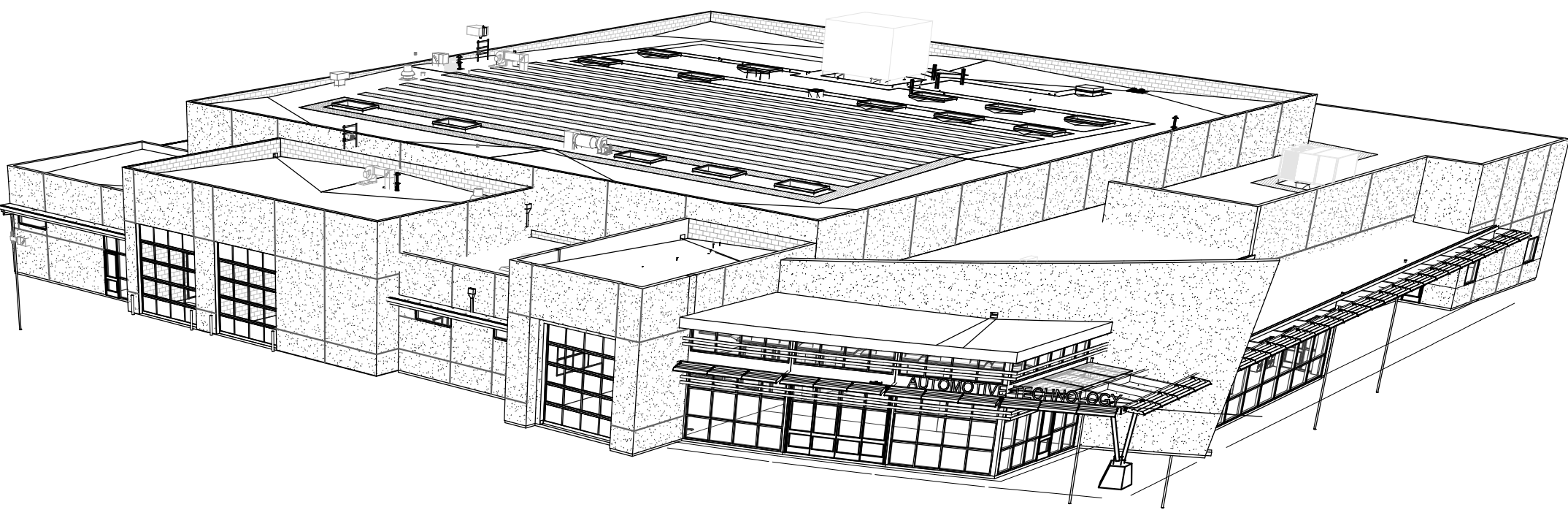
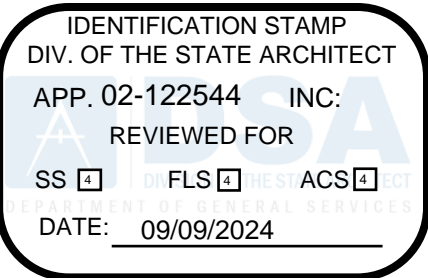


SOLANO COMMUNITY COLLEGE
AUTO TECH EXHAUST REPLACEMENT



PROJECT DIRECTORY

PROJECT	AUTO TECHNOLOGY FACILITY 1687 Ascot Pkwy Vallejo, CA 94591
OWNER	SOLANO COMMUNITY COLLEGE 4000 Suisun Valley Road Fairfield, CA 94534
ARCHITECT	JKAE 11661 BLOCKER DR, SUITE 220 AUBURN, CA 95603 Chris Vicencio 530.888.0998
STRUCTURAL	JKAE 777 South Center Street, Suite 105 Reno, NV 89501 Colton Schaefer 775.512.8669
MECHANICAL	LP Consulting Engineers 1209 Pleasant Grove Blvd. Roseville, CA 95678 Ryan Ennis 916.721.2907
ELECTRICAL	LP Consulting Engineers 1209 Pleasant Grove Blvd. Roseville, CA 95678 Ryan Ennis 916.721.2907

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GENERAL
G0.1.1 TITLE SHEET / SHEET INDEX
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G0.3.0 SITE CODE PLAN
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A4.1.1 REFLECTED CEILING PLAN
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STRUCTURAL
S0.0.1 STRUCTURAL GENERAL NOTES & TYPICAL DETAIL.
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E9.0.1 ELECTRICAL SPECIFICATION
E9.0.2 ELECTRICAL SPECIFICATIONS
Grand total: 25

LIST OF APPLICABLE CODES

2022 CALIFORNIA EXISTING BUILDING CODE (CEBC), PART 10, TITLE 24 CCR
2022 CALIFORNIA REFERENCED STANDARDS CODE, PART 12, TITLE 24 CCR
TITLE 19 CCR, PUBLIC SAFETY, STATE FIRE MARSHAL REGULATIONS

APPLICABLE STANDARDS

FOR A LIST OF APPLICABLE STANDARDS, INCLUDING CALIFORNIA AMENDMENTS TO THE NFPA STANDARDS, REFER TO CBC CHAPTER 38 AND CFC CHAPTER 80.

PARTIAL LIST OF APPLICABLE CODES

CONSTRUCTION SHALL BE DONE IN ACCORDANCE WITH:

2022 CALIFORNIA ADMINISTRATIVE CODE, C.C.R., TITLE 24, PART 1.

2022 CALIFORNIA BUILDING CODE (CBC), - C.C.R., TITLE 24, PART 2. (2021 INTERNATIONAL BUILDING CODE, VOLUMES 1-2, & 2022 CALIFORNIA AMENDMENTS)

2022 CALIFORNIA ELECTRICAL CODE (CEC), - C.C.R., TITLE 24, PART 3. (2020 NFPA 70, NATIONAL ELECTRICAL CODE, WITH CALIFORNIA AMENDMENTS)

2022 CALIFORNIA MECHANICAL CODE (CMC), - C.C.R., TITLE 24, PART 4. (2021 MECHANICAL CODE, WITH CALIFORNIA AMENDMENTS)

2022 CALIFORNIA PLUMBING CODE (CPC), - C.C.R., TITLE 24, PART 5. (2021 INTERNATIONAL PLUMBING CODE, WITH CALIFORNIA AMENDMENTS)

2022 CALIFORNIA ENERGY CODE (CEC), - C.C.R., TITLE 24, PART 6.

2022 CALIFORNIA FIRE CODE, C.C.R., TITLE 24, PART 9. (2021 INTERNATIONAL FIRE CODE, WITH CALIFORNIA AMENDMENTS)

2022 CALIFORNIA GREEN BUILDING STANDARDS CODE (CALGREEN), C.C.R., TITLE 24, PART 11.

2022 NFPA 13 STANDARD FOR THE INSTALLATION OF SPRINKLER SYSTEMS

2022 NFPA 72 NATIONAL FIRE ALARM AND SIGNALING CODE C.C.R., PUBLIC SAFETY CODE, TITLE 19, DIVISION 1, STATE FIRE MARSHAL REGULATIONS NOTES:

1. WORK AND MATERIALS SHALL BE IN FULL ACCORDANCE WITH THE REQUIREMENTS OF THESE CODES, INCLUDING REFERENCED STANDARDS WITHIN, AND APPLICABLE LOCAL ORDINANCES. WHERE CONTRACT DOCUMENTS EXCEED SUCH REQUIREMENTS, WITHOUT VIOLATING SUCH CODES, REGULATIONS AND ORDINANCES, CONTRACT DOCUMENTS TAKE PRECEDENCE. WHERE CODES CONFLICT, THE MORE STRINGENT REQUIREMENTS SHALL APPLY.
2. CONTRACTOR SHALL COMPLY W/CFC CH.33 FIRE SAFETY DURING DEMOLITION AND CONSTRUCTION

STATEMENT OF GENERAL CONFORMANCE

The drawings and/or specifications and/or calculations for the items listed in the sheet index, other than Architectural items 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 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 81118 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)).

SIGNATURE OF THE ARCHITECT
CHRIS VICENCIO AIA, PARTNER, JK ARCHITECTURE
C26985
LICENSE NUMBER

9/30/2024
DATE
6/25/30
EXPIRATION

SCOPE OF WORK

REPLACEMENT OF EXISTING EXHAUST FANS AT 3 LOCATIONS. ADDITION OF FUEL CELL VENT (VENT ONLY) AT EXISTING AUTOMOTIVE TECHNOLOGY FACILITY.

- EXISTING FACILITY DSA APPLICATION NUMBER 02-114995. EXISTING PROJECT IS CERTIFIED.

- ACCESS UPGRADES FOR THIS BUILDING ARE NON APPLICABLE PER CBC 11B-202.4 EXCEPTION 7.

PROJECT INSPECTOR

A "DSA CERTIFIED" INSPECTOR OF RECORD (IOR) SHALL BE EMPLOYED BY THE OWNER AND APPROVED BY THE DIVISION OF THE STATE ARCHITECT (DSA). DUTIES AND REQUIRED IOR CLASSIFICATION PER SECTION 4-342, TITLE 24, PART 1 CCR AND I/A-7. CLASS 2 CERTIFIED BY DSA.

DEFERRED APPROVAL ITEMS

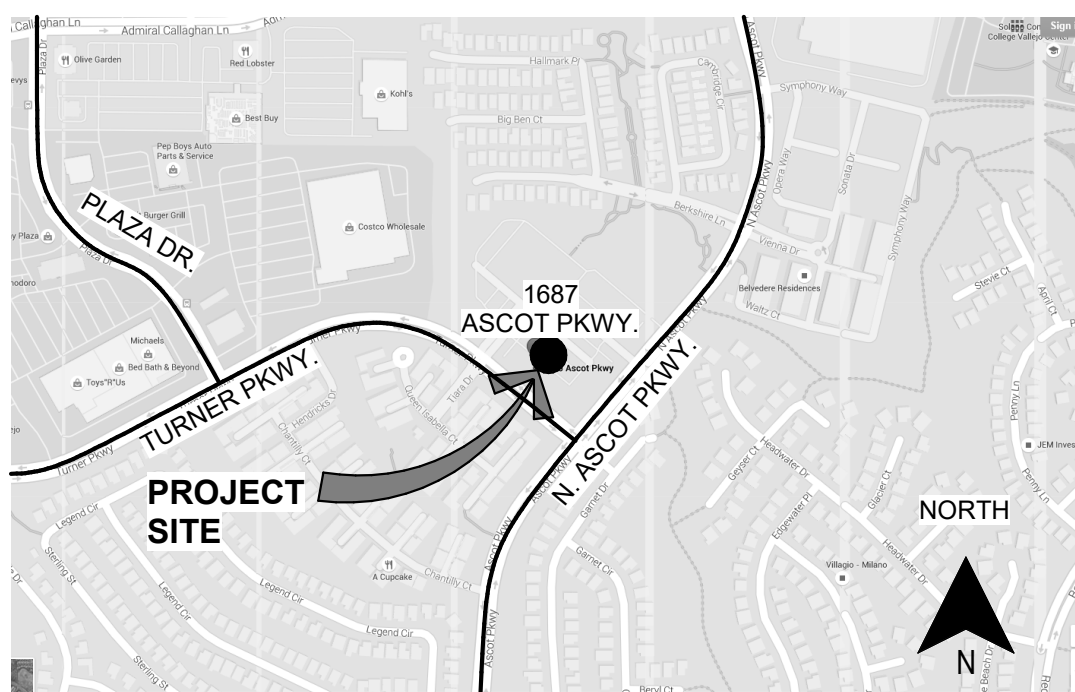
INSTALLATION OF DEFERRED APPROVAL ITEMS SHALL NOT BE STARTED UNTIL CONTRACTOR'S DRAWINGS, SPECIFICATIONS AND ENGINEERING CALCULATIONS FOR THE ACTUAL SYSTEMS TO BE INSTALLED HAVE BEEN ACCEPTED AND SIGNED BY THE ARCHITECT OR STRUCTURAL ENGINEER WHO HAS BEEN DELEGATED THE RESPONSIBILITY OF COVERING THE WORK SHOWN ON A PARTICULAR PLAN OR SPECIFICATION, AND APPROVED BY THE DIVISION OF THE STATE ARCHITECT. DEFERRED ITEMS SHALL BE COMPLETED PRIOR TO OCCUPANCY OF BUILDINGS AFFECTED BY THE DEFERRED WORK.

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

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

There will be no Deferred Submittals for this project.

VICINITY MAP



GENERAL NOTES

1. ALL WORK SHALL CONFORM TO 2022 TITLE 24, CALIFORNIA CODE OF REGULATIONS (CCR).
2. CHANGES TO THE APPROVED DRAWINGS AND SPECIFICATIONS SHALL BE MADE BY AN ADDENDUM OR A CONSTRUCTION CHANGE DOCUMENT (CCD) APPROVED BY THE DIVISION OF THE STATE ARCHITECT, AS REQUIRED BY SECTION 4-338, PART 1, TITLE 24, CCR.
3. A "DSA CERTIFIED" PROJECT INSPECTOR EMPLOYED BY THE DISTRICT (OWNER) AND APPROVED BY THE DSA SHALL PROVIDE CONTINUOUS INSPECTION OF THE WORK. THE DUTIES OF THE INSPECTOR ARE DEFINED IN SECTION 4-342, PART 1, TITLE 24, CCR. A MINIMUM CLASS 2 INSPECTOR IS REQUIRED.
4. A DSA ACCEPTED TESTING LABORATORY DIRECTLY EMPLOYED BY THE DISTRICT (OWNER) SHALL CONDUCT ALL THE REQUIRED TESTS AND INSPECTIONS FOR THE PROJECT.
5. THE INTENT OF THESE DRAWINGS AND SPECIFICATIONS IS THAT THE WORK OF THE ALTERATION, REHABILITATION OR RECONSTRUCTION IS TO BE IN ACCORDANCE WITH TITLE 24, CCR. SHOULD ANY EXISTING CONDITIONS SUCH AS DETERIORATION OR NON-COMPLYING CONSTRUCTION BE DISCOVERED WHICH IS NOT COVERED BY THE CONTRACT DOCUMENTS WHEREIN THE FINISHED WORK WILL NOT COMPLY WITH TITLE 24, CCR, A CONSTRUCTION CHANGE DOCUMENT (CCD), OR A SEPARATE SET OF PLANS AND SPECIFICATIONS, DETAILING AND SPECIFYING THE REQUIRED WORK SHALL BE SUBMITTED TO AND APPROVED BY DSA BEFORE PROCEEDING WITH THE WORK. (SECTION 4-317(C), PART 1, TITLE 24, CCR).
6. SUBSTITUTIONS AFFECTING DSA-REGULATED ITEMS SHALL BE CONSIDERED AS A CONSTRUCTION CHANGE DOCUMENTS (CCD) OR ADDENDA, AND SHALL BE SUBMITTED TO AND APPROVED BY PRIOR TO FABRICATION AND INSTALLATION PER DSA IR A-6 AND SECTION 338(c) PART 1, TITLE 24 CCR.

SEAL



DSA #: 02-122544

Drawing Title
TITLE SHEET / SHEET INDEX

NO.	DATE	ISSUE

Project
SOLANO COMMUNITY COLLEGE
AUTO TECH EXHAUST REPLACEMENT

Drawn By
FH
Checked By
SP
Project No.
23-265
@Date
02/19/2024
DRAWING NO.

G0.1.1

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DIV. OF THE STATE ARCHITECT
APP. 02-122544 INC.
REVIEWED FOR
SS ☐ FLS ☐ ACS ☐
DATE: 09/09/2024

JKAE
architecture + interiors + engineering

PROJECT: EXISTING AUTOMOTIVE TECHNICAL BUILDING
LOCATION: 1691 ASCOT PARKWAY, VALLEJO, CA 94591
OWNER: SOLANO COMMUNITY COLLEGE DISTRICT
BUILDING CODE: 2013 CALIFORNIA BUILDING CODE
OCCUPANCIES: B
MAJOR: S1 AND A3
MINOR:
CONSTRUCTION TYPE: VB
SPRINKLERS: YES
BUILDING AREA: 35845 SF

NOTE: CODE
ANALYSIS FROM
PREVIOUS CODE
ANALYSIS DSA
APPLICATION
NUMBER 02-114995

- NOTES
- SEE SHEET G0.3 FOR ASSUMED AND REAL PROPERTY LINES USE FOR AREA INCREASE CALCULATIONS.
- REMARKS
- CBC TABLE 601 (Note e) FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS
 - CBC TABLE 1018.1 CORRIDOR FIRE-RESISTANCE RATING
 - CBC TABLE 503 ALLOWABLE HEIGHT AND BUILDING AREAS
 - CBC SECTION 504.2 AUTOMATIC SPRINKLER SYSTEM INCREASE
 - CBC SECTION 506.2 FRONTAGE INCREASE
 - CBC SECTION 506.3 AUTOMATIC SPRINKLER SYSTEM INCREASE
 - CBC SECTION 506.4 AREA DETERMINATION
 - CBC SECTION 502.1 "AREA, BUILDING" DEFINED
 - CBC SECTION 506.1 AREA MODIFICATIONS PER EQUATION 5-1
 - CBC SECTION 508.4.2 ALLOWABLE AREA OF SEPARATED OCCUPANCIES
 - SEE SHEET G0.1.1 FOR CODE EDITION
 - CONTROL AREA 2 INCLUDES WHOLE BLDG. EXCEPT AREA 1
 - CONTROL AREA OCCUPANCY INVENTORY FORM FILED WITH FIRE SPRINKLER CALCULATIONS FILING.

LEGEND

(E) 1 HR OCCUPANCY SEPARATION

SEAL



DSA #: 02-122544

Drawing Title
**EXISTING BUILDING AREA
ANALYSIS**

NO.	DATE	ISSUE

Drawn By
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@Date
02/19/2024
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G0.2.1



1 BUILDING AREA ANALYSIS
1/8" = 1'-0"

NOTE: CODE
ANALYSIS FROM
PREVIOUS CODE
ANALYSIS DSA
APPLICATION
NUMBER 02-114995

LEGEND
U - UNISEX
M - MENS RESTROOM
W - WOMENS RESTROOM

PARKING CALCULATION
NUMBER OF PARKING STALLS = 290
ACCESSIBLE REQUIRED = 7
ACCESSIBLE PROVIDED = 5 REGULAR AND 2 VAN

ACCESSIBILITY NOTES

1. PATH OF TRAVEL (P.O.T.) AS INDICATED IS A BARRIER FREE ACCESS WITHOUT ANY ABRUPT VERTICAL CHANGES EXCEEDING 1/2" BEVELED AT 1:2 MAXIMUM SLOPE. EXCEPT THAT LEVEL CHANGES DO NOT EXCEED 1/4" VERTICAL AND IS AT LEAST 48" WIDE. SURFACE IS SLIP RESISTANT, STABLE, FIRM, AND SMOOTH. CROSS-SLOPE DOES NOT EXCEED 2% AND SLOPE IN THE DIRECTION OF TRAVEL IS LESS THAN 5% UNLESS OTHERWISE INDICATED. (P.O.T.) SHALL MAINTAIN FREE OF OVERHANGING OBSTRUCTIONS TO 80" MINIMUM (11B-307.4) AND PROTRUDING OBJECTS GREATER THAN 4" PROJECTION FROM THE WALL AND ABOVE 27" AND LESS THAN 80" (11B-307.2). CONTRACTOR TO VERIFY THAT ALL BARRIERS IN THE PATH OF TRAVEL HAVE BEEN REMOVED OR WILL BE REMOVED UNDER THIS PROJECT, AND PATH OF TRAVEL COMPLIES WITH CBC 11B-206.
2. PROVIDE SITE DIRECTIONAL ACCESSIBLE ROUTE SIGNAGE (SDS-1) AT ALL MAJOR JUNCTIONS PER CBC SEC. 11B-703.
3. SEE DETAIL A1.1.1 FOR FENCE GATE INFORMATION

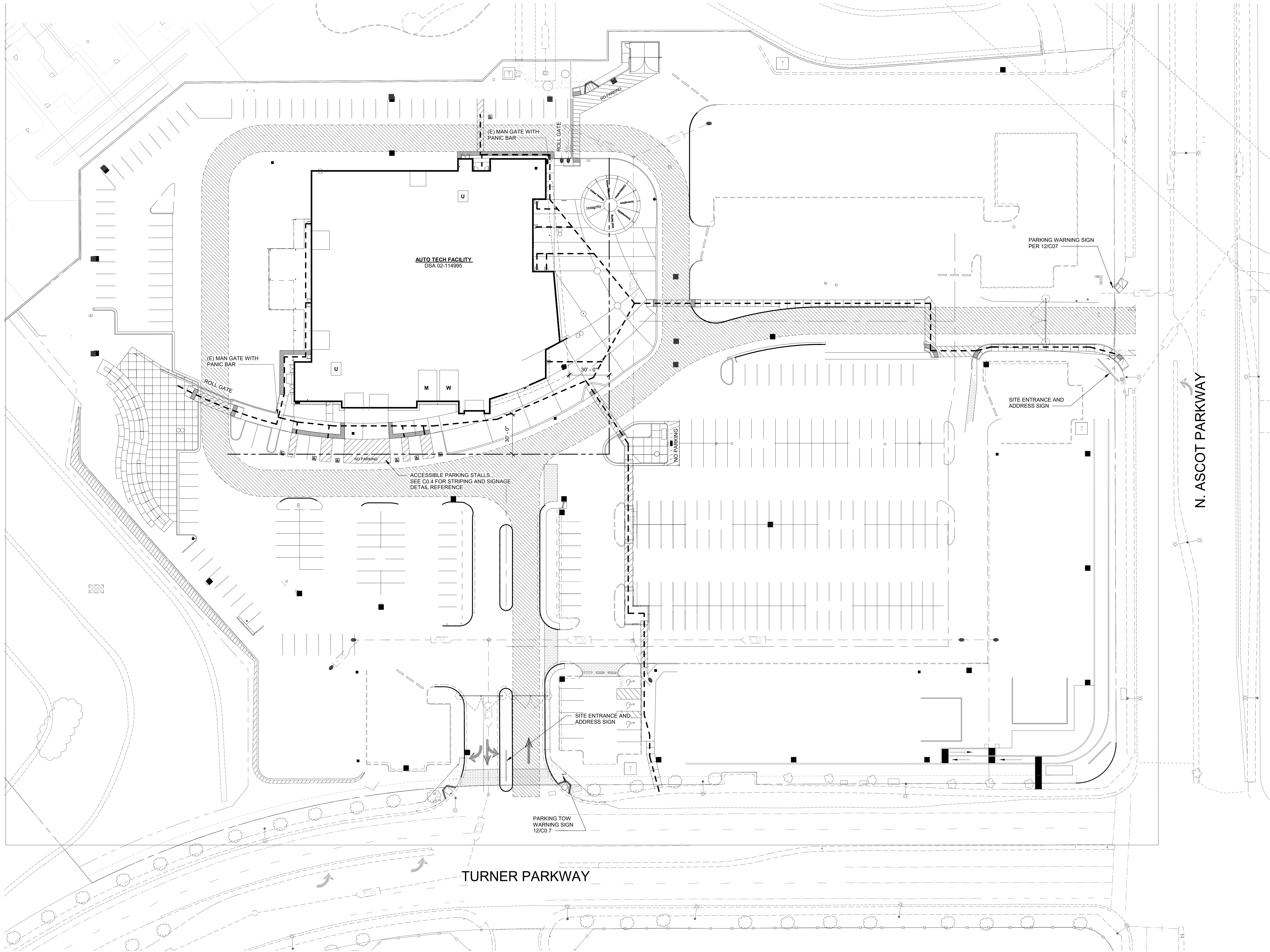
DESIGN PROFESSIONAL IN GENERAL RESPONSIBLE CHARGE STATEMENT: THE POT IDENTIFIED IN THESE CONSTRUCTION DOCUMENTS IS COMPLIANT WITH THE CURRENT APPLICABLE CALIFORNIA BUILDING CODE ACCESSIBILITY PROVISIONS FOR PATH OF TRAVEL REQUIREMENTS FOR ALTERATIONS, ADDITIONS AND STRUCTURAL REPAIRS. AS PART OF THE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

LEGEND
--- ASSUMED OR REAL PROPERTY LINE
--- ACCESSIBLE PATH OF TRAVEL 4'-0" WIDE MIN. CONCRETE OR A.C. PAVED. SEE CIVIL DRAWINGS FOR ADDITIONAL INFORMATION ON MATERIAL, SLOPES AND ELEVATIONS.

EXISTING FIRE LANE - 20'-0" WIDE

SEAL
JAMES C. JONES
REGISTERED ARCHITECT
NO. C26985
R.S. 6-30-25
STATE OF CALIFORNIA

Project: SOLANO COMMUNITY COLLEGE
AUTO TECH EXHAUST REPLACEMENT
DSA #: 02-122544
Drawing Title: SITE CODE PLAN
Drawn By: BR
Checked By: SP
Project No.: 23-265
@Date: 02/19/2024
DRAWING NO.: G0.3.0



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DATE: 09/09/2024

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FLOOR PLAN LEGEND	
FE	(E) FIRE EXTINGUISHER
	(E) IMPACT RESISTANT GYPSUM BOARD
	(E) NON-RATED PARTITION
	(E) 1 HOUR RATED PARTITION
	(E) 8" CMU PARTITION

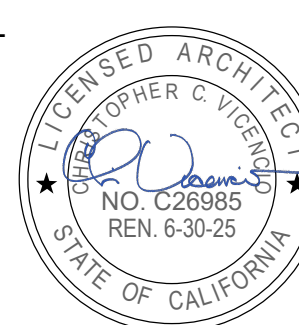
GENERAL NOTES

1. FIRST FLOOR FINISH FLOOR IS 0'-0" = 266.33'

GENERAL NOTES

- ALL WORK SHALL CONFORM TO 2022 TITLE 24, CALIFORNIA CODE OF REGULATIONS (CCR).
- CHANGES TO THE APPROVED DRAWINGS AND SPECIFICATIONS SHALL BE MADE BY AN ADDENDUM OR A CONSTRUCTION CHANGE DOCUMENT (CCD) APPROVED BY THE DIVISION OF THE STATE ARCHITECT, AS REQUIRED BY SECTION 4-338, PART 1, TITLE 24, CCR.
- A "DSA CERTIFIED" PROJECT INSPECTOR EMPLOYED BY THE DISTRICT (OWNER) AND APPROVED BY THE DSA SHALL PROVIDE CONTINUOUS INSPECTION OF THE WORK. THE DUTIES OF THE INSPECTOR ARE DEFINED IN SECTION 4-342, PART 1, TITLE 24, CCR. A MINIMUM CLASS 2 INSPECTOR IS REQUIRED.
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- SUBSTITUTIONS AFFECTING DSA-REGULATED ITEMS SHALL BE CONSIDERED AS A CONSTRUCTION CHANGE DOCUMENTS (CCD) OR ADDENDA, AND SHALL BE SUBMITTED TO AND APPROVED BY PRIOR TO FABRICATION AND INSTALLATION PER DSA IR A-6 AND SECTION 338(c) PART 1, TITLE 24 CCR.

