CONDENSING FURNACE SCHEDULE

SYMBOL	BUILDING	MANUFACTURER	FURNACE MODEL NO.	CONFIGURATION	FURNACE WIDTH (IN.)	NATURAL GAS INPUT (BTU/HR) HIGH	NATURAL GAS INPUT (BTU/HR) LOW	HEATING OUTPUT (BTU/HR) HIGH	HEATING OUTPUT (BTU/HR) LOW	SUPPLY AIR QUANTITY (CFM)	EXT. STATIC PRESSURE (IN. W.C.)	VOLTAGE/ PHASE	MOTOR HP	AFUE (%)	ECONOMIZER (YES/NO)	ECONOMIZER OUTSIDE AIR (CFM) MAX.	ECONOMIZER OUTSIDE AIR (CFM) MIN.	DEMAND (CO2) CONTROL VENTILATION (YES/NO)	DEMAND CONTROL VENTILATION OUTSIDE AIR (CFM) MAX.	DEMAND CONTROL VENTILATION OUTSIDE AIR (CFM) MIN.	FIXED OUTSIDE AIR QUANTITY (CFM)	APPROX. OPER. WEIGHT (LBS)	NOTES
F-01	2	CARRIER	54TP6A100E21II20	VERTICAL UPFLOW	21	100,000 / 65,000	¶1,000 / 63,000			2,000	0.5	115V/1Ø	1	96.1	YES	2,000 / 145		YES	480 / 145		-	200	1 2 3 4 5
F-02	2	CARRIER	54TP6A100E21II20	VERTICAL UPFLOW	21	100,000 / 65,000	¶1,000 / 63,000			2,000	0.5	115V/1Ø	1	96.1	YES	2,000 / 145		YES	480 / 145		-	200	1 2 3 4 5
F-03	2	CARRIER	54TP6A100E21II20	VERTICAL UPFLOW	21	100,000 / 65,000	¶1,000 / 63,000			2,000	0.5	115V/1Ø	1	96.1	YES	2,000 / 145		YES	480 / 145		-	200	1 2 3 4 5
F-04	2	CARRIER	54TP6A100E21II20	VERTICAL UPFLOW	21	100,000 / 65,000	¶1,000 / 63,000			2,000	0.5	115V/1Ø	1	96.1	YES	2,000 / 145		YES	480 / 145		-	200	1 2 3 4 5
F-05	3	CARRIER	54TP6A100E21II20	VERTICAL UPFLOW	21	100,000 / 65,000	¶1,000 / 63,000			2,000	0.5	115V/1Ø	1	96.1	YES	2,000 / 145		YES	480 / 145		-	200	1 2 3 4 5
F-06	3	CARRIER	54TP6A100E21II20	VERTICAL UPFLOW	21	100,000 / 65,000	¶1,000 / 63,000			2,000	0.5	115V/1Ø	1	96.1	YES	2,000 / 145		YES	480 / 145		-	200	1 2 3 4 5
F-07	3	CARRIER	54TP6A100E21II20	VERTICAL UPFLOW	21	100,000 / 65,000	¶1,000 / 63,000			2,000	0.5	115V/1Ø	1	96.1	YES	2,000 / 145		YES	480 / 145		-	200	1 2 3 4 5
F-08	3	CARRIER	54TP6A100E21II20	VERTICAL UPFLOW	21	100,000 / 65,000	¶1,000 / 63,000			2,000	0.5	115V/1Ø	1	96.1	YES	2,000 / 145		YES	480 / 145		-	200	1 2 3 4 5
F-09	3	CARRIER	54TP6A100E21II20	VERTICAL UPFLOW	21	100,000 / 65,000	¶1,000 / 63,000			2,000	0.5	115V/1Ø	1	96.1	YES	2,000 / 145		YES	480 / 145		-	200	1 2 3 4 5
F-10	4A	CARRIER	54TP6A100E21II20	VERTICAL UPFLOW	21	100,000 / 65,000	¶1,000 / 63,000			2,000	0.5	115V/1Ø	1	96.1	YES	2,000 / 145		YES	480 / 145		-	200	1 2 3 4 5
F-11	4A	CARRIER	54TP6A100E21II20	VERTICAL UPFLOW	21	100,000 / 65,000	¶1,000 / 63,000			2,000	0.5	115V/1Ø	1	96.1	YES	2,000 / 145		YES	480 / 145		-	200	1 2 3 4 5
F-12	4A	CARRIER	54TP6A100E21II20	VERTICAL UPFLOW	21	100,000 / 65,000	¶1,000 / 63,000			2,000	0.5	115V/1Ø	1	96.1	YES	2,000 / 145		YES	480 / 145		-	200	1 2 3 4 5
F-13	4A	CARRIER	54TP6A100E21II20	VERTICAL UPFLOW	21	100,000 / 65,000	¶1,000 / 63,000			2,000	0.5	115V/1Ø	1	96.1	YES	2,000 / 145		YES	480 / 145		-	200	1 2 3 4 5
F-14	4A	CARRIER	54TP6A100E21II20	VERTICAL UPFLOW	21	100,000 / 65,000	¶1,000 / 63,000			2,000	0.5	115V/1Ø	1	96.1	YES	2,000 / 145		YES	480 / 145		-	200	1 2 3 4 5
F-15	4B	CARRIER	54TP6A100E21II20	VERTICAL UPFLOW	21	100,000 / 65,000	¶1,000 / 63,000			2,000	0.5	115V/1Ø	1	96.1	YES	2,000 / 145		YES	480 / 145		-	200	1 2 3 4 5
F-16	4B	CARRIER	54TP6A100E21II20	VERTICAL UPFLOW	21	100,000 / 65,000	¶1,000 / 63,000			2,000	0.5	115V/1Ø	1	96.1	YES	2,000 / 145		YES	480 / 145		-	200	1 2 3 4 5
F-17	4B	CARRIER	54TP6A100E21II20	VERTICAL UPFLOW	21	100,000 / 65,000	¶1,000 / 63,000			2,000	0.5	115V/1Ø	1	96.1	YES	2,000 / 145		YES	480 / 145		-	200	1 2 3 4 5
F-18	4B	CARRIER	54TP6A100E21II20	VERTICAL UPFLOW	21	100,000 / 65,000	¶1,000 / 63,000			2,000	0.5	115V/1Ø	1	96.1	YES	2,000 / 145		YES	480 / 145		-	200	1 2 3 4 5
F-19	4B	CARRIER	54TP6A100E21II20	VERTICAL UPFLOW	21	100,000 / 65,000	¶1,000 / 63,000			2,000	0.5	115V/1Ø	1	96.1	YES	2,000 / 145		YES	480 / 145		-	200	1 2 3 4 5
F-20	1A	CARRIER	54TP6A120E24II22	VERTICAL UPFLOW	24-1/2	120,000 / 76,000	¶1,000 / 76,000			2,000	0.6	115V/1Ø	1	96.5	YES	2,000 / 145		YES	480 / 145		-	220	1 2 3 4 5
F-21	1A	CARRIER	54TP6A120E24II22	VERTICAL UPFLOW	24-1/2	120,000 / 76,000	¶1,000 / 76,000			2,000	0.6	115V/1Ø	1	96.5	YES	2,000 / 145		YES	480 / 145		-	220	1 2 3 4 5
F-22	1A	CARRIER	54TP6A120E24II22	VERTICAL UPFLOW	24-1/2	120,000 / 76,000	¶1,000 / 76,000			2,000	0.6	115V/1Ø	1	96.5	YES	2,000 / 145		YES	480 / 145		-	220	1 2 3 4 5

CONDENSING FURNACE NOTES:

1. PROVIDE WITH THE FOLLOWING:
   - A. 20 YEAR HEAT EXCHANGER WARRANTY.
   - B. 5 YEAR WARRANTY ON INTERNAL PARTS.
   - C. 2 STAGE GAS VALVE.
   - D. VARIABLE SPEED EMC BLOWER MOTOR.
   - E. MICRO-PROCESSOR BASED ELECTRONIC CONTROL BOARD FOR USE WITH STANDARD 2-STAGE HEATING AND COOLING THERMOSTAT.
   - F. .030 IN. MINIMUM THICKESS PREPAINTED STEEL CASING, FULLY INSULTATED INCLUDING BLOWER SECTION.
   - G. INSTALL VENT AND CONUSTION AIR PIPING PER MANUFACTURER'S INSTRUCTION.
   - H. SEALED COMBUSTION UNIT.
   - I. 3-PASS CORROSION-RESISTANT ALUMINIZED STEEL, FOLD-AND-CRIMP SECTIONAL DESIGN PRIMARY HEAT EXCHANGER.
   - J. STAINLESS STEEL, FLOW-THROUGH, PIN-AND-TUBE DESIGN SECONDARY HEAT EXCHANGER.
   - K. FACTORY CONDENSATE NEUTRALIZATION ACCESSORY KIT. PROVIDE WITH LIMESTONE CHIPS.
2. CONCENTRIC VENT TERMINATION KIT.
3. 1" FACTORY FILTER RACK WITH MERV-8, 1" PLEATED MEDIA FILTERS, USE FOR START-UP AND AIR BALANCING. REPLACE WITH MERV-11 FILTERS AFTER COMPLETION OF START-UP AND AIR BALANCING.
4. ~~SEE S/M4.1 FOR MOUNTING DETAIL.~~
5. MAXIMUM OUTSIDE AIR QUANTITY MAY BE LIMITED BY DUCT SIZE. WHEN SYSTEM IS IN FULL ECONOMIZER, AIR BALANCE SYSTEM TO PROVIDE MAXIMUM AVAILABLE OUTSIDE AIR. RETURN AIR IS TO BE SET TO SUPPLY AIR CFM LESS MAXIMUM AVAILABLE OUTSIDE AIR.

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PROJECT:
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4141 Harbor Street
Pittsburg, CA 94565

FILE 7-36

IDENTIFICATION STAMP
DIVISION OF THE STATE ARCHITECT
APPL. 01-116978
AC___ FLS___ SS___
DATE___

REVISIONS	DATE
DSA SUBMITTAL	09/28/2017
DSA BACKCHECK	12/07/2017
DSA BACKCHECK-2	06/21/2018
1 ADDENDUM 2	10/22/2018

DRAWN BY: DG	DATE: 06/21/2018
CHECKED BY: BG	SCALE: AS NOTED
APPROVED BY: MH	JOB NUMBER: 1632

SHEET TITLE
MECHANICAL SCHEDULES

SHEET NUMBER
M0.2

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AIR CONDITIONING UNIT SCHEDULE

SYMBOL	MANUFACTURER	MODEL NO.	CONFIGURATION	NOMINAL TONS	TOTAL COOLING CAPACITY (BTU/HR)	SENSIBLE COOLING CAPACITY (BTU/HR)	NATURAL GAS HEATING INPUT HIGH / LOW (BTU/HR)	NATURAL GAS HEATING OUTPUT HIGH / LOW (BTU/HR)	EVAPORATOR FAN CAPACITY (CFM)	EXTERNAL STATIC PRESSURE (IN. H2O)	VOLTAGE-PHASE	MINIMUM CIRCUIT AMPACITY	MAXIMUM FUSE SIZE	SUPPLY MOTOR HP	SUPPLY MOTOR BHP	EER/SEER	STEADY STATE EFFICIENCY (%)	ECONOMIZER (YES / NO)	ECONOMIZER OUTSIDE AIR (CFM) MAX/MIN	DEMAND (CO2) CONTROL VENTILATION (YES / NO)	DEMAND CONTROL VENTILATION OUTSIDE AIR (CFM) MAX/MIN	SMOKE DETECTOR REQUIRED	APPROX. OPER. WT. (LBS)	NOTES
AC 1	CARRIER	48VGNB240603	DOWN DISCHARGE	2	22,480	17,650	60,000/160,000	49,000/149,000	800	0.20	208/230V-1Ø	19.4	50	1/2	0.14	-/15.0	81	YES	800/190	YES	375/90	NO	575	1 2 3
AC 2	CARRIER	48HCED04A2A5-0A2B0	DOWN DISCHARGE	8.5	103,620	80,930	150,000/120,000	148,000/98,000	3,400	0.50	208/230V-3Ø	46	50	-	1.55	12.0/-	82	YES	3,400/805	YES	600/305	YES*	1,100	1 2 4
AC 3	CARRIER	48HCDA06A2A5-0A0A0	HORIZONTAL DISCHARGE	5	60,420	47,890	72,000/50,000	59,000/41,000	2,000	0.50	208/230V-3Ø	30	45	-	1.23	-/13.2	82	YES	2,000/210	YES	400/210	NO	700	1 2 4
AC 4	CARRIER	48HCED07A1A5-0A2B0	HORIZONTAL DISCHARGE	6	74,140	56,790	125,000/90,000	103,000/73,000	2,400	0.50	208/230V-3Ø	36	50	-	1.06	12.0/-	82	YES	2,400/255	YES	720/255	YES*	800	1 2 4
AC 5	CARRIER	48HCED07A1A5-0A2B0	DOWN DISCHARGE	6	74,140	56,790	125,000/90,000	103,000/73,000	2,400	0.50	208/230V-3Ø	36	50	-	1.07	12.0/-	82	YES	2,400/1600	YES	600/210	YES*	800	1 2 4

*EXISTING SMOKE DETECTOR LOCATED IN DUCTWORK DOWNSTREAM OF UNIT TO REMAIN, SEE 4/M5.1 FOR DETAILS.

