above)

Additional Data :
C_d= 0.9 friction loss (typically 0.9)

Result:
Q_r= 1002 gpm

Resulting Fire Flow at 20 PSI (Calculated):
(Use Eq. 2 above)

Q_r= 1002 2.63 $^{0.54}$
Q_f= 1690 gpm

Page 1 of 2

DSA-810 FIRE & LIFE SAFETY SITE CONDITIONS SUBMITTAL

PROJECT INFORMATION

School District:	TRACY UNIFIED SCHOOL DISTRICT	
Project name / school:	MERRILL WEST HIGH SCHOOL- AG SHOP	
Project address:	1776 W LOWELL AVE., TRACY, CA 95376	

FIRE & LIFE SAFTEY INFORMATION		ALTERNATE ACCEPTED
1.	Has a fire hydrant flow test been performed within the past 12 months? ***(If yes, provide a copy of the test data)***	Yes ☐ No ☒
2.	Was the fire hydrant water flow test performed as part of this LFA review?	Yes ☐ No ☒
3.	Is the project located within a designated fire hazard serverity zone as established by Cal-Fire? ***(If yes, indicate fire hazard zone classification below)***	Yes ☐ No ☒
	Refer to the following for fire hazard zone locations: ***www. fire.ca.gov/fire_prevention/fire_prevention_wildland_zones_maps***	Moderate ☐ High ☐ Very High ☐
	Wildland Interface Area (WIFA) ***(If any designations are checked, project design must meet the requirements of CBC Chapter 7A)***	WIFA ☐

CONDITION MEANS AND METHODS RESOLUTION		ALTERNATE ACCEPTED			
		Yes	No	N/A	N/R
4.	Emergency vehicle access roadways do not meet CFC requirements	■		☒	
4a.	**Acceptable Alternative:** Emergency vehicle and personel access as proposed by the architect is acceptable for providing fire suppression and protection of life and property	☒		■	
5.	**Fire Hydrants:** Number and spacing does not meet CFC requirements	■		■	
5a.	**Acceptable Alternative:** Number of fire hydrants and spacing as proposed by the architect is acceptable for fire suppression and protection of life and property.	☒		■	
6.	**Fire Hydrants:** Water flow and pressure are less than CFC minimum.	■		☒	
6a.	**Acceptable Alternative:** The available flow and pressure is acceptable for providing fire suppression and protection of life and property.	☒		■	
7.	Location of fire department connection(s) serving fire sprinkler system or standpipe system does not meet CFC requirements.	■		☒	
7a.	**Acceptable Alternative:** The location of fire department connection serving the fire sprinkler system and/or standpipe system is acceptable for providing fire suppression and protection of life and property.	☒		■	

School District Acceptance of Acceptable Design Alternates
By signing this form, the school district acknowledges and accepts the proposed design as an alternative to California Building Code (CBC) and California Fire Code (CFC) minimum requirements as indicated by one of more of the conditions indicated at items 4a, 5a, 6a, or 7a, for providing fire and life safety protection of life and property.

Accepted by: JAIME QUINTANA Title: DIR. OF FACILITIES
Signature: Date: 09/23/24

LOCAL FIRE AUTHORITY (LFA) INFORMATION

LFA Agency Name: South San Joaquin County Fire Auhtority
LFA Review Official: Daniel Stowe
Title: Plans Examiner II Work Phone: 209-831-6735
Work Email: daniel.stowe@sjcfire.org
LFA Reviewer's Signature: Date: 08/30/2024

AGENCY APPROVAL:

TRACY UNIFIED SCHOOL DISTRICT

HMC Architects
3595-002-100
2101 CAPITOL AVENUE, SUITE 100,
SACRAMENTO, CA, 95816
916 368 7990 / www.hmcarchitects.com

ISSUE

Δ	DESCRIPTION	DATE

FACILITY:
MERRILL F WEST HIGH SCHOOL
1775 W LOWELL AVE
TRACY, CA 95376

PROJECT:
MERRILL F WEST HS AGRICULTURE CTE BLDG INCREMENT 2

SHEET NAME:
LOCAL FIRE AUTHORITY SITE ACCESS PLAN

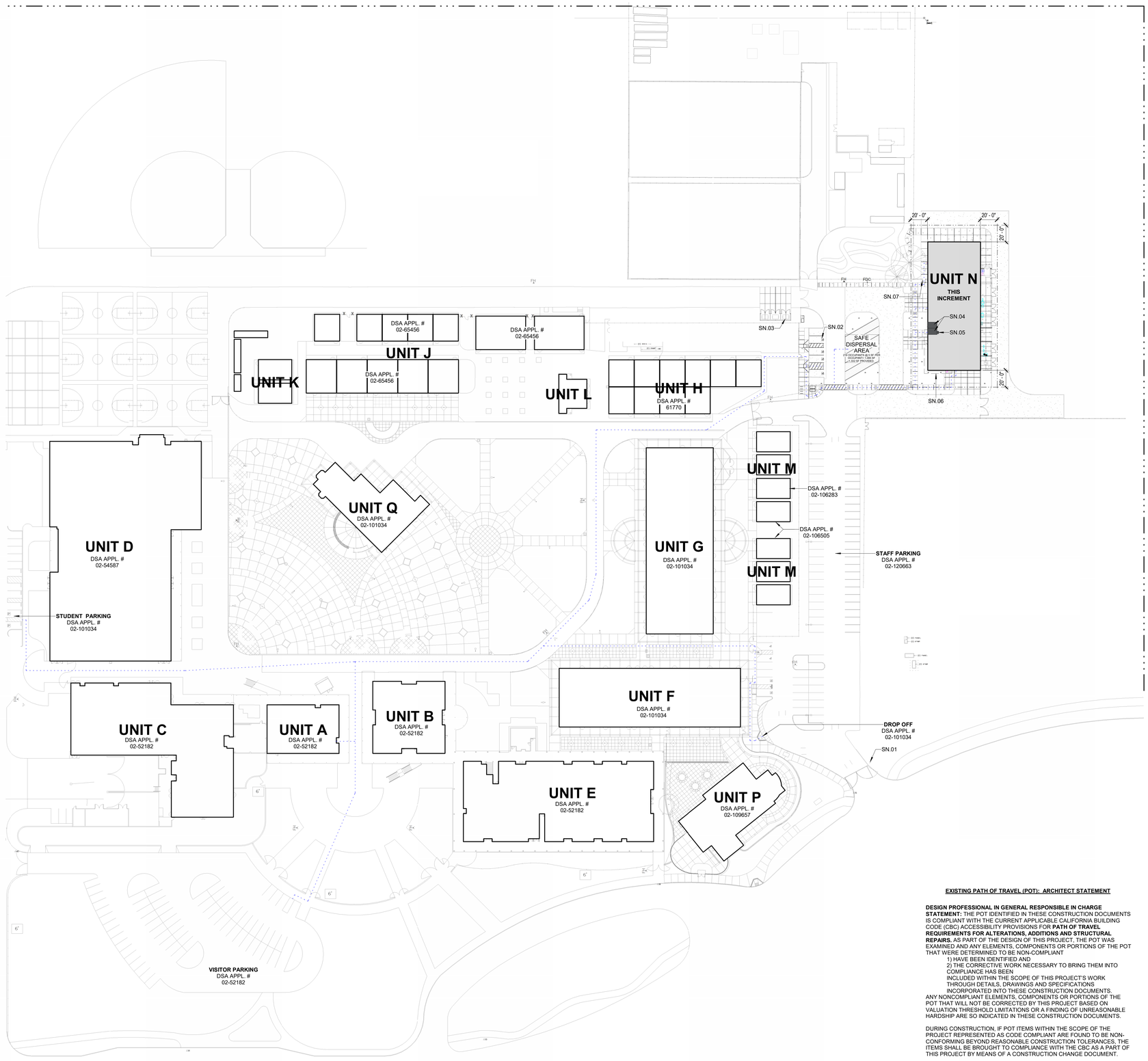
DSA SUBMITTAL

DATE: **10/11/2024** CLIENT PROJ NO:

SHEET:

G1.12

LOCAL FIRE AUTHORITY INC 1 | 1 | 1" = 50'-0"



LEGEND

- APPROXIMATE LIMIT OF WORK. REFER TO ADDITIONAL DRAWINGS FOR WORK WHICH MAY EXTEND BEYOND THIS APPROXIMATE LIMIT OF WORK LINE.
- ASSUMED PROPERTY LINE
- PROPERTY LINE
- ACCESSIBLE PATH OF TRAVEL
- CHAIN LINK FENCE
- FUTURE BUILDING
- EXISTING BUILDINGS
- LANDSCAPE AREA
- CONCRETE WALK / PAVING
- ASPHALT CONCRETE PAVING
- PAVERS
- TRUNCATED DOMES
- FIRE HYDRANT

BUILDING DESIGNATIONS

UNIT A	-	ADMINISTRATION
UNIT B	-	LIBRARY
UNIT C	-	CAFETERIA
UNIT D	-	GYMNASIUM
UNIT E	-	CLASSROOMS
UNIT F	-	CLASSROOMS
UNIT G	-	CLASSROOMS
UNIT H	-	RELOCATABLE CLASSROOMS
UNIT J	-	RELOCATABLE CLASSROOMS
UNIT K	-	RELOCATABLE CLASSROOMS
UNIT L	-	RESTROOMS
UNIT M	-	RELOCATABLE CLASSROOMS
UNIT N	-	NEW AG SHOP
UNIT P	-	PERFORMING ARTS CLASSROOMS
UNIT Q	-	CLASSRROOMS

EXISTING PATH OF TRAVEL (POT): ARCHITECT STATEMENT

DESIGN PROFESSIONAL IN GENERAL RESPONSIBLE IN CHARGE STATEMENT: THE POT IDENTIFIED IN THESE CONSTRUCTION DOCUMENTS IS COMPLIANT WITH 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 NON-COMPLIANT

1) HAVE BEEN IDENTIFIED AND
2) THE CORRECTIVE WORK NECESSARY TO BRING THEM INTO COMPLIANCE HAS BEEN INCLUDED WITHIN THE SCOPE OF THIS PROJECT'S WORK THROUGH DETAILS, DRAWINGS AND SPECIFICATIONS INCORPORATED INTO THESE CONSTRUCTION DOCUMENTS.

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

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

ACCESSIBLE PATH OF TRAVEL

1. ACCESSIBLE PATH OF TRAVEL (P.O.T.):
   SITE WALKWAYS SHALL PROVIDE A BARRIER-FREE P.O.T. ABRUPT CHANGES IN LEVEL ALONG ANY P.O.T. ARE ALLOWED UP TO 1/2". ONLY ABRUPT CHANGES IN ELEVATION UP TO 1/4" ARE ALLOWED TO HAVE A VERTICAL TRANSITION. ABRUPT CHANGES IN ELEVATION BETWEEN 1/4" AND 1/2" SHALL BE BEVELED WITH A SLOPE NO GREATER THAN 1-UNIT VERTICAL TO 2-UNITS HORIZONTAL. GATES IN THE P.O.T. SHALL HAVE A SIGN ADJACENT TO THE GATE, IN ALL CAPITALIZED LETTERS, WHICH READS: "THIS GATE TO REMAIN LOCKED IN OPEN POSITION DURING SCHOOL HOURS OR ANY PUBLIC EVENT".
2. THE CONTRACTOR SHALL PROVIDE A P.O.T. FROM THE DISABLED ACCESSIBLE PARKING STALLS TO ALL BUILDINGS AND SITE FUNCTIONS. CONTRACTOR SHALL VERIFY THAT THE P.O.T. IS BARRIER-FREE AS DESCRIBED IN THESE NOTES.
3. WALKWAYS SHALL BE FREE OF GRATINGS WHEREVER POSSIBLE. GRATING WHICH OCCUR WITHIN THE P.O.T. SHALL HAVE OPENINGS WHICH DO NOT EXCEED 1/2" IN THE DIRECTION OF TRAVEL PER CBC SECTION 1133B.7.2.
4. AN ABRUPT DROP-OFF CHANGE IN ELEVATION AT THE EDGE OF ANY WALK INTO AN ADJACENT PLANTER SHALL NOT EXCEED 4".
5. SLOPES IN THE DIRECTION OF THE P.O.T. GREATER THAN 1-UNIT VERTICAL TO 20-UNITS HORIZONTAL SHALL BE CONSIDERED A RAMP AND WILL REQUIRE HANDRAILS ON BOTH SIDES PER CBC SECTION 1133B.5.5. SLOPES IN THE DIRECTION OF THE P.O.T. ALONG WALKWAYS SHALL NOT EXCEED 5%. CROSS SLOPES IN THE P.O.T. ALONG WALKWAYS SHALL NOT EXCEED 2%.
6. ALL WALKWAYS WITHIN THE P.O.T. SHALL BE A MINIMUM OF 48" IN WIDTH. SURFACES WITH A SLOPE OF LESS THAN 6% SHALL BE AT LEAST AS SLIP-RESISTANT AS THAT PROVIDED BY A MEDIUM BROOM FINISH. SURFACES WITH A SLOPE OF MORE THAN 6% SHALL BE SLIP-RESISTANT.
7. OBJECTS PROTRUDING INTO THE P.O.T. SHALL NOT REDUCE THE CLEAR WIDTH OR MANEUVERING SPACE WITHIN THE P.O.T. PER CBC SECTION 1133B.8.6.
8. ARCHITECT HAS SURVEYED/ INSPECTED THE PATH OF TRAVEL (P.O.T.) AS INDICATED ON THE PLANS AND HAS FOUND IT TO BE, OR HAS INDICATED ON THE PLANS REMEDIAL WORK WHICH WOULD CAUSE IT TO BE, A BARRIER-FREE ACCESSIBLE ROUTE:
   a. AT LEAST 48" IN. WIDTH; OR AS APPROVED BY CODE;
   b. WITHOUT ABRUPT LEVEL CHANGES EXCEEDING 1/2" IF BELVELED AT 1:2 MAXIMUM SLOPE, OR VERTICAL LEVEL CHANGES EXCEEDING 1/4";
   c. WITH A FIRM, STABLE, AND SLIP RESISTANT WALKING SURFACE;
   d. WITH A RUNNING SLOPE OF 1:20 OR LESS, UNLESS OTHERWISE INDICATED, AND A CROSS SLOPE OF 1:50 OR LESS;
   e. IS FREE OF OVERHEAD OBSTRUCTIONS WITHIN 80" ABOVE THE WALKING SURFACE; AND
   f. IS FREE OF OBJECTS WHICH PROTRUDE MORE THAN 4" BETWEEN THE HEIGHTS OF 27" AND 80" ABOVE THE WALKING SURFACE.

TN

CODE SITE PLAN 1 — 1" = 50'-0"

AGENCY APPROVAL:

TRACY UNIFIED SCHOOL DISTRICT

HMC Architects
3595-002-100
2101 CAPITOL AVENUE, SUITE 100,
SACRAMENTO, CA, 95816
916 368 7990 / www.hmcarchitects.com

ISSUE

Δ	DESCRIPTION	DATE

NOTES

1. FOR ACCESSIBLE PARKING AND OTHER SITE CALCULATIONS, SEE INCREMENT 1 OF THIS APPLICATION

SHEET NOTES

SN.01 PARKING LOT ENTRY SIGN, INCREMENT 1 OF THIS APPLICATION
SN.02 ACCESSIBLE PARKING, INCREMENT 1 OF THIS APPLICATION
SN.03 TRASH AND RECYCLING
SN.04 ACCESSIBLE SINGLE-OCCUPANT JOINT-USE STAFF AND STUDENT UNISEX RESTROOMS, THIS APPLICATION
SN.05 ACCESSIBLE DRINKING FOUNTAIN, THIS APPLICATION
SN.06 LINE OF OVERHANG ABOVE, SHOWN DASHED
SN.07 CHAIN LINK GATE WITH PANIC HARDWARE, INCREMENT 1 OF THIS APPLICATION

ALLOWABLE AREA CALCULATION

BUILDING TYPE	VB
STORIES	1
ALLOWABLE STORIES	2
OCCUPANCY CLASS	E
SPRINKLERS	YES
HEIGHT	24'
ALLOWABLE HEIGHT	60' MAX
HEIGHT INCREASE	NO
AREA INCREASE	NO
ALLOWABLE AREA / FLOOR	38,000 SF
1ST FLOOR	9,690 SF
OVERHANGS	295 SF
GRAND TOTAL	9,985 SF

FACILITY:
MERRILL F WEST HIGH SCHOOL
1775 W LOWELL AVE
TRACY, CA 95376

PROJECT:
MERRILL F WEST HS AGRICULTURE CTE BLDG INCREMENT 2

SHEET NAME:
CODE INFORMATION AND CAMPUS SITE PLAN

DSA SUBMITTAL

DATE: **10/11/2024** | CLIENT PROJ NO:

SHEET:

G1.13

THE LINE SHOWN ABOVE IS 1" WHEN PRINTED AT FULL SHEETS ORIGINAL PAGE SIZE

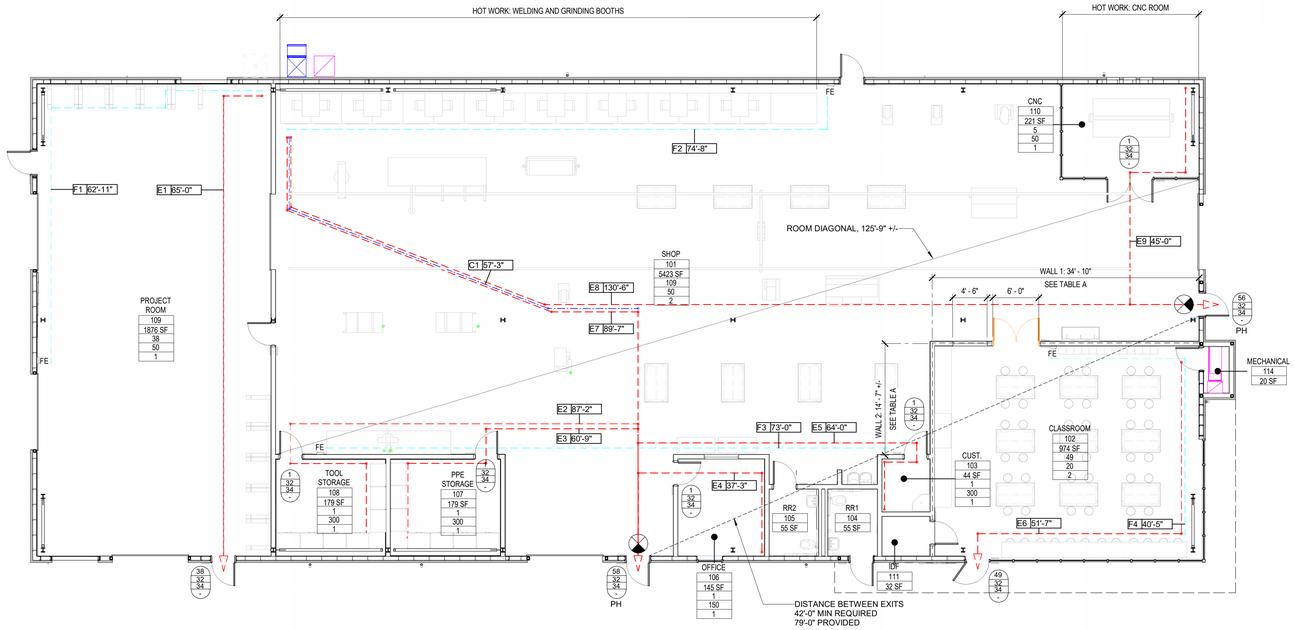


TABLE A: CHAPTER 7 FIRE RATED CALCULATIONS

OPENING WIDTH REQUIRED TO BE > 25% OF LENGTH

WALL 1
TOTAL LENGTH: 34' 10"
ALLOWED OPENING: 34' 10" x .25 = 8' 8.5"
PROVIDED OPENINGS: DOOR = 6', WINDOW = FIRE RATED
TOTAL OPENINGS = 6'

WALL 2
TOTAL LENGTH: 14' 7"
ALLOWED OPENING: 14' 7" x .25 = 3' 7.75"
PROVIDED OPENINGS: NONE

PN

CODE & EXIT FLOOR PLAN 1 — 1/8" = 1'-0"

PLEASE RECYCLE

Autodesk Docs://3595002100 TUSD AG SHOP R22/3595002100-A-MERRILL WEST-AG SHOP.rvt
10/11/2024 11:44:04 AM

AGENCY APPROVAL:

TRACY UNIFIED SCHOOL DISTRICT

HMC Architects
3595-002-100
2101 CAPITOL AVENUE, SUITE 100,
SACRAMENTO, CA, 95816
916 368 7990 / www.hmcarchitects.com

ISSUE

Δ	DESCRIPTION	DATE

LEGEND

DISTANCES

Ex 19'-7" — DISTANCE- EGRESS PATH

Cx 19'-7" — DISTANCE- COMMON PATH OF EGRESS

Fx 19'-7" — DISTANCE- BETWEEN FIRE EXTINGUISHERS

PATH DISTANCE
PATH NUMBER
PATH

BUILDING ELEMENTS

NON-RATED PARTITION, SEE A2.11 FOR WALL SIZE

1 HR FIRE BARRIER (A1-S-FR1) REQUIRING PROTECTED OPENINGS AND PENETRATIONS. SEE 1 / A10.11

15 / 32 / 34 / 20 / PH
OCCUPANTS REQUIRED (EGRESS)
DOOR WIDTH MINIMUM (EGRESS)
DOOR WIDTH PROVIDED (EGRESS)
FIRE RATING OF DOOR (IN MINUTES)
PANIC HARDWARE (WHEN PROVIDED)

OFFICE / 1001 / 150 SF / OL / OLF / EX
ROOM NUMBER
AREA (SQ FT)
OCCUPANT LOAD (AREA DIVIDED BY LOAD FACTOR)
OCCUPANT LOAD FACTOR
NUMBER OF EXITS

EXIT SIGN: AT EXIT (ONE SIDED)

FE — FIRE EXTINGUISHER

EGRESS ANALYSIS

EXIT ACCESS TRAVEL DISTANCE (CBC 1017.2, WITH SPRINKLER SYSTEM)
- E OCCUPANCY - 250 FT

MAXIMUM COMMON PATH OF EGRESS TRAVEL
- E OCCUPANCY - 75 FT

MAXIMUM TRAVEL DISTANCE TO FIRE EXTINGUISHER (CBC 906.3 (1))
- 75 FT

NOTES

1. FIRE RESISTANCE RATINGS SHOWN ARE MINIMUM RATINGS REQUIRED. REFER TO WALL TYPES ON A10.12, AND SPECIFICATIONS, FOR MORE INFORMATION.
2. FIRE RESISTANCE RATINGS IN PARTITIONS ARE SHOWN WHERE PARTITIONS ARE NOT CUT BY DOORS, WINDOWS, STOREFRONTS, OR OTHER OBJECTS. RATED PARTITION MAY EXIST ABOVE OR BELOW OBJECTS.
3. 1HR FIRE BARRIER PROVIDED BETWEEN THE SHOP AND OTHER EDUCATIONAL SPACES/AREAS WITH DIFFERENT LEVELS OF HAZARD PER DSA PRE-APPLICATION MEETING.
4. PER DSA PRE-APPLICATION MEETING, SEPARATION BETWEEN EQUIPMENT WILL BE MADE AT 'HOT WORK' EQUIPMENT ONLY.THIS SEPARATION IS ACCOMPLISHED BY THE BOOTH ENCLOSURE.

FACILITY:
MERRILL F WEST HIGH SCHOOL
1775 W LOWELL AVE
TRACY, CA 95376

PROJECT:
MERRILL F WEST HS AGRICULTURE CTE BLDG

SHEET NAME:
CODE & EXITING FLOOR PLAN

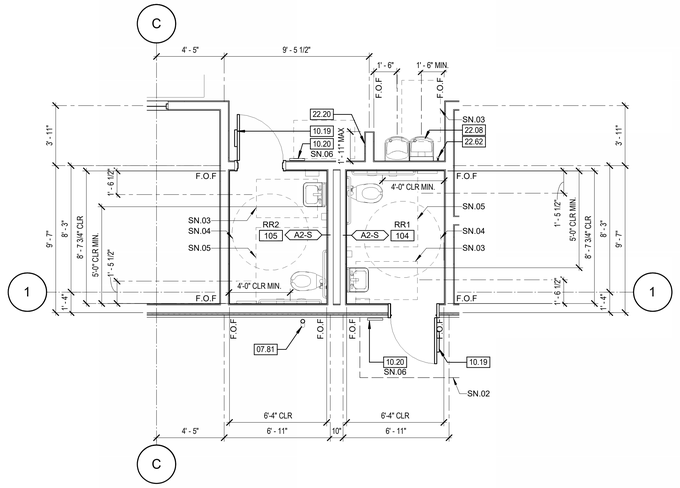
DSA SUBMITTAL

DATE: **10/11/2024** | CLIENT PROJ NO:

SHEET:

G1.14

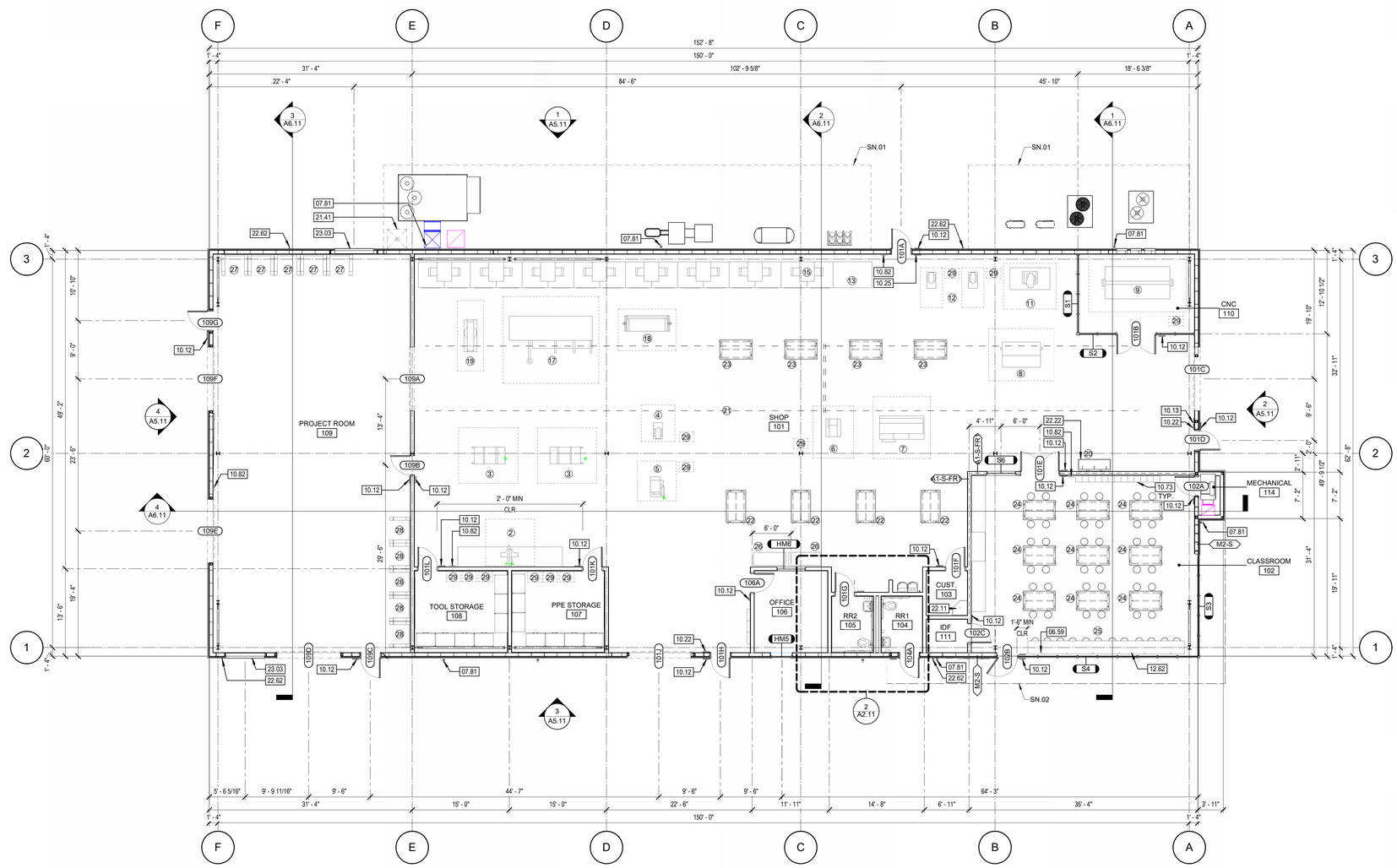
THE LINE SHOWN ABOVE IS EXACTLY 1" WHEN PLOTTED AT THIS SHEET'S ORIGINAL PAGE SIZE



ENLARGED FLOOR PLAN - RESTROOMS

2

1/4" = 1'-0"



FLOOR PLAN

1

1/8" = 1'-0"

PN

PLEASE RECYCLE

AGENCY APPROVAL:

TRACY
UNIFIED SCHOOL DISTRICT

HMC Architects
3595-002-100
2101 CAPITOL AVENUE, SUITE 100,
SACRAMENTO, CA, 95816
916 368 7990 / www.hmcarchitects.com

ISSUE

Δ	DESCRIPTION	DATE

SHEET NOTES

SN.01 EQUIPMENT CAGE PER INCREMENT 1. UON, SEE MECHANICAL AND PLUMBING DRAWINGS FOR EQUIPMENT WITHIN
SN.02 LINE OF OVERHANG ABOVE, SHOWN DASHED
SN.03 30"X48" CLEAR FLOOR SPACE
SN.04 60" DIAMETER TURNING SPACE
SN.05 56"X60" CLEAR FLOOR SPACE
SN.06 SIGN TO READ "RESTROOM"

KEYNOTES

06.59 GROMMET, TYP OF 6. COORDINATE LOCATION WITH OWNER
07.81 SCH 40 GALVANIZED STEEL DOWNSPOUT, PAINTED | 2/A10.12
10.12 ROOM ID SIGN | 11/A10.81
10.13 OCCUPANT LOAD SIGN | 13/A10.81
10.19 UNISEX RESTROOM ID DOOR SIGN | 6/A10.81
10.20 UNISEX RESTROOM ID WALL SIGN | 4/A10.81
10.22 TACTILE "EXIT" SIGN | 12/A10.81
10.25 TACTILE "NOT AN EXIT" SIGN | 12/A10.81
10.73 METAL LOCKER WITH APPLIED VINYL GRAPHIC | 12/A10.61 AND 14/A10.61
10.82 SEMI-RECESSED STAINLESS STEEL FIRE EXTINGUISHER CABINET WITH 4A:80B:C FIRE EXTINGUISHER AND WALL SIGN | 4/A10.71
12.62 COMPUTER DESK | 22/A10.61
21.41 FIRE RISER | SEE FIRE PROTECTION DRAWINGS
22.08 ACCESSIBLE "HI-LO" DRINKING FOUNTAIN W/ BOTTLE REFILL | SEE PLUMBING DRAWINGS AND 6/A10.71
22.11 MOP SINK | SEE PLUMBING DRAWINGS AND 5/A10.71
22.20 EYE WASH STATION | SEE PLUMBING DRAWINGS
22.22 WASH FOUNTAIN | SEE PLUMBING DRAWINGS
22.62 HOSE BIB | SEE PLUMBING DRAWINGS AND 3/A10.12
23.03 LOUVER WITH INSECT SCREEN | SEE MECHANICAL DRAWINGS AND 15/A10.12 UON

NOTES

1. REFER TO SHEET G0.14 FOR TYPICAL SYMBOLS AND ABBREVIATIONS.
2. REFER TO G-SERIES SHEETS FOR ADDITIONAL INFO AND CODE REQUIREMENTS.
3. FOR ADDITIONAL ELEVATION CALLOUTS SEE ENLARGED PLANS.
4. REFER TO INTERIOR ELEVATIONS FOR ALL CASEWORK INFORMATION
5. FOR MOUNTING HEIGHTS, LOCATIONS, AND DETAILS, INCLUDING THOSE FOR DISABLED ACCESSIBILITY, REFER TO SHEET A10.71
6. ALL EXTERIOR WALLS ARE TO BE TYPE M1-S UON.
7. ALL INTERIOR WALLS ARE TO BE TYPE A1-S UON.
8. FOR EQUIPMENT INFORMATION, SEE SHEET A2.12

FACILITY:
MERRILL F WEST HIGH SCHOOL
1775 W LOWELL AVE
TRACY, CA 95376

PROJECT:
MERRILL F WEST HS AGRICULTURE CTE BLDG INCREMENT 2

SHEET NAME:
FLOOR PLAN

DSA SUBMITTAL

DATE: **10/11/2024**
CLIENT PROJ NO:

SHEET:

A2.11

Autodesk Docs://3595002100 TUSD AG SHOP R22/3595002100-A-MERRILL WEST-AG SHOP.rvt
10/11/2024 11:36:01 AM

FLOOR PLAN #	EQUIPMENT CATEGORY	QUANTITY	MANUFACTURER	MODEL NUMBER	POWER REQUIREMENTS	SUPPLY REQUIREMENTS				WASTE			
						POWER	GAS	AIR	WATER	WOOD	SEWER	EXHAUST AIR	METAL
2	MITER SAW	1	GRIZZLY	T31634	110V, SINGLE	X				X			
3	TABLE SAW	2	SAWSTOP	PCS	230V	X				X			
4	WOOD DRILL PRESS	1	GRIZZLY	G7944	120V	X				X			
5	WOOD COMBINATION SANDER	1	GRIZZLY	G1014ZX	110/220V, SINGLE	X				X			
6	IRON WORKER	1	UNI-HYDRO	105095	220V, 1 PHASE	X							X
7	METAL BAND SAW	1	GRIZZLY	G0886	220V, 3 PHASE	X			X		X		X
8	LATHE	1	JET	GHB-1340A	220V, 3 PHASE	X				X			X
9	PLASMA TABLE	1	KOIKE ARONSON RANSOME	(SP-510)	115/1/60 @ 15AMP	X	X	X	X			X	X
11	MANUAL MILL	1	GRIZZLY	G0705	110/220V, SINGLE	X							X
12	METAL DRILL PRESS	2	GRIZZLY	T33961	120V, SINGLE	X							X
13	GRINDER	1	GRIZZLY	G3104	110/220V, SINGLE	X				X			X
NA	WELDER	4	MILLER	Multimatic® 220 AC/DC	120/240V, 1 PHASE	X						X	X
NA	WELDER	12	MILLER	Millermatic® 211 MIG Welder	120/240V	X						X	X
14	WELDING BOOTH FILTER	8	MILLER	FILTAIR SWX-S	115V, 1PHASE	X						X	
15	WELDING BOOTH	16	MJB/PBM	CCE 48-000	110V & 202V, 1PHASE	X	X					X	X
16	COMPRESSOR	1	INGERSOL RAND	UP6-5-150	200V 3 PHASE	X		X			X	X	
17	SHEAR	1	MASTEEL	MSH-10250	575V, 3 PHASE	X							X
18	BREAK	1	GRIZZLY	G0542									X
19	PORTABLE BAND SAW	1	ELLIS	1600 MITRE BAND SAW	110/220V, SINGLE	X				X			
21	CRANE	1	CRANETECH	RM SYSTEM	460 / 115V	X							
22	WORK TABLES	4	KI FURNITURE	STOUT TABLE; BUTCHER BLOCK TOP		X							
23	WORK TABLES	4	KI FURNITURE	STOUT TABLE; STEEL TOP		X							
24	CLASSROOM WORKTABLES	9	KI FURNITURE	STOUT TABLE; BUTCHER BLOCK TOP									
25	CLASSROOM INDUSTRIAL STOOLS	48	KI FURNITURE	600 SERIES	N/A								
26	ASSEMBLY TABLE	2	ULINE STEEL WITH BOTTOM SHELF		N/A								
27	CANTILEVER METAL RACK FOR METAL STORAGE	4	GLOBAL INDUSTRIAL	4000 SERIES	N/A								
28	CANTILEVER METAL RACK FOR WOOD STORAGE	5	GLOBAL INDUSTRIAL	4000 SERIES	N/A								
29	TOOL CABINET	3	GRIZZLY	H0840 5 DRAWER W BALL BEARING SLIDES	N/A								

EQUIPMENT LIST

ALL EQUIPMENT AND NECESSARY COMPONENTS FOR EQUIPMENT OPERATION IS CFCI

PLEASE RECYCLE

THE LINE SHOWN ABOVE IS 1" WHEN PRINTED ON THIS SHEET'S ORIGINAL PAGE SIZE

Autodesk Docs://3595002100 TUSD AG SHOP R22/3595002100-A-MERRILL WEST-AG SHOP.rvt
10/11/2024 11:36:08 AM

AGENCY APPROVAL:

TRACY UNIFIED SCHOOL DISTRICT

HMC Architects
3595-002-100
2101 CAPITOL AVENUE, SUITE 100,
SACRAMENTO, CA, 95816
916 368 7990 / www.hmcarchitects.com

ISSUE

Δ	DESCRIPTION	DATE

NOTES

1. CONTRACTOR TO PROVIDE ALL REQUIRED ACCESSORIES IN ORDER TO FURNISH FULLY FUNCTIONING SYSTEM.

FACILITY:
MERRILL F WEST HIGH SCHOOL
1775 W LOWELL AVE
TRACY, CA 95376

PROJECT:
MERRILL F WEST HS AGRICULTURE CTE BLDG INCREMENT 2

SHEET NAME:
EQUIPMENT LIST

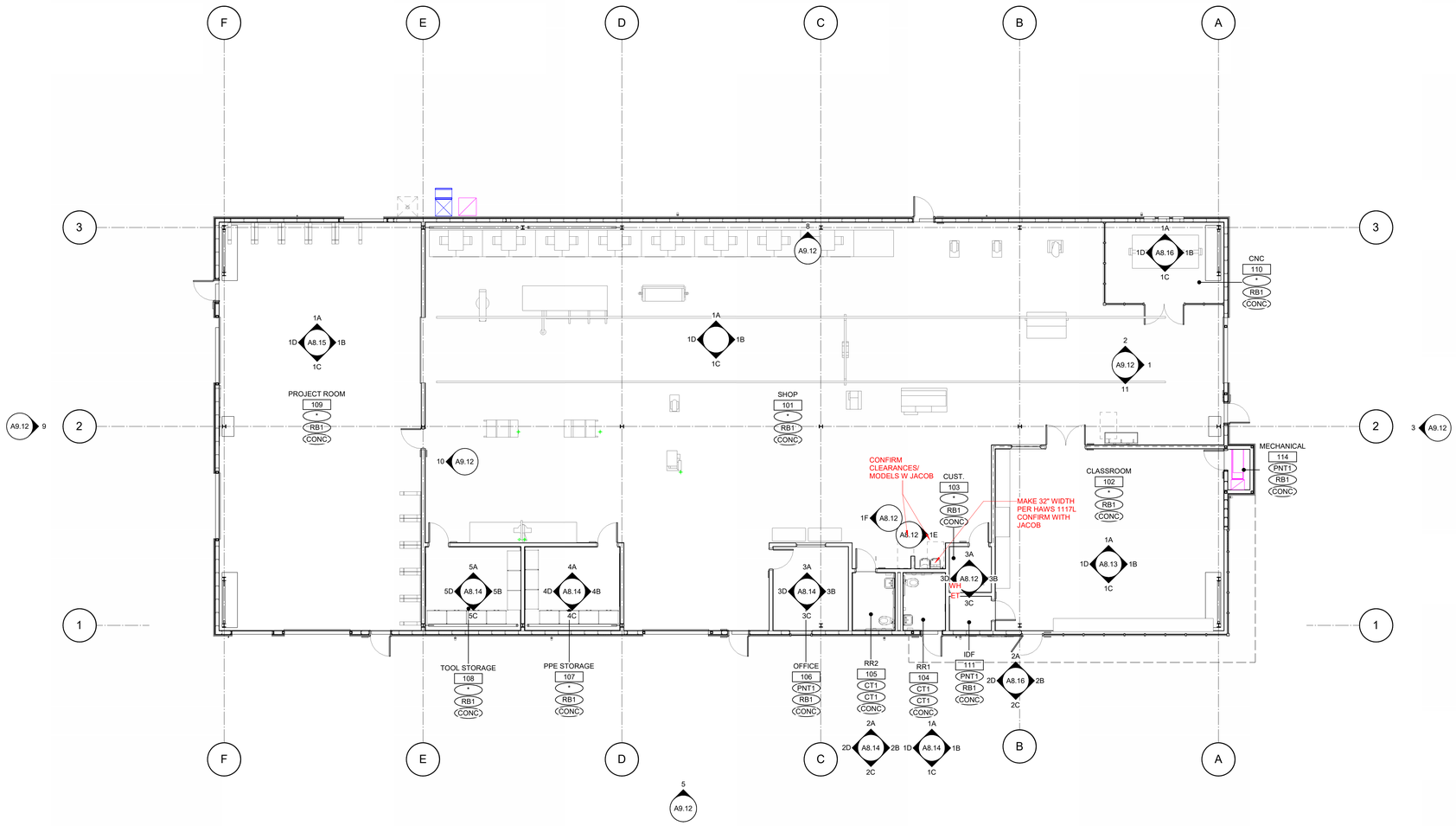
DSA SUBMITTAL

DATE: **10/11/2024** | CLIENT PROJ NO:

SHEET:

A2.12

THE LINE SHOWN ABOVE IS 1" WHEN PRINTED AT FULL SHEET'S ORIGINAL PAGE SIZE



LEGEND

ROOM INTERIOR FINISHES

Room Name — ROOM NAME
XX — ROOM NUMBER
X — WALL FINISH - SEE SCHEDULE
X — * = MULTIPLE FINISHES, SEE INT ELEVATIONS
X — WALL BASE FINISH - SEE FINISH SCHEDULE
X — FLOOR FINISH, SEE SCHEDULE
* = MULTIPLE FINISHES, SEE FINISH TAGS

KEYNOTES

NOTES

TN
PN

FINISH PLAN 1
1/8" = 1'-0"

PLEASE RECYCLE

AGENCY APPROVAL:

TRACY
UNIFIED SCHOOL DISTRICT

HMC Architects
3595-002-100
2101 CAPITOL AVENUE, SUITE 100,
SACRAMENTO, CA, 95816
916 368 7990 / www.hmcarchitects.com

ISSUE

Δ	DESCRIPTION	DATE

FACILITY:
MERRILL F WEST HIGH SCHOOL
1775 W LOWELL AVE
TRACY, CA 95376

PROJECT:
MERRILL F WEST HS AGRICULTURE CTE BLDG INCREMENT 2

SHEET NAME:
FINISH PLAN

DSA SUBMITTAL

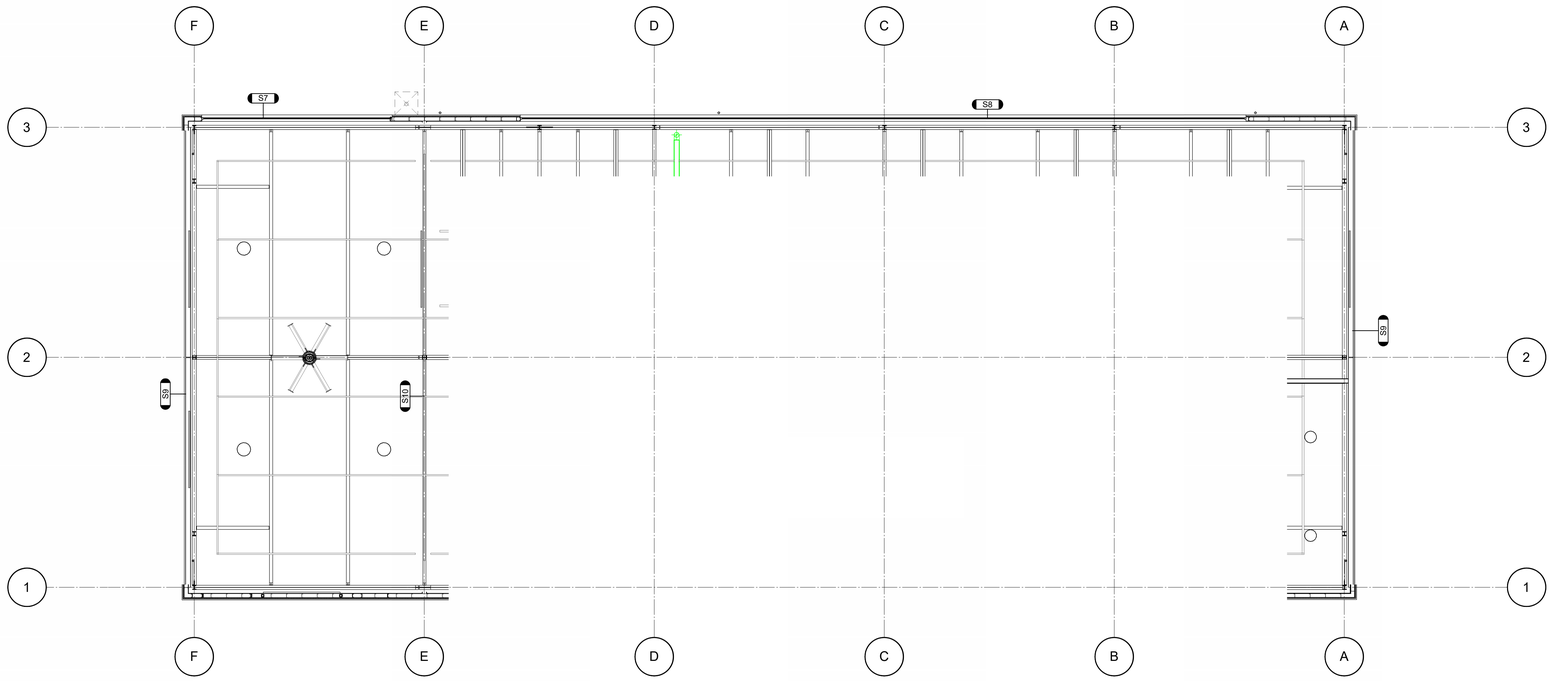
DATE: **10/11/2024** | CLIENT PROJ NO:

SHEET:

A2.13

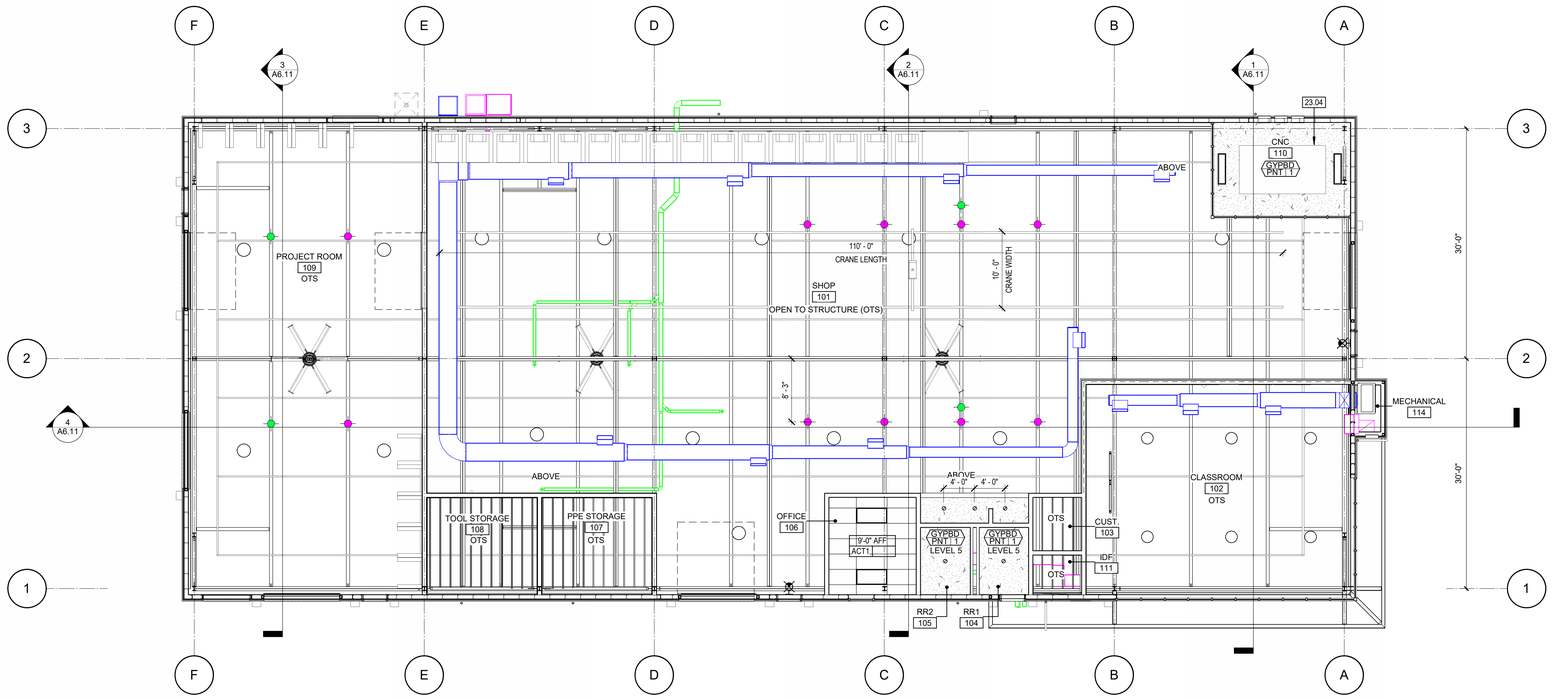
Autodesk Docs://3595002100 TUSD AG SHOP R22/3595002100-A-MERRILL WEST-AG SHOP.rvt
10/11/2024 11:36:14 AM

THE LINE SHOWN ABOVE IS 1" LONG WHEN PRINTED AT THIS SHEET'S ORIGINAL PAGE SIZE



TN
PN

UPPER REFLECTED CEILING PLAN 2
1/8" = 1'-0"



TN
PN

REFLECTED CEILING PLAN 1
1/8" = 1'-0"

PLEASE RECYCLE

Autodesk Docs://3595002100 TUSD AG SHOP R22/3595002100-A-MERRILL WEST-AG SHOP.rvt
10/11/2024 11:36:47 AM

AGENCY APPROVAL:

TRACY UNIFIED SCHOOL DISTRICT

HMC Architects
3595-002-100
2101 CAPITOL AVENUE, SUITE 100,
SACRAMENTO, CA, 95816
916 368 7990 / www.hmcarchitects.com

ISSUE

Δ	DESCRIPTION	DATE

LEGEND- RCP'S

POWER REEL CORD

BUILDING ELEMENTS

EXISTING PARTITION TO REMAIN
TEMPORARY PARTITION
PARTITION

KEYNOTES

GB, PLASTER, OR STUCCO CEILING- REF: CEILING TAGS

24"x48" ACOUSTIC TILE CEILING SYSTEM- REF: CEILING TAGS AND SPECIFICATIONS

SUSPENDED LIGHT FIXTURES

RECESSED LIGHT FIXTURE

GENERAL NOTES- PARTIAL RCP'S

1. DIMENSIONS TO FACE OF PARTITIONS ARE TO FACE OF SUBSTRATE LAYER AS SHOWN IN PARTITION TYPES ON A0.11. FINISHES DEPICTED IN FINISH PLANS AND ELEVATIONS ARE NOT SHOWN ON PARTIAL FLOOR PLANS. REFER TO ENLARGED PLANS, ELEVATIONS, AND DETAILS.
2.

NOTES

FACILITY:
MERRILL F WEST HIGH SCHOOL
1775 W LOWELL AVE
TRACY, CA 95376

PROJECT:
MERRILL F WEST HS AGRICULTURE CTE BLDG INCREMENT 2

SHEET NAME:
REFLECTED CEILING PLAN

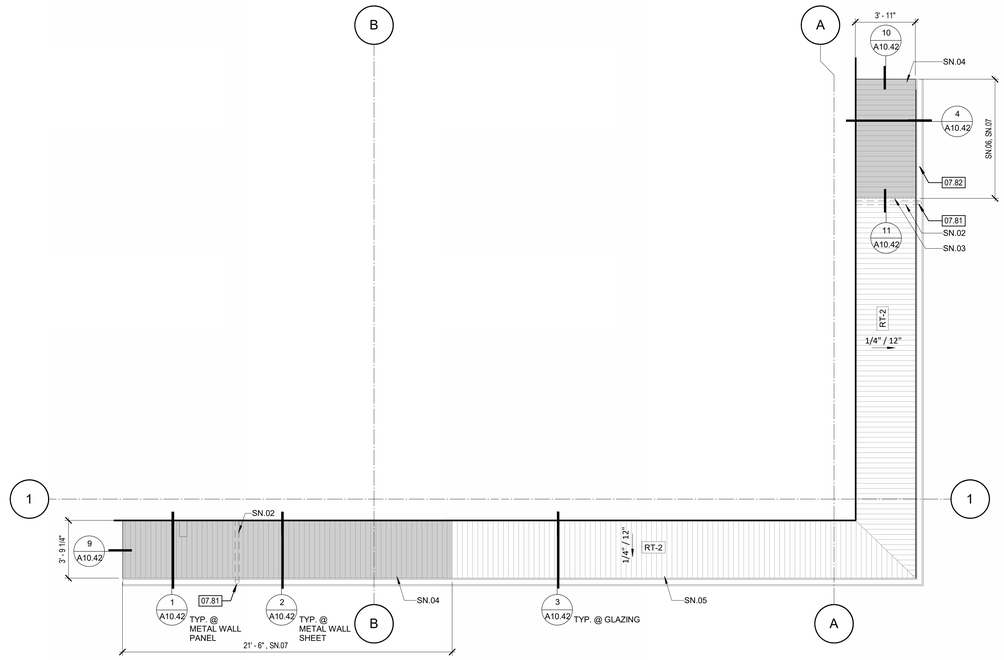
DSA SUBMITTAL

DATE: **10/11/2024**
CLIENT PROJ NO:

SHEET:

A3.11

THE LINE SHOWN ABOVE IS EXACTLY ONE INCH LONG ON THIS SHEET'S ORIGINAL PAGE SIZE



ROOF PLAN - ENLARGED 2

1/4" = 1'-0"

ROOF PLAN 1

1/8" = 1'-0"

TN
PN

PLEASE RECYCLE

AGENCY APPROVAL:

TRACY UNIFIED SCHOOL DISTRICT

HMC Architects
3595-002-100
2101 CAPITOL AVENUE, SUITE 100,
SACRAMENTO, CA, 95816
916 368 7990 / www.hmcarchitects.com

ISSUE

Δ	DESCRIPTION	DATE

ROOF TYPES

RT-1	STANDING SEAM ROOFING o/ HIGH TEMP SELF-ADHERING UNDERLAYMENT o/ 1/4" COVER BOARD o/ 1" RIGID INSULATION o/ 1/2" UNDERLAYMENT o/ METAL DECK (FIRE CLASS A)
RT-2	METAL DECK, PERFORATED WHERE INDICATED (FIRE CLASS A)

SHEET NOTES

SN.01 VENT PIPE TO ROOF, SEE PLUMBING DRAWINGS
SN.02 DOWNSPOUT ROUTING BELOW, SHOWN DASHED
SN.03 FACE OF WALL BELOW, SHOWN DASHED
SN.04 SOLID
SN.05 PERFORATED
SN.06 ALIGN TO FINISH FACE OF WALLS BELOW
SN.07 PROVIDE SHEET METAL CAP WELDED TO DECK BELOW, BEGIN AT NEAREST HIGH FLUTE

KEYNOTES

07.71 PREFINISHED RIDGE CAP | 5/A10.41
07.72 PREFINISHED EDGE METAL | 7/A10.41
07.81 SCH 40 GALVANIZED STEEL DOWNSPOUT, PAINTED | 2/A10.12
07.82 CUSTOM PROFILE GUTTER, PREFINISHED | 2/A10.41
07.83 GUTTER EXPANSION JOINT

NOTES

1. FOR ROOF ASSEMBLY, FLASHING, CURB, PENETRATION DETAILS, ETC. REFER TO A10 SERIES SHEETS
2. ITEMS FROM MECHANICAL, PLUMBING, AND ELECTRICAL SCOPES MAY BE SHOWN FOR REFERENCE AND COORDINATION ONLY. REFER TO MECHANICAL, PLUMBING, AND ELECTRICAL DRAWINGS FOR LOCATIONS OF PIPING, CURBS, VENTS, DUCTS, FANS, AND OTHER ITEMS ON THE ROOF SURFACE
3. ALL ROOF FLASHING TO BE IN ACCORDANCE WITH MANUFACTURERS SPECIFICATIONS AND RECOMMENDATIONS
4. DOWNSPOUTS ARE 3" DIAMETER UNLESS OTHERWISE NOTED

FACILITY:
MERRILL F WEST HIGH SCHOOL
1775 W LOWELL AVE
TRACY, CA 95376

PROJECT:
MERRILL F WEST HS AGRICULTURE CTE BLDG INCREMENT 2

SHEET NAME:
ROOF PLAN

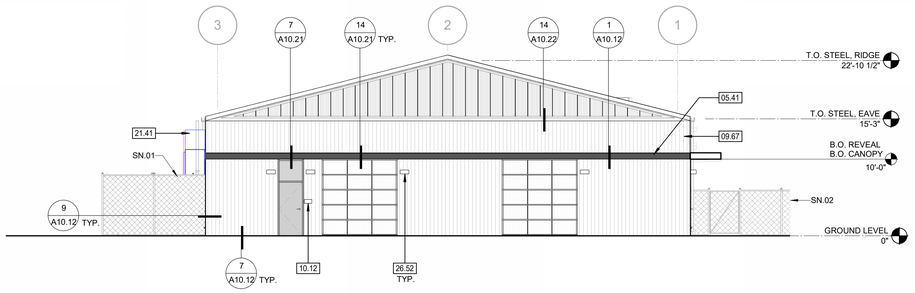
DSA SUBMITTAL

DATE: **10/11/2024**
CLIENT PROJ NO:

SHEET:

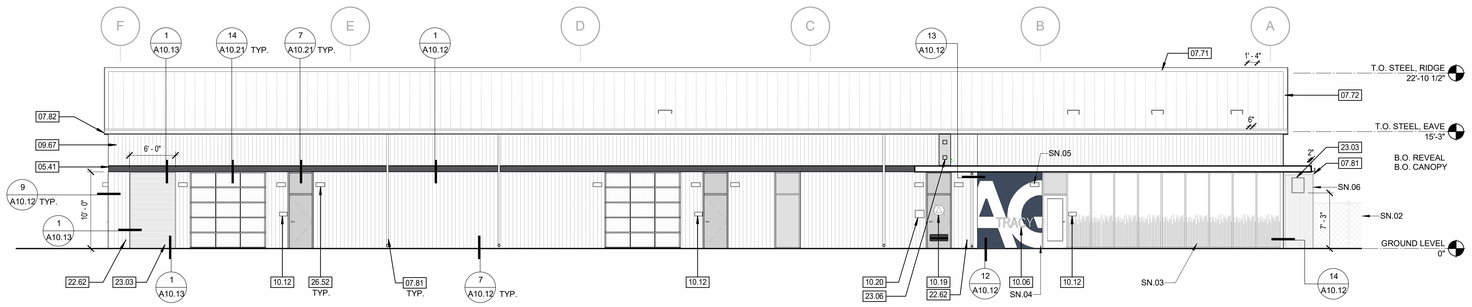
A4.11

Autodesk Docs://3595002100 TUSD AG SHOP R22/3595002100-A-MERRILL WEST-AG SHOP.rvt
10/11/2024 11:37:12 AM



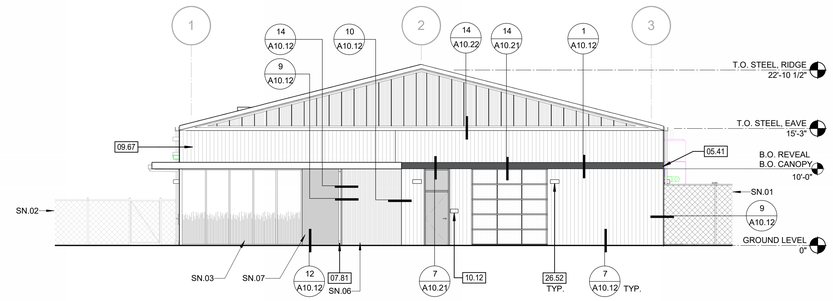
EXTERIOR ELEVATION 4

1/8" = 1'-0"



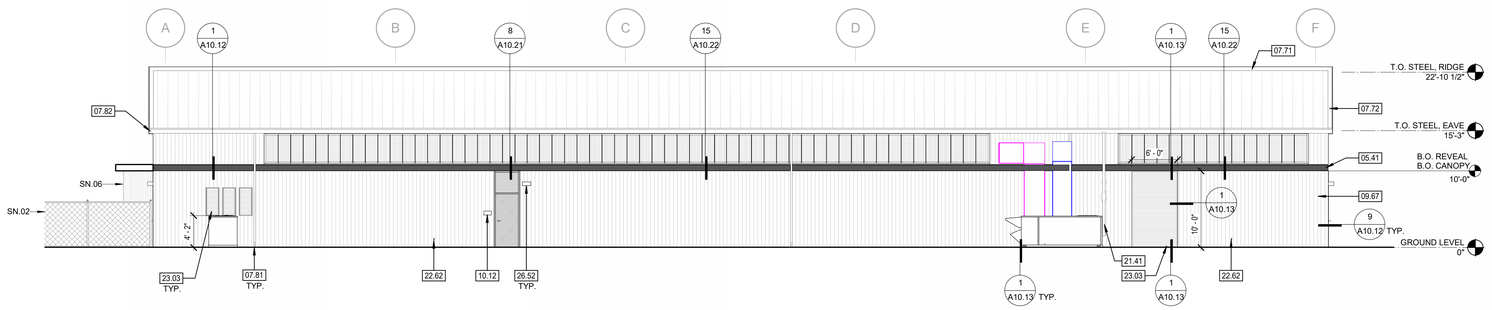
EXTERIOR ELEVATION 3

1/8" = 1'-0"



EXTERIOR ELEVATION 2

1/8" = 1'-0"



EXTERIOR ELEVATION 1

1/8" = 1'-0"

AGENCY APPROVAL:

TRACY UNIFIED SCHOOL DISTRICT

HMC Architects
3595-002-100
2101 CAPITOL AVENUE, SUITE 100,
SACRAMENTO, CA, 95816
916 368 7990 / www.hmcarchitects.com

ISSUE

Δ	DESCRIPTION	DATE

LEGEND

PNT 1	PNT 4	METAL 1
PNT 2	PNT 5	METAL 2
PNT 3		METAL 3

SHEET NOTES

SN.01 EQUIPMENT CAGE, PER INCREMENT 1 THIS APPLICATION
SN.02 CHAINLINK FENCING, PER INCREMENT 1 THIS APPLICATION
SN.03 CERAMIC FRIT PATTERN, SEE 3/A10.13
SN.04 2-COLOR PAINTED LETTERING, SEE 2/A10.13
SN.05 LIGHT FIXTURE COLOR TO MATCH WALL GRAPHIC
SN.06 PREFORMED WALL PANEL TYPE 2, EM15-1222
SN.07 PAINTED STEEL PANEL, SEE4/A10.13

KEYNOTES

05.41 STEEL C-CHANNEL | 1/A10.12 UON
07.71 PREFINISHED RIDGE CAP | 5/A10.41
07.72 PREFINISHED EDGE METAL | 7/A10.41
07.81 SCH 40 GALVANIZED STEEL DOWNSPOUT, PAINTED | 2/A10.12
07.82 CUSTOM PROFILE GUTTER, PREFINISHED | 2/A10.41
09.67 FORMED METAL WALL PANELS
10.06 15" CAST ALUMINUM LETTERING | 9/A10.81
10.12 ROOM ID SIGN | 11/A10.81
10.19 UNISEX RESTROOM ID DOOR SIGN | 6/A10.81
10.20 UNISEX RESTROOM ID WALL SIGN | 4/A10.81
21.41 FIRE RISER | SEE FIRE PROTECTION DRAWINGS
22.62 HOSE BIB | SEE PLUMBING DRAWINGS AND 3/A10.12
23.03 LOUVER WITH INSECT SCREEN | SEE MECHANICAL DRAWINGS AND 15/A10.12 UON
23.06 SIDEWALL EXHAUST OUTLETS I SEE MECHANICAL DRAWINGS AND 5/A10.12
26.52 LIGHT FIXTURE, WALL MOUNTED | SEE ELECTRICAL DRAWINGS AND 4/A10.12

NOTES

1. REFER TO SHEET G0.14 FOR TYPCIAL SYMBOLS AND ABBREVIATIONS
2. FOR FIXTURE & ACCESSORY MOUNTING HEIGHTS AND LOCATIONS, SEE A10.71
3. FOR WALL PENETRATIONS NOT SHOWN, SEE MECHANICAL, ELECTRICAL, PLUMBING, AND FIRE PROTECTION DRAWINGS
4. HATCH PATTERNS DO NOT REFLECT TILE SIZE OR PATTERN, REFER TO RESPECTIVE DETAILS FOR PATTERN LAYOUT & TILE SIZES
5. PAINT ALL DOWNSPOUTS TO MATCH AJACENT MATERIAL. WHERE DOWNSPOUTS CROSS MATERIALS, NEATLY SPLIT PAINT COLOR TO MATCH APPROPRIATE MATERIAL.

FACILITY:
MERRILL F WEST HIGH SCHOOL
1775 W LOWELL AVE
TRACY, CA 95376

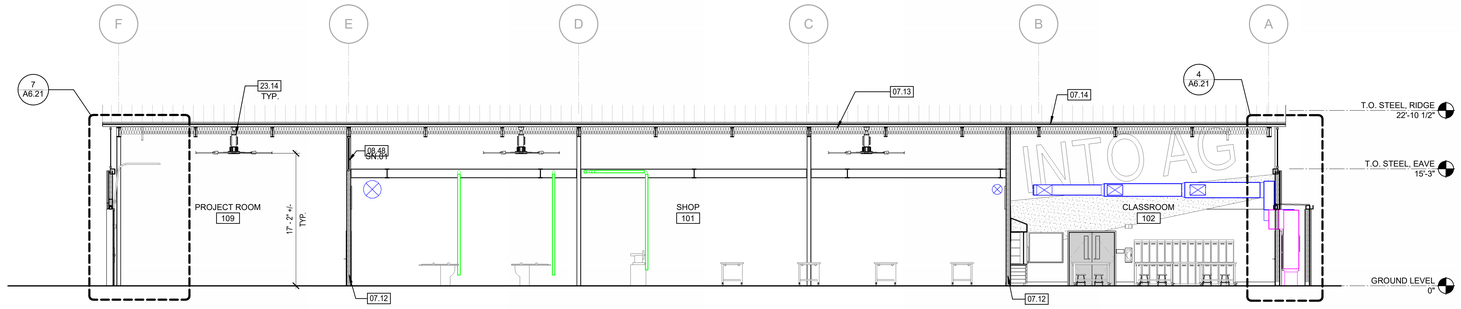
PROJECT:
MERRILL F WEST HS AGRICULTURE CTE BLDG INCREMENT 2

SHEET NAME:
EXTERIOR ELEVATIONS

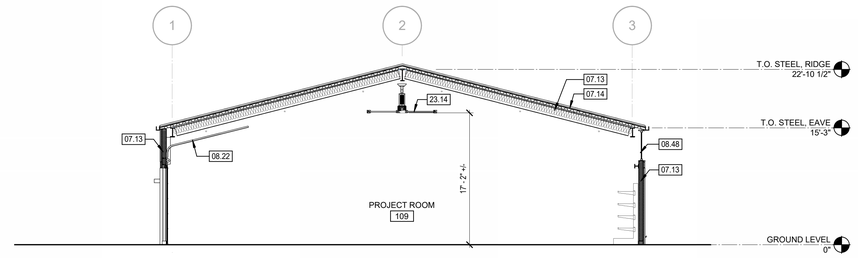
DSA SUBMITTAL

DATE: **10/11/2024**
CLIENT PROJ NO:

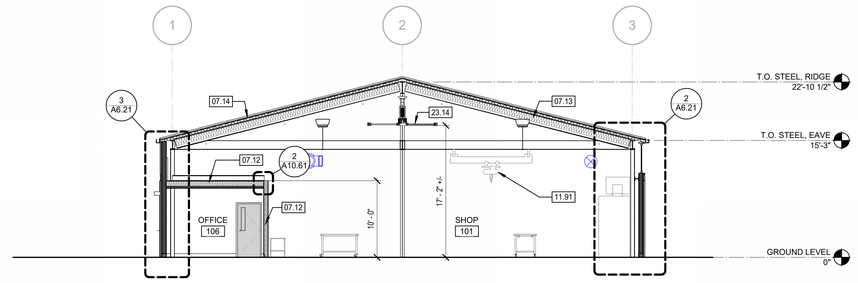
SHEET:
A5.11



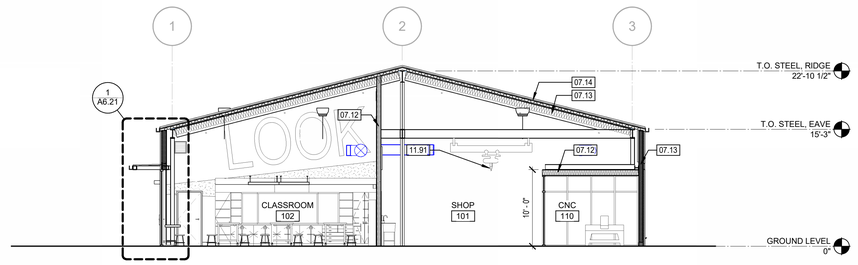
BUILDING SECTION 4
1/8" = 1'-0"



BUILDING SECTION 3
1/8" = 1'-0"



BUILDING SECTION 2
1/8" = 1'-0"



BUILDING SECTION 1
1/8" = 1'-0"

PLEASE RECYCLE

AGENCY APPROVAL:

TRACY
UNIFIED SCHOOL DISTRICT

HMC Architects
3595-002-100
2101 CAPITOL AVENUE, SUITE 100,
SACRAMENTO, CA, 95816
916 368 7990 / www.hmcarchitects.com

ISSUE

Δ	DESCRIPTION	DATE

SHEET NOTES

SN.01 CENTER MULLIONS TO BE INSTALLED ON INTERIOR SIDE OF ROOM 109

KEYNOTES

07.12 SOUND-CONTROL BLANKET INSULATION
07.13 THERMAL BLANKET INSULATION
07.14 RIGID ROOF BOARD INSULATION
08.22 OVERHEAD SECTIONAL DOOR
08.48 POLYCARBONATE PANEL SYSTEM | SEE WINDOW SCHEDULE
11.91 TRAMRAIL CRANE, SEE EQUIPMENT LIST
23.14 CEILING FAN | SEE MECHANICAL DRAWINGS AND 8/A10.71

NOTES

1. SEE FLOOR PLAN FOR WALL TYPE, EQUIPMENT, AND FURNITURE INFORMATION
2. EXTERIOR WALLS, TYPICAL: PROVIDE THERMAL BLANKET INSULATION VERTICALLY FROM FINISH FLOOR TO BOTTOM OF ROOF DECK.
3. INTERIOR WALLS: PROVIDE SOUND-CONTROL BLANKET INSULATION AT TOILET PLUMBING CHASE WALLS (FULL DEPTH OF CAVITY), CLASSROOM WALLS, AND OFFICES. EXTEND VERTICALLY FROM FINISH FLOOR TO ROOF.
4. FOR RIGID INSULATION, SEE ROOF PLAN.
5. WALLS WITH SOUND INSULATION ARE TO COMPLY WITH SOUND ISOLATION NOTES ON A10.11, UNLESS OTHERWISE INDICATED

FACILITY:
MERRILL F WEST HIGH SCHOOL
1775 W LOWELL AVE
TRACY, CA 95376

PROJECT:
MERRILL F WEST HS AGRICULTURE CTE BLDG INCREMENT 2

SHEET NAME:
BUILDING SECTIONS

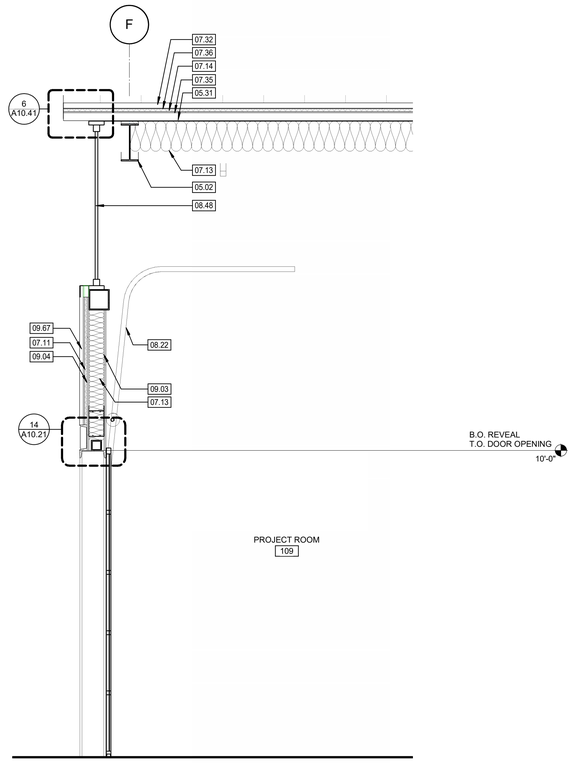
DSA SUBMITTAL

DATE: **10/11/2024** | CLIENT PROJ NO:

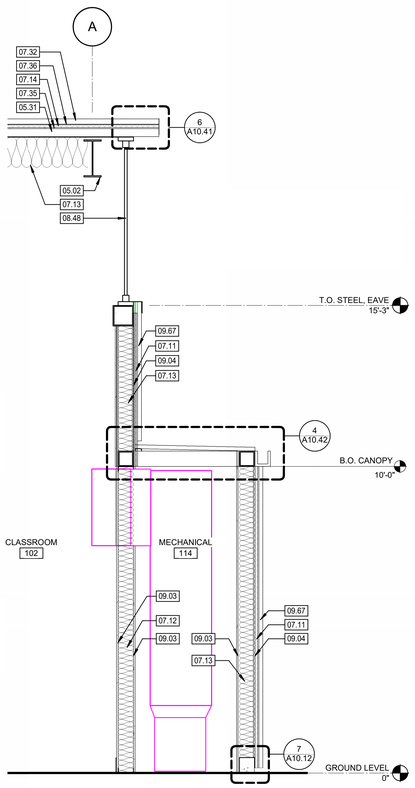
SHEET:

A6.11

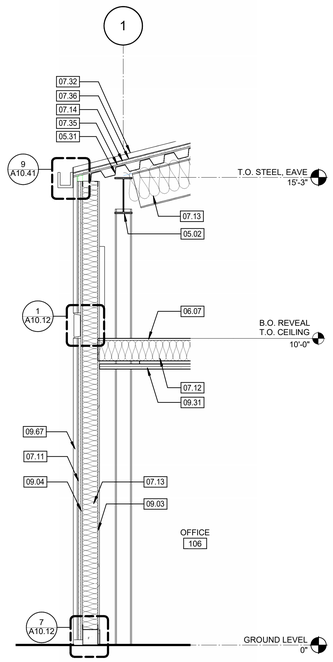
THE LINE SHOWN ABOVE IS 1" LONG WHEN PLOTTED AT FULL SHEETS ORIGINAL PAGE SIZE



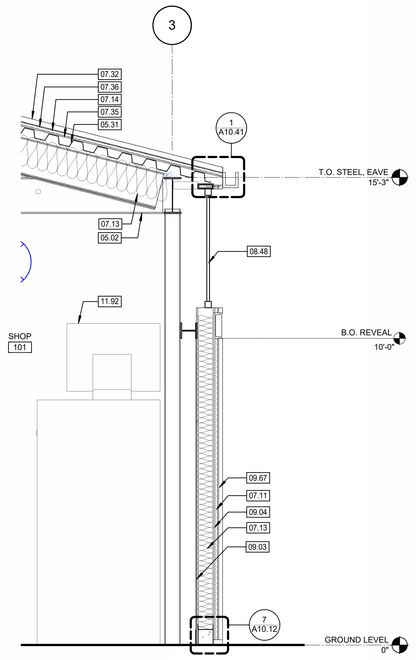
WALL SECTION 7
1/2" = 1'-0"



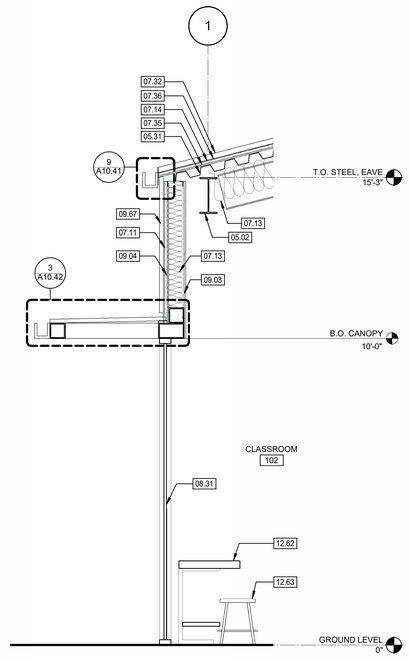
WALL SECTION 4
1/2" = 1'-0"



WALL SECTION 3
1/2" = 1'-0"



WALL SECTION 2
1/2" = 1'-0"



WALL SECTION 1
1/2" = 1'-0"

PLEASE RECYCLE

AGENCY APPROVAL:

TRACY
UNIFIED SCHOOL DISTRICT

HMC Architects
3595-002-100
2101 CAPITOL AVENUE, SUITE 100,
SACRAMENTO, CA, 95816
916 368 7990 / www.hmcarchitects.com

ISSUE

Δ	DESCRIPTION	DATE

KEYNOTES

05.02 STEEL BEAM | SEE STRUCTURAL DRAWINGS
05.31 METAL DECKING | SEE STRUCTURAL DRAWINGS
06.07 STRUCTURAL PLYWOOD | SEE STRUCTURAL DRAWINGS
07.11 RIGID WALL BOARD INSULATION
07.12 SOUND-CONTROL BLANKET INSULATION
07.13 THERMAL BLANKET INSULATION
07.14 RIGID ROOF BOARD INSULATION
07.32 STANDING SEAM METAL ROOF PANEL
07.35 UNDERLAYMENT
07.36 COVER BOARD
08.22 OVERHEAD SECTIONAL DOOR
08.31 ALUMINUM STOREFRONT SYSTEM | SEE WINDOW SCHEDULE
08.48 POLYCARBONATE PANEL SYSTEM | SEE WINDOW SCHEDULE
09.03 GYPSUM BOARD
09.04 GYPSUM SHEATHING
09.31 SUSPENDED ACOUSTICAL CEILING
09.67 FORMED METAL WALL PANELS
11.92 WELDING BOOTH, SEE EQUIPMENT LIST
12.62 COMPUTER DESK | 22/A10.61
12.63 FURNITURE | SEE EQUIPMENT SCHEDULE

NOTES

1. SEE FLOOR PLAN FOR WALL TYPE, EQUIPMENT, AND FURNITURE INFORMATION
2. EXTERIOR WALLS, TYPICAL: PROVIDE THERMAL BLANKET INSULATION VERTICALLY FROM FINISH FLOOR TO BOTTOM OF ROOF DECK.
3. INTERIOR WALLS: PROVIDE SOUND-CONTROL BLANKET INSULATION AT TOILET PLUMBING CHASE WALLS (FULL DEPTH OF CAVITY), CLASSROOM WALLS, AND OFFICES. EXTEND VERTICALLY FROM FINISH FLOOR TO ROOF.
4. FOR RIGID INSULATION, SEE ROOF PLAN.
5. WALLS WITH SOUND INSULATION ARE TO COMPLY WITH SOUND ISOLATION NOTES ON A10.XX, UNLESS OTHERWISE INDICATED

FACILITY:
MERRILL F WEST HIGH SCHOOL
1775 W LOWELL AVE
TRACY, CA 95376

PROJECT:
MERRILL F WEST HS AGRICULTURE CTE BLDG INCREMENT 2

SHEET NAME:
WALL SECTIONS

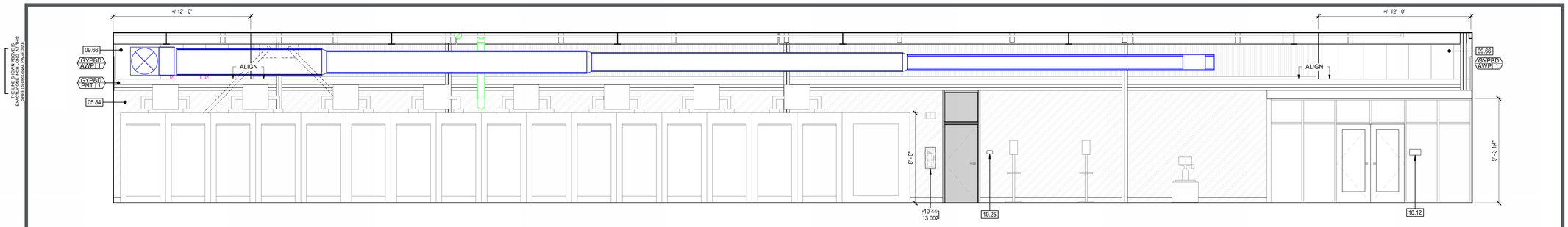
DSA SUBMITTAL

DATE: **10/11/2024** | CLIENT PROJ NO:

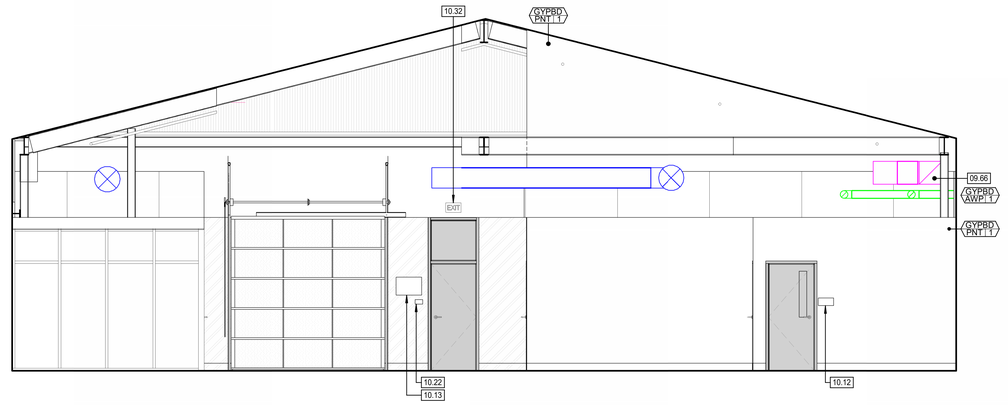
SHEET:

A6.21

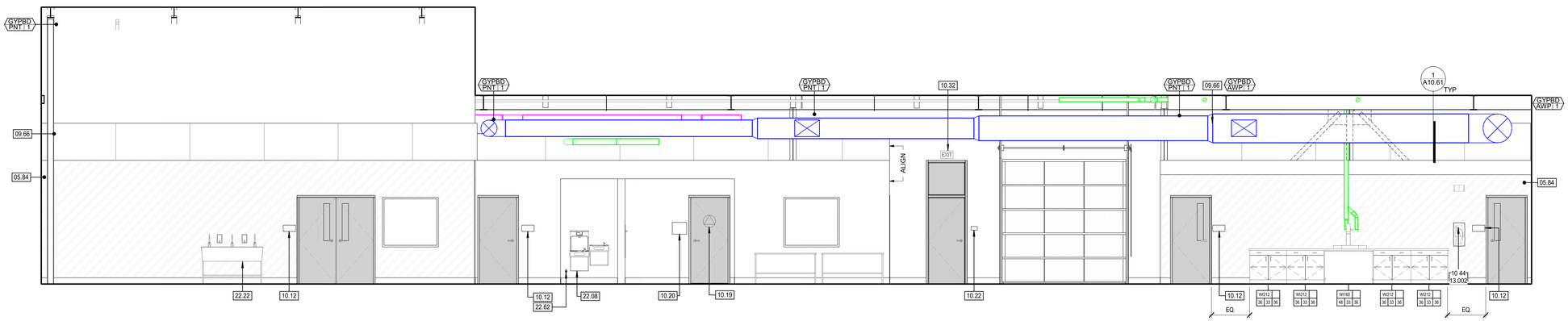
Autodesk Docs://3595002100 TUSD AG SHOP R22/3595002100-A-MERRILL WEST-AG SHOP.rvt
10/11/2024 11:37:52 AM



101 SHOP 1A **1A** 1/4" = 1'-0"



101 SHOP 1B **1B** 1/4" = 1'-0"



101 SHOP 1C **1C** 1/4" = 1'-0"

PLEASE RECYCLE

AGENCY APPROVAL:

TRACY UNIFIED SCHOOL DISTRICT

HMC Architects
3595-002-100
2101 CAPITOL AVENUE, SUITE 100,
SACRAMENTO, CA, 95816
916 368 7990 / www.hmcarchitects.com

ISSUE

Δ	DESCRIPTION	DATE

LEGEND

FINISH TAG

XXX / XX | X
- SUBSTRATE
- COLOR - SEE FINISH SCHEDULE
- MATERIAL TYPE - SEE FINISH SCHEDULE

KEYNOTES

05.84	STAINLESS STEEL LINER
09.66	WOOD FIBER ACOUSTICAL WALL PANELS
10.44 13.002	
10.12	ROOM ID SIGN | 11/A10.81
10.13	OCCUPANT LOAD SIGN | 13/A10.81
10.19	UNISEX RESTROOM ID DOOR SIGN | 6/A10.81
10.20	UNISEX RESTROOM ID WALL SIGN | 4/A10.81
10.22	TACTILE "EXIT" SIGN | 12/A10.81
10.25	TACTILE "NOT AN EXIT" SIGN | 12/A10.81
10.32	ILLUMINATED EXIT SIGN | SEE ELECTRICAL DRAWINGS
22.08	ACCESSIBLE "HI-LO" DRINKING FOUNTAIN W/ BOTTLE REFILL | SEE PLUMBING DRAWINGS AND 6/A10.71
22.22	WASH FOUNTAIN | SEE PLUMBING DRAWINGS
22.62	HOSE BIB | SEE PLUMBING DRAWINGS AND 3/A10.12

NOTES

1. REFER TO SHEET G0.14 FOR TYPCIAL SYMBOLS AND ABBREVIATIONS
2. FOR FIXTURE & ACCESSORY MOUNTING HEIGHTS AND LOCATIONS, SEE A10.71
3. HATCH PATTERNS DO NOT REFLECT TILE SIZE OR PATTERN, REFER TO RESPECTIVE DETAILS FOR PATTERN LAYOUT & TILE SIZES
4. ALL EXPOSED STEEL TO BE PAINTED
5. ANY WALLS NOT SHOWN, TO BE PAINTED GYPSUM WALLBOARD AND RUBBER BASE
6. REFER TO SHEET A2.12 FOR EQUIPMENT LIST

FACILITY:
MERRILL F WEST HIGH SCHOOL
1775 W LOWELL AVE
TRACY, CA 95376

PROJECT:
MERRILL F WEST HS AGRICULTURE CTE BLDG INCREMENT 2

SHEET NAME:
INTERIOR ELEVATIONS

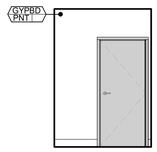
DSA SUBMITTAL

DATE: **10/11/2024** | CLIENT PROJ NO:

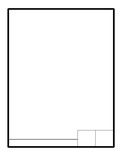
SHEET:

A8.11

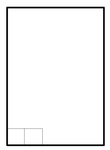
THE LINE SHOWN ABOVE IS EXACTLY ONE INCH LONG ON THIS SHEETS ORIGINAL PAGE SIZE



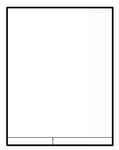
103 CUSTODIAN **3A** 1/4" = 1'-0"



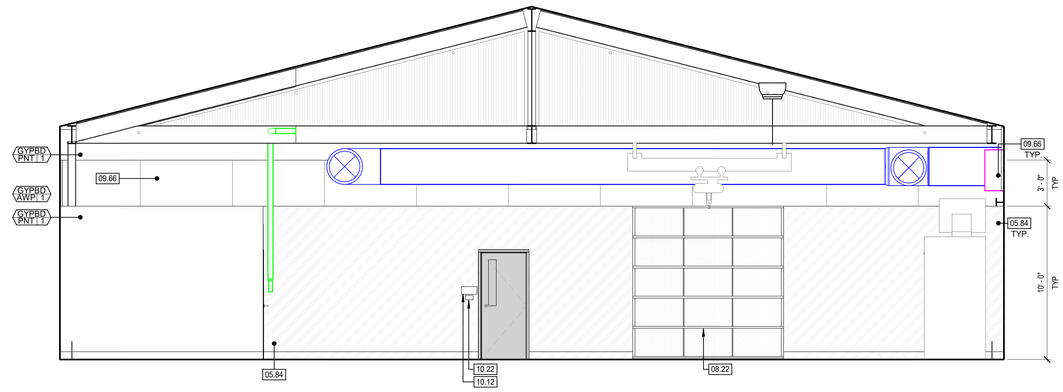
103 CUSTODIAN **3B** 1/4" = 1'-0"



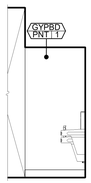
103 CUSTODIAN **3C** 1/4" = 1'-0"



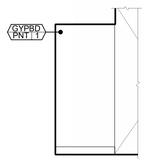
103 CUSTODIAN **3D** 1/4" = 1'-0"



101 SHOP CONT. **1D** 1/4" = 1'-0"



101 SHOP **1E** 1/4" = 1'-0"



101 SHOP **1F** 1/4" = 1'-0"

AGENCY APPROVAL:

TRACY
UNIFIED SCHOOL DISTRICT

HMC Architects
3595-002-100
2101 CAPITOL AVENUE, SUITE 100,
SACRAMENTO, CA, 95816
916 368 7990 / www.hmcarchitects.com

ISSUE

Δ	DESCRIPTION	DATE

KEYNOTES

05.84	STAINLESS STEEL LINER
08.22	OVERHEAD SECTIONAL DOOR
09.66	WOOD FIBER ACOUSTICAL WALL PANELS
10.12	ROOM ID SIGN | 11/A10.81
10.22	TACTILE "EXIT" SIGN | 12/A10.81

NOTES

1. REFER TO SHEET G0.14 FOR TYPCIAL SYMBOLS AND ABBREVIATIONS
2. FOR FIXTURE & ACCESSORY MOUNTING HEIGHTS AND LOCATIONS, SEE A10.71
3. HATCH PATTERNS DO NOT REFLECT TILE SIZE OR PATTERN, REFER TO RESPECTIVE DETAILS FOR PATTERN LAYOUT & TILE SIZES
4. ALL EXPOSED STEEL TO BE PAINTED
5. ANY WALLS NOT SHOWN, TO BE PAINTED GYPSUM WALLBOARD AND RUBBER BASE
6. REFER TO SHEET A2.12 FOR EQUIPMENT LIST

FACILITY:
MERRILL F WEST HIGH SCHOOL
1775 W LOWELL AVE
TRACY, CA 95376

PROJECT:
MERRILL F WEST HS AGRICULTURE CTE BLDG INCREMENT 2

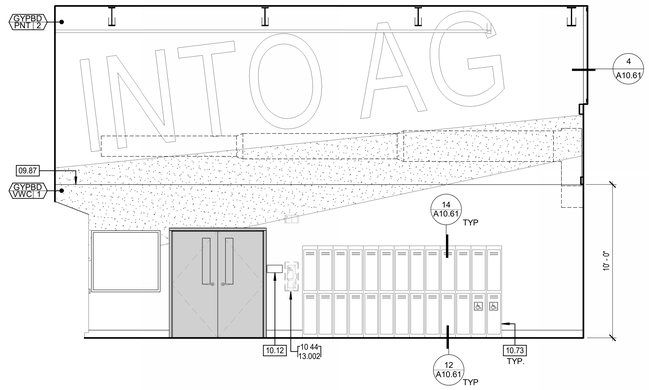
SHEET NAME:
INTERIOR ELEVATIONS

DSA SUBMITTAL

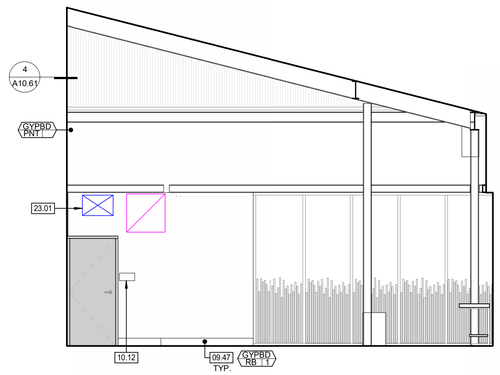
DATE: **10/11/2024** | CLIENT PROJ NO:

SHEET:

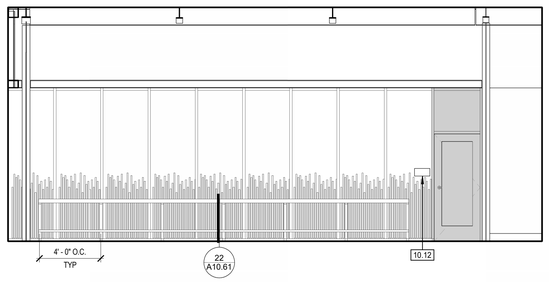
A8.12



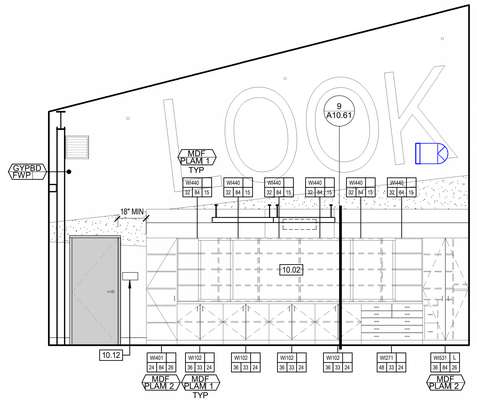
102 CLASSROOM **1A**
1/4" = 1'-0"



102 CLASSROOM **1B**
1/4" = 1'-0"



102 CLASSROOM **1C**
1/4" = 1'-0"



102 CLASSROOM **1D**
1/4" = 1'-0"

AGENCY APPROVAL:

TRACY
UNIFIED SCHOOL DISTRICT

HMC Architects
3595-002-100
2101 CAPITOL AVENUE, SUITE 100,
SACRAMENTO, CA, 95816
916 368 7990 / www.hmcarchitects.com

ISSUE

Δ	DESCRIPTION	DATE

KEYNOTES

NOTES

FACILITY:
MERRILL F WEST HIGH SCHOOL
1775 W LOWELL AVE
TRACY, CA 95376

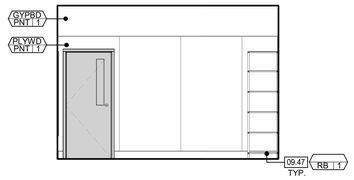
PROJECT:
MERRILL F WEST HS AGRICULTURE CTE BLDG

SHEET NAME:
INTERIOR ELEVATIONS

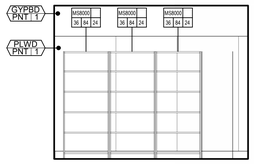
DSA SUBMITTAL

DATE: **10/11/2024**
CLIENT PROJ NO:

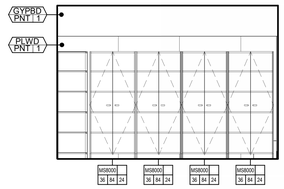
SHEET:
A8.13



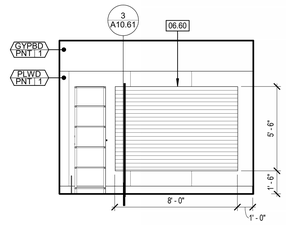
108 TOOL STORAGE **5A** 1/4" = 1'-0"



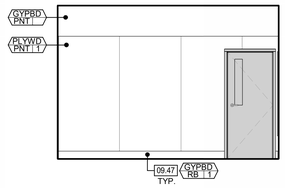
108 TOOL STORAGE **5B** 1/4" = 1'-0"



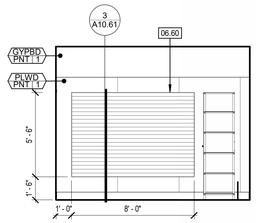
108 TOOL STORAGE **5C** 1/4" = 1'-0"



