





NAME

10' - 0"

LEVEL NAME

HEIGHT ABOVE PROJECT 0' - 0"

1

INDICATES NOTE USED TO DESCRIBE ADDITIONAL INFORMATION ABOUT WORK REQUIRED, SPECIFIC TO THE SHEET AND/OR DETAIL

INDICATES DIRECTION OF TRUE NORTH

PLAN OR DETAIL NUMBER

PLAN OR DETAIL NAME

VIEW NAME

1/8" = 1'-0"

PLAN OR DETAIL SCALE

INDICATES SIMILAR DETAIL REFERENCED IN MULTIPLE LOCATIONS

DETAIL REFERRED TO BY SECTION CUT

SHEET DETAIL IS LOCATED ON

INDICATES SIMILAR DETAIL REFERENCED IN MULTIPLE LOCATIONS

DETAIL REFERRED TO BY ELEVATION

SHEET DETAIL IS LOCATED ON

LINE TYPE KEY:

NEW WORK BY THIS CONTRACTOR (DARK SOLID LINE)

NEW WORK UNDERFLOOR OR UNDERGROUND BY THIS CONTRACTOR (DARK LONG DASHED LINE)

NEW WORK BY OTHERS AND/OR EXISTING TO REMAIN (LIGHT SOLID LINE)

EXISTING TO BE REMOVED BY THIS CONTRACTOR (DARK SHORT DASHED LINE)

2019 CALIFORNIA BUILDING STANDARDS ADMINISTRATIVE CODE CALIFORNIA CODE OF REGULATIONS (CCR) TITLE 24, PART 1

2019 CALIFORNIA BUILDING CODE (CBC) CALIFORNIA CODE OF REGULATIONS (CCR) TITLE 24, PART 2 (2018 INTERNATIONAL BUILDING CODE (IBC) W/CALIFORNIA AMENDMENTS)

2019 CALIFORNIA ELECTRICAL CODE (CEC) CALIFORNIA CODE OF REGULATIONS (CCR) TITLE 24, PART 3 (2017 NATIONAL ELECTRICAL CODE (NEC) W/CALIFORNIA AMENDMENTS)

2019 CALIFORNIA MECHANICAL CODE CALIFORNIA CODE OF REGULATIONS (CCR) TITLE 24, PART 4 (2018 UNIFORM MECHANICAL CODE (UMC) W/CALIFORNIA AMENDMENTS)

2019 CALIFORNIA PLUMBING CODE CALIFORNIA CODE OF REGULATIONS (CCR) TITLE 24, PART 5 (2018 UNIFORM PLUMBING CODE (UPC) W/CALIFORNIA AMENDMENTS)

2019 CALIFORNIA ENERGY EFFICIENCY STANDARDS CODE CALIFORNIA CODE OF REGULATIONS (CCR) TITLE 24, PART 6

2019 CALIFORNIA FIRE CODE (CFC) CALIFORNIA CODE OF REGULATIONS (CCR) TITLE 24, PART 9 (2018 INTERNATIONAL FIRE CODE (IFC) W/CALIFORNIA AMENDMENTS)

2019 CALIFORNIA REFERENCED STANDARDS CODE CALIFORNIA CODE OF REGULATIONS (CCR) TITLE 24, PART 12

AMERICANS WITH DISABILITIES ACT (ADA) TITLE II - ACCESSIBILITY GUIDELINES FOR BUILDINGS AND FACILITIES (ADAAG) 1990 STATE FIRE MARSHAL REGULATIONS AND AMENDMENTS TO DATE

CALIFORNIA CODE OF REGULATIONS (CCR) TITLE 24, CALIFORNIA STATE ACCESSIBILITY STANDARDS CALIFORNIA CODE OF REGULATIONS (CCR) TITLE 19

PARTIAL LIST OF APPLICABLE STANDARDS:

NFPA 13 - STANDARD FOR THE INSTALLATION OF SPRINKLER SYSTEMS (CA AMENDED) 2016 EDITION

NFPA 14 - STANDARD FOR THE INSTALLATION OF STANDPIPE AND HOSE SYSTEMS (CA AMENDED) 2016 EDITION

NFPA 17 - STANDARD FOR THE INSTALLATION OF DRY CHEMICAL EXTINGUISHING SYSTEMS 2017 EDITION

NFPA 17A - STANDARD FOR WET CHEMICAL EXTINGUISHING SYSTEMS 2017 EDITION

NFPA 20 - STANDARD FOR THE INSTALLATION OF STATIONARY PUMPS FOR FIRE PROTECTION 2016 EDITION

NFPA 22 - STANDARD FOR WATER TANKS FOR PRIVATE FIRE PROTECTION 2013 EDITION

NFPA 24 - STANDARD FOR THE INSTALLATION OF PRIVATE FIRE SERVICE MAINS AND THEIR APPURTENANCES (CA AMENDED) 2016 EDITION

NFPA 72 - NATIONAL FIRE ALARM AND SIGNALING CODE (CA AMENDED) 2016 EDITION

NFPA 80 - STANDARD FOR FIRE DOORS AND OTHER OPENING PROTECTIVES 2016 EDITION

NFPA 92 - STANDARD FOR SMOKE CONTROL SYSTEMS 2018 EDITION

FOR A COMPLETE LIST OF APPLICABLE NFPA STANDARDS REFER TO 2019 CBC (SFM) CHAPTER 35 AND CALIFORNIA FIRE CODE CHAPTER 80.

MECHANICAL SYMBOL LIST	
NOT ALL SYMBOLS MAY APPLY.	
SYMBOL:	DESCRIPTION:
	REFRIGERANT HOT GAS
	REFRIGERANT LIQUID
	LOW PRESSURE CONDENSATE
	PUMPED CONDENSATE
	REFRIGERANT SUCTION
	PIPE CAP
	PIPE DOWN
	PIPE UP OR UP/DOWN
	PITCH PIPE IN DIRECTION
	DIRECTION OF FLOW IN PIPE
	ROUTE TO DRAIN
	NEW CONNECTION
	DIELECTRIC CONNECTION
	UNION/FLANGE
	SHUTOFF VALVE NORMALLY OPEN
	SHUTOFF VALVE NORMALLY CLOSED
	SOLENOID VALVE
	PUMP
	FLEXIBLE CONNECTION
	REDUCER - REFERENCE SPECIFICATION FOR CONCENTRIC/ECCENTRIC AND FOT/FOB

MECHANICAL ABBREVIATION KEY	
ABBR:	DESCRIPTION:
AD	ACCESS DOOR
AFF	ABOVE FINISHED FLOOR
CD-E	CEILING DIFFUSER - EXISTING
EA	EXHAUST/RELIEF AIR
FOB	FLAT ON BOTTOM
FOT	FLAT ON TOP
MA	MIXED AIR
MV	MIXING VALVE
NC	NEW CONNECTION
N.C.	NORMALLY CLOSED
NIC	NOT IN CONTRACT
N.O.	NORMALLY OPEN
OA	OUTSIDE AIR
RA	RETURN AIR
SA	SUPPLY AIR
TD	TRANSFER DUCT
TYP	TYPICAL
UC-1	DOOR UNDERCUT BY OTHERS (1" TYPICAL)
UNO	UNLESS NOTED OTHERWISE

CONTRACTOR ABBREVIATION KEY	
ABBR:	DESCRIPTION:
E.C.	ELECTRICAL CONTRACTOR
G.C.	GENERAL CONTRACTOR
M.C.	MECHANICAL CONTRACTOR
P.C.	PLUMBING CONTRACTOR
T.C.C.	TEMPERATURE CONTROLS CONTRACTOR

MECHANICAL SYMBOL LIST	
NOT ALL SYMBOLS MAY APPLY.	
SYMBOL:	DESCRIPTION:
	DIRECTION OF AIR FLOW
	FLEXIBLE DUCT
	MANUAL VOLUME DAMPER
	RISE IN DIRECTION OF AIR FLOW
	DROP IN DIRECTION OF AIR FLOW
	DUCT CAP
	DUCT DOWN
	DUCT UP
	SUPPLY/OUTSIDE AIR DUCT SECTION
	RETURN AIR DUCT SECTION
	EXHAUST/RELIEF AIR DUCT SECTION
	4-WAY DIFFUSER WITH BLANKOFF IN ONE DIRECTION
	AIR TERMINAL PROPERTIES SYMBOL NECK SIZE/CFM
	CARBON MONOXIDE SENSOR
	CARBON DIOXIDE SENSOR
	THERMOSTAT/SENSOR

APPLICABLE CODE: 2019 CBC

MEP COMPONENT ANCHORAGE NOTE:

ALL MECHANICAL, PLUMBING, AND ELECTRICAL COMPONENTS SHALL BE ANCHORED AND INSTALLED PER THE DETAILS ON THE DSA APPROVED CONSTRUCTION DOCUMENTS. THE FOLLOWING COMPONENTS SHALL BE ANCHORED OR BRACED TO MEET THE FORCE AND DISPLACEMENT REQUIREMENTS PRESCRIBED IN THE 2019 CBC SECTIONS 1617A.1.18 THROUGH 1617A.1.26 AND ASCE 7-16 CHAPTER 13.26, AND 30:

1. ALL PERMANENT EQUIPMENT AND COMPONENTS

2. TEMPORARY, MOVEABLE OR MOBILE EQUIPMENT THAT IS PERMANENTLY ATTACHED (E.G. HARD WIRED) TO THE BUILDING UTILITY SERVICES SUCH AS ELECTRICITY, GAS, OR WATER. "PERMANENTLY ATTACHED" SHALL INCLUDE ALL ELECTRICAL CONNECTIONS EXCEPT PLUGS FOR 110/220 VOLT RECEPTACLES HAVING A FLEXIBLE CABLE

3. TEMPORARY, MOVABLE OR MOBILE EQUIPMENT WHICH IS HEAVIER THAN 400 POUNDS OR HAS A CENTER OF MASS LOCATED 4 FEET OR MORE ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT IS REQUIRED TO BE RESTRAINED 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 THE ASSOCIATED DUCTWORK, PIPING, AND CONDUIT. FLEXIBLE CONNECTIONS MUST ALLOW MOVEMENT IN BOTH TRAVERSE AND LONGITUDINAL DIRECTIONS.

A. COMPONENTS WEIGHING LESS THAN 400 POUNDS AND HAVING A CENTER OF MASS LOCATED 4 FEET OR LESS ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT.

B. COMPONENTS WEIGHING LESS THAN 20 POUNDS, OR IN THE CASE OF DISTRIBUTED SYSTEMS, LESS THAN 5 POUNDS PER FOOT, WHICH ARE SUSPENDED FROM A ROOF OR FLOOR OR HUNG FROM A WALL.

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

PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEM BRACING NOTE:

PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEMS SHALL BE BRACED TO COMPLY WITH THE FORCES AND DISPLACEMENTS PRESCRIBED IN ASCE 7-16 SECTION 13.3 AS DEFINED IN ASCE 7-10 SECTION 13.6.5, 13.6.6, 13.6.7, 13.6.8, AND 2016 CBC, SECTIONS 1617A.1.24, 1617A.1.25 AND 1617A.1.26.

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

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

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

MP ☐ MD ☐ PP ☐ E ☐ - OPTION 2: SHALL COMPLY WITH THE APPLICABLE OSHPD PRE-APPROVAL (OPM #) # \_\_\_\_\_.

MECHANICAL GENERAL NOTES:

THESE NOTES APPLY TO ALL MECHANICAL SHEETS AND TRADES, INCLUDING BUT NOT LIMITED TO, FIRE PROTECTION, PLUMBING, MEDICAL GAS, VENTILATION, PIPING AND TEMPERATURE CONTROL.

1. DRAWINGS SHOWING LOCATIONS OF EQUIPMENT, DUCTWORK, PIPING, ETC. ARE DIAGRAMMATIC AND MAY NOT ALWAYS REFLECT EXACT INSTALLATION CONDITIONS. DRAWINGS SHOW THE GENERAL ARRANGEMENT OF DUCTWORK, PIPING, EQUIPMENT, ETC., AND MAY NOT INCLUDE ALL OFFSETS AND FITTINGS REQUIRED FOR COMPLETE INSTALLATION. THE DRAWINGS SHALL BE FOLLOWED AS CLOSELY AS ACTUAL BUILDING CONSTRUCTION AND THE WORK OF OTHERS WILL PERMIT.

2. DO NOT SCALE DRAWINGS. VERIFY ALL DIMENSIONS AND CLEARANCES FROM ARCHITECTURAL, STRUCTURAL, SUBMITTALS, AND OTHER APPROPRIATE DRAWINGS OR PHYSICALLY AT SITE. REVIEW ALL DRAWINGS, INCLUDING THOSE OF OTHER TRADES.

3. COORDINATE ALL WORK WITH ALL OTHER TRADES PRIOR TO INSTALLATION TO PROVIDE CLEARANCES REQUIRED FOR OPERATION, MAINTENANCE, CODE COMPLIANCE, AND TO VERIFY NON-INTERFERENCE WITH OTHER WORK. DO NOT FABRICATE PRIOR TO VERIFICATION OF NECESSARY CLEARANCES FOR ALL TRADES. BRING ANY INTERFERENCES OR CONFLICTS TO THE ATTENTION OF THE ARCHITECT/ENGINEER BEFORE PROCEEDING WITH FABRICATION OR EQUIPMENT ORDERS.

4. REVIEW SPACE REQUIREMENTS OF EQUIPMENT SPECIFIED OR SUBSTITUTED AND MAKE REASONABLE ACCOMMODATIONS IN LAYOUT AND POSITIONING TO PROVIDE PROPER ACCESS.

5. ANY CHANGES REQUIRED TO ELIMINATE CONFLICTS OR THAT RESULT FROM A FAILURE TO COORDINATE SHALL BE MADE BY THE CONTRACTOR WITHOUT ADDITIONAL COST OR EXPENSE TO OTHERS.

6. EACH CONTRACTOR IS RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH ELECTRICAL CHANGES REQUIRED FOR EQUIPMENT PROPOSED THAT DIFFERS FROM THE BASIS OF DESIGN.

7. EACH CONTRACTOR IS RESPONSIBLE FOR DAMAGE CAUSED BY THEIR ACTIONS TO WALLS, FLOORS, CEILINGS, AND ROOFS. THE CONTRACTOR WHOSE WORK CAUSES DAMAGE IS RESPONSIBLE FOR PATCHING TO MATCH ORIGINAL CONSTRUCTION, FIRE RATING, AND FINISH.

8. IN AREAS WITH DRYWALL CEILINGS COORDINATE LOCATIONS OF ACCESS PANELS WITH THE GC FOR ACCESS TO VALVES, DUCTWORK ACCESSORIES, DAMPERS, ETC. COORDINATE PANEL TYPE AND COLOR WITH ARCHITECT. NOTIFY THE GC OF THE REQUIRED ACCESS PANELS PRIOR TO BIDDING.

9. SEAL ALL FLOOR, WALL, AND ROOF PENETRATIONS AIRTIGHT WHERE CONDUITS, PIPING, AND DUCTS PENETRATE. PENETRATIONS THROUGH EXTERIOR WALLS AND ROOF SHALL BE SEALED AIRTIGHT WITH WATERPROOFING MATERIALS RECOMMENDED BY MANUFACTURER FOR OUTDOOR USE.

10. CAULK ALL PIPE AND DUCT PENETRATIONS OF FULL HEIGHT NON-FIRE RATED WALL, PARTITION, FLOOR, AND ROOF ASSEMBLIES. THIS IS ESSENTIAL TO PREVENT NOISE TRANSMISSION FROM ONE ROOM TO ANOTHER AND TO PROVIDE THE DESIRED NC LEVELS WITHIN ROOMS.

11. WHERE PIPES AND DUCTS ARE SHOWN TO PENETRATE FLOORS, PROVIDE SLEEVED OPENINGS WITH THE TOP EDGE RAISED ABOVE FLOOR SURFACE IN ACCORDANCE WITH ALL RELEVANT SPEC SECTIONS. SEAL SLEEVE PERIMETER TO BE WATER TIGHT.

12. EQUIPMENT SIZES AND SERVICE CLEARANCE REQUIREMENTS VARY AMONG DIFFERENT MANUFACTURERS. CONSULT APPROVED SHOP DRAWINGS FOR EQUIPMENT SIZES AND REQUIRED SERVICE CLEARANCES. COORDINATE WITH LAYOUT OF EQUIPMENT PADS, PIPING, DUCTWORK, ETC.

13. DO NOT BLOCK TUBE PULL OR EQUIPMENT SERVICE CLEARANCES.

14. MAINTAIN MINIMUM 2'-6" CLEARANCE IN FRONT OF ALL ELECTRICAL PANELS, MOTOR STARTERS, SWITCHES, AND DISCONNECTS.

15. PROVIDE CONCRETE EQUIPMENT PAD FOR ALL FLOOR MOUNTED EQUIPMENT. PAD SHALL EXTEND MINIMUM 6" BEYOND ALL SIDES OF EQUIPMENT.

16. DO NOT SUPPORT EQUIPMENT, PIPING, OR DUCTWORK FROM METAL DECKING OR OTHER NON-STRUCTURAL BUILDING ELEMENTS. ANCHORS EMBEDDED IN CONCRETE SHALL BE CRACKED CONCRETE APPROVED IN ACCORDANCE WITH SPECIFICATIONS.

MECHANICAL RENOVATION NOTES:

THESE NOTES APPLY TO ALL MECHANICAL SHEETS AND TRADES, INCLUDING BUT NOT LIMITED TO, FIRE PROTECTION, PLUMBING, VENTILATION, PIPING AND TEMPERATURE CONTROL.

1. EXISTING CONDITIONS ARE SHOWN BASED ON INFORMATION OBTAINED FROM FIELD SURVEYS, EXISTING BUILDING DOCUMENTS, AND STAFF. VERIFY EXISTING CONDITIONS AND REPORT ANY CONFLICTS BEFORE PROCEEDING.

2. NOT ALL EXISTING DUCTWORK AND PIPING IS SHOWN. VERIFY EXISTING CONDITIONS BEFORE STARTING WORK. NOTIFY ENGINEER OF ANY CONFLICTS WITH NEW WORK.

3. FIELD VERIFY THE AVAILABLE CLEARANCES FOR DUCTWORK AND PIPING BEFORE FABRICATION. RISES AND DROPS MAY BE NECESSARY BECAUSE OF EXISTING FIELD CONDITIONS.

4. EACH CONTRACTOR SHALL CUT AND PATCH ROOFS, WALLS, AND FLOORS ASSOCIATED WITH HIS WORK.

5. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR REMOVAL AND REPLACEMENT OF CEILINGS, CEILING TILES, AND CEILING GRIDS ASSOCIATED WITH AREAS OF WORK BY ALL CONTRACTORS. NOTIFY THE GENERAL CONTRACTOR OF AFFECTED AREAS PRIOR TO BIDDING.

6. WHERE EXISTING MECHANICAL SYSTEMS ARE LOCATED IN AREAS THAT CONFLICT WITH NEW EQUIPMENT, PIPING, OR DUCTWORK TO BE INSTALLED, EACH CONTRACTOR SHALL EITHER ARRANGE NEW EQUIPMENT, PIPING, OR DUCTWORK IN SUCH A FASHION THAT IT DOES NOT CONFLICT WITH EXISTING SYSTEMS, OR REWORK EXISTING MECHANICAL SYSTEMS TO ALLOW FOR INSTALLATION OF NEW EQUIPMENT, PIPING, OR DUCTWORK.

7. PROVIDE TEMPORARY CONNECTIONS TO MAINTAIN EXISTING SYSTEMS IN SERVICE DURING CONSTRUCTION. MAINTAIN ACCESS TO EXISTING MECHANICAL INSTALLATIONS THAT REMAIN ACTIVE.

8. OBTAIN PERMISSION FROM OWNER BEFORE SHUTTING DOWN ANY SYSTEM FOR ANY REASON. MAINTAIN SERVICE TO ALL COMPONENTS THAT ARE TO REMAIN UNTIL NEW SYSTEMS ARE INSTALLED.

9. MAINTAIN EXISTING SYSTEM IN SERVICE UNTIL NEW SYSTEM IS COMPLETE AND READY FOR TIE IN AND SWITCHOVER. DRAIN SYSTEM ONLY TO MAKE SWITCHOVERS AND CONNECTIONS. OBTAIN PERMISSION FROM OWNER BEFORE PARTIALLY OR COMPLETELY DRAINING SYSTEM. MAKE CHANGEOVER TO NEW SYSTEMS WITH MINIMUM OUTAGE.

PIPING GENERAL NOTES:

1. PIPE DRAIN LINES FROM EQUIPMENT TO NEAREST FLOOR DRAIN.

2. INSTALL ALL REFRIGERANT LIQUID AND SUCTION PIPING SIZED PER EQUIPMENT MANUFACTURER RECOMMENDATIONS.

VENTILATION GENERAL NOTES:

1. ALIGN TEMPERATURE SENSORS WITH LIGHT SWITCHES AND WHEN IN CLOSE PROXIMITY TO EACH OTHER.

TAB POST-CONSTRUCTION NOTES:

1. TAB CONTRACTOR SHALL COMPILE AND SUBMIT COPIES OF THE FINAL POST-CONSTRUCTION TAB REPORT AS REQUIRED BY SECTION 15051.

2. THE FINAL POST CONSTRUCTION REPORT SHALL INCLUDE ALL ITEMS REQUIRED IN THE SPECIFICATIONS.

MECHANICAL SHEET INDEX	
M0.1	GENERAL NOTES, LEGEND, ABBREVIATIONS AND DRAWING LIST
M0.2	SCHEDULES
M0.3	TITLE 24
M2.1	DEMOLITION FLOOR PLAN
M2.2	DEMOLITION ROOF PLAN
M3.1	REMODEL FLOOR PLAN
M3.2	REMODEL ROOF PLAN
M4.1	DETAILS
M4.2	DETAILS
M5.1	CONTROLS
Total: 10	

IDENTIFICATION STAMP  
DIV. OF THE STATE ARCHITECT  
APP: 02-118216 INC:  
REVIEWED FOR  
SS ☒ FLS ☒ ACS ☐  
DATE: 06/04/2020

Fresno Unified School District

COOPER ACADEMY KITCHEN HVAC ADDITION

2277 W BELLAIRE WAY, FRESNO, CA 93705

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REGISTERED PROFESSIONAL ENGINEER  
ERIC M. DeSPINER  
38688  
Exp. 12/31/21  
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CONSULTANT

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REVISIONS

No.	Date	Revision / Issue
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SHEET INFORMATION

Issue

BID SET

Date

10/20/2020

Job Number

19000646.00

Drawn

ZM

Checked

JM

Approved

ED

SHEET TITLE

GENERAL NOTES, LEGEND, ABBREVIATIONS AND DRAWING LIST

SCALE

As indicated

SHEET NUMBER

M0.1

EXHIBIT C



19000646.006/2/2020 9:53:31 AM COOPER ACADEMY KITCHEN HVAC ADDITION

FAN COIL UNIT SCHEDULE

NOTES:

1.COMPLETE WITH INTEGRAL CONDENSATE PUMP, WALL MOUNT THERMOSTAT, MANUFACTURER HIGH EFFICIENCY FILTER OPTION, AN CONTROLLER COMPATIBLE WITH EXISTIN JOHNSON CONTROLS EMS SYSTEM.

TAG NAME	AREA SERVED	CONFIGURATION	MAX. CFM	COOLING/HEATING		ELECTRICAL					MANUFACTURER	MODEL	WEIGHT	ANCHORAGE DETAIL	NOTES
				TOTAL MBH	TOTAL MBH	HP	VOLTAGE	PHASES	MCA	MOCP					
FC-1	KITCHEN	4 WAY CASSETTE	600	10.5	13.5	0.03	208	1	0.39	15	Mitsubishi Electric	TPLFYP012EM140A	60	2/M4.1	1
FC-2	KITCHEN	4 WAY CASSETTE	600	10.5	13.5	0.03	208	1	0.39	15	Mitsubishi Electric	TPLFYP012EM140A	60	2/M4.1	1
FC-3	KITCHEN	4 WAY CASSETTE	600	10.5	13.5	0.03	208	1	0.39	15	Mitsubishi Electric	TPLFYP012EM140A	60	2/M4.1	1

CONDENSING UNIT SCHEDULE

NOTES:

TAG NAME	AREA SERVED	NOMINAL DESIGN TONS	SEER	REFRIGERANT	ELECTRICAL				MANUFACTURER	MODEL	WEIGHT	ANCHORAGE DETAIL	NOTES
					VOLTAGE	PHASES	MCA	MOCP					
CU-1	KITCHEN	3	22.3	R-410A	208	1	29	45	Mitsubishi Electric	TUMYP0361AK42NA	275	1/M4.1	

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COOPER ACADEMY  
KITCHEN HVAC  
ADDITION

2277 W BELLAIRE WAY, FRESNO, CA 93705



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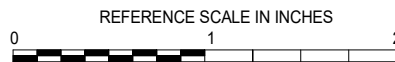
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SHEET INFORMATION

Issue	BID SET
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Job Number	19000646.00
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Checked	JM
Approved	ED

SHEET TITLE

SCHEDULES

SCALE

Scale:

SHEET NUMBER

M0.2

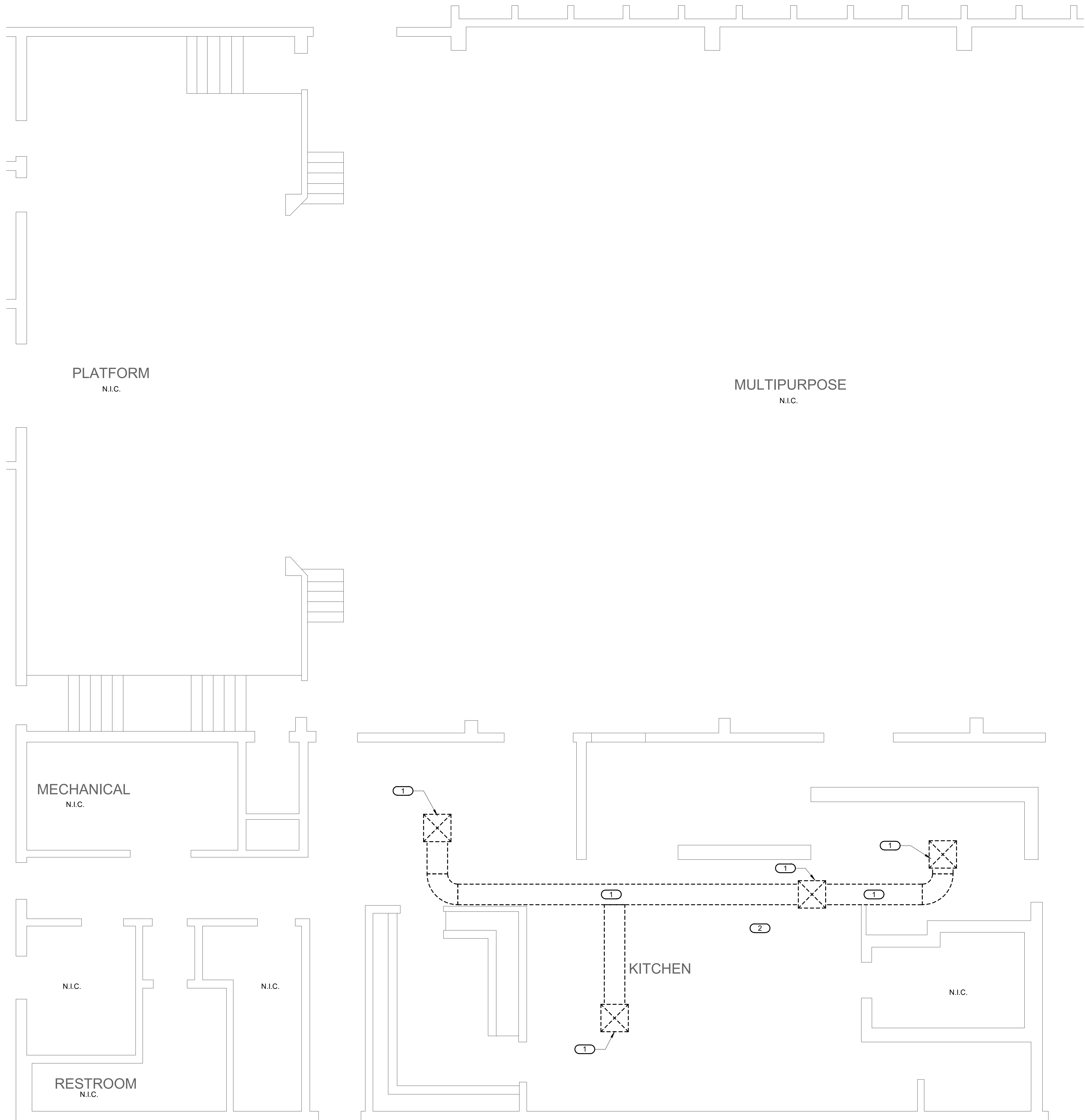
EXHIBIT C







19000646.00 6/2/2020 9:53:36 AM COOPER ACADEMY KITCHEN HVAC ADDITION



- DEMOLITION KEYNOTES: **C** #
1. EXISTING SUPPLY DUCT AND DIFFUSER FOR EXISTING EVAPORATIVE COOLER TO BE DEMOLISHED
  2. FIELD LOCATE ELECTRICAL CONTROLS/SWITCHES ASSOCIATED WITH EXISTING EVAPORATIVE COOLER BEING DEMOLISHED AND COORDINATE WITH DISTRICT M&O DEPARTMENT FOR EITHER REMOVAL OR PROTECT IN PLACE.

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Fresno Unified  
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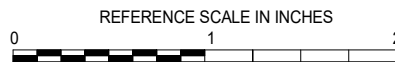
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Issue	BID SET
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Job Number	19000646.00
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SHEET TITLE  
DEMOLITION FLOOR PLAN

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

SHEET NUMBER

M2.1

EXHIBIT C



19000646.00 6/2/2020 9:53:39 AM COOPER ACADEMY KITCHEN HVAC ADDITION

- DEMOLITION KEYNOTES: ( # )
1. EXISTING EVAPORATIVE COOLER TO BE DEMOLISHED. ASSOCIATED CURB AND BLOCKING TO BE DEMOLISHED ACCORDINGLY AND ROOF PATCHED TO MATCH EXISTING.
  2. EXISTING MECHANICAL EQUIPMENT TO REMAIN AND BE PROTECTED IN PLACE. CONTRACTOR WILL BE RESPONSIBLE FOR ANY DAMAGES CAUSED DURING DEMOLITION.