ROOF MOUNTED AIR CONDITIONING UNIT NOTES:

1. THE ROOF MOUNTED AIR CONDITIONING UNIT IS TO INCLUDE THE FOLLOWING FEATURES:
   - A. HIGH EFFICIENCY UNIT.
   - B. FACTORY INSTALLED APPLICATION SPECIFIC CONTROLLER (ASC) FOR CONTROL OF ALL ASSOCIATED HVAC ROOFTOP EQUIPMENT FUNCTIONS IN A SINGLE ZONE APPLICATION OR AS A PART OF A ZONING SYSTEM APPLICATION. (1)
   - C. COMPRESSORS TO HAVE STANDARD FIVE (5) YEAR FACTORY WARRANTY.
   - D. 2" FILTER RACK WITH 2" PLEATED MEDIA FILTERS, USE FOR START-UP AND AIR BALANCING. REPLACE WITH MERV-11 FILTERS AFTER COMPLETION OF START UP AND AIR BALANCING.
   - E. UL LISTED AND LABELED.
   - F. FOIL FACED AND EDGE CAPTURED INSULATION.
   - G. HIGH AND LOW PRESSURE CONTROL, COMPRESSOR OVER-TEMPERATURE, OVER-CURRENT SAFETIES.
   - H. CALIFORNIA COMPLIANT, INCLUDING LOW NOx.
   - I. ANTI-SHORT CYCLE TIMER AND TIME DELAY BETWEEN COMPRESSORS.
   - J. LOW LEAK CA TITLE 24 FULLY MODULATING 0-100% ECONOMIZER WITH CA TITLE 24 FAULT DETECTION AND DIAGNOSTICS. MOTOR AND DAMPERS, BAROMETRIC RELIEF, MINIMUM POSITION SETTING, FREESET LINKAGE AND WIRING HARNESS WITH PLUG. PROVIDE 100% SHUT-OFF WHEN UNIT IS OFF LINE.
   - K. FIXED DRY BULB ECONOMIZER CONTROL.
   - L. POWERED CONVENIENCE OUTLET.
   - M. HINGED ACCESS DOORS.
   - N. MULTI-SPEED MOTOR FOR 04 - 06 UNIT SIZES.
   - O. BELT DRIVE, FC CENTRIFUGAL INDOOR FAN WITH ADJUSTABLE MOTOR SHEAVES AND ADJUSTABLE IDLER-ARM ASSEMBLY FOR 07 - 14 UNIT SIZES.
   - P. DUAL COMPRESSORS FOR 08 - 14 UNITS.
   - Q. FLUE DISCHARGE DEFLECTOR.
   - R. ASHRAE 90.1 COMPLIANT.
   - S. CONTROLS AS REQUIRED FOR CONTROL FROM ENERGY MANAGEMENT SYSTEM. VERIFY AND COORDINATE ENERGY MANAGEMENT SYSTEM TYPE PRIOR TO ORDERING EQUIPMENT.
2. ADJUST FAN SPEED AND DRIVE TO DELIVER REQUIRED CFM AT LOWEST POSSIBLE SPEED SETTING.
3. UNIT TO BE INSTALLED ONTO (E) ROOF CURB. UNIT FOOTPRINT TO MATCH (E) ROOF CURB WITHOUT THE USE OF AN ADAPTER CURB OR MODIFICATIONS.
4. MASON ISC 2TDEFLECTION SPRING ISOLATED ROOF CURB. SEE 2/M4.1 FOR MOUNTING DETAILS.

CONDENSING UNIT SCHEDULE

SYMBOL	BUILDING	MANUFACTURER	MODEL NO.	REFRIGERANT	ELECTRICAL DATA: VOLTAGE / PHASE	ELECTRICAL DATA: MINIMUM CIRCUIT AMPACITY	ELECTRICAL DATA: FAN MOTOR FLA	ELECTRICAL DATA: MAX. FUSE SIZE (AMPS)	ELECTRICAL DATA: COMPRESSOR RLA	ELECTRICAL DATA: COMPRESSOR LRA	SEER @ ARI CONDITIONS	ASSOCIATED COOLING COIL	OPERATING WEIGHT (LBS.)	NOTES
CU 01	2	CARRIER	24ACB160AB03	R-410A	208-230V/1Ø	37.3	1.3	60	28.8	152.9	14.5	CC-01	350	
CU 02	2	CARRIER	24ACB160AB03	R-410A	208-230V/1Ø	37.3	1.3	60	28.8	152.9	14.5	CC-02	350	1
CU 03	2	CARRIER	24ACB160AB03	R-410A	208-230V/1Ø	37.3	1.3	60	28.8	152.9	14.5	CC-03	350	1
CU 04	2	CARRIER	24ACB160AB03	R-410A	208-230V/1Ø	37.3	1.3	60	28.8	152.9	14.5	CC-04	350	1
CU 05	3	CARRIER	24ACB160AB03	R-410A	208-230V/1Ø	37.3	1.3	60	28.8	152.9	14.5	CC-05	350	1
CU 06	5	CARRIER	24ACB160AB03	R-410A	208-230V/1Ø	37.3	1.3	60	28.8	152.9	14.5	CC-06	350	1
CU 07	5	CARRIER	24ACB160AB03	R-410A	208-230V/1Ø	37.3	1.3	60	28.8	152.9	14.5	CC-07	350	1
CU 08	5	CARRIER	24ACB160AB03	R-410A	208-230V/1Ø	37.3	1.3	60	28.8	152.9	14.5	CC-08	350	1
CU 09	3	CARRIER	24ACB160AB03	R-410A	208-230V/1Ø	37.3	1.3	60	28.8	152.9	14.5	CC-09	350	1
CU 10	4A	CARRIER	24ACB160AB03	R-410A	208-230V/1Ø	37.3	1.3	60	28.8	152.9	14.5	CC-10	350	1
CU 11	4A	CARRIER	24ACB160AB03	R-410A	208-230V/1Ø	37.3	1.3	60	28.8	152.9	14.5	CC-11	350	1
CU 12	4A	CARRIER	24ACB160AB03	R-410A	208-230V/1Ø	37.3	1.3	60	28.8	152.9	14.5	CC-12	350	1
CU 13	4A	CARRIER	24ACB160AB03	R-410A	208-230V/1Ø	37.3	1.3	60	28.8	152.9	14.5	CC-13	350	1
CU 14	4A	CARRIER	24ACB160AB03	R-410A	208-230V/1Ø	37.3	1.3	60	28.8	152.9	14.5	CC-14	350	1
CU 15	4B	CARRIER	24ACB160AB03	R-410A	208-230V/1Ø	37.3	1.3	60	28.8	152.9	14.5	CC-15	350	1
CU 16	4B	CARRIER	24ACB160AB03	R-410A	208-230V/1Ø	37.3	1.3	60	28.8	152.9	14.5	CC-16	350	1
CU 17	4B	CARRIER	24ACB160AB03	R-410A	208-230V/1Ø	37.3	1.3	60	28.8	152.9	14.5	CC-17	350	1
CU 18	4B	CARRIER	24ACB160AB03	R-410A	208-230V/1Ø	37.3	1.3	60	28.8	152.9	14.5	CC-18	350	1
CU 19	4B	CARRIER	24ACB160AB03	R-410A	208-230V/1Ø	37.3	1.3	60	28.8	152.9	14.5	CC-19	350	1
CU 20	1A	CARRIER	24ACB160AB03	R-410A	208-230V/1Ø	37.3	1.3	60	28.8	152.9	14.5	CC-20	350	1
CU 21	1A	CARRIER	24ACB160AB03	R-410A	208-230V/1Ø	37.3	1.3	60	28.8	152.9	14.5	CC-21	350	1
CU 22	1A	CARRIER	24ACB160AB03	R-410A	208-230V/1Ø	37.3	1.3	60	28.8	152.9	14.5	CC-22	350	1

CONDENSING UNIT NOTES:

1. PROVIDE WITH THE FOLLOWING:
   - A. 2-STAGE SCROLL COMPRESSOR.
   - B. CRANKCASE HEATER WITH TEMPERATURE SWITCH.
   - C. LOUVERED COIL GUARD.
   - D. FILTER DRIER.
   - E. FRONT SEATING SERVICE VALVES.
   - F. INTERNAL PRESSURE RELIEF VALVE.
   - G. INTERNAL THERMAL OVERLOAD.
   - H. LONG LINE CAPABILITY.
   - I. HIGH AND LOW PRESSURE SWITCHES.

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FILE 7-36

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REVISIONS	DATE
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DSA BACKCHECK-2	06/27/2018
1 ADDENDUM 2	10/22/2018

DRAWN BY: DG	DATE: 06/27/2018
CHECKED BY: BG	SCALE: AS NOTED
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SHEET TITLE
MECHANICAL SCHEDULES

SHEET NUMBER
M0.4

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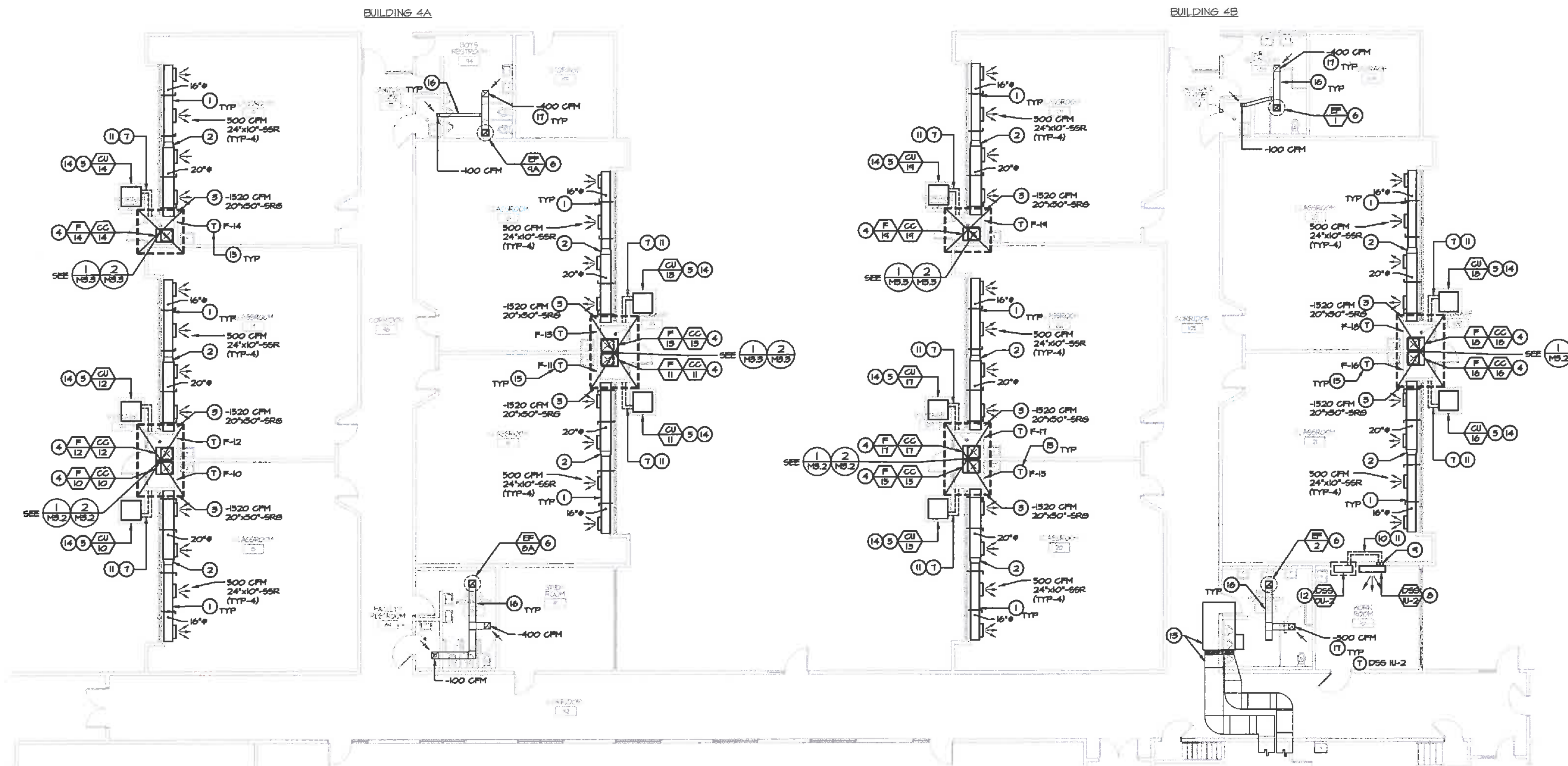

MECHANICAL FLOOR PLANS - BUILDINGS 4A AND 4B

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

1 / M2.3

PROJECT NORTH

SHEET NOTES

1. EXPOSED SPIRAL DUCTWORK MOUNTED TIGHT TO UNDERSIDE OF CEILING. SEE 1/M4.1 FOR MOUNTING. PAINT DUCTWORK TO MATCH (E) SURFACES.
2. TOP FLAT, ECCENTRIC FITTING.
3. 20"x50" SIDEWALL RETURN GRILLE IN WALL. 20"x38" LOWER PORTION OF GRILLE TO BE USED FOR RETURN AIR, UPPER 12" TO BE USED FOR ROOM PRESSURE RELIEF.
4. FURNACE AND COOLING COIL IN MECHANICAL CLOSET. SEE 6/M4.1 FOR MOUNTING, 1/M5.2 FOR CONTROL.
5. CONDENSING UNIT AT GRADE ON CONCRETE HOUSEKEEPING PAD. SEE 3/M4.1 FOR MOUNTING, 1/M5.2 FOR CONTROL.
6. EXHAUST FAN ON EXISTING ROOF CURB. SEE 5/M4.1 FOR MOUNTING, 2/M5.1 FOR CONTROL. REPAIR ROOF AND ROOFING AS REQUIRED TO PROVIDE A WATERTIGHT INSTALLATION.
7. REFRIGERANT PIPING AT GRADE, SEE 4/M4.1 FOR MOUNTING.
8. WALL MOUNTED FAN COIL UNIT OF SPLIT HEAT PUMP SYSTEM. INSTALL IN EXISTING LOCATION, SEE 4/M4.2 FOR MOUNTING. SEE 3/M5.1 FOR CONTROL.
9. EXTEND REFRIGERANT PIPING UP THROUGH EXISTING ROOF OPENING. SEE 1/M4.2 FOR NEW ROOF FLASHING.
10. REFRIGERANT PIPING ON ROOF, SEE 5/M4.2 FOR MOUNTING.
11. ALL EXTERIOR PIPING AND INSULATION IS TO BE COVERED WITH .016 IN. ALUMINUM JACKETING AND FITTING COVERS, ITW INSULATION SYSTEMS OR EQUAL.
12. OUTDOOR UNIT OF SPLIT HEAT PUMP SYSTEM ON EXISTING ROOF EQUIPMENT PLATFORM. SEE 3/M4.2 FOR MOUNTING, 3/M5.1 FOR CONTROL. INSTALL NEW SHEET METAL CAP OVER EXISTING PLATFORM, SEE 2/M4.2 FOR DETAILS. REPAIR ROOF AND ROOFING AS REQUIRED TO PROVIDE A WATERTIGHT INSTALLATION.
13. EXISTING ROOF MOUNTED AIR CONDITIONING UNIT AND ~~DUCTWORK TO REMAIN.~~ NEW CONTROLS TO BE INSTALLED ONTO (E) UNIT. SEE 1/M5.3 FOR NEW CONTROLS. (Revision 1)
14. INSTALL EXPANDED METAL ENCLOSURE AROUND CONDENSING UNIT. ENCLOSURE TO INCLUDE HINGED TOP AND HINGED FRONT DOOR. BOTH TOP AND DOOR TO BE LOCKABLE. COLOR: GREEN. ALL SPEC ENCLOSURES, INC. MODEL NO. BPES-TO-424246. VERIFY EXACT SIZE PRIOR TO ORDERING.
15. INSTALL NEW THERMOSTAT IN EXISTING LOCATION, VIF. THERMOSTAT TO BE MOUNTED ON 1" THICK RIGID BOARD INSULATION. INSULATION TO BE SHAPED TO MATCH THERMOSTAT BASE SIZE. EDGES OF INSULATION BOARD TO BE COVERED WITH TRIM THEN PAINTED TO MATCH THERMOSTAT COLOR. FINAL PRODUCT IS TO HAVE A NEAT, FINISHED APPEARANCE. INSULATION BOARD IS NOT REQUIRED IF THERMOSTAT IS LOCATED ON NON-CONCRETE, INTERIOR FRAMED WALL.
16. THOROUGHLY CLEAN INTERIOR OF ALL (E) DUCT TO REMAIN. CLEAN ALL REGISTERS AND GRILLES.
17. AIR BALANCE ALL (E) AIR INLETS AND OUTLETS TO AIR QUANTITIES SHOWN.

