

IDENTIFICATION STAMP
 DIV. OF THE STATE ARCHITECT
 APP: 03-122490 INC:
 REVIEWED FOR
 SS FLS ACS
 DATE: 07/27/2023

Owner:



**BAKERSFIELD
 CITY SCHOOL
 DISTRICT**
 1300 BAKER STREET
 FRESNO, CA. 93706

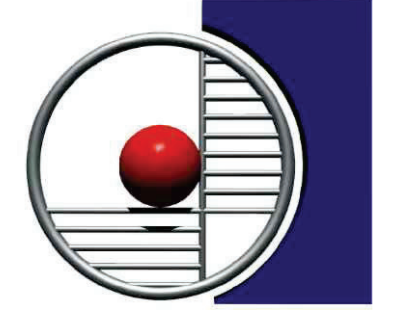
Project Name:

HVAC REPLACEMENT

Project Address:

**WASHINGTON
 MIDDLE SCHOOL**

1101 NOBLE AVENUE
 BAKERSFIELD, CA 93305



**integrated
 designs**
 by SOMAM, Inc.

**ARCHITECTURE
 ENGINEERING
 INTERIOR DESIGN**

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Sheet Title:

SCHEDULES

Job No.:

5525

Sheet No.:

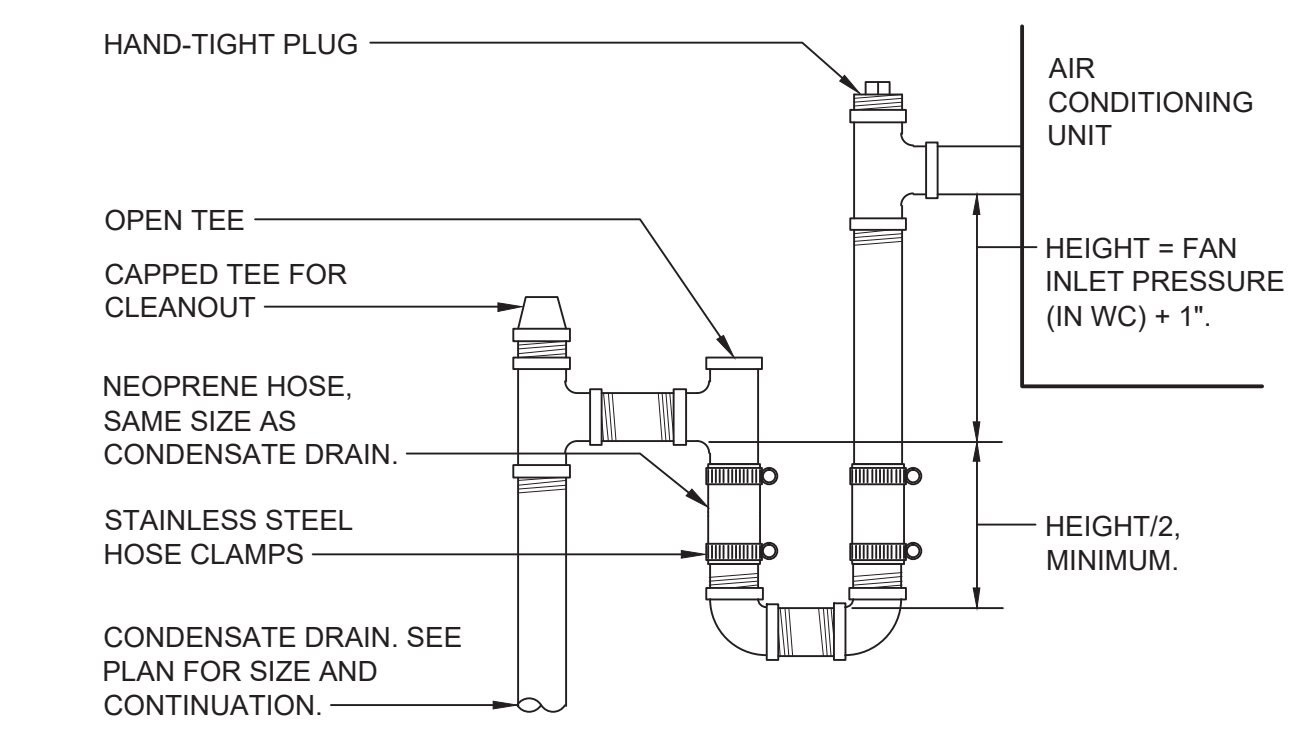
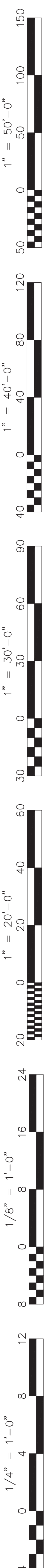
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Release: **DSA SUBMITTAL** 11/28/22

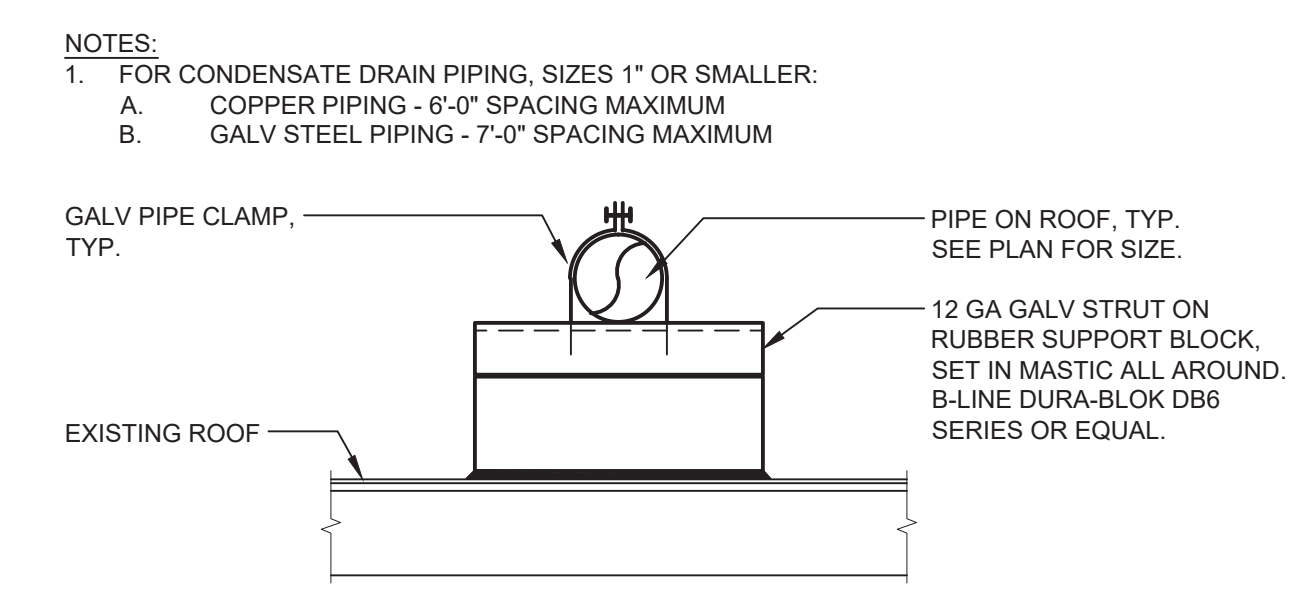
PACKAGE AIR CONDITIONING UNIT SCHEDULE											
MARK	AC G1	AC G2	AC G3	AC G4	AC G5	AC H1	AC H2	AC H3	AC H4	AC H5	AC H6
VOLTS/PHASE	460/3	460/3	460/3	460/3	460/3	460/3	460/3	460/3	460/3	460/3	460/3
MCA / MOCF	27 / 30	19 / 20	19 / 20	27 / 30	27 / 30	19 / 20	19 / 20	19 / 20	19 / 20	19 / 20	19 / 20
FLA / LRA	25 / 65	18 / 49	18 / 49	25 / 65	25 / 65	18 / 49	18 / 49	18 / 49	18 / 49	18 / 49	18 / 49
FUSE SIZE	30	20	20	30	30	20	20	20	20	20	20
BLOWER:											
CFM	2000	1200	1200	2000	2000	1200	1200	1200	1200	1200	1200
DUCT SP (IN WC)	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
MINIMUM OSA (CFM)	150	150	150	150	150	150	150	150	150	150	150
HP / BHP	1.5 / 1.19	0.75 / 0.53	0.75 / 0.53	1.5 / 1.19	1.5 / 1.19	0.75 / 0.53	0.75 / 0.53	0.75 / 0.53	0.75 / 0.53	0.75 / 0.53	0.75 / 0.53
DRIVE	DIRECT	DIRECT	DIRECT	DIRECT	DIRECT	DIRECT	DIRECT	DIRECT	DIRECT	DIRECT	DIRECT
COOLING:	2 STAGES	2 STAGES	2 STAGES	2 STAGES	2 STAGES	2 STAGES	2 STAGES	2 STAGES	2 STAGES	2 STAGES	2 STAGES
TOTAL (MBH)	58.6	33.1	33.1	58.6	58.6	33.1	33.1	33.1	33.1	33.1	33.1
SENSIBLE (MBH)	47.5	25.9	25.9	47.5	47.5	25.9	25.9	25.9	25.9	25.9	25.9
EADB / EAWB (°F)	80 / 67	80 / 67	80 / 67	80 / 67	80 / 67	80 / 67	80 / 67	80 / 67	80 / 67	80 / 67	80 / 67
AMBIENT DB (°F)	105	105	105	105	105	105	105	105	105	105	105
REFRIGERANT	R410A	R410A	R410A	R410A	R410A	R410A	R410A	R410A	R410A	R410A	R410A
CONDENSATE CONN	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"
SEER / EER AT AHR1	16.2 / 12.2	16.2 / 12.5	16.2 / 12.5	16.2 / 12.2	16.2 / 12.2	16.2 / 12.5	16.2 / 12.5	16.2 / 12.5	16.2 / 12.5	16.2 / 12.5	16.2 / 12.5
HEATING:											
CAPACITY (MBH)	55.9	34.3	34.3	55.9	55.9	34.3	34.3	34.3	34.3	34.3	34.3
EADB (°F)	70	70	70	70	70	70	70	70	70	70	70
AMBIENT DB (°F)	47	47	47	47	47	47	47	47	47	47	47
STRIP HEATER (KW)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
HSPF / COP	8.3 / 3.9	8.3 / 3.8	8.3 / 3.8	8.3 / 3.9	8.3 / 3.9	8.3 / 3.8	8.3 / 3.8	8.3 / 3.8	8.3 / 3.8	8.3 / 3.8	8.3 / 3.8
FILTERS:											
RA: QUANTITY / SIZE	4 / 16x16x2	2 / 16x25x2	2 / 16x25x2	4 / 16x16x2	4 / 16x16x2	2 / 16x25x2	2 / 16x25x2	2 / 16x25x2	2 / 16x25x2	2 / 16x25x2	2 / 16x25x2
TYPE	MERV 13	MERV 13	MERV 13	MERV 13	MERV 13	MERV 13	MERV 13	MERV 13	MERV 13	MERV 13	MERV 13
PD, CLEAN (IN WC)	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
OSA: QUANTITY / SIZE	1 / 20x24x1	1 / 20x24x1	1 / 20x24x1	1 / 20x24x1	1 / 20x24x1	1 / 20x24x1	1 / 20x24x1	1 / 20x24x1	1 / 20x24x1	1 / 20x24x1	1 / 20x24x1
TYPE	WASHABLE	WASHABLE	WASHABLE	WASHABLE	WASHABLE	WASHABLE	WASHABLE	WASHABLE	WASHABLE	WASHABLE	WASHABLE
MANUFACTURER											
CARRIER	CARRIER	CARRIER	CARRIER	CARRIER	CARRIER	CARRIER	CARRIER	CARRIER	CARRIER	CARRIER	CARRIER
TYPE	HEAT PUMP	HEAT PUMP	HEAT PUMP	HEAT PUMP	HEAT PUMP	HEAT PUMP	HEAT PUMP	HEAT PUMP	HEAT PUMP	HEAT PUMP	HEAT PUMP
MODEL NUMBER	50GQCM06	50GQCM04	50GQCM04	50GQCM06	50GQCM06	50GQCM04	50GQCM04	50GQCM04	50GQCM04	50GQCM04	50GQCM04
CONTROL	T'STAT (6)	T'STAT (6)	T'STAT (6)	T'STAT (6)	T'STAT (6)	T'STAT (6)	T'STAT (6)	T'STAT (6)	T'STAT (6)	T'STAT (6)	T'STAT (6)
SERVICE	CLASSROOM G-1	CLASSROOM G-2	CLASSROOM G-2	LIBRARY G-3	LIBRARY G-3	CLASSROOM H-1	CLASSROOM H-1	CLASSROOM H-2	CLASSROOM H-2	CLASSROOM H-3	CLASSROOM H-3
OP WEIGHT (LBS)	800	675	675	800	800	675	675	675	675	675	675
ACCESSORIES	(1),(2),(3),(4),(5),(7)	(1),(2),(3),(4),(5),(7)	(1),(2),(3),(4),(5),(7)	(1),(2),(3),(4),(5),(7),(8)	(1),(2),(3),(4),(5),(7),(8)	(1),(2),(3),(4),(5),(7)	(1),(2),(3),(4),(5),(7)	(1),(2),(3),(4),(5),(7)	(1),(2),(3),(4),(5),(7)	(1),(2),(3),(4),(5),(7)	(1),(2),(3),(4),(5),(7)
NOTES:											
(1) INSULATED ROOF CURB TO MATCH ROOF SLOPE											
(2) HEAVY DUTY CONDENSER COIL GUARD											
(3) HINGED ACCESS PANELS											
(4) CA COMPLIANT ECONOMIZER WITH FDD, FULLY MODULATING DAMPERS, BAROMETRIC RELIEF, AND DEMAND CONTROL VENTILATION											
(5) DISCONNECT BY DIV 26 ELECTRICAL											
(6) CONTROLLER INTERFACE FOR COMMUNICATION TO PELICAN WIRELESS THERMOSTAT											
(7) SMOKE DETECTOR IN SUPPLY AIR DUCT TO SIGNAL FAN SHUT DOWN AND FIRE ALARM SYSTEM											
(8) UL 867 AND 2998 LISTED NPBI TYPE ION GENERATOR POWERED BY UNIT, IWAVE-C											

PACKAGE AIR CONDITIONING UNIT SCHEDULE			
MARK	AC A1	AC A2	AC A3
VOLTS/PHASE	460/3	460/3	460/3
MCA / MOCF	27 / 30	27 / 30	23 / 25
FLA / LRA	25 / 65	25 / 65	21 / 53
FUSE SIZE	30	30	25
BLOWER:			
CFM	2000	2000	1600
DUCT SP (IN WC)	0.8	0.8	0.8
MINIMUM OSA (CFM)	160	160	100
HP / BHP	1.5 / 1.19	1.5 / 1.19	1 / 0.79
DRIVE	DIRECT	DIRECT	DIRECT
COOLING:	2 STAGES	2 STAGES	2 STAGES
TOTAL (MBH)	58.6	58.6	44.5
SENSIBLE (MBH)	47.5	47.5	35
EADB / EAWB (°F)	80 / 67	80 / 67	80 / 67
AMBIENT DB (°F)	105	105	105
REFRIGERANT	R410A	R410A	R410A
CONDENSATE CONN	3/4"	3/4"	3/4"
SEER / EER AT AHR1	16.2 / 12.2	16.2 / 12.2	16.2 / 12.2
HEATING:			
CAPACITY (MBH)	55.9	55.9	45.6
EADB (°F)	70	70	70
AMBIENT DB (°F)	47	47	47
STRIP HEATER (KW)	5.5	5.5	5.5
HSPF / COP	8.3 / 3.9	8.3 / 3.9	8.3 / 3.7
FILTERS:			
RA: QUANTITY / SIZE	4 / 16x16x2	4 / 16x16x2	4 / 16x16x2
TYPE	MERV 13	MERV 13	MERV 13
PD, CLEAN (IN WC)	0.3	0.3	0.3
OSA: QUANTITY / SIZE	1 / 20x24x1	1 / 20x24x1	1 / 20x24x1
TYPE	WASHABLE	WASHABLE	WASHABLE
MANUFACTURER			
CARRIER	CARRIER	CARRIER	CARRIER
TYPE	HEAT PUMP	HEAT PUMP	HEAT PUMP
MODEL NUMBER	50GQCM06	50GQCM06	50GQCM05
CONTROL	(E) T'STAT (6)	(E) T'STAT (6)	(E) T'STAT (6)
SERVICE	BLDG A	BLDG A	BLDG A
OP WEIGHT (LBS)	800	800	800
ACCESSORIES	(1),(2),(3),(4),(5),(7),(8)	(1),(2),(3),(4),(5),(7),(8)	(1),(2),(3),(4),(5),(7),(8)
NOTES:			
(1) INSULATED ROOF CURB TO MATCH ROOF SLOPE			
(2) HEAVY DUTY CONDENSER COIL GUARD			
(3) HINGED ACCESS PANELS			
(4) CA COMPLIANT ECONOMIZER WITH FDD, FULLY MODULATING DAMPERS, AND BAROMETRIC RELIEF			
(5) DISCONNECT BY DIV 26 ELECTRICAL			
(6) PROVIDE CONTROLLER INTERFACE FOR COMMUNICATION TO EXISTING PELICAN WIRELESS THERMOSTAT			
(7) SMOKE DETECTOR IN SUPPLY AIR DUCT TO SIGNAL FAN SHUT DOWN AND FIRE ALARM SYSTEM			
(8) UL 867 AND 2998 LISTED NPBI TYPE ION GENERATOR POWERED BY UNIT, IWAVE-C			