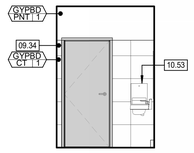
108 TOOL STORAGE **5D** 1/4" = 1'-0"



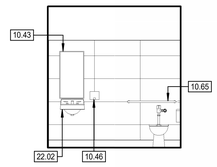
107 PPE STORAGE **4A** 1/4" = 1'-0"



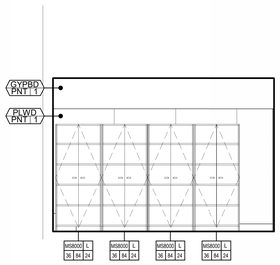
107 PPE STORAGE **4B** 1/4" = 1'-0"



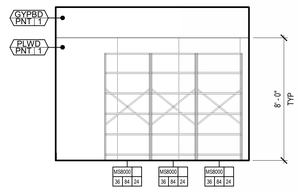
105 RESTROOM **2A** 1/4" = 1'-0"



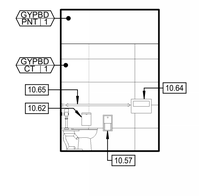
105 RESTROOM **2B** 1/4" = 1'-0"



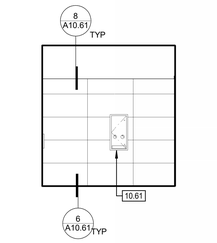
107 PPE STORAGE **4C** 1/4" = 1'-0"



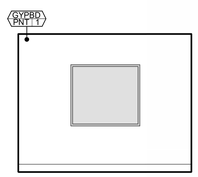
107 PPE STORAGE **4D** 1/4" = 1'-0"



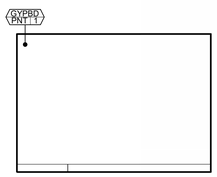
105 RESTROOM **2C** 1/4" = 1'-0"



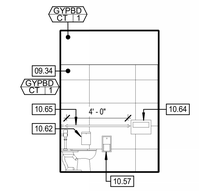
105 RESTROOM **2D** 1/4" = 1'-0"



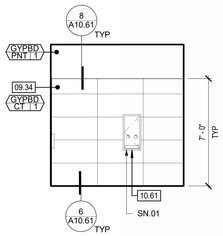
106 OFFICE **3A** 1/4" = 1'-0"



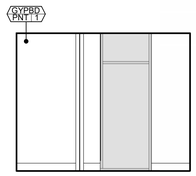
106 OFFICE **3B** 1/4" = 1'-0"



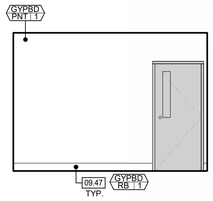
104 RESTROOM **1A** 1/4" = 1'-0"



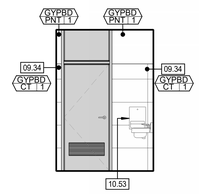
104 RESTROOM **1B** 1/4" = 1'-0"



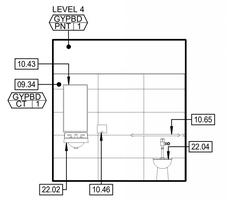
106 OFFICE **3C** 1/4" = 1'-0"



106 OFFICE **3D** 1/4" = 1'-0"



104 RESTROOM **1C** 1/4" = 1'-0"



104 RESTROOM **1D** 1/4" = 1'-0"

AGENCY APPROVAL:

TRACY UNIFIED SCHOOL DISTRICT

HMC Architects
3595-002-100
2101 CAPITOL AVENUE, SUITE 100,
SACRAMENTO, CA, 95816
916 368 7990 / www.hmcarchitects.com

ISSUE

Δ	DESCRIPTION	DATE

SHEET NOTES

SN.01 BOBRICK B-370634C, OR EQUAL

KEYNOTES

06.60	SLAT WALL
09.34	CEILING TILE
09.47	RUBBER BASE 6"
10.43	MIRROR; 18X36 | 2/A10.71
10.46	SOAP DISPENSER
10.53	PAPER TOWEL DISPENSER; SURFACE MOUNTED
10.57	TOILET TISSUE DISPENSER; RECESSED
10.61	SANITARY NAPKIN VENDOR
10.62	SANITARY NAPKIN DISPOSAL
10.64	SEAT COVER DISPENSER; SURFACE MOUNTED
10.65	GRAB BAR; 36" MIN AT REAR WALL & 42" MIN AT SIDE WALL | 1/A10.71
22.02	LAVATORY, ACCESSIBLE | SEE PLUMBING DRAWINGS
22.04	WATER CLOSET, ACCESSIBLE | SEE PLUMBING DRAWINGS

NOTES

1. REFER TO SHEET G0.14 FOR TYPCIAL SYMBOLS AND ABBREVIATIONS
2. FOR FIXTURE & ACCESSORY MOUNTING HEIGHTS AND LOCATIONS, SEE A10.71
3. HATCH PATTERNS DO NOT REFLECT TILE SIZE OR PATTERN, REFER TO RESPECTIVE DETAILS FOR PATTERN LAYOUT & TILE SIZES
4. ALL EXPOSED STEEL TO BE PAINTED
5. ANY WALLS NOT SHOWN, TO BE PAINTED GYPSUM WALLBOARD AND RUBBER BASE
6. REFER TO SHEET A2.12 FOR EQUIPMENT LIST

FACILITY:
MERRILL F WEST HIGH SCHOOL
1775 W LOWELL AVE
TRACY, CA 95376

PROJECT:
MERRILL F WEST HS AGRICULTURE CTE BLDG INCREMENT 2

SHEET NAME:
INTERIOR ELEVATIONS

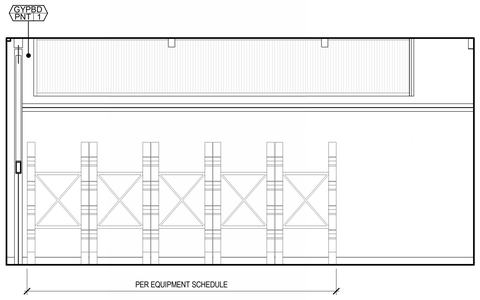
DSA SUBMITTAL

DATE: **10/11/2024** | CLIENT PROJ NO:

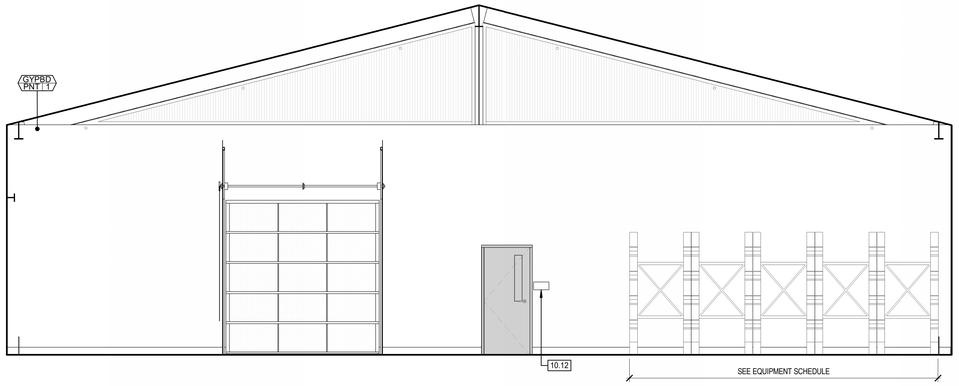
SHEET:

A8.14

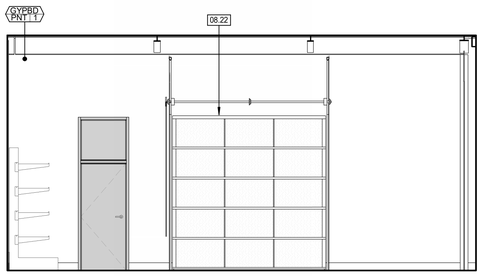
THE LINE SHOWN ABOVE IS 1" LONG WHEN PRINTED AT FULL SHEET'S ORIGINAL PAGE SIZE



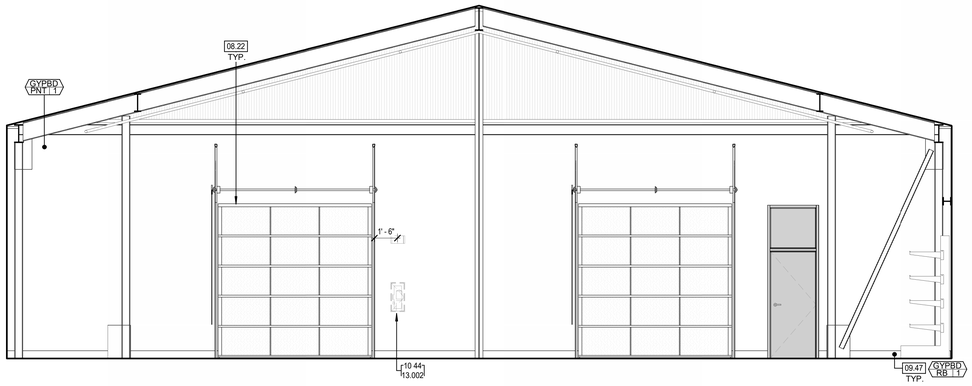
109 SHOP LAB **1A**
1/4" = 1'-0"



109 SHOP LAB **1B**
1/4" = 1'-0"



109 SHOP LAB **1C**
1/4" = 1'-0"



109 SHOP LAB **1D**
1/4" = 1'-0"

AGENCY APPROVAL:

TRACY
UNIFIED SCHOOL DISTRICT

HMC Architects
3595-002-100
2101 CAPITOL AVENUE, SUITE 100,
SACRAMENTO, CA, 95816
916 368 7990 / www.hmcarchitects.com

ISSUE

Δ	DESCRIPTION	DATE

KEYNOTES

08.22	OVERHEAD SECTIONAL DOOR
09.47	RUBBER BASE 6"
10 44 13.002	
10.12	ROOM ID SIGN | 11/A10.81

NOTES

1. REFER TO SHEET G0.14 FOR TYPCIAL SYMBOLS AND ABBREVIATIONS
2. FOR FIXTURE & ACCESSORY MOUNTING HEIGHTS AND LOCATIONS, SEE A10.71
3. HATCH PATTERNS DO NOT REFLECT TILE SIZE OR PATTERN, REFER TO RESPECTIVE DETAILS FOR PATTERN LAYOUT & TILE SIZES
4. ALL EXPOSED STEEL TO BE PAINTED
5. ANY WALLS NOT SHOWN, TO BE PAINTED GYPSUM WALLBOARD AND RUBBER BASE
6. REFER TO SHEET A2.12 FOR EQUIPMENT LIST

FACILITY:
MERRILL F WEST HIGH SCHOOL
1775 W LOWELL AVE
TRACY, CA 95376

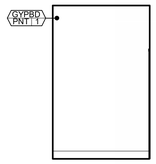
PROJECT:
MERRILL F WEST HS AGRICULTURE CTE BLDG INCREMENT 2

SHEET NAME:
INTERIOR ELEVATIONS

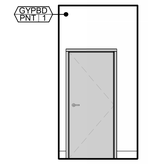
DSA SUBMITTAL

DATE: **10/11/2024**
CLIENT PROJ NO:

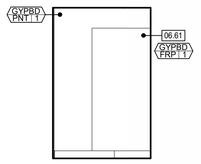
SHEET:
A8.15



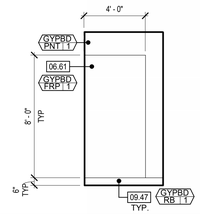
111 IDF **2A** 1/4" = 1'-0"



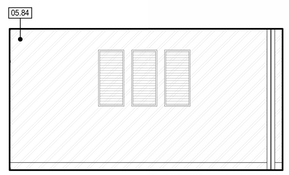
111 IDF **2B** 1/4" = 1'-0"



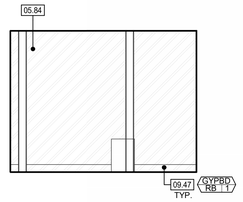
111 IDF **2C** 1/4" = 1'-0"



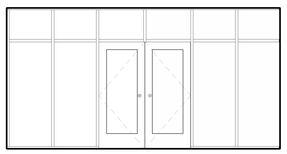
111 IDF **2D** 1/4" = 1'-0"



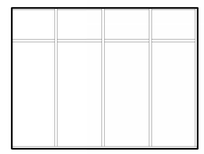
110 CNC **1A** 1/4" = 1'-0"



110 CNC **1B** 1/4" = 1'-0"



110 CNC **1C** 1/4" = 1'-0"



110 CNC **1D** 1/4" = 1'-0"

AGENCY APPROVAL:

TRACY
UNIFIED SCHOOL DISTRICT

HMC Architects
3595-002-100
2101 CAPITOL AVENUE, SUITE 100,
SACRAMENTO, CA, 95816
916 368 7990 / www.hmcarchitects.com

ISSUE

Δ	DESCRIPTION	DATE

KEYNOTES

05.84	STAINLESS STEEL LINER
06.61	FIBERGLASS REINFORCED PLASTIC
09.47	RUBBER BASE 6"

NOTES

1. REFER TO SHEET G0.14 FOR TYPCIAL SYMBOLS AND ABBREVIATIONS
2. FOR FIXTURE & ACCESSORY MOUNTING HEIGHTS AND LOCATIONS, SEE A10.71
3. HATCH PATTERNS DO NOT REFLECT TILE SIZE OR PATTERN, REFER TO RESPECTIVE DETAILS FOR PATTERN LAYOUT & TILE SIZES
4. ALL EXPOSED STEEL TO BE PAINTED
5. ANY WALLS NOT SHOWN, TO BE PAINTED GYPSUM WALLBOARD AND RUBBER BASE
6. REFER TO SHEET A2.12 FOR EQUIPMENT LIST

FACILITY:
MERRILL F WEST HIGH SCHOOL
1775 W LOWELL AVE
TRACY, CA 95376

PROJECT:
MERRILL F WEST HS AGRICULTURE CTE BLDG

SHEET NAME:
INTERIOR ELEVATIONS

DSA SUBMITTAL

DATE: **10/11/2024** | CLIENT PROJ NO:

SHEET:

A8.16

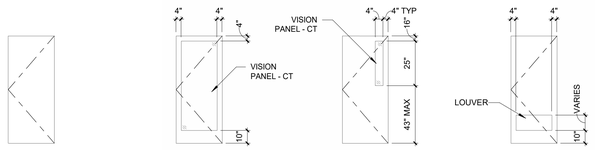
THE LINE SHOWN ABOVE IS 1" WHEN PRINTED ON FULL SHEETS (ORIGINAL PAGE SIZE)

GENERAL NOTES

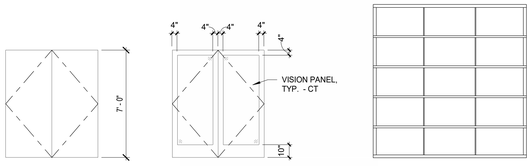
1. THE PURPOSE OF THIS SHEET IS TO DESCRIBE AND ILLUSTRATE DOOR TYPES. NOT ALL DOOR TYPES SHOWN ARE NECESSARILY USED. SEE DOOR SCHEDULE FOR DOOR TYPES USED.
2. FIRE DOORS, FIRE WINDOWS AND FIRE DAMPERS SHALL HAVE AN APPROVED LABEL OR LISTING MARK, INDICATING THE FIRE PROTECTION RATING WHICH IS PERMANENTLY AFFIXED AT THE FACTORY WHERE FABRICATION AND ASSEMBLY ARE DONE.
3. SMOKE BARRIER DOORS INSTALLED ACROSS THE CORRIDORS AND EXIT ACCESS DOORS LOCATED AT ZONE BOUNDARIES SHALL BE EQUIPPED WITH APPROVED VISION PANELS.
4. ALL SMOKE BARRIER DOORS LOCATED ON THE FLOOR OR IN THE AFFECTED ZONE SHALL COMPLY WITH CBC SECTION 716.2.6.6 AND SHALL BE AUTOMATIC CLOSING UPON ACTIVATION OF THE FIRE ALARM OR FIRE SPRINKLER SYSTEM.
5. ALL DOORS IN THE SMOKE BARRIERS AND OPENING INTO RATED EXIT WAYS SHALL BEAR AN APPROVED LABEL BEARING THE LETTER "S" (CBC 716.2.9.3)
6. ALL INTERIOR DOORS IN A 2-HOUR EXIT ENCLOSURE SHALL BE PROTECTED BY A FIRE ASSEMBLY OF NOT LESS THAN 90 MINUTES. THE MAXIMUM TRANSMITTED TEMPERATURE END POINT FOR SUCH DOORS SHALL NOT EXCEED 450 DEGREES F ABOVE AMBIENT AT THE END OF 30 MINUTES OF THE FIRE EXPOSURE SPECIFIED IN CBC 716.2.2.3.
7. FIRE ASSEMBLIES REQUIRED TO HAVE 1 1/2 HOURS, 1 HOUR OR 3/4 HOUR FIRE PROTECTION RATING SHALL BE EITHER AUTOMATIC OR SELF CLOSING FIRE ASSEMBLIES. AUTOMATIC CLOSING FIRE ASSEMBLIES TO BE ACTIVATED BY AN INCREASE IN TEMPERATURE SHALL HAVE HEAT-ACTUATING DEVICES INSTALLED ON EACH SIDE OF THE WALL AT THE CEILING HEIGHT WHERE THE CEILING IS MORE THAN 3 FEET ABOVE THE TOP OF THE OPENING OR BY A SINGLE FUSIBLE LINK IN THE OPENING INCORPORATED IN THE CLOSING DEVICE.
8. GLASS:
   A. INTERIOR DOORS:
      1. NON-RATED DOORS SHALL HAVE 1/4" CLEAR TEMPERED GLASS MIN, UNO.
      2. ALL RATED DOORS SHALL HAVE 1/4" CLEAR FIRE RATED GLASS MN, UNO.
   B. MAXIMUM GLASS IN FIRE RATED DOORS:
      1. 20 MINUTE DOORS: 1296 SQUARE INCHES MAXIMUM.
      2. 60 MINUTE DOORS: 100 SQUARE INCHES MAXIMUM.
      3. 90 MINUTE DOORS: 100 SQUARE INCHES MAXIMUM PER LITE.
9. GLAZING IN THE FOLLOWING LISTED AREAS SHALL BE DEEMED TO BE LOCATED IN HAZARDOUS LOCATIONS AND SUBJECT TO HUMAN IMPACT, AND AS SUCH SHALL BE REQUIRED TO BE COMPOSED OF SAFETY GLAZING:
   A. INGRESS AND EGRESS DOORS.
   B. FIXED PANELS IN SWINGING DOORS.
   C. GLAZING IN FIXED PANELS ADJACENT TO A DOOR WHERE THE NEAREST EXPOSED EDGE OF THE GLAZING IS WITHIN A 24 INCH ARC OF EITHER VERTICAL EDGE OF THE DOOR ON A CLOSED POSITION AND WHERE THE BOTTOM EXPOSED EDGE OF THE GLAZING IS LESS THAN 60 INCHES ABOVE THE WALKING SURFACE.
   D. GLAZING IN INDIVIDUAL FIXED PANELS WHERE:
      1. THE EXPOSED AREA OF THE INDIVIDUAL PANE EXCEEDS 9 SQUARE FEET.
      2. THE EXPOSED BOTTOM EDGE IS LESS THAN 18 INCHES ABOVE THE FLOOR.
      3. THE EXPOSED TOP EDGE IS GREATER THAN 36 INCHES ABOVE THE FLOOR.
      4. ONE OR MORE WALKING SURFACES WITHIN 36 INCHES HORIZONTALLY OF THE PLANE OF THE GLAZING.
10. EACH LIGHT OF THE GLAZING SHALL BEAR THE MANUFACTURER'S LABEL DESIGNATING THE TYPE AND THICKNESS OF GLASS. WHEN APPROVED BY THE AGENCY, LABELS MAY BE OMITTED FROM OTHER THAN SAFETY GLAZING MATERIALS, PROVIDED AN AFFIDAVIT IS FURNISHED BY THE GLAZING CONTRACTOR CERTIFYING THAT EACH LIGHT IS GLAZED IN ACCORDANCE WITH APPROVED PLANS AND SPECIFICATIONS. IDENTIFICATION OF GLAZING IN HAZARDOUS LOCATIONS AND SUBJECT TO HUMAN IMPACT SHALL BE ETCHED OR CERAMIC FIRED ON THE GLASS AND READABLE FROM THE INSIDE OF THE BUILDING AFTER INSTALLATIONS.
11. EXIT DOORS SHALL BE OPENABLE FROM THE INSIDE WITHOUT THE USE OF A KEY OR ANY SPECIAL KNOWLEDGE OR EFFORT.
12. PANIC HARDWARE SHALL COMPLY WITH THE REQUIREMENTS OF CBC SECTION 1010.1.10. THE ACTIVATING MEMBER SHALL BE MOUNTED AT A HEIGHT OF NOT LESS THAN 36 INCHES NOR MORE THAN 44 INCHES ABOVE THE FLOOR. THE UNLATCHING FORCE SHALL NOT EXCEED 15 POUNDS WHEN APPLIED IN THE DIRECTION OF TRAVEL.
13. DOOR ASSEMBLIES, APPROACHES AND FINISH HARDWARE SHALL BE IN COMPLIANCE WITH DISABLED ACCESS CONSTRUCTION STANDARDS.
14. THE MAXIMUM EFFORT TO OPERATE DOORS SHALL NOT EXCEED THE FOLLOWING:
   A. EXTERIOR DOORS = 5.0 POUNDS
   B. INTERIOR DOORS = 5.0 POUNDS
   C. FIRE DOORS = 15.0 POUNDS
15. DOOR OPENING LOCATIONS:
   A. IMMEDIATELY 6" FROM F.O.S. ADJACENT TO A FLANKING WALL U.N.O.
   B. DOOR OPENINGS IN OTHER LOCATIONS ARE LOCATED BY DIMENSIONS.
16. SEE SPECIFICATIONS FOR HARDWARE SCHEDULE
17. FINISH FLOOR TRANSITIONS OCCUR AT CENTERLINE OF DOORS, UNLESS NOTED OTHERWISE
18. ALL INTERIOR DOORS WITH FIRE-RATINGS GREATER THAN 20 MINUTE SHALL HAVE A NONCOMBUSTIBLE SILL WITH AN UNDERCUT OF 3/8" MAXIMUM ABOVE THE SILL.
19. MIN. 32" CLEAR WIDTH: AT LEAST ONE ACTIVE LEAF TO MEET 32" CLEAR WIDTH.
20. THE BOTTOM 10 INCHES OF ALL DOORS AND GATES TO HAVE SMOOTH UNINTERRUPTED SURFACE TO ALLOW THE DOOR TO BE OPENED BY A WHEELCHAIR FOOTREST WITHOUT CREATING A TRAP OR HAZARDOUS CONDITION (CBC. 11B-404.2.10).
21. DOOR THRESHOLD NOT TO EXCEED 1/2" WITH BEVELED SLOPE NOT MORE THAN 2:1 FOR THE UPPER 1/4" (CBC. 11B-303.3).
22. EACH LIGHT OF SAFETY GLAZING MATERIAL IN HAZARDOUS LOCATIONS AS DEFINED IN SECTION 2406 OF CHAPTER 24, "GLASS AND GLAZING," SHALL BE IDENTIFIED BY A LABEL WHICH WILL SPECIFY THE LABELER, WHETHER THE MANUFACTURER OR INSTALLER, AND STATE THAT SAFETY GLAZING MATERIAL HAS BEEN UTILIZED IN SUCH INSTALLATIONS. THE LABEL SHALL BE LEGIBLE AND VISIBLE FROM THE INSIDE OF THE BUILDING AFTER INSTALLATION AND SHALL SPECIFY THAT THE LABEL SHALL NOT BE REMOVED.
23. EACH PANE SHALL BEAR THE MANUFACTURER'S MARK DESIGNATING THE TYPE AND THICKNESS OF THE GLASS OR GLAZING MATERIAL. SAFETY GLAZING SHALL BE IDENTIFIED IN ACCORDANCE WITH CBC SECTION 2406.3. EACH PANE OF TEMPERED GLASS, EXCEPT TEMPERED SPANDREL GLASS, SHALL BE PERMANENTLY IDENTIFIED BY THE MANUFACTURER. THE IDENTIFICATION MARK SHALL BE ACID ETCHED, SAND BLASTED, CERAMIC FIRED, LASER ETCHED, EMBOSSED OR OF A TYPE THAT, ONCE APPLIED CANNOT BE REMOVED WITHOUT BEING DESTROYED. TEMPERED SPANDREL GLASS SHALL BE PROVIDED WITH A REMOVABLE PAPER MARKING BY THE MANUFACTURER.

DOOR TYPE LEGEND

PNL-F- XX-
- XX: DOOR PANEL TYPE - SEE BELOW
- DOOR PANEL MATERIAL /FINISH - SEE LEGEND



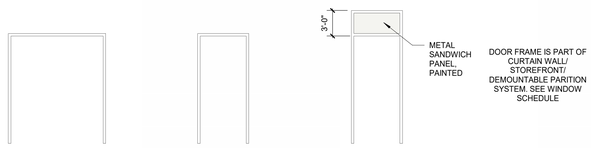
PNL-F | PNL-FG | PNL-N | PNL-L



PNL-F | PNL-FG | PNL-OH

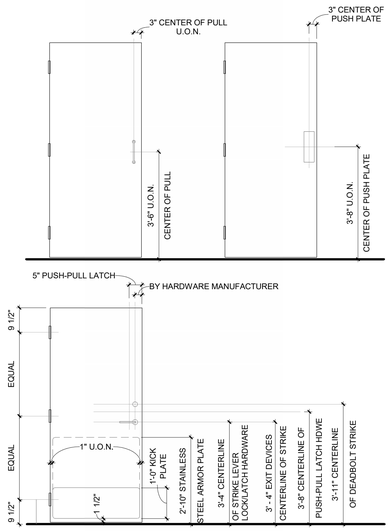
DOOR FRAME LEGEND

FRM-##XX-
- XX: DOOR FRAME TYPE - SEE BELOW
- DOOR FRAME MATERIAL / FINISH - SEE LEGEND



FRM-00HM | FRM-00HM | FRM-10HM | FRM-00AL

TYPICAL FINISH HARDWARE



NOTES:

1. KICK AND ARMOR PLATES TO BE 1/2" FROM EDGE OF DOOR LEAVES FOR PAIR OF DOORS.
2. ARMOR PLATE AFFIXED TO FIRE RATED DOOR SHALL BE LABELED.

DOOR SCHEDULE

DOOR	SIZE			DOOR	FRAME						DETAIL			
	WIDTH													
NUMBER	PANEL 1	PANEL 2	HEIGHT	TYPE	TYPE	FIRE RATING (MINUTES)	GLAZING TYPE	HARDWARE GROUP	PANIC HARDWARE	UNDERCUT	HEAD	JAMB	SILL	COMMENTS
GROUND LEVEL														
101A	3'-0"		7'-0"	PNL-F-HM	FRM-10HM	-	-	1	No	0"	6/A10.21, 8/A10.21	5/A10.21	4/A10.21	
101B	3'-0"	3'-0"	7'-0"	PNL-FG-AL	FRM-00AL	-	GL-2(T)	2	Yes	0"	-	-	-	DOOR IS PART OF STOREFRONT SYSTEM
101C	10'-0"		10'-1"	PNL-OH	-	-	GL-4(T)	-	No	0"	14/A10.21	13/A10.21	12/A10.21	
101D	3'-0"		7'-0"	PNL-F-HM	FRM-10HM	-	-	1	Yes	0"	6/A10.21, 7/A10.21	5/A10.21	4/A10.21	
101E	3'-0"	3'-0"	7'-0"	PNL-N-HM	FRM-00HM	45	FGL-1(T)	2	No	0"	11/A10.21	11/A10.21	-	
101F	3'-0"		7'-0"	PNL-F-HM	FRM-00HM	-	-	4	No	0"	11/A10.21	11/A10.21	-	
101G	3'-0"		7'-0"	PNL-F-HM	FRM-00HM	-	-	3	No	3/4"	11/A10.21	11/A10.21	-	
101H	3'-0"		7'-0"	PNL-F-HM	FRM-10HM	-	-	1	Yes	0"	6/A10.21, 7/A10.21	5/A10.21	4/A10.21	
101J	10'-0"		10'-1"	PNL-OH	-	-	GL-4(T)	-	No	0"	14/A10.21	13/A10.21	12/A10.21	
101K	3'-0"		7'-0"	PNL-N-HM	FRM-00HM	-	GL-1(T)	4	No	0"	11/A10.21	11/A10.21	-	
101L	3'-0"		7'-0"	PNL-N-HM	FRM-00HM	-	GL-1(T)	4	No	0"	11/A10.21	11/A10.21	-	
102A	3'-0"		7'-0"	PNL-F-HM	FRM-00HM	-	-	4	No	0"	11/A10.21	11/A10.21	-	
102B	3'-0"		7'-0"	PNL-FG-AL	FRM-00AL	-	GL-4(T)	1	No	0"	-	-	-	DOOR IS PART OF STOREFRONT SYSTEM
102C	3'-0"		7'-0"	PNL-F-HM	FRM-00HM	-	-	4	No	0"	11/A10.21	11/A10.21	-	
104A	3'-0"		7'-0"	PNL-L-HM	FRM-10HM	-	-	3	No	0"	9/A10.21	5/A10.21	4/A10.21	
106A	3'-0"		7'-0"	PNL-N-HM	FRM-00HM	-	GL-1(T)	5	No	0"	11/A10.21	11/A10.21	-	
109A	10'-0"		10'-1"	PNL-OH	-	-	GL-4(T)	-	No	0"	14/A10.21	13/A10.21	12/A10.21	
109B	3'-0"		7'-0"	PNL-N-HM	FRM-00HM	-	GL-1(T)	1	No	0"	11/A10.21	11/A10.21	-	
109C	3'-0"		7'-0"	PNL-F-HM	FRM-10HM	-	-	1	No	0"	6/A10.21, 7/A10.21	5/A10.21	4/A10.21	
109D	10'-0"		10'-1"	PNL-OH	-	-	GL-4(T)	-	No	0"	14/A10.21	13/A10.21	12/A10.21	
109E	10'-0"		10'-1"	PNL-OH	-	-	GL-4(T)	-	No	0"	14/A10.21	13/A10.21	12/A10.21	
109F	10'-0"		10'-1"	PNL-OH	-	-	GL-4(T)	-	No	0"	14/A10.21	13/A10.21	12/A10.21	
109G	3'-0"		7'-0"	PNL-F-HM	FRM-10HM	-	-	1	No	0"	6/A10.21, 7/A10.21	5/A10.21	4/A10.21	

GLAZING TYPES

GL-1 CLEAR MONOLITHIC GLASS
GL-2 INSULATING VISION GLASS
GL-4 PATTERNED INSULATING VISION GLASS
FGL-1 FIRE RESISTIVE GLASS
FGL-2 FIRE RESISTIVE GLASS WITH FIRE PROTECTIVE PROPERTIES

DOOR MATERIAL/FINISH LEGEND

A	ALARM CONTACT	KD	KNOCK DOWN FRAME
AL(#)	ALUMINUM		
ADG-1	ACOUSTIC DOOR GASKET	MHO	MAGNETIC HOLD OPEN
AO	AUTOMATIC DOOR OPERATOR		
		NR	NOT RATED
CA	CLEAR ANODIZED		
CF	CERAMIC FRIT	PH	PANIC HARDWARE
CL	COMBO LOCK	PL	PLASTIC LAMINATE
CR	CARD READER	PT	PAINT
CT	CLEAR TEMPERED GLAZING		
CW	CURTAIN WALL	REX	REQUEST TO EXIT MOTION SENSOR
		RF	RF COPPER SHIELDED NON-FERROUS SYSTEM
DE	DELAYED EGRESS		
		ST	STAIN GRADE WOOD VENEER
EB	"PUSH TO EXIT" EMERGENCY BUTTON	SC	SOLID CORE WOOD DOOR
EL	ELECTRICAL LOCK	SG	SAFETY GLAZING
EMC	ELECTRO MECHANICAL CLOSER	SHD	SHIELDED DOOR FRAME / GLAZING
		SP	SPANDREL GLAZING
FA	FIRE ALARM INTERFACE RELAY	STL	STEEL
FF	FACTORY FINISHED	SM	SMOKE BARRIER SEAL
FG	FIRE RATED GLASS	SF	STOREFRONT SYSTEM
FGF	FIRE RATED GLASS & FRAMING		
		(T)	TEMPERED
HM(#)	HOLLOW METAL		
		UC	UNDERCUT
ID	INTEGRATED DOOR ASSEMBLY		
IGU	INSULATED GLAZING UNITS	WD(#)	WOOD
IP	INFILL PANEL	WS	WAVE SENSOR

"#" IN FRAME FINISH DESIGNATION DESCRIBES DOOR FRAME PROFILE ONLY

AGENCY APPROVAL:

TRACY UNIFIED SCHOOL DISTRICT

HMC Architects
3595-002-100
2101 CAPITOL AVENUE, SUITE 100,
SACRAMENTO, CA, 95816
916 368 7990 / www.hmcarchitects.com

ISSUE

Δ	DESCRIPTION	DATE

FACILITY:
MERRILL F WEST HIGH SCHOOL
1775 W LOWELL AVE
TRACY, CA 95376

PROJECT:
MERRILL F WEST HS AGRICULTURE CTE BLDG INCREMENT 2

SHEET NAME:
DOOR SCHEDULE

DSA SUBMITTAL

DATE: **10/11/2024** | CLIENT PROJ NO:

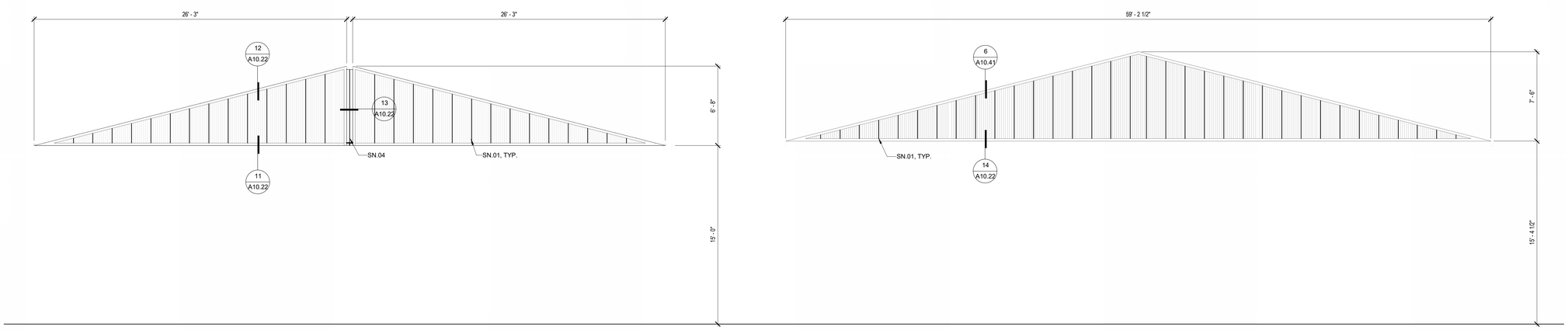
SHEET:

A9.11

Autodesk Docs://3595002100 TUSD AG SHOP R22/3595002100-A-MERRILL WEST-AG SHOP.rvt
10/11/2024 11:40:26 AM

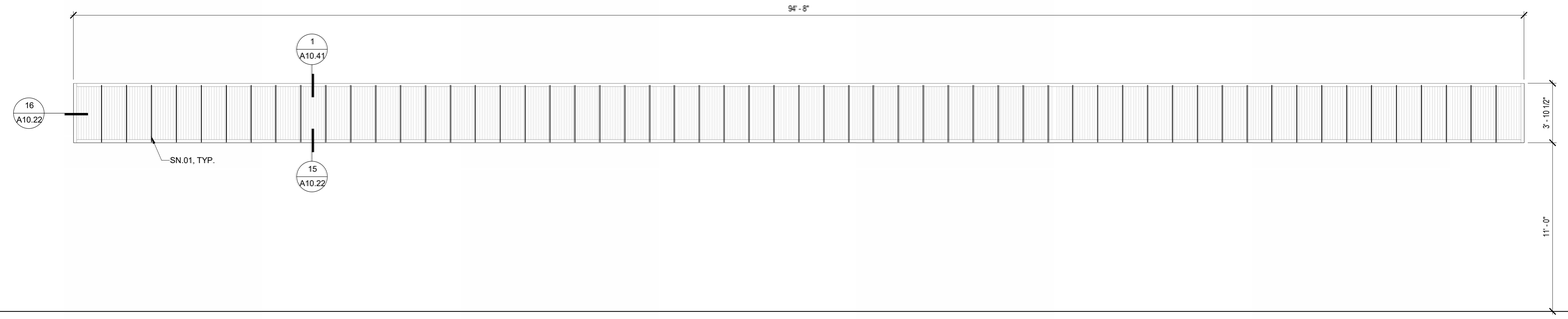
PLEASE RECYCLE

THE LINE SHOWN ABOVE IS 1" LONG WHEN PRINTED ON A1 SIZE SHEETS ORIGINAL PAGE SIZE

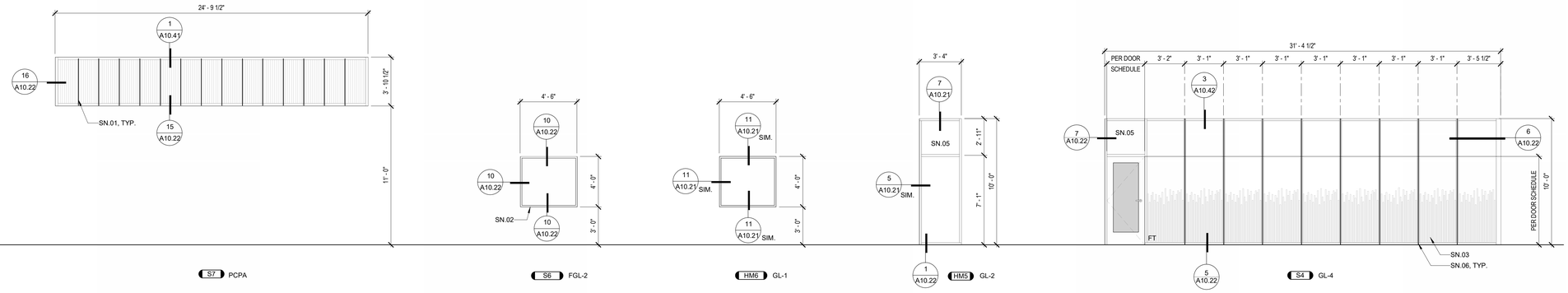


S10 PCPA

S9 PCPA



S8 PCPA



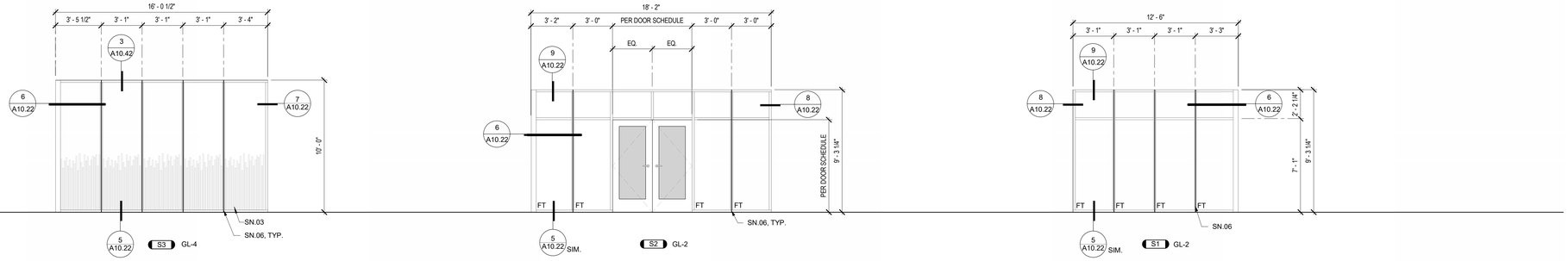
S7 PCPA

S6 FGL-2

HM6 GL-1

HM5 GL-2

S4 GL-4



S3 GL-4

S2 GL-2

S1 GL-2

ABBREVIATIONS

FT	FULLY TEMPERED
PCPA	POLYCARBONATE PANEL ASSEMBLY
S	STOREFRONT
HM	HOLLOW METAL

GLAZING TYPES

GL-1	CLEAR MONOLITHIC GLASS
GL-2	INSULATING VISION GLASS
GL-4	PATTERNED INSULATING VISION GLASS
FGL-1	FIRE RESISTIVE GLASS
FGL-2	FIRE RESISTIVE GLASS WITH FIRE PROTECTIVE PROPERTIES

SHEET NOTES

SN.01	T&G POLYCARBONATE JOINT
SN.02	AT FIRE RATED WALL, FIRE RATED FRAME SYSTEM SHALL BE IN COMPLIANCE WITH ASTM E119 OR UL 263 AND BEAR MARKING W-60 PER CBC 703.6. PROVIDE STANDARD FRAME SYSTEM IN NON-RATED WALL.
SN.03	CERAMIC FRIT PATTERN, SEE 2/A10.13
SN.04	STEEL COLUMN, SEE STRUCTURAL DRAWINGS
SN.05	METAL SANDWICH PANEL, PAINTED
SN.06	VERTICAL SILICONE GLAZE JOINT

AGENCY APPROVAL:

TRACY UNIFIED SCHOOL DISTRICT

HMC Architects
3595-002-100
2101 CAPITOL AVENUE, SUITE 100,
SACRAMENTO, CA, 95816
916 368 7990 / www.hmcarchitects.com

ISSUE

Δ	DESCRIPTION	DATE

FACILITY:
MERRILL F WEST HIGH SCHOOL
1775 W LOWELL AVE
TRACY, CA 95376

PROJECT:
MERRILL F WEST HS AGRICULTURE CTE BLDG
INCREMENT 2

SHEET NAME:
WINDOW SCHEDULE

DSA SUBMITTAL

DATE: **10/11/2024**
CLIENT PROJ NO:
SHEET:

A9.12

STOREFRONT WINDOWS **1** 1/4" = 1'-0"

PLEASE RECYCLE

THE LINE SHOWN ABOVE IS 1" WHEN PRINTED AT THIS SHEETS ORIGINAL PAGE SIZE

ARCHITECTURAL WOOD CASEWORK

TAG	MANUFACTURER	COLOR NAME	COLOR #	FINISH	NOTE
PLAM1	WILSONART, NEVAMAR, PIONITE, FORMICA, ARBORITE	TBD	TBD	TBD	
PLAM2	WILSONART, NEVAMAR, PIONITE, FORMICA, ARBORITE	TBD	TBD	TBD	
PLAM3	WILSONART, NEVAMAR, PIONITE, FORMICA, ARBORITE	TBD	TBD	TBD	

PAINTING

TAG	MANUFACTURER	COLOR NAME	COLOR #	NOTE
PNT1	SHERWIN WILLIAMS	TBD	TBD	
PNT2	SHERWIN WILLIAMS	TBD	TBD	
PNT3	SHERWIN WILLIAMS	TBD	TBD	

PLASTIC PANELING

TAG	MANUFACTURER	COLLECTION	COLOR NAME	COLOR #	FINISH	NOTE
FRP1	MARLITE	STANDARD FRP	WHITE	100	PEBBLED	

RESILIENT BASE & ACCESSORIES

TAG	MANUFACTURER	TYPE	COLOR NAME	COLOR #	HEIGHT	NOTES
RB1	JOHNSONITE	BASEWORKS (TYPE TS)	TBD	TBD	4"	120' COILS, 4' STRIPS NOT ACCEPTABLE

TILING

TAG	MANUFACTURER	APPLICATION	COLLECTION	COLOR NAME	COLOR #	FINISH	SIZE	JOINT WIDTH	GROUT	NOTE
CT1	EMSER TILE	WALL TILE	TBD	TBD	TBD	TBD	18"X36"	1/16"	GT1	

WOOD FIBER WALL PANELS

TAG	MANUFACTURER	COLLECTION	THICKNESS	COLLECTION	COLOR	EDGE STYLE	NOTE
AWP1	ARMSTRONG	TECTUM	2"		CUSTOM	SQUARE	SEE PAINT FOR CUSTOM PAINT COLOR

AGENCY APPROVAL:

REVIEWING AGENCIES STAMP HERE

EDIT THIS FAMILY, AND PLACE A PROJECT IMAGE HERE. IT WILL UPDATE ALL TITLEBLOCKS AUTOMATICALLY.

HMC Architects
3595-002-100
2101 CAPITOL AVENUE, SUITE 100,
SACRAMENTO, CA, 95816
916 368 7990 / www.hmcarchitects.com

NOT FOR CONSTRUCTION

ISSUE

Δ	DESCRIPTION	DATE

KEYNOTES

NOTES

FACILITY:
MERRILL F WEST HIGH SCHOOL
1775 W LOWELL AVE
TRACY, CA 95376

PROJECT:
MERRILL F WEST HS AGRICULTURE CTE BLDG INCREMENT 2

SHEET NAME:
INTERIOR FINISH SCHEDULE

DSA SUBMITTAL

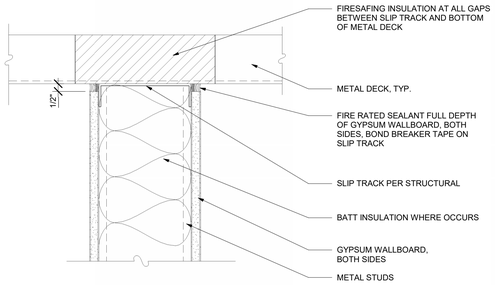
DATE: **10/11/2024** | CLIENT PROJ NO:

SHEET:

A9.31

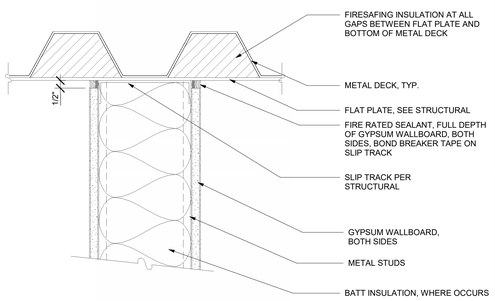
Autodesk Docs://3595002100 TUSD AG SHOP R22/3595002100-A-MERRILL WEST-AG SHOP.rvt
10/11/2024 11:40:48 AM

PLEASE RECYCLE



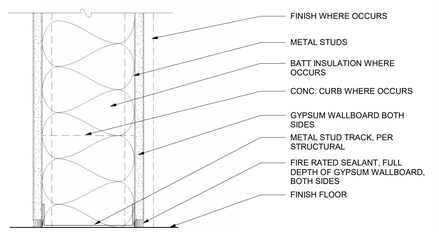
A1-S-FR1 PERPENDICULAR TO DECK | 4

3" = 1'-0"



A1-S-FR1 PARALLEL TO DECK | 3

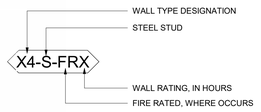
3" = 1'-0"



A1-S-FR1 AT FLOOR | 2

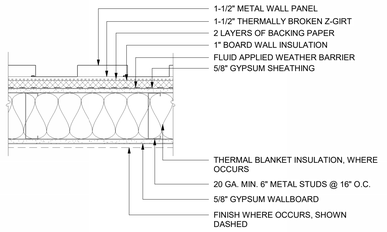
3" = 1'-0"

WALL TYPE LEGEND

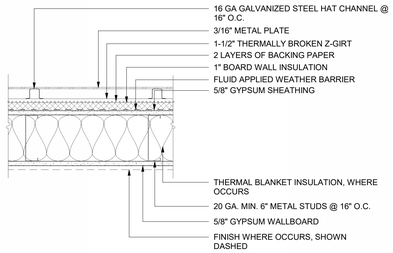


EXTERIOR WALLS

M1-S

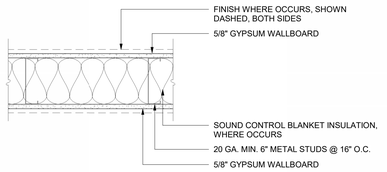


M2-S

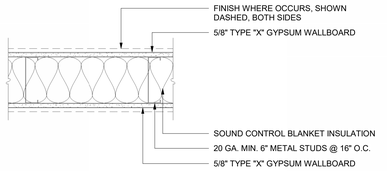


INTERIOR WALLS

A1-S

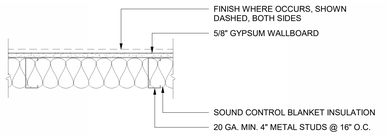


A1-S-FR1



2022 CBC TABLE 721.1 (2), ITEM No. 13 - 1.1

A2-S



WALL TYPES | 1

1 1/2" = 1'-0"

NOTES

1. SEE STRUCTURAL DRAWINGS FOR METAL STUD PROPERTIES (SIZE, GA, ETC).
2. FIRE, SMOKE, AND SOUND PARTITIONS, FLOORS, CEILINGS, AND ROOF ASSEMBLIES SHALL BE FIRESTOPPED IN ACCORDANCE TO THE CURRENT BUILDING CODE JURISDICTION AND/OR THE CALIFORNIA STATE FIRE MARSHALL (SFM).
3. ALL FIRE AND SMOKE ASSEMBLIES, WALLS, PARTITIONS, FLOORS, CEILINGS, AND ROOF ASSEMBLIES SHALL BE INSTALLED IN ACCORDANCE WITH THE UL OR OTHER APPROVED TESTING LABORATORY AND MFR'S PROCEDURES. ALL SOUND WALLS OR PARTITIONS SHALL BE INSTALLED IN ACCORDANCE WITH THE DETAILS SHOWN IN THE PROJECT DRAWING, PROJECT SPECIFICATIONS, AND AS CALLED FOR BELOW.
4. ALL GYPSUM BOARD INSTALLATIONS AT FIRE, SMOKE, SOUND OR OTHER PARTITIONS, WALLS, CEILINGS, AND ROOF ASSEMBLIES, SHALL BE INSTALLED WITH THE FOLLOWING EXPLANATORY NOTE:
   - A. FASTENERS INSTALLED ALONG THE EDGES OF GYP. BOARD ARE PLACED ALONG THE PAPER BOUND EDGES OF THE LONG DIMENSION OF THE BOARD. FASTENERS AT THE END ARE PLACED ALONG MILL OR FIELD CUT ENDS ON THE SHORT DIMENSION. FASTENERS ON THE PERIMETER OF THE BOARD ARE ALONG BOTH EDGES AND ENDS.
   - B. SCREWS MEETING ASTM C1002 MAY BE SUBSTITUTED FOR PRESCRIBED NAILS, ONE FOR ONE, WHEN THE HEAD DIMENSION, LENGTH, AND SPACING OF THE SCREWS ARE NOMINALLY EQUAL TO THOSE OF THE NAILS USED IN THE TESTED ASSEMBLY.
   - C. VERTICALLY APPLIED BOARDS HAVE THE EDGES PARALLEL TO THE FRAMING MEMBERS. HORIZONTALLY APPLIED BOARDS HAVE THE EDGES AT THE RIGHT ANGLES TO THE FRAMING MEMBERS. INTERMEDIATE VERTICAL FRAMING MEMBERS ARE THOSE BETWEEN THE VERTICAL EDGES OR ENDS OF THE BOARD.
   - D. ALL WALLS, PARTITIONS, AND CEILING ASSEMBLIES, EXCEPT THOSE WITH CERAMIC, QUARRY TILE OR METAL COVERED SURFACES, REQUIRE TAPPING OF JOINTS (SEE ITEM E. FOR EXCEPTION).
   - E. PER THE FIRE RESISTANCE DESIGN MANUAL GA-600, WHEN A FIRE RATED PARTITION EXTENDS ABOVE THE CEILING, THE WALL BOARD JOINTS ABOVE THE CEILING NEED NOT BE TAPED WHEN ALL OF THE FOLLOWING CONDITIONS ARE MET:
     - a. ALL VERTICAL JOINTS OCCUR OVER FRAMING MEMBERS AND GYP. BD. SHALL BE INSTALLED WITH TIGHT FITTING JOINTS. NO JOINT OPENING SHALL EXCEED A TOLERANCE OF +/- 1/16." ANY JOINT WHICH EXCEEDS +/- 1/16" SHALL BE TAPPED OR COVERED WITH JOINT TREATMENT.
     - b. HORIZONTAL JOINTS ARE STAGGERED 24 INCHES ON OPPOSITE SIDES OR COVERED WITH 6 INCH WIDE STRIPS OF GYPSUM BOARD ATTACHED WITH 1 1/2 INCH LAMINATING SCREWS AT 8 INCHES O.C.
     - c. PARTITION IS TWO PLY SYSTEM WITH JOINTS STAGGERED 16 INCHES OR 24 INCHES O.C.
     - d. PARTITION IS NOT PART OF A SMOKE OR SOUND CONTROL SYSTEM
   - F. CEILING ROOF ASSEMBLIES WITH GYP. BOARD WHICH ARE NOT EXPOSED TO VIEW AND ARE 2-PLY SYSTEMS WITH JOINTS STAGGERED DO NOT REQ. TAPING. ALL SINGLE PLY SYSTEMS WHERE JOINTS DO NOT MEET AT FRAMING MEMBERS WILL BE TAPED. ALL PENETRATIONS OF CEILING ROOF ASSEMBLIES SHALL BE SEALED AND FIRESTOPPED.
   - G. WATER RESISTANT BACKER BOARD OR GYP. BOARD BACKING SHALL BE INSTALLED OVER, OR AS PART OF, THE FIRE RATED ASSEMBLY IN SHOWER OR TUB AREAS TO RECEIVE CERAMIC OR PLASTIC WALL TILE OR PLASTIC FINISHED WALL PANELS. WHEN FIRE AND SOUND RATING ARE NECESSARY, THE BACKER BOARD OR GYP. BOARD REQUIRED FOR THE RATING MUST BE BROUGHT DOWN TO THE FLOOR BEHIND THE FIXTURES SO THAT THE CONSTRUCTION WILL EQUAL TO THAT OF TESTED ASSEMBLY.
5. UTILITY PENETRATIONS IN FIRE, SMOKE, SOUND WALL PARTITIONS, AND CEILING ASSEMBLIES, SHALL BE FIRESTOP AND SOUND SEALED WITH AN APPROVED MATERIAL SECURELY INSTALLED.
   - A. STEEL ELECTRICAL OUTLET BOXES WHICH DO NOT EXCEED 16 SQUARE INCHES IN AREA AND ANNULAR SPACE BETWEEN WALL MEMBRANE AND BOX SHALL NOT EXCEED 1/8" NEED TO BE PROTECTED IN 1-HOUR OR 2-HOUR FIRE RATED WALLS, PARTITIONS, CEILINGS, OR AREA SEPARATION UNLESS THEY:
     - a. OCCUR ON OPPOSITE SIDES OF THE WALL WITHIN 24" HORIZONTAL DISTANCE OF ONE ANOTHER. IN THIS CASE, ONLY ONE (1) OUTLET BOX NEED BE PROTECTED BY AN APPROVED MATERIAL OR DETAIL TO CORRECT THIS CONDITION.
     - b. OCCUR IN COMBINATION WITH OUTLET BOXES OF ANY SIZE SUCH THAT THE AGGREGATE AREA OF UNPROTECTED OUTLET BOXES EXCEEDS 100 SQUARE INCHES IN ANY 100 SQUARE FEET OF WALL AREA. IN THIS CASE, ONLY A SUFFICIENT NUMBER OF OUTLET BOXES NEED TO BE PROTECTED BY AN APPROVED MATERIAL OR DETAIL TO DECREASE THE AGGREGATE AREA OF UNPROTECTED UTILITY BOXES TO LESS THAN 100 SQUARE INCHES IN ANY 100 SQUARE FEET OF WALL.
   - B. STEEL ELECTRICAL OUTLET BOXES WHICH EXCEED 16 SQUARE INCHES IN AREA, AND ALL OTHER STEEL UTILITY OUTLET BOXES (WATER, ETC.) REGARDLESS OF SIZE, MUST BE PROTECTED BY AN APPROVED FIRESTOP MATERIAL.
   - C. 3M BRAND FIRE BARRIER PUTTY PADS, MPP-1, OR A UL APPROVED EQUAL PRODUCT SHALL BE USED TO PROTECT STEEL UTILITY OUTLET BOXES (ELECTRICAL, WATER, ETC.) UP TO 100 SQUARE INCHES OF AREA.
   - D. STEEL UTILITY BOXES (ELECTRICAL PANELS, ETC.) WHICH EXCEED 100 SQUARE INCHES IN AREA WILL BE PROTECTED BY ENCASING THEM IN GYPSUM BOARD PER THE DRAWING DETAILS.
   - E. ALL UTILITY AND ELECTRICAL OUTLETS OR BOXES SHALL BE SECURELY FASTENED TO THE STUD OR FRAMING OF THE WALL, PARTITION, OR CLG. ASSEMBLY. THE OPENING IN THE GYPSUM BOARD FACING SHALL BE CUT SO THAT THE CLEARANCE BETWEEN THE BOX AND THE GYPSUM BOARD DOES NOT EXCEED 1/8". IN SMOKE AND SOUND WALLS OR PARTITIONS, THE 1/8" CLEARANCE SHALL BE FILLED WITH A FIRE STOP MATERIAL APPROVED FOR THAT USE.
   - F. ALL FIRE SPRINKLER, MECHANICAL, PLUMBING, AND ELECTRICAL COMMUNICATION LINES THAT PENETRATE FIRE, SMOKE, OR SOUND WALLS SHALL BE FIRESTOP AND SEALED PER THE SPECIFICATIONS OR DETAILS.
6. ALL LIGHT FIXTURES AND AIR DUCT PROTECTION SHALL BE AS DETAILED ON THE DRAWING OR AS CALLED FOR IN THE SPECIFICATIONS.
7. THE THROUGH-PENETRATION FIRESTOP SYSTEM SHOWN IN THE CONTRACT DOCUMENTS, HAS BEEN APPROVED BY THE PERMITTING AUTHORITY. ANY SUBSTITUTIONS AND/OR CHANGES OF THE SYSTEM SHALL BE RESUBMITTED AND APPROVED BEFORE USE IN THE PROJECT.THE FOLLOWING IS THE MINIMUM REQUIREMENT FOR THE CONTRACTOR TO PROVIDE IN THEIR SUBMITTAL:
   - A. A DETAILED DRAWING OF THE SUBSTITUTED FIRESTOP SYSTEM.
   - B. A UL # OR EQUAL TEST DATA SHEETS CONFIRMING THE APPROVAL OF THE FIRESTOP SYSTEM OR PRODUCT.
   - C. THE LOCATION AND DESCRIPTION OF WHERE THE FIRESTOP SYSTEM WILL BE USED IN THE PROJECT.
   - D. THE SUBMITTAL APPROVAL BY THE AGENCY WHO IS RESPONSIBLE FOR THE JURISDICTION OF THE PROJECT.
8. INSULATION NOTES:
   - A. FOR BOARD WALL INSULATION, SEE ROOF PLAN AND EXTERIOR DETAILS.
   - B. EXTERIOR WALLS, TYPICAL: PROVIDE THERMAL BLANKET INSULATION VERTICALLY FROM FINISH FLOOR TO BOTTOM OF ROOF DECK.
   - C. INTERIOR WALLS: PROVIDE SOUND-CONTROL BLANKET INSULATION AT TOILET ROOM WALLS, CONFERENCE ROOM WALLS, TOILET PLUMBING CHASE WALLS (FULL DEPTH OF CAVITY), CLASSROOM WALLS AND OFFICES. EXTEND VERTICALLY FROM FINISH FLOOR TO ROOF.
   - D. WALLS WITH SOUND INSULATION ARE TO COMPLY WITH SOUND ISOLATION NOTES, UNLESS OTHERWISE INDICATED.
   - E. SEE PLANS FOR ADDITIONAL INSULATION REQUIREMENTS.
9. SOUND ISOLATION NOTES:
   - A. GYPSUM WALLBOARD IS 5/8" TYPE "X", UNLESS OTHERWISE NOTED
   - B. GYPSUM WALLBOARD AT SOUND WALLS SHALL EXTEND VERTICALLY FROM FINISH FLOOR TO ROOF OR FRAMED CEILING. IF WALLS ARE NOT CONTINUOUS TO ROOF.
   - C. PROVIDE 2 CONTINUOUS BEADS OF SEALANT BETWEEN STUD TRACK OR SILL PLATE & FINISH FLOOR
   - D. WHERE 2 LAYERS OF GYPSUM WALLBOARD OCCURS, STAGGER THE JOINTS: DO NOT TAPE THE INNER LAYER, UNLESS REQUIRED BY FIRE ASSEMBLY.
   - E. PENETRATIONS THROUGH GYPSUM WALLBOARD ABOVE CEILINGS
     - a. DUCTWORK: PROVIDE 1 INCH GAP ALL AROUND AND FILL WITH SOUND INSULATION
     - b. CONDUIT / PIPING: CAULK ALL AROUND WITH SEALANT
   - F. ELECTRICAL BOXES FOR LIGHTING, POWER, SIGNAL AND ALARM
     - a. LOCATE EACH BOX IN SEPARATE STUD CAVITY. DO NOT MOUNT BACK-TO-BACK OUTLETS ON THE SAME STUD. AT LOCATIONS WHERE THESE REQUIREMENTS CANNOT BE MET, REVIEW LAYOUT WITH ARCHITECT PRIOR TO INSTALLATION
     - b. ANY OPENING FOR FIXTURES AND PIPES AHALL BE CUT TO PROPER SIZE AND SEALED. ALL ELECTRICAL BOXES TO BE WRAPPED WITH "BOX PADS", SPECIFIED IN DIVISION 26

AGENCY APPROVAL:

TRACY UNIFIED SCHOOL DISTRICT

HMC Architects
3595-002-100
2101 CAPITOL AVENUE, SUITE 100,
SACRAMENTO, CA, 95816
916 368 7990 / www.hmcarchitects.com

ISSUE

Δ	DESCRIPTION	DATE

FACILITY:
MERRILL F WEST HIGH SCHOOL
1775 W LOWELL AVE
TRACY, CA 95376

PROJECT:
MERRILL F WEST HS AGRICULTURE CTE BLDG INCREMENT 2

SHEET NAME:
WALL TYPES

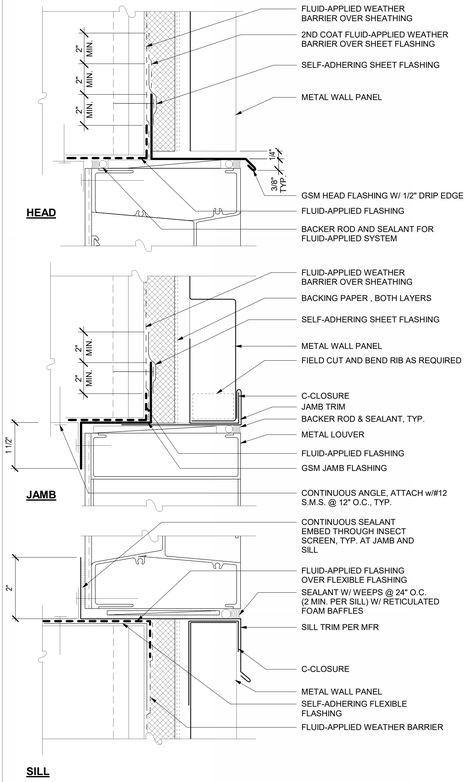
DSA SUBMITTAL

DATE: **10/11/2024** | CLIENT PROJ NO:

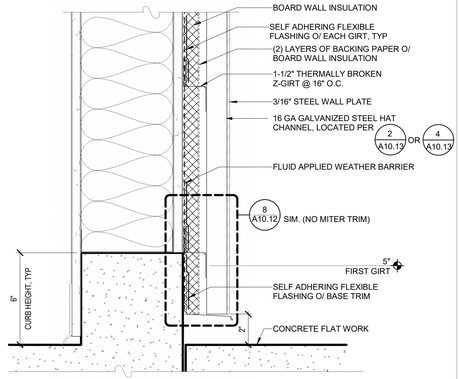
SHEET:

A10.11

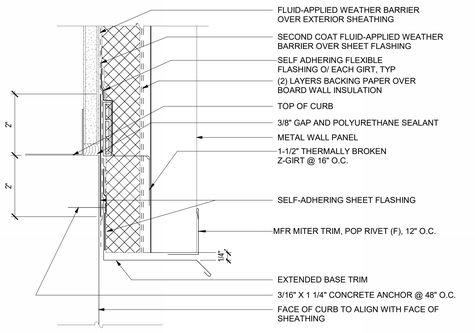
THE LINE SHOWN ABOVE IS 1" WHEN PRINTED ON AN EXTERIOR ARCH D SHEET ORIGINAL PAGE SIZE



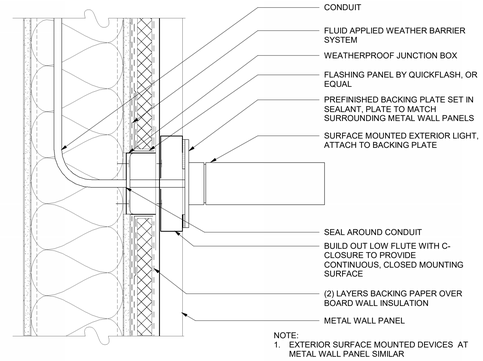
SMALL LOUVER AT METAL WALL PANEL | 15
6" = 1'-0"



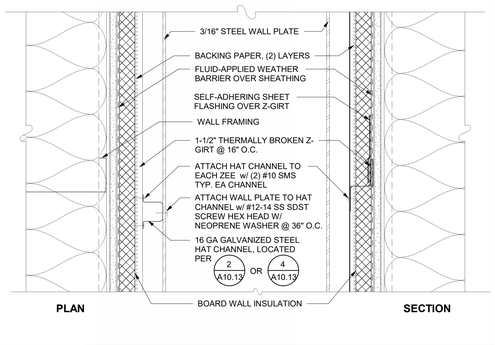
WALL BASE AT METAL WALL PLATE | 12
3" = 1'-0"



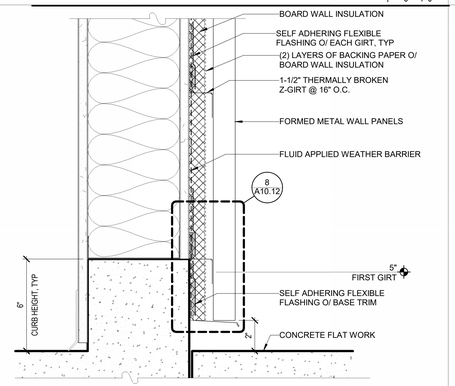
ENLARGED WALL BASE AT METAL PANEL | 8
6" = 1'-0"



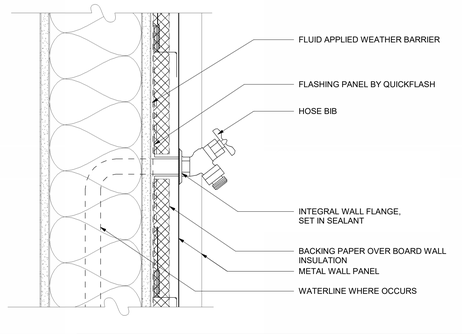
LIGHT FIXTURE @ METAL WALL PANEL | 4
3" = 1'-0"



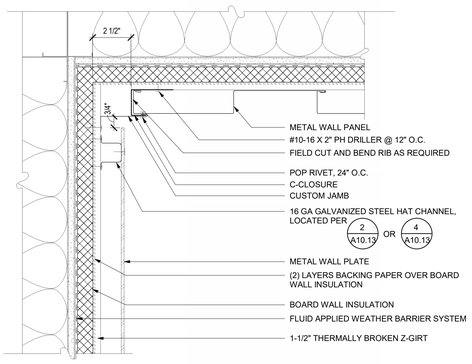
TYPICAL METAL WALL PLATE ATTACHMENT | 11
3" = 1'-0"



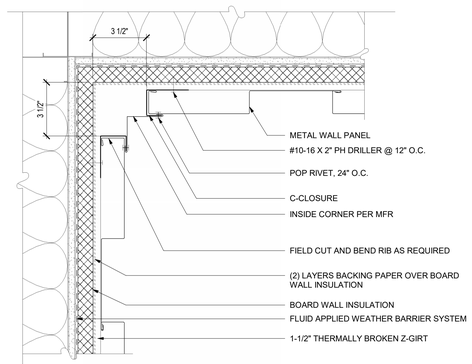
WALL BASE AT METAL WALL PANEL | 7
3" = 1'-0"



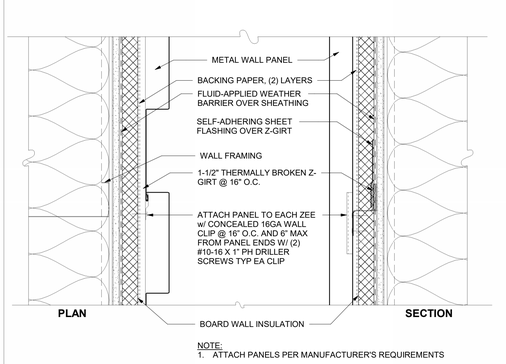
HOSE BIB | 3
3" = 1'-0"



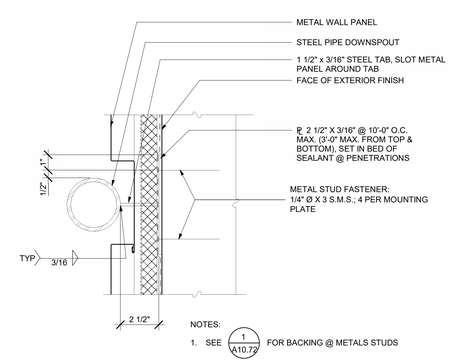
METAL WALL PANEL TO METAL WALL PLATE INSIDE CORNER | 14
3" = 1'-0"



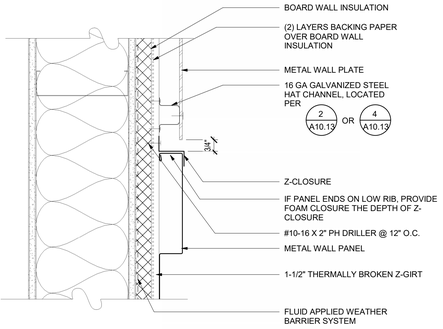
METAL WALL PANEL INSIDE CORNER | 10
3" = 1'-0"



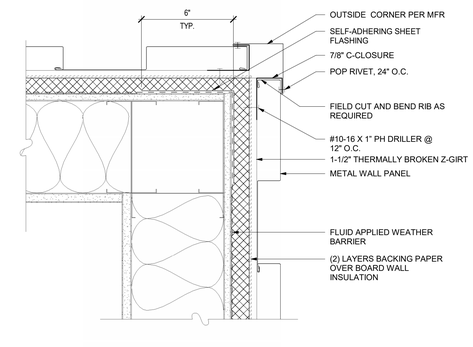
TYPICAL METAL WALL PANEL ATTACHMENT | 6
3" = 1'-0"



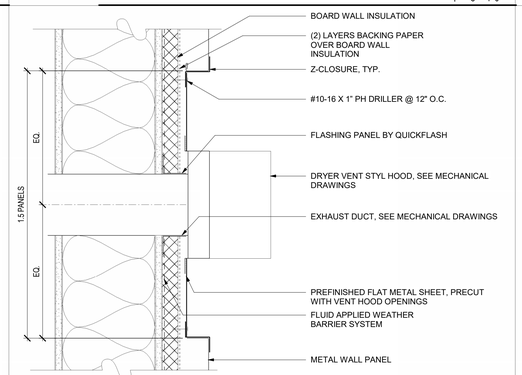
DOWNSPOUT | 2
3" = 1'-0"



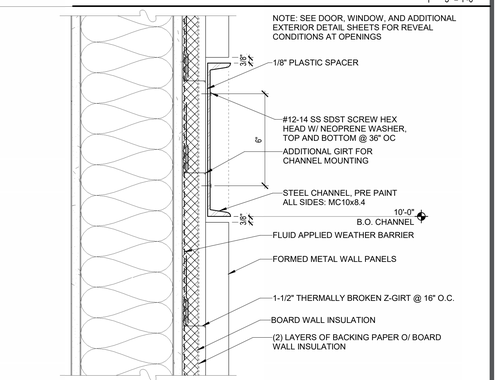
METAL WALL PANEL TO METAL WALL PLATE | 13
3" = 1'-0"



METAL WALL PANEL OUTSIDE CORNER | 9
3" = 1'-0"



SIDEWALL EXHAUST (PLAN VIEW) | 5
3" = 1'-0"



CHANNEL REVEAL | 1
3" = 1'-0"

AGENCY APPROVAL:

TRACY UNIFIED SCHOOL DISTRICT

HMC Architects
3595-002-100
2101 CAPITOL AVENUE, SUITE 100,
SACRAMENTO, CA, 95816
916 368 7990 / www.hmcarchitects.com

ISSUE

Δ	DESCRIPTION	DATE

NOTES

1. ALL METAL WALL PANELS TO BE ATTACHED PER 6/A10.12
2. ALL METAL WALL SHEETS TO BE ATTACHED PER 11/A10.12
3. SEE A10.11 FOR ADDITIONAL WALL ASSEMBLY INFORMATION BY WALL TYPE

FACILITY:
MERRILL F WEST HIGH SCHOOL
1775 W LOWELL AVE
TRACY, CA 95376

PROJECT:
MERRILL F WEST HS AGRICULTURE CTE BLDG INCREMENT 2

SHEET NAME:
EXTERIOR DETAILS

DSA SUBMITTAL

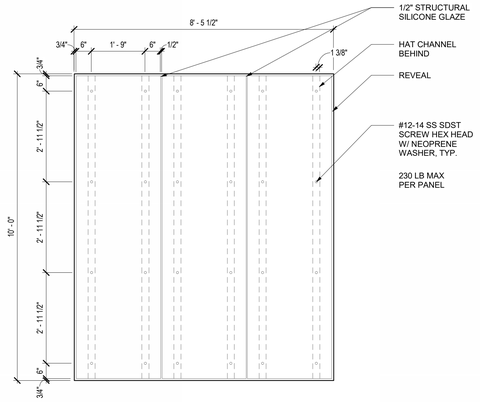
DATE: **10/11/2024** | CLIENT PROJ NO:

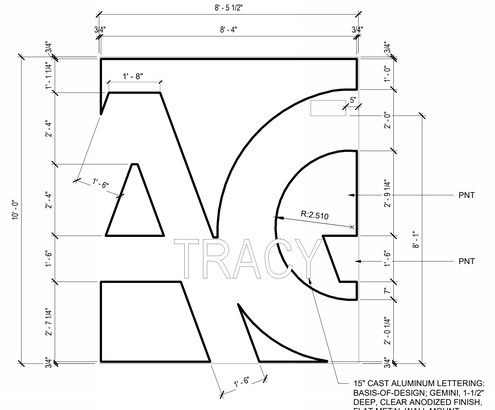
SHEET:

A10.12

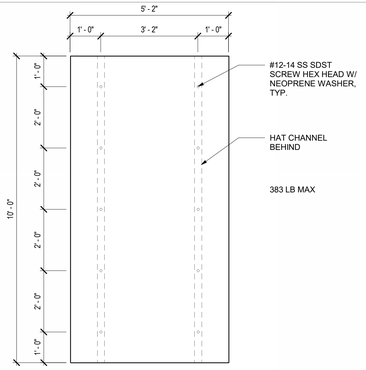
PLEASE RECYCLE

Autodesk Docs://3595002100 TUSD AG SHOP R22/3595002100-A-MERRILL WEST-AG SHOP.rvt
10/11/2024 11:40:39 AM

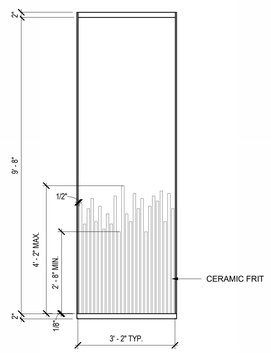




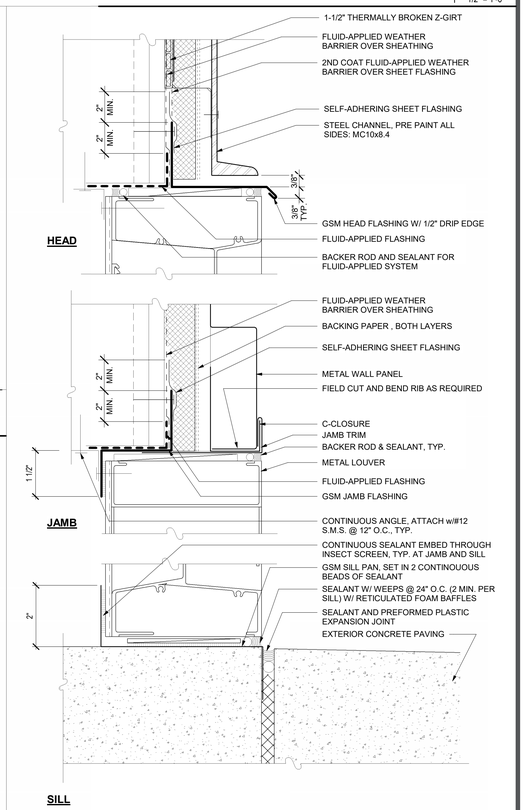
ACCENT WALL 2
1/2" = 1'-0"



METAL WALL SHEET 4
1/2" = 1'-0"



CERAMIC FRIT PATTERN 3
1/2" = 1'-0"



LARGE LOUVER AT METAL WALL PANEL 1
6" = 1'-0"

AGENCY APPROVAL:

TRACY
UNIFIED SCHOOL DISTRICT

HMC Architects
3595-002-100
2101 CAPITOL AVENUE, SUITE 100,
SACRAMENTO, CA, 95816
916 368 7990 / www.hmcarchitects.com

ISSUE

Δ	DESCRIPTION	DATE

NOTES

1. ALL METAL WALL PANELS TO BE ATTACHED PER 6/A10.12
2. ALL METAL WALL SHEETS TO BE ATTACHED PER 11/A10.12
3. SEE A10.11 FOR ADDITIONAL WALL ASSEMBLY INFORMATION BY WALL TYPE

FACILITY:
MERRILL F WEST HIGH SCHOOL
1775 W LOWELL AVE
TRACY, CA 95376

PROJECT:
MERRILL F WEST HS AGRICULTURE CTE BLDG INCREMENT 2

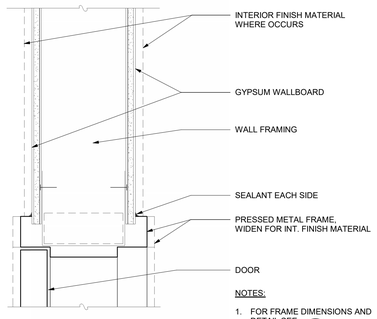
SHEET NAME:
EXTERIOR DETAILS

DSA SUBMITTAL

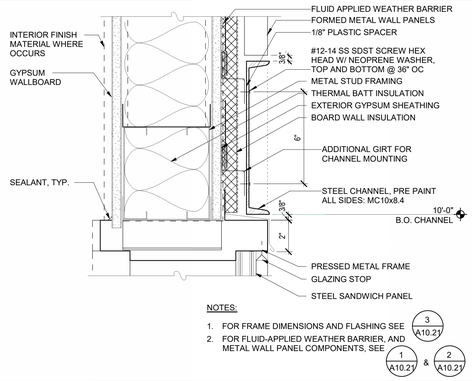
DATE: **10/11/2024** | CLIENT PROJ NO:

SHEET:

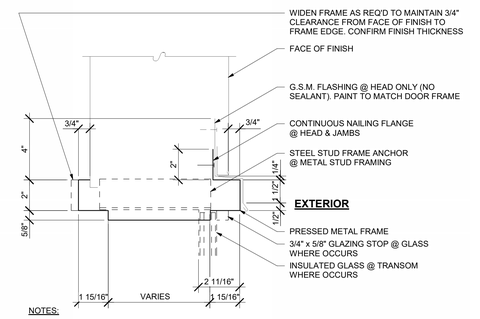
A10.13



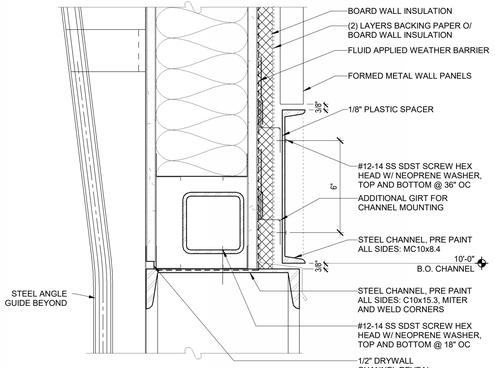
INTERIOR DOOR HEAD/JAMB 11
3" = 1'-0"



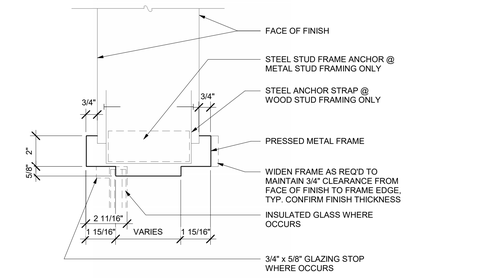
EXTERIOR DOOR TRANSOM HEAD 7
3" = 1'-0"



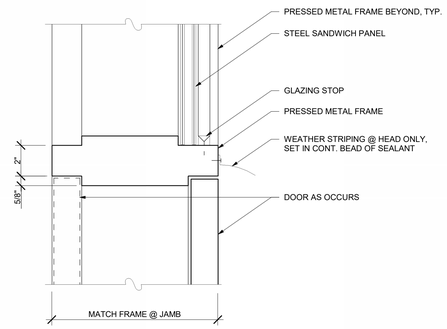
TYPICAL EXTERIOR DOOR FRAME HEAD/JAMB 3
3" = 1'-0"



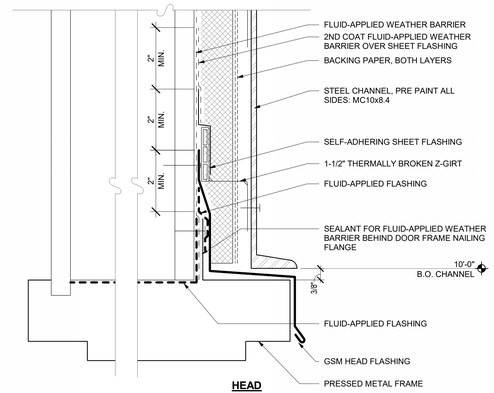
OVERHEAD DOOR HEAD 14
3" = 1'-0"



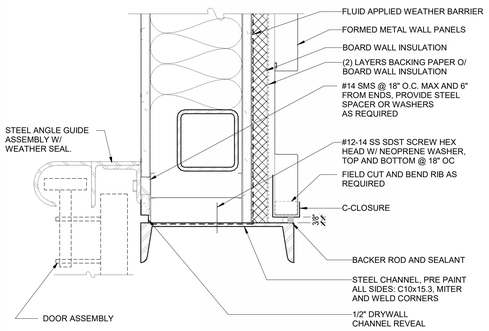
TYPICAL INTERIOR DOOR FRAME HEAD/JAMB 10
3" = 1'-0"



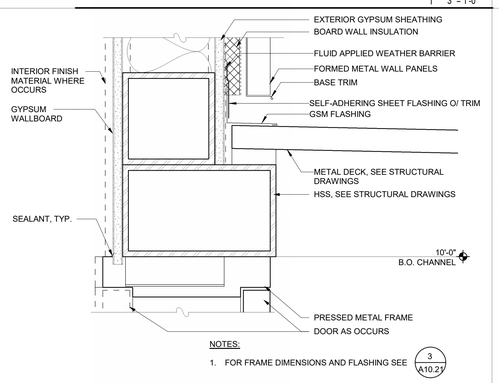
DOOR HEAD AT TRANSOM 6
3" = 1'-0"



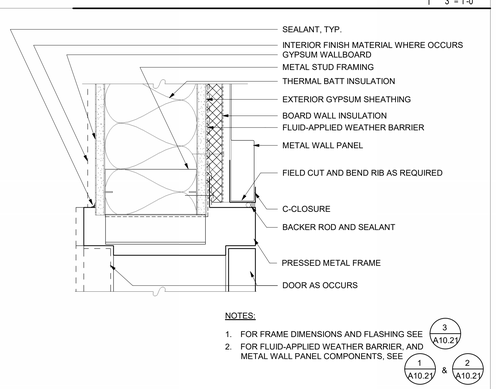
WEATHER BARRIER FLASHING 2
6" = 1'-0"



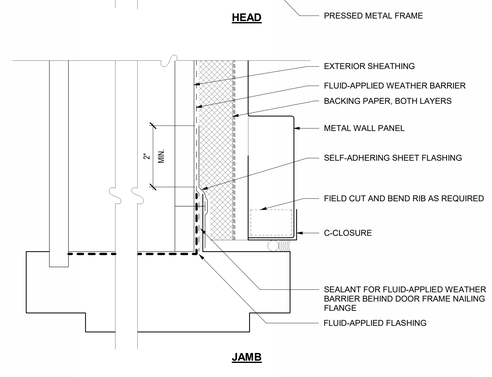
OVERHEAD DOOR JAMB 13
3" = 1'-0"



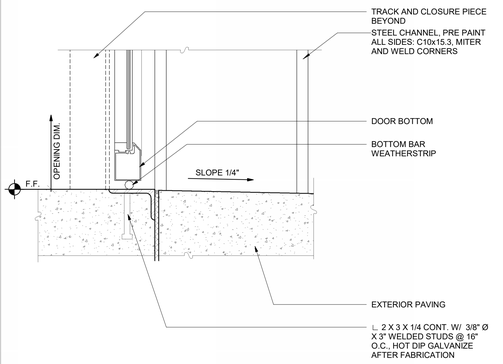
EXTERIOR DOOR TRANSOM HEAD 9
3" = 1'-0"



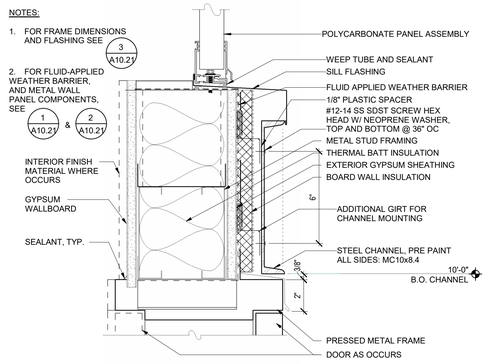
EXTERIOR DOOR JAMB 5
3" = 1'-0"



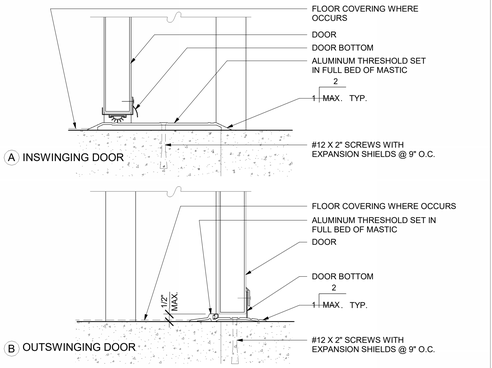
NAIL FIN DOOR FLASHING 1
1/4" = 1'-0"



OVERHEAD DOOR THRESHOLD 12
3" = 1'-0"



EXTERIOR DOOR TRANSOM HEAD AT POLYCARBONATE PANEL 8
3" = 1'-0"



EXTERIOR DOOR THRESHOLD 4
3" = 1'-0"

AGENCY APPROVAL:

TRACY UNIFIED SCHOOL DISTRICT

HMC Architects
3595-002-100
2101 CAPITOL AVENUE, SUITE 100,
SACRAMENTO, CA, 95816
916 368 7990 / www.hmcarchitects.com

ISSUE

Δ	DESCRIPTION	DATE

FACILITY:
MERRILL F WEST HIGH SCHOOL
1775 W LOWELL AVE
TRACY, CA 95376

PROJECT:
MERRILL F WEST HS AGRICULTURE CTE BLDG INCREMENT 2

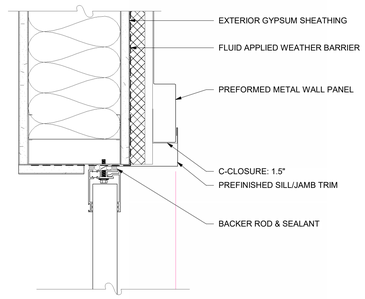
SHEET NAME:
DOOR DETAILS

DSA SUBMITTAL

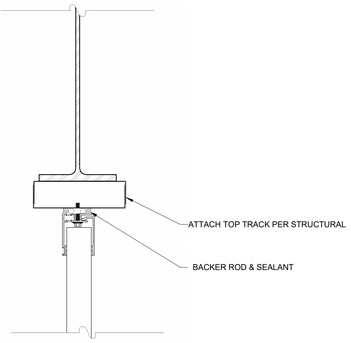
DATE: **10/11/2024** | CLIENT PROJ NO:

SHEET:

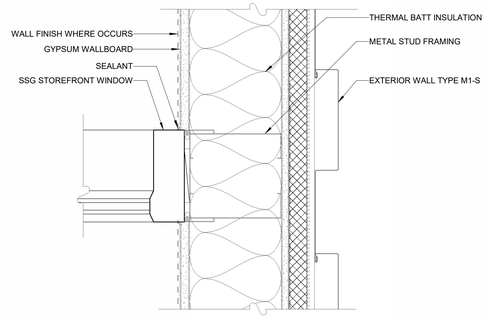
A10.21



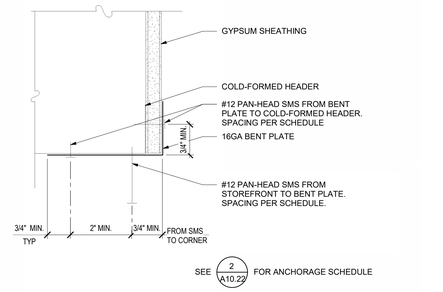
POLYCARBONATE PANEL ASSEMBLY JAMB 16
3" = 1'-0"



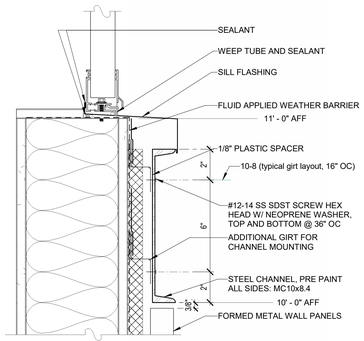
POLYCARBONATE PANEL ASSEMBLY HEAD INTERIOR 12
3" = 1'-0"



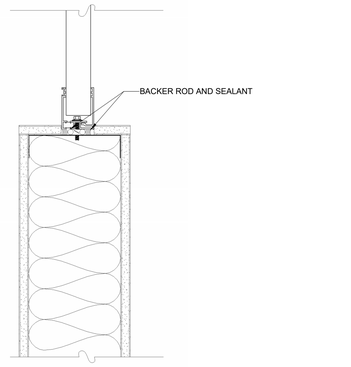
STOREFRONT JAMB TO EXTERIOR WALL 8
3" = 1'-0"



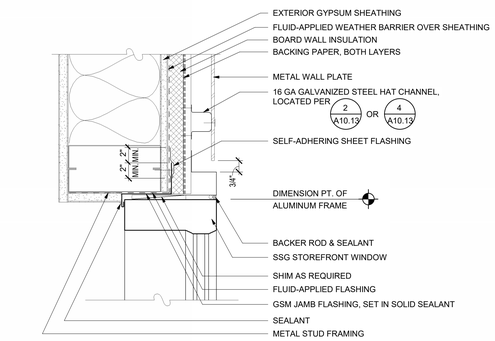
BENT PLATE @ METAL STUD FRAMING 4
6" = 1'-0"



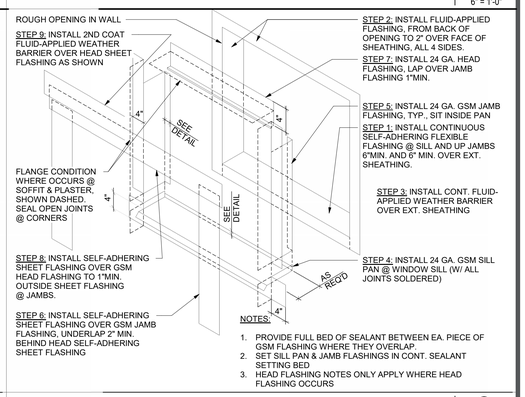
POLYCARBONATE PANEL ASSEMBLY SILL AT REVEAL 15
3" = 1'-0"



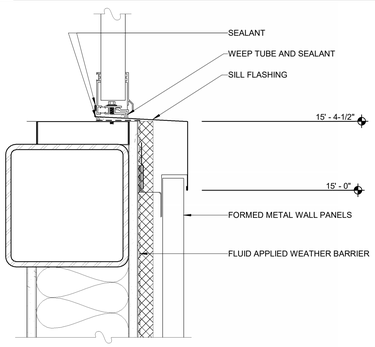
POLYCARBONATE PANEL ASSEMBLY SILL INTERIOR 11
3" = 1'-0"



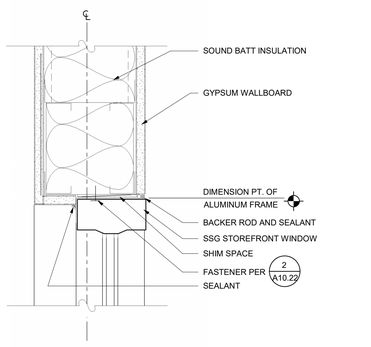
STOREFRONT JAMB 7
3" = 1'-0"



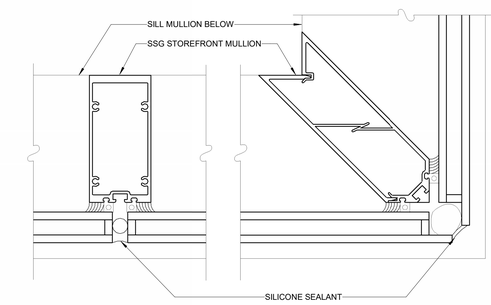
STOREFRONT GSM FLASHING SYSTEM 3
1" = 1'-0"



POLYCARBONATE PANEL ASSEMBLY SILL 14
3" = 1'-0"



INTERIOR HEAD/JAMB/SILL 10
3" = 1'-0"



SSG STOREFRONT MULLIONS 6
6" = 1'-0"

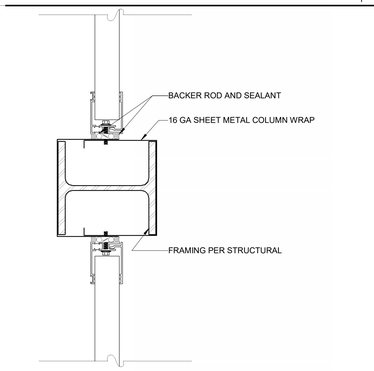
ANCHORAGE SCHEDULE

STOREFRONT HEIGHT	LIGHT-GAUGE #10 SMS	STEEL #10 SMS	STEEL Pins (Hilti X-U 15)
0' - 5'	@ 24" cc	@ 24" cc	@ 24" cc
5' - 10'	@ 18" cc	@ 18" cc	@ 24" cc

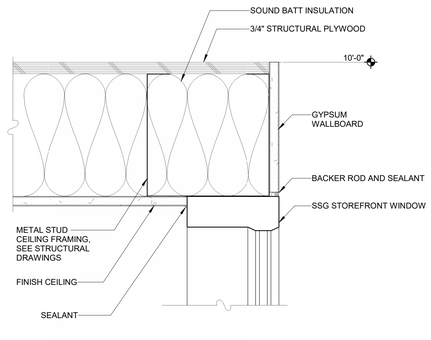
WIND DESIGN CRITERIA

RISK CATEGORY: III
BASIC WIND SPEED: 115 MPH (USD); 89 MPH (ASD)
EXPOSURE CATEGORY: C
Kzt: 1.00 Kd: 0.85

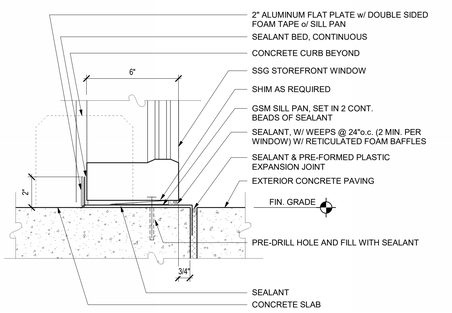
STOREFRONT ANCHORAGE 2
12" = 1'-0"



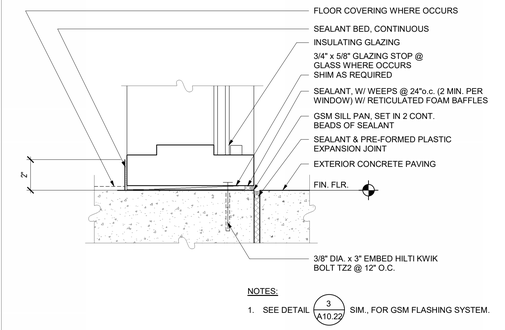
POLYCARBONATE PANEL ASSEMBLY AT COLUMN INTERIOR 13
3" = 1'-0"



STOREFRONT HEAD AT CEILING 9
3" = 1'-0"



STOREFRONT SILL 5
3" = 1'-0"



HOLLOW METAL SILL 1
3" = 1'-0"

AGENCY APPROVAL:

TRACY UNIFIED SCHOOL DISTRICT

HMC Architects
3595-002-100
2101 CAPITOL AVENUE, SUITE 100,
SACRAMENTO, CA, 95816
916 368 7990 / www.hmcarchitects.com

ISSUE

Δ	DESCRIPTION	DATE

FACILITY:
MERRILL F WEST HIGH SCHOOL
1775 W LOWELL AVE
TRACY, CA 95376

PROJECT:
MERRILL F WEST HS AGRICULTURE CTE BLDG INCREMENT 2

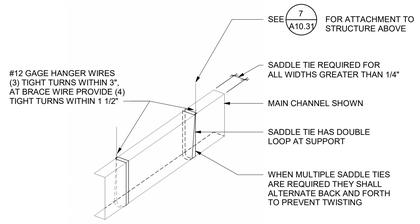
SHEET NAME:
OPENING DETAILS

DSA SUBMITTAL

DATE: **10.11.2024** CLIENT PROJ NO:

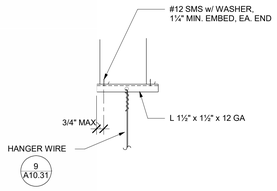
SHEET:

A10.22

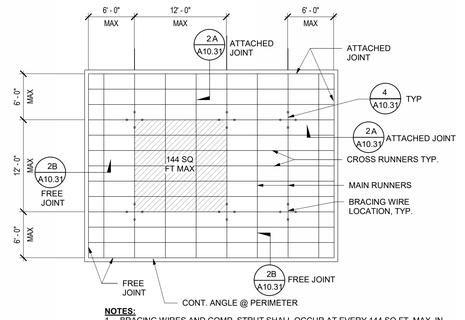


NOTE:
HANGER WIRE CONDITION SHOWN. BRACE WIRE CONDITION SIMILAR

TYPICAL SADDLE TIE DETAIL (METAL) 11
1 1/2" = 1'-0"



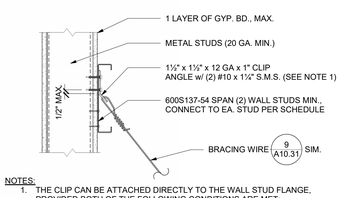
HANGER WIRE 7
NTS



NOTES:
1. BRACING WIRES AND COMP. STRUT SHALL OCCUR AT EVERY 144 SQ.FT. MAX. IN ROOMS OVER 144 SQ. FT.
2. PROVIDE EXPANSION JOINT(S) AS REQUIRED SO THAT NO CEILING AREA EXCEEDS 2,500 S.F.