SEAL



DSA #: 02-122544

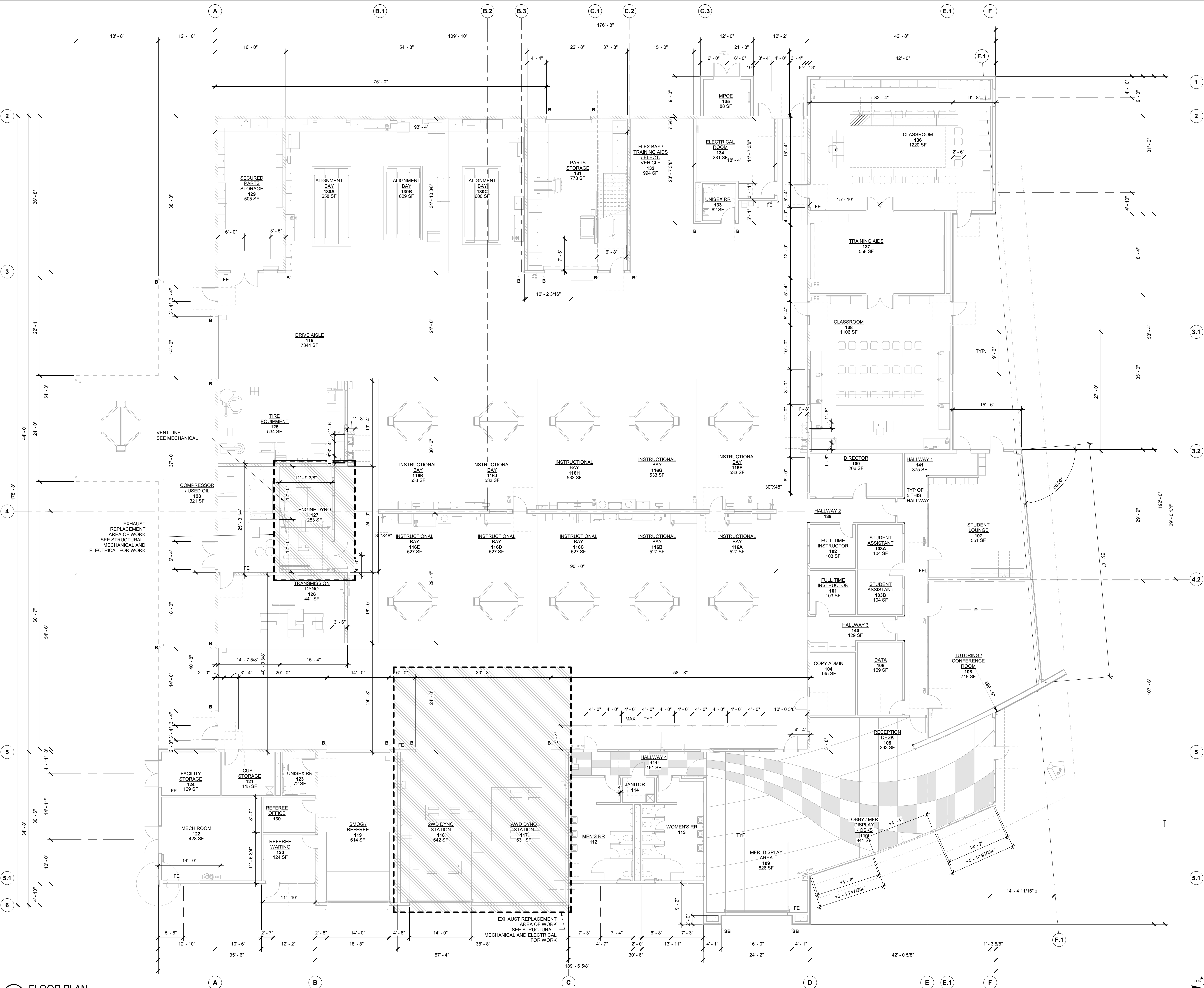
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FLOOR PLAN

NO.	DATE	ISSUE	Project No.
1	02/19/2024	23-265	
2		@Date	
3			
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8			
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10			

Project
SOLANO COMMUNITY COLLEGE
AUTO TECH EXHAUST REPLACEMENT

Drawn By
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Checked By
SP
Project No.
23-265
@Date
02/19/2024
DRAWING NO.
A2.1.1



GENERAL NOTES

- ALL WORK SHALL CONFORM TO 2022 TITLE 24, CALIFORNIA CODE OF REGULATIONS (CCR).
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LEGEND

- (E)GLASS.
- (E)EXPOSED STEEL, SEE STRUCT.
- (E)2'-0" x 4'-0" SUSPENDED ACOUSTICAL GRID PANELS PER ROOM FINISH SCHEDULE
- (E)GYPSUM BOARD OVER CEILING JOIST PER FINISH SCHEDULE
- (E)CEMENT PLASTER OVER EXT GYP SHEATHING.
- + X'-X" HEIGHT OF CEILING / SOFFIT
- (E)CEILING ACCESS HATCH
- (E)PENDANT LIGHTS
- (E)PLASTIC UNIT SKYLIGHT - EXPOSED CEILING
- (E)SUPPLY AIR DIFFUSER
- (E)RETURN AIR DIFFUSER
- (E)EXHAUST AIR DIFFUSER

SEAL



Project
SOLANO COMMUNITY COLLEGE
AUTO TECH EXHAUST REPLACEMENT

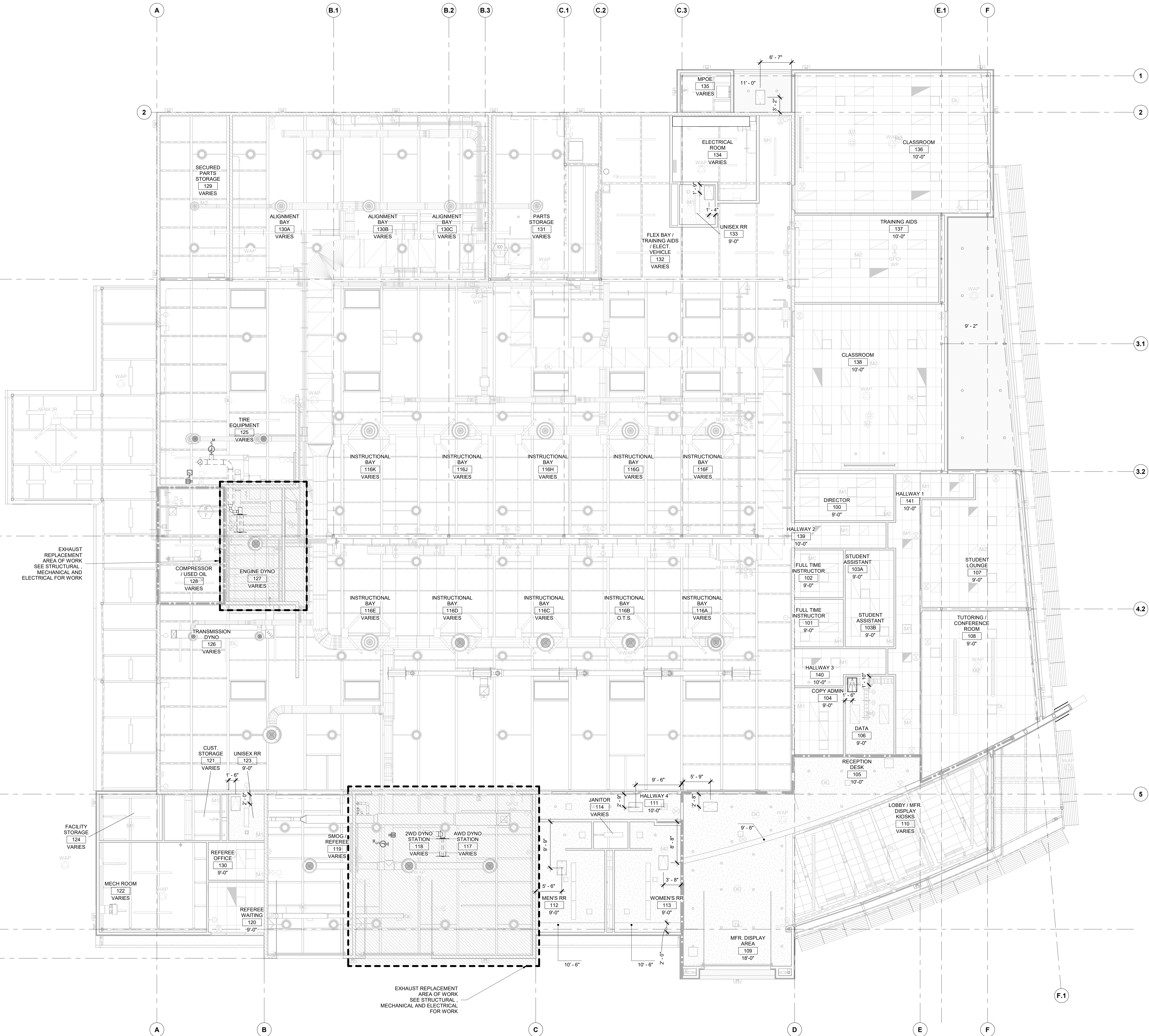
DSA #: 02-122544

Drawing Title
REFLECTED CEILING PLAN

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23-265
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A4.1.1



1 REFLECTED CEILING PLAN

1/8" = 1'-0"

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ARCH-24

GENERAL NOTES

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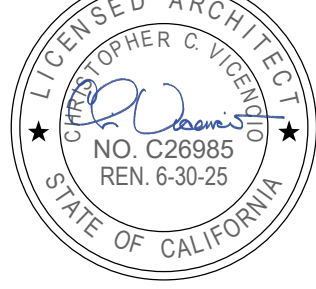
ROOFING NOTES

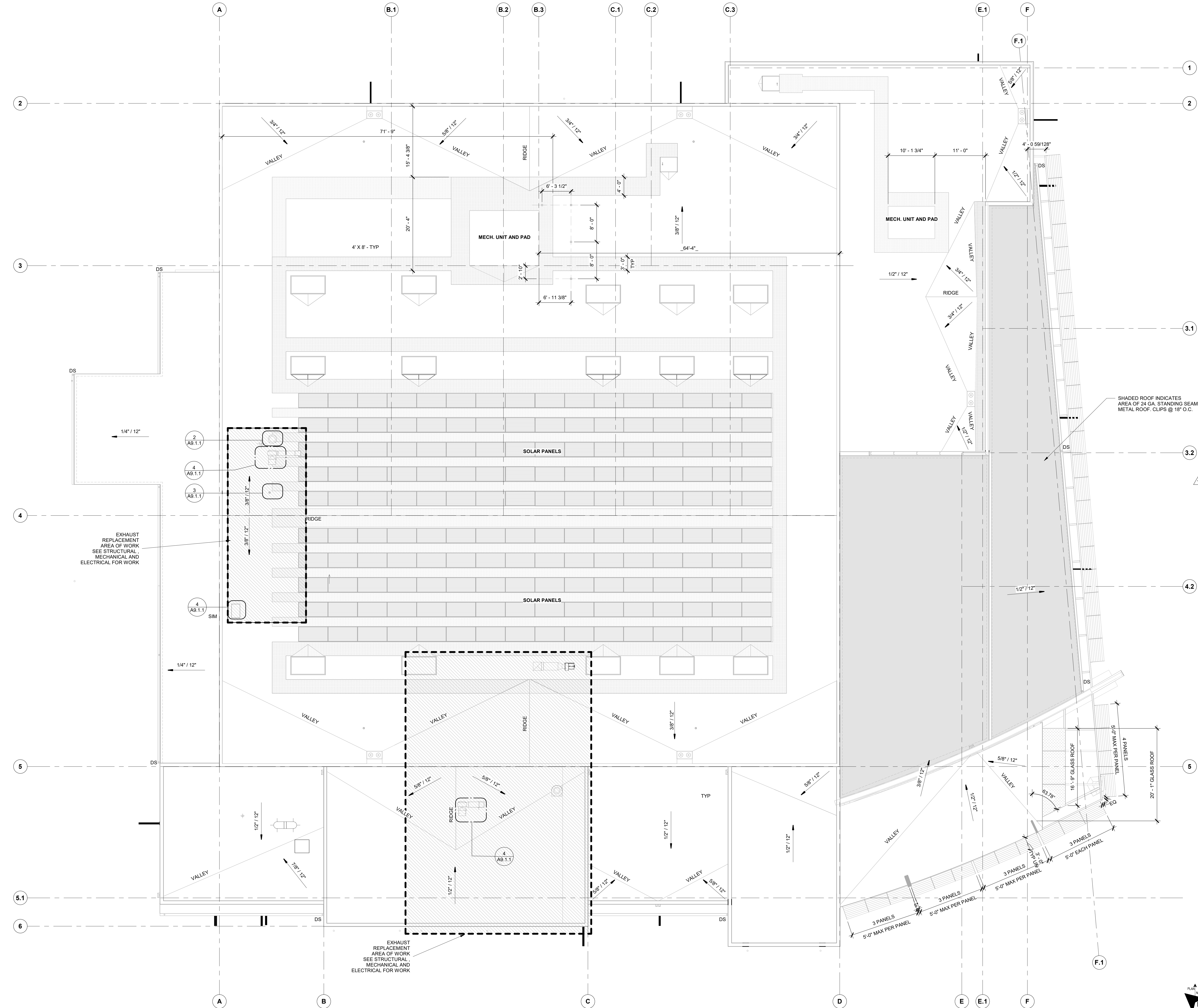
- A CERTIFIED JOHNS MANVILLE ROOFING CONTRACTOR WILL BE REQUIRED FOR ROOFING PATCH WORK TO MAINTAIN THE EXISTING ROOFING WARRANTY.
- (E) TPO ROOFING, COVER BOARD AND INSULATION SHALL BE REMOVED AT MINIMUM AREA TO ALLOW ATTACHMENT OF (N) MECHANICAL EQUIPMENT AS SHOWN IN MECHANICAL DRAWINGS.
- (E) TPO ROOF JM ST6RA.
- (E) ROOF WARRANTY COVER DETAIL 1/A9.1.1

LEGEND	
DS	(E)DOWN SPOUT
	(E)AREA OF WALKWAY PROTECTION PAD
	(E)GLASS ROOF
	(E)TPO ROOFING OVER COVER BOARD OVER 5 1/2" RIGID INSULATION

GENERAL NOTES

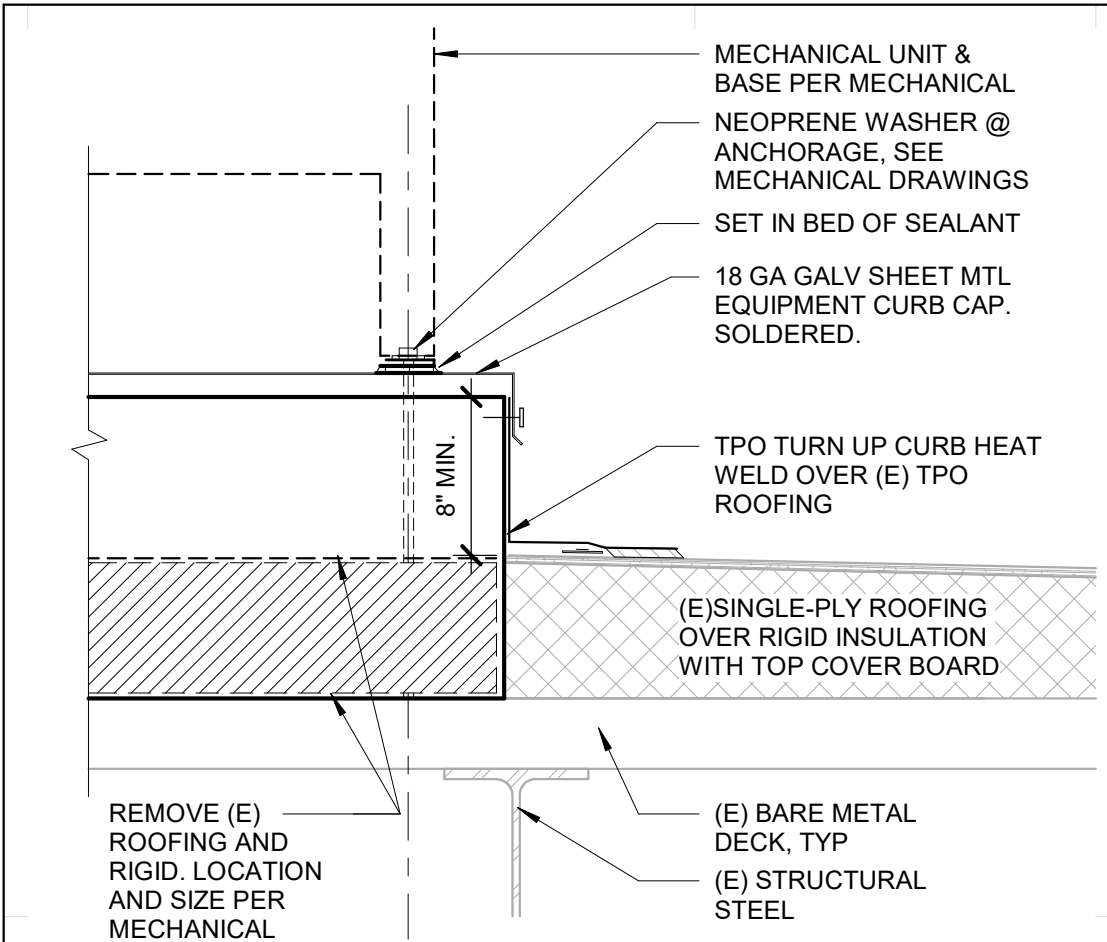
- FOR TYPICAL ROOF PENETRATIONS, SEE DETAIL A9.1.1
- FOR TYPICAL DUCT SUPPORT, SEE MECHANICAL

<div>SEAL</div> <div></div>		<div>Project</div> <div>SOLANO COMMUNITY COLLEGE</div> <div>AUTO TECH EXHAUST REPLACEMENT</div>	
DSA #: 02-122544			
<div>Drawing Title</div> <div>ROOF PLAN</div>			
<div>NO. DATE ISSUE</div> <div>1 7/31/2017 ROOF CLARIFICATION</div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div>			
<div>Drawn By</div> <div>FH</div>			<div>Project No.</div> <div>23-265</div>
<div>Checked By</div> <div>SP</div>			<div>@Date</div> <div>02/19/2024</div>
			<div>DRAWING NO.</div> <div>A5.0.1</div>



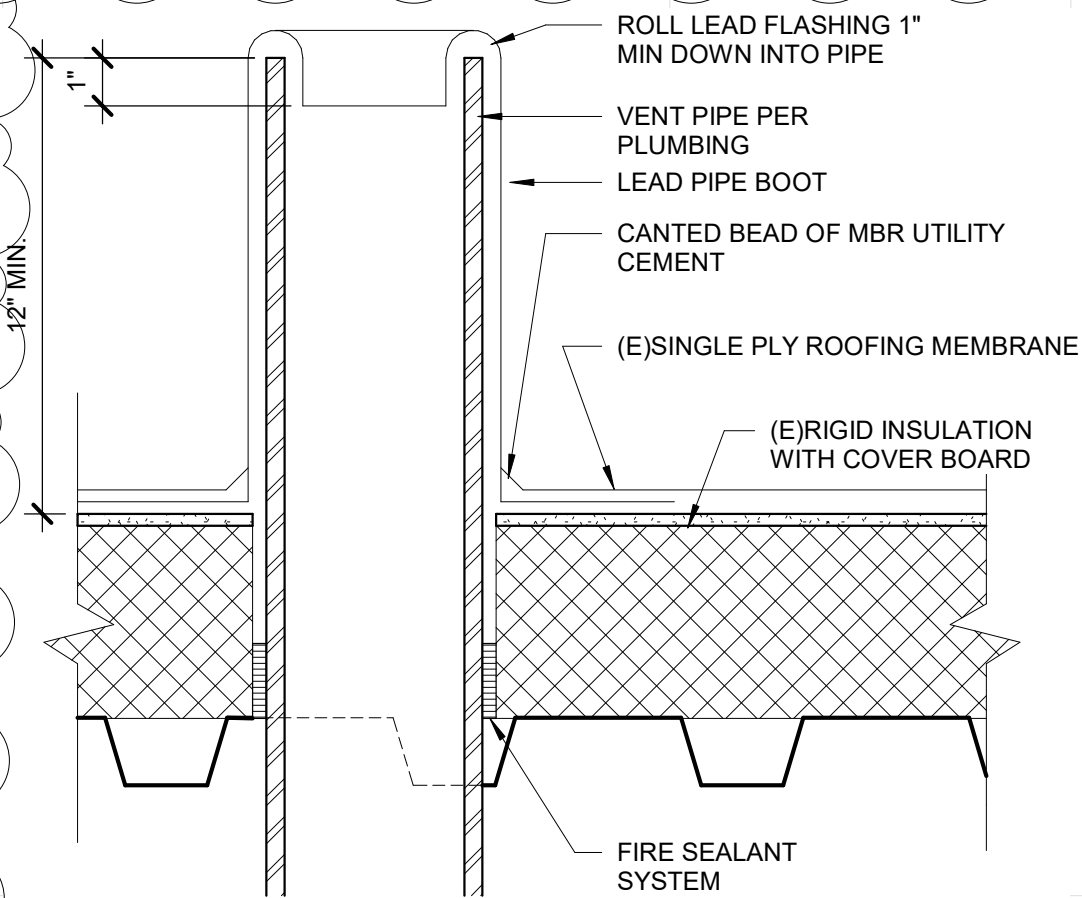
ROOF PLAN

1/8" = 1'-0"



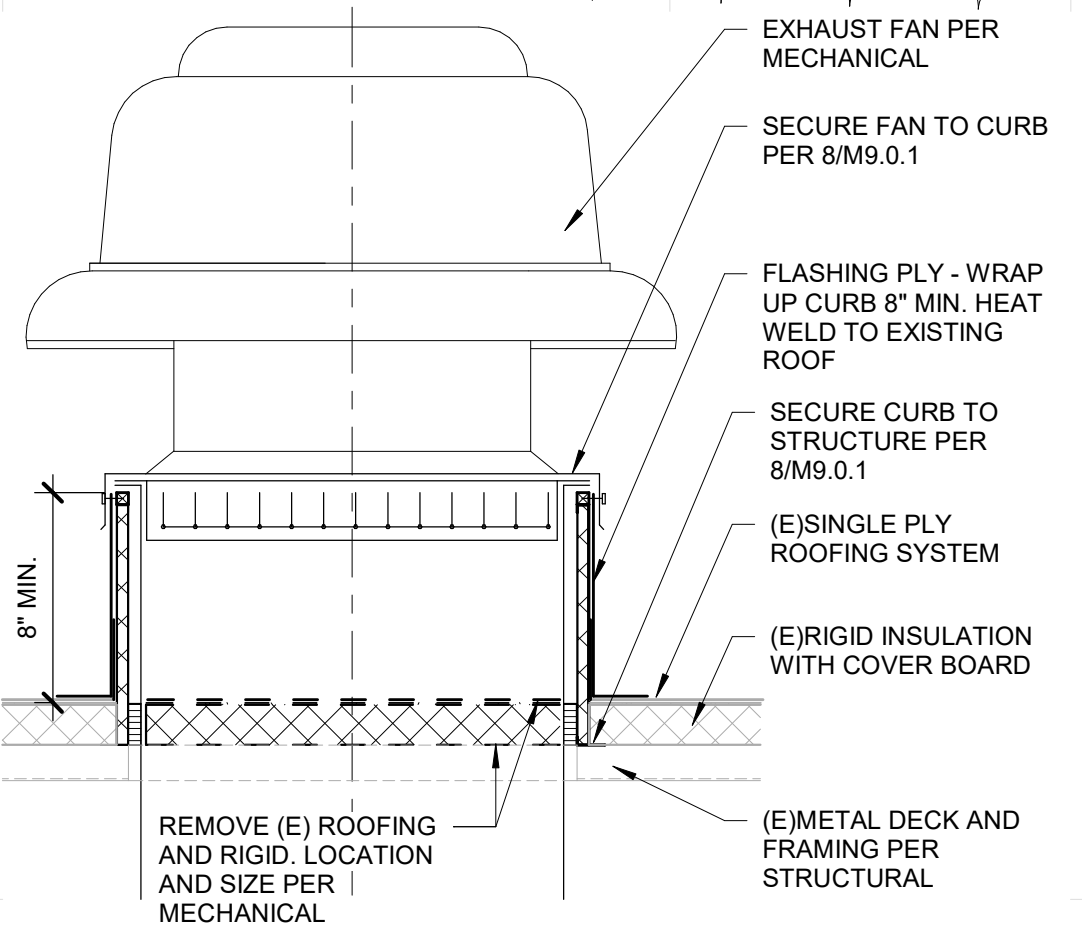
MECHANICAL CURB

1 1/2" = 1'-0"



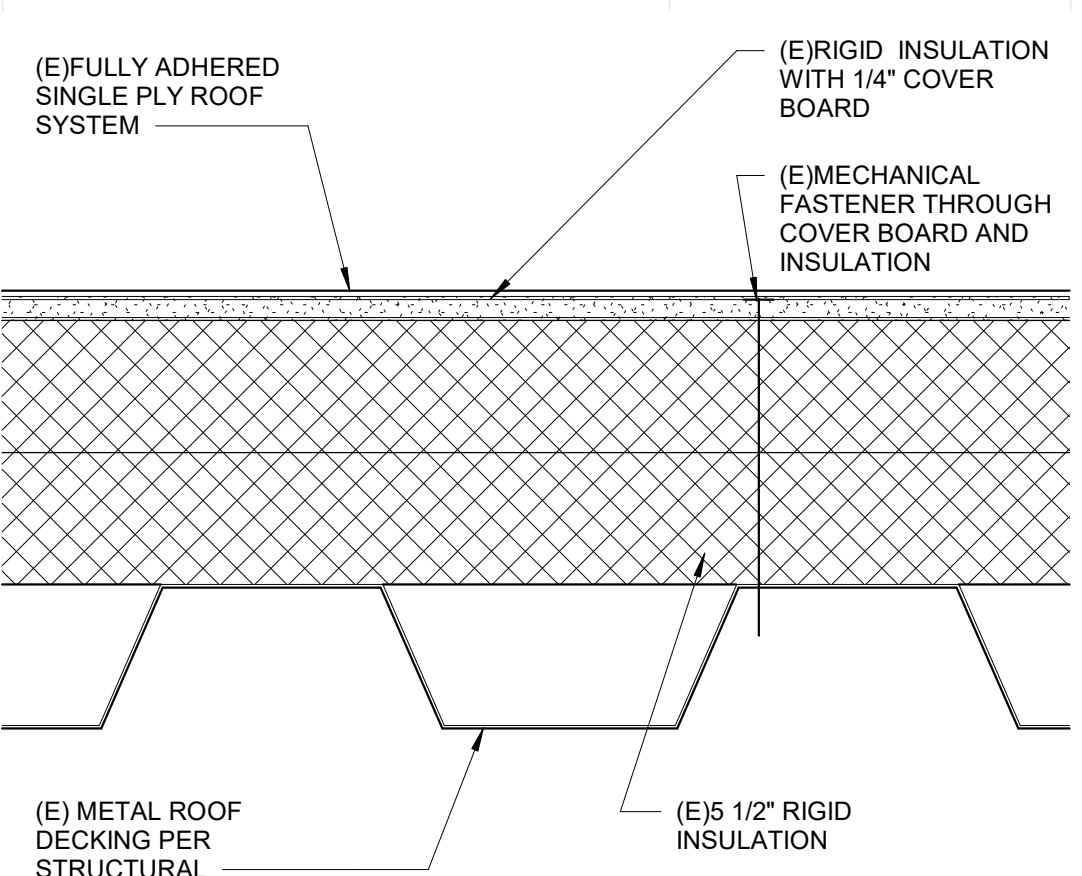
PIPE PENETRATION THRU SINGLE PLY

3" = 1'-0"



DETAIL - EXHAUST FAN @ CURB

1/2" = 1'-0"



TYPICAL EXISTING ROOF ASSEMBLY

3" = 1'-0"



Peak Advantage Guarantee



Building Owner:
Solano Community College District
1687 North Ascot Parkway
Vallejo, CA 94591

Guarantee Number: ANT157330682
Expiration Date: July 14, 2037
Job Name: Solano Community College
Auto Tech. Bldg

Building Name:
Solano Community College Auto Tech Bldg
1687 North Ascot Parkway
Vallejo, CA 94591

Date of Completion: July 14, 2017

Approved Roofing Contractor:
SOLANO COUNTY ROOFING INC
4349 CORDELIA ROAD
FAIRFIELD, CA 94534-4201

Terms & Maximum Monetary Obligation to Maintain a Watertight Roofing System.

Years: 20 Year **\$** No Dollar Limit

Coverage: The components of the Roofing System covered by this Guarantee are:

Total Squares: 340

Sec.	Sqs.	Roof Type	Membrane Spec.	Insulation Type			Cover Board
				Layer 1	Layer 2	Layer 3	
1	340	TPO	ST6RA	ENRGY 3	ENRGY 3		1/4" Densdeck

Accessories:	Type	Product Name	Quantity
	Expand-O-Flash (1) Style:		0 lin. ft.
	Expand-O-Flash (2) Style:		0 lin. ft.
	Expand-O-Flash (3) Style:		0 lin. ft.
	Pascia Style:		0 lin. ft.
	Copings Style:		0 lin. ft.
	Gravel Stop Style:		0 lin. ft.
	Drains (1) Style:		0 ea.
	Drains (2) Style:		0 ea.
	Vents Style:		0 ea.

These Johns Manville Guaranteed components are referred to above as the "Roofing System" and ALL OTHER COMPONENTS OF THE OWNER'S BUILDING ARE EXCLUDED FROM THE TERMS OF THIS GUARANTEE, including any amendments thereto.

Johns Manville* guarantees to the original Building Owner that during the Term commencing with the Date of Completion (as defined above), JM will pay for the materials and labor reasonably required in Johns Manville's sole and absolute discretion to repair the Roofing System to return it to a watertight condition if leaks occur due to: ordinary wear and tear, or deficiencies in any or all of the Johns Manville component materials of the Roofing System, or workmanship deficiencies only to the extent they arise solely out of the application of the Roofing System. Non-leaking blisters are specifically excluded from coverage. Should any investigation or inspection reveal the cause of a reported leak to be outside the scope of coverage under this Guarantee, then all such investigation and inspection costs shall be borne solely by the Building Owner.

JM TPO ROOF WARRANTY

3" = 1'-0"

SEAL



DSA #: 02-122544

Drawing Title

ROOF DETAILS

NO. DATE ISSUE
1 7/31/2017 ROOF CLARIFICATION

Project
SOLANO COMMUNITY COLLEGE
AUTO TECH EXHAUST REPLACEMENT

Drawn By

Author

Checked By

Checker

Project No.

23-265

@Date

02/19/2024

DRAWING NO.

A9.1.1

AD1.A2

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GENERAL REQUIREMENTS

- THE GENERAL CONTRACTOR AND INVOLVED PARTIES ARE RESPONSIBLE FOR READING AND COMPLYING WITH THE INFORMATION IN THESE STRUCTURAL DRAWINGS AND SPECIFICATIONS.
- THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS PRIOR TO STARTING CONSTRUCTION. THE ARCHITECT & ENGINEER (A/E) SHALL BE NOTIFIED OF ANY DISCREPANCIES OR INCONSISTENCIES.
- DO NOT SCALE THE DRAWINGS FOR WORKING DIMENSIONS. DRAWINGS ARE DIAGRAMMATIC AND MAY NOT SCALE ACCURATELY. STRUCTURAL DRAWINGS AND GRAPHICS ARE INTENDED TO BE VIEWED AND PRINTED IN COLOR; PRINTING OR VIEWING IN BLACK-AND-WHITE IS NOT RECOMMENDED.
- NOTES AND DETAILS ON DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS. TYPICAL DETAILS SHALL APPLY TO THE PROJECT DRAWINGS EXCEPT WHEN SPECIFIC DETAILS ARE SHOWN WHICH SHALL TAKE PRECEDENCE.
- ALL WORK SHALL COMPLY WITH THE MINIMUM STANDARDS OF THE CURRENT ADOPTED BUILDING CODE, THE LATEST EDITION OF ASTM OR OTHER INDUSTRY STANDARDS REFERENCED, AND ALL APPLICABLE LOCAL, STATE AND FEDERAL REQUIREMENTS AND REGULATIONS. FOR ITEMS, METHODS, AND/OR MATERIALS NOT SHOWN, ALL WORK SHALL CONFORM TO THE MINIMUM STANDARDS OF THE REGULATING AGENCIES THAT HAVE AUTHORITY OVER SUCH PORTIONS OF WORK.
- THE CONTRACTOR SHALL BE DIRECTLY RESPONSIBLE FOR COORDINATING THE FOLLOWING TYPES OF ITEMS WHICH ARE TYPICALLY SHOWN ON ARCHITECTURAL DRAWINGS: SIZES AND LOCATIONS OF WINDOW AND DOOR OPENINGS, CONCRETE CURBS, FLOOR DRAINS AND DERESSED SLAB AREAS, FLOOR AND INTERIOR OR EXTERIOR NON-STRUCTURAL WALLS, PARTITIONS, ETC.
- THE CONTRACTOR SHALL BE DIRECTLY RESPONSIBLE FOR COORDINATING THE FOLLOWING TYPES OF ITEMS WHICH ARE TYPICALLY SHOWN ON MECHANICAL, PLUMBING, AND ELECTRICAL DRAWINGS: SIZES AND LOCATIONS OF MECHANICAL EQUIPMENT, DUCTWORK RUNS, CONDUIT OR CABLE TRAY RUNS, PIPE RUNS, AND ALL ASSOCIATED SLEEVES, PENETRATIONS, OPENINGS, HANGERS, INSERTS, ETC.
- THE CONTRACT STRUCTURAL DRAWINGS AND SPECIFICATIONS REPRESENT THE STRUCTURE DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO, BRACING, SHORING FOR LOADS DUE TO CONSTRUCTION EQUIPMENT, ETC. OBSERVATION VISITS TO THE SITE BY THE STRUCTURAL ENGINEER SHALL NOT INCLUDE INSPECTION OF THE ABOVE ITEMS.
- CONSTRUCTION MATERIALS SHALL BE SPREAD OUT IF PLACED ON FRAMED FLOORS OR ROOFS. LOAD SHALL NOT EXCEED THE DESIGN LIVE LOAD PER SQUARE FOOT. PROVIDE ADEQUATE SHORING AND/OR BRACING WHERE STRUCTURE HAS NOT ATTAINED DESIGN STRENGTH.
- NO CHANGES OR DEVIATIONS FROM THE PLANS AND SPECIFICATIONS WILL BE ALLOWED WITHOUT WRITTEN AUTHORIZATION FROM THE A/E. ANY DESIRED CHANGES OR DEVIATIONS SHALL BE PRESENTED TO THE A/E FOR REVIEW WITH NO GUARANTEE THAT THE SUBSTITUTION WILL BE ALLOWED.
- THE CONTRACTOR SHALL BE DIRECTLY RESPONSIBLE FOR COORDINATING THE STRUCTURE (I.E. LOWERING FOOTINGS, ETC.) TO WORK WITH GRADES WHICH ARE TYPICALLY SHOWN ON ARCHITECTURAL OR CIVIL DRAWINGS. THE STRUCTURAL ENGINEER TAKES NO RESPONSIBILITY FOR DAMAGE TO THE STRUCTURE, OR ADDITIONAL CONSTRUCTION COSTS CAUSED BY LACK OF SUCH COORDINATION OR MISREPRESENTATIONS OF THE RELATIVE POSITION OF THE STRUCTURE WITH RESPECT TO GRADES ON THE BUILDING SITE.
- THE CONTRACTOR SHALL NOTIFY THE ARCHITECT AND STRUCTURAL ENGINEER WHERE A CONFLICT OR DISCREPANCY OCCURS BETWEEN THE STRUCTURAL DRAWINGS AND ANY OTHER PORTION OF THE CONTRACT DOCUMENTS OR EXISTING FIELD CONDITIONS. SUCH NOTIFICATION SHALL BE GIVEN IN DUE TIME SO AS NOT TO AFFECT THE CONSTRUCTION SCHEDULE. IN CASE OF A CONFLICT BETWEEN STRUCTURAL DRAWINGS AND SPECIFICATIONS THE MORE RESTRICTIVE CONDITION SHALL TAKE PRECEDENCE UNLESS WRITTEN APPROVAL HAS BEEN GIVEN FOR THE LEAST RESTRICTIVE.
- WHERE NO SPECIFIC DETAIL IS SHOWN, THE CONSTRUCTION SHALL BE IDENTICAL OR SIMILAR TO THAT INDICATED FOR LIKE CASES OF CONSTRUCTION ON THIS PROJECT. SHOULD THERE BE ANY QUESTION, CONTACT THE ARCHITECT AND STRUCTURAL ENGINEER PRIOR TO PROCEEDING.
- WHEN CONSTRUCTION ATTACHES TO OR IS WITHIN AN EXISTING BUILDING, A COMPLETE SET OF DRAWINGS OF THE EXISTING BUILDING SHALL BE KEPT ON THE JOB SITE. CONTRACTOR TO OBTAIN THESE DRAWINGS FROM THE OWNER (IF THEY ARE AVAILABLE).
- THESE DRAWINGS ARE NOT COMPLETE UNTIL REVIEWED AND ACCEPTED BY THE ENFORCEMENT AGENCY AND SIGNED BY THE STRUCTURAL ENGINEER.