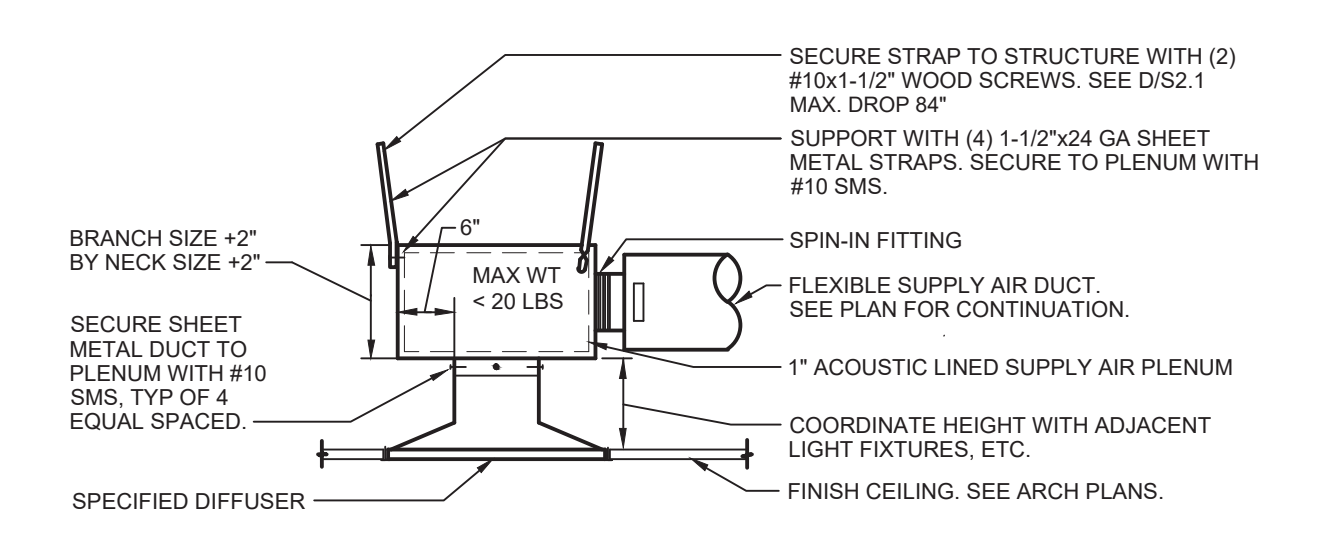


6 CONDENSATE DRAIN CONNECTION - DRAW THRU
 NO.11 SCALE: N.T.S.

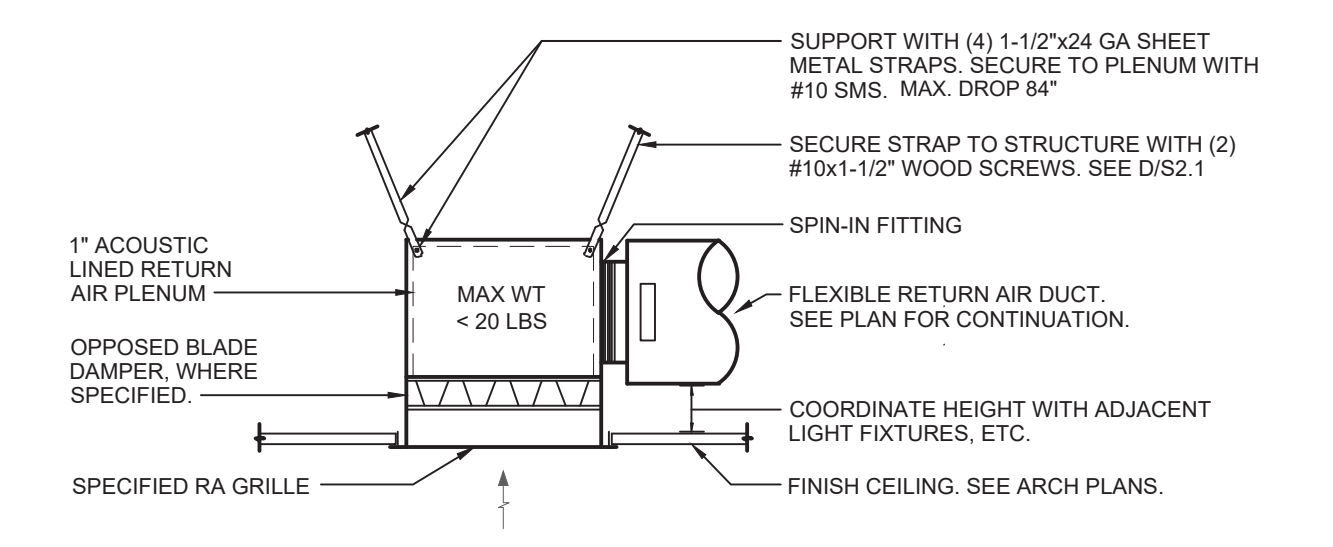


7 PIPE SUPPORT - ROOF
 NO.11 SCALE: N.T.S.

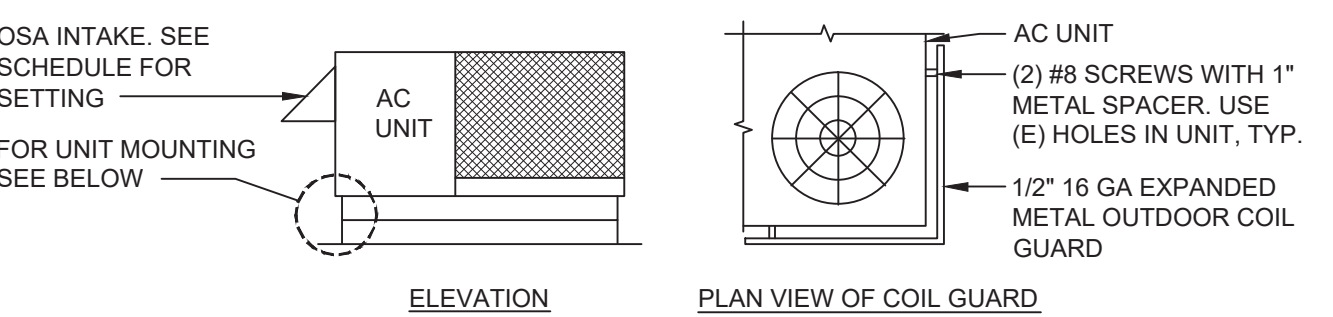
NOTES:
 1. FOR CONDENSATE DRAIN PIPING, SIZES 1" OR SMALLER:
 A. COPPER PIPING - 6'-0" SPACING MAXIMUM
 B. GALV STEEL PIPING - 7'-0" SPACING MAXIMUM



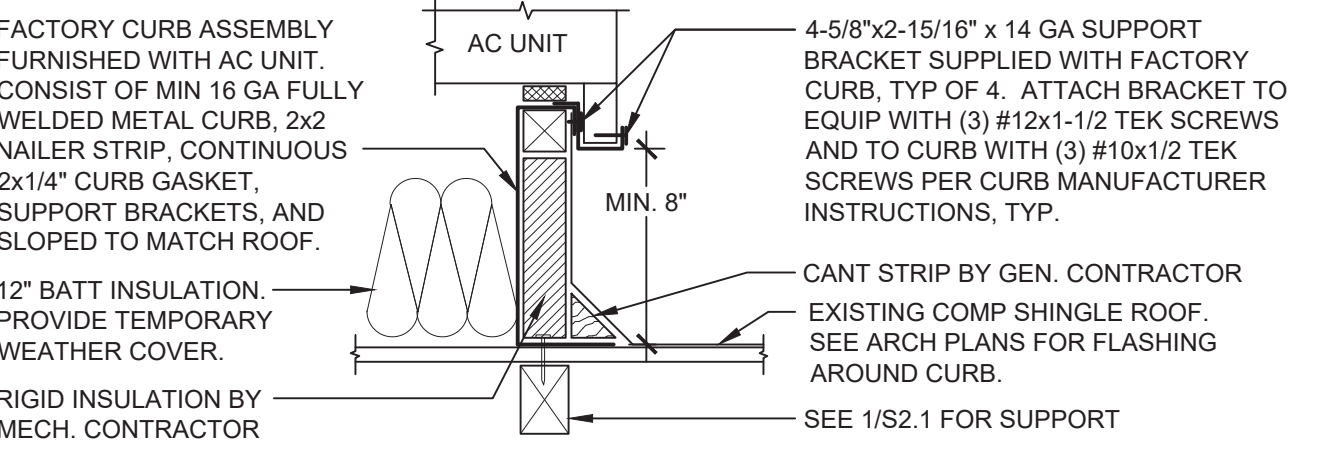
1 TYPICAL SUPPLY AIR DEVICE - BRANCH DUCT
 NO.11 SCALE: N.T.S.



2 TYPICAL RETURN/EXHAUST AIR DEVICE - BRANCH DUCT
 NO.11 SCALE: N.T.S.



3 AC UNIT MOUNTING
 NO.11 SCALE: N.T.S.



4 DUCT SUPPORT - ROUND
 NO.11 SCALE: N.T.S.

FACTORY CURB ASSEMBLY FURNISHED WITH AC UNIT. CONSIST OF MIN 16 GA FULLY WELDED METAL CURB, 2x2 NAILER STRIP, CONTINUOUS 2x14" CURB GASKET, SUPPORT BRACKETS, AND SLOPED TO MATCH ROOF.
 12" BATT INSULATION, PROVIDE TEMPORARY WEATHER COVER.
 RIGID INSULATION BY MECH. CONTRACTOR
 4-5/8"x2-15/16" x 14 GA SUPPORT BRACKET SUPPLIED WITH FACTORY CURB, TYP OF 4, ATTACH BRACKET TO EQUIP WITH (3) #12x1-1/2 TEK SCREWS AND TO CURB WITH (3) #10x1/2 TEK SCREWS PER CURB MANUFACTURER INSTRUCTIONS, TYP.
 CANT STRIP BY GEN. CONTRACTOR
 EXISTING COMP SHINGLE ROOF. SEE ARCH PLANS FOR FLASHING AROUND CURB.
 SEE 1/S2.1 FOR SUPPORT

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BAKERSFIELD CITY SCHOOL DISTRICT
 1300 BAKER STREET
 BAKERSFIELD, CA 93305

Project Name:
HVAC REPLACEMENT

Project Address:
WASHINGTON MIDDLE SCHOOL
 1101 NOBLE AVENUE
 BAKERSFIELD, CA 93305

integrated designs
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DETAILS

Job No.:
5525

Sheet No.:
M0.11
 Release: DSA SUBMITTAL 11/28/22

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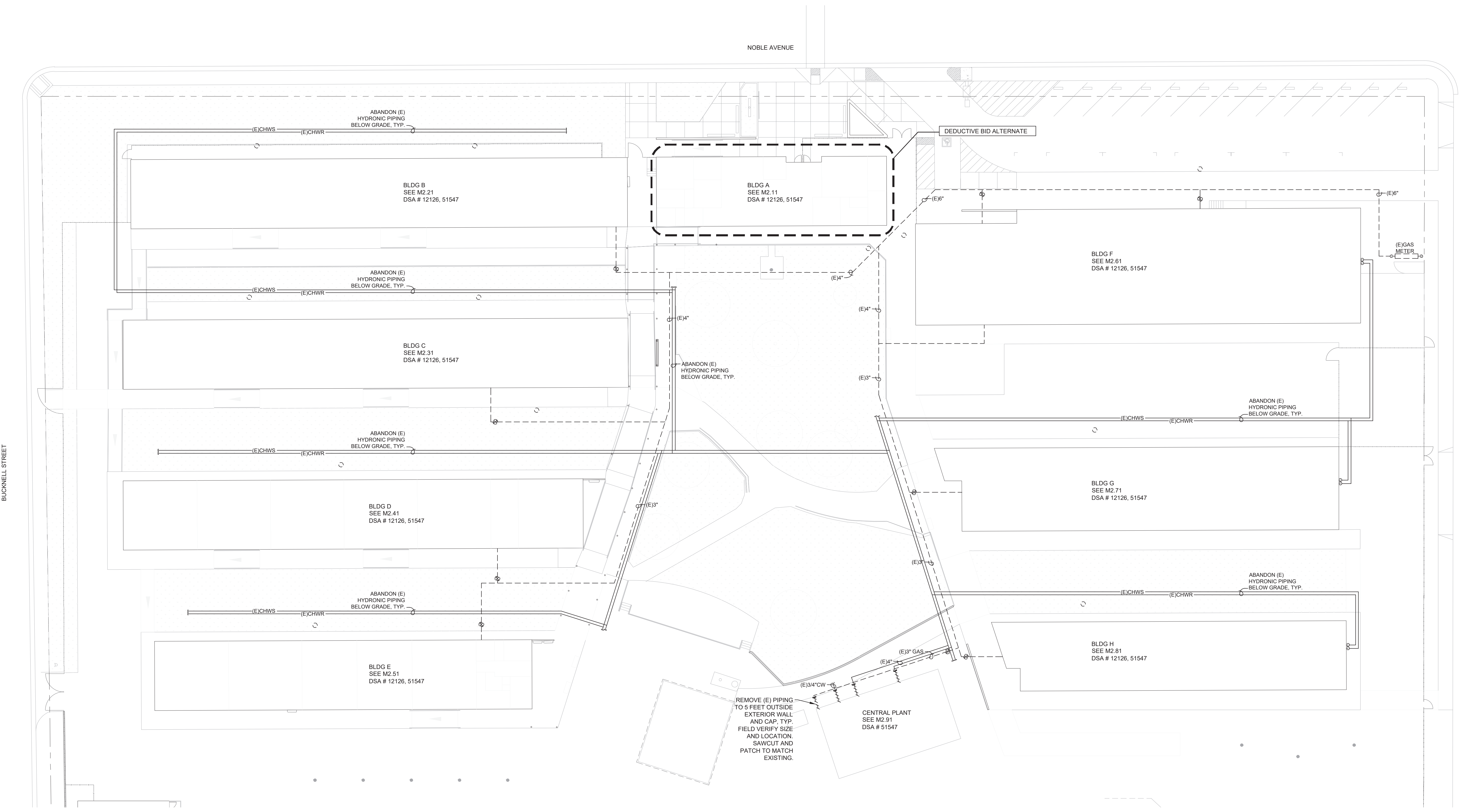
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MECHANICAL SITE PLAN