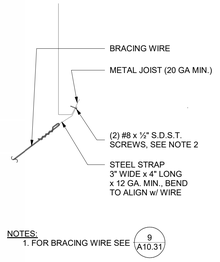
TYPICAL CEILING 3
1/8" = 1'-0"

WALL STUD GUAGE	CONNECTION TO WALL STUD (WITH GYP. BD)	CONNECTION TO WALL STUD (WITHOUT GYP. BD)
20 GUAGE	(5) #10 x 1¼" S.M.S.	(3) #10 x 1¼" S.M.S.
18 GUAGE	(4) #10 x 1¼" S.M.S.	(2) #10 x 1¼" S.M.S.



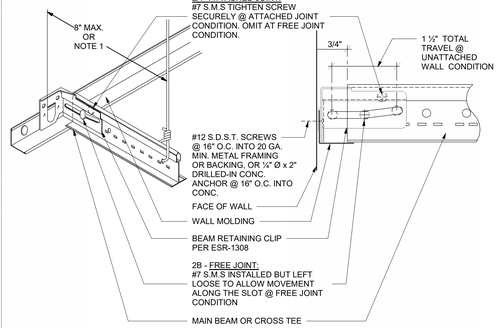
NOTES:
1. THE CLIP CAN BE ATTACHED DIRECTLY TO THE WALL STUD FLANGE, PROVIDED BOTH OF THE FOLLOWING CONDITIONS ARE MET:
-THE WALL STUD IS 18 GA MIN. AND CAPABLE OF SUPPORTING THE BRACE FORCE
-THE BRACE WIRE ALIGNS WITH THE WALL STUD WEB

BRACING WIRE 10
1 1/2" = 1'-0"



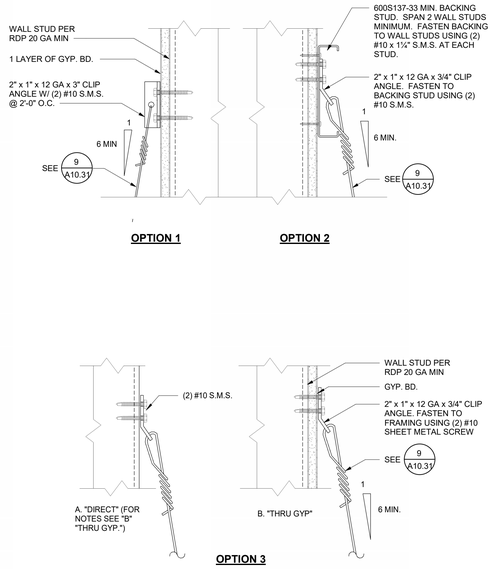
NOTES:
1. FOR BRACING WIRE SEE 9 A10.31

BRACING WIRE 6
NTS

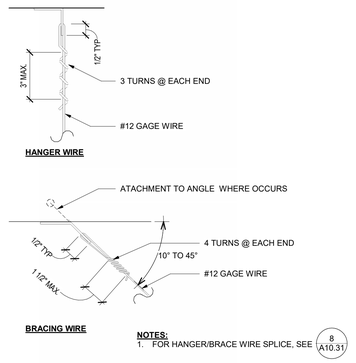


NOTE:
1. 1/4 LENGTH OF END TEE, WHICHEVER IS LESS
2. GRID MEMBERS SHALL BE ATTACHED TO TWO ADJACENT WALLS, AND UNATTACHED AT OPPOSITE WALLS.

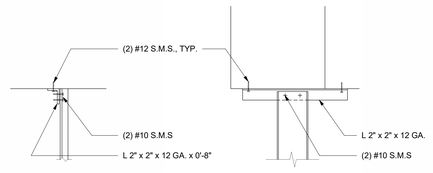
PERIMETER CEILING ATTACHMENT 2
NTS



BRACING WIRE CONN. TO METAL STUD 12
3" = 1'-0"

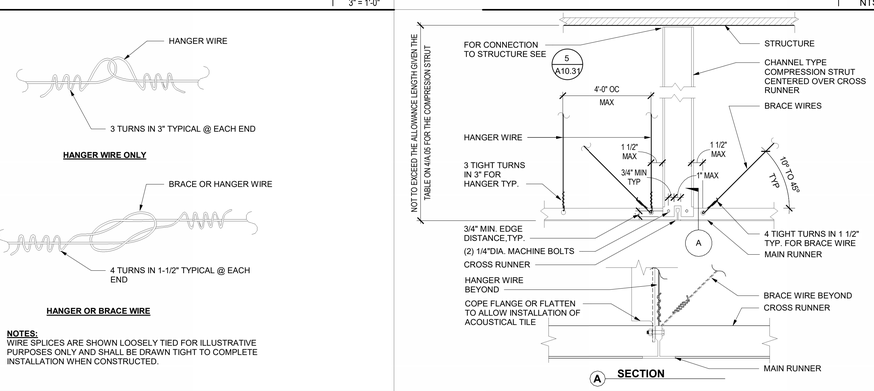


HANGER / BRACE WIRE 9
3" = 1'-0"

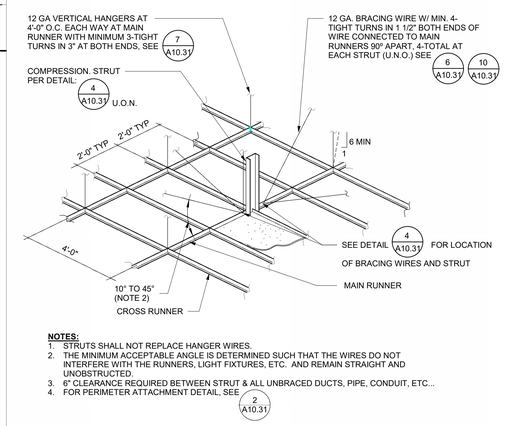


CHANNEL COMPRESSION STRUT	MAXIMUM LENGTH
250S125-33	5' - 0"

COMPRESSION STRUT 5
NTS



COMPRESSION STRUT 4
NTS



NOTES:
1. STRUTS SHALL NOT REPLACE HANGER WIRES.
2. THE MINIMUM ACCEPTABLE ANGLE IS DETERMINED SUCH THAT THE WIRES DO NOT INTERFERE WITH THE RUNNERS, LIGHT FIXTURES, ETC. AND REMAIN STRAIGHT AND UNOBSTRUCTED.
3. 6" CLEARANCE REQUIRED BETWEEN STRUT & ALL UNBRACED DUCTS, PIPE, CONDUIT, ETC...
4. FOR PERIMETER ATTACHMENT DETAIL, SEE 2 A10.31

SUSPENDED CEILING GRID 1
NTS

NOTES:
1. THIS IS APPLIED FOR PERIMETER WIRE ATTACHMENT OR WHERE OBSTRUCTION PREVENTS ATTACHMENT TO STRUCTURE ABOVE

NOTES:
WIRE SPLICES ARE SHOWN LOOSELY TIED FOR ILLUSTRATIVE PURPOSES ONLY AND SHALL BE DRAWN TIGHT TO COMPLETE INSTALLATION WHEN CONSTRUCTED.

HANGER / BRACE WIRE SPLICE 8
3" = 1'-0"

NOTES

1. POST-INSTALLED ANCHORS SHALL BE PLACED NO MORE THAN 1" OFFSET FROM CENTERLINE OF LOW FLUTE AT METAL DECK
2. TESTING:
   A. POST-INSTALLED ANCHORS IN CONCRETE USED TO SUPPORT HANGER WIRES SHALL BE TESTED AT A FREQUENCY OF 10 PERCENT. POWER ACTUATED FASTENERS IN CONCRETE SHALL BE FIELD TESTED FOR 200lbs IN TENSION. ALL OTHER POST INSTALLED ANCHORS IN CONCRETE SHALL BE TESTED IN ACCORDANCE WITH CBC SECTION 1913A.7.
   B. POST-INSTALLED ANCHORS IN CONCRETE USED TO ATTACH BRACING WIRES SHALL BE TESTED AT A FREQUENCY OF 50 PERCENT IN ACCORDANCE WITH CBC SECTION 1913A.7.
3. STEEL BEAMS:
   A. BEAM FLANGE THICKNESS SHALL NOT BE LESS THAN 3/16"
   B. VERIFY THAT NO P.D.F. IS INSTALLED IN THE PROTECTED ZONE OF ANY STEEL MEMBER, SEE ANSI / AISC 341-10.

FACILITY:
MERRILL F WEST HIGH SCHOOL
1775 W LOWELL AVE
TRACY, CA 95376

PROJECT:
MERRILL F WEST HS AGRICULTURE CTE BLDG INCREMENT 2

SHEET NAME:
CEILING DETAILS

DSA SUBMITTAL

DATE: **10/11/2024** | CLIENT PROJ NO:

SHEET:

A10.31

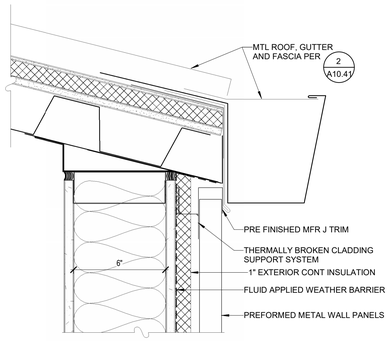
AGENCY APPROVAL:

TRACY UNIFIED SCHOOL DISTRICT

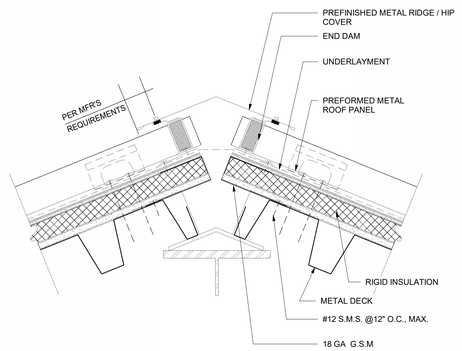
HMC Architects
3595-002-100
2101 CAPITOL AVENUE, SUITE 100,
SACRAMENTO, CA, 95816
916 368 7990 / www.hmcarchitects.com

ISSUE

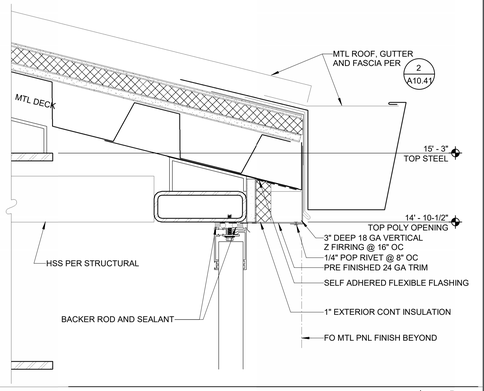
Δ	DESCRIPTION	DATE



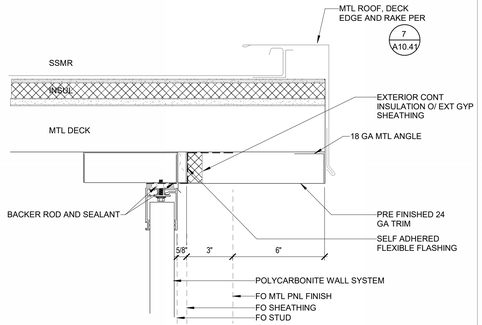
ROOF - MTL PNL EAVE 9
3" = 1'-0"



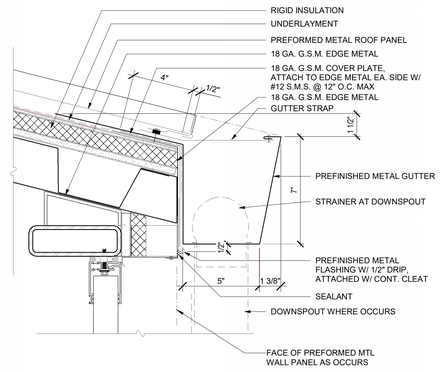
ROOF - RIDGE 5
3" = 1'-0"



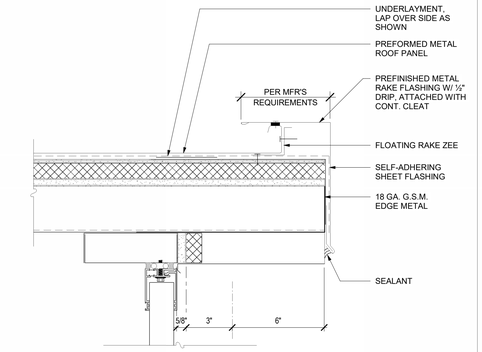
ROOF - POLY HEAD EAVE 1
3" = 1'-0"



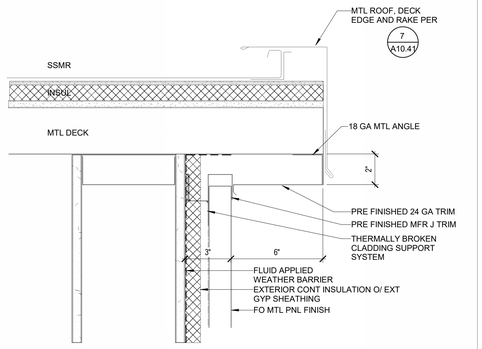
ROOF - POLY HEAD RAKE 6
3" = 1'-0"



ROOF - FASCIA / GUTTER 2
3" = 1'-0"



ROOF - RAKE FLASHING 7
3" = 1'-0"

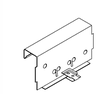


ROOF - MTL PNL RAKE 8
3" = 1'-0"

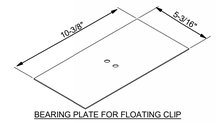
ANCHOR CLIP SCHEDULE

ZONE	SPACING*
ZONE 1 - FIELD OF THE ROOF SECTION	48"O.C.
ZONE 2 - EDGE OF THE ROOF SECTION THAT EXTENDS 6'-0" INTO THE FIELD	24"O.C.
ZONE 3 - CORNERS OF THE ROOF SECTION THAT EXTENDS 6'-0" INTO THE FIELD	18"O.C.

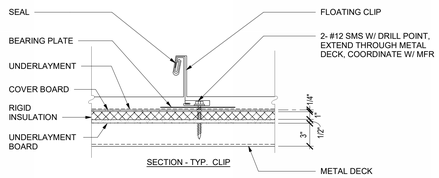
* SPACING CRITERIA: UL 90, 24 GA, 18" GALVANIZED STEEL PANELS OVER METAL DECK @ 3 :12 ROOF PITCH.



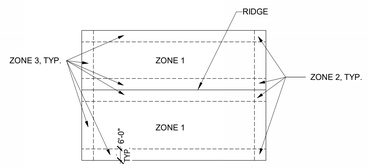
FLOATING CLIP



BEARING PLATE FOR FLOATING CLIP



SECTION - TYP. CLIP



ANCHOR CLIP ZONE DIAGRAM
PARTIAL ROOF FRAMING PLAN

METAL ROOF ANCHORAGE 4
1 1/2" = 1'-0"

AGENCY APPROVAL:

TRACY
UNIFIED SCHOOL DISTRICT

HMC Architects
3595-002-100
2101 CAPITOL AVENUE, SUITE 100,
SACRAMENTO, CA, 95816
916 368 7990 / www.hmcarchitects.com

ISSUE

Δ	DESCRIPTION	DATE

FACILITY:
MERRILL F WEST HIGH SCHOOL
1775 W LOWELL AVE
TRACY, CA 95376

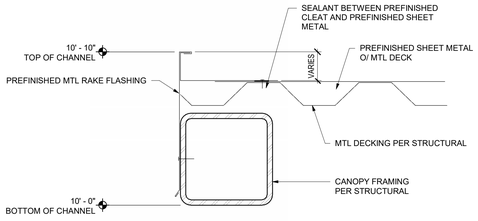
PROJECT:
MERRILL F WEST HS AGRICULTURE CTE BLDG
INCREMENT 2

SHEET NAME:
ROOF DETAILS

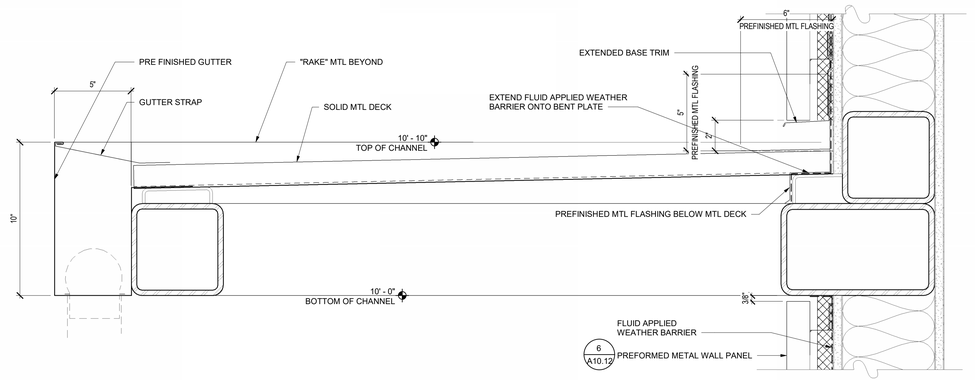
DSA SUBMITTAL

DATE: xxxx.xx.xx | CLIENT PROJ NO:

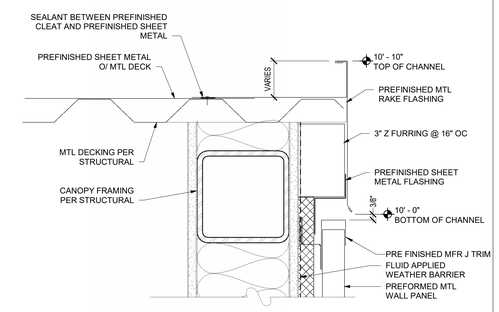
SHEET:
A10.41



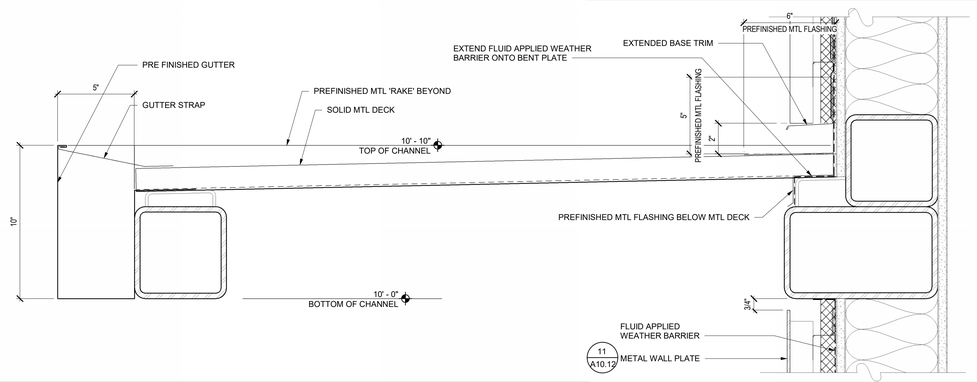
CANOPY - RAKE 9
3" = 1'-0"



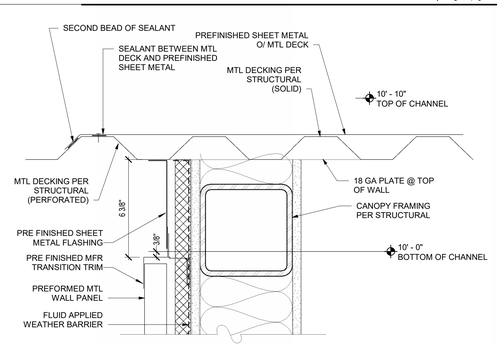
CANOPY - MTL WALL PNL 1
3" = 1'-0"



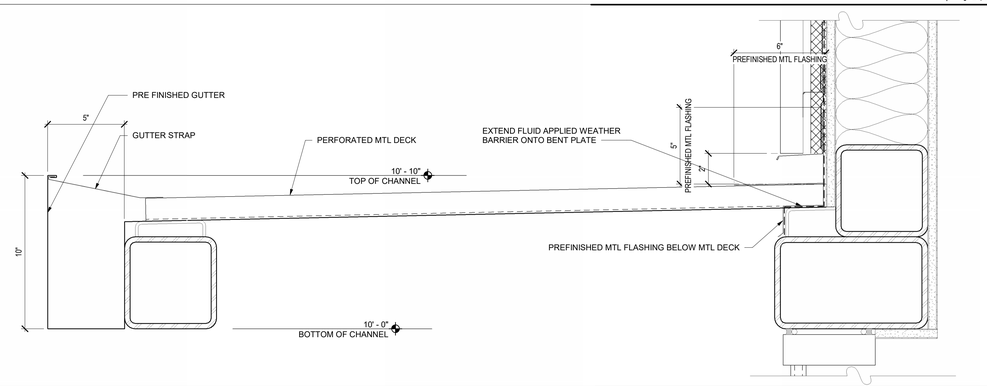
CANOPY - RAKE - MECH RM 10
3" = 1'-0"



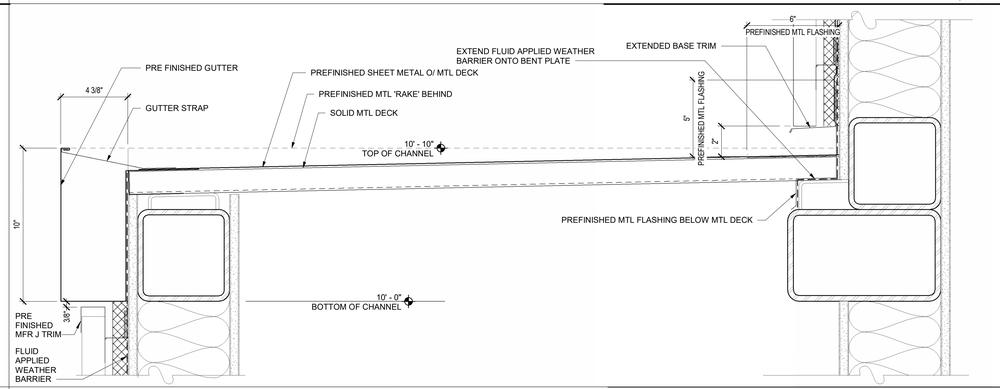
CANOPY - MTL SHEET SECTION 2
3" = 1'-0"



CANOPY - EXT WALL - MECH RM 11
3" = 1'-0"



CANOPY - WINDOW SECTION 3
3" = 1'-0"



CANOPY - MTL SHEET SECTION - MECH RM 4
3" = 1'-0"

PLEASE RECYCLE

AGENCY APPROVAL:

TRACY UNIFIED SCHOOL DISTRICT

HMC Architects
3595-002-100
2101 CAPITOL AVENUE, SUITE 100,
SACRAMENTO, CA, 95816
916 368 7990 / www.hmcarchitects.com

ISSUE

Δ	DESCRIPTION	DATE

FACILITY:
MERRILL F WEST HIGH SCHOOL
1775 W LOWELL AVE
TRACY, CA 95376

PROJECT:
MERRILL F WEST HS AGRICULTURE CTE BLDG INCREMENT 2

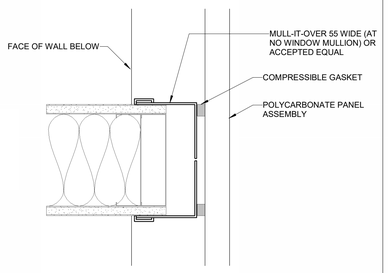
SHEET NAME:
CANOPY DETAILS

DSA SUBMITTAL

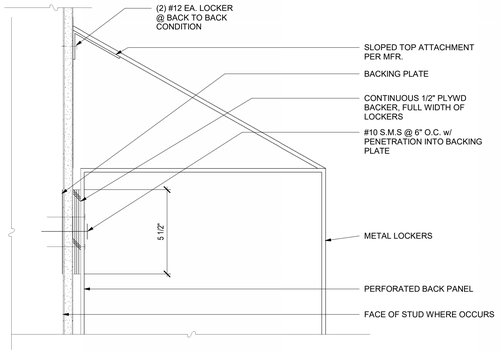
DATE: **2024.10.11** | CLIENT PROJ NO:

SHEET:

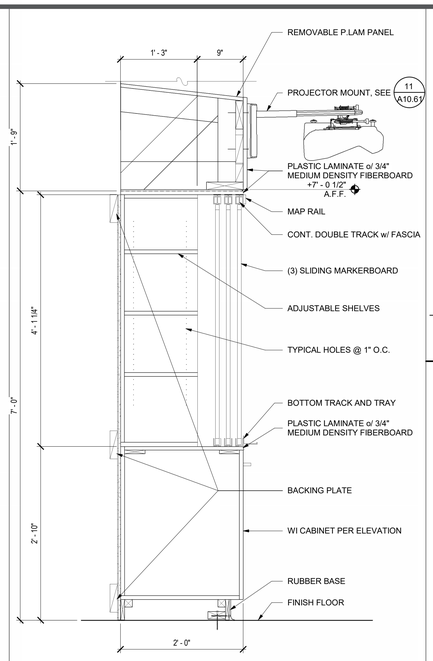
A10.42



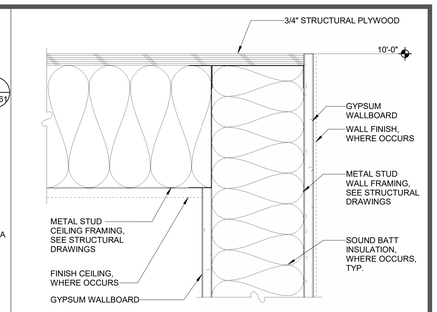
POLYCARBONATE PANEL ASSEMBLY TO INTERIOR WALL 4 — 3" = 1'-0"



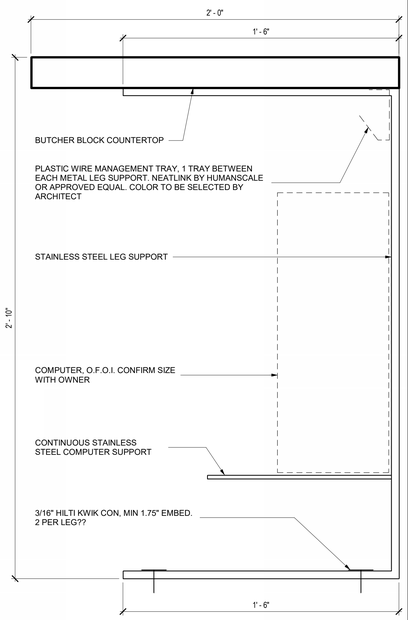
LOCKER ANCHORAGE TO WALL 14 — 3" = 1'-0"



LEARNING WALL 9 — 1" = 1'-0"



CEILING EDGE 2 — 3" = 1'-0"



COMPUTER COUNTER 22 — 3" = 1'-0"

LOCKER BASE ANCHORAGE 12 — 3" = 1'-0"

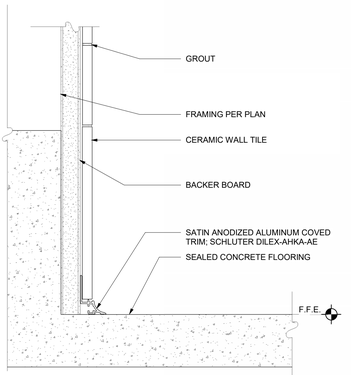
TILE HEAD 8 — 6" = 1'-0"

SLAT WALL 3 — 6" = 1'-0"

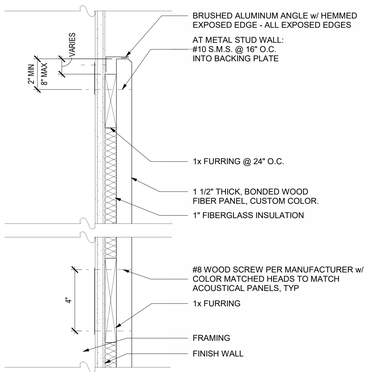
SHEET NOTES:

SN.01 CEILING PER PLAN
SN.02 WALL MOUNTED PROJECTOR ARM (18.5 LBS) FURNISHED BY OWNER, INSTALLED BY CONTRACTOR. INSTALL w/ 4 - #12 w/ 2" MIN. EMBED. PER MFR WRITTEN INSTRUCTIONS. PROVIDE 2x6 BLOCKING AT LOWER FASTENERS. HEIGHT AS REQ'D FOR PROPER PROJECTION TO TOP OF MARKER BOARD.
SN.03 PROJECTOR, OWNER FURNISHED, CONTRACTOR INSTALLED (12.2 LBS)
SN.04 PROVIDE 1x3 SUPPORT AND 1x TURN DOWN AT FRONT OF CENTER CABINET COVER w/ P.LAM.
SN.05 PLASTIC LAMINATE PANEL o/ 3/4" PARTICLE BOARD ALL SIDES TO MATCH LEARNING WALL. COVER SCREW HEADS
SN.06 (E) WALL FRAMING
SN.07 3 - SLIDING MARKER BOARDS (56 LBS EA.) @ LEARNING WALL, SEE INTERIOR ELEVATIONS
SN.08 4 - 16d
SN.09 2 - 16d
SN.10 2x6 @ EACH STUD
SN.11 2x6 BLOCKING @ PROJECTOR WITH A35 @ EACH END
SN.12 2x4 w/ 2-16d @ EACH CONTACT
SN.13 2x8 CONT. w/ 3 - #12 WOOD SCREWS @ EACH LOWER 2x6
SN.14 NOTCH LOWER 2x6 TO PASS RUNNER
SN.15 2x6 BRACE

PROJECTOR MOUNTING 11 — 1 1/2" = 1'-0"



TILE BASE W/ TRIM @ CONCRETE 6 — 6" = 1'-0"



ACOUSTICAL WALL PANEL - WOOD FIBER 1 — 3" = 1'-0"

AGENCY APPROVAL:

TRACY UNIFIED SCHOOL DISTRICT

HMC Architects
3595-002-100
2101 CAPITOL AVENUE, SUITE 100,
SACRAMENTO, CA, 95816
916 368 7990 / www.hmcarchitects.com

ISSUE

Δ	DESCRIPTION	DATE

FACILITY:
MERRILL F WEST HIGH SCHOOL
1775 W LOWELL AVE
TRACY, CA 95376

PROJECT:
MERRILL F WEST HS AGRICULTURE CTE BLDG
INCREMENT 2

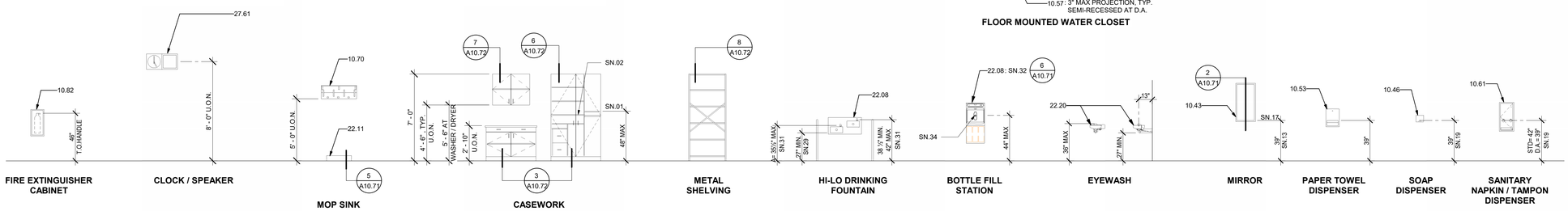
SHEET NAME:
INTERIOR DETAILS

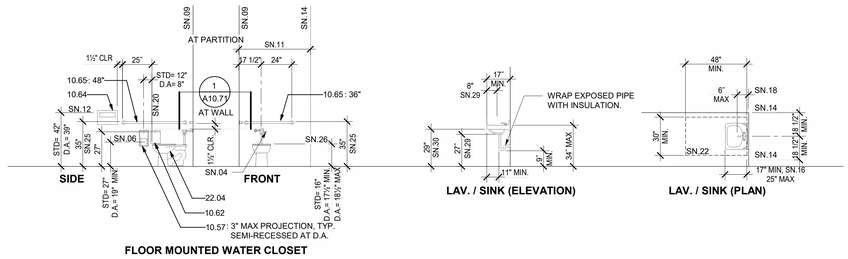
DSA SUBMITTAL

DATE: xxxx.xx.xx | CLIENT PROJ NO:

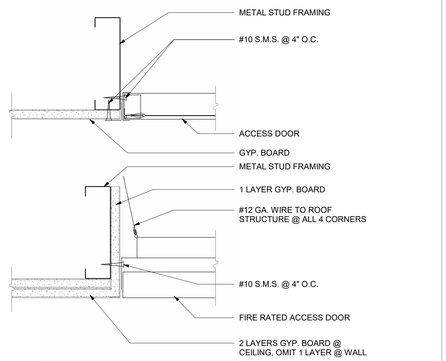
SHEET:

A10.61

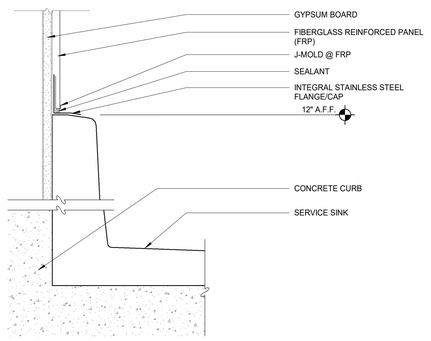




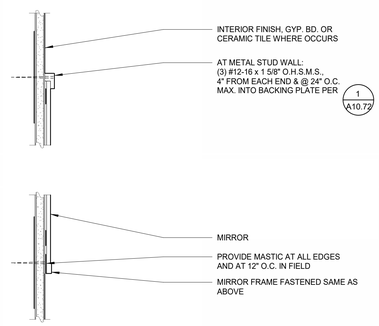
TYPICAL MOUNTING HEIGHTS AND DETAILS — 3
1/4" = 1'-0"



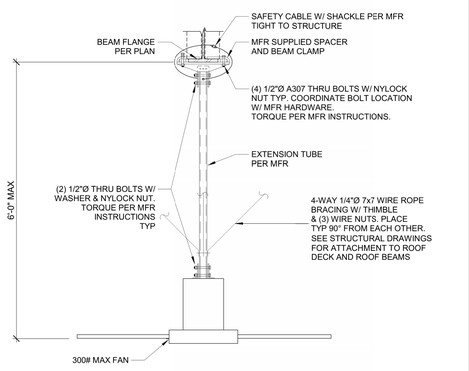
ACCCESS DOOR — 7
3" = 1'-0"



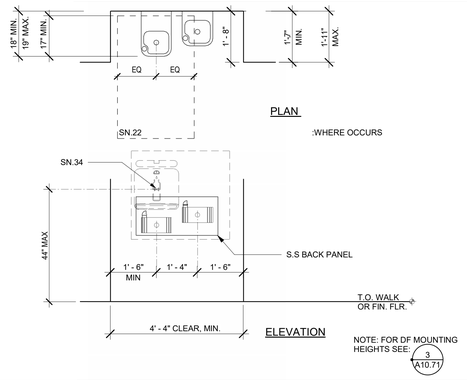
MOP SINK — 5
3" = 1'-0"



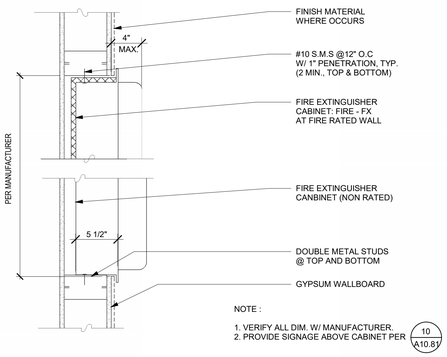
MIRROR ATTACHMENT — 2
3" = 1'-0"



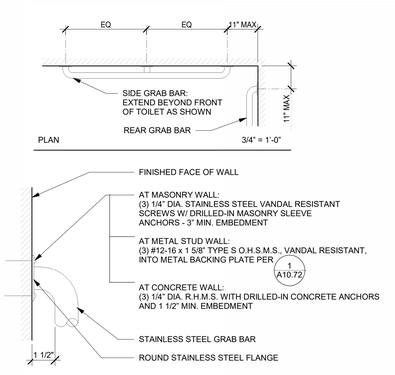
CEILING FAN — 8
3/4" = 1'-0"



DRINKING FOUNTAIN ALCOVE — 6
1/2" = 1'-0"



FIRE EXTINGUISHER CABINETS — 4
1 1/2" = 1'-0"



TYPICAL GRAB BAR AT WALL — 1
3" = 1'-0"

AGENCY APPROVAL:

TRACY UNIFIED SCHOOL DISTRICT

HMC Architects
3595-002-100
2101 CAPITOL AVENUE, SUITE 100,
SACRAMENTO, CA, 95816
916 368 7990 / www.hmcarchitects.com

ISSUE

Δ	DESCRIPTION	DATE

SHEET NOTES

SN.01 TOP OF SHELF
SN.02 MIDDLE SHELF FIXED
SN.03 NOT USED
SN.04 AT ACCESSIBLE WATER CLOSETS, FLUSH CONTROL HANDLE SHALL BE MOUNTED ON THE WIDE SIDE OF THE TOILET ENCLOSURE
SN.05 NOT USED
SN.06 DIMENSION TO CENTERLINE OF TOILET PAPER ROLL POSITION
SN.07 NOT USED
SN.08 NOT USED
SN.09 TO FACE OF FINISH
SN.10 NOT USED
SN.11 62" CLR MIN. TO FINISH WALL/ PARTITION/FIXTURE
SN.12 TOP OF OPENING
SN.13 34" MAX. IF MIRROR IS NOT MOUNTED OVER A LAV. OR COUNTER; TOP OF MIRROR 74" MIN. FOR HIGH SCHOOL & ADULTS.
SN.14 FACE OF OBJECTS OR WALLS
SN.15 NOT USED
SN.16 19" MINIMUM AT SINK
SN.17 BOTTOM EDGE OF REFLECTIVE SURFACE
SN.18 FROM FARTHEST DEPTH OF THE CLEAR FLOOR SPACE TO FACE OF PLUMBING AND OTHER OBSTACLES
SN.19 TO CENTERLINE CONTROL.
SN.20 FRONT EDGE OF WATER CLOSET.
SN.21 NOT USED
SN.22 WHEELCHAIR, CLEAR FLOOR SPACE: 30"X48"
SN.23 NOT USED
SN.24 NOT USED
SN.25 TOP OF GRAB BAR
SN.26 TOP OF SEAT
SN.27 NOT USED
SN.28 NOT USED
SN.29 MINIMUM KNEE CLEARANCE
SN.30 MINIMUM APRON CLEARANCE
SN.31 BUBBLER HEIGHT
SN.32 FOR BOTTLE FILL STATION AT DRINKING FOUNTAIN
SN.33 NOT USED
SN.34 ACTIVATION SENSOR

KEYNOTES

10.43 MIRROR; 18X36 | 2/A10.71
10.46 SOAP DISPENSER
10.53 PAPER TOWEL DISPENSER; SURFACE MOUNTED
10.57 TOILET TISSUE DISPENSER; RECESSED
10.61 SANITARY NAPKIN VENDOR
10.62 SANITARY NAPKIN DISPOSAL
10.64 SEAT COVER DISPENSER; SURFACE MOUNTED
10.65 GRAB BAR; 36" MIN AT REAR WALL & 42" MIN AT SIDE WALL | 1/A10.71
10.70 MOP & BROOM HOLDER
10.82 SEMI-RECESSED STAINLESS STEEL FIRE EXTINGUISHER CABINET WITH 4A:80B:C FIRE EXTINGUISHER AND WALL SIGN | 4/A10.71
22.04 WATER CLOSET, ACCESSIBLE | SEE PLUMBING DRAWINGS
22.08 ACCESSIBLE "HI-LO" DRINKING FOUNTAIN W/ BOTTLE REFILL | SEE PLUMBING DRAWINGS AND 6/A10.71
22.11 MOP SINK | SEE PLUMBING DRAWINGS AND 5/A10.71
22.20 EYE WASH STATION | SEE PLUMBING DRAWINGS
27.61 CLOCK SPEAKER | SEE ELECTRICAL DRAWINGS

NOTES

1. TYPICAL MOUNTING HEIGHTS AND DETAILS APPLY TO ENTIRE PROJECT, WHETHER REFERENCED OR NOT, UNLESS OTHERWISE NOTED.
2. ALL DISABLED ACCESSIBLE DIMENSIONS ARE MAXIMUM DIMENSIONS UNLESS OTHERWISE NOTED.
3. HEIGHTS ARE MEASURED FROM FINISH FLOOR, UNLESS OTHERWISE NOTED

FACILITY:
MERRILL F WEST HIGH SCHOOL
1775 W LOWELL AVE
TRACY, CA 95376

PROJECT:
MERRILL F WEST HS AGRICULTURE CTE BLDG INCREMENT 2

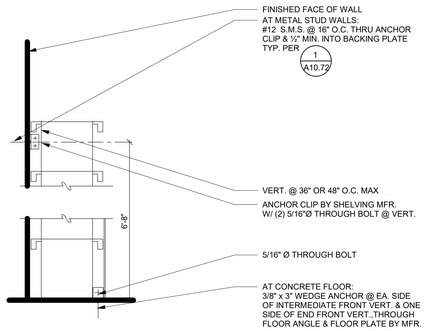
SHEET NAME:
TYPICAL MOUNTING HEIGHTS AND DETAILS

DSA SUBMITTAL

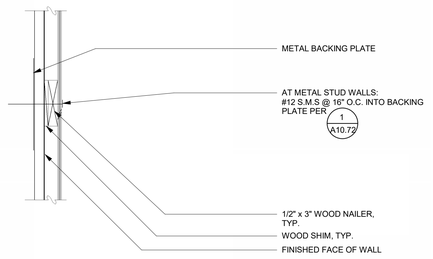
DATE: **10/11/2024** | CLIENT PROJ NO:

SHEET:

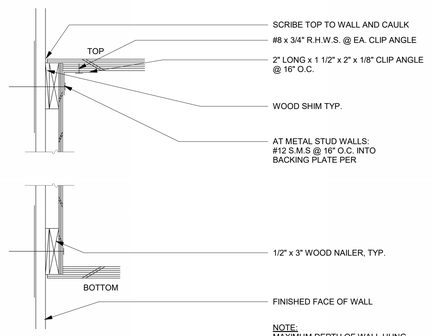
A10.71



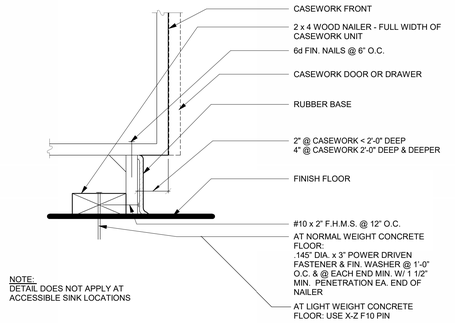
METAL SHELVING ANCHORAGE AT WALL 8
1" = 1'-0"



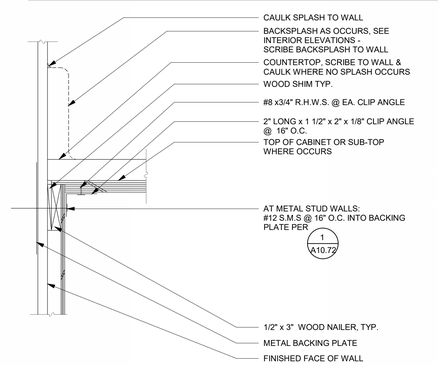
BASE CABINET ANCHOR - MID 4
3" = 1'-0"



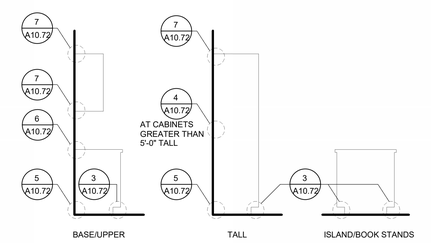
WALL HUNG CABINET ANCHORS 7
3" = 1'-0"



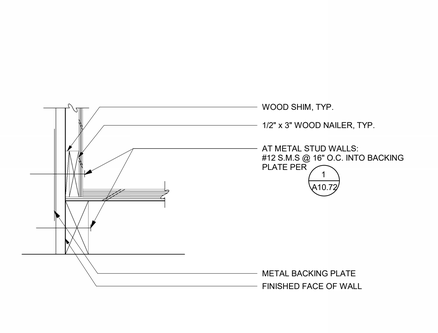
BASE CABINET ANCHOR 3
3" = 1'-0"



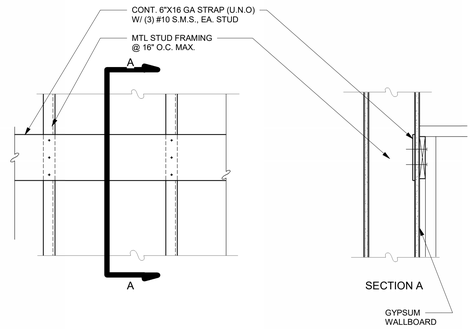
TOP / BASE CABINET ANCHOR 6
3" = 1'-0"



CABINET DETAIL REFERENCE 2
1 1/2" = 1'-0"



BASE CABINET ANCHOR - BACK 5
3" = 1'-0"



BACKING PLATE 1
1 1/2" = 1'-0"

AGENCY APPROVAL:

TRACY
UNIFIED SCHOOL DISTRICT

HMC Architects
3595-002-100
2101 CAPITOL AVENUE, SUITE 100,
SACRAMENTO, CA, 95816
916 368 7990 / www.hmcarchitects.com

ISSUE

Δ	DESCRIPTION	DATE

NOTES

1. TYPICAL MOUNTING HEIGHTS AND DETAILS APPLY TO ENTIRE PROJECT, WHETHER REFERENCED OR NOT, UNLESS OTHERWISE NOTED.
2. ALL DISABLED ACCESSIBLE DIMENSIONS ARE MAXIMUM DIMENSIONS UNLESS OTHERWISE NOTED.
3. HEIGHTS ARE MEASURED FROM FINISH FLOOR, UNLESS OTHERWISE NOTED

FACILITY:
MERRILL F WEST HIGH SCHOOL
1775 W LOWELL AVE
TRACY, CA 95376

PROJECT:
MERRILL F WEST HS AGRICULTURE CTE BLDG INCREMENT 2

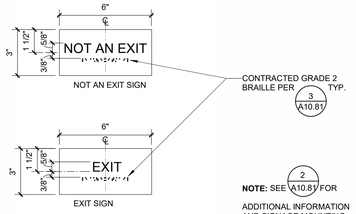
SHEET NAME:
TYPICAL DETAILS

DSA SUBMITTAL

DATE: **10/11/2024** | CLIENT PROJ NO:

SHEET:

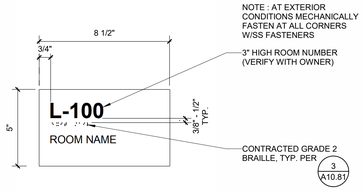
A10.72



10.14.28.01

TACTILE EXIT SIGNAGE | 12

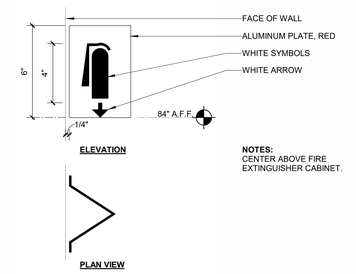
3" = 1'-0"



10.14.25.01

ROOM NAME SIGN TYPE A1 | 11

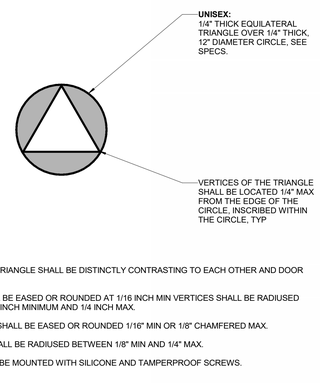
3" = 1'-0"



10.14.26.01

FIRE EXTINGUISHER SIGN | 10

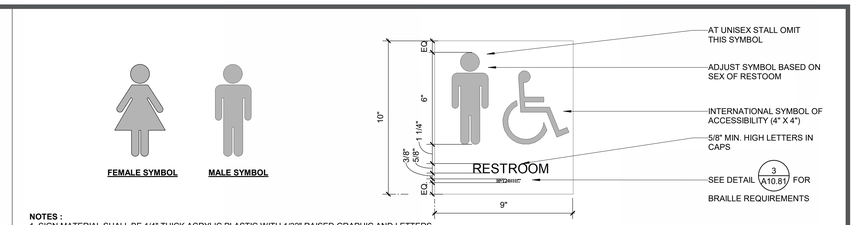
3" = 1'-0"



10.14.05.01

RESTROOM - DOOR SIGN | 6

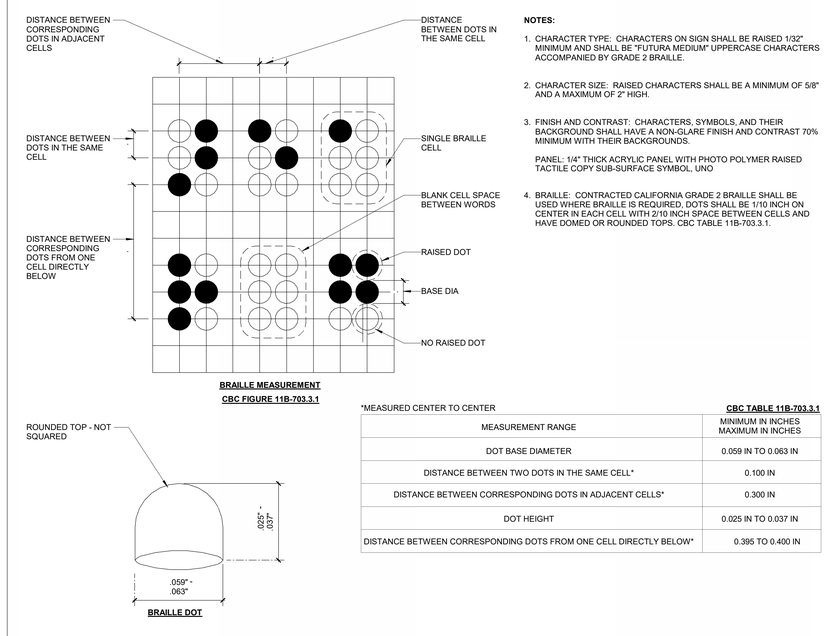
NTS



10.14.04.01

SINGLE USER RESTROOM IDENTIFICATION SIGN AT WALL | 4

NTS



NOTES:

1. CHARACTER TYPE: CHARACTERS ON SIGN SHALL BE RAISED 1/32" MINIMUM AND SHALL BE "FUTURA MEDIUM" UPPERCASE CHARACTERS ACCOMPANIED BY GRADE 2 BRAILLE.
2. CHARACTER SIZE: RAISED CHARACTERS SHALL BE A MINIMUM OF 5/8" AND A MAXIMUM OF 2" HIGH.
3. FINISH AND CONTRAST: CHARACTERS, SYMBOLS, AND THEIR BACKGROUND SHALL HAVE A NON-GLARE FINISH AND CONTRAST 70% MINIMUM WITH THEIR BACKGROUNDS.

   PANEL: 1/4" THICK ACRYLIC PANEL WITH PHOTO POLYMER RAISED TACTILE COPY SUB-SURFACE SYMBOL, UNO
4. BRAILLE: CONTRACTED CALIFORNIA GRADE 2 BRAILLE SHALL BE USED WHERE BRAILLE IS REQUIRED, DOTS SHALL BE 1/10 INCH ON CENTER IN EACH CELL WITH 2/10 INCH SPACE BETWEEN CELLS AND HAVE DOMED OR ROUNDED TOPS. CBC TABLE 11B-703.3.1.

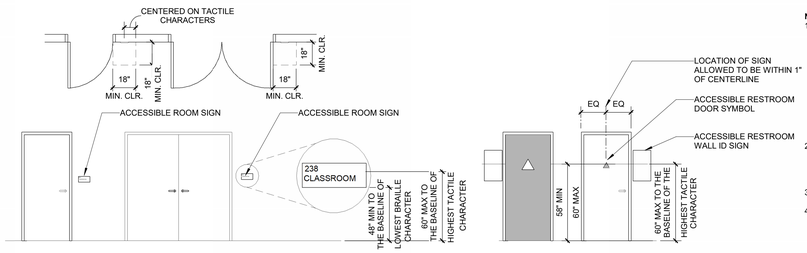
*MEASURED CENTER TO CENTER — CBC TABLE 11B-703.3.1

MEASUREMENT RANGE	MINIMUM IN INCHES MAXIMUM IN INCHES
DOT BASE DIAMETER	0.059 IN TO 0.063 IN
DISTANCE BETWEEN TWO DOTS IN THE SAME CELL*	0.100 IN
DISTANCE BETWEEN CORRESPONDING DOTS IN ADJACENT CELLS*	0.300 IN
DOT HEIGHT	0.025 IN TO 0.037 IN
DISTANCE BETWEEN CORRESPONDING DOTS FROM ONE CELL DIRECTLY BELOW*	0.395 TO 0.400 IN

10.14.03.01

BRAILLE REQUIREMENTS | 3

NTS



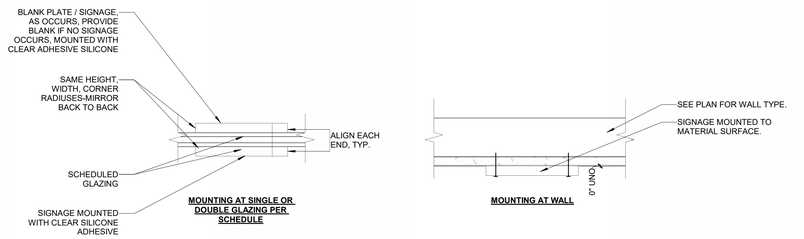
NOTES:

1. SIGNS SHALL BE INSTALLED ON THE WALL ADJACENT TO THE LATCH SIDE OF THE DOOR. WHERE THERE IS NO WALL SPACE ON THE LATCH SIDE, SIGNS SHALL BE PLACED ON THE NEAREST ADJACENT WALL, PREFERABLY ON THE RIGHT. WHERE A TACTILE SIGN IS PROVIDED AT DOUBLE DOORS WITH ONE ACTIVE LEAF, THE SIGN SHALL BE LOCATED ON THE INACTIVE LEAF. WHERE A TACTILE SIGN IS PROVIDED AT DOUBLE DOORS WITH TWO ACTIVE LEAVES, THE SIGN SHALL BE LOCATED TO THE RIGHT OF THE RIGHT HAND DOOR. FOR PAIRS OF DOORS WHERE DOOR SWING IS LIMITED TO 90 DEGREE, MOUNT SIGN 9" FROM EDGE OF DOOR. FOR PAIRS OF DOORS WHERE DOOR SWING EXCEEDS 90 DEGREES, MOUNT SIGN AT DOOR WIDTH PLUS 9" FROM EDGE OF DOOR. SIGNS CONTAINING TACTILE CHARACTERS SHALL BE LOCATED SO THAT A CLEAR FLOOR SPACE OF 18" MIN BY 18" MIN, CENTERED ON THE TACTILE CHARACTERS, IS PROVIDED BEYOND THE ARC OF ANY DOOR SWING BETWEEN THE CLOSED POSITION AND THE 45 DEGREE OPEN POSITION.
2. RESTROOM GEOMETRIC SYMBOLS SHALL BE INSTALLED CENTERED ON THE DOOR. MOUNTING HEIGHT SHALL BE 60" MAX (58" MIN - 60" MAX) ABOVE THE FINISH FLOOR TO THE CENTERLINE OF THE SIGN. THE COLOR AND CONTRAST OF THE SYMBOL SHALL BE DISTINCTLY DIFFERENT FROM THE COLOR AND CONTRAST OF THE DOOR.
3. AT RESTROOM SIGNAGE, CONTRAST DOOR TO GEOMETRIC SYMBOL 70% LIGHT/DARK.
4. SEE 5 A10.81 FOR SIGNAGE ON GLAZING.

10.14.02.01

DOOR SIGNAGE LOCATIONS | 2

NTS



10.14.09.01

SIGN MOUNTING | 5

3" = 1'-0"

MATERIALS KEYNOTES :

1. SIGN MOUNTING METHOD : SEE DTL. 5/A10.81 FOR SIGN MOUNTING, U.N.O.
2. SIGN MOUNTING HEIGHT: SEE DTL. 2/A10.81 FOR MOUNTING HEIGHT, U.N.O.
3. TEXT SIZE: 5/8" U.N.O.
4. COLOR : ARCHITECT / PROJECT TEAM TO DETERMINE FROM MFRS FULL RANGE OF COLORS
5. SIGNAGE (BACKGROUND COLOR) : ARCHITECT / PROJECT TEAM TO DETERMINE FROM MFRS FULL RANGE OF COLORS
6. BRAILLE: WHERE BRAILLE IS INDICATED REFER TO DTL 3 A10.81 FOR REQUIREMENTS.
7. SIGN THICKNESS PER SPECIFICATIONS: ROUNDED EDGES: 1/4" RADIUS.
8. ISA SYMBOLS SHALL BE 4" x 4" UNO .

10.14.01.01

SIGNAGE MATERIALS AND COLOR KEYNOTES | 1

NTS

AGENCY APPROVAL:

TRACY UNIFIED SCHOOL DISTRICT

HMC Architects
3595-002-100
2101 CAPITOL AVENUE, SUITE 100,
SACRAMENTO, CA, 95816
916 368 7990 / www.hmcarchitects.com

ISSUE

Δ	DESCRIPTION	DATE

KEYNOTES

NOTES

FACILITY:
MERRILL F WEST HIGH SCHOOL
1775 W LOWELL AVE
TRACY, CA 95376

PROJECT:
MERRILL F WEST HS AGRICULTURE CTE BLDG INCREMENT 2

SHEET NAME:
SIGNAGE DETAILS

DSA SUBMITTAL

DATE: **10/11/2024** | CLIENT PROJ NO:

SHEET:

A10.81

THE LINE SHOWN ABOVE IS EXACTLY ONE INCH LONG AT THIS SHEETS ORIGINAL PAGE SIZE

CONCRETE FORMWORK AND ACCESSORIES NOTES:

1. FORM MATERIALS MAY BE PLYWOOD PER APA DOC PS-1, CLASS 1 EXTERIOR GRADE, OR DOUGLAS FIR LUMBER, CONSTRUCTION GRADE MINIMUM.
2. FORM RELEASE AGENTS SHALL BE OF A LIQUID CHEMICAL AGENT FREE OF WAX OR OILS AND SHALL BE COLORLESS AND NON-STAINING, AND IN COMPLIANCE WITH LOCAL AQMD. FORM RELEASE AGENTS TO BE APPLIED PRIOR TO PLACEMENT OF REINFORCING AND ALL EMBEDDED ITEMS.
3. FORMWORK IS TO BE ERECTED PER ACI 318 SECTION 26.11 AND IS TO MAINTAIN TOLERANCES REQUIRED BY ACI 117. FORMWORK IS TO BE PER 1/S0.02, TYP UNO. NON-PLYWOOD FORMWORK SHALL BE THOROUGHLY WATER SOAKED AT LEAST 12 HOURS BEFORE PLACING CONCRETE.
4. REMOVAL OF FORMWORK IS TO BE PER ACI 318 SECTION 26.11.
5. SPACERS AND CHAIRS FOR REINFORCING AT SLABS ON GRADE ARE TO BE MANUFACTURED FROM NON-FERROUS MATERIAL/PLASTIC. CONCRETE DOBIES MY BE USED AT FOOTINGS ONLY
6. ALL DEBRIS SHALL BE REMOVED FROM FORMS AND FOOTING EXCAVATIONS PRIOR TO POURING CONCRETE. NO WOOD STAKES OR FORM SPREADERS SHALL BE PERMITTED IN CONCRETE.

CONCRETE REINFORCING NOTES:

1. ALL CONCRETE REINFORCING SHALL CONFORM TO THE 2022 CBC AND BE DETAILED, FABRICATED, AND PLACED PER ACI 318-19, AND PER THE LATEST EDITION OF ACI 315.
2. SUBMITTALS:
   - A. SHOP DRAWINGS - DRAWINGS INDICATING BAR SIZES, SPACING, LOCATIONS, QUANTITIES, AND BEND/DETAILING PROVISIONS.
   - B. PRODUCT DATA - SPACING AND SUPPORTING DEVISES INCLUDING CHAIRS.
3. REINFORCEMENT SHALL BE DEFORMED BILLET STEEL PER ASTM A-615, GRADE 60. ALL REINFORCEMENT TO BE WELDED SHALL BE ASTM A-706, GRADE 60 (SEE NOTE 10 BELOW).
4. ALL BENDING OF REINFORCEMENT IS TO BE PER ACI AND PER 3/S0.02. FIELD BENDING OF REINFORCEMENT SHALL NOT BE PERMITTED.
5. REINFORCEMENT IN SLABS AND FOOTINGS SHALL BE CONTINUOUS AROUND CORNERS OR CORNER BARS PROVIDED.
6. LAP SPLICES OF CONCRETE REINFORCEMENT, UNO
   - A. #3 BARS = 30"
   - B. #4 BARS = 40"
   - C. #5 BARS = 48"
   - D. #6 BARS = 60"

   NOTED LAP LENGTHS ARE BASED ON CONCRETE WITH A 28-DAY STRENGTH OF 3,500 PSI, NON-EPOXY COATED BARS, AND CLASS B LAP SPLICES.
7. ALL ADJACENT REINFORCING LAPS ARE TO BE STAGGERED A MINIMUM OF 5'-0".
8. REINFORCING SHALL BE PLACED WITH THE FOLLOWING MINIMUM CLEAR COVERAGE, UNO:
   - A. POURED AGAINST EXCAVATIONS/GROUND = 3"
   - B. POURED AGAINST FORMS, EXPOSED TO SOIL = 2"
   - C. CONCRETE EXPOSED TO WEATHER = $1\frac{1}{2}$"
   - D. SLABS ON GRADE - CENTER REINFORCING WITHIN SLAB DEPTH
9. REINFORCING SHALL BE TIED IN PLACE. TACK WELDING OF REINFORCING IS NOT PERMITTED.
10. WHERE REINFORCING IS NOT SPECIFIED, REFER TO ACI 318 FOR MINIMUM REINFORCEMENT.
11. WELDING OF REINFORCING IS NOT PERMITTED UNLESS SHOWN ON THESE DRAWINGS OR WITH PRIOR WRITTEN APPROVAL FROM THE SEOR.

CAST-IN-PLACE CONCRETE NOTES:

1. ALL CONCRETE CONSTRUCTION SHALL CONFORM TO THE 2022 CBC AND ACI 318-19.
2. SUBMITTALS:
   - A. PRODUCT DATA - CONCRETE RELATED PRODUCTS INCLUDING BUT NOT LIMITED TO BONDING AGENT, NON-SHRINK GROUT, CURING COMPOUND, PROPOSED ADMIXTURES, ETC.
   - B. MIX DESIGNS - SUBMIT ALL PROPOSED MIX DESIGNS AS PREPARED BY CONCRETE SUPPLIER TO AOR/SEOR FOR REVIEW AND FOR ACCEPTANCE BY A THE TESTING LAB OF RECORD (TLOR) FOR THE PROJECT. MIX DESIGNS TO INCLUDE HISTORICAL TEST DATA OF 28-DAY BREAKS (30 MIN).
3. ALL CONCRETE SHALL BE NORMAL WEIGHT PER ACI 301 AND HAVE PROPORTIONS OF CEMENT, COARSE AND FINE AGGREGATE, WATER AND ADMIXTURES TO PRODUCE THE PROPERTIES SPECIFIED FOR EACH CONCRETE MIX TYPE PER ACI 301 ON THE BASIS OF PREVIOUS FIELD EXPERIENCE AND SUPPORTED BY PREVIOUS TEST RECORDS.
4. STRUCTURAL CONCRETE SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES.

   FOR USE AT FOUNDATIONS
   - A. 28-DAY STRENGTH, F'c = 4,000 PSI
   - B. MAX AGGREGATE SIZE = 1"
   - C. MAX WATER TO CEMENT RATIO = 0.55
   - D. SLUMP = 4" ± 1" PER ASTM C-143
   - E. ADMIXTURES CONTAINING CALCIUM CHLORIDE ARE NOT ALLOWED

   FOR USE AT SLABS ON GRADE
   - A. 28-DAY STRENGTH, F'c = 4,000 PSI
   - B. MAX AGGREGATE SIZE = 1"
   - C. MAX WATER TO CEMENT RATIO = 0.45
   - D. SLUMP = 3" ± 1" PER ASTM C-143
   - E. ADMIXTURES CONTAINING CALCIUM CHLORIDE ARE NOT ALLOWED
5. CONSTITUENTS OF STRUCTURAL CONCRETE SHALL MEET THE FOLLOWING REQUIREMENTS:
   - A. PORTLAND CEMENT PER ASTM C-150 TYPE V - THE AMOUNT OF POZZOLAN OR SLAG CEMENT SHALL BE AT LEAST THE AMOUNT THAT HAS BEEN DETERMINED BY SERVICE RECORD TO IMPROVE SULFATE RESISTANCE PER ACI 318-19, TABLE 19.3.2.1, FOOTNOTE 7.
   - B. COARSE AND FINE AGGREGATES PER ASTM C-33.
   - C. REINFORCING PER ASTM A615 GRADE 60, UNO.
   - D. FLY ASH PER ASTM C-618 CLASS N OR F (15% MAX BY WEIGHT).
   - E. WATER SHALL BE PER ASTM C-1602 AND SHALL BE CLEAN AND FREE OF DELETERIOUS AMOUNTS OF ACID, ALKALIS, SALTS AND ORGANIC MATTER.
6. MIX AND DELIVER CONCRETE PER ACI 318 SECTIONS 26.4 AND 26.5 IN TRANSIT MIXERS ONLY (READY-MIXED CONCRETE). READY-MIXED CONCRETE IS TO BE PER ASTM C-94. A DELIVERY TICKET SHALL BE PROVIDED FOR EACH LOAD OF READY-MIXED CONCRETE, WITH A COPY GIVEN TO THE JOB SITE SUPERINTENDENT AND A COPY PROVIDED TO THE AOR/SEOR.
7. ALL REINFORCEMENT, ANCHOR BOLTS, AND OTHER EMBEDDED ITEMS SHALL BE SECURED IN POSITION SHOWN ON DRAWINGS PRIOR TO PLACING CONCRETE.
8. SLABS ON GRADE SHALL BE PLACED OVER A 5" LAYER OF CLEAN CRUSHED ROCK, 1" MAX SIZE, WITH NO MATERIAL PASSING THROUGH A NO. 4 SIEVE. A VAPOR BARRIER IS TO BE PLACED OVER THE LAYER OF GRAVEL, DIRECTLY UNDER THE SLAB. VAPOR BARRIER IS TO BE STEGO WRAP, BY STEGO INDUSTRIES, 15 MIL SYSTEM AND A CLASS A RATING AND A PERM RATING NOT TO EXCEED 0.01 PERMS.
9. FREE-FALL OF CONCRETE SHALL BE LIMITED TO 4'-0" MAX. CONCRETE SHALL NOT BE DROPPED THROUGH REINFORCING STEEL SO AS TO CAUSE SEPARATION OF AGGREGATES.
10. CONCRETE SHALL BE CONSOLIDATED BY MECHANICAL VIBRATION PER ACI 309 BY MEANS SUITABLE FOR ON SITE CONDITIONS. USE HAND RODDING OR TAMPING AS REQUIRED.

CAST-IN-PLACE CONCRETE NOTES (CONTINUED):

11. CONSTRUCTION JOINTS SHALL HAVE ALL LOOSE MATERIAL REMOVED AND SHALL BE INTENTIONALLY ROUGHENED TO $\frac{1}{4}$" AMPLITUDE PRIOR TO POURING CONCRETE. CONTRACTOR SHALL SUBMIT CONSTRUCTION JOINT LOCATIONS TO ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTION.
12. REFER TO ACI RECOMMENDATIONS FOR PLACING AND CURING CONCRETE IN COLD (SECTION 26.5.4) AND HOT (SECTION 26.5.5) WEATHER CONDITIONS. CONTRACTOR IS RESPONSIBLE FOR COORDINATING CONCRETE MIX DESIGN WITH BATCH PLANT TO PROVIDE CONCRETE MIX APPROPRIATE FOR SITE CONDITIONS. NO CONCRETE PLACEMENT SHALL OCCUR AT TEMPERATURES BELOW 50° FAHRENHEIT NOR ABOVE 90° FAHRENHEIT.
13. CONTRACTOR IS RESPONSIBLE FOR DETERMINING AND IMPLEMENTING APPROPRIATE CURING PROCEDURES FOR ACTUAL SITE/WEATHER CONDITIONS AND SHALL INCLUDE PROVISIONS FOR INCLEMENT WEATHER. REFER TO ACI 308R.
14. ALL SLABS SHALL BE FLAT AND LEVEL WITH A TOLERANCE OF $\frac{3}{16}$" IN 10' FOR FLATNESS AND MINIMUM LOCAL VALUE F = 32 PER ASTM 1155. THE PROJECT OWNER MAY REJECT ANY CONSTRUCTION THAT DOES NOT MEET THE FLATNESS CRITERIA NOTED WITH REPLACEMENT AT CONTRACTOR'S EXPENSE.
15. CONDUITS AND PIPES EMBEDDED IN THE SLAB (OTHER THAN THOSE PASSING VERTICALLY THROUGH) SHALL NOT BE PERMITTED. CONTRACTOR TO SUBMIT FOOTING PENETRATIONS TO STRUCTURAL ENGINEER FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION.
16. BONDING AGENT TO BE PER ASTM C-631, BONDCRETE-S BY BURKE, LOCK BOND NO. 906 BY LAMBERT CORPORATION, OR APPROVED EQUAL.
17. NON-SHRINK GROUT TO BE PER ASTM C-1107, SIKA-328 BY SIKA CORPORATION OR EQUAL, AND SHALL REACH A MINIMUM STRENGTH OF 5,000 PSI WITHIN 7 DAYS.
18. THE STRUCTURAL ENGINEER SHALL BE NOTIFIED BY THE CONTRACTOR A MINIMUM OF 48 HOURS BEFORE PLACING CONCRETE.

STRUCTURAL STEEL NOTES:

1. THE FABRICATION AND ERECTION OF ALL STEEL CONSTRUCTION SHALL CONFORM TO THE 2022 CBC AND THE AISC STEEL CONSTRUCTION MANUAL 16th EDITION.
2. SUBMITTALS:
   - A. SHOP DRAWINGS - DRAWINGS INDICATING MEMBER SIZES/PROFILES, LOCATIONS, AND CONNECTIONS, BOTH WELDED AND BOLTED.
   - B. PRODUCT DATA - MILL TEST REPORTS/PRODUCT DATA FOR STEEL MEMBERS, BOLTS, AND WELDING ELECTRODES.
   - C. WELDING CERTIFICATES AND PROCEDURES - WELDER'S CERTIFICATES TO CERTIFY THAT WELDERS PERFORMING THE WORK MEET AWS QUALIFICATIONS WITH THE PREVIOUS 12 MONTHS AND WELDING PROCEDURES FOR EACH WELD TYPE REQUIRE ON PROJECT TO BE SUBMITTED FOR ACCEPTANCE BY TESTING LAB OF RECORD (TLOR).
3. STRUCTURAL STEEL SHAPES SHALL CONFORM TO THE FOLLOWING
   - A. ANGLES — ASTM A36, Fy = 36 KSI
   - B. PLATES — ASTM A36/A572, Fy = 50 KSI (DUAL CERT)
   - C. WIDE FLANGE SECTIONS — ASTM A992, Fy = 50 KSI
   - D. SQUARE/RECTANGULAR HSS — ASTM A500, GRADE C Fy = 50 KSI
4. WELDING SHALL BE BY THE ELECTRIC ARC PROCESS (SHIELDED METAL ARC WELDING, FLUX CORE ARC WELDING, GAS METAL ARC WELDING) PER AWS STANDARDS AND BY CERTIFIED WELDERS. REFER TO "QUALIFICATION PROCEDURE" AWS D1.1.
5. ALL WELDED JOINTS AND ELECTRODES ARE TO BE "PREQUALIFIED." ALL WELDING ELECTRODES ARE TO BE E70XX UNO. FCAW FILLER METAL WIRE SHALL BE $\frac{5}{64}$" MAX DIAMETER AND SMAW FILLER METAL WIRE SHALL BE $\frac{5}{32}$" MAX DIAMETER.
6. ALL STRUCTURAL STEEL SHALL BE ERECTED PLUM AND TRUE TO LINE. TEMPORARY BRACING SHALL BE INSTALLED AS REQUIRED TO MAINTAIN STABILITY OF THE STRUCTURE UNTIL THE STRUCTURAL SYSTEM IS SUBSTANTIALLY COMPLETE.
7. ALL STRUCTURAL STEEL ITEMS EMBEDDED IN CONCRETE AND LOCATED BELOW GRADE SHALL HAVE 3" MINIMUM COVER. ALL STRUCTURAL STEEL ITEMS EMBEDDED IN CONCRETE AND LOCATED ABOVE GRADE AT CONCRETE EXPOSED TO WEATHER SHALL HAVE $1\frac{1}{2}$" MINIMUM COVER.
8. ALL STEEL BOLTS ARE TO HAVE STANDARD GAGE AND PITCH PER AISC. ALL STEEL-TO-STEEL BOLTED CONNECTIONS SHALL BE WITH A325-N BOLTS, INSTALLED 'SNUG TIGHT' PER AISC, UNO WITH GRADE C NUTS PER ASTM A-563. ALL EMBEDDED ANCHOR BOLTS SHALL BE F1554 GRADE 36 UNO. HOLES AT STEEL-TO-STEEL CONNECTIONS ARE TO BE $\frac{1}{16}$" OVERSIZE AND HOLES AT STEEL COLUMN BASE PLATES ARE TO BE $\frac{1}{8}$" OVERSIZE, UNO.
9. STRUCTURAL STEEL IS TO BE SHOP PRIMED WITH ONE COAT, EXCEPT THE BELOW NOTED LOCATIONS, WHERE PRIMER SHALL BE HELD 2" CLEAR:
   - A. STEEL SURFACES EMBEDDED IN CONCRETE
   - B. SURFACES TO BE FIELD WELDED
   - C. CONTACT SURFACES WITH HIGH STRENGTH BOLTED CONNECTIONS
10. ALL STRUCTURAL COLUMNS ARE TO BE SET UPON ANCHOR RODS WITH LEVELING NUTS ALLOWING APPROXIMATELY $1\frac{1}{2}$" ± CLEARANCE. CLEARANCE SPACE UNDER COLUMNS AND BLOCK-OUTS IN CURBS FOR COLUMN PLACEMENT ARE TO BE FILLED WITH A NON-SHRINK, HIGH-STRENGTH, POURABLE GROUT.

METAL DECK NOTES:

1. ALL METAL DECK IS TO BE BY 'ASC STEEL DECK' WITH A MINIMUM Fy = 50 KSI, UNLESS NOTED OTHERWISE. REFER TO IAPMO ER 0161.
2. SUBMITTALS:
   - A. SHOP DRAWINGS - DRAWINGS SHOWING DECK PROFILE TYPE, GAGE, AND SPANNING CONDITIONS. DRAWINGS TO INCLUDE EDGE CLOSURE PIECES, DECK ATTACHMENT AND OPENINGS TO BE PLACED WITHIN DECKING SURFACE.
   - B. PRODUCT DATA - MANUFACTURER'S PRODUCT LITERATURE AND CURRENT ENGINEERING REPORT FOR APPLICABLE DECKING PRODUCT AND ATTACHMENT.
3. ALL ROOF DECKING IS TO BE INSTALLED WITH SPAN CONDITIONS AS SPECIFICALLY IDENTIFIED WITHIN THIS DRAWING SET. ALL DECKING IS TO HAVE A MINIMUM BEARING LENGTH AT SUPPORTS OF 1.25".
4. INSTALLATION OF METAL DECK AND ATTACHMENTS TO METAL DECK ARE TO BE AS FOLLOWS:
   - A. ATTACHMENT OF METAL DECK TO SUPPORTS AND METAL DECK SIDE SEAM ATTACHMENTS ARE TO BE PER DETAIL 1/S0.03.
   - B. OPENINGS IN METAL DECK ARE TO BE PER 2/S0.03 AND 3/S0.03.
   - C. ENDS OF DECK PARALLEL TO FLUTES ARE TO HAVE CLOSURES PER 4/S0.03, UNO.
   - D. ATTACHMENTS OF SUSPENDED WIRES TO METAL DECK ARE TO BE PER 5/S0.03.
   - E. ATTACHMENTS OF SUSPENDED WIRES TO TRUSSES ARE TO BE PER 5/S0.03.
5. REFER TO ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION REGARDING INSTALLATION OF AND FINISHING OF EXPOSED METAL DECK.
6. DECKING SHEET STEEL IS TO BE PER ASTM A-653 SS WITH A GALVANIZED COATING.
7. SEE 6/S0.03 AND 7/S0.03 FOR DECK PROFILES AND PROPERTIES.

COLD FORMED STEEL NOTES:

1. ALL COLD-FORMED STEEL CONSTRUCTION SHALL BE PER AISI S100-16 (2020) WITH S2-20.
2. SUBMITTALS:
   - A. SHOP DRAWINGS - DRAWINGS INDICATING WALL FRAMING, FRAMED OPENINGS, AND FASTENERS AND CONNECTIONS ASSOCIATED THEREWITH.
   - B. PRODUCT DATA - DATA ON FRAMING MEMBERS AND LIGHT-GATE FRAMING CONNECTORS, INCLUDING CURRENT ENGINEERING REPORTS.
3. ALL COLD-FORMED STEEL CONSTRUCTION SHALL BE FROM MANUFACTURERS WHO ARE MEMBERS OF THE 'STEEL STUD MANUFACTURER'S ASSOCIATION' (SSMA) WITH PRODUCTS MEETING THE REQUIREMENTS OF ICC-ESR ER-3064P, LATEST REVISION.
4. ALL METAL STUDS USED IN STRUCTURAL APPLICATIONS - EXTERIOR WALLS, BEARING WALLS, SHEAR WALLS - SHALL BE 43 MILS MINIMUM, WITH SIZES AND GREATER THICKNESS AS INDICATED IN THIS DRAWING SET. ALL METAL STUD FRAMING SHALL BE PROTECTED BY A RUST INHIBITIVE COATING PER DSA IR PC-2 TO MEET G90 COATING CLASS.
5. ALL METAL STUDS USED IN NON-STRUCTURAL APPLICATIONS MAY BE 33 MILS OR 43 MILS.
6. ALL CEILING JOISTS SHALL BE 43 MILS MINIMUM, WITH SIZES AS INDICATED IN THIS DRAWING SET.
7. ALL STUDS WITH THICKNESS NOT GREATER THAN 43 MILS SHALL BE ASTM A653 SS GRADE 33 OR ASTM A1003 GRADE 33. ALL STUDS WITH THICKNESS OF 54 MILS AND GREATER SHALL BE ASTM A1003 GRADE 50.
8. ALL STUDS, JOISTS, AND STUD BLOCKING SHALL HAVE A MINIMUM FLANGE WIDTH OF 1.625" UNLESS NOTED OTHERWISE. ALL TRACKS SHALL HAVE A MINIMUM FLANGE WIDTH OF 1.500" UNLESS NOTED OTHERWISE.
9. ALL METAL STUDS ARE TO HAVE FULL, TIGHT BEARING IN TRACKS.
10. METAL STUD COMPONENTS AND CONNECTORS ARE TO BE BY 'SCAFCO' UNLESS NOTED OTHERWISE.
11. METAL STUD AND JOIST DESIGNATIONS:
   - A. STUD OR JOIST — 600S162-43 INDICATES A 6" STUD SHAPE WITH A 1.625" FLANGE AND A THICKNESS OF 43 MILS
   - B. TRACK — 600T150-43 INDICATES A 6" TRACK SHAPE WITH A 1.500" FLANGE AND A THICKNESS OF 43 MILS
12. COLD-FORMED STEEL FRAMING CONNECTIONS SUCH AS STUD-TO-STUD, STUD-TO-TRACK, AND JOIST TO TRACK OR STUD ARE TO BE WITH 'TEKS SELECT' #10 SHEET METAL SCREWS (#10 SMS) BY ITW BUILDEX PER ICC ESR-3223 UNLESS NOTED OTHERWISE. ALL SMS ARE TO HAVE A MINIMUM OF 3-THREADS PROTRUDING THROUGH THE BACKSIDE OF FASTENED PLIES. SHEET METAL SCREWS ARE TO BE PER ASTM A-123, HOT DIPPED GALVANIZED TO 1.25 oz/sq ft.
13. ALL LIGHT GAGE METAL CONNECTORS ARE TO BE BY 'SIMPSON' UNO.
14. ALL SIMPSON 'HOLDOWN' HARDWARE IS TO BE PER IAPMO EVALUATION REPORT NO. 124.
15. COLD-FORMED STEEL FRAMING IS TO BE PER THE DETAILS SHOWN ON SHEET S0.04, UNO. FRAMING IS TO BE AS FOLLOWS:
   - A. EXTERIOR WALLS WITH OPENINGS ARE TO BE FRAMED PER A/S0.04.
   - B. INTERIOR WALLS WITH OPENINGS ARE TO BE FRAMED PER B/S0.04.
   - C. DOOR OPENINGS ARE TO BE FRAMED PER 1/S0.04.
   - D. WINDOW OPENINGS ARE TO BE FRAMED PER 2/S0.04.
   - E. TRACKS AT NON-STRUCTURAL WALLS ARE TO BE ATTACHED TO SLABS PER 3/S0.04.
   - F. FLAT STRAP BACKING AND FULL DEPTH BLOCKING AS INDICATED IN ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING DRAWINGS, ETC. IS TO BE PER 4A/S0.04 AND 4B/S0.04.
   - G. CONTINUOUS BLOCKING AS INDICATED IN ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING DRAWINGS, OR OTHER IS TO BE PER 5/S0.04.
   - H. METAL STUD BRIDGING IS TO BE PROVIDED PER DETAIL 6/S0.04 OR 7/S0.04 AT ALL WALL LOCATIONS WHERE $\frac{5}{8}$" GYPSUM WALL BOARD OR PLYWOOD IS NOT PROVIDED ON BOTH SIDES OF THE METAL STUDS.
   - I. HOLES IN METAL STUDS ARE TO BE WITHIN THE PARAMETERS SET FORTH IN 8/S0.04.
   - J. WALL INTERSECTIONS ARE TO BE FRAMED PER 9/S0.04.
   - K. CEILING FRAMING IS TO ATTACH TO WALL FRAMING PER 10/S0.04.
   - L. FULL HEIGHT INTERIOR WALLS ARE TO BE FRAMED TO UNDERSIDE OF METAL DECK PER 11/S0.04.

POST INSTALLED ANCHOR NOTES:

1. ALL POST INSTALLED ANCHORS ARE TO BE INSTALLED PER MANUFACTURER FOR EACH ANCHOR AND PER THE ICC REPORTS LISTED BELOW.
2. ALL POST-INSTALLED ANCHORS ARE TO BE CAREFULLY INSTALLED SO AS TO NOT DISTURB OR DAMAGE THE STEEL REINFORCING IN ANY WAY. ANCHORS MAY NOT BE INSTALLED UNTIL CONCRETE OR GROUT HAS REACHED A MINIMUM AGE OF 28 DAYS.
3. ALL HOLES FOR DRILLED-IN ANCHORS SHALL BE COMPLETELY DRY AND WELL CLEANED WITH A BOTTLE BRUSH AND COMPRESSED AIR PRIOR TO INSTALLING THE ANCHORS.
4. ALL DRILLED-IN ANCHORS SHALL BE TESTED PER CHAPTER 1910A OF THE 2022 CBC AND PER THE DSA-103. ALL TESTING SHALL BE DONE BY THE TESTING LABORATORY OF RECORD AND SHALL BE PERFORMED IN THE PRESENCE OF A SPECIAL INSPECTOR. ALL TESTING RESULTS SHALL BE SUBMITTED TO DSA AND TO THE ARCHITECT AND STRUCTURAL ENGINEER. TESTING SHALL OCCUR WITHIN 24 HOURS OF THE INSTALLATION OF EACH ANCHOR.
5. POST-INSTALLED ANCHORS ARE TO BE AS FOLLOWS:
   - A. EXPANSION ANCHORS IN CONCRETE — HILTI KB TZ2 PER ICC-ES ESR-4266
   - B. EXPANSION ANCHORS IN FULLY GROUTED CMU — HILTI KB TZ2 PER ICC-ES ESR-4561
   - B. EPOXY ANCHORS IN CONCRETE — HILTI HIT-HY 200 V3 PER ICC-ES ESR-4868
6. POST-INSTALLED ANCHORS ARE TO BE INSTALLED ONLY WHERE SPECIFICALLY DETAILED, WITH EMBEDMENTS AS SPECIFICALLY IDENTIFIED IN EACH APPLICABLE DETAIL. FOR ADDITIONAL INFORMATION FOR EXPANSION ANCHORS, SEE TABLE BELOW.
7. POST-INSTALLED ANCHORS MAY NOT BE USED AT LOCATIONS OTHER THAN THOSE SPECIFICALLY DETAILED IN THE PROJECT DRAWINGS WITHOUT PRIOR WRITTEN APPROVAL OF THE STRUCTURAL ENGINEER OF RECORD.

CONCRETE: HILTI KWIK BOLT TZ2 EXPANSION ANCHORS - SEE ICC ESR-4266 TABLE 1

ANCHOR DIAMETER	$\frac{3}{8}$"Ø	$\frac{1}{2}$"Ø	$\frac{5}{8}$"Ø
BIT DIAMETER	$\frac{3}{8}$"Ø	$\frac{1}{2}$"Ø	$\frac{5}{8}$"Ø
NOMINAL EMBEDMENT	$2\frac{1}{2}$"	$2\frac{1}{2}$"	$4\frac{1}{2}$"
HOLE DEPTH	$2\frac{3}{4}$"	$2\frac{3}{4}$"	$4\frac{3}{4}$"
TORQUE (STAINLESS STEEL)	30 FT-LB	40 FT-LB	60 FT-LB
TORQUE (CARBON STEEL)	30 FT-LB	50 FT-LB	40 FT-LB

GENERAL NOTES:

1. ALL NEW WORK SHALL CONFORM TO TITLE 24 2022 EDITIONS WITH AMENDMENTS AND ALL OTHER APPLICABLE CODES AND REGULATIONS.
2. THIS SET OF STRUCTURAL DRAWINGS IS APPLICABLE ONLY FOR THE SITE NOTED IN 'ITEM 1' OF THE 'DESIGN CRITERIA' ON THIS SHEET.
3. NOTES ON THIS SHEET ARE TYPICAL AND SHALL APPLY UNLESS OTHERWISE NOTED OR SHOWN. TYPICAL DETAILS SHALL APPLY FOR ALL LIKE CONDITIONS UNLESS OTHERWISE NOTED OR DETAILED.
4. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL DIMENSIONS, ELEVATIONS, EXISTING CONDITIONS, AND OTHER RELATED ITEMS. THE CONTRACTOR SHALL REVIEW THE CONTRACT DOCUMENTS PRIOR TO CONSTRUCTION AND SHALL NOTIFY THE ENGINEER OF RECORD IF ANY CONFLICTS ARE SHOWN OR NOTED.
5. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONFORM TO RELEVANT SECTIONS OF THE CALIFORNIA "CONSTRUCTION SAFETY ORDERS" AND ALL OSHA REQUIREMENTS. THE ENGINEER OF RECORD ACCEPTS NO RESPONSIBILITY FOR THE CONTRACTOR'S FAILURE TO COMPLY W/ THESE REQUIREMENTS.
6. STRUCTURAL DRAWINGS REPRESENT THE FINISHED STRUCTURE, AND DO NOT INDICATE THE MEANS OR METHODS OF CONSTRUCTION. DESIGN AND CONSTRUCTION OF ALL TEMPORARY BRACING, SHORING, FORMING, ETC REQUIRED SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
7. A COPY OF TITLE 24 CCR PARTS 1 -5 SHALL BE KEPT ON SITE AT ALL TIMES (T-24 PART 1, 4-317(c).
8. ALL CHANGES TO THE ACCESSIBILITY, FIRE AND LIFE SAFETY, AND STRUCTURAL PORTIONS OF THE APPROVED DRAWINGS SHALL BE MADE BY A CONSTRUCTION CHANGE DOCUMENT (CCD). ALL SUCH CHANGES BY CCD ARE TO BE SIGNED BY THE SEOR, THE OWNER, AND APPROVED BY DSA. CHANGES BY CCD ARE NOT VALID UNTIL APPROVED BY DSA (T-24, PART 1, 4-338 AND DSA IR A-6).
9. A PROJECT INSPECTOR (INSPECTOR OF RECORD, IOR) EMPLOYED BY THE OWNER/DISTRICT AND CERTIFIED BY DSA SHALL PROVIDE CONTINUOUS INSPECTION OF THE WORK. INSPECTOR TO BE CLASS 2 PER IR A-7.
10. THE STRUCTURAL ENGINEER SHALL PERFORM DUTIES PER T-24 PART 1, 4-333(a) AND 4-341. THE CONTRACTOR SHALL PERFORM DUTIES PER 4-343. THE IOR SHALL PERFORM DUTIES PER T-24 PART 1, 4-342.

INSPECTION NOTES:

1. ALL TESTS AND INSPECTIONS ARE TO BE PROVIDED BY A QUALIFIED TESTING LAB OF RECORD, HIRED BY THE DISTRICT (T-24 PART 1, 4-335).
2. ALL TESTS AND INSPECTIONS SHALL CONFORM TO CHAPTER 17A OF THE 2022 CBC AND THE PROJECT SPECIFIC DSA-103.
3. ALL SPECIAL INSPECTORS SHALL HAVE A MINIMUM OF THREE YEARS OF EXPERIENCE WITH MATERIAL BEING INSPECTED.
4. OUTLINE OF REQUIRED INSPECTIONS:
   - A. CONCRETE — DURING PLACING OF REINFORCING, EMBEDDED ITEMS, PLACING OF CONCRETE, CONTINUOUS BATCH PLANT INSPECTION - ALL CONCRETE CAST-IN-PLACE ON SITE.
   - B. STRUCTURAL STEEL — DURING FABRICATION AND ERECTION AS REQUIRED - STEEL FABRICATION PERFORMED IN SHOP, TRUSSES ASSEMBLED IN SHOP, METAL DECK INSTALLED IN FIELD.
   - C. WELDING — DURING ALL STRUCTURAL WELDING - ALL WELDING PERFORMED IN SHOP AND IN FIELD.
   - D. METAL DECK — METAL DECK ATTACHMENT AND SIDE SEAM ATTACHMENT.

FOUNDATION NOTES:

1. FOUNDATIONS ARE DESIGNED ACCORDING TO SECTION 5 OF THE DESIGN CRITERIA ON THIS SHEET.
2. FOOTINGS SHALL BEAR ON FIRM, DRY, COMPACTED SOIL.
3. FOOTING DEPTHS INDICATED ON PLANS ARE MINIMUMS. AREAS OF OVER-EXCAVATION SHALL BE BACKFILLED WITH COMPACTED FILL PER THE SOILS REPORT OR WITH LEAN CONCRETE HAVING A MINIMUM 28-DAY STRENGTH OF 1,000 PSI.
4. FOOTINGS MAY BE OVER-EXCAVATED AT CONTRACTOR'S OPTION FOR PLACEMENT OF LEAN MIX CONCRETE TO FACILITATE THE REMOVAL OF DEBRIS AND STANDING WATER.
5. ALL FOOTINGS NOT FORMED SHALL BE POURED IN NEAT EXCAVATIONS. BOTTOMS OF EXCAVATIONS SHALL BE LEVEL, WITH CHANGES IN ELEVATION ONLY AS NOTED IN THESE DRAWINGS.
6. SEOR SHALL BE NOTIFIED IMMEDIATELY WHERE JOB SITE CONDITIONS ARE DIFFERENT THAN THOSE SHOWN ON CONTRACT DRAWINGS.
7. SEOR SHALL BE NOTIFIED A MINIMUM OF 48-HOURS PRIOR TO THE PLACING OF CONCRETE SLABS AND FOUNDATIONS.
8. FOUNDATIONS ARE TO AS INDICATED ON THE FOUNDATION PLAN AND REFERENCED DETAILS ON SHEET S4.01. REFER TO THE FOLLOWING DETAILS FOR GENERAL CONDITIONS:
   - A. FORM-WORK IS TO BE PER 1/S0.02.
   - B. UTILITIES PARALLEL TO TRENCHES ARE TO BE PER 2/S0.02.
   - C. REINFORCING BENDS ARE TO BE PER 3/S0.02.
   - D. CONDUIT BANKS (OR GROUPS) THROUGH FOOTINGS ARE TO BE PER 4/S0.02.
   - E. FOOTING REINFORCING AT CORNERS AND INTERSECTIONS IS TO BE PER 5/S0.02.
   - F. UTILITIES PASSING UNDER FOOTINGS ARE TO BE PER 6/S0.02 AND PIPES PASSING THROUGH FOOTINGS ARE TO BE PER 10/S0.02.
   - G. CONDUITS PASSING OVER FOOTINGS AND UNDER SLABS, ARE TO BE PER 7/S0.02 AND 11/S0.02.
   - H. STEPPED FOOTINGS ARE TO BE PER 8/S0.02. PRE-CHECK DRAWINGS DO NOT INCLUDE STEPPED FOOTINGS. STEPPED FOOTINGS MAY BE PROVIDED FOR SPECIFIC SITE REQUIREMENTS IF VERIFIED BY THE PROJECT SEOR.
   - I. SLAB JOINTS ARE TO BE PER 9/S0.02. SEE FOUNDATION PLAN FOR LOCATIONS.

