# HOBBS MIDDLE SCHOOL
## ENERGY UPGRADES - PHASE B
## PHASE 2 SUBMITTAL

SEPTEMBER 1, 2021

## ABBREVIATIONS LEGEND ( SOME ABBREVIATIONS MAY NOT BE USED)

| | | | | | |
|---|---|---|---|---|---|
| ACOUS | ACOUSTICAL | FF | FINISHED FLOOR | PLUMB | PLUMBING |
| AC | ACOUSTICAL CEILING | FTG | FOOTING | PS | PROJECTOR SCREEN |
| AFF | ABOVE FINISHED FLOOR | FLR | FLOOR | PT | PRESSURE TREATED |
| ALT | ALTERNATE | FE | FIRE EXTINGUISHER | QT | QUARRY TILE |
| ALUM | ALUMINUM | FEC | FIRE EXTINGUISHER CABINET | PLYWD | PLYWOOD |
| BCJ | BRICK CONTROL JOINT | FM | FORCE MAIN | RAD | RADIUS |
| BLDG | BUILDING | FH | FIRE HYDRANT | RB | RUBBER |
| BRG | BEARING | GB | GRAB BAR | RCP | REINFORCED CONCRETE PIPE |
| BOTT | BOTTOM | GA | GAUGE | REIN | REINFORCEMENT |
| BM | BEAM | GALV | GALVANIZED | RM | ROOM |
| BLKG | BLOCKING | GL | GLASS | RO | ROUGH OPENING |
| CW | COLD WATER | GWB | GYPSUM WALL BOARD | SD | STORM DRAIN |
| CB | CHALK BOARD | HB | HOSE BIB | SC | SCALE |
| CJ | CONTROL JOINT | HDWD | HARDWOOD | SIM | SIMILAR |
| CLG | CEILING | HM | HOLLOW METAL | SPEC | SPECIFICATIONS |
| CH | CEILING HEIGHT | HMF | HOLLOW METAL FRAME | SS | SANITARY SEWER |
| CMU | CONCRETE MASONRY UNIT | HORIZ | HORIZONTAL | ST STL | STAINLESS STEEL |
| CO | CASED OPENING | HT | HEIGHT | STL | STEEL |
| COL | COLUMN | INFO | INFORMATION | STOR | STORAGE |
| CN | CONCRETE | INSUL | INSULATION | STRUCT | STRUCTURE |
| CONST | CONSTRUCTION | INT | INTERIOR | SUSP | SUSPENDED |
| CONT | CONTINUOUS | JAN | JANITOR | TB | TACK BOARD |
| CP | CARPET | L | LENGTH | TYP | TYPICAL |
| CR | CHAIR RAIL | LM | LINEAR METAL | TCP | THINCOAT PLASTER |
| CT | CERAMIC TILE | MB | MARKER BOARD | TW | TOWEL/WASTE |
| CU | COPPER | MCJ | MASONRY CONTROL JOINT | TP | TOILET PAPER DISPENSER |
| DET | DETAIL | MECH | MECHANICAL | UON | UNLESS OTHERWISE NOTED |
| DIA | DIAMETER | MEMB | MEMBRANE | VCT | VINYL COMPOSITION TILE |
| DWG | DRAWING | MDF | MEDIUM DENSITY FIBERBOARD | W | WASHER |
| DS | DOWN SPOUT | MH | MAN HOLE | W/ | WITH |
| DN | DOWN | MO | MASONRY OPENING | WC | WATER COOLER |
| EA | EACH | MR | MIRROR | WD | WOOD |
| EJ | EXPANSION JOINT | MTL | METAL | WP | WATERPROOF |
| ELEV | ELEVATION | MTD | MOUNTED | | |
| EQ | EQUAL | MW | MILLWORK | | |
| EQUIP | EQUIPMENT | ND | NAPKIN DISPENSER | | |
| EXIST | EXISTING | MIC | NOT IN CONTRACT | | |
| FBO | FURNISHED BY OWNER | NO | NUMBER | | |
| FD | FLOOR DRAIN | NTS | NOT TO SCALE | | |
| FC | FIRE CODE (GYP. BD.) | OC | ON CENTER | | |
| FIN | FINISH | OPP | OPPOSITE | | |
| FFE | FINISHED FLOOR ELEVATION | P/L | PLASTIC LAMINATE | | |

## SYMBOLS LEGEND ( SOME SYMBOLS MAY NOT BE USED)

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 206 | ROOM NUMBER | 1 | DEMOLITION NOTE | 1 | DETAIL NUMBER | | WALL TYPE |
| 105 | DOOR NUMBER | 1 | CONSTRUCTION NOTE | A4 | BUILDING SECTION/ WALL SECTION | | ELEVATION |
| A | WINDOW TYPE | 1 / A4 | DETAIL NUMBER SHEET NUMBER | | BUILDING ELEVATION/INTERIOR ELEVATION | | |

## PRODUCT APPROVAL NUMBERS

FL-10388R3 KAWNEER SWINGING DOOR ASSEMBLIES

FL-21420 WINCO 1150S FIXED & CASEMENT WINDOWS

FL-16355-R1 CECO SWINGING DOOR ASSEMBLIES

THESE ITEMS REPRESENT THE BASIS FOR THE DESIGN. EACH SECTION OF THE SPECIFICATIONS LISTS EQUAL PRODUCTS. THE EQUALS ARE REQUIRED TO HAVE PRODUCT APPROVAL NUMBERS SUBMITTED AS WELL.

## BUILDING CODES

THIS PROJECT WAS DESIGNED IN ACCORDANCE WITH:

FLORIDA BUILDING CODE 2017 SEVENTH EDITION

EXISTING BUILDING CODE 2017 SEVENTH EDITION

FLORIDA FIRE PREVENTION CODE, 2017 SIXTH EDITION

FLORIDA PLUMBING CODE, 2017 SEVENTH EDITION

FLORIDA MECHANICAL CODE, 2017 SEVENTH EDITION

NATIONAL ELECTRIC CODE NFPA 70, 2014 EDITION

FLORIDA ENERGY CODE (FEC) 2017 SEVENTH EDITION

FLORIDA ACCESIBILITY CODE, 2017 SEVENTH EDITION

FLORIDA FIRE PREVENTION CODE

NFPA 101 LIFE SAFETY CODE

## SHEET INDEX

### ARCHITECTURAL



### MECHANICAL



### ELECTRICAL



## CONSULTANTS

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steve@blse.net

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ELECTRICAL
HG ENGINEERS
142 EGLIN PKWY SE
FT. WALTON BEACH, FL 32548
850-243-6723
cleonard@hg engineers.com

## AREA MAP

5317 GLOVER LANE, MILTON, FL 32570



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AA C000293
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HOBBS MIDDLE SCHOOL
ENERGY UPGRADES - PHASE B

SANTA ROSA COUNTY SCHOOL DISTRICT
5317 GLOVER LANE, MILTON, FL 32570

| No. | Description | Date |
|---|---|---|
| 1 | REV 1 - SRC | 11/11/20 |
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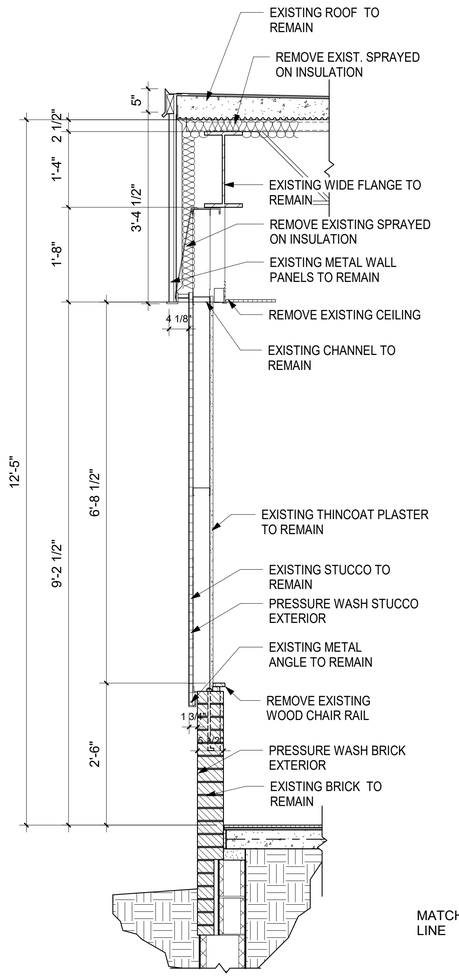
TITLE SHEET

| | |
|---|---|
| Date | 09/01/21 |
| Drawn By | MM |
| Checked By | JF |

A001




2 DEMO EXTERIOR WALL SECTION
3/4" = 1'-0"


1 DEMO NORTHWEST FLOOR PLAN
1/8" = 1'-0"

## DEMOLITION NOTES

1. REMOVE EXISTING ACOUSTICAL CEILING PRESERVE WALL SURFACE. SEE DEMO REFLECTED CEILING PLANS.
2. REMOVE SPRAYED ON INSULATION ABOVE CEILINGS. SEE DEMO WALL SECTION.
3. REMOVE WOOD TRIM FROM EXISTING EXTERIOR WALLS. SEE DEMO WALL SECTIONS.
4. REMOVE EXISTING WINDOWS WHERE INDICATED,

3 KEY PLAN NORTHWEST.
1" = 60'-0"

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# ENERGY UPGRADES - PHASE B

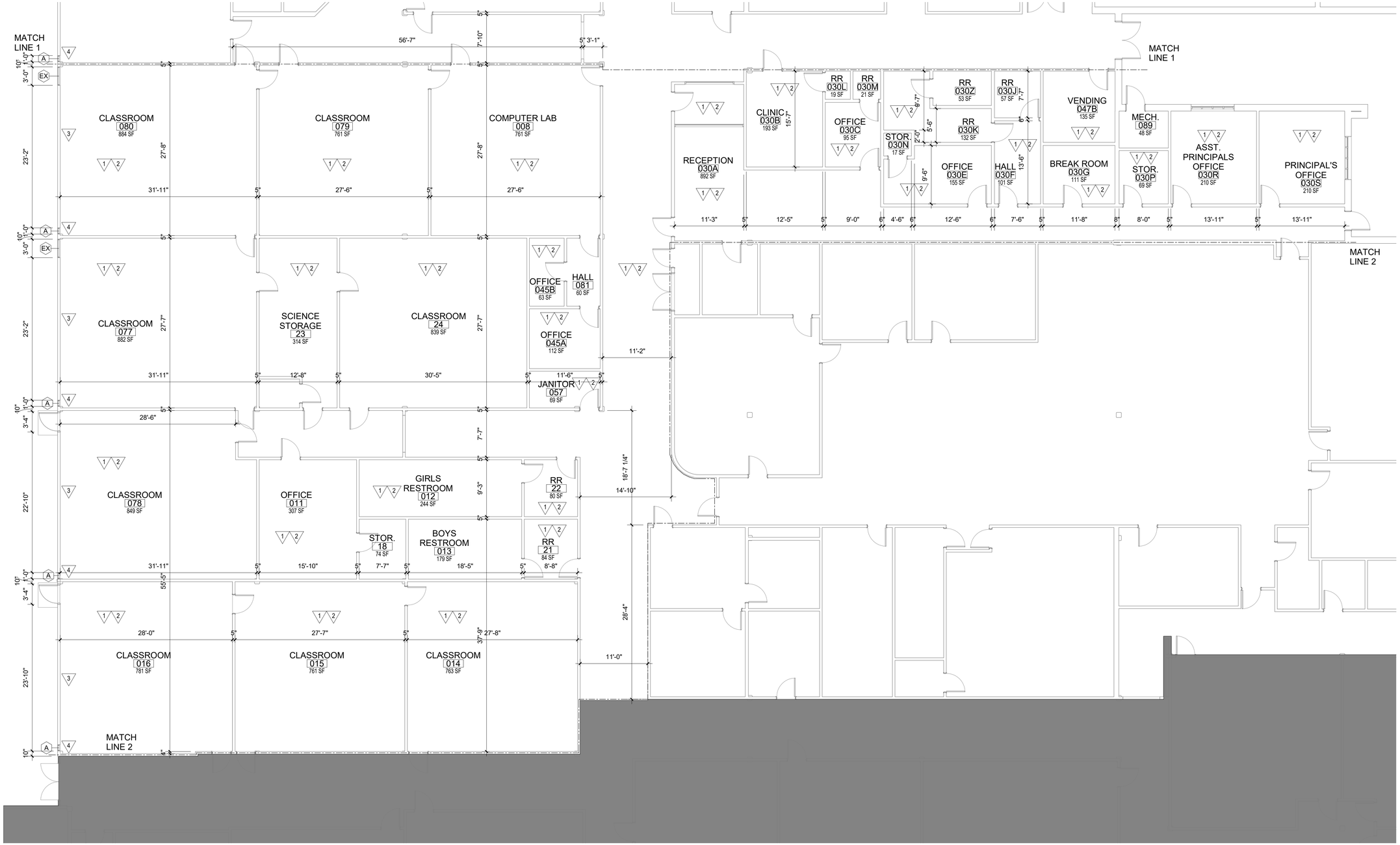
SANTA ROSA COUNTY SCHOOL DISTRICT
5317 GLOVER LANE, MILTON, FL 32570

| No. | Description | Date |
|---|---|---|
| | | |

## NORTHWEST DEMO FLOOR PLAN

| | |
|---|---|
| Date | 09/01/21 |
| Drawn By | Author |
| Checked By | Checker |

D101




1 DEMO SOUTHWEST FLOOR PLAN
1/8" = 1'-0"

## DEMOLITION NOTES

1. REMOVE EXISTING ACOUSTICAL CEILING PRESERVE WALL SURFACE. SEE DEMO REFLECTED CEILING PLANS.
2. REMOVE SPRAYED ON INSULATION ABOVE CEILINGS. SEE DEMO WALL SECTION.
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4. REMOVE EXISTING WINDOWS WHERE INDICATED,

2 KEY PLAN SOUTHWEST .
1" = 60'-0"

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# HOBBS MIDDLE SCHOOL ENERGY UPGRADES - PHASE B

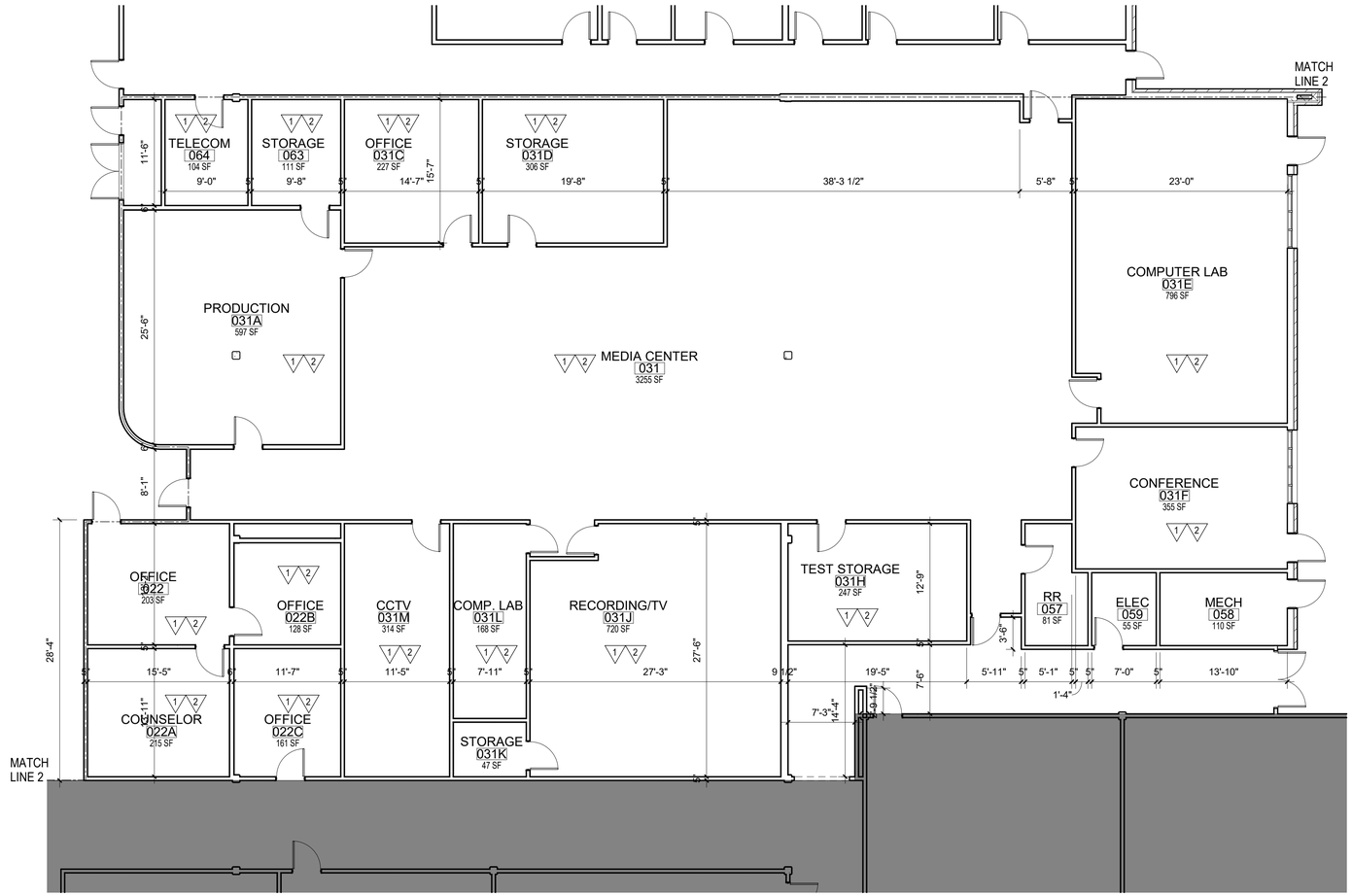
SANTA ROSA COUNTY SCHOOL DISTRICT
5317 GLOVER LANE, MILTON, FL 32570

| No. | Description | Date |
|---|---|---|
| | | |

## SOUTHWEST DEMO FLOOR PLAN

| | |
|---|---|
| Date | 09/01/21 |
| Drawn By | Author |
| Checked By | Checker |

D102




1 DEMO ALTERNATE FLOOR PLAN
1/8" = 1'-0"

## DEMOLITION NOTES

1. REMOVE EXISTING ACOUSTICAL CEILING PRESERVE WALL SURFACE. SEE DEMO REFLECTED CEILING PLANS.
2. REMOVE SPRAYED ON INSULATION ABOVE CEILINGS. SEE DEMO WALL SECTION.