STRUCTURAL DESIGN CRITERIA

CODE: 2022 TITLE 24 CALIFORNIA CODE OF REGULATIONS (CCR)
STRUCTURAL RISK CATEGORY III (EDUCATION FACILITY)

DEAD LOADS:
ROOF DEAD LOAD: 20 PSF

LIVE LOADS:
ROOF LIVE LOAD, L_r: 20 PSF

WIND DESIGN DATA:
ULTIMATE WIND SPEED, V: 99 MPH
EXPOSURE CATEGORY: C
ENCLOSURE CLASS: III
RISK CATEGORY: III
EARTHQUAKE DESIGN DATA:
S_s: 1.520
S_i: 0.600
SITE CLASS: C
S_u: 1.216
S_u: 0.560
I_e: 1.25
SEISMIC DESIGN CATEGORY: D
ANALYSIS PROCEDURE: CLR
SEISMIC DEMANDS ON NONSTRUCTURAL COMPONENTS (ASCE 7-16 SEC. 13.3)
COMPONENT AMPLIFICATION FACTOR, a_p: 2.5 (AIR-SIDE HVAC)
COMPONENT RESISTANCE FACTOR, R_e: 6 (AIR-SIDE HVAC)
COMPONENT IMPORTANCE FACTOR, I_e: 1.0 (ASCE 7-16 SEC. 13.1.3)

STRUCTURAL STEEL

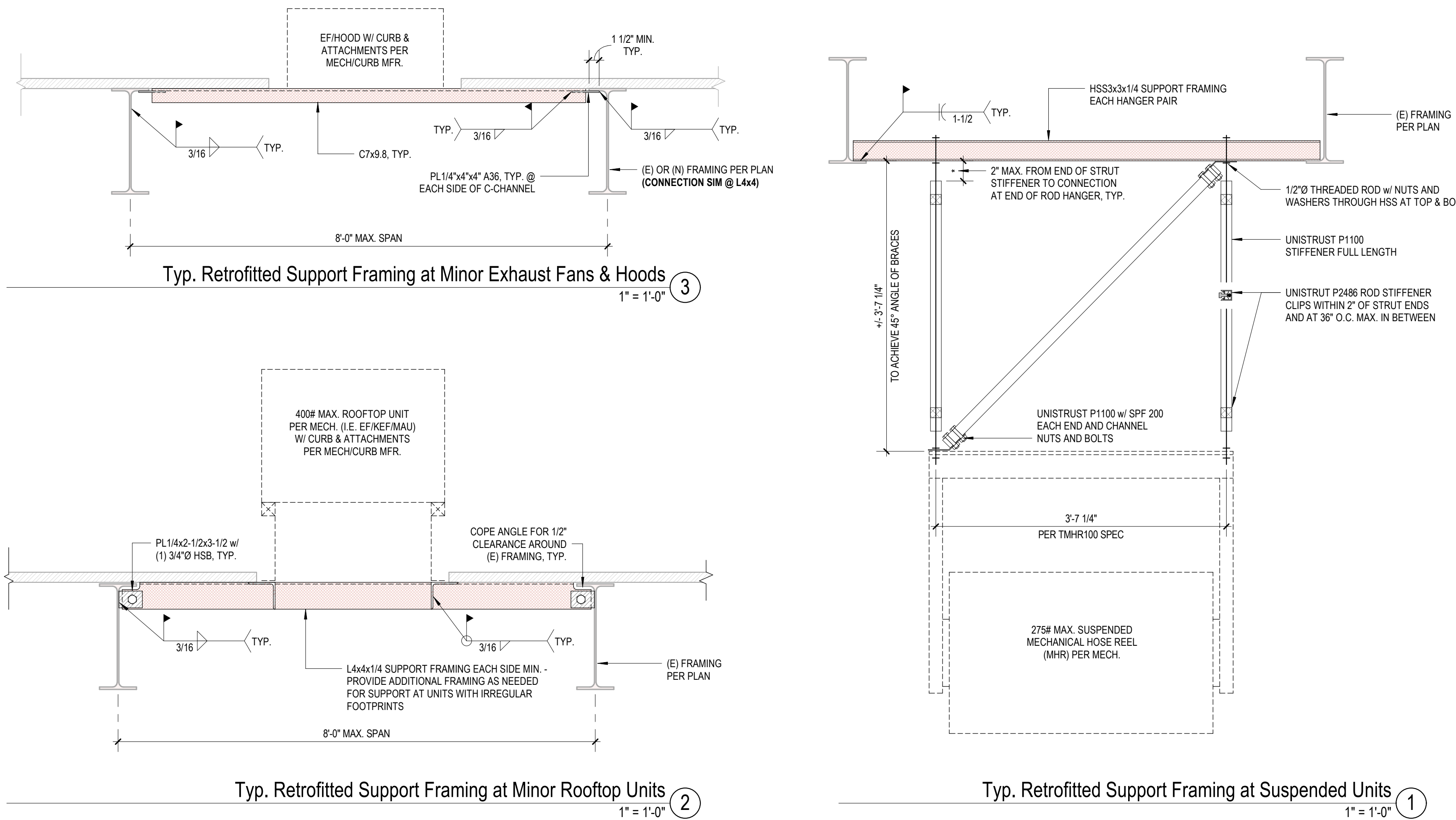
- STRUCTURAL STEEL DETAILING, FABRICATION, ERECTION, AND MATERIALS SHALL CONFORM TO THE CURRENT VERSION OF THE AISC MANUAL FOR STEEL CONSTRUCTION, AISC 360 FOR STRUCTURAL STEEL BUILDINGS AND TO AISC 341 FOR SEISMIC PROVISIONS.
- ALL HOT ROLLED STEEL SHAPES, PLATES, AND BARS SHALL CONFORM TO ASTM A6 AND THE FOLLOWING, U.N.O.:
 - WIDE FLANGE (W) AND WT-SHAPES: ASTM A992
 - RECTANGULAR HSS TUBING: ASTM A500, GR. C (F_y = 50 KSI)
 - ROUND HSS TUBING: ASTM A500, GR. C (F_y = 46 KSI)
 - STEEL PIPE SHAPES: ASTM A53, GR. B (F_y = 35 KSI)
 - ALL OTHER SHAPES, PLATES, AND BARS: ASTM A36, U.N.O.
- ALL STRUCTURAL BOLTS AND THREADED FASTENERS SHALL CONFORM TO RCSC AND THE FOLLOWING, U.N.O.:
 - TYPICAL HIGH-STRENGTH BOLTS (HSB): ASTM F3125, GR. A325
 - TWIST-OFF TENSION-CONTROLLED HSB: ASTM F3125, GR. F1862
 - COMMON MACHINE BOLTS (MB): ASTM A307, GR. A
 - ANCHOR BOLTS (AB): ASTM F1554, GR. 36
 - HEAVY HEX NUTS: ASTM F563
 - TYPICAL WASHERS: ASTM F304
 - HARDENED WASHERS (TYP AT HSB): ASTM F436
- HIGH-STRENGTH BOLTS (HSB) MAY BE TYPE N (THREADS INCLUDED) TYP. U.N.O. AND MAY BE INSTALLED SNUG-TIGHT IN ACCORDANCE WITH RCSC SPECIFICATION FOR STRUCTURAL JOINTS USING HIGH-STRENGTH BOLTS AT THE CONTRACTOR'S OPTION. TWIST-OFF TENSION-CONTROL BOLTS MAY BE USED TO SIMPLIFY INSTALLATION.
- BOLT HOLES SHALL BE AISC STANDARD HOLES UNLESS SPECIFIED OTHERWISE. USE STANDARD AISC GAGE AND PITCH FOR BOLTS EXCEPT AS NOTED OTHERWISE.
- WELDING SHALL BE DONE BY THE ELECTRIC ARC PROCESS IN ACCORDANCE WITH AMERICAN WELDING SOCIETY STANDARDS, USING ONLY CERTIFIED WELDERS. ALL GROOVE WELDS SHALL HAVE COMPLETE PENETRATION UNLESS NOTED OTHERWISE. ALL ELECTRODES FOR WELDING SHALL COMPLY WITH AWS D1.1 AND D1.8 AS APPLICABLE, E70XX SERIES MINIMUM.
- WELD LENGTHS SPECIFIED ON PLANS ARE THE NET EFFECTIVE LENGTHS REQUIRED.
- MINIMUM FILLET WELDS: (T = THICKNESS OF THINNER PART JOINED)
T < 1/2": 3/16"
T < 3/4": 1/4"
T > 3/4": 5/16"
- HEADED AND THREADED STUDS SHALL BE NELSON STUD ANCHORS (NSA) OR APPROVED EQUAL, OF THE SIZES INDICATED ON THE DRAWINGS, WITH FLUXED ENDS AUTOMATICALLY END WELDED PER THE MANUFACTURER'S REQUIREMENTS.
- ALL STRUCTURAL AND MISCELLANEOUS STEEL WORK SHALL BE SHOP PRIMED AND TOUCHED UP IN THE FIELD AFTER ERECTION EXCEPT STEEL TO BE EMBEDDED IN CONCRETE. SPRAY FIRE PROOFED, GALVANIZED, OR WHERE REQUIRED FOR SPECIAL CONNECTIONS LIKE FIELD WELDS OR AT CONTACT FACES OF CONNECTIONS USING HIGH STRENGTH BOLTS. COORDINATE PRIMER WITH FINISH REQUIREMENTS TO ENSURE PRIMER IS COMPATIBLE WITH TOPCOATS. PROVIDE 3" MINIMUM CONCRETE COVER FOR ALL STEEL EXPOSED TO EARTH.
- ALL STRUCTURAL STEEL SHALL BE ERECTED PLUMB AND TRUE TO LINE. TEMPORARY BRACING SHALL BE INSTALLED AND SHALL BE LEFT IN PLACE UNTIL OTHER MEANS ARE PROVIDED TO ADEQUATELY BRACE THE STRUCTURE. THE CONTRACTOR IS RESPONSIBLE FOR REVIEWING ALL BASE PLATE AND SUPPORT CONDITIONS DURING ERECTION AND BRACING AS REQUIRED. SEE AISC AND OSHA REQUIREMENTS.

ABBREVIATIONS

2L	DOUBLE ANGLE	ID	INSIDE DIAMETER
AB	ANCHOR BOLT	IN	INCHES
ADOL	ADDITIONAL	INCL	INCLUDE OR INCLUDED
AGGR	AGGREGATE	INT	INTERIOR
ALT	ALTERNATE	JT	JOINT
ANC	ANCHOR	KP	KIP (1,000 LBS)
APPROX	APPROXIMATE	LAM	LAMINATED
ARCH	ARCHITECTURAL	LBS	POUNDS
ASSY	ASSEMBLY	LLG	LONG LEG HORIZONTAL
AVG	AVERAGE	LVL	LONG LEG VERTICAL
BLDG	BUILDING	MFR	MANUFACTURER
BLKG	BLOCKING	MATL	MATERIAL
BM	BEAM	MAX	MAXIMUM
BN	BOUNDARY NAILING	MB	MACHINE BOLT
B.O.	BOTTOM OF	MECH	MECHANICAL
BOD	BOTTOM OF DECK	MEZZ	MEZZANINE
BRG	BEARING	MF	MOMENT FRAME
BTM	BOTTOM	MIN.	MINIMUM
C	CENTER TO CENTER	MISC	MISCELLANEOUS
CEN	CENTER	MK	MARK
CG	CENTER OF GRAVITY	MTL	METAL
CJ	COMPLETE JOINT PENETRATION	NF	NEAR FACE
CLG	CEILING	NIC	NOT IN CONTACT
CLR	CLEAR	NOM	NOMINAL
CMU	CONCRETE MASONRY UNITS	(N)	NEW
COL	COLUMN	NS	NEAR SIDE
CONC	CONCRETE	OS	NOT TO SCALE
CONN	CONNECTION	OI	OVER
CONSTR	CONSTRUCTION	O.C.	ON CENTER
CONT	CONTINUOUS	OD	OUTSIDE DIAMETER
CONTR	CONTRACTOR	OPNG	OPENING
CTJ	CONTROL JOINT	OPP	OPPOSITE
DBA	DEFORMED BAR ANCHOR	ORIG	ORIGINAL
DBL	DOUBLE	PCF	POUNDS PER CUBIC FOOT
DF	DOUGLAS FIR	PSF	POUNDS PER SQUARE FOOT
DIA	DIAMETER	PSI	POUNDS PER SQUARE INCH
DIAG	DIAGONAL	PT	POST-TENSIONED
DIMS	DIMENSIONS	PTN	PARTITION
DO	DITTO	RAD	RADIUS
DTL	DETAIL	RC	REINFORCED CONCRETE
DWG	DRAWING	REF	REFERENCE
EA	EACH	REV	REVISION
EF	EACH FACE	REQD	REQUIRED
EJ	EXPANSION JOINT	SCHED.	SCHEDULE
EL	ELEVATION	SECT.	SECTION
ELECT	ELECTRICAL	S.F.	SQUARE FEET
E.N.	EDGE NAIL	SHT	SHEET
ENGR	ENGINEER	SH	SIMILAR
EQ	EQUAL	S.O.G.	SLAB ON GRADE
EQUIP	EQUIPMENT	SPECS	SPECIFICATIONS
EW	EACH WAY	SQ.	SQUARE
EXCAV	EXCAVATE	STD	STANDARD
EX	EXISTING	STFNR	STIFFENER
EXP	EXPANSION	STGRD	STAGGERED
EXT	EXTERIOR	STL	STEEL
FAB	FABRICATION	STRUCT.	STRUCTURAL
FD	FLOOR DRAIN	SYM	SYMMETRICAL
FDN	FOUNDATION	T&B	TOP AND BOTTOM
F.F.	FINISHED FLOOR	T&G	TONGUE AND GROOVE
FIG	FIGURE	THK	THICK
FIN	FINISH	THRD	THREADED
FLR	FLOOR	THRU	THROUGH
FN	FIELD NAILING	TO	TOP OF
FO	FACE OF	TOS	TOP OF BEAM
FOC	FACE OF CONCRETE	TOC	TOP OF CONCRETE
FOS	FACE OF STUD	TOF	TOP OF FOOTING (U.N.O.)
FOV	FACE OF WALL	TOL	TOLERANCE
FRMG	FRAMING	TOM	TOP OF MASONRY
FS	FAR SIDE	TOS	TOP OF STEEL
FT	FEET	TOW	TOP OF WALL
FTG	FOOTING	TS	STRUCTURAL TUBING
GA	GAGE OR GAUGE	TYP.	TYPICAL
GALV	GALVANIZE	U.N.O.	UNLESS NOTED OTHERWISE
GB	GRADE BEAM	V	VERTICAL
GLB	GLULAM BEAM	VERT.	VERTICAL
GR	GRADE	VOL	VOLUME
GRD	GROUND	WTH	WITH
H	HORIZONTAL REINF.	WIO	WITHOUT
HGT	HEIGHT	WD	WOOD
HORIZ	HORIZONTAL	WP	WORK POINT
HSA	HEADED STUD ANCHOR	WT	WEIGHT
		WWF	WELDED WIRE FABRIC

SHEET INDEX

S0.0.1	STRUCTURAL GENERAL NOTES & TYPICAL DETAILS
S2.0.1	STRUCTURAL ROOF FRAMING PLAN
Grand total: 2	



IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP. 02-122544 INC.
REVIEWED FOR
SS ☐ FLS ☐ ACS ☐
DATE: 09/09/2024

JKAE
architecture + interiors + engineering

SEAL



DSA SUBMITTAL

DSA #: 02-122544

Drawing Title
**STRUCTURAL GENERAL
NOTES & TYPICAL DETAILS**

NO.	DATE	ISSUE

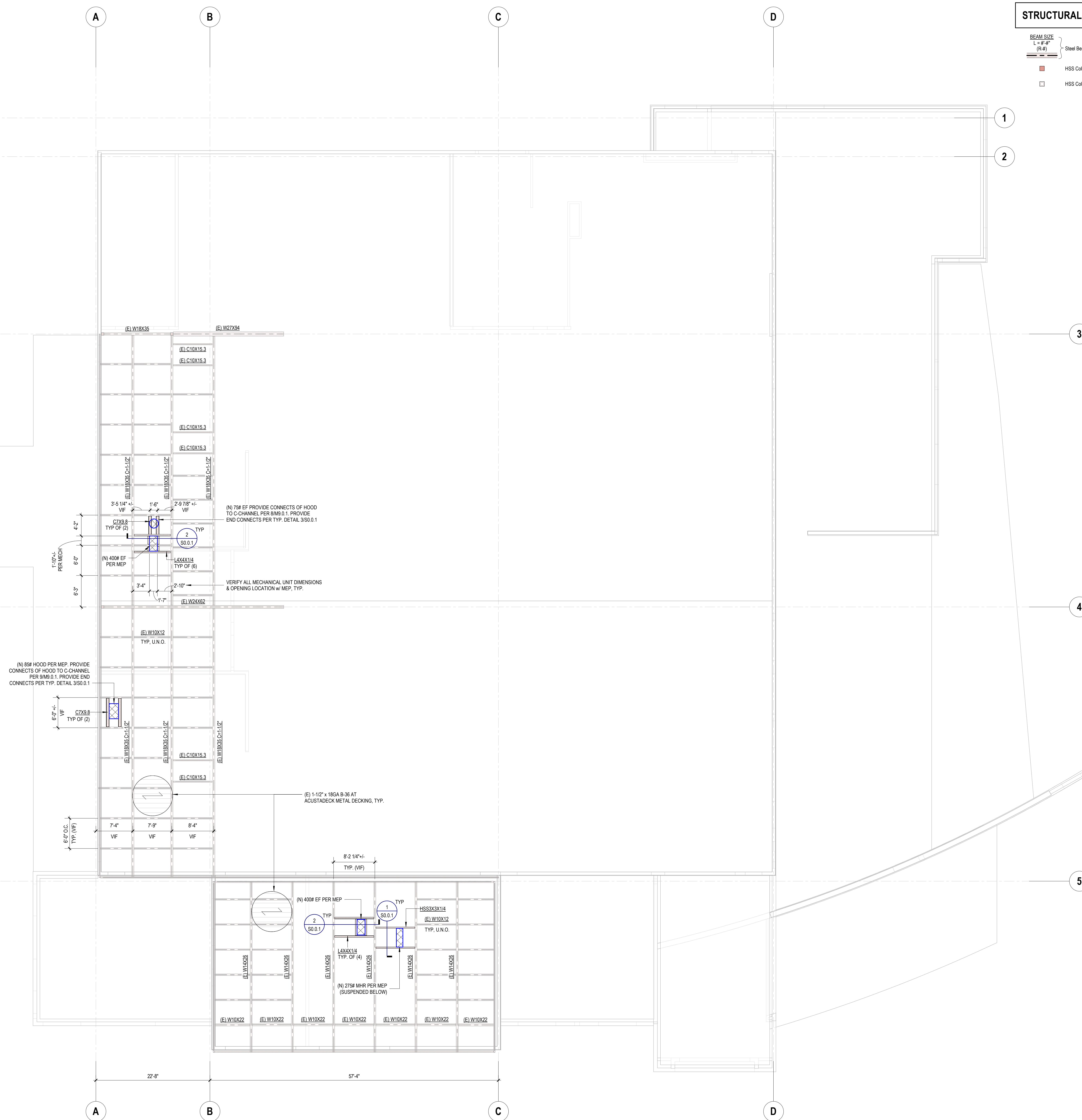
Project
**SOLANO COMMUNITY COLLEGE
AUTO TECH FACILITY**

Drawn By
CBS
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CBS

Project No.
23-265
@Date
09.04.2024

DRAWING NO.

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23-265

Date
09/04/2024

DRAWING NO.

S2.0.1

Autoback Docs\23-255 Autoback Exhaust Replacement\23-255 Salano AutoTech MEP_23.rvt

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EQUIPMENT ANCHORAGE NOTES

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.

- ALL PERMANENT EQUIPMENT AND COMPONENTS
- 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.
- 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:

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

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

PIPING AND DUCTWORK DISTRIBUTION SYSTEM BRACING NOTES

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 THROUGH 1617A.1.26.

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

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

MP	MD	PP	E
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
OPTION 1: DETAILED ON THE APPROVED DRAWINGS WITH PROJECT SPECIFIC NOTES AND DETAILS.			
MP	MD	PP	E
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
OPTION 2: SHALL COMPLY WITH THE APPLICABLE HCAI PRE-APPROVAL (OPMB) #043-13.			

MECHANICAL LEGEND

SYMBOL	ITEM	ABBR.
<input checked="" type="checkbox"/>	SUPPLY AIR	SA
<input checked="" type="checkbox"/>	RETURN AIR	RA
<input checked="" type="checkbox"/>	EXHAUST AIR	EA
<input checked="" type="checkbox"/>	OUTSIDE AIR	OSA
<input checked="" type="checkbox"/>	TRANSFER AIR	TA
	DETAIL DESIGNATION	
	DETAIL NUMBER	
	SHEET NO. WHERE SHOWN	
	EQUIPMENT DESIGNATION	
	UNIT ABBREVIATION	
	GRILLE DESIGNATION	
	NECK SIZE	
	CFM	
	FIRE DAMPER WHERE REQ'D	
	ACOUSTIC LINED DUCT	L
	TURNING VANES	TV
	DUCT RISER	
	DUCT DROP	
	RECTANGULAR TO ROUND FITTING	
	VOLUME CONTROL DAMPER	VD
	FIRE DAMPER W/ ACCESS	FD
	FIRE SMOKE DAMPER W/ ACCESS	FSD
	OPPOSED BLADE DAMPER	OBD
	BACKDRAFT DAMPER	BDD
	MOTORIZED DAMPER	
	THERMOSTAT @ +48" AFF (MAX.) (TOP OF BOX)	T-STAT
	SENSOR @ +48" AFF	
	STATIC PRESSURE SENSOR @ +48" AFF	
	CARBON MONOXIDE SENSOR @ +48" AFF	
	CARBON DIOXIDE SENSOR @ +48" AFF	
	TIMECLOCK @ +48" AFF	
	TEMPERATURE CONTROL PANEL	TCP
	DUCT SMOKE DETECTOR	SD
	PIPE RISER / DROP	(R) / (D)
	FROM ABOVE	(FA)
	FROM BELOW	(FB)
	TO ABOVE	(TA)
	TO BELOW	(TB)
	ABOVE FINISHED FLOOR	AFF
	UNLESS OTHERWISE NOTED	UN
	TYPICAL	(TYP)
	BOTTOM OF DUCT	BOD
	UNDERCUT DOOR 3/4"	UCD
	NEW	(N)
	EXISTING	(E)
	POINT OF DIS/CONNECTION	POD/POC
	REFRIGERANT LIQUID	RL
	REFRIGERANT SUCTION	RS
	DEMOLISHED/DEMO	

MECHANICAL SPECIFICATIONS

- THIS CONTRACTOR SHALL COMPLY WITH ALL CODES AND REGULATIONS IN EFFECT AT THE JOB SITE, INCLUDING, BUT NOT LIMITED TO:
 - 2022 CALIFORNIA BUILDING CODE
 - 2022 CALIFORNIA MECHANICAL CODE
 - 2022 CALIFORNIA PLUMBING CODE
 - 2022 CALIFORNIA ELECTRICAL CODE
 - 2022 CALIFORNIA GREEN BUILDING STANDARDS
 - 2022 CALIFORNIA BUILDING ENERGY EFFICIENCY STANDARDS - TITLE 24
 - NATIONAL FIRE PROTECTION ASSOCIATION
 - CALIFORNIA STATE FIRE MARSHAL
- ALL MATERIALS AND EQUIPMENT INSTALLED UNDER THIS CONTRACT SHALL BE GUARANTEED FREE FROM ALL MECHANICAL, ELECTRICAL, AND WORKMANSHIP DEFECTS FOR A PERIOD OF ONE YEAR FROM DATE OF FINAL ACCEPTANCE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING OR REPLACING ALL DAMAGED ITEMS INSTALLED UNDER THIS CONTRACT WITHOUT ADDITIONAL COST TO OWNER.
- THE MECHANICAL CONTRACTOR SHALL PROVIDE THE OWNER COPIES OF OPERATION, MAINTENANCE AND PREVENTATIVE MAINTENANCE MANUALS FOR EACH MODEL AND TYPE OF MECHANICAL EQUIPMENT.
- CHECK AND VERIFY EXISTING CONDITIONS AT THE JOB SITE BEFORE BEGINNING WORK. ADJUST THE LOCATION AND CONFIGURATION OF THE WORK NECESSARY TO SUIT ACTUAL CONDITIONS AND OTHER TRADES. ANY CHANGES REQUIRED MUST FIRST BE APPROVED BY THE ARCHITECT OR ENGINEER.
- THE LOCATIONS OF EQUIPMENT, PIPING, DUCTWORK AND SYSTEMS SHOWN ON THE DRAWINGS ARE DIAGRAMMATIC AND SHALL BE FOLLOWED AS CLOSELY AS POSSIBLE. CHANGES REQUIRED TO SUIT EXISTING CONDITIONS AND DUE TO COORDINATION WITH OTHER TRADES SHALL BE MADE AT NO EXTRA COST TO THE OWNER.
- ALL EQUIPMENT IS TO BE INSTALLED AS RECOMMENDED BY THE MANUFACTURER. USING ALL ACCESSORY EQUIPMENT AVAILABLE FROM THE MANUFACTURER FOR SUPPORTS, CONTROLS, ETC., TO MAKE A COMPLETE SYSTEM. ALL EQUIPMENT OR ACCESSORIES NEEDED AND NOT SHOWN OR SPECIFIED SHALL BE FURNISHED AND INSTALLED BY THIS CONTRACTOR. ADJUST THE EQUIPMENT FOR PROPER OPERATION, CHECK ALL CONTROLS AND VERIFY THAT ALL SAFETY DEVICES ARE FUNCTIONING PROPERLY.
- PROVIDE ACCESS DOORS WHERE ACCESS THROUGH FLOORS, WALLS OR CEILINGS IS REQUIRED TO ACCESS MECHANICAL CONTROL SYSTEM COMPONENTS, FIRE/SMOKE DAMPERS, SMOKE DETECTORS, ETC., OR OTHER SYSTEMS REQUIRING ACCESS FOR MAINTENANCE, TESTING OR OBSERVATION. COORDINATE THE EXACT TYPE AND LOCATION OF ACCESS DOORS TO PROVIDE PROPER ACCESS TO THE ITEM CONCEALED.
- CHECK ALL PIPE AND DUCTWORK FOR LEAKS AND EXCESSIVE AIR LOSS AND NOISE. CORRECT ANY DEFICIENCIES AS SOON AS DISCOVERED. OPERATE THE SYSTEMS AS A TEST AND DEMONSTRATE TO THE OWNER AND ARCHITECT OR ENGINEER THAT THE SYSTEM IS FUNCTIONING PROPERLY.
- VEHICLE EXHAUST DUCTWORK:
 - FABRICATE IN ACCORDANCE WITH DUCTWORK MANUFACTURER'S INSTRUCTIONS, SMACNA (DCS), SMACNA (KVS), AND NFPA 98.
 - ROUND, SINGLE-WALL, VEHICLE EXHAUST DUCT:
 - CONSTRUCT OF 20-GAUGE, 0.035-INCH, TYPE 304 STAINLESS STEEL WITH CONTINUOUS EXTERNAL WELDED JOINTS IN RECTANGULAR SECTIONS.
 - UL 1978 LISTED FACTORY BUILT DUCT MAY BE USED IN LIEU OF FABRICATED DUCT. DUCTWORK TO BE MINIMUM 6" W.G.
 - RECTANGULAR, SINGLE-WALL, VEHICLE EXHAUST DUCT:
 - CONSTRUCT OF 18-GAUGE, 0.050-INCH, TYPE 304 STAINLESS STEEL WITH CONTINUOUS EXTERNAL WELDED JOINTS IN RECTANGULAR SECTIONS.
 - UL 1978 LISTED FACTORY BUILT DUCT MAY BE USED IN LIEU OF FABRICATED DUCT. DUCTWORK TO BE MINIMUM 6" W.G.
- GENERAL USE DUCTWORK:
 - GALVANIZED STEEL DUCTS SHALL BE ASTM A 653/A 653M GALVANIZED STEEL SHEET, FORMING STEEL (FS) DESIGNATION, WITH G90/Z275 ZINC COATING.
 - FABRICATE, SUPPORT AND SEAL DUCTWORK IN ACCORDANCE WITH SMACNA HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE, AND AS INDICATED. PROVIDE DUCT MATERIAL, GAGES, REINFORCING, AND SEALING FOR 4" STATIC PRESSURE UPSTREAM OF TERMINAL UNITS (VAV, CAV BOXES) AND 2" STATIC PRESSURE DOWNSTREAM OF TERMINAL UNITS (VAV, CAV BOXES).
- WRAP ALL INDOOR VEHICLE EXHAUST DUCTWORK WITH 2 LAYERS OF FIRE RESISTANT DUCT WRAP FOR GREASE DUCT APPLICATIONS, 3M FIRE BARRIER DUCT WRAP 615+, OR EQUAL.
- CONSTRUCT DUCTWORK T'S, BENDS, AND ELBOWS WITH RADIUS OF NOT LESS THAN 1-1/2 TIMES WIDTH OF DUCT ON CENTERLINE. WHERE NOT POSSIBLE RECTANGULAR ELBOWS MUST BE USED. PROVIDE AIR FOIL TURNING VANES. WHERE ACOUSTICAL LINING IS INDICATED, PROVIDE TURNING VANES OF PERFORATED METAL WITH GLASS FIBER INSULATION.
- COMBINATION FIRE AND SMOKE DAMPERS SHALL MEET THE REQUIREMENTS OF NFPA 90A, UL 555, UL 555S, AND AS INDICATED. PROVIDE FACTORY SLEEVE AND COLLAR FOR EACH DAMPER. ALL INSULATION AND LINER PRODUCTS SURFACE BURNING CHARACTERISTICS: FLAME SPREAD/SMOKE DEVELOPED INDEX OF 25/50, MAXIMUM, WHEN TESTED IN ACCORDANCE WITH ASTM E 84, NFPA 255, OR UL 723.
- SEAL ALL STANDING SEAMS AND TRANSVERSE JOINTS IN ALL SHEETMETAL DUCTWORK WITH HARDCAST IRON GRIP PREMIUM FLEXIBLE WATER BASED SEALANT.
- PERFORM TOTAL SYSTEMS BALANCE IN ACCORDANCE WITH AABC, ASHRAE STD 111, OR NEBB PROCEDURAL STANDARDS FOR TESTING, BALANCING AND ADJUSTING OF ENVIRONMENTAL SYSTEMS.
- COVERING OF DUCT OPENINGS AND PROTECTION OF MECHANICAL EQUIPMENT DURING CONSTRUCTION. AT THE TIME OF ROUGH INSTALLATION AND DURING STORAGE ON THE CONSTRUCTION SITE UNTIL FINAL STARTUP OF THE HEATING, COOLING AND VENTILATION EQUIPMENT, ALL DUCT AND OTHER RELATED AIR DISTRIBUTION COMPONENT OPENINGS SHALL BE COVERED WITH TAPE, PLASTIC, SHEETMETAL OR OTHER METHODS ACCEPTABLE TO THE ENFORCING AGENCY TO REDUCE THE AMOUNT OF DUST, WATER AND DEBRIS WHICH MAY ENTER THE SYSTEM.