STRUCTURAL SHEET INDEX:

DESIGN CRITERIA:

1. PROJECT ADDRESS: 1775 WEST LOWELL AVENUE, TRACY, CA 95376
2. BUILDING CODE: 2022 CALIFORNIA BUILDING CODE
3. GRAVITY LOADS:
   - BUILDING ROOF: ROOF LIVE LOAD = 20 PSF (REDUCIBLE), 300 LB CONCENTRATED; ROOF DEAD LOAD = 10 PSF
   - CANOPY ROOF: ROOF LIVE LOAD = 20 PSF, 300 LB CONCENTRATED; ROOF DEAD LOAD = 5 PSF
   - WALL WEIGHTS: EXTERIOR WALLS = 12 PSF; INTERIOR WALLS = 10 PSF
4. LATERAL LOADS: RISK CATEGORY II

   WIND LOADS (ASCE 7-16)

   BASIC WIND SPEED 92 MPH (71 MPH ASD)
   EXPOSURE C
   BUILDING IS CONSIDERED "ENCLOSED"

   PRESSURE COEFFICIENTS
   INTERNAL PRESSURE COEFFICIENT, GC_{pi} = ± 0.18
   TOPOGRAPHIC FACTOR, K_{zt} = 1.00
   WIND DIRECTIONALITY FACTOR, K_d = 0.85

   VELOCITY PRESSURES
   q (0'-15') = 9.3 PSF (ASD)
   q (15'-20') = 9.9 PSF (ASD)
   q(20'-25') = 10.4 PSF (ASD)

   SEISMIC LOADS (ASCE 7-16)

   SITE CLASS D
   SEISMIC DESIGN CATEGORY D
   IMPORTANCE FACTOR 1.00

   S_S = 1.146 S_1 = 0.401
   F_a = 1.042 F_v = 1.890
   S_{MS} = 1.194 S_{M1} = 1.137
   S_{DS} = 0.796 S_{D1} = 0.759

   LATERAL SYSTEM: STEEL ORDINARY CONCENTRICALLY BRACED FRAMES (ASCE 7-16 TABLE 12.2-1: B-3).

   R = 3.25 $C_s = \frac{S_{DS}}{(R / I)}$
   Ω_0 = 2.0
   C_d = 3.25 = 0.245
   ρ = 1.3 V(ASD) = $0.7 \times \rho \times C_s \times W$ = 0.223 x W

   LATERAL SYSTEM IRREGULARITIES: NONE

   BASE OF STRUCTURE: FINISH FLOOR +0'-0"
5. GEOTECHNICAL CRITERIA:

   GEOTECHNICAL AND GEOHAZARDS REPORT BY MID PACIFIC ENGINEERING, REPORT NO. 07213-01, DATED AUGUST 26, 2024.

   ALLOWABLE BEARING PRESSURE (D+L) = 2,500 PSF
   (INCLUDING W OR E) = 2,500 PSF
   PASSIVE PRESSURE = 100 PCF

ABBREVIATIONS:

@	AT
AB	ANCHOR BOLT
ACI	AMERICAN CONCRETE INSTITUTE
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION
AISI	AMERICAN IRON AND STEEL INSTITUTE
ARCH	ARCHITECT/ARCHITECTURAL
ASTM	AMERICAN SOCIETY OF TESTING AND MATERIALS
AWS	AMERICAN WELDING SOCIETY
B.O.	BOTTOM OF
C	CHANNEL
CBC	CALIFORNIA BUILDING CODE
CL	CENTERLINE
cc	CENTER TO CENTER
CFS	COLD-FORMED STEEL
CONT	CONTINUOUS
Ø	DIAMETER
DWGS	DRAWINGS
DSA	DIVISION OF THE STATE ARCHITECT
F.O.	FACE OF
HSS	HOLLOW STRUCTURAL SECTION
L	STEEL ANGLE
MAX	MAXIMUM
MIN	MINIMUM
NTS	NOT TO SCALE
#	NUMBER OR POUNDS
OH	OPPOSITE HAND
PAF	POWDER-ACTUATED FASTENER
PL	PLATE
SEOR	STRUCTURAL ENGINEER OF RECORD
SMS	SHEET METAL SCREW
T & B	TOP AND BOTTOM
THRU	THROUGH
T.O.	TOP OF
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
W	WIDE FLANGE
w/	WITH

SHEET ABBREVIATIONS:

FDP	FOUNDATION PLAN
RFP	ROOF FRAMING PLAN
CFP	CEILING FRAMING PLAN

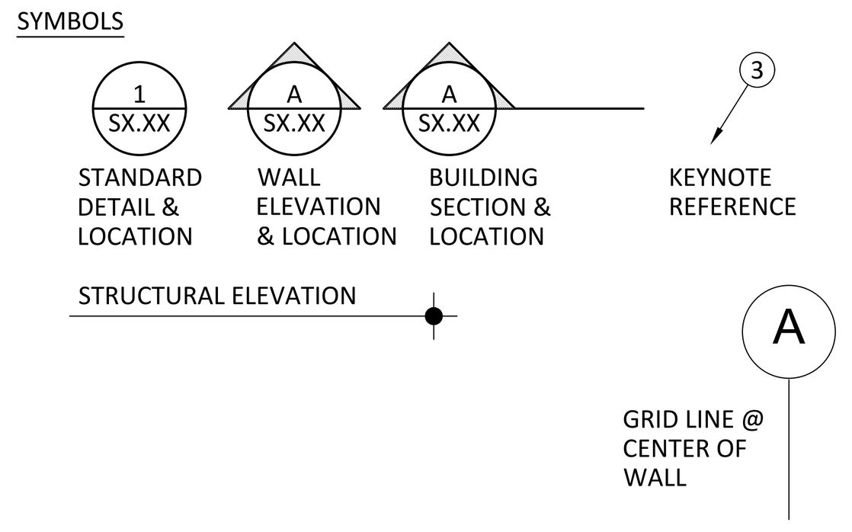
DRAWING STANDARDS:

SHEET NUMBERING

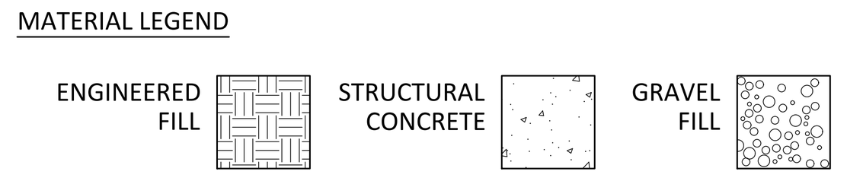
STRUCTURAL SHEETS
DRAWING TYPE
0 TYPICAL NOTES & DETAILS
2 FOUNDATION & ROOF FRAMING PLANS
3 SECTIONS & ELEVATIONS
4 DETAILS
SHEET NUMBER WITHIN ABOVE DESIGNATIONS

S2.01

SYMBOLS



MATERIAL LEGEND



AGENCY APPROVAL:

REVIEWING AGENCIES STAMP HERE

HMC Architects

3595002100

2101 CAPITOL AVENUE, SUITE 100,
SACRAMENTO, CA, 95816
916 368 7990 / www.hmcarchitects.com

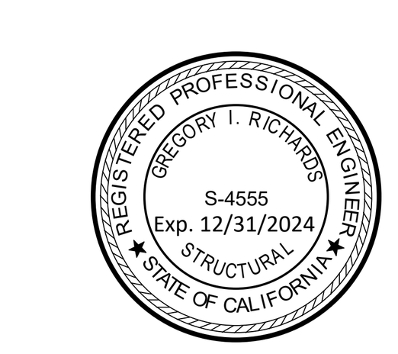
NOT FOR CONSTRUCTION

ISSUE

Δ	DESCRIPTION	DATE

CONSULTANT:

RW CONSULTING Engineers Inc
1450 HARBOR BLVD SUITE F
WEST SACRAMENTO, CA 95691
916.716.6910



FOR PLAN REVIEW

FACILITY:
MERRILL F WEST HIGH SCHOOL
1775 W LOWELL AVE
TRACY, CA 95376

PROJECT:
MERRILL F WEST HS AGRICULTURE CTE BLDG INCREMENT 2

SHEET NAME:
TYPICAL STRUCTURAL NOTES

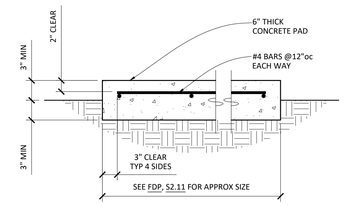
DSA SUBMITTAL

DATE: **10/11/2024** | CLIENT PROJ NO:

SHEET:

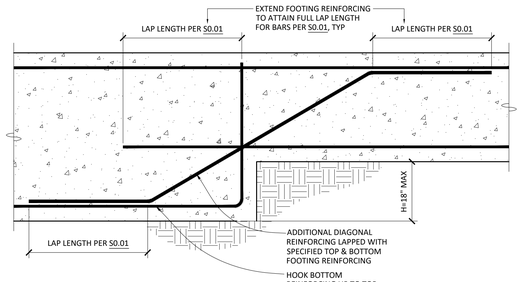
S0.01

PLEASE RECYCLE



REFER TO MECHANICAL DRAWINGS FOR LOCATIONS WHERE EQUIPMENT PAD IS REQUIRED AND FOR REQUIRED DIMENSIONS.

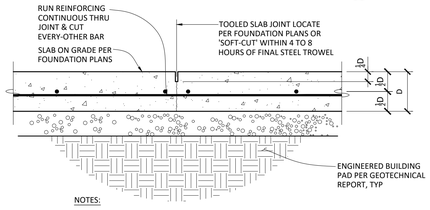
EQUIPMENT PAD 12



NOTES:

1. ONLY PRIMARY LONGITUDINAL REINFORCING IS SHOWN. INSTALL VERTICAL REINFORCING PER PROJECT-SPECIFIC DETAILS.
2. SPACE ADJACENT STEPS 3'-0" MIN APART (OR 2 x VERTICAL STEP)

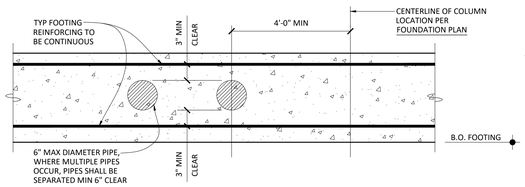
STEPPED CONTINUOUS FOOTING 8



NOTES:

1. SLAB THICKNESS, REINFORCING, AND SUBSTRATE BELOW ARE PER 'FOUNDATION PLAN'.
2. SEE FOUNDATION PLAN FOR SLAB JOINT LAYOUT, TYP.

SLAB SECTION & SLAB JOINTS 9



NOTES:

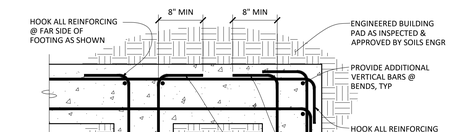
1. ALL PIPES PASSING THROUGH CONCRETE SHALL BE WRAPPED WITH 1" OF POLY-STYRENE FOAM TAPE OR SHALL BE PASSED THROUGH RIGID SLEEVES PROVIDING A 1" CLEAR ANNULAR SPACE ALL AROUND THE PIPE.
2. ELECTRICAL CONDUITS MAY BE CAST IN CONCRETE FOOTING, WITHOUT FOAM TAPE OR SLEEVES.
3. PIPES AND CONDUITS ARE TO PASS WITHIN 10 DEGREES OF BEING PERPENDICULAR TO FOOTING.
4. CLEARANCES SHOWN ARE TO OUTSIDE OF FOAM WRAP OR RIGID SLEEVE AS OCCURS.

PIPES THROUGH FOOTINGS 10

NOTES:

1. ELECTRICAL CONDUITS MAY BE CAST IN CONCRETE FOOTING, WITHOUT FOAM TAPE OR SLEEVES.
2. CONDUITS MAY BE GROUPED IN BANKS AS SHOWN ABOVE, PROVIDED 3" MIN CLEARANCE IS MAINTAINED AROUND ALL REINFORCING.
3. ADDITIONAL VERTICAL BARS PROVIDED EACH SIDE OF CONDUIT BANKS ARE TO MATCH SIZE AND QUANTITY PER FOOTING DETAILS ON S4.01 S4.02.
4. MAINTAIN A MIN 2" OF GRAVEL OVER THE TOPS OF ALL CONDUITS.

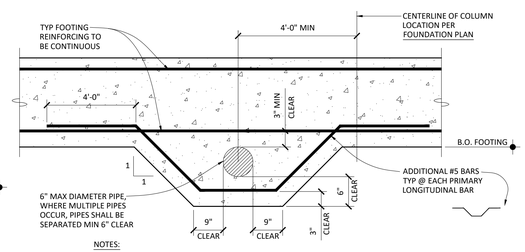
CONDUIT BANKS OVER FOOTINGS 11



NOTES:

1. HOOK ALL REINFORCING AROUND CORNERS AS SHOWN.
2. IF LONGITUDINAL REINFORCING STOPS AT CORNER WITHOUT HOOK, PROVIDE 3'x3' L CORNER BARS, TYP.
3. AT INTERSECTING FOOTINGS, RUN CONTINUOUS REINFORCING THROUGH WITHOUT HOOKS.
4. REFER TO BUILDING SPECIFIC DETAILS ON S4.01 FOR BAR SIZES AND QUANTITIES.
5. SEE 3/S0.02 FOR STANDARD REBAR BENDS. SEE ALSO 'STEEL REINFORCEMENT NOTES' ON S0.01.
6. WHERE MORE THAN 2 SETS OF BARS OCCUR, HOOK BARS TO FAR SIDE OF FOOTINGS SIMILAR TO CONDITIONS SHOWN FOR 2 BAR SETS.

CONTINUOUS FOOTING REINFORCING 5



NOTES:

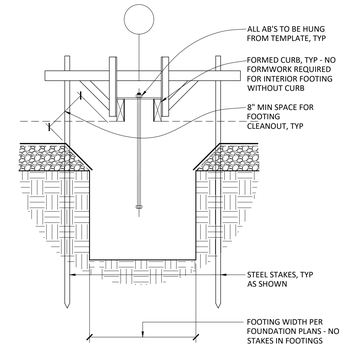
1. ALL PIPES PASSING THROUGH CONCRETE SHALL BE WRAPPED WITH 1" OF POLY-STYRENE FOAM TAPE OR SHALL BE PASSED THROUGH RIGID SLEEVES PROVIDING A 1" CLEAR ANNULAR SPACE ALL AROUND THE PIPE.
2. ELECTRICAL CONDUITS MAY BE CAST IN CONCRETE FOOTING, WITHOUT FOAM TAPE OR SLEEVES.
3. PIPES AND CONDUITS ARE TO PASS WITHIN 10 DEGREES OF BEING PERPENDICULAR TO FOOTING.
4. CLEARANCES SHOWN ARE TO OUTSIDE OF FOAM WRAP OR RIGID SLEEVE AS OCCURS.

PIPES UNDER FOOTINGS 6

NOTES:

1. ELECTRICAL CONDUITS MAY BE CAST IN CONCRETE FOOTING, WITHOUT FOAM TAPE OR SLEEVES.
2. CONDUITS ARE TO PASS WITHIN 10 DEGREES OF BEING PERPENDICULAR TO FOOTING.
3. CLEARANCES SHOWN ARE TO OUTSIDE FACE OF CONDUIT.
4. MAINTAIN A MIN 2" OF GRAVEL OVER THE TOPS OF ALL CONDUITS.

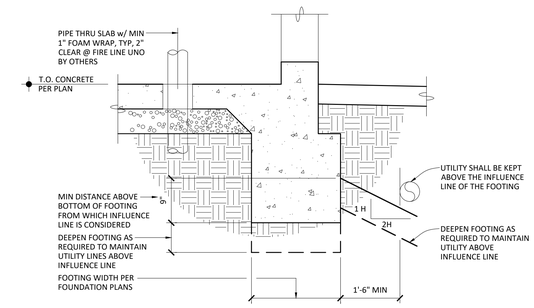
CONDUITS OVER FOOTINGS 7



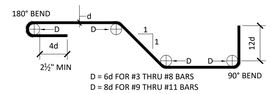
NOTES:

1. THE ABOVE DETAIL IS PROVIDED TO SPECIFY REQUIRED FORMWORK WITHOUT STAKES OCCURRING IN FOOTING EXCAVATIONS.
2. COORDINATE PLACEMENT OF VAPOR BARRIER WITH ARCHITECTURAL DRAWINGS AND WITH PROJECT SPECIFICATIONS.
3. ALL TRACK AND COLUMN ANCHOR BOLTS ARE TO BE SET IN TEMPLATES. NO WET SETTING OF ANCHOR BOLTS IS ALLOWED.

REQUIRED FOOTING FORMWORK 1



PIPES NEAR FOOTINGS 2

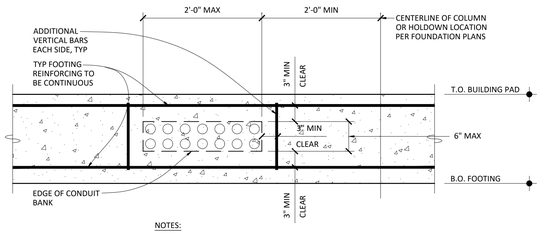


REINFORCING BARS & STANDARD HOOKS

NOTES:

1. THE ABOVE DETAILS ARE PROVIDED TO SPECIFY STAND REBAR BENDS AND BEND EXTENSIONS, TYP UNO. SEE ALSO DETAILS ON S4.01.
2. ALL REBAR PLACEMENT IS TO BE AS SHOWN IN PROJECT DETAILS. SEE 'STEEL REINFORCEMENT NOTES' ON S0.01.
3. NOT ALL CONDITIONS SHOWN ABOVE WILL APPLY TO THIS PROJECT.

STANDARD REBAR BENDS 3



NOTES:

1. ELECTRICAL CONDUITS MAY BE CAST IN CONCRETE FOOTING, WITHOUT FOAM TAPE OR SLEEVES.
2. INDIVIDUAL CONDUITS MAY PASS THROUGH FOOTINGS, PROVIDE 3" MIN CLEARANCE IS MAINTAINED AROUND ALL REINFORCING AND CONDUITS ARE SPACED AT LEAST 3 DIAMETERS APART. ALTERNATIVELY, CONDUITS MAY BE GROUPED IN BANKS AS SHOWN ABOVE.
3. ADDITIONAL VERTICAL BARS PROVIDED EACH SIDE OF CONDUIT BANKS ARE TO MATCH SIZE AND QUANTITY PER FOOTING DETAILS ON S4.01.

CONDUIT BANKS THROUGH FOOTINGS 4

AGENCY APPROVAL:

REVIEWING AGENCIES STAMP HERE

HMC Architects
3595002100
2101 CAPITOL AVENUE, SUITE 100,
SACRAMENTO, CA, 95816
916 368 7990 / www.hmcarchitects.com

NOT FOR CONSTRUCTION

ISSUE

Δ	DESCRIPTION	DATE

CONSULTANT:
RW CONSULTING Engineers Inc
1450 HARBOR BLVD SUITE F
WEST SACRAMENTO, CA 95691
916.716.6910

REGISTERED PROFESSIONAL ENGINEER GREGORY T. RICHARD S-4555 Exp. 12/31/2024 STRUCTURAL STATE OF CALIFORNIA

FOR PLAN REVIEW

FACILITY:
MERRILL F WEST HIGH SCHOOL
1775 W LOWELL AVE
TRACY, CA 95376

PROJECT:
MERRILL F WEST HS AGRICULTURE CTE BLDG INCREMENT 2

SHEET NAME:
TYPICAL FOUNDATION DETAILS

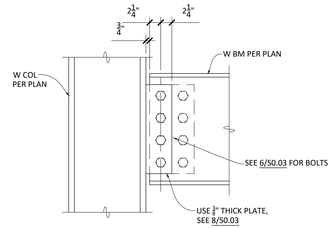
DSA SUBMITTAL

DATE: **10/11/2024** CLIENT PROJ NO:

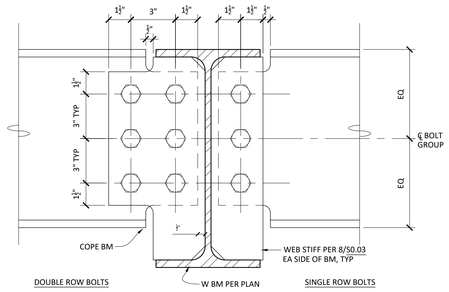
SHEET:

S0.02

THE LINE SHOWN ABOVE IS 1" LONG ON ORIGINAL PLOT. IF NOT, THIS SHEET'S ORIGINAL PAGE SIZE



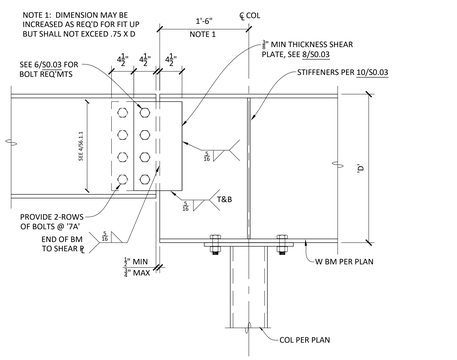
W BEAM TO W COLUMN 11



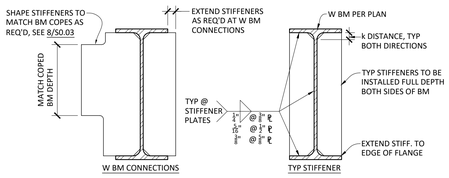
BM TYPE	NO. ¾"Ø A325 BOLTS
W8, W10	2
W12, W14	3
W16	4
W18	5

NOTES:
1. STANDARD CONNECTION IS A SINGLE ROW OF BOLTS. USE DOUBLE ROW WHERE '6A' IS CALLED OUT.
2. ALL BOLTS TO BE INSTALLED SNUG TIGHT W/THREADS EXCLUDED FROM SHEAR PLANE UNO
3. SEE PLAN FOR SLIP CRITICAL BOLT LOCATIONS. INSTALL SLIP CRITICAL BOLTS PER PROJECT SPECIFICATIONS.
4. ALL BOLT HOLES ARE 1/16" LARGER THAN BOLT DIAM. , TYP

BEAM TO BEAM CONNECTIONS 8

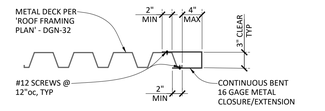


BEAM TO BEAM CONNECTIONS 9



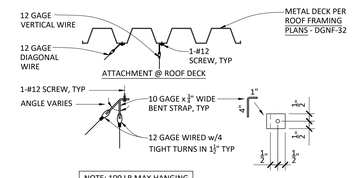
NOTES:
1. ALL STIFFENERS ARE ASTM A36
2. INSTALL STIFFENERS BOTH SIDES OF BM, TYP
3. USE ½" THICK STIFFENERS FOR BM DEPTHS ≤ 27", USE ¾" THICK STIFFENERS FOR BM DEPTHS > 27" (¾" THICK WHERE OTHERWISE NOTED ON PLANS)
4. INSTALL STIFFENERS PERP. TO BM WEB UNO
5. FOR SKEWED BM CONDITIONS, INSTALL STIFFENER TO MATCH BM SKEW

W BEAM STIFFENERS 10



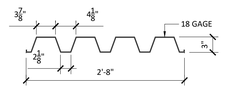
NOTES:
1. SPECIFIC METAL DECK TYPE, GAGE AND LAYOUT IS PER ROOF FRAMING PLAN.
2. LOCATIONS REQUIRING BENT METAL EXTENSIONS/CLOSURES ARE PER BUILDING SPECIFIC DETAIL SHEETS CONTAINED IN THIS DRAWING SET.

DECK CLOSURE / EXTENSION PIECE 4



NOTE: 100 LB MAX HANGING LOAD PER VERTICAL WIRE

SUSPENDED WIRES TO METAL DECK 5



ASC DGN-32 x 18 GAGE DECK PROFILE:

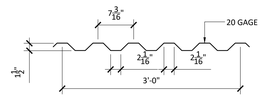
DECKING SECTION PROPERTIES: w = 3.10 psf, F_y = 50 ksi, F_i = 65 ksi

GROSS	FOR BENDING	FOR DEFLECTION
A_g = 0.902 in²/ft	A = 0.604 in²/ft	I_2 = 1.219 in⁴/ft
S_1 = 0.755 in³/ft	S_2 = 0.661 in³/ft	I_e = 1.275 in⁴/ft
I_g = 1.275 in⁴/ft	S_e = 0.715 in³/ft	

(LISTED PROPERTIES ARE PER FOOT OF DECK WIDTH)

NOTES:
1. DECKING IS TO BE INSTALLED IN CONTINUOUS 3-SPAN CONDITION AS SHOWN ON S2.02.
2. DECKING IS TO BE ATTACHED TO ALL SUPPORTS PER 1/S0.03.

DGN-32 x 18 GAGE METAL DECK 6



ASC HR-36 x 20 GAGE DECK PROFILE:

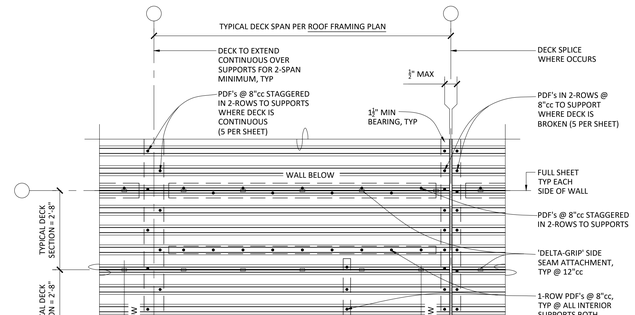
DECKING SECTION PROPERTIES: w = 1.82 psf, F_y = 40 ksi, F_u= 55 ksi

GROSS PROPERTIES	GROSS PROPERTIES	FOR DEFLECTION
A_g = 0.5356 in²/ft	A = 0.4012 in²/ft	I_2 = 0.2000 in⁴/ft
S_1 = 0.2793 in³/ft	S_2 = 0.2371 in³/ft	I_e = 0.2000 in⁴/ft
S_e = 0.2477 in³/ft	S_e = 0.2095 in³/ft	
I_g = 0.2000 in⁴/ft		

(LISTED PROPERTIES ARE PER FOOT OF DECK WIDTH)

NOTES:
1. DECKING IS TO BE INSTALLED IN CONTINUOUS SHEETS AS SHOWN ON S2.02.
2. DECKING IS TO BE ATTACHED TO ALL SUPPORTS WITH #12 SELF-DRILLING SELF-TAPPING HEX WASHER HEAD SCREWS WITH AN INTEGRAL NEOPRENE GASKETS. INSTALL SCREWS IN A 36/5 PATTERN (5 SCREWS PER SHEET) TO SUPPORTS AND AT 18"cc ALONG ALL SIDE LAPS AND WHEN PARALLEL TO STEEL SUPPORTS.
3. SCREWS ARE TO BE 'TEKS SELECT' PER ICC-ES ESR-3223.

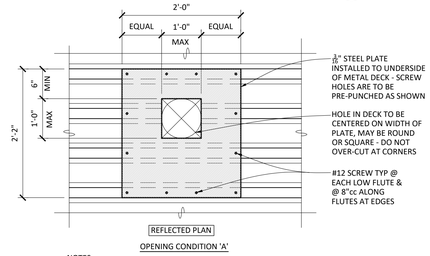
DGN32 x 18 GAGE METAL DECK 7



LEGEND:
- • = PDF (SEE NOTES BELOW)
- ▭ = DELTA-GRIP SIDE SEAM - SPACING, S = 12"cc

NOTES:
1. SEE ROOF FRAMING PLAN FOR DECKING TYPE. DGN-32 TYP UNO. SEE 'METAL DECK NOTES' ON S0.01 AND 6/S0.03.
2. DECKING IS TO BE INSTALLED IN 3-SPAN CONDITION PER ROOF FRAMING PLAN.
3. DECKING IS TO BE ATTACHED FROM THE TOP, TO SUPPORTS BELOW WITH PDF's AS SHOWN IN DETAIL ABOVE.
4. ALL DECK SIDE-SEAMS ARE TO BE DELTA-GRIP AS SHOWN ABOVE.
5. DECK ATTACHMENT PDF's ARE TO BE HILTI X-EDNK-22, X-EDN19 OR X-HSN-24 PER IAPMO ES-161 TABLE 16.
6. WHERE METAL DECK ATTACHES TO LEDGERS OR OTHER ANGLES ('L' SHAPES) PROVIDE ONE ROW OF PDF's AT 8"cc, TYP UNO.

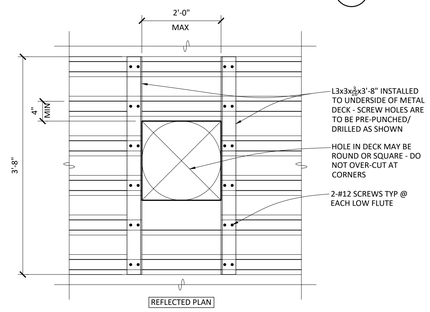
ROOF DECK ATTACHMENT 1



OPENING CONDITION 'A'

NOTES:
1. SEE ROOF FRAMING PLAN FOR DECKING TYPE.
2. OPENING CONDITION 'A' IS TO BE USED AT ALL OPENINGS GREATER THAN 6" IN EITHER DIRECTION BUT NO MORE THAN 12".
3. ADJACENT OPENINGS IN DECK ARE TO BE SPACED A MINIMUM OF 3x THE DIAMETER OR WIDTH OF THE LARGER OPENING.

HOLES IN METAL DECK 2



OPENING CONDITION 'B'

NOTES:
1. SEE ROOF FRAMING PLANS FOR DECKING TYPE.
2. OPENING CONDITION 'A' IS TO BE USED AT ALL OPENINGS GREATER THAN 6" IN EITHER DIRECTION BUT NO MORE THAN 12".
3. OPENING CONDITION 'B' IS TO BE USED AT ALL OPENINGS GREATER THAN 12" IN EITHER DIRECTION BUT NO MORE THAN 24"
4. ADJACENT OPENINGS IN DECK ARE TO BE SPACED A MINIMUM OF 3x THE DIAMETER OR WIDTH OF THE LARGER OPENING.

HOLES IN METAL DECK 3

AGENCY APPROVAL:

REVIEWING AGENCIES STAMP HERE

HMC Architects

3595002100

2101 CAPITOL AVENUE, SUITE 100,
SACRAMENTO, CA, 95816
916 368 7990 / www.hmcarchitects.com

NOT FOR CONSTRUCTION

ISSUE

Δ	DESCRIPTION	DATE

CONSULTANT:

RW CONSULTING Engineers Inc
1450 HARBOR BLVD SUITE F
WEST SACRAMENTO, CA 95691
916.716.6910

REGISTERED PROFESSIONAL ENGINEER GREGORY I. RICHMAN S-4555 Exp. 12/31/2024 STRUCTURAL STATE OF CALIFORNIA

FOR PLAN REVIEW

FACILITY:
MERRILL F WEST HIGH SCHOOL
1775 W LOWELL AVE
TRACY, CA 95376

PROJECT:
MERRILL F WEST HS AGRICULTURE CTE BLDG INCREMENT 2

SHEET NAME:
TYPICAL METAL DECK & STEEL DETAILS

DSA SUBMITTAL

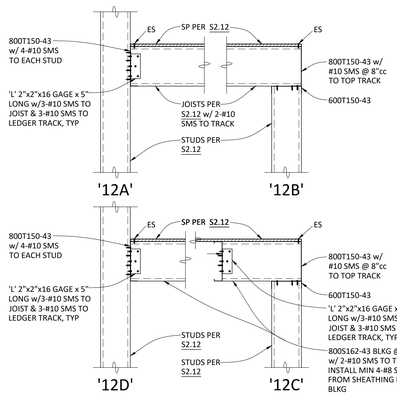
DATE: **10/11/2024** | CLIENT PROJ NO:

SHEET:

S0.03

PLEASE RECYCLE

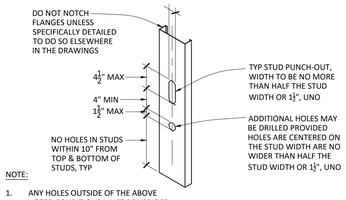
THE LINE SHOWN ABOVE IS 3" LONG ON ORIGINAL PLOTS EXTEND LINE IF NECESSARY FOR A1 SHEETS ORIGINAL PAGE SIZE



NOTE:

CEILING SP IS FOR BRACING TOPS OF JOISTS AND STABILIZING WALLS OUT-OF PLANE. CEILING SP IS NOT INTENDED FOR STORAGE.

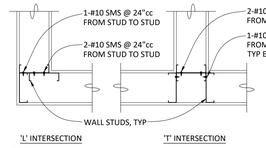
SHEATHED CEILING TO WALL — 12



NOTE:

1. ANY HOLES OUTSIDE OF THE ABOVE NOTED CONDITIONS MUST BE VERIFIED BY THE SEOR PRIOR TO CUTTING
2. LINE UP PUNCHOUTS IN ADJACENT STUDS FOR PASSING UTILITIES

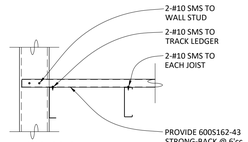
HOLES IN METAL STUDS — 8

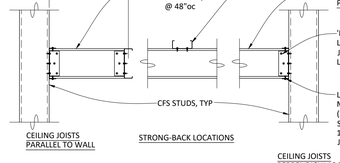


NOTES:

1. 'L' AND 'T' INTERSECTION DETAILS ARE FOR NON-STRUCTURAL PARTITION WALLS, TYP UNO.
2. SEE BOTH STRUCTURAL DRAWINGS AND ARCHITECTURAL DRAWINGS FOR WALL STUD SIZES.

WALL INTERSECTIONS — 9

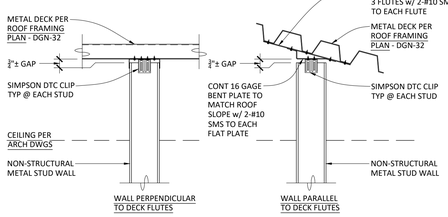




NOTES:

1. REFER TO CEILING FRAMING PLAN, S2.12 FOR CEILING JOIST LAYOUT, SIZE AND SPACING.
2. ALL CEILING JOISTS ARE TO HAVE 600S162-43 CONTINUOUS STRONG BACKS SPACED AT 6'cc MAX AND RUNNING FROM END WALL TO END WALL UNLESS JOISTS ARE SHEATHING WITH SP. SEE CEILING FRAMING PLAN, S2.12.

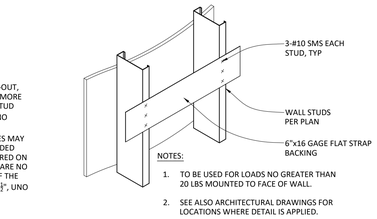
CEILING FRAMING CONNECTIONS — 10



NOTES:

1. WALL LOCATIONS AND STUD SIZES ARE PER ARCHITECTURAL DRAWINGS, TYP UNLESS NOTED ON STRUCTURAL DRAWINGS.
2. THE BASE LEG OF EACH DTC CLIP IS TO BE FASTENED WITH 4-#8 SCREWS AND THE SLOTTED LEG IS TO BE FASTENED TO THE STUD WITH 2-#8 SCREWS.

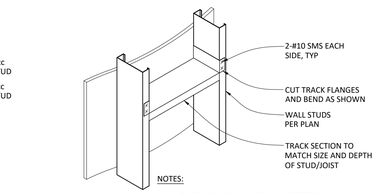
FULL-HEIGHT INTERIOR WALL — 11



NOTES:

1. TO BE USED FOR LOADS NO GREATER THAN 20 LBS MOUNTED TO FACE OF WALL.
2. SEE ALSO ARCHITECTURAL DRAWINGS FOR LOCATIONS WHERE DETAIL IS APPLIED.

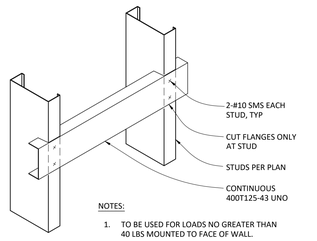
FLAT STRAP BACKING — 4A



NOTES:

1. TO BE USED FOR LOADS NO GREATER THAN 40 LBS MOUNTED TO FACE OF WALL.
2. SEE ALSO ARCHITECTURAL DRAWINGS FOR LOCATIONS WHERE DETAIL IS APPLIED.

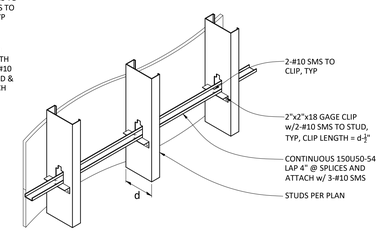
METAL STUD BLOCKING — 4B



NOTES:

1. TO BE USED FOR LOADS NO GREATER THAN 40 LBS MOUNTED TO FACE OF WALL.
2. SEE ALSO ARCHITECTURAL DRAWINGS FOR LOCATIONS WHERE DETAIL IS APPLIED.

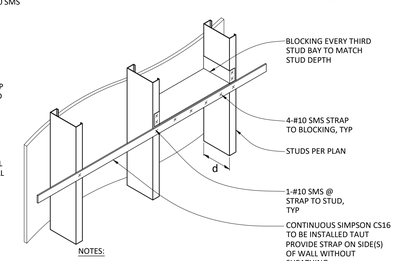
NOTCHED METAL STUD BACKING — 5



NOTES:

1. BRIDGING IS TO OCCUR AT ALL WALLS WITHOUT GYP OR STRUCTURAL SHEATHING ON EACH SIDE.
2. BRIDGING TO BE SPACED VERTICALLY NO MORE THAN 48"cc

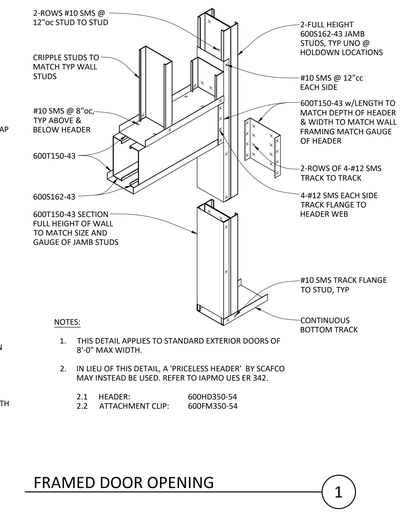
METAL STUD BRIDGING - OPTION 1 — 6



NOTES:

1. BRIDGING IS TO OCCUR AT ALL WALLS WITHOUT GYP OR STRUCTURAL SHEATHING ON EACH SIDE.
2. BRIDGING TO BE SPACED VERTICALLY NO MORE THAN 48"cc

METAL STUD BRIDGING - OPTION 2 — 7

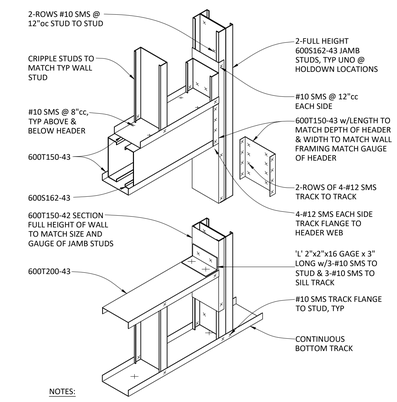


NOTES:

1. THIS DETAIL APPLIES TO STANDARD EXTERIOR DOORS OF 8'-0" MAX WIDTH.
2. IN LIEU OF THIS DETAIL, A 'PRICELESS HEADER' BY SCAFCO MAY INSTEAD BE USED. REFER TO IAPMO UES ER 342.

   2.1 HEADER: 600HD350-54
   2.2 ATTACHMENT CLIP: 600FM350-54

FRAMED DOOR OPENING — 1

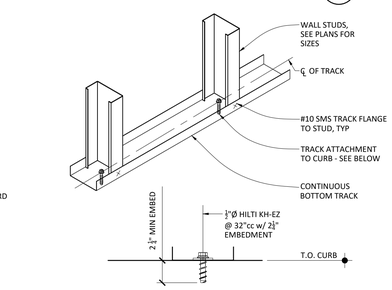


NOTES:

1. THIS DETAIL APPLIES TO STANDARD EXTERIOR WINDOWS OF 8'-0" MAX WIDTH.
2. IN LIEU OF THIS DETAIL, A 'PRICELESS HEADER' BY SCAFCO MAY INSTEAD BE USED. REFER TO IAPMO UES ER 342.

   2.1 HEADER: 600HD350-54
   2.2 ATTACHMENT CLIP: 600FM350-54

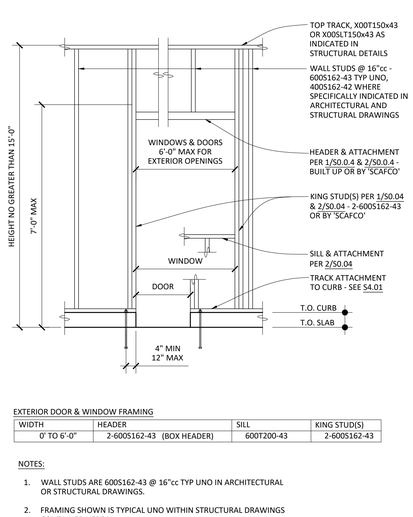
FRAMED WINDOW OPENING — 2



NOTES:

1. THIS DETAIL MAY BE USED FOR THE ATTACHMENT OF INTERIOR NON-STRUCTURAL WALLS TO SLABS ON GRADE.
2. A MINIMUM OF 2 ANCHORS ARE TO BE PROVIDED AT ALL TRACKS GREATER THAN 6" IN LENGTH AND NOT TIED TO A PERPENDICULAR WALL. ANCHORS ARE TO BE PROVIDED WITHIN 8" OF THE END OF EACH TRACK.
3. PERIODIC INSPECTION IS REQUIRED, TESTING IS NOT REQUIRED.
4. FOR ATTACHMENT OF NON-STRUCTURAL WALLS TO CURBS - SEE 9/S4.01 AND 10/S4.01.
5. FOR HILTI KH-EZ ANCHORS REFER TO ICC ESR 3027.

INTERIOR WALL ANCHORAGE — 3



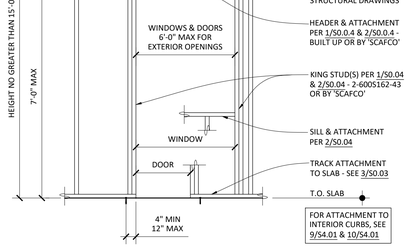
EXTERIOR DOOR & WINDOW FRAMING

WIDTH	HEADER	SILL	KING STUD(S)
0' TO 6'-0"	2-600S162-43 (BOX HEADER)	600T200-43	2-600S162-43

NOTES:

1. WALL STUDS ARE 600S162-43 @ 16"cc TYP UNO IN ARCHITECTURAL OR STRUCTURAL DRAWINGS.
2. FRAMING SHOWN IS TYPICAL UNO WITHIN STRUCTURAL DRAWINGS CONTAINED HEREIN.
3. SEE WALL FRAMING ELEVATIONS FOR EXTERIOR OPENINGS GREATER THAN 6'-0" WIDE OR 7'-0" TALL.

FRAMED EXTERIOR WINDOW & DOOR OPENINGS — A



INTERIOR DOOR & WINDOW FRAMING

WIDTH	HEADER	SILL	KING STUD(S)
0' TO 4'-0"	1-600T300-54 (FLAT)	600T200-43	1-600S162-43
4'-0" TO 8'-2"	2-600S162-43 (BOX HEADER)	600T200-43	2-600S162-43
8'-2" TO 12'-2"	2-600S162-43 (BOX HEADER)	600T200-43	2-600S162-43
12'-2" TO 16'-2"	2-800S162-43 (BOX HEADER)	NA	2-600S162-43

MECHANICAL DUCT OPENING HEADERS

WIDTH	HEADER	SILL	KING STUD(S)
0' TO 2'-0"	600T150-43 (FLAT)	600T150-43	1-600S162-43
2'-0" TO 3'-6"	600T300-54 (FLAT)	600T150-43	1-600S162-43

NOTES:

1. WALL STUDS ARE 600S162-43 @ 16"cc TYP UNO IN ARCHITECTURAL OR STRUCTURAL DRAWINGS.
2. FRAMING SHOWN IS TYPICAL UNO WITHIN STRUCTURAL DRAWINGS CONTAINED HEREIN.
3. SEE WALL FRAMING ELEVATIONS FOR EXTERIOR WALL HEADERS.

FRAMED INTERIOR WINDOW & DOOR OPENINGS — B

AGENCY APPROVAL:

REVIEWING AGENCIES STAMP HERE

HMC Architects

3595002100

2101 CAPITOL AVENUE, SUITE 100,
SACRAMENTO, CA, 95816
916 368 7990 / www.hmcarchitects.com

NOT FOR CONSTRUCTION

ISSUE

Δ	DESCRIPTION	DATE

CONSULTANT:

RW CONSULTING Engineers Inc
1450 HARBOR BLVD SUITE F
WEST SACRAMENTO, CA 95691
916.716.6910

REGISTERED PROFESSIONAL ENGINEER — GREGORY T. RICHARDSON — S-4555 Exp. 12/31/2024 — STRUCTURAL — STATE OF CALIFORNIA

FOR PLAN REVIEW

FACILITY:

MERRILL F WEST HIGH SCHOOL
1775 W LOWELL AVE
TRACY, CA 95376

PROJECT:

MERRILL F WEST HS AGRICULTURE CTE BLDG INCREMENT 2

SHEET NAME:

TYPICAL CFS FRAMING DETAILS

DSA SUBMITTAL

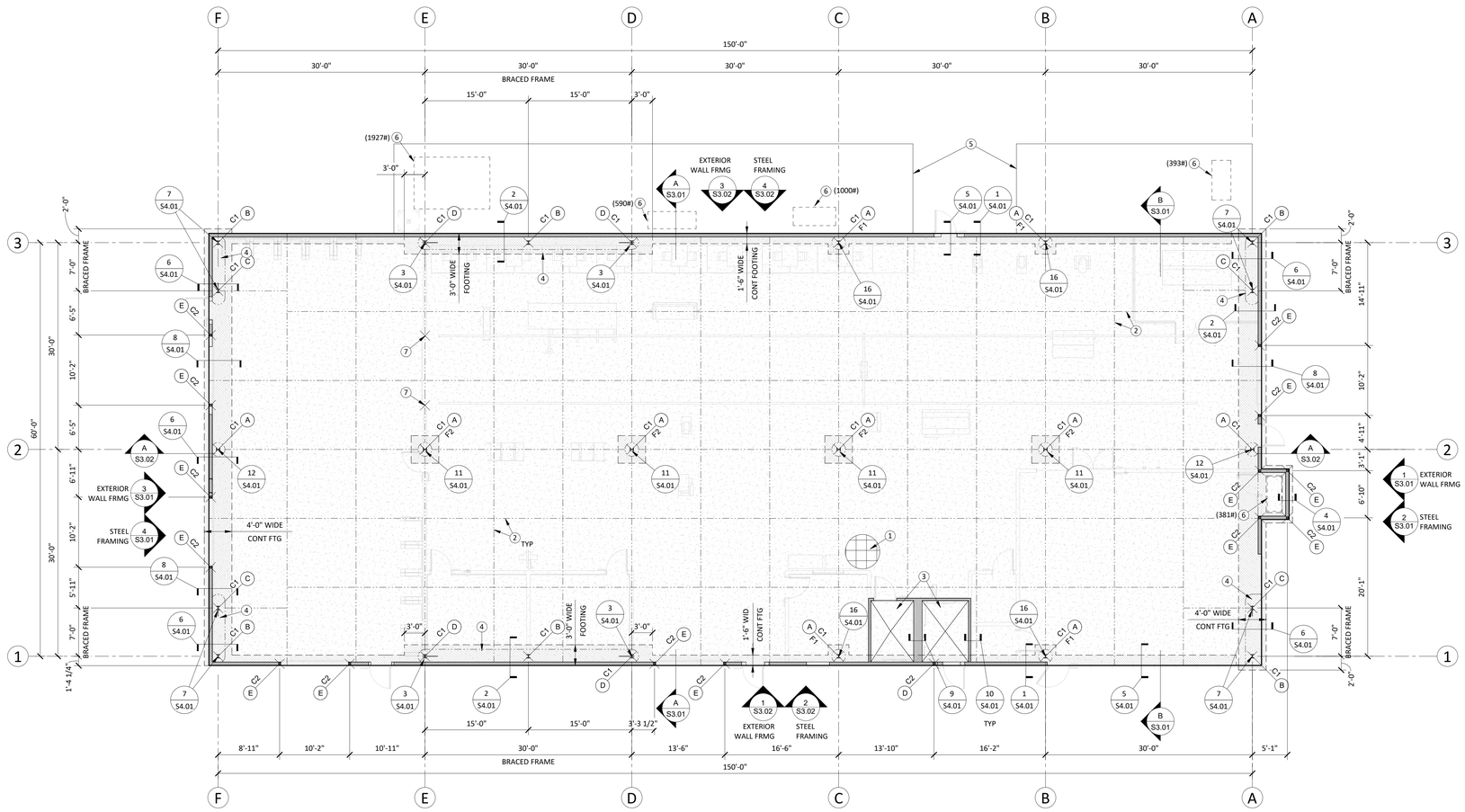
DATE: **10/11/2024** | CLIENT PROJ NO:

SHEET:

S0.04

PLEASE RECYCLE

THE LINE SHOWN ABOVE IS EXACTLY ONE INCH ON THIS SHEETS ORIGINAL PAGE SIZE



FOUNDATION PLAN
1/8" = 1'-0"

FOUNDATION PLAN NOTES:

1. REFER TO CIVIL DRAWINGS, PROJECT SPECIFICATIONS & GEOTECHNICAL REPORT FOR PREPARATION OF BUILDING PAD.
2. ALL STRUCTURAL TESTS & INSPECTIONS OF PRIOR SITE WORK MUST BE ACCEPTED BY DSA PRIOR TO COMMENCING WITH BUILDING FOUNDATION CONSTRUCTION.
3. REFER TO SHEETS S0.01, S0.02, S0.03 & S0.04 FOR TYPICAL NOTES AND DETAILS.
4. CONTRACTOR SHALL COORDINATE ALL WORK CONTAINED HEREIN WITH ALL PROJECT WORK BY OTHERS INCLUDING CIVIL, ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING & LANDSCAPE. ALL EXTERIOR CONCRETE WORK IS PER CIVIL / ARCHITECTURAL SITE PLAN.
5. ALL DIMENSIONS ARE TO CENERLINE OF WALL / CENTERLINE OF COLUMNS, UNO. COORDINATE ALL DIMENSIONS WITH ARCHITECTURAL DRAWINGS & NOTIFY ARCHITECT IMMEDIATELY IF ANY DISCREPANCIES ARE FOUND.
6. ALL FOOTINGS ARE TO BE CENTERED UNDER WALLS / COLUMNS, UNO. ALL FOOTINGS ARE TO HAVE A MINIMUM DEPTH OF 1'-6" BELOW TOP OF PREPARED BUILDING PAD & ALL CONTINUOUS FOOTINGS ARE TO HAVE WIDTHS AS NOTED ON FOUNDATION PLAN, S2.01.
7. SLAB JOINTS ARE TO BE PROVIDED THROUGHOUT INTERIOR OF BUILDING AS SHOWN ON FOUNDATION PLAN, S2.01.
8. ALL EXTERIOR WALLS & INTERIOR WALLS ON CURBS ARE TO HAVE 600T150-43 TRACKS BOLTED TO FOUNDATIONS WITH ⅝"Ø ANCHOR BOLTS SPACED AT 4'-0"cc MAX. SEE SHEAR WALL NOTES ON THIS SHEET.

FOUNDATION PLAN LEGEND:

- EXTERIOR WALL ON CURB & FOOTING
- INTERIOR WALL ON 6" TALL CURB
- NON-STRUCTURAL WALL ON SLAB
- SLAB JOINT - SEE 9/S0.02
- COLUMN (C#), FOOTING (F#) & BASE PLATE (A) SEE SCHEDULES BELOW

FOUNDATION PLAN KEYNOTES:

1. 5" SLAB-ON-GRADE w/ #4 @ 18"cc EACH WAY CENTERED IN SLAB DEPTH ov/ 15 MIL VAPOR & 5" CLEAN CRUSHED ROCK
2. SLAB JOINT, TYP - SEE 9/S0.02
3. SLOPE SLAB TO DRAIN - SEE ARCHITECTURAL DRAWINGS
4. CONTINUOUS BLOCKOUT AT BRACED FRAMES
5. 6" CONCRETE EQUIPMENT PAD FOR NEW MECHANICAL EQUIPMENT - SEE 12/S0.02 & MECHANICAL DRAWINGS FOR SIZE & LOCATION
6. NEW MECHANICAL EQUIPMENT TO BE INSTALLED ON NEW PAD, WEIGHT INDICATED IN PARENTHESIS - SEE MECHANICAL DRAWINGS
7. BACK-TO-BACK KING STUDS PER 11A/S4.03 WITH RCKW5.5 TO SLAB - INSTALL WITH 1/2"Ø x6" TITEN HS TO SLAB & 6-#10 SMS TO STUDS

COLUMN & BASE PLATE SCHEDULE:

MARK	SIZE	DETAIL REFERENCE	PLAN VIEW
C1	W6x25	(A) SEE 1/S4.04	
C2	HSS4x4x¼	(B) SEE 2/S4.04	
		(C) SEE 3A/S4.04	
		(D) SEE 3B/S4.04	
		(E) SEE 4/S4.04	

FOOTING SCHEDULE:

MARK	SIZE	REINFORCING
F1	3'-0" SQUARE x 1'-6" DEEP	4-#5 BARS EACH WAY @ T&B
F2	4'-0" SQUARE x 1'-6" DEEP	5-#5 BARS EACH WAY @ T&B

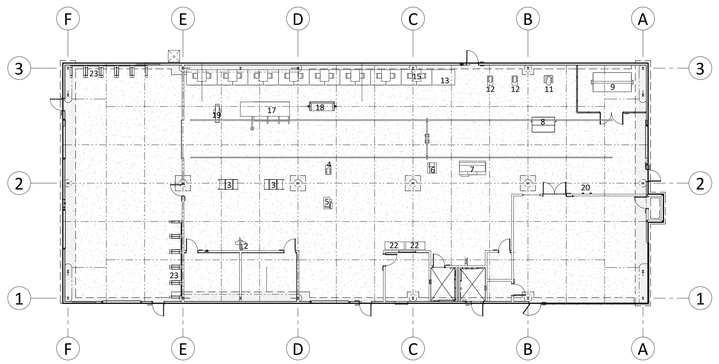
SEISMIC LOAD RESISTING SYSTEM (SLRS):

DIRECTION	WALL LINES
NORTH-SOUTH	LINES A & F
EAST-WEST	LINES 1 & 3
ASCE 7-16 TABLE 12.2-1: B-3 ORDINARY CONCENTRICALLY BRACED FRAMES	

MARK	EQUIPMENT DESCRIPTION	MANUFACTURER	WEIGHT	MINIMUM # OF ANCHORS NEEDED
1	DUST COLLECTOR	STERNVENT	590#	4
2	MITER SAW	GRIZZLY	54#	NA
3	TABLE SAW	SAWSTOP	367#	NA
4	WOOD DRILL PRESS	GRIZZLY	146#	NA
5	WOOD COMBINATION SANDER	GRIZZLY	153#	NA
6	IRON WORKER	UNI-HYDRO	1330#	4
7	METAL BAND SAW	GRIZZLY	1630#	4
8	LATHE	JET	1236#	4
9	PLASMA TABLE	KOIKE ARONSON RANSOME	3500#	4
10	CNC FUME EXTRACTOR	FILTAIR	1600#	4
11	MANUAL MILL	GRIZZLY	617#	4
12	METAL DRILL PRESS	GRIZZLY	210#	NA
13	GRINDER	GRIZZLY	1330#	4
NA	WELDER	MILLER	56#	NA
NA	WELDER	MILLER	42#	NA

MARK	EQUIPMENT DESCRIPTION	MANUFACTURER	WEIGHT	MINIMUM # OF ANCHORS NEEDED
14	WELDING BOOTH FILTER	MILLER	290#	SEE NOTE 2
15	WELDING BOOTH	MJB/PBM	751#	4
16	COMPRESSOR	INGERSOL RAND	1000#	4
17	SHEAR	MASTEEL	16100#	4
18	BREAK	GRIZZLY	1354#	4
19	PORTABLE BAND SAW	ELLIS	525#	2
20	WASH FOUNTAIN	BSMSS	260#	SEE NOTE 2
21	CRANE	GORBEL		
22	WORK TABLES	KI FURNITURE	345#	NA
23	CANTILEVER RACK	GLOBAL INDUSTRIAL	4800#	SEE 12/S4.04

NOTES:
1. ANCHORS FOR FLOOR MOUNTED EQUIPMENT ARE TO BE 1/2"Ø HILTI KB-TZ2, UNO, INSTALLED PER ICC-ES ESR 4266 W/ 2-1/2" EFFECTIVE EMBED. PERIODIC INSPECTION REQUIRED. TORQUE TEST 50% OF ANCHORS TO 50 LB-FT.
2. SEE PRODUCT SPECIFICATIONS FOR ANCHORAGE TO WALL



SHOP EQUIPMENT KEY PLAN
1/16" = 1'-0"

PLEASE RECYCLE

AGENCY APPROVAL:

REVIEWING AGENCIES STAMP HERE

HMC Architects
3595002100
2101 CAPITOL AVENUE, SUITE 100,
SACRAMENTO, CA, 95816
916 368 7990 / www.hmcarchitects.com

NOT FOR CONSTRUCTION

ISSUE

Δ	DESCRIPTION	DATE

CONSULTANT:
RW CONSULTING Engineers Inc
1450 HARBOR BLVD SUITE F
WEST SACRAMENTO, CA 95691
916.716.6910

GREGORY T. ROBERTS S-4555 Exp. 12/31/2024 STRUCTURAL STATE OF CALIFORNIA

FOR PLAN REVIEW

FACILITY:
MERRILL F WEST HIGH SCHOOL
1775 W LOWELL AVE
TRACY, CA 95376

PROJECT:
MERRILL F WEST HS AGRICULTURE CTE BLDG INCREMENT 2

SHEET NAME:
FOUNDATION PLAN & SHEAR WALL DIAGRAM

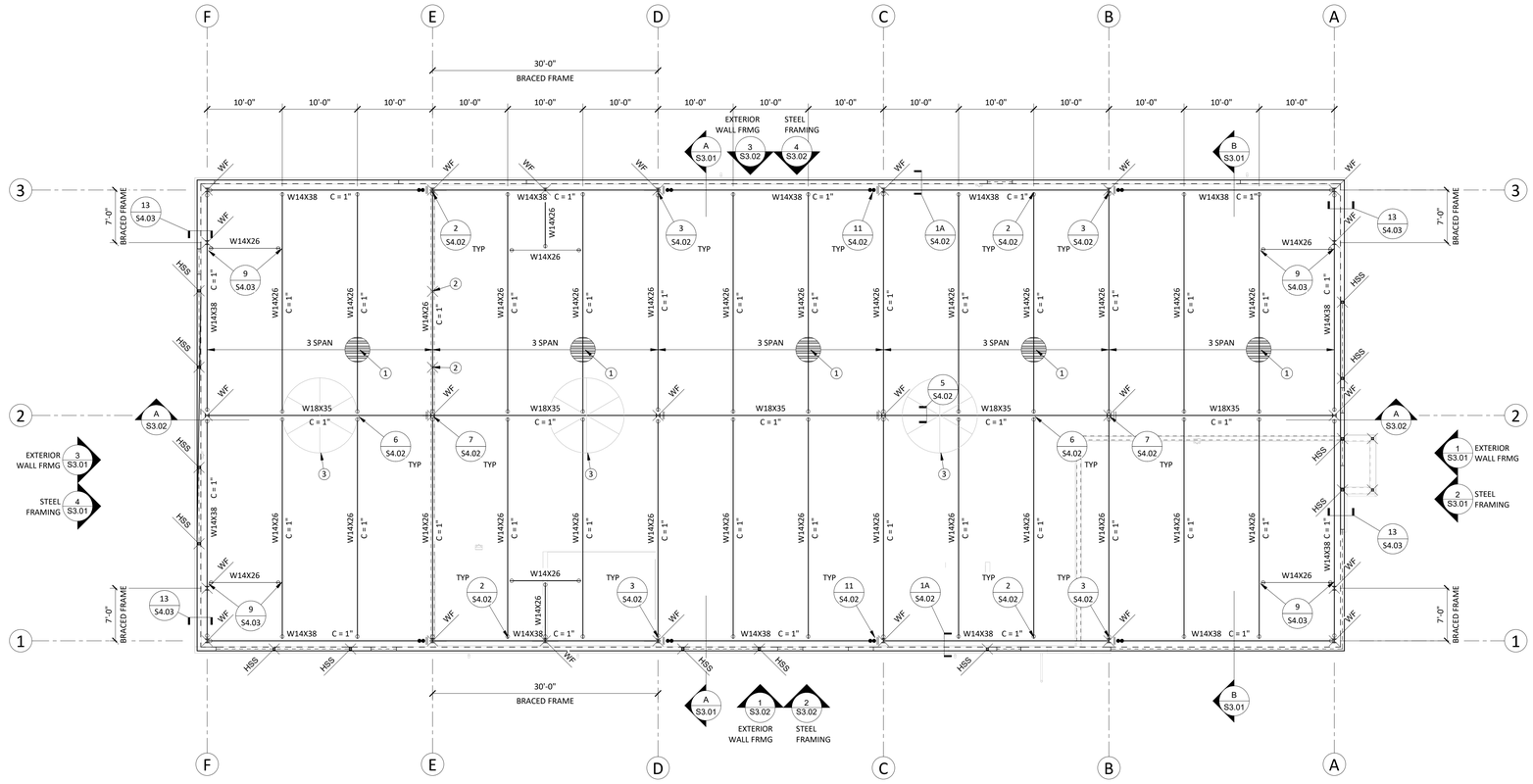
DSA SUBMITTAL

DATE: **10/11/2024** | CLIENT PROJ NO:

SHEET:

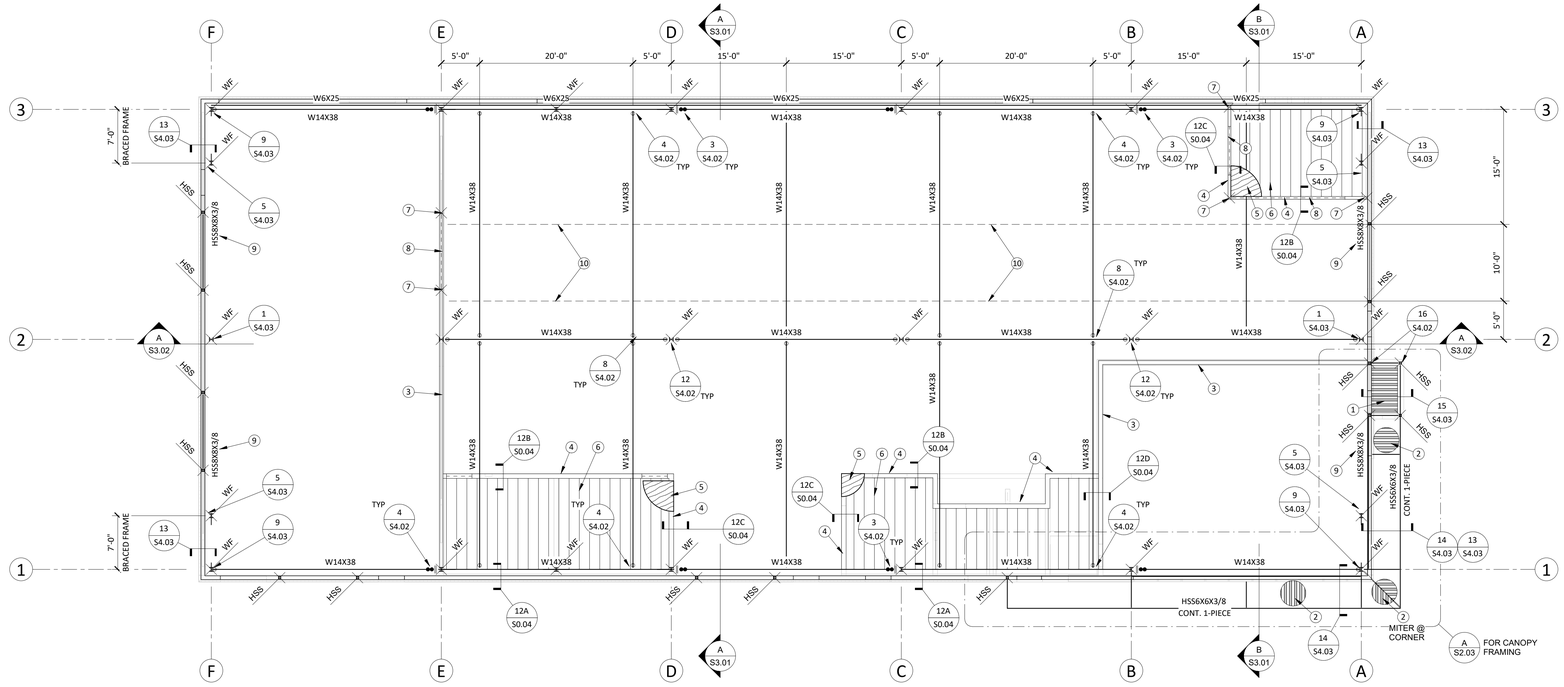
S2.01

THE LINE SHOWN ABOVE IS 1" LONG ON ORIGINAL PLANS SHEETS ORIGINAL PAGE SIZE



ROOF FRAMING PLAN

1/8" = 1'-0"



CEILING FRAMING PLAN

1/8" = 1'-0"

PLEASE RECYCLE

ROOF FRAMING PLAN NOTES:

1. REFER TO SHEETS S0.01, S0.02, S0.03, & S0.04 FOR TYPICAL NOTES AND DETAILS.
2. CONTRACTOR SHALL COORDINATE ALL WORK CONTAINED HEREIN WITH ALL PROJECT WORK BY OTHERS INCLUDING CIVIL, ARCHITECTURAL, MECHANICAL, ELECTRICAL, & PLUMBING
3. ALL EXTERIOR CFS FRAMED WALLS ARE TO BE 600S162-43 @ 16"cc, TYP. UNO TOP AND BOTTOM TRACKES ARE TO BE 600T150-43, TYP UNO.

ROOF FRAMING PLAN LEGEND:

- HEADER
- BEAM
- COLUMN (C#) - SEE SCHEDULE BELOW & FDP, S2.01
- WALL BELOW ROOF w/ HEADER
- METAL DECKING
- STEEL BEAM w/ STANDARD BOLTED BEARING CONNECTION - SEE 8/S0.03
- STEEL BEAM w/ SLIP-CRITICAL BOLTED CONNECTION w/ 2 ROWS OF BOLTS - SEE 5/S3.03

ROOF FRAMING PLAN KEYNOTES:

1. DGN-32 x 18 GAGE METAL DECK - SEE 1/S0.03 FOR ATTACHMENT & 6/S0.03 FOR PROFILE
2. BACK-TO-BACK KING STUDS WITH SCW5.5 TO W BEAM - INSTALL WITH 4-0.157"Øx5/8" PAF's TO W BEAM FLANGE & 3-#14 SHOULDERED SCREWS TO STUDS
3. 10' BIG FAN, 250LB MAX - SEE ARCHITECTURAL & ELECTRICAL DRAWINGS

COLUMN SCHEDULE:

MARK	COLUMN
C1	W6x25
C2	HSS4x4x¼

CEILING FRAMING PLAN NOTES:

1. REFER TO SHEETS S0.01, S0.02, S0.03 & S0.04 FOR TYPICAL NOTES AND DETAILS.
2. CONTRACTOR SHALL COORDINATE ALL WORK CONTAINED HEREIN WITH ALL PROJECT WORK BY OTHERS INCLUDING CIVIL, ARCHITECTURAL, MECHANICAL, ELECTRICAL & PLUMBING.
3. REFER TO ARCHITECTURAL PLANS FOR CEILING HEIGHTS AND FINISHES

CEILING FRAMING PLAN KEYNOTES:

1. DGN32 x 18 GAGE METAL DECK - SEE 1/S0.03 FOR ATTACHMENT & 6/S0.03 FOR PROFILE
2. HR-36 x 20 GAGE METAL DECK - SEE 7/S0.03 FOR ATTACHMENT & PROFILE
3. FULL HEIGHT WALL FRAME WITH 600S162-43 @ 16"cc - SEE 3/S0.04 FOR CONNECTION TO SLAB & 11/S0.04 FOR CONNECTION TO ROOF DECK
4. PARTIAL HEIGHT WALL FRAMED WITH 400S162-43 @ 16"cc
5. 19/32" T&G SP OVER TOPS OF JOISTS - FASTEN WITH #8 WAFER HEAD SCREWS @ 6"cc ALONG ALL EDGES AND 12"cc WITHIN FIELD
6. 800S162-43 CEILING JOISTS @ 16"cc
7. BACK-TO-BACK KING STUDS PER 11A/S4.03
8. BOX-HEADER PER 11B/S4.03 WITH SFC4.25 T&B EACH END TO KING STUDS - INSTALL WITH 5-#10 SMS TO HEADER & 4-#10 SMS TO KING STUDS
9. HSS OCCURS @ T.O. WALL - SEE 9/S4.02 & 13/S4.02
10. BRIDGE CRANE RM SYSTEM BY CRANE TECH - SEE ARCHITECTURAL DRAWINGS - MAX WORKING LOAD OF 6000# SHALL BE POSTED - SEE 14/S4.04

AGENCY APPROVAL:

REVIEWING AGENCIES STAMP HERE

HMC Architects

3595002100

2101 CAPITOL AVENUE, SUITE 100,
SACRAMENTO, CA, 95816
916 368 7990 / www.hmcarchitects.com

NOT FOR CONSTRUCTION

ISSUE

Δ	DESCRIPTION	DATE

CONSULTANT:

RW CONSULTING Engineers Inc
1450 HARBOR BLVD SUITE F
WEST SACRAMENTO, CA 95691
916.716.6910

REGISTERED PROFESSIONAL ENGINEER GREGORY I. RICHARDS S-4555 Exp. 12/31/2024 STRUCTURAL STATE OF CALIFORNIA

FOR PLAN REVIEW

FACILITY:
MERRILL F WEST HIGH SCHOOL
1775 W LOWELL AVE
TRACY, CA 95376

PROJECT:
MERRILL F WEST HS AGRICULTURE CTE BLDG INCREMENT 2

SHEET NAME:
ROOF FRAMING PLAN & CEILING FRAMING PLAN

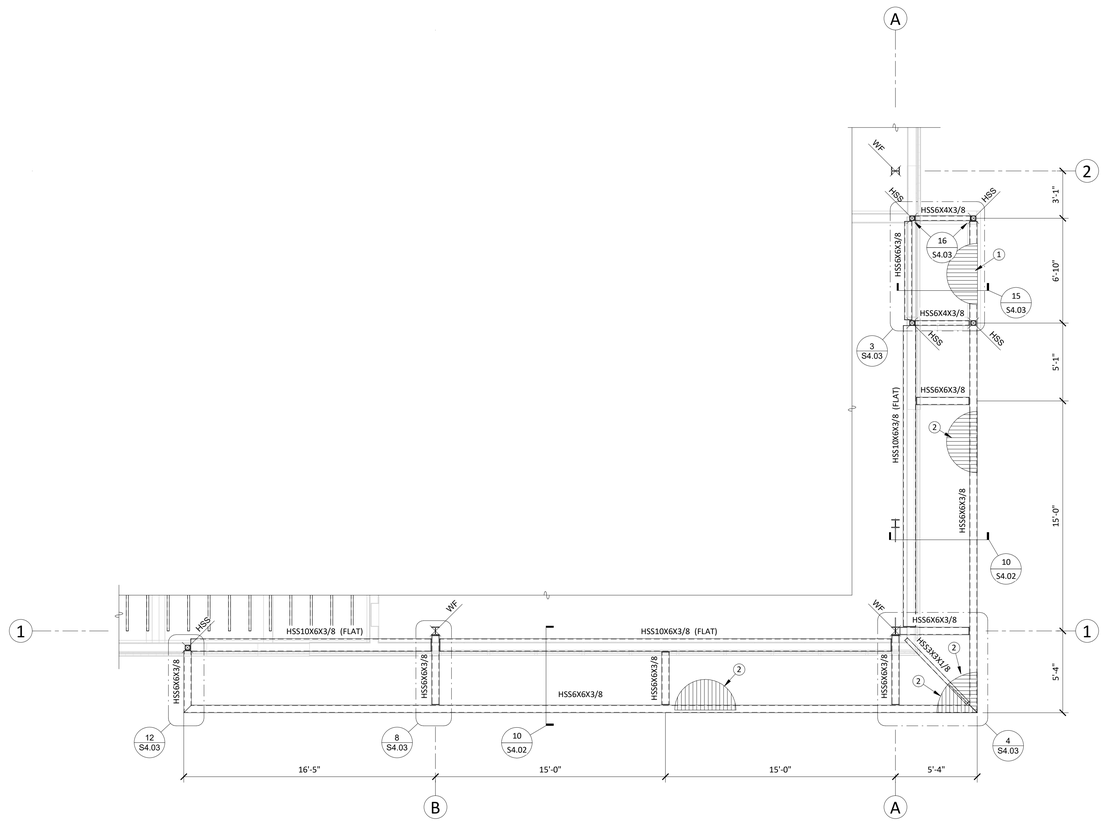
DSA SUBMITTAL

DATE: **10/11/2024** | CLIENT PROJ NO:

SHEET:

S2.02

THE LINE SHOWN ABOVE IS EXACTLY ONE INCH ON ANSI D SHEETS ORIGINAL PAGE SIZE



CANOPY FRAMING PLAN

1/4" = 1'-0"

CANOPY PLANS KEYNOTES:

1. DGN-32 x 18 GAGE METAL DECK - SEE 1/S0.03 FOR ATTACHMENT & 6/S0.03 FOR PROFILE
2. HR-36 x 20 GAGE METAL DECK - SEE 7/S0.03 FOR ATTACHMENT & PROFILE

AGENCY APPROVAL:

REVIEWING AGENCIES STAMP HERE

HMC Architects

3595002100

2101 CAPITOL AVENUE, SUITE 100,
SACRAMENTO, CA, 95816
916 368 7990 / www.hmcarchitects.com

NOT FOR CONSTRUCTION

ISSUE

Δ	DESCRIPTION	DATE

CONSULTANT:

RW CONSULTING Engineers Inc
1450 HARBOR BLVD SUITE F
WEST SACRAMENTO, CA 95691
916.716.6910

GREGORY T. ROBERTS, S-4555, Exp. 12/31/2024, STRUCTURAL, STATE OF CALIFORNIA

FOR PLAN REVIEW

FACILITY:
MERRILL F WEST HIGH SCHOOL
1775 W LOWELL AVE
TRACY, CA 95376

PROJECT:
MERRILL F WEST HS AGRICULTURE CTE BLDG INCREMENT 2

SHEET NAME:
CANOPY FRAMING PLANS

DSA SUBMITTAL

DATE: **10/11/2024**

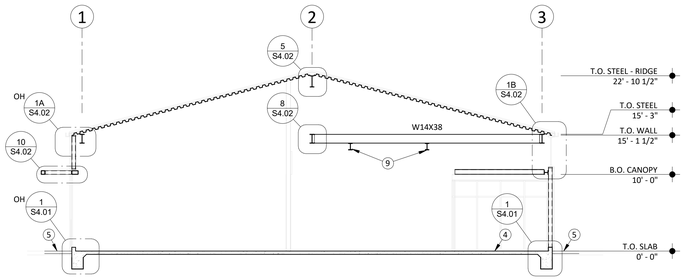
CLIENT PROJ NO:

SHEET:

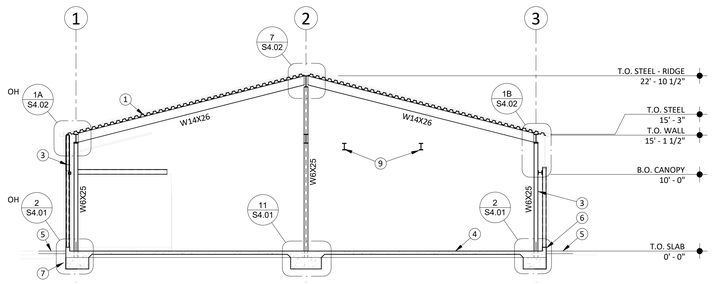
S2.03

PLEASE RECYCLE

THE LINE SHOWN ABOVE IS 1" LONG WHEN PLOTTED AT FULL SHEETS ORIGINAL PAGE SIZE



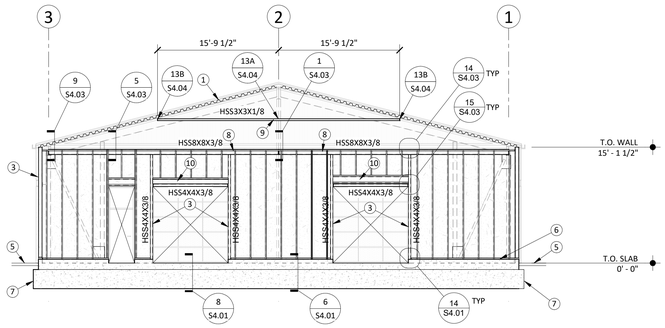
BUILDING CROSS SECTION B
1/8" = 1'-0"



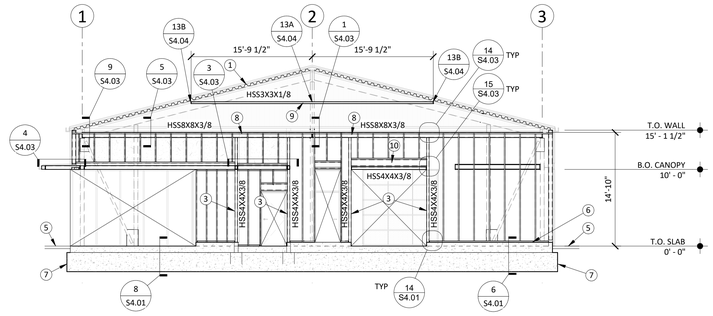
BUILDING CROSS SECTION A
1/8" = 1'-0"

BUILDING SECTION KEYNOTES:

1. METAL ROOF DECK PER RFP, S2.02 - SEE 1/S0.03 FOR ATTACHMENT
2. W BEAM PER 2/S2.02 - SEE SHEET S3.01
3. STEEL COLUMN PER FDP, S2.01
4. SLAB ON GRADE PER FDP, S2.01
5. EXTERIOR CONCRETE - SEE ARCHITECTURAL DRAWINGS
6. CONCRETE CURB
7. CONCRETE FOOTING
8. HSS3x3x3/16
9. CRANE RAIL PER CFP, S2.03



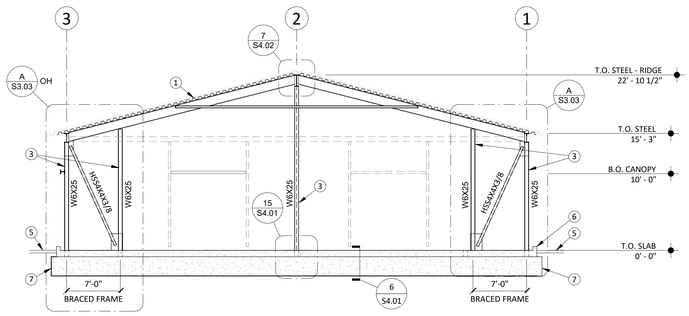
EXTERIOR WALL FRAMING ELEVATION - LINE F
1/8" = 1'-0"



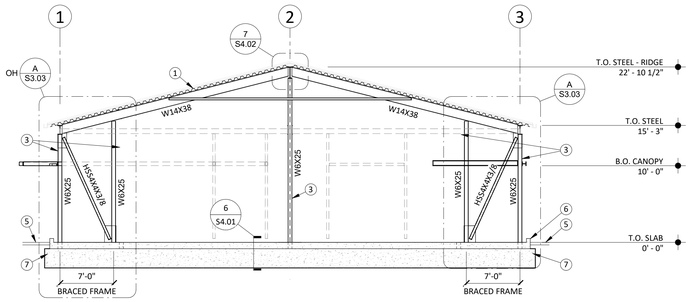
EXTERIOR WALL FRAMING ELEVATION - LINE A
1/8" = 1'-0"

WALL LINE ELEVATION KEYNOTES:

1. METAL ROOF DECK PER RFP, S2.02 - SEE 1/S0.03 FOR ATTACHMENT
2. STEEL BEAM PER RFP, S2.02
3. STEEL COLUMN PER FDP, S2.01
4. SLAB ON GRADE PER FDP, S2.01
5. EXTERIOR CONCRETE - SEE ARCHITECTURAL DRAWINGS
6. CONCRETE CURB
7. CONCRETE FOOTING
8. T.O. STEEL HSS @ +14'-10"
9. T.O. STEEL HSS @ +18-10"
10. BOX-HEADER PER 11C/S4.03



STEEL FRAMING ELEVATION - LINE F
1/8" = 1'-0"



STEEL FRAMING ELEVATION - LINE A
1/8" = 1'-0"

AGENCY APPROVAL:

REVIEWING AGENCIES STAMP HERE

HMC Architects
3595002100
2101 CAPITOL AVENUE, SUITE 100,
SACRAMENTO, CA, 95816
916 368 7990 / www.hmcarchitects.com

NOT FOR CONSTRUCTION

ISSUE

Δ	DESCRIPTION	DATE

CONSULTANT:
RW CONSULTING Engineers Inc
1450 HARBOR BLVD SUITE F
WEST SACRAMENTO, CA 95691
916.716.6910

REGISTERED PROFESSIONAL ENGINEER
GREGORY T. RICHARDS
S-4555
Exp. 12/31/2024
STRUCTURAL
STATE OF CALIFORNIA

FOR PLAN REVIEW

FACILITY:
MERRILL F WEST HIGH SCHOOL
1775 W LOWELL AVE
TRACY, CA 95376

PROJECT:
MERRILL F WEST HS AGRICULTURE CTE BLDG INCREMENT 2

SHEET NAME:
BUILDING SECTIONS & ELEVATIONS

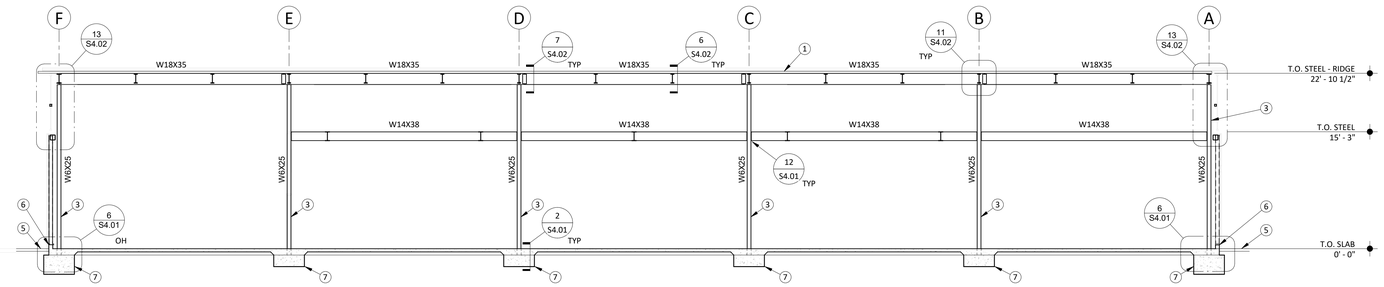
DSA SUBMITTAL

DATE: **10/11/2024**
CLIENT PROJ NO:

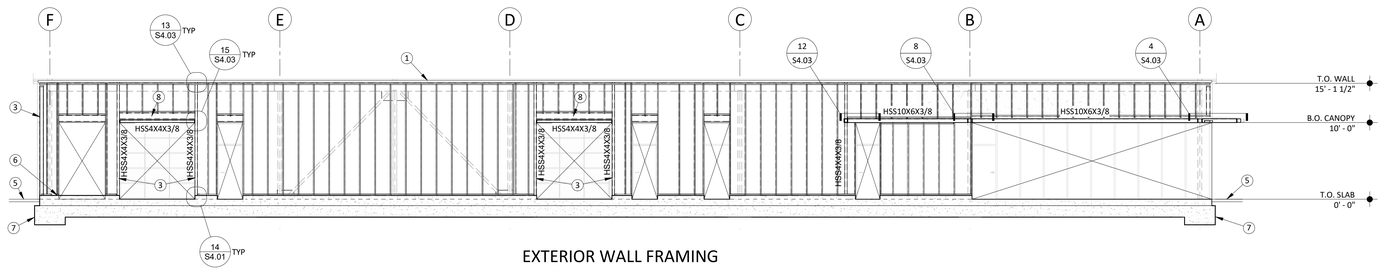
SHEET:

S3.01

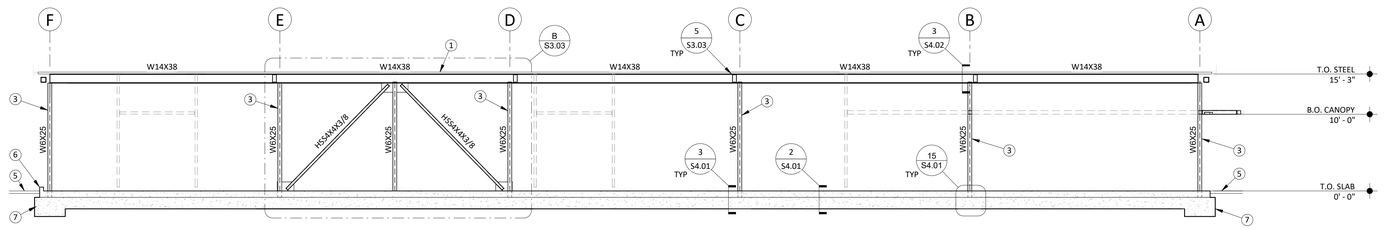
THE LINE SHOWN ABOVE IS 1" LONG WHEN PLOTTED AT FULL SIZE ON EXTERIOR ORIGINAL PAGE SIZE



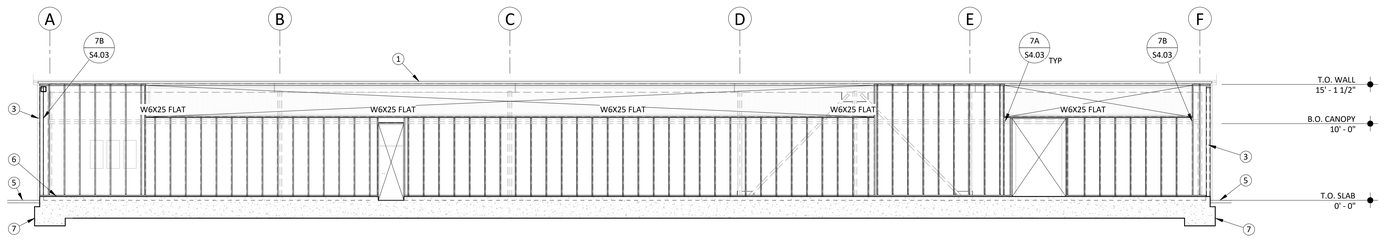
BUILDING CROSS SECTION
1/8" = 1'-0"
A



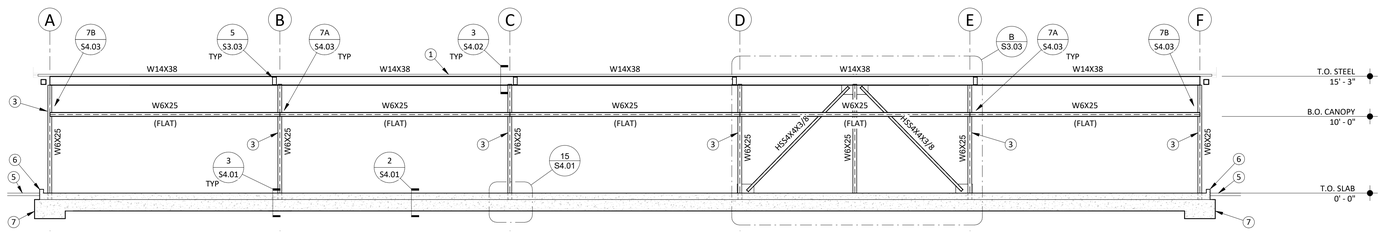
EXTERIOR WALL FRAMING ELEVATION - LINE 1
1/8" = 1'-0"
1



STEEL FRAMING ELEVATION - LINE 1
1/8" = 1'-0"
2



EXTERIOR WALL FRAMING ELEVATION - LINE 3
1/8" = 1'-0"
3



STEEL FRAMING ELEVATION - LINE 3
1/8" = 1'-0"
4

WALL LINE ELEVATION KEYNOTES:

1. METAL ROOF DECK PER RFP, S2.02 - SEE 1/S0.03 FOR ATTACHMENT
2. W BEAM PER RFP, S2.02
3. STEEL COLUMN PER FDP, S2.01
4. SLAB ON GRADE PER FDP, S2.01
5. EXTERIOR CONCRETE - SEE ARCHITECTURAL DRAWINGS
6. CONCRETE CURB
7. CONCRETE FOOTING
8. BOX-HEADER PER 11C/S4.03

AGENCY APPROVAL:

REVIEWING AGENCIES STAMP HERE

HMC Architects
3595002100
2101 CAPITOL AVENUE, SUITE 100,
SACRAMENTO, CA, 95816
916 368 7990 / www.hmcarchitects.com

NOT FOR CONSTRUCTION

ISSUE

Δ	DESCRIPTION	DATE

CONSULTANT:
RW CONSULTING Engineers Inc
1450 HARBOR BLVD SUITE F
WEST SACRAMENTO, CA 95691
916.716.6910

GREGORY T. RICHARDS S-4555 Exp. 12/31/2024 STRUCTURAL STATE OF CALIFORNIA REGISTERED PROFESSIONAL ENGINEER

FOR PLAN REVIEW

FACILITY:
MERRILL F WEST HIGH SCHOOL
1775 W LOWELL AVE
TRACY, CA 95376

PROJECT:
MERRILL F WEST HS AGRICULTURE CTE BLDG INCREMENT 2

SHEET NAME:
BUILDING SECTIONS & ELEVATIONS

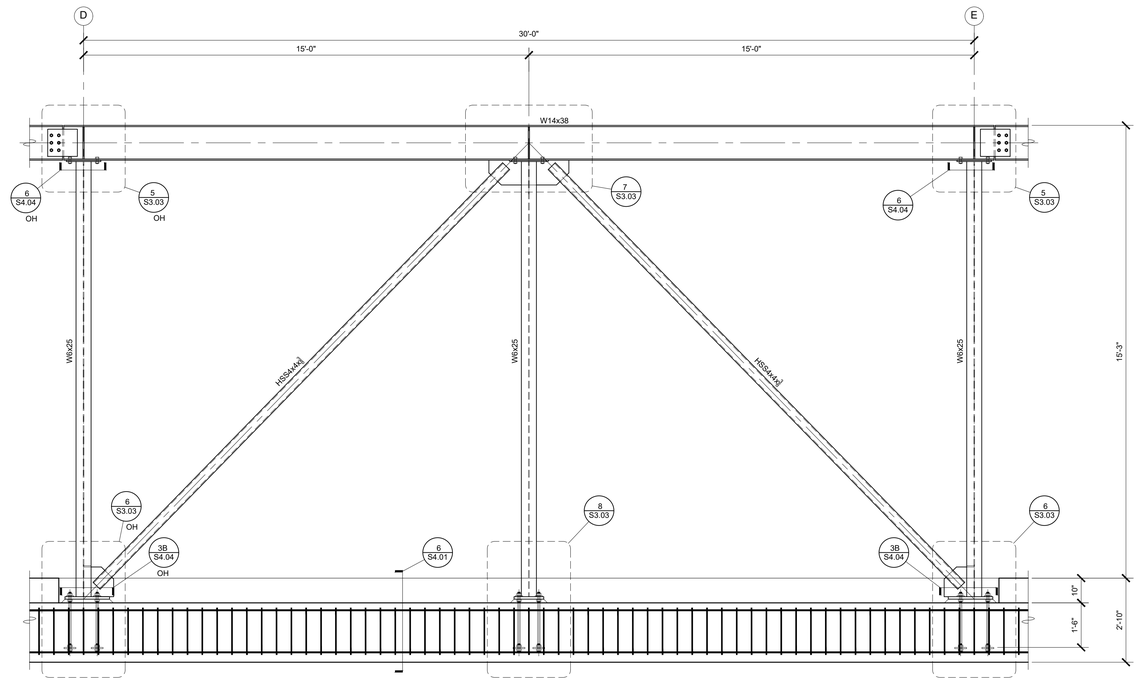
DSA SUBMITTAL

DATE: **10/11/2024**
CLIENT PROJ NO:

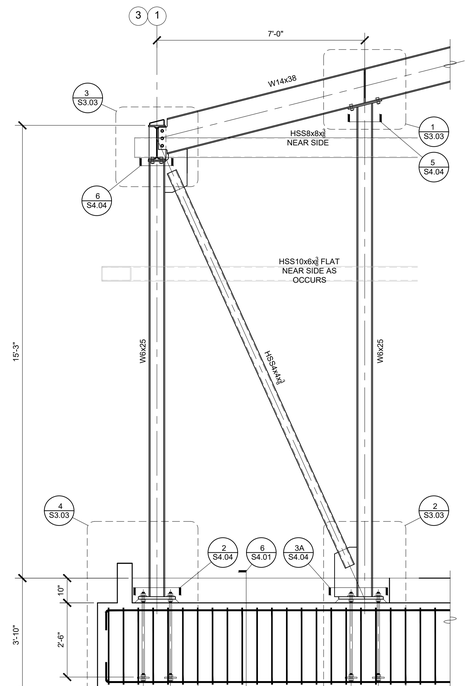
SHEET:

S3.02

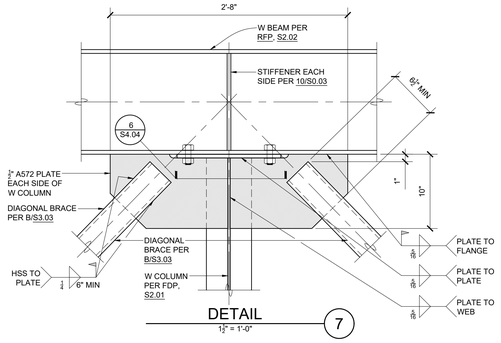
PLEASE RECYCLE



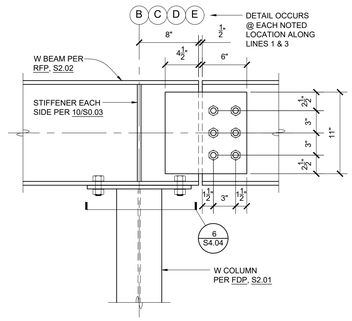
BRACED FRAME 2 (B)
1½" = 1'-0"



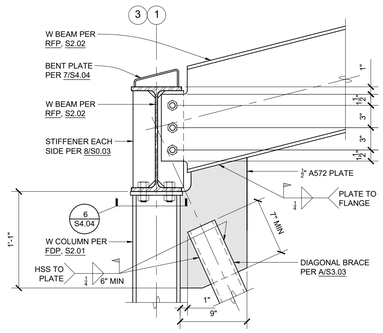
BRACED FRAME 1 (A)
1½" = 1'-0"