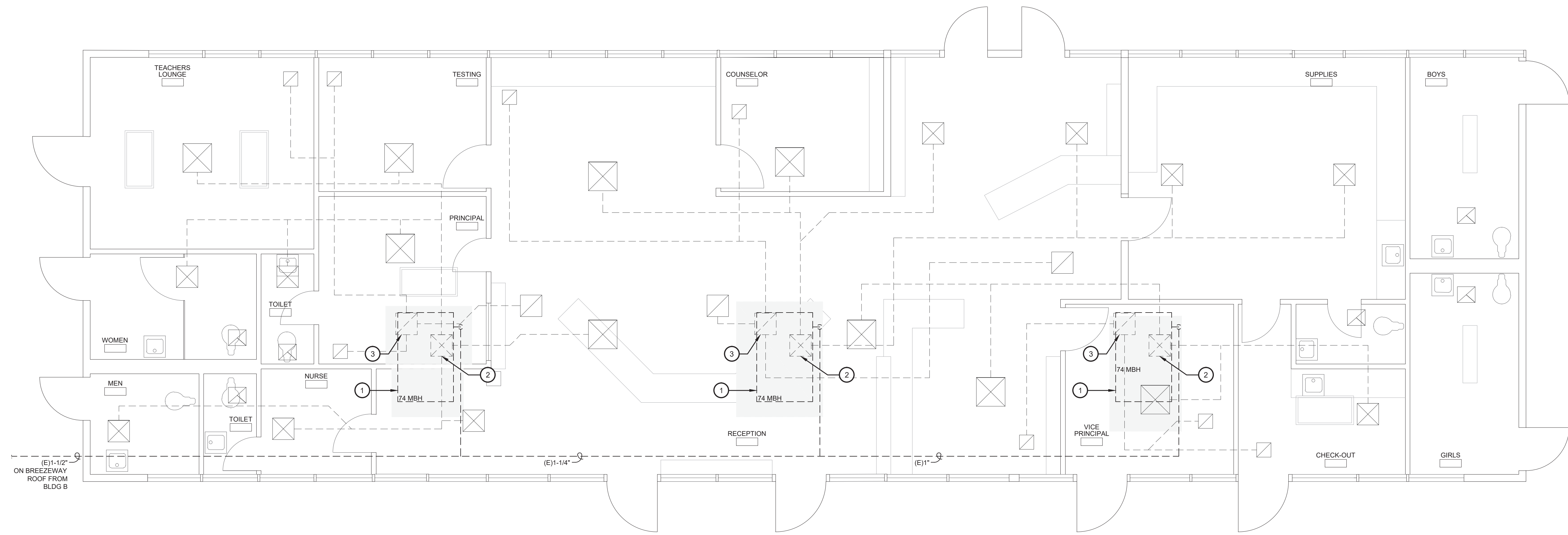
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M1.11
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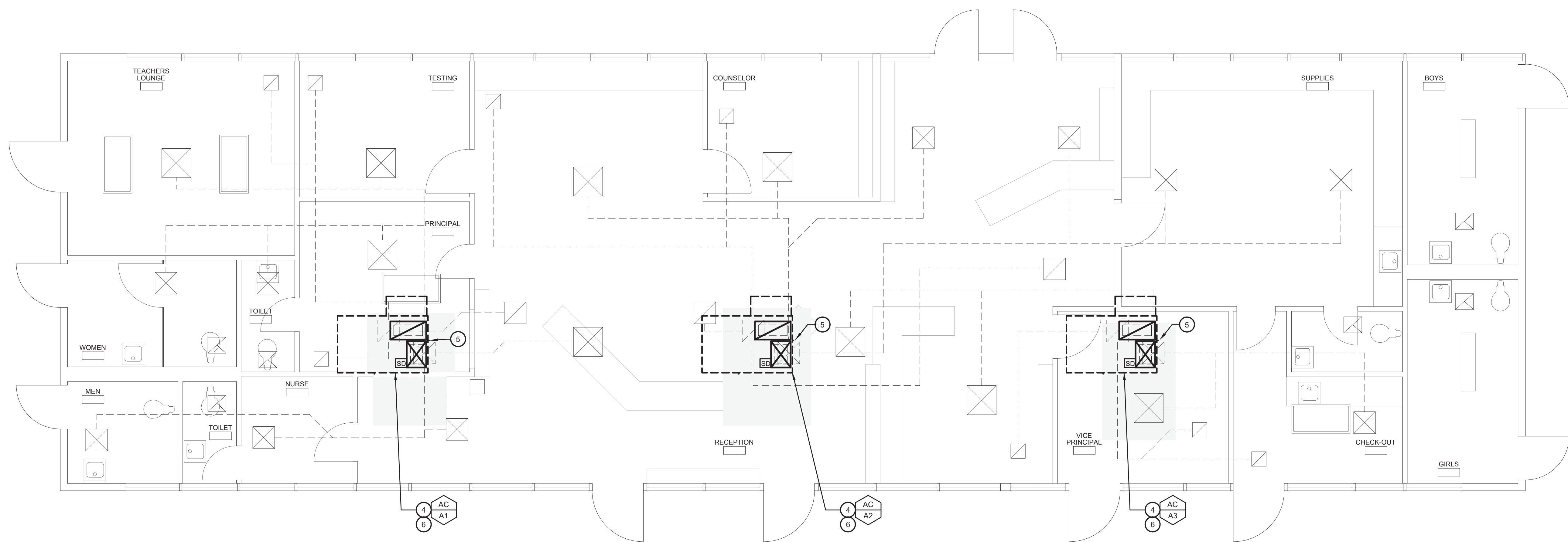


**MECHANICAL SITE PLAN
 HVAC REPLACEMENT**

SCALE: 1" = 20'



MECHANICAL PLAN - BLDG A - DEMO
HVAC REPLACEMENT
 SCALE: 1/4" = 1'-0"



MECHANICAL PLAN - BLDG A - IMPROVEMENTS
HVAC REPLACEMENT
 SCALE: 1/4" = 1'-0"

KEY NOTES

1. REMOVE EXISTING GASELEC PACKAGE UNIT ON ROOF AND REPLACE WITH NEW HEAT PUMP. EXISTING DUCTWORK, GRILLES, AND THERMOSTATS TO REMAIN. DISCONNECT GAS AND CAP. DISCONNECT CONDENSATE AND PREPARE FOR RE-CONNECTION TO NEW UNIT. PATCH OPENINGS TO MATCH EXISTING
2. RE-USE EXISTING 18x18 SUPPLY AIR PLENUM AND PREPARE FOR CONNECTION TO NEW UNIT. FIELD VERIFY SIZE AND LOCATION.
3. RE-USE EXISTING 18x18 RETURN AIR PLENUM AND PREPARE FOR CONNECTION TO NEW UNIT. FIELD VERIFY SIZE AND LOCATION.
4. NEW AC UNIT ON ROOF. PROVIDE DUCT TRANSITIONS AS NEEDED FOR RE-CONNECTION TO EXISTING SUPPLY AIR PLENUM AND RETURN AIR PLENUM.
5. CONNECT 2" CD TO AC UNIT ON ROOF WITH TRAP PER 6/MO.11 AND RE-CONNECT TO EXISTING CONDENSATE PIPING. RE-ROUTE AND PROVIDE TRANSITIONS AS NEEDED.
6. PERFORM TEST AND BALANCE AT THE UNIT.

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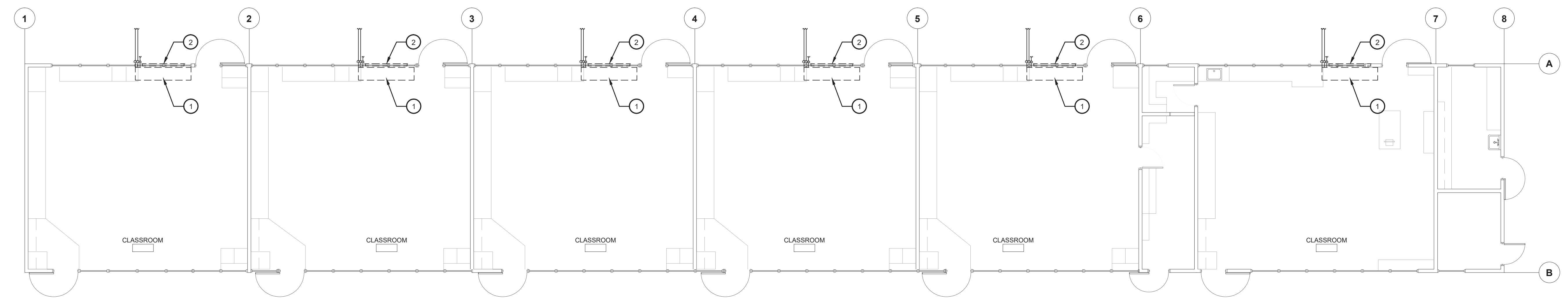
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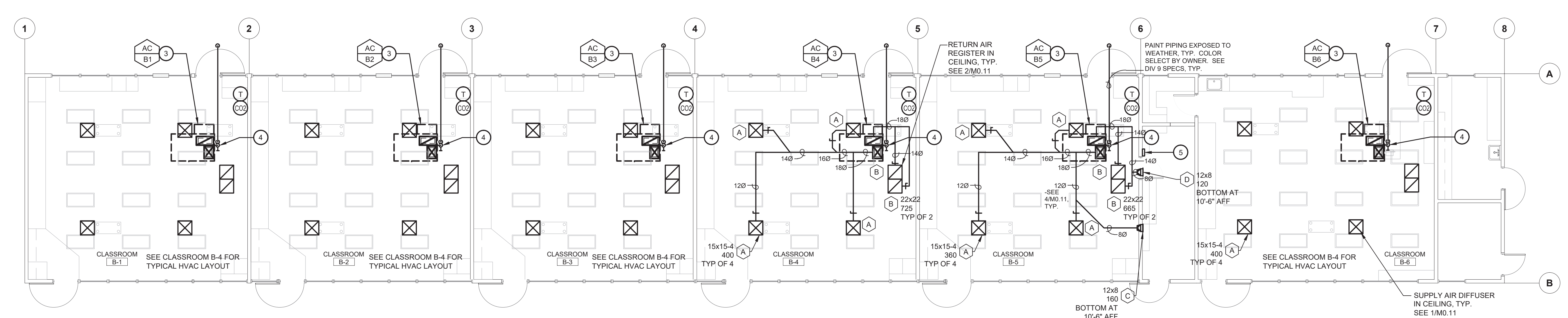
Sheet Title:
MECHANICAL PLAN - BLDG A

Job No.:
5525

Sheet No.:
M2.11
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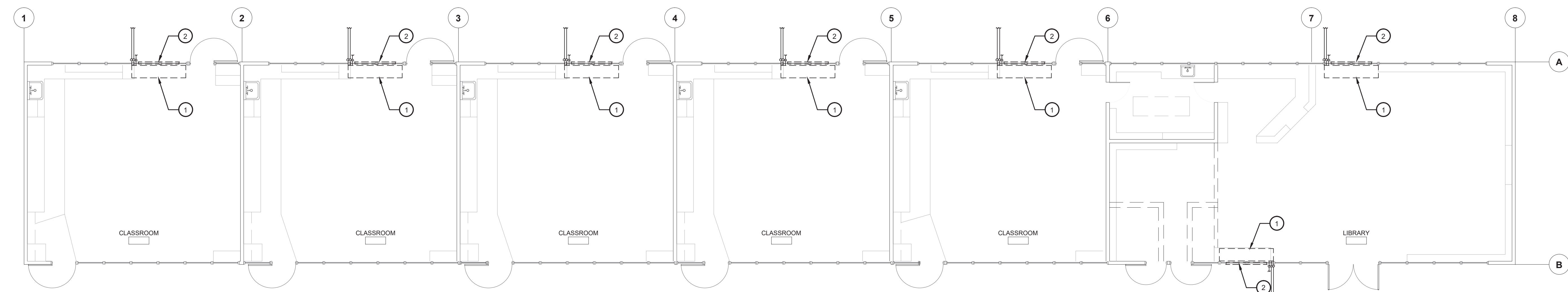


MECHANICAL PLAN - BLDG B - DEMO
HVAC REPLACEMENT
 SCALE: 1/8" = 1'

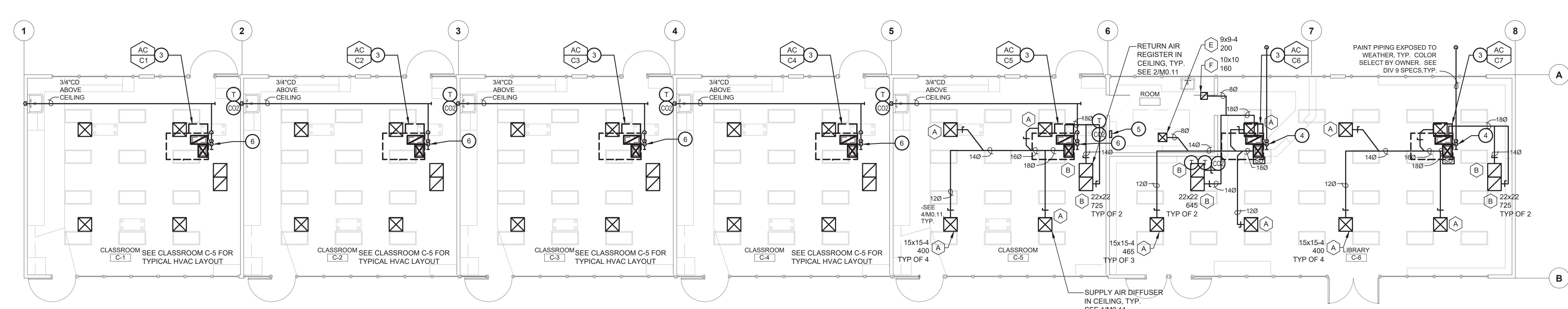


MECHANICAL PLAN - BLDG B - IMPROVEMENTS
HVAC REPLACEMENT
 SCALE: 1/8" = 1'

<p>KEY NOTES</p> <ol style="list-style-type: none"> REMOVE EXISTING UNIT VENTILATOR AND ALL RELATED COMPONENTS, ETC. TYP. SALVAGE EMS CONTROLLERS AND/OR DEVICES AND DELIVER TO OWNER. REMOVE (E) PIPING TO 5 FEET OUTSIDE EXTERIOR WALL AND CAP, TYP. REMOVE EXISTING OSA LOUVER AND DUCT THRU WALL. REMOVE EXISTING PIPING AND CAP BELOW GRADE, TYP. AC UNIT ON ROOF WITH 18x14(L) SA PLENUM AND 26x12(L) RA PLENUM DROP THRU ROOF. BETWEEN EXISTING STRUCTURAL MEMBERS. PROVIDE TRANSITIONS AS NEEDED. FIELD VERIFY EXACT LOCATION. SEE 3/M.11 CONNECT 3/4" CD TO AC UNIT ON ROOF WITH TRAP PER 6/M.11 AND DISCHARGE TO ROOF GUTTER WITH AIR GAP. HVAC WIRELESS GATEWAY. COORDINATE EXACT LOCATION WITH OWNER. PROVIDE 120" WALL OUTLET AND ETHERNET CONNECTION. 	<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <p style="font-size: 8px;">IDENTIFICATION STAMP DIV. OF THE STATE ARCHITECT APP: 03-122490 INC: REVIEWED FOR SS <input type="checkbox"/> FLS <input checked="" type="checkbox"/> ACS <input type="checkbox"/> DATE: 07/27/2023</p> </div> <p style="font-size: 8px;">Owner:</p> <div style="text-align: center;"> BAKERSFIELD CITY SCHOOL DISTRICT 1300 BAKER STREET BAKERSFIELD, CA 93305 </div> <p style="font-size: 8px;">Project Name:</p> <p>HVAC REPLACEMENT</p> <p style="font-size: 8px;">Project Address:</p> <p>WASHINGTON MIDDLE SCHOOL 1101 NOBLE AVENUE BAKERSFIELD, CA 93305</p> <div style="text-align: center;"> integrated designs by SOMAM, Inc. ARCHITECTURE ENGINEERING INTERIOR DESIGN 6011 N. FRESNO STREET, SUITE 130 FRESNO CALIFORNIA 93710 P: (559) 436-0881 F: (559) 436-0887 E: design@somam.com integrateddesigns.com </div> <p style="font-size: 8px;">Stamp:</p> <div style="text-align: center;"> <small>Professional Engineer State of California 32712 DP-30-20 MECHANICAL</small> </div> <p style="font-size: 8px;">Sheet Title:</p> <p>MECHANICAL PLAN - BLDG B</p> <p style="font-size: 8px;">Job No.:</p> <p style="font-size: 24px; font-weight: bold;">5525</p> <p style="font-size: 8px;">Sheet No.:</p> <p style="font-size: 24px; font-weight: bold;">M2.21</p> <p style="font-size: 8px;">Release:</p> <p style="font-size: 8px;">DSA SUBMITTAL 11/28/22</p>
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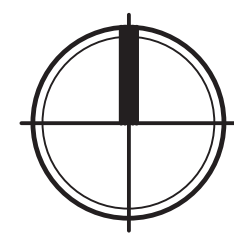
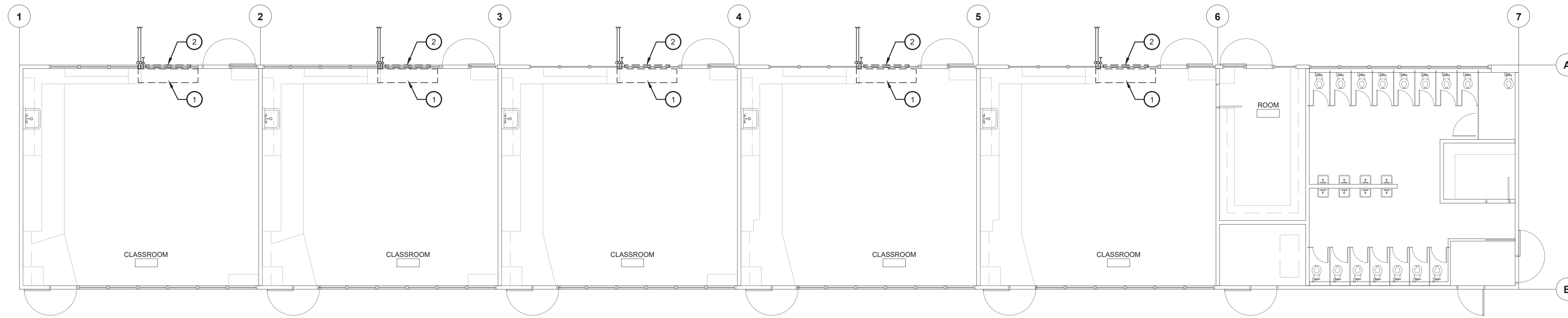