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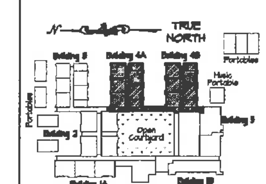
Pittsburg, CA 94565

PROJECT:
Highlands Elementary School HVAC Replacement Project
4141 Harbor Street
Pittsburg, CA 94565

FILE 7-36

IDENTIFICATION STAMP
DIVISION OF THE STATE ARCHITECT
APPL. 01-116978
AC_____ FLS_____ SS_____
DATE_____



Key Plan

REVISIONS	DATE
DSA SUBMITTAL	09/28/2017
DSA BACKCHECK	12/07/2017
DSA BACKCHECK-2	06/27/2018
1 ADDENDUM 2	10/22/2018

DRAWN BY: DC	DATE: 06/27/2018
CHECKED BY: BC	SCALE: AS NOTED
APPROVED BY: MW	JOB NUMBER: 1632

SHEET TITLE

MECHANICAL FLOOR PLANS - BUILDINGS 4A AND 4B

SHEET NUMBER

M2.3

PLEASE RECYCLE

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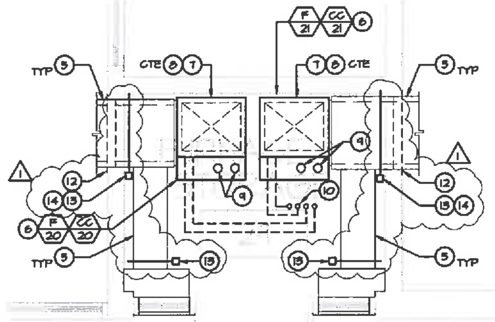
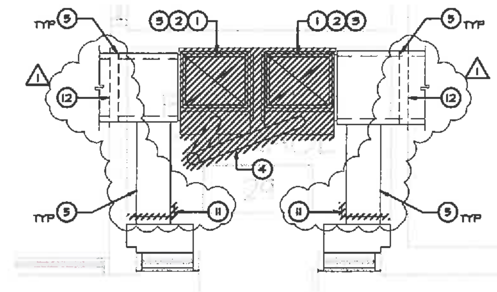
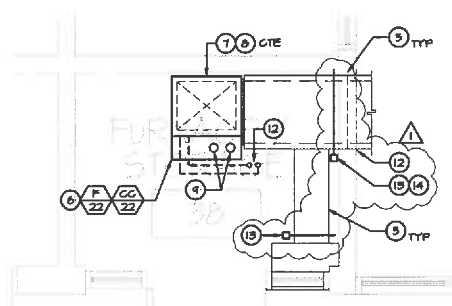


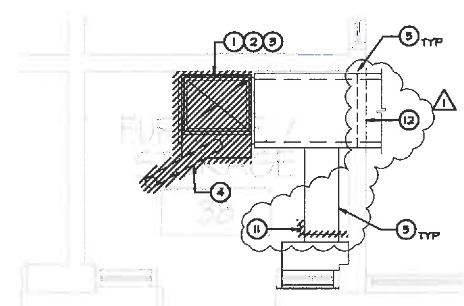
PARTIAL MECHANICAL FLOOR PLAN
SCALE: 1/2" = 1'-0"
2 / M3.1 — PROJECT NORTH



PARTIAL MECHANICAL DEMOLITION FLOOR PLAN
SCALE: 1/2" = 1'-0"
1 / M3.1 — PROJECT NORTH



PARTIAL MECHANICAL FLOOR PLAN
SCALE: 1/2" = 1'-0"
4 / M3.1 — PROJECT NORTH



PARTIAL MECHANICAL DEMOLITION FLOOR PLAN
SCALE: 1/2" = 1'-0"
3 / M3.1 — PROJECT NORTH

SHEET NOTES

1. REMOVE (E) FURNACE AND (E) COOLING COIL. REMOVE (E) REFRIGERANT PIPING AND ALL ASSOCIATED HANGERS AND SUPPORTS. (E) ANGLE IRON SUPPORT FRAME FOR FURNACE AND COOLING COIL IS TO REMAIN.
2. DISCONNECT (E) RETURN DUCTWORK FROM BOTTOM RETURN CONNECTION AT UNIT. (E) RETURN DUCTWORK IS TO BE RECONNECTED TO NEW FURNACE.
3. DISCONNECT (E) SUPPLY DUCTWORK FROM CONNECTION AT TOP OF COOLING COIL. (E) SUPPLY DUCTWORK IS TO BE RECONNECTED TO NEW COOLING COIL.
4. REMOVE ALL (E) FLUE PIPING, SUPPORTS AND ALL ACCESSORIES.
5. ALL (E) DUCTWORK IS TO REMAIN, INCLUDING ALL (E) SUPPLY, RETURN, AND OUTSIDE AIR SYSTEMS. THOROUGHLY CLEAN INTERIOR OF ALL (E) DUCT TO REMAIN. CLEAN ALL REGISTERS AND GRILLES.
6. INSTALL FURNACE AND COOLING COIL IN EXISTING ANGLE SUPPORT FRAME. BOLT FURNACE TO FRAME WITH MIN. (4) 3/8" BOLTS THROUGH BOTTOM OF UNIT CASING. CONNECT REFRIGERANT PIPING TO COOLING COIL AND EXTEND TO OUTDOOR CONDENSING UNIT.
7. CONNECT (E) RETURN DUCT TO BOTTOM RETURN OPENING ON UNIT. TRANSITION DUCTWORK AS REQUIRED, VIF.
8. EXTEND 1'L, FULL SIZE DUCT UP FROM CONNECTION AT TOP OF COOLING COIL AND CONNECT TO EXISTING SUPPLY DUCT ABOVE UNIT. TRANSITION DUCTWORK AS REQUIRED, VIF.
9. CONNECT 3" COMBUSTION AIR AND FLUE PIPING TO FURNACE. COMBINE PIPING WITH CONCENTRIC VENT FITTING THEN EXTEND THROUGH ROOF. FLASH AND COUNTERFLASH ROOF PENETRATION AND REPAIR ROOFING FOR A WATERTIGHT INSTALLATION. INSTALL PER MANUFACTURER'S INSTRUCTIONS. PIPING MAY BE REDUCED TO 2-1/2" PROVIDING ALL MANUFACTURER'S VENT PIPING REQUIREMENTS ARE MET FOR REDUCED SIZE.
10. EXTEND PIPING UP THROUGH (E) ROOF OPENING. VERIFY EXACT LOCATION IN FIELD. SEE 1/M2.1 FOR CONTINUATION ABOVE.
11. MANUAL BALANCING DAMPER TO BE REPLACED WITH MOTORIZED DAMPER.
12. (E) RETURN GRILLE LOCATED BELOW (E) SUPPLY DUCT.
13. MODULATING DAMPER FOR ECONOMIZER AND DCV (CO2) CONTROL. SEE 1/M6.2 FOR CONTROL.
14. EXISTING CLEARANCES ARE LIMITED. DAMPER MOTOR MAY BE INSTALLED INSIDE OF DUCTWORK IF SPACE IS NOT AVAILABLE TO MOUNT MOTOR ON EXTERIOR OF DUCT, VIF.

McCRACKEN & WOODMAN Incorporated
TEL 925-283-4811
3470 Mt. Diablo Blvd, Suite A305
Lafayette, CA 94549
www.mccracken-woodman.com

REGISTERED PROFESSIONAL ENGINEER — MARC A. WOODMAN — MECHANICAL — STATE OF CALIFORNIA

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Pittsburg Unified School District
2000 Railroad Avenue
Pittsburg, CA 94565

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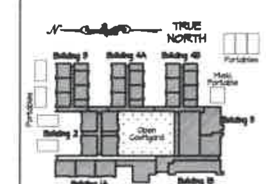

Key Plan

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SHEET TITLE
MECHANICAL PARTIAL PLANS

SHEET NUMBER
M3.1

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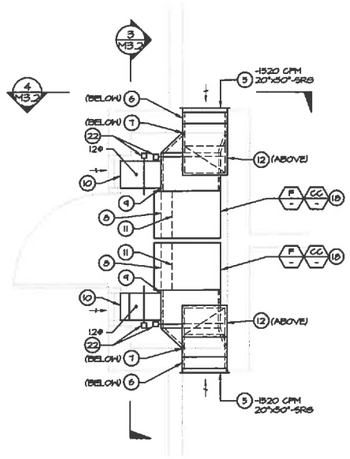
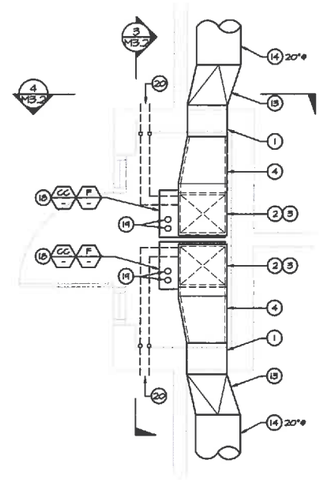


MECHANICAL PARTIAL FLOOR PLAN

SCALE: 1/2" = 1'-0"

2/M3.2

PROJECT NORTH



MECHANICAL PARTIAL FLOOR PLAN

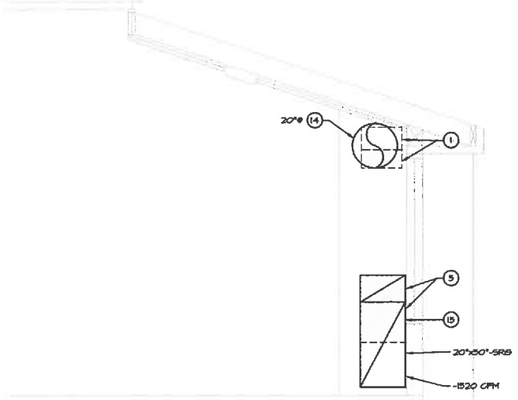
SCALE: 1/2" = 1'-0"

1/M3.2

PROJECT NORTH

SHEET NOTES

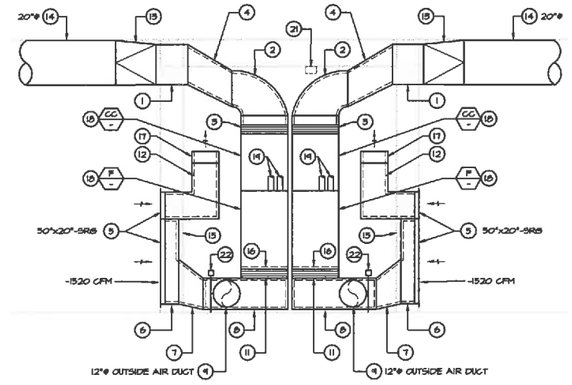
1. ENLARGE (E) OPENING AS REQUIRED AND EXTEND 18"x18" DUCT THROUGH WALL. APPROX. EXIST. WALL OPENING SIZE = 18-1/2"x18-1/2", VIF. INSTALL ESCUTCHEON ON CLASSROOM SIDE OF WALL. PAINT TO MATCH (E) SURFACES.
2. INSTALL TRANSITIONAL RADIUS ELBOW FROM COIL CONNECTION SIZE TO 16"x20"(1"L), 18"x22" GROSS DIM DUCT.
3. INSTALL FLEXIBLE FABRIC DUCT CONNECTOR AT FINAL CONNECTION TO UNIT.
4. TRANSITION DUCT FROM 16"x20"(1"L), 18"x22" GROSS DIM. DUCT TO 16"x16"(1"L), 18"x18" GROSS DIM DUCT. FITTING TO OFFSET UP TO WALL OPENING.
5. 20"x50" RETURN GRILLE. UPPER 12" IS TO BE USED FOR CLASSROOM PRESSURE RELIEF, LOWER 38" IS TO BE USED FOR RETURN AIR.
6. INSTALL 20"x38"x6" DEEP (1"L) RETURN PLENUM ON LOWER SECTION OF RETURN GRILLE.
7. CONNECT 18"x18"(1"L), 20"x20" GROSS DIM. RETURN DUCT TO LOWEST PORTION OF 20"x38"x6" RETURN PLENUM. TRANSITION 18"x18" (1"L) DUCT TO 26"x12"(1"L) AND CONNECT TO END OF 26"x12"(1"L) RETURN PLENUM BELOW UNIT.
8. 26"x12"(1"L), 28"x14" GROSS DIM. RETURN PLENUM BELOW UNIT. EXTEND PLENUM HORIZONTALLY FOR CONNECTION OF 12"ø OUTSIDE AIR DUCT AND 18"x18"(1"L) RETURN DUCT.
9. CONNECT 12"ø OUTSIDE AIR DUCT TO SIDE OF RETURN PLENUM.
10. INSTALL 12"x20"x4" DEEP OUTSIDE AIR PLENUM TO BACK OF LOUVER. CONNECT 12"ø OUTSIDE AIR DUCT AND EXTEND TO RETURN PLENUM BELOW UNIT.
11. EXTEND 20"x22" RETURN DUCT UP FROM RETURN PLENUM AND CONNECT TO BOTTOM RETURN OPENING ON UNIT. VERIFY EXACT SIZE IN FIELD. INSTALL FLEXIBLE FABRIC DUCT CONNECTOR AT FINAL CONNECTION TO UNIT.
12. CONNECT 18"x10"(1"L), 20"x12" GROSS DIM. PRESSURE RELIEF DUCT ELBOW TO UPPER 12" PORTION OF GRILLE. VERTICAL LEG OF ELBOW TO BE 18" TALL FOR SOUND ATTENTION.
13. 18"x18"x20"ø SQUARE TO ROUND FITTING. FITTING TO OFFSET UP TO 20"ø EXPOSED SPIRAL DUCT RUN TIGHT TO CEILING.
14. EXPOSED SPIRAL DUCT RUN TIGHT TO CEILING. SEE I/M4.1 FOR MOUNTING.
15. ENLARGE (E)20"x20" OPENING TO 20"x50".
16. 1" FACTORY FILTER RACK INSIDE OF UNIT CASING.
17. INSTALL COUNTERBALANCED BACKDRAFT DAMPER IN DUCTWORK, SET FOR RELIEF. ADJUST DAMPER SENSITIVITY SO THAT NO PRESSURIZATION DIFFERENCE IS NOTICEABLE AT DOORS INTO AREA SERVED. RUSKIN CBD4 OR EQUAL.
18. FURNACE AND COOLING COIL IN MECHANICAL CLOSET. SEE 6/M4.1 FOR MOUNTING, I/M3.2 FOR CONTROL. CONNECT REFRIGERANT PIPING TO COOLING COIL AND EXTEND TO OUTDOOR CONDENSING UNIT.
19. CONNECT 2-1/2" COMBUSTION AIR AND FLUE PIPING TO FURNACE. COMBINE PIPING WITH CONCENTRIC VENT FITTING THEN EXTEND THROUGH ROOF. FLASH AND COUNTERFLASH ROOF PENETRATION AND REPAIR ROOFING FOR A WATERTIGHT INSTALLATION. INSTALL PER MANUFACTURER'S INSTRUCTIONS.
20. REFRIGERANT PIPING TO OUTDOOR CONDENSING UNIT. SEE I/M2.2 AND I/M2.3 FOR CONTINUATION. SEAL WALL PENETRATIONS FOR A WATERTIGHT INSTALLATION.
21. (E) HEAT DETECTOR TO BE RELOCATED TO ALLOW INSTALLATION OF DUCTWORK. COORDINATE LOCATION IN FIELD AS REQUIRED.
22. MODULATING DAMPER FOR ECONOMIZER AND DCV (CO2) CONTROL. SEE I/M3.2 FOR DETAILS. (1)