2 KEY PLAN ALTERNATE.
1" = 60'-0"

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# HOBBS MIDDLE SCHOOL
# ENERGY UPGRADES - PHASE B

SANTA ROSA COUNTY SCHOOL DISTRICT
5317 GLOVER LANE, MILTON, FL 32570

| No. | Description | Date |
|---|---|---|
| | | |

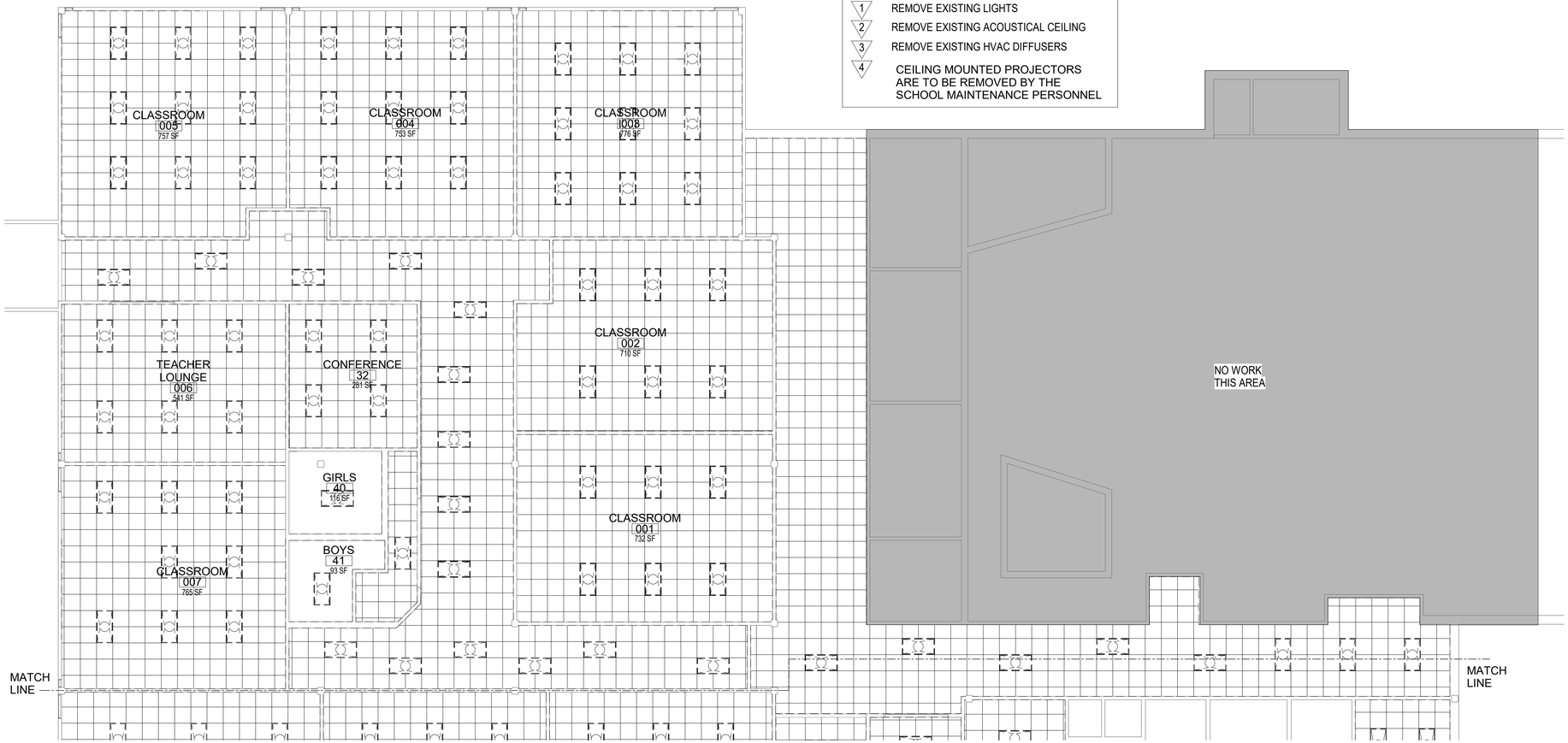
## ALTERNATE DEMO FLOOR PLAN

| | |
|---|---|
| Date | 09/01/21 |
| Drawn By | Author |
| Checked By | Checker |

D103

## DEMO NOTES

1. REMOVE EXISTING LIGHTS
2. REMOVE EXISTING ACOUSTICAL CEILING
3. REMOVE EXISTING HVAC DIFFUSERS
4. CEILING MOUNTED PROJECTORS ARE TO BE REMOVED BY THE SCHOOL MAINTENANCE PERSONNEL




1 DEMO NORTHWEST REFLECTED CEILING PLAN SOUTHEAST
1/8" = 1'-0"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# ENERGY UPGRADES - PHASE B

SANTA ROSA COUNTY SCHOOL DISTRICT
5317 GLOVER LANE, MILTON, FL 32570

| No. | Description | Date |
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## NORTHWEST DEMO REFLECTED CEILING PLAN

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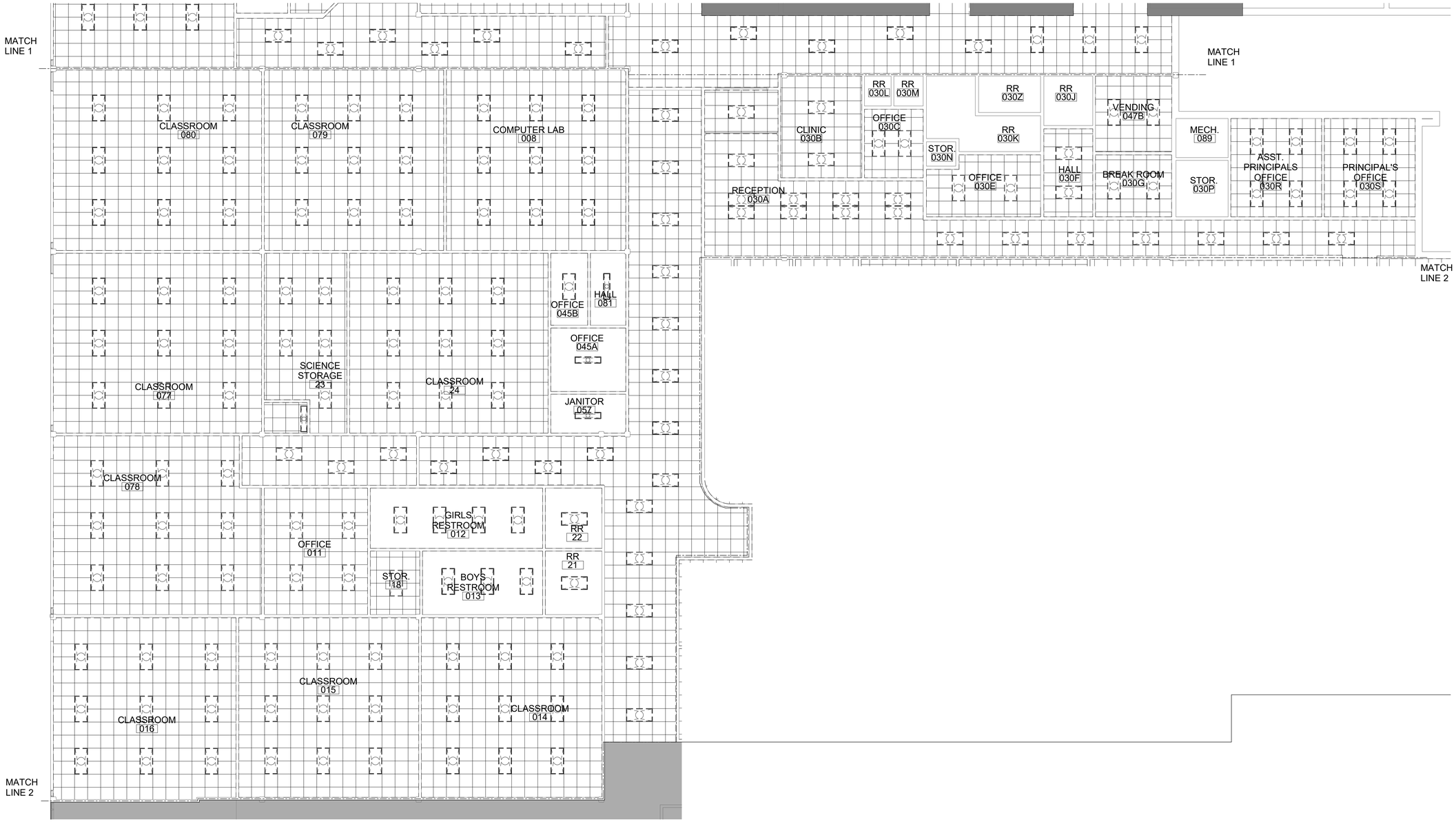
|---|---|
| Date | 09/01/21 |
| Drawn By | Author |
| Checked By | Checker |

D104




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

## DEMO NOTES

1. REMOVE EXISTING LIGHTS
2. REMOVE EXISTING ACOUSTICAL CEILINGS
3. REMOVE EXISTING HVAC DIFFUSERS
4. CEILING MOUNTED PROJECTORS ARE TO BE REMOVED BY THE SCHOOL DISTRICT MAINTENANCE PERSONNEL

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SANTA ROSA COUNTY SCHOOL DISTRICT
5317 GLOVER LANE, MILTON, FL 32570

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## SOUTHWEST DEMO REFLECTED CEILING PLAN

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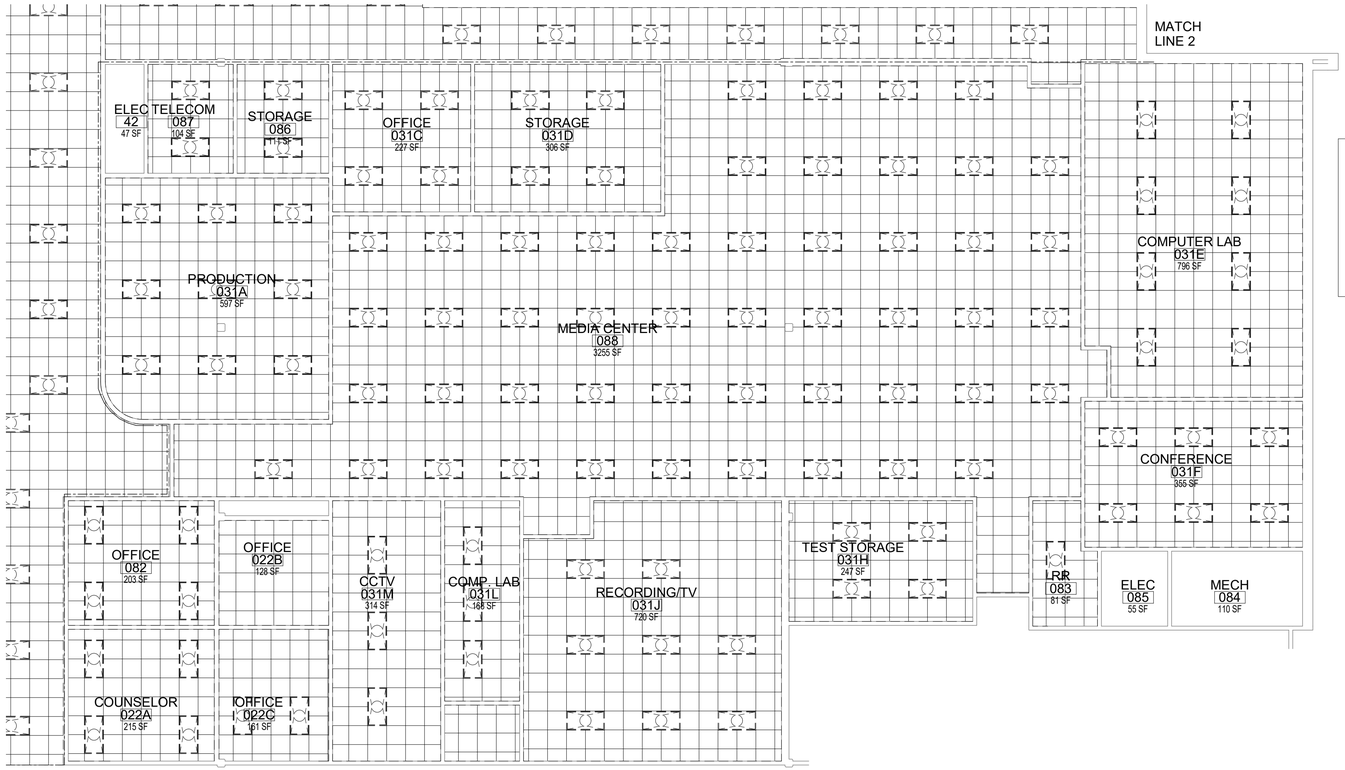
|---|---|
| Date | 09/01/21 |
| Drawn By | Author |
| Checked By | Checker |

D105




## DEMO NOTES

1. REMOVE EXISTING LIGHTS
2. REMOVE EXISTING ACOUSTICAL CEILING
3. REMOVE EXISTING HVAC DIFFUSERS
4. CEILING MOUNTED PROJECTORS ARE TO BE REMOVED BY THE SCHOOL MAINTANCE PERSONNEL

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

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HOBBS MIDDLE SCHOOL
ENERGY UPGRADES - PHASE B

SANTA ROSA COUNTY SCHOOL DISTRICT
5317 GLOVER LANE, MILTON, FL 32570

| No. | Description | Date |
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ALTERNATE DEMO REFLECTED CEILING PLAN

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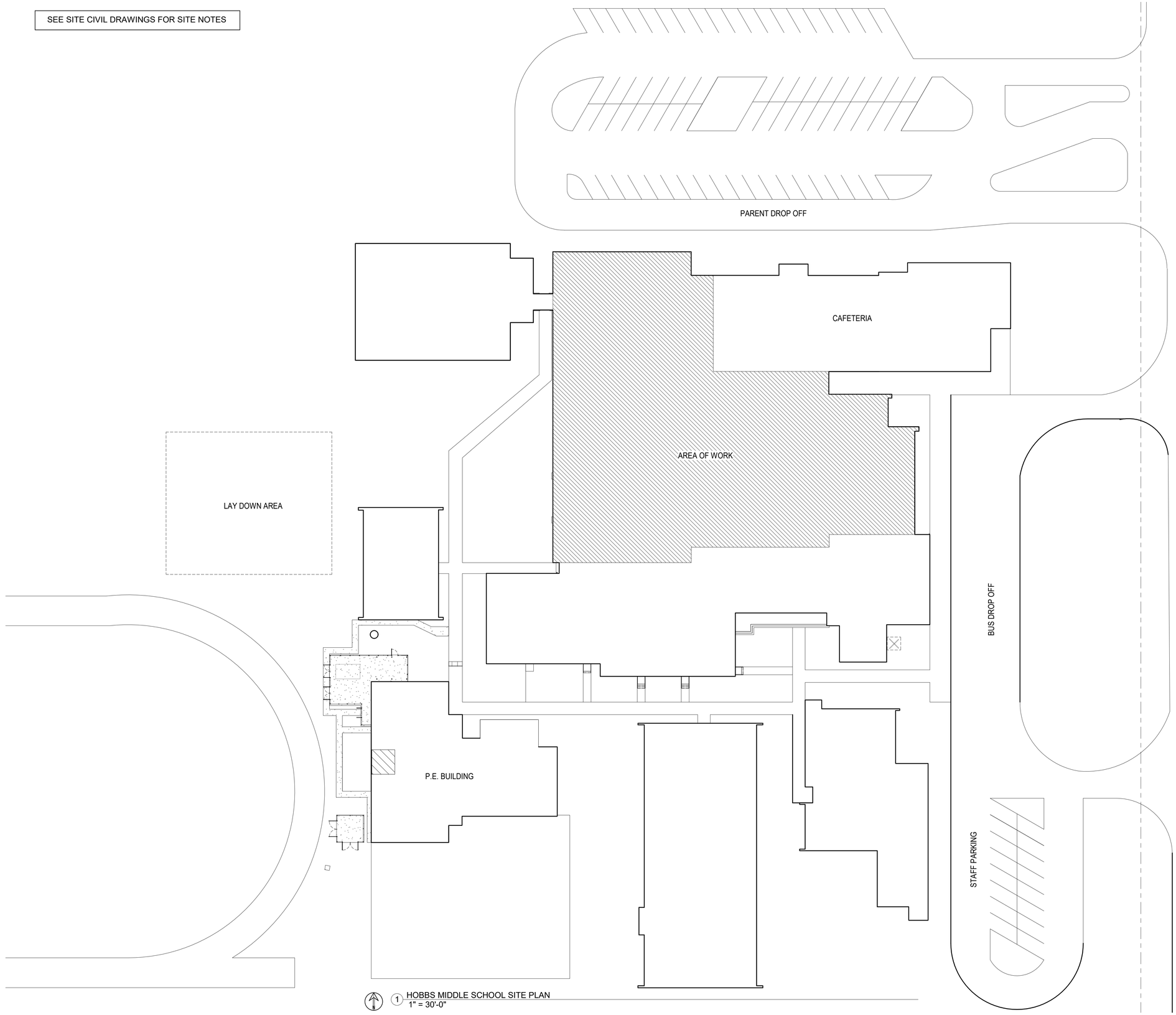
|---|---|
| Date | 09/01/21 |
| Drawn By | Author |
| Checked By | Checker |

D106

SEE SITE CIVIL DRAWINGS FOR SITE NOTES




1 HOBBS MIDDLE SCHOOL SITE PLAN
1" = 30'-0"

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# ENERGY UPGRADES - PHASE B

SANTA ROSA COUNTY SCHOOL DISTRICT
5317 GLOVER LANE, MILTON, FL 32570

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## ARCHITECTURAL SITE PLAN

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|---|---|
| Date | 09/01/21 |
| Drawn By | LM |
| Checked By | MM |

A100


1 OVERALL WORK PLAN
3/32" = 1'-0"

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# HOBBS MIDDLE SCHOOL
# ENERGY UPGRADES - PHASE B

SANTA ROSA COUNTY SCHOOL DISTRICT
5317 GLOVER LANE, MILTON, FL 32570

| No. | Description | Date |
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## OVERALL WORK AREA FLOOR PLAN