MECHANICAL PLAN - BLDG C - DEMO
HVAC REPLACEMENT
 SCALE: 1/8" = 1'



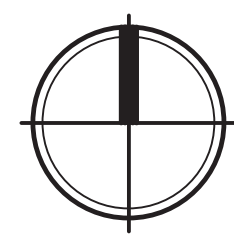
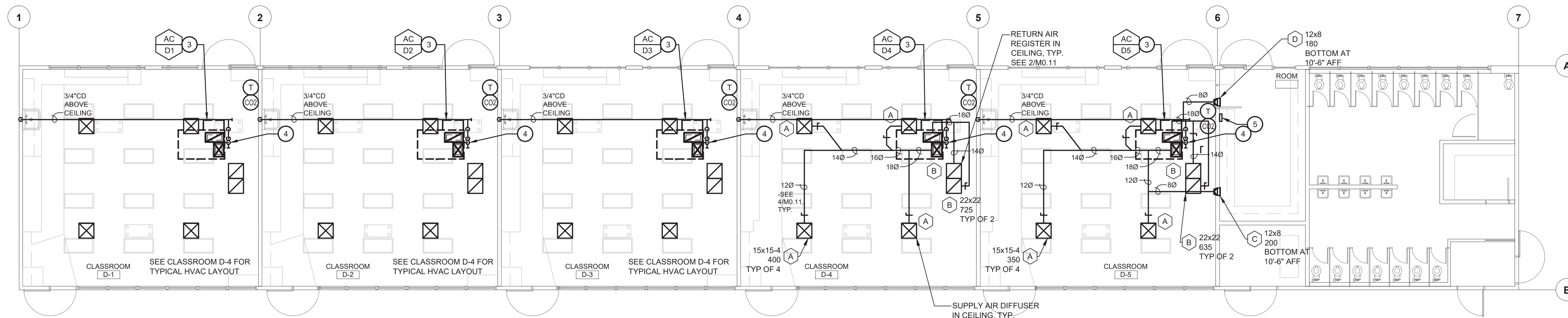
MECHANICAL PLAN - BLDG C - IMPROVEMENTS
HVAC REPLACEMENT
 SCALE: 1/8" = 1'

<p>KEY NOTES</p> <ol style="list-style-type: none"> 1. REMOVE EXISTING UNIT VENTILATOR AND ALL RELATED COMPONENTS, ETC. TYP. SALVAGE EMS CONTROLLERS AND/OR DEVICES AND DELIVER TO OWNER. REMOVE (E) PIPING TO 5 FEET OUTSIDE EXTERIOR WALL AND CAP. TYP. 2. REMOVE EXISTING OSA LOUVER AND DUCT THRU WALL. REMOVE EXISTING PIPING AND CAP BELOW GRADE. TYP. 3. AC UNIT ON ROOF WITH 18x14(L) SA PLENUM AND 26x12(L) RA PLENUM DROP THRU ROOF. BETWEEN EXISTING STRUCTURAL MEMBERS. PROVIDE TRANSITIONS AS NEEDED. FIELD VERIFY EXACT LOCATION. SEE 3/M0.11 4. CONNECT 3/4" CD TO AC UNIT ON ROOF WITH TRAP PER 6/M0.11 AND DISCHARGE TO ROOF GUTTER WITH AIR GAP. 5. HVAC WIRELESS REPEATER. COORDINATE EXACT LOCATION WITH OWNER. PROVIDE 120/1 WALL OUTLET. 6. CONNECT 3/4" CD TO AC UNIT ON ROOF WITH TRAP PER 6/M0.11. DROP DOWN THRU ROOF AND DISCHARGE TO TAILPIECE OF SINK. TYP. PATCH OPENINGS TO MATCH EXISTING. 	<p>IDENTIFICATION STAMP DIV. OF THE STATE ARCHITECT APP: 03-122490 INC. REVIEWED FOR SS <input type="checkbox"/> FLS <input checked="" type="checkbox"/> ACS <input type="checkbox"/> DATE: 07/27/2023</p>
<p>Owner:</p> <p>BAKERSFIELD CITY SCHOOL DISTRICT 1300 BAKER STREET BAKERSFIELD, CA 93305</p>	
<p>Project Name: HVAC REPLACEMENT</p>	
<p>Project Address: WASHINGTON MIDDLE SCHOOL 1101 NOBLE AVENUE BAKERSFIELD, CA 93305</p>	
<p>integrated designs by SOMAM, Inc. ARCHITECTURE ENGINEERING INTERIOR DESIGN</p> <p>6011 N. FRESNO STREET, SUITE 130 FRESNO CALIFORNIA 93710 P: (559) 436-0881 F: (559) 436-0887 E: design@somam.com integrateddesigns.com</p> <p><small>© COPYRIGHT 2022</small></p>	
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<p>Sheet Title: MECHANICAL PLAN - BLDG C</p>	
<p>Job No.: 5525</p>	
<p>Sheet No.: M2.31 Release: DSA SUBMITTAL 11/28/22</p>	



MECHANICAL PLAN - BLDG D - DEMO
HVAC REPLACEMENT

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



MECHANICAL PLAN - BLDG D - IMPROVEMENTS
HVAC REPLACEMENT

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

KEY NOTES

1. REMOVE EXISTING UNIT VENTILATOR AND ALL RELATED COMPONENTS, ETC. TYP. SALVAGE EMS CONTROLLERS AND/OR DEVICES AND DELIVER TO OWNER. REMOVE (E) PIPING TO 5 FEET OUTSIDE EXTERIOR WALL AND CAP. TYP.
2. REMOVE EXISTING OSA LOUVER AND DUCT THRU WALL. REMOVE EXISTING PIPING AND CAP BELOW GRADE. TYP.
3. AC UNIT ON ROOF WITH 18x14(L) SA PLENUM AND 26x12(L) RA PLENUM DROP THRU ROOF, BETWEEN EXISTING STRUCTURAL MEMBERS. PROVIDE TRANSITIONS AS NEEDED. FIELD VERIFY EXACT LOCATION. SEE 3/MO.11
4. CONNECT 3/4" CD TO AC UNIT ON ROOF WITH TRAP PER 6/MO.11. DROP DOWN THRU ROOF AND DISCHARGE TO TAILPIECE OF SINK. TYP. PATCH OPENINGS TO MATCH EXISTING.
5. HVAC WIRELESS REPEATER. COORDINATE EXACT LOCATION WITH OWNER. PROVIDE 1201 WALL OUTLET

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APP: 03-122490 INC.
REVIEWED FOR
SS FLS ACS
DATE: 07/27/2023

Owner:

BAKERSFIELD CITY SCHOOL DISTRICT
1300 BAKER STREET
BAKERSFIELD, CA 93305

Project Name:
HVAC REPLACEMENT

Project Address:
WASHINGTON MIDDLE SCHOOL
1101 NOBLE AVENUE
BAKERSFIELD, CA 93305

integrated designs
by SOMAM, Inc.

ARCHITECTURE ENGINEERING INTERIOR DESIGN
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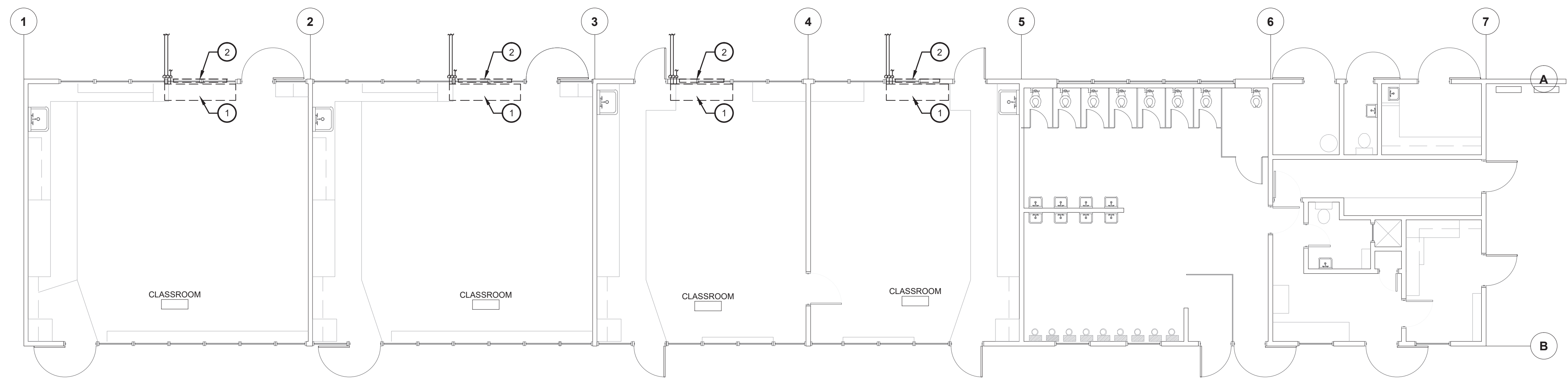
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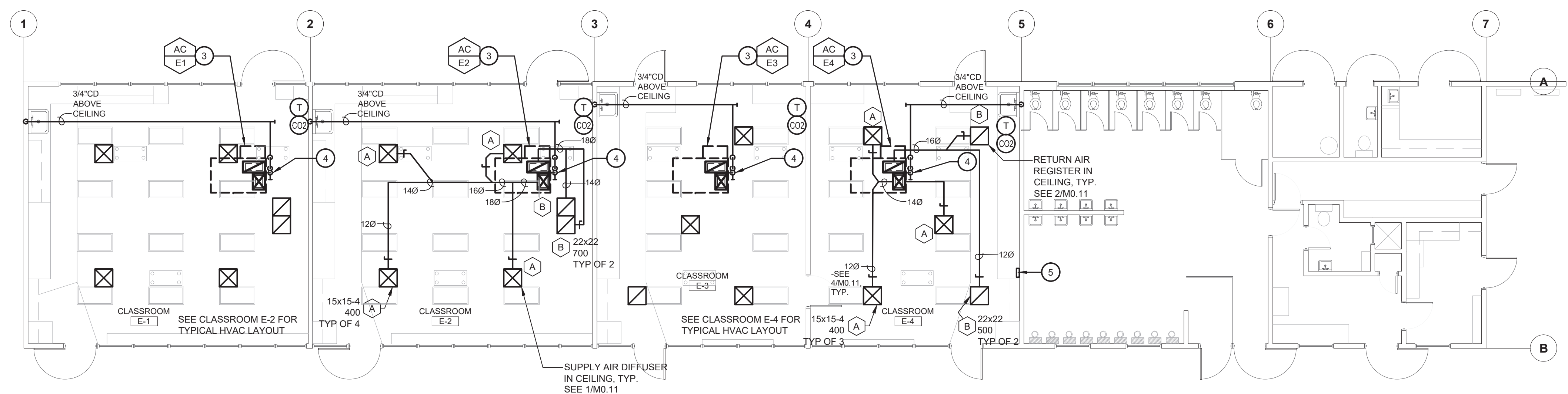
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MECHANICAL PLAN - BLDG D

Job No.:
5525

Sheet No.:
M2.41
Release: DSA SUBMITTAL 11/28/22



MECHANICAL PLAN - BLDG E - DEMO
 HVAC REPLACEMENT
 SCALE: 1/8" = 1'-0"



MECHANICAL PLAN - BLDG E - IMPROVEMENTS
 HVAC REPLACEMENT
 SCALE: 1/8" = 1'-0"

KEY NOTES

- REMOVE EXISTING UNIT VENTILATOR AND ALL RELATED COMPONENTS, ETC. TYP. SALVAGE EMS CONTROLLERS AND/OR DEVICES AND DELIVER TO OWNER. REMOVE (E) PIPING TO 5 FEET OUTSIDE EXTERIOR WALL AND CAP. TYP.
- REMOVE EXISTING OSA LOUVER AND DUCT THRU WALL. REMOVE EXISTING PIPING AND CAP BELOW GRADE. TYP.
- AC UNIT ON ROOF WITH 18x14(L) SA PLENUM AND 26x12(L) RA PLENUM DROP THRU ROOF, BETWEEN EXISTING STRUCTURAL MEMBERS. PROVIDE TRANSITIONS AS NEEDED. FIELD VERIFY EXACT LOCATION. SEE 3/MO.11
- CONNECT 3/4" CD TO AC UNIT ON ROOF WITH TRAP PER 6/MO.11, DROP DOWN THRU ROOF AND DISCHARGE TO TAILPIECE OF SINK. TYP. PATCH OPENINGS TO MATCH EXISTING.
- HVAC WIRELESS REPEATER. COORDINATE EXACT LOCATION WITH OWNER. PROVIDE 1201 WALL OUTLET.

IDENTIFICATION STAMP
 DIV. OF THE STATE ARCHITECT
 APP: 03-122490 INC.
 REVIEWED FOR
 SS FLS ACS
 DATE: 07/27/2023

Owner:

BAKERSFIELD CITY SCHOOL DISTRICT
 1300 BAKER STREET
 BAKERSFIELD, CA 93305

Project Name:
HVAC REPLACEMENT

Project Address:
WASHINGTON MIDDLE SCHOOL
 1101 NOBLE AVENUE
 BAKERSFIELD, CA 93305

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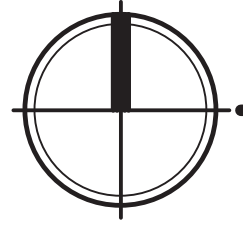
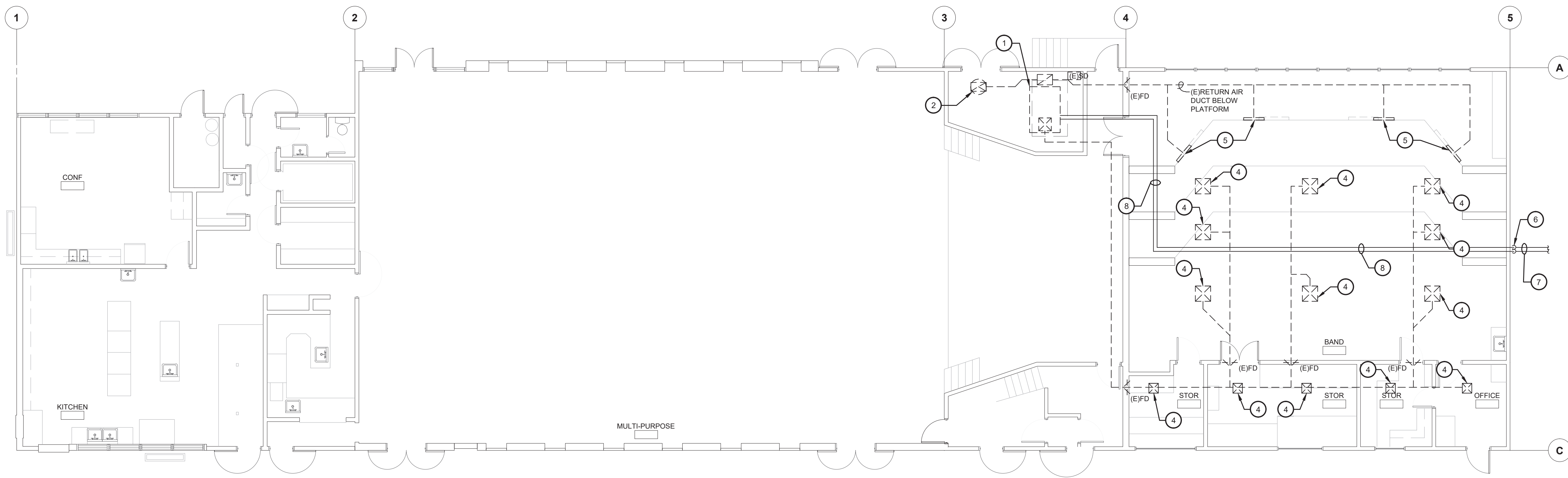
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MECHANICAL PLAN - BLDG E