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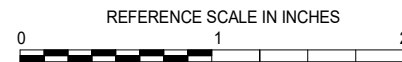
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REVISIONS

No.	Date	Revision / Issue
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SHEET INFORMATION

Issue	BID SET
Date	10/20/2020
Job Number	19000646.00
Drawn	ZM
Checked	JM
Approved	ED

SHEET TITLE

DEMOLITION ROOF PLAN

SCALE

Scale: 1/4" = 1'-0"

SHEET NUMBER

M2.2



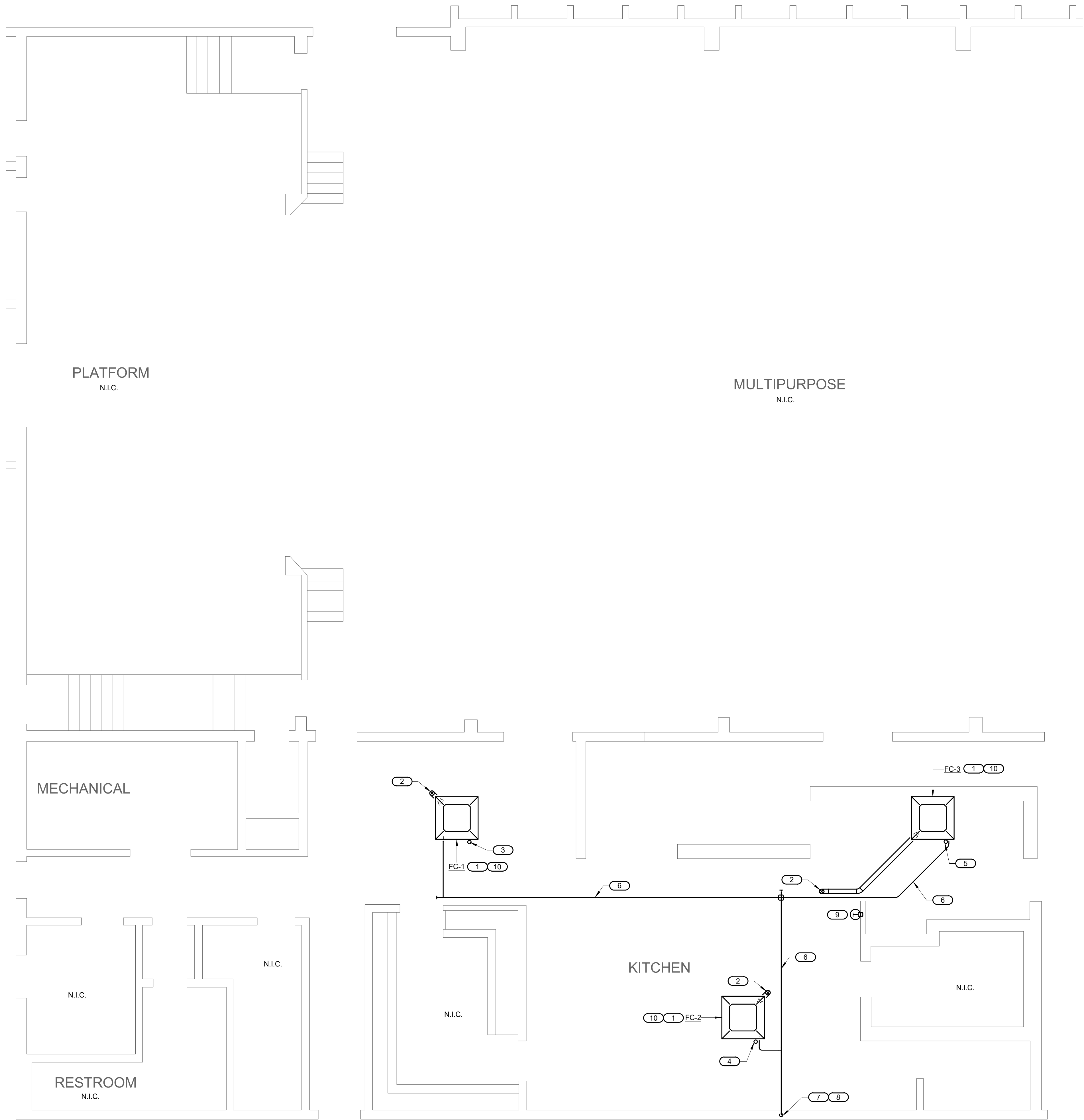
1

DEMOLITION ROOF PLAN

1/4" = 1'-0"



19000646.00 6/2/2020 9:53:42 AM COOPER ACADEMY KITCHEN HVAC ADDITION



REMODEL KEYNOTES: ( # )

1. NEW FAN COIL TO BE INSTALLED IN EXISTING OPENING IN CEILING.
2. NEW 4" Ø OSA DUCT UTR TO NEW ROOF CAP. REFER TO DETAIL 5/M4.1. BALANCE OSA TO MIN 60 CFM.
3. REFRIGERANT LINES IN CEILING SPACE TO FC-1.
4. REFRIGERANT LINES IN CEILING SPACE TO FC-2.
5. REFRIGERANT LINES IN CEILING SPACE TO FC-3.
6. 3/4" CONDENSATE LINE IN CEILING SPACE.
7. 3/4" CONDENSATE LINE IN (E)WALL. REMOVE DRYWALL BETWEEN STUDS IN ORDER TO INSTALL PIPE IN WALL. PATCH AND PAINT WALL TO MATCH EXISTING AFTER PIPE INSTALLATION.
8. CONNECT CONDENSATE LINE INTO (E)SINK TRAP. INSTALL NEW TRAP WITH CONDENSATE LINE CONNECTION IF NECESSARY. REFER TO DETAIL 6/M4.2.
9. INSTALL NEW DDC THERMOSTAT AND TIE INTO ALL FAN COILS.
10. CONNECT FAN COIL CONTROLLERS TO EXISTING JOHNSON CONTROLS EMS SYSTEM PANEL IN MECHANICAL ROOM. ROUTE NEW CONDUIT AS NEEDED.

IDENTIFICATION STAMP  
DIV. OF THE STATE ARCHITECT  
APP: 02-118216 INC:  
REVIEWED FOR  
SS ☒ FLS ☒ ACS ☐  
DATE: 06/04/2020



COOPER ACADEMY  
KITCHEN HVAC  
ADDITION

2277 W BELLAIRE WAY, FRESNO, CA 93705



901 VIA PIEMONTE  
SUITE 400  
ONTARIO, CA  
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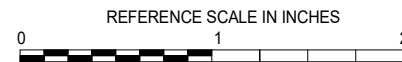
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REMODEL FLOOR PLAN

SCALE

Scale: 1/4" = 1'-0"

SHEET NUMBER

M3.1



1

REMODEL FLOOR PLAN

1/4" = 1'-0"



19000646.00 6/2/2020 9:53:45 AM COOPER ACADEMY KITCHEN HVAC ADDITION

REMODEL KEYNOTES: #

1. NEW OSA INTAKE CAP. REFER TO 5/M4.1.
2. FOR REFRIGERANT LINE THROUGH ROOF REFER TO 1/M4.2
3. EXISTING MECHANICAL EQUIPMENT TO REMAIN AND BE PROTECTED IN PLACE. CONTRACTOR WILL BE RESPONSIBLE FOR ANY DAMAGES CAUSED DURING CONSTRUCTION.
4. EXISTING ROOF OPENING TO BE PATCHED TO MATCH EXISTING FINISH, RATING, AND CONSTRUCTION TYPE. PATCHING MUST ADHEAR TO ANY AND ALL REQUIREMENTS NECESSARY TO MAINTAIN EXISTING WARRANTY. COORDINATE WITH DISTRICT PRIOR TO STARTING CONSTRUCTION.
5. BALANCE EXISTIGN KITCHEN EXHAUST FAN TO MIN 820 CFM PER TITLE 24 REQUIREMENTS.

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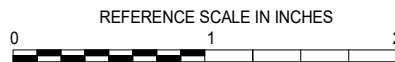
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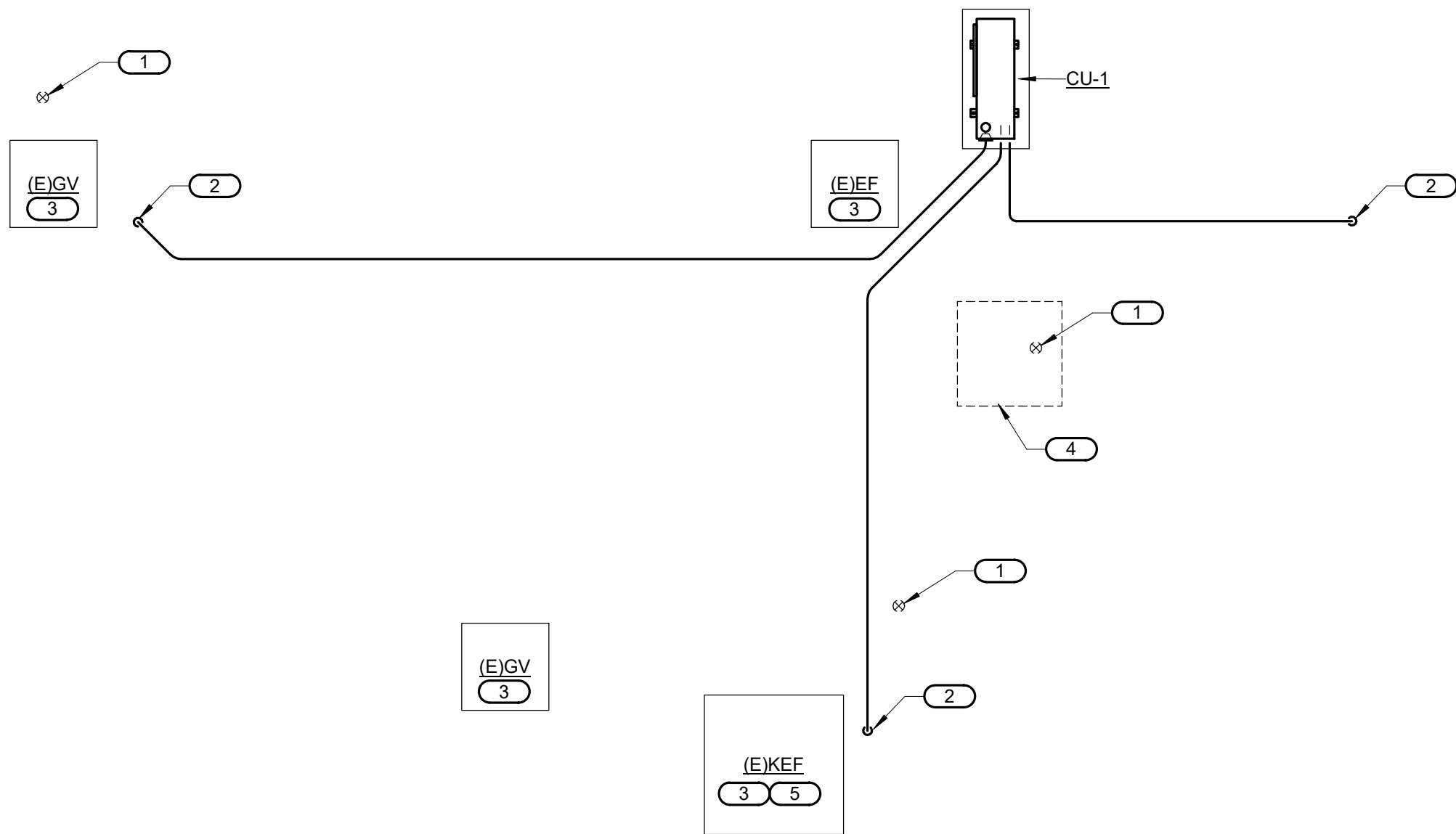
EXHIBIT C



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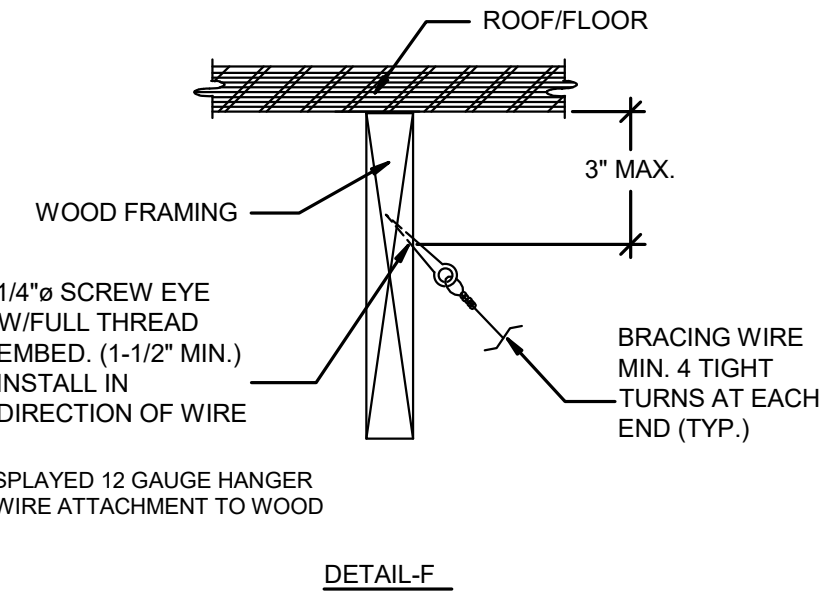
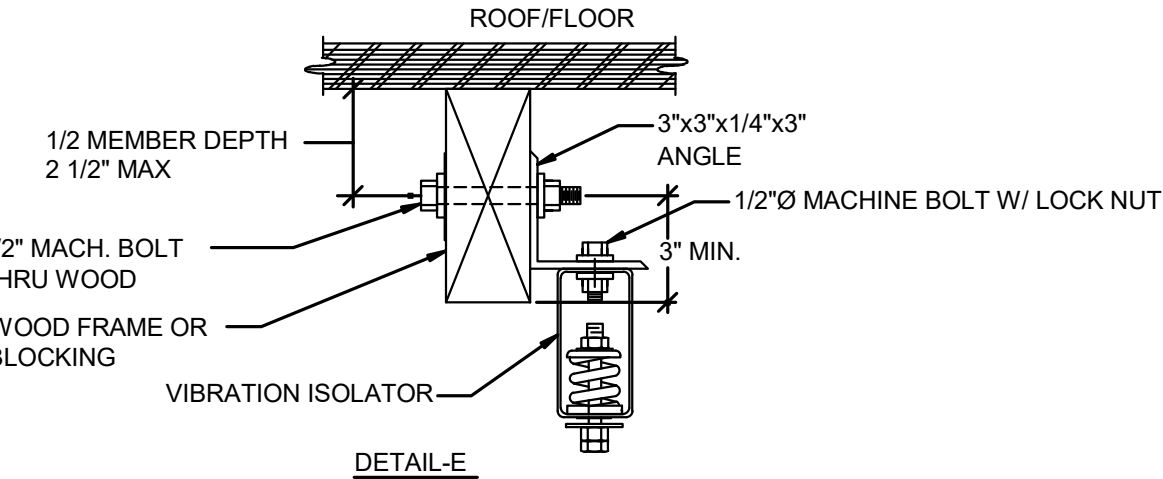
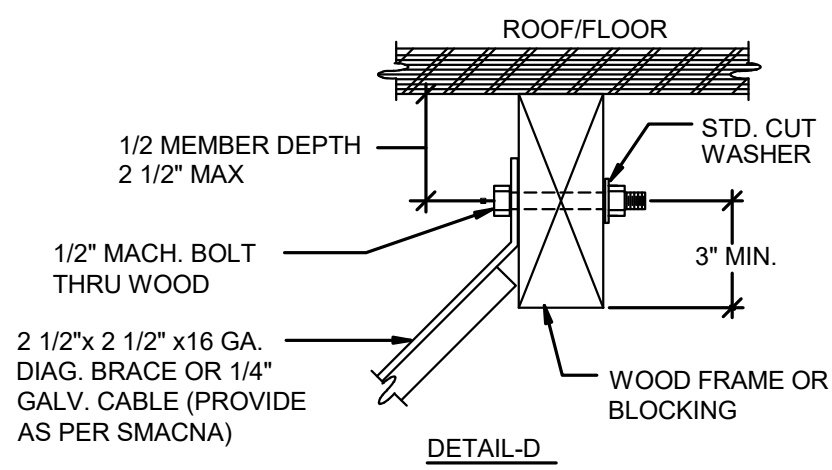
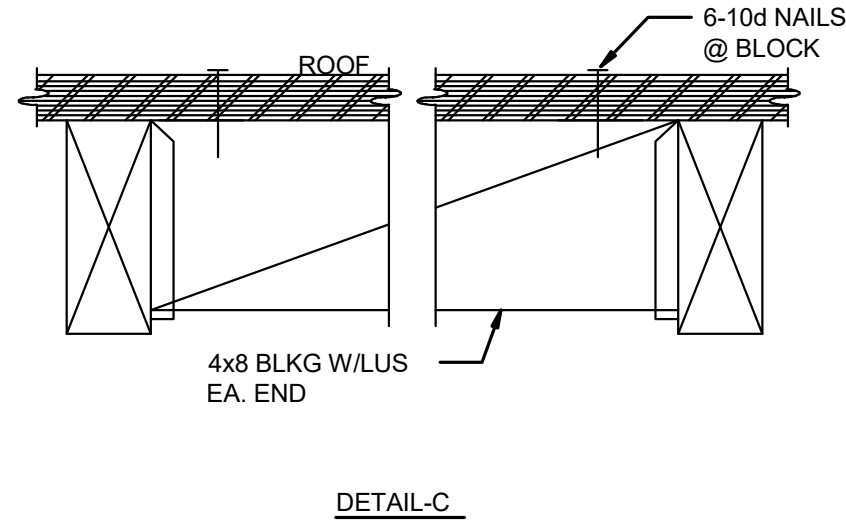
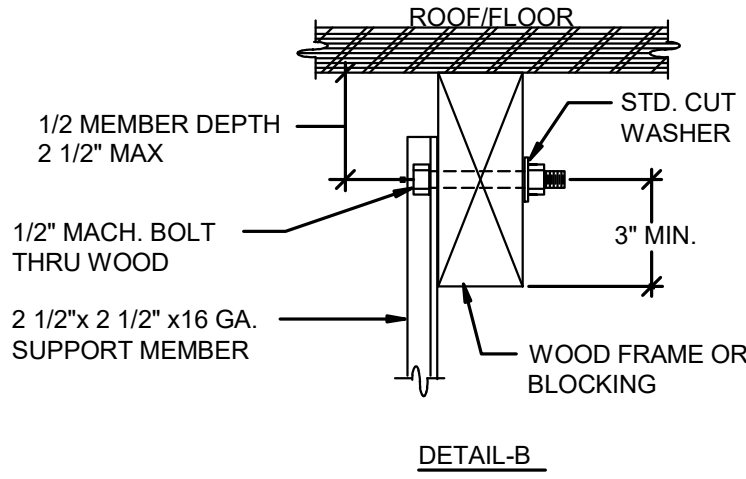
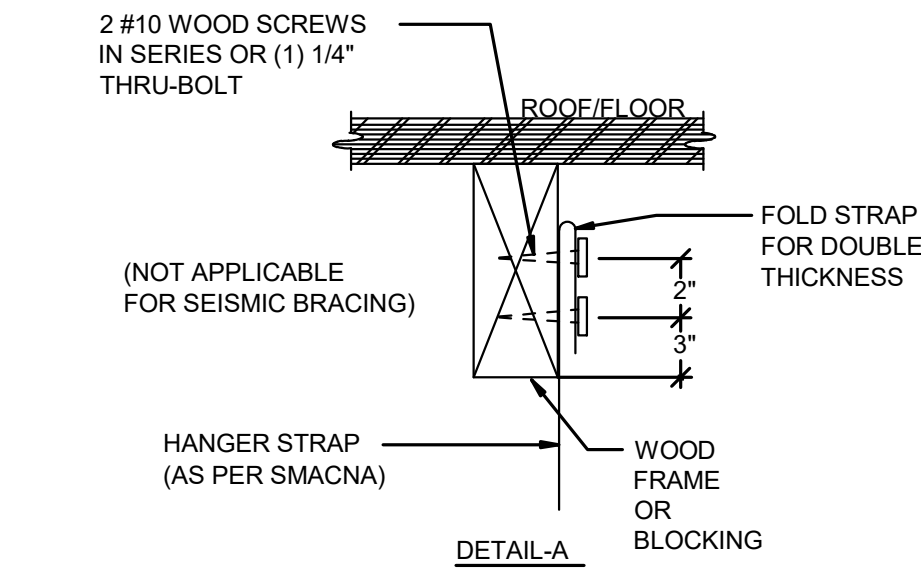
REMODEL ROOF PLAN

1/4" = 1'-0"



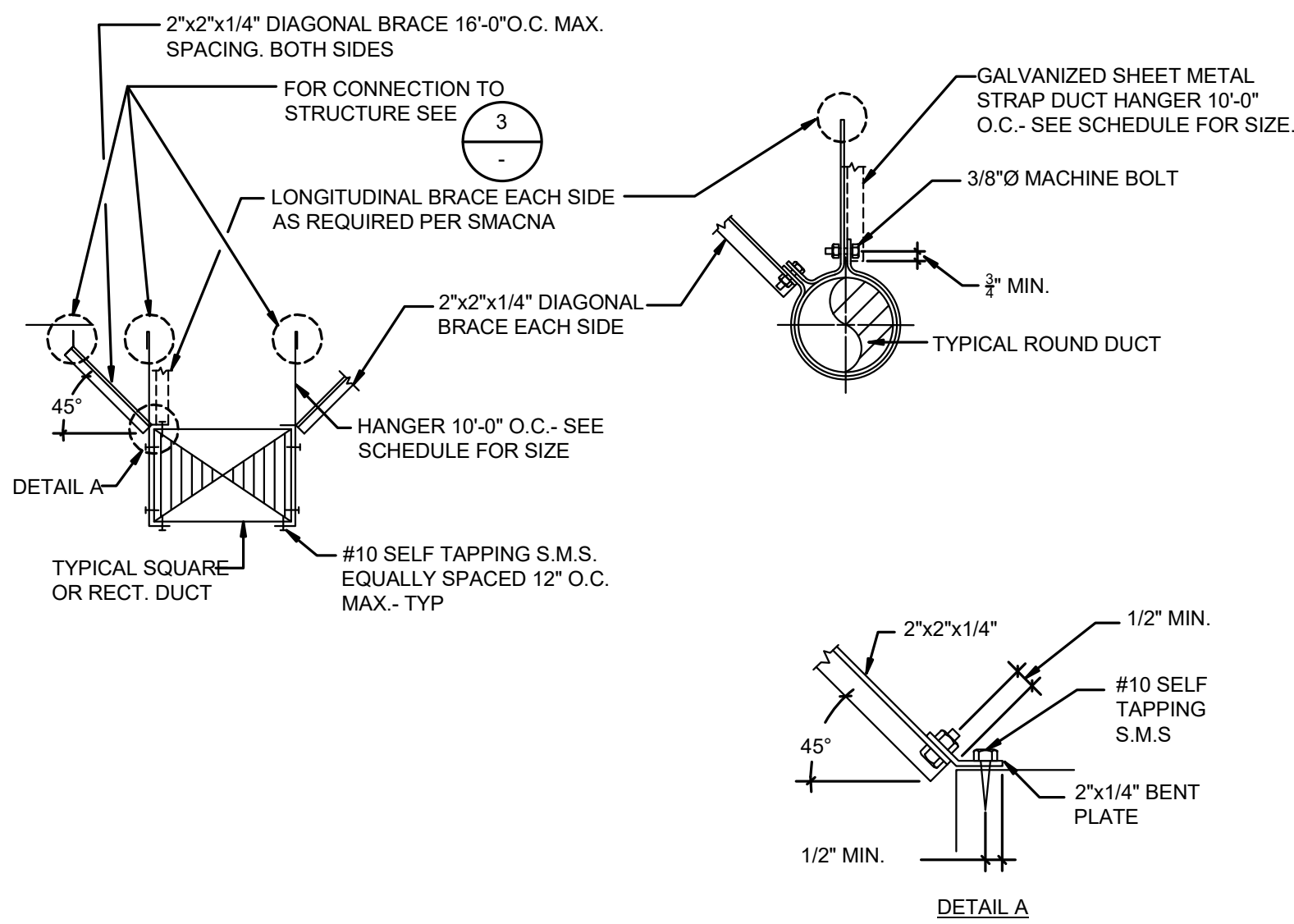
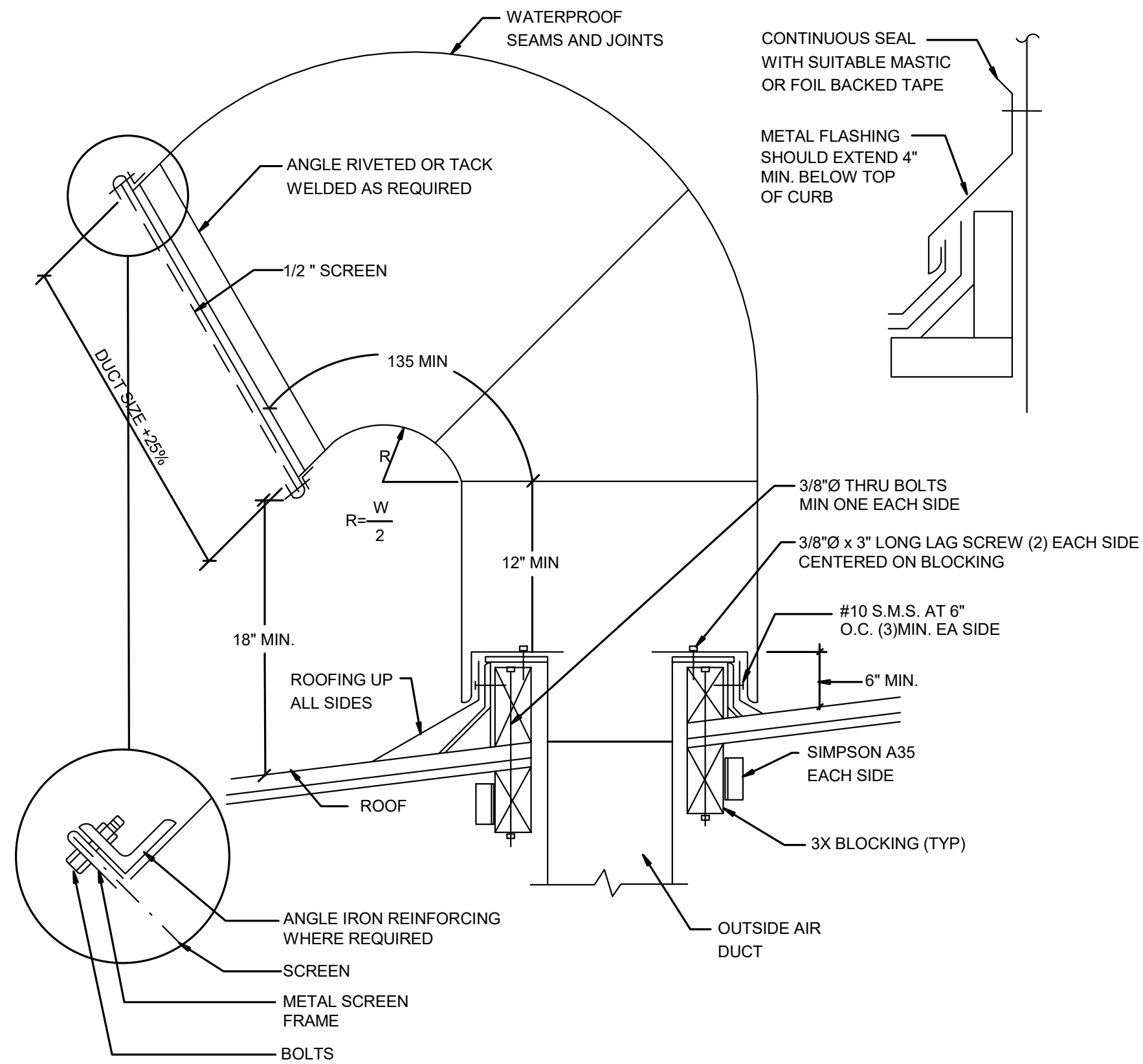


19000646.00 6/2/2020 9:53:48 AM COOPER ACADEMY KITCHEN HVAC ADDITION



### DUCT, PIPE, AND EQUIPMENT SUPPORT CONNECTION TO STRUCTURE

NTS 3



RECTANGULAR DUCT			ROUND DUCT		
MAX. OF DUCT PERMETER/IN.	STRAP	MAX. LOAD EACH HANGER/LBS.	DIAMETER /INCHES	STRAP	MAX. LOAD EACH HANGER/LBS.
P/2 =72	1\"X 20 GA.	20	UP TO 20"	1\"X 20 GA.	20
P/2 =96	1\"X 18 GA.	30	21" TO 36"	1\"X 18 GA.	30

- NOTE:
- NO BRACING REQUIRED IF DUCT IS SUSPENDED 12 INCHES OR LESS IN LENGTH.
  - FOR TRANSVERSE AND LONGITUDINAL BRACING FOLLOW "SMACNA" GUIDELINES FOR SEISMIC HAZARD LEVEL "A".