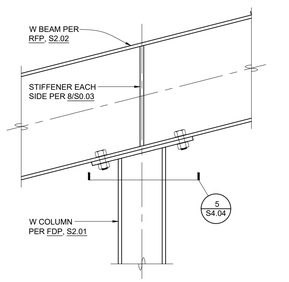
DETAIL 7
1½" = 1'-0"



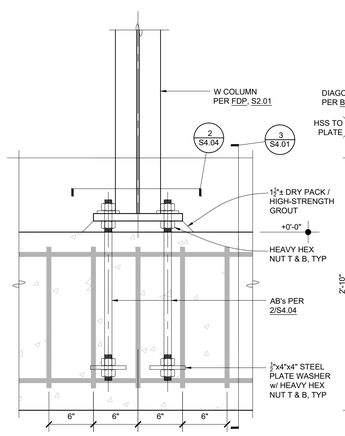
DETAIL 5
1½" = 1'-0"



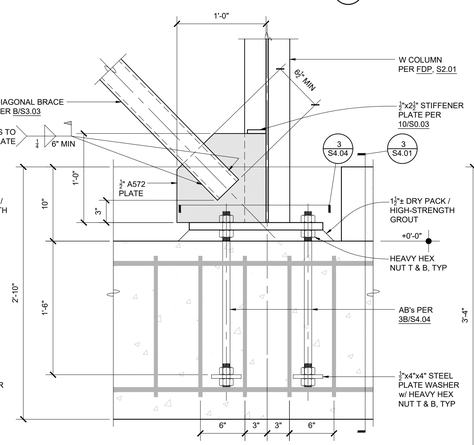
DETAIL 3
1½" = 1'-0"



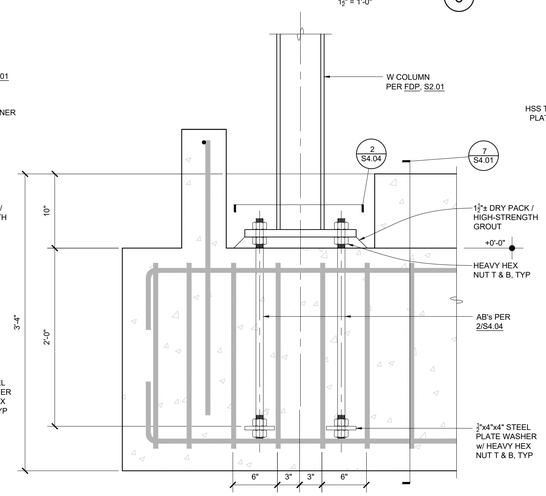
DETAIL 1
1½" = 1'-0"



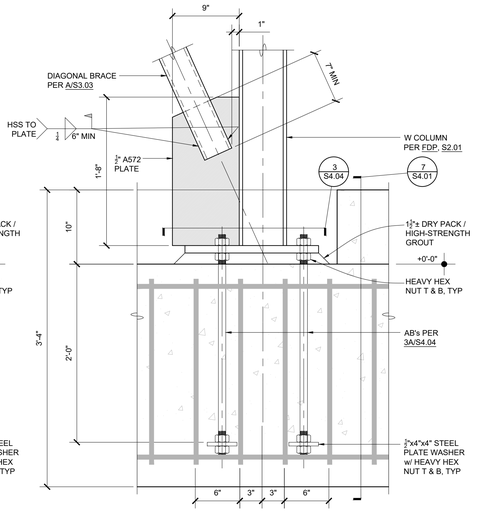
DETAIL 8
1½" = 1'-0"



DETAIL 6
1½" = 1'-0"



DETAIL 4
1½" = 1'-0"



DETAIL 2
1½" = 1'-0"

AGENCY APPROVAL:

REVIEWING AGENCIES
STAMP HERE

HMC Architects

3595002100

2101 CAPITOL AVENUE, SUITE 100,
SACRAMENTO, CA, 95816
916 368 7990 / www.hmcarchitects.com

NOT FOR CONSTRUCTION

ISSUE

Δ	DESCRIPTION	DATE

CONSULTANT:

RW CONSULTING Engineers Inc
1450 HARBOR BLVD SUITE F
WEST SACRAMENTO, CA 95691
916.716.6910

REGISTERED PROFESSIONAL ENGINEER
GREGORY I. RICHARD
S-4555
Exp. 12/31/2024
STRUCTURAL
STATE OF CALIFORNIA

FOR PLAN REVIEW

FACILITY:
MERRILL F WEST HIGH SCHOOL
1775 W LOWELL AVE
TRACY, CA 95376

PROJECT:
MERRILL F WEST HS AGRICULTURE CTE BLDG
INCREMENT 2

SHEET NAME:
BRACED FRAME ELEVATIONS & DETAILS

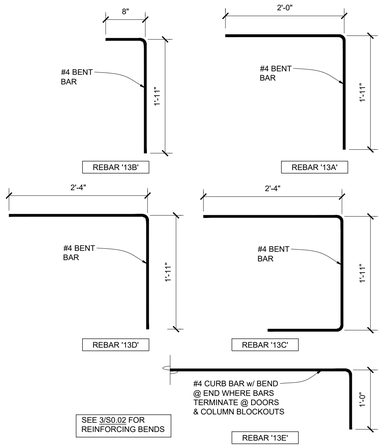
DSA SUBMITTAL

DATE: **10/11/2024**
CLIENT PROJ NO:

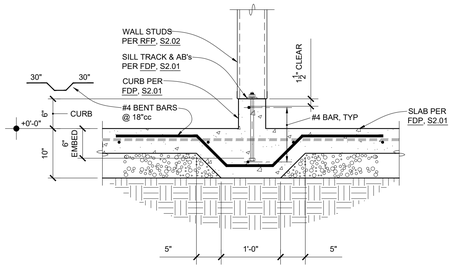
SHEET:

S3.03

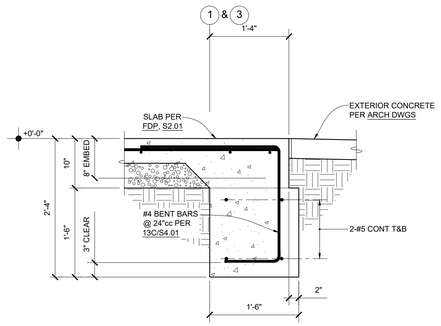
THE LINE SHOWN ABOVE IS 1" LONG ON ORIGINAL PLOT. IF NOT, ADJUST SCALE ACCORDINGLY. SHEETS ORIGINAL PAGE SIZE



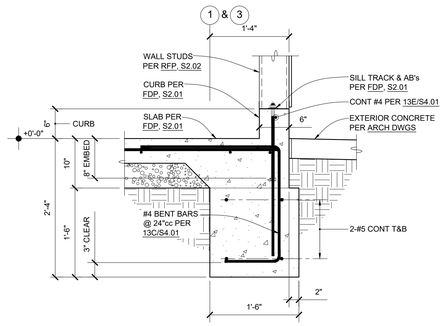
DETAIL 13
1" = 1'-0"



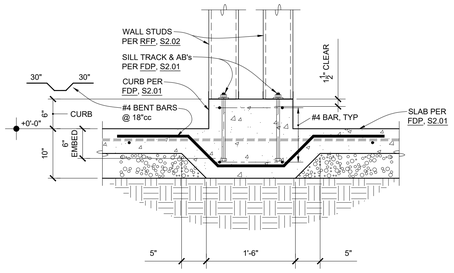
DETAIL 9
1" = 1'-0"



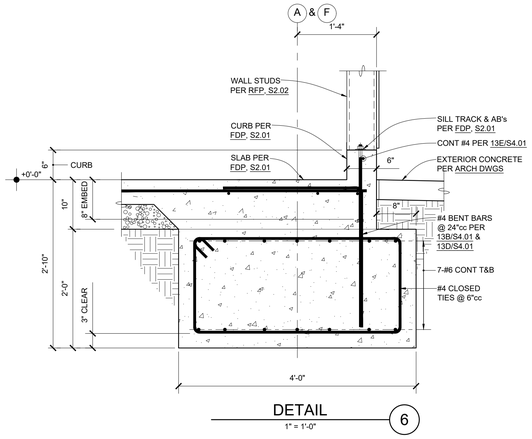
DETAIL 5
1" = 1'-0"



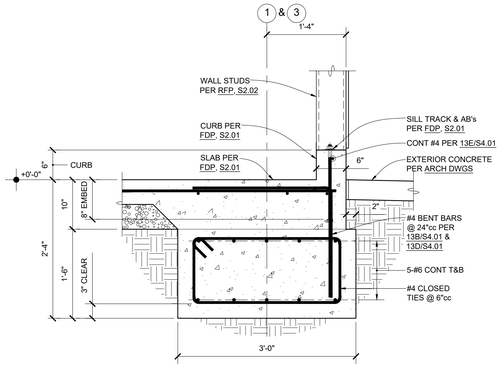
DETAIL 1
1" = 1'-0"



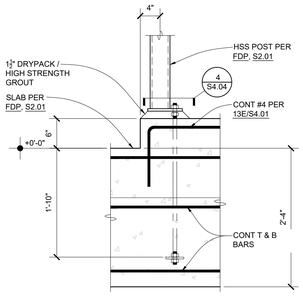
DETAIL 10
1" = 1'-0"



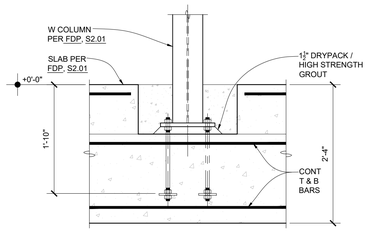
DETAIL 6
1" = 1'-0"



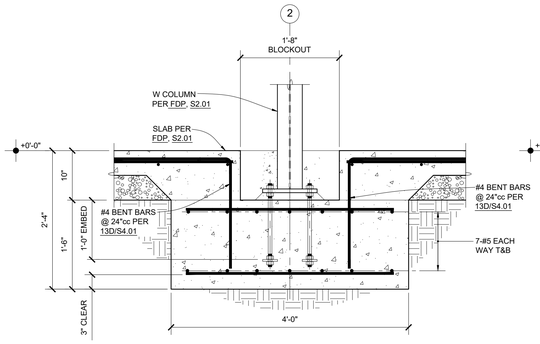
DETAIL 2
1" = 1'-0"



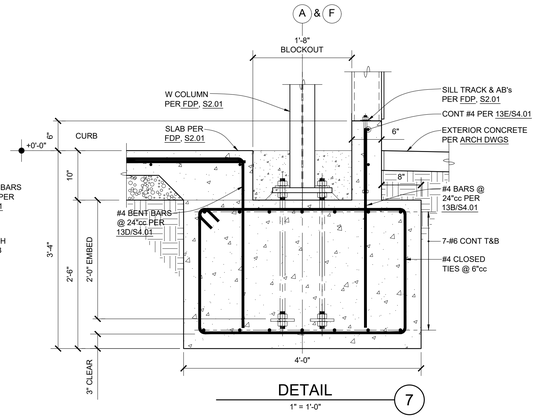
DETAIL 14
1" = 1'-0"



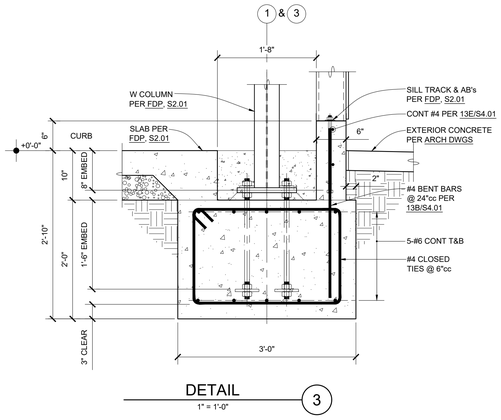
DETAIL 15
1" = 1'-0"



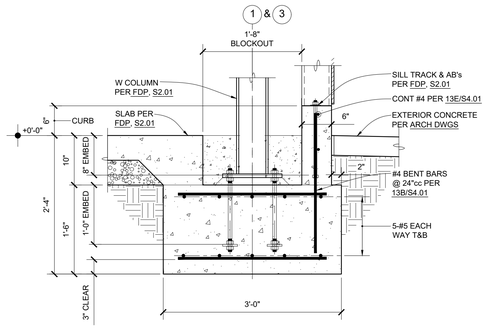
DETAIL 11
1" = 1'-0"



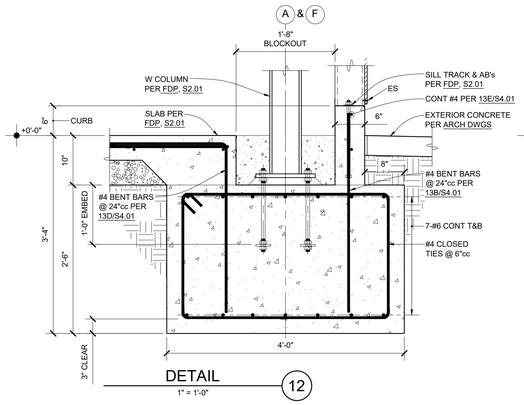
DETAIL 7
1" = 1'-0"



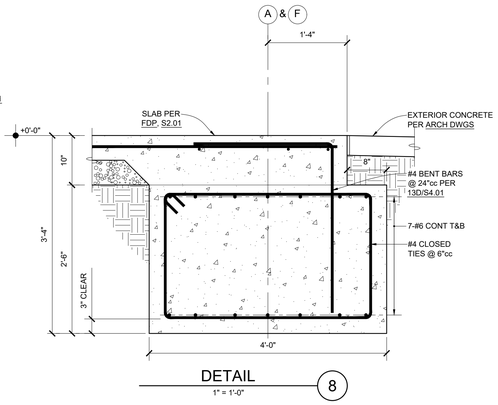
DETAIL 3
1" = 1'-0"



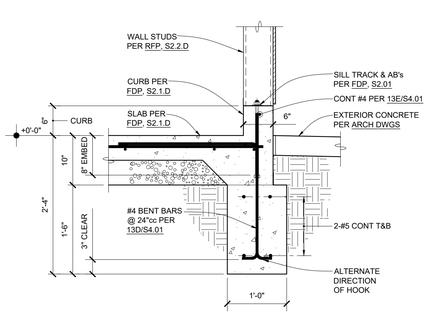
DETAIL 16
1" = 1'-0"



DETAIL 12
1" = 1'-0"



DETAIL 8
1" = 1'-0"



DETAIL 4
1" = 1'-0"

AGENCY APPROVAL:

REVIEWING AGENCIES STAMP HERE

HMC Architects

3595002100

2101 CAPITOL AVENUE, SUITE 100,
SACRAMENTO, CA, 95816
916 368 7990 / www.hmcarchitects.com

NOT FOR CONSTRUCTION

ISSUE

Δ	DESCRIPTION	DATE

CONSULTANT:

RW CONSULTING Engineers Inc
1450 HARBOR BLVD SUITE F
WEST SACRAMENTO, CA 95691
916.716.6910

REGISTERED PROFESSIONAL ENGINEER GREGORY I. RICHTER S-4555 Exp. 12/31/2024 STRUCTURAL STATE OF CALIFORNIA

FOR PLAN REVIEW

FACILITY:
MERRILL F WEST HIGH SCHOOL
1775 W LOWELL AVE
TRACY, CA 95376

PROJECT:
MERRILL F WEST HS AGRICULTURE CTE BLDG INCREMENT 2

SHEET NAME:
DETAILS

DSA SUBMITTAL

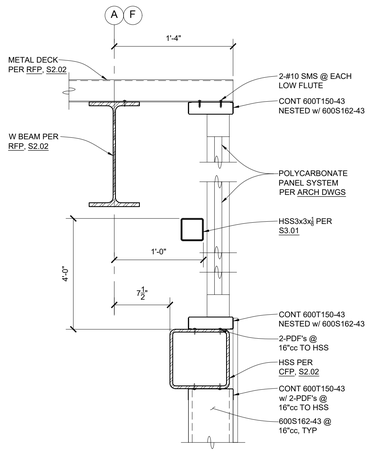
DATE: **10/11/2024** | CLIENT PROJ NO:

SHEET:

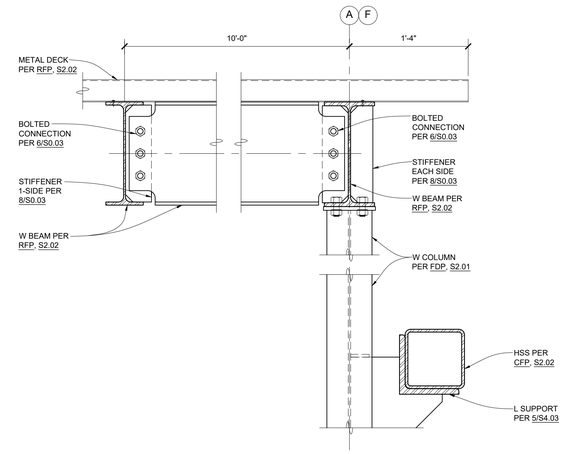
S4.01

PLEASE RECYCLE

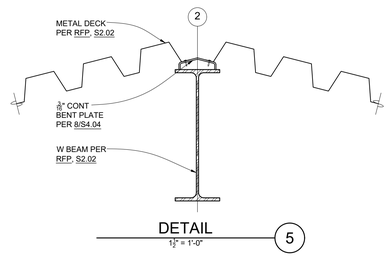
THE LINE SHOWN ABOVE IS 1" LONG ON ORIGINAL PLANS SHEETS ORIGINAL PAGE SIZE



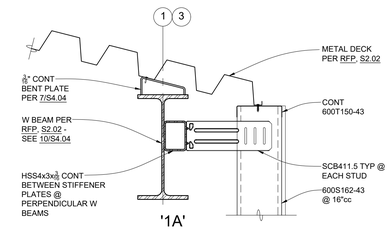
DETAIL 13
1½" = 1'-0"



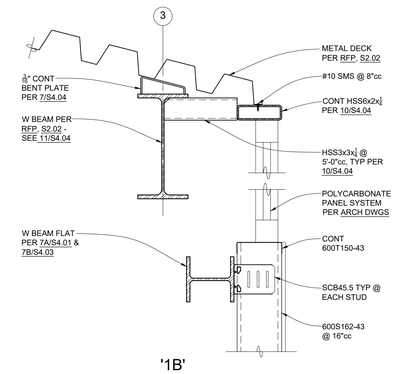
DETAIL 9
1½" = 1'-0"



DETAIL 5
1½" = 1'-0"

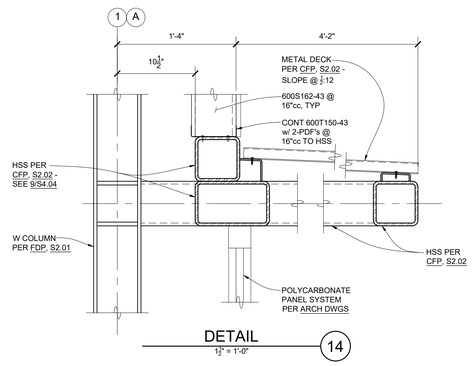


'1A'

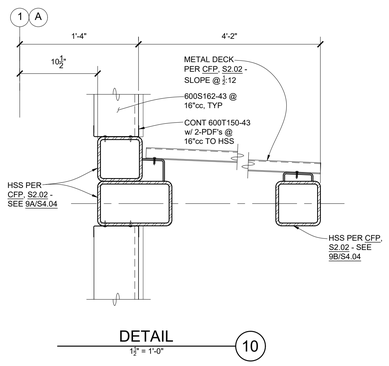


'1B'

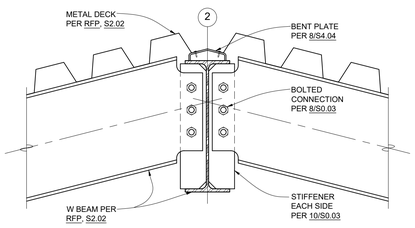
DETAIL 1
1½" = 1'-0"



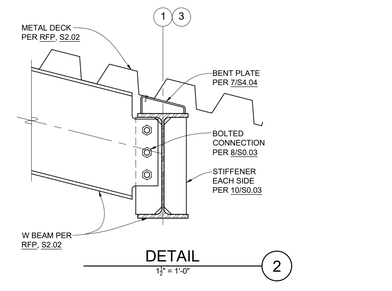
DETAIL 14
1½" = 1'-0"



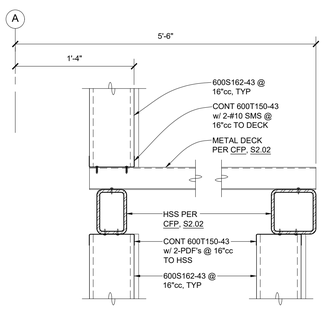
DETAIL 10
1½" = 1'-0"



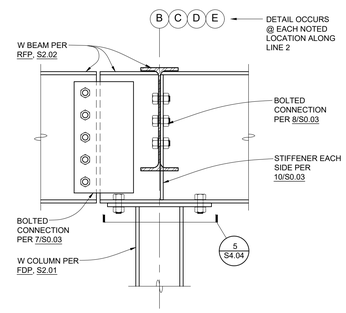
DETAIL 6
1½" = 1'-0"



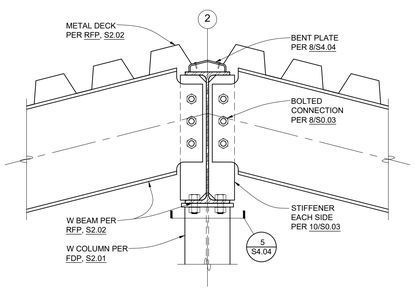
DETAIL 2
1½" = 1'-0"



DETAIL 15
1½" = 1'-0"

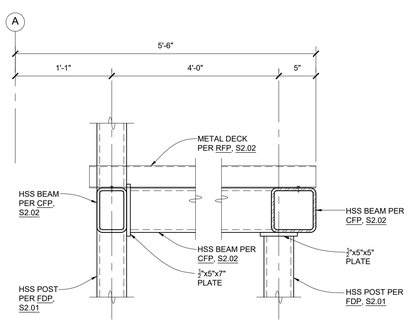


DETAIL 11
1½" = 1'-0"

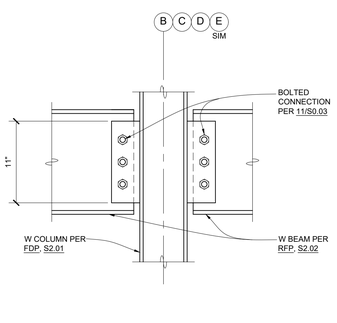


DETAIL 7
1½" = 1'-0"

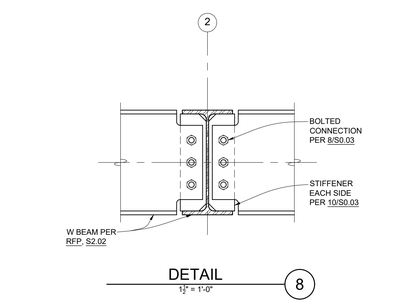
DETAIL 3
1½" = 1'-0"



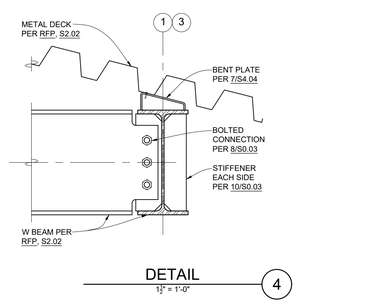
DETAIL 16
1½" = 1'-0"



DETAIL 12
1½" = 1'-0"



DETAIL 8
1½" = 1'-0"



DETAIL 4
1½" = 1'-0"

AGENCY APPROVAL:

REVIEWING AGENCIES STAMP HERE

HMC Architects

3595002100

2101 CAPITOL AVENUE, SUITE 100,
SACRAMENTO, CA, 95816
916 368 7990 / www.hmcarchitects.com

NOT FOR CONSTRUCTION

ISSUE

Δ	DESCRIPTION	DATE

CONSULTANT:

RW CONSULTING Engineers Inc
1450 HARBOR BLVD SUITE F
WEST SACRAMENTO, CA 95691
916.716.6910

REGISTERED PROFESSIONAL ENGINEER GREGORY I. RICHARDS S-4555 Exp. 12/31/2024 STRUCTURAL STATE OF CALIFORNIA

FOR PLAN REVIEW

FACILITY:
MERRILL F WEST HIGH SCHOOL
1775 W LOWELL AVE
TRACY, CA 95376

PROJECT:
MERRILL F WEST HS AGRICULTURE CTE BLDG INCREMENT 2

SHEET NAME:
DETAILS

DSA SUBMITTAL

DATE: **10/11/2024**

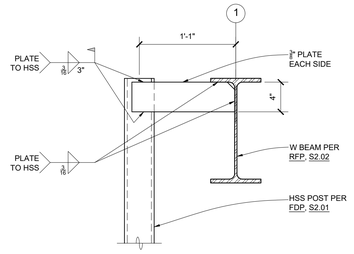
CLIENT PROJ NO:

SHEET:

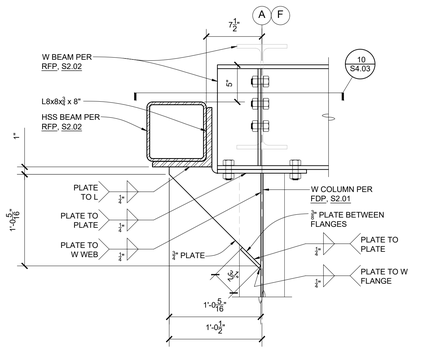
S4.02

PLEASE RECYCLE

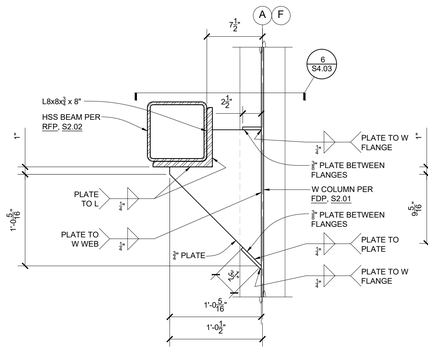
THE LINE SHOWN ABOVE IS 1" LONG ON ORIGINAL 24"x36" SHEETS (ORIGINAL PAGE SIZE)



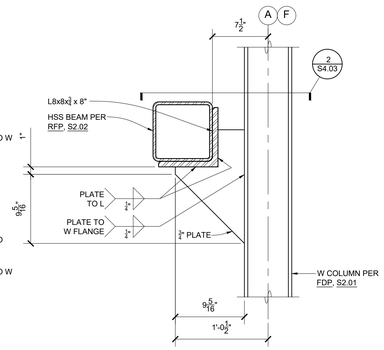
DETAIL 13
1½" = 1'-0"



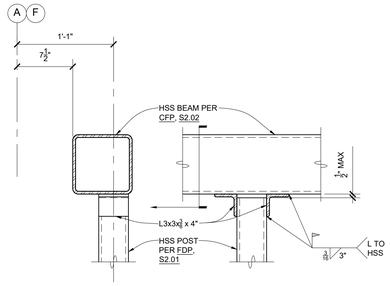
DETAIL 9
1½" = 1'-0"



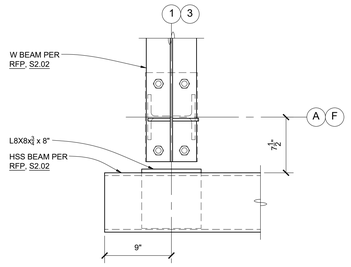
DETAIL 5
1½" = 1'-0"



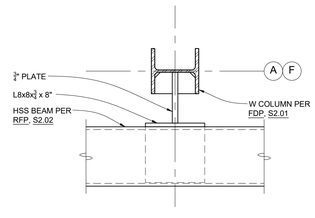
DETAIL 1
1½" = 1'-0"



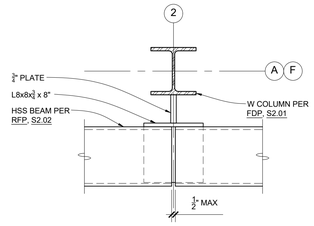
DETAIL 14
1½" = 1'-0"



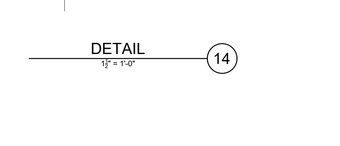
DETAIL 10
1½" = 1'-0"



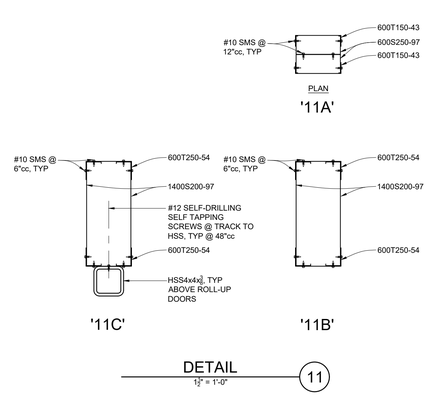
DETAIL 6
1½" = 1'-0"



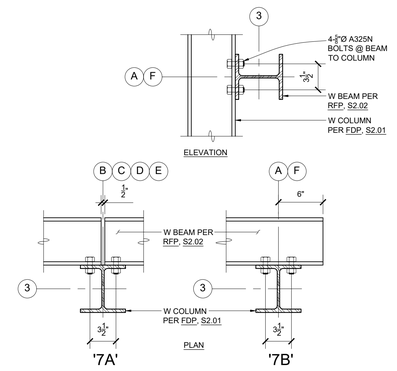
DETAIL 2
1½" = 1'-0"



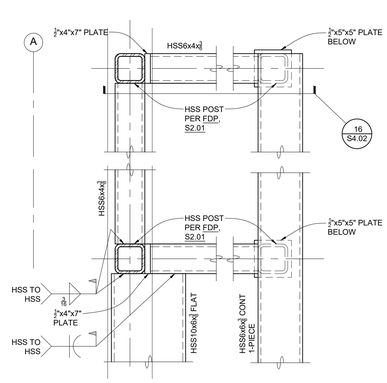
DETAIL 15
1½" = 1'-0"



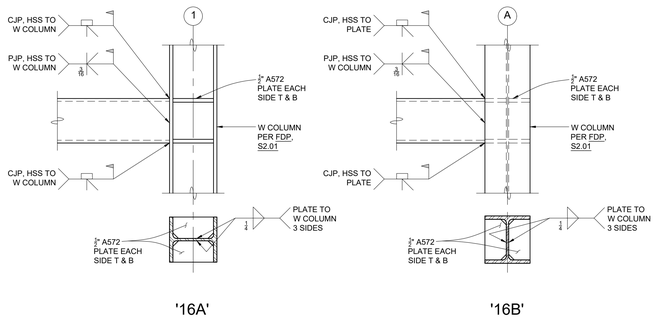
DETAIL 11
1½" = 1'-0"



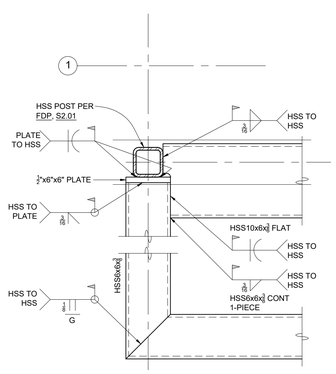
DETAIL 7
1½" = 1'-0"



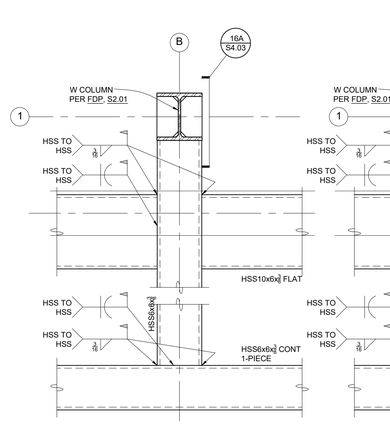
DETAIL 3
1½" = 1'-0"



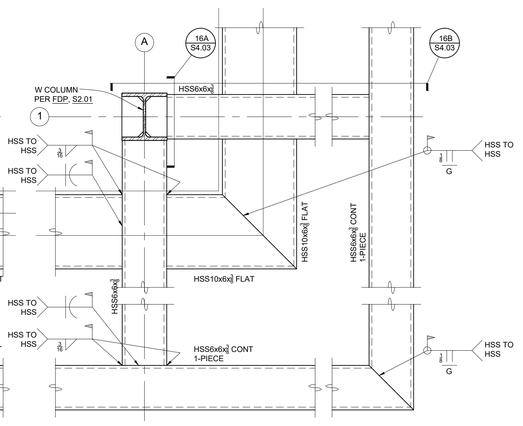
DETAIL 16
1½" = 1'-0"



DETAIL 12
1½" = 1'-0"



DETAIL 8
1½" = 1'-0"



DETAIL 4
1½" = 1'-0"

PLEASE RECYCLE

AGENCY APPROVAL:

REVIEWING AGENCIES STAMP HERE

HMC Architects

3595002100

2101 CAPITOL AVENUE, SUITE 100,
SACRAMENTO, CA, 95816
916 368 7990 / www.hmcarchitects.com

NOT FOR CONSTRUCTION

ISSUE

Δ	DESCRIPTION	DATE

CONSULTANT:

RW CONSULTING Engineers Inc
1450 HARBOR BLVD SUITE F
WEST SACRAMENTO, CA 95691
916.716.6910

REGISTERED PROFESSIONAL ENGINEER
JEREMY I. RICHARDS
S-4555
Exp. 12/31/2024
STRUCTURAL
STATE OF CALIFORNIA

FOR PLAN REVIEW

FACILITY:
MERRILL F WEST HIGH SCHOOL
1775 W LOWELL AVE
TRACY, CA 95376

PROJECT:
MERRILL F WEST HS AGRICULTURE CTE BLDG INCREMENT 2

SHEET NAME:
DETAILS

DSA SUBMITTAL

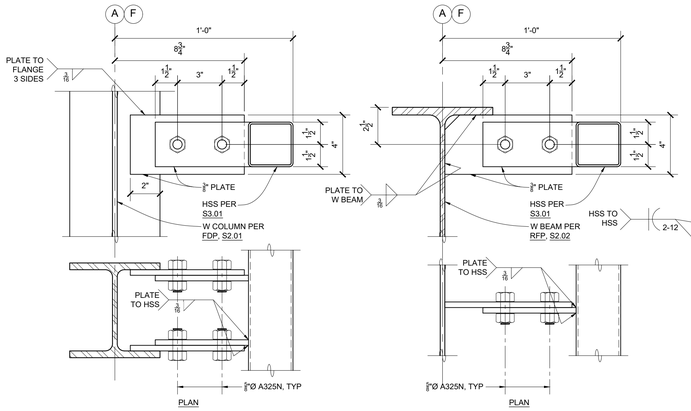
DATE: **10/11/2024**

CLIENT PROJ NO:

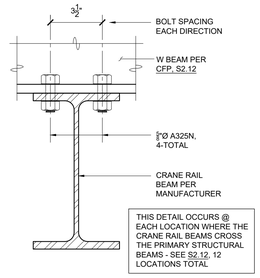
SHEET:

S4.03

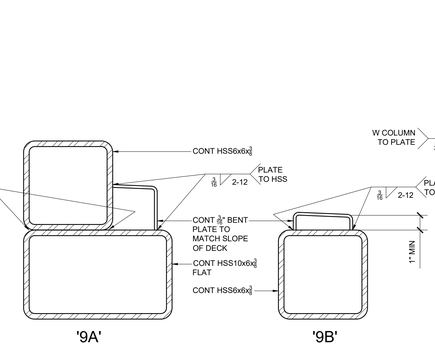
THE LINE SHOWN ABOVE IS 1" LONG ON ORIGINAL PLOT. IF NOT, ADJUST SCALE ACCORDINGLY. SHEETS ORIGINAL PAGE SIZE



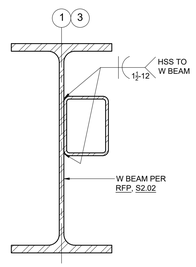
DETAIL 13
3" = 1'-0"



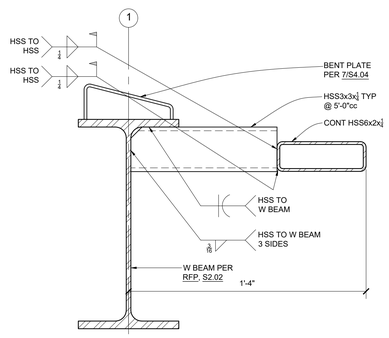
DETAIL 14
3" = 1'-0"



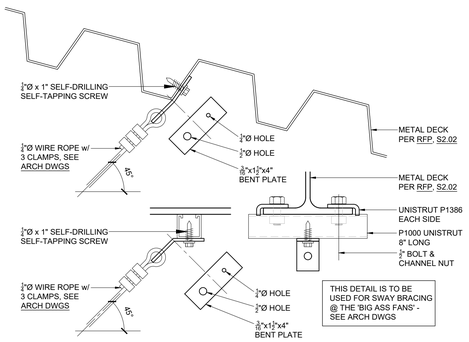
DETAIL 9
3" = 1'-0"



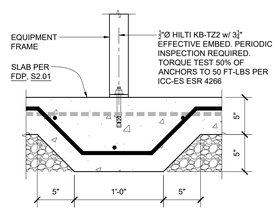
DETAIL 10
3" = 1'-0"



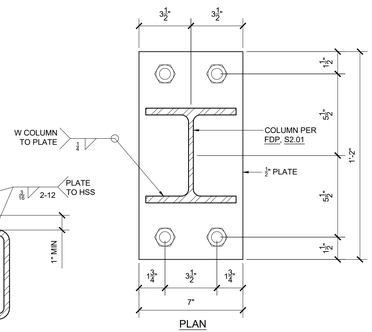
DETAIL 11
3" = 1'-0"



DETAIL 16
3" = 1'-0"

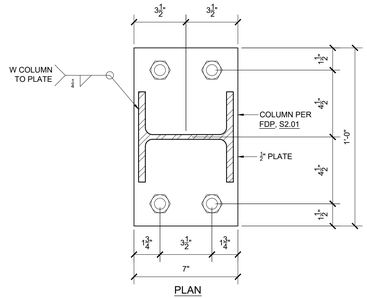


DETAIL 12
1½" = 1'-0"



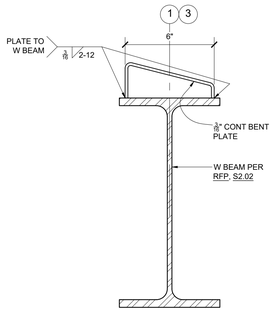
CAP PLATE - HOLES ARE TO BE 1/16" MAX OVERSIZE - BOLTS ARE TO BE A325 N

DETAIL 5
3" = 1'-0"

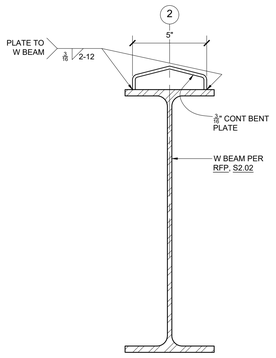


CAP PLATE - HOLES ARE TO BE 1/16" MAX OVERSIZE - BOLTS ARE TO BE A325 N

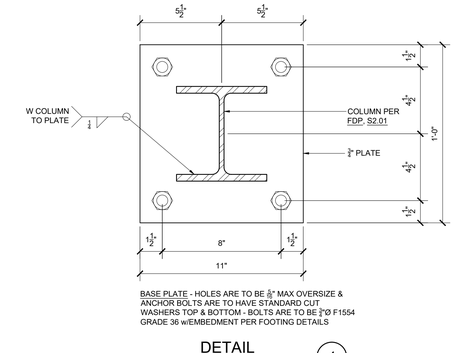
DETAIL 6
3" = 1'-0"



DETAIL 7
3" = 1'-0"

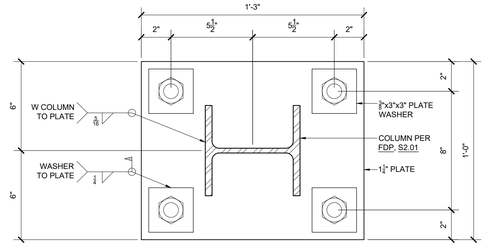


DETAIL 8
3" = 1'-0"



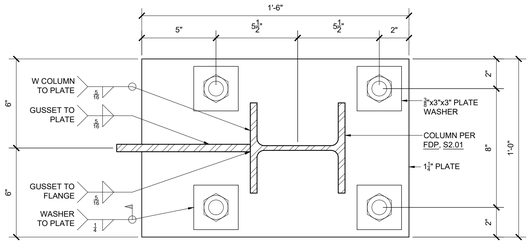
BASE PLATE - HOLES ARE TO BE ⅝" MAX OVERSIZE & ANCHOR BOLTS ARE TO HAVE STANDARD CUT WASHERS TOP & BOTTOM - BOLTS ARE TO BE ¾"Ø F1554 GRADE 36 w/EMBEDMENT PER FOOTING DETAILS

DETAIL 1
3" = 1'-0"

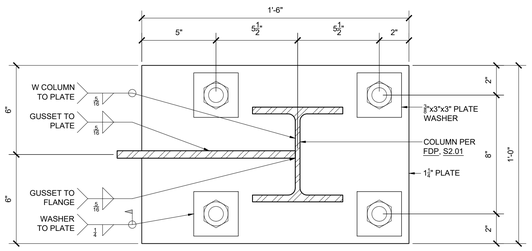


BASE PLATE - HOLES ARE TO BE ⅝" MAX OVERSIZE & ANCHOR BOLTS ARE TO HAVE STANDARD CUT WASHERS TOP & BOTTOM - BOLTS ARE TO BE 1"Ø F1554 GRADE 105 w/EMBEDMENT PER FOOTING DETAILS

DETAIL 2
3" = 1'-0"



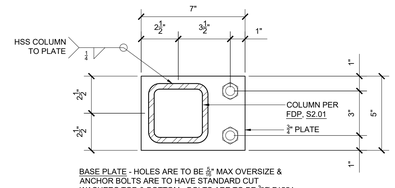
'3A'



'3B'

BASE PLATE - HOLES ARE TO BE ⅝" MAX OVERSIZE & ANCHOR BOLTS ARE TO HAVE STANDARD CUT WASHERS TOP & BOTTOM - BOLTS ARE TO BE 1"Ø F1554 GRADE 105 w/EMBEDMENT PER FOOTING DETAILS

DETAIL 3
3" = 1'-0"



BASE PLATE - HOLES ARE TO BE ⅝" MAX OVERSIZE & ANCHOR BOLTS ARE TO HAVE STANDARD CUT WASHERS TOP & BOTTOM - BOLTS ARE TO BE 1"Ø F1554 GRADE 36 w/EMBEDMENT PER FOOTING DETAILS

DETAIL 4
3" = 1'-0"

AGENCY APPROVAL:

REVIEWING AGENCIES STAMP HERE

HMC Architects

3595002100

2101 CAPITOL AVENUE, SUITE 100,
SACRAMENTO, CA, 95816
916 368 7990 / www.hmcarchitects.com

NOT FOR CONSTRUCTION

ISSUE

Δ	DESCRIPTION	DATE

CONSULTANT:

RW CONSULTING Engineers Inc
1450 HARBOR BLVD SUITE F
WEST SACRAMENTO, CA 95691
916.716.6910

REGISTERED PROFESSIONAL ENGINEER GREGORY T. RICHTER S-4555 Exp. 12/31/2024 STRUCTURAL STATE OF CALIFORNIA

FOR PLAN REVIEW

FACILITY:
MERRILL F WEST HIGH SCHOOL
1775 W LOWELL AVE
TRACY, CA 95376

PROJECT:
MERRILL F WEST HS AGRICULTURE CTE BLDG INCREMENT 2

SHEET NAME:
DETAILS

DSA SUBMITTAL

DATE: **10/11/2024**

CLIENT PROJ NO:

SHEET:

S4.04

PLEASE RECYCLE

IF THIS LINE BROWN ABOVE IS LESS THAN 1/2" THEN ALL ITEMS SHOWN IS ORIGINAL PAPER SIZE

PLUMBING GENERAL NOTES

1) ALL WORK AND MATERIALS SHALL BE PERFORMED AND INSTALLED IN COMPLIANCE WITH THE FOLLOWING CODES AS AMENDED AND ADOPTED BY THE AUTHORITY(IES) HAVING JURISDICTION: 2022 CALIFORNIA ADMINISTRATIVE CODE (CAC), 2022 CALIFORNIA BUILDING CODE (CBC), 2022 CALIFORNIA FIRE CODE (CFC), 2022 CALIFORNIA MECHANICAL CODE (CMC), 2022 CALIFORNIA PLUMBING CODE (CPC), 2022 CALIFORNIA ELECTRICAL CODE (CEC), 2022 CALIFORNIA ENERGY CODE (CENC), 2022 CALIFORNIA GREEN BUILDING CODE (CGC), NATIONAL FIRE PROTECTION ASSOCIATION (NFPA), OCCUPATIONAL SAFETY AND HEALTH ACT (OSHA), AND ANY OTHER LOCAL CODES, ORDINANCES, REGULATIONS, OR AUTHORITIES HAVING JURISDICTION. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES OR OTHER CODES AND REGULATIONS APPLICABLE TO THIS PROJECT. THESE CODES SHALL DETERMINE MINIMUM REQUIREMENTS FOR MATERIALS, METHODS, AND LABOR PRACTICES NOT OTHERWISE DEFINED IN THESE SPECIFICATIONS.

2) CONTRACTOR TO EXAMINE THE PROPOSED WORK SITE AND BECOME FAMILIAR WITH ALL JOB CONDITIONS AFFECTING THE WORK SHOWN. CONTRACTOR(S) SHALL FIELD-VERIFY SITE CONDITIONS INCLUDING LOCATIONS AND SIZES OF EXISTING PIPING, VALVES, CLEANOUTS, WASTE MAINS, GAS METERS, ETC., AND BIDS SHALL BE BASED ON ACTUAL FIELD CONDITIONS. NO ADDITIONAL ALLOWANCE WILL BE GRANTED DUE TO LACK OF KNOWLEDGE OF SITE CONDITIONS. ACCEPT SOLE AND COMPLETE RESPONSIBILITY FOR CONDITIONS OF THE JOBSITE, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING PERFORMANCE OF THE WORK.

3) DRAWINGS INDICATE DIAGRAMMATICALLY THE ARRANGEMENT OF PRINCIPAL APPARATUS, PIPING, DUCTWORK, AND OTHER MATERIAL. FOLLOW DRAWING AS CLOSELY AS POSSIBLE IN ORDER TO ACHIEVE A NEAT INSTALLATION WHILE STILL WORKING AROUND ANY OBSTRUCTIONS. INSPECT SITE CONDITIONS AFFECTING THE WORK AND PROVIDE FITTINGS AND ACCESSORIES AS REQUIRED TO MEET CONDITIONS WHETHER SHOWN OR NOT.

4) IT IS NOT THE INTENTION OF THE PLANS AND SPECIFICATIONS TO COVER ALL INCIDENTALS REQUIRED TO PROVIDE COMPLETE AND FULLY-OPERATIONAL SYSTEMS. THE CONTRACTOR IS TO FURNISH ALL LABOR, MATERIALS, TRANSPORTATION, EQUIPMENT, MISCELLANEOUS SERVICES, ETC., REQUIRED TO ACCOMPLISH THIS RESULT. ANYTHING WHICH MAY BE REASONABLY CONSTRUED AS A NECESSARY PART OF THE INSTALLATION SHALL BE INCLUDED, WHETHER SPECIFICALLY SHOWN OR MENTIONED OR NOT. ENGINEER WILL PROVIDE INTERPRETATIONS UPON REQUEST.

5) DEFINITIONS:
   a. WORK: LABOR AND MATERIALS OF THE CONTRACTOR AND/OR SUBCONTRACTOR.
   b. FURNISH: OBTAIN, COORDINATE, SUBMIT THE NECESSARY DRAWINGS, DELIVER TO THE JOBSITE IN NEW CONDITION AND GUARANTEE.
   c. PROVIDE: FURNISH AND INSTALL.
   d. CONNECT: BRING SERVICE TO THE EQUIPMENT AND MAKE FINAL ATTACHMENTS INCLUDING NECESSARY PIPE FITTINGS, DUCTWORK, TRANSITIONS, ETC.
   e. CONCEALED: HIDDEN FROM SIGHT IN CHASES, FURRED SPACES, SHAFTS, ABOVE CEILING, EMBEDDED IN CONSTRUCTION, IN CRAWL SPACES, OR BURIED.
   f. EXPOSED: NOT INSTALLED UNDERGROUND OR CONCEALED AS DEFINED ABOVE.
   g. PERFORMANCE: CONTRACTOR SHALL PERFORM ALL WORK SPECIFIED, INDICATED, AND REQUIRED UNLESS OTHERWISE NOTED, INCLUDING FINAL CONNECTIONS, IN A WORKMANLIKE MANNER USING WORKERS SKILLED AND EXPERIENCED IN THE TRADE. PIPES, FIXTURES, EQUIPMENT, GRILLES, REGISTERS, ETC. TO BE INSTALLED LEVEL, SQUARE, OR CENTERED, ETC. TO GIVE A NEAT APPEARANCE.
   h. FULL FUNCTION: PROVIDE ALL MINOR ITEMS NECESSARY FOR A COMPLETE AND FULLY FUNCTIONAL INSTALLATION.

6) CONTRACTOR SHALL CONFIRM ALL SITE VOLTAGES BEFORE BIDDING AND ORDERING EQUIPMENT. REIMBURSE ELECTRICAL CONTRACTOR, AT NO CHARGE TO CLIENT, FOR ELECTRICAL CONTRACTOR'S COST INCURRED DUE TO SUBSTITUTION OF MECHANICAL EQUIPMENT HAVING ELECTRICAL REQUIREMENTS DIFFERING FROM SITE CONDITIONS.

7) CONTRACTOR SHALL PROVIDE THE OWNER WITH COPIES OF OPERATION, MAINTENANCE, AND PREVENTATIVE MAINTENANCE MANUALS FOR EACH MODEL AND TYPE OF PLUMBING AND MECHANICAL EQUIPMENT.

8) CONTRACTOR SHALL PROVIDE EVIDENCE OF LICENSING, BONDING, AND INSURANCE, AND PROVIDE OTHER NECESSARY ADMINISTRATIVE FUNCTIONS FOR CONTRACTOR'S WORK.

9) CONTRACTOR SHALL PROCURE AND PAY FOR ALL REQUIRED PERMITS AND SERVICE CHARGES.

10) COORDINATION: CONFORM TO GENERAL CONSTRUCTION CONTRACT DOCUMENTS EXCEPT AS MODIFIED HEREIN. REFER ALSO TO STRUCTURAL AND ELECTRICAL CONTRACT DOCUMENTS. COORDINATE ALL WORK WITH OTHER TRADES.

11) CUTTING AND PATCHING: CUT AND PATCH AS REQUIRED. CUT OR WELD STRUCTURAL MEMBERS ONLY WITH APPROVAL OF A STRUCTURAL ENGINEER. PATCHING SUBJECT TO ACCEPTANCE BY OWNER.

12) SAW CUT TRENCHES IN SLAB SHALL BE FULLY RESTORED AND REINFORCED TO PREVENT SAGGING. ROUGHEN SAW CUT EDGES PRIOR TO RE-POURING CONCRETE.

13) COORDINATE ALL WORK WITH OTHER TRADES TO PROVIDE A COMPLETE INSTALLATION. CONNECT ALL EQUIPMENT FURNISHED BY OTHERS AS REQUIRED. INSTALL ALL WORK TO CLEAR ARCHITECTURAL AND STRUCTURAL MEMBERS. INSTALL ALL ABOVE GRADE (OVERHEAD) PIPING AS HIGH AS PRACTICAL.

14) RESTORE ALL DAMAGE RESULTING FROM YOUR WORK AND LEAVE PREMISES IN CLEAN CONDITION WHEN FINISHED WITH WORK. ADJUST, CLEAN, REPAIR, OR REPLACE PRODUCTS, WHICH HAVE BEEN DAMAGED.

15) GUARANTEE ALL WORK AND MATERIALS FOR ONE YEAR MINIMUM FROM DATE OF FILING NOTICE OF COMPLETION.

16) PROVIDE FLASHING AND COUNTER FLASHING FOR ALL WALL AND ROOF PENETRATIONS.

17) ADJUSTMENTS: MAKE MINOR ADJUSTMENTS TO WORK WHERE REQUESTED BY OWNER, WHEN SUCH ADJUSTMENTS ARE NECESSARY TO PROPER OPERATION AND WITHIN THE INTENT OF THE CONTRACT.

18) MATERIALS AND EQUIPMENT: PROVIDE NEW, UL-LISTED, COMMERCIAL-GRADE MATERIALS, DEVICES, EQUIPMENT, AND FIXTURES SUITABLE FOR THE ENVIRONMENT WHERE INSTALLED. REUSE EXISTING ONLY WHEN COMPLIANT WITH THE CONTRACT DOCUMENTS, IN GOOD CONDITION, AND APPROVED BY THE ENGINEER.

19) INSTALLATION: INSTALL ALL MATERIALS, EQUIPMENT, AND SYSTEMS IN FULL ACCORD WITH MANUFACTURER'S INSTRUCTIONS.

20) LAYOUT: INSTALL ALL PIPING AND DUCTWORK TO PRESENT A NEAT AND ORDERLY APPEARANCE. RUN ALL LINES PARALLEL WITH BUILDING CONSTRUCTION AS MUCH AS POSSIBLE. MAINTAIN HEADROOM, EQUIPMENT CLEARANCE, AND GRADIENT WHERE REQUIRED. ALLOW FOR EXPANSION & CONTRACTION.

21) ACCESS DOORS: PROVIDE ACCESS DOORS OR PANELS FOR ALL VALVES, CLEANOUTS, DAMPERS, CONTROLS, DEVICES, AND OTHER ITEMS REQUIRING INSPECTION OR MAINTENANCE.

22) START-UP: THOROUGHLY TEST AND DEMONSTRATE PROPER OPERATION OF ALL SYSTEMS AND EQUIPMENT MODIFIED, FURNISHED OR INSTALLED UNDER THIS CONTRACT.

23) WARRANTY: ALL MATERIALS AND EQUIPMENT INSTALLED UNDER THIS CONTRACT SHALL BE GUARANTEED FREE FROM ALL MECHANICAL, ELECTRICAL, AND WORKMANSHIP DEFECTS FOR A MINIMUM OF ONE YEAR FROM DATE OF FINAL ACCEPTANCE. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DAMAGES TO THE PREMISES CAUSED BY LEAKS AND/OR BREAKS IN PIPES AND FIXTURES INSTALLED UNDER THIS CONTRACT, AS WELL AS ANY DAMAGE FROM LEAKS VIA ROOF PENETRATIONS MADE AND SEALED UNDER CONTRACTOR'S SCOPE.

24) PATCHING & PAINTING: RESTORE ANY DAMAGE RESULTING FROM THE WORK AND LEAVE PREMISES CLEAN. ADJUST, CLEAN, REPAIR, AND/OR REPLACE ANY ITEMS DAMAGED BY THE WORK. RESTORE WALL AND ROOF PENETRATIONS TO MATCH SURROUNDING WALL OR ROOF, RESPECTIVELY.

PLUMBING CALGREEN NOTES

5.303.3.1 THE EFFECTIVE FLUSH VOLUME OF ALL WATER CLOSETS SHALL NOT EXCEED 1.28 GALLONS PER FLUSH. TANK-TYPE WATER CLOSETS SHALL BE CERTIFIED TO THE PERFORMANCE CRITERIA OF THE U.S. EPA WATERSENSE SPECIFICATION FOR TANK-TYPE TOILETS.

5.303.3.2 THE EFFECTIVE FLUSH VOLUME OF WALL-MOUNTED URINALS SHALL NOT EXCEED 0.125 GALLONS PER FLUSH. ALL OTHER URINALS SHALL NOT EXCEED 0.5 GALLONS PER FLUSH.

5.303.3.3 SINGLE SHOWERHEADS SHALL HAVE A MAXIMUM FLOW RATE OF NOT MORE THAN 1.8 GALLONS PER MINUTE AT 80 PSI SHOWERHEADS SHALL BE CERTIFIED TO THE PERFORMANCE CRITERIA OF THE U.S. EPA WATERSENSE SPECIFICATION FOR SHOWERHEADS. WHEN A SHOWER IS SERVED BY MORE THAN ONE SHOWERHEAD, THE COMBINED FLOW RATE OF ALL SHOWERHEADS AND/OR OTHER SHOWER OUTLETS CONTROLLED BY A SINGLE VALVE SHALL NOT EXCEED 1.8 GALLONS PER MINUTE AT 80 PSI, OR THE SHOWER SHALL BE DESIGNED TO ALLOW ONLY ONE SHOWER OUTLET TO BE IN OPERATION AT A TIME.

5.303.3.4 NON-RESIDENTIAL LAVATORY FAUCETS SHALL HAVE A MAX FLOW RATE OF NOT MORE THAN 0.5 GPM AT 60 PSI
KITCHEN FAUCETS AND WASH FOUNTAINS SHALL HAVE A MAXIMUM FLOW RATE OF NOT MORE THAN 1.8 GPM AT 60 PSI. KITCHEN FAUCETS MAY TEMPORARILY INCREASE THE FLOW ABOVE THE MAXIMUM RATE, BUT NOT TO EXCEED 2.2 GALLONS PER MINUTES AT 60 PSI, AND MUST DEFAULT TO A MAXIMUM FLOW RATE OF 1.8 GALLONS PER MINUTES AT 60 PSI.
METERING FAUCETS SHALL NOT DELIVER MORE THAN 0.20 GALLONS PER CYCLE.

5.303.5 FOR THOSE OCCUPANCIES WITHIN THE AUTHORITY OF THE CALIFORNIA BUILDING STANDARDS COMMISSION AS SPECIFIED IN SECTION 103, THE PROVISIONS OF SECTION 5.303.3 AND 5.303.4 SHALL APPLY TO NEW FIXTURES IN ADDITIONS OR AREAS OF ALTERATIONS TO THE BUILDING.

5.303.6 PLUMBING FIXTURES AND FITTINGS SHALL BE INSTALLED IN ACCORDANCE WITH THE CALIFORNIA PLUMBING CODE AND SHALL MEET THE APPLICABLE STANDARDS REFERENCED IN CPC TABLE 1701.1 AND CALGREEN CHAPTER 6

5.410.4.5 PROVIDE THE BUILDING OWNER WITH DETAILED OPERATING AND MAINTENANCE INSTRUCTIONS AND COPIES OF GUARANTIES/WARRANTIES FOR EACH SYSTEM PRIOR TO FINAL INSPECTION.

MEP ANCHORAGE AND BRACING 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, 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.

BRACING NOTE:

PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEMS SHALL BE BRACED TO COMPLY WITH THE FORCES AND DISPLACEMENTS PRESCRIBED IN ASCE 7-16 SECTION 13.3 AS DEFINED IN ASCE 7-16 SECTIONS 13.6.5, 13.6.6, 13.6.7, 13.6.8; AND 2022 CBC, SECTIONS 1617A.1.24, 1617A.1.25, AND 1617A.1.26.

THE METHOD OF SHOWING BRACING AND ATTACHMENTS TO THE STRUCTURE FOR THE IDENTIFIED DISTRIBUTION SYSTEM ARE AS NOTED BELOW. WHEN BRACING AND ATTACHMENTS ARE BASED ON A 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 DUCTWORK (MD), PLUMBING PIPING (PP), ELECTRICAL DISTRIBUTION SYSTEMS (E):

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

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

WATER AND SEWER SERVICE CALCULATION

FIXTURE TYPE	NO.	SEWER FU	SEWER TOTAL	COLD WATER FU	COLD WATER TOTAL	HOT WATER FU	HOT WATER TOTAL	TOTAL WATER FU
DRINKING FOUNTAIN (HI/LO)	1	0.5	0.5	0.5	0.5	0	0	0.5
HOSE BIBB (FIRST)	1	0	0	2.5	2.5	0	0	2.5
HOSE BIBB (ADDITIONAL)	4	0	0	1	4	0	0	4
LAVATORY	2	1	2	1	2	0.75	1.5	2
FLOOR DRAIN	1	2	2	0	0	0	0	0
MOP SINK	1	3	3	3	3	2.25	2.25	3
WASH SINK	1	3	3	6	6	4.5	4.5	6
WATER CLOSET - FV	2	4	8	5	10	0	0	10
EYEWASH STATION	1	0	0	5	5	3	3	5
TOTAL FU			18.5		33.0		11.3	33.0

EQUIVALENT COLD WATER FLOW RATE (GPM):	43
PRESSURE AVAILABLE AT BUILDING SHUTOFF VALVE (PSI):	30
MINIMUM REQUIRED FIXTURE PRESSURE (PSI):	20
ELEVATION LOSS (PSI):	1.3
EQUIVALENT PIPE LENGTH FROM SOV TO MOST REMOTE FIXTURE (FT):	280
FRICTION LOSS PRESSURE AVAILABLE (PSI):	8.70
MAXIMUM ALLOWABLE FRICTION LOSS (PSI/100 FT):	2.49
MINIMUM REQUIRED 'WATER' PIPE SIZE (INCHES):	2
MINIMUM REQUIRED 'SEWER' PIPE SIZE (INCHES):	3

SIZE: TYPE L COPPER		CW MAX FLOW		CW FIXTURE UNIT		HW MAX FLOW		HW FIXTURE UNIT
NOMINAL DIAMETER (INCHES)	INTERNAL DIAMETER	GPM	FPS	FLUSH TANK	FLUSH VALVE	GPM	FPS	
0.5	0.545	1.6	2.2	1	0	1.6	2.2	1
0.75	0.785	4.1	2.7	4	0	4.1	2.7	4
1	1.025	8.3	3.2	10	0	8.3	3.2	10
1.25	1.265	14.5	3.7	20	0	14.5	3.7	20
1.5	1.505	22.9	4.1	36	5	22.9	4.1	36
2	1.985	47.4	4.9	115	42	47.4	4.9	115

(CALCULATIONS PER CPC APPENDIX A)

PLUMBING LEGEND

	POC – POINT OF CONNECTION
	GAS POC
	ELECTRICAL POC
	COLD WATER POC
	CONDENSATE OR DRAIN POC
	FLOOR SINK WITH TRAP POC
	CLEANOUT
	FLOOR DRAIN
	FLOOR SINK
TP	TRAP PRIMER
	WATER HAMMER ARRESTOR
	HOSE BIBB
	BACKFLOW PREVENTER
	SHUT-OFF VALVE
	INSTA-HOT WATER HEATER
	PUMP
CW	COLD WATER
HW	HOT WATER
HWR	HOT WATER RETURN
NG	NATURAL GAS
SS	SANITARY SEWER
SSV	SANITARY SEWER VENT
ø	DIAMETER
AFF	ABOVE FINISHED FLOOR
BF	BELOW FLOOR
BHP	BRAKE HORSEPOWER
DFU	DRAINAGE FIXTURE UNIT
FA,TB	FROM ABOVE, TO BELOW
FB,TA	FROM BELOW, TO ABOVE
FU	FIXTURE UNIT
FW	FILTERED WATER
GA	GAUGE
GPM	GALLONS PER MINUTE
GW	GREASE WASTE
HP	HORSEPOWER
MAX/MIN	MAXIMUM / MINIMUM
NTS	NOT TO SCALE
SOV	SHUT-OFF VALVE
TDL	TOTAL DEVELOPED LENGTH
TMV	THERMOSTATIC MIXING VALVE
TYP	TYPICAL
VTR	VENT TO ROOF
UON	UNLESS OTHERWISE NOTED
WH	WATER HEATER

AGENCY APPROVAL:

TRACY UNIFIED SCHOOL DISTRICT

HMC Architects
3595-002-100
2101 CAPITOL AVENUE, SUITE 100,
SACRAMENTO, CA, 95816
916 368 7990 / www.hmcarchitects.com

ISSUE

Δ	DESCRIPTION	DATE

OPTIMIZEDENERGY & FACILITIES CONSULTING, INC.
5734 Lonetree Boulevard, Rocklin, CA 95765
Office: (916) 626 5518 www.oefcinc.com

REGISTERED PROFESSIONAL ENGINEER
STEVEN P. WISNIEWSKI
No.M32225
EXP.12-31-2024
MECHANICAL
STATE OF CALIFORNIA

FACILITY:
MERRILL F WEST HIGH SCHOOL

1775 W LOWELL AVE
TRACY, CA 95376

PROJECT:
MERRILL F WEST HS AGRICULTURE CTE BLDG INCREMENT 2

SHEET NAME:
PLUMBING GENERAL NOTES & CALCULATIONS

DSA SUBMITTAL

DATE: **10/11/24** | CLIENT PROJ NO:

SHEET:

P0.0

Autodesk Docs://3595002100 TUSD AG SHOP R22/3595002100-A-MERRILL WEST-AG SHOP.rvt
8/19/2024 3:39:57 PM

PLEASE RECYCLE

THE LINE SHOWN ABOVE IS EXACTLY 1" WHEN PLOTTED AT FULL SHEET'S ORIGINAL IMAGE SIZE

PLUMBING FIXTURE SCHEDULE

TAG	FIXTURE	TYPE	MOUNTING	MANU.	MODEL NO.	WATER SUPPLY			DRAIN		PIPE SIZES				REMARKS
						MANU.	MODEL NO.	MAX GPM/GPF	TYPE	SIZE	WASTE	VENT	CW	HW	
CO-1	CLEANOUT	WALL	–	ZURN	Z1446	–	–	–	–	–	SEE PLAN	–	–	–	
CO-2	CLEANOUT	FLOOR	–	ZURN	Z1400	–	–	–	–	–	SEE PLAN	–	–	–	
DF-1	DRINKING FOUNTAIN	BI LEVEL (H/LO)	WALL	HAWS	1117L	–	–	–	(2) P-TRAP	(2) 1-1/4"	(2) 1-1/2"	(2) 1-1/4"	(2) 1/2"	–	ADA COMPLIANT, VANDAL RESISTANT, PROVIDE WITH MOUNTING PLATE HAWS MODEL 6717 AND REMOTE FILTER (FI-1) HAWS MODEL 6480
ET-1	EXPANSION TANK	–	–	AMTROL	EX-30	–	–	–	–	–	–	–	1/2"	–	4.4 GALLON CAPACITY
EW-1	EYEWASH	–	RECESSED IN WALL	HAWS	7656WCC	–	–	–	P-TRAP	1-1/2"	2"	–	1/2"	–	TEMPERED WATER 1/2" INLET FROM (TMV-2), INSTALL PER MANUFACTURER
FD-1	FLOOR DRAIN	–	FLOOR	ZURN	Z415BL	–	–	–	P-TRAP	2"	2"	1-1/2"	–	–	TRAP PRIMER AND NO-HUB OUTLET CONNECTIONS
FI-1	FILTER	–	WALL	HAWS	6480	–	–	–	–	–	–	–	1/2"	–	PROVIDE (2) 1/2" OUTLETS TO (DF-1)
HB-1	HOSE BIBB	–	RECESSED IN WALL	WOODFORD	B26	–	–	–	–	–	–	–	3/4"	–	BACKFLOW PROTECTED WALL FAUCET WITHIN FLUSHED MOUNTED TAMPER RESISTANT HOUSING, ASSE STANDARD 1052
HB-2	HOSE BIBB	–	WALL	WOODFORD	26	–	–	–	–	–	–	–	3/4"	–	BACKFLOW PROTECTED WALL FAUCET PROVIDED WITH STEM LOCK WOODFORD MODEL SL-24, ASSE STANDARD 1052
LAV-1	LAVATORY	MANUAL, COLD WATER ONLY	WALL	KOHLER	K-2007	CHICAGO	807-E2805-665PSHAB	0.5	P-TRAP	1-1/4"	1-1/2"	1-1/4"	1/2"	–	ADA COMPLIANT, VANDAL PROOF, PROVIDE WITH CONCEALED ARM SUPPORT CARRIER, METERED MANUAL PUSH BUTTON
MS-1	MOP SINK	–	FLOOR	FIAT	TSB3010	CHICAGO	897	–	P-TRAP	3"	3"	1-1/2"	1/2"	1/2"	FAUCET WITH ATMOSPHERIC VACUUM BREAKER
SK-1	SINK	WASH FOUNTAIN	WALL	BSMSS 032M6020BL				1.8	P-TRAP	2"	2"	1-1/2"	3/4"	3/4"	PROVIDE FAUCETS WITH 1.8 GPM AERATOR
TMV-1	THERMOSTATIC MIXING VALVE	–	–	WATTS	LFMMV-M1	–	–	–	–	–	–	–	1/2"	1/2"	ASSE STANDARD 1017, 1069, AND 1070 LISTED, 0.5-12 GPM FLOW RATING, INSTALL IN AN ACCESSIBLE LOCATION
TMV-2	THERMOSTATIC MIXING VALVE	–	–	HAWS	9201EW AXION	–	–	–	–	–	–	–	1/2"	1/2"	PROVIDE 1/2" OUTLET TO (EW-1), INSTALL IN AN ACCESSIBLE LOCATION
TP-1	TRAP PRIMER	–	RECESSED IN WALL	PRECISION	P2-500	–	–	–	–	–	–	–	–	–	INSTALL WITHIN WALL AND PROVDE ACCESS HATCH
WC-1	WATER CLOSET	FLUSH VALVE	FLOOR	KOHLER	K-96057-SS	SLOAN	ROYAL 111	1.28	INTEGRAL P-TRAP	–	3"	2"	1"	–	ADA COMPLIANT, ELONGATED WITH OPEN FRONT SEAT, MANUAL FLUSH

NOTES: COORDINATE ALL TRIM AND ACCESSORY OPTIONS WITH OWNER
EQUIVALENT FIXTURES ACCEPTABLE CONTINGENT ON OWNER APPROVAL

WATER HEATER SCHEDULE

TAG	MANU.	MODEL NO.	LOCATION	SERVES	GALLONS CAPACITY			UEF (TE)	STANDBY LOSS MBH (%/HR)	FUEL SOURCE	INPUT MBH (KW)	RECOVERY GPH (GPM)	ELECTRICAL		WEIGHT LBS	MAX T-STAT SETPOINT	REMARKS
					NOMINAL	RATED	1ST HOUR						V-#-Hz	AMPS			
WH-1	RHEEM	ELD52-TB	CUST. 103	UNIT N	50	45	63	0.93	N/A	ELECTRIC RESISTANCE	(6.0)	41 @60°F RISE	208-1-60	29.0	573	120°F	

PIPE MATERIAL SCHEDULE

APPLICATION	LOCATION	SIZE	MATERIAL	JOINING METHOD
SANITARY WASTE/VENT	BELOW GRADE	ALL	SCHEDULE 40 ABS	SOLVENT
	ABOVE GRADE	ALL	SCHEDULE 40 ABS	SOLVENT
T&P RELIEF	ALL	ALL	COPPER (TYPE M)	95/5 SOLDER
CONDENSATE	ALL	ALL	SCHEDULE 40 PVC	SOLVENT WITH DWV FITTINGS
DOMESTIC WATER IN OR WITHIN 5' OF BUILDING	BELOW GRADE	ALL	COPPER (TYPE K) W/CORROSION-RESISTANT TAPE	LEAD FREE BRAZED
	ABOVE GRADE	ALL	COPPER (TYPE L OR K)	95/5 SOLDER

NOTES: ALL PIPING MATERIAL AND JOINING METHODS CONTINGENT ON AUTHORITY HAVING JURISDICTION APPROVAL
ALL ABS AND PVC PIPING EXPOSED TO SUNLIGHT SHALL BE PROTECTED BY WATER-BASED LATEX PAINT

PIPE INSULATION SCHEDULE

TYPE	DIAMETER SIZE (INCHES)	FLUID TEMP RANGE (°F)	INSULATION CONDUCTIVITY (BTU*INCH/HR*FT²*F)	INSULATION THICKNESS (INCHES)
DOMESTIC HOT WATER	<1	105-140	0.22-0.28	1
DOMESTIC HOT WATER	1 OR LARGER	105-140	0.22-0.28	1-1/2

AGENCY APPROVAL:

TRACY UNIFIED SCHOOL DISTRICT

HMC Architects
3595-002-100
2101 CAPITOL AVENUE, SUITE 100,
SACRAMENTO, CA, 95816
916 368 7990 / www.hmcarchitects.com

ISSUE

Δ DESCRIPTION DATE

OPTIMIZEDENERGY & FACILITIES CONSULTING, INC.
5734 Lonetree Boulevard, Rocklin, CA 95765
Office: (916) 626 5518 www.oefcinc.com

REGISTERED PROFESSIONAL ENGINEER
STEVEN P. WISNIEWSKI
No.M32225
EXP.12-31-2024
MECHANICAL
STATE OF CALIFORNIA

FACILITY:
MERRILL F WEST HIGH SCHOOL

1775 W LOWELL AVE
TRACY, CA 95376

PROJECT:
MERRILL F WEST HS AGRICULTURE CTE BLDG INCREMENT 2

SHEET NAME:
PLUMBING SCHEDULES

DSA SUBMITTAL

DATE: **10/11/24** CLIENT PROJ NO:

SHEET:

P0.1

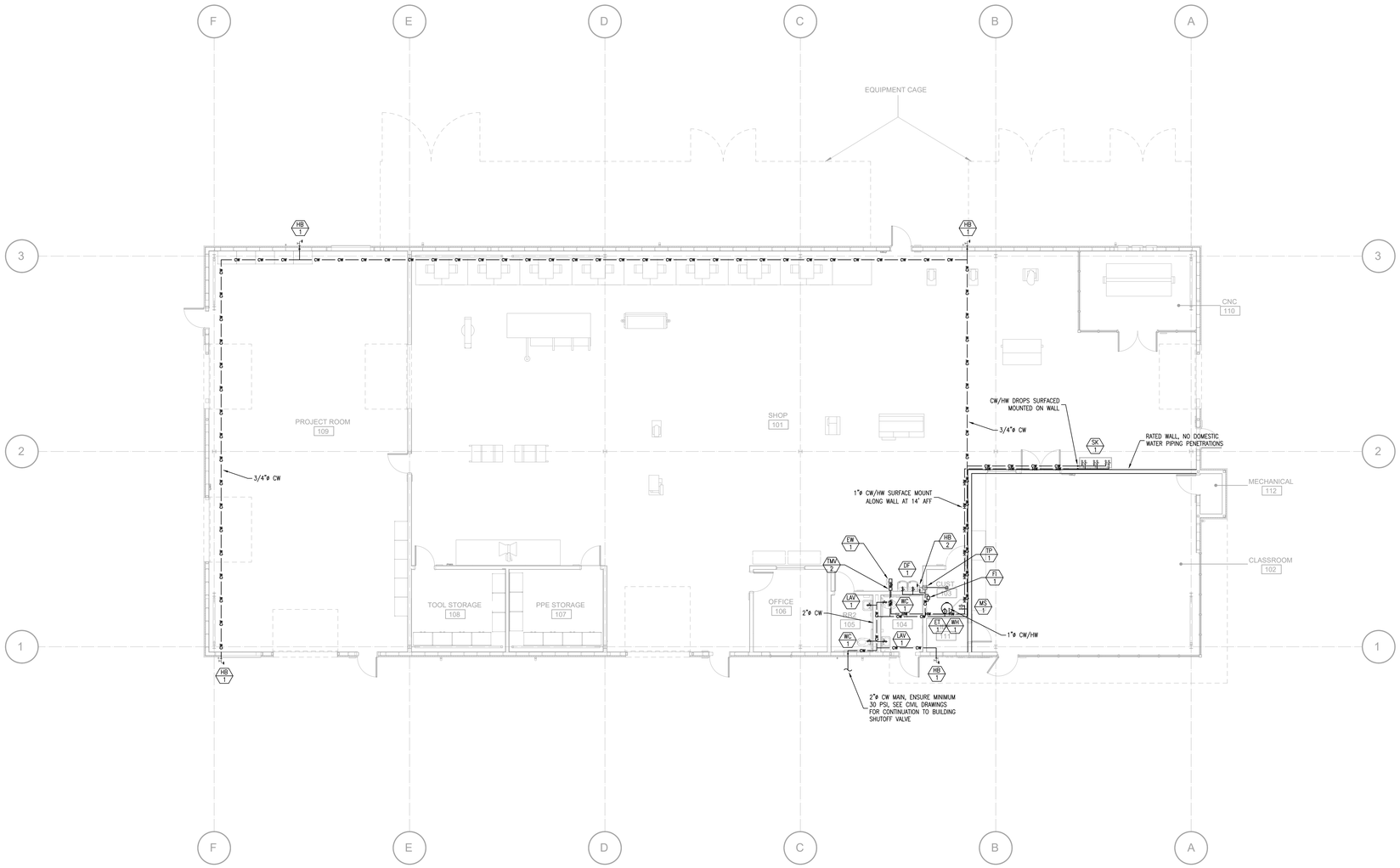
Autodesk Docs://3595002100 TUSD AG SHOP R22/3595002100-A-MERRILL WEST-AG SHOP.rvt
8/19/2024 3:33:57 PM

PLEASE RECYCLE

THE LINE BROWN ABOVE IS EXACTLY 1" WHEN PLOTTED AT THIS SHEET'S ORIGINAL IMAGE SIZE

SHEET NOTES:

1. (E) EXISTING
   (N) NEW
   (R) RELOCATED
   (D) DEMO
2. ALL APPLIANCES AND FIXTURES/PIPING SHOWN ARE (N) U.O.N.
3. WATER HAMMER ARRESTERS SHALL BE APPROVED MECHANICAL DEVICES IN ACCORDANCE WITH ASSE 1010 AND SHALL BE INSTALLED AS CLOSE AS POSSIBLE TO QUICK ACTING VALVES PER CPC 609.11
4. ALL APPLICABLE PIPING SHALL BE INSULATED IN ACCORDANCE WITH CENC 120.3 AND CPC 609.12, SEE PIPE INSULATION SCHEDULE FOR MINIMUM THICKNESS
5. INSTALL THERMOSTATIC MIXING VALVES (TMV-1) AT ALL FIXTURES WITH DOMESTIC HOT WATER OR WATER HEATERS TO ENSURE MAXIMUM OUTLET TEMPERATURE OF 120°F U.O.N.
6. PROVIDE TRAP PRIMERS AT ALL FLOOR DRAIN LOCATIONS
7. PROVIDE APPROVED THROUGH-PENETRATION FIRESTOPPING METHOD FOR ALL PIPING PENETRATIONS OF FIRE-RESISTANCE-RATED ASSEMBLIES



A PLUMBING PLAN - DOMESTIC WATER
SCALE: 1/8"=1'-0"

NORTH

AGENCY APPROVAL:

TRACY UNIFIED SCHOOL DISTRICT

HMC Architects
3595-002-100
2101 CAPITOL AVENUE, SUITE 100,
SACRAMENTO, CA, 95816
916 368 7990 / www.hmcarchitects.com

ISSUE

Δ DESCRIPTION DATE

OPTIMIZED ENERGY & FACILITIES CONSULTING, INC.
5734 Lonetree Boulevard, Rocklin, CA 95765
Office: (916) 626 5518 www.oefcinc.com

REGISTERED PROFESSIONAL ENGINEER
STEVEN P. WISNIEWSKI
No.M32225
EXP.12-31-2024
MECHANICAL
STATE OF CALIFORNIA

FACILITY:
MERRILL F WEST HIGH SCHOOL

1775 W LOWELL AVE
TRACY, CA 95376

PROJECT:
MERRILL F WEST HS AGRICULTURE CTE BLDG INCREMENT 2

SHEET NAME:
PLUMBING PLAN - DOMESTIC WATER

DSA SUBMITTAL

DATE: **10/11/24** | CLIENT PROJ NO:

SHEET:

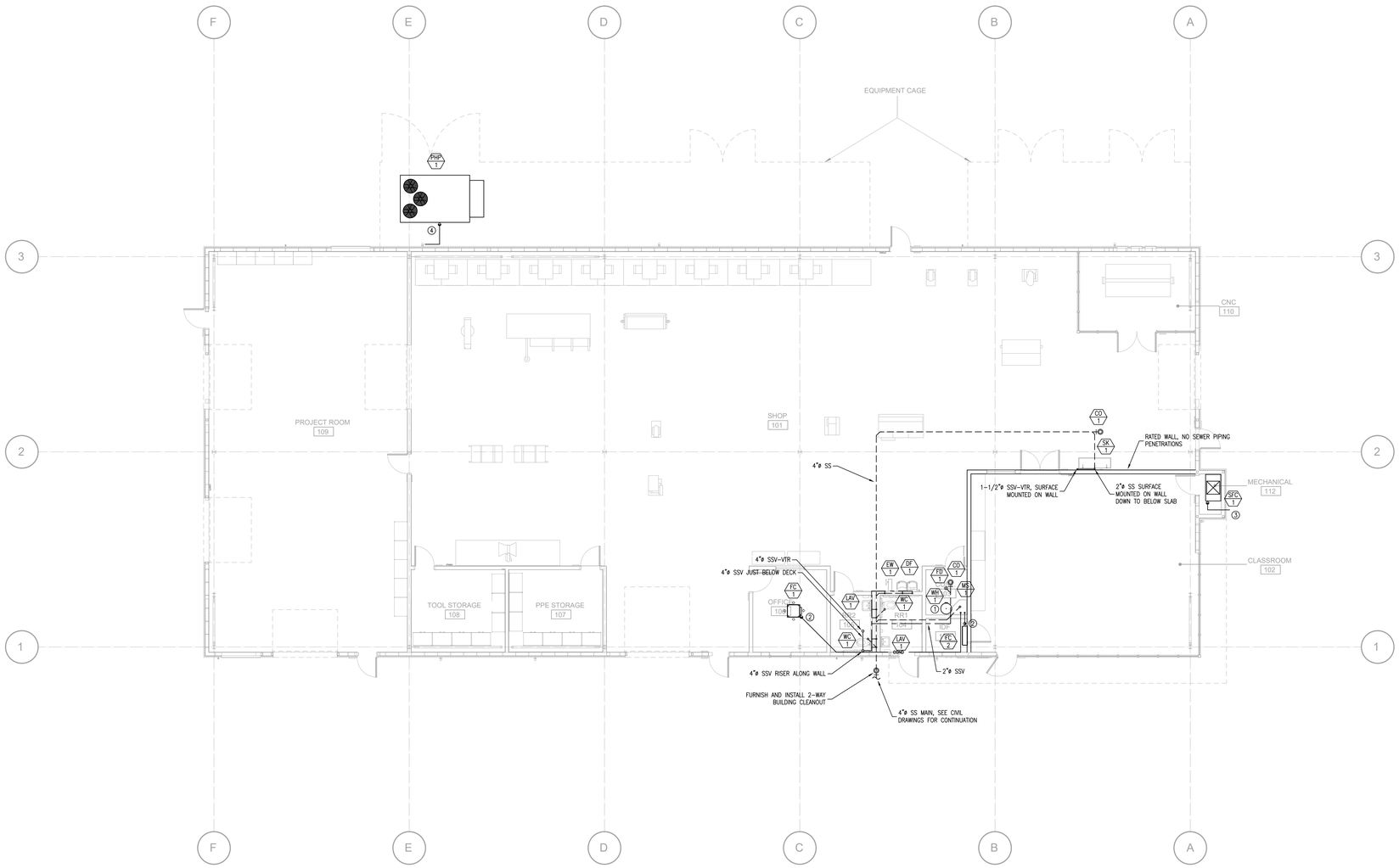
P1.1

Autodesk Docs://3595002100 TUSD AG SHOP R22/3595002100-A-MERRILL WEST-AG SHOP.rvt
8/19/2024 3:39:57 PM

THE LINE BROWN ABOVE IS EXACTLY ONE INCH LONG ON FULL SIZE SHEETS ORIGINAL PAGE SIZE

SHEET NOTES:

1. (E) EXISTING
   (N) NEW
   (R) RELOCATED
   (D) DEMO
2. ALL APPLIANCES AND FIXTURES/PIPING SHOWN ARE (N) U.O.N.
3. ENSURE CLEANOUT TO GRADE EXISTS
4. ENSURE 1/4" PER FOOT SLOPE FOR SANITARY SEWER PIPING
5. ENSURE MINIMUM 1/8" PER FOOT SLOPE FOR ALL CONDENSATE PIPING AND INSTALL PER CPC 814. ALL CONDENSATE PIPING SHALL BE 3/4"ø U.O.N. OR LARGER IF RECOMMENDED BY THE MANUFACTURER
6. PROVIDE WALL CLEANOUTS (CO-2) AT ALL LAVATORIES (LAV-1) AND SINK (SK-1)



A PLUMBING PLAN - SEWER & VENT
SCALE: 1/8"=1'-0"

KEY NOTES:

1. RELIEF VALVE AND PIPING TO MOP SINK
2. CONDENSATE PUMPED TO MOP SINK OR OTHER APPROVED LOCATION
3. PRIMARY CONDENSATE TO APPROVED EXTERIOR LOCATION IN LANDSCAPE. ENSURE SECONDARY CONDENSATE OVERFLOW PROTECTION PER CPC 814.2
4. PRIMARY CONDENSATE TO RECEPTOR, SEE CIVIL DRAWINGS

NORTH

AGENCY APPROVAL:

TRACY UNIFIED SCHOOL DISTRICT

HMC Architects
3595-002-100
2101 CAPITOL AVENUE, SUITE 100,
SACRAMENTO, CA, 95816
916 368 7990 / www.hmcarchitects.com

ISSUE

Δ DESCRIPTION DATE

OPTIMIZED ENERGY & FACILITIES CONSULTING, INC.
5734 Lonetree Boulevard, Rocklin, CA 95765
Office: (916) 626 5518 www.oefcinc.com

REGISTERED PROFESSIONAL ENGINEER
STEVEN P. WISNIEWSKI
No.M32225
EXP.12-31-2024
MECHANICAL
STATE OF CALIFORNIA

FACILITY:
MERRILL F WEST HIGH SCHOOL

1775 W LOWELL AVE
TRACY, CA 95376

PROJECT:
MERRILL F WEST HS AGRICULTURE CTE BLDG INCREMENT 2

SHEET NAME:
PLUMBING PLAN - SEWER & VENT

DSA SUBMITTAL

DATE: **10/11/24** | CLIENT PROJ NO:

SHEET:

P1.2

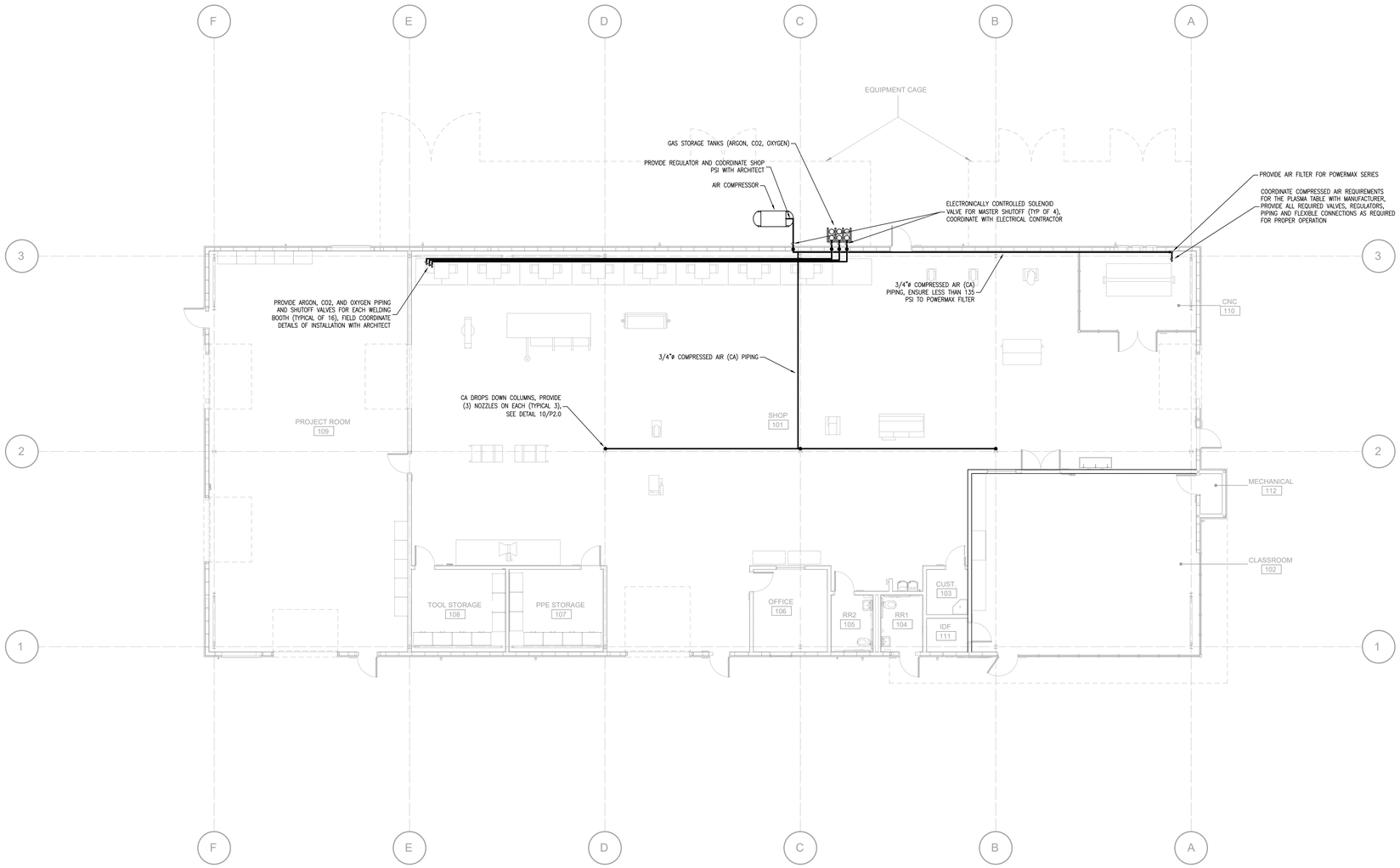
Autodesk Docs://3595002100 TUSD AG SHOP R22/3595002100-A-MERRILL WEST-AG SHOP.rvt
8/19/2024 3:39:57 PM

PLEASE RECYCLE

THE LINE BROWN ABOVE IS EXACTLY 1" WHEN PLOTTED ON 30X42 ORIGINAL SHEET SIZE

SHEET NOTES:

1. (E) EXISTING
   (N) NEW
   (R) RELOCATED
   (D) DEMO
2. ALL EQUIPMENT AND PIPING/VALVES SHOWN ARE (N) U.O.N.
3. CONTRACTOR SHALL THOROUGHLY REVIEW THE EQUIPMENT REQUIREMENTS AND PROVIDE ALL REQUIRED PROCESS PIPING, VALVES, AND CONTROLS AS NEEDED FOR PROPER FUNCTIONALITY AND SAFETY



A PLUMBING PLAN - PROCESS PIPING
SCALE: 1/8"=1'-0"

NORTH

PLEASE RECYCLE

AGENCY APPROVAL:

TRACY UNIFIED SCHOOL DISTRICT

HMC Architects
3595-002-100
2101 CAPITOL AVENUE, SUITE 100,
SACRAMENTO, CA, 95816
916 368 7990 / www.hmcarchitects.com

ISSUE

Δ DESCRIPTION DATE

OPTIMIZEDENERGY & FACILITIES CONSULTING, INC.
5734 Lonetree Boulevard, Rocklin, CA 95765
Office: (916) 626 5518 www.oefcinc.com

REGISTERED PROFESSIONAL ENGINEER
STEVEN P. WISNIEWSKI
No.M32225
EXP.12-31-2024
MECHANICAL
STATE OF CALIFORNIA

FACILITY:
MERRILL F WEST HIGH SCHOOL

1775 W LOWELL AVE
TRACY, CA 95376

PROJECT:
MERRILL F WEST HS AGRICULTURE CTE BLDG INCREMENT 2

SHEET NAME:
PLUMBING PLAN - PROCESS PIPING

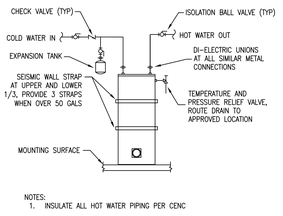
DSA SUBMITTAL

DATE: **10/11/24** | CLIENT PROJ NO:

SHEET:

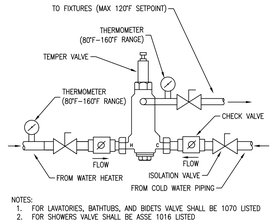
P1.3

Autodesk Docs://3595002100 TUSD AG SHOP R22/3595002100-A-MERRILL WEST-AG SHOP.rvt
8/19/2024 3:39:57 PM



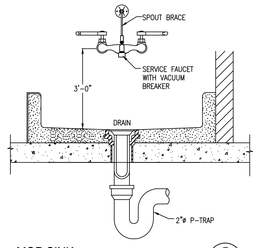
NOTES:
1. INSULATE ALL HOT WATER PIPING PER CENC

TANK WATER HEATER 1 P2.0

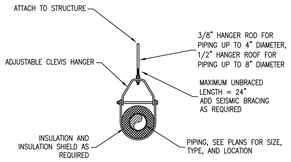


NOTES:
1. FOR LAVATORIES, BATHTUBS, AND BIDETS VALVE SHALL BE 1070 LISTED
2. FOR SHOWERS VALVE SHALL BE ASSE 1016 LISTED

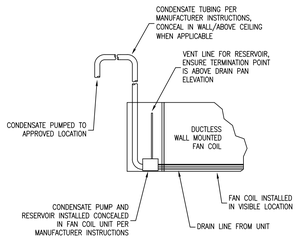
THERMOSTATIC MIXING VALVE 2 P2.0



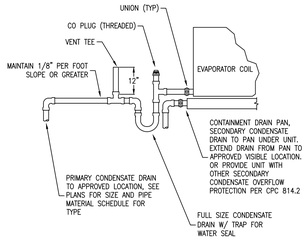
MOP SINK 3 P2.0



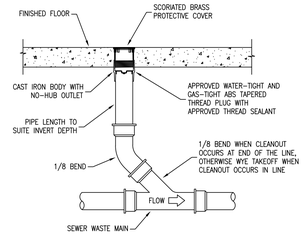
PIPE HANGER SUPPORT 4 P2.0



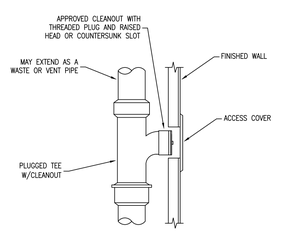
DUCTLESS MINI-SPLIT CONDENSATE 5 P2.0



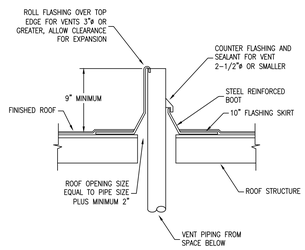
CONDENSATE DRAIN (EVAP COIL) 6 P2.0



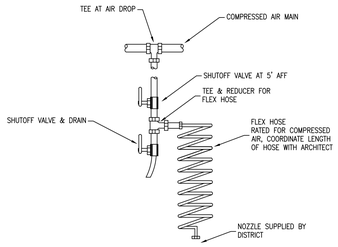
FLOOR CLEANOUT 7 P2.0



WALL CLEANOUT 8 P2.0



VENT THRU ROOF 9 P2.0



COMPRESSED AIR DROP 10 P2.0

AGENCY APPROVAL:

TRACY UNIFIED SCHOOL DISTRICT

HMC Architects
3595-002-100
2101 CAPITOL AVENUE, SUITE 100,
SACRAMENTO, CA, 95816
916 368 7990 / www.hmcarchitects.com

ISSUE

Δ DESCRIPTION DATE

OPTIMIZEDENERGY & FACILITIES CONSULTING, INC.
5734 Lonetree Boulevard, Rocklin, CA 95765
Office: (916) 626 5518 www.oefcinc.com

REGISTERED PROFESSIONAL ENGINEER
STEVEN P. WISNIEWSKI
No.M32225
EXP.12-31-2024
MECHANICAL
STATE OF CALIFORNIA

FACILITY:
MERRILL F WEST HIGH SCHOOL

1775 W LOWELL AVE
TRACY, CA 95376

PROJECT:
MERRILL F WEST HS AGRICULTURE CTE BLDG INCREMENT 2

SHEET NAME:
PLUMBING DETAILS

DSA SUBMITTAL

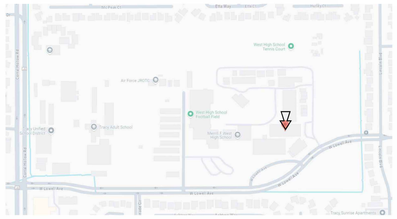
DATE: **10/11/24** | CLIENT PROJ NO:

SHEET:

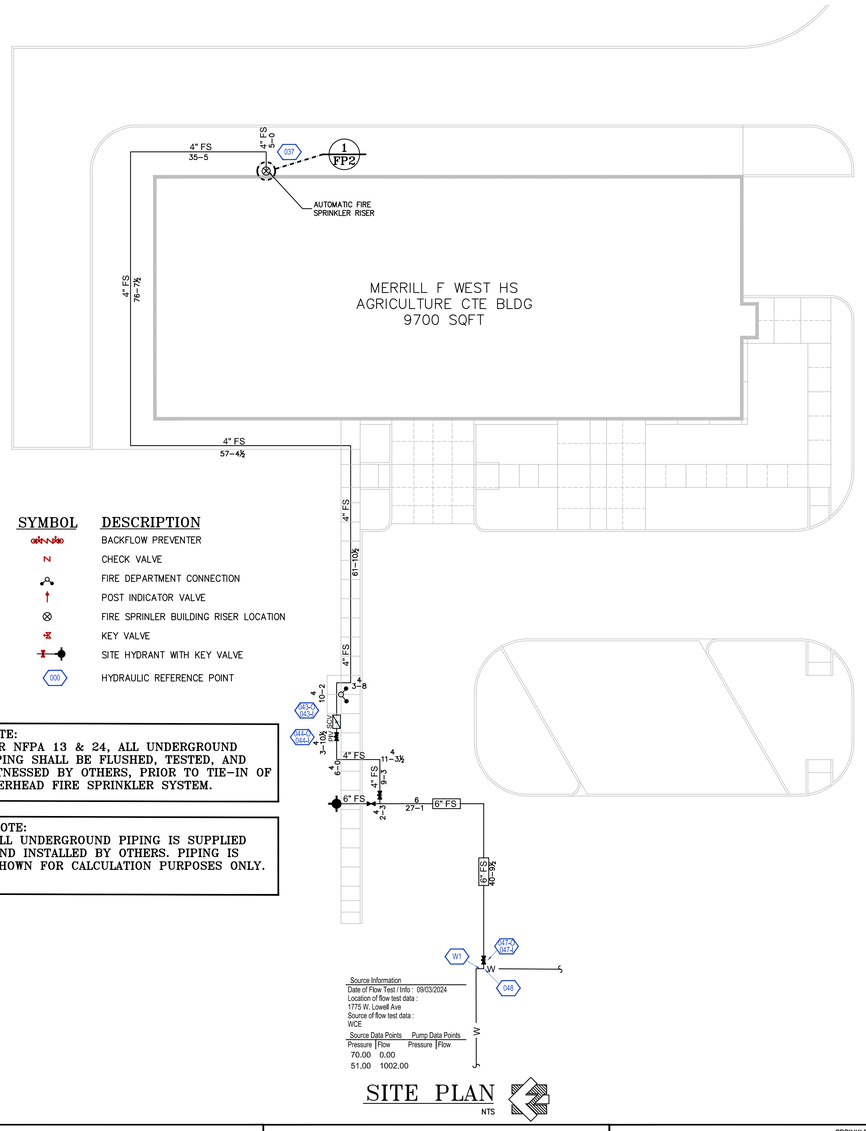
P2.0

Peak ENGINEERING
Fire Life Safety
4486 YANKEE HILL ROAD
ROCKLIN, CA 95677
OFFICE: (916) 315-1694
FAX: (916) 332-1656

THE LINE SHOWN ABOVE IS EXACTLY ONE INCH LONG ON FULL SIZE PLOTS (ARCH D ORIGINAL PAGE SIZE)



VICINITY MAP
NTS



SITE PLAN
NTS

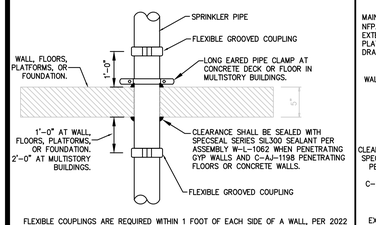
SYMBOL	DESCRIPTION
	BACKFLOW PREVENTER
N	CHECK VALVE
	FIRE DEPARTMENT CONNECTION
	POST INDICATOR VALVE
⊗	FIRE SPRINLER BUILDING RISER LOCATION
	KEY VALVE
	SITE HYDRANT WITH KEY VALVE
000	HYDRAULIC REFERENCE POINT

NOTE:
PER NFPA 13 & 24, ALL UNDERGROUND PIPING SHALL BE FLUSHED, TESTED, AND WITNESSED BY OTHERS, PRIOR TO TIE-IN OF OVERHEAD FIRE SPRINKLER SYSTEM.