Job No.:
5525

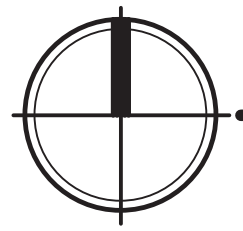
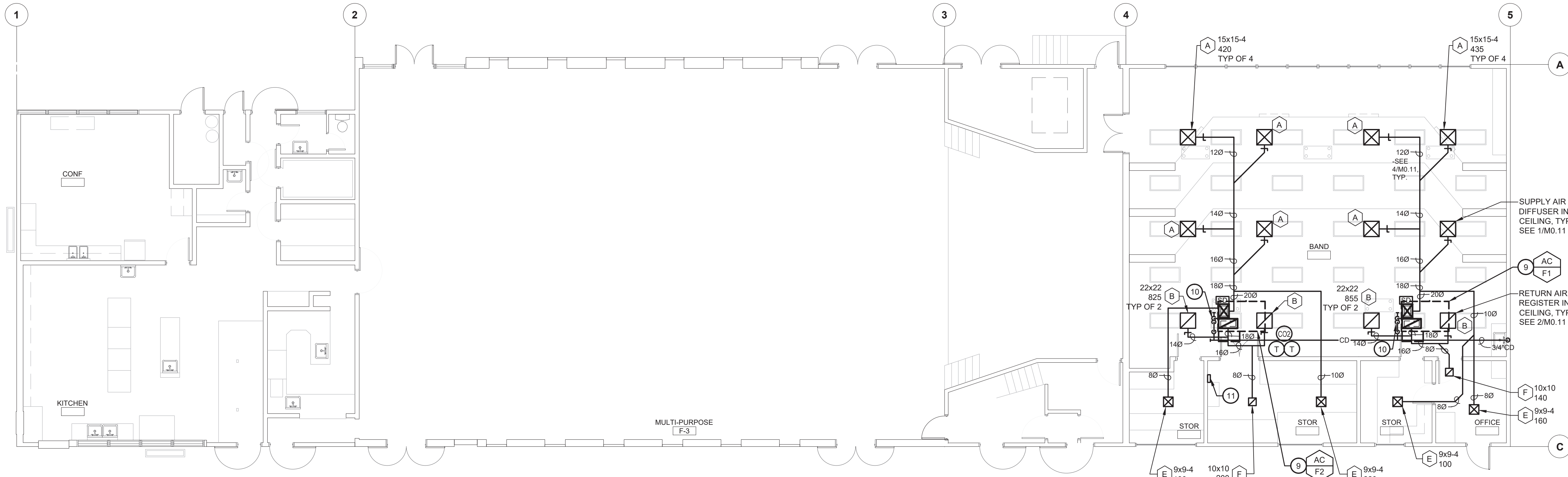
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 Release: DSA SUBMITTAL 11/28/22





MECHANICAL PLAN - BLDG F - DEMO
HVAC REPLACEMENT

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



MECHANICAL PLAN - BLDG F - IMPROVEMENTS
HVAC REPLACEMENT

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

KEY NOTES

1. REMOVE EXISTING FAN COIL AND ALL RELATED COMPONENTS, DUCTWORK, GRILLES, PIPING, ETC. TYP. SALVAGE EMS CONTROLLERS AND/OR DEVICES AND DELIVER TO OWNER. PATCH OPENINGS TO MATCH EXISTING.
2. REMOVE EXISTING EXHAUST FAN ON ROOF AND ALL RELATED COMPONENTS, DUCTWORK, GRILLES, CONTROLS, ETC. TYP. PATCH OPENINGS TO MATCH EXISTING.
3. NOT USED
4. REMOVE EXISTING SUPPLY AIR GRILLE AND DUCTWORK. TYP. FIELD VERIFY LOCATION. PATCH OPENINGS TO MATCH EXISTING.
5. REMOVE EXISTING RETURN AIR GRILLE AND DUCTWORK. TYP. FIELD VERIFY LOCATION. PATCH OPENINGS TO MATCH EXISTING.
6. REMOVE EXISTING HYDRONIC PIPING RISER. FIELD VERIFY LOCATION. PATCH OPENINGS TO MATCH EXISTING.
7. REMOVE EXISTING HYDRONIC PIPING BELOW GRADE TO 5 FEET OUTSIDE EXTERIOR WALL AND CAP. TYP. FIELD VERIFY LOCATION. SAWCUT AND PATCH OPENINGS TO MATCH EXISTING.
8. REMOVE EXISTING HYDRONIC PIPING ABOVE CEILING. TYP. FIELD VERIFY LOCATION.
9. AC UNIT ON ROOF WITH 18x14(L) SA PLENUM AND 26x12(L) RA PLENUM DROP THRU ROOF, BETWEEN EXISTING STRUCTURAL MEMBERS. PROVIDE TRANSITIONS AS NEEDED. FIELD VERIFY EXACT LOCATION. SEE 3M0.11
10. CONNECT 3/4" CD TO AC UNIT ON ROOF WITH TRAP PER 6M0.11. DRCP DOWN THRU ROOF AND DISCHARGE TO TAILPIECE OF SINK. PATCH OPENINGS TO MATCH EXISTING. PAINT EXPOSED PIPING TO MATCH ADJACENT SURFACES. SEE DIV 09 SPECS.
11. HVAC WIRELESS REPEATER. COORDINATE EXACT LOCATION WITH OWNER. PROVIDE 120" WALL OUTLET.

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-122490 INC.
REVIEWED FOR
SS FLS ACS
DATE: 07/27/2023



BAKERSFIELD CITY SCHOOL DISTRICT
1300 BAKER STREET
BAKERSFIELD, CA 93305

Project Name:
HVAC REPLACEMENT

Project Address:
WASHINGTON MIDDLE SCHOOL
1101 NOBLE AVENUE
BAKERSFIELD, CA 93305

integrated designs
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6011 N. FRESNO STREET, SUITE 130
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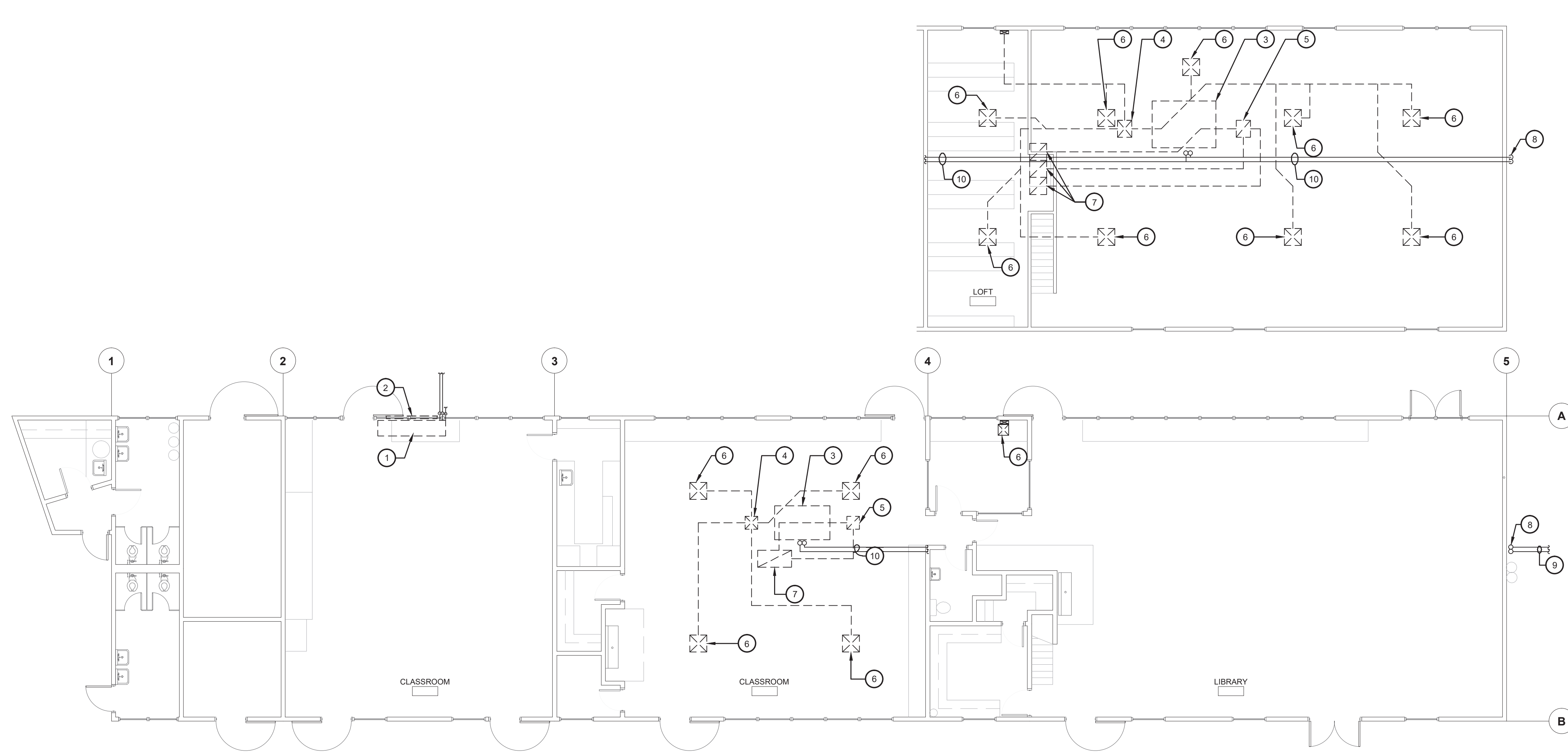


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MECHANICAL PLAN - BLDG F

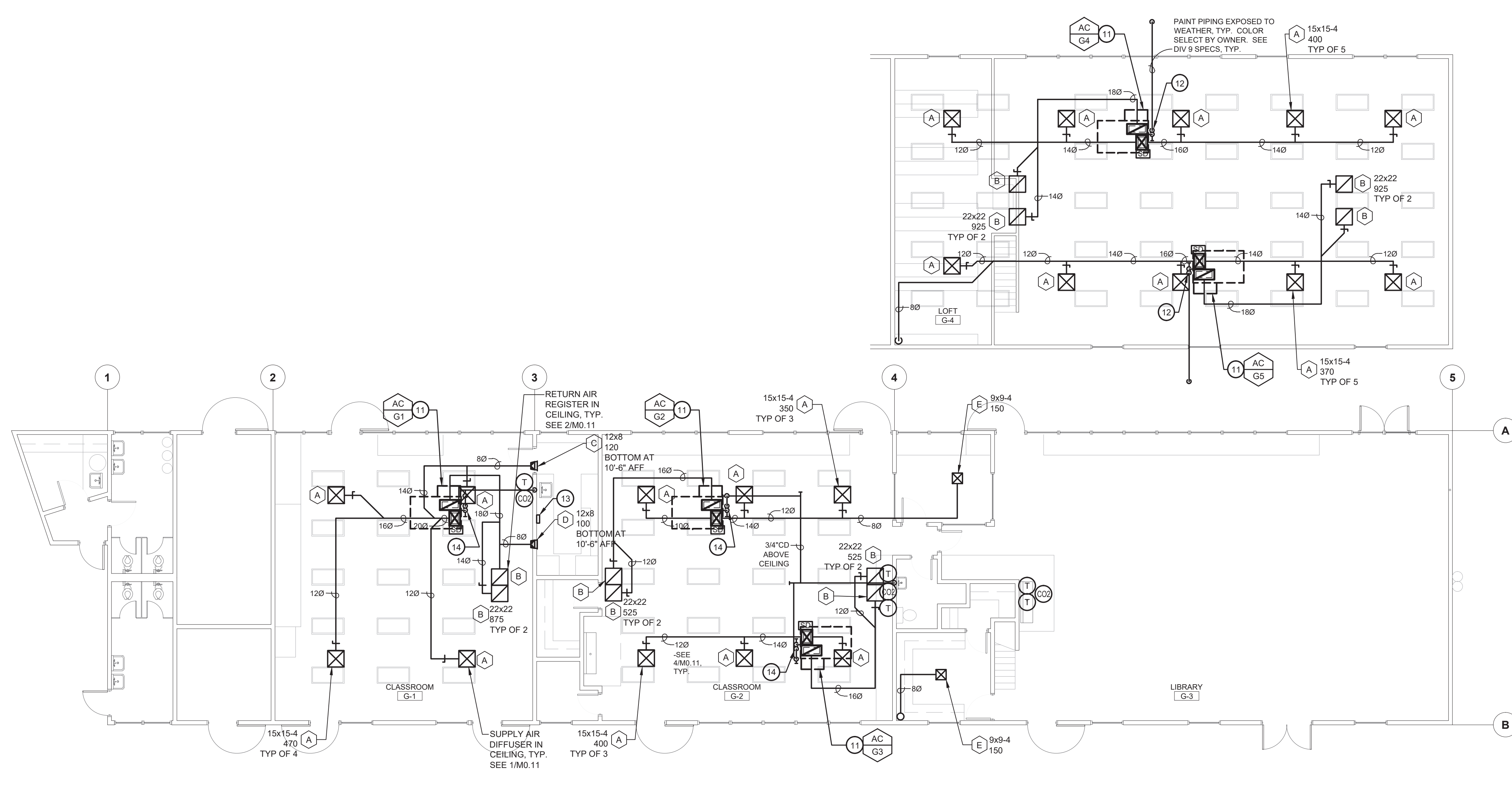
Job No.:
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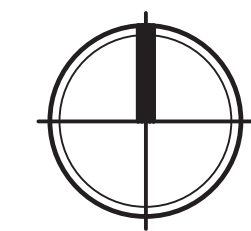
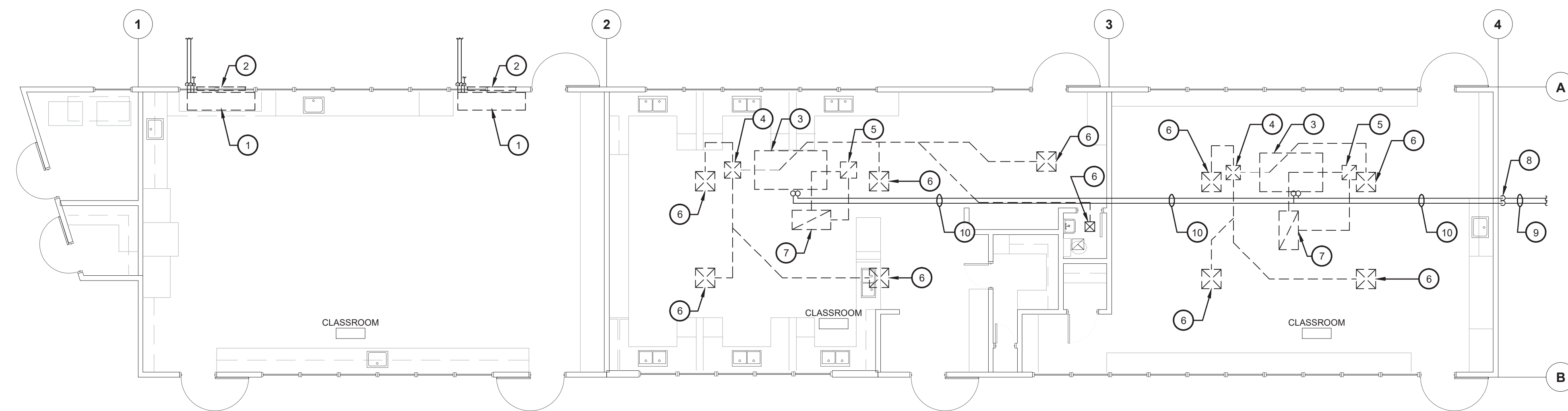
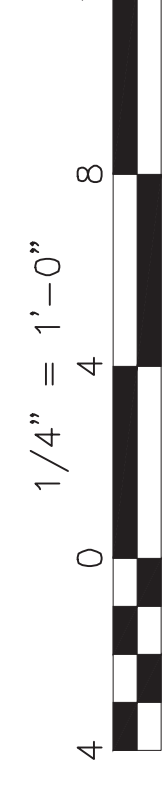
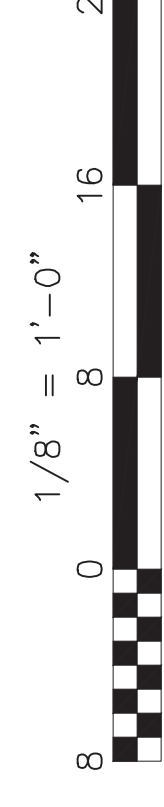


MECHANICAL PLAN - BLDG G - DEMO
HVAC REPLACEMENT
 SCALE: 1/8" = 1'