### GOOSENECK INSTALLATION

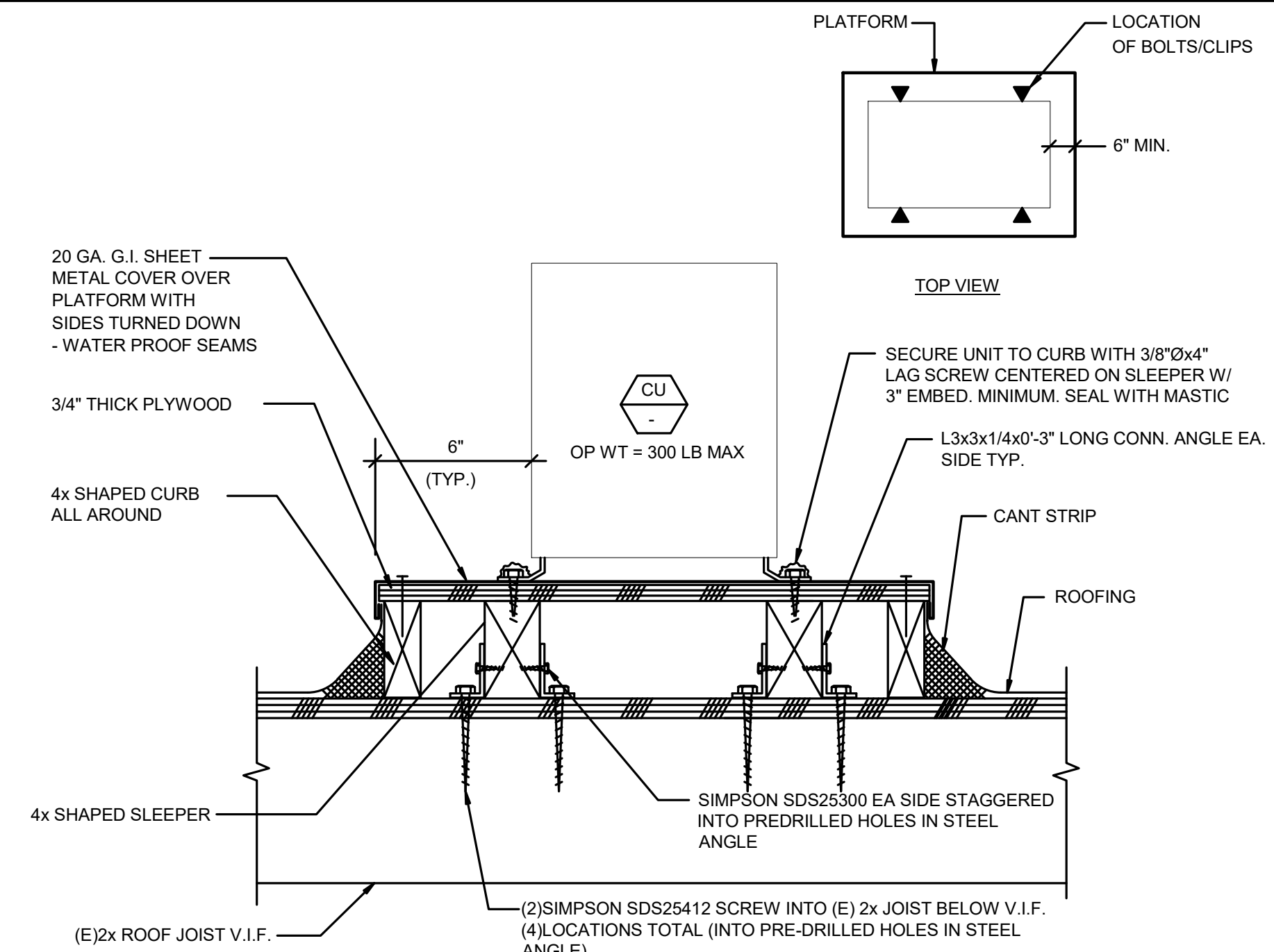
NTS 5

### DUCT SUPPORT DETAIL

NTS 4

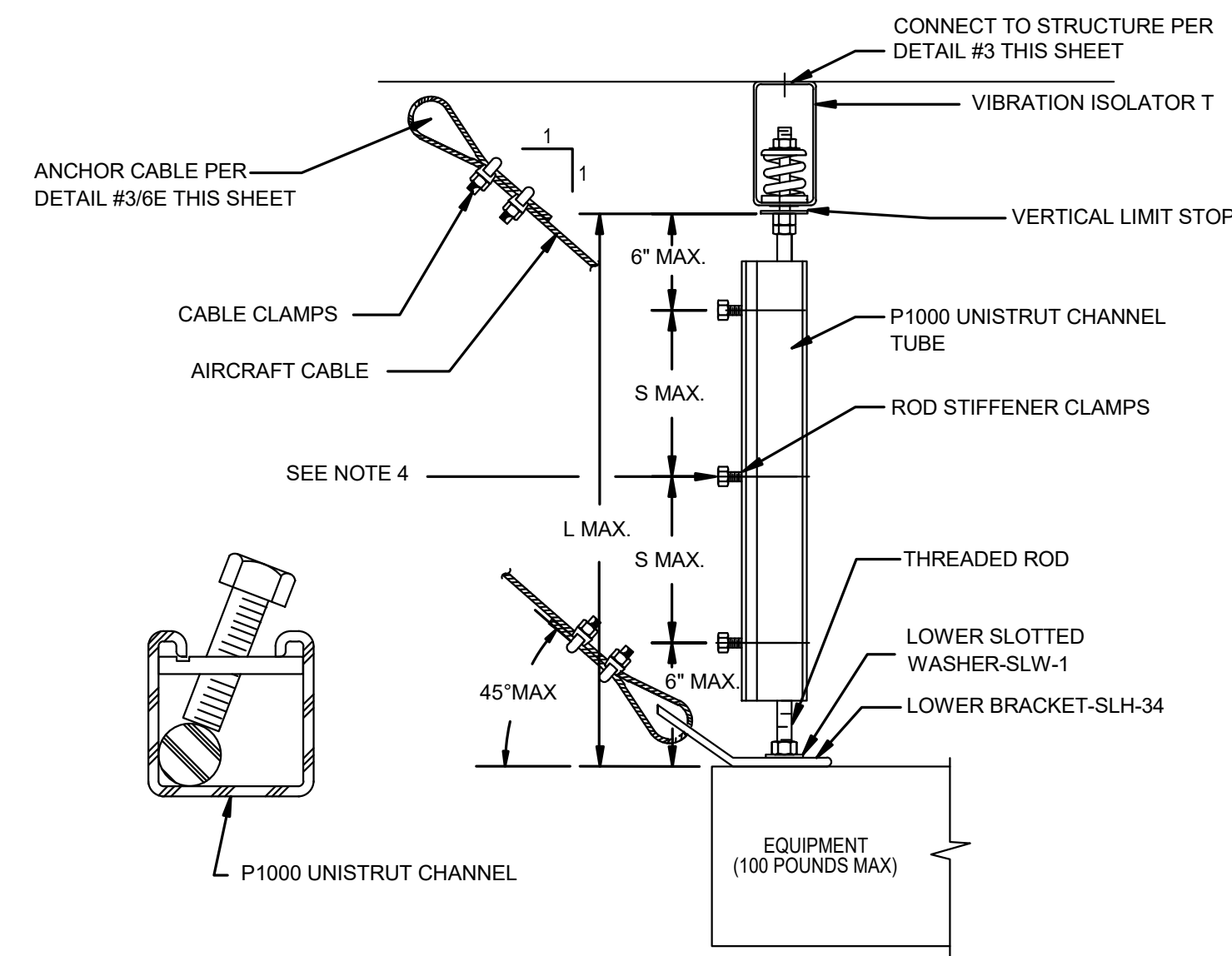
### CEILING MOUNTED EQUIPMENT MOUNTING

NTS 2



### CONDENSING UNIT ON ROOF

NTS 1



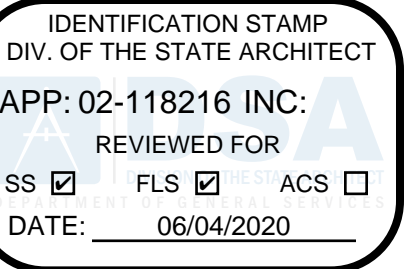
- NOTES:
- SEE TABLE 1 FOR MAXIMUM LENGTH OF 3/8" THRU 7/8" DIAMETER RODS WITHOUT ROD STIFFENER.
  - SEE TABLE 2 FOR MAXIMUM LENGTH OF 3/8" THRU 7/8" DIAMETER RODS WITH ROD STIFFENER.
  - SEE TABLE 3 TO DETERMINE NUMBER OF ROD STIFFENER CLIPS REQUIRED.
  - (6) ROD STIFFENER CLAMPS PROVIDED IN A KIT. IF ADDITIONAL CLIPS ARE REQUIRED, CONTACT M. W. SAUSSE' & CO., INC.

M.W. SAUSSE' SEISMIC CABLE BRACING EQUIPMENT KIT NO: 316C4-12R1-4R1	
(4) UPPER BRACKET - SLH-34	
(4) UPPER SLOTTED WASHER -SLW-3	
(4) LOWER BRACKET - SLH-34	
(4) LOWER SLOTTED WASHER -SLW-1	
(8) ROD STIFFENER CLAMPS - RS-18	
(4) CABLE - 3/16" - 10 FT.	
(24) CABLE CLAMPS - 3/16"	

TABLE 1. (L MAX. W/O ROD STIFFENER)					
ROD DIA.	3/8"	1/2"	5/8"	3/4"	7/8"
L MAX.	18"	25"	31"	37"	43"

TABLE 2. (L MAX. W/ ROD STIFFENER)	
ROD STIFFENER	12GA. X 1-5/8" X 1-5/8 STRUT CHANNEL
L MAX.	116"

TABLE 3. (S MAX. W/ ROD STIFFENER)					
ROD DIA.	3/8"	1/2"	5/8"	3/4"	7/8"
S MAX.	18"	25"	31"	37"	43"



Fresno Unified School District  
COOPER ACADEMY KITCHEN HVAC ADDITION  
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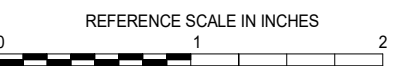


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SHEET TITLE

DETAILS

SCALE

Scale:

SHEET NUMBER

M4.1

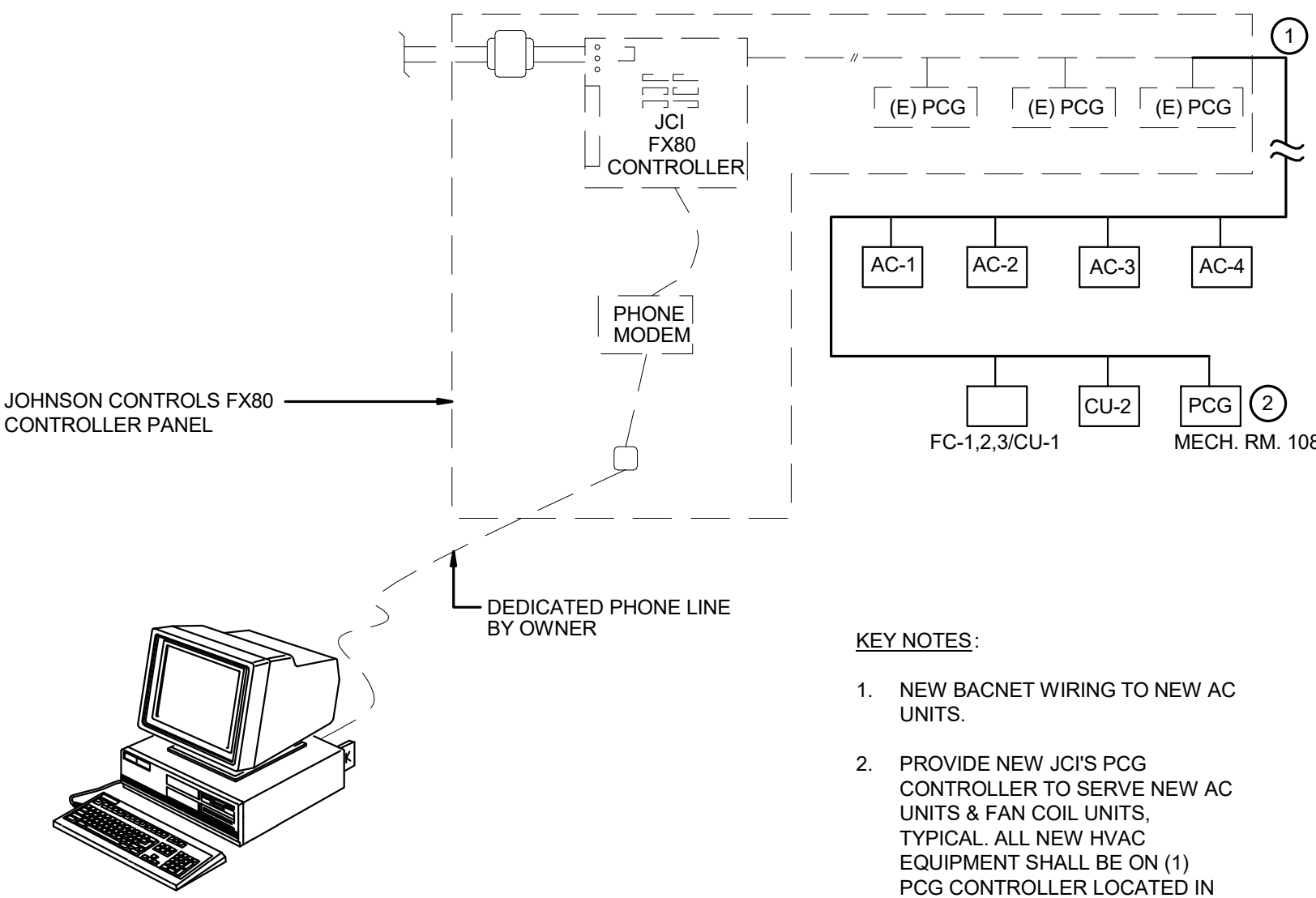
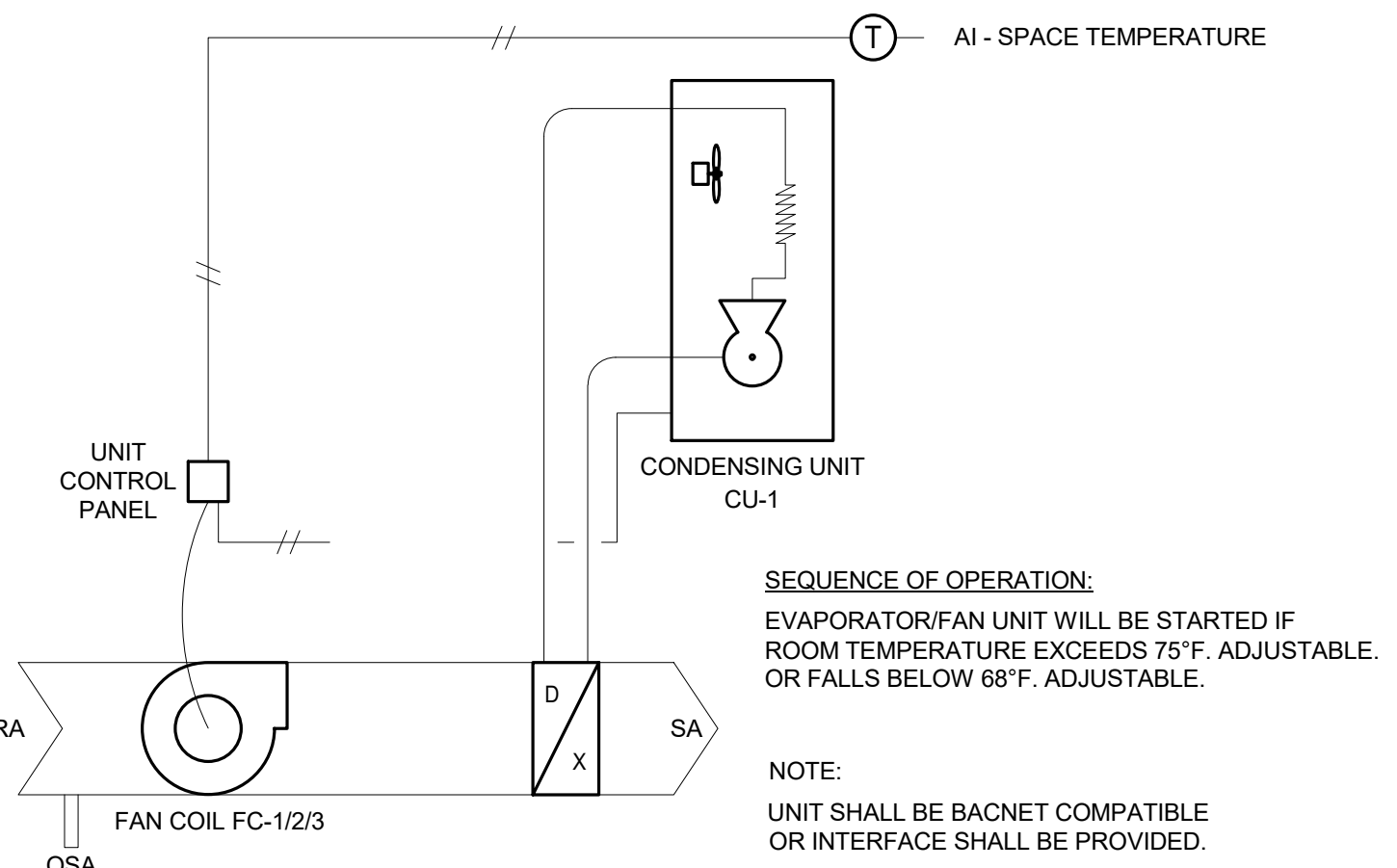
EXHIBIT C







19000646.00 6/2/2020 9:53:54 AM COOPER ACADEMY KITCHEN HVAC ADDITION

						<div><div><p>JOHNSON CONTROLS FX80 CONTROLLER PANEL</p><p>EXISTING REMOTE DIAL-UP COMPUTER WITH JOHNSON CONTROL FX FOR WINDOWS SOFTWARE PACKAGE LOCATED AT DISTRICT OFFICE</p><p>DEDICATED PHONE LINE BY OWNER</p><p>KEY NOTES:</p><ol style="list-style-type: none"><li>1. NEW BACNET WIRING TO NEW AC UNITS.</li><li>2. PROVIDE NEW JCI'S PCG CONTROLLER TO SERVE NEW AC UNITS &amp; FAN COIL UNITS. TYPICAL. ALL NEW HVAC EQUIPMENT SHALL BE ON (1) PCG CONTROLLER LOCATED IN THE MECH. RM. 108.</li></ol></div></div>		
NOT USED	NTS	6	NOT USED	NTS	3	EMS SYSTEM NETWORK	NTS	1
						<div><div><p>UNIT CONTROL PANEL</p><p>CONDENSING UNIT CU-1</p><p>FAN COIL FC-1/2/3</p><p>OSA</p><p>AI - SPACE TEMPERATURE</p><p>SEQUENCE OF OPERATION: EVAPORATOR/FAN UNIT WILL BE STARTED IF ROOM TEMPERATURE EXCEEDS 75°F. ADJUSTABLE. OR FALLS BELOW 68°F. ADJUSTABLE.</p><p>NOTE: UNIT SHALL BE BACNET COMPATIBLE OR INTERFACE SHALL BE PROVIDED.</p><p>CONTROL NOTES:</p><ol style="list-style-type: none"><li>1. CONTRACTOR SHALL DISCONNECT ALL EXISTING LIGHTING CONTROL CIRCUITS FROM EXISTING NETWORK AREA CONTROLLERS SCHEDULED TO BE REPLACED. CONTRACTOR SHALL RECONNECT EXISTING LIGHTING CONTROL CIRCUITS TO NEW FX80 PANELS AND DEMONSTRATE PROPER OPERATION TO DISTRICT ENERGY MANAGEMENT DEPARTMENT. FIELD VERIFY EXACT NUMBER OF CIRCUITS AND PROGRAMMING.</li><li>2. CONTRACTOR SHALL DISCONNECT ALL EXISTING PHOTOCELL LIGHTING CONTROLLERS FROM EXISTING NETWORK AREA CONTROLLERS SCHEDULED TO BE REPLACED. CONTRACTOR SHALL RECONNECT ALL EXISTING PHOTOCELL LIGHTING CONTROLLERS TO NEW FX80 PANELS AND DEMONSTRATE PROPER OPERATION TO DISTRICT ENERGY MANAGEMENT DEPARTMENT. FIELD VERIFY EXACT NUMBER AND LOCATION OF EXISTING PHOTOCELLS.</li><li>3. CONTRACTOR SHALL DISCONNECT ALL EXISTING OUTDOOR AIR SENSORS FROM EXISTING NETWORK AREA CONTROLLERS SCHEDULED TO BE REPLACED. CONTRACTOR SHALL RECONNECT ALL EXISTING OUTDOOR AIR SENSORS TO NEW FX80 PANELS AND DEMONSTRATE PROPER OPERATION TO DISTRICT ENERGY MANAGEMENT DEPARTMENT. FIELD VERIFY EXACT NUMBER AND LOCATION OF EXISTING OUTDOOR AIR SENSORS.</li><li>4. PROVIDE TWO (2) SPARE PCX CONTROLLERS FOR DISTRICT ENERGY MANAGEMENT DEPARTMENT USE.</li></ol></div></div>		
NOT USED	NTS	7	NOT USED	NTS	4			
NOT USED	NTS	8	NOT USED	NTS	5	FC-1/2 AND CU-2 CONTROL DIAGRAM	NTS	2

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REFERENCE SCALE IN INCHES

0 2

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CONTROLS

Scale:

SHEET NUMBER

M5.1



NAME

10' - 0"

LEVEL NAME

HEIGHT ABOVE PROJECT 0' - 0"

1

INDICATES NOTE USED TO DESCRIBE ADDITIONAL INFORMATION ABOUT WORK REQUIRED, SPECIFIC TO THE SHEET AND/OR DETAIL

INDICATES DIRECTION OF TRUE NORTH

PLAN OR DETAIL NUMBER

PLAN OR DETAIL NAME

1

1/8" = 1'-0"

PLAN OR DETAIL SCALE

SIM

INDICATES SIMILAR DETAIL REFERENCED IN MULTIPLE LOCATIONS

1

DETAIL REFERRED TO BY SECTION CUT

M101

SHEET DETAIL IS LOCATED ON

SIM

INDICATES SIMILAR DETAIL REFERENCED IN MULTIPLE LOCATIONS

1

DETAIL REFERRED TO BY ELEVATION

T101

SHEET DETAIL IS LOCATED ON

LINE TYPE KEY:

NEW WORK BY THIS CONTRACTOR (DARK SOLID LINE)

NEW WORK UNDERFLOOR OR UNDERGROUND BY THIS CONTRACTOR (DARK LONG DASHED LINE)

NEW WORK BY OTHERS AND/OR EXISTING TO REMAIN (LIGHT SOLID LINE)

EXISTING TO BE REMOVED BY THIS CONTRACTOR (DARK SHORT DASHED LINE)

ELECTRICAL INSTALLATION NOTES:

1.

THE COMPLETE INSTALLATION SHALL BE IN ACCORDANCE WITH THE ADA STANDARDS FOR ACCESSIBLE DESIGN. REFER TO THE ADA GUIDELINES FOR ALL CONFIGURATION DETAIL ON THIS PAGE FOR ADDITIONAL INFORMATION.

2.

CIRCUIT NUMBERS ARE SHOWN FOR CIRCUIT IDENTIFICATION. CIRCUITING SHALL AGREE WITH NUMBERINGS ON THE PANEL PROVIDED. COMMON NEUTRALS MAY NOT BE USED FOR BRANCH CIRCUITS. BALANCE THE LOAD ON PANEL AS EVENLY AS POSSIBLE BETWEEN EACH PHASE.

3.

ALL MATERIALS USED TO SEAL PENETRATIONS OF FIRE RATED WALLS AND FLOORS SHALL BE TESTED AND CERTIFIED AS A SYSTEM PER ASTM E814 STANDARDS FOR FIRE TESTS OF THROUGH-PENETRATION FIRESTOPS. REFER TO [27 05 03 AND 28 05 03] [DIVISION 7] [28 05 03] FOR ADDITIONAL INFORMATION AND REQUIREMENTS SPECIFIC TO FIRESTOPPING.

4.

CONTRACTOR SHALL BE RESPONSIBLE FOR ALL OPENINGS REQUIRED IN WALLS. ALL OPENINGS SHALL BE REPAIRED TO MATCH EXISTING BY A QUALIFIED CONTRACTOR AT THE EXPENSE OF THIS CONTRACTOR. ALL CONDUITS THROUGH WALLS SHALL BE GROUTED OR SEALED INTO OPENINGS.

5.

CONTRACTOR SHALL REMOVE AND REINSTALL ALL CEILING TILES AS REQUIRED FOR THE EXECUTION OF ELECTRICAL WORK. CONTRACTOR SHALL REPLACE CEILING TILES WITH IDENTICAL MATERIAL WHERE DAMAGED BY THIS CONTRACTOR.

6.

ELECTRICAL IDENTIFICATION: REFER TO SPECIFICATION SECTION 16195 FOR COLOR/LABEL REQUIREMENTS FOR CONDUIT, BOX, CABLE/WIRE, AND EQUIPMENT.

ELECTRICAL RENOVATION NOTES:

THESE NOTES APPLY TO ALL ELECTRICAL SHEETS AND TRADES, INCLUDING BUT NOT LIMITED TO, LIGHTING, POWER, AND SYSTEMS.

1.

EXISTING CONDITIONS ARE SHOWN BASED ON INFORMATION OBTAINED FROM FIELD SURVEYS, EXISTING BUILDING DOCUMENTS, AND STAFF. VERIFY EXISTING CONDITIONS AND REPORT ANY CONFLICTS BEFORE PROCEEDING.

2.

THE GENERAL CONTRACTOR IS RESPONSIBLE FOR CUTTING, REMOVAL AND PATCHING OF ROOFS, WALLS, AND FLOORS ASSOCIATED WITH WORK BY ALL CONTRACTORS. CONTRACTORS SHALL NOTIFY THE GC OF AFFECTED AREAS PRIOR TO BIDDING[ EACH CONTRACTOR SHALL CUT AND PATCH ROOFS, WALLS, AND FLOORS ASSOCIATED WITH HIS/HER WORK.]

3.

THE **GENERAL CONTRACTOR** IS RESPONSIBLE FOR REMOVAL AND REPLACEMENT OF CEILINGS, CEILING TILES, AND CEILING GRIDS ASSOCIATED WITH AREAS OF WORK BY ALL CONTRACTORS. NOTIFY THE **GENERAL CONTRACTOR** OF AFFECTED AREAS PRIOR TO BIDDING.

4.

WHERE EXISTING ELECTRICAL SYSTEMS ARE LOCATED IN AREAS THAT CONFLICT WITH NEW EQUIPMENT, PIPING, OR DUCTWORK TO BE INSTALLED, EACH CONTRACTOR SHALL EITHER ARRANGE NEW EQUIPMENT, CONDUIT, OR DUCTWORK IN SUCH A FASHION THAT IT DOES NOT CONFLICT WITH EXISTING SYSTEMS, OR REWORK EXISTING ELECTRICAL SYSTEMS TO ALLOW FOR INSTALLATION OF NEW EQUIPMENT, PIPING, OR DUCTWORK.

APPLICABLE CODES

•

2019 CALIFORNIA BUILDING STANDARDS ADMINISTRATIVE CODE CALIFORNIA CODE OF REGULATIONS (CCR) TITLE 24, PART 1

•

2019 CALIFORNIA BUILDING CODE (CBC) CALIFORNIA CODE OF REGULATIONS (CCR) TITLE 24, PART 2 (2018 INTERNATIONAL BUILDING CODE (IBC) W/CALIFORNIA AMENDMENTS)

•

2019 CALIFORNIA ELECTRICAL CODE (CEC) CALIFORNIA CODE OF REGULATIONS (CCR) TITLE 24, PART 3 (2017 NATIONAL ELECTRICAL CODE (NEC) W/CALIFORNIA AMENDMENTS)

•

2019 CALIFORNIA MECHANICAL CODE CALIFORNIA CODE OF REGULATIONS (CCR) TITLE 24, PART 4 (2018 UNIFORM MECHANICAL CODE (UMC) W/CALIFORNIA AMENDMENTS)

•

2019 CALIFORNIA PLUMBING CODE CALIFORNIA CODE OF REGULATIONS (CCR) TITLE 24, PART 5 (2018 UNIFORM PLUMBING CODE (UPC) W/CALIFORNIA AMENDMENTS)

•

2019 CALIFORNIA ENERGY EFFICIENCY STANDARDS CODE CALIFORNIA CODE OF REGULATIONS (CCR) TITLE 24, PART 6

•

2019 CALIFORNIA FIRE CODE (CFC) CALIFORNIA CODE OF REGULATIONS (CCR) TITLE 24, PART 9 (2018 INTERNATIONAL FIRE CODE (IFC) W/CALIFORNIA AMENDMENTS)

•

2019 CALIFORNIA REFERENCED STANDARDS CODE CALIFORNIA CODE OF REGULATIONS (CCR) TITLE 24, PART 12

•

AMERICANS WITH DISABILITIES ACT (ADA) TITLE II - ACCESSIBILITY GUIDELINES FOR BUILDINGS AND FACILITIES (ADAAG) 1990 STATE FIRE MARSHAL REGULATIONS AND AMENDMENTS TO-DATE

•

CALIFORNIA CODE OF REGULATIONS (CCR) TITLE 24, CALIFORNIA STATE ACCESSIBILITY STANDARDS CALIFORNIA CODE OF REGULATIONS (CCR) TITLE 19

PARTIAL LIST OF APPLICABLE STANDARDS:

NFPA 13 - STANDARD FOR THE INSTALLATION OF SPRINKLER SYSTEMS (CA AMANDED) 2016 EDITION

NFPA 14 - STANDARD FOR THE INSTALLATION OF STANDPIPE AND HOSE SYSTEMS (CA AMENDED) 2016 EDITION

NFPA 17 - STANDARD FOR THE INSTALLATION OF DRY CHEMICAL EXTINGUISHING SYSTEMS 2017 EDITION

NFPA 17A - STANDARD FOR WET CHEMICAL EXTINGUISHING SYSTEMS 2017 EDITION

NFPA 20 - STANDARD FOR THE INSTALLATION OF STATIONARY PUMPS FOR FIRE PROTECTION 2016 EDITION

NFPA 22 - STANDARD FOR WATER TANKS FOR PRIVATE FIRE PROTECTION 2013 EDITION

NFPA 24 - STANDARD FOR THE INSTALLATION OF PRIVATE FIRE SERVICE MAINS AND THEIR APPURTENANCES (CA AMANDED) 2016 EDITION

NFPA 72 - NATIONAL FIRE ALARM AND SIGNALING CODE (CA AMANDED) 2016 EDITION

NFPA 80 - STANDARD FOR FIRE DOORS AND OTHER OPENING PROTECTIVES 2016 EDITION

NFPA 92 - STANDARD FOR SMOKE CONTROL SYSTEMS 2018 EDITION

FOR A COMPLETE LIST OF APPLICABLE NFPA STANDARDS REFER TO 2019 CBC (SFM) CHAPTER 35 AND CALIFORNIA FIRE CODE CHAPTER 80.