MECHANICAL SHEET INDEX	
SHEET NUMBER	SHEET NAME
M0.0.1	MECHANICAL LEGEND AND NOTES
M0.0.2	MECHANICAL SCHEDULES
M2.0.1	MECHANICAL DEMO FLOOR PLAN
M2.1.1	MECHANICAL FLOOR PLAN
M5.0.0	MECHANICAL DEMO ROOF PLAN
M5.0.1	MECHANICAL ROOF PLAN
M9.0.1	MECHANICAL DETAILS

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MECHANICAL
STATE OF CALIFORNIA
M 41413
REN. 03-31-25

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DSA #: 02-122544

Project
SOLANO COMMUNITY COLLEGE
AUTO TECH FACILITY

Drawn By
LRKS

Checked By
RE

Project No.
23-265

©Date
05-05-2024

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EXHAUST FAN SCHEDULE																			
TYPE	MARK	FAN TYPE	MOUNTING	ELECTRICAL					FAN					dBA	CONTROL	OPERATING WEIGHT	MANUFACTURER	MODEL	NOTES
				VOLTAGE	PHASE	FLA	MCA	MOP	HP	DRIVE	FAN RPM	CFM	E.S.P. (IN. WC.)						
REF	1	CENTRIFUGAL	ROOF	115	1	1.38	2	15	0.10	DIRECT	1334	500	0.25	50	WALL SWITCH	75 lb	GREENHECK	G-090-VG	PROVIDE BACKDRAFT DAMPER, FACTORY ROOF CURB AND DAMPER TRAY. PROVIDE FACTORY PREWIRED DISCONNECT SWITCH. PROVIDE FACTORY VARI-GREEN FAN SPEED CONTROLLER.
VEF	1	CENTRIFUGAL	ROOF	460	3	3.91	0	0	2.42	BELT	2331	2,500	4	79	CONTROL PANEL	400 lb	VENTAIRE	UVS150	PROVIDE VENTAIRE DS3R-1/3-32A-4X ENCLOSED IEC NON-FUSED DISCONNECT SWITCH. PROVIDE EFC2-460-3-3-460-1 EFC2 SERIES ENCLOSED STARTERS. PROVIDE TWO 8" STAINLESS METAL TAIL PIPE ADAPTER (TS80). PROVIDE TWO FREE STANDING BASES (FSB30). PROVIDE EXTREMELY HIGH TEMPERATURE FLEXIBLE HOSE RATED TO 2010 DEG F (HT2010). PROVIDE TWO MALE QUICK DISCONNECT FITTINGS (MS80) AND TWO FEMALE QUICK DISCONNECT FITTINGS (FS80).
VEF	2	CENTRIFUGAL	ROOF	460	3	6.49	0	0	3.61	BELT	2691	2,500	6	80	CONTROL PANEL	400 lb	VENTAIRE	UVS150	PROVIDE VENTAIRE DS3R-1/3-32A-4X ENCLOSED IEC NON-FUSED DISCONNECT SWITCH. PROVIDE EFC2-460-3-3-460-1 EFC2 SERIES ENCLOSED STARTERS.

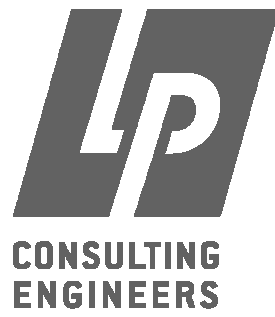
GRAVITY VENTILATOR HOOD SCHEDULE												NOTES
TYPE	MARK	HOOD TYPE	MOUNTING	CFM	THROAT AREA (SQ. FT.)	THROAT SIZE (IN.)	PRESSURE DROP (IN. WC.)	THROAT VELOCITY (FPM)	OPERATING WEIGHT	MANUFACTURER	MODEL	
IH	1	INTAKE	ROOF	500	1.67	12 x 20	0.024	300	85 lb	GREENHECK	FGI	PROVIDE FACTORY ROOF CURB. PROVIDE ADJUSTABLE COUNTERBALANCED BACKDRAFT DAMPER. FACTORY PRESET TO 0.02" W.C.. COORDINATE BACKDRAFT DAMPER INSTALLATION AND OPERATION WITH HOODS INTENDED FOR AIR INTAKE AND AIR RELIEF/EXHAUST. PROVIDE INSECT SCREEN.

AIR DISTRIBUTION SCHEDULE			DESCRIPTION
SYMBOL	TYPE		
H	SIDEWALL SUPPLY		STEEL LOUVERED SUPPLY GRILLE WITH DOUBLE DEFLECTION AND INDIVIDUALLY ADJUSTABLE BLADES AT 3/4" SPACING. FINISH: COLOR BY ARCHITECT. FRAME: FLAT SURFACE. TITUS 300RL. REFER TO THE MECHANICAL PLANS FOR NECK SIZE, CFM, AIR DIFFUSION PATTERN, AND FIRE DAMPER (IF REQUIRED).
J	SIDEWALL EXHAUST		ALUMINUM EGGOGRATE EXHAUST GRILLE WITH 1/2"x1/2"x1/2" GRID. FINISH: COLOR BY ARCHITECT. FRAME: FLAT SURFACE. TITUS MODEL 50RL. REFER TO THE MECHANICAL PLANS FOR NECK SIZE, CFM, AIR DIFFUSION PATTERN, AND FIRE DAMPER (IF REQUIRED).

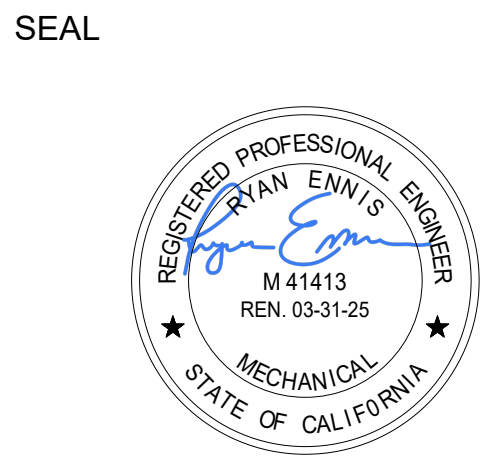
MISCELLANEOUS EQUIPMENT SCHEDULE				DESCRIPTION
TYPE	MARK	EQUIPMENT		
MHR	1	MOTORIZED HOSE REEL		VENTAIRE MODEL TMHR100 MOTORIZED HOSE REEL, 10" DIAMETER, 120/160, 5.1A, 600W AND 10 RPM ELECTRICAL MOTOR. PROVIDE HOSE REEL CONTROL STATION (WCB4). PROVIDE 10" WYE ADAPTER (YS10060). PROVIDE TWO 8" STAINLESS METAL TAIL PIPE ADAPTER (TS80). PROVIDE TWO FREE STANDING BASES (FSB30). PROVIDE EXTREMELY HIGH TEMPERATURE FLEXIBLE HOSE RATED TO 2010 DEG F (HT2010). MAXIMUM WEIGHT 275 LBS.

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MECHANICAL SCHEDULES

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Project
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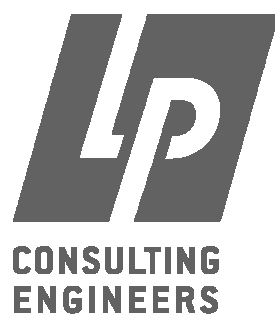
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KEY NOTES

- 1 REMOVE EXISTING VEHICLE EXHAUST MOTORIZED HOSE REEL AND RELATED DUCTWORK SHOWN DASHED. PATCH WALLS AND ROOF WHERE NEEDED.

GENERAL NOTES

- A. FIELD VERIFY EXISTING CONDITIONS PRIOR TO PERFORMING WORK. NOTIFY ARCHITECT AND ENGINEER OF ANY CONFLICTS OR DISCREPANCIES.

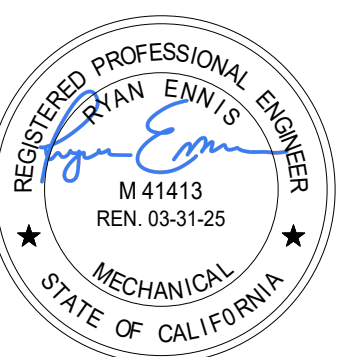


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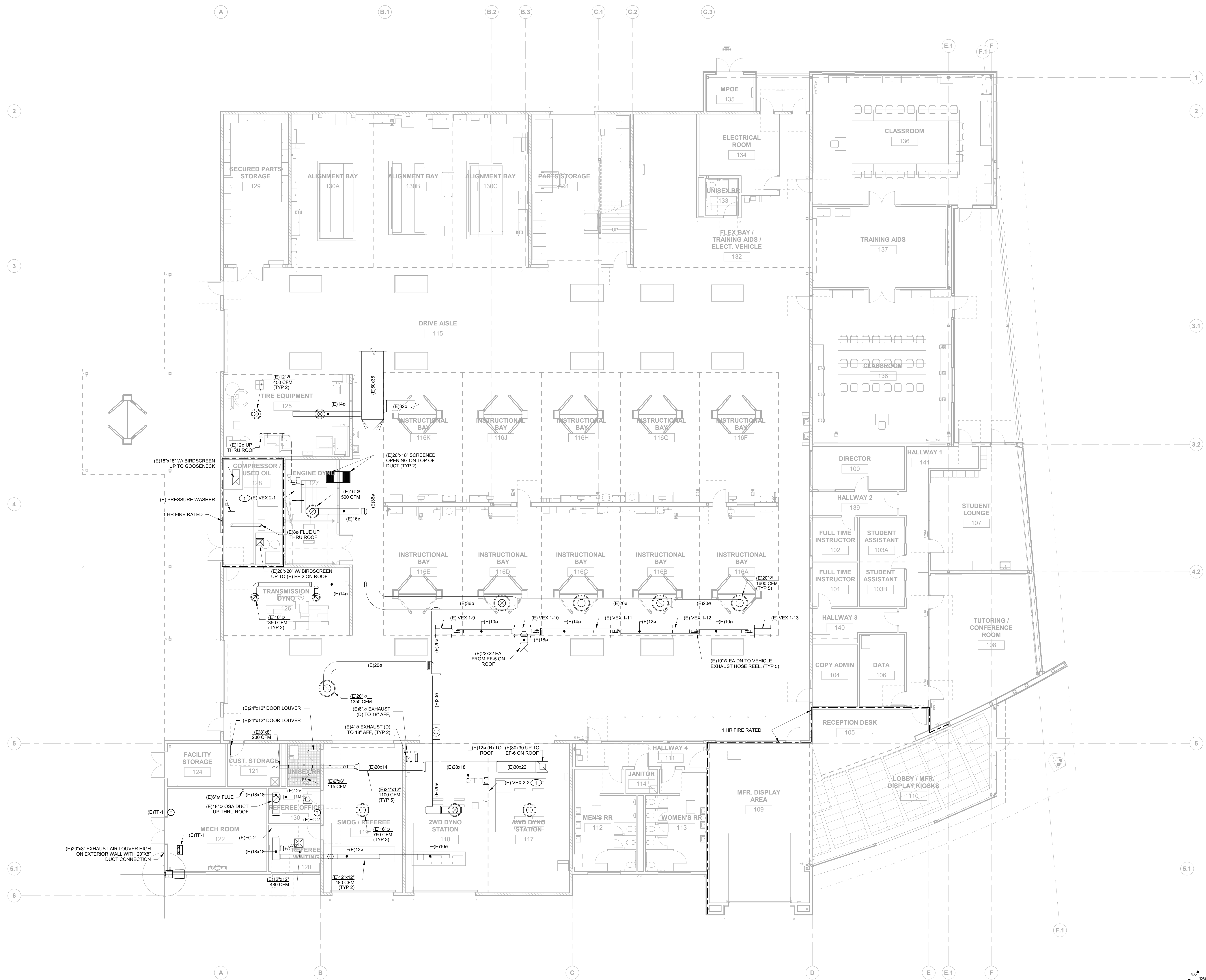
Drawing Title
MECHANICAL DEMO FLOOR PLAN

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KEY NOTES

- 2" GALVANIZED STEEL VENT PIPE EXPOSED ON INTERIOR WALL. ROUTE UP THROUGH ROOF WITH JR SMITH 1748 VENT CAP. PROVIDE FEMALE THREADED CONNECTION AT 30" AFF FOR CONNECTION TO FUTURE PERMANENT FUEL CELL BY OWNER. COORDINATE THREADED CONNECTION REQUIREMENTS WITH OWNER.
- RIGID VEHICLE EXHAUST DUCTWORK INDOORS TO BE WELDED STAINLESS STEEL WITH TWO LAYERS OF 3M FIRE BARRIER DUCT WRAP.
- VEHICLE EXHAUST FAN CONTROL PANEL BY FAN MANUFACTURER. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
- 14" VEHICLE EXHAUST DUCT RACKED ON WALL WITH WYE TO (2) 8" CONNECTIONS TO VENTAIR FLEXIBLE HOSE QUICK DISCONNECTS AT BETWEEN 24" AND 36" AFF. COORDINATE EXACT HEIGHT WITH OWNER. CONNECT VENTAIR EXTREMELY HIGH TEMPERATURE FLEXIBLE HOSE WITH STANDS AND TAILPIPE ADAPTERS TO QUICK DISCONNECTS. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
- HOSE REEL CONTROL STATION. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.

GENERAL NOTES

- A. FIELD VERIFY EXISTING CONDITIONS PRIOR TO PERFORMING WORK. NOTIFY ARCHITECT AND ENGINEER OF ANY CONFLICTS OR DISCREPANCIES.

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Drawing Title
MECHANICAL FLOOR PLAN

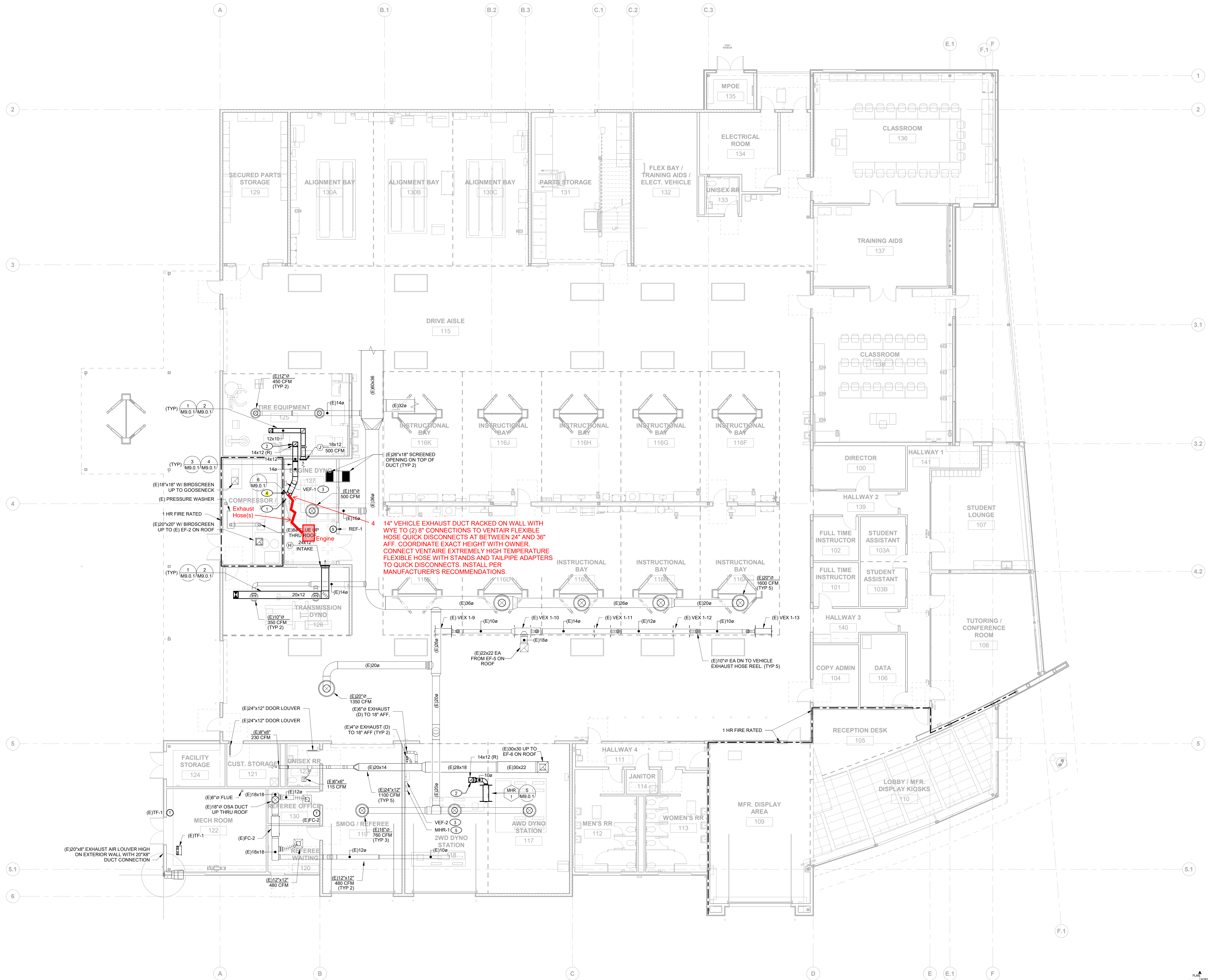
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1 MECHANICAL FLOOR PLAN
SCALE: 1/8" = 1'-0"

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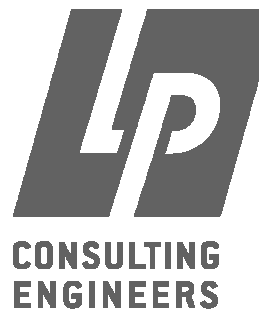
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KEY NOTES

- 1 REMOVE EXISTING DUCTWORK SHOWN DASHED AND PATCH ROOF.

GENERAL NOTES

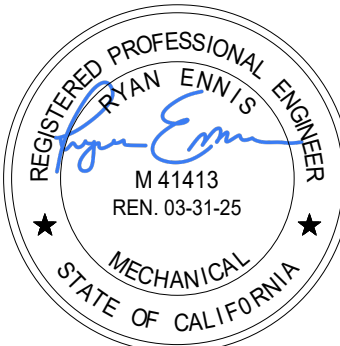
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MECHANICAL DEMO ROOF PLAN

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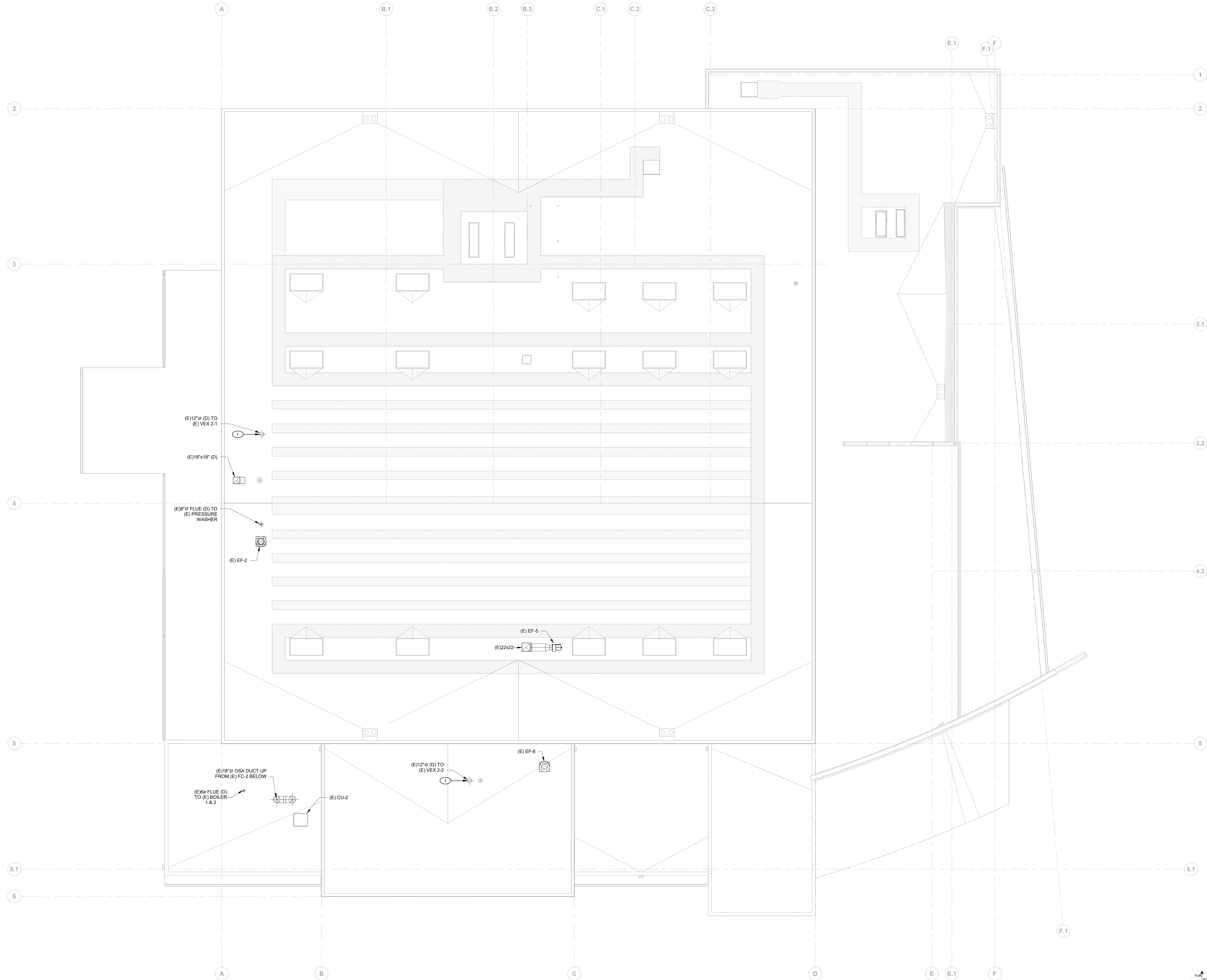
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1 MECHANICAL DEMO ROOF PLAN
SCALE: 1/8" = 1'-0"

- 1 2" GALVANIZED STEEL VENT PIPE EXPOSED ON INTERIOR WALL. ROUTE UP THROUGH ROOF WITH JR SMITH 1748 VENT CAP. PROVIDE FEMALE THREADED CONNECTION AT 30" AFF FOR CONNECTION TO FUTURE PERMANENT FUEL CELL BY OWNER. COORDINATE THREADED CONNECTION REQUIREMENTS WITH OWNER
- 2 WELDED STAINLESS STEEL DUCTWORK. CONNECT TO VEHICLE EXHAUST FAN WITH UV RESISTANT FLEXIBLE DUCT CONNECTOR. DURODYNE OR EQUAL.

A. FIELD VERIFY EXISTING CONDITIONS PRIOR TO PERFORMING WORK. NOTIFY ARCHITECT AND ENGINEER OF ANY CONFLICTS OR DISCREPANCIES