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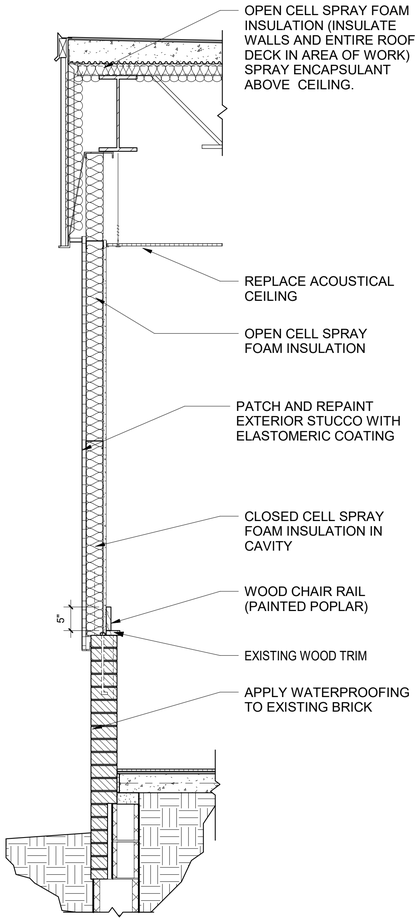
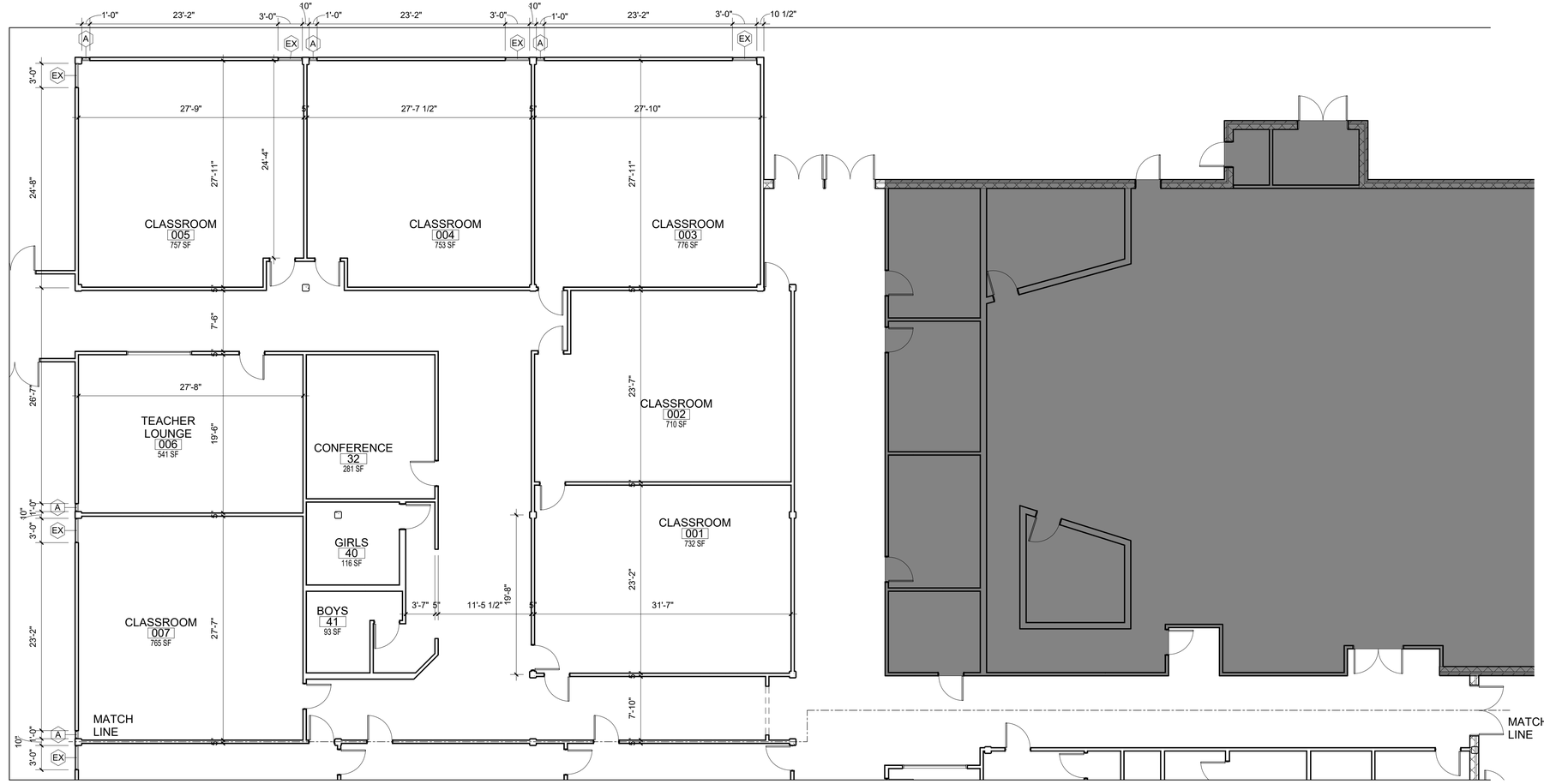
|---|---|
| Date | 09/01/21 |
| Drawn By | LM |
| Checked By | MM |

A101




3 FINISHED EXTERIOR WALL SECTION
3/4" = 1'-0"




1 NORTHWEST FLOOR PLAN
1/8" = 1'-0"

| | NEW WORK NOTES |
|---|---|
| 1 | INSTALL ACOUSTICAL CEILINGS DIFFUSERS AND LIGHTING. |
| 2 | INSTALL SPRAY FOAM INSULATION AT ROOF DECK. |
| 3 | INSTALL SPRAY FOAM INSULATION AT EXTERIOR WALLS. |
| 4 | INSTALL PAINTED WOOD TRIM AT EXTERIOR WALLS. |
| 5 | REPLACE EXISTING WINDOWS WHERE INDICATED. |

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# ENERGY UPGRADES - PHASE B

SANTA ROSA COUNTY SCHOOL DISTRICT
5317 GLOVER LANE, MILTON, FL 32570

| No. | Description | Date |
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PARTIAL FLOOR PLAN NORTHWEST

| | |
|---|---|
| Date | 09/01/21 |
| Drawn By | LM |
| Checked By | MM |

A102


1 SOUTHWEST FLOOR PLAN
1/8" = 1'-0"

| | NEW WORK NOTES |
|---|---|
| 1 | INSTALL ACOUSTICAL CEILINGS DIFFUSERS AND LIGHTING. |
| 2 | INSTALL SPRAY FOAM INSULATION AT ROOF DECK. |
| 3 | INSTALL SPRAY FOAM INSULATION AT EXTERIOR WALLS. |
| 4 | INSTALL PAINTED WOOD TRIM AT EXTERIOR WALLS. |
| 5 | REPLACE EXISTING WINDOWS WHERE INDICATED. |

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# HOBBS MIDDLE SCHOOL ENERGY UPGRADES - PHASE B

SANTA ROSA COUNTY SCHOOL DISTRICT
5317 GLOVER LANE, MILTON, FL 32570

| No. | Description | Date |
|---|---|---|
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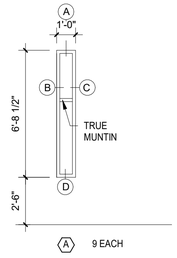
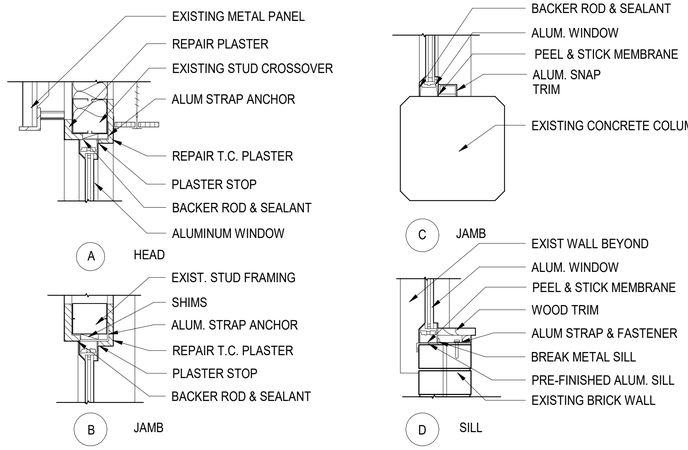
PARTIAL FLOOR PLAN SOUTHWEST

| | |
|---|---|
| Date | 09/01/21 |
| Drawn By | LM |
| Checked By | MM |

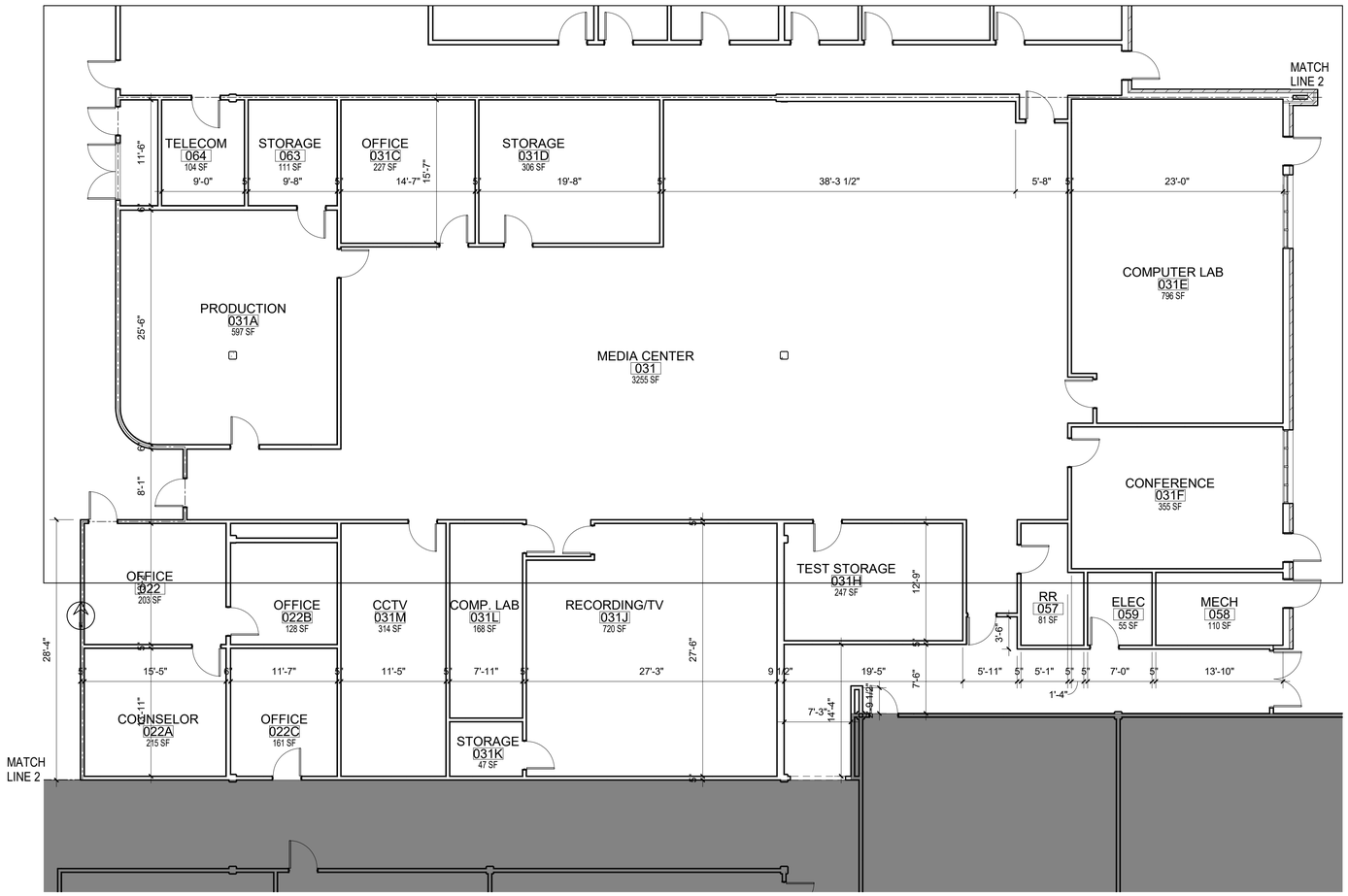
A103




3 WINDOW ELEVATIONS
1/4" = 1'-0"




4 WINDOW DETAILS
1 1/2" = 1'-0"




1 ALTERNATE FLOOR PLAN
1/8" = 1'-0"

| NEW WORK NOTES | |
|---|---|
| 1 | INSTALL ACOUSTICAL CEILINGS DIFFUSERS AND LIGHTING. |
| 2 | INSTALL SPRAY FOAM INSULATION AT ROOF DECK. |
| 3 | INSTALL SPRAY FOAM INSULATION AT EXTERIOR WALLS. |
| 4 | INSTALL PAINTED WOOD TRIM AT EXTERIOR WALLS. |

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# ENERGY UPGRADES - PHASE B

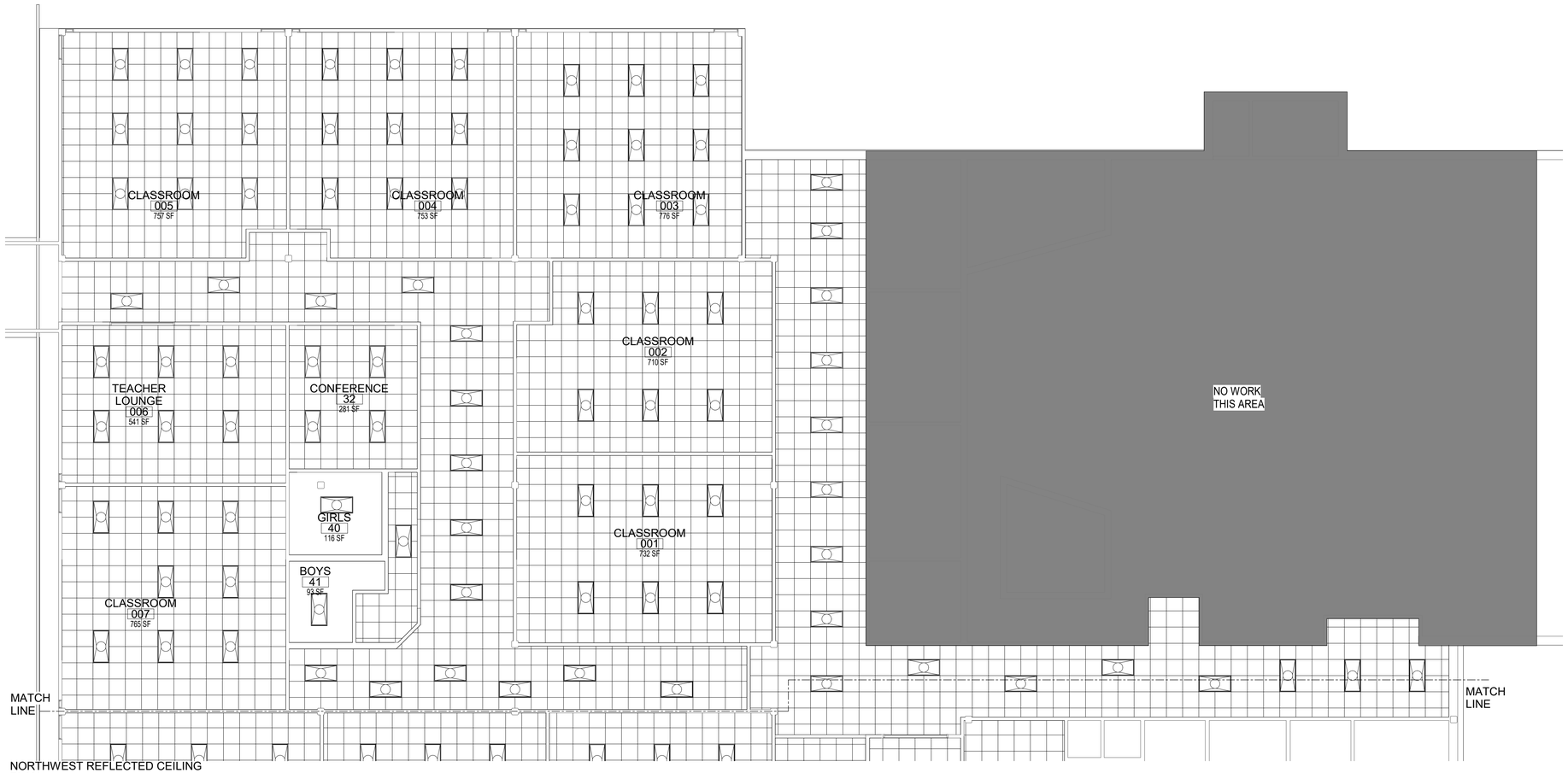
SANTA ROSA COUNTY SCHOOL DISTRICT
5317 GLOVER LANE, MILTON, FL 32570

| No. | Description | Date |
|---|---|---|
| | | |

PARTIAL FLOOR PLAN
ALTERNATE #1

| | |
|---|---|
| Date | 09/01/21 |
| Drawn By | Author |
| Checked By | Checker |

A104




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

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AA C000293

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# HOBBS MIDDLE SCHOOL
# ENERGY UPGRADES - PHASE B

SANTA ROSA COUNTY SCHOOL DISTRICT
5317 GLOVER LANE, MILTON, FL 32570

| No. | Description | Date |
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## NORTHWEST REFLECTED CEILING PLN