ELECTRICAL ABBREVIATION KEY	
ABBR:	DESCRIPTION:
AFF	ABOVE FINISHED FLOOR
C	CONDUIT
GFI	GROUND FAULT INTERRUPTER
N.C.	NORMALLY CLOSED
NIC	NOT IN CONTRACT
N.O.	NORMALLY OPEN
SV	SOLENOID VALVE
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
WP	WEATHERPROOF

ELECTRICAL SYMBOL LIST	
SYMBOL:	DESCRIPTION:
	GFI DUPLEX RECEPTACLE, 20A, 115V
	FUSED DISCONNECT

ELECTRICAL SHEET INDEX	
E0.1	GENERAL NOTES, LEGEND, ABBREVIATIONS AND DRAWING LIST
E1.1	OVERALL SITE PLAN
E2.1	DEMOLITION POWER PLAN
E2.2	DEMOLITION ROOF PLAN
E3.1	REMODEL POWER PLAN
E3.2	REMODEL ROOF PLAN
E4.1	DETAILS
Total: 7	

20" MAX.

48" MAX.

INSTALL ABOVE COUNTER DEVICE AT 44" ABOVE FINISHED FLOOR.

20"-25" MAX.

44" MAX.

INSTALL ABOVE COUNTER DEVICE AT 40" ABOVE FINISHED FLOOR.

48" MAX.

48" MAX.

INSTALL DEVICE AT 18" ABOVE FINISHED FLOOR.

10" MAX.

48" MAX.

INSTALL DEVICE AT 44" ABOVE FINISHED FLOOR.

10"-24" MAX.

46" MAX.

INSTALL DEVICE AT 42" ABOVE FINISHED FLOOR.

ADA GUIDELINES - FRONT ACCESS

ADA GUIDELINES - SIDE ACCESS

ADA STANDARDS FOR ACCESSIBLE DESIGN

IDENTIFICATION STAMP

DIV. OF THE STATE ARCHITECT

APP: 02-118216 INC:

REVIEWED FOR

SS ☒ FLS ☒ ACS ☐

DATE: 06/04/2020

Fresno Unified School District

COOPER ACADEMY KITCHEN HVAC ADDITION

2277 W BELLAIRE WAY, FRESNO, CA 93705

IMEG

901 VIA PIEMONTE SUITE 400 ONTARIO, CA 91764

PH: 909.477.6915 FAX: 909.477.6916 www.imegcorp.com

PROFESSIONAL SEAL

REGISTERED PROFESSIONAL ENGINEER

NESTOR C. IGUAQUIO JR.

Lic. E16934

Exp. 6-30-2021

CONSULTANT

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REVISIONS		
No.	Date	Revision / Issue

SHEET INFORMATION	
Issue	BID SET
Date	10/20/2020
Job Number	19000646.00
Drawn	Author
Checked	Checker
Approved	Approver

GENERAL NOTES, LEGEND, ABBREVIATIONS AND DRAWING LIST

SCALE

As indicated.

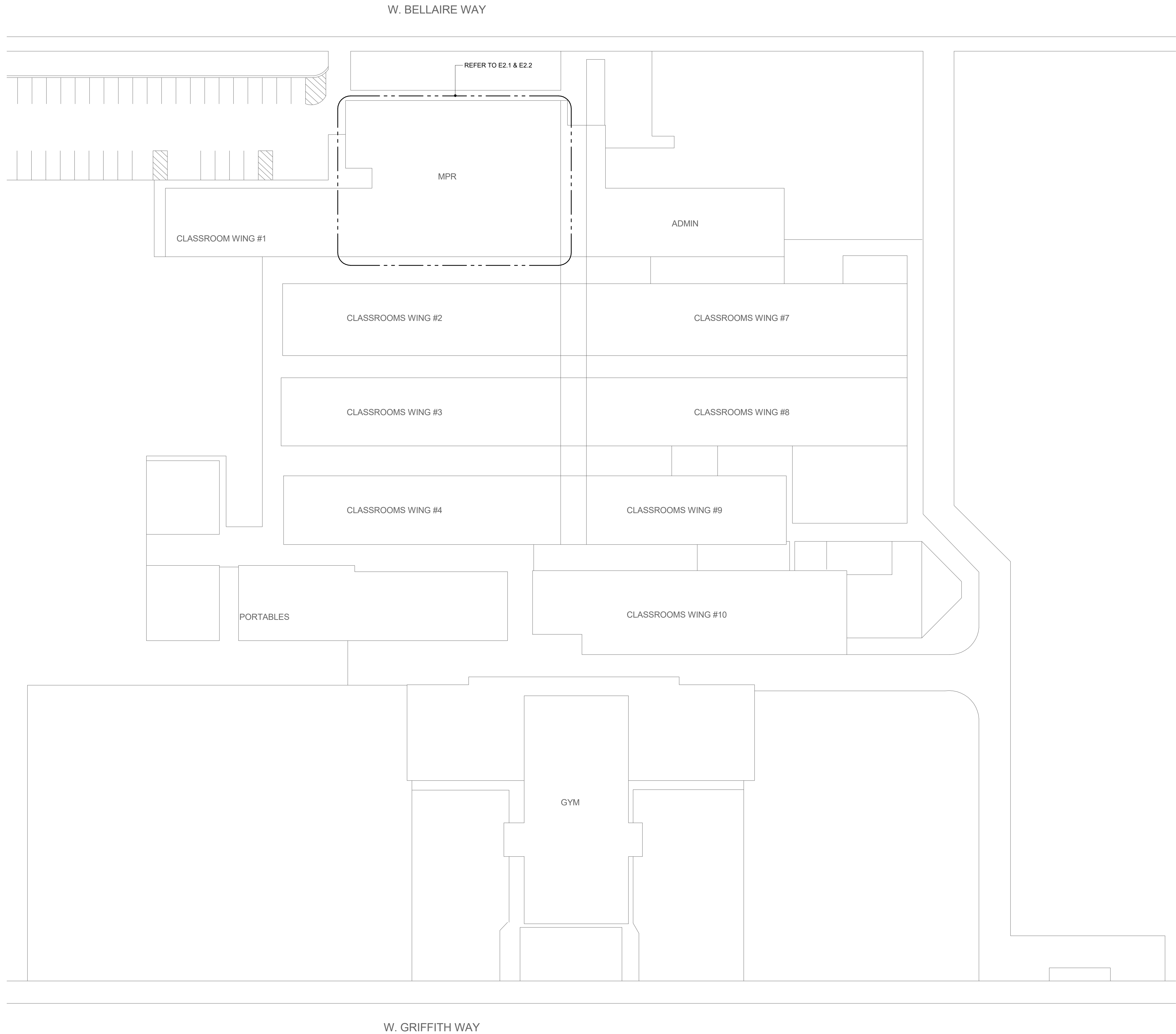
SHEET NUMBER

E0.1

EXHIBIT C



19000646.00 6/2/2020 9:49:55 AM COOPER ACADEMY KITCHEN HVAC ADDITION



**ELECTRICAL OVERALL SITE PLAN**

1" = 30'-0"

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**COOPER ACADEMY  
KITCHEN HVAC  
ADDITION**

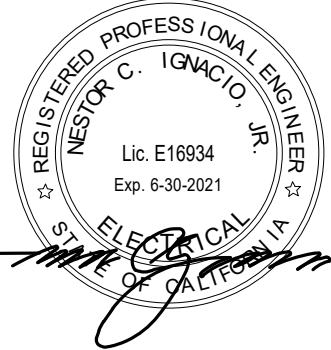
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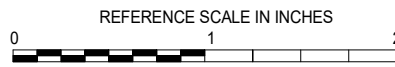
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REVISIONS

No.	Date	Revision / Issue
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SHEET INFORMATION

Issue	BID SET
Date	10/20/2020
Job Number	19000646.00
Drawn	Author
Checked	Checker
Approved	Approver

SHEET TITLE

**OVERALL SITE PLAN**

SCALE

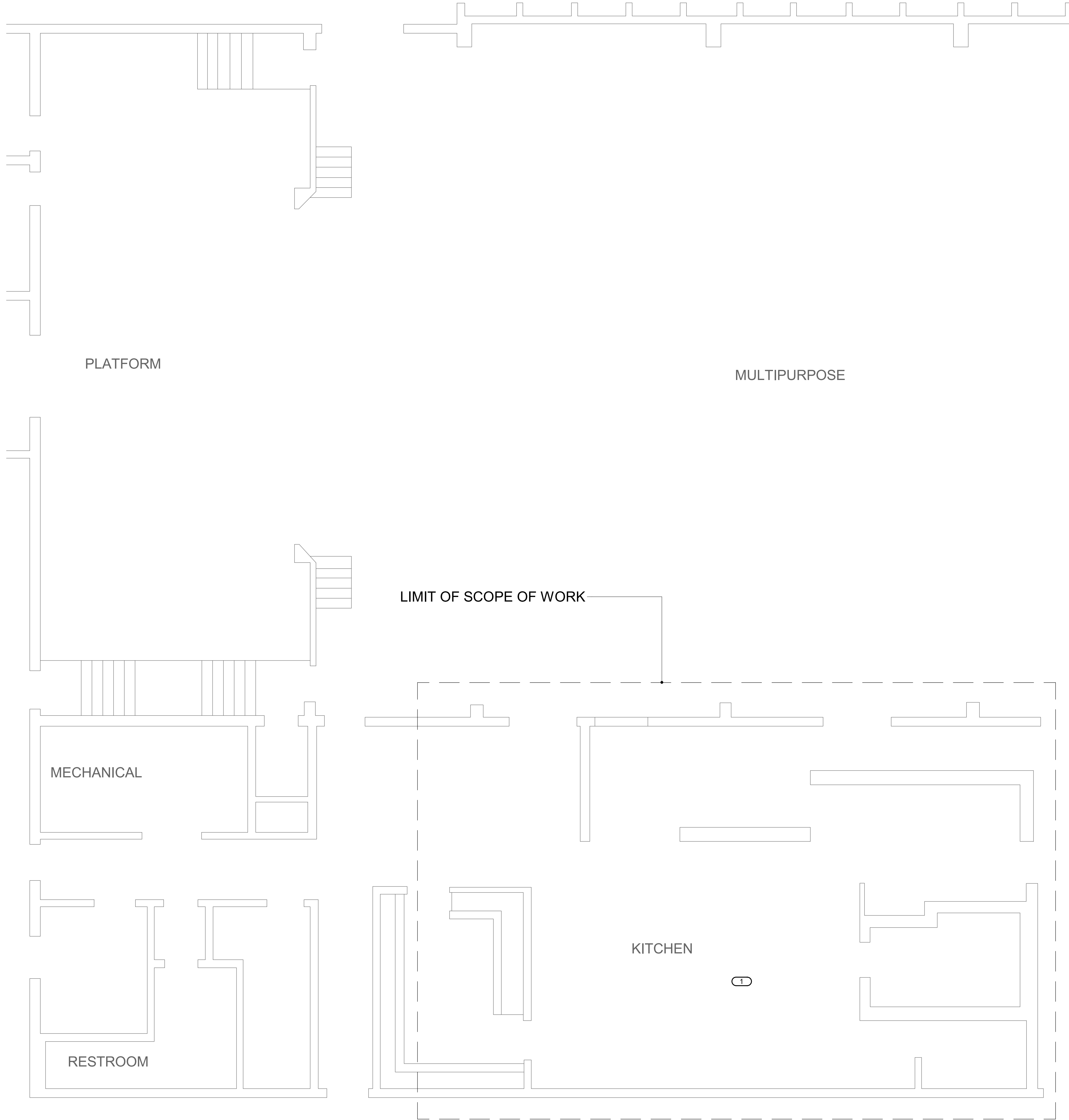
Scale: 1" = 30'-0"

SHEET NUMBER

**E1.1**



19000646.00 6/2/2020 9:49:57 AM COOPER ACADEMY KITCHEN HVAC ADDITION



1

# KITCHEN DEMOLITION PLAN

1/4" = 1'-0"

KEYNOTES: **C** #

1. PROTECT ELECTRICAL AND SIGNAL DEVICES, LIGHTING FIXTURE ON AREAS WHERE MECHANICAL DEMOLITION OCCURS.

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## COOPER ACADEMY KITCHEN HVAC ADDITION

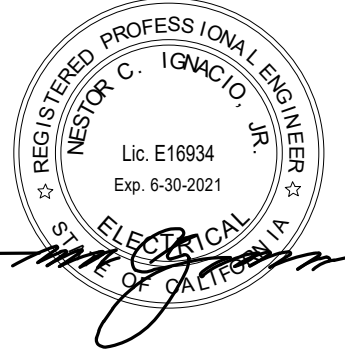
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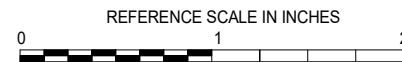
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REVISIONS

No.	Date	Revision / Issue
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SHEET INFORMATION

Issue	BID SET
Date	10/20/2020
Job Number	19000646.00
Drawn	Author
Checked	Checker
Approved	Approver

SHEET TITLE

DEMOLITION POWER PLAN

SCALE

Scale: 1/4" = 1'-0"

SHEET NUMBER

E2.1

EXHIBIT C



19000646.00 6/2/2020 9:50:00 AM COOPER ACADEMY KITCHEN HVAC ADDITION

KEYNOTES: 1

1. EXISTING EVAPORATIVE COOLER TO BE REMOVED, REMOVE CIRCUIT. TRACE BACK CIRCUIT TO PANELBOARD AND UPDATE PANELBOARD ACCORDINGLY.

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SS ☒ FLS ☒ ACS ☐  
DATE: 06/04/2020

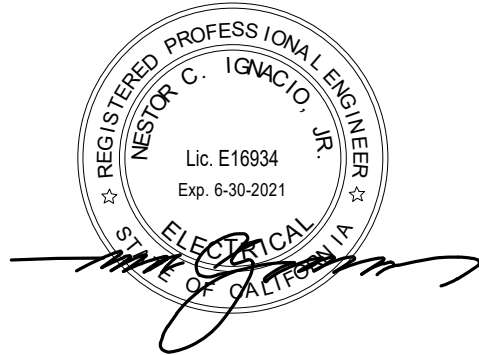


COOPER ACADEMY  
KITCHEN HVAC  
ADDITION  
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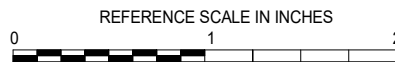
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REVISIONS

No.	Date	Revision / Issue
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SHEET INFORMATION

Issue	BID SET
Date	10/20/2020
Job Number	19000646.00
Drawn	Author
Checked	Checker
Approved	Approver

SHEET TITLE

DEMOLITION ROOF PLAN

SCALE

Scale: 1/4" = 1'-0"

SHEET NUMBER

E2.2

EXHIBIT C



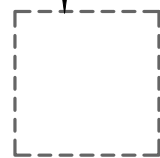
1

## ELECTRICAL ROOF DEMOLITION PLAN

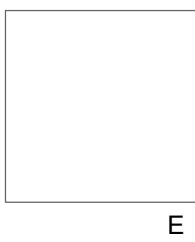
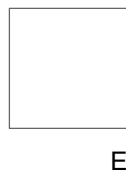
1/4" = 1'-0"



(R) EVAPORATIVE COOLER

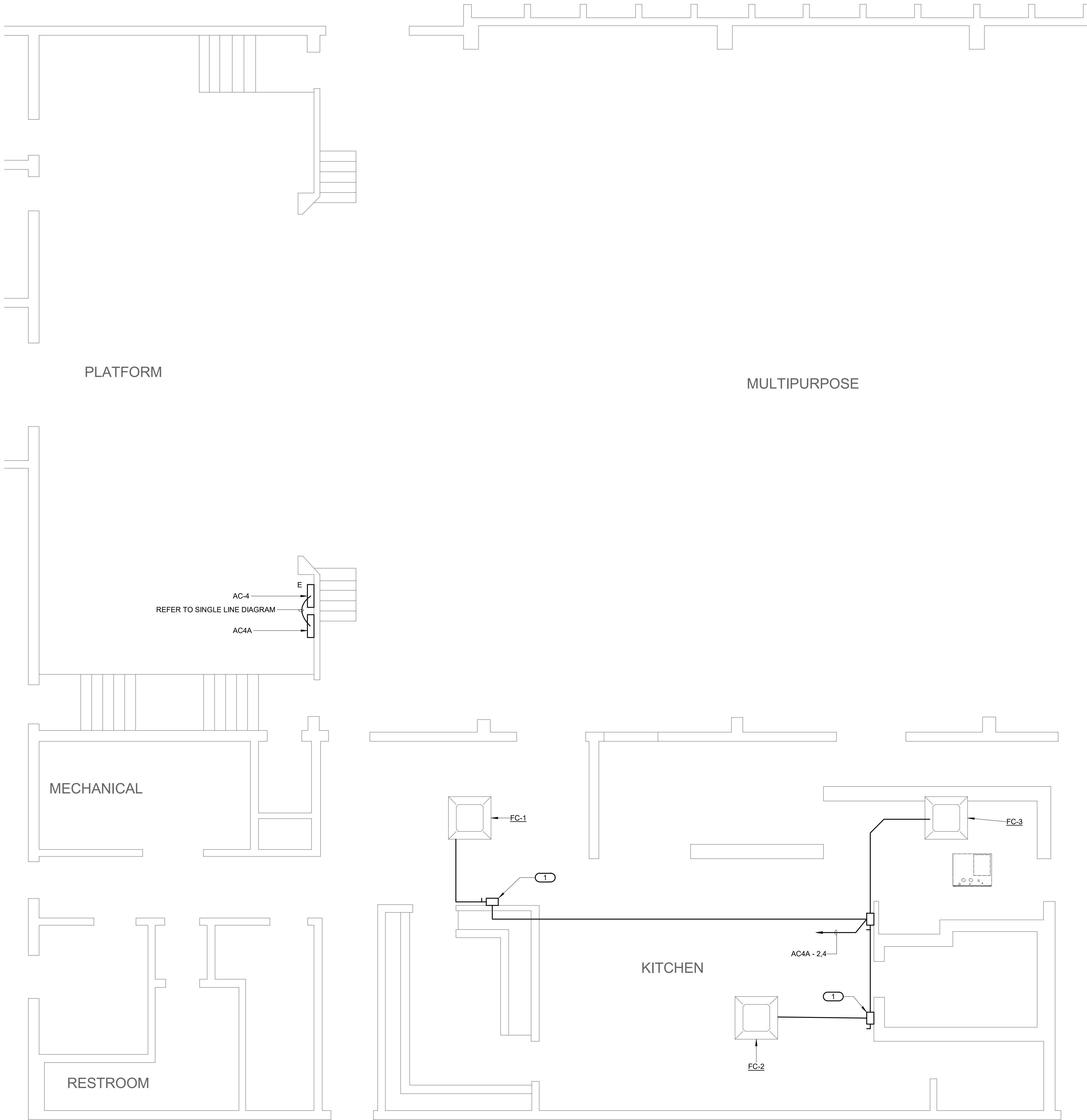


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19000646.00 6/2/2020 9:50:03 AM COOPER ACADEMY KITCHEN HVAC ADDITION



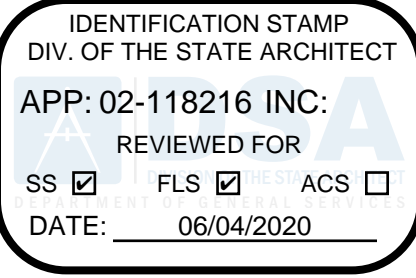
1

## KITCHEN REMODEL PLAN

1/4" = 1'-0"

### KEYNOTES:

- 30AF/15AFU, 2-POLE DISCONNECT.



## COOPER ACADEMY KITCHEN HVAC ADDITION

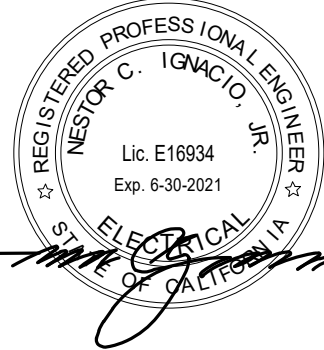
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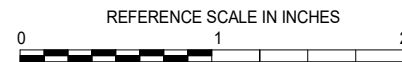
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REVISIONS

No.	Date	Revision / Issue
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SHEET INFORMATION

Issue	BID SET
Date	10/20/2020
Job Number	19000646.00
Drawn	Author
Checked	Checker
Approved	Approver

SHEET TITLE

REMODEL POWER PLAN

SCALE

Scale: 1/4" = 1'-0"

SHEET NUMBER

E3.1

EXHIBIT C



19000646.00 6/2/2020 9:50:06 AM COOPER ACADEMY KITCHEN HVAC ADDITION

KEYNOTES: #  
1. PROVIDE 60AF/45AFU, 2-POLE, WEATHERPROOF.  
2. MOUNT ON UNIT.

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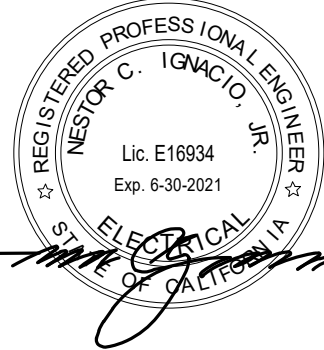


COOPER ACADEMY  
KITCHEN HVAC  
ADDITION  
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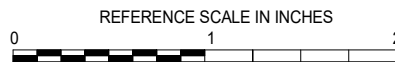
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SHEET INFORMATION

Issue	BID SET
Date	10/20/2020
Job Number	19000646.00
Drawn	Author
Checked	Checker
Approved	Approver

SHEET TITLE  
REMODEL ROOF PLAN

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

SHEET NUMBER

E3.2

EXHIBIT C



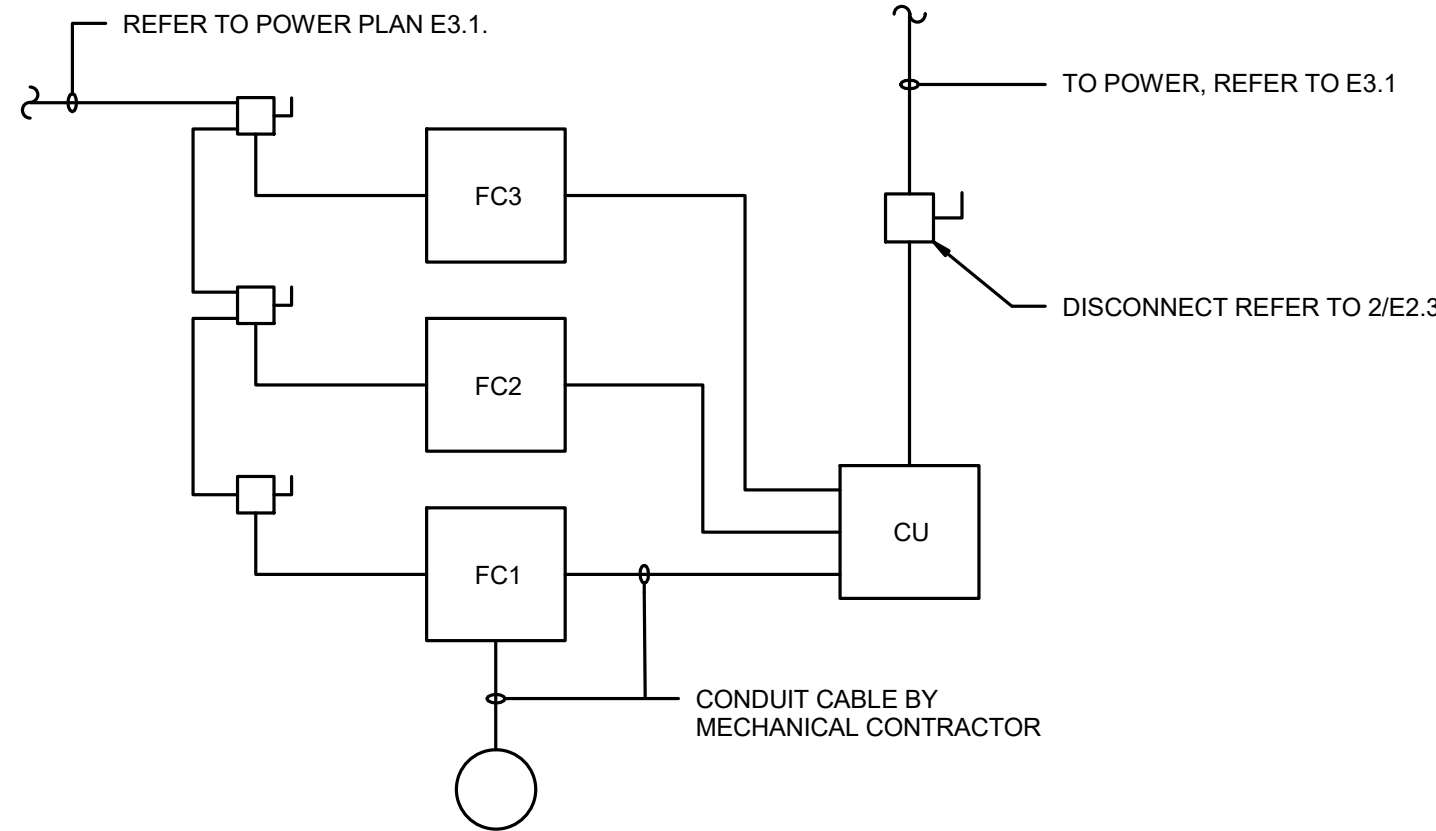
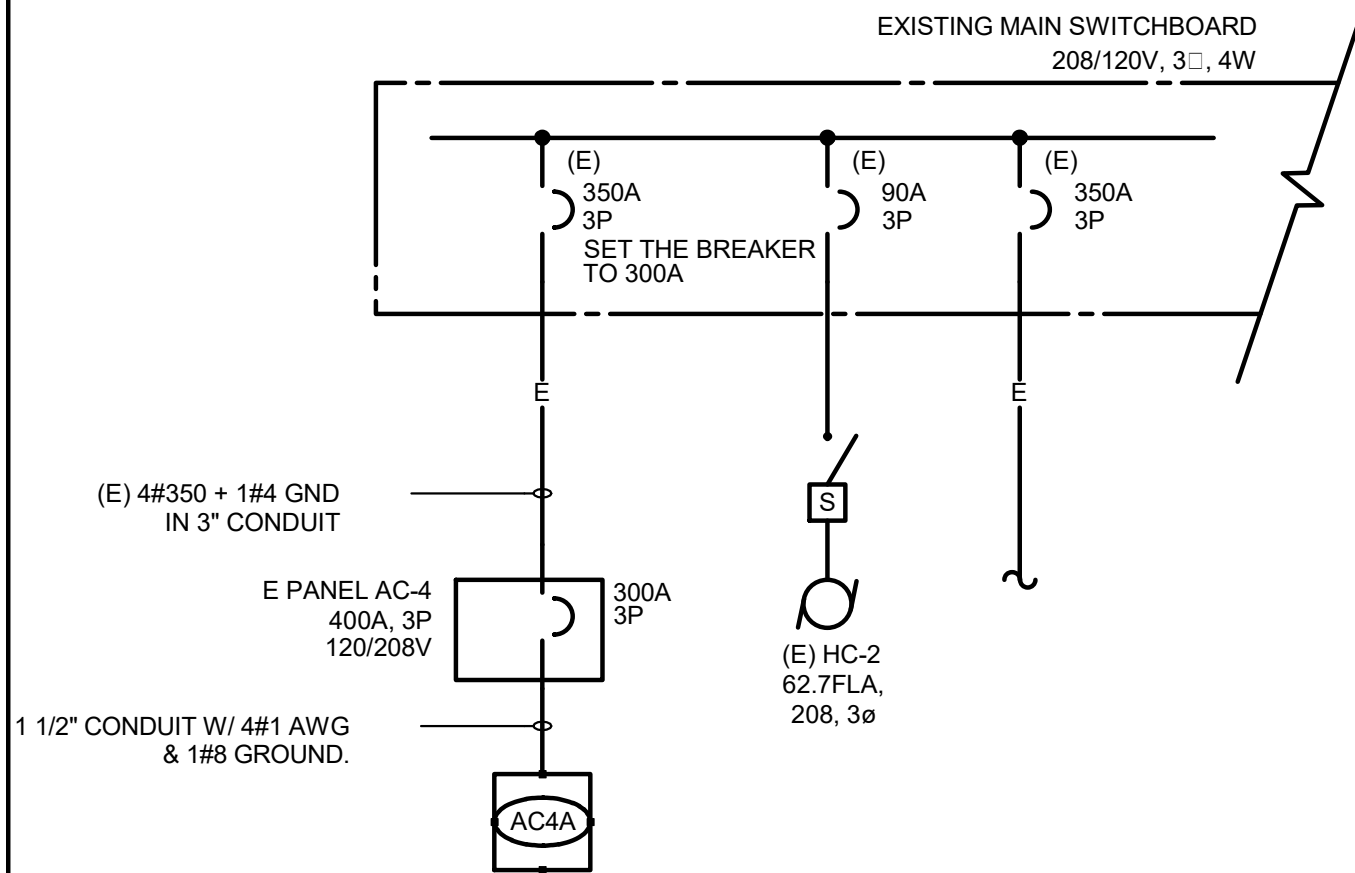
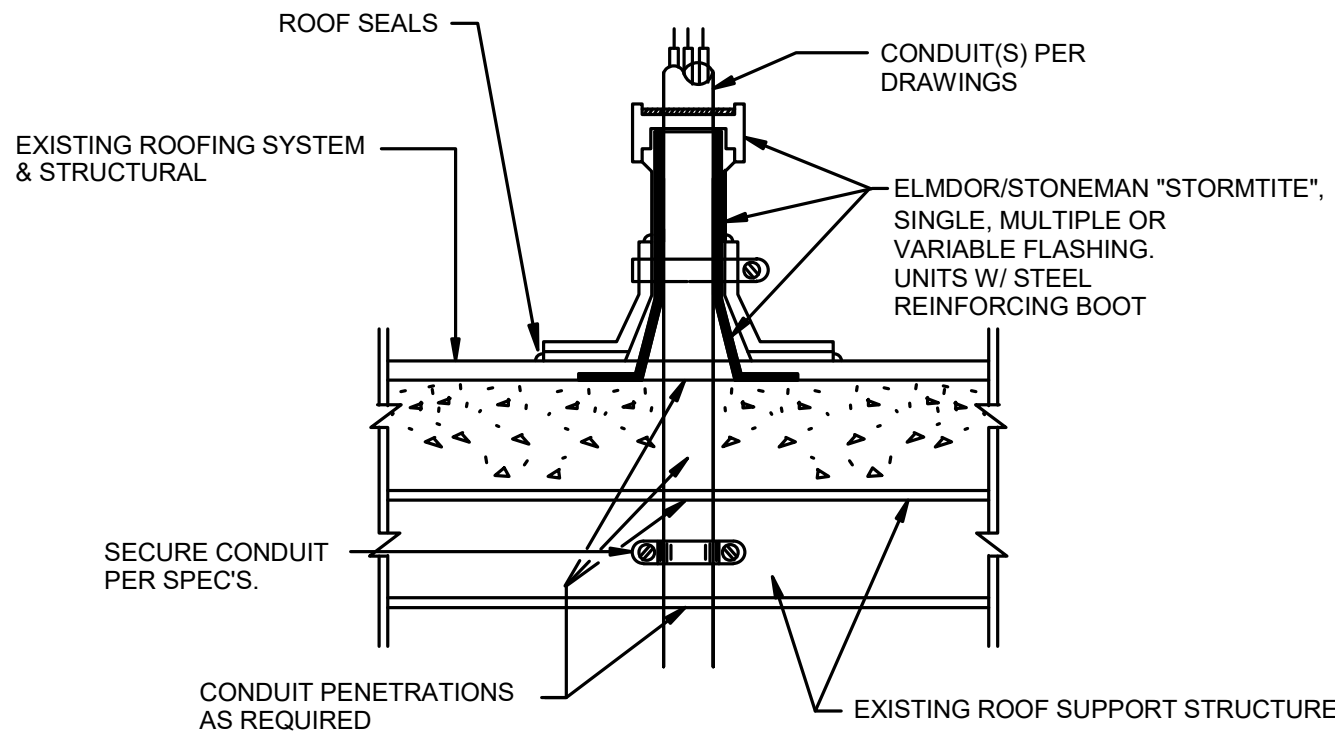
1