MECHANICAL SECTION

SCALE: 1/2" = 1'-0"

4/M3.2



MECHANICAL SECTION

SCALE: 1/2" = 1'-0"

3/M3.2

McCRACKEN WOODMAN Incorporated

ph. 925-283-6881 3478 Mt. Diablo Blvd. Suite A206 Lafayette, CA 94549 www.mccracken-woodman.com

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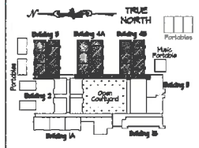

Key Plan

REVISIONS	DATE
DSA SUBMITTAL	09/28/2011
DSA BACKCHECK	12/01/2011
DSA BACKCHECK-2	06/21/2018
1 ADDENDUM 2	10/22/2018

DRAWN BY: DG	DATE: 06/21/2018
CHECKED BY: BC	SCALE: AS NOTED
APPROVED BY: MM	JOB NUMBER: 1632

SHEET TITLE

MECHANICAL PARTIAL FLOOR PLANS

SHEET NUMBER

M3.2

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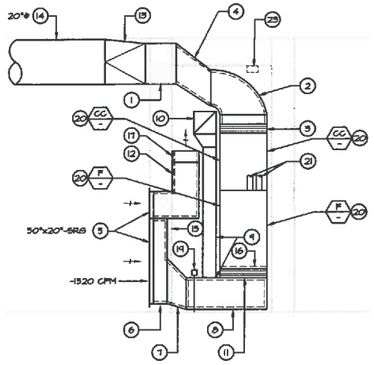
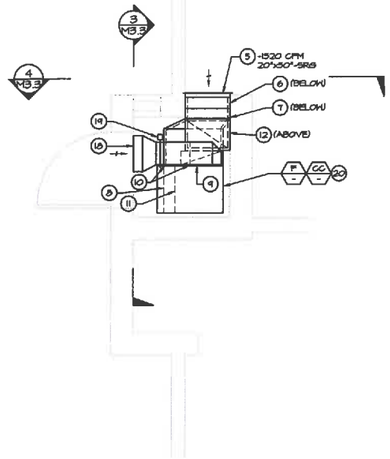
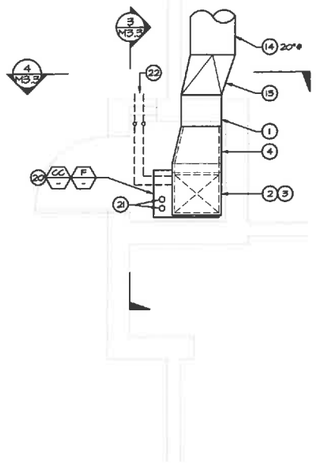


MECHANICAL SECTION
SCALE: 1/2" = 1'-0"
3 / M3.3



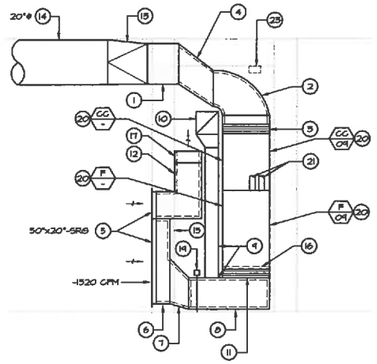
MECHANICAL PARTIAL FLOOR PLAN
SCALE: 1/2" = 1'-0"
2 / M3.3
PROJECT NORTH



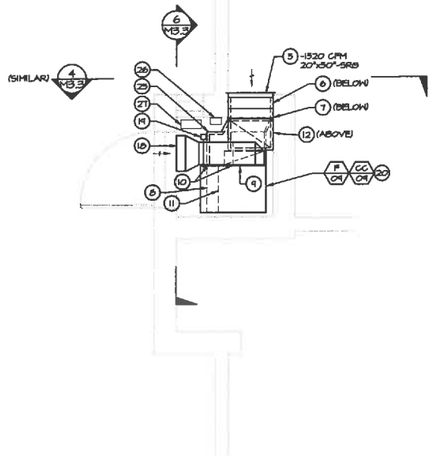
MECHANICAL PARTIAL FLOOR PLAN
SCALE: 1/2" = 1'-0"
1 / M3.3
PROJECT NORTH

SHEET NOTES

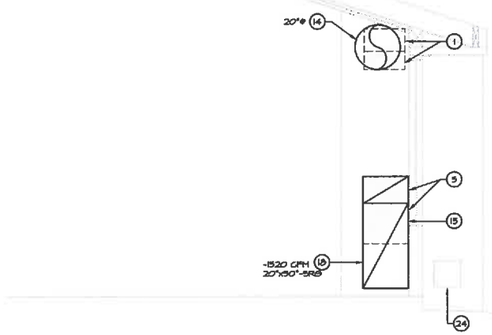
1. ENLARGE (E) OPENING AS REQUIRED AND EXTEND 18"x18" DUCT THROUGH WALL. APPROX. EXIST. WALL OPENING SIZE = 15-1/2"x10-1/2". VIF. INSTALL ESCUTCHEON ON CLASSROOM SIDE OF WALL. PAINT TO MATCH (E) SURFACES.
2. INSTALL TRANSITIONAL RADIUS ELBOW FROM COIL CONNECTION SIZE TO 16"x20"(1"L), 15"x22" GROSS DIM DUCT.
3. INSTALL FLEXIBLE FABRIC DUCT CONNECTOR AT FINAL CONNECTION TO COIL.
4. TRANSITION DUCT FROM 16"x20"(1"L), 15"x22" GROSS DIM. DUCT TO 16"x16"(1"L), 18"x18" GROSS DIM DUCT. FITTING TO OFFSET UP TO WALL OPENING.
5. 20"x50" RETURN GRILLE. UPPER 12" IS TO BE USED FOR CLASSROOM PRESSURE RELIEF, LOWER 38" IS TO BE USED FOR RETURN AIR.
6. INSTALL 20"x38"x6" DEEP (1"L) RETURN PLENUM ON LOWER SECTION OF RETURN GRILLE.
7. CONNECT 18"x18"(1"L), 20"x20" GROSS DIM. RETURN DUCT TO LOWEST PORTION OF 20"x38"x6" RETURN PLENUM. TRANSITION 18"x18" (1"L) DUCT TO 26"x12"(1"L) AND CONNECT TO END OF 26"x12"(1"L) RETURN PLENUM BELOW UNIT.
8. 26"x12"(1"L), 28"x14" GROSS DIM. RETURN PLENUM BELOW UNIT. EXTEND PLENUM HORIZONTALLY FOR CONNECTION OF 12"ø OUTSIDE AIR DUCT AND 18"x18"(1"L) RETURN DUCT.
9. CONNECT 18"x6" OUTSIDE AIR DUCT TO RETURN PLENUM BELOW UNIT AND EXTEND RISER UP AS SHOWN.
10. TRANSITION 18"x6" OUTSIDE AIR DUCT TO 10"x10" AT TOP OF RISER. THEN EXTEND 10"x10" TOWARDS (E) LOUVER ABOVE DOOR. OFFSET UP AS REQUIRED TO LOUVER ELEVATION.
11. EXTEND 20"x22" RETURN DUCT UP FROM RETURN PLENUM AND CONNECT TO BOTTOM RETURN OPENING ON UNIT. VERIFY EXACT SIZE IN FIELD. INSTALL FLEXIBLE FABRIC DUCT CONNECTOR AT FINAL CONNECTION TO UNIT.
12. CONNECT 18"x10"(1"L), 20"x12" GROSS DIM. PRESSURE RELIEF DUCT ELBOW TO UPPER 12" PORTION OF GRILLE. VERTICAL LEG OF ELBOW TO BE 18" TALL FOR SOUND ATTENTION.
13. 18"x18"x20"ø SQUARE TO ROUND FITTING. FITTING TO OFFSET UP TO 20"ø EXPOSED SPIRAL DUCT RUN TIGHT TO CEILING.
14. EXPOSED SPIRAL DUCT RUN TIGHT TO CEILING. SEE 1/M4.1 FOR MOUNTING.
15. ENLARGE (E)20"x20" OPENING TO 20"x50".
16. 1" FACTORY FILTER RACK INSIDE OF UNIT CASING.
17. INSTALL COUNTERBALANCED BACKDRAFT DAMPER IN DUCTWORK, SET FOR RELIEF. ADJUST DAMPER SENSITIVITY SO THAT NO PRESSURIZATION DIFFERENCE IS NOTICEABLE AT DOORS INTO AREA SERVED. RUSKIN CBD4 OR EQUAL.
18. INSTALL 16"x16"x4" DEEP OUTSIDE AIR PLENUM TO BACK OF EXISTING LOUVER ABOVE DOOR. ⚠1
19. MODULATING DAMPER FOR ECONOMIZER AND DCV (CO2) CONTROL. SEE 1/M5.2 FOR DETAILS.
20. FURNACE AND COOLING COIL IN MECHANICAL CLOSET. SEE 6/M4.1 FOR MOUNTING, 1/M5.2 FOR CONTROL. CONNECT REFRIGERANT PIPING TO COOLING COIL AND EXTEND TO OUTDOOR CONDENSING UNIT.
21. CONNECT 2-1/2" COMBUSTION AIR AND FLUE PIPING TO FURNACE. COMBINE PIPING WITH CONCENTRIC VENT FITTING THEN EXTEND THROUGH ROOF. FLASH AND COUNTERFLASH ROOF PENETRATION AND REPAIR ROOFING FOR A WATERTIGHT INSTALLATION. INSTALL PER MANUFACTURER'S INSTRUCTIONS.
22. REFRIGERANT PIPING TO OUTDOOR CONDENSING UNIT. SEE 1/M2.2 AND 1/M2.3 FOR CONTINUATION. SEAL WALL PENETRATIONS FOR A WATERTIGHT INSTALLATION.
23. (E) HEAT DETECTOR TO BE RELOCATED TO ALLOW INSTALLATION OF DUCTWORK. COORDINATE LOCATION IN FIELD AS REQUIRED.
24. (E) 12"x12" WALL LOUVER.
25. NOTCH RETURN DUCT AROUND (E) RECEPTACLE.
26. (E) RECEPTACLE TO REMAIN.
27. (E) SPRINKLER TIMER TO REMAIN.



MECHANICAL SECTION
SCALE: 1/2" = 1'-0"
6 / M3.3



MECHANICAL PARTIAL FLOOR PLAN
SCALE: 1/2" = 1'-0"
5 / M3.3
PROJECT NORTH



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4 / M3.3

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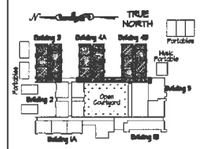

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⚠1 ADDENDUM 2	10/22/2018

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BG	AS NOTED
APPROVED BY	JOB NUMBER
MH	1682

SHEET TITLE
MECHANICAL PARTIAL FLOOR PLANS

SHEET NUMBER
M3.3

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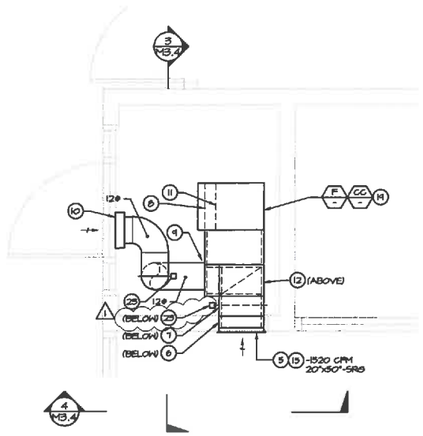
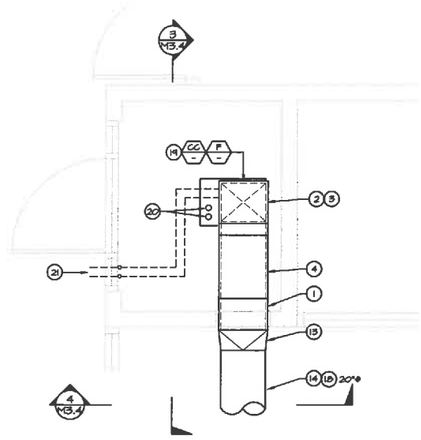


MECHANICAL PARTIAL FLOOR PLAN

SCALE: 1/2" = 1'-0"

2 M3.4

PROJECT NORTH

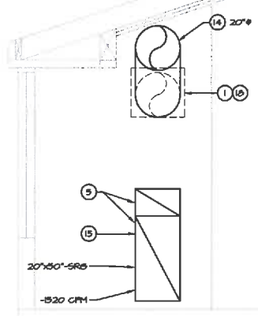


MECHANICAL PARTIAL FLOOR PLAN

SCALE: 1/2" = 1'-0"

1 M3.4

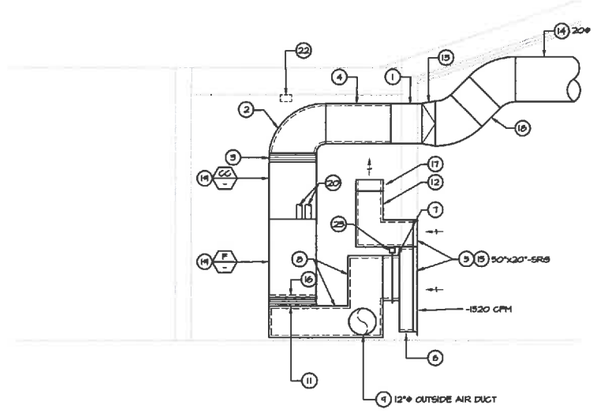
PROJECT NORTH



MECHANICAL SECTION

SCALE: 1/2" = 1'-0"