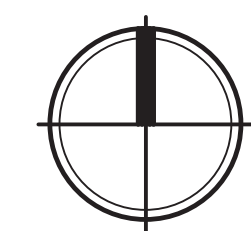
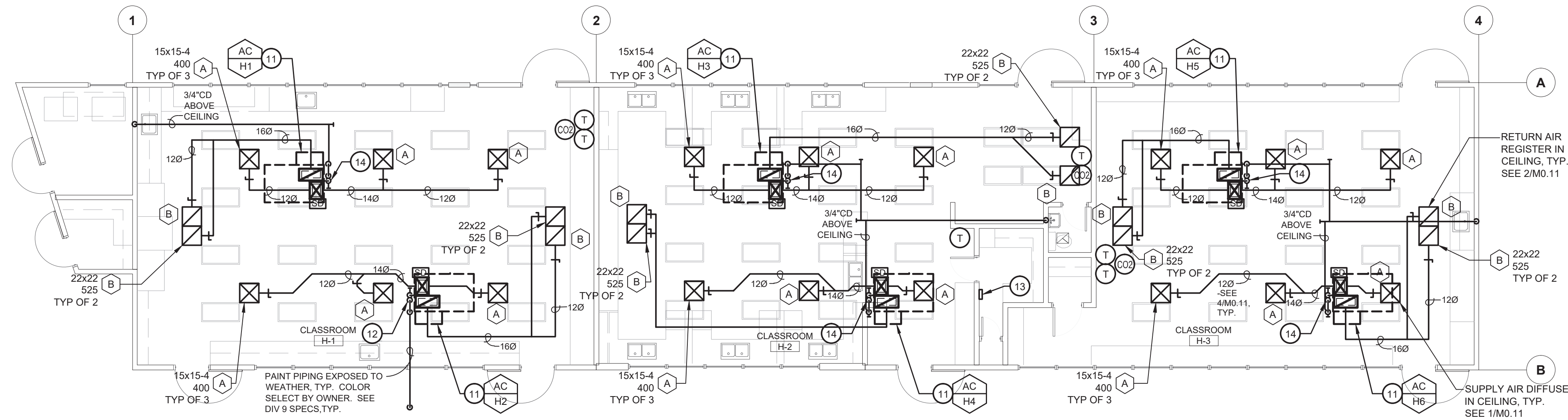
MECHANICAL PLAN - BLDG G - IMPROVEMENTS
HVAC REPLACEMENT
 SCALE: 1/8" = 1'

KEY NOTES		IDENTIFICATION STAMP DIV. OF THE STATE ARCHITECT APP: 03-122490 INC. REVIEWED FOR SS <input checked="" type="checkbox"/> FLS <input checked="" type="checkbox"/> ACS <input type="checkbox"/> DATE: 07/27/2023
<ol style="list-style-type: none"> REMOVE EXISTING UNIT VENTILATOR AND ALL RELATED COMPONENTS, ETC. TYP. SALVAGE EMS CONTROLLERS AND/OR DEVICES AND DELIVER TO OWNER. REMOVE EXISTING PIPING TO 5 FEET OUTSIDE EXTERIOR WALL AND CAP, TYP. REMOVE EXISTING OSA LOUVER AND DUCT THRU WALL. REMOVE EXISTING PIPING AND CAP BELOW GRADE, TYP. REMOVE EXISTING AIR HANDLING UNIT ON ROOF AND ALL RELATED COMPONENTS, DUCTWORK, PIPING, ETC. TYP. SALVAGE EMS CONTROLLERS AND/OR DEVICES AND DELIVER TO OWNER. PATCH OPENINGS TO MATCH EXISTING. REMOVE EXISTING SUPPLY DUCT THRU ROOF. FIELD VERIFY LOCATION. PATCH OPENING TO MATCH EXISTING. REMOVE EXISTING RETURN DUCT THRU ROOF. FIELD VERIFY LOCATION. PATCH OPENING TO MATCH EXISTING. REMOVE EXISTING SUPPLY AIR GRILLE AND DUCTWORK. FIELD VERIFY LOCATION. REMOVE EXISTING RETURN AIR GRILLE AND DUCTWORK. FIELD VERIFY LOCATION. REMOVE EXISTING HYDRONIC PIPING RISER, TYP. FIELD VERIFY LOCATION. PATCH OPENINGS TO MATCH EXISTING. REMOVE EXISTING HYDRONIC PIPING BELOW GRADE TO 5 FEET OUTSIDE EXTERIOR WALL AND CAP, TYP. SAWCUT AND PATCH OPENINGS TO MATCH EXISTING. REMOVE EXISTING HYDRONIC ABOVE CEILING, TYP. FIELD VERIFY LOCATION. AC UNIT ON ROOF WITH 18x14(L) SA PLENUM AND 28x12(L) RA PLENUM DROP THRU ROOF, BETWEEN STRUCTURAL MEMBERS. PROVIDE TRANSITIONS AS NEEDED. FIELD VERIFY EXACT LOCATION. SEE 3/M0.11 CONNECT 3/4" CD TO AC UNIT ON ROOF WITH TRAP PER 6/M0.11 AND DISCHARGE TO ROOF GUTTER WITH AIR GAP. HVAC WIRELESS REPEATER. COORDINATE EXACT LOCATION WITH OWNER. PROVIDE 120" WALL OUTLET. CONNECT 3/4" CD TO AC UNIT ON ROOF WITH TRAP PER 6/M0.11, DROP DOWN THRU ROOF AND DISCHARGE TO TAILPIECE OF SINK/LAV. TYP. PATCH OPENINGS TO MATCH EXISTING. 		Owner:  BAKERSFIELD CITY SCHOOL DISTRICT 1300 BAKER STREET BAKERSFIELD, CA 93305
Project Name: HVAC REPLACEMENT		Project Address: WASHINGTON MIDDLE SCHOOL 1101 NOBLE AVENUE BAKERSFIELD, CA 93305
 by SOMAM, Inc. ARCHITECTURE ENGINEERING INTERIOR DESIGN		6011 N. FRESNO STREET, SUITE 130 FRESNO CALIFORNIA 93710 P:(559) 436-0881 F:(559) 436-0887 E: design@somam.com integrateddesigns.com
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Job No.: 5525		Sheet No.: M2.71
Release: DSA SUBMITTAL		11/28/22



MECHANICAL PLAN - BLDG H - DEMO
HVAC REPLACEMENT

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

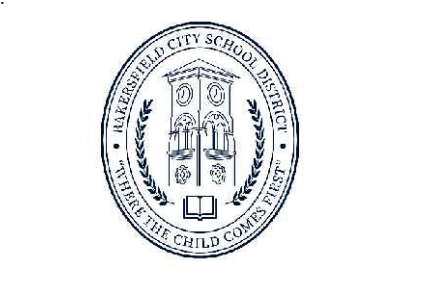
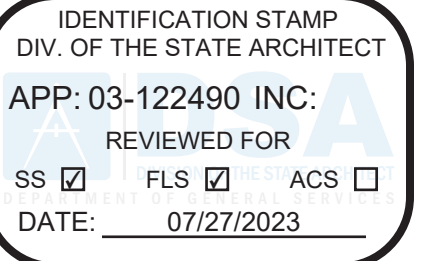


MECHANICAL PLAN - BLDG H - IMPROVEMENTS
HVAC REPLACEMENT

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

KEY NOTES

1. REMOVE EXISTING UNIT VENTILATOR AND ALL RELATED COMPONENTS, ETC. TYP. SALVAGE EMS CONTROLLERS AND/OR DEVICES AND DELIVER TO OWNER. REMOVE EXISTING PIPING TO 5 FEET OUTSIDE EXTERIOR WALL AND CAP. TYP.
2. REMOVE EXISTING OSA LOUVER AND DUCT THRU WALL. REMOVE EXISTING PIPING AND CAP BELOW GRADE. TYP.
3. REMOVE EXISTING AIR HANDLING UNIT ON ROOF AND ALL RELATED COMPONENTS. DUCTWORK, PIPING, ETC. TYP. SALVAGE EMS CONTROLLERS AND/OR DEVICES AND DELIVER TO OWNER. PATCH OPENINGS TO MATCH EXISTING.
4. REMOVE EXISTING SUPPLY DUCT THRU ROOF. FIELD VERIFY LOCATION. PATCH OPENING TO MATCH EXISTING.
5. REMOVE EXISTING RETURN DUCT THRU ROOF. FIELD VERIFY LOCATION. PATCH OPENING TO MATCH EXISTING.
6. REMOVE EXISTING SUPPLY AIR GRILLE AND DUCTWORK. FIELD VERIFY LOCATION.
7. REMOVE EXISTING RETURN AIR GRILLE AND DUCTWORK. FIELD VERIFY LOCATION.
8. REMOVE EXISTING HYDRONIC PIPING RISER. TYP. FIELD VERIFY LOCATION. PATCH OPENINGS TO MATCH EXISTING.
9. REMOVE EXISTING HYDRONIC PIPING BELOW GRADE TO 5 FEET OUTSIDE EXTERIOR WALL AND CAP. TYP. SAWCUT AND PATCH TO MATCH EXISTING.
10. REMOVE EXISTING HYDRONIC PIPING ABOVE CEILING. TYP. FIELD VERIFY LOCATION.
11. AC UNIT ON ROOF WITH 18x14(L) SA PLENUM AND 28x12(L) RA PLENUM DROP THRU ROOF. BETWEEN EXISTING STRUCTURAL MEMBERS. PROVIDE TRANSITIONS AS NEEDED. FIELD VERIFY EXACT LOCATION. SEE 3/MO.11
12. CONNECT 3/4" CD TO AC UNIT ON ROOF WITH TRAP PER 6/MO.11 AND DISCHARGE TO ROOF GUTTER WITH AIR GAP.
13. HVAC WIRELESS REPEATER. COORDINATE EXACT LOCATION WITH OWNER. PROVIDE 120" WALL OUTLET.
14. CONNECT 3/4" CD TO AC UNIT ON ROOF WITH TRAP PER 6/MO.11, DROP DOWN THRU ROOF AND DISCHARGE TO TAILPIECE OF SINK/LAV. TYP. PATCH OPENINGS TO MATCH EXISTING.

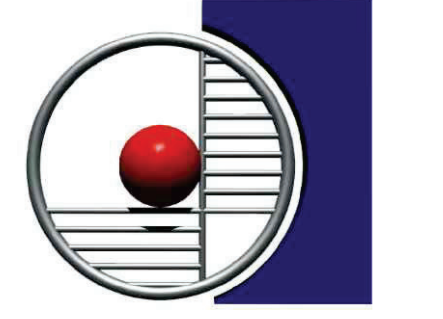


BAKERSFIELD CITY SCHOOL DISTRICT
1300 BAKER STREET
BAKERSFIELD, CA 93305

Project Name:
HVAC REPLACEMENT

Project Address:
WASHINGTON MIDDLE SCHOOL

1101 NOBLE AVENUE
BAKERSFIELD, CA 93305



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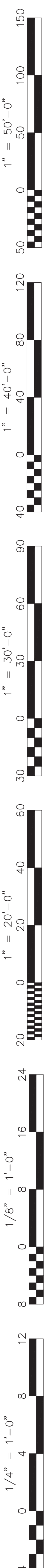
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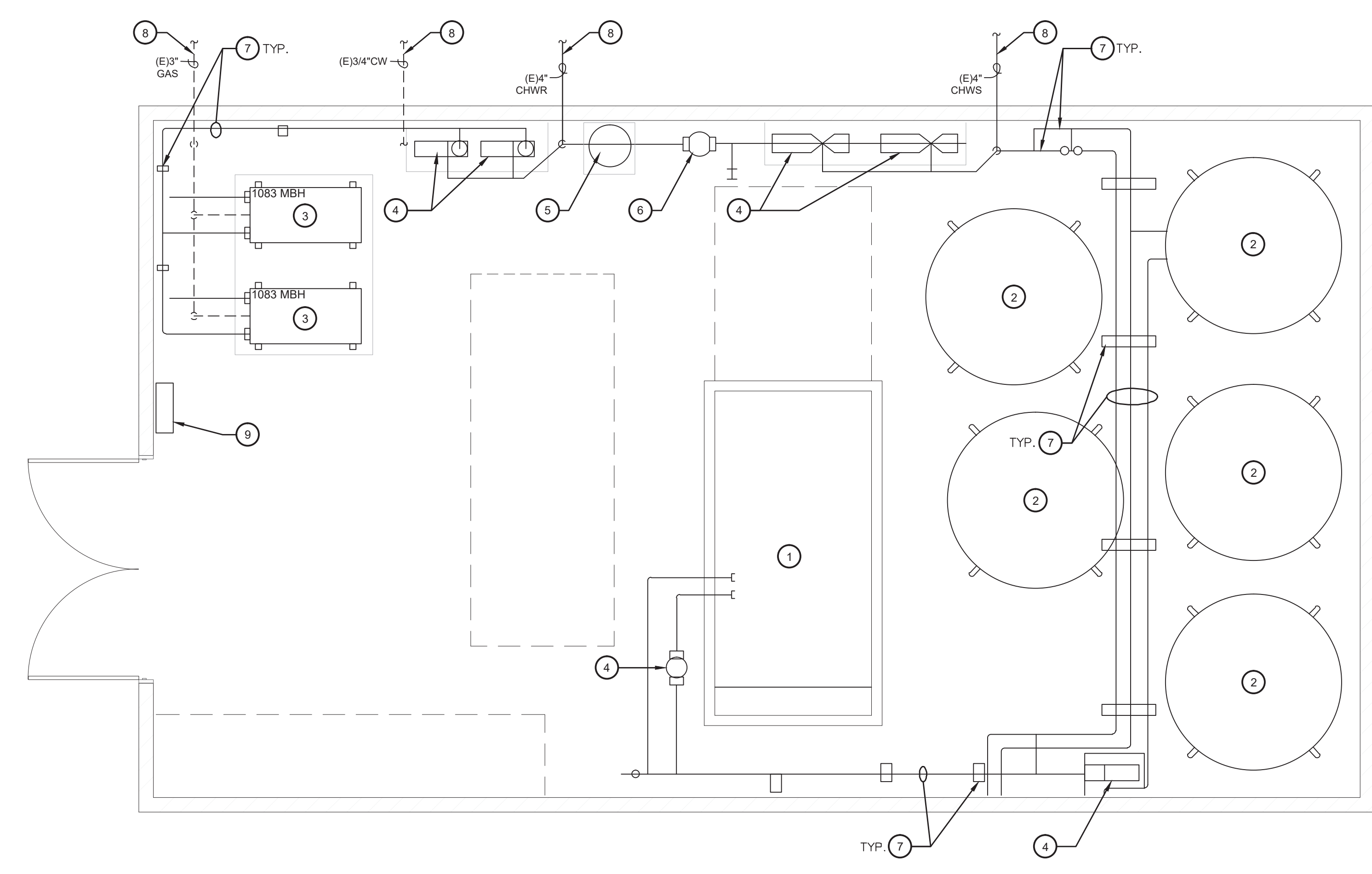
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MECHANICAL PLAN - BLDG H

Job No.:
5525

Sheet No.:
M2.81
Release: **DSA SUBMITTAL** 11/28/22



NOTE:
CENTRAL PLANT SHALL REMAIN IN OPERATION UNTIL ALL ASSOCIATED AIR HANDLING UNITS HAVE BEEN REMOVED.



MECHANICAL PLAN - CENTRAL PLANT
HVAC REPLACEMENT
SCALE: 1/4" = 1'-0"

KEY NOTES

1. REMOVE EXISTING AIR COOLED CHILLER AND ALL RELATED COMPONENTS, PIPING, ETC. TYP. SALVAGE EMS CONTROLLERS AND/OR DEVICES AND DELIVER TO OWNER.
2. REMOVE EXISTING ICE STORAGE TANK AND ALL RELATED COMPONENTS, PIPING, ETC. TYP. SALVAGE EMS CONTROLLERS AND/OR DEVICES AND DELIVER TO OWNER.
3. REMOVE EXISTING HYDRONIC BOILER AND ALL RELATED COMPONENTS, PIPING, ETC. TYP. SALVAGE EMS CONTROLLERS AND/OR DEVICES AND DELIVER TO OWNER.
4. REMOVE EXISTING PUMP AND ALL RELATED COMPONENTS, PIPING, CONTROLS, ETC. TYP.
5. REMOVE EXISTING EXPANSION TANK AND ALL RELATED COMPONENTS, PIPING, ETC. TYP.
6. REMOVE EXISTING AIR SEPARATOR AND ALL RELATED COMPONENTS, PIPING, ETC. TYP.
7. REMOVE EXISTING PIPING AND SUPPORT, TYP.
8. REMOVE EXISTING PIPING BELOW GRADE TO 5 FEET OUTSIDE EXTERIOR WALL AND CAP. TYP. FIELD VERIFY SIZE AND LOCATION. SAWCUT AND PATCH TO MATCH EXISTING.
9. SALVAGE EXISTING HVAC CONTROL PANEL AND DELIVER TO OWNER.