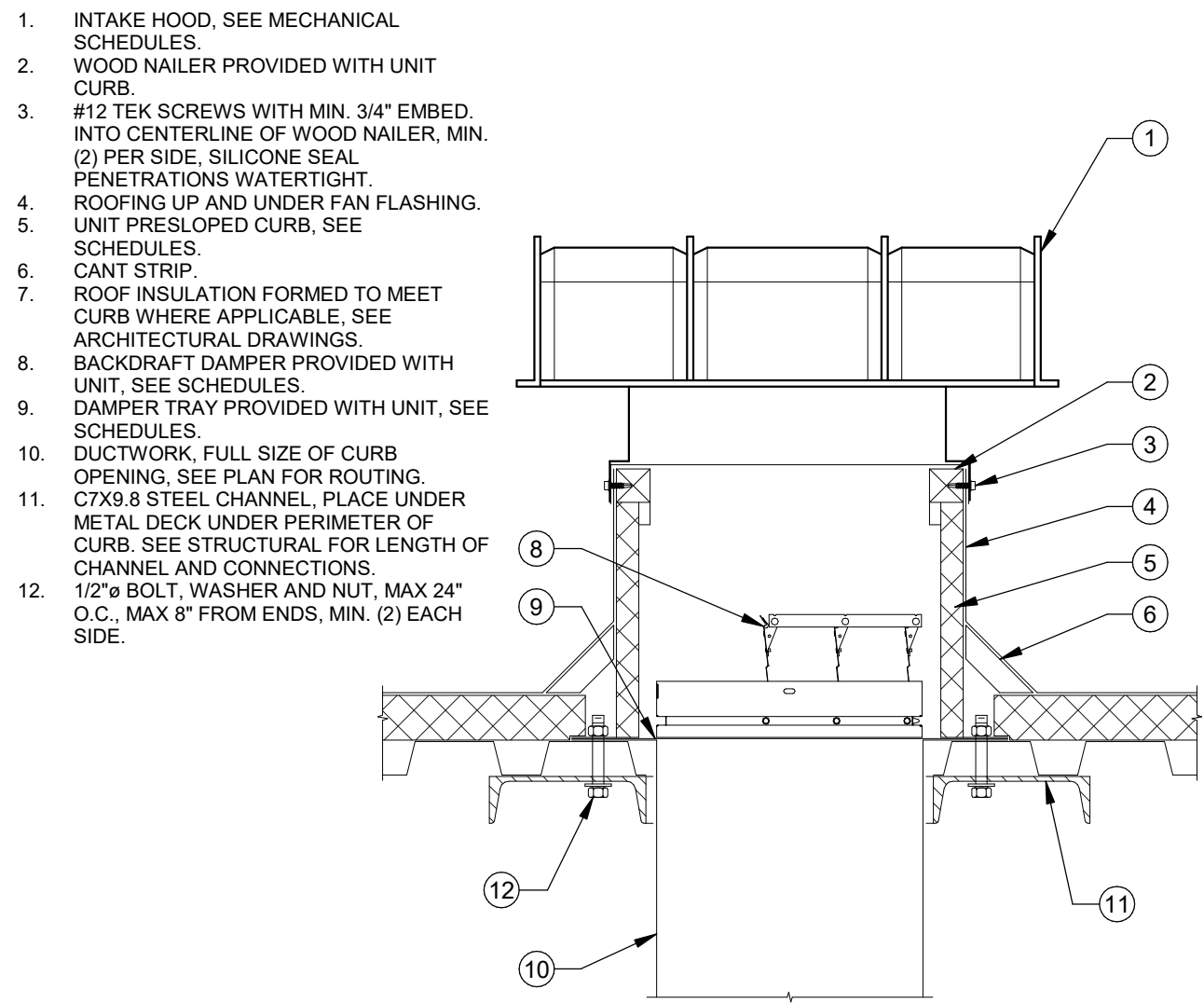
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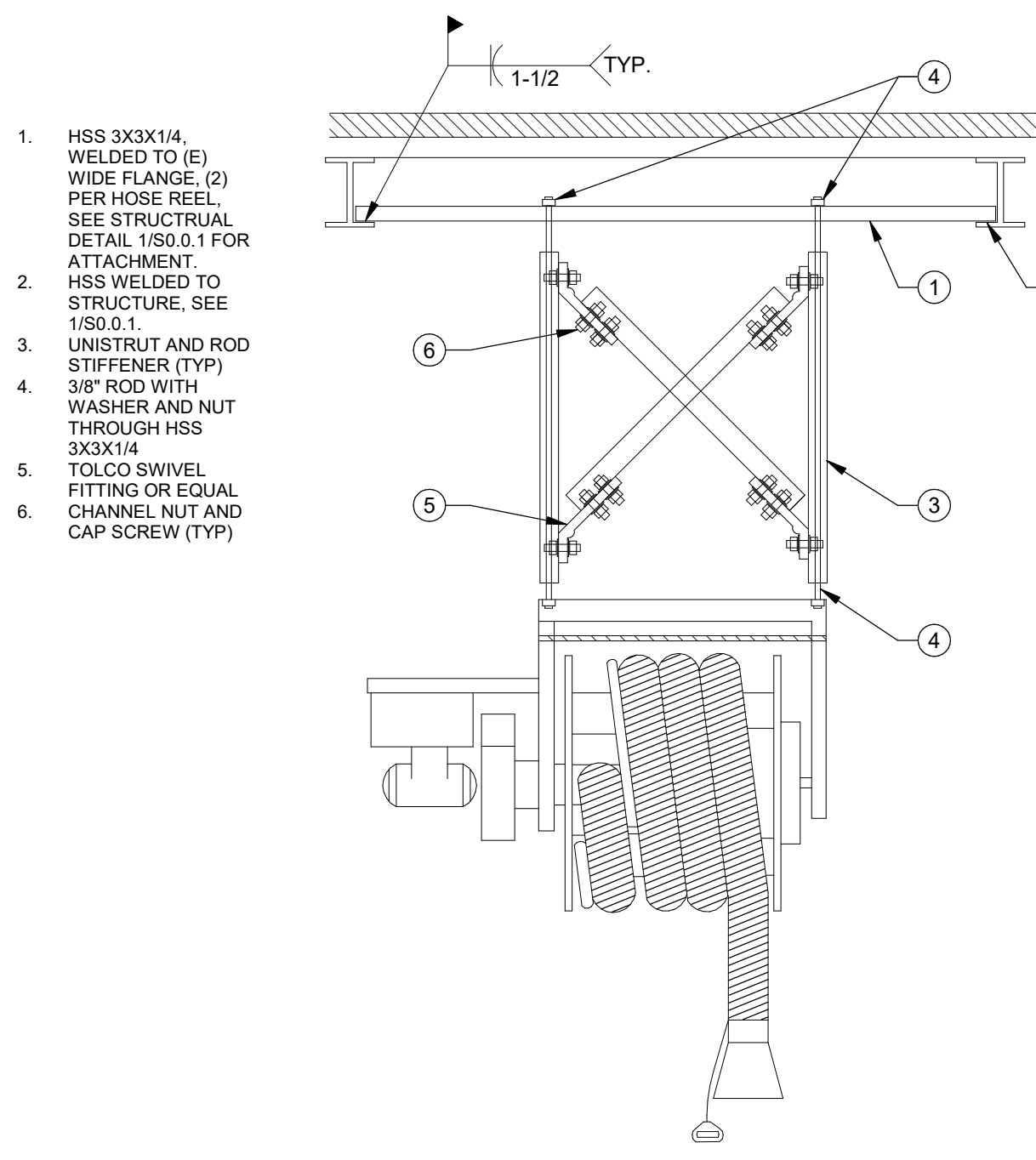
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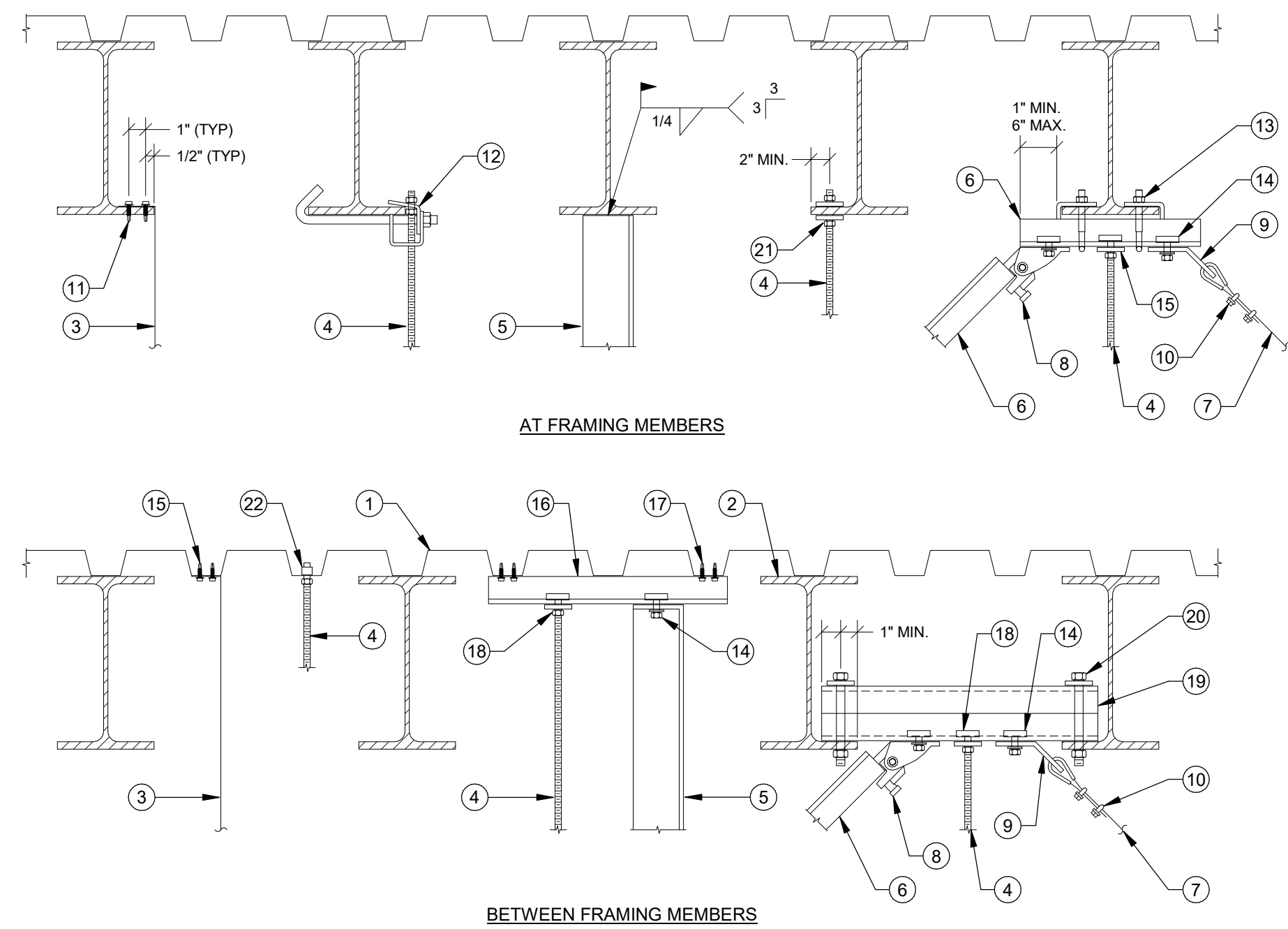
RELIEF/INTAKE HOOD MOUNTING