4 M3.4



MECHANICAL SECTION

SCALE: 1/2" = 1'-0"

3 M3.4

SHEET NOTES

1. EXTEND 20"x16" (1"L), 22"x18" GROSS DIM. DUCT THROUGH EXISTING WALL OPENING. INSTALL ESCUTCHEON ON CLASSROOM SIDE OF WALL. PAINT TO MATCH (E) SURFACES.
2. INSTALL TRANSITIONAL RADIUS ELBOW FROM COIL CONNECTION SIZE TO 16"x20"(1"L), 18"x22" GROSS DIM DUCT.
3. INSTALL FLEXIBLE FABRIC DUCT CONNECTOR AT FINAL CONNECTION TO COIL.
4. TRANSITION DUCT FROM 16"x20"(1"L), 18"x22" GROSS DIM DUCT TO 20"x16"(1"L), 22"x18" GROSS DIM DUCT. FITTING TO EXTEND TO (E) WALL OPENING.
5. 20"x30" RETURN GRILLE. UPPER 12" IS TO BE USED FOR CLASSROOM PRESSURE RELIEF, LOWER 38" IS TO BE USED FOR RETURN AIR.
6. INSTALL 20"x38"x6" DEEP (1"L) RETURN PLENUM ON LOWER SECTION OF RETURN GRILLE.
7. CONNECT 18"x18"(1"L), 20"x20" GROSS DIM, RETURN DUCT TO 20"x38"x6" RETURN PLENUM. EXTEND 18"x18" (1"L) DUCT AND CONNECT TO 26"x12"(1"L) RETURN DUCT RISER.
8. 26"x12"(1"L), 28"x14" GROSS DIM. RETURN DUCT BELOW UNIT. EXTEND PLENUM HORIZONTALLY FOR CONNECTION OF 12"ø OUTSIDE AIR DUCT, AND THEN EXTEND UP WITH RISER FOR CONNECTION OF 18"x18"(1"L) RETURN DUCT.
9. CONNECT 12"ø OUTSIDE AIR DUCT TO SIDE OF RETURN PLENUM.
10. INSTALL 16"x16"x4" DEEP OUTSIDE AIR PLENUM TO BACK OF EXISTING LOUVER ABOVE DOOR. CONNECT 12"ø OUTSIDE AIR DUCT THEN EXTEND DN TO RETURN PLENUM BELOW UNIT.
11. EXTEND 20"x22" RETURN DUCT UP FROM RETURN PLENUM AND CONNECT TO BOTTOM RETURN OPENING ON UNIT. VERIFY EXACT SIZE IN FIELD. INSTALL FLEXIBLE FABRIC DUCT CONNECTOR AT FINAL CONNECTION TO UNIT.
12. CONNECT 18"x10"(1"L), 20"x12" GROSS DIM. PRESSURE RELIEF DUCT ELBOW TO UPPER 12" PORTION OF GRILLE. VERTICAL LEG OF ELBOW TO BE 18" TALL FOR SOUND ATTENTION.
13. 22"x18"x20"ø SQUARE TO ROUND FITTING.
14. EXPOSED SPIRAL DUCT RUN TIGHT TO CEILING. SEE I/M4.1 FOR MOUNTING.
15. NEW 20"x30" WALL OPENING FOR RETURN/RELIEF GRILLE.
16. 1" FACTORY FILTER RACK INSIDE OF UNIT CASING.
17. INSTALL COUNTERBALANCED BACKDRAFT DAMPER IN DUCTWORK, SET FOR RELIEF. ADJUST DAMPER SENSITIVITY SO THAT NO PRESSURIZATION DIFFERENCE IS NOTICEABLE AT DOORS INTO AREA SERVED. RUSKIN CBD4 OR EQUAL.
18. OFFSET DUCT UP TO RUN TIGHT TO CEILING.
19. FURNACE AND COOLING COIL IN MECHANICAL CLOSET. SEE 6/M4.1 FOR MOUNTING, I/M5.2 FOR CONTROL. CONNECT REFRIGERANT PIPING TO COOLING COIL AND EXTEND TO OUTDOOR CONDENSING UNIT.
20. CONNECT 2-1/2" COMBUSTION AIR AND FLUE PIPING TO FURNACE. COMBINE PIPING WITH CONCENTRIC VENT FITTING THEN EXTEND THROUGH ROOF. FLASH AND COUNTERFLASH ROOF PENETRATION AND REPAIR ROOFING FOR A WATERTIGHT INSTALLATION. INSTALL PER MANUFACTURER'S INSTRUCTIONS.
21. REFRIGERANT PIPING TO OUTDOOR CONDENSING UNIT. SEE I/M2.2 FOR CONTINUATION. SEAL WALL PENETRATIONS FOR A WATERTIGHT INSTALLATION.
22. (E) HEAT DETECTOR TO BE RELOCATED TO ALLOW INSTALLATION OF DUCTWORK. COORDINATE LOCATION IN FIELD AS REQUIRED.
23. MODULATING DAMPER FOR (ECONOMIZER AND) DCV (CO2) CONTROL. SEE I/M5.2 FOR DETAILS.

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Highlands Elementary School HVAC Replacement Project
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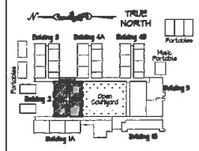
FILE 7-36

IDENTIFICATION STAMP
DIVISION OF THE STATE ARCHITECT
APPL 01-116978
AC ____ FLS ____ SS ____
DATE ____



Key Plan

REVISIONS	DATE
DSA SUBMITTAL	09/28/2017
DSA BACKCHECK	12/07/2017
DSA BACKCHECK-2	06/21/2018
1 ADDENDUM 2	10/22/2018

DRAWN BY	DATE
DG	06/21/2018
CHECKED BY	SCALE
BC	AS NOTED
APPROVED BY	JOB NUMBER
MH	1652

SHEET TITLE

MECHANICAL PARTIAL FLOOR PLANS

SHEET NUMBER

M3.4

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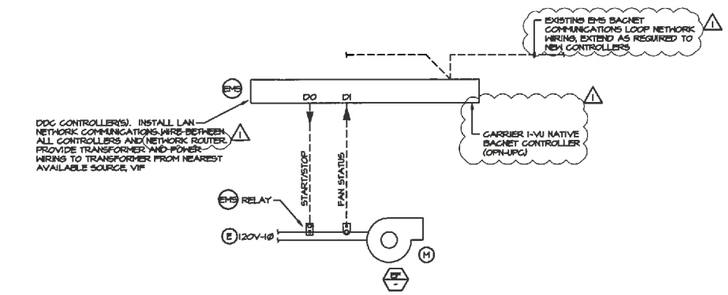


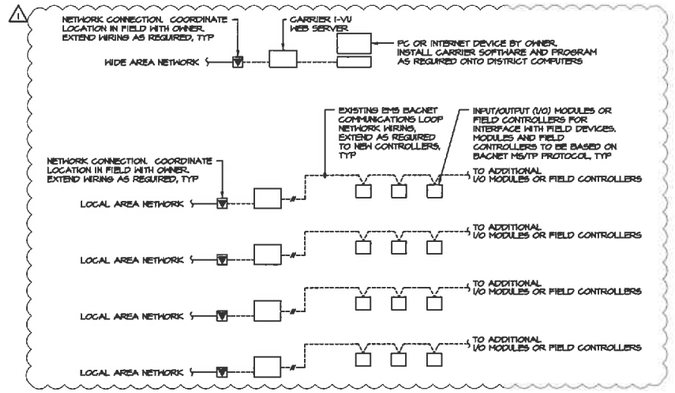
EXHAUST FAN SCHEMATIC CONTROL DIAGRAM

2 / M5.1

NO SCALE

SEQUENCE OF OPERATION:

EXHAUST FANS:
EXHAUST FANS SHALL RUN BASED ON AN OCCUPIED TIME SCHEDULE (CONFIGURABLE). EXHAUST FAN STATUS WILL BE MONITORED THROUGH A CURRENT SENSING SWITCH. IF THE CURRENT SWITCH DOES NOT DETECT FAN STATUS AFTER A START COMMAND HAS BEEN SENT TO THE ASSOCIATED EXHAUST FAN, AN ALARM WILL BE GENERATED TO THE CARRIER I-VU WEB SERVER.



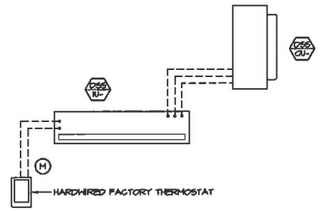
EMS SYSTEM NETWORK

1 / M5.1

NO SCALE

NOTES:

1. ALL SETTINGS TO BE ACCESSIBLE AND ADJUSTABLE FROM THE OWNER WORKSTATIONS.
2. DATA DISPLAYS SHALL ALLOW OWNER TO CHANGE ALL FIELD-RESIDENT FUNCTIONS ASSOCIATED WITH THE PROJECT, SUCH AS SETPOINTS, WEEKLY SCHEDULES, ETC. FROM THE OWNER WORKSTATIONS.
3. DATA DISPLAYS SHALL RENDER STANDARD OBJECT TYPES FOR ALL EQUIPMENT AND DEVICES SHOWN ON THE DRAWINGS AND SHALL BE ACCESSED AND ADJUSTABLE BY THE OWNER WORKSTATIONS. THESE SHALL INCLUDE AS A MINIMUM ANALOG VALUE, ANALOG INPUT, ANALOG OUTPUT, BINARY VALUE, BINARY INPUT, BINARY OUTPUT, CALENDAR, DEVICE, EVENT ENROLLMENT, FILE, NOTIFICATION CLASS, PROGRAM, AND SCHEDULE OBJECT TYPES.
4. DATA CONNECTIONS INCLUDING BUT NOT LIMITED TO BACNET, LONWORKS, AND MODBUS DATA CONNECTIONS TO EQUIPMENT SHALL INCLUDE MAPPING OF ALL AVAILABLE EQUIPMENT POINTS. THESE POINTS SHALL BE ACCESSIBLE AND ADJUSTABLE FROM THE OWNER WORKSTATIONS.
5. INCLUDE IMAGES OF DATA DISPLAY SCREENS AS PART OF THE CONTROLS SUBMITTAL FOR REVIEW PRIOR TO COMMENCEMENT OF WORK.COORDINATE LOCATIONS OF CONTROL PANELS AND BUILDING LAN SYSTEMS IN FIELD WITH APPROPRIATE CONTRACTORS.
6. COORDINATE LOCATIONS OF CONTROL PANELS AND BUILDING LAN SYSTEMS IN FIELD WITH APPROPRIATE CONTRACTORS.
7. VERIFY EXACT LOCATION OF TIE-IN TO BUILDING LAN SYSTEM WITH OWNER. EMS CONTRACTOR IS TO INCLUDE WIRING AS REQUIRED FOR CONNECTION POINT ANYWHERE WITHIN BUILDING, AS DIRECTED BY OWNER.
8. COORDINATE PATCH CORD TYPES IN FIELD WITH APPROPRIATE CONTRACTORS.
9. PROGRAM DDC SYSTEM SUCH THAT START-UP OF MECHANICAL EQUIPMENT IS STAGGERED TO PREVENT TRIPPING OF THE MAIN ELECTRICAL CIRCUIT BREAKER.
10. CONTACT DISTRICT REPRESENTATIVE FOR OCCUPIED AND UNOCCUPIED TIME SCHEDULES.
11. SEE 2/M5.3 FOR LIGHTING CONTROL.



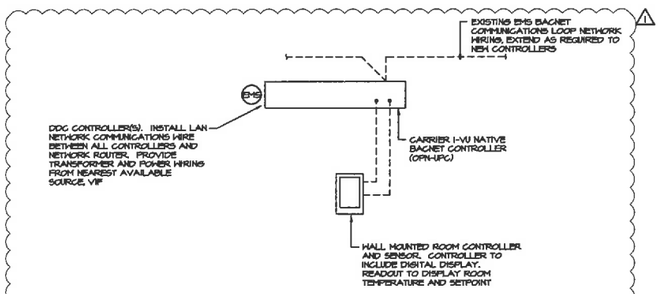
SPLIT SYSTEM SCHEMATIC CONTROL DIAGRAM

3 / M5.1

NO SCALE

NOTES:

1. DIAGRAM IS SCHEMATIC, PROVIDE ALL COMPONENTS AND WIRING AS REQUIRED FOR A FULLY FUNCTIONING SYSTEM.
2. SPLIT SYSTEM IS TO OPERATE FROM FACTORY THERMOSTAT WITHOUT INTERCONNECTION TO DDC SYSTEM.
3. PROVIDE HARDWIRED FACTORY THERMOSTAT. WIRELESS REMOTE THERMOSTATS ARE NOT ALLOWED.
4. SEE 5/M5.1 FOR TEMPERATURE ALARM.



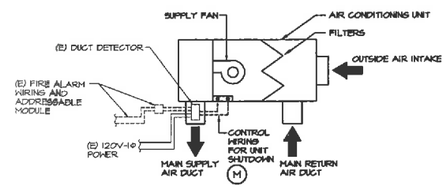
TEMPERATURE ALARM SCHEMATIC CONTROL DIAGRAM

5 / M5.1

NO SCALE

SEQUENCE OF OPERATION:

SPACE TEMPERATURE MONITORING:
SPLIT AIR CONDITIONERS (DSS) SHALL BE CONTROLLED BY THE UNIT MANUFACTURER'S THERMOSTAT AND MONITORED ONLY BY THE EMS SPACE TEMPERATURE SENSOR. A HIGH TEMPERATURE LIMIT ALARM SHALL BE GENERATED BY THE CARRIER I-VU WEB SERVER. INITIAL SETTING TO BE 80°F (ADJUSTABLE).



AIR CONDITIONING AUTOMATIC SHUTOFF DETAIL

4 / M5.1

NO SCALE

NOTES:

1. EXISTING DUCT SMOKE DETECTOR LOCATED IN SUPPLY DUCTWORK IS TO REMAIN. VERIFY EXACT LOCATION IN FIELD.
2. WIRE EXISTING DUCT SMOKE DETECTOR TO NEW AC UNIT TO PROVIDE AUTOMATIC SHUT DOWN UPON DETECTION OF SMOKE.
3. DIAGRAM IS SCHEMATIC, PROVIDE ALL COMPONENTS AND WIRING AS REQUIRED FOR A FULLY FUNCTIONING SYSTEM.
4. EXISTING DUCT SMOKE DETECTOR POWER WIRING AND ANY INTERCONNECTION TO FIRE ALARM SYSTEM ARE TO REMAIN.