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-122490 INC:
REVIEWED FOR
SS FLS ACS
DATE: 07/27/2023

Owner:

BAKERSFIELD CITY SCHOOL DISTRICT
1300 BAKER STREET
BAKERSFIELD, CA 93305

Project Name:
HVAC REPLACEMENT

Project Address:
WASHINGTON MIDDLE SCHOOL
1101 NOBLE AVENUE
BAKERSFIELD, CA 93305

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6011 N. FRESNO STREET, SUITE 130
FRESNO CALIFORNIA 93710
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MECHANICAL PLAN - CENTRAL PLANT

Job No.:
5525

Sheet No.:
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STATE OF CALIFORNIA
MECHANICAL SYSTEMS
CALIFORNIA ENERGY COMMISSION
NCC-MCH-4
Project Name: BCSO Washington Middle School Report Page: (Page 3 of 42)
Project Address: 1101 Noble Avenue Date Prepared: 9/1/2022

H. FAN SYSTEMS & AIR ECONOMIZERS

System Name:	AC-01	Economizer ¹	NA: <=54 kBtu/h cooling	Economizer Controls:	Designed per §160.4(a) and (m)	System Fan Type:	Constant Volume
01	02	03	04	05	06	07	08
Fan Name or Item Tag	Fan Function	Qty	Maximum Design Supply Airflow (CFM)	HP Unit ²	Design HP	Fan Power Pressure Drop Adjustment - Table 140.4.8	Design Airflow through Device (CFM)
SF	Supply	1	1600	BHP	0.79		
Total System Design Supply Airflow (CFM):		1600	Total System Design (BHP):	0.79	Maximum System Fan Power (BHP):		

Registration Number: Registration Date/Time: Registration Provider: Energsoft
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance Report Version: 2019.1.003 Schema Version: rev 20200601 Report Generated: 2022-09-01 10:23:03

STATE OF CALIFORNIA
MECHANICAL SYSTEMS
CALIFORNIA ENERGY COMMISSION
NCC-MCH-4
Project Name: BCSO Washington Middle School Report Page: (Page 4 of 42)
Project Address: 1101 Noble Avenue Date Prepared: 9/1/2022

H. FAN SYSTEMS & AIR ECONOMIZERS

System Name:	AC-02	Economizer ¹	NA: <=54 kBtu/h cooling	Economizer Controls:	Designed per §160.4(a) and (m)	System Fan Type:	Constant Volume
01	02	03	04	05	06	07	08
Fan Name or Item Tag	Fan Function	Qty	Maximum Design Supply Airflow (CFM)	HP Unit ²	Design HP	Fan Power Pressure Drop Adjustment - Table 140.4.8	Design Airflow through Device (CFM)
SF	Supply	1	1600	BHP	0.79		
Total System Design Supply Airflow (CFM):		1600	Total System Design (BHP):	0.79	Maximum System Fan Power (BHP):		

Registration Number: Registration Date/Time: Registration Provider: Energsoft
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance Report Version: 2019.1.003 Schema Version: rev 20200601 Report Generated: 2022-09-01 10:23:03

STATE OF CALIFORNIA
MECHANICAL SYSTEMS
CALIFORNIA ENERGY COMMISSION
NCC-MCH-4
Project Name: BCSO Washington Middle School Report Page: (Page 5 of 42)
Project Address: 1101 Noble Avenue Date Prepared: 9/1/2022

H. FAN SYSTEMS & AIR ECONOMIZERS

System Name:	AC-03	Economizer ¹	NA: <=54 kBtu/h cooling	Economizer Controls:	Designed per §160.4(a) and (m)	System Fan Type:	Constant Volume
01	02	03	04	05	06	07	08
Fan Name or Item Tag	Fan Function	Qty	Maximum Design Supply Airflow (CFM)	HP Unit ²	Design HP	Fan Power Pressure Drop Adjustment - Table 140.4.8	Design Airflow through Device (CFM)
SF	Supply	1	1600	BHP	0.79		
Total System Design Supply Airflow (CFM):		1600	Total System Design (BHP):	0.79	Maximum System Fan Power (BHP):		

Registration Number: Registration Date/Time: Registration Provider: Energsoft
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance Report Version: 2019.1.003 Schema Version: rev 20200601 Report Generated: 2022-09-01 10:23:03

STATE OF CALIFORNIA
MECHANICAL SYSTEMS
CALIFORNIA ENERGY COMMISSION
NCC-MCH-4
Project Name: BCSO Washington Middle School Report Page: (Page 16 of 42)
Project Address: 1101 Noble Avenue Date Prepared: 9/1/2022

H. FAN SYSTEMS & AIR ECONOMIZERS

System Name:	AC-01	Economizer ¹	Fixed Temperature	Economizer Controls:	Designed per §160.4(a) and (m)	System Fan Type:	Constant Volume
01	02	03	04	05	06	07	08
Fan Name or Item Tag	Fan Function	Qty	Maximum Design Supply Airflow (CFM)	HP Unit ²	Design HP	Fan Power Pressure Drop Adjustment - Table 140.4.8	Design Airflow through Device (CFM)
SF	Supply	2	4000	BHP	1.19		
Total System Design Supply Airflow (CFM):		4000	Total System Design (BHP):	2.38	Maximum System Fan Power (BHP):		

Registration Number: Registration Date/Time: Registration Provider: Energsoft
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance Report Version: 2019.1.003 Schema Version: rev 20200601 Report Generated: 2022-09-01 10:23:03

STATE OF CALIFORNIA
MECHANICAL SYSTEMS
CALIFORNIA ENERGY COMMISSION
NCC-MCH-4
Project Name: BCSO Washington Middle School Report Page: (Page 9 of 42)
Project Address: 1101 Noble Avenue Date Prepared: 9/1/2022

H. FAN SYSTEMS & AIR ECONOMIZERS

System Name:	AC-01	Economizer ¹	NA: <=54 kBtu/h cooling	Economizer Controls:	Designed per §160.4(a) and (m)	System Fan Type:	Constant Volume
01	02	03	04	05	06	07	08
Fan Name or Item Tag	Fan Function	Qty	Maximum Design Supply Airflow (CFM)	HP Unit ²	Design HP	Fan Power Pressure Drop Adjustment - Table 140.4.8	Design Airflow through Device (CFM)
SF	Supply	1	1600	BHP	0.79		
Total System Design Supply Airflow (CFM):		1600	Total System Design (BHP):	0.79	Maximum System Fan Power (BHP):		

Registration Number: Registration Date/Time: Registration Provider: Energsoft
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance Report Version: 2019.1.003 Schema Version: rev 20200601 Report Generated: 2022-09-01 10:23:03

STATE OF CALIFORNIA
MECHANICAL SYSTEMS
CALIFORNIA ENERGY COMMISSION
NCC-MCH-4
Project Name: BCSO Washington Middle School Report Page: (Page 10 of 42)
Project Address: 1101 Noble Avenue Date Prepared: 9/1/2022

H. FAN SYSTEMS & AIR ECONOMIZERS

System Name:	AC-02	Economizer ¹	NA: <=54 kBtu/h cooling	Economizer Controls:	Designed per §160.4(a) and (m)	System Fan Type:	Constant Volume
01	02	03	04	05	06	07	08
Fan Name or Item Tag	Fan Function	Qty	Maximum Design Supply Airflow (CFM)	HP Unit ²	Design HP	Fan Power Pressure Drop Adjustment - Table 140.4.8	Design Airflow through Device (CFM)
SF	Supply	1	1600	BHP	0.79		
Total System Design Supply Airflow (CFM):		1600	Total System Design (BHP):	0.79	Maximum System Fan Power (BHP):		

Registration Number: Registration Date/Time: Registration Provider: Energsoft
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance Report Version: 2019.1.003 Schema Version: rev 20200601 Report Generated: 2022-09-01 10:23:03

STATE OF CALIFORNIA
MECHANICAL SYSTEMS
CALIFORNIA ENERGY COMMISSION
NCC-MCH-4
Project Name: BCSO Washington Middle School Report Page: (Page 21 of 42)
Project Address: 1101 Noble Avenue Date Prepared: 9/1/2022

H. FAN SYSTEMS & AIR ECONOMIZERS

System Name:	AC-03	Economizer ¹	NA: <=54 kBtu/h cooling	Economizer Controls:	Designed per §160.4(a) and (m)	System Fan Type:	Constant Volume
01	02	03	04	05	06	07	08
Fan Name or Item Tag	Fan Function	Qty	Maximum Design Supply Airflow (CFM)	HP Unit ²	Design HP	Fan Power Pressure Drop Adjustment - Table 140.4.8	Design Airflow through Device (CFM)
SF	Supply	1	1600	BHP	0.79		
Total System Design Supply Airflow (CFM):		1600	Total System Design (BHP):	0.79	Maximum System Fan Power (BHP):		

Registration Number: Registration Date/Time: Registration Provider: Energsoft
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance Report Version: 2019.1.003 Schema Version: rev 20200601 Report Generated: 2022-09-01 10:23:03

STATE OF CALIFORNIA
MECHANICAL SYSTEMS
CALIFORNIA ENERGY COMMISSION
NCC-MCH-4
Project Name: BCSO Washington Middle School Report Page: (Page 12 of 42)
Project Address: 1101 Noble Avenue Date Prepared: 9/1/2022

H. FAN SYSTEMS & AIR ECONOMIZERS

System Name:	AC-01	Economizer ¹	Fixed Temperature	Economizer Controls:	Designed per §160.4(a) and (m)	System Fan Type:	Constant Volume
01	02	03	04	05	06	07	08
Fan Name or Item Tag	Fan Function	Qty	Maximum Design Supply Airflow (CFM)	HP Unit ²	Design HP	Fan Power Pressure Drop Adjustment - Table 140.4.8	Design Airflow through Device (CFM)
SF	Supply	1	1600	BHP	0.79		
Total System Design Supply Airflow (CFM):		1600	Total System Design (BHP):	0.79	Maximum System Fan Power (BHP):		

Registration Number: Registration Date/Time: Registration Provider: Energsoft
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance Report Version: 2019.1.003 Schema Version: rev 20200601 Report Generated: 2022-09-01 10:23:03

STATE OF CALIFORNIA
MECHANICAL SYSTEMS
CALIFORNIA ENERGY COMMISSION
NCC-MCH-4
Project Name: BCSO Washington Middle School Report Page: (Page 3 of 42)
Project Address: 1101 Noble Avenue Date Prepared: 9/1/2022

F. HVAC SYSTEM SUMMARY (DRY & WET SYSTEMS)

Table with columns: System Name, AC-F1-F2, AC-G1, AC-G2-G3, AC-G4-G5, AC-H1-H2, AC-H3-H4, AC-H5-H6. Rows for Unitary Heat Pumps and Fan Power Pressure Drop Adjustment.

Registration Number: Registration Date/Time: Registration Provider: Energsoft
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance Report Version: 2019.1.003 Schema Version: rev 20200601 Report Generated: 2022-09-01 10:23:03

STATE OF CALIFORNIA
MECHANICAL SYSTEMS
CALIFORNIA ENERGY COMMISSION
NCC-MCH-4
Project Name: BCSO Washington Middle School Report Page: (Page 6 of 42)
Project Address: 1101 Noble Avenue Date Prepared: 9/1/2022

F. HVAC SYSTEM SUMMARY (DRY & WET SYSTEMS)

Table with columns: Name or Item Tag, Size Category (Btu/h), Rating Condition, Efficiency Unit, Design Efficiency, Heating Mode, Cooling Mode.

Registration Number: Registration Date/Time: Registration Provider: Energsoft
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance Report Version: 2019.1.003 Schema Version: rev 20200601 Report Generated: 2022-09-01 10:23:03

STATE OF CALIFORNIA
MECHANICAL SYSTEMS
CALIFORNIA ENERGY COMMISSION
NCC-MCH-4
Project Name: BCSO Washington Middle School Report Page: (Page 7 of 42)
Project Address: 1101 Noble Avenue Date Prepared: 9/1/2022

F. HVAC SYSTEM SUMMARY (DRY & WET SYSTEMS)

Table with columns: Name or Item Tag, Size Category (Btu/h), Rating Condition, Efficiency Unit, Design Efficiency, Heating Mode, Cooling Mode.

Registration Number: Registration Date/Time: Registration Provider: Energsoft
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance Report Version: 2019.1.003 Schema Version: rev 20200601 Report Generated: 2022-09-01 10:23:03

STATE OF CALIFORNIA
MECHANICAL SYSTEMS
CALIFORNIA ENERGY COMMISSION
NCC-MCH-4
Project Name: BCSO Washington Middle School Report Page: (Page 8 of 42)
Project Address: 1101 Noble Avenue Date Prepared: 9/1/2022

H. FAN SYSTEMS & AIR ECONOMIZERS

System Name:	AC-01	Economizer ¹	Fixed Temperature	Economizer Controls:	Designed per §160.4(a) and (m)	System Fan Type:	Constant Volume
01	02	03	04	05	06	07	08
Fan Name or Item Tag	Fan Function	Qty	Maximum Design Supply Airflow (CFM)	HP Unit ²	Design HP	Fan Power Pressure Drop Adjustment - Table 140.4.8	Design Airflow through Device (CFM)
SF	Supply	1	2000	BHP	1.19		
Total System Design Supply Airflow (CFM):		2000	Total System Design (BHP):	1.19	Maximum System Fan Power (BHP):		

Registration Number: Registration Date/Time: Registration Provider: Energsoft
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance Report Version: 2019.1.003 Schema Version: rev 20200601 Report Generated: 2022-09-01 10:23:03

STATE OF CALIFORNIA
MECHANICAL SYSTEMS
CALIFORNIA ENERGY COMMISSION
NCC-MCH-4
Project Name: BCSO Washington Middle School Report Page: (Page 1 of 42)
Project Address: 1101 Noble Avenue Date Prepared: 9/1/2022

A. GENERAL INFORMATION

Table with columns: 01 Project Location (City), 02 Climate Zone, 03 Occupancy Types Within Project, 04 Total Conditioned Floor Area, 05 Total Unconditioned Floor Area, 06 # of Stories (Habitable Above Grade), 07 Retail (M), 08 Hotel/Motel Guest Rooms (R-1), 09 High-Rise Residential (R-2/R-3), 10 Bakerfield, 11 13, 12 Office (O), 13 Non-refrigerated Warehouse (S), 14 School (E), 15 Healthcare Facility (H), 16 Other (write in), 17 31195, 18 1, 19 0, 20 See Table 1

Registration Number: Registration Date/Time: Registration Provider: Energsoft
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance Report Version: 2019.1.003 Schema Version: rev 20200601 Report Generated: 2022-09-01 10:23:03

STATE OF CALIFORNIA
MECHANICAL SYSTEMS
CALIFORNIA ENERGY COMMISSION
NCC-MCH-4
Project Name: BCSO Washington Middle School Report Page: (Page 2 of 42)
Project Address: 1101 Noble Avenue Date Prepared: 9/1/2022

B. PROJECT SCOPE

Table with columns: 01 Air System(s), 02 Wet System Components, 03 Dry System Components. Includes Heating Air System, Cooling Air System, Mechanical Controls, etc.

Registration Number: Registration Date/Time: Registration Provider: Energsoft
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance Report Version: 2019.1.003 Schema Version: rev 20200601 Report Generated: 2022-09-01 10:23:03

STATE OF CALIFORNIA
MECHANICAL SYSTEMS
CALIFORNIA ENERGY COMMISSION
NCC-MCH-4
Project Name: BCSO Washington Middle School Report Page: (Page 2 of 42)
Project Address: 1101 Noble Avenue Date Prepared: 9/1/2022

C. COMPLIANCE RESULTS

Table with columns: System Summary, Pumps, Fans/Economizers, System Controls, Ventilation, Terminal Box Controls, Distribution, Cooling Towers, Compliance Results.

Registration Number: Registration Date/Time: Registration Provider: Energsoft
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance Report Version: 2019.1.003 Schema Version: rev 20200601 Report Generated: 2022-09-01 10:23:03

STATE OF CALIFORNIA
MECHANICAL SYSTEMS
CALIFORNIA ENERGY COMMISSION
NCC-MCH-4
Project Name: BCSO Washington Middle School Report Page: (Page 4 of 42)
Project Address: 1101 Noble Avenue Date Prepared: 9/1/2022

F. HVAC SYSTEM SUMMARY (DRY & WET SYSTEMS)

Table with columns: 01 Name or Item Tag, 02 Equipment Category per Tables 110.2, 03 Equipment Type per Tables 110.2 / Title, 04 Smallest Size Available¹⁴, 05 Heating Output¹⁴, 06 Supp. Heating Output (kBtu/h), 07 Sensible Heating Output¹⁴, 08 Load Calculations¹⁴, 09 Total Sensible Cooling Load (kBtu/h), 10 Total Cooling Load (kBtu/h).

Registration Number: Registration Date/Time: Registration Provider: Energsoft
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance Report Version: 2019.1.003 Schema Version: rev 20200601 Report Generated: 2022-09-01 10:23:03

IDENTIFICATION STAMP
OF THE STATE ARCHITECT
APP: 03-122490 INC:
REVIEWED FOR:
DATE: 07/27/2023

Owner:
BAKERSFIELD CITY SCHOOL DISTRICT
1300 BAKER STREET
BAKERSFIELD, CA 93305

Project Name:
HVAC REPLACEMENT

Project Address:
WASHINGTON MIDDLE SCHOOL
1101 NOBLE AVENUE
BAKERSFIELD, CA 93305

integrated designs
by SOMAM, Inc.
ARCHITECTURE ENGINEERING INTERIOR DESIGN

6011 N. FRESNO STREET, SUITE 130
FRESNO CALIFORNIA 93710
P:(559) 436-0881 F:(559) 436-0887
E: integrated@somam.com
integrateddesigns.com

Stamp:
32712
DPA-30-0
MECHANICAL
STATE OF CALIFORNIA

Sheet Title:
TITLE 24 DOCS

Job No.:
5525

Sheet No.:
M3.01
Release: DSA SUBMITTAL 11/28/22

MECHANICAL SYSTEMS. PROJECT: BCSO WASHINGTON MIDDLE SCHOOL. REPORT PAGE: 23 OF 42. MECHANICAL SYSTEMS. REPORT PAGE: 23 OF 42.