NTS 9



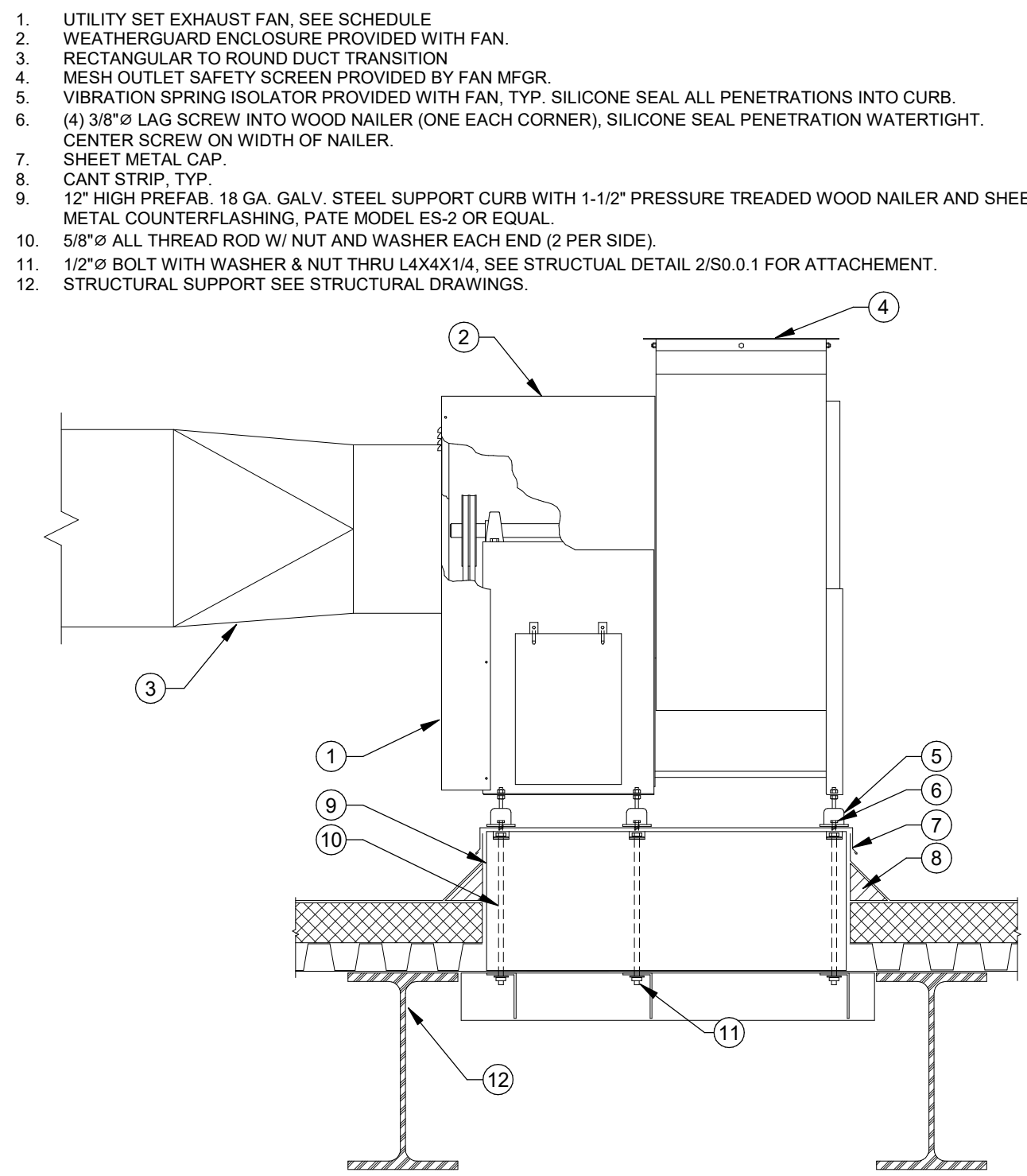
VEHICLE EXHAUST REEL DETAIL

NTS 5



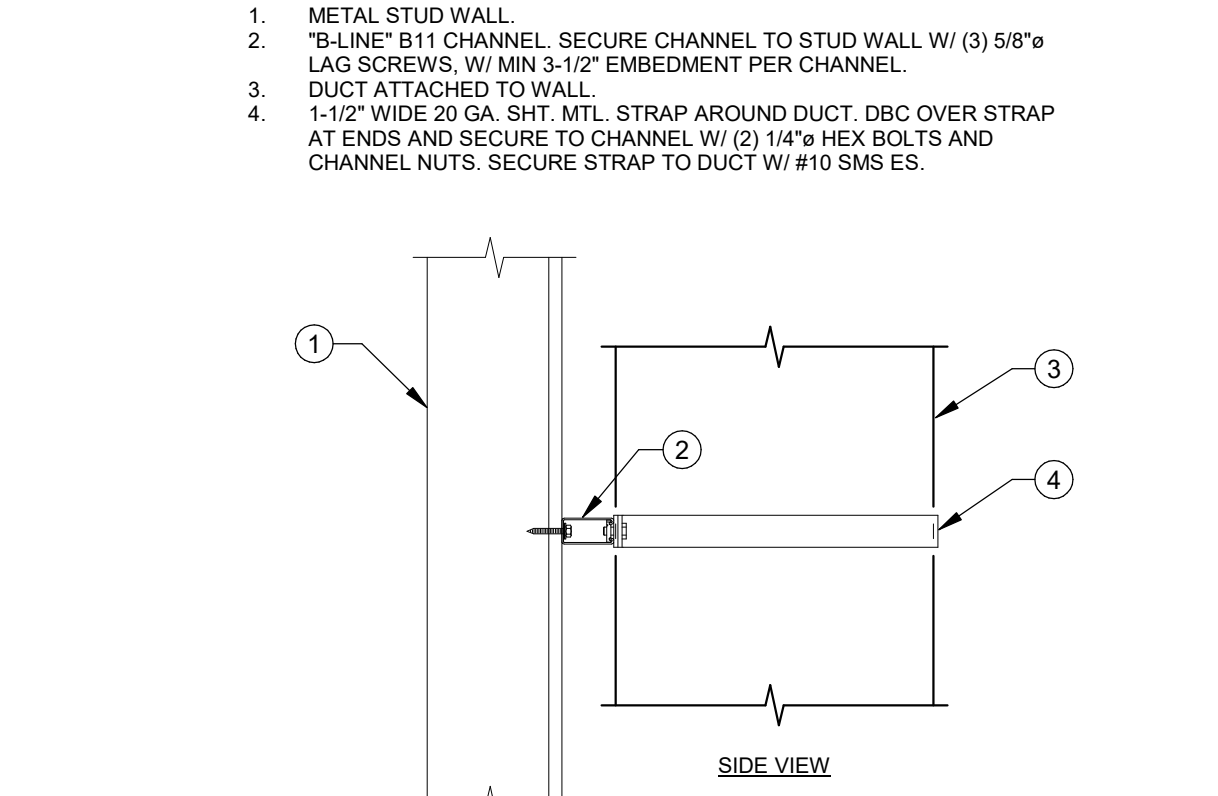
HANGER UPPER ATTACHMENTS

NTS 1



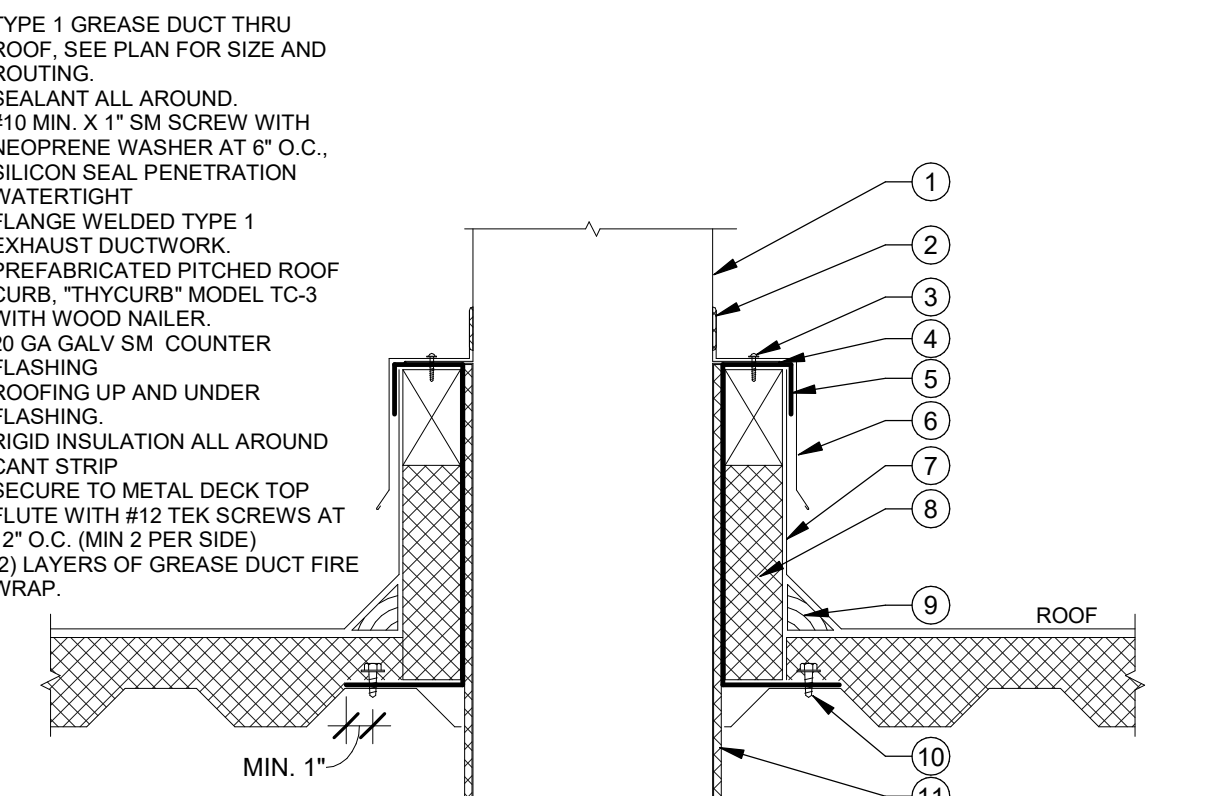
UTILITY EXHAUST FAN MOUNTING

NTS 10



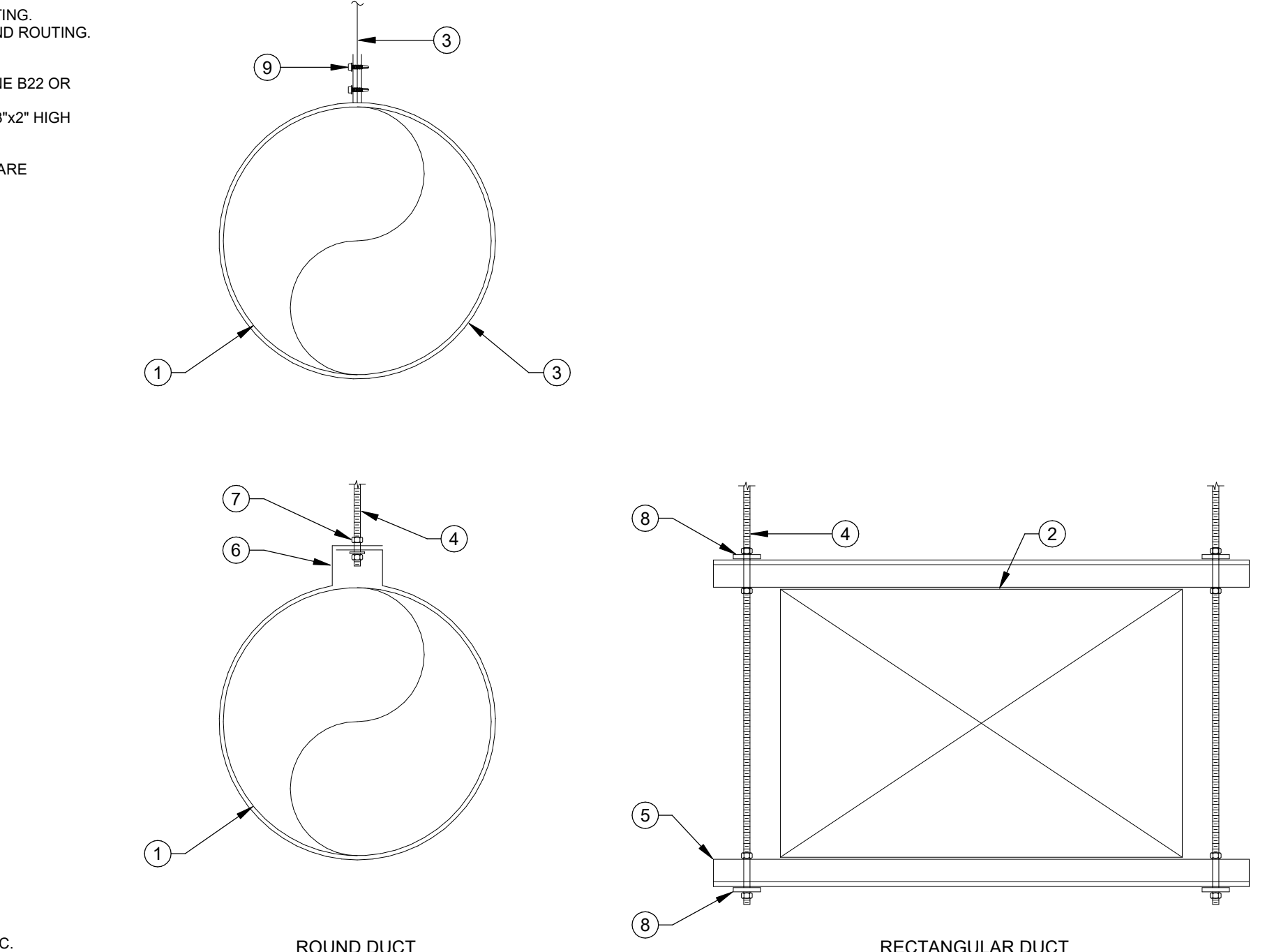
DUCT RISER ON WALL

NTS 6



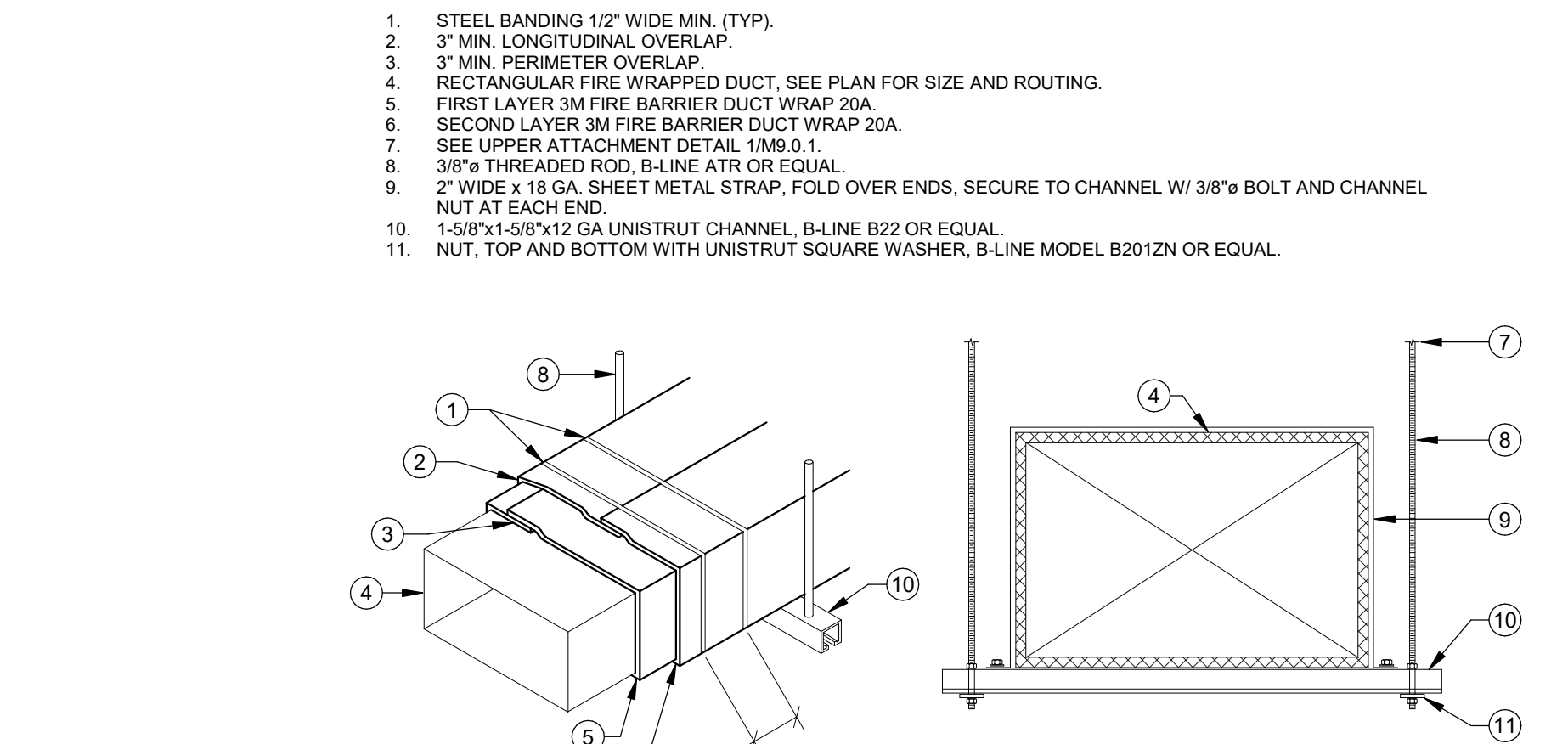
DUCT THRU ROOF

NTS 7



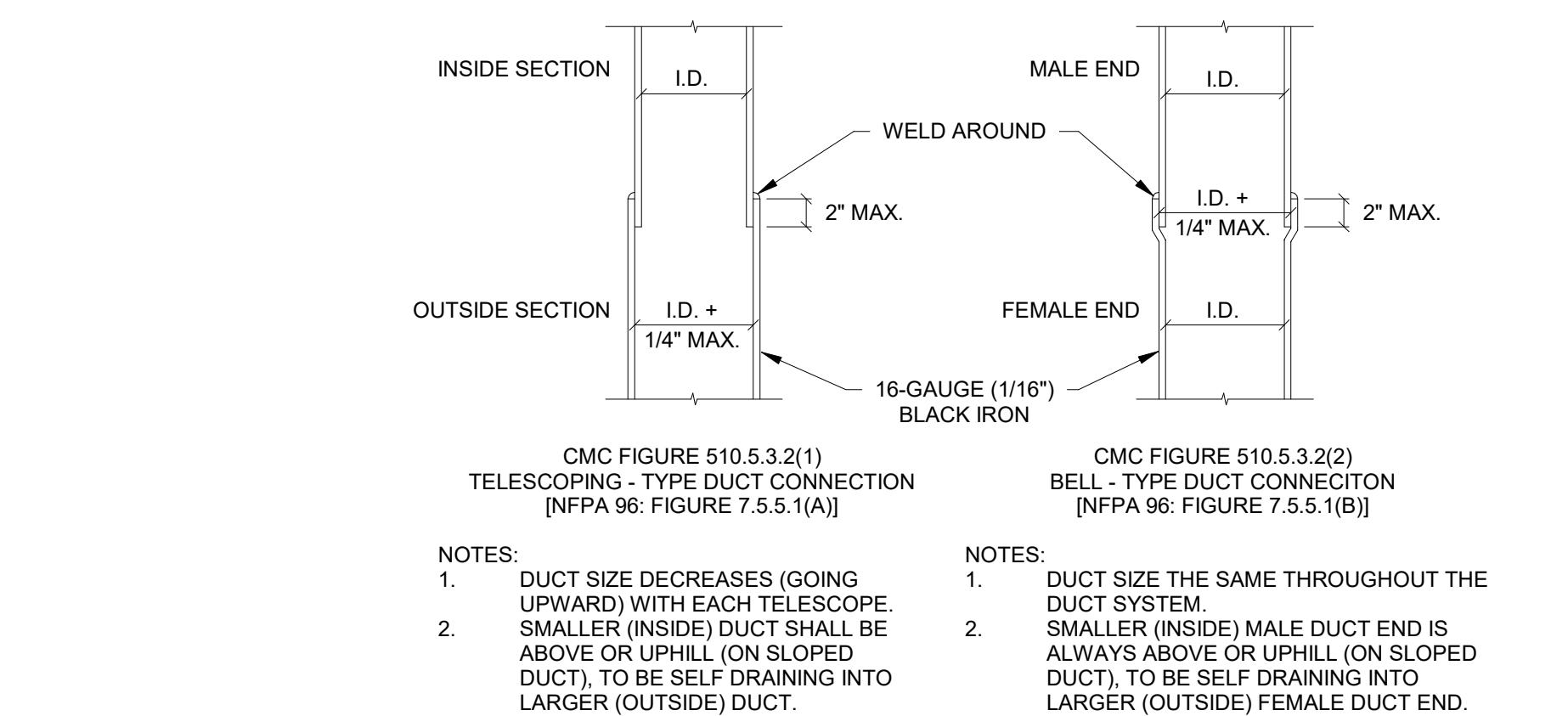
DUCT HANGERS

NTS 2



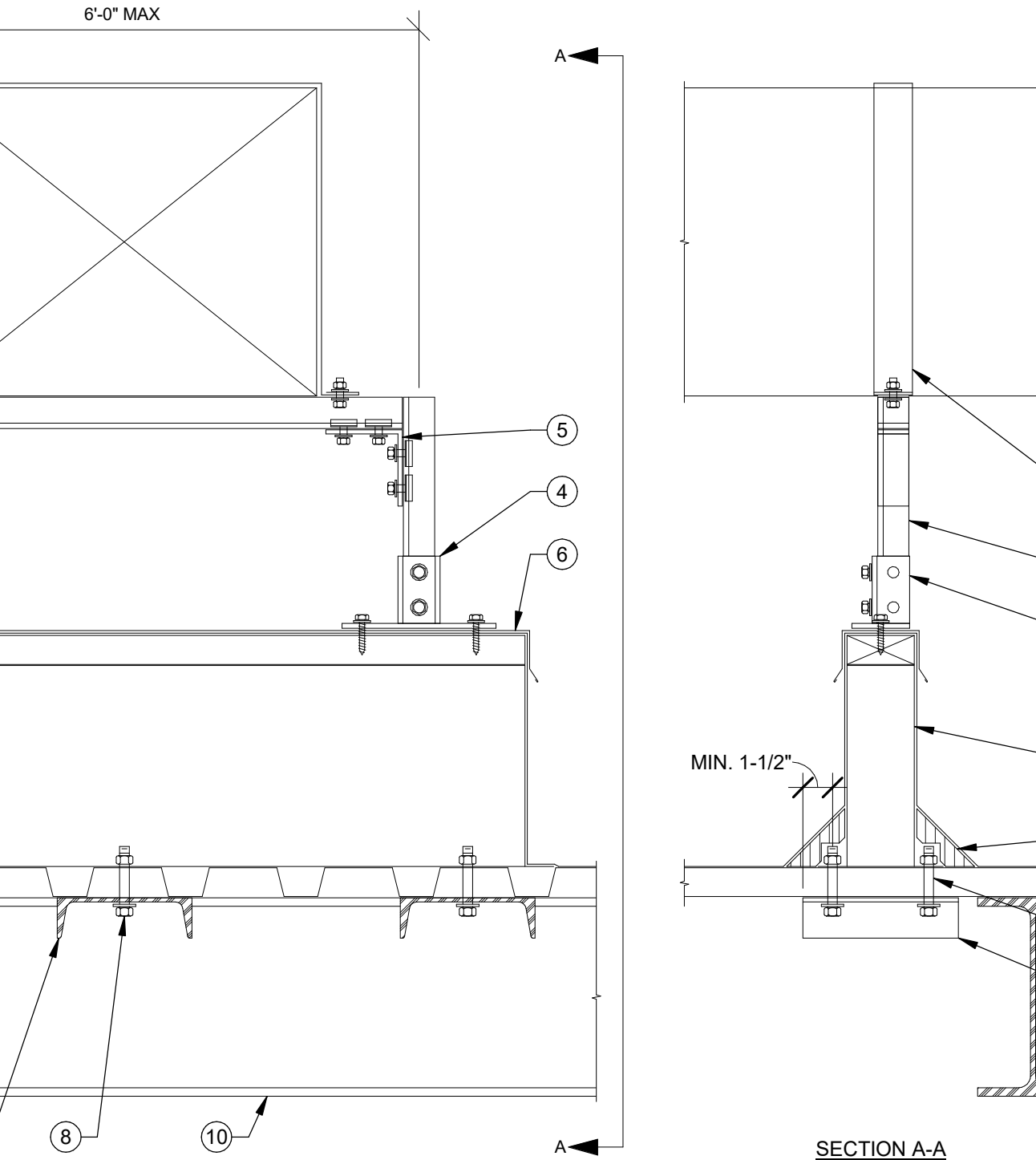
DUCT FIRE WRAP DETAIL

NTS 3



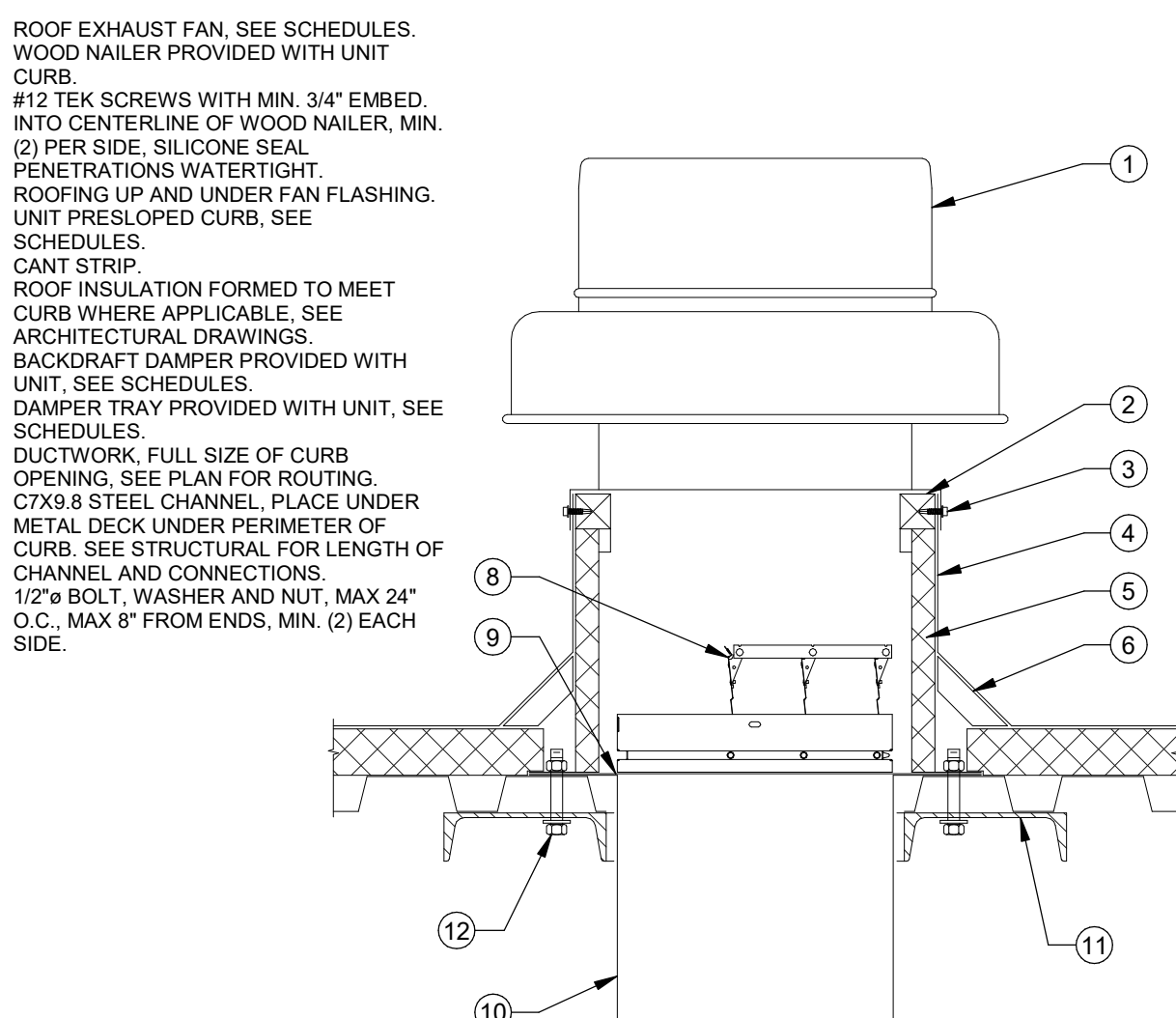
TYPE 1 EXHAUST DUCT CONNECTIONS

NTS 4



DUCT SUPPORT ON ROOF

NTS 11



ROOF EXHAUST FAN MOUNTING

NTS 8

1. FLOOR/ROOF, SEE STRUCTURAL DRAWINGS.
2. FLOOR/ROOF FRAMING, SEE STRUCTURAL DRAWINGS.
3. 1" x 20 GA. GALV. SHEET METAL STRAP.
4. 3/8" THREADED ROD, B-LINE ATR OR EQUAL.
5. 3/32"x1/4" GALVANIZED STEEL ANGLE.
6. 1-5/8"x1-5/8"x12 GA UNISTRUT CHANNEL, B-LINE B22 OR EQUAL.
7. 3/32" PRE-STRETCHED GALVANIZED AIRCRAFT CABLE, 7/16" STRAND CORE.
8. UNIVERSAL SWAY BRACE UPPER ATTACHMENT, B-LINE TOLCO FIG. 880 OR EQUAL.
9. 2"x2"x1/4" x 1-5/8" WIDE GALVANIZED STEEL ANGLE, B-LINE MODEL B154 OR EQUAL.
10. CABLE THIMBLE AND CABLE CLIPS.
11. (2) #12 TEK SCREWS PER ICC ESR-1976.
12. THREADED ROD BEAM CLAMP WITH RETAINING HOOK/STRAP, B-LINE B750 OR EQUAL.
13. UNISTRUT BEAM CLAMP, B-LINE B441 OR EQUAL, TORQUE TO 19 FT-LBS.
14. 3/8" BOLT, WASHER AND CHANNEL NUT.
15. (2) #10 TEK SCREWS PER ICC ESR-1976.
16. (2) #10 TEK SCREWS PER ICC ESR-1976, MIN. 3/4" O.C. MIN. 3/8" FROM EDGES OF METAL DECK FLUTES.
17. 1-5/8"x1-5/8"x12 GA UNISTRUT CHANNEL, B-LINE B22 OR EQUAL.
18. (4) #10 TEK SCREWS PER ICC ESR-1976, MIN. 3/4" O.C. MIN. 3/8" FROM EDGES OF METAL DECK FLUTES.
19. NUT AND CHANNEL NUT WITH UNISTRUT SQUARE WASHER, B-LINE B2012N OR EQUAL.
20. 1-5/8"x1-5/8"x12 GA DOUBLE UNISTRUT CHANNEL, B-LINE B22A OR EQUAL, CHANNEL LENGTH NOT TO EXCEED 10 FEET.
21. 1/2" x 1/2" BOLT WITH NUT AND UNISTRUT SQUARE WASHER, B-LINE B2012N OR EQUAL.
22. NUT AND 1/2" SQUARE WASHER TOP AND BOTTOM, MIN 1/8" THICK, USE BEVELED WASHER AT SLOPED BEAMS, MIN 1/8" THICKNESS.
23. SAMMY XP 20 HANGER TO DECK (APMO ER 0423), MAX ONE HANGER PER DECK SPAN, PER DECK WIDTH, MAX ALLOWABLE LONG 150 LBS.

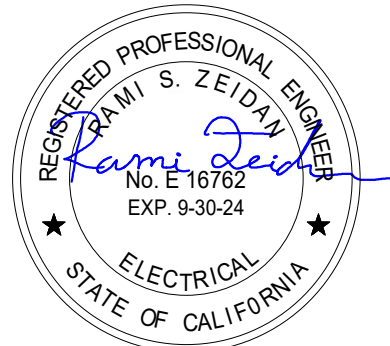
- NOTES:
- A. HANGER SPACING TO BE AT MAXIMUM 8FT O.C.

1. ROUND DUCT, SEE PLAN FOR SIZE AND ROUTING.
2. RECTANGULAR DUCT, SEE PLAN FOR SIZE AND ROUTING.
3. 1" x 20 GA. GALV. SHEET METAL STRAP.
4. 3/8" THREADED ROD, B-LINE ATR OR EQUAL.
5. 1-5/8"x1-5/8"x12 GA UNISTRUT CHANNEL, B-LINE B22 OR EQUAL.
6. 1" x 20 GA. GALV. SHEET METAL STRAP WITH 3"x2" HIGH FLANGE.
7. NUT AND WASHER, TOP AND BOTTOM.
8. NUT, TOP AND BOTTOM WITH UNISTRUT SQUARE WASHER, B-LINE MODEL B2012N OR EQUAL.
9. (2) #10 TEK SCREWS.

- NOTES:
- A. HANGER SPACING TO BE AT MAXIMUM 8FT O.C.

- NOTES:
1. DUCT SIZE DECREASES (GOING UPWARD) WITH EACH TELESCOPE. SMALLER (INSIDE) DUCT SHALL BE ABOVE OR UPHILL (ON SLOPED DUCT), TO BE SELF DRAINING INTO LARGER (OUTSIDE) DUCT.
2. DUCT SIZE THE SAME THROUGHOUT THE DUCT SYSTEM. SMALLER (INSIDE) MALE DUCT END IS ALWAYS ABOVE OR UPHILL (ON SLOPED DUCT), TO BE SELF DRAINING INTO LARGER (OUTSIDE) FEMALE DUCT END.

ELECTRICAL SYMBOL LEGEND			
ALL SYMBOLS SHOWN IN THIS LEGEND ARE NOT NECESSARY USED ON PLANS IF NOT REQUIRED			
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
POWER		LIGHTING	
	MAIN SWITCHBOARD OR DISTRIBUTION PANEL, PAD OR FLOOR MOUNTED, AS NOTED		LED LUMINAIRE - T-BAR LAY-IN
	RECESSED MOUNTED LIGHTING OR DISTRIBUTION PANEL		LED LUMINAIRE - RECESSED IN GYPBOARD
	SURFACE MOUNTED LIGHTING OR DISTRIBUTION PANEL		LED LUMINAIRE - SURFACE
	RECESSED TERMINAL CABINET w/ 3/4" C PLYWOOD BACKBOARD, DUPLEX RECEPTACLE & #6 CU GND, UNO		LED LUMINAIRE - SUSPENDED
	SURFACE MOUNTED TERMINAL CABINET w/ 3/4" C PLYWOOD BACKBOARD, DUPLEX RECEPTACLE & #6 CU GND, UNO		LED LUMINAIRE - SURFACE OR SUSPENDED STRIP
	DISTRIBUTION TRANSFORMER, MOUNTING AND SIZE AS NOTED		LED LUMINAIRE - RECESSED DOWNLIGHT
	NON-FUSED DISCONNECT SWITCH		LED LUMINAIRE - RECESSED WALLWASH
	ENCLOSED CIRCUIT BREAKER DISCONNECT SWITCH		LED LUMINAIRE - SURFACE
	FUSED DISCONNECT SWITCH, SIZE DISCONNECT AND FUSES PER UNIT LABEL		LED LUMINAIRE - WALL
	MOTOR STARTER/CONTROLLER		LED LUMINAIRE - PENDANT
	COMBINATION CIRCUIT BREAKER DISCONNECT/MOTOR STARTER		TRACK LIGHT - SUSPENDED OR SURFACE MOUNTED
	COMBINATION FUSIBLE DISCONNECT/MOTOR CONTROLLER, PROVIDE FUSES PER MANUFACTURER'S REQUIREMENTS. "NF" INDICATES NON-FUSED		CONTINUOUS LINEAR LED TAPE OR LED COVE LIGHT
	POWER POINT OF CONNECTION		HATCHED LUMINAIRE INDICATES AN EMERGENCY LUMINAIRE CONNECTED TO A EMERGENCY POWER DISTRIBUTION SYSTEM, OR INTEGRAL EMERGENCY BATTERY BACK-UP
	DUPLEX RECEPTACLE OUTLET 20A, 125V, @ +16" TO BOTTOM OF BOX, UNO. SUBSCRIPT TEXT WHERE OCCURS, SEE RECEPTACLE SUBSCRIPT LEGEND BELOW.		SINGLE FACE EXIT SIGN. SEE LIGHTING FIXTURE SCHEDULE FOR SPECIFICATION. DIRECTIONAL ARROW AS INDICATED ON PLANS. (CEILING OR WALL)
	DUPLEX RECEPTACLE MOUNTED ABOVE COUNTER TOP [1]		DOUBLE FACE EXIT SIGN. SEE LIGHTING FIXTURE SCHEDULE FOR SPECIFICATION. DIRECTIONAL ARROW AS INDICATED ON PLANS. (CEILING OR WALL)
	ISOLATED GROUND DUPLEX RECEPTACLE, 20A, 125V, @ +16" TO BOTTOM OF BOX, UNO.		COMBINATION EMERGENCY EXIT SIGN WITH DUAL HEAD LIGHTS WITH EMERGENCY BATTERY BACK-UP
	GFCI DUPLEX RECEPTACLE OUTLET 20A, 125V, @ +16" TO BOTTOM OF BOX, UNO		BATTERY POWERED EMERGENCY EGRESS LUMINAIRE - SURFACE MOUNTED
	GFCI DUPLEX RECEPTACLE OUTLET MOUNTED ABOVE COUNTER TOP AND/OR SINK BACKSPLASH [1]		SPOT/FLOOD LUMINAIRE - CEILING
	ISOLATED GROUND GFCI DUPLEX RECEPTACLE OUTLET 20A, 125V, @ +16" TO BOTTOM OF BOX, UNO		SPOT/FLOOD LUMINAIRE - ABOVE GROUND
	DEDICATED GFCI DUPLEX RECEPTACLE OUTLET 20A, 125V, @ +16" TO BOTTOM OF BOX, UNO		EXTERIOR POLE FIXTURE - SINGLE HEAD
	FOURPLEX RECEPTACLE OUTLET 20A, 125V, @ +16" TO BOTTOM OF BOX, UNO.		EXTERIOR POLE FIXTURE - TWIN HEAD
	FOURPLEX RECEPTACLE OUTLET MOUNTED ABOVE COUNTER TOP [1]		EXTERIOR PATHWAY POST-TOP POLE FIXTURE
	ISOLATED GROUNDED DOUBLE DUPLEX RECEPTACLE 20A, 125V, @ +16" TO BOTTOM OF BOX, UNO		BOLLARD FIXTURE
	DEDICATED DOUBLE DUPLEX RECEPTACLE OUTLET 20A, 125V, @ +16" TO BOTTOM OF BOX, UNO		STEP LUMINAIRE
	GFCI DOUBLE DUPLEX RECEPTACLE OUTLET 20A, 125V, @ +16" TO BOTTOM OF BOX, UNO		
	GFCI DOUBLE DUPLEX RECEPTACLE OUTLET MOUNTED ABOVE COUNTER TOP AND/OR SINK BACKSPLASH [1]		
	ISOLATED GROUND GFCI DOUBLE DUPLEX RECEPTACLE OUTLET 20A, 125V, @ +16" TO BOTTOM OF BOX, UNO		
	DEDICATED GFCI DOUBLE DUPLEX RECEPTACLE OUTLET 20A, 125V, @ +16" TO BOTTOM OF BOX, UNO		
	SPECIAL RECEPTACLE OUTLET, SIZE AND NEMA CONFIGURATION AS NOTED, MOUNTED @ +16" TO BOTTOM OF BOX, UNO		
	FLOOR MOUNTED DUPLEX RECEPTACLE, 20A, 125V FLUSH IN FINISHED FLOOR		
	FLOOR MOUNTED DOUBLE DUPLEX RECEPTACLE, 20A, 125V FLUSH IN FINISHED FLOOR		
	CEILING MOUNTED DUPLEX RECEPTACLE, 20A, 125V		
	CEILING MOUNTED DOUBLE DUPLEX RECEPTACLE, 20A, 125V		
	FLOOR MOUNTED COMBINATION DUPLEX RECEPTACLE / TELECOM		
	FLOOR MOUNTED COMBINATION DOUBLE DUPLEX RECEPTACLE / TELECOM		
	FLOOR MOUNTED COMBINATION POWER AND TELECOM WITH WHIP FOR PARTITION FURNITURE		
	POWER / TELECOM WITH WHIP FOR PARTITION FURNITURE		
	WALL MOUNTED JUNCTION BOX - SIZE AS REQUIRED BY CODE		
	CEILING JUNCTION BOX - SIZE AS REQUIRED BY CODE		
	FLOOR MOUNTED JUNCTION BOX - SIZE AS REQUIRED BY CODE		
	PLUG/MOLD		
	POWER POLE		
	CEILING EXHAUST FAN		
	ELECTRIC VEHICLE CHARGING STATION, DUAL PORT & SINGLE PORT		
	THERMAL OVERLOAD SWITCH		
	MOTOR RATED SWITCH		
RECEPTACLE SUBSCRIPT LEGEND (APPLIES TO ALL RECEPTACLES)		LIGHTING CONTROLS	
C	CONTROLLED/UNCONTROLLED [2]		SINGLE POLE TOGGLE SWITCH, 20A, 120-277V @ +46" TO TOP OF BOX, UNO [1]
LC	LOCKING COVER		THREE WAY TOGGLE SWITCH, 20A, 120-277V @ +46" TO TOP OF BOX, UNO [1]
TR	TAMPER-RESISTANT		SUBSCRIPTS "a" "b" "c" DESIGNATE THE QUANTITY OF SWITCHES AT EACH LOCATION (TYPICAL FOR ALL SWITCH TYPES) [1]
U	USB (UNIVERSAL SERIAL BUS)		SINGLE POLE KEYED BARREL SWITCH 20A, 120-277V @ +46" TO TOP OF BOX, UNO [1]
WP	WEATHERPROOF		WALL MOUNTED PUSH BUTTON @ +46" TO TOP OF BOX, UNO [1]
WPU	WEATHERPROOF WHILE IN USE		WALL MOUNTED DIMMER SWITCH @ +46" TO TOP OF BOX, UNO [1]
FOOTNOTES:			DIGITAL WALL CONTROL OVERRIDE SWITCH. RUN CABLING BACK TO LIGHTING CONTROL PANEL. MOUNTED @ +46" TO TOP OF BOX, UNO [1]
[1]	PROVIDE 44" MAX. TO TOP OF BOX AT AREAS WITH FORWARD ACCESSIBLE APPROACH KNEE CLEARANCE, OR PROVIDE 46" MAX. TO TOP OF BOX AT AREAS WITH PARALLEL ACCESSIBLE APPROACH (PER CBC 11B-308)		WALL MOUNTED OCCUPANCY SENSOR, DUAL TECHNOLOGY, PASSIVE INFRARED OR ULTRASONIC, MOUNTED @ +46" TO TOP OF BOX, UNO [1]
[2]	FOR DUPLEX RECEPTACES: ONE HALF IS CONTROLLED, AND ONE HALF IS UNCONTROLLED. PLACE CONTROLLED HALF AT BOTTOM. FOR DOUBLE DUPLEX RECEPTACES: ONE DUPLEX IS CONTROLLED, AND ONE DUPLEX IS UNCONTROLLED. PLACE CONTROLLED DUPLEX AT RIGHT.		CEILING, OR PENDANT, MOUNTED OCCUPANCY SENSOR, DUAL TECHNOLOGY, PASSIVE INFRARED OR ULTRASONIC
			CORNER MOUNT OCCUPANCY SENSOR, DUAL TECHNOLOGY, PASSIVE INFRARED OR ULTRASONIC
			PHOTOCONTROL DAYLIGHT SENSOR
		TAGS AND LEADERS	
		KEY NOTE	
			LIGHT FIXTURE TAG : FIXTURE TYPE PANEL NAME - CIRCUIT# / SWITCH/LEG
			FEEDER DESIGNATION TAG
			KITCHEN EQUIPMENT DESIGNATION TAG
			DETAIL DESIGNATION: TOP LETTER INDICATES DETAIL NUMBER, BOTTOM LETTER / NUMBER INDICATES SHEET NUMBER
			MECHANICAL OR PLUMBING EQUIPMENT TAG
			BRACKET
			LEADERS
		ONE LINE DIAGRAM	
			PANEL IDENTIFICATION
			CIRCUIT BREAKER
			FUSED SWITCH
			GROUND FAULT CIRCUIT INTERRUPTER
			GROUND
			UNDERGROUND TERMINATION SERVICE LUG
			UTILITY METER WITH CURRENT TRANSFORMER COMPARTMENT METER SOCKET
			CUSTOMER-OWNED MULTIFUNCTION METER WITH CURRENT TRANSFORMERS
			MOTOR
			TRANSFORMER WITH GROUND
			UFER GROUND
			BOND TO COLD WATER PIPE, GAS PIPE, BUILDING STEEL
			AUTOMATIC TRANSFER SWITCH
			NEUTRAL LINK
			SURGE PROTECTIVE DEVICE
		CIRCUITS	
			STUB
			CONTINUATION
			CONDUIT RISER - UP
			CONDUIT DROP - DOWN
			CONDUIT CONCEALED IN CEILING OR WALL
			CONDUIT CONCEALED IN FLOOR OR UNDERGROUND
			EXISTING CONDUIT TO REMAIN.
			CONDUIT & CONDUCTORS FOR LOW VOLTAGE MOTION SENSORS
			EXISTING CONDUIT AND/OR CONDUCTORS TO BE REMOVED. UNDERGROUND CONDUIT MAY BE ABANDONED IN PLACE.
			HOME RUN TO PANELBOARD OR TERMINAL CABINET w/ CONDUCTORS AS NOTED
			CIRCUIT CONDUCTORS: LONG TICK INDICATES NEUTRAL CONDUCTOR, SHORT TICKS INDICATE PHASE CONDUCTORS, TICK MARK WITH A DOT ON THE END INDICATES EQUIPMENT GROUNDING CONDUCTOR, NUMBER BY TICKS INDICATE WIRE GAUGE OTHER THAN 12 AWG CU, NO TICKS INDICATE 2 #12 CU, 1 #12 CU GND, IN 12" CONDUIT, OTHERS AS NOTED ON PLAN. NOTE: PROVIDE A CODE SIZED EQUIPMENT GROUNDING CONDUCTOR IN ALL CONDUITS FOR THIS PROJECT, WHETHER SHOWN ON PLAN OR NOT.
			FLEXIBLE CONDUIT, 6'-0" LONG MAX. w/ #12 CU GROUND UNO.



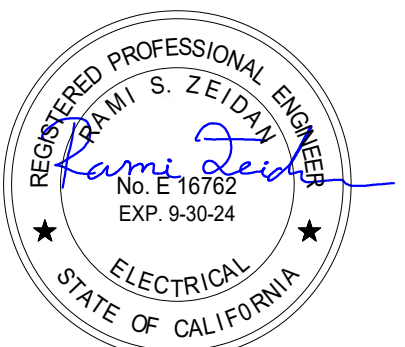
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KEY NOTES

- 1 DEMOLISH 208V CONNECTION TO EXISTING VEHICLE EXHAUST MOTORIZED HOSE REEL. DEMOLISH WIRE BACK TO SOURCE. KEEP EXISTING CONDUIT AND ASSOCIATED J-BOX FOR FUTURE USE.

GENERAL NOTES

- A. FIELD VERIFY EXISTING CONDITIONS PRIOR TO PERFORMING WORK. NOTIFY ARCHITECT AND ENGINEER OF ANY CONFLICTS OR DISCREPANCIES



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Drawing Title
ELECTRICAL DEMO POWER PLAN

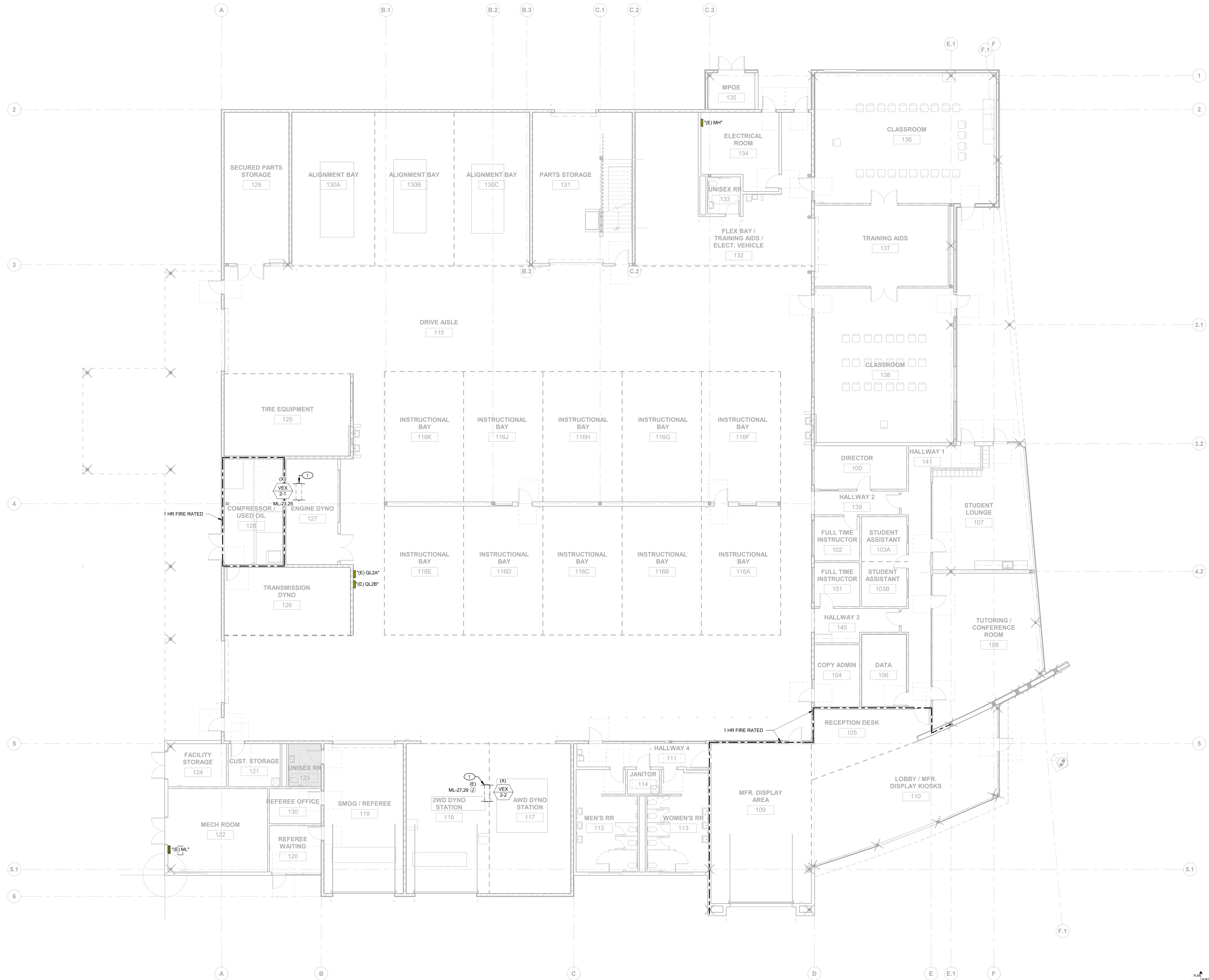
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Project
**SOLANO COMMUNITY COLLEGE
AUTO TECH FACILITY**

Drawn By
RSP
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RZ

Project No.
23-265
Date
05-05-2024
DRAWING NO.

E2.0.1



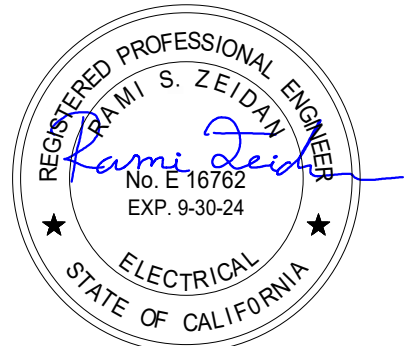
1 ELECTRICAL DEMO POWER PLAN
SCALE: 1/8" = 1'-0"

KEY NOTES

- 1 UTILIZE EXISTING CONDUIT MADE AVAILABLE BY DEMOLITION. PULL NEW WIRE.
- 2 PROVIDE 120V LIQUIDTIGHT CONNECTION TO NEW VEHICLE EXHAUST MOTORIZED HOSE REEL. CONNECT COMPLETE PER MANUFACTURERS RECOMMENDATIONS.
- 3 COORDINATE WITH OWNER FOR LOCATION OF REEL MOTOR PB STATION.