EMS/DDC CONTROL DIAGRAM NOTES AND SYMBOLS

1. LINE VOLTAGE POWER WIRING TO EQUIPMENT AND CONDUIT FOR POWER WIRING TO EQUIPMENT SHALL BE FURNISHED AND INSTALLED UNDER THE ELECTRICAL SECTION OF THE WORK.
2. LINE VOLTAGE POWER WIRING FOR CONTROL DEVICES OR COMPONENTS, AND LINE VOLTAGE CONDUIT FOR CONTROL DEVICES OR COMPONENTS SHALL BE FURNISHED AND INSTALLED AS PART OF THE CONTROLS SYSTEM BY THE CONTROLS CONTRACTOR.
3. ALL LOW VOLTAGE CONTROL WIRING, CONDUIT FOR LOW VOLTAGE CONTROL WIRING, AND 120V/24V CONTROL TRANSFORMERS SHALL BE FURNISHED AND INSTALLED BY THE ENERGY MANAGEMENT SYSTEMS CONTRACTOR.
4. ALL LINE VOLTAGE CONTROL WIRING, CONDUIT FOR LINE VOLTAGE CONTROL WIRING, AND 120V/24V CONTROL TRANSFORMERS SHALL BE FURNISHED AND INSTALLED BY THE ENERGY MANAGEMENT SYSTEMS CONTRACTOR.
5. DIAGRAMS SHOWN ARE SCHEMATIC. CONTRACTOR MUST VERIFY ACTUAL CONTROL COMPONENT NUMBERS, CONNECTION POINTS, CONTROL VOLTAGES AND NUMBER AND TYPE OF CONTROL WIRES REQUIRED. OBTAIN CONTROL DIAGRAMS FOR EACH ITEM OF EQUIPMENT FROM THE EQUIPMENT MANUFACTURERS. CONTRACTOR SHALL PROVIDE ALL ITEMS AND WIRING REQUIRED FOR PROPER OPERATION AND COMPLIANCE WITH CODE.
6. EMTCS CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING ALL SENSOR WELLS, CONTROL VALVES, THERMAL WELLS, FLOW SWITCHES, PRESSURE TAPS, ETC. THE MECHANICAL CONTRACTOR SHALL INSTALL THESE ITEMS IN THE LOCATIONS AS DIRECTED BY THE EMS CONTRACTOR. THE EMS CONTRACTOR SHALL DETERMINE THE NUMBER AND LOCATIONS FOR THESE ITEMS AND SHALL ADD DEVICES AS REQUIRED TO MEET THE DESIGN INTENT OF THE DRAWINGS, AND AS REQUIRED TO PROVIDE A FULLY FUNCTIONING SYSTEM.
7. MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER INSTALLATION OF CONTROLS AND OPERATION OF EQUIPMENT AND SHALL COORDINATE ALL REQUIREMENTS WITH ELECTRICAL CONTRACTOR.
8. EXISTING EMS BACNET COMMUNICATIONS LOOP NETWORK WIRING MAY BE REUSED PROVIDING WIRING IS FULLY FUNCTIONAL AND IN EXCELLENT WORKING CONDITION. WIRING SPLICES SHALL BE PREVENTED. IF NEEDED, THEY SHALL BE MADE ONLY IN JUNCTION BOXES. ALL WIRING SHALL BE CHECKED AND TESTED TO ENSURE THAT THERE ARE NO GROUNDS, OPENS OR SHORTS. IF EXISTING WIRING IS COMPROMISED NEW WIRING IS TO BE INSTALLED.

——— INDICATES LINE VOLTAGE WIRING FURNISHED AND INSTALLED UNDER THE ELECTRICAL SECTION OF THE WORK.

– – – – INDICATES LOW VOLTAGE WIRING FURNISHED AND INSTALLED UNDER THE ENERGY MANAGEMENT SYSTEMS SECTION OF THE WORK.

(M) INDICATES ITEMS FURNISHED AND INSTALLED UNDER THE MECHANICAL SECTION OF THE WORK.

(E) INDICATES ITEMS FURNISHED AND INSTALLED UNDER THE ELECTRICAL SECTION OF THE WORK.

(EMS) INDICATES ITEMS FURNISHED AND INSTALLED UNDER THE ENERGY MANAGEMENT SYSTEMS SECTION OF THE WORK.

DDC DIRECT DIGITAL CONTROL

EMTCS/EMS ENERGY MANAGEMENT AND TEMPERATURE MANAGEMENT SYSTEM

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1 ADDENDUM 2	10/22/2018

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BC	AS NOTED
APPROVED BY	JOB NUMBER
MM	1632

SHEET TITLE
MECHANICAL CONTROL DIAGRAMS

SHEET NUMBER
M5.1

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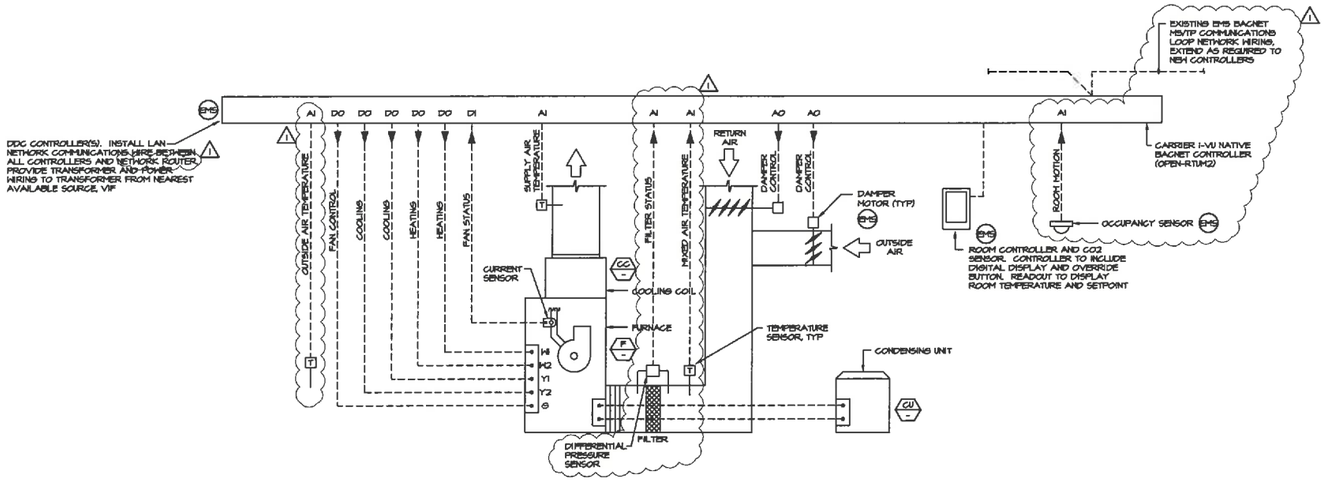


FURNACE SYSTEM SCHEMATIC CONTROL DIAGRAM

1 / M5.2

NO SCALE

SEQUENCE OF OPERATION.

INDOOR FAN
DURING OCCUPIED PERIODS, FAN SHALL OPERATE CONTINUOUSLY. DURING UNOCCUPIED PERIODS, FAN SHALL OPERATE WHEN THE SPACE TEMPERATURE EXCEEDS THE UNOCCUPIED HEATING OR COOLING SETPOINTS.

SINGLE SPEED
THE FAN OPERATES AT ONE SPEED ONLY AND PROVIDES ON/OFF OPERATION.

HEATING MODE
WHEN SPACE TEMPERATURE IS BELOW THE OCCUPIED HEATING SETPOINT, UNIT SHALL OPERATE IN THE HEATING MODE. UNIT SHALL STAGE AVAILABLE HEAT STAGES TO SATISFY DEMAND IN THE OCCUPIED SPACE.

COOLING MODE
WHEN SPACE TEMPERATURE IS ABOVE OCCUPIED COOLING SETPOINT, UNIT SHALL OPERATE IN THE COOLING MODE. UNIT SHALL ENABLE AVAILABLE COOLING STAGES TO SATISFY DEMAND IN THE OCCUPIED SPACE.

ECONOMIZER
ECONOMIZER SHALL CLOSE WHEN FAN IS OFF OR DURING A LOSS OF POWER. DURING OCCUPIED HOURS, WHEN FAN IS ENERGIZED, THE ECONOMIZER SHALL OPEN TO ADJUSTABLE MINIMUM POSITION. WHEN OUTSIDE AIR TEMPERATURE IS BELOW SPACE TEMPERATURE AND OCCUPIED SPACE REQUIRES COOLING, ECONOMIZER SHALL OPEN. IF ECONOMIZER AIR IS NOT SUFFICIENT TO MEET THE DEMAND IN THE OCCUPIED SPACE, UNIT SHALL ENABLE AVAILABLE COOLING STAGES TO SATISFY DEMAND IN THE OCCUPIED SPACE.

CO2 CONTROL
UNIT SHALL MONITOR SPACE CO2 WHEN THE SUPPLY FAN IS ENERGIZED. WHEN CO2 IS ABOVE SETPOINT, ECONOMIZER SHALL MODULATE OPEN TOWARD AN ADJUSTABLE MAXIMUM CO2 POSITION.

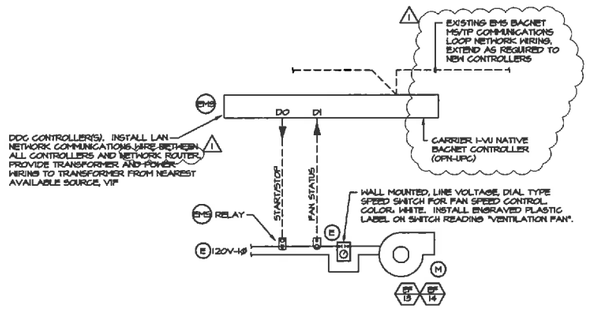
OCCUPANCY SENSOR
IF ROOM OCCUPANCY SENSOR DOES NOT DETECT MOVEMENT FOR MORE THAN 5 MINUTES, THEN AC UNIT IS TO FOLLOW UNOCCUPIED MODE. SYSTEM IS TO MAINTAIN UNIT SETBACK TEMPERATURE IN ROOM. SYSTEM TO REVERT BACK TO OCCUPIED MODE IF ROOM OCCUPANCY SENSOR DETECTS MOVEMENT OCCURRING IN PERIODS LESS THAN 5 MINUTE INTERVALS.

SHELTER IN PLACE
ECONOMIZERS ON ALL UNITS SHALL CLOSE FULLY ON UNIVERSAL COMMAND FROM EMTCS SYSTEM. EMTCS SYSTEM TO INCLUDE SWITCH TO TOGGLE MODE ON OR OFF.

FILTER LOADING
FILTER LOADING SHALL BE MONITORED. NOTIFICATION ALARM TO BE SENT TO SERVER ON HIGH FILTER LOADING. FIELD DETERMINE SETPOINT (ADJUSTABLE).

EXISTING DOOR CONTACTS DEMOLITION NOTES.

1. ALL EXISTING DOOR CONTACTS AND ASSOCIATED WIRING PROVIDING DEDICATED INPUT TO THE EXISTING EMTCS SYSTEM FOR ENERGY SAVING SEQUENCES ARE TO BE DEMOLISHED AND REMOVED IN THEIR ENTIRETY.
2. DOOR CONTACTS ARE TO REMAIN IF THEY SERVE SYSTEM(S) OTHER THAN THE EMTCS, VIF.



EXHAUST FAN SCHEMATIC CONTROL DIAGRAM

2 / M5.2

NO SCALE

SEQUENCE OF OPERATION.

EXHAUST FANS
EF-13 AND EF-14 SHALL BE ENABLED BASED ON AN OCCUPIED TIME SCHEDULE (CONFIGURABLE). EXHAUST FAN STATUS WILL BE MONITORED THROUGH A CURRENT SENSING SWITCH. EF-13 AND EF-14 SHALL ENERGIZE BASED ON OPERATION FROM A WALL MOUNTED SPEED SWITCH.

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MECHANICAL CONTROL DIAGRAMS

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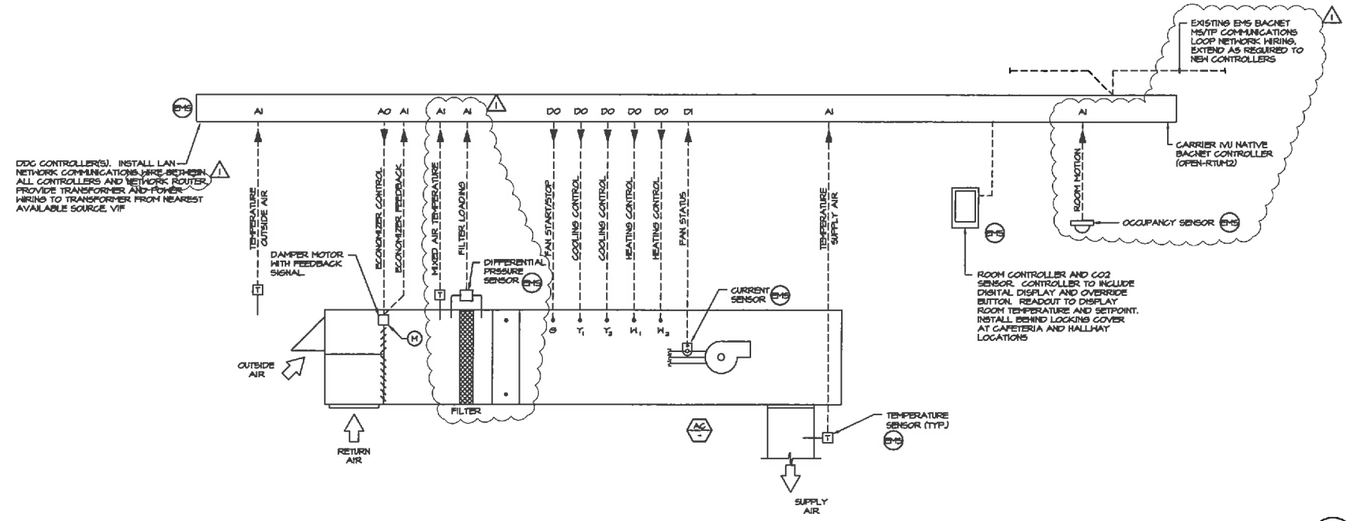


AIR CONDITIONING UNIT SCHEMATIC CONTROL DIAGRAM

NO SCALE

1 / M5.3

SEQUENCE OF OPERATION.

INDOOR FAN
DURING OCCUPIED PERIODS, FAN SHALL OPERATE CONTINUOUSLY. DURING UNOCCUPIED PERIODS, FAN SHALL OPERATE WHEN THE SPACE TEMPERATURE EXCEEDS THE UNOCCUPIED HEATING OR COOLING SETPOINTS.

SINGLE SPEED
THE FAN OPERATES AT ONE SPEED ONLY AND PROVIDES ON/OFF OPERATION.