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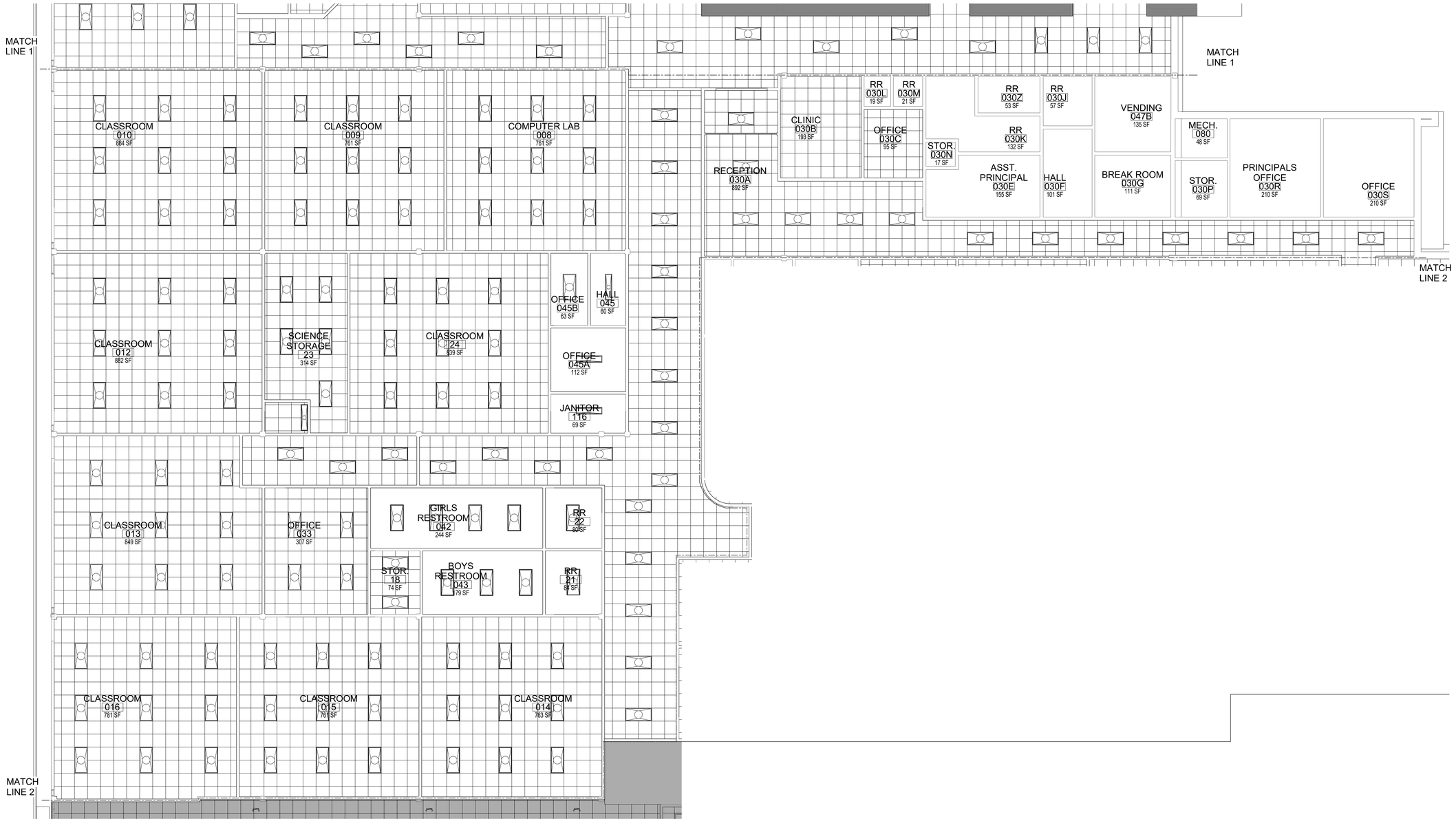
|---|---|
| Date | 09/01/21 |
| Drawn By | Author |
| Checked By | Checker |

A105




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

SAM MARSHALL ARCHITECTS
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# HOBBS MIDDLE SCHOOL
# ENERGY UPGRADES - PHASE B

SANTA ROSA COUNTY SCHOOL DISTRICT
5317 GLOVER LANE, MILTON, FL 32570

| No. | Description | Date |
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## SOUTHWEST REFLECTED CEILING PLAN

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| Drawn By | Author |
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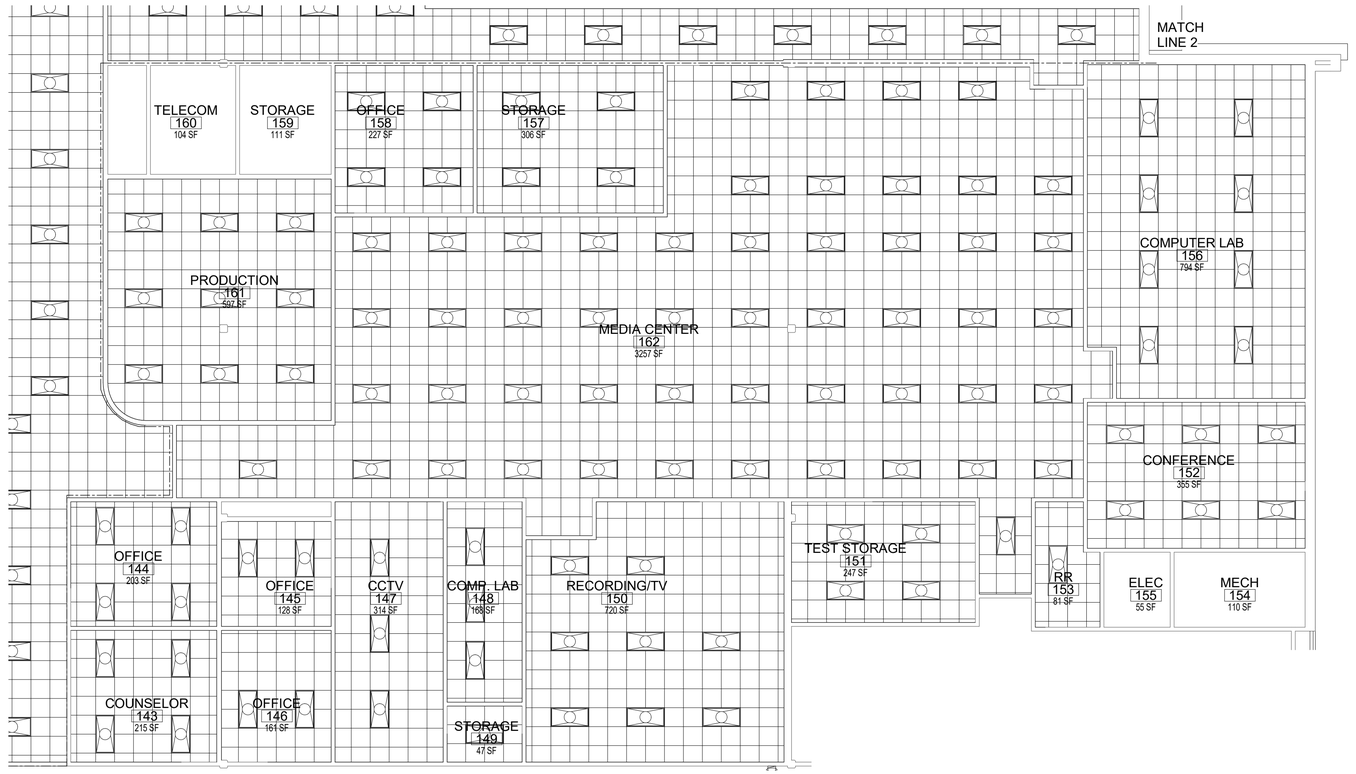


1 ALTERNATE REFLECTED CEILING PLAN
1/8" = 1'-0"

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## ALTERNATE REFLECTED CEILING PLAN

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| Date | 09/01/21 |
| Drawn By | Author |
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# ABBREVIATIONS

| | |
|---|---|
| @ | AT |
| A/C | ABOVE CEILING |
| A/E | ARCHITECTS AND ENGINEERS |
| A/G | ABOVE GRADE |
| ACC | AIR COOLED CHILLER |
| ACD | AUTOMATIC CONTROL DAMPER |
| AD | ACCESS DOOR |
| ADJ | ADJUSTABLE |
| AFF | ABOVE FINISHED FLOOR |
| AFMS | AIRFLOW MEASURING STATION |
| AHRI | AIR-CONDITIONING, HEATING AND REFRIGERATION INSTITUTE |
| AHU | AIR HANDLING UNIT |
| ALT | ALTERNATE |
| ASHRAE | AMERICAN SOCIETY OF HEATING, REFRIGERATING AND AIR CONDITIONING ENGINEERS |
| AS | AIR SEPARATOR |
| ATU | AIR TERMINAL UNIT |
| AI | ANALOG INPUT |
| AO | ANALOG OUTPUT |
| B | BOILER |
| BAS | BUILDING AUTOMATION SYSTEM |
| BD | BELT DRIVE |
| BLDG | BUILDING |
| BMS | BUILDING MANAGEMENT SYSTEM |
| BP | BOILER PUMP -PRIMARY LOOP |
| BTUH | BRITISH THERMAL UNIT PER HOUR |
| CEF | CEILING EXHAUST FAN |
| CFM | CUBIC FEET PER MINUTE |
| CF | CHEMICAL FEEDER |
| CFH | CUBIC FEET PER HOUR |
| CHWS/R | CHILLED WATER PIPING SUPPLY AND RETURN |
| CHWS | CHILLED WATER PIPING SUPPLY |
| CHWR | CHILLED WATER PIPING RETURN |
| CHWP | CHILLED WATER PUMP |
| CO | CARBON MONOXIDE / CLEANOUT |
| CONT | CONTINUOUS |
| COP | COEFFICIENT OF PERFORMANCE |
| COMP | COMPRESSOR |
| CT | COOLING TOWER |
| CWV | CHILLED WATER VALVE |
| Cv | FLOW COEFFICIENT |
| CS | CONDENSER WATER PIPING SUPPLY |
| CR | CONDENSER WATER PIPING RETURN |
| DB | DRY BULB TEMPERATURE |
| DBA | DECIBEL A RATING |
| DCW | DOMESTIC COLD POTABLE WATER |
| DD | DIRECT DRIVE |
| DDC | DIRECT DIGITAL CONTROL |
| DEG. F | DEGREES IN FAHRENHEIT |
| DN | DOWN |
| DP | DEW POINT TEMPERATURE |
| DPS | DIFFERENTIAL PRESSURE SENSOR |
| DWGS | DRAWINGS |
| DX | DIRECT EXPANSION |
| DI | DIGITAL INPUT |
| DO | DIGITAL OUTPUT |
| (E) | EXISTING |
| EA | EXHAUST AIR OR EACH |
| EAG | EXHAUST AIR GRILLE |
| EAL | EXHAUST AIR LOUVER |
| EAR | EXHAUST AIR REGISTER |
| EAT | ENTERING AIR TEMPERATURE |
| EER | ENERGY EFFICIENCY RATIO |
| EF | EXHAUST FAN |
| EMCS | ENERGY MANAGEMENT AND CONTROL SYSTEM |
| ENT | ENTERING |
| ERV | ENERGY RECOVERY VENTILATOR |
| ESP | EXTERNAL STATIC PRESSURE |
| ET | EXPANSION TANK |
| EUH | ELECTRIC UNIT HEATER |
| EWT | ENTERING WATER TEMPERATURE |
| FD | FLOOR DRAIN |
| FLA | FULL LOAD AMPS |
| FLP | FLOOR PLAN |
| FPM | FEET PER MINUTE |
| FT | FEET |
| FT W.C. | FEET OF WATER COLUMN |
| GI | GRAVITY INTAKE |
| GR | GRAVITY RELIEF |
| GPM | GALLONS PER MINUTE |
| HDPE | HIGH-DENSITY POLYETHYLENE |
| HDT | HORIZONTAL DRAW THROUGH |
| HBT | HORIZONTAL BLOW THROUGH |
| HOA | HAND-OFF-AUTO |
| HP | HORSEPOWER |
| HPU | HEAT PUMP UNIT |
| HVAC | HEATING VENTILATING AND AIR CONDITIONING |
| HWS/R | HOT WATER PIPING SUPPLY AND RETURN |
| HWS | HOT WATER SUPPLY |
| HWR | HOT WATER RETURN |
| HWP | HOT WATER PUMP |
| HWV | HOT WATER VALVE |
| HZ | HERTZ |
| IL | INLINE |
| IPLV | INTEGRATED PART LOAD VALUE |
| IN W.C. | INCH OF WATER COLUMN |
| LAT | LEAVING AIR TEMPERATURE |
| LWT | LEAVING WATER TEMPERATURE |
| LSS | LIQUID SOLID SEPARATOR |
| MAX | MAXIMUM |
| MBH | 1000 BTUHS |
| MCA | MINIMUM CIRCUIT AMPS |
| MERV | MINIMUM EFFICIENCY REPORTING VALUE (FILTER) |
| MFG | MANUFACTURING |
| MFR | MANUFACTURER |
| MIN | MINIMUM |
| MOCP | MAXIMUM OVERCURRENT PROTECTION DEVICE |
| MVD | MANUAL VOLUME DAMPER |
| NEC | NATIONAL ELECTRICAL CODE |
| NFPA | NATIONAL FIRE PROTECTION ASSOCIATION |
| NO | NORMALLY OPEN |
| NC | NORMALLY CLOSED OR NOISE CRITERIA |
| NPLV | NON-STANDARD PART LOAD VALUE |
| NTS | NOT TO SCALE |
| OA | OUTSIDE AIR |
| OAL | OUTSIDE AIR LOUVER |
| OAU | OUTSIDE AIR UNIT |
| O.C. | ON CENTER |
| PD | PRESSURE DROP |
| PEX | CROSS-LINKED POLYETHYLENE |
| PH | PHASE |
| PPM | PARTS PER MILLION |
| PRV | PRESSURE REDUCING VALVE |
| P/T | PRESSURE/TEMPERATURE PORTS |
| PSI | POUNDS PER SQUARE INCH |
| PSIG | POUNDS PER SQUARE INCH (GAGE PRESSURE) |
| QTY | QUANTITY |
| RA | RETURN AIR |
| RAG | RETURN AIR GRILLE |
| RAR | RETURN AIR REGISTER |
| RH | RELATIVE HUMIDITY |
| RPBFP | REDUCED PRESSURE BACKFLOW PREVENTER |
| RPM | REVOLUTION PER MINUTE |
| RLA | RATED LOAD AMPS |
| SA | SUPPLY AIR |
| SAR | SUPPLY AIR REGISTER |
| SD | SMOKE DETECTOR |
| SEER | SEASONAL ENERGY EFFICIENCY RATIO |
| SF | SUPPLY FAN |
| SMACNA | SHEET METAL AND AIR CONDITIONING CONTRACTORS' NATIONAL ASSOCIATION |
| SPT | STATIC PRESSURE TRANSMITTER |
| TA | TRANSFER AIR |
| TAG | TRANSFER AIR GRILLE |
| T'STAT | THERMOSTAT |
| TT | TEMPERATURE TRANSMITTER |
| TSP | TOTAL STATIC PRESSURE |
| TYP. | TYPICAL |
| UNO | UNLESS NOTED OTHERWISE |
| UV | ULTRAVIOLET |
| UV-C | ULTRAVIOLET TYPE C |
| U/G | UNDERGROUND |
| V | VOLTS |
| VAV | VARIABLE AIR VOLUME |
| VFD | VARIABLE FREQUENCY DRIVE |
| W/ | WITH |
| WB | WET BULB TEMPERATURE |
| WCC | WATER COOLED CHILLER |
| WOG | WATER, OIL, GAS |
| W.G. | WATER GAUGE |

NOTE:
NOT ALL ABBREVIATIONS ARE USED ON THESE DRAWINGS

# CONTROLS LEGEND

- AI — ANALOG INPUT
- AO — ANALOG OUTPUT
- DI — DIGITAL INPUT
- DO — DIGITAL OUTPUT
- T — SPACE TEMPERATURE SENSOR OR THERMOSTAT
- H — SPACE HUMIDITY SENSOR
- T — DUCT MOUNT TEMPERATURE SENSOR
- H — DUCT MOUNT HUMIDITY SENSOR
- M / OR / M — DUCT MOUNT MOTORIZED DAMPER AND ACTUATOR
- FM — DUCT MOUNTED AIR FLOW MEASURING STATION
- FZ — FREEZESTAT
- T — LINEAR AVERAGING TEMPERATURE SENSOR
- DP — DIFFERENTIAL PRESSURE TRANSMITTER
- MVD — MANUAL VOLUME DAMPER
- VFD — VARIABLE FREQUENCY DRIVE
- DDC — DDC PANEL
- AIRFLOW
- FAN
- FILTER

# LEGEND

DUCTWORK

- 24"/12" — OVAL DUCT SIZE. FIRST SIZE LISTED IS SIDE SHOWN IN PLANS
- 24"x12" — RECTANGULAR DUCT SIZE. FIRST SIZE LISTED IS SIDE SHOWN IN PLANS & ROUND DUCT SIZE
- 12"Ø
- EXTERNALLY INSULATED DUCTWORK
- EXTERNALLY INSULATED ROUND FLEXIBLE DUCTWORK (MIN R-6)
- DUCT 90° ELBOW WITH TURNING VANES
- DUCT 45° TRANSITION WITH TURNING VANES
- RADIUSED DUCT ELBOW. TURNING RADIUS SHALL BE 1.5 TIMES THE TURNING DIMENSION
- FLEXIBLE DUCT CONNECTION
- TRANSITION
- SUPPLY OR OUTSIDE AIR DUCT TURNING UP (POSITIVE PRESSURE)
- RETURN OR EXHAUST AIR DUCT TURNING UP (NEGATIVE PRESSURE)
- SUPPLY OR OUTSIDE AIR DUCT TURNING DOWN (POSITIVE PRESSURE)
- RETURN OR EXHAUST AIR DUCT TURNING DOWN (NEGATIVE PRESSURE)
- MANUAL VOLUME DAMPER
- EQUIPMENT WITH CLEARANCE SHOWN IN DASHED LINE
- AHU 1 — NEW EQUIPMENT TAG
- (E)AHU-1 — EXISTING EQUIPMENT TAG
- CONNECT TO EXISTING
- EQUIPMENT TO BE DEMOLISHED
- 1 TITLE — DESCRIPTION; SCALE — DWG SCALE, SCHEMATIC, OR NOT TO SCALE (NTS)
- 1 M301 — BUILDING SECTION
- 1 M301 — BUILDING ELEVATION

- 1 — SHEET NOTE
- 1 — DETAIL NOTE
- 1 — REVISION # AND CLOUD
- T1 — THERMOSTAT MOUNT TO MATCH LIGHT SWITCH ('1' INDICATES EQUIPMENT CONTROLLED).
- CO2 — DUCT MOUNT OR WALL MOUNT CARBON DIOXIDE SENSOR
- S — DUCT MOUNT SMOKE DETECTOR (PROVIDED BY DIVISION 26, INSTALLED BY DIVISION 23 AND WIRED BY DIVISION 26).
- UNDER CUT DOOR 3/4"
- INTERNALLY LINED LOW PRESSURE DUCT OR PERFORATED INNER LINER FOR MEDIUM PRESS DUCT SYSTEM

SINGLE LINE PIPING

- ELBOW TURN UP
- ELBOW TURN DOWN
- CONNECTION, BOTTOM
- CONNECTION, TOP
- D — CONDENSATE DRAIN PIPING
- REFRIGERANT PIPING
- GATE VALVE
- BALL VALVE
- BUTTERFLY VALVE
- SWING CHECK VALVE
- SPRING CHECK VALVE
- CHWS — CHILLED WATER SUPPLY PIPING
- CHWR — CHILLED WATER RETURN PIPING
- HWS — HEATING WATER SUPPLY PIPING
- HWR — HEATING WATER RETURN PIPING
- CS — CONDENSER WATER SUPPLY PIPING
- CR — CONDENSER WATER RETURN PIPING
- PRV — PRESSURE REDUCING VALVE
- PRESSURE RELIEF VALVE. PIPE FULL SIZE DISCHARGE TO FLOOR DRAIN.
- AUTOMATIC FLOW CONTROL VALVE
- 2-WAY CONTROL VALVE
- 3-WAY CONTROL VALVE

DOUBLE LINE PIPING

- ELBOW TURN UP
- ELBOW TURN DOWN
- CONNECTION, BOTTOM
- CONNECTION, TOP
- PIPE ELBOW
- TRANSITION
- NEW PIPING
- EXISTING PIPING TO REMAIN
- EXISTING PIPING TO BE DEMOLISHED
- UNDERGROUND PIPING
- PRESSURE GAUGE (0-160PSI) WITH ISOLATION VALVE
- TEMPERATURE GAUGE 0°F - 100°F FOR CHW 30°F - 180°F FOR CW 30°F - 240°F FOR HW
- HYDRONIC TEMPERATURE SENSOR (SEE CONTROLS)
- FM — HYDRONIC FLOW METER (SEE CONTROLS)
- DP — HYDRONIC DIFFERENTIAL PRESSURE SENSOR (SEE CONTROLS)
- COMBINATION VENTURI AND BALL VALVE WITH MEMORY STOP FOR FLOW BALANCING AND SHUT OFF SERVICE
- UNION
- GLOBE VALVE
- STAINLESS STEEL BRAIDED FLEXIBLE PIPE CONNECTOR
- P/T — COMBINATION PRESSURE AND TEMPERATURE TEST PLUG WITH EXTENDED NECK AND CAP
- STRAINER WITH BLOW DOWN GATE VALVE FULL SIZE OF STRAINER AND 3/4" HOSE END CONNECTION WITH CAP
- MANUAL AIR VENT WITH 1/2" BALL VALVE. ROUTE 1/2" SOFT COPPER TUBING FROM DISCHARGE TO FLOOR DRAIN UNLESS OTHERWISE NOTED.