## ELECTRICAL KITCHEN ROOF PLAN

1/4" = 1'-0"







1

Branch Panel: (E) AC-4

Location:

Supply From:

Mounting: SURFACE

Enclosure: BOLT-ON

Volts: 120/208 Vye

Phases: 3

Wires: 4

A.I.C. Rating: 42,000

Mains Type:

Mains Rating: 400 A

MCB Rating: 300 A

Notes:

CKT	Circuit Description	Trip	Poles	A	B	C	Poles	Trip	Circuit Description	CKT	
1	(E) HC-3A	50 A	3	5000 VA	5000 VA		3	50 A	(E) HC-3C	2	
3	--	--	--		5000 VA	5000 VA	--	--	--	4	
5	--	--	--			5000 VA	5000 VA	--	--	6	
7	(E) HC-3B	50 A	3	5000 VA	5000 VA		3	50 A	(E) HC-3D	8	
9	--	--	--		5000 VA	5000 VA	--	--	--	10	
11	--	--	--			5000 VA	5000 VA	--	--	12	
13	(E) HC-3A EXHAUST FAN	20 A	3	1400 VA	1400 VA		3	20 A	(E) HC-3C EXHAUST FAN	14	
15	--	--	--		1400 VA	1400 VA	--	--	--	16	
17	--	--	--			1400 VA	1400 VA	--	--	18	
19	(E) HC-3B EXHAUST FAN	20 A	3	1400 VA	1400 VA		3	20 A	(E) HC-3D EXHAUST FAN	20	
21	--	--	--		1400 VA	1400 VA	--	--	--	22	
23	--	--	--			1400 VA	1400 VA	--	--	24	
25	(E) WP ROOF RECEPTACLE	20 A	1	360 VA	3448 VA		3	90 A	AC4A	26	
27	(E) EXISTING KITCHEN EVAP COOLER	20 A	1		300 VA	3448 VA	--	--	--	28	
29	SPACE	--	--			0 VA	180 VA	--	--	30	
Total Load:				29408 VA		29348 VA		25780 VA			
Total Amps:				249.6 A		249.1 A		214.8 A			

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
Receptacles	180 VA	100.00%	180 VA	
				Total Conn. Load: 77640 VA
				Total Est. Demand: 62148 VA
				Total Conn. Current: 215.5 A
				Total Est. Demand Current: 172.5 A

Notes:

3

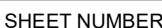



EXHIBIT C



## APPLICATION FOR SUBMITTAL OF POST-APPROVAL DOCUMENT

This application is for submittal of documents, after the initial approval of the project (post-approval documents), that require Division of the State Architect (DSA) review and approval. This form shall be completed by the Design Professional in General Responsible Charge of the project, in accordance with California Code of Regulations, Title 24, Part 1, Sections 4-317, 4-323 and 4-338 and in compliance with DSA IR A-6: Construction Change Document Submittal and Approval Process.

DSA documents referenced within this form are available on the [DSA Forms](#) or [DSA Publications](#) webpages.

<b>1. SUBMITTAL TYPE: (Is this a resubmittal? Yes <input type="checkbox"/> No <input type="checkbox"/>)</b>			
Deferred Submittal <input type="checkbox"/>	Addendum Number:	Revision Number:	CCD Number: Category A <input type="checkbox"/> or B <input type="checkbox"/>
<b>2. PROJECT INFORMATION:</b>			
School District/Owner:		DSA File Number:	
Project Name/School:		DSA Application Number:	
<b>3. APPLICANT INFORMATION:</b>			
Date Submitted:		Attached Pages? No <input type="checkbox"/> Yes <input type="checkbox"/> Number of pages?	
Firm Name:		Contact Name:	
Work Email:		Work Phone:	
Firm Address:	City:	State:	Zip Code:
<b>4. REASON FOR SUBMITTAL: (Check applicable boxes)</b>			
<input type="checkbox"/> For revision or addendum prior to construction.		<input type="checkbox"/> For a project currently under construction.	
<input type="checkbox"/> For a project that has a form DSA 301-N: Notification of Requirement for Certification, DSA 301-P: Posted Notification of Requirement for Certification or a 90-Day Letter issued.			
<input type="checkbox"/> To obtain DSA approval of an existing uncertified building or buildings.			
<input type="checkbox"/> For Category B CCD this is: <input type="checkbox"/> a voluntary submittal, <input type="checkbox"/> a DSA required submittal (attach DSA notice requiring submission).			
<b>5. DESIGN PROFESSIONAL IN GENERAL RESPONSIBLE CHARGE:</b>			
Name of the Design Professional In General Responsible Charge:			
Professional License Number:		Discipline:	
<b>Design Professional in General Responsible Charge Statement:</b> The attached post-approval documents have been examined by me for design intent and appear to meet the appropriate requirements of Title 24, California Code of Regulations and the project specifications. They are acceptable for incorporation into the construction of the project.			
Signature:  _____ <div style="text-align: center; font-size: small;">DESIGN PROFESSIONAL IN GENERAL RESPONSIBLE CHARGE</div>			
<b>6. CONFIRMATION, DESCRIPTION AND LISTING OF DOCUMENTS:</b>			
For addenda, revisions, or CCDs: CHECK THIS BOX <input type="checkbox"/> to confirm that <i>all</i> post-approval documents have been stamped and signed by the Responsible Design Professional listed on form DSA 1: Application for Approval of Plans and Specifications for this project. (For Deferred Submittals, refer to IR A-18: Use of Construction Documents Prepared by Other Professionals, and IR A-19: Design Professional's Signature and Seal (Stamp) on Construction Documents, when applicable, for signature and seal requirements.)			
Provide a brief description of construction scope for this post-approval document (attach additional sheets if needed):			
List of DSA-approved drawings affected by this post-approval document:			

DSA USE ONLY		
SSS <b>RBH</b> Date <b>11/16/20</b> <input checked="" type="checkbox"/> Approved <input type="checkbox"/> Disapproved <input type="checkbox"/> Not Required Comments: _____  FLS _____ Date _____ <input type="checkbox"/> Approved <input type="checkbox"/> Disapproved <input checked="" type="checkbox"/> Not Required Comments: _____  ACS _____ Date _____ <input type="checkbox"/> Approved <input type="checkbox"/> Disapproved <input checked="" type="checkbox"/> Not Required Comments: _____	<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> <b>Returned</b>            Date:         </div> <div style="border: 1px solid black; padding: 5px;">           By:         </div>	<div style="border: 1px solid black; padding: 10px; text-align: center;"> <b>DSA STAMP</b>             APPROVED            DIV. OF THE STATE ARCHITECT            APP: 02-118216 INC:            REVIEWED FOR            SS <input checked="" type="checkbox"/> FLS <input type="checkbox"/> ACS <input type="checkbox"/>            DATE: 11/16/2020         </div>





## ADDENDUM #1

**To:** DSA, SACRAMENTO      **A#:** 02-118216  
**From:** IMEG Corp.      **FILE #:** 10-48  
**Project** FUSD Cooper Academy  
Kitchen  
**IMEG #:** 19000646.00  
**Date:** October 20, 2020

---

Fresno Unified School District, **Cooper Academy Elementary School Kitchen HVAC Addition (A#02-118216).**

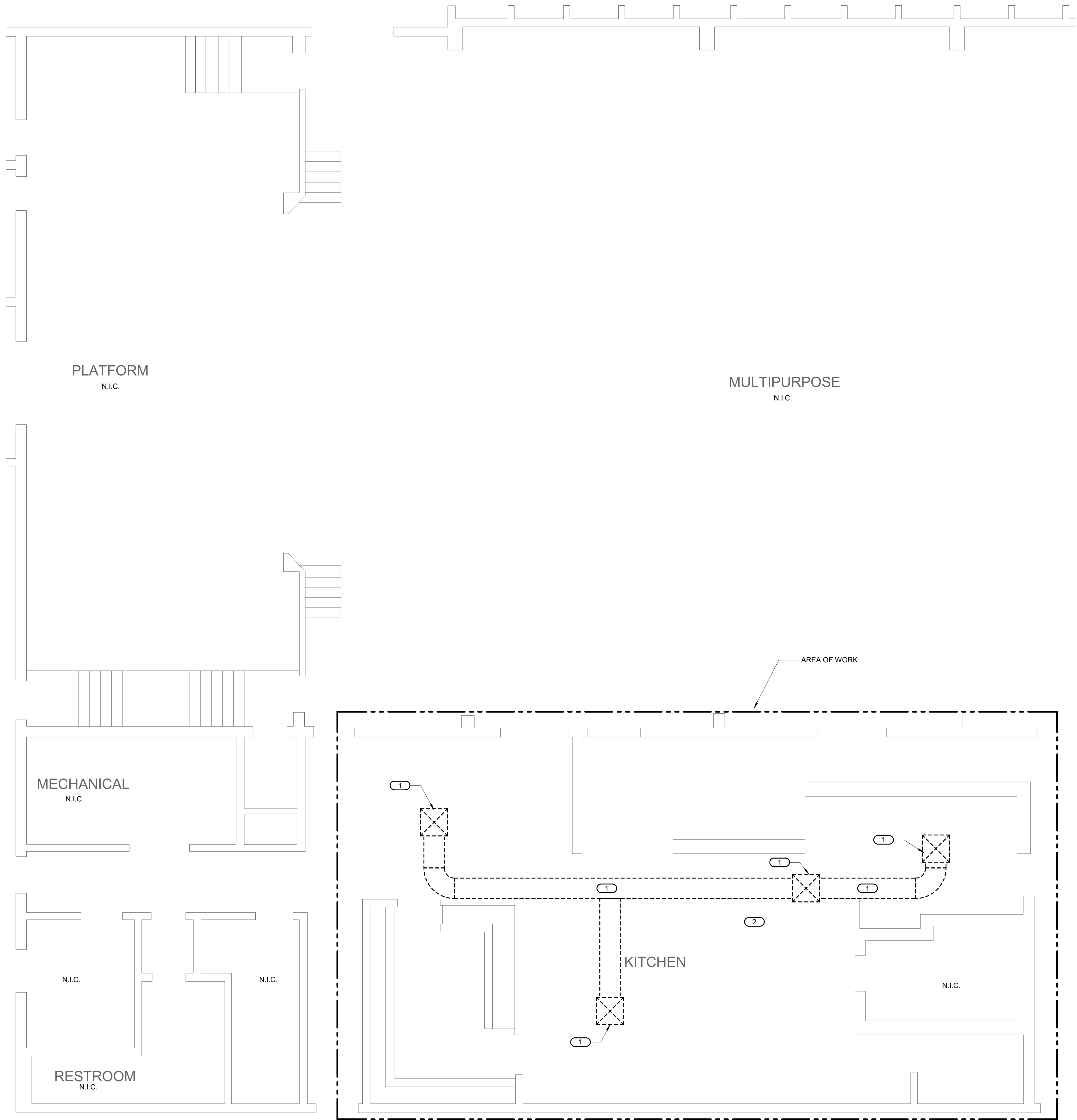
Please see the following addendum for Mechanical systems.

All revisions to drawings are indicated by cloud and delta No.1

### MECHANICAL

- 1.1 SHEET M2.1
  - A. Added patch and paint general note.
  - B. Modified keynote 2 stating to remove existing power and controls wiring.
- 1.2 SHEET M2.2
  - A. Modified demolition keynotes.
- 1.3 SHEET M3.1
  - A. Modified keynotes.
  - B. Added general note.
- 1.4 SHEET M3.2
  - A. Added keynote 6.
- 1.5 SHEET M4.1
  - A. Modified detail 1 "Condensing Unit On Roof" to FUSD approved detail.
- 1.6 SHEET M4.2
  - A. Relocated detail 3 to Sheet M5.1.
  - B. Modified detail 4. Added FUSD approved detail "Sprayed Polyurethane Foam Equipment Platform."
  - C. Modified detail 6 "Condensate Connection To Lavatory."
  - D. Modified detail 8 "Sprayed Polyurethane Foam, Conduit Support" to FUSD approved detail.
- 1.7 SHEET M5.1
  - A. Relocated "Split System Wiring Diagram" from Sheet M4.2 Detail 4 to Sheet M5.1 Detail 3.
  - B. Relocated "Control Wiring Legend" from Sheet M4.2 Detail 3 to Sheet M5.1 Detail 4.

19000646.00 11/3/2020 1:05:05 PM COOPER ACADEMY KITCHEN HVAC ADDITION



DEMOLITION KEYNOTES: C #

1. EXISTING SUPPLY DUCT AND DIFFUSER FOR EXISTING EVAPORATIVE COOLER TO BE DEMOLISHED
2. FIELD LOCATE ELECTRICAL CONTROLS/SWITCHES ASSOCIATED WITH EXISTING EVAPORATIVE COOLER BEING DEMOLISHED AND REMOVE EXISTING POWER AND CONTROLS WIRING, CONDUITS AND SWITCHES. PATCH AND PAINT WALLS AND CEILINGS TO MATCH EXISTING.

GENERAL NOTES:

1. WHERE ANY DEMOLITION REQUIRES PATCH AND PAINT OF EXISTING WALLS AND CEILINGS. THE PAINT SHALL BE CORNER TO CORNER FOR COMPLETE COVERAGE.

APPROVED  
DIV. OF THE STATE ARCHITECT  
APP: 02-118216 INC:  
REVIEWED FOR  
SS ☒ FLSD ☐ ACS ☐  
DATE: 11/16/2020



COOPER ACADEMY  
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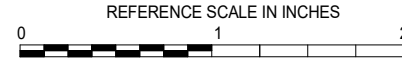
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REVISIONS

No.	Date	Revision / Issue
1	10/19/2020	REVISION 1

SHEET INFORMATION

Issue	BID SET - ADDENDUM 1
Date	10.20.2020
Job Number	19000646.00
Drawn	ZM
Checked	JM
Approved	ED

SHEET TITLE

DEMOLITION FLOOR PLAN

SCALE

Scale: 1/4" = 1'-0"

SHEET NUMBER

M2.1



1

DEMOLITION FLOOR PLAN

1/4" = 1'-0"



19000646.00 11/3/2020 1:05:07 PM COOPER ACADEMY KITCHEN HVAC ADDITION

- DEMOLITION KEYNOTES: #
1. EXISTING EVAPORATIVE COOLER TO BE DEMOLISHED. ASSOCIATED CURB AND BLOCKING TO BE DEMOLISHED ACCORDINGLY AND ROOF PATCHED TO MATCH EXISTING.
  2. EXISTING MECHANICAL EQUIPMENT TO REMAIN AND BE PROTECTED IN PLACE. CONTRACTOR WILL BE RESPONSIBLE FOR ANY DAMAGES CAUSED DURING DEMOLITION.

APPROVED  
DIV. OF THE STATE ARCHITECT  
APP: 02-118216 INC:  
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SS ☒ FLS ☐ ACS ☐  
DATE: 11/18/2020



COOPER ACADEMY  
KITCHEN HVAC  
ADDITION

2277 W BELLAIRE WAY, FRESNO, CA 93705



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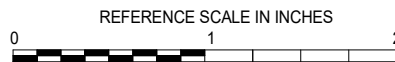
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REVISIONS

No.	Date	Revision / Issue
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SHEET INFORMATION

Issue	BID SET - ADDENDUM 1
Date	10.20.2020
Job Number	19000646.00
Drawn	ZM
Checked	JM
Approved	ED

SHEET TITLE

DEMOLITION ROOF PLAN

SCALE

Scale: 1/4" = 1'-0"

SHEET NUMBER

M2.2

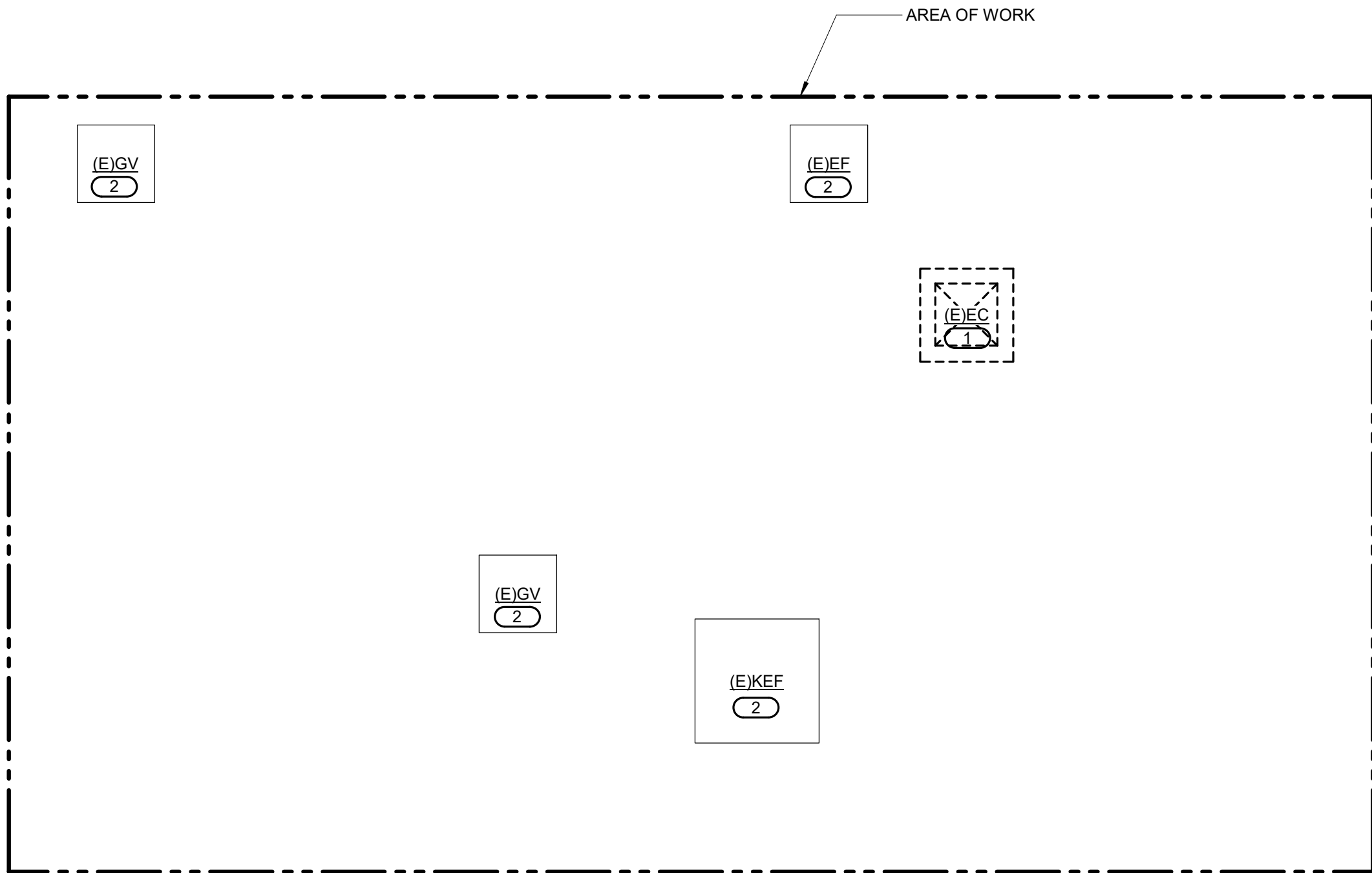
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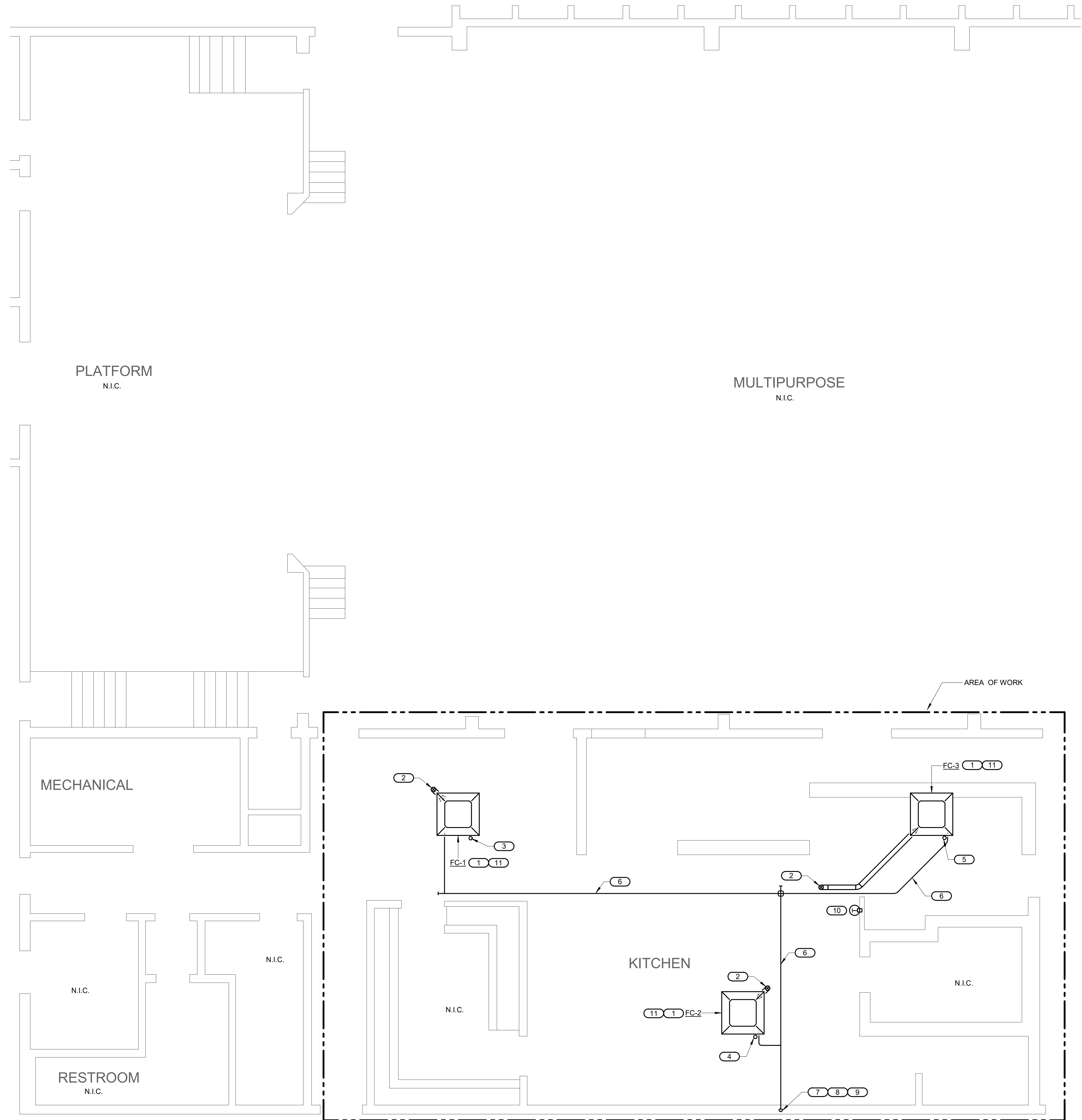
1

DEMOLITION ROOF PLAN

1/4" = 1'-0"



19000646.00 11/3/2020 1:05:08 PM COOPER ACADEMY KITCHEN HVAC ADDITION



# 1 REMODEL FLOOR PLAN

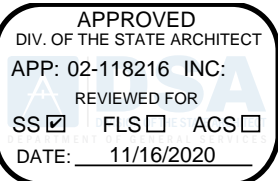
1/4" = 1'-0"

## REMODEL KEYNOTES: ( # )

1. NEW FAN COIL TO BE INSTALLED IN EXISTING OPENING IN CEILING.
2. NEW 4"Ø OSA DUCT UTR TO NEW ROOF CAP. REFER TO DETAIL 5/M4.1. BALANCE OSA TO MIN 60 CFM.
3. REFRIGERANT LINES IN CEILING SPACE TO FC-1.
4. REFRIGERANT LINES IN CEILING SPACE TO FC-2.
5. REFRIGERANT LINES IN CEILING SPACE TO FC-3.
6. 3/4" INSULATED CONDENSATE LINE IN CEILING SPACE.
7. 3/4" INSULATED CONDENSATE LINE IN (E)WALL. REMOVE DRYWALL BETWEEN STUDS IN ORDER TO INSTALL PIPE IN WALL. PATCH AND PAINT WALL TO MATCH EXISTING AFTER PIPE INSTALLATION.
8. CONNECT CONDENSATE LINE INTO (E)SINK TRAP. INSTALL NEW TRAP WITH CONDENSATE LINE CONNECTION IF NECESSARY. REFER TO DETAIL 6/M4.2.
9. RUN NEW CONDENSATE LINES IN (E)CASEWORK TO (E)SINK. FIELD COORDINATE EXACT ROUTING OF PIPING WITHIN CASWORK TO MINIMIZE DISRUPTION AND SPACE CONSIDERATION.
10. INSTALL NEW DDC THERMOSTAT AND TIE INTO ALL FAN COILS.
11. CONNECT FAN COIL CONTROLLERS TO EXISTING JOHNSON CONTROLS EMS SYSTEM PANEL IN MECHANICAL ROOM. ROUTE NEW CONDUIT AS NEEDED.

## GENERAL NOTES:

1. WHERE ANY DEMOLITION REQUIRES PATCH AND PAINT OF EXISTING WALLS AND CEILINGS. THE PAINT SHALL BE CORNER TO CORNER FOR COMPLETE COVERAGE.



## COOPER ACADEMY KITCHEN HVAC ADDITION

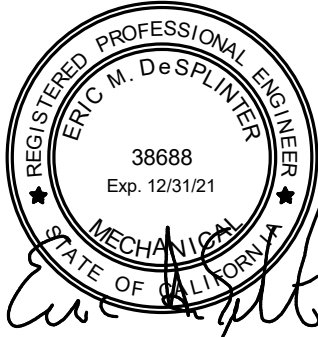
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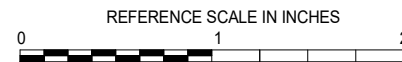
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REMODEL FLOOR PLAN

SCALE

Scale: 1/4" = 1'-0"

SHEET NUMBER

M3.1

EXHIBIT C



19000646.00 11/3/2020 1:05:12 PM COOPER ACADEMY KITCHEN HVAC ADDITION

- REMODEL KEYNOTES: #
1.

NEW OSA INTAKE CAP. REFER TO 5/M4.1.
2.

FOR REFRIGERANT LINE THROUGH ROOF REFER TO 1/M4.2
3.

EXISTING MECHANICAL EQUIPMENT TO REMAIN AND BE PROTECTED IN PLACE. CONTRACTOR WILL BE RESPONSIBLE FOR ANY DAMAGES CAUSED DURING CONSTRUCTION.
4.