GENERAL NOTES

- A. FIELD VERIFY EXISTING CONDITIONS PRIOR TO PERFORMING WORK. NOTIFY ARCHITECT AND ENGINEER OF ANY CONFLICTS OR DISCREPANCIES



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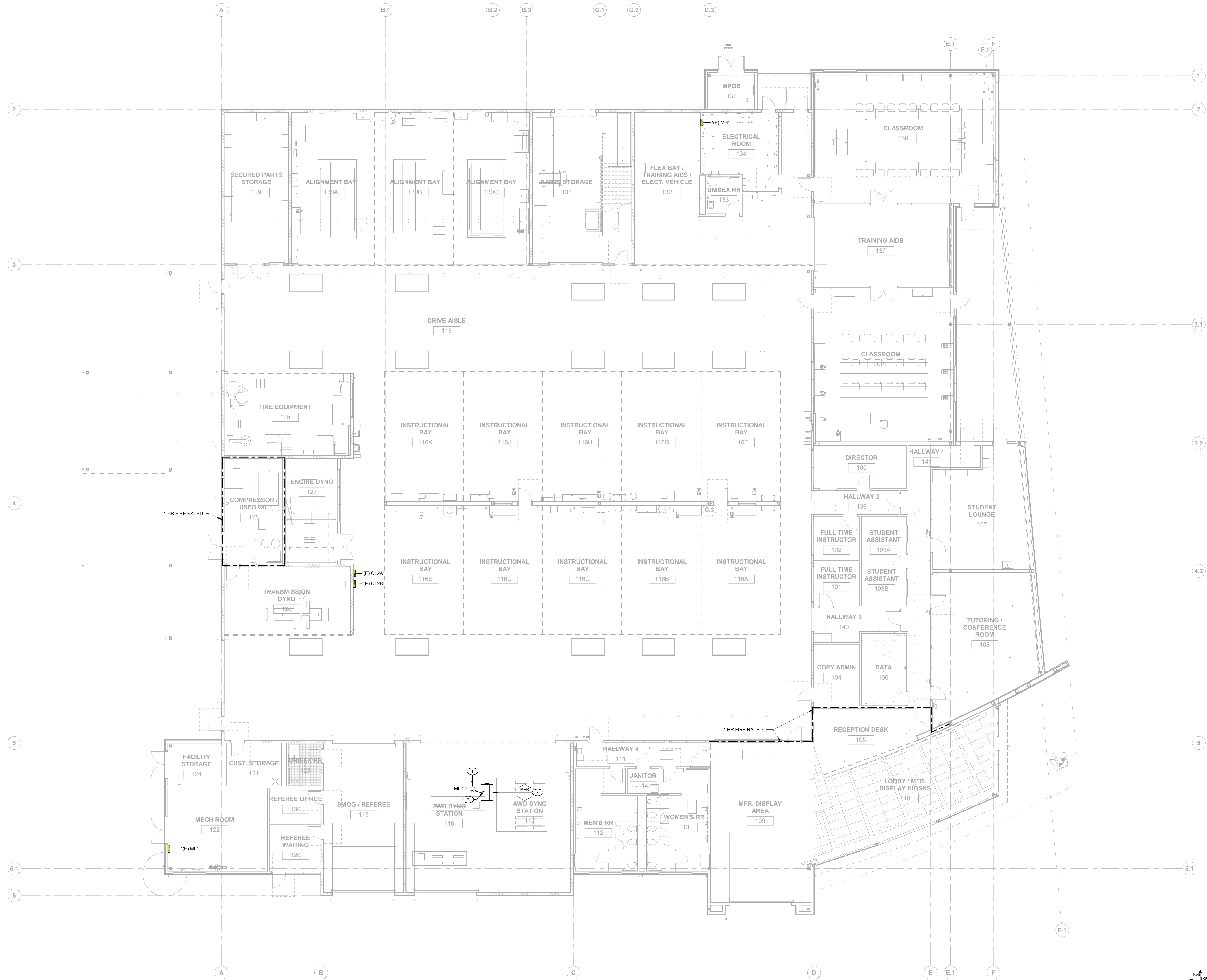
Drawing Title
ELECTRICAL POWER PLAN

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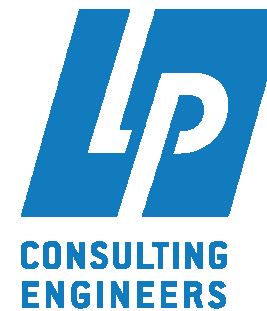


KEY NOTES

- 1 PROVIDE 480V 3PH CONNECTION TO MANUFACTURER PROVIDED NON FUSED DISCONNECT SWITCH. CONNECT COMPLETE PER MANUFACTURER RECOMMENDATIONS.
- 2 PROVIDE 480V CONNECTION TO MANUFACTURER PROVIDED STARTER VIA NON FUSED DISCONNECT SWITCH. CONNECT COMPLETE PER MANUFACTURER RECOMMENDATIONS.
- 3 PROVIDE 120V SWITCHED CONNECTION FROM WCB4 REEL ENCLOSURE TO MANUFACTURE PROVIDED STARTER COIL. PROVIDE FINAL CONNECTION TO VEF-2. COMPLETE PER MANUFACTURER RECOMMENDATIONS.

GENERAL NOTES

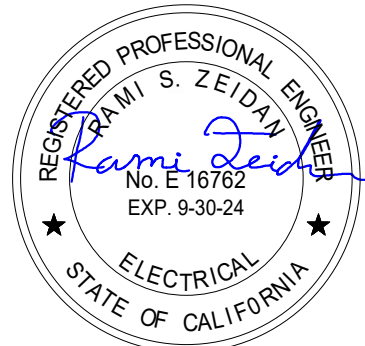
- A. FIELD VERIFY EXISTING CONDITIONS PRIOR TO PERFORMING WORK. NOTIFY ARCHITECT AND ENGINEER OF ANY CONFLICTS OR DISCREPANCIES



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DSA #: 02-122544

Drawing Title
ELECTRICAL ROOF PLAN

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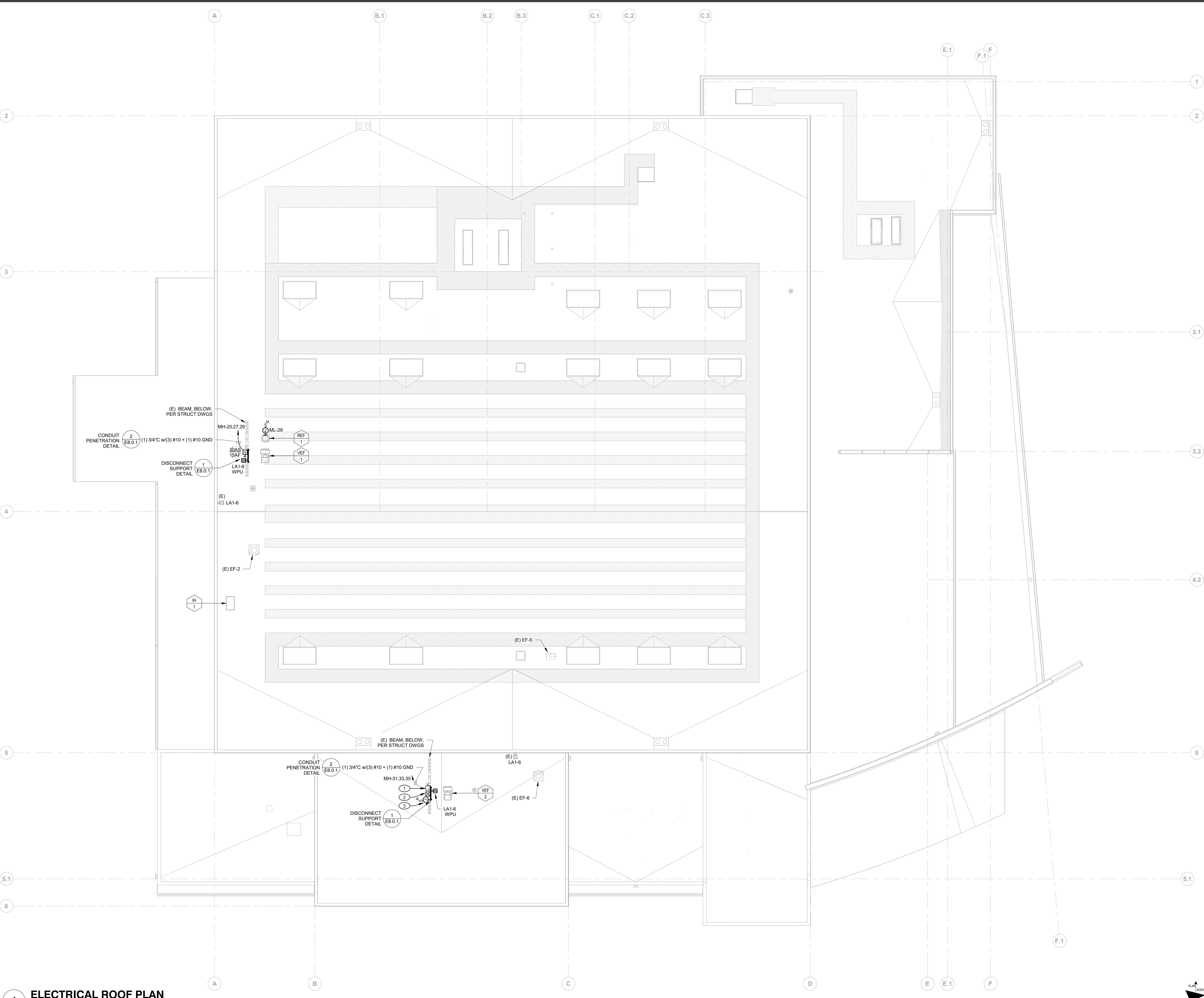
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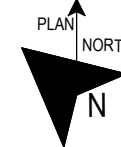
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1 ELECTRICAL ROOF PLAN
SCALE: 1/8" = 1'-0"

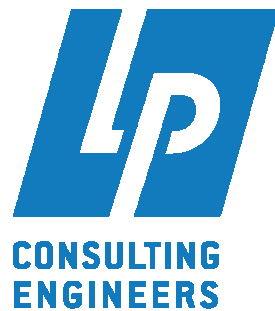


KEY NOTES

- 1
- PROVIDE NEW 3 POLE CIRCUIT BREAKER AND INSTALL IN AVAILABLE SPACE. MATCH EXISTING BREAKERS MAKE, MODEL AND AIC RATING
- 2
- DEMOLISH EXISTING 2 POLE BREAKER AND LABEL AS 'SPARE'
- 3
- DEMOLISH EXISTING 2 POLE BREAKER AND PROVIDE (2) 20A SINGLE POLE BREAKERS IN AVAILABLE SPACE. MATCH EXISTING BREAKERS MAKE, MODEL AND AIC RATING

PANEL "MH"											
277/480 Volt, 3 Phase, 4 Wire 400 Amp BUS CU 400 Amp MCB						KAIC Rating SURFACE Mounted Type NEMA 1					
PHASE SUMMARY (WATTS)											
CKT	BKR	DESCRIPTION	A	B	C	A	B	C	DESCRIPTION	BKR	CKT
1	80/3	(E) IDG-1	7,980	7,980		5,852	5,852		(E) AC-1	60/3	2
3	-										4
5	-				7,980		5,852	5,852			6
7	70/3	(E) TX-M	10,287	10,287		2,394			(E) VFD-2/SHWP-2	30/3	8
9	-						2,394	2,394			10
11	-				10,287						12
13	30/3	(E) VFD-1/SHWP-1			2,394				COMPRESSOR	30/3	14
15	-			2,394							16
17	-						5,817	5,817			18
19	20/3	(E) ENGIN DYNO BOOST PUMP	831		2,394				SPARE	30/3	20
21	-			831							22
23	-				831						24
25	15/3	VEF-1	1,083						SPACE	PFB	26
27	-			1,083					SPACE	PFB	28
29	-				1,083				SPACE	PFB	30
31	15/3	VEF-2	1,798						SPACE	PFB	32
33	-			1,798					SPACE	PFB	34
35	-				1,798				SPACE	PFB	36
37	PFB	SPACE							SPACE	PFB	38
39	PFB	SPACE							SPACE	PFB	40
41	PFB	SPACE							SPACE	PFB	42
PHASE TOTALS											
			A	B	C						
			38,438	38,438	38,438						
PANEL AND CIRCUIT BREAKER NOTES:											
[1]											
[2]											
DEMAND LOADS											
LIGHTING / CONTINUOUS LOAD x 125%										115,308	Watts
RECEPTACLES / OTHER x 100%										1,995	Watts
LARGEST MOTOR x 25%										117,303	Watts
TOTAL DEMAND LOADS										141	AMPS

PANEL "ML"												10 KAIC Rating	
120/208 Volt, 3 Phase, 4 Wire 125 Amp BUS CU. 125 Amp MCB Amp MLO												SURFACE Mounted NEMA 1 Type	
PHASE SUMMARY (WATTS)													
CKT.	BKR	DESCRIPTION	A	B	C	A	B	C	DESCRIPTION	BKR	CKT.		
1	20/1	(E) VEX 1-14							(E) FC-1 /CU-1	30/2	2		
3	20/1	(E) VAVS									4		
5	20/2	(E) EF-3							(E) RECEPTACLE	20/1	6		
7	20/1	(E) EF-4							(E) CP-2	20/1	8		
9	20/1	(E) EF-5							(E) TRANSFER FAN	20/1	10		
11	20/1	(E) EF-5							(E) TRANSFER FAN	20/1	12		
13									(E) BT	20/1	14		
15	20/2	(E) EF-6							(E) S-2	20/1	16		
17									(E) GWH-1	20/1	18		
19	20/1	(E) EF-1							(E) PWH-1	20/1	20		
21	20/1	(E) EF-2							(E) PWH-2	20/1	22		
23	20/2	SPARE							(E) IRRIGATION CONTROL	20/1	24		
25									(E) EF-8	20/1	26		
27	20/1	MHR	180						WHEELCHAIR LIFT	20/2	28		
29	20/1	REF-1		165							30		
31	PFB	SPACE							(E) CIRC PUMP	20/1	32		
33	20/3	(E) CU-2							(E) ELKAY RECEPT	20/1	34		
35									(E) ROOF RECEPT	20/1	36		
37	20/2	(E) FC-2							(E) FA BELL/DUPLICATE CONTROL	20/1	38		
39									(E) HVAC CONTROL PANEL RELAY	20/1	40		
41	20/1	(E) BPS-FA							(E) LEVEL SENSOR	20/1	42		
PHASE TOTALS													
			A	B	C								
			180	165									
PANEL AND CIRCUIT BREAKER NOTES:													
[1]													
[2]													
DEMAND LOADS													
LIGHTING / CONTINUOUS LOAD x 125%										345	Watts		
RECEPTACLES / OTHER x 100%										45	Watts		
LARGEST MOTOR x 25%										390	Watts		
TOTAL DEMAND LOADS										1	AMPS		

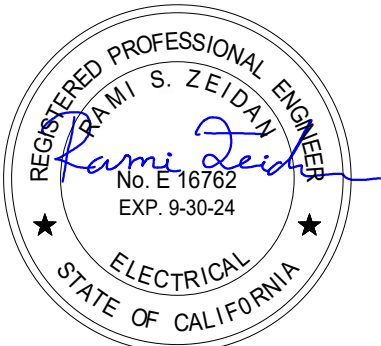


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DSA #: 02-122544

Drawing Title
**ELECTRICAL PANEL
SCHEDULES**

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Project
**SOLANO COMMUNITY COLLEGE
AUTO TECH FACILITY**

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RSP

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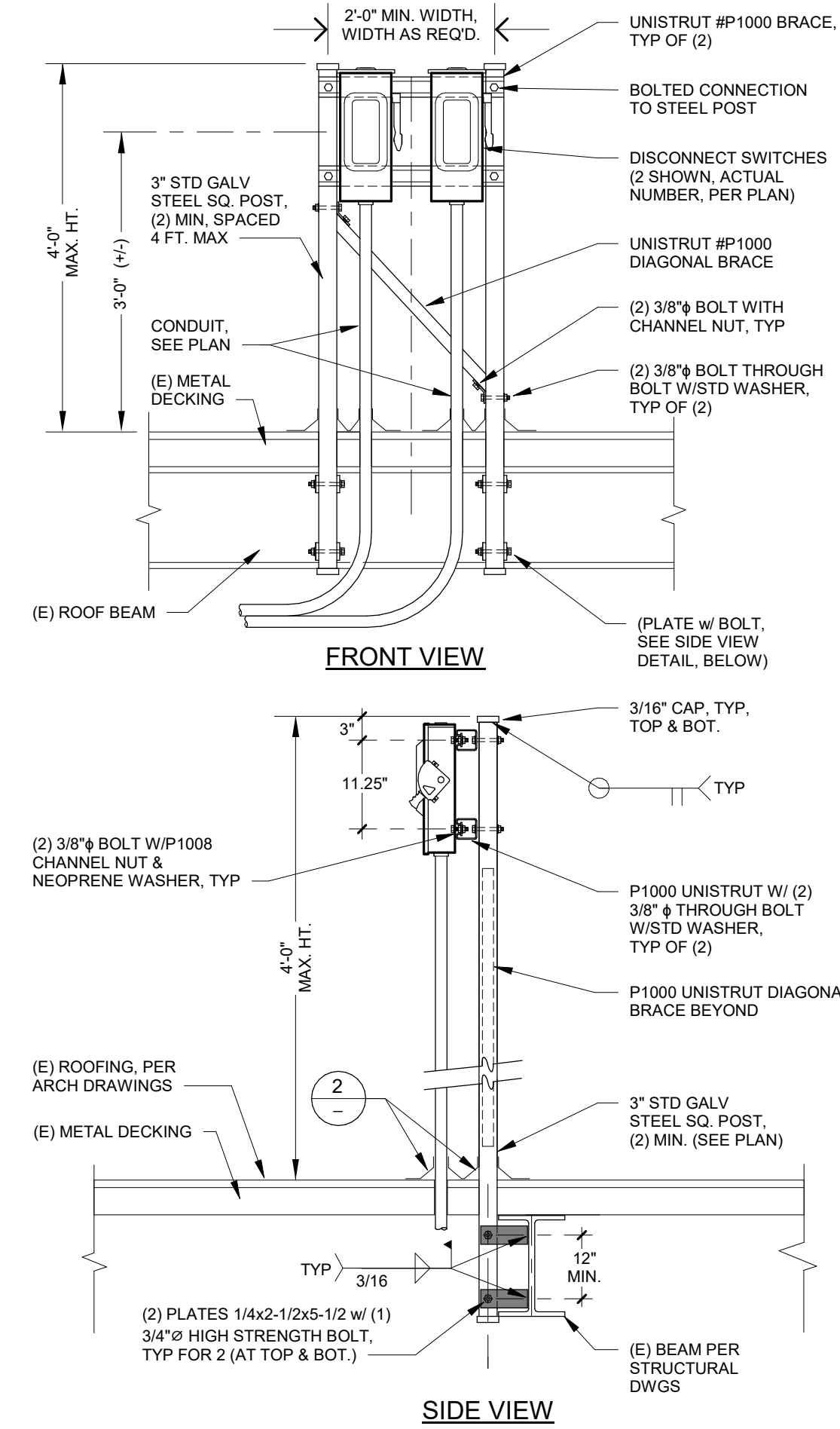
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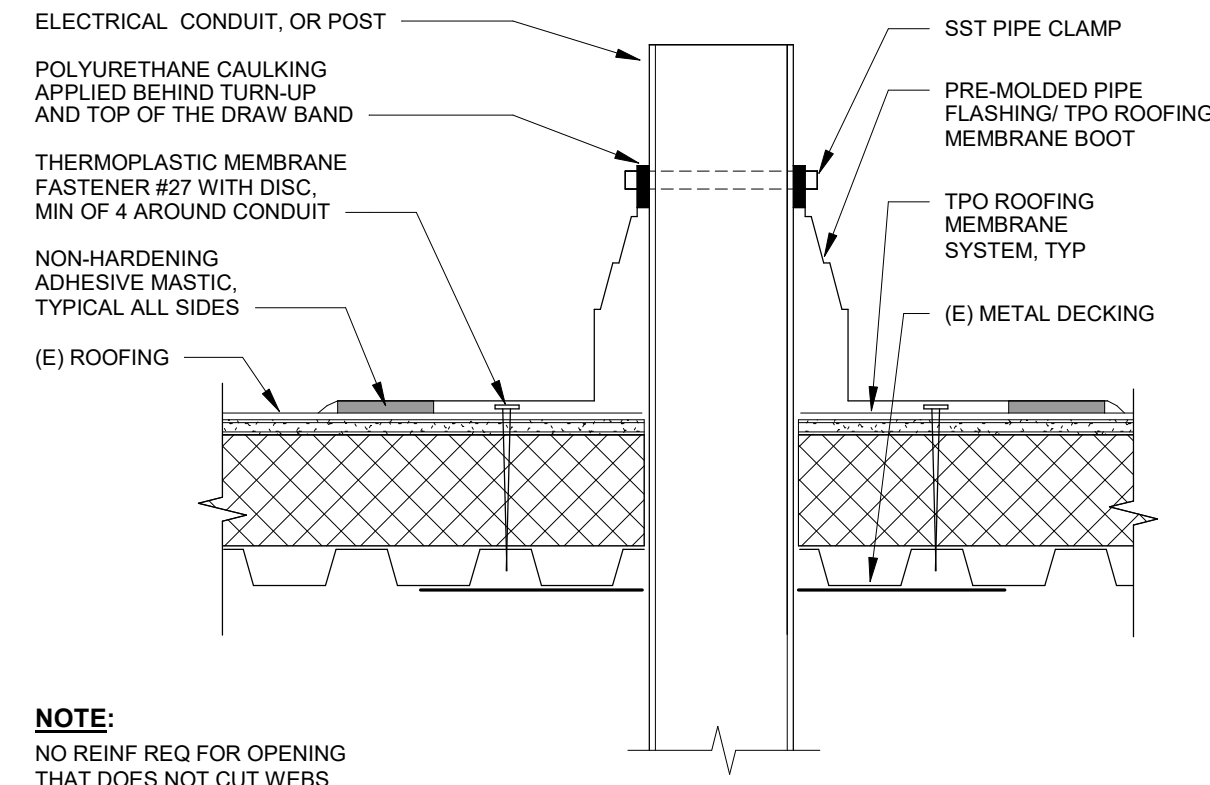
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NOTE: DISCONNECT/SUPPORT MUST BE RELOCATED PER ROOF PLAN IN ORDER TO BE SUPPORTED BY A BEAM

DISCONNECT(S) MOUNTED ON ROOF, ON UNISTRUT & STEEL POST DETAIL

NOTES:
1. THIS DETAIL APPLIES FOR METAL POSTS OR CONDUITS, 8" DIA. OR SMALLER



ROOF CONDUIT PENETRATION DETAIL

SEAL

RECORDED PROFESSIONAL ENGINEER
EXPIRATION DATE: 9/30/24
No. E 16702
ELECTRICAL
STATE OF CALIFORNIA

Project: SOLANO COMMUNITY COLLEGE
AUTO TECH FACILITY

DSA SUBMITTAL

DSA #: 02-122544

ELECTRICAL DETAILS

Drawn By: RSP
Checked By: RZ
Project No: 23-265
Date: 05-05-2024
DRAWING NO. E8.0.1