HEATING MODE
WHEN SPACE TEMPERATURE IS BELOW THE OCCUPIED HEATING SETPOINT, UNIT SHALL OPERATE IN THE HEATING MODE. UNIT SHALL STAGE AVAILABLE HEAT STAGES TO SATISFY DEMAND IN THE OCCUPIED SPACE.

COOLING MODE
WHEN SPACE TEMPERATURE IS ABOVE OCCUPIED COOLING SETPOINT, UNIT SHALL OPERATE IN THE COOLING MODE. UNIT SHALL ENABLE AVAILABLE COOLING STAGES TO SATISFY DEMAND IN THE OCCUPIED SPACE.

ECONOMIZER
ECONOMIZER SHALL CLOSE WHEN FAN IS OFF OR DURING A LOSS OF POWER. DURING OCCUPIED HOURS, WHEN FAN IS ENERGIZED, THE ECONOMIZER SHALL OPEN TO ADJUSTABLE MINIMUM POSITION. WHEN OUTSIDE AIR TEMPERATURE IS BELOW SPACE TEMPERATURE AND OCCUPIED SPACE REQUIRES COOLING, ECONOMIZER SHALL OPEN. IF ECONOMIZER AIR IS NOT SUFFICIENT TO MEET THE DEMAND IN THE OCCUPIED SPACE, UNIT SHALL ENABLE AVAILABLE COOLING STAGES TO SATISFY DEMAND IN THE OCCUPIED SPACE.

CO2 CONTROL
UNIT SHALL MONITOR SPACE CO2 WHEN THE SUPPLY FAN IS ENERGIZED. WHEN CO2 IS ABOVE SETPOINT, ECONOMIZER SHALL MODULATE OPEN TOWARD AN ADJUSTABLE MAXIMUM CO2 POSITION.

SMOKE DETECTOR SEQUENCE
UPON DETECTION OF SMOKE ON LOCAL SMOKE DETECTOR, UNIT SHALL ENTER FIRE SHUTDOWN AND FAN SHALL TURN OFF.

OCCUPANCY SENSOR
IF ROOM OCCUPANCY SENSOR DOES NOT DETECT MOVEMENT FOR MORE THAN 5 MINUTES, THEN AC UNIT IS TO FOLLOW UNOCCUPIED MODE. SYSTEM IS TO MAINTAIN UNIT SETBACK TEMPERATURE IN ROOM. SYSTEM TO REVERT BACK TO OCCUPIED MODE IF ROOM OCCUPANCY SENSOR DETECTS MOVEMENT OCCURRING IN PERIODS LESS THAN 5 MINUTE INTERVALS.

SHELTER IN PLACE
ECONOMIZERS ON ALL UNITS SHALL CLOSE FULLY ON UNIVERSAL COMMAND FROM EMTCS SYSTEM. EMTCS SYSTEM TO INCLUDE SWITCH TO TOGGLE MODE ON OR OFF.

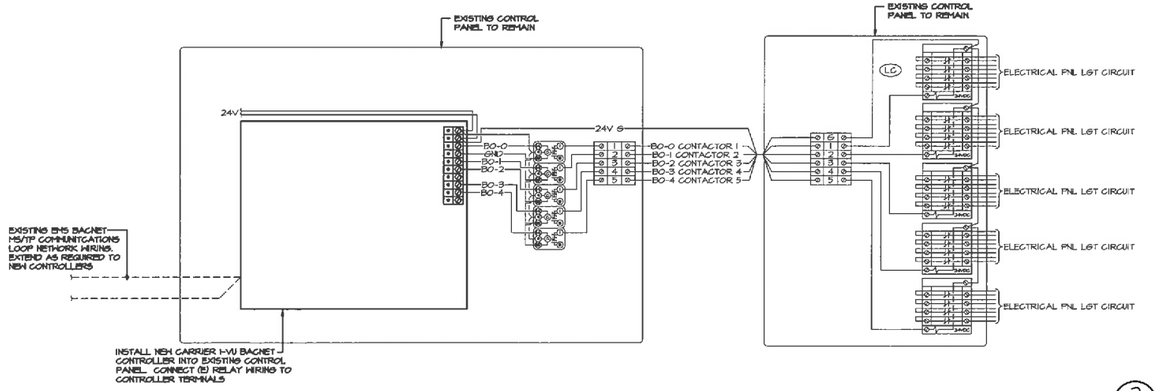
FILTER LOADING
FILTER LOADING SHALL BE MONITORED. NOTIFICATION ALARM TO BE SENT TO SERVER ON HIGH FILTER LOADING. FIELD DETERMINE SETPOINT (ADJUSTABLE).

EXISTING DOOR CONTACTS DEMOLITION NOTES:

1. ALL EXISTING DOOR CONTACTS AND ASSOCIATED WIRING PROVIDING DEDICATED INPUT TO THE EXISTING EMTCS SYSTEM FOR ENERGY SAVING SEQUENCES ARE TO BE DEMOLISHED AND REMOVED IN THEIR ENTIRETY.
2. DOOR CONTACTS ARE TO REMAIN IF THEY SERVE SYSTEM(S) OTHER THAN THE EMTCS, VIF.

HIGHLANDS ELEMENTARY SCHOOL LIGHTING CIRCUITS

LCP	MAC	LOCATION	BO	RM#	ELEC PNL	CIRCUITS
1	32	IDF RM	0	1	G	1, 3, 5, 7
			1	2		2, 4, 6, 8
			2	3		9, 10, 11, 12
			3	LIBRARY		15, 17, 19, 21
			4	COMP LAB		13, 20
2	33	STORAGE RM	0	4	B	2, 4, 6, 8
			1	5		1, 3, 7, 25
			2	6		9, 11, 13, 15
			3	7		10, 12, 14, 16
			4	SPARE		FUTURE
3	34	STORAGE RM	0	8	A	1, 3
			1	9		6, 8
			2	10		2, 4
			3	11		9, 11
			4	12		3, 7
4	35	STORAGE RM	0	13	4L	9, 11
			1	14		6, 8
			2	15		3, 7
			3	16		2, 4
			4	17		1, 3
5	36	STORAGE RM	0	18	1L	9, 11
			1	19		6, 8
			2	20		3, 7
			3	21		2, 4
			4	22		1, 3



LIGHTING CONTROL DIAGRAM

NO SCALE

2 / M5.3

SEQUENCE OF OPERATION.

1. THE EMTCS IS TO CONTROL EACH OF THE CIRCUITS SEPARATELY, AND IS TO BE ABLE TO SET INDIVIDUAL TIME SCHEDULES FOR EACH OF THE CIRCUITS. PROGRAM SYSTEM AS REQUIRED.
2. EMTCS IS TO MONITOR AND RECORD THE FOLLOWING:
   A. CIRCUIT STATUS (ON/OFF).
3. VERIFY AND DOCUMENT ALL (E) LIGHTING CONTROL CIRCUITS. EMTCS TO INCLUDE GRAPHICAL DISPLAY OF CAMPUS WITH AREAS CONTROLLED.

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OWNER:
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2000 Railroad Avenue
Pittsburg, CA 94565

PROJECT:
Highlands Elementary School HVAC Replacement Project
4141 Harbor Street
Pittsburg, CA 94565

FILE 7-36

IDENTIFICATION STAMP
DIVISION OF THE STATE ARCHITECT
APPL. 01-116978
AC___ FLS___ SS___
DATE___

REVISIONS	DATE
DSA SUBMITTAL	04/28/2017
DSA BACKCHECK	12/01/2017
DSA BACKCHECK-2	06/21/2018
1 ADDENDUM 2	10/22/2018

DRAWN BY: DG	DATE: 06/21/2018
CHECKED BY: BG	SCALE: AS NOTED
APPROVED BY: MM	JOB NUMBER: 1692

SHEET TITLE
MECHANICAL CONTROL DIAGRAMS

SHEET NUMBER
M5.3

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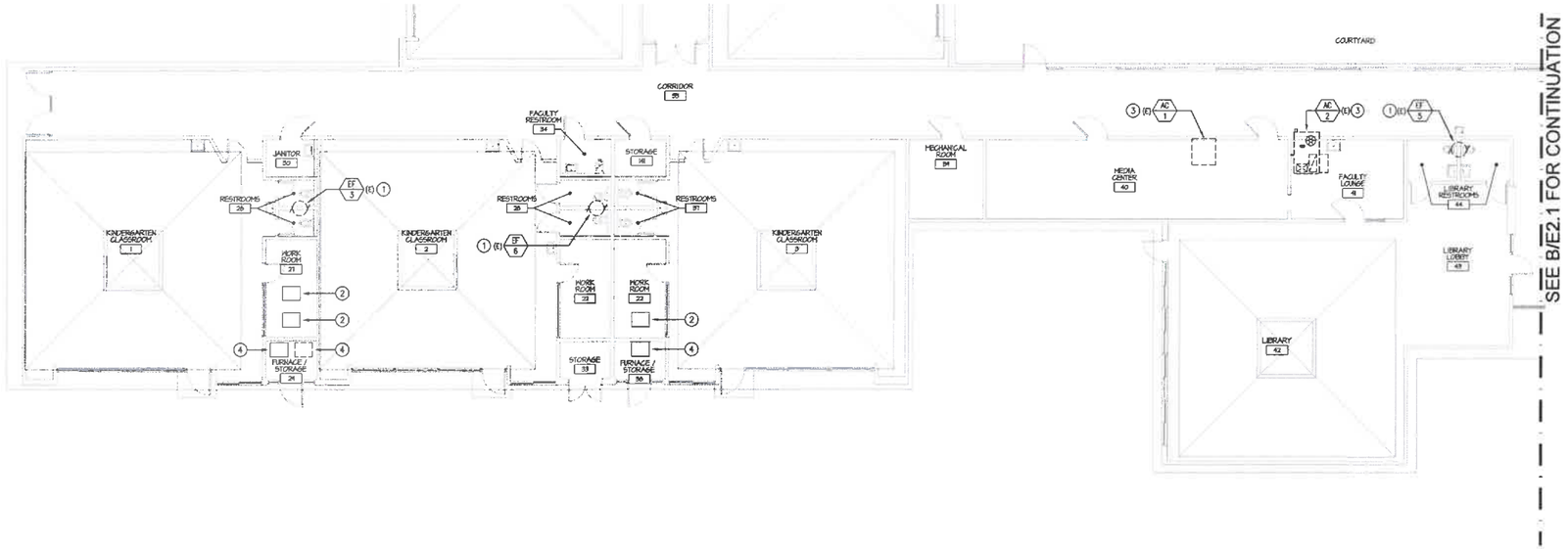


A E2.1 DEMOLITION PLAN - BUILDING 1A

SCALE (FT.): 0 8 16

PROJECT NORTH

NUMBERED SHEET NOTES:

DISCONNECT POWER TO EXISTING ROOF MOUNTED EXHAUST FAN. REMOVE EXISTING DISCONNECT SWITCH AND SAFE OFF EXISTING FEEDER FOR A NEW EXHAUST FAN.

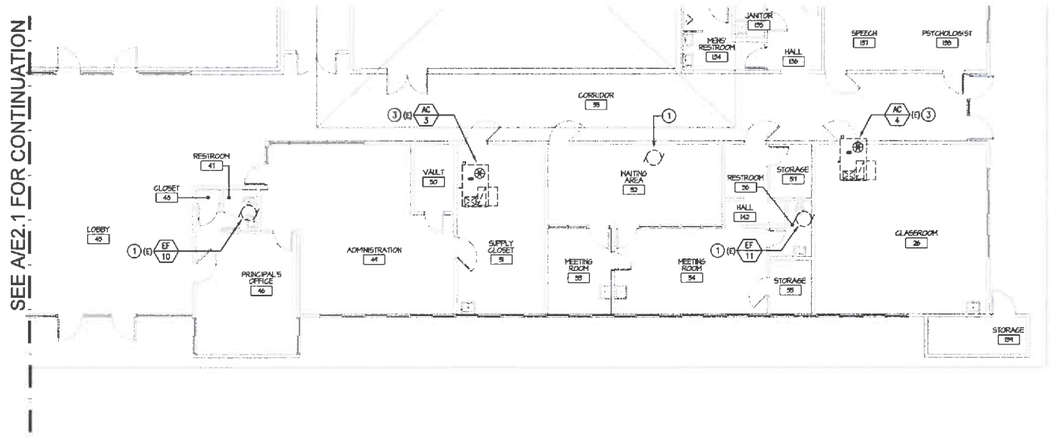
DISCONNECT POWER TO EXISTING ROOF MOUNTED AIR CONDITIONING UNIT. REMOVE EXISTING DISCONNECT SWITCH AND SAFE OFF EXISTING FEEDER FOR A NEW AIR CONDITIONING UNIT.

DISCONNECT POWER TO EXISTING ROOF MOUNTED CONDENSING UNIT. REMOVE EXISTING DISCONNECT SWITCH AND SAFE OFF EXISTING FEEDER FOR A NEW CONDENSING UNIT.

DISCONNECT POWER TO EXISTING FURNACE. REMOVE EXISTING DISCONNECT SWITHC AND SAFE OFF EXISTING FEEDER FOR A NEW FURNACE.

EXISTING CIRCUIT NOTES:

1. EXISTING EQUIPMENT MAY BE FED FROM POWER SOURCES THAT ARE NOT WIRED THROUGH THE UNIT DISCONNECT.
2. EXISTING CIRCUITS ARE TO BE TRACED PRIOR TO DEMOLITION TO ENSURE THAT NO LINE VOLTAGE IS PRESENT WITH AN OPEN DISCONNECT.
3. DISTRICT IS TO BE NOTIFIED UPON DISCOVERY OF POWER SOURCES THAT BYPASS THE UNIT DISCONNECT. DISTRICT WILL THEN PROVIDE DIRECTION TO IMPLEMENT CORRECTIVE MEASURES.
4. CORRECTIONS WILL BE ADDRESSED ON A CASE BY CASE BASIS. COSTS FOR CORRECTIVE WORK ARE NOT TO BE INCLUDED IN THE BASE BID.