EXISTING ROOF OPENING TO BE PATCHED TO MATCH EXISTING FINISH, RATING, AND CONSTRUCTION TYPE. PATCHING MUST ADHERE TO ANY AND ALL REQUIREMENTS NECESSARY TO MAINTAIN EXISTING WARRANTY. COORDINATE WITH DISTRICT PRIOR TO STARTING CONSTRUCTION.
5.

BALANCE EXISTIGN KITCHEN EXHAUST FAN TO MIN 820 CFM PER TITLE 24 REQUIREMENTS.
6.

FOR CONDENSING UNIT MOUNTING DETAILS REFER TO 1/M4.1

APPROVED

DIV. OF THE STATE ARCHITECT

APP: 02-118216 INC.

REVIEWED FOR

SS ☒ FLS ☐ ACS ☐

DATE: 11/16/2020



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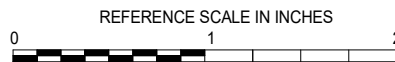
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REMODEL ROOF PLAN

SCALE

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SHEET NUMBER

M3.2

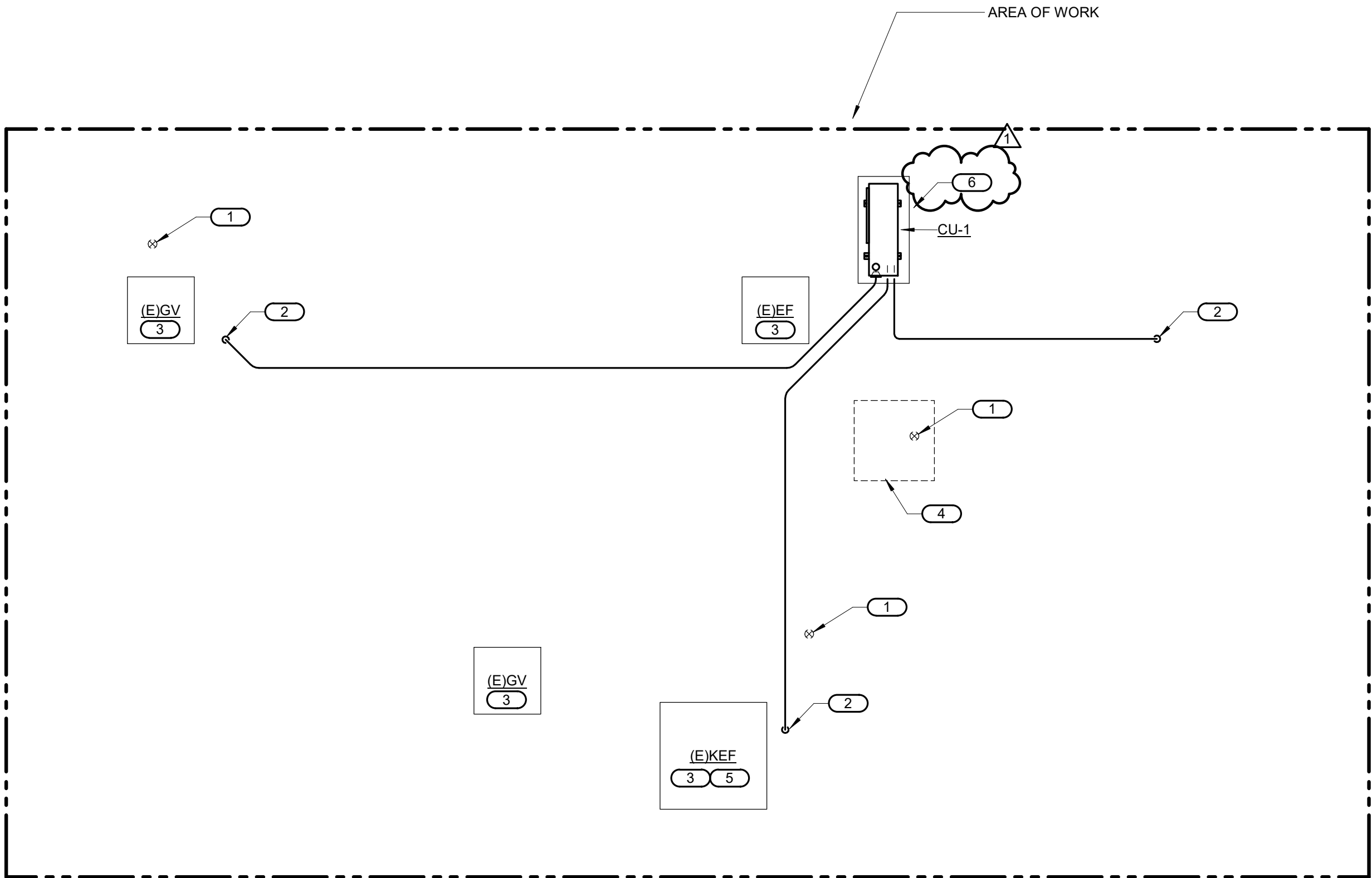
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1

REMODEL ROOF PLAN

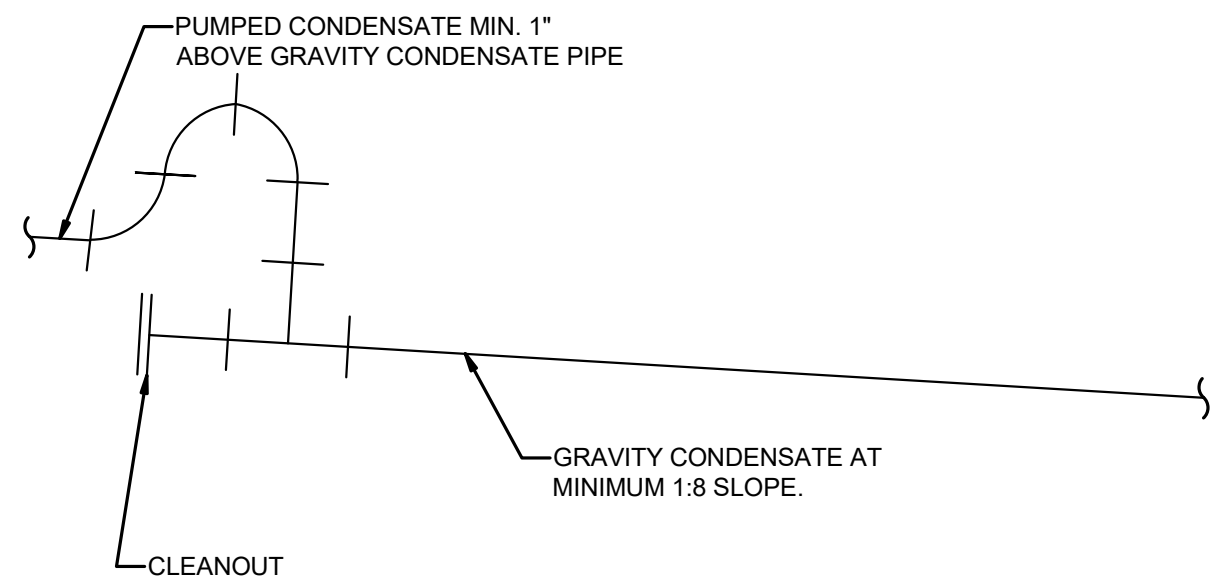
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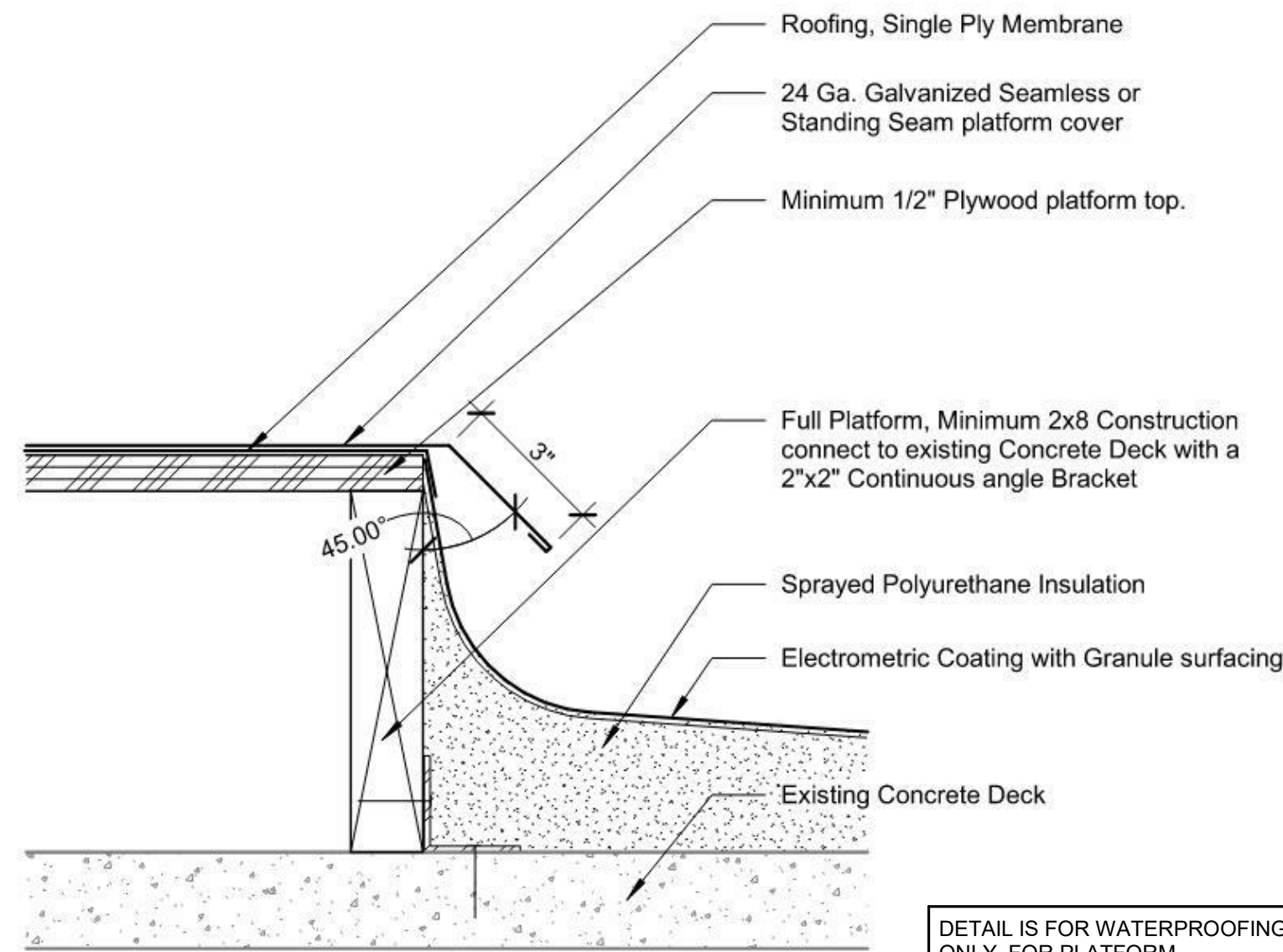
11/3/2020 1:05:16 PM COOPER ACADEMY KITCHEN HVAC ADDITION 19000646.00



PUMPED TO GRAVITY CONDENSATE CONNECTION

NTS

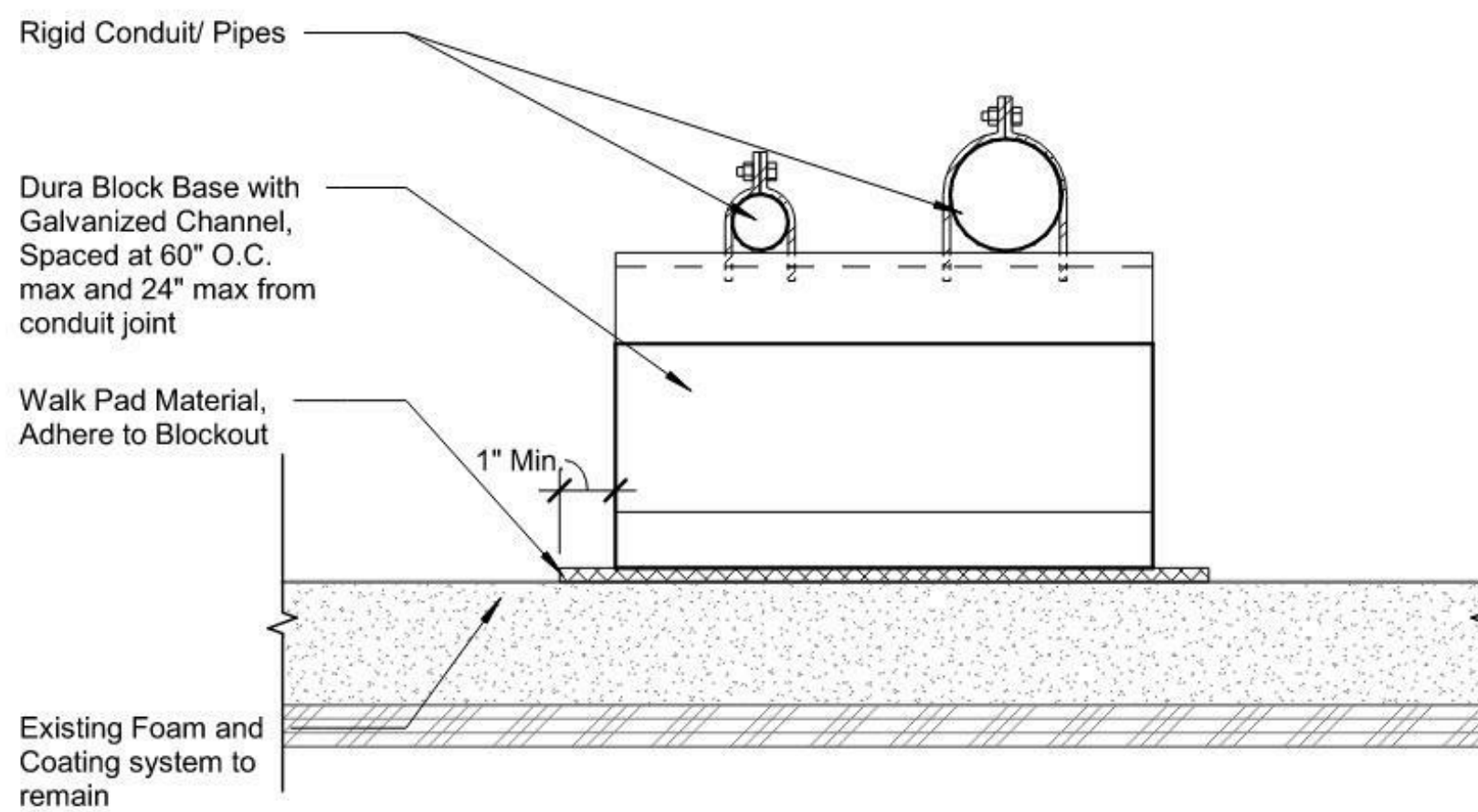
7



EQUIPMENT CURB/PLATFORM FLASHING

NTS

4



SPRAYED POLYURETHANE FOAM, CONDUIT SUPPORT

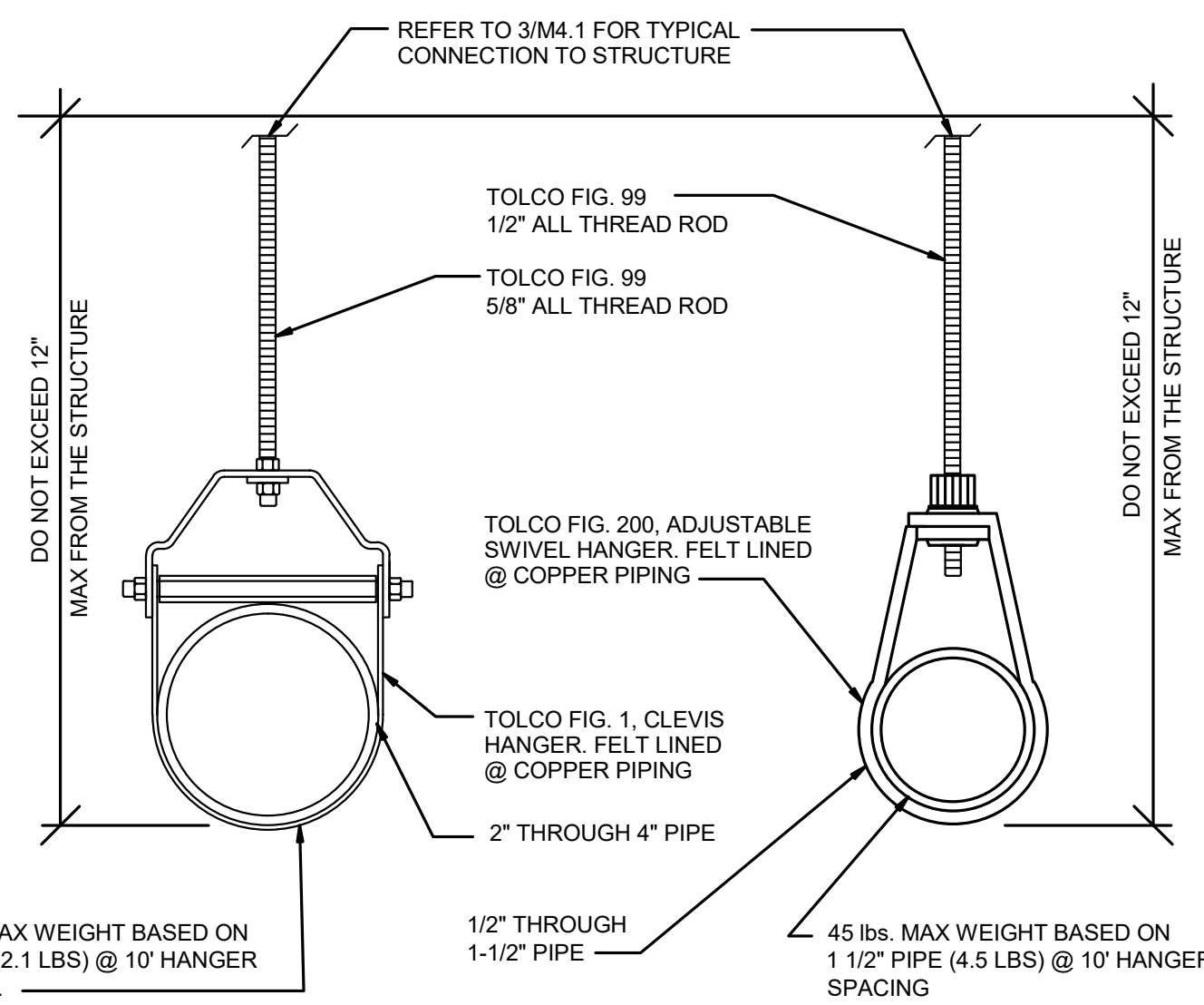
NTS

8

NOT USED

NTS

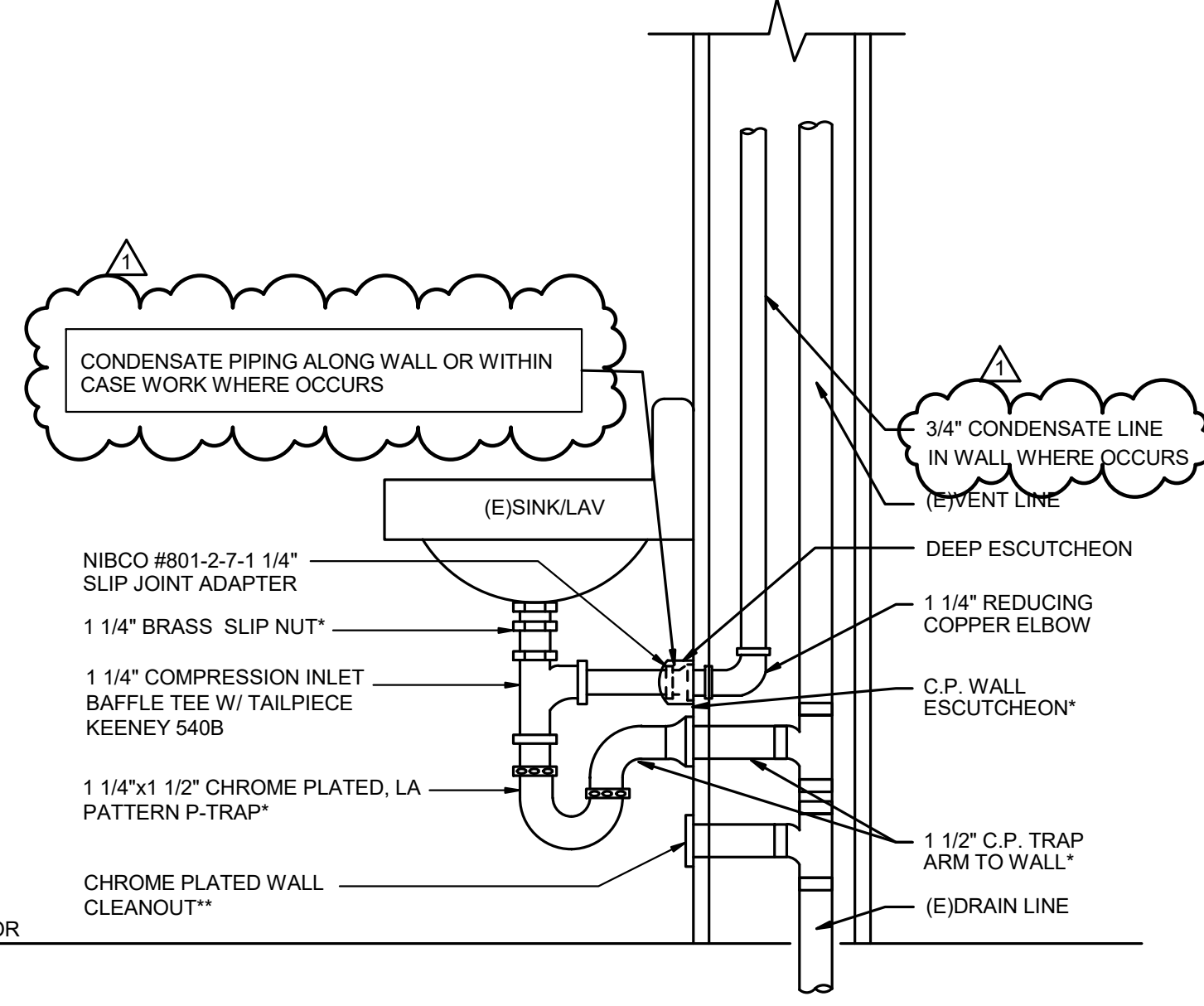
5



PIPE HANGER

NTS

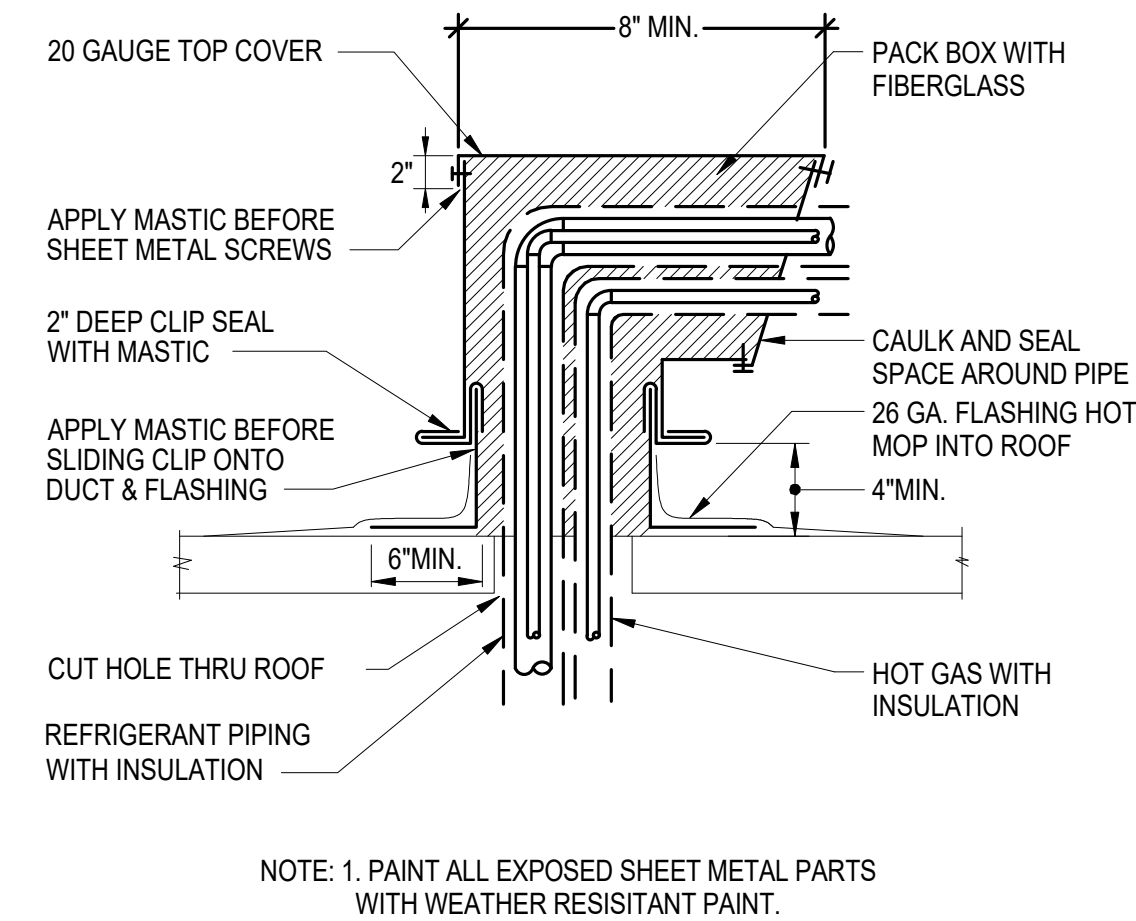
9



CONDENSATE CONNECTION TO LAVATORY

NTS

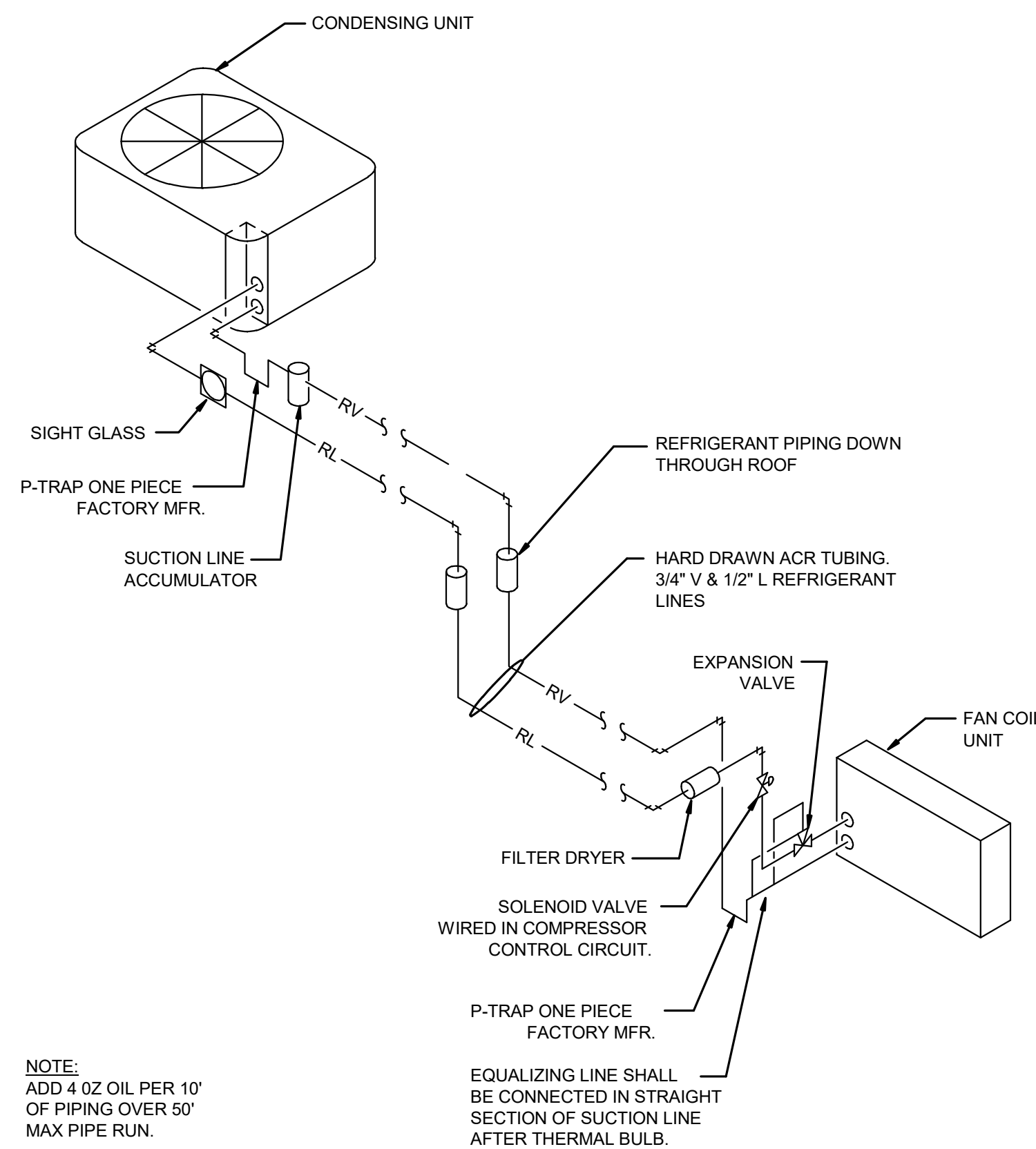
6



REFRIGERANT PIPE THRU ROOF

NTS

1



REFRIGERANT PIPING DIAGRAM

NTS

2

THE EXISTING COMPONENTS MAY BE REUSED IF NO DAMAGE OR LEAKS ARE PRESENT. NEW COMPONENTS LISTED IN THIS DETAIL ARE TO BE USED IF EXISTING COMPONENTS ARE DAMAGED AND/OR NOT COMPATIBLE WITH CONDENSATE DRAIN CONNECTION. \*\*CLEANOUT AND ACCESSIBLE CLEANOUT COVER WILL BE REQUIRED IF NO EXISTING CLEAN OUT IS PRESENT. VERIFY IN FIELD.