Registration Number: Registration Date/Time: Registration Provider: Energsoft. CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance. Report Version: 2019.1.003. Report Generated: 2022-09-01 10:23:03.

MECHANICAL SYSTEMS. PROJECT: BCSO WASHINGTON MIDDLE SCHOOL. REPORT PAGE: 24 OF 42. MECHANICAL SYSTEMS. REPORT PAGE: 24 OF 42.

Registration Number: Registration Date/Time: Registration Provider: Energsoft. CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance. Report Version: 2019.1.003. Report Generated: 2022-09-01 10:23:03.

MECHANICAL SYSTEMS. PROJECT: BCSO WASHINGTON MIDDLE SCHOOL. REPORT PAGE: 25 OF 42. MECHANICAL SYSTEMS. REPORT PAGE: 25 OF 42.

Registration Number: Registration Date/Time: Registration Provider: Energsoft. CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance. Report Version: 2019.1.003. Report Generated: 2022-09-01 10:23:03.

MECHANICAL SYSTEMS. PROJECT: BCSO WASHINGTON MIDDLE SCHOOL. REPORT PAGE: 26 OF 42. MECHANICAL SYSTEMS. REPORT PAGE: 26 OF 42.

Registration Number: Registration Date/Time: Registration Provider: Energsoft. CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance. Report Version: 2019.1.003. Report Generated: 2022-09-01 10:23:03.

MECHANICAL SYSTEMS. PROJECT: BCSO WASHINGTON MIDDLE SCHOOL. REPORT PAGE: 27 OF 42. MECHANICAL SYSTEMS. REPORT PAGE: 27 OF 42.

Registration Number: Registration Date/Time: Registration Provider: Energsoft. CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance. Report Version: 2019.1.003. Report Generated: 2022-09-01 10:23:03.

MECHANICAL SYSTEMS. PROJECT: BCSO WASHINGTON MIDDLE SCHOOL. REPORT PAGE: 28 OF 42. MECHANICAL SYSTEMS. REPORT PAGE: 28 OF 42.

Registration Number: Registration Date/Time: Registration Provider: Energsoft. CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance. Report Version: 2019.1.003. Report Generated: 2022-09-01 10:23:03.

MECHANICAL SYSTEMS. PROJECT: BCSO WASHINGTON MIDDLE SCHOOL. REPORT PAGE: 29 OF 42. MECHANICAL SYSTEMS. REPORT PAGE: 29 OF 42.

Registration Number: Registration Date/Time: Registration Provider: Energsoft. CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance. Report Version: 2019.1.003. Report Generated: 2022-09-01 10:23:03.

MECHANICAL SYSTEMS. PROJECT: BCSO WASHINGTON MIDDLE SCHOOL. REPORT PAGE: 30 OF 42. MECHANICAL SYSTEMS. REPORT PAGE: 30 OF 42.

Registration Number: Registration Date/Time: Registration Provider: Energsoft. CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance. Report Version: 2019.1.003. Report Generated: 2022-09-01 10:23:03.

MECHANICAL SYSTEMS. PROJECT: BCSO WASHINGTON MIDDLE SCHOOL. REPORT PAGE: 31 OF 42. MECHANICAL SYSTEMS. REPORT PAGE: 31 OF 42.

Registration Number: Registration Date/Time: Registration Provider: Energsoft. CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance. Report Version: 2019.1.003. Report Generated: 2022-09-01 10:23:03.

MECHANICAL SYSTEMS. PROJECT: BCSO WASHINGTON MIDDLE SCHOOL. REPORT PAGE: 32 OF 42. MECHANICAL SYSTEMS. REPORT PAGE: 32 OF 42.

Registration Number: Registration Date/Time: Registration Provider: Energsoft. CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance. Report Version: 2019.1.003. Report Generated: 2022-09-01 10:23:03.

MECHANICAL SYSTEMS. PROJECT: BCSO WASHINGTON MIDDLE SCHOOL. REPORT PAGE: 33 OF 42. MECHANICAL SYSTEMS. REPORT PAGE: 33 OF 42.

Registration Number: Registration Date/Time: Registration Provider: Energsoft. CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance. Report Version: 2019.1.003. Report Generated: 2022-09-01 10:23:03.

MECHANICAL SYSTEMS. PROJECT: BCSO WASHINGTON MIDDLE SCHOOL. REPORT PAGE: 34 OF 42. MECHANICAL SYSTEMS. REPORT PAGE: 34 OF 42.

Registration Number: Registration Date/Time: Registration Provider: Energsoft. CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance. Report Version: 2019.1.003. Report Generated: 2022-09-01 10:23:03.

MECHANICAL SYSTEMS. PROJECT: BCSO WASHINGTON MIDDLE SCHOOL. REPORT PAGE: 35 OF 42. MECHANICAL SYSTEMS. REPORT PAGE: 35 OF 42.

Registration Number: Registration Date/Time: Registration Provider: Energsoft. CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance. Report Version: 2019.1.003. Report Generated: 2022-09-01 10:23:03.

MECHANICAL SYSTEMS. PROJECT: BCSO WASHINGTON MIDDLE SCHOOL. REPORT PAGE: 36 OF 42. MECHANICAL SYSTEMS. REPORT PAGE: 36 OF 42.

Registration Number: Registration Date/Time: Registration Provider: Energsoft. CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance. Report Version: 2019.1.003. Report Generated: 2022-09-01 10:23:03.

MECHANICAL SYSTEMS. PROJECT: BCSO WASHINGTON MIDDLE SCHOOL. REPORT PAGE: 37 OF 42. MECHANICAL SYSTEMS. REPORT PAGE: 37 OF 42.

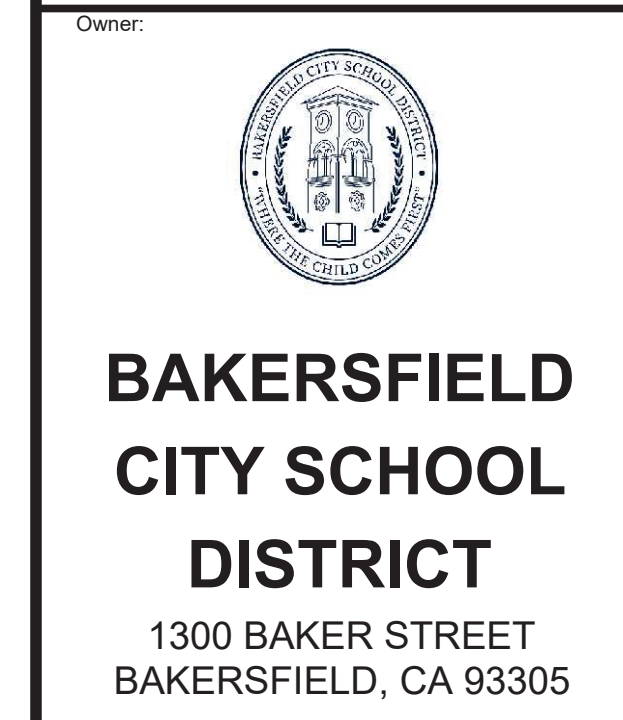
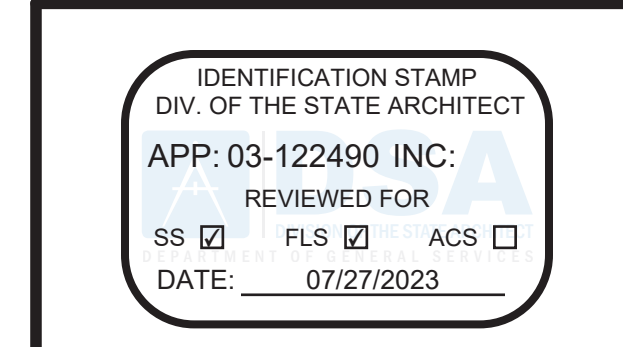
Registration Number: Registration Date/Time: Registration Provider: Energsoft. CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance. Report Version: 2019.1.003. Report Generated: 2022-09-01 10:23:03.

MECHANICAL SYSTEMS. PROJECT: BCSO WASHINGTON MIDDLE SCHOOL. REPORT PAGE: 38 OF 42. MECHANICAL SYSTEMS. REPORT PAGE: 38 OF 42.

Registration Number: Registration Date/Time: Registration Provider: Energsoft. CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance. Report Version: 2019.1.003. Report Generated: 2022-09-01 10:23:03.

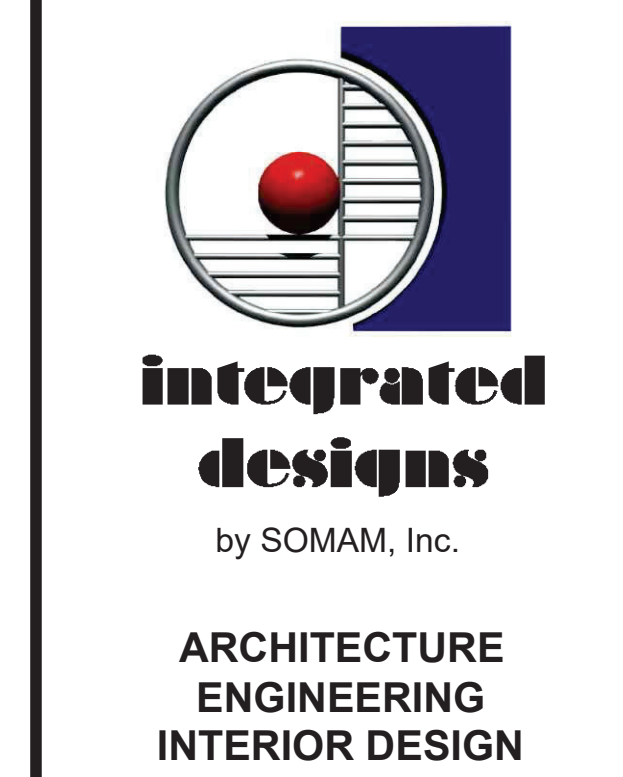
MECHANICAL SYSTEMS. PROJECT: BCSO WASHINGTON MIDDLE SCHOOL. REPORT PAGE: 39 OF 42. MECHANICAL SYSTEMS. REPORT PAGE: 39 OF 42.

Registration Number: Registration Date/Time: Registration Provider: Energsoft. CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance. Report Version: 2019.1.003. Report Generated: 2022-09-01 10:23:03.



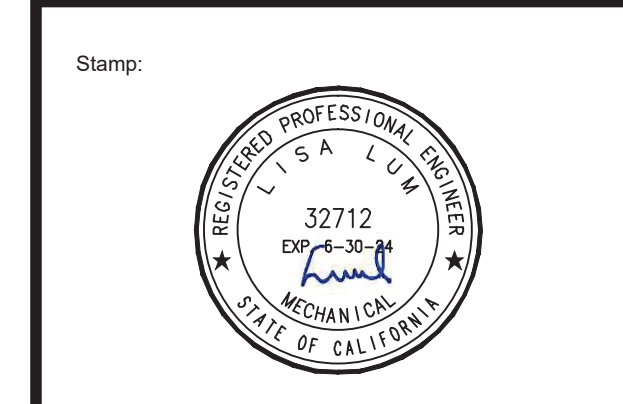
Project Name: WASHINGTON MIDDLE SCHOOL.

HVAC REPLACEMENT. PROJECT ADDRESS: 1101 NOBLE AVENUE BAKERSFIELD, CA 93305.



6011 N. FRESNO STREET, SUITE 130 FRESNO CALIFORNIA 93710 P: (559) 436-0881 F: (559) 436-0887 E: design@somam.com integrateddesigns.com

32712 DP-25-20 MECHANICAL STATE OF CALIFORNIA.



TITLE 24 DOCS.

Job No.: 5525. Sheet No.: M3.02.

Release: DSA SUBMITTAL 11/28/22. LISA LUM 06/23.

STATE OF CALIFORNIA Mechanical Systems... PROJECT NAME: BCSO Washington Middle School... L. DISTRIBUTION (DUCTWORK AND PIPING) Table with columns for question number, answer, and description.

STATE OF CALIFORNIA Mechanical Systems... PROJECT NAME: BCSO Washington Middle School... L. DISTRIBUTION (DUCTWORK AND PIPING) Table with columns for question number, answer, and description.

STATE OF CALIFORNIA Mechanical Systems... PROJECT NAME: BCSO Washington Middle School... I. VENTILATION AND INDOOR AIR QUALITY Table with columns for space name, occupancy type, and various ventilation metrics.

STATE OF CALIFORNIA Mechanical Systems... PROJECT NAME: BCSO Washington Middle School... I. VENTILATION AND INDOOR AIR QUALITY Table with columns for space name, occupancy type, and various ventilation metrics.

STATE OF CALIFORNIA Mechanical Systems... PROJECT NAME: BCSO Washington Middle School... L. DISTRIBUTION (DUCTWORK AND PIPING) Table with columns for question number, answer, and description.

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STATE OF CALIFORNIA Mechanical Systems... PROJECT NAME: BCSO Washington Middle School... I. VENTILATION AND INDOOR AIR QUALITY Table with columns for space name, occupancy type, and various ventilation metrics.

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STATE OF CALIFORNIA Mechanical Systems... PROJECT NAME: BCSO Washington Middle School... L. DISTRIBUTION (DUCTWORK AND PIPING) Table with columns for question number, answer, and description.

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STATE OF CALIFORNIA Mechanical Systems... PROJECT NAME: BCSO Washington Middle School... I. VENTILATION AND INDOOR AIR QUALITY Table with columns for space name, occupancy type, and various ventilation metrics.

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STATE OF CALIFORNIA Mechanical Systems... PROJECT NAME: BCSO Washington Middle School... L. DISTRIBUTION (DUCTWORK AND PIPING) Table with columns for question number, answer, and description.

STATE OF CALIFORNIA Mechanical Systems... PROJECT NAME: BCSO Washington Middle School... L. DISTRIBUTION (DUCTWORK AND PIPING) Table with columns for question number, answer, and description.

STATE OF CALIFORNIA Mechanical Systems... PROJECT NAME: BCSO Washington Middle School... I. VENTILATION AND INDOOR AIR QUALITY Table with columns for space name, occupancy type, and various ventilation metrics.

STATE OF CALIFORNIA Mechanical Systems... PROJECT NAME: BCSO Washington Middle School... I. VENTILATION AND INDOOR AIR QUALITY Table with columns for space name, occupancy type, and various ventilation metrics.

IDENTIFICATION STAMP OF THE STATE ARCHITECT... BAKERSFIELD CITY SCHOOL DISTRICT... HVAC REPLACEMENT... WASHINGTON MIDDLE SCHOOL... 1101 NOBLE AVENUE BAKERSFIELD, CA 93305... integrated designs by SOMAM, Inc. ARCHITECTURE ENGINEERING INTERIOR DESIGN... TITLE 24 DOCS 5525 M3.03 DSA SUBMITTAL



STATE OF CALIFORNIA
Mechanical Systems
NRC-MCH-4
CERTIFICATE OF COMPLIANCE
Project Name: BCSO Washington Middle School
Project Address: 1101 Noble Avenue
Registration Number: CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance
Registration Date/Time: Report Version: 2019.1.003
Registration Provider: Energsoft

STATE OF CALIFORNIA
Mechanical Systems
NRC-MCH-4
CERTIFICATE OF COMPLIANCE
Project Name: BCSO Washington Middle School
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Project Name: BCSO Washington Middle School
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STATE OF CALIFORNIA
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Registration Date/Time: Report Version: 2019.1.003
Registration Provider: Energsoft

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STATE OF CALIFORNIA
Mechanical Systems
NRC-MCH-4
CERTIFICATE OF COMPLIANCE
Project Name: BCSO Washington Middle School
Project Address: 1101 Noble Avenue
Registration Number: CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance
Registration Date/Time: Report Version: 2019.1.003
Registration Provider: Energsoft

STATE OF CALIFORNIA
Mechanical Systems
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IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-122490 INC:
REVIEWED FOR
FLS FLS ACS
DATE: 07/27/2023

Owner:
WASHINGTON
MIDDLE SCHOOL
1101 NOBLE AVENUE
BAKERSFIELD, CA 93305

Project Name:
HVAC REPLACEMENT

Project Address:
WASHINGTON
MIDDLE SCHOOL
1101 NOBLE AVENUE
BAKERSFIELD, CA 93305

integrated
designs
by SOMAM, Inc.

ARCHITECTURE
ENGINEERING
INTERIOR DESIGN

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Sheet Title:
TITLE 24
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Sheet No.:
M3.04

Release:
DSA SUBMITTAL 11/28/22