# MANDATORY PRE-BID MEETING NOTES

- THIS IS NOT A MECHANICAL PRIME CONTRACTOR PROJECT.
- MECHANICAL CONTRACTOR SHALL ATTEND THE MANDATORY PRE-BID MEETING AND ATTENDANCE SHALL BE RECORDED BY A/E IN ORDER TO BID THE PROJECT UNDER A GENERAL CONTRACTOR. REFER TO SPECIFICATIONS FOR FURTHER REQUIREMENTS AND PROJECT SCHEDULE.

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HOBBS MIDDLE SCHOOL
ENERGY UPGRADES - PHASE B

SANTA ROSA COUNTY SCHOOL DISTRICT
5317 GLOVER LANE, MILTON, FL 32570

PHASE 2 SUBMITTAL
NOT FOR CONSTRUCTION

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MECHANICAL LEGEND AND ABBREVIATIONS

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| Date | 09/01/21 |
| Drawn By | AL |
| Checked By | AL |

M001

AL
ANTON LEE ENGINEERING
ANTON LEE ENGINEERING, LLC
PENSACOLA, FL 32514
CERTIFICATE OF AUTHORIZATION:
FL 32794 | AL 5685-E
ANTON LEE P.E.
FL PE# 82369 | AL PE# 37427-E
PROJECT NUMBER 21-120

## GENERAL MECHANICAL NOTES

1. CONTRACTOR SHALL COORDINATE WITH OTHER TRADES REQUIRED OPENINGS IN WALLS, FOUNDATIONS, FLOORS, AND ROOFS.
2. FIELD VERIFY ALL DIMENSIONS, SIZES, AND CONNECTION LOCATIONS BEFORE ANY DUCTWORK FABRICATION OR PIPE CUTTING IS COMMENCED. PROVIDE ANY OFFSETS, TRANSITIONS, AND OTHER MINOR ADJUSTMENTS AS REQUIRED FOR A COMPLETE AND WORKING SYSTEM INSTALLATION.
3. COORDINATE FLOOR DRAIN LOCATIONS IN MECHANICAL ROOMS WITH ANY EQUIPMENT LOCATED IN THE MECHANICAL ROOM. ROUTE CONDENSATE DRAIN PIPING OUT OF WALKWAY PATHS. CONDENSATE DRAIN PIPING SHALL BE COPPER TYPE L WITH A MIN. OF 1" FLEXIBLE ELASTOMERIC CELLULAR INSULATION AND VAPOR BARRIER.
4. VERIFY MECHANICAL EQUIPMENT LOCATIONS AND PROVIDE ADEQUATE MAINTENANCE CLEARANCE AROUND EACH PIECE OF EQUIPMENT PER THE MANUFACTURER'S RECOMMENDATIONS. PROVIDE CLEARANCE IN FRONT OF ELECTRICAL PANELS AND OTHER ELECTRICAL EQUIPMENT PER THE NATIONAL ELECTRICAL CODE REQUIREMENTS. COORDINATE WITH OTHER TRADES.
5. HVAC EQUIPMENT, PIPING, AND ETC. ARE SHOWN IN APPROXIMATE LOCATIONS. ACTUAL LOCATIONS SHALL BE DETERMINED IN THE FIELD, FULLY COORDINATED AND IN COMPLIANCE WITH CONTRACT DOCUMENTS. IN NO INSTANCE SHALL THE LOCATION VIOLATE STANDARDS, CODES, GOOD HVAC PRINCIPLES, AND THE INTENT OF THE HVAC DESIGN. CONSULT ENGINEER PRIOR TO RELOCATION. MECHANICAL DRAWINGS, IN SOME RESPECTS, ARE DIAGRAMMATIC. COORDINATION, LAYOUT OF SECTIONS, OR FIELD MEASUREMENTS MAY BE REQUIRED PRIOR TO FABRICATION OF DUCTWORK OR PIPING. MODIFY SIZES, AS DIRECTED BY ENGINEER, FOR FIT. ARRANGE ALL DUCTWORK AND PIPING IN A NEAT AND ORDERLY MANNER. COORDINATE WITH OTHER TRADES.
6. CONTRACTOR SHALL NOT CUT ANY STRUCTURAL MEMBERS OF BUILDING.
7. PROVIDE WATER PROOF SEALING OF PIPE AND DUCT PENETRATIONS OF EXTERIOR WALLS, FLOORS, AND/OR ROOF.
8. DO NOT MOUNT DISCONNECT SWITCHES ON HVAC EQUIPMENT EXCEPT AS RECOMMENDED BY MANUFACTURER. EQUIPMENT OF DIFFERING ELECTRICAL CHARACTERISTICS, PHYSICAL DIMENSIONS, CAPACITIES, AND RATINGS MAY BE FURNISHED, PROVIDED SUCH PROPOSED EQUIPMENT IS APPROVED BY THE ENGINEER IN WRITING AND CONNECTING MECHANICAL SERVICES, CIRCUIT BREAKERS, CONDUIT, MOTORS, BASES, AND EQUIPMENT SPACES ARE INCREASED. ADDITIONAL COSTS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR PROVIDING DIFFERING EQUIPMENT.
9. THERMOSTATS SHALL BE GENERALLY LOCATED AS SHOWN. COORDINATE WITH FURNITURE, CASEWORK AND OWNER PROVIDED ITEMS.
10. REFER TO DIVISION 23 SPECIFICATIONS FOR FURTHER REQUIREMENTS.
11. TEST AND BALANCE (TAB) SHALL BE PERFORMED BY SCHOOL DISTRICT SELECTED TAB CONTRACTOR. TAB CONTRACTOR SHALL BE EMPLOYED UNDER THE SUPERVISION OF THE GENERAL CONTRACTOR. GENERAL AND MECHANICAL CONTRACTOR SHALL COORDINATE ALL TAB REQUIREMENTS WITH THE TAB CONTRACTOR DURING THE CONSTRUCTION. REFER TO SPECIFICATION 15950 FOR FURTHER INFORMATION.

## BASIS OF DESIGN & OTHER ACCEPTABLE MFR NOTES

1. CONTRACTOR SHALL PROVIDE SHOP DRAWINGS IN CAD PER CONTRACTOR PROPOSED EQUIPMENT SELECTION AND CONFIGURATION. PROVIDE PROPOSED ELECTRICAL, PIPING, AND EQUIPMENT CONFIGURATION FOR A/E APPROVAL PRIOR TO CONSTRUCTION OR FABRICATION.
2. REFER TO SPEC SECTION 23050 FOR FIELD MEASUREMENTS AND SUBMITTALS: COORDINATION/SHOP DRAWINGS REQUIREMENTS.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ELECTRICAL UPSIZING AND PIPING MODIFICATION FROM THE BASIS OF DESIGN EQUIPMENT TO OTHER ACCEPTABLE EQUIPMENT WITHOUT ADDITIONAL COST TO THE OWNER. ALL REQUIRED UPSIZING COST SHALL BE INCLUDED UNDER BASE BID.
4. MAINTAIN MINIMUM CLEAR ACCESS FOR UNIT MAINTENANCE PER MANUFACTURER'S RECOMMENDATION.

## PROJECT BUILDING CODE REQUIREMENTS

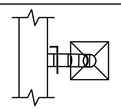
WORK SHALL COMPLY WITH THE FOLLOWING AGENCIES:

- 2020 FLORIDA BUILDING CODE
- 2020 FLORIDA MECHANICAL CODE
- 2020 FLORIDA ENERGY CONSERVATION CODE
- 2020 FLORIDA PLUMBING CODE
- 2020 FLORIDA FUEL GAS CODE
- 2020 FLORIDA FIRE PREVENTION CODE
- 2014 STATE REQUIREMENTS FOR EDUCATIONAL FACILITIES (SREF)
- AMERICAN SOCIETY OF HEATING AND REFRIGERATION ENGINEERS (ASHRAE)
- AMERICAN SOCIETY OF PLUMBING ENGINEERS (ASPE)
- NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)
- NFPA 70 NATIONAL ELECTRICAL CODE
- NFPA 101 LIFE SAFETY CODE

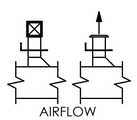
## GENERAL DUCTWORK NOTES

1. SUPPLY AIR DUCTWORK UPSTREAM OF AIR TERMINAL TO BE SINGLE WALLED ROUND OR FLAT OVAL; SMACNA STATIC PRESSURE CLASS 4" W.G., SEAL CLASS A, DUCT SIZES INDICATED ARE INSIDE CLEAR DIMENSIONS. PROVIDE THE FIRST 25 FT OR AS INDICATED WITH PERFORATED INNER LINER FOR SOUND ATTENUATION.
2. ALL NEW RETURN, OUTSIDE, EXHAUST AIR, AND SUPPLY AIR DUCTWORK DOWNSTREAM OF AIR TERMINAL UNITS (EXCEPT TAKEOFFS TO SUPPLY AIR DIFFUSERS) TO BE SINGLE WALLED RECTANGULAR OR ROUND, SMACNA STATIC PRESSURE CLASS 2" W.G., SEAL CLASS A, EXTERNALLY INSULATED WITH 2" THICK FIBERGLASS DUCT WRAP. DUCT SIZES INDICATED ARE INSIDE CLEAR DIMENSIONS. PROVIDE 2" WRAP INSULATION AT ABOVE CEILING AS REQUIRED PER SPECIFICATIONS. PROVIDE 1-1/2" RIGID INSULATION FOR DUCTWORK SYSTEM AT MECHANICAL ROOMS.
3. RETURN AIR DUCTWORK FROM THE RTU TO BE SINGLE WALL RECTANGULAR, SMACNA STATIC PRESSURE CLASS 2" W.G., SEAL CLASS A, EXTERNALLY INSULATED WITH 2" THICK FIBERGLASS WRAP. DUCT SIZES INDICATED ARE INSIDE CLEAR DIMENSIONS. PROVIDE WITH ACOUSTICAL DUCT INNER LINER FOR SOUND ATTENUATION.
4. ALL DUCTWORK CONSTRUCTION, DUCT HANGERS, AND SUPPORTS SHALL COMPLY WITH SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS-METAL AND FLEXIBLE" FOR METAL THICKNESS', REINFORCING TYPES AND INTERVALS, TIE-ROD APPLICATIONS, AND JOINT TYPES AND INTERVALS. SUPPORT HORIZONTAL DUCTS WITHIN 24" OF EACH ELBOW AND WITHIN 48" OF EACH BRANCH. SEE DUCT HANGER DETAILS.
5. VERIFY COLLAR SIZES ON ALL EQUIPMENT INLETS AND OUTLETS. TRANSITION DUCTWORK AS NECESSARY. EXTERNALLY INSULATE ALL TRANSITIONS AT EQUIPMENT CONNECTIONS.
6. PROVIDE FLEXIBLE CONNECTIONS, AND VIBRATION ISOLATORS FOR INTERNALLY ISOLATED UNITS. PROVIDE FLEXIBLE DUCT CONNECTORS AT ALL HVAC EQUIPMENT CONNECTIONS COMPLYING WITH UL-181, NFPA 90A, AND NFPA 90B.
7. THREADED DUCT TEST PORTS (VENTLOK 699 FOR UNINSULATED, VENTLOK 699-2 FOR EXTERIOR INSULATED DUCT) SHALL BE INSTALLED WITHIN 6 INCHES OF ALL DUCT AND EQUIPMENT MOUNTED DDC AIRFLOW SENSORS, TEMPERATURE SENSORS, RH SENSORS, DEWPOINT SENSORS, PRESSURE SENSING PORTS, AND ALL LOCATIONS WHERE THE TEST, ADJUST, BALANCE CONTRACTOR MAKES A TEMPERATURE, PRESSURE, OR AIRFLOW MEASUREMENT.
8. PROVIDE HINGED AND RUBBER-GASKETED ACCESS DOORS (MINIMUM 16"x16") ADJACENT TO ALL AUTOMATIC CONTROL DAMPERS, CO2 SENSORS, AIRFLOW MEASUREMENT STATIONS, AND INTAKE OR EXHAUST LOUVERS / INTAKES IN THE EXTERIOR WALL OR ROOF. ACCESS DAMPERS ARE ALSO REQUIRED ADJACENT TO FIRE DAMPERS AND ON THE ENTERING SIDE OF ALL DUCT MOUNTED HEATING COILS.
9. REMOVE AND RE-INSTALL EXISTING CEILING TILES AS REQUIRED. STORE AT OWNER DESIGNATED STORAGE AREA AND REUSE EXISTING CEILING TILES AS REQUIRED FOR PROJECT COMPLETION.

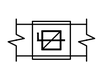
## DIFFUSER LEGEND AND SPECIFICATION



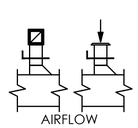
CD:
ALUMINUM CEILING DIFFUSER SUITABLE FOR INSTALLATION IN LAY-IN CEILING OR GYPSUM BOARD CEILINGS. INLET SIZE AND AIRFLOW AS INDICATED. PROVIDE WITH SQUARE-TO-ROUND NECK TRANSITION AS REQUIRED. PRICE ASPD, TITUS OMNI-AA, OR EQUIVALENT.




SAR:
ALUMINUM SUPPLY REGISTER WITH 0° DEFLECTION AND 3/4" SPACING SUITABLE FOR SURFACE MOUNTING TO SIDEWALL GYPSUM BOARD CEILINGS OR LAY-IN INSTALLATION IN TILE CEILING. REGISTER DESIGNATION INDICATES GRILLE TO BE PROVIDED WITH OPPOSED BLADE DAMPER. SIZE AS INDICATED. FOR LAY-IN INSTALLATION, PROVIDE LAY-IN BORDER FRAME AND PROVIDE FILLER PANEL FOR CEILING TILE LOCATION. PRICE 620D, TITUS 300FS, OR EQUIVALENT.




EAG OR RAG OR TAG:
ALUMINUM GRILLE WITH 0° DEFLECTION AND 3/4" SPACING SUITABLE FOR SURFACE MOUNTING TO SIDEWALL GYPSUM BOARD CEILINGS OR LAY-IN INSTALLATION IN TILE CEILING. REGISTER DESIGNATION INDICATES GRILLE TO BE PROVIDED WITH OPPOSED BLADE DAMPER. SIZE AS INDICATED. FOR LAY-IN INSTALLATION, PROVIDE LAY-IN BORDER FRAME AND PROVIDE FILLER PANEL FOR CEILING TILE LOCATION.
PRICE 610 , TITUS 350 ZF OR EQUIVALENT.




NOTE:
COLOR SHALL MATCH EXISTING GRILLES AS APPLICABLE. PROVIDE COLOR CHART FOR A/E APPROVAL.