APPROVED  
DIV. OF THE STATE ARCHITECT  
APP: 02-118216 INC.  
REVIEWED FOR  
SS ☒ FLS ☐ ACS ☐  
DATE: 11/16/2020



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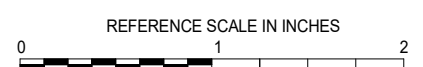
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SHEET TITLE

DETAILS

SCALE

SHEET NUMBER

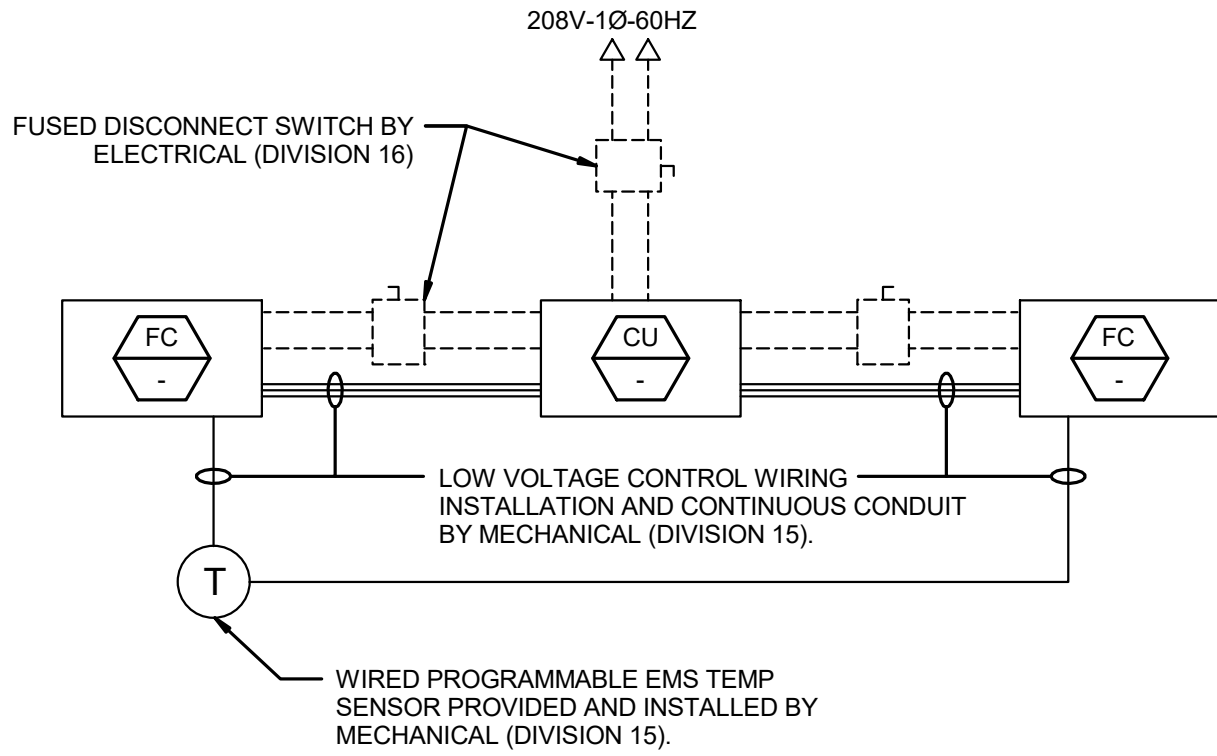
M4.2

EXHIBIT C



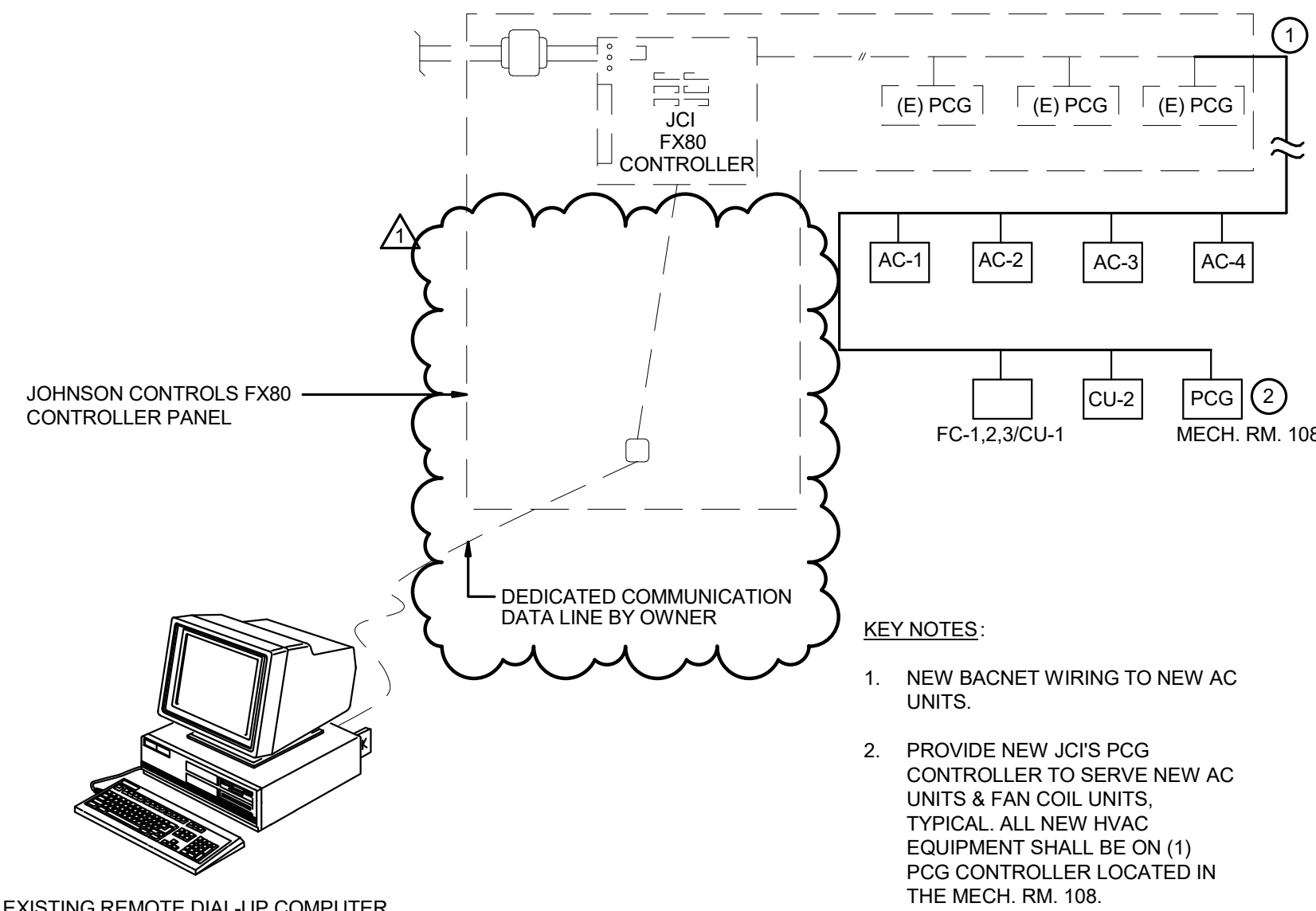
19000646.00 11/3/2020 1:05:17 PM COOPER ACADEMY KITCHEN HVAC ADDITION

NOT USED			NTS	6	SPLIT SYSTEM WIRING DIAGRAM			NTS	3	EMS SYSTEM NETWORK			NTS	1
NOT USED			NTS	7	CONTROL WIRING LEGEND			NTS	4	FC-1/2 AND CU-2 CONTROL DIAGRAM			NTS	2
NOT USED			NTS	8	NOT USED			NTS	5	NOT USED			NTS	



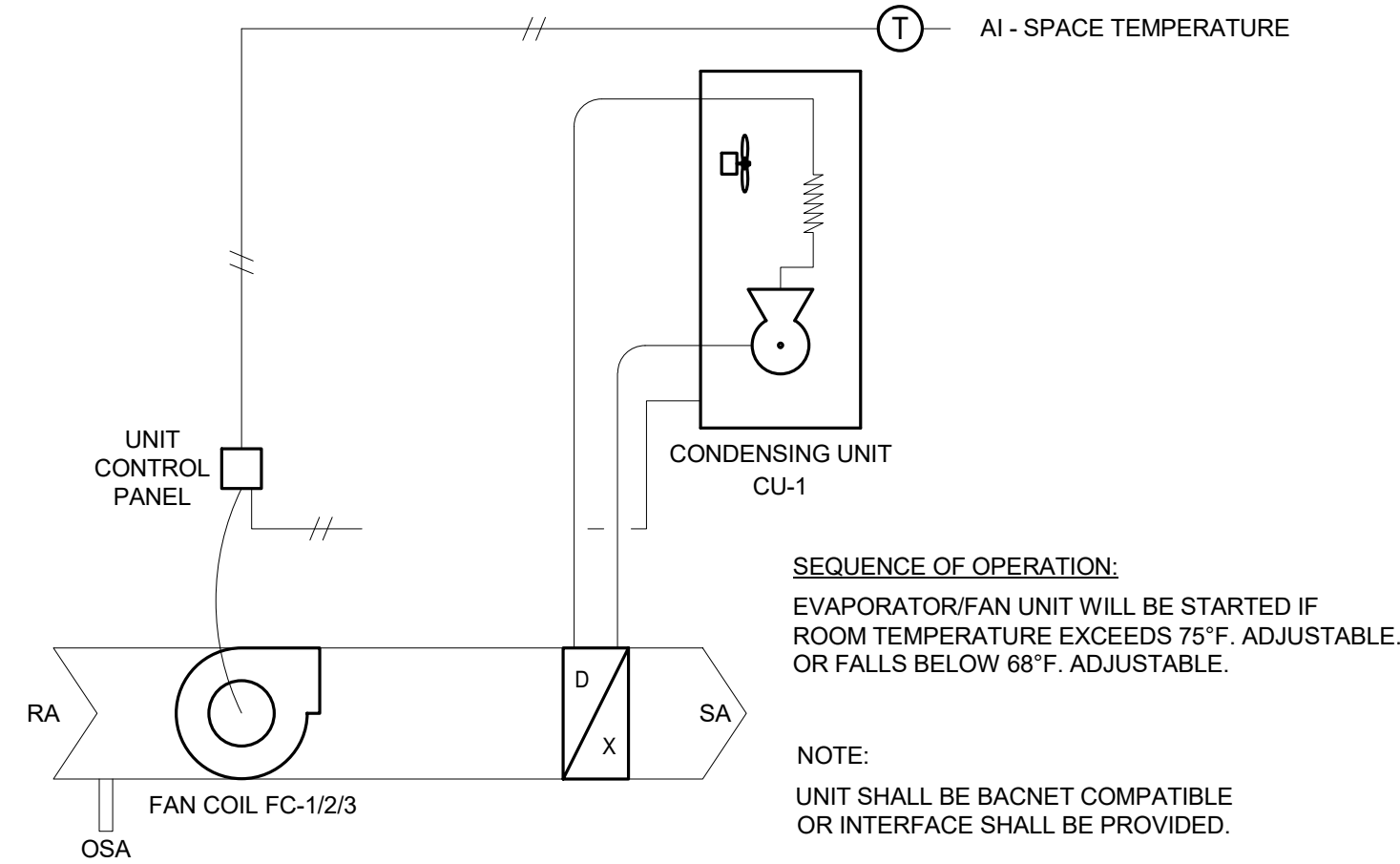
- NOTES:
- FOR WIRING NOTES, REFER TO DETAIL 3 THIS SHEET

- WIRING NOTES:
- EQUIPMENT FURNISHED AND INSTALLED BY ELECTRICAL CONTRACTOR (DIVISION 16).
  - EQUIPMENT FURNISHED AND INSTALLED BY MECHANICAL CONTRACTOR (DIVISION 15).
  - LINE VOLTAGE WIRING AND CONDUIT FURNISHED BY ELECTRICAL CONTRACTOR.
  - LOW VOLTAGE WIRING FURNISHED AND INSTALLED BY MECHANICAL CONTRACTOR, LOW VOLTAGE CONDUIT FURNISHED AND INSTALLED BY MECHANICAL CONTRACTOR.
  - DISC. DISCONNECT SWITCH
  - C.B. CIRCUIT BREAKER
  - T THERMOSTAT FURNISHED AND INSTALLED BY DIVISION 15.



- KEY NOTES:
- NEW BACNET WIRING TO NEW AC UNITS.
  - PROVIDE NEW JCI'S PCG CONTROLLER TO SERVE NEW AC UNITS & FAN COIL UNITS, TYPICAL. ALL NEW HVAC EQUIPMENT SHALL BE ON (1) PCG CONTROLLER LOCATED IN THE MECH. RM. 108.

EXISTING REMOTE DIAL-UP COMPUTER WITH JOHNSON CONTROL FX FOR WINDOWS SOFTWARE PACKAGE LOCATED AT DISTRICT OFFICE



CONTROL NOTES:

- CONTRACTOR SHALL DISCONNECT ALL EXISTING LIGHTING CONTROL CIRCUITS FROM EXISTING NETWORK AREA CONTROLLERS SCHEDULED TO BE REPLACED. CONTRACTOR SHALL RECONNECT EXISTING LIGHTING CONTROL CIRCUITS TO NEW FX80 PANELS AND DEMONSTRATE PROPER OPERATION TO DISTRICT ENERGY MANAGEMENT DEPARTMENT. FIELD VERIFY EXACT NUMBER OF CIRCUITS AND PROGRAMMING.
- CONTRACTOR SHALL DISCONNECT ALL EXISTING PHOTOCELL LIGHTING CONTROLLERS FROM EXISTING NETWORK AREA CONTROLLERS SCHEDULED TO BE REPLACED. CONTRACTOR SHALL RECONNECT ALL EXISTING PHOTOCELL LIGHTING CONTROLLERS TO NEW FX80 PANELS AND DEMONSTRATE PROPER OPERATION TO DISTRICT ENERGY MANAGEMENT DEPARTMENT. FIELD VERIFY EXACT NUMBER AND LOCATION OF EXISTING PHOTOCELLS.
- CONTRACTOR SHALL DISCONNECT ALL EXISTING OUTDOOR AIR SENSORS FROM EXISTING NETWORK AREA CONTROLLERS SCHEDULED TO BE REPLACED. CONTRACTOR SHALL RECONNECT ALL EXISTING OUTDOOR AIR SENSORS TO NEW FX80 PANELS AND DEMONSTRATE PROPER OPERATION TO DISTRICT ENERGY MANAGEMENT DEPARTMENT. FIELD VERIFY EXACT NUMBER AND LOCATION OF EXISTING OUTDOOR AIR SENSORS.
- PROVIDE TWO (2) SPARE PCX CONTROLLERS FOR DISTRICT ENERGY MANAGEMENT DEPARTMENT USE.

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SS [X] FLSD [X] ACS [X]  
DATE: 11/16/2020



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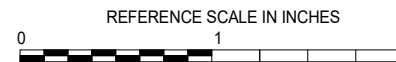
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Approved	ED

SHEET TITLE  
CONTROLS

SCALE

Scale:

SHEET NUMBER

M5.1

EXHIBIT C





November 20, 2020

# Asbestos and Lead Survey Report

**Cooper Academy Middle School  
Kitchen HVAC Upgrade**  
2277 West Bellaire Way  
Fresno, California 93705

Prepared for:

**Ms. Ronika Barnes**  
**Fresno Unified School District**  
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Fresno, California 93722  
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Ronika.Barnes@fresnounified.org

Prepared By:

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FACS Project #PJ60928

# Contents

List of Acronyms .....	1
Executive Summary .....	2
Introduction.....	3
Scope of Work .....	3
Site Characterization .....	3
Survey Methods .....	4
Findings and Recommendations .....	6
Limitations.....	7

Appendix A: Asbestos Sampling Summary Bulk Sample Chain-of-Custody Form and Laboratory Results Report	
Appendix B: Lead Survey Summary, Bulk Sample Chain-of-Custody, Laboratory Results Report, and CDPH Form 8552	
Appendix C: Sample Location Drawing and Pictures	
Appendix D: Certifications of Personnel and Laboratories	



## List of Acronyms

ACCM	Asbestos Containing Construction Material
ACM	Asbestos Containing Material
AHERA	Asbestos Hazard Emergency Response Act
AIHA	American Industrial Hygiene Association
CAC	California - Certified Asbestos Consultant
Cal/OSHA	California Occupational Safety and Health Association
CCR	Code of California Regulations
CFR	Code of Federal Regulation
DOSH	Department of Occupational Safety and Health
ELAP	Environmental Laboratory Accreditation Program
EPA	Environmental Protection Agency (EPA)
FACS	Forensic Analytical Consulting Services, Inc.
FALI	Forensic Analytical Laboratories, Inc.
ND	None Detected
NESHAP	National Emissions Standard Hazardous Air Pollutants
NIOSH	National Institute for Occupational Safety and Health
NIST	National Institute of Science and Technology
NVLAP	National Voluntary Laboratory Accreditation Program
PLM	Polarized Light Microscopy
TEM	Transmission Electron Microscopy
TTLC	Total Threshold Limit Concentration

## Executive Summary

Forensic Analytical Consulting Services, Inc. (FACS) was retained by Fresno Unified School District to perform a limited asbestos and lead paint survey of Cooper Academy Middle School, located at 2277 West Bellaire Way in Fresno, California. The survey included suspect asbestos-containing materials (ACM) and lead containing paints / coatings which may be disturbed during the planned renovation activities at the MPR Building as part of the Kitchen HVAC Upgrades Project. A summary list of suspect asbestos-containing materials and lead-containing paints / coatings which were identified and sampled are included in Appendix A and B of this report. The survey was performed on November 4, 2020

### Asbestos

Identified suspect materials that were targeted and sampled during the survey were determined to not contain asbestos by laboratory analysis.

The roof was sampled during a previous inspection and found not to contain asbestos.

Any suspect materials not included in this inspection must be assumed to be asbestos-containing materials until tested and proven not to contain asbestos.

### Lead

Lead-based paints or coatings have lead content at or above 1.00 mg/cm<sup>2</sup>, 5,000 parts per million, or 0.5% by weight. One bulk sample was collected from the Kitchen area. The following paints did not contain lead above the laboratory's reporting limit. The paint can be handled as "lead-free" by any personnel:

- Cream paint on Plaster Wall in Kitchen (<0.03mg/cm<sup>2</sup>)

Any other paints to be disturbed must be handled as lead-containing on this project.

FACS recommends that the results of this report be incorporated into any renovation plans provided for this project for informational purposes.



## Introduction

Forensic Analytical Consulting Services, Inc. (FACS) was retained by Fresno Unified School District to perform a limited asbestos and lead paint survey of Cooper Academy Middle School, located at 2277 West Bellaire Way in Fresno, California. The survey included suspect asbestos-containing materials (ACM) and lead containing paints / coatings which may be disturbed during the planned renovation activities at the MPR Building as part of the Kitchen HVAC Upgrades Project. The survey was performed on November 4, 2020.

## Scope of Work

The purpose of this survey was to identify asbestos-containing materials (ACMs) and lead-containing paints or coating which may be disturbed during upcoming renovation activities at the site as part of the Kitchen HVAC Upgrade Project. The visual inspection, bulk sampling, and survey documentation were performed by Pamela Scott and Jeremy Noyola and Eric Farnsworth. Mr. Farnsworth is a Division of Occupational Safety and Health (DOSH) Certified Asbestos Consultant (CAC #19-6643), EPA-accredited AHERA Building Inspector, and a CDPH Certified Lead Inspector/Assessor (LRC-00005578) as required by California regulations. Ms. Scott and Mr. Noyola are EPA-accredited AHERA Building Inspectors and CDPH Certified Lead Sampling Technicians (LRC-00001886, LRC-00005788). Technical oversight of the inspection and this report was provided by Chris Chipponeri, who is a DOSH Certified Asbestos Consultant (CAC #10-4633), EPA-accredited AHERA Building Inspector, and CDPH Certified Lead Inspector / Assessor (LRC-00000782). The scope of the survey and the services provided by FACS included:

- Performing a visual inspection of the subject area to identify accessible suspect asbestos-containing materials (ACMs) that will be disturbed during the project;
- Collection of bulk material samples for asbestos analysis by polarized light microscopy (PLM);
- Collection of bulk paint chip samples for lead analysis by flame atomic absorption;
- Ensuring the technical quality of all work by using Asbestos Hazard Emergency Response Act (AHERA) accredited Building Inspectors;
- Ensuring the technical quality of all work by using California Department of Public Health (CDPH) Certified Lead Sampling Technicians and Inspection/Risk Assessors;
- Consolidating data and findings into a written report format.

## Site Characterization

Cooper Academy Middle School is a typical school site located in Fresno, California. The survey was limited to the inspection of areas to be disturbed per project drawings at the Kitchen of the MPR Building. Suspect asbestos-containing materials observed within the project area include the following:

- Plaster (Smooth Finish)

The shingle roofing system, along with white mastic and sealants, and grey sealant associated with the MPR Roof and HVAC components were sampled in October of 2017 by Hazard Management Services, Inc. These materials were found to be none-detect and it was confirmed during this inspection that these same materials remain.

Materials suspect of containing lead include all paints and coatings on building materials within the project scope.

## Survey Methods

### Visual Inspection

Accessible interior building materials were visually inspected using the methods presented in the Federal AHERA regulations (40 CFR, Part 763). AHERA is required to be used for inspections of K-12 schools and is generally accepted as the industry standard for all ACM inspections regardless of structure or facility type. Suspect ACMs were also physically assessed for friability, condition and possible disturbance factors.

All specified areas were accessible during this inspection. Other materials found elsewhere at this site are not expected to be disturbed by the project and are not included in this survey.

### Asbestos Inspection

#### Bulk Sample Collection

Bulk samples of identified homogeneous materials were collected in building areas that may be impacted by the planned renovation/demolition activities. Samples were collected of each separate homogeneous area (material). A homogeneous area (material) is defined as a surfacing material, thermal system insulation, or miscellaneous material that is uniform in use, color and texture. Examples of homogeneous areas could include:

- Vinyl floor tile
- Fireproofing
- Plaster

The specific number of samples collected was determined by using the methods required by the Federal AHERA regulations (40 CFR, Part 763.86) as noted below:

- 1) For Surfacing Material:
  - 1,000 ft<sup>2</sup> or less - collect 3 samples
  - 1,001 to 5,000 ft<sup>2</sup> - collect 5 samples
  - 5,001 ft<sup>2</sup> or greater - collect 7 samples
- 2) For Thermal System Insulation:
  - "In a randomly distributed manner" - collect 3 samples
  - 6 linear feet of patching or less - collect 1 sample
  - Cementitious pipe fittings - "In a manner sufficient to determine"
- 3) For all Miscellaneous Material:
  - Collect samples "In a manner sufficient to determine whether material is ACM (asbestos-containing material) or not ACM..."

The suspect ACMs were sampled using a knife, chisel, scraper, drill or other similar coring device suitable to the type of material sampled to cut through its entire thickness and to ensure that a cross-section of the material was obtained. The material was then placed in an appropriately labeled container that was sealed and submitted to SGS - Forensic Laboratories for analysis. A unique sample number (e.g. PJ60928-01A) was assigned to each sample.

Bulk samples will be retained by the laboratory for one month unless otherwise instructed. After this period, the samples will be disposed of appropriately.



## **Bulk Sample Analysis**

A total two (2) bulk samples were collected during this survey. All bulk samples were analyzed by SGS-Forensic Laboratories (SGS) in Hayward, California. SGS is accredited by the California Department of Public Health (CDPH) Environmental Laboratory Accreditation Program (ELAP) and the National Institute of Science and Technology's (NIST) National Voluntary Laboratory Accreditation Program (NVLAP). SGS participates in the National Institute for Occupational Safety and Health (NIOSH) Proficiency Analytical Testing Program and has substantial experience in the analysis of asbestos.

All samples were analyzed using Polarized Light Microscopy with Dispersion Staining (PLM/DS) techniques in accordance with the methodology approved by the U.S. Environmental Protection Agency (EPA). The percentage of asbestos present in the samples was determined based on a visual area estimation. The EPA defines asbestos-containing materials (ACM) as any material containing more than one percent (1%) asbestos as determined using the method specified in Appendix A, Subpart F, 40 CFR Part 763, Section 1, Polarized Light Microscopy (PLM). 40 CFR Part 763 identifies the lower limit of reliable quantification for asbestos using the PLM method as approximately one percent (1%) by volume. Regulations in California (CAL/OSHA Title 8 CCR 1529) define asbestos-containing construction materials (ACCM) as those materials having asbestos content of greater than one tenth of one percent (> 0.1%). Therefore, for the purpose of this survey, any amount of asbestos detected will be considered positive. In addition to the percentages, the types of asbestos minerals are also reported. The PLM method is the standard method used to analyze asbestos bulk samples.

When "None Detected" (ND) appears in the laboratory results, it should be interpreted as meaning asbestos was not observed in the sample material.

## **Lead Inspection**

The client-defined lead inspection was conducted in accordance with the CDPH Lead-Related Construction Program and modeled upon the sampling protocol described in "Chapter 7: Lead Based Paint Inspection" of the HUD Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing (1997 Revision.)

Cal/OSHA, in Title 8 California Code of Regulations (CCR) Section 1532.1, Lead in Construction Standard which implements California Labor Code 8716-6717, regulates all construction work where an employee may be occupationally exposed to lead. Paint or materials with any detectable level of lead is considered lead-containing by Cal/OSHA.

## **Bulk Sampling Methodology**

During this survey, FACS personnel collected one bulk lead paint chip sample for laboratory analysis. The sample was collected using a knife, chisel, or similar tool to scrape the paint or coating from the substrate it had been applied to and placed in a leak-tight container. The sample was given a unique number, identified on a chain of custody and sent via FedEx to SGS-Forensic Laboratories for analysis. SGS is accredited by the American Industrial Hygiene Association's Environmental Lead Laboratory Accreditation Program for the analysis of lead in bulk paint chip samples.

## Findings and Recommendations

The survey was limited to the inspection of suspect materials within the project scope. The following results were found regarding asbestos-containing materials and lead-containing paints, coatings or components in project areas.

### Asbestos

Identified suspect materials that were sampled during the survey were determined to not contain asbestos by laboratory analysis. See Appendix A for a list of suspect materials sampled.

The shingle roofing system, along with white mastic and sealants, and grey sealant associated with the MPR Roof and HVAC components were sampled in October of 2017 by Hazard Management Services, Inc. These materials were found to be none-detect and it was confirmed during this inspection that these same materials remain.

Any suspect materials not included in this inspection must be assumed to be asbestos-containing materials until tested and proven not to contain asbestos.

### Lead

One bulk samples was collected from a painted wall. The following paints did not contain lead above the laboratory's reporting limit. The paint can be handled as "lead-free" by any personnel:

- Cream Paint on smooth Plaster Wall <0.03 mg/cm<sup>2</sup>)

Untested paints or coatings not included in this inspection, must be assumed to contain lead and handled accordingly unless sampled and proven not to contain lead.

### Cal/OSHA and CDPH Requirements

Any project disturbing paints or coatings with any detectable concentration of lead paint, or presumed lead-containing paint, would be regulated by the Cal/OSHA Lead Construction Standard (8 CCR 1532.1). In addition, CDPH has regulations regarding the safe handling of lead-based paints and prevention of lead hazards being generated in public buildings. The following information is a summary of the requirements only and additional requirements may be required for a project.

Any contractor with workers disturbing any quantity of detectable lead must perform an initial determination regarding worker exposures to lead, which may be based on personal air monitoring at the start of the project, prior employee monitoring from the past 12 months under workplace conditions closely resembling the current project, or objective data demonstrating that exposures will not exceed the Cal/OSHA action level (30 micrograms per cubic meter of air). It is the employer's responsibility to conduct the initial determination and comply with any relevant Cal/OSHA requirements.

Workers disturbing lead must have lead awareness or action level training depending on the initial exposure determination and must use lead-safe work practices. Disturbance of lead-containing paints or coatings must be performed within a contained area to prevent the spread and build-up of lead dust in order to comply with CDPH requirements. HEPA vacuums, dustless tools or shrouds, and/or intact removal of components should be employed to minimize lead dust generation and properly cleanup work areas following disturbance to lead-containing materials during this project. Waste generated during disturbance to lead-containing materials must be profiled in a hazardous waste determination to ascertain proper disposal requirements.



If the initial determination or initial exposure monitoring shows that workers impacting lead can be expected to be or are exposed to lead above the Cal/OSHA permissible exposure level (50 micrograms per cubic meter of air) workers and supervisors must have the requisite training and CDPH certification.

#### EPA Repair, Renovation and Painting (RRP) rule

The EPA's Renovation, Repair, and Painting (RRP) rule applies to disturbance of lead-based paints at child-occupied facilities constructed before 1978. In the context of the RRP rule, child-occupied facility is defined as being visited by the same child under the age of 6 on two or more days per week for at least 3 hours per visit with a cumulative annual total of 60 hours. In California schools, children may be enrolled in Kindergarten if they are age 5 or older on or before September 1, and they may attend pre-Kindergarten summer programs or Transitional Kindergarten programs before being age-eligible for Kindergarten.

Since lead-based paint was absent within the project area, the US EPA RRP rule would not apply to this project as FACS understands for the work to be completed.

## Limitations

This investigation is limited to the conditions and practices observed and information made available to FACS. The methods, conclusions and recommendations provided are based on FACS' judgment, expertise and the standard of practice for professional service. They are subject to the limitations and variability inherent in the methodology employed. As with all environmental investigations, this investigation is limited to the defined scope and does not purport to set forth all hazards, nor indicate that other hazards do not exist.