NOTE:
ALL UNDERGROUND PIPING IS SUPPLIED AND INSTALLED BY OTHERS. PIPING IS SHOWN FOR CALCULATION PURPOSES ONLY.

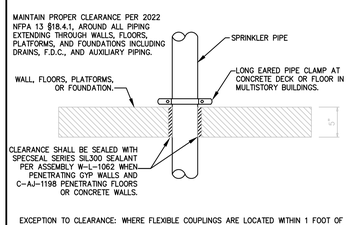
FIRE SPRINKLER NOTES & SYMBOLS

1. SCOPE OF WORK: TO PROVIDE AN AUTOMATIC WET FIRE SPRINKLER SYSTEM FOR THE PROPOSED MERRILL F WEST HS AGRICULTURE CTE BLDG.
2. IT IS NOT THE INTENT OF THE PLANS AND SPECIFICATIONS TO COVER ALL ITEMS REQUIRED. THE INSTALLING CONTRACTOR SHALL PROVIDE AND BE RESPONSIBLE FOR ALL SHOP DRAWINGS, FOREMAN DRAWINGS, FABRICATION DRAWINGS AND LISTING SHEETS. AUTOCAD FILES WILL NOT BE AVAILABLE, HOWEVER, A .PDF FILE CAN BE PROVIDED FOR THE INSTALLING CONTRACTORS USE. ALL COORDINATION WITH MECHANICAL, ELECTRICAL, PLUMBING, AND STRUCTURAL SHALL BE PERFORMED BY THE INSTALLING CONTRACTOR PRIOR TO INSTALLATION OF THE FIRE SPRINKLER PIPING SYSTEM AND MAY REQUIRE REVIEW BY THE ENGINEER OF RECORD IN COMPLIANCE WITH THE APPROVED FIRE SPRINKLER PLANS. AS-BUILT FROM THE INSTALLING CONTRACTOR SHALL BE PROVIDED TO THE ENGINEER OF RECORD UPON COMPLETION OF THE PROJECT.
3. ALL MATERIAL AND METHODS SHALL CONFORM TO THE REQUIREMENTS OF NFPA 13, 2022 EDITION AND THE DEPARTMENT OF STATE ARCHITECT.
4. ALL FIRE RATED PENETRATIONS SHALL BE FIRE STOPPED USING AN APPROVED AND EQUALLY RATED MATERIAL. (SEE DETAIL 1 & 2 ON THIS SHEET)
5. CONSTRUCTION = NON-COMBUSTIBLE, UNOBSTRUCTED.
6. OCCUPANCY = ORDINARY HAZARD.
7. SYSTEM TYPE = WET PIPE ONLY.
8. ALL NEW MAIN PIPING SHALL BE BLACK STEEL EDDY-FLOW PIPE OR EQUAL WITH GROOVED FITTINGS.
9. BRANCH LINE PIPING SHALL BE BLACK STEEL EDDY-FLOW OR EQUAL WITH GROOVED FITTINGS AND EDDY-THREAD OR EQUAL THREADED FITTINGS.
10. ALL GROOVED COUPLINGS SHALL BE RIGID TYPE UNLESS INDICATED OTHERWISE.
11. EXACT SPRINKLER LOCATIONS SHALL BE FIELD VERIFIED.
12. HANGER LOCATIONS ARE APPROXIMATE AND SHALL BE INSTALLED IN ACCORDANCE WITH NFPA 13, 2022 CHAPTER 17.
13. ELECTRICAL WIRING, FIRE ALARM INTERFACE, AND PAINTING IS BY OTHERS.
14. THIS CONTRACT DOES NOT INCLUDE ANY MATERIAL OR DEVICE TO IMPROVE THE STRUCTURAL INTEGRITY OF THE BUILDING AND ITS ABILITY TO CARRY THE LOAD OF THE FIRE SPRINKLER SYSTEM.
15. MAXIMUM SPRINKLER SPACING VARIES BY MODEL OF SPRINKLER. SEE SPRINKLER MANUFACTURER DATA SHEETS FOR DESIGN AND INSTALLATION REQUIREMENTS AND PROCEDURES.
16. ALL WORK AND MATERIALS SHALL BE PERFORMED AND INSTALLED IN COMPLIANCE WITH THE FOLLOWING CODES AS AMENDED AND ADOPTED BY THE INSPECTION AUTHORITY. PLANS ARE SCHEMATIC IN DESIGN FOR CONCEPT ONLY.
17. NFPA -13, 2022
18. CALIFORNIA FIRE CODE, 2022
19. CALIFORNIA BUILDING CODE-2022
20. CALIFORNIA MECHANICAL CODE – 2022
21. CALIFORNIA PLUMBING CODE – 2022
22. CALIFORNIA ELECTRICAL CODE – 2022
23. ANY AND ALL DUST OR FUME COLLECTION DUCT AND DUST/FUME COLLECTORS SHALL COMPLY WITH NFPA 664 9.7 AND NFPA 91.
24. THE CONTRACTOR SHALL SURVEY EXISTING FIELD CONDITIONS PRIOR TO BIDDING. IF AWARDED THE CONTRACT, THE CONTRACTOR SHALL SURVEY EXISTING FIELD CONDITIONS IN DETAIL AND COORDINATE THE WORK WITH EXISTING BUILDING SYSTEMS AND OTHER MECHANICAL TRADES.
25. ANY DAMAGE TO NEW/EXISTING BUILDING ARCHITECTURAL, STRUCTURAL, MECHANICAL AND ELECTRICAL SYSTEMS THAT OCCURS DURING THE WORK SHALL BE RESTORED TO THE ORIGINAL CONDITION WITH COST TO THE CONTRACTOR.
26. COORDINATE THE FOLLOWING WITH ARCHITECTURAL, STRUCTURAL, MECHANICAL, PLUMBING AND ELECTRICAL DRAWINGS AND ELEMENTS AS INSTALLED, INCLUDING EXISTING BUILDING SYSTEMS:
    - 26.1. EXACT LOCATION OF ALL EQUIPMENT.
    - 26.2. ALL PENETRATIONS THRU ROOF, WALLS AND FLOORS.
    - 26.3. EXACT SIZE AND ROUTING OF PIPING.
    - 26.4. SEISMIC BRACING AND HANGING ASSEMBLIES.
    - 26.5. INSTALLATION OF THE SPRINKLER SYSTEMS SHALL NOT BE STARTED UNTIL COMPLETE PLANS AND SPECIFICATIONS, INCLUDING WATER SUPPLY INFORMATION, HAVE BEEN APPROVED BY THE LOCAL FIRE AUTHORITY . SYSTEM TESTING MUST BE IN CONFORMANCE WITH NFPA 13 AND IN THE PRESENCE OF THE AUTHORITY HAVING JURISDICTION.
    - 26.6. ALL EXISTING FIRE PROTECTION SYSTEMS SHALL REMAIN IN OPERATION DURING ALL PHASES OF CONSTRUCTION. NO SYSTEMS ARE TO BE SHUTDOWN WITHOUT AUTHORIZATION FROM THE LOCAL FIRE AUTHORITY. ANY FIRE WATCH WILL BE AT THE EXPENSE OF THE CONTRACTOR.
    - 26.7. THE LOCATION OF FIRE SPRINKLERS SHALL BE COORDINATED WITH THE NEW CEILING LAYOUTS AND ALL OTHER TRADES FOR COMPLETE FIRE PROTECTION COVERAGE OF ALL AREAS. PROVIDE DETAILED PLANS FOR APPROVAL PRIOR TO INSTALLATION.
    - 26.8. SPRINKLERS SHALL BE SYMMETRICALLY LOCATED IN CENTER OF CEILING PANELS. COORDINATE LAYOUT WITH CEILING OR SOFFITING, LIGHT FIXTURES, HVAC DIFFUSERS AND RETURNS, ETC. PROVIDE PENDENT AND/OR UPRIGHT TYPE SPRINKLER HEAD WHERE REQUIRED.
27. WORKMANSHIP:
    - 27.1. ALL WORK SHALL BE DONE IN A NEAT AND WORKMAN LIKE MANNER ACCORDING TO THE BEST TRADE PRACTICE BY THOSE SKILLED IN THE PARTICULAR TRADE. PIPES, EQUIPMENT, ETC., TO BE INSTALLED LEVEL, SQUARED OR CENTERED, ETC., TO GIVE A NEAT AND PLEASING APPEARANCE. ALL EQUIPMENT IS TO BE INSTALLED STRICTLY PER MANUFACTURER'S RECOMMENDATIONS. COORDINATE ALL WORK WITH OTHER TRADES.
    - 27.2. THE ANNULAR SPACE BETWEEN PIPE SLEEVES AND PIPE PENETRATIONS THROUGH RATED WALLS AND FLOORS SHALL BE FIRESTOPPED. FIRESTOPPING OF ALL PIPE PENETRATIONS SHALL COMPLY WITH U.L. REQUIREMENTS. MANUFACTURER PRE-APPROVED U.L. PENETRATION FOR PIPE MATERIAL AND SURFACE PENETRATED SHALL BE USED. PENETRATION DETAILS TO BE SHOWN ON SHOP DRAWINGS.
28. BY OTHERS:
    - 28.1. ELECTRICAL CONTRACTOR: ALL POWER AND ALARM WIRING, CONDUITS, DISCONNECTS, AND FINAL CONNECTIONS. NO FIELD SUPPLIED ELECTRICAL DEVICE SHALL BE MOUNTED ON PIPING AND NO RIGID ELECTRICAL CONNECTIONS SHALL BE MADE.
    - 28.2. GENERAL CONTRACTOR: CUTTING, FRAMING, PATCHING AND FURRING.
29. WARRANTY:
    - 29.1. ALL MATERIALS AND EQUIPMENT INSTALLED SHALL BE GUARANTEED FREE FROM ALL FIRE PROTECTION, ELECTRICAL AND WORKMANSHIP DEFECTS FOR A PERIOD OF ONE YEAR FROM DATE TO FINAL ACCEPTANCE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DAMAGES TO THE PREMISES CAUSED BY LEAKS AND/OR BREAKS IN PIPES AND FIXTURES INSTALLED UNDER THIS CONTRACT.
    - 29.2. IT IS THE INTENTION OF THE PLANS AND SPECIFICATIONS TO COVER ALL ITEMS REQUIRED TO PROVIDE A COMPLETE AND OPERATIVE SYSTEMS. THE CONTRACTOR IS TO FURNISH ALL LABOR, MATERIALS, PERMITS, TRANSPORTATION, EQUIPMENT, MISCELLANEOUS SERVICES, ETC., REQUIRED TO ACCOMPLISH THIS RESULT. ANYTHING WHICH IS TO BE REASONABLY CONSTRUED AS A NECESSARY PART OF THE INSTALLATION IS TO BE INCLUDED, WHETHER SPECIFICALLY SHOWN OR MENTIONED. THE ENGINEER WILL GIVE ANY INTERPRETATIONS NECESSARY FOR THE CONTRACTOR TO PROPERLY ESTIMATE THE JOB.
    - 29.3. THE FIRE SPRINKLER REQUIREMENTS DESCRIBED IN THESE PLANS SHALL BE ADHERED TO AS CLOSELY AS POSSIBLE BUT SHALL NOT SUPERCEDE CODE CONSTRAINTS AND OR REQUIREMENTS OF THE AUTHORITY HAVING JURISDICTION.



FLEXIBLE COUPLINGS ARE REQUIRED WITHIN 1 FOOT OF EACH SIDE OF A WALL, PER 2022 NFPA-13 §18.4.5, AND WITHIN 12" ABOVE AND WITHIN 24" BELOW THE FLOOR IN MULTISTORY BUILDINGS, PER 2022 NFPA-13 §18.2.3.1(2).

4 NO-PIPE CLEARANCE



EXCEPTION TO CLEARANCE: WHERE FLEXIBLE COUPLINGS ARE LOCATED WITHIN 1 FOOT OF EACH SIDE OF A WALL, PER 2022 NFPA-13 §18.4.5, AND WITHIN 12" ABOVE, AND WITHIN 24" BELOW, THE FLOOR IN MULTISTORY BUILDINGS, PER 2022 NFPA-13 §18.2.3.1(2).

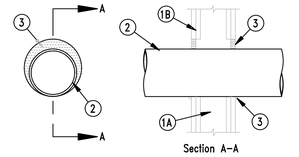
3 PIPE CLEARANCE

SYMBOL	SIN #	GENERAL DESCRIPTION	TEMPERATURE RATING, °F	SPRINKLER QUANTITY MAINTAINED	HEAD WRENCH
◎	TY3131	STANDARD UPRIGHT SPRINKLER	200°	2	W-TYPE 6
◉	TY3231	STANDARD PENDENT SPRINKLER	155°	2	W-TYPE 6
◁	TY3331	STANDARD HORIZONTAL SIDEWALL SPRINKLER	200°	2	W-TYPE 3
NO FEWER THAN 6 SPRINKLERS				6 TOTAL	

2 SPARE SPRINKLER CABINET

	SHEET INDEX
FP0.0	COVER SHEET
FP1.0	FIRE SPRINKLER DETAILS
FP2.0	FIRE SPRINKLER PIPING PLAN
FP3.0	FIRE SPRINKLER REFLECTED CEILING PLAN

System No. W-L-1062
F Ratings – 1 and 2 Hr
T Rating – 0 Hr
L Rating At Ambient – Less Than 1 CFM/sq ft
L Rating At 400 F – Less Than 1 CFM/sq ft



1. Wall Assembly - The fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300, U400 or V400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
   - A. Studs - Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. (51 by 102 mm) lumber spaced 16 in. (406 mm) OC. Steel studs to be min 3-5/8 in. (92 mm) wide and spaced max 24 in. (610 mm) OC.
   - B. Gypsum Board* - Thickness, type, number of layers and fasteners as required in the individual Wall and Partition Design. Max diam of opening in wood stud walls is 9 in. (203 mm). Max diam of opening in steel stud walls is 14 in. (356 mm).
   - The hourly F Rating of the firestop system is equal to the hourly fire rating of the wall assembly in which it is installed.
2. Through Penetrants - One metallic pipe, conduit or tubing to be installed within the firestop system. The space between pipe, conduit or tubing and periphery of opening shall be a min 0 in. (point contact) to a max 2 in. (51 mm). Pipe, conduit or tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipes, conduits or tubing may be used:
   - A. Steel Pipe - Nom 12 in. (305 mm) diam (or smaller) Schedule 5 (or heavier steel pipe.
   - B. Iron Pipe - Nom 12 in. (305 mm) diam (or smaller) cast or ductile iron pipe.
   - C. Conduit - Nom 4 in. (102 mm) diam (or smaller) electrical metallic tubing, nom 6 in. (152 mm) diam (or smaller) steel conduit or nom 1 in. (25 mm) diam (or smaller) flexible steel conduit.
   - D. Copper Tubing - Nom 6 in. (152 mm) diam (or smaller) Type L (or heavier) copper tubing.
   - E. Copper Pipe - Nom 6 in. (152 mm) diam (or smaller) Regular (or heavier) copper pipe.
3. Fill, Void or Cavity Material* - Caulk - Min 5/8 in. (16 mm) thickness of fill material applied within the annulus, flush with both surfaces of wall. Min 3/8 in. (10 mm) diam bead of fill material applied at point contact location at the penetrant/gypsum board interface on both sides of wall.
   - MOMENTIVE PERFORMANCE MATERIALS - Pensil 100 Caulk.
   - SPECIFIED TECHNOLOGIES INC - Pensil 100 Sealant, Pensil 300 Sealant or SpecSeal Series SIL300 Sealant.

* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

STI
Specified Technologies Inc. 210 Evans Way Somerville, NJ 08876
Reproduced courtesy of Underwriters Laboratories, Inc.
Created or Revised: November 26, 2008
(800)992-1180 (908)526-8000 FAX (908)231-8415 E-Mail:techserv@stifirestop.com Website:www.stifirestop.com
W-L-1062 PAGE 1 OF 1

1 SPECSEAL SERIES SIL300 SEALANT, FLOOR PENETRATION

AGENCY APPROVAL:

TRACY UNIFIED SCHOOL DISTRICT

HMC Architects
3595-002-100
2101 CAPITOL AVENUE, SUITE 100,
SACRAMENTO, CA, 95816
916 368 7990 / www.hmcarchitects.com

ISSUE

Δ	DESCRIPTION	DATE

OPTIMIZEDENERGY & FACILITIES CONSULTING, INC.
5734 Lonetree Boulevard, Rocklin, CA 95765
Office: (916) 626 5518 www.oefcinc.com

REGISTERED PROFESSIONAL ENGINEER
STEVEN P. WISNIEWSKI
No.M32225
EXP.12-31-2024
MECHANICAL
STATE OF CALIFORNIA

FACILITY:
MERRILL F WEST HIGH SCHOOL

1775 W LOWELL AVE
TRACY, CA 95376

PROJECT:
MERRILL F WEST HS AGRICULTURE CTE BLDG INCREMENT 2

SHEET NAME:
FIRE SPRINKLER COVER SHEET

DSA SUBMITTAL

DATE: **10/11/24** | CLIENT PROJ NO:

SHEET:

FP0.0

PLEASE RECYCLE

THE LINE SHOWN ABOVE IS EXACTLY 1" LONG ON ORIGINAL DRAWINGS. IF NOT, ADJUST ACCORDINGLY

Peak ENGINEERING
Fire Life Safety
4486 YANKEE HILL ROAD
ROCKLIN, CA 95677
OFFICE: (916) 315-1694
FAX: (916) 332-1256

Table 18.6.4(a) Maximum Spacing (ft) of Steel Branch Line Restraint

Seismic Coefficient (Cp)

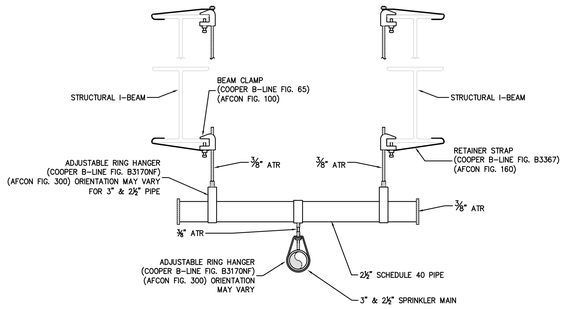
Pipe (in.)	*0.5 < Cp ≤ 0.71*
1"	*36*
1¼"	*39*
1½"	*41*
2"	*45*

LINE RESTRAINT SPACING

Table 17.4.2.1(a) Maximum Distance Between Hangers (ft–in)

Nominal Pipe Size (in)	¾"	1"	1¼"	1½"	2"	2½"	3"	3½"	4"
Steel pipe except threaded light wall	*N/A*	12–0	12–0	15–0	15–0	15–0	15–0	15–0	15–0
Threaded light wall steel pipe	*N/A*	12–0	12–0	12–0	12–0	12–0	12–0	*N/A*	*N/A*
CPVC	5–6	6–0	6–6	7–0	8–0	9–0	10–0	*N/A*	*N/A*

PIPING HANGER SPACING

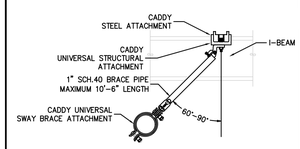


PER NFPA–13 TABLE 17.3.1(a) SECTIONAL MODULES FOR 10'–0" OF 3" SCH. 10 PIPE IS A SECTIONAL MODULES OF 0.74

SYMBOL

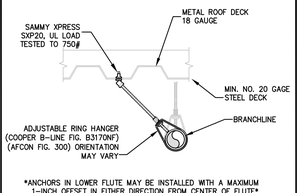
25 TRAPEZE HANGER

26 USGS SEISMIC MAP



SYMBOL LA1 MAX SPACING 3" & 2–1/2" PIPE – 17'6"

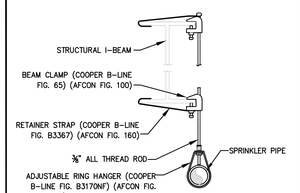
19 LATERAL BRACE



ANCHORS IN LOWER FLUTE MAY BE INSTALLED WITH A MAXIMUM 1–INCH OFFSET IN EITHER DIRECTION FROM CENTER OF FLUTE

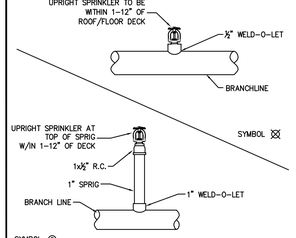
SYMBOL

13 BRANCH LINE RESTRAINT



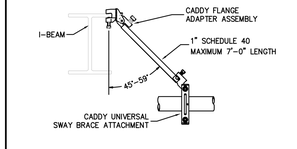
SYMBOL

7 BEAM CLAMP



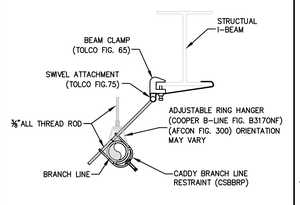
SYMBOL

1 UPRIGHT SPRINKLER



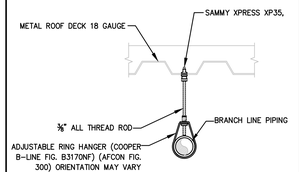
SYMBOL LO1 MAX SPACING 3" & 2–1/2" PIPE – 29'0"

20 LONGITUDINAL BRACE



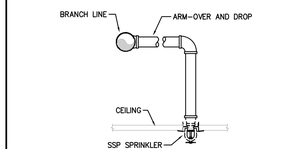
SYMBOL

14 BRANCH LINE RESTRAINT



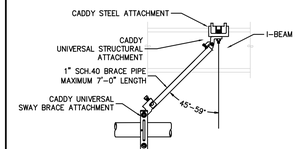
SYMBOL

8 SAMMY EXPRESS



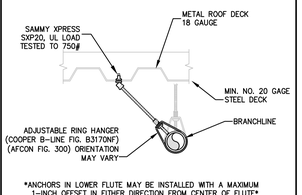
SYMBOL

2 PENDENT SPRINKLER



SYMBOL LO1 MAX SPACING 3" & 2–1/2" PIPE – 29'0"

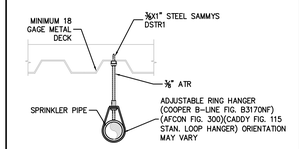
21 LONGITUDINAL BRACE



ANCHORS IN LOWER FLUTE MAY BE INSTALLED WITH A MAXIMUM 1–INCH OFFSET IN EITHER DIRECTION FROM CENTER OF FLUTE

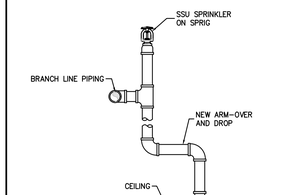
SYMBOL

15 BRANCH LINE RESTRAINT



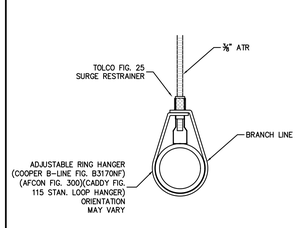
SYMBOL

9 SAMMY STEEL DSR1

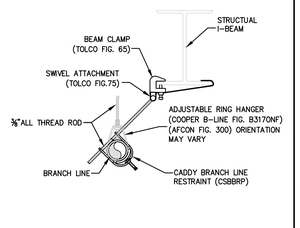


SYMBOL

3 UPRIGHT/PENDENT SPRINK.

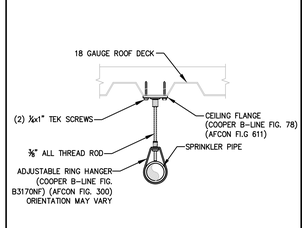


22 SURGE RESTRAINT



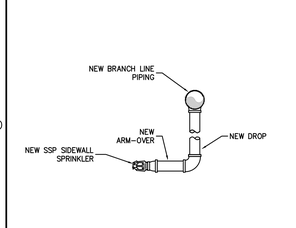
SYMBOL

16 BRANCH LINE RESTRAINT



SYMBOL

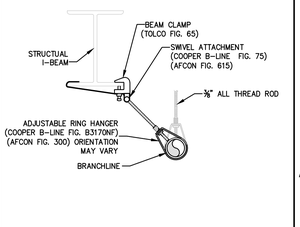
10 CEILING FLANGE



SYMBOL

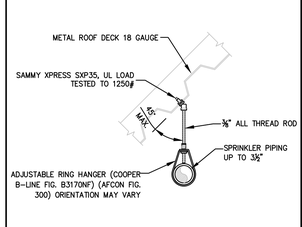
4 SIDEWALL SPRINKELR

23 DETAIL



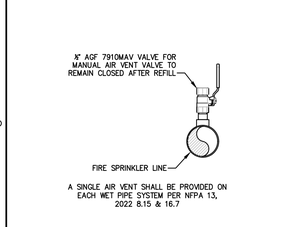
SYMBOL

17 BRANCH LINE RESTRAINT



SYMBOL

11 SAMMY XPRESS SXP35



A SINGLE AIR VENT SHALL BE PROVIDED ON EACH WET PIPE SYSTEM PER NFPA 13, 2022 8.15 & 16.7

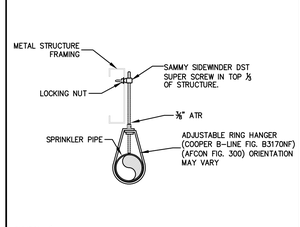
SYMBOL

5 AIR VENT DETAIL

SYMBOL LA1 MAX SPACING 3" & 2–1/2" PIPE – 17'6"

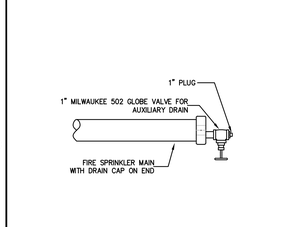
24 DETAIL

18 LATERAL BRACE



SYMBOL

12 SAMMY SIDEWINDER DST



6 AUXILIARY DRAIN

PLEASE RECYCLE

AGENCY APPROVAL:

TRACY UNIFIED SCHOOL DISTRICT

HMC Architects
3595-002-100
2101 CAPITOL AVENUE, SUITE 100,
SACRAMENTO, CA, 95816
916 368 7990 / www.hmcarchitects.com

ISSUE

Δ	DESCRIPTION	DATE

OPTIMIZEDENERGY & FACILITIES CONSULTING, INC.
5734 Lonetree Boulevard, Rocklin, CA 95765
Office: (916) 626 5518 www.ocfcinc.com

REGISTERED PROFESSIONAL ENGINEER
STEPHEN P. WISNIEWSKI
No.M32225
EXP.12-31-2024
MECHANICAL
STATE OF CALIFORNIA

FACILITY:
MERRILL F WEST HIGH SCHOOL

1775 W LOWELL AVE
TRACY, CA 95376

PROJECT:
MERRILL F WEST HS AGRICULTURE CTE BLDG INCREMENT 2

SHEET NAME:
FIRE SPRINKLER DETAILS

DSA SUBMITTAL

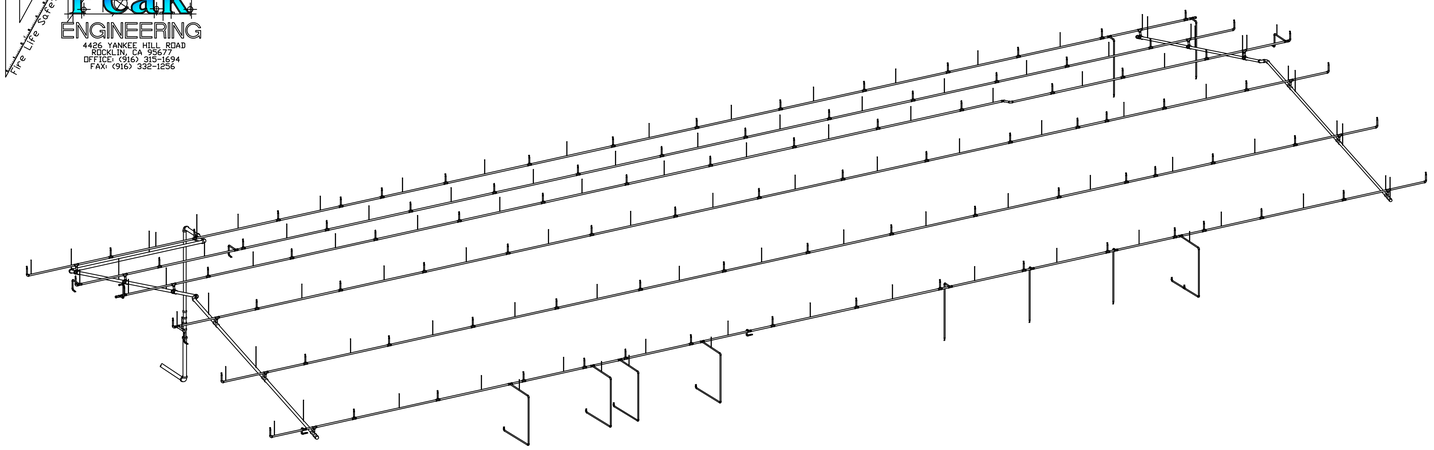
DATE: **10/11/24** | CLIENT PROJ NO:

SHEET:

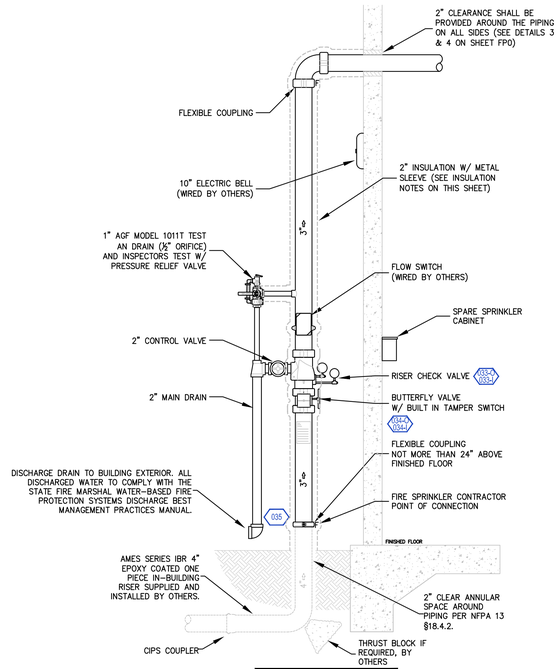
FP1.0

Peak ENGINEERING
Fire Life Safety
4486 YANKEE HILL ROAD
ROCKLIN, CA 95677
OFFICE: (916) 315-1694
FAX: (916) 332-1556

THIS LINE SHOWN ABOVE IS EXACTLY ONE INCH LONG ON FULL SIZE PLOTS (24"X36") ORIGINAL PAGE SIZE



FIRE SPRINKLER ISOMETRIC PLAN
NTS



FIRE SPRINKLER RISER DETAIL
NTS 1/FP2

INSULATION NOTES:

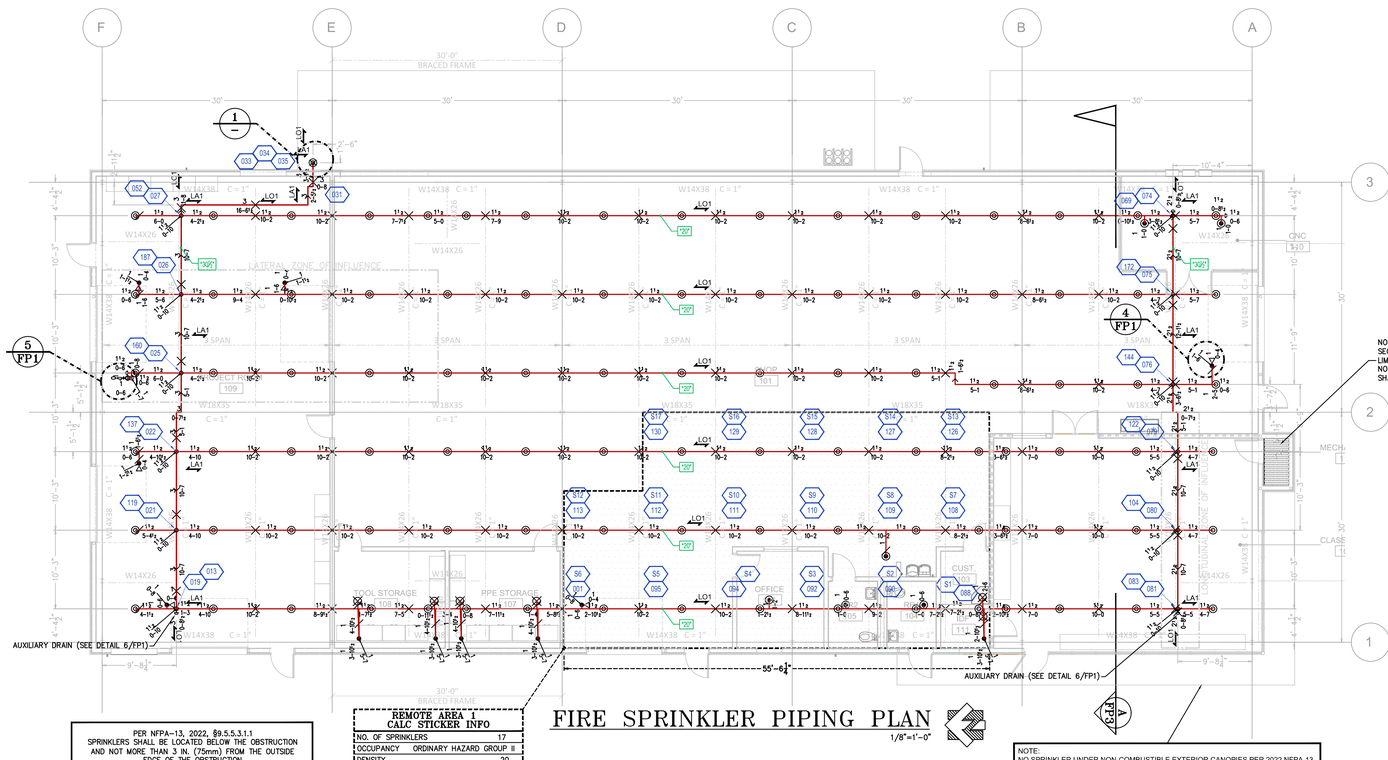
1. LOWEST RECORDED TEMPERATURE IN TRACY, CA WAS FEBRUARY 1990 = 12°F.
2. AVERAGE LOW TEMPERATURES RANGE IN THE UPPER 30 DEGREE F RANGE IN DECEMBER THROUGH FEBRUARY.
4. USE 2" FIBERGLASS INSULATION (ASTM C547) FOR WRAPPING OF PIPE.
5. COVER INSULATION WITH METAL SLEEVE.

SYMBOL	DESCRIPTION
----------	2" FIBERGLASS INSULATION

AVERAGE TEMPERATURES BY MONTH

MONTH	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
AVERAGE LOW	37	39	43	46	51	56	57	56	54	48	41	36
AVERAGE HIGH	57	62	67	73	81	88	93	92	88	79	66	57

NOTE:
"ALL BRANCHLINES ARE TO BE ELEVATED AT 5" BELOW BOTTOM W14 BEAMS, U.O.N. HANGER RODS ARE LESS THEN 6" BRANCH LINES DO NOT REQUIRE LATERAL RESTRAINTS PER 2022 NFPA-13, §18.6.5.



FIRE SPRINKLER PIPING PLAN
1/8"=1'-0"

NO SPRINKLER PROTECTION REQUIRED, PER NFPA 13, 2022, SECTION 9.2.1.2 "CONCEALED SPACES OF NONCOMBUSTIBLE OR LIMITED-COMBUSTIBLE CONSTRUCTION WITH LIMITED ACCESS AND NOT PERMITTING OCCUPANCY OR STORAGE OF COMBUSTIBLES SHALL NOT REQUIRE SPRINKLER PROTECTION."

NOTE:
NO SPRINKLER UNDER NON-COMBUSTIBLE EXTERIOR CANOPIES PER 2022 NFPA-13 §8.2.3.2 AND §A.8.15.7.2. VEHICLES THAT ARE TEMPORARILY PARKED AND ARE NOT CONSIDERED STORAGE.

NOTE:
2022 NFPA 13, § 9.2.3.2. SPRINKLERS SHALL BE PERMITTED TO BE OMITTED WHERE THE EXTERIOR CANOPIES, ROOF, PORTE-COCHERES, BALCONIES, DECKS, AND SIMILAR PROJECTIONS ARE CONSTRUCTED WITH MATERIALS THAT ARE NONCOMBUSTIBLE, LIMITED-COMBUSTIBLE.

PER NFPA-13, 2022, §9.5.5.3.1.1
SPRINKLERS SHALL BE LOCATED BELOW THE OBSTRUCTION AND NOT MORE THAN 3 IN. (75mm) FROM THE OUTSIDE EDGE OF THE OBSTRUCTION

PER NFPA-13, 2022, §27.2.4.7.3.1
SPRINKLERS UNDER OBSTRUCTIONS SHALL NOT BE REQUIRED TO BE INCLUDED IN THE HYDRAULIC CALCULATIONS OF THE CEILING SPRINKLERS

REMOTE AREA 1 CALC STICKER INFO

NO. OF SPRINKLERS	17
OCCUPANCY ORDINARY HAZARD GROUP II	
DENSITY	.20
AREA OF DISCHARGE (SQFT)	1,602
WATER FLOW RATE (GPM)	373.9
OUTSIDE HOSE DEMAND (GPM)	250
BASE OF RISER PRESSURE (PSI)	56.4
NODE AT BASE OF RISER	035

LEGEND

SYMBOL	DESCRIPTION
LA1	APPROXIMATE SWAY BRACE LOCATION
	APPROXIMATE HANGER LOCATIONS
	NEW FIRE SPRINKLER PIPING
	APPROXIMATE BRANCHLINE RESTRAINT LOCATIONS
	APPROXIMATE TRAPEZE HANGER LOCATIONS
	APPROXIMATE LOCATION OF A FLEXIBLE COUPLING
	APPROXIMATE LOCATION OF PIPE PENETRATION
000	HYDRAULIC REFERENCE POINT
ACTZ 9'-6"	CEILING ELEVATION
-12"	ELEVATIONS DOWN FROM BOTTOM OF DECK (BOD)
+309"	ELEVATIONS UP FROM FINISHED FLOOR (AFF)

WALL LEGEND

	CEILING HEIGHT WALL
	FULL HEIGHT WALL 1 HOUR RATED WALL

FIRE SPRINKLER LEGEND

SYMBOL	SIN #	SIZE	MAKE	MODEL	STYLE	FINISH	K-FACTOR	TEMP	RESPONSE	QUANTITY	NOTES
◎	TY3131	3/4	TYCO	TY-FRB	UPRIGHT	BRASS	8.0	200°	QR	91	SSU SPRINKLERS AT ROOF ON 1" SPRIG
⊠	TY3131	3/4	TYCO	TY-FRB	UPRIGHT	BRASS	5.6	155°	QR	6	SSU SPRINKLERS
◉	TY3231	1/2	TYCO	TY-FRB	RECESSED	WHT/WHT	5.6	155°	QR	6	SSP SPRINKLERS
◁	TY3331	1/2	TYCO	TY-FRB	H. SIDEWALL	BRASS	5.6	200°	QR	6	SIDEWALL SPRINKLERS BENEATH ROLL BACK DOOR
TOTAL NUMBER OF SPRINKLERS ON THIS SHEET										109	

PLEASE RECYCLE

AGENCY APPROVAL:

TRACY UNIFIED SCHOOL DISTRICT

HMC Architects
3595-002-100
2101 CAPITOL AVENUE, SUITE 100,
SACRAMENTO, CA, 95816
916 368 7990 / www.hmcarchitects.com

ISSUE

Δ	DESCRIPTION	DATE

OPTIMIZED ENERGY & FACILITIES CONSULTING, INC.
5734 Lonetree Boulevard, Rocklin, CA 95765
Office: (916) 626 5518 www.ocfcinc.com

REGISTERED PROFESSIONAL ENGINEER STEPHEN P. WISNIEWSKI No.M32225 EXP.12-31-2024 MECHANICAL STATE OF CALIFORNIA

FACILITY:
MERRILL F WEST HIGH SCHOOL

1775 W LOWELL AVE
TRACY, CA 95376

PROJECT:
MERRILL F WEST HS AGRICULTURE CTE BLDG INCREMENT 2

SHEET NAME:
FIRE SPRINKLER PIPING PLAN

DSA SUBMITTAL

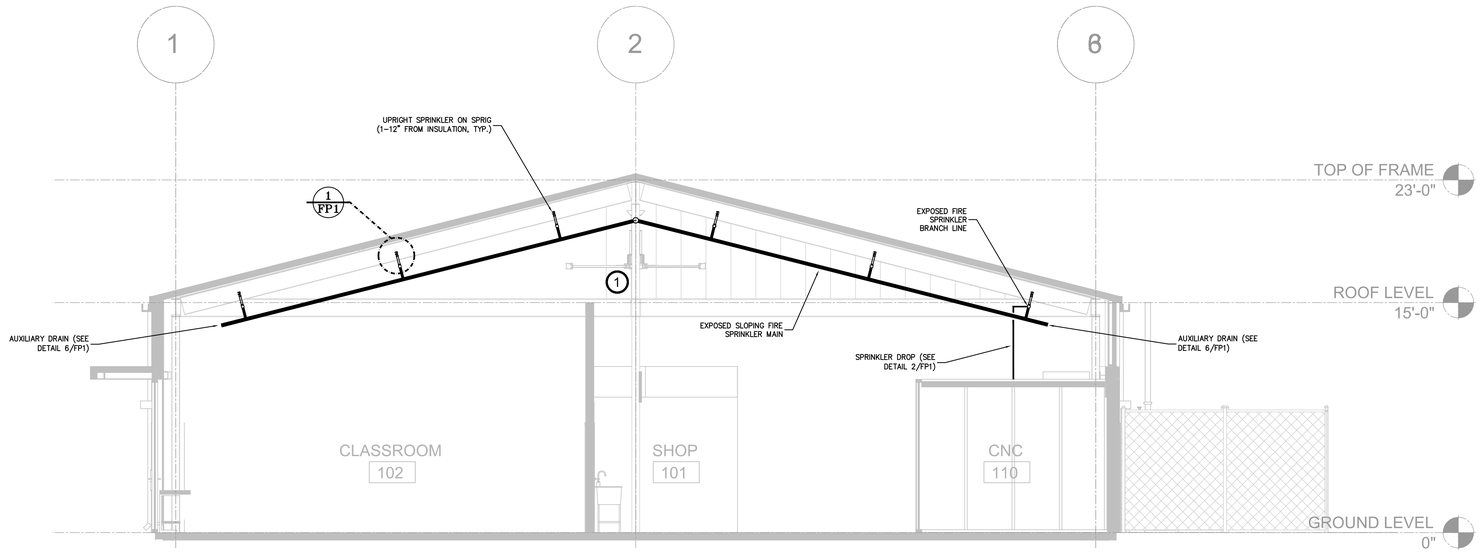
DATE: **10/11/24**
CLIENT PROJ NO:

SHEET:

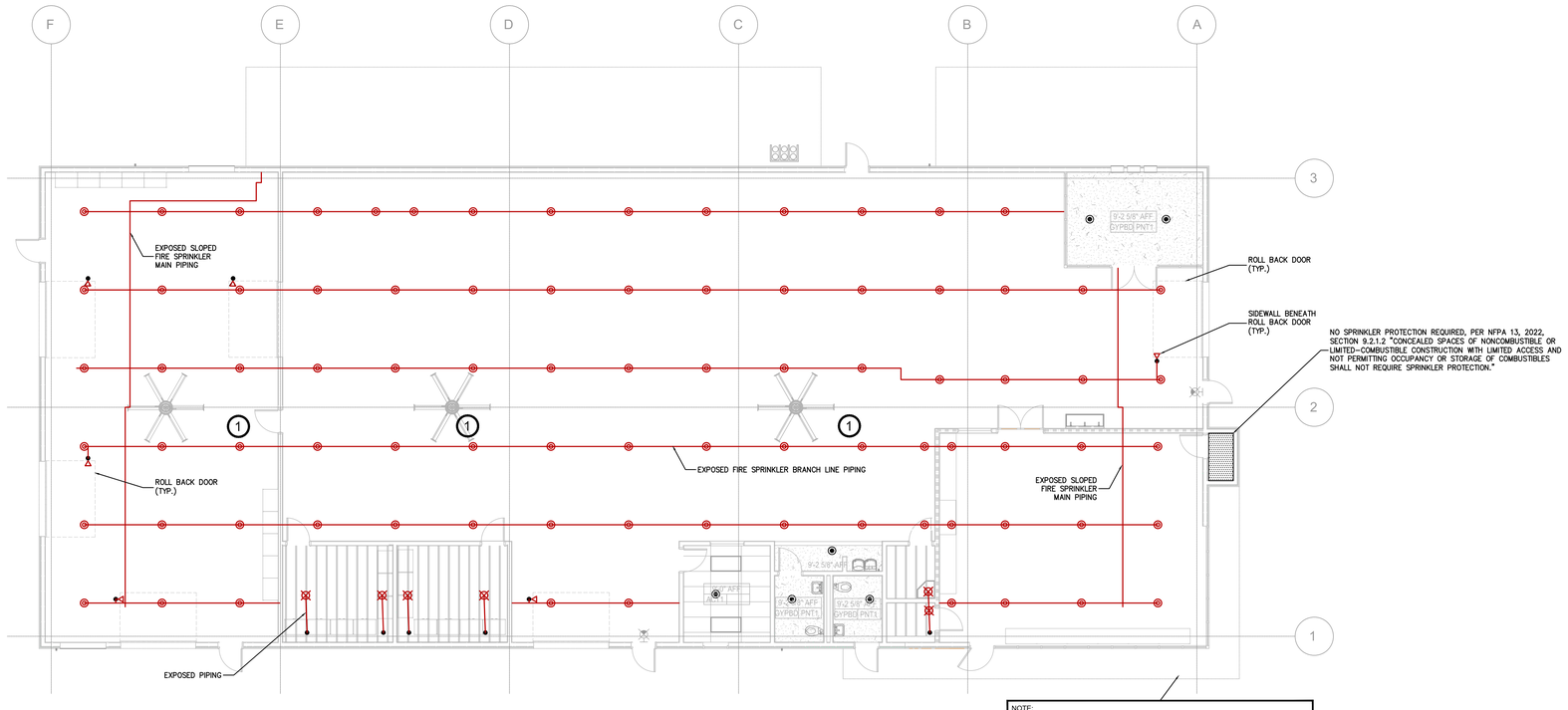
FP2.0

Peak ENGINEERING
Fire Life Safety
4486 YANKEE HILL ROAD
ROCKLIN, CA 95677
OFFICE: (916) 315-1694
FAX: (916) 332-1556

THIS LINE SHOWN ABOVE IS EXACTLY ONE INCH LONG ON ORIGINAL PLOTS (SHEETS ORIGINAL PAPER SIZE)



BUILDING SECTION
A FP3
1/4"=1'-0"



FIRE SPRINKLER REFLECTED CEILING PLAN
1/8"=1'-0"

1 NFPA 13 2022, SECTION 19.1.7*: HIGH VOLUME LOW SPEED (HVLS) FANS. THE INSTALLATION OF HVLS FANS IN BUILDINGS EQUIPPED WITH SPRINKLERS, INCLUDING ESFR SPRINKLERS, SHALL COMPLY WITH THE FOLLOWING:

(1) THE MAXIMUM FAN DIAMETER SHALL BE 24FT*
(2) THE HVLS FAN SHALL BE CENTERED APPROXIMATELY BETWEEN FOUR ADJACENT SPRINKLERS.
(3) THE VERTICAL CLEARANCE FROM THE HVLS FAN TO SPRINKLER DEFLECTOR SHALL BE A MINIMUM OF 3FT.
(4) ALL HVLS FANS SHALL BE INTERLOCKED TO SHUT DOWN IMMEDIATELY UPON RECEIVING A WATERFLOW ALARM.

NOTE:
NO SPRINKLER UNDER NON-COMBUSTIBLE EXTERIOR CANOPIES PER 2022 NFPA-13 §9.2.3.2 AND §A.8.15.7.2, VEHICLES THAT ARE TEMPORARILY PARKED AND ARE NOT CONSIDERED STORAGE.

NOTE:
2022 NFPA 13, § 9.2.3.2, SPRINKLERS SHALL BE PERMITTED TO BE OMITTED WHERE THE EXTERIOR CANOPIES, ROOF, PORTE-COCHERES, BALCONIES, DECKS, AND SIMILAR PROJECTIONS ARE CONSTRUCTED WITH MATERIALS THAT ARE NONCOMBUSTIBLE, LIMITED-COMBUSTIBLE.

WALL LEGEND
- CEILING HEIGHT WALL
- FULL HEIGHT WALL 1 HOUR RATED WALL
- ACOUSTICAL TILE CEILING
- METAL FRAME CEILING WITH PLYWOOD

PLEASE RECYCLE

AGENCY APPROVAL:

TRACY UNIFIED SCHOOL DISTRICT

HMC Architects
3595-002-100
2101 CAPITOL AVENUE, SUITE 100,
SACRAMENTO, CA, 95816
916 368 7990 / www.hmcarchitects.com

ISSUE

Δ	DESCRIPTION	DATE

OPTIMIZED ENERGY & FACILITIES CONSULTING, INC.
5734 Lonetree Boulevard, Rocklin, CA 95765
Office: (916) 626 5518 www.ocfcinc.com

REGISTERED PROFESSIONAL ENGINEER
STEPHEN P. WISNIEWSKI
No.M32225
EXP.12-31-2024
MECHANICAL
STATE OF CALIFORNIA

FACILITY:
MERRILL F WEST HIGH SCHOOL

1775 W LOWELL AVE
TRACY, CA 95376

PROJECT:
MERRILL F WEST HS AGRICULTURE CTE BLDG INCREMENT 2

SHEET NAME:
FIRE SPRINKLER PLAN REFLECTED CEILING PLAN & BUILDING SECTION

DSA SUBMITTAL

DATE: **10/11/24**
CLIENT PROJ NO:

SHEET:

FP3.0

IF THIS LINE BROWN ABOVE IS LESS THAN 1/2" THE PLANS ARE NOT PLOTTED ORIGINAL IMAGE SIZE

MECHANICAL GENERAL NOTES

1) ALL WORK AND MATERIALS SHALL BE PERFORMED AND INSTALLED IN COMPLIANCE WITH THE FOLLOWING CODES AS AMENDED AND ADOPTED BY THE AUTHORITY(ES) HAVING JURISDICTION: 2022 CALIFORNIA ADMINISTRATIVE CODE (CAC), 2022 CALIFORNIA BUILDING CODE (CBC), 2022 CALIFORNIA FIRE CODE (CFC), 2022 CALIFORNIA MECHANICAL CODE (CMC), 2022 CALIFORNIA PLUMBING CODE (CPC), 2022 CALIFORNIA ELECTRICAL CODE (CEC), 2022 CALIFORNIA ENERGY CODE (CENC), 2022 CALIFORNIA GREEN BUILDING CODE (CGC), NATIONAL FIRE PROTECTION ASSOCIATION (NFPA), OCCUPATIONAL SAFETY AND HEALTH ACT (OSHA), AND ANY OTHER LOCAL CODES, ORDINANCES, REGULATIONS, OR AUTHORITIES HAVING JURISDICTION. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES OR OTHER CODES AND REGULATIONS APPLICABLE TO THIS PROJECT. THESE CODES SHALL DETERMINE MINIMUM REQUIREMENTS FOR MATERIALS, METHODS, AND LABOR PRACTICES NOT OTHERWISE DEFINED IN THESE SPECIFICATIONS.

2) CONTRACTOR TO EXAMINE THE PROPOSED WORK SITE AND BECOME FAMILIAR WITH ALL JOB CONDITIONS AFFECTING THE WORK SHOWN. CONTRACTOR(S) SHALL FIELD-VERIFY SITE CONDITIONS INCLUDING LOCATIONS AND SIZES OF EXISTING PIPING, VALVES, CLEANOUTS, WASTE MAINS, GAS METERS, ETC., AND BIDS SHALL BE BASED ON ACTUAL FIELD CONDITIONS. NO ADDITIONAL ALLOWANCE WILL BE GRANTED DUE TO LACK OF KNOWLEDGE OF SITE CONDITIONS. ACCEPT SOLE AND COMPLETE RESPONSIBILITY FOR CONDITIONS OF THE JOBSITE, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING PERFORMANCE OF THE WORK.

3) DRAWINGS INDICATE DIAGRAMMATICALLY THE ARRANGEMENT OF PRINCIPAL APPARATUS, PIPING, DUCTWORK, AND OTHER MATERIAL. FOLLOW DRAWING AS CLOSELY AS POSSIBLE IN ORDER TO ACHIEVE A NEAT INSTALLATION WHILE STILL WORKING AROUND ANY OBSTRUCTIONS. INSPECT SITE CONDITIONS AFFECTING THE WORK AND PROVIDE FITTINGS AND ACCESSORIES AS REQUIRED TO MEET CONDITIONS WHETHER SHOWN OR NOT.

4) IT IS NOT THE INTENTION OF THE PLANS AND SPECIFICATIONS TO COVER ALL INCIDENTALS REQUIRED TO PROVIDE COMPLETE AND FULLY-OPERATIONAL SYSTEMS. THE CONTRACTOR IS TO FURNISH ALL LABOR, MATERIALS, TRANSPORTATION, EQUIPMENT, MISCELLANEOUS SERVICES, ETC., REQUIRED TO ACCOMPLISH THIS RESULT, ANYTHING WHICH MAY BE REASONABLY CONSTRUED AS A NECESSARY PART OF THE INSTALLATION SHALL BE INCLUDED, WHETHER SPECIFICALLY SHOWN OR MENTIONED OR NOT. ENGINEER WILL PROVIDE INTERPRETATIONS UPON REQUEST.

5) DEFINITIONS:
   a. WORK: LABOR AND MATERIALS OF THE CONTRACTOR AND/OR SUBCONTRACTOR.
   b. FURNISH: OBTAIN, COORDINATE, SUBMIT THE NECESSARY DRAWINGS, DELIVER TO THE JOBSITE IN NEW CONDITION AND GUARANTEE.
   c. PROVIDE: FURNISH AND INSTALL.
   d. CONNECT: BRING SERVICE TO THE EQUIPMENT AND MAKE FINAL ATTACHMENTS INCLUDING NECESSARY PIPE FITTINGS, DUCTWORK, TRANSITIONS, ETC.
   e. CONCEALED: HIDDEN FROM SIGHT IN CHASES, FURRED SPACES, SHAFTS, ABOVE CEILING, EMBEDDED IN CONSTRUCTION, IN CRAWL SPACES, OR BURIED.
   f. EXPOSED: NOT INSTALLED UNDERGROUND OR CONCEALED AS DEFINED ABOVE.
   g. PERFORMANCE: CONTRACTOR SHALL PERFORM ALL WORK SPECIFIED, INDICATED, AND REQUIRED UNLESS OTHERWISE NOTED, INCLUDING FINAL CONNECTIONS, IN A WORKMANLIKE MANNER USING WORKER'S SKILLED AND EXPERIENCED IN THE TRADE. PIPES, FIXTURES, EQUIPMENT, GRILLES, REGISTERS, ETC. TO BE INSTALLED LEVEL, SQUARE, OR CENTERED, ETC. TO GIVE A NEAT APPEARANCE.
   h. FULL FUNCTION: PROVIDE ALL MINOR ITEMS NECESSARY FOR A COMPLETE AND FULLY FUNCTIONAL INSTALLATION.

6) CONTRACTOR SHALL CONFIRM ALL SITE VOLTAGES BEFORE BIDDING AND ORDERING EQUIPMENT. REIMBURSE ELECTRICAL CONTRACTOR, AT NO CHARGE TO CLIENT, FOR ELECTRICAL CONTRACTOR'S COST INCURRED DUE TO SUBSTITUTION OF MECHANICAL EQUIPMENT HAVING ELECTRICAL REQUIREMENTS DIFFERING FROM SITE CONDITIONS.

7) CONTRACTOR SHALL PROVIDE THE OWNER WITH COPIES OF OPERATION, MAINTENANCE, AND PREVENTATIVE MAINTENANCE MANUALS FOR EACH MODEL AND TYPE OF PLUMBING AND MECHANICAL EQUIPMENT.

8) CONTRACTOR SHALL PROVIDE EVIDENCE OF LICENSING, BONDING, AND INSURANCE, AND PROVIDE OTHER NECESSARY ADMINISTRATIVE FUNCTIONS FOR CONTRACTOR'S WORK.

9) CONTRACTOR SHALL PROCURE AND PAY FOR ALL REQUIRED PERMITS AND SERVICE CHARGES.

10) COORDINATION: CONFORM TO GENERAL CONSTRUCTION CONTRACT DOCUMENTS EXCEPT AS MODIFIED HEREIN. REFER ALSO TO STRUCTURAL AND ELECTRICAL CONTRACT DOCUMENTS. COORDINATE ALL WORK WITH OTHER TRADES.

11) CUTTING AND PATCHING: CUT AND PATCH AS REQUIRED. CUT OR WELD STRUCTURAL MEMBERS ONLY WITH APPROVAL OF A STRUCTURAL ENGINEER. PATCHING SUBJECT TO ACCEPTANCE BY OWNER.

12) SAW CUT TRENCHES IN SLAB SHALL BE FULLY RESTORED AND REINFORCED TO PREVENT SAGGING. ROUGHEN SAW CUT EDGES PRIOR TO RE-POURING CONCRETE.

13) COORDINATE ALL WORK WITH OTHER TRADES TO PROVIDE A COMPLETE INSTALLATION. CONNECT ALL EQUIPMENT FURNISHED BY OTHERS AS REQUIRED. INSTALL ALL WORK TO CLEAR ARCHITECTURAL AND STRUCTURAL MEMBERS. INSTALL ALL ABOVE GRADE (OVERHEAD) PIPING AS HIGH AS PRACTICAL.

14) RESTORE ALL DAMAGE RESULTING FROM YOUR WORK AND LEAVE PREMISES IN CLEAN CONDITION WHEN FINISHED WITH WORK. ADJUST, CLEAN, REPAIR, OR REPLACE PRODUCTS, WHICH HAVE BEEN DAMAGED.

15) GUARANTEE ALL WORK AND MATERIALS FOR ONE YEAR MINIMUM FROM DATE OF FILING NOTICE OF COMPLETION.

16) PROVIDE FLASHING AND COUNTER FLASHING FOR ALL WALL AND ROOF PENETRATIONS.

17) ADJUSTMENTS: MAKE MINOR ADJUSTMENTS TO WORK WHERE REQUESTED BY OWNER, WHEN SUCH ADJUSTMENTS ARE NECESSARY TO PROPER OPERATION AND WITHIN THE INTENT OF THE CONTRACT.

18) MATERIALS AND EQUIPMENT: PROVIDE NEW, UL-LISTED, COMMERCIAL-GRADE MATERIALS, DEVICES, EQUIPMENT, AND FIXTURES SUITABLE FOR THE ENVIRONMENT WHERE INSTALLED. REUSE EXISTING ONLY WHEN COMPLIANT WITH THE CONTRACT DOCUMENTS, IN GOOD CONDITION, AND APPROVED BY THE ENGINEER.

19) INSTALLATION: INSTALL ALL MATERIALS, EQUIPMENT, AND SYSTEMS IN FULL ACCORD WITH MANUFACTURER'S INSTRUCTIONS, CLEARANCES, ETC.

20) LAYOUT: INSTALL ALL PIPING AND DUCTWORK TO PRESENT A NEAT AND ORDERLY APPEARANCE. RUN ALL LINES PARALLEL WITH BUILDING CONSTRUCTION AS MUCH AS POSSIBLE. MAINTAIN HEADROOM, EQUIPMENT CLEARANCE, AND GRADIENT WHERE REQUIRED. ALLOW FOR EXPANSION & CONTRACTION.

21) ACCESS DOORS: PROVIDE ACCESS DOORS OR PANELS FOR ALL VALVES, CLEANOUTS, DAMPERS, CONTROLS, DEVICES, AND OTHER ITEMS REQUIRING INSPECTION OR MAINTENANCE.

22) START-UP: THOROUGHLY TEST/DEMONSTRATE PROPER OPERATION OF ALL SYSTEMS AND EQUIPMENT MODIFIED, FURNISHED OR INSTALLED UNDER THIS CONTRACT.

23) WARRANTY: ALL MATERIALS AND EQUIPMENT INSTALLED UNDER THIS CONTRACT SHALL BE GUARANTEED FREE FROM ALL MECHANICAL, ELECTRICAL, AND WORKMANSHIP DEFECTS FOR A MINIMUM OF ONE YEAR FROM DATE OF FINAL ACCEPTANCE. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DAMAGES TO THE PREMISES CAUSED BY LEAKS AND/OR BREAKS IN PIPES AND FIXTURES INSTALLED UNDER THIS CONTRACT, AS WELL AS ANY DAMAGE FROM LEAKS VIA ROOF PENETRATIONS MADE AND SEALED UNDER CONTRACTOR'S SCOPE.

24) PATCHING & PAINTING: RESTORE ANY DAMAGE RESULTING FROM THE WORK AND LEAVE PREMISES CLEAN. ADJUST, CLEAN, REPAIR, AND/OR REPLACE ANY ITEMS DAMAGED BY THE WORK. RESTORE WALL AND ROOF PENETRATIONS TO MATCH SURROUNDING WALL OR ROOF, RESPECTIVELY.

25) AIR BALANCE: PROVIDE SERVICES NECESSARY TO VERIFY AIR QUANTITIES AND BALANCE FOR ESTABLISHED QUANTITIES AND UNIFORM TEMPERATURE IN THE SPACES SERVED. ADJUST ALL DAMPERS AND ELEMENTS IN GRILLES AND DIFFUSERS FOR PROPER AIR DISTRIBUTION AND TO MINIMIZE DRAFTS. COMPLY WITH SMACNA MANUAL FOR THE BALANCING AND ADJUSTMENT OF AIR DISTRIBUTION SYSTEMS.

26) DUCTWORK SHALL BE FABRICATED AND INSTALLED IN ACCORDANCE WITH THE LATEST EDITION OF THE SMACNA LOW PRESSURE DUCT CONSTRUCTION STANDARD.

27) MATERIALS EXPOSED WITHIN DUCTS OR PLENUMS SHALL BE NONCOMBUSTIBLE OR SHALL HAVE A FLAME SPREAD INDEX NOT TO EXCEED 25 AND A SMOKE DEVELOPED INDEX NOT TO EXCEED 50, WHERE TESTED AS A COMPOSITE PRODUCT IN ACCORDANCE WITH ASTM E84 OR UL 723

28) ALL SUPPLY BRANCH DUCTS SHALL HAVE MANUAL VOLUME BALANCING DAMPERS WITH ACCESSIBLE LOCKING TYPE QUADRANT

29) PROVIDE CONICAL FITTINGS FOR ALL ROUND TO RECTANGULAR DUCTWORK CONNECTIONS

30) PROVIDE TURNING VANES FOR RECTANGULAR DUCTWORK AT ALL HARD 90 DEGREE ELBOWS

31) DUCTWORK SHALL MEET UL 181, CLASS 1 AND NFPA 90A AND 90B. DUCT SHALL BE INSTALLED STRAIGHT AND SUPPORT SPACING SHALL BE IN STRICT ACCORDANCE WITH "SMACNA HVAC DUCT CONSTRUCTION STANDARDS, METAL AND FLEXIBLE". FLEXIBLE DUCTWORK TO BE 5' MAX LENGTH, AND SHALL BE EXTENDED TO THE FULLEST POSSIBLE LENGTH, IN ORDER TO MINIMIZE PRESSURE DROP IN THE DUCT. EXCESS DUCT LENGTHS SHALL BE SHORTENED TO PREVENT UNNECESSARY CHANGES IN DIRECTIONS. WHERE ABRUPT CHANGES IN DIRECTION ARE UNAVOIDABLE USE ADJUSTABLE SHORT RADIUS SHEET METAL ELBOWS TO MAKE DIRECTION CHANGES. CONNECTIONS AT METAL DUCTS OR COLLARS SHALL BE MADE BY DRAW BANDS AND PRESSURE-SENSITIVE TAPE WITH THE DRAW BANDS TIGHTENED AS RECOMMENDED BY THE MANUFACTURER WITH AND ADJUSTABLE TENSIONING TOOL. USING PRESSURE-SENSITIVE TAPE ALONE WITHOUT DRAW BANDS IS NOT ACCEPTABLE. ALL PRESSURE-SENSITIVE TAPES AND MASTICS USED SHALL COMPLY WITH UL 181.

32) HVAC EQUIPMENT SHALL NOT BE OPERATED DURING CONSTRUCTION WITHOUT A FILTER INSTALLED TO PROTECT THE EVAPORATOR COIL. AFTER ALL CONSTRUCTION IS COMPLETED, ALL CONSTRUCTION FILTERS SHALL BE REMOVED AND NEW FILTERS SHALL BE INSTALLED.

33) HVAC EQUIPMENT SHALL BE CERTIFIED BY THE MANUFACTURER FOR COMPLIANCE WITH CALIFORNIA ENERGY COMMISSION STANDARDS.

MECHANICAL CALGREEN NOTES

5.504.1 THE PERMANENT HVAC SYSTEM SHALL ONLY BE USED DURING CONSTRUCTION IF NECESSARY TO CONDITION THE BUILDING OR AREAS OF ADDITION OR ALTERATION WITHIN THE REQUIRED TEMPERATURE RANGE FOR MATERIAL AND EQUIPMENT INSTALLATION. IF THE HVAC SYSTEM IS USED DURING CONSTRUCTION, USE RETURN AIR FILTERS WITH A MINIMUM EFFICIENCY REPORTING VALUE (MERV) OF 8, BASED ON ASHRAE 52.2-1999, OR AN AVERAGE EFFICIENCY OF 30 PERCENT BASED ON ASHRAE 52.1-1992. REPLACE ALL FILTERS IMMEDIATELY PRIOR TO OCCUPANCY, OR, IF THE BUILDING IS OCCUPIED DURING ALTERATION, AT THE CONCLUSION OF CONSTRUCTION.

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

5.504.5.3 IN MECHANICALLY VENTILATED BUILDINGS, PROVIDE REGULARLY OCCUPIED AREAS OF THE BUILDING WITH AIR FILTRATION MEDIA FOR OUTSIDE AND RETURN AIR PRIOR TO OCCUPANCY THAT PROVIDES AT LEAST A MERV OF 13.

5.505.1 BUILDINGS SHALL MEET OR EXCEED THE PROVISIONS OF CALIFORNIA BUILDING CODE, CCR, TITLE 24, PART 2, SECTIONS 1202 AND CHAPTER 14.

5.506.1 FOR MECHANICALLY OR NATURALLY VENTILATED SPACES IN BUILDINGS, MEET THE MINIMUM REQUIREMENTS OF SECTION 120.1 OF THE CALIFORNIA ENERGY CODE, CCR, TITLE 24, PART 6 AND CHAPTER 4 OF CCR, TITLE 8 OR THE APPLICABLE LOCAL CODE, WHICHEVER IS MORE STRINGENT.

5.506.2 FOR BUILDINGS EQUIPPED WITH DEMAND CONTROL VENTILATION, CO2 SENSORS AND VENTILATION CONTROLS SHALL BE SPECIFIED AND INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF THE LATEST EDITION OF THE CALIFORNIA ENERGY CODE, CCR, TITLE 24, PART 6, SECTION 120.1(C)(4).

5.508.1 INSTALLATIONS OF HVAC, REFRIGERATION AND FIRE SUPPRESSION EQUIPMENT SHALL COMPLY WITH SECTIONS 5.508.1.1 AND 5.508.1.2
5.508.1.1 CHLOROFLUOROCARBONS (CFCS). INSTALL HVAC AND REFRIGERATION EQUIPMENT THAT DOES NOT CONTAIN CFCS.
5.508.1.2 HALONS. INSTALL FIRE SUPPRESSION EQUIPMENT THAT DOES NOT CONTAIN HALONS.

5.410.4.5 PROVIDE THE BUILDING OWNER WITH DETAILED OPERATING AND MAINTENANCE INSTRUCTIONS AND COPIES OF GUARANTIES/WARRANTIES FOR EACH SYSTEM PRIOR TO FINAL INSPECTION.

5.410.4 TESTING AND ADJUSTING OF SYSTEMS SHALL BE REQUIRED FOR BUILDINGS LESS THAN 10,000 SQUARE FEET OR NEW SYSTEMS TO SERVE AN ADDITION OR ALTERATION SUBJECT TO SECTION 303.1.

5.410.4.3.1 BEFORE A NEW SPACE-CONDITIONING SYSTEM SERVING A BUILDING OR SPACE IS OPERATED FOR NORMAL USE, THE SYSTEM SHOULD BE BALANCED IN ACCORDANCE WITH THE PROCEDURES DEFINED BY NATIONAL STANDARDS LISTED IN SECTION 5.410.4.3.1.

MEP ANCHORAGE AND BRACING NOTE

ALL MECHANICAL, PLUMBING, AND ELECTRICAL COMPONENTS SHALL BE ANCHORED AND INSTALLED PER THE DETAILS ON THE OSA-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.

BRACING NOTE:

PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEMS SHALL BE BRACED TO COMPLY WITH THE FORCES AND DISPLACEMENTS PRESCRIBED IN ASCE 7-16 SECTION 13.3 AS DEFINED IN ASCE 7-16 SECTIONS 13.6.5, 13.6.6, 13.6.7, 13.6.8; AND 2022 CBC, SECTIONS 1617A.1.24, 1617A.1.25, AND 1617A.1.26.

THE METHOD OF SHOWING BRACING AND ATTACHMENTS TO THE STRUCTURE FOR THE IDENTIFIED DISTRIBUTION SYSTEM ARE AS NOTED BELOW. WHEN BRACING AND ATTACHMENTS ARE BASED ON A 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 DUCTWORK (MD), PLUMBING PIPING (PP), ELECTRICAL DISTRIBUTION SYSTEMS (E):

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

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

MECHANICAL LEGEND

	POC
	GAS POC
	COLD WATER POC
	CONDENSATE POC
	POWER AND CONTROL WIRING
S	SWITCH
T	THERMOSTAT
S	CO2 SENSOR
	FLEX DUCT
	DAMPER
	DUCT REDUCER
	CEILING DIFFUSER - TBAR
	CEILING DIFFUSER - HARDLID
	SIDE/SPIRAL DIFFUSER/RETURN
	SLOT DIFFUSER/RETURN
	CEILING RETURN - TBAR
	CEILING RETURN - HARDLID
	EXHAUST GRILLE - TBAR
	EXHAUST GRILLE - HARDLID
	CEILING FIRE-SMOKE DAMPER
	FIRE-SMOKE DAMPER
	SUPPLY AIR
	RETURN AIR
	EXHAUST AIR
ø	DIAMETER
AC	AIR CONDITIONING
OC	ON CENTER
CFM	CUBIC FEET PER MINUTE
FA,TB	FROM ABOVE, TO BELOW
FB,TA	FROM BELOW, TO ABOVE
FD	FIRE DAMPER
FSD	FIRE SMOKE DAMPER
GA	GAUGE
GPM	GALLONS PER MINUTE
HP	HORSEPOWER
BHP	BRAKE HORSEPOWER
MAX / MIN	MAXIMUM / MINIMUM
NTS	NOT TO SCALE
OSA	OUTSIDE AIR
RA	RETURN AIR
SA	SUPPLY AIR
SMS	SHEET METAL SCREW
TYP	TYPICAL
UON	UNLESS OTHERWISE NOTED

AGENCY APPROVAL:

TRACY UNIFIED SCHOOL DISTRICT

HMC Architects
3595-002-100
2101 CAPITOL AVENUE, SUITE 100,
SACRAMENTO, CA, 95816
916 368 7990 / www.hmcarchitects.com

ISSUE

Δ	DESCRIPTION	DATE

OPTIMIZEDENERGY & FACILITIES CONSULTING, INC.
5734 Lonetree Boulevard, Rocklin, CA 95765
Office: (916) 626 5518 www.oefcinc.com

REGISTERED PROFESSIONAL ENGINEER
STEVEN P. WISNIEWSKI
No.M32225
EXP.12-31-2024
MECHANICAL
STATE OF CALIFORNIA

FACILITY:
MERRILL F WEST HIGH SCHOOL

1775 W LOWELL AVE
TRACY, CA 95376

PROJECT:
MERRILL F WEST HS AGRICULTURE CTE BLDG INCREMENT 2

SHEET NAME:
MECHANICAL GENERAL NOTES

DSA SUBMITTAL

DATE: **10/11/24** | CLIENT PROJ NO:

SHEET:

M0.0

Autodesk Docs://3595002100 TUSD AG SHOP R22/3595002100-A-MERRILL WEST-AG SHOP.rvt
8/19/2024 3:39:57 PM

PLEASE RECYCLE

IF THIS LINE SHOWN ABOVE IS LESS THAN 1" THEN ALL ITEMS SHOWN ARE NOT ORIGINAL PAPER SIZE

PACKAGED HEAT PUMP SCHEDULE

TAG	MANU.	MODEL	LOCATION	SERVES	TONS	SUPPLY FAN					COOLING					HEATING MBH		CONDENSER		COMPRESSOR		STRIP HEATER		ELECTRICAL			SEER (EER) [EER]	HSPF (COP)	MIN OUTSIDE AIR CFM	WEIGHT (LBS)	REMARKS
						CFM	SP	RPM	BHP	FLA	TOTAL MBH	SENSIBLE MBH	EDB	EWB	AMB	OUTPUT @47°F	OUTPUT @17°F	QTY	FLA (EA)	QTY	RLA (EA)	KW	FLA	V-ø-Hz	MCA	MOCP					
PHP-1	CARRIER	50FCQM17	OUTDOORS	SHOP 101	15	6,000	1.19"	1742	3.10	5.6	157.0	138.6	85°F	67°F	105°F	168.0	106.0	3	0.9	2	14.7 8.2	25.0	30.1	460-3-60	78.0	80	(11.0) [14.7]	(3.30)	1200	1927	1, 2, 3, 4, 5, 6, 7, 8, 9

1) GROUND MOUNT UNIT ON CONCRETE SLAB
2) PROVIDE FILTER RACK WITH 2" THROWAWAY FILTERS & PROVIDE 2" PLEATED MERV 13 FILTERS UPON COMPLETION
3) PROVIDE WITH ULTRA LOW-LEAKAGE ECONOMIZER W/ MODULATING POWER EXHAUST AND FAULT DETECTION DIAGNOSTIC, PROVIDE SEPARATE POWER AND NON-FUSED DISCONNECT FOR CANFAB 1180-PE/MPE15, 460V, 3ø, 3.1 FLA, 3.875 MCA, 6.975 MOCP
4) PROVIDE 2-SPEED, DIRECT FAN (ECM) INDOOR FAN
5) PROVIDE UNIT WITH MINIMUM OF 2-STAGES OF MECHANICAL COOLING CAPACITY
6) PROVIDE UNIT WITH ALL REQUIRED CONTROLS PER CA ENERGY CODE
7) UNIT PROVIDED WITH SUPPLEMENTARY 25KW ELECTRIC RESISTANCE HEATER AND CONTROLS COMPLIANT WITH CENC 110.2(B)
8) PROVIDE UNIT WITH LOUVERED HAIL GUARDS
9) PROVIDE SA DUCT SMOKE DETECTOR PER CMC 609.1, COORDINATE WITH THE FIRE ALARM CONTRACTOR TO ENSURE THAT THE ACTIVATION OF DUCT SMOKE DETECTORS SHALL INTERRUPT THE POWER SOURCE OF ALL AIR-MOVING EQUIPMENT AND SHALL INITIATE A VISIBLE AND AUDIBLE SUPERVISORY SIGNAL AT A CONSTANTLY ATTENDED LOCATION PER CFC 907.3.1

SPLIT HEAT PUMP SCHEDULE - OUTDOOR UNIT

TAG	MANU.	MODEL	LOCATION	TONS	COOLING					HEATING MBH	ELECTRICAL				SEER2 (EER) [EER]	HSPF2 (COP @47)	WEIGHT (LBS.)	REMARKS
					TOTAL MBH	SENS. MBH	EDB	EWB	AMB	CAP	INT. CAP	V-ø-Hz	COND. FLA	COMP. RLA	MCA	MOCP				
SHP-1	CARRIER	38AUGE07	OUTDOORS	6.0	66.5	58.8	77°F	60°F	92°F	50.3	44.29	460-3-60	0.8 0.8	8.4	13.0	20	(11.7) [15.3]	(3.4)	444	1, 2, 3

1) MOUNT UNIT PER DETAIL 3/M0.0
2) PROVIDE UNIT WITH LOUVERED HAIL GUARD CONDENSING COIL
3) PROVIDE WITH SINGLE CIRCUIT/DUAL STAGE COMPRESSOR

SPLIT FAN COIL SCHEDULE - INDOOR UNIT

TAG	MANU.	MODEL	LOCATION	MOUNTING	TONS	CFM	ESP	BHP	STRIP HEATER		ELECTRICAL				MIN. OSA	WEIGHT (LBS.)	REMARKS
									KW	FLA	V-ø-Hz	FAN FLA	MCA	MOCP			
SFC-1	CARRIER	40RFQ*07	MECH 112	VERTICAL IN MECH CLOSET	6.0	2400	1.0"	1.14	15.0	17.3	460-3-60	3.0	26.3	30	411	381	1, 2, 3, 4, 5

1) MOUNT UNIT PER DETAIL 4/M0.0
2) PROVIDE FILTER RACK WITH 2" THROWAWAY FILTERS & PROVIDE 2" PLEATED MERV 13 FILTERS UPON COMPLETION
3) PROVIDE UNIT WITH ALL REQUIRED CONTROLS PER CA ENERGY CODE
4) UNIT PROVIDED WITH SUPPLEMENTARY 15KW ELECTRIC RESISTANCE HEATER AND CONTROLS COMPLIANT WITH CENC 110.2(B)
5) NO SUPPLY AIR SMOKE DETECTOR FOR AUTOMATIC SHUTOFF REQUIRED PER CMC 609.1 EXCEPTION 2, DIRECT EXIT WITHIN 100 FT

MINI-SPLIT HEAT PUMP SCHEDULE

OUTDOOR UNIT																	INDOOR UNIT												SEER2 (EER2)	HSPF2	REMARKS
TAG	MANU.	MODEL	LOCATION	TONS	COOLING					HEATING MBH		ELECTRICAL					WEIGHT (LBS.)	TAG	TYPE	MANU.	MODEL	LOCATION	SERVES	TONS	CFM	ESP	FAN FLA	MIN. OSA	WEIGHT (LBS.)			
					TOTAL MBH	SENS. MBH	EDB	EWB	AMB	@47°F	@17°F	V-ø-Hz	COND. FLA	COMP. RLA	MCA	MOCP																	
HP-1	MITSUBISHI	SLZ-KF09NA2	OUTDOORS	0.75	9.0	7.5	80°F	67°F	95°F	11.0	6.9	208-1-60	0.5	6.2	9.0	15	81	FC-1	DUCTLESS	MITSUBISHI	SLZ-KF09NA1	OFFICE 106	OFFICE 106	0.75	300	N/A	0.29	22	31	24.0 (13.4)	10.0	
HP-2	MITSUBISHI	PUZ-A18NKA7	OUTDOORS	1.5	18.0	13.1	80°F	67°F	95°F	19.0	13.6	208-1-60	0.5	7	11.0	28	100	FC-2	DUCTLESS	MITSUBISHI	PKA-A18LA	IDF 111	IDF 111	1.5	455	N/A	0.19	N/A	28	20.2 (10.7)	9.2	

DUST COLLECTOR SCHEDULE

TAG	MANU.	MODEL	LOCATION	SERVES	CFM	TSP (IN W.C.)	ELECTRICAL			WEIGHT (LBS.)	REMARKS
							V-ø-Hz	HP	FLA		
DC-1	AGET DUSTKOP	20SN51-D1-M	OUTDOORS	WOODSHOP EQUIPMENT	1600	20"	460-3-60	5	XX.X	590	1, 2, 3, 4, 5

1) DUST COLLECTOR TO BE PROVIDED IN (2) SEGMENT, DUST COLLECTOR & SHAKER
2) PROVIDE WITH 55 GAL DRUM FOR DUST COLLECTION
3) PROVIDE WITH FT25-SP EP SHAKER AFTER FILTER SECTION. PROVIDE 1 HP MOTOR SHAKER AT 460V-3ø-60
4) SECURE EACH SGEMENT TO CONCRETE WITH 304 STAINLESS STEEL HILTI KBTZ PER ESR 4266 (1 EACH LEG) 1/2"ø x 3/4" EMBED
5) PROVIDE ALL CONTROLS. FAN SHALL AUTOMATICALLY SHUTDOWN UPON ACTIVATION OF THE MASTER SHUTOFF BUTTON, COORDINATE WITH ELECTRICAL CONTRACTOR

RIGID DUCT SCHEDULE

TYPE	DUCT SIZE (IN.)	MINIMUM THICKNESS (IN.)	GALVANIZED GAUGE NO.
ROUND	≤14	0.0157	28
	16-18	0.0187	26
	≥20	0.0236	24
RECTANGULAR	≤14	0.0157	28
	>14	0.0187	26

AIR TERMINAL DEVICE SCHEDULE

TAG	TYPE	MANU.	MODEL	MOUNTING LOCATION	FRAME	MODULE SIZE	NECK SIZE	REMARKS
SG-1	SUPPLY GRILLE	TITUS	300RS	DUCT BOOT	BORDER TYPE 1	SEE PLANS	–	MOUNT DIRECTLY ON DUCT BOOT, STEEL GRILLE, DOUBLE DEFLECTION, PROVIDE WITH RECESSED SCREWDRIVER OPERATED OPPOSED BLADE DAMPER
RG-1	RETURN GRILLE	TITUS	350RL	SIDE WALL	BORDER TYPE 1	SEE PLANS	SEE PLANS	SURFACE MOUNT, STEEL GRILLE, 3/4" BLADE SPACING (BLADES PARALLEL TO LONG DIMENSION), 35 DEGREE DEFLECTION
TG-1	TRANSFER GRILLE	TITUS	350RL	SIDE WALL	BORDER TYPE 1	SEE PLANS	SEE PLANS	SURFACE MOUNT, STEEL GRILLE, 3/4" BLADE SPACING (BLADES PARALLEL TO LONG DIMENSION), 35 DEGREE DEFLECTION
TG-2	TRANSFER GRILLE	TITUS	350RL	DUCT	BORDER TYPE 1	SEE PLANS	SEE PLANS	SURFACE MOUNT, STEEL GRILLE, 3/4" BLADE SPACING (BLADES PARALLEL TO LONG DIMENSION), 35 DEGREE DEFLECTION

LOUVER SCHEDULE

SYMBOL	MANU.	MODEL	TYPE	SERVES	CFM	STATIC PRESS. LOSS	DIMENSIONS (WxH)	FREE AREA (SQ.FT.)	FREE AREA VELOCITY (FPM)	ELECTRICAL		WEIGHT (LBS.)	INTERLOCKED WITH	REMARKS
										V-ø-Hz	AMPS			
LV-1	GREENHECK	EACA-601	COMBO – DRAINABLE BLADE (HORIZONTAL), AIRFOIL DAMPER LOUVER	CLASSROOM 102	411	0.02"	20"x24"	1.1	374	120-1-60	0.25	16	SFC-1 OPERATION	1, 2, 3
LV-2	GREENHECK	EACA-601		CNC 110	1334	0.03"	20"x44"	2.6	521	120-1-60	0.25	30	FUME EXTRACTOR OPERATION	1, 2, 3, 4
LV-3	GREENHECK	EACA-601			1333	0.03"	20"x44"	2.6	521	120-1-60	0.25	30		1, 2, 3, 4
LV-4	GREENHECK	EACA-601			1333	0.03"	20"x44"	2.6	521	120-1-60	0.25	30		1, 2, 3, 4
LV-5	GREENHECK	ESD-635	STATIONARY DRAINABLE BLADE (HORIZONTAL) LOUVER	PROJECT ROOM 109	N/A	N/A	72"x120"	39.1	N/A	N/A	N/A	236	N/A	1, 2
LV-6	GREENHECK	ESD-635			N/A	N/A	72"x120"	39.1	N/A	N/A	N/A	236	N/A	1, 2

1) MOUNT WITHIN METAL WALL, SEE ARCHITECTURAL DRAWINGS FOR EXACT HEIGHT, FINISHING, AND FLASHING DETAILS
2) PROVIDE WITH INSECT SCREEN
3) PROVIDE WITH RUSKIN RLH-120 ELECTRIC 120V DAMPER ACTUATOR CONTROLLED BY INTERLOCK PER SCHEDULE ABOVE AND PROVIDE ALL ASSOCIATED CONTROL WIRING
4) PROVIDE WITH PLEATED MERV 7 FILTER AND FILTER HOUSING ON INTERIOR SIDE OF LOUVER

CEILING EXHAUST FAN SCHEDULE

TAG	MANU.	MODEL	MOUNTING TYPE	SERVES	CFM	E.S.P.	RPM	ELECTRICAL			SONES	WEIGHT (LBS.)	REMARKS
								V-ø-Hz	WATTS	AMPS			
CEF-1	PANASONIC	FV-1115VK2	CEILING	RR1 104	110	0.25"	894	115-1-60	12.8	0.24	<0.3	10.1	FAN TO BE INTERLOCKED WITH LIGHT SWITCH
CEF-2	PANASONIC	FV-1115VK2	CEILING	RR2 105	110	0.25"	894	115-1-60	12.8	0.24	<0.3	10.1	FAN TO BE INTERLOCKED WITH LIGHT SWITCH

CIRCULATION FAN SCHEDULE

TAG	MANU.	MODEL	DIAMETER (FT)	MOUNTING TYPE	SERVES	MAX RPM	ELECTRICAL			WEIGHT (LBS.)	REMARKS
							V-ø-Hz	HP	FLA		
CF-1	BIG ASS FAN	POWERFOIL D	10	ON I-BEAM	SHOP 101	145	460-3-60	1.5	1.2	220	1, 2, 3, 4, 5
CF-2	BIG ASS FAN	POWERFOIL D	10	ON I-BEAM	SHOP 101	145	460-3-60	1.5	1.2	220	1, 2, 3, 4, 5
CF-3	BIG ASS FAN	POWERFOIL D	10	ON I-BEAM	PROJECT ROOM 109	145	460-3-60	1.5	1.2	220	1, 2, 3, 4, 5

1) MOUNT DIRECTLY TO I-BEAM PER MANUFACTURER
2) PROVIDE WITH 15 YEAR WARRANTY AND OPTIONAL DECAL PACKAGE FOR SCHOOL APPLICATIONS
3) PROVIDE WITH MANUFACTURER HARD-WIRED WALL MOUNTED CONTROLLER, CONTROL MULTIPLE FANS IN A COMMON ROOM/AREA WITH A SINGLE WALL CONTROLLER (DAISY-CHAINED)
4) PROVIDE WITH MANUFACTURERS GUY WIRE KIT
5) FAN SHALL AUTOMATICALLY SHUTDOWN UPON THE ACTIVATION OF THE AUTOMATIC FIRE SPRINKLER SYSTEM, COORDINATE CONTROLS WITH THE ELECTRICAL CONTRACTOR AND FIRE ALARM INSTALLER, PROVIDE WITH FACTORY FIRE RELAY KIT INTERLOCKED WITH FACP

RATED DAMPER SCHEDULE

TAG	TYPE	MANU.	MODEL	MOUNTING LOCATION	FIRE RATING	LEAKAGE RATING	REMARKS
FSD-1	FIRE SMOKE DAMPER	GREENHECK	FSD-212	WALL	1.5 HR UL-555	CLASS II	CSFM LISTING #3225-0981:0103

AGENCY APPROVAL:

TRACY UNIFIED SCHOOL DISTRICT

HMC Architects
3595-002-100
2101 CAPITOL AVENUE, SUITE 100,
SACRAMENTO, CA, 95816
916 368 7990 / www.hmcarchitects.com

ISSUE

Δ DESCRIPTION DATE

OPTIMIZEDENERGY & FACILITIES CONSULTING, INC.
5734 Lonetree Boulevard, Rocklin, CA 95765
Office: (916) 626 5518 www.oefcinc.com

REGISTERED PROFESSIONAL ENGINEER – STEVEN P. WISNIEWSKI – No.M32225 – EXP.12-31-2024 – MECHANICAL – STATE OF CALIFORNIA

FACILITY:
MERRILL F WEST HIGH SCHOOL

1775 W LOWELL AVE
TRACY, CA 95376

PROJECT:
MERRILL F WEST HS AGRICULTURE CTE BLDG INCREMENT 2

SHEET NAME:
MECHANICAL SCHEDULES

DSA SUBMITTAL

DATE: **10/11/24** CLIENT PROJ NO:

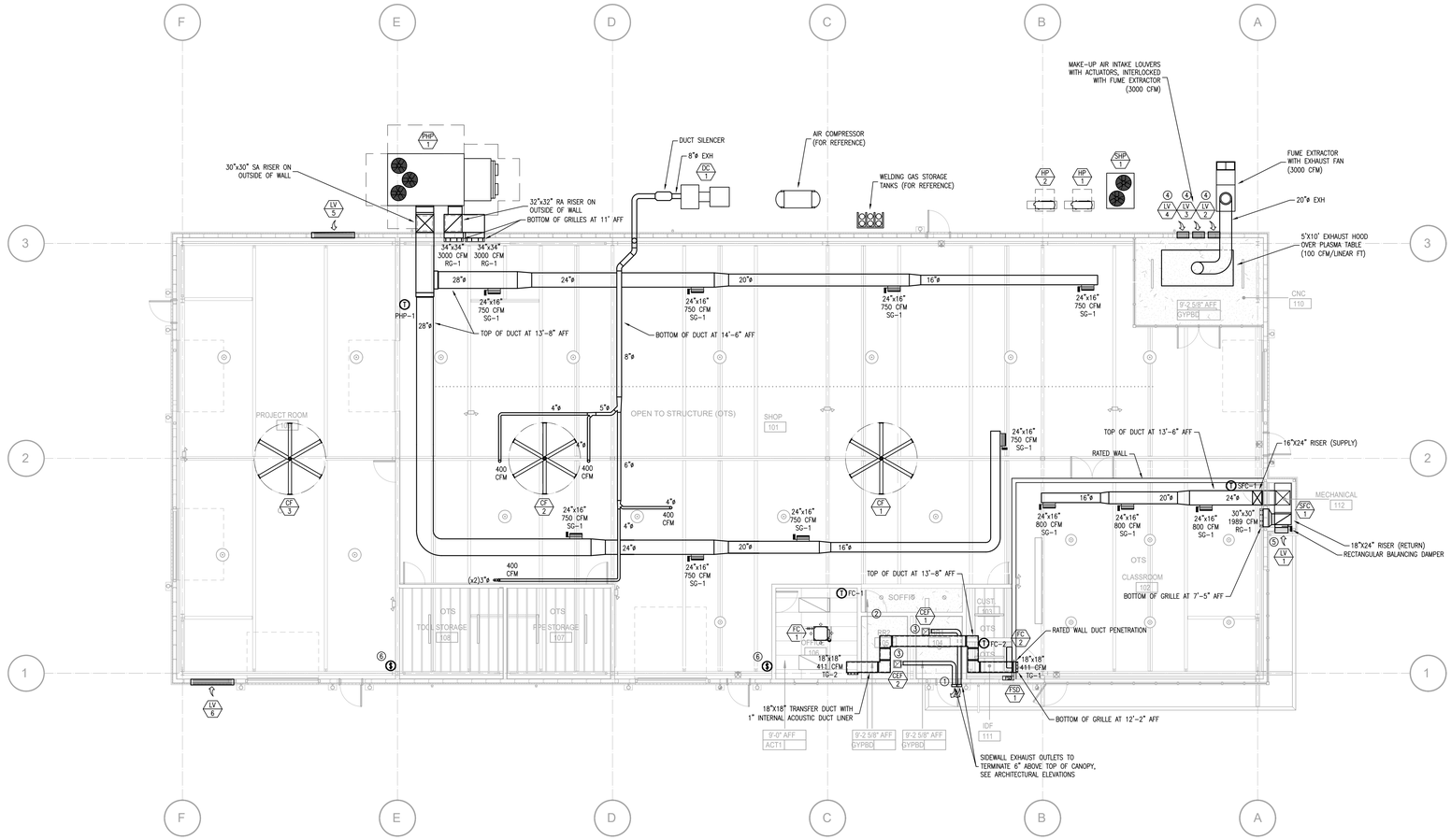
SHEET:

M0.1

Autodesk Docs://3595002100 TUSD AG SHOP R22/3595002100-A-MERRILL WEST-AG SHOP.rvt
8/19/2024 3:39:37 PM

PLEASE RECYCLE

THE LINE BROWN ABOVE IS EXACTLY 1" WHEN PLOTTED ON SHEETS ORIGINAL IMAGE SIZE



A MECHANICAL PLAN
SCALE: 1/8"=1'-0"

NORTH

SHEET NOTES:

1. (E) EXISTING
   (N) NEW
   (R) RELOCATED
   (D) DEMO
2. ALL EQUIPMENT/CONTROLS AND DUCTWORK/FITTINGS SHOWN ARE (N) U.O.N.
3. HVAC EQUIPMENT SHALL BE PERMANENTLY IDENTIFIED AS TO THE AREA OR SPACE SERVED BY THE EQUIPMENT PER CMC 303.6
4. THERMOSTATS/SWITCHES TO BE INSTALLED AT 48" A.F.F. (TOP OF THERMOSTAT/SWITCH). DO NOT INSTALL THERMOSTATS/SWITCHES OVER CASEWORK OR SHELVING OVER 24" IN DEPTH AND 34" IN HEIGHT. FIELD COORDINATE EXACT LOCATION WITH OWNER.
5. ALL DUCTWORK PENETRATIONS TO THE EXTERIOR OF BUILDING SHALL BE CORROSION-RESISTANT AND PROTECTED FROM INTRUSION BY WATER, INSECTS, ETC.
6. EXPOSED DUCTWORK SHALL BE MINIMUM 28 GAUGE GALVANIZED SPIRAL, SEE RIGID DUCTWORK CONSTRUCTION TABLE. MOUNT DUCTWORK AS CLOSE TO FRAMING AS POSSIBLE U.O.N. CONTRACTOR TO VERIFY HEIGHT WITH OWNER BEFORE INSTALLATION AND CONSULT MEOR IF MOUNTING HEIGHT DIFFERS FROM ORIGINAL DESIGN
7. ALL EXPOSED SPACE CONDITIONING DUCTWORK INSTALLED OUTDOORS SHALL BE INTERNALLY LINED WITH MINIMUM R-8 INSULATION, DUCT SIZES SHOWN ON PLANS ARE THE OUTER DIMENSIONS AND BASED ON 2 INCH THICK INSULATION
8. SPLIT SYSTEM HVAC UNITS AND HORIZONTAL DISCHARGE PACKAGED HVAC UNITS SHALL BE INSTALLED WITH FLEX CONNECTORS FROM UNIT TO DUCTWORK
9. PROVIDE FIRE STOPPING ASSEMBLY PROTECTION FOR DUCT PENETRATIONS OF RATED ASSEMBLIES. FIRE STOP RATING SHALL MATCH RATED ASSEMBLY BEING PENETRATED
10. PROVIDE ACCESS TO FIRE DAMPERS AND FIRE/SMOKE DAMPERS PER CBC 717.4
11. ALL HARD 90' ELBOWS SHALL BE INSTALLED WITH TURNING VANES

KEY NOTES:

1. ENSURE MINIMUM 10"x10" LOUVER IN DOOR (WITH INSECT SCREEN) FOR EXHAUST MAKEUP AIR
2. ENSURE UNDERCUT DOOR FOR EXHAUST MAKEUP AIR
3. CEILING EXHAUST FAN SHALL BE CONTROLLED VIA LIGHTING OCCUPANCY SENSOR
4. LOUVER DAMPER ACTUATOR SHALL BE INTERLOCKED WITH FUME EXTRACTOR OPERATION
5. LOUVER DAMPER ACTUATOR SHALL BE INTERLOCKED WITH SFC-1 OCCUPIED MODE OPERATION
6. PROVIDE MANUFACTURER HARD-WIRED WALL MOUNTED CONTROLLER, CONTROL MULTIPLE FANS IN A COMMON ROOM/AREA WITH A SINGLE CONTROLLER, COORDINATE WITH ELECTRICAL CONTRACTOR

AGENCY APPROVAL:

TRACY UNIFIED SCHOOL DISTRICT

HMC Architects
3595-002-100
2101 CAPITOL AVENUE, SUITE 100,
SACRAMENTO, CA, 95816
916 368 7990 / www.hmcarchitects.com

ISSUE

Δ DESCRIPTION DATE

OPTIMIZED ENERGY & FACILITIES CONSULTING, INC.
5734 Lonetree Boulevard, Rocklin, CA 95765
Office: (916) 626 5518 www.oefcinc.com

REGISTERED PROFESSIONAL ENGINEER
STEVEN P. WISNIEWSKI
No.M32225
EXP.12-31-2024
MECHANICAL
STATE OF CALIFORNIA

FACILITY:
MERRILL F WEST HIGH SCHOOL

1775 W LOWELL AVE
TRACY, CA 95376

PROJECT:
MERRILL F WEST HS AGRICULTURE CTE BLDG INCREMENT 2

SHEET NAME:
MECHANICAL PLAN

DSA SUBMITTAL

DATE: **10/11/24** CLIENT PROJ NO:

SHEET:

M1.1

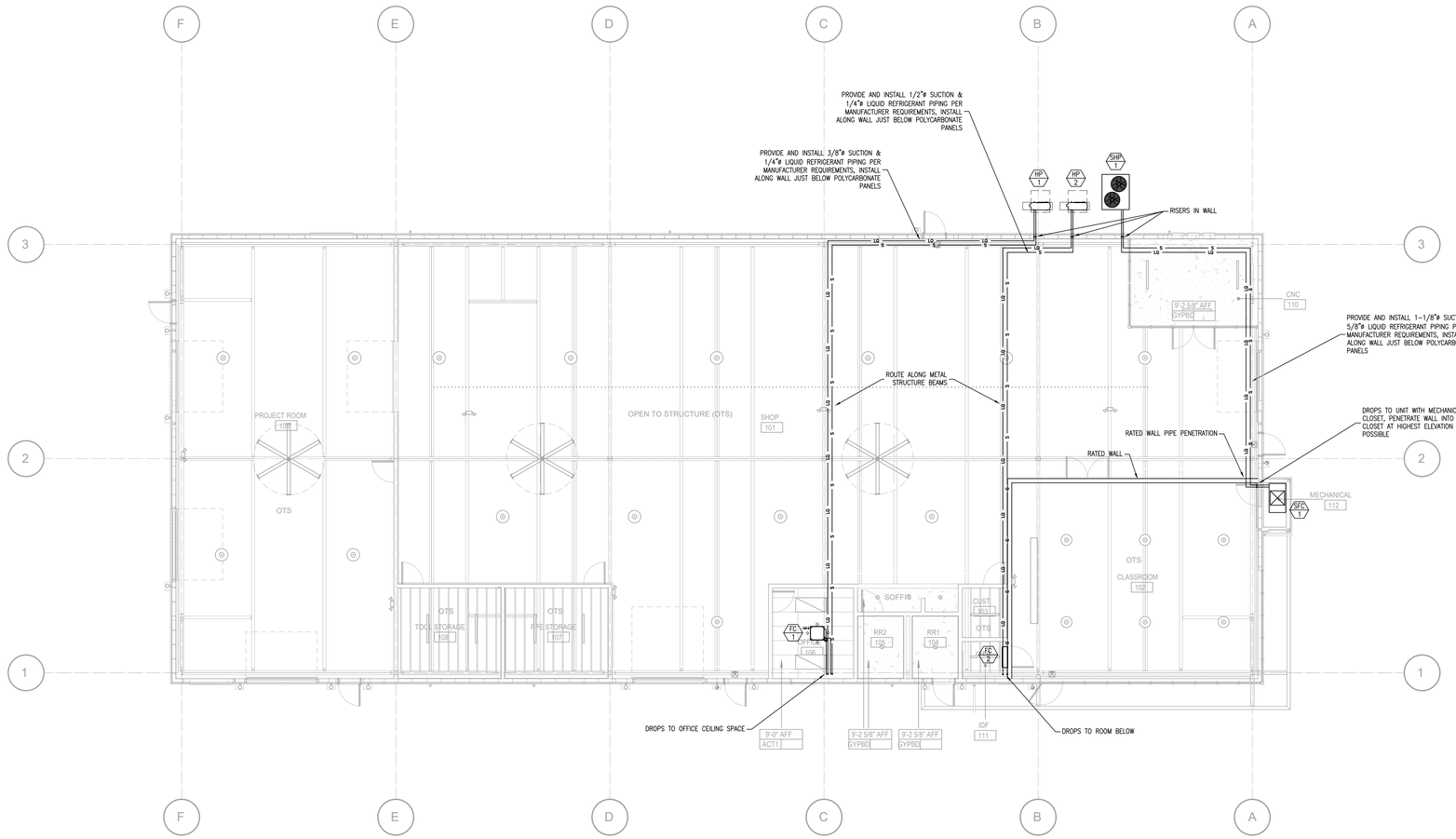
Autodesk Docs://3595002100 TUSD AG SHOP R22/3595002100-A-MERRILL WEST-AG SHOP.rvt
8/19/2024 3:39:57 PM

PLEASE RECYCLE

THE LINE BROWN ABOVE IS EXACTLY 1" WHEN PLOTTED ON 24X36 SHEETS ORIGINAL IMAGE SIZE

SHEET NOTES:

1. (E) EXISTING
   (N) NEW
   (R) RELOCATED
   (D) DEMO
2. ALL PIPING/VALVES SHOWN ARE (N) U.O.N.
3. PROVIDE FIRE STOPPING ASSEMBLY PROTECTION FOR PIPE PENETRATIONS OF RATED ASSEMBLIES. FIRE STOP RATING SHALL MATCH RATED ASSEMBLY BEING PENETRATED



A MECHANICAL PLAN - REFRIGERANT PIPING
SCALE: 1/8"=1'-0"

NORTH

AGENCY APPROVAL:

TRACY UNIFIED SCHOOL DISTRICT

HMC Architects
3595-002-100
2101 CAPITOL AVENUE, SUITE 100,
SACRAMENTO, CA, 95816
916 368 7990 / www.hmcarchitects.com

ISSUE

Δ DESCRIPTION DATE

OPTIMIZEDENERGY & FACILITIES CONSULTING, INC.
5734 Lonetree Boulevard, Rocklin, CA 95765
Office: (916) 626 5518 www.oefcinc.com

REGISTERED PROFESSIONAL ENGINEER
STEVEN P. WISNIEWSKI
No.M32225
EXP.12-31-2024
MECHANICAL
STATE OF CALIFORNIA

FACILITY:
MERRILL F WEST HIGH SCHOOL

1775 W LOWELL AVE
TRACY, CA 95376

PROJECT:
MERRILL F WEST HS AGRICULTURE CTE BLDG INCREMENT 2

SHEET NAME:
MECHANICAL PLAN - REFRIGERANT PIPING

DSA SUBMITTAL

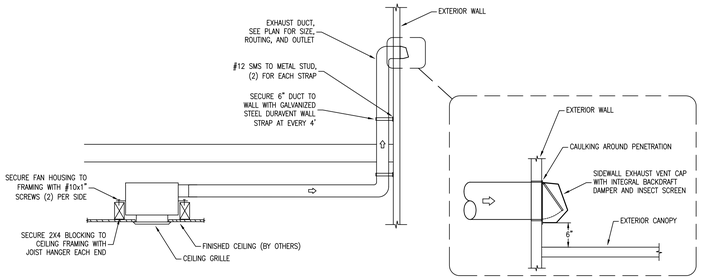
DATE: **10/11/24** | CLIENT PROJ NO:

SHEET:

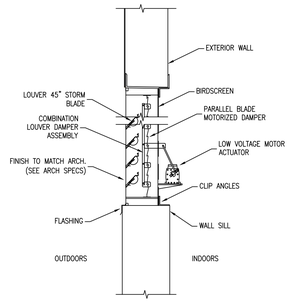
M1.2

Autodesk Docs://3595002100 TUSD AG SHOP R22/3595002100-A-MERRILL WEST-AG SHOP.rvt
8/19/2024 3:39:57 PM

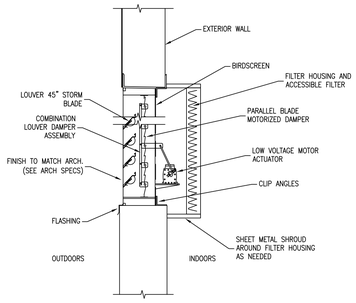
PLEASE RECYCLE



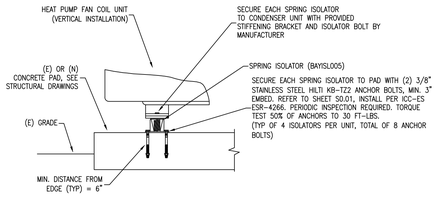
CEILING EXHAUST FAN INSTALLATION — 1 / M2.0



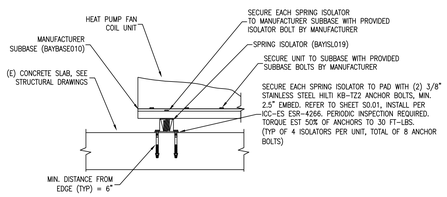
SIDEWALL LOUVER WITH ACTUATOR — 2 / M2.0



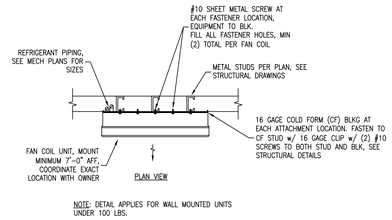
SIDEWALL LOUVER WITH ACTUATOR AND FILTER — 3 / M2.0



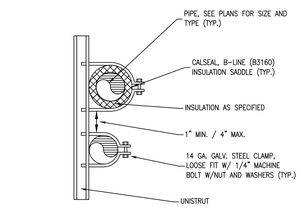
CONDENSER (OUTDOOR UNIT) GROUND MOUNTING — 4 / M2.0



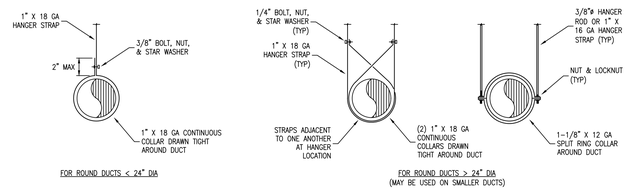
FAN COIL (INDOOR UNIT) GROUND MOUNTING — 5 / M2.0



WALL MOUNTED FAN COIL — 6 / M2.0

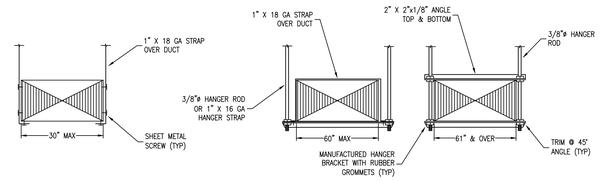


PIPE TO UNISTRUT CONNECTION — 7 / M2.0



NOTES:
1. ALL DUCT SUPPORTS SHALL BE PROPERLY SECURED TO THE OVERHEAD STRUCTURE
2. DUCT SUPPORTS, SPACING, AND ATTACHMENTS TO OVERHEAD STRUCTURE SHALL BE IN FULL COMPLIANCE, BUT NOT LIMITED TO: CMC 603.3 AND SMACNA HVAC DUCT CONSTRUCTION STANDARDS – METAL AND FLEXIBLE
3. PROVIDE LATERAL AND LONGITUDINAL SWAY BRACING PER SMACNA SEISMIC GUIDELINES

ROUND DUCT SUPPORT — 8 / M2.0



NOTES:
1. ALL DUCT SUPPORTS SHALL BE PROPERLY SECURED TO THE OVERHEAD STRUCTURE
2. DUCT SUPPORTS, SPACING, AND ATTACHMENTS TO OVERHEAD STRUCTURE SHALL BE IN FULL COMPLIANCE, BUT NOT LIMITED TO: CMC 603.3 AND SMACNA HVAC DUCT CONSTRUCTION STANDARDS – METAL AND FLEXIBLE
3. PROVIDE LATERAL AND LONGITUDINAL SWAY BRACING PER SMACNA SEISMIC GUIDELINES

RECTANGULAR DUCT SUPPORT — 9 / M2.0

AGENCY APPROVAL:

TRACY UNIFIED SCHOOL DISTRICT

HMC Architects
3595-002-100
2101 CAPITOL AVENUE, SUITE 100,
SACRAMENTO, CA, 95816
916 368 7990 / www.hmcarchitects.com

ISSUE

Δ	DESCRIPTION	DATE

OPTIMIZEDENERGY & FACILITIES CONSULTING, INC.
5734 Lonetree Boulevard, Rocklin, CA 95765
Office: (916) 626 5518 www.oefcinc.com

REGISTERED PROFESSIONAL ENGINEER — STEVEN P. WISNIEWSKI — No.M32225 — EXP.12-31-2024 — MECHANICAL — STATE OF CALIFORNIA

FACILITY:
MERRILL F WEST HIGH SCHOOL

1775 W LOWELL AVE
TRACY, CA 95376

PROJECT:
MERRILL F WEST HS AGRICULTURE CTE BLDG INCREMENT 2

SHEET NAME:
MECHANICAL DETAILS

DSA SUBMITTAL

DATE: **10/11/24** | CLIENT PROJ NO:

SHEET:

M2.0

ELECTRICAL GENERAL NOTES

1) ALL WORK AND MATERIALS SHALL BE PERFORMED AND INSTALLED IN COMPLIANCE WITH THE FOLLOWING CODES AS AMENDED AND ADOPTED BY THE AUTHORITY(IES) HAVING JURISDICTION: 2022 CALIFORNIA ADMINISTRATIVE CODE (CAC), 2022 CALIFORNIA BUILDING CODE (CBC), 2022 CALIFORNIA FIRE CODE (CFC), 2022 CALIFORNIA MECHANICAL CODE (CMC), 2022 CALIFORNIA PLUMBING CODE (CPC), 2022 CALIFORNIA ELECTRICAL CODE (CEC), 2022 CALIFORNIA ENERGY CODE (CENC), 2022 CALIFORNIA GREEN BUILDING CODE (CGC), NATIONAL FIRE PROTECTION ASSOCIATION (NFPA), TITLE 19 C.C.R. PUBLIC SAFETY, STATE FIRE MARSHAL REGULATIONS, AND ANY OTHER LOCAL CODES, ORDINANCES, REGULATIONS, OR AUTHORITIES HAVING JURISDICTION. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES OR OTHER CODES AND REGULATIONS APPLICABLE TO THIS PROJECT. THESE CODES SHALL DETERMINE MINIMUM REQUIREMENTS FOR MATERIALS, METHODS, AND LABOR PRACTICES NOT OTHERWISE DEFINED IN THESE SPECIFICATIONS.

2) ALL CONDUCTORS SHALL BE PER DESIGN SHEETS. CEC AND MAXIMUM VOLTAGE DROP OF 5% WILL DEFINE CONDUCTOR SIZING.

3) ALL CONDUCTORS SHALL BE IN CONDUITS, U.O.N. CONDUITS SHALL BE USED IN THE FOLLOWING METHODS:
   - POLYVINYL CHLORIDE (PVC) CONDUITS ALLOWED FOR UNDERGROUND OTHERWISE PROVIDE RMC OR IMC, INSTALL PER CEC TABLE 300.5 BURIAL DEPTH REQUIREMENTS
   - ELECTRICAL METALLIC TUBING (EMT) WITH COMPRESSION FITTINGS MAY BE USED IN OR ON WALLS OR CEILINGS WHERE NOT SUBJECT TO MECHANICAL DAMAGE, DAMP CONDITIONS OR CORROSIVE CONDITIONS;
   - LIQUID TIGHT FLEXIBLE METAL CONDUIT WHERE REQUIRED;
   - FLEXIBLE METALLIC CONDUIT, WHERE REQUIRED BY CEC, IN DRY LOCATIONS. NOTE: ALL CONDUITS IN HAZARDOUS LOCATIONS (PER CEC) SHALL MEET THE REQUIREMENTS OF CEC CHAPTER 5.
   - CONNECTION TO LIGHT FIXTURES ABOVE LAY-IN CEILING MAY USE 3/8" FLEXIBLE METAL CONDUIT PER CEC 348.20(A)(2)
   - ALL EXPOSED CONDUIT SUBJECT TO WEAR OR COLLISION SHALL BE RIGID GALVANIZED STEEL (RGS) OR INTERMEDIATE METALLIC TUBING (IMT). APPLY BITUMASTIC COATING TO ALL METALLIC CONDUITS IN SLABS OR UNDERGROUND.
   - PROVIDE FIRE RETARDANT U.L. APPROVED SEALANT ON ALL RACEWAY PENETRATIONS OF FIRE RATED CEILINGS, PARTITIONS, WALLS AND STRUCTURAL SLABS.

4) FOR TELEPHONE SYSTEM: PROVIDE GROUNDING FOR ALL TELEPHONE BACKBOARDS, TERMINAL CABINETS AND EQUIPMENT PER REQUIREMENTS OF CEC 800 AND TELEPHONE COMPANY.

5) ALL EQUIPMENT SHALL BE PROVIDED WITH AN APPROVED DISCONNECTING MEANS PER CEC. ALL DISCONNECT SWITCHES SHALL BE SIZED PER CEC TO ACCOMMODATE EQUIPMENT SERVED, INCLUDING REQUIRED FUSES, U.O.N. SWITCHES SHALL BE HORSE POWER RATED, OF HEAVY DUTY TYPE. PROVIDE MEANS FOR PAD LOCKING IN THE OPEN POSITION.

6) ALL CIRCUIT BREAKERS SHALL BE INVERSE TIME (THERMAL MAGNETIC) "PERMANENT TRIP" TYPE. TWO AND THREE POLE CIRCUIT BREAKERS SHALL BE COMMON TRIP. AMPACITY IS EQUAL TO OR GREATER THAN CIRCUIT BREAKER FRAME AMPERE RATING.

7) ALL CONNECTIONS TO GROUND RODS AND GRID, ETC., SHALL BE MADE WITH U.L. APPROVED WELDED CONNECTIONS, UNLESS NOTED OTHERWISE.

8) LIGHTING SYSTEMS SHALL COMPLY WITH CENC. ALL LIGHTING FIXTURES, LAMPS, BALLASTS, DIMMER SWITCHES, AND CONTROLS SHALL BE CERTIFIED WITH THE CALIFORNIA ENERGY COMMISSION AS MEETING ALL CENC REQUIREMENTS AND BE LISTED IN THE APPLICABLE ENERGY COMMISSION DIRECTORY. ALL SUCH DEVICES AND EQUIPMENT SHALL BE INSTALLED PER THE MANUFACTURER'S INSTRUCTIONS. LIGHT FIXTURES IN SUSPENDED CEILINGS SHALL BE SUPPORTED IN STRICT ACCORDANCE WITH CBC SEISMIC REQUIREMENTS.

9) LIGHT POLLUTION REDUCTION: OUTDOOR LIGHTING SYSTEMS SHALL BE INSTALLED TO COMPLY WITH THE FOLLOWING:
   1) THE MINIMUM REQUIREMENTS IN CENC FOR LIGHTING ZONES 0-4 AS DEFINED IN CH. 10 OF CAC
   2) BACKLIGHT RATINGS AS DEFINED IN IES TM-15-11
   3) UPLIGHT AND GLARE RATINGS AS DEFINED IN CEC TABLES 130.2-A AND 130.2B
   4) ALLOWABLE BUG RATING NOT EXCEEDING THOSE SHOWN IN TABLE 5.106.8, OR

   COMPLY WITH A LOCAL ORDINANCE LAWFULLY ENACTED PURSUANT TO SECTION 101.7, WHICHEVER IS MORE STRINGENT.

10) ALL ELECTRICAL EQUIPMENT, DEVICES, WIRE, ETC., SHALL BE LISTED, FOR THE INTENDED USE, WITH UNDERWRITER'S LABORATORIES, INC., (U.L), WHERE STANDARDS HAVE BEEN ESTABLISHED BY UL. ALL EQUIPMENT SHALL BE RAIN TIGHT WHERE EXPOSED TO THE WEATHER. ALL FLEX CONDUITS CONNECTED TO SUCH EQUIPMENT SHALL BE METALLIC LIQUID TIGHT. ALL EQUIPMENT IN HAZARDOUS LOCATIONS, PER CEC, CHAPTER 5, SHALL BE IN ACCORDANCE WITH THE CEC. ALL EQUIPMENT IN CORROSIVE ENVIRONMENTS SHALL BE IN ENCLOSURES (SUCH AS NEMA 4X) RATED FOR THE ENVIRONMENT.

11) RECEPTACLES AND SWITCHES INTENDED TO BE ACCESSIBLE TO THE PUBLIC SHALL BE INSTALLED IN ACCORDANCE WITH CBC 11B-308. INSTALLATION HEIGHT ABOVE FINISHED FLOOR OR GROUND SHALL BE AS FOLLOWS: TOP OF UNOBSTRUCTED OUTLET BOXES SHALL BE NO MORE THAN 48 INCHES, BOTTOM OF UNOBSTRUCTED OUTLET BOXES SHALL BE NO LESS THAN 15 INCHES, ETC.

12) UTILITY SERVICE AND REQUIREMENTS SHALL BE COORDINATED WITH POWER SERVICE WITH POWER COMPANY; PROVIDE FOR ALL STANDARD POWER COMPANY REQUIREMENTS. FAULT CURRENT RATINGS SHALL BE PROVIDED BY UTILITY.

13) THE LAYOUTS OF THE CONTRACT DRAWINGS ARE DIAGRAMMATIC. IT IS NOT INTENDED TO SHOW EVERY OFFSET AND FITTING, NOR EVERY STRUCTURAL DIFFICULTY THAT WILL BE ENCOUNTERED DURING THE INSTALLATION OF THE WORK. ALIGNMENT OF EQUIPMENT AND ROUTING OF RACEWAYS MAY BE VARIED SLIGHTLY TO ACCOMMODATE ARCHITECTURAL CONDITIONS OR TO AVOID THE WORK OF OTHER TRADES. IF ANY CONFLICTS OCCUR NECESSITATING DEPARTURES FROM CONTRACT DRAWINGS, DETAILS OF DEPARTURES AND REASONS THEREFORE SHALL BE SUBMITTED AS SOON AS PRACTICABLE FOR WRITTEN APPROVAL OF THE ENGINEER.

14) THE WORD "CONTRACTOR", AS USED IN THE ELECTRICAL CONTRACT DOCUMENTS, SHALL MEAN THE PRIME (I.E. GENERAL) CONTRACTOR AND HIS/HER SUBCONTRACTORS FOR THE APPROPRIATE TRADE. WHERE THE OWNER ACTS AS HIS OWN CONTRACTOR, THE WORD CONTRACTOR APPLIES TO THE OWNER.

15) CONTRACTOR SHALL PROVIDE EVIDENCE OF LICENSING, BONDING, AND INSURANCE, AND PROVIDE OTHER NECESSARY ADMINISTRATIVE FUNCTIONS FOR CONTRACTOR'S WORK.

16) CONTRACTOR SHALL PROCURE AND PAY FOR ALL REQUIRED PERMITS AND SERVICE CHARGES.

17) COORDINATION: CONFORM TO GENERAL CONSTRUCTION CONTRACT DOCUMENTS EXCEPT AS MODIFIED HEREIN. REFER ALSO TO STRUCTURAL AND MECHANICAL CONTRACT DOCUMENTS. COORDINATE ALL WORK WITH OTHER TRADES.

18) CUTTING AND PATCHING: ANY CUTTING, ATTACHING, OR WELDING TO BUILDING STRUCTURE SHOULD BE COORDINATED AND APPROVED BY A CALIFORNIA LICENSED STRUCTURAL ENGINEER. PATCHING SUBJECT TO ACCEPTANCE BY OWNER.

19) SAW CUT TRENCHES IN SLAB SHALL BE FULLY RESTORED AND REINFORCED TO PREVENT SAGGING. ROUGHEN SAW CUT EDGES PRIOR TO RE-POURING CONCRETE.

20) COORDINATE ALL WORK WITH OTHER TRADES TO PROVIDE A COMPLETE INSTALLATION. CONNECT ALL EQUIPMENT FURNISHED BY OTHERS AS REQUIRED. INSTALL ALL WORK TO CLEAR ARCHITECTURAL AND STRUCTURAL MEMBERS. INSTALL ALL ABOVE GRADE (OVERHEAD) PIPING AS HIGH AS PRACTICAL.

21) RESTORE ALL DAMAGE RESULTING FROM THE WORK AND LEAVE PREMISES IN CLEAN CONDITION WHEN FINISHED WITH WORK. ADJUST, CLEAN, REPAIR, OR REPLACE PRODUCTS, WHICH HAVE BEEN DAMAGED.

22) PROVIDE FLASHING AND COUNTER FLASHING FOR ALL WALL AND ROOF PENETRATIONS.

23) WARRANTY: ALL MATERIALS AND EQUIPMENT INSTALLED UNDER THIS CONTRACT SHALL BE GUARANTEED FREE FROM ALL MECHANICAL, ELECTRICAL, AND WORKMANSHIP DEFECTS FOR A MINIMUM OF ONE YEAR FROM DATE OF FINAL ACCEPTANCE. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DAMAGES TO THE PREMISES CAUSED BY WORK UNDER THIS CONTRACT, AS WELL AS ANY DAMAGE FROM LEAKS VIA ROOF PENETRATIONS MADE AND SEALED UNDER CONTRACTOR'S SCOPE.

ELECTRICAL CALGREEN NOTES

5.106.5.3 ELECTRIC VEHICLE (EV) CHARGING. CONSTRUCTION SHALL COMPLY WITH CGC SECTION 5.106.5.3.1 OR SECTION 5.106.5.3.2 TO FACILITATE FUTURE INSTALLATION OF ELECTRIC VEHICLE SUPPLY EQUIPMENT (EVSE).

5.106.5.3.1 SINGLE CHARGING SPACE REQUIREMENTS. WHEN ONLY A SINGLE CHARGING SPACE IS REQUIRED PER CGC TABLE 5.106.5.3.3, A RACEWAY IS REQUIRED TO BE INSTALLED AT THE TIME OF CONSTRUCTION AND SHALL BE INSTALLED IN ACCORDANCE WITH CEC

5.106.5.3.2 MULTIPLE CHARGING SPACES REQUIREMENTS. WHEN MULTIPLE CHARGING SPACES ARE REQUIRED PER CGC TABLE 5.106.5.3.3, RACEWAY(S) IS/ARE REQUIRED TO BE INSTALLED AT THE TIME OF CONSTRUCTION AND SHALL BE INSTALLED IN ACCORDANCE WITH CEC

5.106.5.3.3 EV CHARGING SPACE CALCULATION. CGC TABLE 5.106.5.3.3 SHALL BE USED TO DETERMINE IF SINGLE OR MULTIPLE CHARGING SPACE REQUIREMENTS APPLY FOR THE FUTURE INSTALLATION OF EVSE.

5.106.5.3.4 IDENTIFICATION. THE SERVICE PANEL OR SUBPANEL(S) CIRCUIT DIRECTORY SHALL IDENTIFY THE RESERVED OVERCURRENT PROTECTIVE DEVICE SPACE(S) FOR FUTURE EV CHARGING AS "EV CAPABLE". THE RACEWAY TERMINATION SHALL BE PERMANENTLY AND VISIBLY MARKED AS "EV CAPABLE"

5.106.5.3.5 FUTURE CHARGING SPACES: FUTURE CHARGING SPACES QUALIFY AS DESIGNATED PARKING AS DESCRIBED IN CGC SECTION 5.106.5.2 DESIGNATED PARKING FOR CLEAN AIR VEHICLES.

MEP ANCHORAGE AND BRACING 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, 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.

BRACING NOTE:

PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEMS SHALL BE BRACED TO COMPLY WITH THE FORCES AND DISPLACEMENTS PRESCRIBED IN ASCE 7-16 SECTION 13.3 AS DEFINED IN ASCE 7-16 SECTIONS 13.6.5, 13.6.6, 13.6.7, 13.6.8; AND 2022 CBC, SECTIONS 1617A.1.24, 1617A.1.25, AND 1617A.1.26.

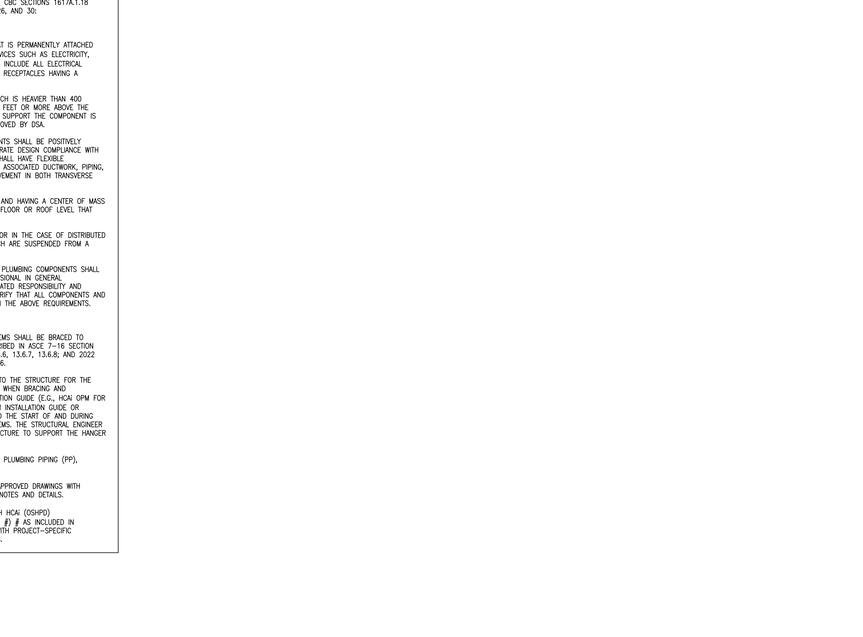
THE METHOD OF SHOWING BRACING AND ATTACHMENTS TO THE STRUCTURE FOR THE IDENTIFIED DISTRIBUTION SYSTEM ARE AS NOTED BELOW. WHEN BRACING AND ATTACHMENTS ARE BASED ON A PREAPPROVED INSTALLATION GUIDE (E.G., HCAI OPM FOR 2013 CBC OR LATER), COPIES OF THE BRACING SYSTEM INSTALLATION GUIDE OR MANUAL SHALL 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 DUCTWORK (MD), PLUMBING PIPING (PP), ELECTRICAL DISTRIBUTION SYSTEMS (E):

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

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

ONE-LINE DIAGRAM



ONE-LINE NOTES:

1. (N) - NEW
   (E) - EXISTING
   (R) - RELOCATED
   (F) - FUTURE
2. ALL EQUIPMENT/WIRING IS (N) U.O.N.
3. ALUMINUM WIRING INSULATION SHALL BE XHHW, U.O.N. COPPER WIRING INSULATION SHALL BE THWN-2, U.O.N.
4. THE SERVICE DISCONNECT SHALL BE PERMANENTLY MARKED PER CEC 230.70(B)
5. POST A DATED AVAILABLE FAULT CURRENT CALCULATION AT THE SERVICE EQUIPMENT PER CEC 110.24
6. SWITCHBOARDS, PANELBOARDS, INDUSTRIAL CONTROLS PANELS, ETC. SHALL BE FIELD OR FACTORY MARKED TO WARN QUALIFIED PERSONS OF POTENTIAL ELECTRIC ARC FLASH HAZARDS. MARKING SHALL MEET 110.21(B) AND BE CLEARLY VISIBLE PER CEC 110.16
7. ALL SWITCHBOARDS AND PANELBOARDS SUPPLIED BY A FEEDER SHALL BE MARKED TO INDICATE THE DEVICE OR EQUIPMENT WHERE THE POWER SUPPLY ORIGINATES PER CEC 408.4(B)
8. POST IDENTIFICATION FOR CONDUCTORS OF DIFFERENT VOLTAGE SYSTEMS PER CEC 210.5

ONE-LINE KEY NOTES:

① GROUND ELECTRODE SYSTEM: PROVIDE GROUND ELECTRODE PER CEC 250.52(A), AND CONNECT TO TRANSFORMER WITH MINIMUM #2 AWG CU GEC AND PROVIDE #2 AWG CU SBJ PER CEC 250.30

② SECONDARY CONDUCTORS MAX LENGTH SHALL BE 25' PER CEC 240.21(C)(6)

③ GROUND ELECTRODE SYSTEM: PROVIDE GROUND ELECTRODE PER CEC 250.52(A), AND CONNECT TO TRANSFORMER WITH MINIMUM #8 AWG CU GEC AND PROVIDE #8 AWG CU SBJ PER CEC 250.30

④ GROUND ELECTRODE SYSTEM: PROVIDE GROUND ELECTRODE PER CEC 250.52(A), AND CONNECT TO SEPARATE BUILDING OR STRUCTURE DISCONNECT EQUIPMENT WITH MINIMUM #2 AWG CU GEC PER CEC 250.32. NO NEUTRAL-TO-GROUND CONNECTION IS PERMITTED

⑤ MINIMUM #2 BARE COPPER BOND TO METAL FRAMING AND METAL PIPING

FEEDER SCHEDULE

TAG	# OF SETS	CONDUIT (PER SET)	CONDUCTORS (PER SET)		REMARKS
			PHASE/NEUTRAL	GROUND	
E-01	1	4"ø	(4) #250 AWG CU	(1) #2 AWG CU	CONDUIT PROVIDED DURING INCREMENT 1
E-02	1	2-1/2"ø	(3) #4/0 AWG CU	(1) #4 AWG CU	-
E-03	2	2"ø	(4) #3/0 AWG CU	(1) #2 AWG CU SSBJ	-
E-04	1	1"ø	(3) #4 AWG CU	(1) #8 AWG CU	-
E-05	1	1-1/4"ø	(4) #3 AWG CU	(1) #8 AWG CU SSBJ	

ELECTRICAL LEGEND

	2X4 LIGHT FIXTURE (SURFACE, RECESSED)
	2X2 LIGHT FIXTURE (SURFACE, RECESSED)
	FIXTURE W/ BATTERY BACKUP (TYP. ALL SHADED FIXTURES)
	RECESSED DOWNLIGHT
	ROUND SURFACE MOUNT LIGHT
	PENDANT LIGHT
	TRACK LIGHT
	SIGNLIGHT
	WALL MOUNT LIGHT
	POLE MOUNT LIGHT - 2 HEAD
	POLE MOUNT LIGHT - 1 HEAD
	EXIT/EMERGENCY COMBO LIGHT
	EMERGENCY FIXTURE
	EXIT LIGHT
	CEILING EXHAUST FAN
$S_{3,X}$	WALL MOUNTED SWITCH, MOUNT SO TOP IS AT 44" AFF
$S_{3,X}$	WALL MOUNTED 3-WAY SWITCH, MOUNT SO TOP IS AT 44" AFF
P	PHOTOCELL
	PRIMARY DAYLIGHT AREAS
	SECONDARY DAYLIGHT AREAS
	CEILING MOUNTED SENSOR
$\ominus_X$	DUPLEX OUTLET - WALL (MOUNT SO BOTTOM IS 16" AFF), FLOOR, CEILING
	QUADRUPLEX OUTLET - WALL (MOUNT SO BOTTOM IS 16" AFF), FLOOR, CEILING
	DEDICATED OUTLET - WALL (MOUNT SO BOTTOM IS 16" AFF), FLOOR, CEILING
	2-POLE OUTLET - 208/240V - WALL (MOUNT SO BOTTOM IS 16" AFF), FLOOR, CEILING
	30A, 120V OUTLET (NEMA 5-30R), MOUNT SO BOTTOM IS 16" AFF
	30A, 208/240V OUTLET (NEMA 6-30R), MOUNT SO BOTTOM IS 16" AFF
	DUPLEX OUTLET WITH USB PORT, MOUNT SO BOTTOM IS AT 16" AFF
	DATA PORT, MOUNT SO BOTTOM IS AT 16" AFF
	DATA PORT IN FLOOR
S	SMOKE DETECTOR
C	CARBON MONOXIDE DECTECTOR
J	JUNCTION BOX
3P 60 40	DISCONNECT - POLES (CAPACITY/FUSE)
"X"-1,3,5	HOME RUN - PANEL-CIRCUIT(S)
	WIRE/CONDUIT - OVERHEAD
	WIRE/CONDUIT - UNDERGROUND
	POWER PANEL
T	TRANSFORMER
AFF	ABOVE FINISHED FLOOR
+XX"	HEIGHT (INCHES) AFF
D	DIMMER
M	OCCUPANCY SENSOR
V	VACANCY SENSOR
GFI	GROUND FAULT INTERRUPTER
CH	COUNTERHEIGHT (+44") AND GFI
WP	WEATHERPROOF
HP	HORSEPOWER
BHP	BRAKE HORSEPOWER
NTS	NOT TO SCALE
TYP	TYPICAL
GND	GROUND
GEC	GROUNDING ELECTRODE CONDUCTOR
MSB	MAIN SWITCHBOARD
SBJ	SYSTEM BONDING JUMPER
SSBJ	SUPPLY SIDE BONDING JUMPER
BCPM	BRANCH CIRCUIT POWER METER
UON	UNLESS OTHERWISE NOTED

AGENCY APPROVAL:

TRACY UNIFIED SCHOOL DISTRICT

HMC Architects
3595-002-100
2101 CAPITOL AVENUE, SUITE 100,
SACRAMENTO, CA, 95816
916 368 7990 / www.hmcarchitects.com

ISSUE

Δ DESCRIPTION DATE

OPTIMIZEDENERGY & FACILITIES CONSULTING, INC.
5734 Lonetree Boulevard, Rocklin, CA 95765
Office: (916) 626 5518 www.oefcinc.com

REGISTERED PROFESSIONAL ENGINEER ALEXANDRE M. BATTEN No.E23735 EXP.12-31-2025 ELECTRICAL STATE OF CALIFORNIA

FACILITY:
MERRILL F WEST HIGH SCHOOL

1775 W LOWELL AVE
TRACY, CA 95376

PROJECT:
MERRILL F WEST HS AGRICULTURE CTE BLDG INCREMENT 2

SHEET NAME:
ELECTRICAL GENERAL NOTES & ONE-LINE DIAGRAM

DSA SUBMITTAL

DATE: **10/11/24** CLIENT PROJ NO:

SHEET:

E0.1

THE LINE BROKEN ABOVE IS EXACTLY 1" WHEN PRINTED ON ANSI SHEETS ORIGINAL SHEET SIZE

PANEL 'HN1' SCHEDULE

Panel Name:	HN1				Bus Rating:	400A				
Voltage & Phase:	277/480Y - 3ϕ - 4W				AIC Rating:	22kAIC				
Mounting:	Surface				Main Type:	Circuit Breaker				
Enclosure Rating:	NEMA 1				MCB Rating:	400A				

Code	VA	Description	BRK	Ckt	PHASE	Ckt	BRK	Description	VA	Code
L	656	Lighting - Outdoor Bldg Mount	20/1	1	A	2	80/3	HVAC Unit (PHP-1)	16261	M
L	625	Lighting - Indoor - Classroom/IDF	20/1	3	B	4	-		16261	M
L	1635	Lighting - Indoor - Shop/CNC	20/1	5	C	6	-		16261	M
L	577	Lighitng - Indoor - Project Room	20/1	7	A	8	15/3	Power Exhaust for PHP-1	822	M
L	308	Lighitng - Indoor - Tool/PPE/Office/RRs	20/1	9	B	10	-		822	M
				11	C	12	-		822	M
				13	A	14	20/3	HVAC Unit (SHP-1)	2653	M
				15	B	16	-		2653	M
				17	C	18	-		2653	M
				19	A	20	30/3	HVAC Unit (SFC-1)	5385	M
				21	B	22	-		5385	M
				23	C	24	-		5385	M
				25	A	26	15/3	Door motors (x2) - Shop	1114	M
				27	B	28	-		1114	M
				29	C	30	-		1114	M
				31	A	32	15/3	Door motors (x4) - Project Room	2228	M
				33	B	34	-		2228	M
				35	C	36	-		2228	M
O	5817	TX-NC	70/3	37	A	38	225/3	TX-NS	39145	O
O	6737		-	39	B	40	-		48725	O
O	6340		-	41	C	42	-		43563	O

Largest Motor VA	16731.12
Largest Motor Phases:	A,B,C
Subfeed Lugs to Panel:	HN2

Load Code	VA Load per Phase			Calculation		
	A	B	C	Total VA	Mult.	VA Load
R = Recept	0	0	0	0	1.00	0
K = Kitchen	0	0	0	0	1.00	0
M = Motor	28463.11	28463.11	28463.11	85389.34	1.00	85389
L = Lighting	1233.2	932.7	1634.9	3800.8	1.25	4751
H = Heat	0	0	0	0	1.25	0
PV = Solar	0	0	0	0	1.25	0
EV = Elec. Vehicle	0	0	0	0	1.25	0
O = Other	44961.75	55461.99	49902.39	150326.1	1.00	150326
Load Totals	74658.06	84857.8	80000.4	239516.3	1.00	240466.46
VA of Largest Motor				16731.12	0.25	4182.78
Subfeed VA Loads	22968.6	22968.6	22968.6			
Total VA Loads	99329.2	109453.8	104772.0			
Load Balance	95.0%	104.7%	100.2%			
VA Load This Panel						313554.9
Amperage This Panel Per Largest Phase VA						395.1

Notes:
- Panel AIC rating based on wire size and length
- Provide 400A subfeed lugs to Panel HN2

PANEL 'HN2' SCHEDULE

Panel Name:	HN2				Bus Rating:	400A				
Voltage & Phase:	277/480Y - 3ϕ - 4W				AIC Rating:	22kAIC				
Mounting:	Surface				Main Type:	Circuit Breaker				
Enclosure Rating:	NEMA 1				MCB Rating:	400A				

Code	VA	Description	BRK	Ckt	PHASE	Ckt	BRK	Description	VA	Code
M	2018	Dust Collector - Fan	15/3	1	A	2	30/3	Plasma Table Powersource	4780	O
M	2018		-	3	B	4	-		4780	O
M	2018		-	5	C	6	-		4780	O
M	558	Dust Collector - Shaker	15/3	7	A	8	40/3	Shear	5577	M
M	558		-	9	B	10	-		5577	M
M	558		-	11	C	12	-		5577	M
M	3452	Air Compressor	20/3	13	A	14	20/3	Portable Band Saw	558	M
M	3452		-	15	B	16	-		558	M
M	3452		-	17	C	18	-		558	M
M	2018	Fume Extractor	15/3	19	A	20	20/3	Crane	3051	M
M	2018		-	21	B	22	-		3051	M
M	2018		-	23	C	24	-		3051	M
				25	A	26	15/3	Circulation Fans (CF-1, CF-2, CF-3)	956	M
				27	B	28	-		956	M
				29	C	30	-		956	M
				31	A	32				
				33	B	34				
				35	C	36				
				37	A	38				
				39	B	40				
				41	C	42				

Largest Motor VA	16731
Largest Motor Phases:	A,B,C
Subfeed Breaker to Panel:	

Load Code	VA Load per Phase			Calculation		
	A	B	C	Total VA	Mult.	VA Load
R = Recept	0	0	0	0	1.00	0
K = Kitchen	0	0	0	0	1.00	0
M = Motor	18188.25	18188.25	18188.25	54564.74	1.00	54565
L = Lighting	0	0	0	0	1.25	0
H = Heat	0	0	0	0	1.25	0
PV = Solar	0	0	0	0	1.25	0
EV = Elec. Vehicle	0	0	0	0	1.25	0
O = Other	4780.32	4780.32	4780.32	14340.96	1.00	14341
Load Totals	22968.57	22968.57	22968.57	68905.7	1.00	68905.7
VA of Largest Motor				16731.12	0.25	4182.78
Subfeed VA Loads	0.0	0.0	0.0			
Total VA Loads	24362.8	24362.8	24362.8			
Load Balance	100.0%	100.0%	100.0%			
VA Load This Panel						73088.5
Amperage This Panel Per Largest Phase VA						88.0

Notes:
- Panel AIC rating based on wire size and length

VOLTAGE DROP SUMMARY

Total Feeder Voltage Drop		Worst Case Branch Circuit		Worst Case Voltage Drop
MSB-->HN1	1.95%	HN1-20,22,24	0.96%	2.91%
MSB-->HN1-->HN2	1.95%	HN2-2,4,6	0.93%	2.88%
MSB-->HN1-->TX-NS-->LNS1	2.92%	LNS1-3,5	1.86%	4.78%
MSB-->HN1-->TX-NS-->LNS1-->LNS2	2.92%	LNS2-14,16	1.63%	4.55%
MSB-->HN1-->TX-NC-->LNC	2.26%	LNC-23	2.22%	4.48%

PANEL 'LNS1' SCHEDULE

Panel Name:	LNS1				Bus Rating:	400A				
Voltage & Phase:	120/240∆ - 3ϕ - 4W				AIC Rating:	18kAIC				
Mounting:	Surface				Main Type:	Circuit Breaker				
Enclosure Rating:	NEMA 1				MCB Rating:	400A				

Code	VA	Description	BRK	Ckt	PHASE	Ckt	BRK	Description	VA	Code
M	1380	Booth Fan/Filter 1	20/1	1	A	2	20/1	Booth Fan/Filter 8	1380	M
O	2400	Welder 1 (Multimatic)	50/2	3	B	4	50/2	Welder 8 (Multimatic)	2400	O
O	2400		-	5	C	6	-		2400	O
O	2400	Welder 2 (Multimatic #2)	50/2	7	A	8	50/2	Welder 9 (Multimatic)	2400	O
O	2400		-	9	B	10	-		2400	O
M	1380	Booth Fan/Filter 2	20/1	11	C	12	20/1	Booth Fan/Filter 9	1380	M
M	1380	Booth Fan/Filter 3	20/1	13	A	14	20/1	Booth Fan/Filter 10	1380	M
O	2400	Welder 3 (Multimatic)	50/2	15	B	16	50/2	Welder 10 (Multimatic)	2400	O
O	2400		-	17	C	18	-		2400	O
O	2400	Welder 4 (Multimatic)	50/2	19	A	20	20/2	Welder 11 (Millermatic)	1992	O
O	2400		-	21	B	22	-		1992	O
M	1380	Booth Fan/Filter 4	20/1	23	C	24	20/1	Booth Fan/Filter 11	1380	M
M	1380	Booth Fan/Filter 5	20/1	25	A	26	20/1	Booth Fan/Filter 12	1380	M
O	2400	Welder 5 (Multimatic)	50/2	27	B	28	20/2	Welder 12 (Millermatic)	1992	O
O	2400		-	29	C	30	-		1992	O
O	2400	Welder 6 (Multimatic)	50/2	31	A	32	20/2	Welder 13 (Millermatic)	1992	O
O	2400		-	33	B	34	-		1992	O
M	1380	Booth Fan/Filter 6	20/1	35	C	36	20/1	Booth Fan/Filter 13	1380	M
M	1380	Booth Fan/Filter 7	20/1	37	A	38	20/1	Booth Fan/Filter 14	1380	M
O	2400	Welder 7 (Multimatic)	50/2	39	B	40	20/2	Welder 14 (Millermatic)	1992	O
O	2400		-	41	C	42	-		1992	O

Largest Motor VA	6016
Largest Motor Phases:	A,B,C
Subfeed Lugs to Panel:	LNS2

Load Code	VA Load per Phase			Calculation		
	A	B	C	Total VA	Mult.	VA Load
R = Recept	0	0	0	0	1.00	0
K = Kitchen	0	0	0	0	1.00	0
M = Motor	11040	0	8280	19320	1.00	19320
L = Lighting	0	0	0	0	1.25	0
H = Heat	0	0	0	0	1.25	0
PV = Solar	0	0	0	0	1.25	0
EV = Elec. Vehicle	0	0	0	0	1.25	0
O = Other	13584	31968	18384	63936	1.00	63936
Load Totals	24624	31968	26664	83256	1.00	83256
VA of Largest Motor				6016.275	0.25	1504.0688
Subfeed VA Loads	14521.0	16757.0	16898.6			
Total VA Loads	39646.4	49226.4	44064.0			
Load Balance	89.5%	111.1%	99.4%			
VA Load This Panel						132936.7
Amperage This Panel Per Largest Phase VA						355.3

Notes:
- Panel AIC rating based on wire size and length
- Provide 400A subfeed lugs to Panel LNS2
- The Panel's high leg is Phase B

PANEL 'LNS2' SCHEDULE

Panel Name:	LNS2				Bus Rating:	400A				
Voltage & Phase:	120/240∆ - 3ϕ - 4W				AIC Rating:	18kAIC				
Mounting:	Surface				Main Type:	Lugs Only				
Enclosure Rating:	NEMA 1				Upstream Feed Size:	400A				

Code	VA	Description	BRK	Ckt	PHASE	Ckt	BRK	Description	VA	Code
M	1650	Miller Saw	20/1	1	A	2	20/2	Manual Mill	894	M
M	1248	Lathe	20/2	3	B	4	-		894	M
M	1248		-	5	C	6	20/1	Metal Drill Press 1	1428	M
M	900	Wood Drill Press	20/1	7	A	8	20/1	Recept - Shop	360	R
M	2005	Iron Worker	30/3	9	B	10	20/2	Grinder	1128	M
M	2005		-	11	C	12	-		1128	M
M	2005		-	13	A	14	20/2	Table Saw 1	1248	M
M	1561	Metal Band Saw	20/3	15	B	16	-		1248	M
M	1561		-	17	C	18	20/1	Metal Drill Press 2	1428	M
M	1561		-	19	A	20	20/1	Recept - Project Room	720	R
M	1440	Wood Combination Sander	20/2	21	B	22	20/2	Table Saw 2	1248	M
M	1440		-	23	C	24	-		1248	M
O	230	Plasma Table Controller	15/1	25	A	26	20/1	Cord Drop - Shop	720	R
R	500	Cord Drop (240V) - Project Room	20/2	27	B	28	20/2	Cord Drop (240V) - Shop	500	R
R	500		-	29	C	30	-		500	R
R	360	Cord Drop - Project Room	20/1	31	A	32	20/2	Welder 15 (Millermatic)	1992	O
R	500	Cord Drop (240V) - Project Room	20/2	33	B	34	-		1992	O
R	500		-	35	C	36	20/1	Booth Fan/Filter 15	1380	M
R	500	Cord Drop (240V) - Shop	20/2	37	A	38	20/1	Booth Fan/Filter 16	1380	M
R	500		-	39	B	40	20/2	Welder 16 (Millermatic)	1992	O
R	540	Cord Drop - Shop	20/1	41	C	42	-		1992	O

Largest Motor VA	6016
Largest Motor Phases:	A,B,C
Subfeed Breaker to Panel:	

Load Code	VA Load per Phase			Calculation		
	A	B	C	Total VA	Mult.	VA Load
R = Recept	2660	2000	2040	6700	1.00	6700
K = Kitchen	0	0	0	0	1.00	0
M = Motor	9639.026	10773.03	12866.63	33278.68	1.00	33279
L = Lighting	0	0	0	0	1.25	0
H = Heat	0	0	0	0	1.25	0
PV = Solar	0	0	0	0	1.25	0
EV = Elec. Vehicle	0	0	0	0	1.25	0
O = Other	2222	3984	1992	8198	1.00	8198
Load Totals	14521.03	16757.03	16898.63	48176.68	1.00	48176.678
VA of Largest Motor				6016.275	0.25	1504.0688
Subfeed VA Loads	0.0	0.0	0.0			
Total VA Loads	15022.4	17258.4	17400.0			
Load Balance	90.7%	104.2%	105.1%			
VA Load This Panel						49680.7
Amperage This Panel Per Largest Phase VA						125.6

Notes:
- Panel AIC rating based on wire size and length
- The Panel's high leg is Phase B

PANEL 'LNC' SCHEDULE

Panel Name:	LNC				Bus Rating:	100A				
Voltage & Phase:	120/208Y - 3ϕ - 4W				AIC Rating:	10kAIC				
Mounting:	Surface				Main Type:	Circuit Breaker				
Enclosure Rating:	NEMA 1				MCB Rating:	100A				

Code	VA	Description	BRK	Ckt	PHASE	Ckt	BRK	Description	VA	Code
M	727	HVAC Units (HP-1 / FC-1)	15/2	1	A	2	30/2	Water Heater (WH-1)	3000	H
M	727		-	3	B	4	-		3000	H
M	800	HVAC Units (HP-2 / FC-2)	20/2	5	C	6	20/1	Fire Alarm Power Supply	200	O
M	800		-	7	A	8				
R	720	Recept - Tool/Pre-Storage	20/1	9	B	10	20/1	IDF-N	1000	O
R	900	Recept - Office	20/1	11	C	12	20/1	Overhead crane controls	200	O
R	540	Recept - RR	20/1	13	A	14				
R	540	Recept - Classroom	20/1	15	B	16				
R	1260	Recept - Classroom	20/1	17	C	18	20/1	Teaching Wall	1000	O
				19	A	20				
				21	B	22				
R	1620	Recept - Classroom	20/1	23	C	24				
				25	A	26				
				27	B	28				
R	360	Recept - Classroom	20/1	29	C	30				
				31	A	32				
				33	B	34				
				35	C	36				
				37	A	38				
				39	B	40				
				41	C	42				

Largest Motor VA	1456
Largest Motor Phases:	C,A
Subfeed Breaker to Panel:	

Load Code	VA Load per Phase			Calculation		
	A	B	C	Total VA	Mult.	VA Load
R = Recept	540	1260	4140	5940	1.00	5940
K = Kitchen	0	0	0	0	1.00	0
M = Motor	1526.72	726.96	799.76	3053.44	1.00	3053
L = Lighting	0	0	0	0	1.25	0
H = Heat	3000	3000	0	6000	1.25	7500
PV = Solar	0	0	0	0	1.25	0
EV = Elec. Vehicle	0	0	0	0	1.25	0
O = Other	0	1000	1400	2400	1.00	2400
Load Totals	5066.72	5986.96	6339.76	17393.44	1.09	18893.44
VA of Largest Motor				1456	0.25	364
Subfeed VA Loads	0.0	0.0	0.0			
Total VA Loads	5998.7	6737.0	6521.8			
Load Balance	93.5%	105.0%	101.6%			
VA Load This Panel						19257.4
Amperage This Panel Per Largest Phase VA						56.1

Notes:
- Panel AIC rating based on wire size and length

AGENCY APPROVAL:

TRACY UNIFIED SCHOOL DISTRICT

HMC Architects
3595-002-100
2101 CAPITOL AVENUE, SUITE 100,
SACRAMENTO, CA, 95816
916 368 7990 / www.hmcarchitects.com

ISSUE

Δ	DESCRIPTION	DATE

OPTIMIZEDENERGY & FACILITIES CONSULTING, INC.
5734 Lonetree Boulevard, Rocklin, CA 95765
Office: (916) 626 5518 www.oefcinc.com

REGISTERED PROFESSIONAL ENGINEER ALEXANDRE M BAYSER No.E23735 EXP:12-31-2025 ELECTRICAL STATE OF CALIFORNIA

FACILITY:
MERRILL F WEST HIGH SCHOOL

1775 W LOWELL AVE
TRACY, CA 95376

PROJECT:
MERRILL F WEST HS AGRICULTURE CTE BLDG INCREMENT 2

SHEET NAME:
ELECTRICAL SCHEDULES

DSA SUBMITTAL

DATE: **10/11/24** | CLIENT PROJ NO:

SHEET:

E0.2

PLEASE RECYCLE

Autodesk Docs://3595002100 TUSD AG SHOP R22/3595002100-A-MERRILL WEST-AG SHOP.rvt
8/19/2024 3:39:57 PM

EQUIPMENT SCHEDULE

TAG	TYPE	MANU.	MODEL	SERVES	RATINGS	DIMENSIONS (L"xW"xH")	WEIGHT (LBS)	REMARKS
TX-NS	TRANSFORMER	SQUARE D	EXN150T6H	SEE ONE-LINE DIAGRAM	150KVA, 480V -> 240Δ/120V, NEMA 3R	33"x34"x41"	1007	COMPLETELY ENCLOSED EXCEPT FOR VENTILATION OPENINGS, CLASS 220 INSULATION, MEETS THE EXCEPTION FOR CEC 450.21
TX-NC	TRANSFORMER	SQUARE D	EXN45T3H	SEE ONE-LINE DIAGRAM	45KVA, 480V -> 208/120V, NEMA 1	26"x26"x29"	369	COMPLETELY ENCLOSED EXCEPT FOR VENTILATION OPENINGS, CLASS 220 INSULATION, MEETS THE EXCEPTION FOR CEC 450.21

LIGHTING FIXTURE SCHEDULE

TAG	TYPE	MANU.	SERIES	MODEL	QTY.	MOUNTING	VOLT.	WATTAGE	SOURCE	LUMENS	CCT	REMARKS
A	HIGH BAY	COOPER	PRENTALUX	PRLX-UHBS-2436-MV-L84050-TRWH	14	SUSPENDED @16' AFF, U.O.N.	277	144.3	LED	23496	4000K	
B	HIGH BAY	COOPER	PRENTALUX	PRLX-UHBS-1218-MV-L84050-TRWH	7	SUSPENDED @14' AFF	277	79.6	LED	12289	4000K	
C	CORELITE	COOPER	IRIDIUM I2	I2-WS-2L40-1D-UNV-AC_-UM-12-STD	1	SUSPENDED @10' AFF	277	106.5	LED	11091	4000K	
D	DOWNLIGHT	COOPER	HALO	HC610D010-HM60525840-61MDH	3	RECESSED	277	10.1	LED	1000	4000K	
E	DOWNLIGHT	COOPER	HALO	HC620D010-HM60525840-61WDH	2	RECESSED	277	20.9	LED	2000	4000K	
F	2'X4' FIXTURE	COOPER	METALUX	24C22-40-UNV-L840-CD1-U	2	T-BAR	277	30.4	LED	4000	4000K	
G	4' STRIP	COOPER	METALUX	4SNLED-LD5-53SL-LN-UNV-L840-HCD-1	6	SUSPENDED @9' AFF	277	41.0	LED	5318	4000K	
H	4' STRIP	COOPER	METALUX	4SNLED-LD5-53SL-LN-UNV-L840-HCD-1	3	CEILING SURFACE	277	41.0	LED	5318	4000K	
O1	OUTDOOR SCONCE	WE-EF	–	PLS430 LED	16	WALL @8' ABOVE GRADE	277	41.0	LED	2696	4000K	FIXTURE WITH 'EM' PROVIDE WITH 90 MIN BATTERY BACKUP
EM	EMERGENCY	ISOLITE	BUG	BUG-6-WH	8	WALL/SURFACE	277	–	LED	–	–	90 MIN BATTERY BACKUP, UL 924
EX	EXIT SIGN	ISOLITE	RLP	RLP-X-U-WH-UN	7	CEILING SURFACE	277	–	LED	–	–	90 MIN BATTERY BACKUP, UL 924

NOTES: COORDINATE ALL ARCHITECTURAL TRIM AND ACCESSORY OPTIONS WITH OWNER
EQUIVALENT FIXTURES ACCEPTABLE CONTINGENT ON OWNER APPROVAL
PROVIDE ALL CA ENERGY CODE REQUIRED LIGHTING CONTROLS & ACCEPTANCE TESTING

AGENCY APPROVAL:

TRACY UNIFIED SCHOOL DISTRICT

HMC Architects
3595-002-100
2101 CAPITOL AVENUE, SUITE 100,
SACRAMENTO, CA, 95816
916 368 7990 / www.hmcarchitects.com

ISSUE

Δ DESCRIPTION DATE

OPTIMIZEDENERGY & FACILITIES CONSULTING, INC.
5734 Lonetree Boulevard, Rocklin, CA 95765
Office: (916) 626 5518 www.oefcinc.com

REGISTERED PROFESSIONAL ENGINEER
ALEXANDRE M. BATISTA
No.E23735
EXP:12-31-2025
ELECTRICAL
STATE OF CALIFORNIA

FACILITY:
MERRILL F WEST HIGH SCHOOL

1775 W LOWELL AVE
TRACY, CA 95376

PROJECT:
MERRILL F WEST HS AGRICULTURE CTE BLDG INCREMENT 2

SHEET NAME:
ELECTRICAL SCHEDULES

DSA SUBMITTAL

DATE: **10/11/24** CLIENT PROJ NO:

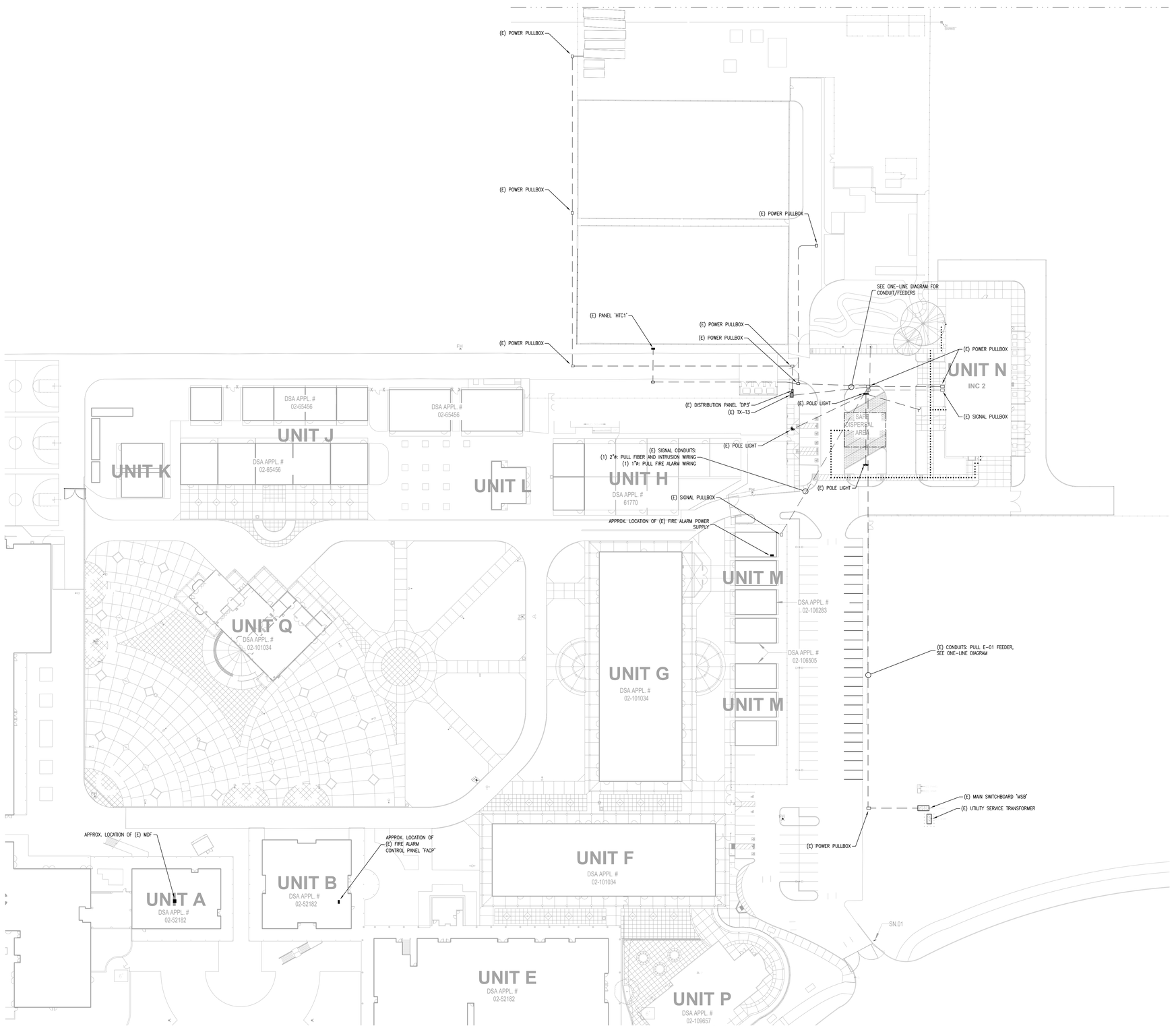
SHEET:

E0.3

THE LINE BROWN ABOVE IS EXACTLY 1" WHEN PRINTED ON 24X36 SHEETS ORIGINAL IMAGE SIZE

SHEET NOTES:

1. (E) EXISTING
   (N) NEW
   (R) RELOCATED
   (D) DEMO
3. ALL PULL BOXES, EQUIPMENT AND POWER/CONDUIT SHOWN ARE (N) U.O.N.
4. ALL POWER WIRING TO BE #10 AWG CU AND ALL POWER/SIGNAL CONDUIT TO BE 1"ø U.O.N.
5. ALL UNDERGROUND CONDUIT SHALL BE PVC U.O.N. AND HAVE A MINIMUM BURIAL DEPTH PER CEC TABLE 300.5
6. PRIOR TO COMMENCING TRENCHING OPERATIONS, CONTACT THE UTILITIES UNDERGROUND SERVICE ALERT BUREAU AND DETERMINE THE EXACT LOCATION OF ANY EXISTING UTILITY LINES WHICH MIGHT BE DAMAGED DURING THE INSTALLATION OF THIS WORK. HAND TRENCH, BACKFILL, AND COMPACT IN AREAS OF EXISTING UTILITY LINES TO AVOID DAMAGE TO SAME.
7. RESTORE ASPHALT, CONCRETE, AND LANDSCAPE SURFACE TO MATCH ORIGINAL CONDITION WHERE SAWCUTTING/TRENCHING IS REQUIRED OUTSIDE THE DEMOLISHED AREA PER THE CIVIL DEMOLITION DRAWINGS
8. ALL PULL BOXES SHOWN SHALL BE TRAFFIC RATED
9. PULL BOXES FOR POWER DISTRIBUTION SHALL BE ENGRAVED "ELECTRIC" ON LID, LOCATIONS ARE DIAGRAMMATIC AND NOT DIMENSIONED, REFER TO ONE-LINE DIAGRAM FOR FEEDER REQUIREMENTS
10. PULL BOXES FOR SIGNAL SYSTEMS (FIBER AND FIRE ALARM) SHALL BE ENGRAVED "SIGNAL" ON LID, LOCATIONS ARE DIAGRAMMATIC AND NOT DIMENSIONED
11. CONTRACTOR SHALL FIELD VERIFY (E) MDF EQUIPMENT AND PROVIDE ALL REQUIRED PARTS, CARDS, PROGRAMMING, ETC. TO FACILITATE THE ADDITION OF AN IDF



A ELECTRICAL PLAN - SITE
SCALE: 1"=40'-0"

NORTH

AGENCY APPROVAL:

TRACY UNIFIED SCHOOL DISTRICT

HMC Architects
3595-002-100
2101 CAPITOL AVENUE, SUITE 100,
SACRAMENTO, CA, 95816
916 368 7990 / www.hmcarchitects.com

ISSUE

Δ DESCRIPTION DATE

OPTIMIZED ENERGY & FACILITIES CONSULTING, INC.
5734 Lonetree Boulevard, Rocklin, CA 95765
Office: (916) 626 5518 www.oefcinc.com

REGISTERED PROFESSIONAL ENGINEER
ALEXANDRE M. BATTISTA
No.E23735
EXP:12-31-2025
ELECTRICAL
STATE OF CALIFORNIA

FACILITY:
MERRILL F WEST HIGH SCHOOL

1775 W LOWELL AVE
TRACY, CA 95376

PROJECT:
MERRILL F WEST HS AGRICULTURE CTE BLDG INCREMENT 2

SHEET NAME:
ELECTRICAL PLAN - SITE

DSA SUBMITTAL

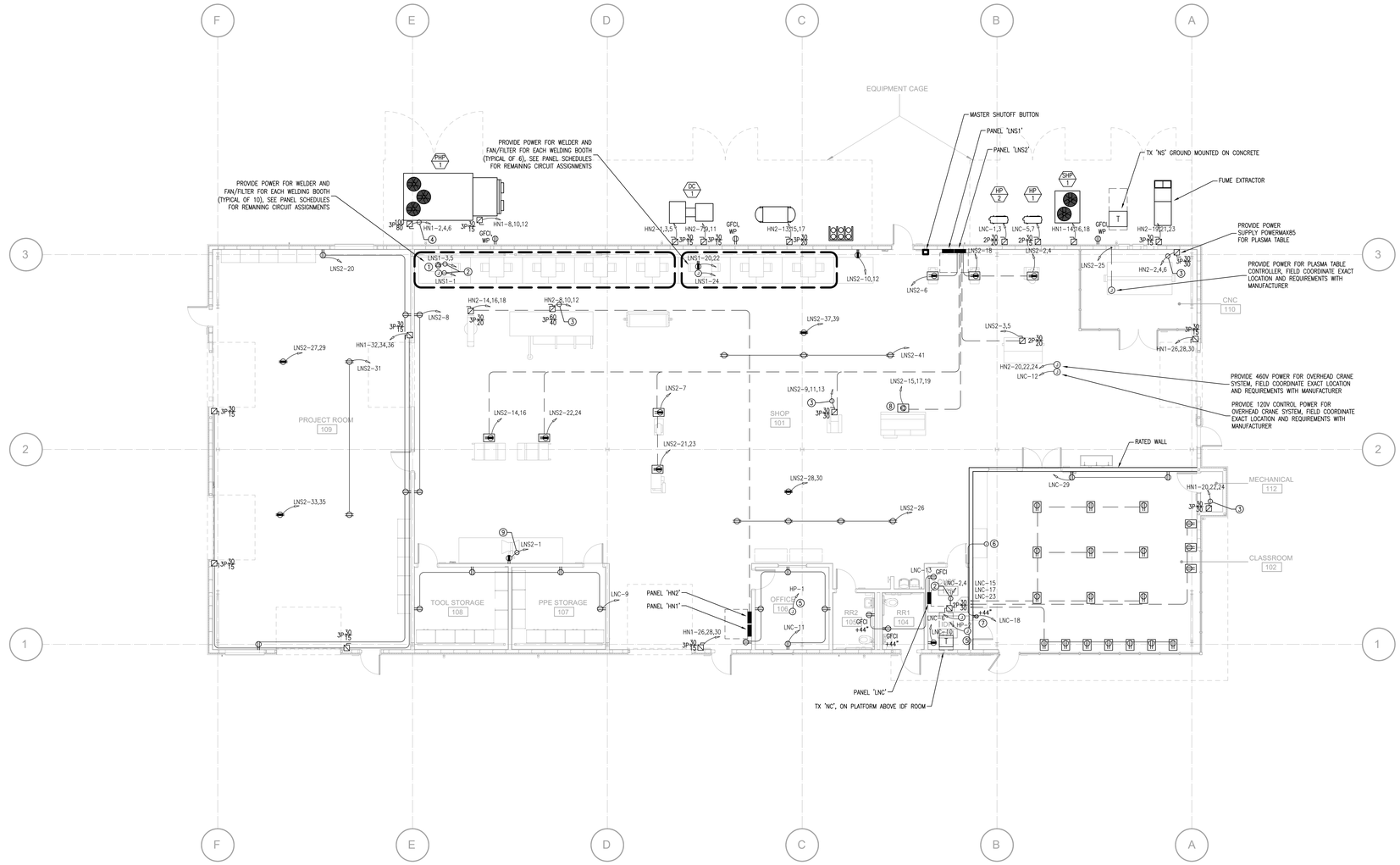
DATE: **10/11/24** | CLIENT PROJ NO:

SHEET:

E1.2

PLEASE RECYCLE

Autodesk Docs://3595002100 TUSD AG SHOP R22/3595002100-A-MERRILL WEST-AG SHOP.rvt
8/19/2024 3:39:37 PM



A ELECTRICAL PLAN - POWER
SCALE: 1/8"=1'-0"

NORTH

SHEET NOTES:

1. (E) EXISTING
   (N) NEW
   (R) RELOCATED
   (D) DEMO
2. ALL RECEPTACLES/EQUIPMENT SHOWN ARE (N) U.O.N.
3. BRANCH CIRCUITS: ALL WIRING SHALL BE #12 AWG CU AND ALL WIRING INSULATION SHALL BE THWN-2, U.O.N.
4. BOTTOM OF BOXES FOR RECEPTACLES AND DATA PORTS SHALL BE AT 16" ABOVE FINISHED FLOOR, U.O.N.
5. GFCI RECEPTACLES SHALL BE WIRED IN PARALLEL
6. ALL RECEPTACLES LOCATED OUTSIDE SHALL BE TYPE WEATHER RESISTANT, GFCI WITH EXTRA DUTY IN-USE COVER, PER CEC 210.8 AND 406.9(B)
7. TOP OF BOXES FOR SWITCHES SHALL BE AT 44" ABOVE FINISHED FLOOR, U.O.N.
8. SWITCHBOARDS, PANELBOARDS, INDUSTRIAL CONTROL PANELS, AND MOTOR CONTROL CENTERS THAT ARE IN OTHER THAN DWELLING OCCUPANCIES AND ARE LIKELY TO REQUIRE EXAMINATION, ADJUSTMENT, SERVICING, OR MAINTENANCE WHILE ENERGIZED SHALL BE FIELD MARKED TO WARN QUALIFIED PERSONS OF POTENTIAL ELECTRICAL ARC FLASH HAZARDS. THE MARKING SHALL BE LOCATED SO AS TO BE CLEARLY VISIBLE TO QUALIFIED PERSONS BEFORE EXAMINATION, ADJUSTMENT, SERVICING, OR MAINTENANCE OF THE EQUIPMENT. CEC 110.16.
9. ALL FIRE-RATED WALL, CEILING, AND ROOF PENETRATIONS FOR JUNCTION BOXES, RECEPTACLES, AND LIGHTING FIXTURES TO BE CAULKED AND SEALED TO PRESERVE THE FIRE RATING. PROVIDE STEEL ELECTRICAL BOXES IN FIRE-RESISTIVE CLG'S AND WALLS. SEPARATE ELECTRICAL BOXES BACK TO BACK IN FIRE-RESISTIVE WALLS BY A MIN. OF 24". BOX AREA SHALL NOT EXCEED 16 SQ. IN.
10. ALL DISCONNECT SWITCHES LOCATED OUTDOORS SHALL BE NEMA 3R PER CEC TABLE 110.28
11. THE ELECTRICAL CONTRACTOR SHALL THOROUGHLY REVIEW ALL SHOP EQUIPMENT SPECIFICATIONS AND BE RESPONSIBLE FOR THE EXACT LOCATIONS AND REQUIREMENTS FOR POWER AND DISCONNECTING MEANS

KEY NOTES:

1. PROVIDE NEMA 6-50R RECEPTACLE
2. (2) #10 CU THWN-2
   (1) #10 CU GND
   3/4"ø CONDUIT
3. (3) #10 CU THWN-2
   (1) #10 CU GND
   3/4"ø CONDUIT
4. (3) #4 CU THWN-2
   (1) #8 CU GND
   1"ø CONDUIT
5. INDOOR FAN COIL POWERED VIA OUTDOOR CONDENSER UNIT, PROVIDE WIRING BETWEEN INDOOR AND OUTDOOR UNITS PER MANUFACTURER REQUIREMENTS AND COORDINATE WITH MECHANICAL CONTRACTOR
6. PROVIDE POWER FOR PROJECTOR (EPSON BRIGHTLINK 1485FI) INSTALL CENTERED ON TEACHING WALL, SEE DETAIL 11/A10.13 FOR MOUNTING
7. PROVIDE POWER FOR PROJECTOR CONTROL PAD (EPSON PILOT), FIELD COORDINATE EXACT LOCATION WITH ARCHITECT
8. PROVIDE NEMA L15-20R RECEPTACLE
9. (2) #8 CU THWN-2
   (1) #10 CU GND
   3/4"ø CONDUIT

AGENCY APPROVAL:

TRACY UNIFIED SCHOOL DISTRICT

HMC Architects
3595-002-100
2101 CAPITOL AVENUE, SUITE 100,
SACRAMENTO, CA, 95816
916 368 7990 / www.hmcarchitects.com

ISSUE

Δ	DESCRIPTION	DATE

OPTIMIZED ENERGY & FACILITIES CONSULTING, INC.
5734 Lonetree Boulevard, Rocklin, CA 95765
Office: (916) 626 5518 www.oefcinc.com

REGISTERED PROFESSIONAL ENGINEER ALEXANDRE M. BATTISTA No.E23735 EXP.12-31-2025 ELECTRICAL STATE OF CALIFORNIA

FACILITY:
MERRILL F WEST HIGH SCHOOL

1775 W LOWELL AVE
TRACY, CA 95376

PROJECT:
MERRILL F WEST HS AGRICULTURE CTE BLDG INCREMENT 2

SHEET NAME:
ELECTRICAL PLAN - POWER

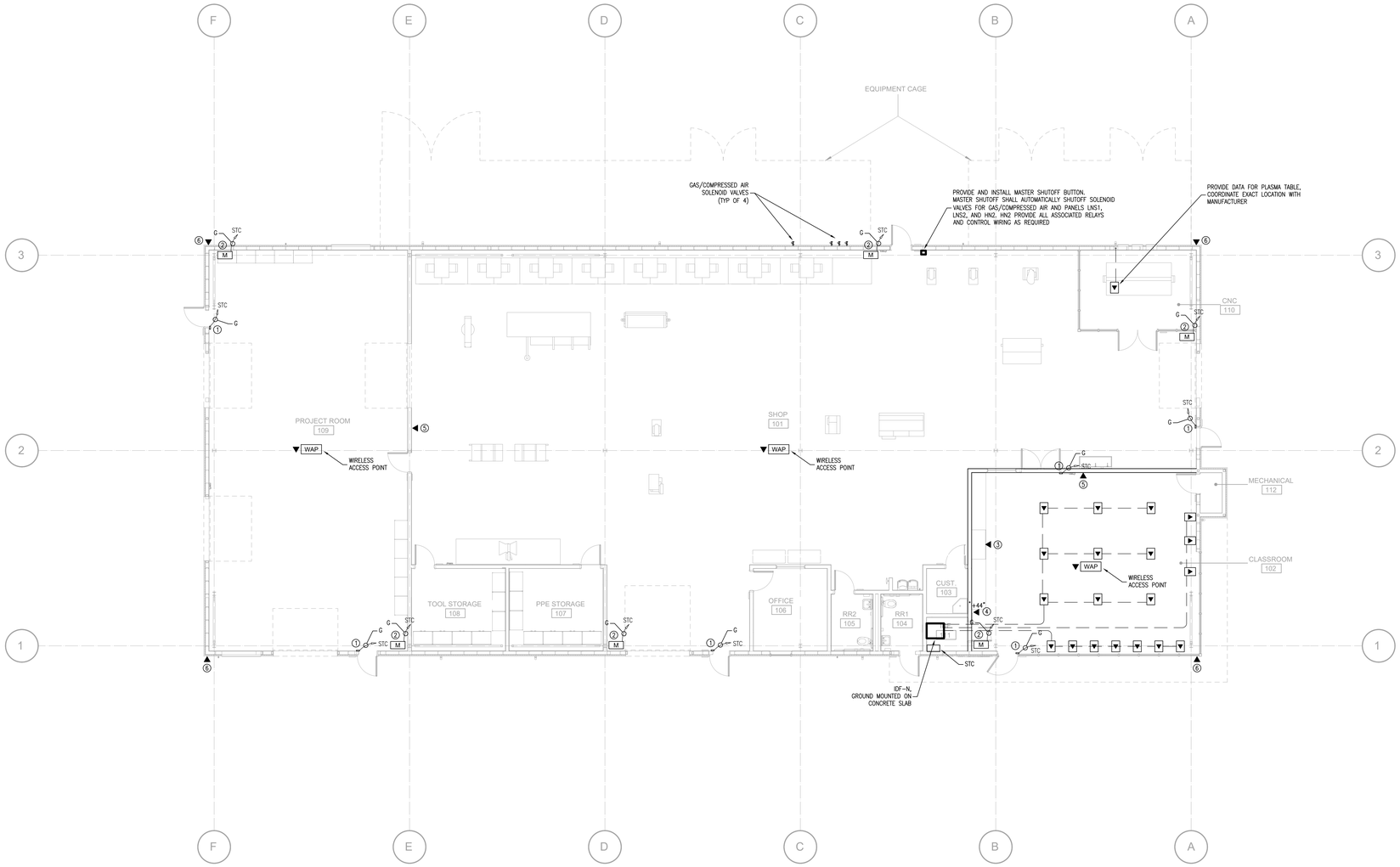
DSA SUBMITTAL

DATE: **10/11/24** | CLIENT PROJ NO:

SHEET:

E1.3

THE LINE BROWN ABOVE IS EXACTLY 1" WHEN PLOTTED AT FULL SHEET & ORIGINAL IMAGE SIZE



A ELECTRICAL PLAN - SIGNAL
SCALE: 1/8"=1'-0"

NORTH

SHEET NOTES:

1. (E) EXISTING
   (N) NEW
   (R) RELOCATED
   (D) DEMO
2. ALL RECEPTACLES/LIGHTING/MISC EQUIPMENT SHOWN ARE (N) AND CONTRACTOR FURNISHED--CONTRACTOR INSTALLED (CFCI), U.O.N.
3. LOW VOLTAGE WIRING SHALL BE INSTALLED WITHIN CONDUIT
4. ALL DATA SHALL HOMERUN TO IDF-N LOCATED IN IDF 111 WITH CAT6 CABLE, U.O.N., CONTRACTOR SHALL REFER TO THE IT SPECIFICATIONS PROVIDED BY THE DISTRICT AND COORDINATE ALL DATA REQUIREMENTS WITH THE DISTRICT IT DEPARTMENT PRIOR TO FURNISHING AND INSTALLING

KEY NOTES:

(1) PROVIDE SURFACE MOUNTED DOOR CONTACTS (ALL WIRE SHALL BE COVERED WITH RACEWAY) AND TIE INTO (E) INTRUSION SYSTEM ON SITE, COORDINATE DETAILS AND LOCATION OF ROOM SIGNAGE WITH ARCHITECT

(2) PROVIDE MOTION SENSOR AND TIE INTO (E) INTRUSION SYSTEM ON SITE

(3) FURNISH AND INSTALL PROJECTOR (EPSON BRIGHTLINK 1485FI) ON THE TEACHING WALL. PRIOR TO INSTALLATION COORDINATE EXACT HEIGHT AND LOCATION WITH ARCHITECT, SEE DETAIL 11/A10.13 FOR MOUNTING

(4) FURNISH AND INSTALL PROJECTOR CONTROL PAD (EPSON PILOT). PROVIDE CAT6 CABLE BETWEEN PROJECTOR AND PROJECTOR CONTROL PAD, AND CAT6 CABLE FROM CONTROL PAD TO IDF-N

(5) FURNISH AND INSTALL COMBINATION SPEAKER/CLOCK INSTALLED ON A RECESSED BACKBOX AT 96" AFF, COORDINATE COMBINATION SPEAKER/CLOCK REQUIREMENTS WITH OWNER

(6) FURNISH AND INSTALL POE CAMERA WITH A 4" SQ BOX, 1"ø CONDUIT TO IDF-N AND CAMERA MOUNT. PROVIDE APPROPRIATE WALL MOUNT AND CORNER MOUNTS AS REQUIRED. FIELD COORDINATE EXACT LOCATION WITH OWNER

AGENCY APPROVAL:

TRACY
UNIFIED SCHOOL DISTRICT

HMC Architects
3595-002-100
2101 CAPITOL AVENUE, SUITE 100,
SACRAMENTO, CA, 95816
916 368 7990 / www.hmcarchitects.com

ISSUE

Δ DESCRIPTION DATE

OPTIMIZEDENERGY & FACILITIES CONSULTING, INC.
5734 Lonetree Boulevard, Rocklin, CA 95765
Office: (916) 626 5518 www.oefcinc.com

REGISTERED PROFESSIONAL ENGINEER
ALEXANDRE M. BATTISTA
No.E23735
EXP:12-31-2025
ELECTRICAL
STATE OF CALIFORNIA

FACILITY:
MERRILL F WEST HIGH SCHOOL

1775 W LOWELL AVE
TRACY, CA 95376

PROJECT:
MERRILL F WEST HS AGRICULTURE CTE BLDG INCREMENT 2

SHEET NAME:
ELECTRICAL PLAN - SIGNAL

DSA SUBMITTAL

DATE: **10/11/24** | CLIENT PROJ NO:

SHEET:

E1.4

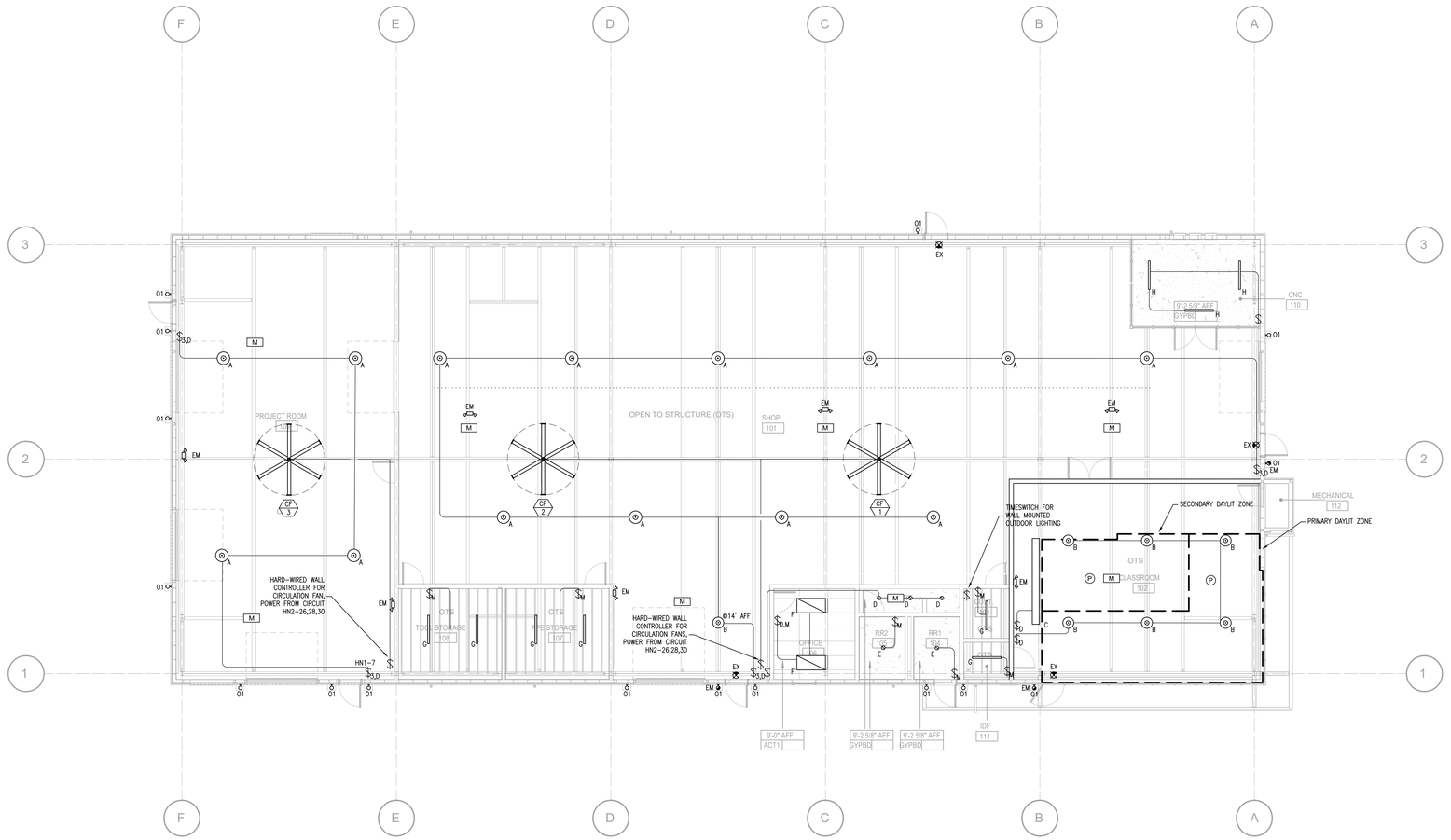
Autodesk Docs://3595002100 TUSD AG SHOP R22/3595002100-A-MERRILL WEST-AG SHOP.rvt
8/19/2024 3:39:57 PM

PLEASE RECYCLE

THE LINE BROWN ABOVE IS EXACTLY 1" WHEN PLOTTED AT THIS SHEET'S ORIGINAL IMAGE SIZE

SHEET NOTES:

1. (E) EXISTING
   (N) NEW
   (R) RELOCATED
   (D) DEMO
2. ALL LIGHT FIXTURES/CONTROLS SHOWN ARE (N) U.O.N.
3. BRANCH CIRCUITS: ALL WIRING SHALL BE #12 AWG CU AND ALL WIRING INSULATION SHALL BE THWN-2, U.O.N.
4. TOP OF BOXES FOR SWITCHES SHALL BE AT 44" ABOVE FINISHED FLOOR, U.O.N.
5. ALL LIGHTING CONTROLS, INCLUDING BUT NOT LIMITED TO TIME SWITCHES, PHOTOSENSORS, DIMMERS, AND OCCUPANCY SENSING DEVICES SHALL COMPLY WITH CENC 110.9, 130.0–130.5, 140.6–140.8, AND 141.0. CONTROLS MAY BE SELF-CONTAINED OR PART OF A LIGHTING CONTROL SYSTEM AS DEFINED IN CENC 100.1. RECOMMENDED LIGHTING CONTROL SYSTEMS MEETING THESE REQUIREMENTS INCLUDE ACUITY NLIGHT AND COOPER WAVELINX. CONTROL ELEMENTS SHOWN ON PLANS ARE THE MINIMUM REQUIRED AND SHALL BE INCLUDED IN ANY LIGHTING CONTROL SYSTEM. CONSULT PREFERRED MANUFACTURER FOR PRODUCT SPECIFICATION AND INSTALLATION DETAILS
6. ALL NEW LIGHT FIXTURES INSTALLED WITHIN 1/2" OF COMBUSTIBLE MATERIAL SHALL BE RATED FOR AND LABELED AS TYPE IC (INSULATION CONTACT)
7. EXIT SIGNS SHALL BE ILLUMINATED AT ALL TIMES. TO ENSURE CONTINUED ILLUMINATION FOR A DURATION OF NOT LESS THAN 90 MINUTES IN CASE OF PRIMARY POWER LOSS, THE SIGN ILLUMINATION MEANS SHALL BE CONNECTED TO AN EMERGENCY POWER SYSTEM PROVIDED FROM STORAGE BATTERIES. CONNECT ALL EMERGENCY/EXIT LIGHT FIXTURES TO NEAREST UNSWITCHED HOT LEG LIGHTING CIRCUIT
8. ALL FIRE-RATED WALL, CEILING, AND ROOF PENETRATIONS FOR JUNCTION BOXES, RECEPTACLES, AND LIGHTING FIXTURES TO BE CAULKED AND SEALED TO PRESERVE THE FIRE RATING. PROVIDE STEEL ELECTRICAL BOXES IN FIRE-RESISTIVE CLG'S AND WALLS. SEPARATE ELECTRICAL BOXES BACK TO BACK IN FIRE-RESISTIVE WALLS BY A MIN. OF 24". BOX AREA SHALL NOT EXCEED 16 SQ. IN.
9. ALL EXTERIOR LIGHT FIXTURES TO BE CONTROLLED BY PHOTOCONTROL AND AUTOMATIC SCHEDULING CONTROL
10. ALL EXTERIOR LIGHT FIXTURES TO BE ON CIRCUIT HN1-1
11. LIGHT FIXTURES INSTALLED OUTDOORS TO BE LABELED "SUITABLE FOR WET LOCATIONS"
12. LIGHT FIXTURES IN DAYLIT AREAS TO BE CONTROLLED BY PHOTOSENSOR PER CENC 130.1(D)
13. SEE PANEL SCHEDULES FOR LIGHTING CIRCUIT ASSIGNMENTS



A ELECTRICAL PLAN - LIGHTING
SCALE: 1/8"=1'-0"

NORTH

PLEASE RECYCLE

AGENCY APPROVAL:

TRACY UNIFIED SCHOOL DISTRICT

HMC Architects
3595-002-100
2101 CAPITOL AVENUE, SUITE 100,
SACRAMENTO, CA, 95816
916 368 7990 / www.hmcarchitects.com

ISSUE

Δ	DESCRIPTION	DATE

OPTIMIZEDENERGY & FACILITIES CONSULTING, INC.
5734 Lonetree Boulevard, Rocklin, CA 95765
Office: (916) 626 5518 www.oefcinc.com

REGISTERED PROFESSIONAL ENGINEER
ALEXANDRE M. BATTA
No.E23735
EXP:12-31-2025
ELECTRICAL
STATE OF CALIFORNIA

FACILITY:
MERRILL F WEST HIGH SCHOOL

1775 W LOWELL AVE
TRACY, CA 95376

PROJECT:
MERRILL F WEST HS AGRICULTURE CTE BLDG INCREMENT 2

SHEET NAME:
ELECTRICAL PLAN - LIGHTING

DSA SUBMITTAL

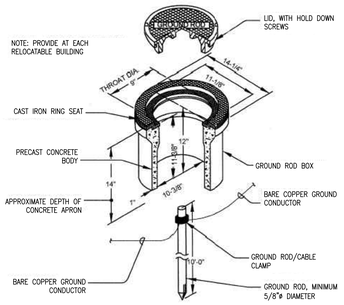
DATE: **10/11/24**

CLIENT PROJ NO:

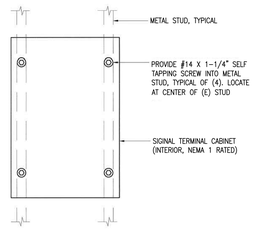
SHEET:

E1.5

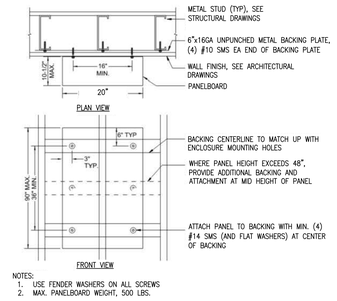
Autodesk Docs://3595002100 TUSD AG SHOP R22/3595002100-A-MERRILL WEST-AG SHOP.rvt
8/19/2024 3:39:57 PM



GROUND ROD INSTALLATION — 1 / E2.1

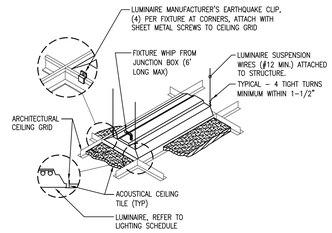


SIGNAL TERMINAL CABINET MOUNTING — 2 / E2.1



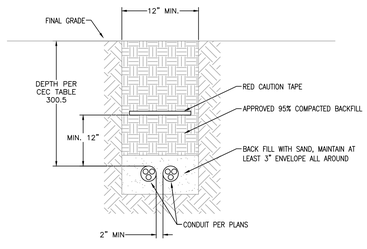
NOTES:
1. USE FENDER WASHERS ON ALL SCREWS
2. MAX. PANELBOARD WEIGHT, 500 LBS.