## GENERAL DEMOLITION NOTES

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TEMPORARILY AND PERMANENT WEATHERPROOFING OF THE INSTALLATION. THE CONTRACTOR SHALL BE FULLY LIABLE FOR ANY WATER DAMAGE OR OTHER DAMAGE FROM THE ELEMENTS CAUSED TO THE OWNER'S PROPERTY AS A RESULT OF THE CONTRACTOR'S FAILURE TO PROVIDE THE NECESSARY WEATHERPROOFING DURING THE COURSE OF WORK UNDER THIS CONTRACT.
2. DRAWINGS SHOWING EXISTING EQUIPMENT, FLUE STACKS, PIPING, DUCTWORK, ELECTRICAL, AND FUEL GAS PIPING CONNECTIONS ARE DIAGRAMMATIC AND ARE INTENDED ONLY TO DEPICT THE GENERAL ARRANGEMENT, APPROXIMATE SIZE, AND OVERALL PROXIMITY OF THE EXISTING SYSTEM ELEMENTS. EACH CONTRACTOR AND SUBCONTRACTOR SHALL BE RESPONSIBLE FOR VISITING THE SITE OF WORK TO VERIFY EXISTING CONDITIONS PRIOR TO COMMENCING THE CONSTRUCTION.
3. THE CONTRACTOR SHALL ADDITIONALLY BE RESPONSIBLE FOR MAKING ACCURATE FIELD MEASUREMENTS OF ALL EXISTING CONDITIONS RELATING TO THE DESIGN AND INSTALLATION OF NEW MECHANICAL EQUIPMENT, PIPING, DUCTWORK, ETC PRIOR TO COMMENCING WORK. PROPER SIZING OF THE PHYSICAL ASPECTS OF NEW EQUIPMENT TO MATCH EXISTING SITE CONDITIONS SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
4. UNLESS NOTED OTHERWISE, ANY AND ALL DAMAGE TO THE EXISTING BUILDING SITE, EXTERIOR BUILDING FINISHES, BUILDING STRUCTURE, BUILDING SYSTEMS (MECHANICAL, ELECTRICAL, ETC.), INTERIOR BUILDING FINISHES, OR BUILDING FURNISHINGS CAUSED BY THE CONTRACTOR DURING THE COURSE OF WORK UNDER THIS CONTRACT SHALL BE REPLACED AND/OR REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER. REPLACEMENT AND/OR REPAIR OF DAMAGED ITEMS SHALL BE MADE TO THE COMPLETE SATISFACTION OF THE OWNER, AND AS A MINIMUM SHALL RETURN THE DAMAGED ITEMS TO THE CONDITION IN WHICH THEY WERE FOUND PRIOR TO THE COMMENCEMENT OF THIS WORK.
5. PLACEMENT OF EQUIPMENT AND MATERIALS REQUIRED FOR THIS WORK SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. ACCORDINGLY, THE CONTRACTOR SHALL INCLUDE IN HIS BID THE COST OF PROPER PLACEMENT MACHINERY AND EQUIPMENT. THE CONTRACTOR SHALL BE FULLY LIABLE FOR ANY DAMAGE CAUSED TO THE BUILDING OR BUILDING SITE DURING EQUIPMENT PLACEMENT OPERATIONS. THIS INCLUDES BUT IS NOT LIMITED TO DAMAGE TO SITE ITEMS SUCH AS LANDSCAPING, GRASSING, SIDEWALKS, AND EXTERIOR LIGHTING.
6. THE CONTRACTOR SHALL SUBMIT A WRITTEN REQUEST FOR OUTAGES OF ELECTRICAL POWER, AIR CONDITIONING/HEATING, ETC. TO THE OWNER NOT LESS THAN 10 WORKING DAYS PRIOR TO THE DATE PLANNED FOR SUCH OUTAGES. ALL OUTAGES SHALL REQUIRE THE PRIOR WRITTEN APPROVAL OF THE OWNER'S AUTHORIZED REPRESENTATIVE. UNLESS NOTED OR SHOWN OTHERWISE, ALL EXISTING UTILITY SERVICES SHALL REMAIN INTACT AND ACTIVE TO FACILITATE REVISED CONDITIONS.
7. PROVIDE TEMPORARY DEHUMIDIFICATION AS REQUIRED TO SATISFY SPACE RELATIVE HUMIDITY LEVEL OF 55% WHEN BUILDING HVAC IS NOT OPERABLE DURING SHUTDOWN.
8. SEE NEW WORK FOR EXTENT OF NEW EQUIPMENT AND PIPING. CARE SHALL BE TAKEN NOT TO DAMAGE ANY EXISTING EQUIPMENT IN THE SPACE.
9. INFORMATION INDICATING LOCATION OF EXISTING EQUIPMENT, DUCTWORK AND PIPING WAS OBTAINED FROM EXISTING AS BUILT DRAWINGS AND SITE VISITS AND ARE REPRESENTATIVE OF THE BEST AVAILABLE SOURCE TO DATE.
10. PRIOR TO SUBSTANTIAL, CONTRACTOR SHALL PATCH OR REPLACE ALL DAMAGED WALL, CEILING, AND FLOOR DURING CONSTRUCTION TO MATCH EXISTING. PAINT TO MATCH EXISTING. CONTRACTOR SHALL PROTECT ALL EXISTING FLOOR DURING CONSTRUCTION.
11. ALL REMOVED MECHANICAL ASSOCIATED ITEMS REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE TRANSFERRED FROM JOB SITE, EXCEPT ITEMS SELECTED BY OWNER AND THESE ITEMS SHALL BE RELOCATED TO STORAGE AREA DESIGNATED BY THE SCHOOL DISTRICT. ALL DEMOLISHED ITEMS THAT INCLUDES BUT NOT LIMITED TO DIRT, DEBRIS, EQUIPMENT, ETC SHALL BE HAULED BY THE CONTRACTOR AWAY FROM THE JOBSITE.

## GENERAL COMMISSIONING NOTES

1. THIS PROJECT INCLUDES COMMISSIONING FOR THE HVAC AND RELATED ELECTRICAL SYSTEMS.
2. THE SERVICES OF THE COMMISSIONING AUTHORITY ARE PROVIDED UNDER SEPARATE CONTRACT BY THE SCHOOL DISTRICT.
3. UNDER THIS PROJECT, THE GENERAL CONTRACTOR, SUBCONTRACTORS, AND EQUIPMENT MANUFACTURERS SHALL PROVIDE LABOR AND MATERIAL AS REQUIRED TO ASSIST AND PARTICIPATE IN THE COMMISSIONING PROCESS AS DESCRIBED IN OF THE PROJECT SPECIFICATIONS.


SAM MARSHALL ARCHITECTS
AA C000293

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# HOBBS MIDDLE SCHOOL ENERGY UPGRADES - PHASE B

SANTA ROSA COUNTY SCHOOL DISTRICT
5317 GLOVER LANE, MILTON, FL 32570

PHASE 2 SUBMITTAL
NOT FOR CONSTRUCTION

| No. | Description | Date |
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AL
ANTON LEE ENGINEERING

ANTON LEE ENGINEERING, LLC
PENSACOLA, FL 32514

CERTIFICATE OF AUTHORIZATION:
FL 32794 | AL 5685-E

ANTON LEE P.E.
FL PE# 82369 | AL PE# 37427-E
PROJECT NUMBER 21-120


MECHANICAL NOTES

| | |
|---|---|
| Date | 09/01/21 |
| Drawn By | AL |
| Checked By | AL |

M002

## DESIGN CONDITIONS

| | OUTSIDE | | INSIDE - OCCUPIED MODE | |
|---|---|---|---|---|
| | DB (DEG. F) | WB (DEG. F) | DB (DEG. F) | RH |
| **SUMMER** | 94 | 78 | 74 | 50% |
| **WINTER** | 29 | - | 70 | |

**NOTES:**

1. INSIDE SUMMER DESIGN TEMPERATURE IS +0/-2 DEG. F.
2. INSIDE SUMMER DESIGN RELATIVE HUMIDITY IS + 10%.
3. INSIDE WINTER DESIGN TEMPERATURE IS +2/-0 DEG. F.
4. OUTDOOR DESIGN CONDITIONS ARE BASED ON ASHRAE FUNDAMENTALS WEATHER DATA FOR PENSACOLA, FL. COOLING 0.4% DB/MCWB AND HEATING 99.6% DB

## HYDRONIC PUMP SCHEDULE

| | | | PERFORMANCE DATA | | | | | | ELECTRICAL DATA | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MARK | SERVICE | TYPE | FLOW RATE (GPM) | HEAD (FT. W.C.) | MIN. SHUTOFF HEAD (FT. W.C.) | NON-OVER LOADING (HP) | MIN. EFF. (%) | MAX. SPEED (RPM) | MIN. MOTOR POWER (HP) | VOLTS | PHASE | Hz |
| (E) CHWP-1 | CHILLED | FI | 200 | 110 | 125 | 13 | 80 | 1,760 | 15 | 460 | 3 | 60 |
| (E) CHWP-2 | CHILLED | FI | 200 | 110 | 125 | 13 | 80 | 1,760 | 15 | 460 | 3 | 60 |
| CHWP-3 | CHILLED | FI | 200 | 110 | 125 | 13 | 80 | 1,760 | 15 | 460 | 3 | 60 |
| | | | | | | | | | | | | |
| (E) HWP-1 | HOT WATER | FI | 133 | 60 | 75 | 4 | 80 | 1,760 | 5 | 460 | 3 | 60 |
| (E) HWP-2 | HOT WATER | FI | 133 | 60 | 75 | 4 | 80 | 1,760 | 5 | 460 | 3 | 60 |
| | | | | | | | | | | | | |

**NOTES:**

1. FI - BASE MOUNTED FLEX COUPLED END SUCTION PUMP. TRIPLE DUTY VALVE IS NOT ALLOWABLE. SEE PUMP DETAIL.
2. PROVIDE TEFC - TOTALLY ENCLOSED FAN COOLED PUMP MOTOR.
3. COORDINATE FINAL POWER REQUIREMENTS WITH ELECTRICAL.
4. PROVIDE LASER ALIGNMENT REPORT BY FACTORY REPRESENTATIVE AS PART OF THE O&M MANUAL.
5. CONTROLS CONTRACTOR SHALL PROVIDE EACH PUMP WITH VFD FOR VARIABLE FLOW PUMPING AND FLOW BALANCING PURPOSES.
6. PROVIDE THE MAXIMUM IMPELLER DIAMETER SIZE BUT STILL BELOW THE MAXIMUM NOMINAL HP. PROVIDE NON-OVERLOADING PUMP.
7. BASIS OF DESIGN FOR CHWP-3 IS PATTERSON TO MATCH CHWP-1 AND CHWP-2.

**TAB NOTES:**

1. ALL PUMPS ARE SIZED FOR ANTICIPATED FUTURE LOADS.
2. BALANCE AND MEASURE VENTURI PER SUBMITTED EQUIPMENT FLOW RATE REQUIREMENTS

## ULTRAVIOLET LIGHTS SPECIFICATION

1. PROVIDE UVC LIGHTS ON ERV-1, RTU-3, 4, AND 5 NEXT TO CHILLED WATER COIL. INSTALL PER MANUFACTURER'S RECOMMENDATION.
2. THE ULTRAVIOLET LIGHT GERMICIDAL IRRADIATION (UVGI) SYSTEM SURFACE IRRADIATION SYSTEM SHALL CONSIST OF HEAVY DUTY, FACTORY ASSEMBLED AND TESTED LIGHT FIXTURES THAT EMIT SHORT WAVE UVC LIGHT (200 NM – 270 NM)
3. ASSEMBLY SHALL CONSIST OF DOUBLE ENDED UVC FLORESCENT LAMP AND HOUSING, POWER SOURCE AND SOCKETS SHALL BE UL DRIP PROOF CONSTRUCTION.
4. THE ENCLOSURE SHALL BE MADE OF DRIP-PROOF CONSTRUCTION FROM GALVANIZED STEEL. THE BALLAST SHALL BE A SELF-CONTAINED ELECTRONIC TYPE. THE ENCLOSURE SHALL INCLUDE SAFETY MECHANICAL INTERLOCKS WHICH DO NOT ALLOW THE UV ASSEMBLY TO LIGHT UNLESS INSTALLED ON ITS TRACK. THE MULTIPLE UV ASSEMBLIES SHALL CONNECT VIA INTERLOCK.
5. UVC LAMP SHALL BE A STANDARD OUTPUT HOT CATHODE, LOW PRESSURE T8, DOUBLE ENDED UVC LAMP. LAMPS SHALL BE CONSTRUCTED WITH A THICK WALL GLASS OF SODA BARIUM UV TRANSPARENT GLASS WITH A BASE OF METAL. LAMPS SHALL HAVE 5.5 MILLIGRAMS OR LESS OF MERCURY.
6. LAMPS SHALL PRODUCE ADEQUATE UV OUTPUT AND OPERATE IN ENVIRONMENTS OF TEMPERATURES BETWEEN 55°F TO 135°F. LAMPS SHALL PRODUCE A MINIMUM OF 80% OF INITIAL UV OUTPUT AT END OF LIFE (9,000 HOURS MINIMUM).
7. THE MINIMUM INTENSITY STRIKING THE INTENDED SURFACE SHALL NOT BE LESS THAN 50 μW/cm² (MICROWATTS PER SQUARE CENTIMETER) OR 0.047 W/SF
8. INSTALLATION SHALL BE SUCH THAT THE CUMULATIVE SUM LENGTH OF UV FIXTURES END-TO-END SHALL EQUAL THE COIL WIDTH +/- THREE (3) INCHES. MODULAR COIL SYSTEM SHALL BE INSTALLED AND WIRED SO THAT THE ENTIRE SURFACE OF THE COIL AND DRAIN PAN IS BATHED BY UVC. SYSTEM SHALL BE INSTALLED USING "TRACKS" TO ALLOW UV FIXTURE TO SLIDE INTO PLACE, FOR EASE OF ACCESS DURING INSTALLATION AND ANNUAL MAINTENANCE. SYSTEM SHALL BE INSTALLED 8"-20" (14" IDEAL) FROM COIL SURFACE. SYSTEM SHALL BE INSTALLED UTILIZING ONE ROW OF LAMPS FOR EVERY 48" OF COIL HEIGHT. SYSTEM SHALL INCORPORATE SAFETY "CUT-OFF" SWITCHES ON ACCESS DOORS.
9. UV-C LIGHT FIXTURES AND LAMPS SHALL BE PROVIDED BY THE AIR HANDLER MANUFACTURER. THE UV-C FIXTURES SHALL BE FACTORY-ASSEMBLED AND TESTED IN THE AIR HANDLER. LAMP LIFE SHALL BE 9,000 HOURS MINIMUM WITH NO MORE THAN A 15% LOSS OF OUTPUT AFTER ONE YEAR OF CONTINUOUS USE. THE UV-C FIXTURES AND LAMPS SHALL BE ACCESSIBLE VIA DOWNSTREAM DOOR FOR MAINTENANCE OF THE BULBS. FIXTURES SHALL MEET THE UL DRIP-PROOF DESIGN CRITERIA. FIXTURES SHALL BE CONSTRUCTED OF UV RESISTANT POLYMER TO RESIST CORROSION.
10. FIXTURES SHALL HAVE BEEN TESTED AND RECOGNIZED BY UL/C-UL UNDER CATEGORY CODE ABQK (ACCESSORIES, AIR DUCT MOUNTED), UL STANDARDS 153, 1598 & 1995.
11. ALL POLYMERIC MATERIALS THAT COME INTO DIRECT OR INDIRECT (REFLECTED) CONTACT WITH UV-C LIGHT SHALL BE UVC RESISTANT OR SHIELDED FROM THE UV-C LIGHT USING A CERTIFIED UV-C TOLERANT MATERIAL SUCH AS METAL.
12. ACCESS DOORS SHALL BE PROVIDED AT THE LOCATION OF EACH UV-C LIGHT AS INDICATED ON THE PLANS AND SCHEDULE. A WINDOW OR VIEWPORT SHALL BE PROVIDED TO ALLOW VIEWING OF THE UV-C LIGHT ARRAY TO CONFIRM OPERATION. THE AHU WINDOWS SHALL BE TREATED TO ASSURE THE UV-C ENERGY EMITTED THROUGH IT IS BELOW THE THRESHOLD LIMITS SPECIFIED BY NIOSH AND ACGIH.
13. ALL SECTIONS OF THE HANDLER WITH ACCESS DOORS WHERE THE UV-C LIGHTS MAY POSE A RISK FOR DIRECT EXPOSURE SHALL HAVE A MECHANICAL INTERLOCK SWITCH THAT DISCONNECTS POWER TO THE LIGHTS WHEN THE DOOR IS OPENED. EACH UV SECTION SHALL ALSO BE EQUIPPED WITH AN EXTERNALLY MOUNTED ON-OFF/DISCONNECT/SHUT OFF SWITCH THAT DISCONNECTS POWER TO THE UV-C LIGHTS. THE SWITCH SHALL BE EQUIPPED WITH A LOCK-OUT/TAGOUT TO PREVENT UNWANTED OPERATION OF THE UV-C LIGHTS.

## AIR COOLED CHILLER SCHEDULE

| | | | | | | EVAPORATOR DATA | | | | | | CONDENSER DATA | | | | COMPRESSOR DATA | | | | | | | ELECTRICAL DATA | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | AMBIENT AIR TEMP. | | CONDENSER FANS | | | | | | | | | | | | |
| MARK | NOM. CHILLER CAPACITY (TONS) | FLUID TYPE | CHILLER TYPE | EFF. EER (NOTE 1) | IPLV EER (NOTE 2) | MIN. FLOW RATE (GPM) | FLOW RATE (GPM) | EWT (DEG. F) | LWT (DEG. F) | MAX. PD (FT. WC) | FOULING FACTOR | DESIGN (DEG. F) | MIN. (DEG. F) | QTY | TOTAL FLA | # CAP. STEPS | COMP. QTY. | # OF CIRCUITS | COMP #1 RLA | COMP #2 RLA | COMP #3 RLA | COMP #4 RLA | MCA | MOPD | VOLTS | PHASE | Hz |
| (E) ACC-1 | 110 | WATER | SCROLL | 9.8 | 15.3 | 125 | 200 | 54 | 42 | 15 | 0.00010 | 95 | 32 | 8 | 3.2 | 4 | 4 | 2 | 41.9 | 50.6 | 50.6 | 41.9 | 226 | 250 | 460 | 3 | 60 |
| ACC-2 | 110 | WATER | SCROLL | 9.8 | 15.3 | 125 | 200 | 54 | 42 | 15 | 0.00010 | 95 | 32 | 8 | 3.2 | 4 | 4 | 2 | 41.9 | 50.6 | 50.6 | 41.9 | 226 | 250 | 460 | 3 | 60 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | |

NOTES:

1. EER SHALL INCLUDE POWER INPUT FOR ALL CONDENSER FANS, COMPRESSORS AND UNIT CONTROL POWER AT FULL LOAD CONDITION.
2. IPLV BASED ON STANDARD RATING BASED ON AHRI CONDITION.
3. PROVIDE BRAZE PLATE EVAPORATOR WITH INSULATION AND HEAT TRACE FOR FREEZE PROTECTION.
4. PROVIDE WITH DIRECT DRIVE CONDENSER FANS AND MINIMUM OF 4 HERMETIC DIRECT DRIVE SCROLL COMPRESSORS.
5. PROVIDE WITH R-410 REFRIGERANT AND DUAL REFRIGERANT CIRCUITS.
6. PROVIDE WITH TWO COMPLETELY INDEPENDENT REFRIGERANT CIRCUITS WITH ONE COMPRESSOR PER CIRCUIT. PROVIDE SUCTION AND LIQUID LINES ISOLATION VALVE PER COMPRESSOR.
7. PROVIDE WITH CONVENIENCE OUTLET. COORDINATE ADDITIONAL WIRING AND POWER REQUIREMENTS WITH ELECTRICAL. PROVIDE COMPLETE OPERATIONAL SYSTEM.
8. PROVIDE WITH ACROSS THE LINE CONFIGURATION UNIT MOUNTED STARTER.
9. PROVIDE FACTORY RECOMMENDED SOLID STATE FLOW SWITCH AND SHALL BE FIELD INSTALLED PER MFR RECOMMENDED INSTALLATION. PADDLE TYPE FLOW SWITCH IS NOT ALLOWED
10. PROVIDE CONDENSER COILS WITH FACTORY DIPPED AND BAKED EPOXY COATING PROVIDING 6000+ HOUR SALT SPRAY RESISTANCE APPLIED TO BOTH THE COIL AND THE COIL FRAMES.
11. PROVIDE WITH COMPRESSOR ACOUSTIC PACKAGE AND ARCHITECTURAL LOUVERED PANEL.
12. PROVIDE WITH BACNET COMMUNICATION PROTOCOL. COORDINATE WITH BUILDING DDC SYSTEM.
13. PROVIDE WITH MFR RECOMMENDED BASE VIBRATION NEOPRENE ISOLATOR KIT AND SECURE TO CONCRETE PAD.
14. BASIS OF DESIGN IS DAIKIN TO MATCH EXISTING CHILLER-1.