Please do not hesitate to contact our office at 559-436-0277 with any questions or concerns. Thank you for the opportunity to assist Fresno Unified School District with promoting worker, staff and student safety and a healthy environment.

Respectfully,  
FORENSIC ANALYTICAL



Eric Farnsworth  
Project Manager  
Cal/OSHA CAC #19-6643  
CDPH I/A LRC-00005578

Reviewed by:  
FORENSIC ANALYTICAL



Chris Chipponeri  
Local Director  
Cal/OSHA CAC #10-4633  
CDPH I/A LRC-00000782

## Appendix A

### Asbestos Sampling Summary, Bulk Sample Chain-of-Custody Form and Laboratory Results Report



Asbestos Survey Summary (Lab Report # BB310101) Cooper Academy Middle School – Building A, Fresno, CA Survey Date: November 05, 2020						
Sample Numbers	Material Description	Location(s) of Material	Material Number	Asbestos Content (percent)	Asbestos NESHAP Category	Approx. Quantity
01A,01B	Plaster – Cream, Smooth	Building A: MPR/Kitchen	1	None Detect in White Plaster None Detect in Paint	N/A	N/A







# Bulk Asbestos Analysis

(EPA Method 40CFR, Part 763, Appendix E to Subpart E and EPA 600/R-93-116, Visual Area Estimation)

NVLAP Lab Code: 101459-0

FACS - Fresno  
Eric Farnsworth  
21228 Cabot Blvd.  
  
Hayward, CA 94545

**Client ID:** FR09  
**Report Number:** B310101  
**Date Received:** 11/05/20  
**Date Analyzed:** 11/10/20  
**Date Printed:** 11/11/20  
**First Reported:** 11/11/20

**Job ID/Site:** PJ60928; Fresno Unified School District - Facilities Management & Planning  
Cooper Academy Middle School 2277 West Bellaire Way Fresno CA  
**Date(s) Collected:** 11/04/2020

**SGSFL Job ID:** FR09  
**Total Samples Submitted:** 2  
**Total Samples Analyzed:** 2

Sample ID	Lab Number	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer	Asbestos Type	Percent in Layer
-----------	------------	---------------	------------------	---------------	------------------	---------------	------------------

**PJ60928-01A**

12353846

Layer: White Plaster

ND

Layer: Paint

ND

Total Composite Values of Fibrous Components: **Asbestos (ND)**

Cellulose (Trace)

**PJ60928-01B**

12353847

Layer: White Plaster

ND

Layer: Paint

ND

Total Composite Values of Fibrous Components: **Asbestos (ND)**

Cellulose (Trace)

Tad Thrower, Laboratory Supervisor, Hayward Laboratory

Note: Limit of Quantification ('LOQ') = 1%. 'Trace' denotes the presence of asbestos below the LOQ. 'ND' = 'None Detected'.

Analytical results and reports are generated by SGS Forensic Laboratories (SGSFL) at the request of and for the exclusive use of the person or entity (client) named on such report. Results, reports or copies of same will not be released by SGSFL to any third party without prior written request from client. This report applies only to the sample(s) tested. Supporting laboratory documentation is available upon request. This report must not be reproduced except in full, unless approved by SGSFL. The client is solely responsible for the use and interpretation of test results and reports requested from SGSFL. SGSFL is not able to assess the degree of hazard resulting from materials analyzed. SGS Forensic Laboratories reserves the right to dispose of all samples after a period of thirty (30) days, according to all state and federal guidelines, unless otherwise specified. All samples were received in acceptable condition unless otherwise noted.

## Appendix B

### Lead Survey Summary Table, Sample Chain-of-Custody, Laboratory Results Report, and CDPH 8552 Form

Lead Survey Summary (Lab Report #M229714) Cooper Academy Middle School – Kitchen HVAC Upgrade Project, Fresno, CA Survey Date: November 04, 2020					
Sample Number	Component Location	Color	Substrate	Component	Analytical Results (weight percent of lead)
01Pb	Kitchen	Cream	Plaster	Wall	<0.03



## PAINT CHIP SAMPLE REQUEST FORM

Page 1 of 1

Client: <b>FR09 FACS Fresno</b> <b>Fresno Unified School District</b>	Sampled by: <b>Pamela Scott</b> PM: <b>Eric Farnsworth</b> Date: <b>11/04/2020</b>
Contact: <b>Eric Farnsworth</b> Phone: <b>(559) 436-0277</b>	Special Instructions: E-mail results to E-mail results to <a href="mailto:efarnsworth@forensicanalytical.com">efarnsworth@forensicanalytical.com</a> <a href="mailto:jeremy.noyola@forensicanalytical.com">jeremy.noyola@forensicanalytical.com</a> and <a href="mailto:dpyle@forensicanalytical.com">dpyle@forensicanalytical.com</a> and <a href="mailto:pamela.scott@forensicanalytical.com">pamela.scott@forensicanalytical.com</a>
Site: <b>FRESNO UNIFIED SCHOOL DISTRICT</b> <b>Cooper Academy Middle School</b>	Turnaround Time:      1-Day <input type="checkbox"/> 2-Day <input type="checkbox"/> 3-Day <input type="checkbox"/> 5-Day <input checked="" type="checkbox"/> Other <input type="checkbox"/> Due Date and Time:
Client No.: <b>C23033</b> <b>FACS</b> <b>PJ60928</b> Job #: <b>PJ60928</b>	Analysis: <input checked="" type="checkbox"/> Flame AA (Pb) / <input type="checkbox"/> Other:

Sample Number	Sample Location	Component	Color	Substrate	Condition
PJ60928-01Pb	MPR/Kitchen: South west corner, under sink	Cream Paint on Plaster Wall	Cream	Plaster	1

Shipped via: <input checked="" type="checkbox"/> Fed Ex <input type="checkbox"/> Airborne <input type="checkbox"/> UPS <input type="checkbox"/> US Mail <input type="checkbox"/> Courier <input type="checkbox"/> Drop Off <input type="checkbox"/> Other:		Substrate: wood    metal    concrete    plaster    drywall    brick	
Relinquished by: <i>Pamela Scott</i>	Date & Time: <i>11-4-20 3:00pm</i>	Received by: <i>[Signature]</i>	Date & Time: <i>NOV 05 2020</i>
Relinquished by:	Date & Time:	Received by:	Date & Time:
Condition Acceptable <input type="checkbox"/> Yes <input type="checkbox"/> No		Condition Acceptable <input type="checkbox"/> Yes <input type="checkbox"/> No	



# Metals Analysis of Paints

(AIHA-LAP, LLC Accreditation, Lab ID #101762)

FACS - Fresno  
Eric Farnsworth  
21228 Cabot Blvd.

Hayward, CA 94545

**Client ID:** FR09  
**Report Number:** M229714  
**Date Received:** 11/05/20  
**Date Analyzed:** 11/11/20  
**Date Printed:** 11/11/20  
**First Reported:** 11/11/20

**Job ID / Site:** PJ60928; Fresno Unified School District - Facilities Management & Planning  
Cooper Academy Middle School 2277 West Bellaire Way Fresno CA

**Date(s) Collected:** 11/4/20

**SGSFL Job ID:** FR09

**Total Samples Submitted:** 1

**Total Samples Analyzed:** 1

Sample Number	Lab Number	Analyte	Result	Result Units	Reporting Limit*	Method Reference
PJ60928-01PB	30879062	Pb	< 0.03	wt%	0.03	EPA 3050B/7000B
Comment: Sample submission below 0.1 grams.						

\* The Reporting Limit represents the lowest amount of analyte that the laboratory can confidently detect in the sample, and is not a regulatory level. The Units for the Reporting Limit are the same as the Units for the Final Results.



Kevin Poon, Laboratory Analyst, Hayward Laboratory

Analytical results and reports are generated by SGS Forensic Laboratories at the request of and for the exclusive use of the person or entity (client) named on such report. Results, reports or copies of same will not be released by SGS Forensic Laboratories to any third party without prior written request from client. This report applies only to the sample(s) tested. Supporting laboratory documentation is available upon request. This report must not be reproduced except in full, unless approved by SGS Forensic Laboratories. The client is solely responsible for the use and interpretation of test results and reports requested from SGS Forensic Laboratories. SGS Forensic Laboratories is not able to assess the degree of hazard resulting from materials analyzed. SGS Forensic Laboratories reserves the right to dispose of all samples after a period of thirty (30) days, according to all state and federal guidelines, unless otherwise specified. Any modifications that have been made to referenced test methods are documented in SGS Forensic Laboratories' Standard Operating Procedures Manual. Sample results have not been blank corrected. Quality control and sample receipt condition were acceptable unless otherwise noted.

Note\* Sampling data used in this report was provided by the client as noted on the associated chain of custody form.


**LEAD HAZARD EVALUATION REPORT****Section 1 — Date of Lead Hazard Evaluation** November 04, 2020**Section 2 — Type of Lead Hazard Evaluation (Check one box only)**
☒ Lead Inspection
 ☐ Risk assessment
 ☐ Clearance Inspection
 ☐ Other (specify) \_\_\_\_\_
**Section 3 — Structure Where Lead Hazard Evaluation Was Conducted**

Address [number, street, apartment (if applicable)] 2277 West Bellaire Way		City Fresno	County Fresno	Zip Code 93705
Construction date (year) of structure Unknown	Type of structure <input type="checkbox"/> Multi-unit building <input checked="" type="checkbox"/> School or daycare <input type="checkbox"/> Single family dwelling <input type="checkbox"/> Other _____		Children living in structure? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Don't Know	

**Section 4 — Owner of Structure (if business/agency, list contact person)**

Name Fresno Unified School District / Ronika Barnes		Telephone number 559-994-6526	
Address [number, street, apartment (if applicable)] 4600 North Brawley Avenue		City Fresno	State CA
		Zip Code 93722	

**Section 5 — Results of Lead Hazard Evaluation (check all that apply)**
☒ No lead-based paint detected
 ☐ Intact lead-based paint detected
 ☐ Deteriorated lead-based paint detected  
☒ No lead hazards detected
 ☐ Lead-contaminated dust found
 ☐ Lead-contaminated soil found
 ☐ Other \_\_\_\_\_
**Section 6 — Individual Conducting Lead Hazard Evaluation**

Name Chris Chipponeri		Telephone number 559-436-0277	
Address [number, street, apartment (if applicable)] 371 E. Bullard Avenue		City Fresno	State CA
		Zip Code 93710	
CDPH certification number LRC-00000782	Signature 		Date 11/19/2020

Name and CDPH certification number of any other individuals conducting sampling or testing (if applicable)

Eric Farnsworth LRC-00005578 / Jeremy Noyola LRC-00005788

**Section 7 — Attachments**

- A. A foundation diagram or sketch of the structure indicating the specific locations of each lead hazard or presence of lead-based paint;
- B. Each testing method, device, and sampling procedure used;
- C. All data collected, including quality control data, laboratory results, including laboratory name, address, and phone number.

First copy and attachments retained by inspector

Second copy and attachments retained by owner

Third copy only (no attachments) mailed or faxed to:

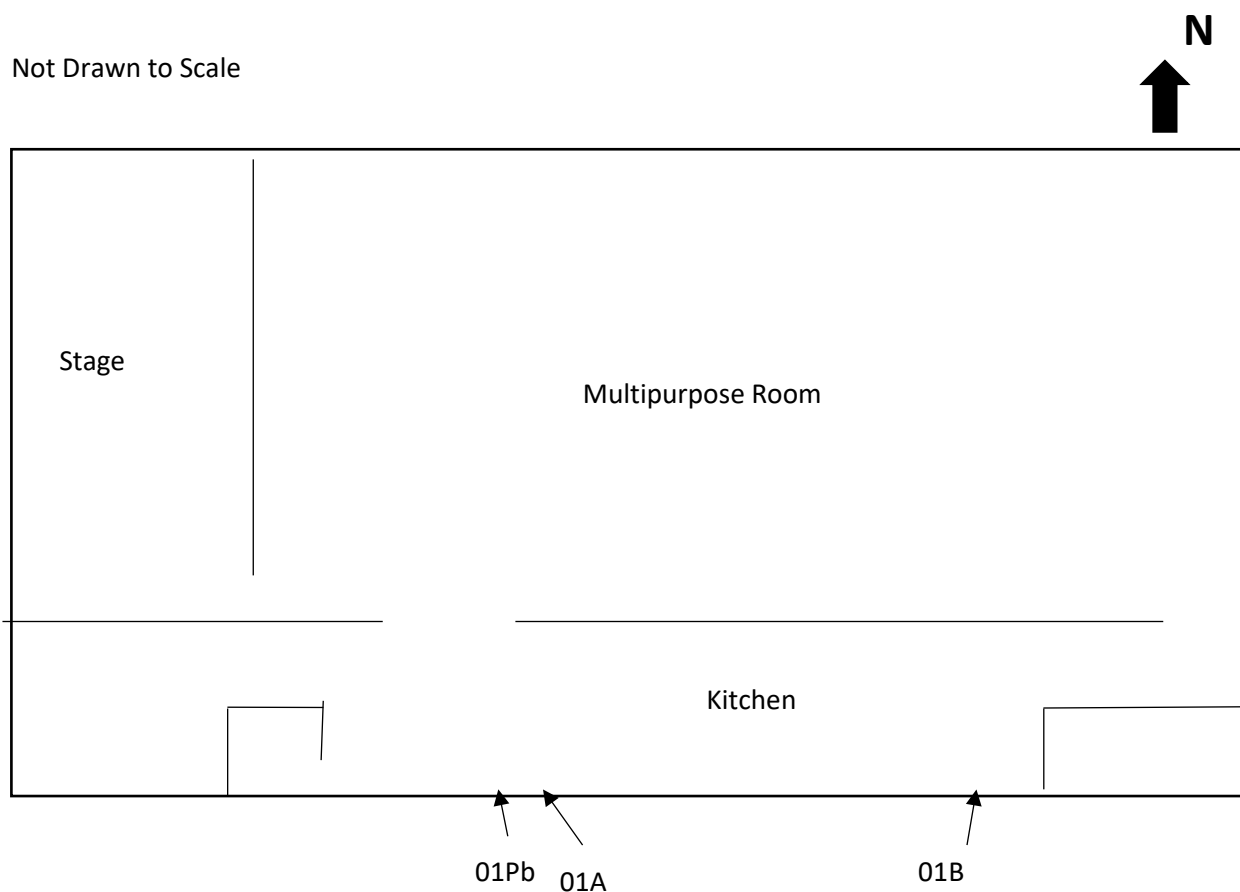
California Department of Public Health  
 Childhood Lead Poisoning Prevention Branch Reports  
 850 Marina Bay Parkway, Building P, Third Floor  
 Richmond, CA 94804-6403  
 Fax: (510) 620-5656

## Appendix C

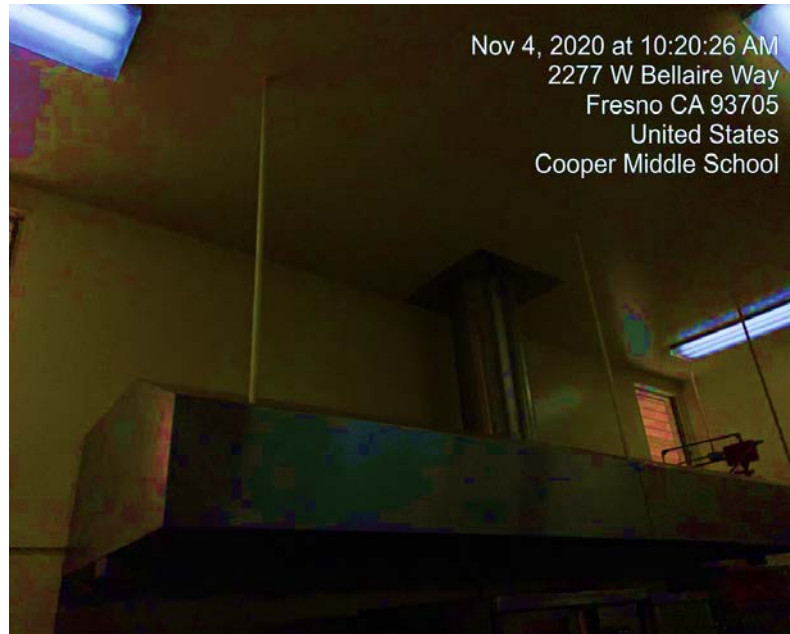
### Sample Location Drawing and Pictures

<b>Site Name:</b>	Cooper Middle School
<b>Address:</b>	2277 West Bellaire Way, Fresno, CA
<b>Date:</b>	November 4, 2020

Not Drawn to Scale







**Figure 1. Kitchen, Interior Southside**



**Figure 2. Kithcen South Westside**

## Appendix D

### Certifications of Personnel and Laboratories

DEPARTMENT OF INDUSTRIAL RELATIONS  
Division of Occupational Safety and Health  
Asbestos Certification & Training Unit  
1750 Howe Avenue, Suite 460  
Sacramento, CA 95825  
(916) 574-2993 Office <http://www.dir.ca.gov/dosh/asbestos.html> [acru@dir.ca.gov](mailto:acru@dir.ca.gov)



909166643C

451

Forensic Analytical Consulting Services, Inc.  
Eric S Farnsworth  
371 E. Bullard Avenue, Suite 109  
Fresno CA 93710

September 15, 2020

Dear Certified Asbestos Consultant or Technician:

Enclosed is your certification card. **To maintain your certification, you must abide by the rules printed on the back of the certification card.**

Your certification is valid for a period of one year. If you wish to renew your certification, you must apply for renewal at least 60 days before the expiration date shown on your card. [8 CCR 341.15(h)(1)].

Please hold and do not send copies of your required AHERA refresher renewal certificates to our office until you apply for renewal of your certification.

Certificates must be kept current if you are actively working as a CAC or CSST. The grace period is only for those who are not actively working as an asbestos consultant or site surveillance technician.

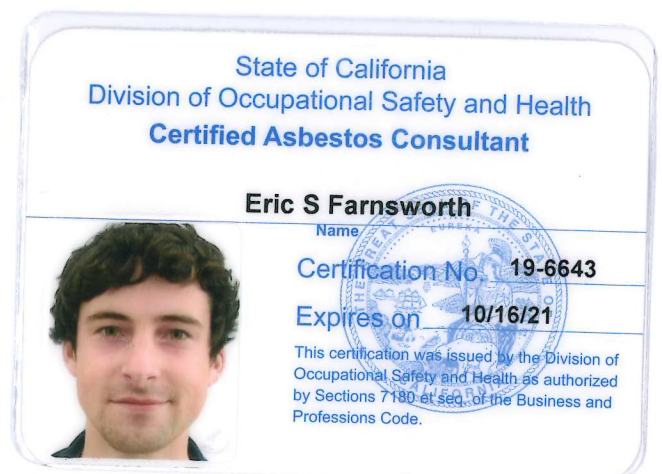
Please notify our office via U.S. Postal Service or other carrier of any changes in your mailing or work address within 15 days of the change.

Sincerely,

Jeff Ferrell  
Senior Safety Engineer

Attachment: Certification Card

cc: File



Renewal – Card Attached (Revised 06/2020)



# *HMS Training*

*a division of Forensic Analytical Consulting Services*

*This is to confirm that*

**Eric Farnsworth**

*Has attended the four-hour*

**AHERA Refresher Course for Asbestos Inspectors**

*And has completed the requisite training and passed the exam for*

*asbestos accreditation under TSCA Title II*

**July 8, 2020**

Certificate Number: HMSBIR824

Valid Until: July 8, 2021

Cal/OSHA Approval Number: CA-025-06



A handwritten signature in black ink, reading "Michael C. Sharp".

Michael C. Sharp - Training Director  
HMS/Forensic Analytical Consulting Services  
207 McHenry Ave. Modesto, CA 95354  
(800) 677-1483



STATE OF CALIFORNIA  
DEPARTMENT OF PUBLIC HEALTH



# LEAD-RELATED CONSTRUCTION CERTIFICATE

**INDIVIDUAL:**



**Eric Farnsworth**

**CERTIFICATE TYPE:**

Lead Inspector/Assessor  
Lead Sampling Technician

**NUMBER:**

LRC-00005578  
LRC-00000970

**EXPIRATION DATE:**

2/18/2021  
5/22/2020

Disclaimer: This document alone should not be relied upon to confirm certification status. Compare the individual's photo and name to another valid form of government issued photo identification. Verify the individual's certification status by searching for Lead-Related Construction Professionals at [www.cdph.ca.gov/programs/clppb](http://www.cdph.ca.gov/programs/clppb) or calling (800) 597-LEAD.



# *HMS Training*

*a division of Forensic Analytical Consulting Services*

*This is to confirm that*

**Pamela Scott**

*Has attended the four-hour*

**AHERA Refresher Course for Asbestos Inspectors**

*And has completed the requisite training and passed the exam for*

*asbestos accreditation under TSCA Title II*

**October 15, 2020**

Certificate Number: HMSBIR879

Valid Until: October 15, 2021

Cal/OSHA Approval Number: CA-025-06



Michael C. Sharp - Training Director  
HMS/Forensic Analytical Consulting Services  
207 McHenry Ave. Modesto, CA 95354  
(800) 677-1483





STATE OF CALIFORNIA  
DEPARTMENT OF PUBLIC HEALTH



# LEAD-RELATED CONSTRUCTION CERTIFICATE

**INDIVIDUAL:**



**Pamela Scott**

**CERTIFICATE TYPE:**

Lead Sampling Technician

**NUMBER:**

LRC-00001886

**EXPIRATION DATE:**

6/28/2021

Disclaimer: This document alone should not be relied upon to confirm certification status. Compare the individual's photo and name to another valid form of government issued photo identification. Verify the individual's certification status by searching for Lead-Related Construction Professionals at [www.cdph.ca.gov/programs/clppb](http://www.cdph.ca.gov/programs/clppb) or calling (800) 597-LEAD.



# *HMS Training*

*a division of Forensic Analytical Consulting Services*

*This is to confirm that*

**Jeremy Noyola**

*Has attended the twenty-four hour*

**AHERA Course for Asbestos Inspectors**

*And has completed the requisite training and passed the exam for*

*asbestos accreditation under TSCA Title II*

**March 2-4, 2020**

Certificate Number: HMSBII173

Valid Until: March 4, 2021

Cal/OSHA Approval Number: CA-025-05



A handwritten signature in black ink, appearing to read 'Michael C. Sharp'.

Michael C. Sharp - Training Director  
HMS/Forensic Analytical Consulting Services  
207 McHenry Ave. Modesto, CA 95354  
(800) 677-1483





STATE OF CALIFORNIA  
DEPARTMENT OF PUBLIC HEALTH



# LEAD-RELATED CONSTRUCTION CERTIFICATE

INDIVIDUAL:



**Jeremy Noyola**

CERTIFICATE TYPE:

Lead Sampling Technician

NUMBER:

LRC-00005788

EXPIRATION DATE:

2/28/2021

Disclaimer: This document alone should not be relied upon to confirm certification status. Compare the individual's photo and name to another valid form of government issued photo identification. Verify the individual's certification status by searching for Lead-Related Construction Professionals at [www.cdph.ca.gov/programs/clppb](http://www.cdph.ca.gov/programs/clppb) or calling (800) 597-LEAD.



DEPARTMENT OF INDUSTRIAL RELATIONS  
Division of Occupational Safety and Health  
Asbestos Certification & Training Unit

2424 Arden Way, Suite 495

Sacramento, CA 95825-2417

(916) 574-2993 Office <http://www.dir.ca.gov/dosh/asbestos.html> [acru@dir.ca.gov](mailto:acru@dir.ca.gov)

005174633C

339

June 08, 2020

Christopher J Chipponeri  
1401 Louise Avenue  
Modesto CA 95350

Dear Certified Asbestos Consultant or Technician:

Enclosed is your certification card. **To maintain your certification, you must abide by the rules printed on the back of the certification card.**

Your certification is valid for a period of one year. If you wish to renew your certification, you must apply for renewal at least 60 days before the expiration date shown on your card. [8 CCR 341.15(h)(1)].

Please hold and do not send copies of your required AHERA refresher renewal certificates to our office until you apply for renewal of your certification.

Certificates must be kept current if you are actively working as a CAC or CSST. The grace period is only for those who are not actively working as an asbestos consultant or site surveillance technician.

Please notify our office via U.S. Postal Service or other carrier of any changes in your mailing or work address within 15 days of the change.

Sincerely,

Jeff Ferrell  
Senior Safety Engineer

Attachment: Certification Card

cc: File

Renewal – Card Attached 08/2019

State of California  
Division of Occupational Safety and Health  
**Certified Asbestos Consultant**

**Christopher J Chipponeri**

Name

Certification No. 10-4633

Expires on 06/16/21



This certification was issued by the Division of Occupational Safety and Health as authorized by Sections 7180 et seq. of the Business and Professions Code.



# *HMS Training*

*a division of Forensic Analytical Consulting Services*

*This is to confirm that*

**Chris Chipponeri**

*Has attended the four-hour*

**AHERA Refresher Course for Asbestos Inspectors**

*And has completed the requisite training and passed the exam for*

*asbestos accreditation under TSCA Title II*

**September 9, 2020**

Certificate Number: HMSBIR851

Valid Until: September 9, 2021

Cal/OSHA Approval Number: CA-025-06



A handwritten signature in black ink, appearing to read 'Michael C. Sharp'.

Michael C. Sharp - Training Director  
HMS/Forensic Analytical Consulting Services  
207 McHenry Ave. Modesto, CA 95354  
(800) 677-1483



STATE OF CALIFORNIA  
DEPARTMENT OF PUBLIC HEALTH



# LEAD-RELATED CONSTRUCTION CERTIFICATE

**INDIVIDUAL:**



**Chris Chipponeri**

**CERTIFICATE TYPE:**

Lead Inspector/Assessor

**NUMBER:**

LRC-00000782

**EXPIRATION DATE:**

6/20/2021

Disclaimer: This document alone should not be relied upon to confirm certification status. Compare the individual's photo and name to another valid form of government issued photo identification. Verify the individual's certification status by searching for Lead-Related Construction Professionals at [www.cdph.ca.gov/programs/clppb](http://www.cdph.ca.gov/programs/clppb) or calling (800) 597-LEAD.



United States Department of Commerce  
National Institute of Standards and Technology



---

## Certificate of Accreditation to ISO/IEC 17025:2017

---

NVLAP LAB CODE: 101459-0

**SGS Forensic Laboratories**

Hayward, CA

*is accredited by the National Voluntary Laboratory Accreditation Program for specific services,  
listed on the Scope of Accreditation, for:*

**Asbestos Fiber Analysis**

*This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017.  
This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality  
management system (refer to joint ISO-ILAC-IAF Communique dated January 2009).*

---

2020-07-01 through 2021-06-30

*Effective Dates*



A handwritten signature in blue ink, reading "Dana S. Laman".

---

*For the National Voluntary Laboratory Accreditation Program*

**SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017**

**SGS Forensic Laboratories**

3777 Depot Road, Suite 409

Hayward, CA 94545-2761

Mr. Steven Takahashi

Phone: 310-294-4365 Fax: 310-764-1136

Email: [steven.takahashi@sgs.com](mailto:steven.takahashi@sgs.com)

<http://www.falaboratories.com>

**ASBESTOS FIBER ANALYSIS**

**NVLAP LAB CODE 101459-0**

**Bulk Asbestos Analysis**

**Code**

**Description**

18/A01

EPA -- 40 CFR Appendix E to Subpart E of Part 763, Interim Method of the Determination of Asbestos in Bulk Insulation Samples

18/A03

EPA 600/R-93/116: Method for the Determination of Asbestos in Bulk Building Materials

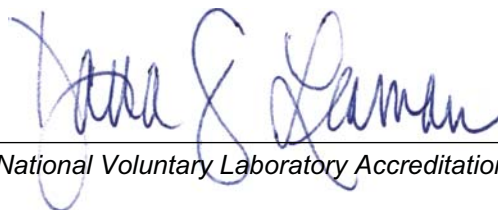
**Airborne Asbestos Analysis**

**Code**

**Description**

18/A02

U.S. EPA's "Interim Transmission Electron Microscopy Analytical Methods-Mandatory and Nonmandatory-and Mandatory Section to Determine Completion of Response Actions" as found in 40 CFR, Part 763, Subpart E, Appendix A.



*For the National Voluntary Laboratory Accreditation Program*



## AIHA Laboratory Accreditation Programs, LLC

*acknowledges that*

### SGS Forensic Laboratories

3777 Depot Rd, Suite 409, Hayward, CA 94545-2761

Laboratory ID: LAP-101762

along with all premises from which key activities are performed, as listed above, has fulfilled the requirements of the AIHA Laboratory Accreditation Programs (AIHA-LAP), LLC accreditation to the ISO/IEC 17025:2005 international standard, General Requirements for the Competence of Testing and Calibration Laboratories in the following:

#### LABORATORY ACCREDITATION PROGRAMS

<input checked="" type="checkbox"/>	<b>INDUSTRIAL HYGIENE</b>	Accreditation Expires: December 01, 2020
<input checked="" type="checkbox"/>	<b>ENVIRONMENTAL LEAD</b>	Accreditation Expires: December 01, 2020
<input checked="" type="checkbox"/>	<b>ENVIRONMENTAL MICROBIOLOGY</b>	Accreditation Expires: December 01, 2020
<input type="checkbox"/>	<b>FOOD</b>	Accreditation Expires:
<input checked="" type="checkbox"/>	<b>UNIQUE SCOPES</b>	Accreditation Expires: December 01, 2020

Specific Field(s) of Testing (FoT)/Method(s) within each Accreditation Program for which the above named laboratory maintains accreditation is outlined on the attached Scope of Accreditation. Continued accreditation is contingent upon successful on-going compliance with ISO/IEC 17025:2005 and AIHA-LAP, LLC requirements. This certificate is not valid without the attached Scope of Accreditation. Please review the AIHA-LAP, LLC website ([www.aihaaccreditedlabs.org](http://www.aihaaccreditedlabs.org)) for the most current Scope.

Elizabeth Bair  
Chairperson, Analytical Accreditation Board

Cheryl O Morton  
Managing Director, AIHA Laboratory Accreditation Programs, LLC

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