SURFACE MOUNTED PANELBOARD — 3 / E2.1



NOTES:
- FOR FIXTURES WEIGHING MORE THAN 56 POUNDS, PROVIDE (4) #12 SUPPORT WIRES SECURED TO STRUCTURE
- VERIFY EXISTING LIGHT FIXTURES COMPLY WITH 2019 REQUIREMENTS (AS SHOWN HERE)

LIGHT FIXTURE LAY-IN MOUNTED — 4 / E2.1



NOTES:
1. BOTTOM OF TRENCH SHALL BE SQUARE AND CLEAN
2. REFER TO PLANS FOR QUANTITY AND SIZES OF CONDUITS
3. SAND SHALL BE FINE, GRANULAR MATERIAL, FREE OF ORGANIC MATTER, MICA, LOAM OR CLAY
4. PROVIDE MIN. 12" CLEARANCE ELECTRICAL AND OTHER UTILITIES (GAS, WATER, ETC.)

UNDERGROUND TRENCH DETAIL — 5 / E2.1

AGENCY APPROVAL:

TRACY UNIFIED SCHOOL DISTRICT

HMC Architects
3595-002-100
2101 CAPITOL AVENUE, SUITE 100,
SACRAMENTO, CA, 95816
916 368 7990 / www.hmcarchitects.com

ISSUE

Δ DESCRIPTION DATE

OPTIMIZED ENERGY & FACILITIES CONSULTING, INC.
5734 Lonetree Boulevard, Rocklin, CA 95765
Office: (916) 626 5518 www.oefcinc.com

REGISTERED PROFESSIONAL ENGINEER
ALEXANDRE M. BATTISTA
No.E23735
EXP:12-31-2025
ELECTRICAL
STATE OF CALIFORNIA

FACILITY:
MERRILL F WEST HIGH SCHOOL

1775 W LOWELL AVE
TRACY, CA 95376

PROJECT:
MERRILL F WEST HS AGRICULTURE CTE BLDG INCREMENT 2

SHEET NAME:
ELECTRICAL DETAILS

DSA SUBMITTAL

DATE: **10/11/24** | CLIENT PROJ NO:

SHEET:

E2.1

THE LINE BROWN ABOVE IS EXACTLY 1" LONG ON ALL ANSI SHEETS ORIGINAL PAGE SIZE

FIRE ALARM GENERAL NOTES

1) THE FIRE ALARM SYSTEM SHALL CONFORM TO THE 2022 CALIFORNIA ELECTRICAL CODE ARTICLE 760, 2022 CALIFORNIA BUILDING CODE CHAPTER 9, AND THE 2022 CALIFORNIA FIRE CODE CHAPTER 9 & 2022 NFPA 72.

2) THESE DRAWINGS CONSTITUTE A "COMPLETE PLAN SUBMITTAL" AS DESCRIBED BY DSA. THE EXISTING FIRE ALARM SYSTEM IS AN ADDRESSABLE, CONVENTIONAL CLASS B SYSTEM. FIRE ALARM INITIATION WITHIN THE PROJECT SCOPE OF WORK SHALL BE FULL AUTOMATIC.

3) VISIBLE NOTIFICATION APPLIANCES SHALL MEET AND BE INSTALLED IN ACCORDANCE WITH THE 2022 NFPA 72, CHAPTER 18.

4) AUDIBLE NOTIFICATION APPLIANCES SHALL MEET AND BE INSTALLED IN ACCORDANCE WITH THE 2022 NFPA 72, CHAPTER 18.

5) UPON COMPLETION OF THE SYSTEM INSTALLATION, THE SYSTEM SHALL BE TESTED IN THE PRESENCE OF AND IN A MANNER ACCEPTABLE TO THE DSA PROJECT INSPECTOR. THE CONTRACTOR MUST SUPPLY NECESSARY TESTING EQUIPMENT INCLUDING A "SOUND LEVEL METER" TO CHECK ACCEPTABLE DECIBEL LEVELS OF AUDIBLE DEVICES, PROVIDE TEST RESULTS PER THE NFPA 72 "RECORD OF COMPLETION" TO THE ARCHITECT, DSA PROJECT INSPECTOR, OWNER, AND THE LOCAL FIRE AUTHORITY. ALL NORMALLY OCCUPIED AREAS SHALL BE PROVIDED WITH A FIRE ALARM AUDIBLE DECIBEL AT 15 DBA ABOVE MINIMUM NOISE LEVELS.

6) THE ACTUAL FIRE ALARM NOTIFICATION CIRCUIT VOLTAGE DROP SHALL BE WITNESSED AND RECORDED BY THE DSA PROJECT INSPECTOR DURING THE TESTING OF THE CIRCUIT UNDER FULL LOAD.

7) THE "END OF LINE RESISTANCE" FOR EACH CIRCUIT SHALL BE TESTED IN THE PRESENCE OF THE DSA PROJECT INSPECTOR AND SHALL NOT EXCEED A MAXIMUM OF 10% OF THE 24 VOLT SYSTEM. EACH COMPONENT IN THE CIRCUIT SHALL NOT EXCEED THE LISTED MANUFACTURER'S MINIMUM OPERATING VOLTAGES. SEE NFPA 72, LOOP RESISTANCE. THIS SECTION REQUIRES THAT ALL INITIATING AND INDICATING (NOTIFICATION APPLIANCE) CIRCUITS BE MEASURED AND RECORDED.

8) FIRE ALARM CONTRACTOR SHALL PROVIDE A "RECORD OF COMPLETION" TO THE DSA INSPECTOR OF RECORD AFTER COMPLETION OF OPERATIONAL ACCEPTANCE TESTS (PER NFPA 72 7.5.6)

9) THE SUPERVISING MONITORING AGENCY SHALL BE BY AN APPROVED SUPERVISING STATION PER CBC 907.2.3.5 & NFPA CHAPTER 26.

10) FIRE ALARM CONDUIT SHALL BE SIZED PER MANUFACTURER RECOMMENDATION, PROVIDE 3/4" MINIMUM.

11) PROVIDE ALL REQUIRED ELECTRONICS, CARDS, HARDWARE, ETC. FOR A COMPLETE AND FUNCTIONAL FIRE ALARM SYSTEM AND MAKE ALL FINAL CONNECTIONS AS REQUIRED. PROVIDE ALL FIRE ALARM ZONE SCHEDULES AND ZONE INDICATORS AT FIRE ALARM CONTROL PANEL.

12) INSTALLATION OF THE SYSTEMS SHALL NOT BE STARTED UNTIL DETAILED DESIGN DOCUMENTATION AND SPECIFICATIONS, INCLUDING STATE FIRE MARSHALL LISTINGS SHEETS FOR EACH COMPONENT OF THE SYSTEM HAS BEEN APPROVED BY DSA.

13) A STAMPED SET OF APPROVED FIRE ALARM DESIGN DRAWINGS SHALL BE ON THE JOB SITE AND USED FOR INSTALLATION.

14) ANY DISCREPANCIES BETWEEN THE DRAWINGS AND THE CODE OR RECOGNIZED STANDARDS SHALL BE BROUGHT TO THE ATTENTION OF DSA AND THE ARCHITECT/ENGINEER OF RECORD

15) DSA, ARCHITECT/ENGINEER, AND OWNER SHALL BE NOTIFIED A MINIMUM OF 48 HOURS PRIOR TO THE FINAL INSPECTION AND/OR TESTING.

16) AUDIBLE DEVICES SHALL PROVIDE A SOUND PRESSURE LEVEL OF 15 DECIBELS (DBA) ABOVE THE AVERAGE AMBIENT SOUND LEVEL OR FIVE dBA ABOVE THE MAXIMUM SOUND LEVEL HAVING A DURATION OF AT LEAST 60 SECONDS, WHICHEVER IS GREATER, IN EVERY OCCUPIABLE SPACE WITHIN THE BUILDING.

17) AUDIBLE DEVICES SHALL BE SYNCHRONIZED TEMPORAL CODE 3 PATTERN.

18) THE CONTRACTOR SHALL ADJUST/INSTALL DEVICES TO MAXIMIZE PERFORMANCE AND TO MINIMIZE FALSE ALARMS.

19) 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.

20) UNDERGROUND AND EXTERIOR CONDUIT TO HAVE WATERTIGHT FITTINGS AND WIRE TO BE APPROVED FOR WET LOCATIONS.

21) ALL FIRE ALARM WIRING SHALL BE FPL OR FPLP (FIRE POWER LIMITED OR FIRE POWER LIMITED PLENUM) AS REQUIRED FOR APPLICATION. WIRING IN CONDUIT ABOVE GROUND MAY BE THHN OR THWN.

22) PER CEC STANDARDS, ALL WIRING IS TO BE PULLED THROUGH EACH JUNCTION BOX AND CONNECTED DIRECTLY TO EACH FIRE DEVICE. DO NOT SPLICE THE WIRE. ALL BOXES TO BE SIZED PER CEC.

23) ALL FIRE ALARM CIRCUITS ARE TO BE IN CONDUIT, SURFACE RACEWAY OR OPEN RUN ABOVE THE 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.

24) FIRE ALARM PANEL, REMOTES, AND COMPONENTS SHALL BE SECURED TO MOUNTING SURFACES PER MANUFACTURERS SPECIFICATIONS. NO DEVICE SHALL EXCEED THE WEIGHT OF 20 LBS. WITHOUT SPECIAL MOUNTING DETAILS.

25) A DEDICATED BRANCH CIRCUIT SHALL BE PROVIDED FOR FIRE ALARM EQUIPMENT AND THAT CIRCUIT SHALL BE ENERGIZED FROM A COMMON USE AREA PANEL. THE BREAKER SHALL HAVE A RED LOCKING DEVICE TO BLOCK THE HANDLE IN THE "ON" POSITION. THE CIRCUIT BREAKER SHALL BE LABELED "FIRE ALARM CIRCUIT CONTROL." CIRCUIT TO BE LABELED AT FIRE PANEL/EXPANDERS.

26) THE INSTALLING CONTRACTOR SHALL PROVIDE SYSTEM PROGRAMMING FOR SUPERVISORY MONITORING PER CBC SECTION 901.6

27) SUPERVISORY MONITORING SHALL BE TESTED AND VERIFIED AS SENDING CORRECT SIGNALS IN CONJUNCTION WITH FINAL ACCEPTANCE TESTING.

28) OWNER SHALL BE RESPONSIBLE FOR ESTABLISHING A FIRE SYSTEM MONITORING CONTRACT OR PROVISIONS. AUTOMATIC FIRE ALARM SYSTEMS SHALL TRANSMIT THE ALARM, SUPERVISORY, AND TROUBLE SIGNALS TO AN APPROVED SUPERVISING STATION AS REQUIRED BY NFPA 72 AND CBC 907.6.6.4. THE SUPERVISING STATION SHALL BE LISTED AS EITHER UUFX OR UUIS BY UL OR SHALL MEET THE REQUIREMENTS OF FM STANDARDS 3011.

29) BEFORE REQUESTING FINAL APPROVAL OF THE INSTALLATION THE INSTALLING CONTRACTOR SHALL FURNISH A WRITTEN STATEMENT TO THE DSA PROJECT INSPECTOR TO THE EFFECT THAT THE SYSTEM HAS BEEN INSTALLED AND TESTED IN ACCORDANCE WITH 2022 NFPA 72 SECTION 14.4.1.

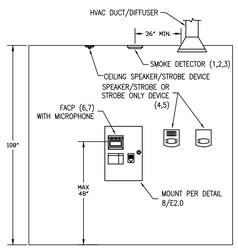
30) TEST, INSPECTION, AND MAINTENANCE SHALL COMPLY WITH 2022 NFPA 72 CHAPTER 14 REQUIREMENTS.

EXISTING FIRE ALARM COMPONENT SCHEDULE

SYMBOL	DESCRIPTION	MANUFACTURER	MODEL NO.	CSFM LISTING NO.
FACM	FIRE ALARM CONTROL MODULE, WAS THE PREVIOUS FACP, (E) BATTERY SYSTEM TO REMAIN	EST	EST3	7165-1657:0186
FAPS	REMOTE POWER SUPPLY	EST	BPS-6	7300-1657:0229
S	SMOKE DETECTOR CEILING MOUNTED ADDRESSABLE	EST	SIGA-PS	7272-1591:0126
H	HEAT DETECTOR ATTIC MOUNTED (200'F)	EST	294B	7270-1591:0109
F	HORN	EST	757-1A-T	7125-1657:0188
XXCD	HORN/STROBE (XX CD)	EST	G1RF-HDVM	7125-1591:0202
MM	MONITOR MODULE	EST	SIGA-CT1	7300-1591:0121

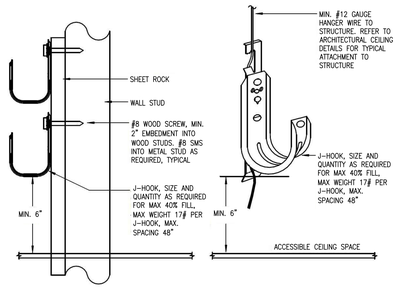
NEW FIRE ALARM COMPONENT SCHEDULE

SYMBOL	DESCRIPTION	MANUFACTURER	MODEL NO.	CSFM LISTING NO.
FACP	FIRE ALARM CONTROL PANEL WITH INTEGRAL EVAC SYSTEM	GAMEWELL-FCI	E3	7165-1703:0125
FAPS	REMOTE POWER SUPPLY, PROVIDE 24VDC, 7AH BATTERY SYSTEM	FIRE-LITE	FCPS-24FS6	7315-0075:0206
AMP	VOICE AMPLIFIER (50 WATT, 70 VDC)	GAMEWELL-FCI	AM-50-70	7165-1703:0125
S	ADDRESSABLE SMOKE DETECTOR W/ CEILING MOUNT BASE	GAMEWELL-FCI	ASD-PL3	7272-1703:0501
H	HEAT DETECTOR	GAMEWELL-FCI	ATD-L3R	7270-1703:0502
N/A	SENSOR BASE	SYSTEM SENSOR	B300-6	7300-1653:0109
CM	ADDRESSABLE CONTROL MODULE	GAMEWELL-FCI	AOM-2SF	7300-1703:0102
MM	ADDRESSABLE MONITOR MODULE	GAMEWELL-FCI	AMM-2F	7300-1703:0102
WP F	SPEAKER (EXTERIOR) W/ WEATHERPROOF BACK BOX	SYSTEM SENSOR	SPRK	7320-1653:0201
75CD	SPEAKER/STROBE, WALL MOUNTED	SYSTEM SENSOR	SPSRL	7320-1653:0505
15CD	STROBE, CEILING MOUNTED	SYSTEM SENSOR	SCRL	7125-1653:0504



1. MAXIMUM DISTANCE BETWEEN SMOKE DETECTORS IS 30' AND 15' FROM WALLS, MAXIMUM DISTANCE FROM A CORNER IS 21' WITH CEILINGS 10' OR LESS
2. MOUNT SMOKE DETECTORS MINIMUM OF 3' AWAY FROM DIFFUSER VENT
3. SMOKE DETECTORS SHALL BE MOUNTED ON THE CEILING MINIMUM 4' FROM WALL
4. MOUNT EXTERNAL SPEAKER AT 90" MINIMUM AND 100" MAXIMUM TO THE TOP OF THE DEVICE
5. MOUNT SPEAKER/STROBE SO THE ENTIRE LENS IS WITHIN 80" AND 96" A.F.F.
6. TYPICAL HEIGHT FOR FIRE ALARM CONTROL PANEL IS 72 INCHES TO TOP OF ENCLOSURE. ADDITIONAL POWER SUPPLIES, NAC BOOSTER, DOCUMENTATION CABINET, ETC. MAY BE INSTALLED ADJACENT TO, BENEATH, OR ABOVE THE FIRE ALARM CONTROL PANEL AS LONG AS IT IS EASILY SERVICEABLE. FIRE ALARM EQUIPMENT MUST HAVE A 3 FOOT CLEARANCE FOR SERVICEABILITY
7. WITH EVERY NEW FIRE ALARM SYSTEM A DOCUMENTATION CABINET SHALL BE INSTALLED AT THE FIRE ALARM CONTROL PANEL. THE CABINET SHALL BE PROMINENTLY LABELED "SYSTEM RECORD DOCUMENTS" PER NFPA 72 7.7.2
8. MOUNT AUXILIARY POWER PANELS SO TOP IS WITHIN 3 INCHES OF CEILING

FIRE ALARM DEVICE ELEVATION DETAIL — 1 / E3.0



NOTES:
1. PROVIDE SEPARATE CABLE MANAGEMENT SYSTEM FOR EACH INDIVIDUAL LOW VOLTAGE SYSTEM
2. SPACING BETWEEN J-HOOKS SHALL BE 48" ON CENTER

CABLE SUPPORT DETAIL — 2 / E3.0

FIRE ALARM SEQUENCE OF OPERATION

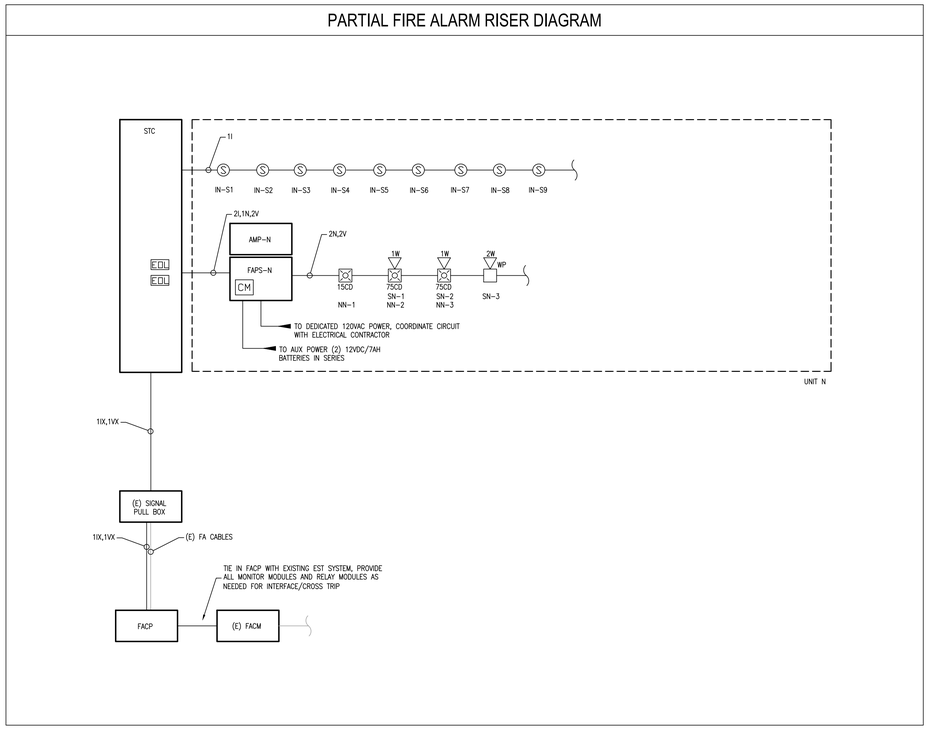
X = REQUIRED ACTION
BLANK MEANS NOT APPLICABLE

	CAUSE	EFFECT: ALARM AT FACP	ALARM AT OFF-SITE REPORTING	ACTIVATE AUDIBLE/VISUAL ALARMS				TROUBLE AT FACP	TROUBLE AT OFF-SITE REPORTING			SUPERVISORY CONDITION AT FACP	SUPERVISORY CONDITION AT OFF-SITE REPORTING			REMARKS
1	SMOKE DETECTOR	X	X	X												
2	HEAT DETECTOR	X	X	X												
3	MANUAL PULL STATION	X	X	X												
4	DUCT DETECTOR	X	X	X												SHUTDOWN ASSOCIATED MECHANICAL UNIT
5	POWER FAILURE							X	X							
6	TAMPER SWITCH AT POST INDICATOR VALVE											X	X			
7	TAMPER SWITCH AT FIRE SPRINKLER RISER											X	X			
8	FLOW SWITCH AT FIRE SPRINKLER RISER	X	X	X												SHUTDOWN CIRCULATION FANS
9	FIRE ALARM TROUBLE (OPEN, SHORTS OR GROUNDS ON INITIATION, NOTIFICATION OR SIGNALING LINE CIRCUITS)							X	X							

FIRE ALARM CABLE SCHEDULE

TAG	COND		AWG	DESCRIPTION	USE
I	2	SOLID	18	18/2-RED-FPLP	SIGNAL LINE CIRCUIT (SLC) CIRCUIT
IX	2	SOLID	18	18/2 (UNDERGROUND RATED)	SIGNAL LINE CIRCUIT (SLC) CIRCUIT - UNDERGROUND
N	2	SOLID STRANDED	12	12/2-RED-FPLP #12 THWN RED (+) BLACK (-) (WHEN IN CONDUIT)	NOTIFICATION (NAC) CIRCUIT
V	2	STRANDED	16	16/2-OVERALL SHIELD CLASS 2 CABLE	VOICE/SPEAKERS
VX	2	STRANDED	16	16/2-OVERALL SHIELD CLASS 2 CABLE	VOICE BUS - UNDERGROUND

PARTIAL FIRE ALARM RISER DIAGRAM



BATTERY CAPACITY CALCULATIONS (FAPS-N)

DEVICE	QUANTITY	CURRENT PER DEVICE: STANDBY	CURRENT PER DEVICE: ALARM	STANDBY CURRENT	ALARM CURRENT
FIRE ALARM BOOSTER PANEL	1	0.002	5.00	0.0020	5.0000
STROBE (15CD)	1	0	0.067	0.0000	0.0670
SPEAKER/STROBE (75CD)	2	0	0.111	0.0000	0.2220
			TOTAL:	0.0020	5.2890

USING THE FOLLOWING FORMULA:

[(24 HOURS X STANDBY CURRENT) + (15 MINUTES X ALARM CURRENT)] X 1.25 SAFETY FACTOR = MINIMUM BATTERY AH

MINIMUM BATTERY AH REQUIRED ARE:

[(24 X 0.002) + (0.25 X 5.289)] x 1.25 = 1.71 AH

ENSURE A MINIMUM OF 7AH BATTERY SYSTEM

BATTERY CAPACITY CALCULATIONS (AMP-N)

DEVICE	QUANTITY	CURRENT PER DEVICE: STANDBY	CURRENT PER DEVICE: ALARM	STANDBY CURRENT	ALARM CURRENT
VOICE EVAC AMPLIFIER, 50W	1	0.306	1.85	0.3060	1.8500
EXTERIOR SPEAKER	1	0	0.083	0	0.0830
SPEAKER STROBE (75CD)	2	0	0.0416	0	0.0832
			TOTAL:	0.3060	2.0162

USING THE FOLLOWING FORMULA:

[(24 HOURS X STANDBY CURRENT) + (15 MINUTES X ALARM CURRENT)] X 1.25 SAFETY FACTOR = MINIMUM BATTERY AH

MINIMUM BATTERY AH REQUIRED ARE:

[(24 X 0.306) + (0.25 X 2.0162)] x 1.25 = 9.81 AH

ENSURE A MINIMUM OF 12AH BATTERY SYSTEM

FIRE ALARM VOLTAGE DROP CALCULATIONS

CIRCUIT NO.	LENGTH (FT)	CIRCUIT VOLTAGE	WIRE SIZE (AWG)	WIRE OHMS/ 1000 FT	TOTAL ALARM AMPS	VOLTAGE DROP: VOLTS	VOLTAGE DROP: % OF NOM.
NN	122	24	12	2.01	0.2890	0.1417	0.59%
SN	858	70	16	5.08	0.1662	1.4488	2.07%

NOTES:
1. LONGEST LUMP SUM METHOD

AGENCY APPROVAL:

TRACY UNIFIED SCHOOL DISTRICT

HMC Architects
3595-002-100
2101 CAPITOL AVENUE, SUITE 100,
SACRAMENTO, CA, 95816
916 368 7990 / www.hmcarchitects.com

ISSUE

Δ	DESCRIPTION	DATE

OPTIMIZEDENERGY & FACILITIES CONSULTING, INC.
5734 Lonetree Boulevard, Rocklin, CA 95765
Office: (916) 626 5518 www.oefcinc.com

REGISTERED PROFESSIONAL ENGINEER
MEHMORE M. BAYSAN
No.E23735
EXP:12-31-2025
ELECTRICAL
STATE OF CALIFORNIA

FACILITY:
MERRILL F WEST HIGH SCHOOL

1775 W LOWELL AVE
TRACY, CA 95376

PROJECT:
MERRILL F WEST HS AGRICULTURE CTE BLDG INCREMENT 2

SHEET NAME:
FIRE ALARM GENERAL NOTES, RISER DIAGRAM, & SCHEDULES

DSA SUBMITTAL

DATE: **10/11/24** | CLIENT PROJ NO:

SHEET:

E3.0

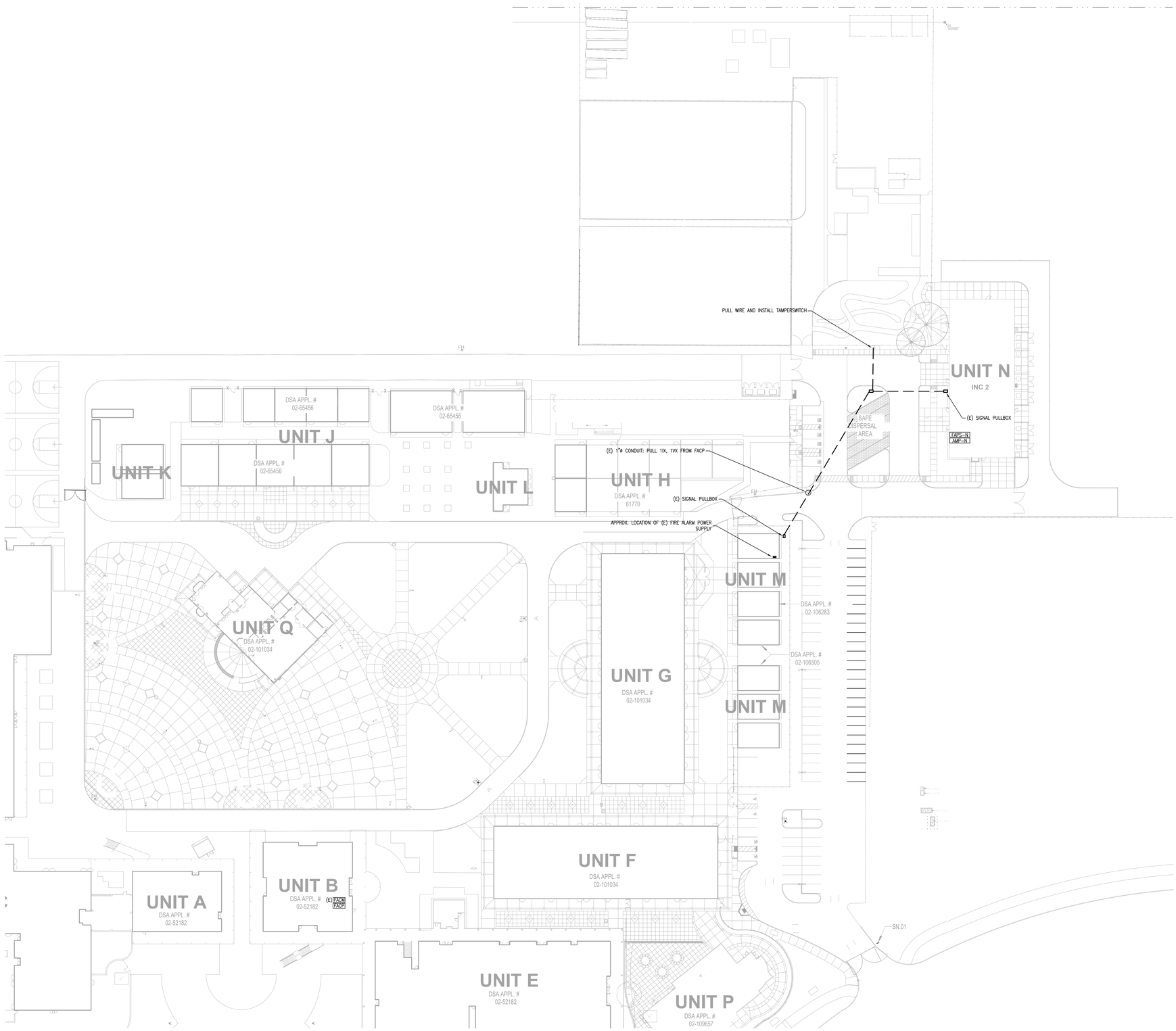
Autodesk Docs://3595002100 TUSD AG SHOP R22/3595002100-A-MERRILL WEST-AG SHOP.rvt
8/19/2024 3:39:57 PM

PLEASE RECYCLE

THE LINE BROWN ABOVE IS EXACTLY 1" WHEN PLOTTED AT FULL SHEET'S ORIGINAL IMAGE SIZE

SHEET NOTES:

1. (E) EXISTING
   (N) NEW
   (R) REPLACED
   (D) DEMO
2. ALL FIRE ALARM DEVICES, PULL BOXES, AND CONDUIT/CABLING SHOWN ARE (N) U.O.N.
3. ALL UNDERGROUND CONDUIT SHALL BE PVC U.O.N. AND HAVE A MINIMUM BURIAL DEPTH PER CEC TABLE 300.5
4. PULL BOXES FOR SIGNAL SYSTEMS DUCT BANK SHALL BE MIN. N16. LID SHALL BE ENGRAVED "SIGNAL", LOCATIONS ARE DIAGRAMMATIC AND NOT DIMENSIONED
5. FIRE ALARM CIRCUITS AND CIRCUIT ROUTING ARE SHOWN SCHEMATICALLY FOR CLARITY ILLUSTRATING THE WIRING CONFIGURATION NECESSARY FOR PROPER CIRCUIT SUPERVISION
6. RESTORE ASPHALT, CONCRETE, AND LANDSCAPE SURFACE TO MATCH ORIGINAL CONDITION WHERE SAWCUTTING/TRENCHING IS REQUIRED OUTSIDE THE DEMOLISHED AREA PER THE CIVIL DEMOLITION DRAWINGS
7. PRIOR TO COMMENCING TRENCHING OPERATIONS, CONTACT THE UTILITIES UNDERGROUND SERVICE ALERT BUREAU AND DETERMINE THE EXACT LOCATION OF ANY EXISTING UTILITY LINES WHICH MIGHT BE DAMAGED DURING THE INSTALLATION OF THIS WORK. HAND TRENCH, BACKFILL, AND COMPACT IN AREAS OF EXISTING UTILITY LINES TO AVOID DAMAGE TO SAME.



A FIRE ALARM PLAN - SITE
SCALE: 1"=40'-0"

NORTH

AGENCY APPROVAL:

TRACY UNIFIED SCHOOL DISTRICT

HMC Architects
3595-002-100
2101 CAPITOL AVENUE, SUITE 100,
SACRAMENTO, CA, 95816
916 368 7990 / www.hmcarchitects.com

ISSUE

Δ DESCRIPTION DATE

OPTIMIZED ENERGY & FACILITIES CONSULTING, INC.
5734 Lonetree Boulevard, Rocklin, CA 95765
Office: (916) 626 5518 www.oefcinc.com

REGISTERED PROFESSIONAL ENGINEER
ALEXANDRE M. BATISTA
No.E23735
EXP.12-31-2025
ELECTRICAL
STATE OF CALIFORNIA

FACILITY:
MERRILL F WEST HIGH SCHOOL

1775 W LOWELL AVE
TRACY, CA 95376

PROJECT:
MERRILL F WEST HS AGRICULTURE CTE BLDG INCREMENT 2

SHEET NAME:
FIRE ALARM PLAN - SITE

DSA SUBMITTAL

DATE: **10/11/24** | CLIENT PROJ NO:

SHEET:

E3.1

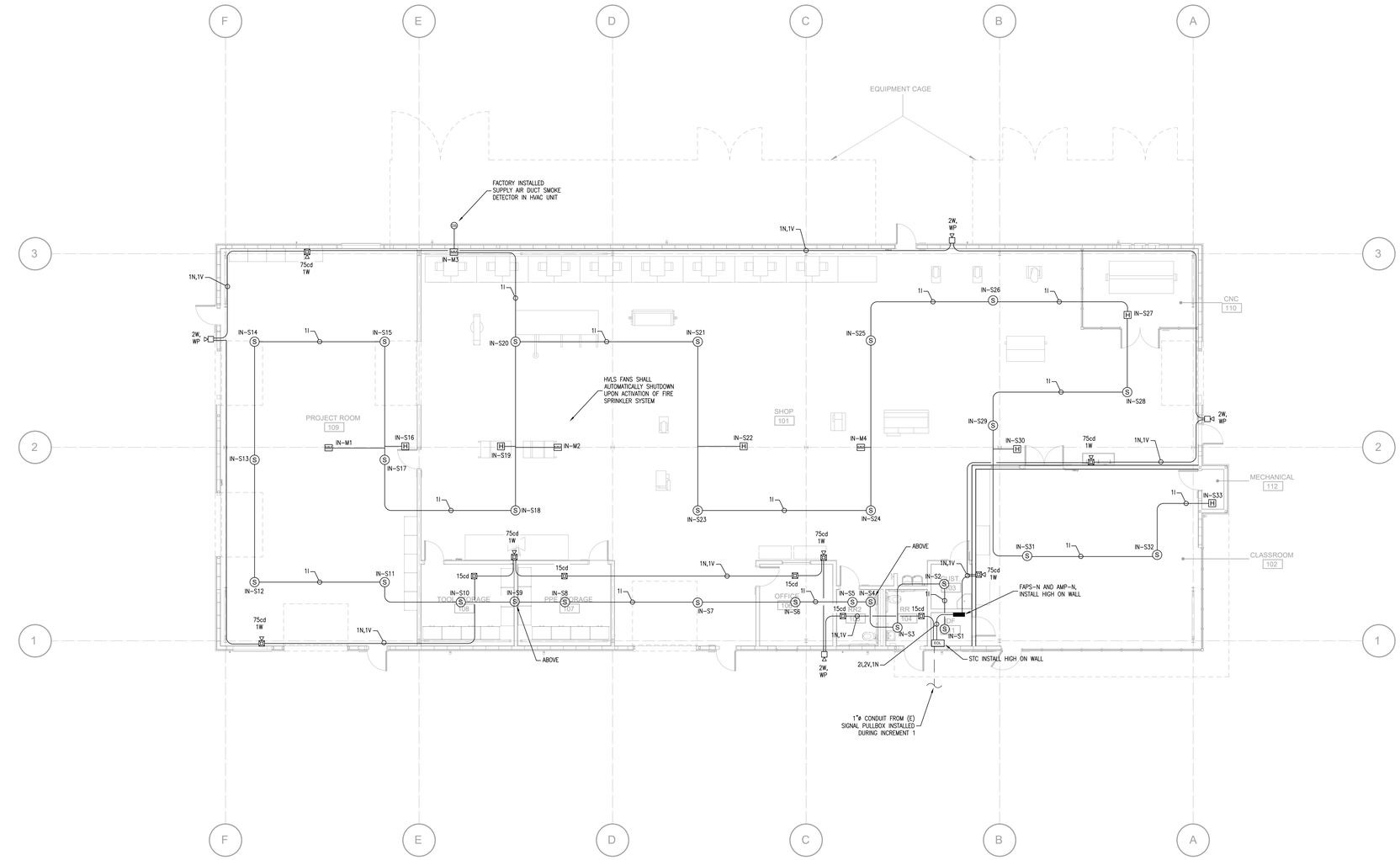
PLEASE RECYCLE

Autodesk Docs://3595002100 TUSD AG SHOP R22/3595002100-A-MERRILL WEST-AG SHOP.rvt
8/19/2024 3:39:37 PM

THE LINE BROWN ABOVE IS EXACTLY 1" WHEN PLOTTED AT FULL SHEET & ORIGINAL IMAGE SIZE

SHEET NOTES:

1. (E) EXISTING
   (N) NEW
   (R) REPLACED
   (D) DEMO
2. ALL FIRE ALARM DEVICES AND CONDUIT/CABLING SHOWN ARE (N) AND CONTRACTOR FURNISHED–CONTRACTOR INSTALLED (CFCI) U.O.N.
3. MINIMUM SIZE CONDUIT PATHWAY SHALL BE 3/4"ø, U.O.N.
4. FIRE ALARM SYSTEM INSTALLATION SHALL COMPLY WITH ALL REQUIREMENTS OF APPLICABLE CODES, STANDARDS, AND STATE REGULATIONS
5. FIRE ALARM SYSTEM SHALL BE TESTED AND INSPECTED IN ACCORDANCE WITH NFPA 72, CHAPTER 14
6. FIRE ALARM CIRCUITS AND CIRCUIT ROUTING ARE SHOWN SCHEMATICALLY FOR CLARITY ILLUSTRATING THE WIRING CONFIGURATION NECESSARY FOR PROPER CIRCUIT SUPERVISION
7. COORDINATE FIRE ALARM DEVICE LOCATIONS WITH LIGHT FIXTURES AND HVAC GRILLES WITH THEIR RESPECTIVE INSTALLING CONTRACTORS. AVOID ALL CONFLICTS AND ENSURE MINIMUM 3' CLEARANCE IS MAINTAINED FROM SMOKE DETECTORS TO ALL HVAC GRILLES
8. INSTALL FIRE ALARM CONDUCTORS IN CONDUIT OR METAL SURFACE RACEWAY. MINIMUM SIZE OF CONDUIT SHALL BE 3/4"ø. UTILIZE WIREMOLD 700 SERIES SURFACE RACEWAY (IN LIEU OF CONDUIT) IN THE CLASSROOM WHERE CONDUIT CANNOT BE INSTALLED CONCEALED.



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

NORTH

PLEASE RECYCLE

AGENCY APPROVAL:

TRACY UNIFIED SCHOOL DISTRICT

HMC Architects
3595-002-100
2101 CAPITOL AVENUE, SUITE 100,
SACRAMENTO, CA, 95816
916 368 7990 / www.hmcarchitects.com

ISSUE

Δ DESCRIPTION DATE

OPTIMIZED ENERGY & FACILITIES CONSULTING, INC.
5734 Lonetree Boulevard, Rocklin, CA 95765
Office: (916) 626 5518 www.oefcinc.com

REGISTERED PROFESSIONAL ENGINEER
ALEXANDRE M. BATTA
No.E23735
EXP:12-31-2025
ELECTRICAL
STATE OF CALIFORNIA

FACILITY:
MERRILL F WEST HIGH SCHOOL

1775 W LOWELL AVE
TRACY, CA 95376

PROJECT:
MERRILL F WEST HS AGRICULTURE CTE BLDG INCREMENT 2

SHEET NAME:
FIRE ALARM PLAN

DSA SUBMITTAL

DATE: **10/11/24** | CLIENT PROJ NO:

SHEET:

E3.2

Autodesk Docs://3595002100 TUSD AG SHOP R22/3595002100-A-MERRILL WEST-AG SHOP.rvt
8/19/2024 3:39:57 PM

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

Nonresidential Performance Compliance Method — **(Page 1 of 21)**

Project Name: West HS Ag Bldg | **Date Prepared:** 2024-10-11

A. General Information

1	Project Name	West HS Ag Bldg			
2	Run Title	Title 24 Analysis			
3	Project Location	1775 W Lowell Ave			
4	City	Tracy	5	Standards Version	Compliance 2022
6	Zip code	95376	7	Compliance Software (version)	EnergyPro 9.3
8	Climate Zone	12	9	Building Orientation (deg)	0
10	Building Type(s)	▪ Nonresidential	11	Weather File	MERCED_STYP20.epw
12	Project Scope	▪ New complete scope	13	Number of Dwelling Units	0
14	Total Conditioned Floor Area in Scope (ft²)	7244	15	Total # of hotel/motel rooms	0
16	Total Unconditioned Floor Area (ft²)	1993	17	Fuel Type	Natural gas
18	Nonresidential Conditioned Floor Area	7244	19	Total # of Stories (Habitable Above Grade)	1
20	Residential Conditioned Floor Area	0			

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

Nonresidential Performance Compliance Method — **(Page 2 of 21)**

B. PROJECT SUMMARY

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

Building Components Complying via Performance					Building Components Complying Prescriptively	
Envelope (See Table G)	Nonres	Performance	Solar Thermal Water Heating (See Table I3)	☐ Performance	The following building components are ONLY eligible for prescriptive compliance and should be documented on the NRCC form listed if within the scope of the permit application (i.e. compliance will not be shown on the NRCC-PRF-E).	
	MultiFam	Not Included		☒ Not Included		
Mechanical (See Table H)	Nonres	Performance	Covered Process: Commercial Kitchens (see Table J)	☐ Performance	Indoor Lighting (Unconditioned) 140.6 & 170.2(e)	NRCC-LTI-E is required
	MultiFam	Not Included		☒ Not Included	Outdoor Lighting 140.7 & 170.2(e)	NRCC-LTO-E is required
Domestic Hot Water (See Table I)	Nonres	Performance	Covered Process: Laboratory Exhaust (see Table J)	☐ Performance	Sign Lighting 140.8 & 170.2(e)	NRCC-LTS-E is required
	MultiFam	Not Included		☒ Not Included	**Building Components Complying with Mandatory Measures**	
Lighting (Indoor Conditioned, see Table K)	Nonres	Performance	Photovoltaics (see Table F)	☒ Performance	Electrical power systems, commissioning, solar ready, elevator and escalator requirements are mandatory and should be documented on the NRCC form listed if applicable (i.e. compliance will not be shown on the NRCC-PRF-E.)	
	MultiFam	Not Included		☐ Not Included	Electrical Power Distribution 110.11	NRCC-ELC-E is required
			Battery (see Table F)	☐ Performance	Commissioning 120.8	NRCC-CXR-E is required
				☒ Not Included	Solar and Battery 110.10	NRCC-SAB-E is required

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

Nonresidential Performance Compliance Method — **(Page 3 of 21)**

C1. COMPLIANCE SUMMARY

COMPLIES[3]

	Time Dependent Valuaton (TDV)		Source Energy Use
	Efficiency[1] (kBtu/ft² - yr)	**Total[2] (kBtu/ft² - yr)**	**Total[2] (kBtu/ft² - yr)**
Standard Design	210.12	106.41	18.27
Proposed Design	174.2	93.36	10.54
Compliance Margins	**35.92**	**13.05**	**7.73**
	Pass	**Pass**	**Pass**

[1] Efficiency measures include improvements like a better building envelope and more efficient equipment
[2] Compliance Totals include efficiency, photovoltaics and batteries
[3] New Construction, Complete Addition Scope: Building complies when all efficiency and total compliance margins are greater than or equal to zero and unmet load hour limits are not exceeded
Existing, Addition and Alteration Scope: Building complies when efficiency compliance margin is greater than or equal to zero and unmet load hour limits are not exceeded

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

Nonresidential Performance Compliance Method — **(Page 4 of 21)**

C2. TDV ENERGY COMPLIANCE RESULTS FOR PERFORMANCE COMPONENTS (Annual TDV Energy Use, kBtu/ft² - yr)

COMPLIES[2]

Energy Component	Standard Design (TDV)	Proposed Design (TDV)	Compliance Margin (TDV)[1]
Space Heating	25.74	24.38	1.36
Space Cooling	63.35	77.92	-14.57
Indoor Fans	60.42	34.88	25.54
Heat Rejection	0	0	0
Pumps & Misc.	0	0	0
Domestic Hot Water	7.26	12.57	-5.31
Indoor Lighting	53.35	24.45	28.9
Flexibility	---	---	---
EFFICIENCY COMPLIANCE TOTAL	**210.12**	**174.2**	**35.92 (17.1%)**
Photovoltaics	-96.35	-80.84	-15.51
Batteries	-7.36	---	-7.36
TOTAL COMPLIANCE	**106.41**	**93.36**	**13.05 (12.3%)**

[1] Notes: This number in parenthesis following the Compliance Margin in column 4, represents the Percent Better than Standard.

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

Nonresidential Performance Compliance Method — **(Page 5 of 21)**

C3. TDV ENERGY RESULTS FOR NON-REGULATED COMPONENTS[1]

Non-Regulated Energy Component	Standard Design (TDV)	Proposed Design (TDV)	Compliance Margin (TDV)[1]
Receptacle	87.34	87.34	---
Process	---	---	---
Other Ltg	15.07	15.07	---
Process Motors	0.47	0.86	-0.39
TOTAL (TOTAL COMPLIANCE + NON-REGULATED COMPONENTS)	**209.29**	**196.63**	**12.66 (6%)**

[1] Notes: This table is not used for Energy Code Compliance.

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

Nonresidential Performance Compliance Method — **(Page 6 of 21)**

C4. SOURCE ENERGY COMPLIANCE RESULTS FOR PERFORMANCE COMPONENTS (Annual SOURCE Energy Use, kBtu/ft² /yr)

COMPLIES[2]

Energy Component	Standard Design (SOURCE)	Proposed Design (SOURCE)	Compliance Margin (SOURCE)[1]
Space Heating	8.44	3.5	4.94
Space Cooling	2.87	3.84	-0.97
Indoor Fans	5.25	3.14	2.11
Heat Rejection	0	0	0
Pumps & Misc.	0	0	0
Domestic Hot Water	2.62	1.02	1.6
Indoor Lighting	3.99	1.83	2.16
Flexibility	---	---	---
EFFICIENCY COMPLIANCE TOTAL	**23.17**	**13.33**	**9.84 (42.5%)**
Photovoltaics	-3.36	-2.79	-0.57
Batteries	-1.54	---	-1.54
TOTAL COMPLIANCE	**18.27**	**10.54**	**7.73 (42.3%)**

[1] Notes: This number in parenthesis following the Compliance Margin in column 4, represents the Percent Better than Standard.

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

Nonresidential Performance Compliance Method — **(Page 7 of 21)**

C5. SOURCE ENERGY RESULTS FOR NON-REGULATED COMPONENTS[1]

Non-Regulated Energy Component	Standard Design (SOURCE)	Proposed Design (SOURCE)	Compliance Margin (SOURCE)[1]
Receptacle	6.46	6.46	---
Process	---	---	---
Other Ltg	1.13	1.13	---
Process Motors	0.04	0.08	-0.04
TOTAL (TOTAL COMPLIANCE + NON-REGULATED COMPONENTS)	**25.9**	**18.21**	**7.69 (29.7%)**

[1] Notes: This table is not used for Energy Code Compliance.

C6. 'ABOVE CODE' QUALIFICATIONS

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

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

Nonresidential Performance Compliance Method — **(Page 8 of 21)**

C7. ENERGY USE SUMMARY

Energy Component	Standard Design Site (MWh)	Proposed Design Site (MWh)	Margin (MWh)	Standard Design Site (MBtu)	Proposed Design Site (MBtu)	Margin (MBtu)
Space Heating	---	5.4	---	65.7	---	---
Space Cooling	12.2	15.5	-3.3	---	---	---
Indoor Fans	14.2	8.7	5.5	---	---	---
Heat Rejection	---	---	---	---	---	---
Pumps & Misc.	---	---	---	---	---	---
Domestic Hot Water	0	3.7	-3.7	20.3	---	---
Indoor Lighting	16.1	7.4	8.7	---	---	---
Flexibility	---	---	---	---	---	---
EFFICIENCY TOTAL	**42.5**	**40.7**	**1.8**	**86**	**0**	**86**
Photovoltaics	-35.8	-29.7	-6.1	---	---	---
Batteries	0.3	---	---	---	---	---
ENERGY USE SUBTOTAL	**7**	**11**	**-4**	**86**	**0**	**86**
Receptacle	26.6	26.6	0	---	---	---
Process	---	---	---	---	---	---
Other Ltg	4.5	4.5	0	---	---	---
Process Motors	0.1	0.2	-0.1	---	---	---
ENERGY USE TOTAL	**38.2**	**42.3**	**-4.1**	**86**	**0**	**86**

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

Nonresidential Performance Compliance Method — **(Page 9 of 21)**

C8. ENERGY USE INTENSITY (EUI)

	Standard Design (kBtu/ft² / yr)	Proposed Design (kBtu/ft² / yr)	Margin (kBtu/ft² / yr)	Margin Percentage
GROSS EUI[1]	36.64	26.6	10.04	27.4
NET EUI[1]	23.42	15.62	7.8	33.3

[1] Notes: Gross EUI is Energy Use Total (not including PV)/Total Building Area. Net EUI is Energy Use Total (including PV)/Total Building Area.

D1. EXCEPTIONAL CONDITIONS

- The aged solar reflectance and aged thermal emittance must be listed in the Cool Roof Rating Council database of certified products. For projects where initial reflectance is used, the initial reflectance must be listed, and the aged reflectance is calculated by the software program and used in the compliance model.
- The project uses the Simplified Geometry Performance Modeling Approach which is not capable of modeling daylighting controls and assumes the prescriptive Secondary Daylit Control requirements are met. PRESCRIPTIVE COMPLIANCE documentation (form NRCC-LTI-02-E) for the requirements of section 140.6(d) Automatic Daylighting Controls in Secondary Daylit Zones is required.
- The project includes windows which have been classified as clerestory windows. Please verify that clerestories are present, and that daylighting controls are present for these areas. Clerestory windows do not trigger mandatory daylighting control requirements, and may allow users to claim PAF credit for daylighting controls in areas illuminated by clerestories. .
- The user model includes space(s) that are designed to be served by mechanical cooling systems, but the cooling systems were not included in the simulation model. A cooling system has been modeled for both the proposed and standard cases.
- The user model includes space(s) without sufficient cooling equipment. Cooling equipment has been added to the model to meet cooling loads.
- PV/Battery Building Type has been modified from software defaults for one or more spaces. Review project's PV/Battery Building Type(s) with documentation author. Refer to Energy Code section 140.10 for Nonresidential or 170.2(g) for more information.

E4. ADDITIONAL REMARKS

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

The Solar PV shown in this calcuation is provided by an existing Solar PV system on campus, per DSA PR23-04

PLEASE RECYCLE

AGENCY APPROVAL:

TRACY UNIFIED SCHOOL DISTRICT

HMC Architects
3595-002-100
2101 CAPITOL AVENUE, SUITE 100,
SACRAMENTO, CA, 95816
916 368 7990 / www.hmcarchitects.com

ISSUE

Δ DESCRIPTION DATE

OPTIMIZEDENERGY & FACILITIES CONSULTING, INC.
5734 Lonetree Boulevard, Rocklin, CA 95765
Office: (916) 626 5518 www.oefcinc.com

REGISTERED PROFESSIONAL ENGINEER ALEXANDRE M. BATTISTA No.E23735 EXP.12-31-2025 ELECTRICAL STATE OF CALIFORNIA

FACILITY:
MERRILL F WEST HIGH SCHOOL

1775 W LOWELL AVE
TRACY, CA 95376

PROJECT:
MERRILL F WEST HS AGRICULTURE CTE BLDG INCREMENT 2

SHEET NAME:
ENERGY COMPLIANCE PERFORMANCE FORM

DSA SUBMITTAL

DATE: **10/11/24** CLIENT PROJ NO:

SHEET:

EN0.0

F1. REQUIRED PV SYSTEMS

01 DC System Size (kWdc)	02 Exception[1]	03 Module Type	04 Array Type	05 Power Electronics	06 CFI	07 Azimuth (deg)	08 Tilt Input	09 Array Angle (deg)	10 Tilt: (x in 12)	11 Inverter Eff. (%)	12 Annual Solar Access (%)
18		Standard (14-17%)	Fixed	none	false	180	Degrees	22	4.85	96	100

[1] *See Table D1 for any PV exceptions used.*

F1B. PV BATTERY BUILDING TYPE(S)

01 Building Occupancy Type* (From Table 140.10-A/B and 170.2-U/V)	02 Conditioned Floor Area (ft²)	03 Unconditioned Floor Area (ft²)
Grocery	0	0
High-Rise Multifamily	0	0
Office, Financial Institutions, Unleased Tenant Space	7244	1993
Retail	0	0
School	0	0
Warehouse	0	0
Auditorium, Convention Center, Hotel/Motel, Library, Medical Office Building/Clinic, Restaurant, Theater	0	0
None	0	0

* *Building Occupancy Types are defined in Section 100.1 of the Energy Code*

G1. ENVELOPE GENERAL INFORMATION (conditioned spaces only)

01 Opaque Surfaces & Orientation	02 Total Gross Surface Area (ft²)	03 Total Fenestration Area (ft²)	04 Window to Wall Ratio (%)
North-Facing[1]	0	0	0
East-Facing[2]	1815	380	20.94
South-Facing[3]	1219	508	41.67
West-Facing[4]	1530	440	28.76
Total	**4564**	**1328**	**29.1**
Roof	7823	0	0

Notes
[1] *North-Facing is oriented to within 45 degrees of true north, including 45 00'00" east of north (NE), but excluding 45 00'00" west of north (NW),*
[2] *East-Facing is oriented to within 45 degrees of true east, including 45 00'00" south of east (SE), but excluding 45 00'00" north of east (NE),*
[3] *South-Facing is oriented to within 45 degrees of true south, including 45 00'00" west of south (SW), but excluding 45 00'00" east of south (SE),*
[4] *West-Facing is oriented to within 45 degrees of true west, including 45 00'00" north of west (NW), but excluding 45 00'00" south of west (SW),*

G2A. ROOFING PRODUCT SUMMARY (NONRESIDENTIAL)

01 Assembly Name	02 Roof Pitch	03 Roof Rise (x in 12)	04 Aged Solar Reflectance	05 Thermal Emittance	06 SRI
Roof10	LowSlope	N/A	0.3	0.82	N/A

G4. NONRESIDENTIAL AIR BARRIER

01 Building Story Name	02 Air Barrier
Com-Floor 1	Air barrier - not verified

G5. OPAQUE SURFACE ASSEMBLY SUMMARY

01 Surface Name	02 Construction Type	03 Area (ft²)	04 Framing Type	05 Cavity R-Value	06 Continuous R-Value Interior	06 Continuous R-Value Exterior	07 Units	08 Value	09 Description of Assembly Layers	10 Status[1]
Roof10	Roof	9,762	N/A	0	N/A	35.87	U-factor	0.0267	Metal Standing Seam - 1/16 in. Vapor permeable felt - 1/8 in. Gypsum Board - 3/8 in. Cellular polyisocyanurate (unfaced) - 1 in. R5.9 Gypsum Board - 1/2 in. Metal Deck - 1/16 in. Glass fiber batt - 10 in. R30 (CEC Default)	N
Slab On Grade12	Underground Floor	9,237	N/A	0	N/A	N/A	F-factor	0.73	Slab Type =Unheated slab on grade Insulation Orientation =None Insulation R-Value =none	N
Wall25	Exterior Wall	6,944	Metal	21	N/A	5	U-factor	0.0802	Metal Siding - 1/16 in. Air - Wall - 1/2 in. Extruded Polystyrene - XPS - 1 in. R5.00 Vapor permeable felt - 1/8 in. Gypsum Board - 5/8 in. Composite-1 Gypsum Board - 5/8 in.	N

[1] *Status: N - New, A - Altered, E - Existing*

G6A. OPAQUE DOOR SUMMARY (NONRESIDENTIAL)

01 Assembly Name	02 Area (ft²)	03 Overall U-factor	04 Status[1]
Metal Door47	40	0.7	N

[1] *Status: N - New, A - Altered, E - Existing*

G7A. FENESTRATION ASSEMBLY SUMMARY (NONRESIDENTIAL)

01 Fenestration Assembly Name	02 Fenestration Type/ Product Type / Frame Type	03 Certification Method[1]	04 Assembly Method	05 Area (ft²)	06 Overall U-factor	07 Overall SHGC	08 Overall VT	09 Status[2]
Polycarbonate	Vertical fenestration Fixed window N/A	NFRC	Manufactured	628	0.28	0.7	0.5	N
Sectional Door	Vertical fenestration Fixed window N/A	NFRC	Site built	500	0.4	0.4	0.5	N
Glazing	Vertical fenestration Fixed window N/A	NFRC	Manufactured	500	0.36	0.28	0.5	N

[1] *Notes: Newly installed fenestration shall have a certified NFRC Label Certificate or use the CEC default tables found in Table 110.6-A and Table 110.6-B. Center of Glass (COG) values are for the glass-only, determined by the manufacturer, and are shown for ease of verification. Site-built fenestration values are calculated per Nonresidential Appendix NA6 and are used in the analysis.*
[2] *Status: N - New, A - Altered, E - Existing*

G8. OVERHANG DETAILS

01 Fenestration Tag/ ID	02 Azimuth	03 Depth (ft)	04 Height from Top of Sill to Overhang (ft)	05 Right Extent (ft)	06 Left Extent (ft)	07 Flap Height
Glazing76	180	5	10	10	10	N/A
Glazing79	270	5	10	10	10	N/A
Entry80	270	5	10	10	10	N/A

H1. DRY SYSTEM EQUIPMENT (FURNACES, AIR HANDLING UNITS, HEAT PUMPS, VRF, ECONOMIZERS ETC.)

01 Equipment Name	02 Equipment Type	03 Qty	04 Heating: Total Heating Output (kBtu/h)	05 Heating: Supp Heat Output (kBtu/h)	06 Heating: Efficiency Unit	07 Heating: Efficiency	08 Cooling: Total Cooling Output (kBtu/h)	09 Cooling: Efficiency Unit	10 Cooling: Efficiency	11 Economizer Type (if present)	12 Status[1]
PHP-1	Package SZ VAV Heat Pump Air System	1	168	85.3	COP	3.3	156.79	EER	11	Differential DB	N
SHP-1/SFC-1	Single Zone Heat Pump (SZHP) Air System	1	72	0	COP	3.4	66.5	EER	11.7	No Economizer	N

[1] *Status: N - New, A - Altered, E - Existing*

H3. NONRESIDENTIAL / COMMON USE AREA FAN SYSTEMS SUMMARY

01 Name or Item Tag	02 Qty	03 Design OA CFM	04 Supply Fan: CFM	05 Supply Fan: Power	06 Supply Fan: Power Units	07 Supply Fan: Control	08 Return / Relief Fan: Fan Type	09 Return / Relief Fan: CFM	10 Return / Relief Fan: Power	11 Return / Relief Fan: Power Units	12 Return / Relief Fan: Control	13 Status[1]
PHP-1	1	931.5	6,000	3.1	BHP	VSD	N/A	N/A	N/A	N/A	N/A	N
SHP-1/SFC-1	1	371.26	2,400	1.14	BHP	Constant Vol	N/A	N/A	N/A	N/A	N/A	N

[1] *Status: N - New, A - Altered, E - Existing*

H5. GENERAL EXHAUST FAN SUMMARY

01 System ID	02 Zone Name	03 Qty	04 CFM	05 Power	06 Power Units	07 Continuous Operation?	08 Status[1]
Restrooms3-EF	1-Restrooms	1	50	0.04	BHP	No	N
UC - Restrooms41-EF	2-UC - Restrooms	1	50	0.04	BHP	No	N

[1] *Status: N - New, A - Altered, E - Existing*

H8. SYSTEM SPECIAL FEATURES

01 System Name	02 Equipment Type	03 Interlocks per 140.4(n)[1]	04 Other Special Features and Controls
PHP-1	Package SZ VAV Heat Pump Air System	N/A	Differential DB
WH-11 - SHW	Service Hot Water	N/A	Fixed Temperature Control

Notes: This table includes controls related to the performance path only. For projects using the prescriptive path, mandatory and prescriptive controls requirements are documented on the NRCC-MCH-E.

[1] *Yes = interlocks are provided, No = interlocks are not provided, NA means no operable openings.*

H9. NONRESIDENTIAL / COMMON USE AREA & HOTEL/MOTEL VENTILATION

01 Zone Name	02 Mechanical Ventilation: Ventilation Function	03 Mechanical Ventilation: # of People	04 Mechanical Ventilation: Supply OA CFM	05 Mechanical Ventilation: Exhaust CFM	06 Conditioned Area (sf)	07 DCV or Occupant Sensor Controls, or Both
1-Restrooms	Exhaust - Toilets, private Misc - All others Office - Office space	31.34	931.5	50	6267	N/A
5-SFC-1	Education - Classrooms (ages 9-18)	24.43	371.26	0	977	N/A

H11. ZONAL SYSTEM AND TERMINAL UNIT SUMMARY

01 System ID	02 System Type	03 Qty	04 Rated Capacity (kBtuh): Heating	05 Rated Capacity (kBtuh): Cooling	06 Airflow (cfm): Design	07 Airflow (cfm): Min.	08 Airflow (cfm): Min. Ratio	09 Fan: Power	10 Fan: Power Units	11 Fan: Cycles	12 VSD
1-Restrooms-Trm	Variable Air Volume No Reheat Box	1	N/A	N/A	6,000	2,700	0.45	N/A	N/A	N/A	☐
5-SFC-1-Trm	Uncontrolled	1	N/A	N/A	2,400	N/A	0	N/A	N/A	N/A	☐
PropNoClg-NonResZnSys	Single Zone Air Conditioner	1	0	121.97	3,978.57	N/A	N/A	0	W/cfm	Cycling	☐
PropNoClg-NonResZnSys-2	Single Zone Air Conditioner	1	0	45.76	1,492.73	N/A	N/A	0	W/cfm	Cycling	☐

I1. WATER HEATER EQUIPMENT SUMMARY

01 Name	02 Heater Element Type	03 Tank Type	04 Qty	05 Tank Vol (gal)	06 Rated Input	07 Rated Input Unit	08 Efficiency	09 Efficiency Unit	10 Tank Insulation R-value Int/Ext	11 Standby Loss Fraction	12 1st Hr. Rating or Flow Rate (gal)	13 Heat Pump Type	14 Tank Location or Ambient Condition
WH-12	Electricity	Storage	1	36	3	kW	0.93	UEF	N/A	N/A	55	N/A	N/A

K1. INDOOR CONDITIONED LIGHTING GENERAL INFO

01 Occupancy Type[1]	02 Conditioned Floor Area[2] (ft²)	03 Installed Lighting Power (Watts)	04 Lighting Control Credits (Watts)	05 Additional (Custom) Allowance: Area Category Footnotes (Watts)	06 Additional (Custom) Allowance: Area Category Footnotes (Watts)
Classroom, Lecture, or Training Vocational	977	481.8	0	0	0
General Commercial Industrial Work Area Precision	6064	2094.5	0	0	0
Office (250 square feet)	146	94.9	0	0	0
Restroom	57	20	0	0	0
Building Totals:	**7244**	**2691.2**	**0**	**0**	**0**

[1] *See Table 140.6-C*
[2] *See NRCC-LTI--E for unconditioned spaces*
[3] *Lighting information for existing spaces modeled is not included in this table*

K2. INDOOR CONDITIONED LIGHTING SCHEDULE

Luminaire Schedule (includes all permanent installed lighting in conditioned space, and portable lighting over 0.3 w/ft² in offices)

01 Name or Item Tag	02 Complete Luminaire Description (i.e. 3-lamp fluorescent troffer, F32T8, one dimmable electronic ballast)	03 Installed Watts (Conditioned): Watts per luminaire	04 Installed Watts (Conditioned): How is Wattage determined	05 Installed Watts (Conditioned): Total Number of Luminaires	06 Installed Watts (Conditioned): Installed Watts
D	D	20	According to	1	20
A	A	147.2	According to	11	1619
B	B	80.3	According to	7	562
C	C	79	According to	5	395

[1] *If lighting power densities were used in the compliance model Building Departments will need to check prescriptive forms for Luminaire Schedule details.*

K4. INDOOR CONDITIONED LIGHTING MANDATORY LIGHTING CONTROL

Building Level Controls

01 Mandatory Demand Response 110.12(c)	02 Shut-Off Controls 130.1(c) & 160.5(b)4C
NA	Required

Area Level Controls (includes all lighting controls installed in conditioned space to meet mandatory requirements per 130.1)

03 Area Description	04 Area Category Primary Function Area	05 Area Controls 130.1(a) & 160.5(b)4A	06 Multi-Level Controls 130.1(b) & 160.5(b)4B	07 Shut-Off Controls 130.1(c) & 160.5(b)4C	08 Primary Daylighting 130.1(d) & 160.5(b)4D	09 Secondary Daylighting 140.5(d) & 160.5(b)4D
Office Reception	Lounge	Required	Required	Required	Required	Required
Assembly Lobby	Main Entry Lobby	Required	Required	Required	Required	Required
Office >250	Office (250 square feet)	Required	Required	Required	Required	Required
Office <250	Office (250 square feet)	Required	Required	Required	Required	Required
Restrooms	Restroom	Required	Exempt	Required	Required	Required

AGENCY APPROVAL:

TRACY UNIFIED SCHOOL DISTRICT

HMC Architects
3595-002-100
2101 CAPITOL AVENUE, SUITE 100,
SACRAMENTO, CA, 95816
916 368 7990 / www.hmcarchitects.com

ISSUE

Δ DESCRIPTION DATE

OPTIMIZEDENERGY & FACILITIES CONSULTING, INC.
5734 Lonetree Boulevard, Rocklin, CA 95765
Office: (916) 626 5518 www.oefcinc.com

REGISTERED PROFESSIONAL ENGINEER ALEXANDRE M. BATISTA No.E23735 EXP.12-31-2025 ELECTRICAL STATE OF CALIFORNIA

FACILITY:
MERRILL F WEST HIGH SCHOOL

1775 W LOWELL AVE
TRACY, CA 95376

PROJECT:
MERRILL F WEST HS AGRICULTURE CTE BLDG INCREMENT 2

SHEET NAME:
ENERGY COMPLIANCE PERFORMANCE FORM

DSA SUBMITTAL

DATE: **10/11/24** CLIENT PROJ NO:

SHEET:

EN0.1

L. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

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

Building Component	Form/Title
Envelope	NRCI-ENV-01-E - Must be submitted for all buildings
Envelope	NRCI-ENV-E - Envelope (for all buildings)
Mechanical	NRCI-MCH-01-E - Must be submitted for all buildings
Mechanical	NRCI-MCH-E - For all buildings with Mechanical Systems
Plumbing	NRCI-PLB-01-E - Must be submitted for all buildings
Plumbing	NRCI-PLB-E - For all buildings with Plumbing Systems
	NRCI-SAB-E - Solar Water Heating, PV and Battery Storage Systems
Indoor Lighting	NRCI-LTI-01-E - Must be submitted for all buildings
Indoor Lighting	NRCI-LTI-E - Indoor Lighting (for all buildings)

M. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

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

Building Component	Form/Title & System Name(s)
Envelope	NRCA-ENV-02-F - NRFC label verification for fenestration
Envelope	NRCA-ENV-03-F. - Daylighting Design PAFs
Indoor Lighting	NRCA-LTI-02-A - Occupancy Sensors and Automatic Time Switch Controls.
Indoor Lighting	NRCA-LTI-03-A - Automatic Daylight Controls.
Mechanical	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
	PHP-1 and SHP-1/SFC-1.
Mechanical	NRCA-MCH-03-A - Constant Volume Single Zone HVAC
	SHP-1/SFC-1
Mechanical	NRCA-MCH-05-A - Air Economizer Controls
	PHP-1

M. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

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

Building Component	Form/Title & System Name(s)
Mechanical	NRCA-MCH-12-A FDD for Packaged Direct Expansion Units
	PHP-1

N. DECLARATION OF REQUIRED CERTIFICATES OF VERIFICATION

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

There are no Certificates of Verification applicable to this project

Documentation Author's Declaration Statement

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

Documentation Author Name: Jacob Pleis	Documentation Author Signature:
Company: Optimized Energy & Facilities Consulting	Signature Date:
Address: 5734 Lonetree Blvd	CEA/HERS Certification Identification (if applicable):
City/State/Zip: Rocklin, CA 95765	Phone: (916) 622-4882

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 understand that a registered 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, and I will take the necessary steps to accomplish this requirement.
6. I understand that a registered copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy, and I will take the necessary steps to accomplish these requirements.

Responsible Designer Name: Alex Batista	Responsible Designer Signature:	
Company: Optimized Energy & Facilities Consulting, Inc		
Address: 5734 Lonetree Blvd	Date Signed:	
City/State/Zip: Rocklin, CA 95765	License #: E23735	
Phone: (916) 626-5518	Title:	Scope:
Responsible Designer Name: Steve Wisniewski	Responsible Designer Signature:	
Company: Optimized Energy & Facilities Consulting, Inc		
Address: 5734 Lonetree Blvd	Date Signed:	
City/State/Zip: Rocklin, CA 95765	License #: M32225	
Phone: (916) 626-5518	Title:	Scope:

AGENCY
APPROVAL:

TRACY
UNIFIED SCHOOL DISTRICT

HMC
Architects
3595-002-100
2101 CAPITOL AVENUE, SUITE 100,
SACRAMENTO, CA, 95816
916 368 7990 / www.hmcarchitects.com

ISSUE

Δ DESCRIPTION DATE

OPTIMIZEDENERGY
& FACILITIES CONSULTING, INC.
5734 Lonetree Boulevard, Rocklin, CA 95765
Office: (916) 626 5518 www.oefcinc.com

REGISTERED PROFESSIONAL ENGINEER
ALEXANDRE M. BATISTA
No.E23735
EXP.12-31-2025
ELECTRICAL
STATE OF CALIFORNIA

FACILITY:
MERRILL F WEST HIGH SCHOOL

1775 W LOWELL AVE
TRACY, CA 95376

PROJECT:
MERRILL F WEST HS AGRICULTURE CTE BLDG
INCREMENT 2

SHEET NAME:
ENERGY COMPLIANCE
PERFORMANCE FORM

DSA SUBMITTAL

DATE: **10/11/24** CLIENT PROJ NO:

SHEET:

EN0.2

STATE OF CALIFORNIA
Nonresidential Building Commissioning
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-CXR-E
This document is used to demonstrate compliance with mandatory commissioning requirements in 120.8 for nonresidential buildings and hotel/motel or mixed-use buildings with nonresidential spaces. This document does not demonstrate compliance with commissioning requirements within Title 24, Part 11, which need to be documented separately if they apply.			
Project Name:	West HS Ag Bldg	**Report Page:**	**(Page 1 of 6)**
Project Address:	1775 W Lowell Ave	**Date Prepared:**	10/11/2024

A. GENERAL INFORMATION

01	Project Location (city)	Tracy	04	Building Size (ft²)	7244
02	Occupancy Type	Nonresidential	05		< 10,000 ft²
03	Project Type	Newly constructed	06		Unitary or packaged equipment each serving one zone
			07	Climate Zone	12

B. PROJECT SCOPE

Based on project information provided in Table A, Table B indicates which commissioning related requirements apply per 120.8. Table B is not editable by the user.

Commissioning Requirements per 120.8

01	Table F: Design Review Kickoff	120.8(d)1 and 120.8(d)2	The design review kickoff meeting establishes who will play the role of the design reviewer, the project schedule and identify owner's requirements. This meeting should be conducted during schematic design.
02	Table G: Owner's Project Requirements (OPR)	120.8(b)	This requirement does not apply.
03	Table H: Basis of Design (BOD)	120.8(c)	This requirement does not apply.
04	Table I: Design Review	120.8(d) and 120.8(e)	The design reviewer(s) reviews the construction documents for clarity, completeness, and adherence to the owner's goals. Commissioning measures must be included in the construction documents to facilitate the design review and commissioning process. For projects with >= 10,000 ft² of nonresidential conditioned floor area, the design review is for adherence with the Owner's Project Requirements (OPR) and Basis of Design (BOD). This should be conducted during design.
05	Table J: Commissioning Plan	120.8(f)	This requirement does not apply.
06	Table K: Functional Performance Testing	120.8(g)	This requirement does not apply.
07	Table L: Documentation and Training	120.8(h)	This requirement does not apply.
08	Table M: Commissioning Report	120.8(i)	This requirement does not apply.

STATE OF CALIFORNIA
Nonresidential Building Commissioning
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-CXR-E
Project Name:	West HS Ag Bldg	**Report Page:**	**(Page 2 of 6)**
		Date Prepared:	10/11/2024

C. COMPLIANCE RESULTS

Table C will indicate if the project data input into the compliance document is compliant with commissioning requirements per 120.8. This table is not editable by the user. If any cell on this table says "DOES NOT COMPLY" or "COMPLIES with Exceptional Conditions" refer to Table D. for guidance.

01	02	03	04	05	06	07	08	09
Design Kickoff Review	Owner's Project Requirements	Basis of Design	Design Review	Commissioning Plan	Functional Performance Testing	Documentation and Training	Commissioning Report	
Table F	Table G	Table H	Table I	Table J	Table K	Table L	Table M	
Yes	Yes							COMPLIES
10				Steve Wisniewski				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.

CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance | Generated Date/Time: Report Version: 2022.0.000 Schema Version: rev 20220101 | Documentation Software: EnergyPro Compliance ID: EnergyPro-5910-1024-3232 Report Generated: 2024-10-11 10:18:30

STATE OF CALIFORNIA
Nonresidential Building Commissioning
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-CXR-E
Project Name:	West HS Ag Bldg	**Report Page:**	**(Page 3 of 6)**
		Date Prepared:	10/11/2024

F. DESIGN REVIEW KICKOFF MEETING

This table indicates that the design reviewer meets the qualification requirements per Title 24, Part 1 Section 10-103(a)1 and demonstrates compliance with design review kickoff requirements per 120.8(d)2. This meeting should occur during the Schematic Design phase of the project.

Design Review Kickoff Meeting Details

01	Date of Design Review Kickoff Meeting			2024-07-01
02	Meeting Attendees: (one person may play multiple roles)			
☒	Owner/Facility Manager:	TUSD	☒ Design Reviewer(s)	Steve Wisniewski
☐	Project Manager:		☒ Design Architect/ Engineer(s):	HMC
☒	Contractor:	TBD	☐ Certified Acceptance Test Tech(s):	
☒	Commissioning Provider:	N/A	☒ Energy/ T24 Part 6 Consultant:	OEFC

Design Reviewer Qualifications per Title 24 Part 1 Section 10-103(a)1

03	The design reviewer(s) must be licensed professional engineers or licensed architects, or licensed contractors representing services performed by or under the direct supervision of a licensed engineer or architect, as specified in the provisions of Division 3 of the Business and Professions Code. In addition, for buildings with >= 10,000 ft² but < 50,000², the design reviewer(s) shall be a qualified in-house engineer or architect with no other project involvement or a third party engineer, architect, or contractor	Do the Design Reviewer(s) meet these qualifications?	
		Yes	No
		●	○
04	The design reviewer(s) for this project will be:	Steve Wisniewski	

Preliminary Construction Schedule

		Start Date	Completion Date
05	Schematic Design	2024-02-01	2024-05-01
06	Design Development	2024-05-01	2024-07-01
07	Construction Documents	2024-07-01	2024-10-11
08	Construction	2025-06-01	2026-12-01
09	Building Turnover	2026-12-01	2027-01-01

Project Goals Related to Energy Efficiency

10	Operational Costs	
11	Desired Building Lifespan	80 years
12	Equipment Lifecycle	20 years
13	Project Energy Efficiency Goals	Exceed CA required minimum requirements by approximately 10%

CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance | Generated Date/Time: Report Version: 2022.0.000 Schema Version: rev 20220101 | Documentation Software: EnergyPro Compliance ID: EnergyPro-5910-1024-3232 Report Generated: 2024-10-11 10:18:30

STATE OF CALIFORNIA
Nonresidential Building Commissioning
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-CXR-E
Project Name:	West HS Ag Bldg	**Report Page:**	**(Page 4 of 6)**
		Date Prepared:	10/11/2024

F. DESIGN REVIEW KICKOFF MEETING

14	Envelope Goals	Energy efficient while maintaining reasonable costs
15	HVAC System Goals	Energy efficient while maintaining reasonable costs
16	Indoor Lighting System Goals	Energy efficient while maintaining reasonable costs
17	Outdoor Lighting System Goals	Energy efficient while maintaining reasonable costs
18	Water Heating System Goals	Energy efficient while maintaining reasonable costs
19	Equipment and System Specifications	
20	Operations and Maintenance	

G. OWNER'S PROJECT REQUIREMENTS (OPR)

This section does not apply to this project.

H. BASIS OF DESIGN (BOD)

This section does not apply to this project.

I. CONSTRUCTION DOCUMENT DESIGN REVIEW CHECKLIST

This table is only completed if a design review document is not attached to permit application to demonstrate compliance with 120.8(b) and 120.8(e). For buildings with >= 10,000 ft² conditioned floor area, the design review will ensure the construction documents meet the Owner's Project Requirements (Table G.) and the Basis of Design Documents (Table H.). For buildings with < 10,000 ft² conditioned floor area, the design review will ensure the construction documents meet the goals documented in Table F. during the Design Review Kickoff.

		YES	NO
01	Attaching Completed Design Review Documentation?	●	○

J. COMMISSIONING PLAN

This section does not apply to this project.

CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance | Generated Date/Time: Report Version: 2022.0.000 Schema Version: rev 20220101 | Documentation Software: EnergyPro Compliance ID: EnergyPro-5910-1024-3232 Report Generated: 2024-10-11 10:18:30

STATE OF CALIFORNIA
Nonresidential Building Commissioning
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-CXR-E
Project Name:	West HS Ag Bldg	**Report Page:**	**(Page 5 of 6)**
		Date Prepared:	10/11/2024

K. FUNCTIONAL PERFORMANCE TESTING

This section does not apply to this project.

L. DOCUMENTATION AND TRAINING

This section does not apply to this project.

M. COMMISSIONING REPORT

This section does not apply to this project.

N. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

There are no forms required for this project.

O. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

There are no forms required for this project.

CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance | Generated Date/Time: Report Version: 2022.0.000 Schema Version: rev 20220101 | Documentation Software: EnergyPro Compliance ID: EnergyPro-5910-1024-3232 Report Generated: 2024-10-11 10:18:30

STATE OF CALIFORNIA
Nonresidential Building Commissioning
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-CXR-E
Project Name:	West HS Ag Bldg	**Report Page:**	**(Page 6 of 6)**
Project Address:	1775 W Lowell Ave	**Date Prepared:**	10/11/2024

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

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

Documentation Author Name: Jacob Pleis	Documentation Author Signature:
Company: Optimized Energy & Facilities Consulting	Signature Date:
Address: 5734 Lonetree Blvd	CEA/ HERS Certification Identification (if applicable):
City/State/Zip: Rocklin CA 95765	Phone: (916) 622-4882

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:	Responsible Designer Signature:
Company:	Date Signed: 2024-10-11
Address:	License:
City/State/Zip:	Phone:

CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance | Generated Date/Time: Report Version: 2022.0.000 Schema Version: rev 20220101 | Documentation Software: EnergyPro Compliance ID: EnergyPro-5910-1024-3232 Report Generated: 2024-10-11 10:18:30

AGENCY APPROVAL:

TRACY UNIFIED SCHOOL DISTRICT

HMC Architects
3595-002-100
2101 CAPITOL AVENUE, SUITE 100,
SACRAMENTO, CA, 95816
916 368 7990 / www.hmcarchitects.com

ISSUE

Δ DESCRIPTION DATE

OPTIMIZED ENERGY & FACILITIES CONSULTING, INC.
5734 Lonetree Boulevard, Rocklin, CA 95765
Office: (916) 626 5518 www.oefcinc.com

REGISTERED PROFESSIONAL ENGINEER ALEXANDRE M. BATTISTA No.E23735 EXP.12-31-2025 ELECTRICAL STATE OF CALIFORNIA

FACILITY:
MERRILL F WEST HIGH SCHOOL

1775 W LOWELL AVE
TRACY, CA 95376

PROJECT:
MERRILL F WEST HS AGRICULTURE CTE BLDG INCREMENT 2

SHEET NAME:
ENERGY COMPLIANCE COMMISSIONING FORM

DSA SUBMITTAL

DATE: **10/11/24** | CLIENT PROJ NO:

SHEET:

EN0.3

STATE OF CALIFORNIA
Indoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-LTI-E
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.			
Project Name:	West HS Ag Bldg	**Report Page:**	**(Page 1 of 8)**
Project Address:	1775 W Lowell Ave	**Date Prepared:**	10/11/2024

A. GENERAL INFORMATION

01	Project Location (city)	Tracy	04	Total Conditioned Floor Area (ft²)	7,244
02	Climate Zone	12	05	Total Unconditioned Floor Area (ft²)	1,993
03	Occupancy Types Within Project (select all that apply):		06	# of Stories (Habitable Above Grade)	1

● Classroom ● Commercial Industrial ● Office ● Support Areas

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	7244	Area Category Method	1993
☐ New Lighting System - Parking Garage				
Total Area of Work (ft²)	7244		1993	

STATE OF CALIFORNIA
Indoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-LTI-E
Project Name:	West HS Ag Bldg	**Report Page:**	**(Page 2 of 8)**
		Date Prepared:	10/11/2024

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		5,872.6	0		=	5,873	≥ 2,625	0	=	2625		COMPLIES
Unconditioned		1,658.4	0		=	1,658	≥ 676	0	=	676		COMPLIES
								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:	West HS Ag Bldg	**Report Page:**	**(Page 3 of 8)**
		Date Prepared:	10/11/2024

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
A	A	No	NA	144.3	Mfr. Spec	11	No	1,587.3	☐	☐
B	B	No	NA	80.3	Mfr. Spec	7	No	562.1	☐	☐
C	C	No	NA	79	Mfr. Spec	5	No	395	☐	☐
D	D	No	NA	20	Mfr. Spec	1	No	20	☐	☐
E	E	No	NA	30.4	Mfr. Spec	2	No	60.8	☐	☐
						Total Designed Watts: CONDITIONED SPACES		2,625		

Designed Wattage: Unconditioned 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
A	A	No	NA	144.3	Mfr. Spec	4	No	577.2	☐	☐
C	C	No	NA	79	Mfr. Spec	1	No	79	☐	☐
D	D	No	NA	20	Mfr. Spec	1	No	20	☐	☐
						Total Designed Watts: UNCONDITIONED SPACES		676		

[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.*

STATE OF CALIFORNIA
Indoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-LTI-E
Project Name:	West HS Ag Bldg	**Report Page:**	**(Page 4 of 8)**
		Date Prepared:	10/11/2024

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	
		Pass	Fail
Mandatory Demand Response 110.12(c)	Shut-off controls 130.1(c) / 160.5(b)4C	☐	☐
NA < 4,000V subject to multilevel	See Area/Space Level Controls	☐	☐

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
Classroom	Classroom, Lecture, or Training Vocational	Readily Accessible	Dimmer	Occupancy Sensor	Included	Included	No	☐	☐
Shop Area	General Commercial Industrial Work Area Precision	Readily Accessible	Dimmer	Occupancy Sensor	NA: General Ltg < 120W	NA: General Ltg < 120W	No	☐	☐
Project Room	General Commercial Industrial Work Area Precision	Readily Accessible	Dimmer	Occupancy Sensor	NA: General Ltg < 120W	NA: General Ltg < 120W	No	☐	☐
							13		
							Plan Sheet Showing Daylit Zones:		

STATE OF CALIFORNIA
Indoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-LTI-E
Project Name:	West HS Ag Bldg	**Report Page:**	**(Page 5 of 8)**
		Date Prepared:	10/11/2024

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
Restrooms	Restroom	0.65	57	37.1	No	No
PHP-1	General Commercial Industrial Work Area Precision	0.85	6,064	5,154.4	No	No
Office	Office (<=250 square feet)	0.65	146	94.9	No	No
SFC-1	Classroom, Lecture, or Training Vocational	0.6	977	586.2	No	No
		TOTALS:	7,244	5,872.6	See Tables J, or P for detail	

Unconditioned 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
UC - Restrooms	Restroom	0.65	57	37.1	No	No
UC - Project Room	General Commercial Industrial Work Area Precision	0.85	1,882	1,599.7	No	No
IDF	Electrical Mechancial Telephone Room	0.4	54	21.6	No	No
		TOTALS:	1,993	1,658.4	See Tables J, or P for detail	

J. ADDITIONAL ALLOWANCE: AREA CATEGORY METHOD QUALIFYING LIGHTING SYSTEM

This section does not apply to this project.

K. TAILORED METHOD GENERAL LIGHTING POWER ALLOWANCE

This section does not apply to this project.

STATE OF CALIFORNIA
Indoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-LTI-E
Project Name:	West HS Ag Bldg	**Report Page:**	**(Page 6 of 8)**
		Date Prepared:	10/11/2024

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.

S. DAYLIGHT DESIGN POWER ADJUSTMENT FACTOR (PAF)

This section does not apply to this project.

STATE OF CALIFORNIA
Indoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-LTI-E
Project Name:	West HS Ag Bldg	**Report Page:**	**(Page 7 of 8)**
		Date Prepared:	10/11/2024

T. DWELLING UNIT LIGHTING

This section does not apply to this project.

U. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Selections have been made based on information provided in this document. If any selections have been changed by permit applicant, an explanation should be included in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and can be found online

Form/Title
NRCI-LTI-E - Must be submitted for all buildings

V. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

Selections have been made based on information provided in this document. If any selections have been changed by the permit applicant, an explanation should be included in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and any with "-A" in the form name must be completed through an Acceptance Test Technician Certification Provider (ATTCP). For more information visit: http://www.energy.ca.gov/title24/attcp/providers.html

Form/Title	Systems/Spaces To Be Field Verified
NRCA-LTI-02-A - Must be submitted for occupancy sensors and automatic time switch controls.	Classroom; Shop Area; Project Room;
NRCA-LTI-03-A - Must be submitted for automatic daylight controls.	Classroom;

STATE OF CALIFORNIA
Indoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE			NRCC-LTI-E
Project Name:	West HS Ag Bldg	**Report Page:**	**(Page 8 of 8)**
Project Address:	1775 W Lowell Ave	**Date Prepared:**	10/11/2024

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

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

Documentation Author Name:	Documentation Author Signature:
Jacob Pleis	
Company: Optimized Energy & Facilities Consulting	Signature Date: 2024-10-11
Address: 5734 Lonetree Blvd	CEA/ HERS Certification Identification (if applicable):
City/State/Zip: Rocklin CA 95765	Phone: (916) 622-4882

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:	Responsible Designer Signature:
Alex Batista	
Company: Optimized Energy & Facilities Consulting, Inc	Date Signed: 2024-10-11
Address: 5734 Lonetree Blvd	License: E23735
City/State/Zip: Rocklin CA 95765	Phone: (916) 626-5518

AGENCY APPROVAL:

TRACY UNIFIED SCHOOL DISTRICT

HMC Architects
3595-002-100
2101 CAPITOL AVENUE, SUITE 100,
SACRAMENTO, CA, 95816
916 368 7900 / www.hmcarchitects.com

ISSUE

Δ DESCRIPTION DATE

OPTIMIZED ENERGY & FACILITIES CONSULTING, INC.
5734 Lonetree Boulevard, Rocklin, CA 95765
Office: (916) 626 5518 www.oefcinc.com

REGISTERED PROFESSIONAL ENGINEER ALEXANDRE M. BATISTA No.E23735 EXP:12-31-2025 ELECTRICAL STATE OF CALIFORNIA

FACILITY:
MERRILL F WEST HIGH SCHOOL

1775 W LOWELL AVE
TRACY, CA 95376

PROJECT:
MERRILL F WEST HS AGRICULTURE CTE BLDG INCREMENT 2

SHEET NAME:
ENERGY COMPLIANCE INDOOR LIGHTING FORM

DSA SUBMITTAL

DATE: **10/11/24** CLIENT PROJ NO:

SHEET:

EN0.4

STATE OF CALIFORNIA
Outdoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTO-E
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.		
Project Name: West HS Ag Bldg	**Report Page:**	**(Page 1 of 7)**
Project Address: 1775 W Lowell Ave	**Date Prepared:**	10/11/2024

A. GENERAL INFORMATION

01	Project Location (city)	Tracy	04	Total Illuminated Hardscape Area (ft²)	18545
02	Climate Zone	12			
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 ● Commercial Industrial ● Office ● Support Areas					

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
Project Name: West HS Ag Bldg	**Report Page:**	**(Page 2 of 7)**
	Date Prepared:	10/11/2024

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**
663	+	---	+	---	+	---	+	---	OR	---	=	663	≥	656	COMPLIES
Shielding Compliance (See Table G for Details)															N/A
Controls Compliance (See Table H 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.

Generated Date/Time: Documentation Software: EnergyPro
CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance Report Version: 2022.0.000 Schema Version: rev 20220101 Compliance ID: EnergyPro-5910-1024-3229 Report Generated: 2024-10-11 09:57:50

STATE OF CALIFORNIA
Outdoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTO-E
Project Name: West HS Ag Bldg	**Report Page:**	**(Page 3 of 7)**
	Date Prepared:	10/11/2024

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)[4]	Field Inspector	
										Pass	Fail
01	01	☐ Linear	41	Mfr. Spec	16	New	☐	656	NA: < 6200 lumens	☐	☐
							Total Design Watts:	656			

* 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.

Generated Date/Time: Documentation Software: EnergyPro
CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance Report Version: 2022.0.000 Schema Version: rev 20220101 Compliance ID: EnergyPro-5910-1024-3229 Report Generated: 2024-10-11 09:57:50

STATE OF CALIFORNIA
Outdoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTO-E
Project Name: West HS Ag Bldg	**Report Page:**	**(Page 4 of 7)**
	Date Prepared:	10/11/2024

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
Hardscape	Astronomical Timer	Provided	NA: Not permitted by H&LS	☐	☐

[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.*

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)	
Hardscape	18545	0.019	352.4	740	0.2	111	463
					Initial Wattage Allowance for Entire Site (Watts):		200
					Instances of Initial Wattage Allowance (LZ 0 only)[1]		
					Total General Hardscape Allowance (Watts):		663

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.

Generated Date/Time: Documentation Software: EnergyPro
CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance Report Version: 2022.0.000 Schema Version: rev 20220101 Compliance ID: EnergyPro-5910-1024-3229 Report Generated: 2024-10-11 09:57:50

STATE OF CALIFORNIA
Outdoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTO-E
Project Name: West HS Ag Bldg	**Report Page:**	**(Page 5 of 7)**
	Date Prepared:	10/11/2024

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

Selections have been made based on information provided in this document. If any selection has been changed by permit applicant, an explanation should be included in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and can be found online

Form/Title
NRCI-LTO-E - Must be submitted for all buildings

P. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

Selections have been made based on information provided in this document. If any selection has been changed by permit applicant, an explanation should be included in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and must be completed through an Acceptance Test Technician Certification Provider (ATTCP). For more information visit: http://www.energy.ca.gov/title24/attcp/providers.html

Form/Title	Systems/Spaces To Be Field Verified
NRCA-LTO-02-A - Must be submitted for all outdoor lighting controls except for alterations where controls are added to <= 20 luminaires.	Hardscape;

Generated Date/Time: Documentation Software: EnergyPro
CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance Report Version: 2022.0.000 Schema Version: rev 20220101 Compliance ID: EnergyPro-5910-1024-3229 Report Generated: 2024-10-11 09:57:50

STATE OF CALIFORNIA
Outdoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTO-E
Project Name: West HS Ag Bldg	**Report Page:**	**(Page 6 of 7)**
	Date Prepared:	10/11/2024

Generated Date/Time: Documentation Software: EnergyPro
CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance Report Version: 2022.0.000 Schema Version: rev 20220101 Compliance ID: EnergyPro-5910-1024-3229 Report Generated: 2024-10-11 09:57:50

STATE OF CALIFORNIA
Outdoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTO-E
Project Name: West HS Ag Bldg	**Report Page:**	**(Page 7 of 7)**
Project Address: 1775 W Lowell Ave	**Date Prepared:**	10/11/2024

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

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

Documentation Author Name: Jacob Pleis	Documentation Author Signature:
Company: Optimized Energy & Facilities Consulting	Signature Date: 2024-10-11
Address: 5734 Lonetree Blvd	CEA/ HERS Certification Identification (if applicable):
City/State/Zip: Rocklin CA 95765	Phone: (916) 622-4882

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: Alex Batista	Responsible Designer Signature:
Company: Optimized Energy & Facilities Consulting, Inc	Date Signed: 2024-10-11
Address: 5734 Lonetree Blvd	License: E23735
City/State/Zip: Rocklin CA 95765	Phone: (916) 626-5518

Generated Date/Time: Documentation Software: EnergyPro
CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance Report Version: 2022.0.000 Schema Version: rev 20220101 Compliance ID: EnergyPro-5910-1024-3229 Report Generated: 2024-10-11 09:57:50

AGENCY APPROVAL:

TRACY UNIFIED SCHOOL DISTRICT

HMC Architects
3595-002-100
2101 CAPITOL AVENUE, SUITE 100,
SACRAMENTO, CA, 95816
916 368 7900 / www.hmcarchitects.com

ISSUE

Δ DESCRIPTION DATE

OPTIMIZED ENERGY & FACILITIES CONSULTING, INC.
5734 Lonetree Boulevard, Rocklin, CA 95765
Office: (916) 626 5518 www.oefcinc.com

REGISTERED PROFESSIONAL ENGINEER ALEXANDRE M. BATISTA No.E23735 EXP.12-31-2025 ELECTRICAL STATE OF CALIFORNIA

FACILITY:
MERRILL F WEST HIGH SCHOOL

1775 W LOWELL AVE
TRACY, CA 95376

PROJECT:
MERRILL F WEST HS AGRICULTURE CTE BLDG INCREMENT 2

SHEET NAME:
ENERGY COMPLIANCE OUTDOOR LIGHTING FORM

DSA SUBMITTAL

DATE: **10/11/24** CLIENT PROJ NO:

SHEET:

EN0.5