## CHEM. TREATMENT NOTES:

CHEMICAL TREATMENT SHALL BE PROVIDED BY THE SCHOOL DISTRICT SELECTED VENDOR. THE SCHOOL DISTRICT SELECTED CHEMICAL TREATMENT VENDOR SHALL INVOICE THE SCHOOL DISTRICT DIRECTLY FOR CHEMICAL TREATMENT ACTIVITIES. THE VENDOR SHALL WORK FOR THE CONTRACTOR AS THEIR SUB-CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROJECT COMPLETION DATE TO MEET PROJECT REQUIREMENTS. CONTACT INFORMATION:

KEVIN ANASTON
AREA MANAGER - THE VINCIT GROUP - ZEE COMPANY
EMAIL: KEVIN.ANASTON@VINCITGROUP.COM
PHONE: 850-324-5463

## HYDRONIC BOILER SCHEDULE

| | NOMINAL | HEATING RATING | | GAS PRESSURE | BLR DESIGN | RELIEF | FIRING | FLOW | PRESSURE | VOLUME | | | THERMAL EFFICIENCY | | MIN. | ELECTRICAL DATA | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MARK | CAPACITY (MBH) | MAX. INPUT (MBH) | GROSS OUTPUT (MBH) | MIN-MAX (IN. W.C.) | PRESSURE (PSIG) | VALVE (PSIG) | RATE (CFH) | RATE (GPM) | DROP (FT) | CAPACITY (GALLON) | EWT (DEG F) | LWT (DEG F) | NOTE 8 | AHRI CERTIFIED | TURNDOWN RATIO | FLA | VOLTS | PHASE | Hz |
| (E) B-1 | 1,000 | 990 | 950 | 4-14 | 160 | 100 | 990 | 67 | 2 | 50 | 100 | 130 | 96% | 93.5% | 5:1 | 10 | 120 | 1 | 60 |
| B-2 | 1,000 | 990 | 950 | 4-14 | 160 | 100 | 990 | 20 | 2 | 50 | 0 | 100 | 96% | 93.5% | 5:1 | 10 | 120 | 1 | 60 |
| | | | | | | | | | | | | | | | | | | | |

**NOTES:**

1. PROVIDE HIGH MASS FIRE TUBE BOILER WITH MASTER BOILER CONTROL PANEL.
2. PROVIDE CONDENSATE NEUTRALIZATION KIT AND ROUTE CONDENSATE TO FLOOR DRAIN.
3. PROVIDE CSD-1 NATURAL GAS TRAIN AND ASME SAFETY RELIEF VALVE BY BOILER MFR.
4. PROVIDE WITH BACNET MS/TP CONTROLS INTERFACE AND START-UP SUPPORT
5. PROVIDE GAS REGULATOR AND MODULATING COMBUSTION CONTROL.
6. PROVIDE FLUE STACK AND COMBUSTION AIR INLET CAP. SIZE PER BOILER MFR. ROUTE TO EXISTING ROOF OPENINGS.
7. PROVIDE WITH E-STOP CONTACT. COORDINATE POWER REQUIREMENTS WITH ELECTRICAL.
8. THERMAL EFFICIENCY BASED ON FULL LOAD AT INDICATED RETURN WATER TEMPERATURE.
9. PROVIDE WITH MFR 2-IN. BALL VALVE 2 POSITION ACTUATOR 120VAC AND COMMON SUPPLY LOOP TEMP SENSOR. COORDINATE WITH DDC.
10. PROVIDE WITH OA TEMP RESET WITH PLANT CUTOFF AND OUTSIDE AIR TEMP SENSOR KIT. COORDINATE WITH DDC.
11. BASIS OF DESIGN IS FULTON ENDURA TO MATCH EXISTING BOILER-1.

## BOILER NOTES:

1. PROVIDE MINIMUM 6" DIA. DOUBLE WALL VENTING SYSTEM, WITH AN INNER LINER CONSTRUCTED OF AL 29-4C STAINLESS STEEL, AND AN OUTER JACKET CONSTRUCTED OF 430 STAINLESS STEEL. VENTING SYSTEM IS FURNISHED WITH A RING - AND - TAB "SURE SEAL" CLOSURE SYSTEM. PRODUCT SHALL BE TESTED AND LISTED TO UL 1738. ACTUAL FITTINGS AND COMPONENTS SHALL BE FURNISHED BASED ON SYSTEM LAYOUT. BASIS OF DESIGN IS HEAT FAB SAF T VENT CI PLUS.
2. PROVIDE MINIMUM 6" DIA. COMBUSTION AIR INTAKE. MATERIAL SHALL BE PER BOILER MFR.
3. FINAL SIZING SHALL BE PER BOILER MFR BASED ON LENGTH AND NUMBER OF FITTINGS.
4. PROVIDE ROOF CAP FOR BOTH COMBUSTION FLUE AND INTAKE PER BOILER MFR.


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AA C000293

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# HOBBS MIDDLE SCHOOL
# ENERGY UPGRADES - PHASE B

SANTA ROSA COUNTY SCHOOL DISTRICT
5317 GLOVER LANE, MILTON, FL 32570

PHASE 2 SUBMITTAL
NOT FOR CONSTRUCTION

| No. | Description | Date |
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MECHANICAL SCHEDULES

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| Date | 09/01/21 |
| Drawn By | AL |
| Checked By | AL |


AL
ANTON LEE ENGINEERING
ANTON LEE ENGINEERING, LLC
PENSACOLA, FL 32514
CERTIFICATE OF AUTHORIZATION:
FL 32794 | AL 5685-E
ANTON LEE P.E.
FL PE# 82369 | AL PE# 37427-E
PROJECT NUMBER 21-120


M003

## HYDRONIC ROOFTOP AIR HANDLER EQUIPMENT SCHEDULE

INDOOR UNIT

| MARK | MAX WEIGHT UNIT + CURB (LBS) | FAN DATA: COOLING AIRFLOW (CFM) | HEATING AIRFLOW (CFM) | MINIMUM AIRFLOW (CFM) | OUTSIDE AIRFLOW SEE NOTE 11: MIN. (CFM) | MAX. (CFM) | EXT. S. P. (IN. W.C.) | FAN QTY | EACH FAN POWER (HP) | TOTAL FAN BHP POWER (HP) | TOTAL FAN POWER (HP) | COOLING COIL DATA: TOTAL CAP. (MBH) | SENS. CAP. (MBH) | EAT (DB) (DEG. F) | EAT (WB) (DEG. F) | LAT (DB) (DEG. F) | LAT (WB) (DEG. F) | COOLING COIL PERFORMANCE: EWT (DEG. F) | LWT (DEG. F) | FLOW RATE (GPM) | CONTROL VALVE: TYPE | (CV) | WATER P.D. (FT. W.G.) | ELECTRICAL DATA SEE NOTE 10: MCA | VOLTS | PHASE | Hz |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RTU-3 | 5,200 | 7,130 | 6,620 | 2,880 | 500 | 2,700 | 2.50 | 2 | 7.5 | 8.2 | 15 | 423.7 | 218.9 | 79.2 | 69.9 | 52.0 | 51.1 | 44 | 56 | 70.6 | 2-WAY | N/R-PICV | 15 | 19.6 | 460 | 3 | 60 |
| RTU-4 | 5,200 | 7,185 | 6,110 | 2,890 | 500 | 2,600 | 2.50 | 2 | 7.5 | 8.2 | 15 | 412.3 | 217.5 | 79.2 | 69.5 | 52.0 | 51.3 | 44 | 56 | 68.7 | 2-WAY | N/R-PICV | 15 | 19.6 | 460 | 3 | 60 |
| RTU-5 | 5,000 | 6,595 | 5,550 | 2,660 | 500 | 1,600 | 2.50 | 2 | 7.5 | 8.4 | 15 | 279.6 | 166.0 | 74.8 | 65.2 | 52.0 | 50.9 | 44 | 56 | 46.6 | 2-WAY | N/R-PICV | 15 | 19.6 | 460 | 3 | 60 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | |

ALTERNATE #1

**NOTES:**

1. PROVIDE HORIZONTAL DRAW THROUGH UNIT WITH PLENUM TYPE FAN WITH ALUMINUM CONSTRUCTION
2. FAN AIR VOLUME CONTROL SHALL BE VIA VFD. VFD WITH NEMA 3R ENCLOSURE SHALL BE PROVIDED BY RTU MFR. COORDINATE WITH CONTROLS CONTRACTOR. BHP - BRAKE HORSEPOWER.
3. EXTERNAL PRESSURE DROP DOES NOT INCLUDE THRU CASING, COILS, FILTERS, OR FILTER HOUSING.
4. PROVIDE UNIT WITH 24 GAUGE G90 GALVANIZED FACTORY PAINTED WITH MIN. R-13 DOUBLE WALL INJECTED FOAM INSULATION. SEE SPECIFICATION.
5. PROVIDE UNIT WITH STAINLESS STEEL DRAIN PAN, 4" PLEATED THROWAWAY MERV 8 FILTER AND 12" CARTRIDGE MERV 13 FILTER. SIDE LOADING.
6. PROVIDE UNIT WITH MIN. 30 INCHES PIPING VESTIBULE ACROSS THE LENGTH OF THE CHILLED WATER COIL. PROVIDE COIL ACCESS DOORS ON OPPOSITE SIDE OF UNIT.
7. CHILLED WATER COIL SHALL BE PROVIDED WITH MIN. 8 ROWS AND 10 FINS PER INCH.
8. RETURN AND OUTSIDE AIR MOTORIZED DAMPERS AND ACTUATORS SHALL BE FACTORY MOUNTED INSIDE THE UNIT. COORDINATE WITH CONTROLS CONTRACTOR.
9. PROVIDE 2-WAY CHILLED WATER CONTROL VALVE. COORDINATE WITH CONTROLS CONTRACTOR FOR ALL OTHER REQUIRED CONTROLS ACCESSORIES.
10. PROVIDE 4 SEPARATE POWER CONNECTIONS FOR SUPPLY FAN, UV LIGHTS, LIGHTS+SWITCH, AND RECEPTACLE. COORDINATE POWER REQUIREMENTS WITH MFR PRIOR TO FABRICATION. PROVIDE UNIT WITH NON-FUSED DISCONNECT.
11. PROVIDE UNIT WITH OA AFMS. COORDINATE OUTSIDE AIR FLOWRATE WITH DEMAND CONTROL VENTILATION SEQUENCE OF OPERATION.
12. BASIS OF DESIGN IS DAIKIN

## EQUIPMENT FILTER NOTES:

1. CONTRACTOR SHALL CLEAN EACH UNIT OF CONSTRUCTION DUST AND DEBRIS, INSTALL NEW FILTERS AT TIME OF COMMISSIONING, AND SHALL SUPPLY TO THE OWNER ONE COMPLETE SET OF SPARE FILTERS FOR EACH UNIT ON THE PROJECT.
2. CONTRACTOR SHALL NOT USE ANY UNIT AS "CONSTRUCTION VENTILATION" AT ANY TIME DURING ANY PHASE OF CONSTRUCTION. VERY LOW TEMPERATURES, HARMFUL VAPORS, GYPSUM DUST FROM DRY WALL FINISHING, MAY ALL DAMAGE THE UNIT AND AFFECT ITS EFFICIENCY AND USEFUL SERVICE LIFE. FAILURE TO PROPERLY PROTECT THE UNIT FROM CONSTRUCTION DIRT AND DEBRIS AND FROM CONDENSATION FORMING WITHIN THE UNIT MAY CAUSE ELECTRONIC COMPONENT FAILURE, AND THERFORE VOID THE MANUFACTURER'S WARRANTY. CONTRACTOR SHALL REPLACE THE UNIT AT THEIR OWN COST.

## ENERGY RECOVERY - OUTSIDE AIR UNIT SCHEDULE

| MARK | OUTSIDE AIR - SUPPLY FAN DATA: MAX. AIRFLOW (CFM) | E.S.P (IN.W.G.) | ELECTRICAL DATA: FAN QTY. | FAN POWER (HP) | V/PH/HZ | CHILLED WATER COIL DATA: MAX. FACE VEL. (FPM) | MIN. TOTAL CAP. (MBH) | MIN. SENS. CAP. (MBH) | MIN. LATENT CAP. (MBH) | AIR SIDE - ENERGY RECOVERY DATA: OA EAT DB (DEG. F) | OA EAT WB (DEG. F) | RA EAT DB (DEG. F) | RA EAT WB (DEG. F) | MIN. EFF (%) | MIN. TOTAL RECLAIMED ENERGY (MBH) | AIR SIDE - COIL DATA: EAT DB (DEG. F) | EAT WB (DEG. F) | LAT DB (DEG. F) | LAT WB (DEG. F) | WATER SIDE - COIL DATA: EWT (DEG. F) | LWT (DEG. F) | FLOW (GPM) | CV TYPE | MAX. PD (FT.W.C.) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ERV-1 | 1,800 | 1.5 | 1 | 2.3 | 460/3/60 | 500 | 130.6 | 59.8 | 70.8 | 88 | 80 | 75.0 | 62.5 | 54 | 59.7 | 80.6 | 72.5 | 50 | 49.5 | 44 | 56 | 21.8 | 2-WAY | 15 |
| | | | | | | | | | | | | | | | | | | | | | | | | |

## ENERGY RECOVERY - OUTSIDE AIR UNIT SCHEDULE (CONTINUATION)

| MARK | EXHAUST AIR - RETURN FAN DATA: MAX. AIRFLOW (CFM) | E.S.P (IN.W.G.) | ELECTRICAL DATA: FAN QTY. | FAN POWER (HP) | V/PH/HZ | HOT WATER COIL DATA: MAX. FACE VEL. (FPM) | MIN. TOTAL CAP. (MBH) | AIR SIDE - ENERGY RECOVERY DATA: OA EAT DB (DEG. F) | OA EAT WB (DEG. F) | RA EAT DB (DEG. F) | RA EAT WB (DEG. F) | MIN. EFF (%) | MIN. TOTAL RECOVERED ENERGY (MBH) | AIR SIDE - COIL DATA: EAT DB (DEG. F) | EAT WB (DEG. F) | LAT DB (DEG. F) | LAT WB (DEG. F) | WATER SIDE - COIL DATA: EWT (DEG. F) | LWT (DEG. F) | FLOW (GPM) | CV TYPE | MAX. PD (FT.W.C.) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ERV-1 | 1,600 | 1.5 | 1 | 2 | 460/3/60 | 500 | 43.5 | 30 | 25 | 70.0 | 55.7 | 60 | 61.8 | 52.6 | 43.2 | 75 | 53.5 | 130 | 100 | 2.9 | 2-WAY | 10 |
| | | | | | | | | | | | | | | | | | | | | | | |

NOTES:

1. PROVIDE BOTTOM SUPPLY DISCHARGE AND BOTTOM RETURN EXHAUST INLET
2. MANUFACTURER SHALL ALLOW A MINIMUM OF 0.5" EXTRA STATIC FOR DIRTY INITIAL FILTERS. EXTERNAL STATIC DOES NOT INCLUDE PRESSURE DROP THROUGH CASING COILS, INITIAL FILTERS, AND FILTER HOUSINGS.
3. PIPE ALL CONDENSATE FROM UNITS TO DRAIN WITH TRAP. PROVIDE PADS AND BASE RAILS OF SUFFICIENT HEIGHT TO ENABLE CORRECT TRAP DEPTH.
4. REFER TO SECTIONS AND ELEVATIONS FOR EQUIPMENT PHYSICAL DIMENSIONS AND OTHER PHYSICAL ATTRIBUTES. PROVIDE WITH ROOF CURB
5. PROVIDE ALL FILTER WITH SLIDE RACK FOR EASE OF MAINTENANCE.
6. PROVIDE ACCESS DOORS ON ENTHALPY CORE OR ADJACENT AS REQUIRED FOR PERIODIC CLEANING OR MAINTENANCE.
7. PROVIDE DIRECT DRIVE TYPE FANS WITH ECM MOTOR.
8. PROVIDE SUPPLY SECTION MIXING BOX UNIT WITH PLEATED MERV 8 PRE FILTER AND CARTRIDGE MERV 13 FINAL FILTER. PROVIDE RETURN OR EXHAUST SECTION MIXING BOX UNIT WITH PLEATED MERV 8 FILTER.
9. COORDINATE ADDITIONAL WIRING AND POWER REQUIREMENTS WITH ELECTRICAL. PROVIDE COMPLETE OPERATIONAL SYSTEM.
10. BASIS OF DESIGN IS DAIKIN.