ELECTRICAL SPECIFICATIONS			
PART 1 - GENERAL			
THE SPECIFICATION SECTIONS LISTED BELOW DO NOT ALL NECESSARILY APPLY TO THE SCOPE OF THIS PROJECT.			
1.01	SCOPE OF WORK		
A.	FURNISH ALL NECESSARY LABOR, MATERIALS, EQUIPMENT, AND INCIDENTALS REQUIRED TO INSTALL A COMPLETE AND OPERATIONAL ELECTRICAL SYSTEM ACCORDING TO THE INTENT OF THIS SPECIFICATION WHETHER ITEMIZED OR NOT.		
B.	EXAMINE THE MECHANICAL PLANS AND SPECIFICATIONS FOR MECHANICAL EQUIPMENT AND PROVIDE ALL STARTERS, CIRCUIT BREAKERS, SWITCHES, PUSHBUTTONS, AND APPURTENANCES, WHICH ARE NOT SPECIFIED TO BE WITH THE MECHANICAL EQUIPMENT. ERECT ALL ELECTRICAL EQUIPMENT NOT DEFINITELY STATED TO BE ERECTED BY OTHERS, FURNISH AND INSTALL CONDUIT, WIRE, AND CABLE AND MAKE CONNECTIONS REQUIRED TO PLACE ALL EQUIPMENT IN COMPLETE OPERATION.		
C.	THE GENERAL EXTENT OF THE ELECTRICAL WORK INCLUDES, AMONG OTHERS, THE FURNISHING AND INSTALLING OF THE FOLLOWING ITEMS: <div><div>1. PRIMARY AND SECONDARY SERVICE FACILITIES INCLUDING TRANSFORMER PADS, PRIMARY CONDUIT AND TRENCHING, SECONDARY CONDUIT, TRENCHING AND CONDUCTORS, AND MAIN SWITCHBOARD INCLUDING FACILITIES FOR METERING, DISTRIBUTION PANELS, AND PANELBOARDS.</div><div>2. LIGHTING AND POWER INSTALLATION, INCLUDING FIXTURES, RECEPTACLE OUTLETS, SWITCHING, AND CIRCUITS AS INDICATED ON THE DRAWINGS.</div><div>3. ALL SUPPORTS, BASES, ANCHORS, SLEEVES, HANGERS AND THE LIKE, ALL ELECTRICAL WORK SHOWN AND/OR SPECIFIED, NOT PARTICULARLY MENTIONED ABOVE.</div><div>4. COMPLETE GROUNDING AND BONDING SYSTEMS.</div><div>5. TELEPHONE (MPOE) SERVICE ENTRANCE CONDUIT, BACKBOARDS, AND INTERCONNECTING CONDUIT. SEE TECHNOLOGY DRAWINGS AND COORDINATE REQUIREMENTS.</div><div>6. CABLE TELEVISION SERVICE ENTRANCE CONDUIT, BACKBOARD OR CABINET, AND INTERCONNECTING CONDUIT. SEE TECHNOLOGY DRAWINGS AND COORDINATE REQUIREMENTS.</div><div>7. THE CONTRACTOR WILL COORDINATE WITH THE LOCAL UTILITY COMPANIES FOR VERIFICATION OF THEIR REQUIREMENTS PRIOR TO BID CLOSURE AND PRIOR TO INSTALLATION. IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY VOLTAGE, PHASE, CONDUIT SIZE, TYPE AND QUANTITY, WIRE SIZE, TYPE AND QUANTITY, AND THE LOCATION OF ALL EQUIPMENT REQUIRED FOR THIS PROJECT.</div><div>8. STANDBY EMERGENCY POWER GENERATOR, CONCRETE PAD, AND AUTO-TRANSFER SWITCH.</div><div>9. POWER CONNECTION TO HVAC AND PLUMBING EQUIPMENT.</div></div>		
1.02	RELATED WORK INCLUDED IN OTHER DIVISIONS		
A.	FINISH PAINTING EXCEPT FACTORY APPLIED FINISHES AND REPAIR OF FACTORY FINISHES SHALL BE PROVIDED IN ACCORDANCE WITH APPROPRIATE SECTIONS OF THIS SPECIFICATION. COORDINATE "PAINTING" REQUIREMENTS OF THIS DIVISION WITH OTHER TRADES AS REQUIRED TO ASSURE TIMELY AND SATISFACTORY COMPLETION OF REQUIRED WORK. IN FINISHED AREAS, ALL EXPOSED RACEWAY, BOXES, GALVANIZED STEEL BOX COVERS (WHERE ALLOWED), AND OTHER ELECTRICAL "STRUCTURE" SHALL BE FINISHED TO MATCH ADJACENT STRUCTURES. VERIFY THAT ALL RACEWAY OPENINGS ARE CLOSED AND BOX COVERS ARE IN PLACE PRIOR TO FINISHING WORK DONE BY OTHERS.		
B.	EXAMINE THE DRAWINGS AND SPECIFICATIONS FOR MECHANICAL EQUIPMENT AND PROVIDE ELECTRICAL INSTALLATION FOR HEATING, VENTILATION AND AIR CONDITIONING EQUIPMENT, MOTORS, PUMPS AND ASSOCIATED MOTOR STARTERS AND CONTROLS AS DESCRIBED IN 1.15 EQUIPMENT IDENTIFICATION.		
C.	EXAMINE THE DRAWINGS AND SPECIFICATIONS OF OTHER TRADES FOR ELECTRICAL EQUIPMENT WHICH MAY NOT BE SHOWN ON THE PLANS TO INCLUDE AND PROVIDE ELECTRICAL INSTALLATIONS AS DESCRIBED IN OTHER TRADES WORK, I.E. MODULAR OFFICE SYSTEM FURNITURE, INFORMATION TECHNOLOGY (I.T.) SYSTEM EQUIPMENT, AUDIO/VIDEO SYSTEMS EQUIPMENT, ETC.		
D.	EXAMINE THE ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR ELECTRICAL APPLIANCES AND EQUIPMENT WHICH MAY NOT BE SHOWN ON THE PLANS TO INCLUDE AND PROVIDE ELECTRICAL INSTALLATIONS AS DESCRIBED IN THE ARCHITECTURAL DIVISION OF WORK.		
E.	EXAMINE THE ARCHITECTURAL DRAWINGS AND PROVIDE ALL CONSTRUCTION NECESSARY TO MAINTAIN THE INTEGRITY OF THE FIRE RATED BARRIERS.		
F.	EXAMINE THE ARCHITECTURAL DRAWINGS AND COORDINATE WITH THE ARCHITECT TO PROVIDE ACCESS DOORS, WHETHER SHOWN ON DRAWINGS OR NOT, WHERE FLOORS, WALLS, OR CEILING MUST BE PENETRATED FOR ACCESS TO ELECTRICAL EQUIPMENT, OUTLET BOXES, DEVICES, ETC., AND AS SPECIFIED IN THIS SPECIFICATION.		
G.	PROVIDE AND INSTALL, AS PART OF THE WORK DESCRIBED IN THIS DIVISION, ALL POWER AND CONTROL WIRING FED FROM A SOURCE OF 30 VOLTS OR MORE (I.E. ALL WIRING EXCEPT TEMPERATURE CONTROL WIRING) FOR MECHANICAL EQUIPMENT DESCRIBED IN 1.15 EQUIPMENT IDENTIFICATION.		
1.03	APPLICATION OF OTHER DIVISIONS		
A.	WHERE CARPENTRY, MASONRY, CONCRETE WORK, PAINTING, ETC., IS REQUIRED IN THE INSTALLATION OF EQUIPMENT SPECIFIED UNDER THIS DIVISION, THE WORK SHALL BE DONE IN ACCORDANCE WITH THE APPLICABLE DIVISION OF THESE SPECIFICATIONS. THIS WORK COULD INCLUDE, FOR EXAMPLE, WORK ASSOCIATED WITH PANELBOARD INSTALLATION, EQUIPMENT PADS OR BASES, SUPPORT STRUCTURES, ETC.		
1.04	DRAWINGS AND SPECIFICATIONS		
A.	THE INFORMATION PRESENTED IN THESE SPECIFICATIONS AND ON THE DRAWINGS IS INTENDED TO DESCRIBE THE UTILITARIAN AND PHYSICAL ASPECTS OF THE SYSTEMS SHOWN AS WELL AS THE QUALITY OF THE ENTIRE INSTALLATION. ALL INFORMATION IS AS COMPLETE AND THOROUGH AS POSSIBLE, BUT EVERY CONDITION OR SITUATION CANNOT BE ANTICIPATED. EXACT LOCATIONS, DIMENSIONS, ELEVATIONS, ETC. MUST BE DETERMINED "ON THE JOB" WITH CAREFUL ATTENTION TO THE "INTENT" OF THE DRAWINGS AND SPECIFICATIONS.		
B.	THE ABOVE PARAGRAPH SHALL NOT BE CONSTRUED AS TO ALLOW SIGNIFICANT DEVIATION FROM EITHER THE DRAWINGS OR SPECIFICATIONS WITHOUT PRIOR APPROVAL OF THE ARCHITECT, BUT MINOR CHANGES IN CONDUIT ROUTING OR EQUIPMENT LOCATION MAY BE REQUIRED DUE TO SPECIFIC CONDITIONS ENCOUNTERED. THIS WORK SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THESE SPECIFICATIONS AND NO "EXTRA CHARGES" ARE TO BE CREATED FOR ANY UNANTICIPATED LABOR OR MATERIAL.		
C.	ANY ERROR OR OMISSIONS OF DETAIL IN EITHER THE DRAWINGS OR THE SPECIFICATIONS SHALL NOT RELIEVE THE CONTRACTOR FROM CORRECTLY INSTALLING ALL MATERIALS NECESSARY FOR COMPLETE AND OPERATING ELECTRICAL SYSTEMS.		
D.	CONTRACTOR SHALL INSPECT THE SITE AND VERIFY ALL MEASUREMENTS AND CONDITIONS. NO EXTRA COMPENSATION WILL BE ALLOWED BECAUSE OF DIFFERENCES BETWEEN WORK SHOWN ON THE DRAWINGS AND MEASUREMENTS AT THE SITE.		
E.	THE DRAWINGS ARE DIAGRAMMATIC IN NATURE, BUT THE LOCATIONS OF DEVICES, EQUIPMENT, OUTLETS, AND LIGHTING FIXTURES ARE SHOWN APPROXIMATELY WHERE INSTALLATIONS ARE INTENDED. ARCHITECTURAL, STRUCTURAL, MECHANICAL, AND OTHER DRAWINGS SHALL BE EXAMINED, NOTING ALL CONDITIONS THAT MAY AFFECT THIS WORK. REPORT CONFLICTING CONDITIONS TO THE ARCHITECT/ENGINEER FOR ADJUSTMENT BEFORE PROCEEDING WITH THE WORK. SHOULD THE CONTRACTOR PROCEED WITH WORK WITHOUT REPORTING THE MATTER, HE DOES SO ON HIS OWN RESPONSIBILITY AND SHALL ALTER WORK IF DIRECTED BY THE ARCHITECT/ENGINEER AT HIS OWN EXPENSE.		
F.	EXAMINE THE ARCHITECTURAL, STRUCTURAL, MECHANICAL, PLUMBING AND MANUFACTURER'S DRAWINGS FOR AROUSING EXISTING EXACT ROUTING AND FINAL TERMINATIONS FOR ALL CONDUITS AND CABLES. CONDUITS SHALL BE STUBBED UP AS NEAR AS POSSIBLE TO EQUIPMENT ENCLOSURE.		
G.	ALL EQUIPMENT SHALL BE LOCATED AND INSTALLED SO THAT IT WILL BE READILY ACCESSIBLE FOR OPERATION AND MAINTENANCE. THE OWNER RESERVES THE RIGHT TO REQUIRE MINOR CHANGES IN LOCATION OF OUTLETS OR EQUIPMENT, PRIOR TO ROUGH IN WITHOUT INCURRING ANY ADDITIONAL COST OR CHARGES.		
H.	IF SIGNIFICANT DEPARTURES FROM THE DRAWINGS OR SPECIFICATIONS ARE CONSIDERED NECESSARY BY THE CONTRACTOR, DETAILS OF THE CHANGES AND THE REASONS THEREFORE SHALL BE SUBMITTED TO THE ARCHITECT/ENGINEER WITHIN THIRTY DAYS AFTER AWARD OF CONTRACT. PRIOR WRITTEN ACCEPTANCE OF THE ARCHITECT IS REQUIRED FOR THESE DEPARTURES.		
I.	CLARIFICATION OF PLANS AND SPECIFICATIONS FOR THE PURPOSE OF FACILITATING CONSTRUCTION, BUT NOT INVOLVING ADDITIONAL LABOR AND MATERIALS, MAY BE PREPARED DURING CONSTRUCTION BY THE ARCHITECT/ENGINEER. SAID REVISED PLANS AND SPECIFICATIONS SHALL BECOME A PART OF THE CONTRACT. THE CONTRACTOR SHALL CONFORM TO THE REVISED PLANS AND SPECIFICATIONS AT NO ADDITIONAL COST TO THE OWNER.		
J.	WHERE EXISTING UNDERGROUND OR OTHERWISE CONCEALED FACILITIES ARE INDICATED ON THE DRAWINGS, THESE ARE LOCATED AS WELL AS CAN BE DETERMINED FROM AVAILABLE INFORMATION. THE CONTRACTOR IS REQUIRED TO VERIFY ACTUAL LOCATIONS AS NECESSARY FOR THIS CONSTRUCTION.		
1.05	CODES AND STANDARDS		
A.	ALL WORK SHALL CONFORM TO THE FOLLOWING CODES: <div><div>1. NFPA 70 - NATIONAL ELECTRICAL CODE 2020 EDITION WITH 2022 CALIFORNIA ELECTRICAL CODE (CEC) AMENDMENTS.</div><div>2. TITLE 24 2022 - STATE OF CALIFORNIA ADMINISTRATIVE CODE</div><div>3. 2022 CALIFORNIA BUILDING CODE</div><div>4. CITY OR COUNTY ELECTRICAL CODE AS APPLICABLE</div><div>5. APPLICABLE REGULATIONS OF LOCAL UTILITY COMPANIES</div><div>6. ELECTRIC UTILITY SERVICE EQUIPMENT REQUIREMENTS COMMITTEE (EUSERC) STANDARDS</div><div>7. ANY ADDITIONAL CODES EFFECTIVE AT THE JOB SITE</div></div>		
B.	FURNISH WITHOUT EXTRA CHARGE ANY ADDITIONAL MATERIAL AND LABOR WHICH MAY BE REQUIRED FOR COMPLIANCE WITH THESE LAWS, RULES, AND REGULATIONS, EVEN THOUGH THE WORK IS NOT MENTIONED IN THESE PARTICULAR SPECIFICATIONS.		
C.	APPLY AND PAY FOR ALL PERMITS REQUIRED BY ANY OF THE LEGALLY CONSTITUTED PUBLIC AUTHORITIES FOR THE INSTALLATION OR CONSTRUCTION OF THE WORK INCLUDED UNDER THIS SPECIFICATION.		
D.	ARRANGE AND PAY FOR ANY INSPECTIONS OR EXAMINATIONS SO REQUIRED AND DELIVER CERTIFICATES OF ALL SUCH INSPECTIONS TO THE OWNER. WHEN THESE SPECIFICATIONS CALL FOR MATERIALS OR CONSTRUCTION OF A BETTER QUALITY OR LARGER SIZES THAN REQUIRED BY THE ABOVE MENTIONED RULES AND REGULATIONS, THE PROVISIONS OF THE SPECIFICATIONS SHALL TAKE PRECEDENCE.		
1.06	EXAMINATION OF THE SITE		
A.	THE CONTRACTOR IS REQUIRED TO VISIT THE SITE OF CONSTRUCTION PRIOR TO BID TO DETERMINE EXISTING CONDITIONS AND THEIR EFFECT UPON THE WORK HE WILL BE REQUIRED TO PERFORM. NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR ANY EXTRA EXPENSES INCURRED BY FAILURE TO DETECT AND EVALUATE ALL EXISTING CONDITIONS THAT WILL AFFECT HIS WORK TO BE INCLUDED IN THE BID TO ACCOMPLISH THIS CONTRACT DOCUMENT'S GOAL.		
1.07	COORDINATION WITH OTHER TRADES		
A.	EXAMINE THE ELECTRICAL DRAWINGS AND REFER TO THE DRAWINGS AND SPECIFICATIONS DESCRIBING OTHER WORK TO BE ACCOMPLISHED. VERIFY AND COORDINATE PRIOR TO BID. CONTINUE TO COORDINATE WORK PLANNING AND ALL WORK IN THE FIELD TO AVOID CONFLICTS, ERRORS, AND/OR DELAYS. NO COMPENSATION WILL BE ALLOWED FOR EXTRA WORK NECESSITATED BY LACK OF COORDINATION.		
1.08	STRUCTURAL REQUIREMENTS		
A.	SECURE ALL ANCHORS FOR ELECTRICAL EQUIPMENT IN A MANNER, WHICH WILL NOT DECREASE THE STRUCTURAL VALUE OF ANY STRUCTURE TO AN UNSAFE LEVEL. INSTALL ALL EQUIPMENT, FIXTURES, ETC. TO RESIST SEISMIC MOVEMENTS. INFORM THE ARCHITECT IN ADVANCE AND PROVIDE DRAWINGS OF ANY PROPOSED MODIFICATIONS TO THE STRUCTURE THAT INVOLVES CUTTING OR PATCHING OF CONCRETE, MASONRY, STEEL, OR WOOD IN THIS PROJECT.		
1.09	MANUFACTURER'S INSTRUCTIONS		
A.	FOLLOW THE MANUFACTURER'S INSTRUCTIONS WHEN SPECIFIC INSTALLATION OR CONNECTION DETAILS ARE NOT INDICATED OR SPECIFIED ON THE CONTRACT DOCUMENTS.		
B.	NOTIFY THE ARCHITECT/ENGINEER OF CONFLICTS BETWEEN THE MANUFACTURER'S INSTRUCTIONS AND INSTALLATION OR CONNECTION DETAILS PRIOR TO THE INSTALLATION OF MATERIALS.		
1.10	SERVICE AND METERING		
A.	NEW UNDERGROUND FACILITIES SHALL BE PROVIDED FOR THE POWER COMPANY'S PRIMARY LINES. VERIFY AND COORDINATE WITH THE UTILITY COMPANY FOR EXACT REQUIREMENT FOR CONDUITS AND CONDUCTORS.		
B.	NEW UNDERGROUND FACILITIES SHALL BE PROVIDED FOR THE POWER COMPANY'S SECONDARY LINES. VERIFY AND COORDINATE WITH THE UTILITY COMPANY FOR EXACT REQUIREMENT FOR CONDUITS AND CONDUCTORS.		
C.	PROVIDE TRANSFORMER PADS AND SERVICE AS SHOWN ON PLANS.		
D.	PAY ALL COSTS AND POWER COMPANY CHARGES.		
E.	POWER IS PROVIDED BY THE LOCAL UTILITY COMPANY.		
F.	COORDINATE ALL REQUIREMENTS WITH THE UTILITY COMPANY PRIOR TO BID.		
1.11	INSPECTION		
A.	COOPERATE WITH THE OWNER AND PROVIDE ASSISTANCE AT ALL TIMES FOR THE INSPECTION OF THE ELECTRICAL WORK. REMOVE COVERS, OPERATE MACHINERY, OR PERFORM ANY REASONABLE WORK, WHICH IN THE OPINION OF THE OWNER, WILL BE NECESSARY TO DETERMINE THE QUALITY OR ADEQUACY OF THE WORK.		
B.	IF ANY MATERIAL DOES NOT CONFORM TO THESE SPECIFICATIONS, REMOVE THE MATERIALS FROM THE PREMISES, WITHIN THREE DAYS AFTER BEING NOTIFIED BY THE OWNER.		
C.	WORK SHALL NOT BE CLOSED IN OR COVERED BEFORE INSPECTION AND APPROVAL BY THE OWNER.		
1.12	QUALITY OF MATERIALS		
A.	ALL ELECTRICAL MATERIALS USED ON THIS PROJECT SHALL BE NEW AND FREE FROM DEFECTS.		
B.	ALL ELECTRICAL MATERIALS USED ON THIS PROJECT SHALL CONFORM WHERE APPLICABLE, TO THE FOLLOWING STANDARDS, UNLESS OTHERWISE NOTED. <div><div>1. NEMA - NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION</div><div>2. ANSI - AMERICAN NATIONAL STANDARDS INSTITUTE</div><div>3. UL - UNDERWRITERS LABORATORIES, INC.</div></div>		
C.	EACH TYPE OF MATERIAL SHALL BE OF THE SAME MANUFACTURER AND QUALITY THROUGHOUT THE WORK.		
1.13	SUBMITTAL & SHOP DRAWINGS		
A.	SHOP DRAWINGS AND SUPPLEMENTAL DATA WHERE CALLED FOR, SHALL BE PREPARED AND SUBMITTED AS PER GENERAL CONDITIONS. FINAL CORRECTED COPIES OF SCHEDULES AND SHOP DRAWINGS OR SUPPLEMENTAL DATA TO ARCHITECT FOR REVIEW SHALL BE SUCH AS TO PROVIDE ONE (1) FOR ARCHITECT'S FILES, ONE (1) FOR ELECTRICAL ENGINEER'S FILES, TWO (2) FOR THE OWNER, ONE (1) TO CONTRACTOR'S JOB FILES, AND SUCH AS ADDITIONAL COPIES AS REQUIRED BY THE ARCHITECT OR ENGINEER FOR DISTRIBUTION BY HIM TO SUBCONTRACTORS OR VENDORS. EXCEPTIONS SHALL BE AS NOTED IN THE DIVISION 1 SPECIFICATION SECTIONS.		
B.	SHOP DRAWINGS AND SUPPLEMENTAL DATA ARE REQUIRED UNLESS SPECIFICALLY NOT REQUESTED BY THE ENGINEER. SHOP DRAWINGS SHALL BE SUBMITTED FOR ALL ELECTRICAL EQUIPMENT PERTAINING TO JOB. (NOT LIMITED TO ELECTRICAL EQUIPMENT, LIGHTS, RECEPTACLES, BOXES AND ENCLOSURES, CONDUIT, WIRE, ETC.)		
C.	THE SHOP DRAWINGS AND SUPPLEMENTAL DATA SHOWN CALLED FOR SHALL BE SUBMITTED AS THE INSTRUMENTS OF THE CONTRACTOR, EVEN THOUGH THEY MAY HAVE BEEN PREPARED BY A SUBCONTRACTOR, SUPPLIER, DEALER, OR MANUFACTURER. THE CONTRACTOR SHALL CHECK THE DRAWINGS OR DRAWINGS PROVIDED BY THE CONTRACTOR SHALL UNDERTAKE HIS OWN REVIEW AND STAMP WITH HIS ACCEPTANCE, THEN SUBMIT TO THE ENGINEER FOR HIS REVIEW. BY ACCEPTING AND SUBMITTING SHOP DRAWINGS AND SUPPLEMENTAL DATA, THE CONTRACTOR REPRESENTS THAT HE HAS DETERMINED AND VERIFIED ALL FIELD MEASUREMENTS, THE PHYSICAL CONSTRUCTION, THE QUALITY OF MATERIALS, THE APPLICABILITY OF CATALOG NUMBERS, AND SIMILAR DATA, OR WILL DO SO, AND THAT HE HAS CHECKED AND COORDINATED EACH SHOP DRAWING WITH THE REQUIREMENTS OF THE TRADES SHALL BE RESOLVED BY THE CONTRACTOR IN THE SHOP DRAWINGS, IF POSSIBLE, BUT IN ANY EVENT PRIOR TO THE ACTUAL CONSTRUCTION.		
D.	ALL SHOP DRAWINGS SHALL BE DRAWN ACCURATELY ON PAPER SUITABLE FOR DUPLICATE COPYING BY BLACK, OR BLUE LINE PRINTING PROCESSES, OR XEROX.		
E.	SUPPLEMENTAL DATA SHALL INCLUDE INFORMATION AS NOTED IN THE SPECIFICATION PARAGRAPHS REQUIRING THEM, OR AS REQUESTED BY THE ARCHITECT.		
F.	THE ENGINEER WILL REVIEW SHOP DRAWINGS AND SUPPLEMENTAL DATA SUBMITTED BY THE CONTRACTOR ONLY FOR GENERAL DESIGN CONFORMANCE WITH THE CONCEPT OF THE PROJECT AND COMPLIANCE WITH THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS.		
G.	IF MORE THAN ONE (1) SUBMISSION OF SHOP DRAWINGS OR SUPPLEMENTAL DATA IS REQUIRED FOR ANY GIVEN ITEM TO MEET THE PROJECT SPECIFICATIONS, THE COST OF REVIEWING THESE ADDITIONAL SUBMISSIONS SHALL BE CHARGED DIRECTLY AGAINST THE CONTRACTOR AND THE OWNER WILL WITHHOLD THE FUNDS NECESSARY TO COVER THESE COSTS.		
H.	SHOP DRAWINGS, IF REQUESTED, MUST BE SUBMITTED TO AND FAVORABLY REVIEWED BY THE ARCHITECT AND/OR ENGINEER BEFORE BEING USED BY THE CONTRACTOR ON THE JOB.		
I.	SHOP DRAWINGS DEADLINE: IN ADDITION TO REQUIREMENTS AS ESTABLISHED IN DIVISION 1 OF THE GENERAL CONDITIONS, THE CONTRACTOR SHALL, WITHIN 35 CALENDAR DAYS AFTER THE NOTICE TO PROCEED OF THE CONTRACT, SUBMIT TO THE ARCHITECT FOR APPROVAL THE SHOP DRAWINGS FOR EQUIPMENT AND/OR SPECIALTY ITEMS AS LISTED IN THE SHOP DRAWINGS AND SUPPLEMENTAL DATA SUBMITTED IN ADDITION TO THE LIST OF MATERIALS REQUIRED BY THE "SPECIFIED ITEMS - SUBSTITUTES" PARAGRAPH.		
J.	SHOP DRAWINGS DELINEATION: THE SHOP DRAWINGS SHALL BE DRAWN TO SCALE AND SHALL BE COMPLETELY DIMENSIONED, BRINGING THE PLAN TOGETHER WITH SUCH SECTIONS AS ARE NECESSARY TO CLEARLY SHOW CONSTRUCTION DETAIL.		
K.	RESPONSIBILITY: THESE SHOP DRAWINGS AND ALL SUPPORTING DATA, CATALOGS, ETC., SHALL BE PREPARED BY THE CONTRACTOR OR HIS SUPPLIERS, BUT SHALL BE SUBMITTED AS THE INSTRUMENTS OF THE CONTRACTOR. THEREFORE, THE CONTRACTOR SHALL CHECK THE DRAWINGS OF HIS SUPPLIERS AS WELL AS HIS OWN DRAWINGS BEFORE SUBMITTING THEM TO THE ARCHITECT. IN PARTICULAR, THE CONTRACTOR SHALL ASCERTAIN THAT THE SHOP DRAWINGS MEET ALL REQUIREMENTS OF THE FINAL DESIGN DRAWINGS AND SPECIFICATIONS AND ALSO CONFORM TO THE CONTRACT DOCUMENTS AND SPACE CONDITIONS. EACH SHOP DRAWING SUBMITTED FOR APPROVAL SHALL BEAR A STAMP CERTIFYING THAT IT HAS BEEN CHECKED BY THE CONTRACTOR IN ACCORDANCE WITH THE SPECIFICATIONS. IF SUCH SHOP DRAWINGS SHOW VARIATIONS FROM CONTRACT DOCUMENTS, WHETHER BECAUSE OF STANDARD SHOP PRACTICE OR OTHER REASONS, THE CONTRACTOR SHALL MAKE SPECIAL MENTION THEREOF IN HIS LETTER TRANSMITTAL. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR OBSERVING THE NEED FOR AND MAKING ANY CHANGES IN THE ARRANGEMENT OF PIPING, CONNECTIONS, WIRING, MANNER OF INSTALLATION ETC., WHICH MAY BE REQUIRED BY THE EQUIPMENT HE PROPOSES TO SUPPLY BOTH AS IT PERTAINS TO HIS OWN WORK AND ANY WORK AFFECTED UNDER OTHER PARTS, HEADINGS, OR DIVISIONS OF DRAWINGS AND SPECIFICATIONS.		
L.	IDENTIFICATION: SHOP DRAWINGS SHALL BE ENTITLED WITH THE NAME OF THE PROJECT ON EACH SHEET AND SHALL OTHERWISE BE IDENTIFIED BY LISTING THE PARTICULAR DIVISION, SECTION, ARTICLE OR REFERENCE OF THE WORK PERTAINING. SUBMIT DIFFERENT ITEMS ON SEPARATE SHEETS. ALL SUBMITTALS SHALL BE NUMBERED SERIALLY.		
M.	MANNER: FURNISH FOR ARCHITECT'S APPROVAL SEPARATE SHEETS OF SUBMITTAL OF EACH SPECIALTY ITEM IN THE FOLLOWING MANNER: <div><div>1. CATALOG CUTS SHALL BE PHOTOCOPIED OR REPRODUCED IN SOME OTHER ACCEPTABLE MANNER AND SUBMITTED ON PDF. NOTING ONLY THE ITEMS IN QUESTION, TOGETHER WITH THE DESCRIPTIVE (SPECIFICATION) DATA COMPLETE. DRAWINGS SHALL BE SUBMITTED IN PDF FORM.</div><div>2. EACH SHEET SHALL BE IDENTIFIED WITH THE DIVISION, SECTION, ARTICLE OR REFERENCE IN THE CONTACT DOCUMENTS, WHICH COVERS THE ITEM SUBMITTED FOR APPROVAL.</div><div>3. EACH SHEET SHALL BE IDENTIFIED WITH THE PROJECT NAME AND THE ARCHITECT.</div><div>4. EACH SHEET SHALL BEAR THE CONTRACTOR'S STAMP AND SIGNATURE OF APPROVAL.</div></div>		
1.14	SPECIFIED ITEMS - SUBSTITUTES		
A.	WHEREVER CATALOG NUMBERS AND SPECIFIC BRANDS OR TRADE NAMES FOLLOWED BY THE DESIGNATION "OR APPROVED EQUAL" ARE USED IN CONJUNCTION WITH A DESIGNATED MATERIAL, PRODUCT, THICKNESS, OR SERVICE MENTIONED IN THIS SPECIFICATION, THEY ARE USED TO ESTABLISH THE STANDARDS OF QUALITY, UTILITY AND APPEARANCE REQUIRED. SUBSTITUTIONS, WHICH ARE EQUAL IN QUALITY, UTILITY, AND APPEARANCE TO THOSE SPECIFIED, WILL BE APPROVED, SUBJECT TO THE FOLLOWING PROVISIONS: ALL SUBSTITUTIONS MUST BE APPROVED BY THE ARCHITECT AND/OR ENGINEER IN WRITING. FOR THIS PURPOSE, THE CONTRACTOR SHALL SUBMIT TO THE ARCHITECT, WITHIN 30 CALENDAR DAYS AFTER THE DATE OF COMMENCEMENT SPECIFIED IN THE NOTICE TO PROCEED, A TYPEWRITTEN LIST CONTAINING A DESCRIPTION OF EACH PROPOSED SUBSTITUTE ITEM OR MATERIAL. THE ARCHITECT MAY INCREASE THE SUBMITTAL PERIOD BEYOND 30 CALENDAR DAYS IF THE SCHEDULE ALLOWS. SUFFICIENT DATA, DRAWINGS, SAMPLES, LITERATURE OR OTHER DETAILED INFORMATION THAT WILL DEMONSTRATE TO THE ARCHITECT THAT THE PROPOSED SUBSTITUTE IS EQUAL IN QUALITY, UTILITY, AND APPEARANCE TO THE MATERIAL SPECIFIED SHALL BE APPENDED TO THIS LIST. THE ARCHITECT WILL APPROVE, IN WRITING, SUCH PROPOSED SUBSTITUTION WHICH AFFECT OTHER PARTS OF THE CONTRACTOR'S OWN WORK OR THE WORK OF OTHERS.		
B.	FAILURE OF THE CONTRACTOR TO SUBMIT PROPOSED SUBSTITUTIONS FOR APPROVAL IN THE MANNER DESCRIBED ABOVE AND WITHIN THE TIME PRESCRIBED SHALL BE SUFFICIENT CAUSE FOR DISAPPROVAL BY THE ENGINEER OF ANY SUBSTITUTIONS OTHERWISE PROPOSED.		
C.	WHEREVER CATALOG NUMBERS AND SPECIFIC BRANDS OR TRADE NAMES NOT FOLLOWED BY THE DESIGNATION "OR APPROVED EQUAL" MATERIAL, PRODUCT, THING, OR SERVICE MENTIONED IN THESE SPECIFICATIONS, NO SUBSTITUTIONS WILL BE ACCEPTED FOR APPROVAL.		
D.	WHEREVER MORE THAN ONE MANUFACTURER'S PRODUCT IS SPECIFIED, THE FIRST-NAME PRODUCT IS THE BASIS FOR THE PROJECT DESIGN AND THE USE OF ALTERNATIVE NAME MANUFACTURER'S PRODUCTS OR SUBSTITUTES MAY REQUIRE MODIFICATIONS IN THE PROJECT DESIGN AND CONSTRUCTION. IF SUCH ALTERNATIVES ARE PROPOSED BY THE CONTRACTOR AND ARE FAVORABLY REVIEWED BY THE ENGINEER THE CONTRACTOR SHALL ASSUME COSTS REQUIRED TO MAKE NECESSARY REVISIONS AND MODIFICATIONS INCLUDING ADDITIONAL COSTS TO THE OWNER FOR EVALUATIONS OF MODIFICATIONS OF THE PROJECT DESIGN SUBMITTED BY THE CONTRACTOR TO THE ARCHITECT.		
E.	WHEN MATERIALS ARE SPECIFIED BY THE FIRST MANUFACTURER'S NAME, AND PRODUCT NUMBER, SECOND MANUFACTURER'S NAME, OR AS APPROVED EQUAL, THE SECOND MANUFACTURER'S PROJECT SHALL BE SUBMITTED IN ACCORDANCE WITH THE ABOVE PARAGRAPH.		
F.	IF THE ENGINEER IN THIS REVIEW OF THE LIST OF MATERIALS AND EQUIPMENT REQUIRES REVISIONS OR CORRECTIONS TO BE MADE OR SHOP DRAWINGS AND/OR SUPPLEMENTAL DATA TO BE SUBMITTED, THE CONTRACTOR SHALL PROMPTLY DO SO. IF ANY PROPOSED MATERIAL IS JUDGED BY THE ENGINEER TO BE UNACCEPTABLE, THE SPECIFIED ITEM SHALL BE PROVIDED, FURTHER SUBMISSIONS WILL NOT BE ALLOWED, UNLESS DIRECTED BY THE ENGINEER.		
G.	PHYSICAL SAMPLES MAY BE REQUIRED. IF TESTS FOR THE DETERMINATION OF EQUALITY AND UTILITY ARE REQUIRED BY THE ENGINEER THEY SHALL BE MADE BY A TESTING LABORATORY, WITH ACCEPTANCE OF THE TEST PROCEDURE FIRST GIVEN BY THE ENGINEER, AND AT THE EXPENSE OF THE CONTRACTOR.		
H.	IN REVIEW OF THE DATA SUBMITTED IN SUPPORT OF SUBSTITUTIONS, THE ENGINEER WILL USE FOR PURPOSES OF COMPARISON ALL THE CHARACTERISTICS OF THE SPECIFIED ITEM AS THEY APPEAR IN THE MANUFACTURER'S PUBLISHED DATA EVEN THOUGH ALL THE CHARACTERISTICS OF THE SPECIFIED ITEM MAY NOT HAVE BEEN PARTICULARLY MENTIONED IN THE MANUFACTURER'S PUBLISHED DATA. IF MORE THAN TWO SUBMISSIONS OF DATA ARE REQUIRED, THE COST OF REVIEWING THE DATA GOES AGAINST THE CONTRACTOR, AND THE OWNER WILL WITHHOLD THE FUNDS NECESSARY TO COVER THESE COSTS. ONLY ONE (1) SUCH REQUEST MAY BE SUBMITTED. THE ENGINEER'S REJECTION OF ANY SUBSTITUTE SHALL AUTOMATICALLY REQUIRE THE CONTRACTOR TO FURNISH THE SPECIFIED ITEM WITHOUT FURTHER DISCUSSION OR DELAY.		
1.15	EQUIPMENT IDENTIFICATION		
A.	THE MAIN SWITCHBOARD, AND ALL PANELBOARDS, DISCONNECT SWITCHES, TRANSFORMERS, BOXES, ETC., SHALL BE PROPERLY IDENTIFIED WITH A DESCRIPTIVE NAMEPLATE. NAMEPLATES SHALL BE MADE OF 1/16 INCH LAMINATED PLASTIC WITH BLACK BACKGROUND AND WHITE LETTERS. SIZE OF LETTERS SHALL BE 1/4 INCH HIGH. LETTERS SHALL BE MACHINE ENGRAVED. ALL NAMEPLATES SHALL BE SCREW MOUNTED WITH OVAL HEAD MACHINE SCREWS TAPPED INTO FRONT OF PANEL.		
B.	PROVIDE HOLDERS WITH IDENTIFICATION CARDS FILLED OUT IN A TYPEWRITTEN FORMAT OF CIRCUIT DESIGNATIONS FOR EACH PANELBOARD.		
C.	EACH BRANCH CIRCUIT, CONTROL, AND SIGNAL CONDUCTOR SHALL BE LABELED WITH THE CIRCUIT NUMBER OR TERMINAL NUMBER IT IS CONNECTED TO. USE TAB VINYL OR BRANDY PERMAHSELD NYLON MARKERS. CONDUCTORS SHALL BE LABELED AT EACH PANELBOARD, SWITCHBOARD, CONTROL CENTER, TERMINAL CABINET, PULL BOX, AND EACH POINT OF UTILIZATION SUCH AS FIXTURES, MOTORS, CONTROLS, ETC. LABELING SHALL CORRESPOND TO CONTROL DIAGRAMS WHERE APPLICABLE.		
1.16	WARRANTY		
A.	GUARANTEE ALL WORK FOR ONE YEAR FROM DATE OF ACCEPTANCE AGAINST ALL DEFECTS IN MATERIAL, EQUIPMENT AND WORKMANSHIP.		
1.17	RECORD AS-BUILT DRAWINGS		
A.	THE CONTRACTOR SHALL KEEP A SEPARATE SET OF ELECTRICAL DRAWINGS AT THE JOB SITE TO BE USED AS RECORD DRAWINGS. THESE DRAWINGS ARE TO BE KEPT CURRENT AND IN A NEAT AND CLEAN CONDITION AT ALL TIMES. THEY ARE TO BE AVAILABLE FOR INSPECTION BY THE ARCHITECT OR ENGINEER ANY TIME DURING SITE VISITATIONS. THESE DRAWINGS SHALL BE "RED LINED" TO INDICATE ALL CHANGES IN EQUIPMENT, DEVICE, AND OUTLET LOCATIONS, AND TO INDICATE THE TRUE LOCATIONS OF ALL CONCEALED OR UNDERGROUND WORK WHERE DIFFERENT FROM THAT SHOWN ON THE DRAWINGS. EACH SHEET OF THIS SET SHALL BE CLEARLY AND PERMANENTLY MARKED "RECORD AS-BUILT DRAWINGS".		
B.	UPON COMPLETION OF THE PROJECT AND PRIOR TO FINAL PAYMENT, TRANSFER ALL RECORD DRAWINGS INFORMATION TO THE PROVIDED ORIGINAL DRAWINGS. ALL INFORMATION SHALL BE CLEARLY DRAWN WITH "RED" INK. THE DRAWINGS SHALL BE SCANNED, 100% EDITED, AND CONVERTED INTO AN AUTOCAD "DWG" VERSION 2000 (OR HIGHER) ELECTRONIC FILE. DELIVER THE ORIGINAL FINAL SETS AND ELECTRONIC FILES (CD)		