B E2.1 DEMOLITION PLAN - BUILDING 1B

SCALE (FT.): 0 8 16

PROJECT NORTH

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REGISTERED PROFESSIONAL ENGINEER
E20640
Exp. 3/31/2020
STATE OF CALIFORNIA

OWNER:
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2000 Railroad Avenue
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PROJECT:
Highlands Elementary School HVAC Equipment Replacement Project
4141 Harbor Street
Pittsburg, CA 94565

FILE 7-36

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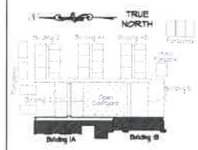

Key Plan

REVISIONS	DATE
DSA SUBMITTAL	04/28/2017
DSA BACKCHECK	12/07/2017
DSA BACKCHECK-2	06/27/2018
⚠ ADDENDUM 2	10/22/2018

DRAWN BY: MD	DATE: 04-28-17
CHECKED BY: JP	SCALE: AS NOTED
APPROVED BY: MM	JOB NUMBER: 1632

SHEET TITLE
DEMOLITION PLAN - BUILDINGS 1A AND 1B

SHEET NUMBER
E2.1

EXISTING CIRCUIT NOTES:

1. EXISTING EQUIPMENT MAY BE FED FROM POWER SOURCES THAT ARE NOT WIRED THROUGH THE UNIT DISCONNECT.
2. EXISTING CIRCUITS ARE TO BE TRACED PRIOR TO DEMOLITION TO ENSURE THAT NO LINE VOLTAGE IS PRESENT WITH AN OPEN DISCONNECT.
3. DISTRICT IS TO BE NOTIFIED UPON DISCOVERY OF POWER SOURCES THAT BYPASS THE UNIT DISCONNECT. DISTRICT WILL THEN PROVIDE DIRECTION TO IMPLEMENT CORRECTIVE MEASURES.
4. CORRECTIONS WILL BE ADDRESSED ON A CASE BY CASE BASIS, COSTS FOR CORRECTIVE WORK ARE NOT TO BE INCLUDED IN THE BASE BID.

NUMBERED SHEET NOTES:

(1) DISCONNECT POWER TO EXISTING ROOF MOUNTED EXHAUST FAN AND SAFE OFF EXISTING FEEDER FOR A NEW EXHAUST FAN.

(2) DISCONNECT POWER TO EXISTING WALL MOUNTED AIR CONDITIONING UNIT. REMOVE ASSOCIATED DISCONNECT SWITCH AND FEEDER BACK TO THE PANEL BOARD.

(3) DISCONNECT POWER TO EXISTING FURNACE. SAFE OFF EXISTING FEEDER FOR NEW FURNACE.

(4) DISCONNECT POWER TO EXISTING ROOF MOUNTED OUTDOOR UNIT AND INDOOR SPLIT HEAT PUMP. SAFE OFF EXISTING FEEDER FOR NEW SPLIT HEAT PUMP AND OUTDOOR UNIT.

A E2.2 DEMOLITION PLAN - BUILDINGS 2, 3 AND PORTABLES

SCALE (FT.): 0 . 8 . 16

PROJECT NORTH

G:\Highlands Elementary\Elect Dwgs\Rev3\HIGHLANDS ELEMENTARY E2.2.dwg Oct 18, 2018 - 2:50pm

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REGISTERED PROFESSIONAL ENGINEER E20640 Exp. 3/31/2020 STATE OF CALIFORNIA

OWNER:
Pittsburg Unified School District
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Pittsburg, CA 94565

PROJECT:
Highlands Elementary School HVAC Equipment Replacement Project
4141 Harbor Street
Pittsburg, CA 94565

FILE 7-36

IDENTIFICATION STAMP
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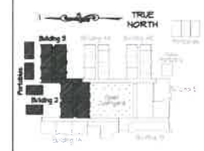


Key Plan

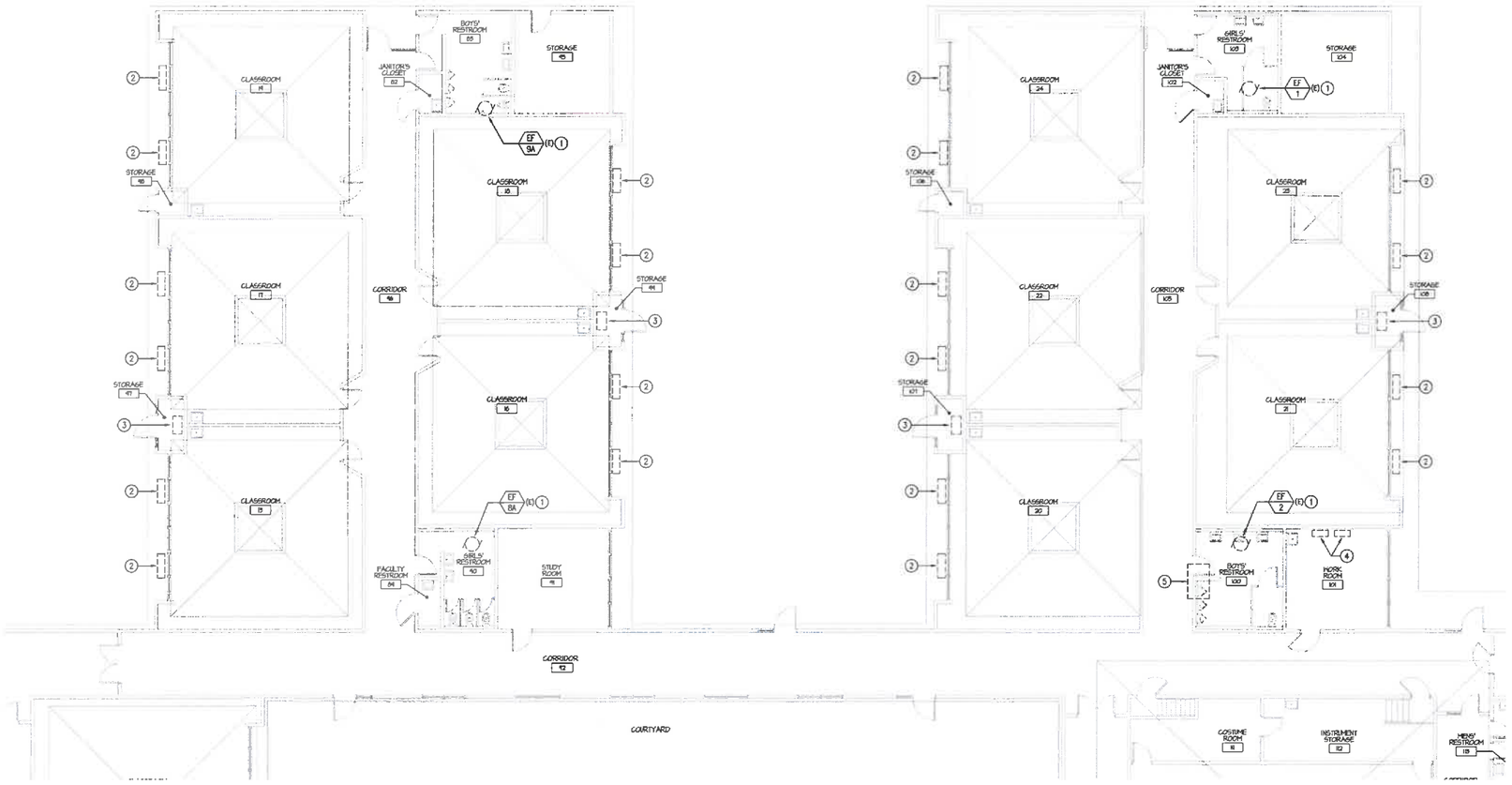
REVISIONS	DATE
DSA SUBMITTAL	04/28/2017
DSA BACKCHECK	12/01/2017
DSA BACKCHECK-2	06/27/2018
⚠ ADDENDUM 2	10/22/2018

DRAWN BY: MD	DATE: 04-28-17
CHECKED BY: JP	SCALE: AS NOTED
APPROVED BY: MW	JOB NUMBER: 1632

SHEET TITLE
DEMOLITION PLAN - BUILDINGS 2 & 3

SHEET NUMBER
E2.2

PLEASE RECYCLE



A E2.3 DEMOLITION PLAN - BUILDINGS 4A AND 4B

SCALE (FT.): 0 . 8 . 16

PROJECT NORTH

NUMBERED SHEET NOTES:

1. DISCONNECT POWER TO EXISTING ROOF MOUNTED EXHAUST FAN. REMOVE EXISTING DISCONNECT SWITCH AND SAFE OFF EXISTING FEEDER FOR A NEW EXHAUST FAN.
2. DISCONNECT POWER TO EXISTING WALL MOUNTED AIR CONDITIONING UNIT. REMOVE ASSOCIATED DISCONNECT SWITCH AND FEEDER BACK TO THE PANEL BOARD.
3. DISCONNECT POWER TO EXISTING FURNACE. REMOVE EXISTING DISCONNECT SWITCH AND SAFE OFF EXISTING FEEDER FOR NEW FURNACE.
4. DISCONNECT POWER TO EXISTING ROOF MOUNTED OUTDOOR UNIT AND INDOOR SPLIT HEAT PUMP. REMOVE EXISTING DISCONNECT SWITCH AND SAFE OFF EXISTING FEEDER FOR NEW SPLIT HEAT PUMP AND OUTDOOR UNIT.
5. DISCONNECT POWER TO EXISTING ROOF MOUNTED AIR CONDITIONING UNIT. REMOVE EXISTING DISCONNECT SWITCH AND SAFE OFF EXISTING FEEDER FOR NEW AIR CONDITIONING UNIT.

EXISTING CIRCUIT NOTES:

1. EXISTING EQUIPMENT MAY BE FED FROM POWER SOURCES THAT ARE NOT WIRED THROUGH THE UNIT DISCONNECT.
2. EXISTING CIRCUITS ARE TO BE TRACED PRIOR TO DEMOLITION TO ENSURE THAT NO LINE VOLTAGE IS PRESENT WITH AN OPEN DISCONNECT.
3. DISTRICT IS TO BE NOTIFIED UPON DISCOVERY OF POWER SOURCES THAT BYPASS THE UNIT DISCONNECT. DISTRICT WILL THEN PROVIDE DIRECTION TO IMPLEMENT CORRECTIVE MEASURES.
4. CORRECTIONS WILL BE ADDRESSED ON A CASE BY CASE BASIS, COSTS FOR CORRECTIVE WORK ARE NOT TO BE INCLUDED IN THE BASE BID.

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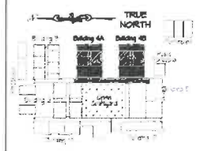


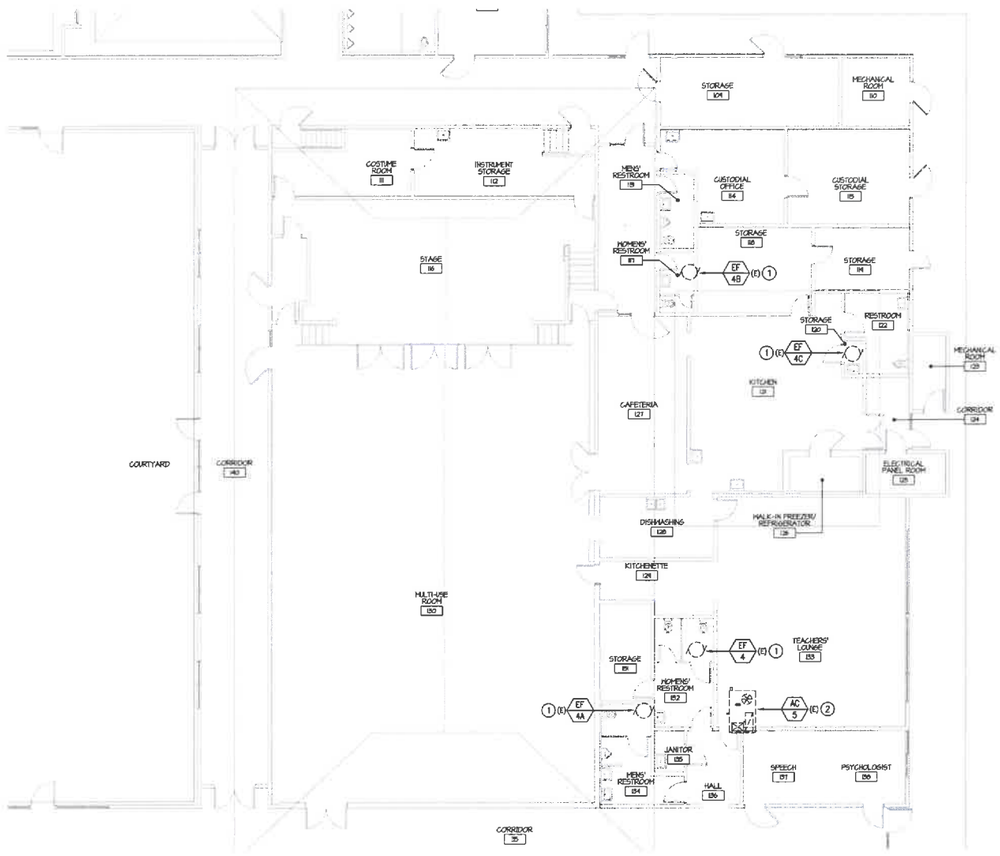
Key Plan

REVISIONS	DATE
DSA SUBMITTAL	04/28/2017
DSA BACKCHECK	12/07/2017
DSA BACKCHECK-2	06/27/2018
⚠ ADDENDUM 2	10/22/2018

DRAWN BY: MD	DATE: 04-28-17
CHECKED BY: JP	SCALE: AS NOTED
APPROVED BY: MM	JOB NUMBER: 1632

SHEET TITLE
DEMOLITION PLAN - BUILDINGS 4A & 4B

SHEET NUMBER
E2.3



A E2.4 DEMOLITION PLAN - BUILDING 5

SCALE (FT.): 0 . 8 . 16

PROJECT NORTH

NUMBERED SHEET NOTES:

1. DISCONNECT POWER TO EXISTING ROOF MOUNTED EXHAUST FAN. REMOVE EXISTING DISCONNECT SWITCH AND SAFE OFF FEEDER FOR A NEW EXHAUST FAN.
2. DISCONNECT POWER TO EXISTING ROOF MOUNTED AIR CONDITIONING UNIT. REMOVE EXISTING DISCONNECT SWITCH AND SAFE OFF EXISTING FEEDER FOR A NEW AIR CONDITIONING UNIT.

EXISTING CIRCUIT NOTES:

1. EXISTING EQUIPMENT MAY BE FED FROM POWER SOURCES THAT ARE NOT WIRED THROUGH THE UNIT DISCONNECT.
2. EXISTING CIRCUITS ARE TO BE TRACED PRIOR TO DEMOLITION TO ENSURE THAT NO LINE VOLTAGE IS PRESENT WITH AN OPEN DISCONNECT.
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REGISTERED PROFESSIONAL ENGINEER E20640 Exp. 3/31/2020 STATE OF CALIFORNIA

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FILE 7-36

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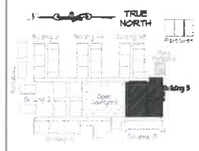

Key Plan

REVISIONS	DATE
DSA SUBMITTAL	09/28/2017
DSA BACKCHECK	12/07/2017
DSA BACKCHECK-2	06/21/2018
⚠ ADDENDUM 2	10/22/2018

DRAWN BY: MD	DATE: 09-28-17
CHECKED BY: JP	SCALE: AS NOTED
APPROVED BY: MM	JOB NUMBER: 1632

SHEET TITLE
DEMOLITION PLAN - BUILDING 5

SHEET NUMBER
E2.4

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