## VERTICAL FAN COIL UNIT SCHEDULE

| MARK | FAN DATA: MAX. AIRFLOW (CFM) | OA AIRFLOW (CFM) | E.S.P (IN.W.G.) | ELECTRICAL DATA: FAN QTY. | FAN POWER (HP) | V/PH/HZ | CHILLED WATER COIL DATA: MIN. TOTAL CAP. (MBH) | MIN. SENS. CAP. (MBH) | MIN. LATENT CAP. (MBH) | AIR SIDE: EAT DB (DEG. F) | EAT WB (DEG. F) | LAT DB (DEG. F) | LAT WB (DEG. F) | LAT DP (DEG. F) | WATER SIDE: EWT (DEG. F) | LWT (DEG. F) | FLOW (GPM) | CV TYPE | MAX. PD (FT.W.C.) | HOT WATER COIL DATA: MIN. TOTAL CAP. (MBH) | AIR SIDE: EAT DB (DEG. F) | LAT DB (DEG. F) | WATER SIDE: EWT (DEG. F) | LWT (DEG. F) | FLOW (GPM) | CV TYPE | MAX. PD (FT.W.C.) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| FCU-1 | 1,330 | 400 | 0.5 | 1 | 3/4 | 208/3/60 | 60.3 | 33.6 | 26.7 | 75.7 | 67.3 | 51.5 | 50.8 | 50.2 | 44 | 56 | 10.1 | 2-WAY | 10 | 39.0 | 57 | 84 | 130 | 100 | 2.6 | 2-WAY | 5 |
| FCU-2 | 720 | 100 | 0.5 | 1 | 1/2 | 208/3/60 | 22.5 | 16.6 | 5.9 | 73.2 | 61.0 | 51.5 | 49.8 | 50.2 | 44 | 56 | 3.8 | 2-WAY | 10 | 23.4 | 65 | 95 | 130 | 100 | 1.6 | 2-WAY | 5 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | |

ALTERNATE #1
ALTERNATE #1

NOTES:

1. VERTICAL MOUNT FAN COIL UNIT. LOCATE INSIDE MECHANICAL ROOM.
2. PROVIDE ADDITIONAL 0.25 IN. W.C. FOR DIRTY FILTER ALLOWANCE.
3. COORDINATE RIGHT LEFT HAND COIL CONNECTION WITH FLOOR PLAN.
4. DRAW-THROUGH UNIT CONFIGURATION WITH DIRECT DRIVE STYLE FAN MOTOR ASSEMBLY.
5. PROVIDE WITH 2 INCH THICK FILTER RACK AND MERV 8 FILTER.
6. PROVIDE MIN R-6, 1 INCH FOAM DOUBLE WALL CONSTRUCTION WITH GALVANIZED STEEL LINER.
7. PROVIDE WITH STAINLESS STEEL DRAIN PANS.
8. PROVIDE WITH OVERFLOW SWITCH AND FREEZESTAT.
9. CONNECT TO EXISTING DUCTWORK.
10. BASIS OF DESIGN IS DAIKIN.


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HOBBS MIDDLE SCHOOL
ENERGY UPGRADES - PHASE B

SANTA ROSA COUNTY SCHOOL DISTRICT
5317 GLOVER LANE, MILTON, FL 32570

PHASE 2 SUBMITTAL
NOT FOR CONSTRUCTION

| No. | Description | Date |
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MECHANICAL SCHEDULES

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| Date | 09/01/21 |
| Drawn By | AL |
| Checked By | AL |

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AL
ANTON LEE ENGINEERING
ANTON LEE ENGINEERING, LLC
PENSACOLA, FL 32514
CERTIFICATE OF AUTHORIZATION:
FL 32794 | AL 5685-E
ANTON LEE P.E.
FL PE# 82369 | AL PE# 37427-E
PROJECT NUMBER 21-120

## AIR TERMINAL UNIT SCHEDULE (RTU-3)

| MARK | MAX. AIRFLOW (CFM) | MIN. AIRFLOW (CFM) | MIN. ROUND INLET SIZE (IN.) | HOT WATER REHEAT COIL DATA | | | | | | | | | ELECTRICAL DATA | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | HEATING AIRFLOW (CFM) | TOTAL HEATING LOAD (MBH) | EAT (DEG. F) | LAT (DEG. F) | EWT (DEG. F) | LWT (DEG. F) | HW FLOW RATE (GPM) | CONTROL VALVE TYPE | CONTROL VALVE (Cv) | VOLTS | PHASE | Hz |
| ATU 3-1 | 765 | 310 | 10" | 765 | 26.9 | 51.6 | 84.0 | 130 | 100 | 1.8 | 2-WAY | 1.1 | 277 | 1 | 60 |
| ATU 3-2 | 765 | 310 | 10" | 765 | 26.9 | 51.6 | 84.0 | 130 | 100 | 1.8 | 2-WAY | 1.1 | 277 | 1 | 60 |
| ATU 3-3 | 765 | 310 | 10" | 765 | 26.9 | 51.6 | 84.0 | 130 | 100 | 1.8 | 2-WAY | 1.1 | 277 | 1 | 60 |
| ATU 3-4 | 730 | 295 | 10" | 730 | 25.6 | 51.6 | 84.0 | 130 | 100 | 1.7 | 2-WAY | 1.1 | 277 | 1 | 60 |
| ATU 3-5 | 730 | 295 | 10" | 730 | 25.6 | 51.6 | 84.0 | 130 | 100 | 1.7 | 2-WAY | 1.1 | 277 | 1 | 60 |
| ATU 3-6 | 735 | 295 | 10" | 735 | 25.8 | 51.6 | 84.0 | 130 | 100 | 1.7 | 2-WAY | 1.1 | 277 | 1 | 60 |
| ATU 3-7 | 1,000 | 400 | 12" | 925 | 32.5 | 51.6 | 84.0 | 130 | 100 | 2.2 | 2-WAY | 1.3 | 277 | 1 | 60 |
| ATU 3-8 | 620 | 250 | 10" | 330 | 11.6 | 51.6 | 84.0 | 130 | 100 | 0.8 | 2-WAY | 0.5 | 277 | 1 | 60 |
| ATU 3-9 | 730 | 295 | 10" | 730 | 25.6 | 51.6 | 84.0 | 130 | 100 | 1.7 | 2-WAY | 1.1 | 277 | 1 | 60 |
| ATU 3-10 | 290 | 120 | 8" | 145 | 5.1 | 51.6 | 84.0 | 130 | 100 | 0.3 | 2-WAY | 0.2 | 277 | 1 | 60 |
| | | | | | | | | | | | | | | | |

## AIR TERMINAL UNIT SCHEDULE (RTU-4)

| MARK | MAX. AIRFLOW (CFM) | MIN. AIRFLOW (CFM) | MIN. ROUND INLET SIZE (IN.) | HOT WATER REHEAT COIL DATA | | | | | | | | | ELECTRICAL DATA | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | HEATING AIRFLOW (CFM) | TOTAL HEATING LOAD (MBH) | EAT (DEG. F) | LAT (DEG. F) | EWT (DEG. F) | LWT (DEG. F) | HW FLOW RATE (GPM) | CONTROL VALVE TYPE | CONTROL VALVE (Cv) | VOLTS | PHASE | Hz |
| ATU 4-1 | 720 | 290 | 10" | 720 | 25.9 | 50.9 | 84.0 | 130 | 100 | 1.7 | 2-WAY | 1.1 | 277 | 1 | 60 |
| ATU 4-2 | 720 | 290 | 10" | 720 | 25.9 | 50.9 | 84.0 | 130 | 100 | 1.7 | 2-WAY | 1.1 | 277 | 1 | 60 |
| ATU 4-3 | 735 | 295 | 10" | 735 | 26.4 | 50.9 | 84.0 | 130 | 100 | 1.8 | 2-WAY | 1.1 | 277 | 1 | 60 |
| ATU 4-4 | 725 | 290 | 10" | 725 | 26.1 | 50.9 | 84.0 | 130 | 100 | 1.7 | 2-WAY | 1.1 | 277 | 1 | 60 |
| ATU 4-5 | 730 | 295 | 10" | 730 | 26.3 | 50.9 | 84.0 | 130 | 100 | 1.8 | 2-WAY | 1.1 | 277 | 1 | 60 |
| ATU 4-6 | 400 | 160 | 8" | 205 | 7.4 | 50.9 | 84.0 | 130 | 100 | 0.5 | 2-WAY | 0.3 | 277 | 1 | 60 |
| ATU 4-7 | 350 | 140 | 8" | 185 | 6.7 | 50.9 | 84.0 | 130 | 100 | 0.4 | 2-WAY | 0.3 | 277 | 1 | 60 |
| ATU 4-8 | 730 | 295 | 10" | 730 | 26.3 | 50.9 | 84.0 | 130 | 100 | 1.8 | 2-WAY | 1.1 | 277 | 1 | 60 |
| ATU 4-9 | 730 | 295 | 10" | 730 | 26.3 | 50.9 | 84.0 | 130 | 100 | 1.8 | 2-WAY | 1.1 | 277 | 1 | 60 |
| ATU 4-10 | 225 | 90 | 6" | 120 | 4.3 | 50.9 | 84.0 | 130 | 100 | 0.3 | 2-WAY | 0.2 | 277 | 1 | 60 |
| ATU 4-11 | 560 | 225 | 10" | 255 | 9.2 | 50.9 | 84.0 | 130 | 100 | 0.6 | 2-WAY | 0.4 | 277 | 1 | 60 |
| ATU 4-12 | 560 | 225 | 10" | 255 | 9.2 | 50.9 | 84.0 | 130 | 100 | 0.6 | 2-WAY | 0.4 | 277 | 1 | 60 |
| | | | | | | | | | | | | | | | |

## AIR TERMINAL UNIT SCHEDULE (RTU-5)

| MARK | MAX. AIRFLOW (CFM) | MIN. AIRFLOW (CFM) | MIN. ROUND INLET SIZE (IN.) | HOT WATER REHEAT COIL DATA | | | | | | | | | ELECTRICAL DATA | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | HEATING AIRFLOW (CFM) | TOTAL HEATING LOAD (MBH) | EAT (DEG. F) | LAT (DEG. F) | EWT (DEG. F) | LWT (DEG. F) | HW FLOW RATE (GPM) | CONTROL VALVE TYPE | CONTROL VALVE (Cv) | VOLTS | PHASE | Hz |
| ATU 5-1A | 1,980 | 795 | 16" | 1,980 | 68.6 | 52.0 | 84.0 | 130 | 100 | 4.6 | 2-WAY | 2.8 | 277 | 1 | 60 |
| ATU 5-1B | 1,980 | 795 | 16" | 1,980 | 68.6 | 52.0 | 84.0 | 130 | 100 | 4.6 | 2-WAY | 2.8 | 277 | 1 | 60 |
| ATU 5-2 | 380 | 155 | 8" | 280 | 9.7 | 52.0 | 84.0 | 130 | 100 | 0.6 | 2-WAY | 0.4 | 277 | 1 | 60 |
| ATU 5-3 | 315 | 130 | 8" | 170 | 5.9 | 52.0 | 84.0 | 130 | 100 | 0.4 | 2-WAY | 0.2 | 277 | 1 | 60 |
| ATU 5-4 | 600 | 240 | 10" | 400 | 13.9 | 52.0 | 84.0 | 130 | 100 | 0.9 | 2-WAY | 0.6 | 277 | 1 | 60 |
| ATU 5-5 | 290 | 120 | 8" | 150 | 5.2 | 52.0 | 84.0 | 130 | 100 | 0.3 | 2-WAY | 0.2 | 277 | 1 | 60 |
| ATU 5-6 | 630 | 255 | 10" | 300 | 10.4 | 52.0 | 84.0 | 130 | 100 | 0.7 | 2-WAY | 0.4 | 277 | 1 | 60 |
| ATU 5-7 | 420 | 170 | 10" | 290 | 10.1 | 52.0 | 84.0 | 130 | 100 | 0.7 | 2-WAY | 0.4 | 277 | 1 | 60 |
| | | | | | | | | | | | | | | | |

NOTES:

1. ROUND INLET DUCT CONNECTION SHALL NOT BE SMALLER THAN SIZE INDICATED.
2. SEE DETAILS FOR AIR TERMINAL UNIT SUPPORT AND HOT WATER COIL CONNECTION DETAIL.
3. PROVIDE ALL AIR TERMINAL UNITS WITH FACTORY MOUNTED DISCONNECTS AS PER NEC.
4. PROVIDE ALL AIR TERMINAL UNITS WITH CONTROL TRANSFORMER FOR ATU CONTROL.
5. MAX AIR PD IS .25 INCHES W.C. DURING MAXIMUM AIR FLOW. MAX. HW COIL PD IS 5 FT W.C.
6. PROVIDE MINIMUM 2-ROW HOT WATER COIL.
7. BASIS OF DESIGN IS TRANE.

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HOBBS MIDDLE SCHOOL
ENERGY UPGRADES - PHASE B

SANTA ROSA COUNTY SCHOOL DISTRICT
5317 GLOVER LANE, MILTON, FL 32570

PHASE 2 SUBMITTAL
NOT FOR CONSTRUCTION

| No. | Description | Date |
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MECHANICAL SCHEDULES

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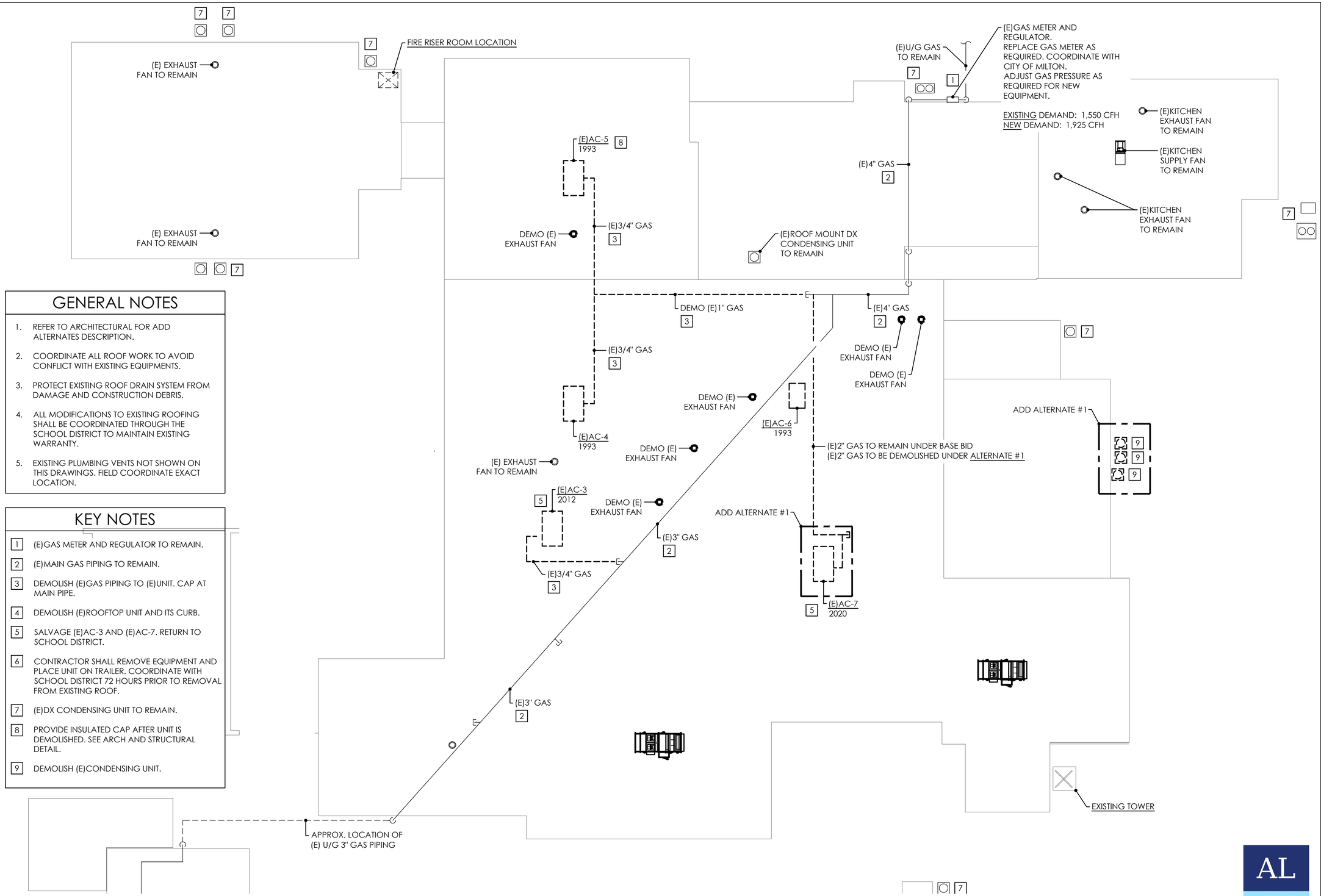
| Date | 09/01/21 |
| Drawn By | AL |
| Checked By | AL |

ANTON LEE ENGINEERING
ANTON LEE ENGINEERING, LLC
PENSACOLA, FL 32514

CERTIFICATE OF AUTHORIZATION:
FL 32794 | AL 5685-E

ANTON LEE P.E.
FL PE# 82369 | AL PE# 37427-E
PROJECT NUMBER 21-120

M005




## GENERAL NOTES

1. REFER TO ARCHITECTURAL FOR ADD ALTERNATES DESCRIPTION.
2. COORDINATE ALL ROOF WORK TO AVOID CONFLICT WITH EXISTING EQUIPMENTS.
3. PROTECT EXISTING ROOF DRAIN SYSTEM FROM DAMAGE AND CONSTRUCTION DEBRIS.
4. ALL MODIFICATIONS TO EXISTING ROOFING SHALL BE COORDINATED THROUGH THE SCHOOL DISTRICT TO MAINTAIN EXISTING WARRANTY.
5. EXISTING PLUMBING VENTS NOT SHOWN ON THIS DRAWINGS. FIELD COORDINATE EXACT LOCATION.

## KEY NOTES

1. (E)GAS METER AND REGULATOR TO REMAIN.
2. (E)MAIN GAS PIPING TO REMAIN.
3. DEMOLISH (E)GAS PIPING TO (E)UNIT. CAP AT MAIN PIPE.
4. DEMOLISH (E)ROOFTOP UNIT AND ITS CURB.
5. SALVAGE (E)AC-3 AND (E)AC-7. RETURN TO SCHOOL DISTRICT.
6. CONTRACTOR SHALL REMOVE EQUIPMENT AND PLACE UNIT ON TRAILER. COORDINATE WITH SCHOOL DISTRICT 72 HOURS PRIOR TO REMOVAL FROM EXISTING ROOF.
7. (E)DX CONDENSING UNIT TO REMAIN.
8. PROVIDE INSULATED CAP AFTER UNIT IS DEMOLISHED. SEE ARCH AND STRUCTURAL DETAIL.
9. DEMOLISH (E)CONDENSING UNIT.

## 1 MECHANICAL ROOF AND SITE DEMO PLAN

16' 0' 16' 32'
SCALE: 1/16"=1'-0"

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# HOBBS MIDDLE SCHOOL ENERGY UPGRADES - PHASE B

SANTA ROSA COUNTY SCHOOL DISTRICT
5317 GLOVER LANE, MILTON, FL 32570

PHASE 2 SUBMITTAL
NOT FOR CONSTRUCTION

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## MECHANICAL ROOF AND SITE DEMO PLAN

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| Date | 09/01/21 |
| Drawn By | AL |
| Checked By | AL |

ANTON LEE ENGINEERING
ANTON LEE ENGINEERING, LLC
PENSACOLA, FL 32514
CERTIFICATE OF AUTHORIZATION:
FL 32794 | AL 5685-E
ANTON LEE P.E.
FL PE# 82369 | AL PE# 37427-E
PROJECT NUMBER 21-120

M101

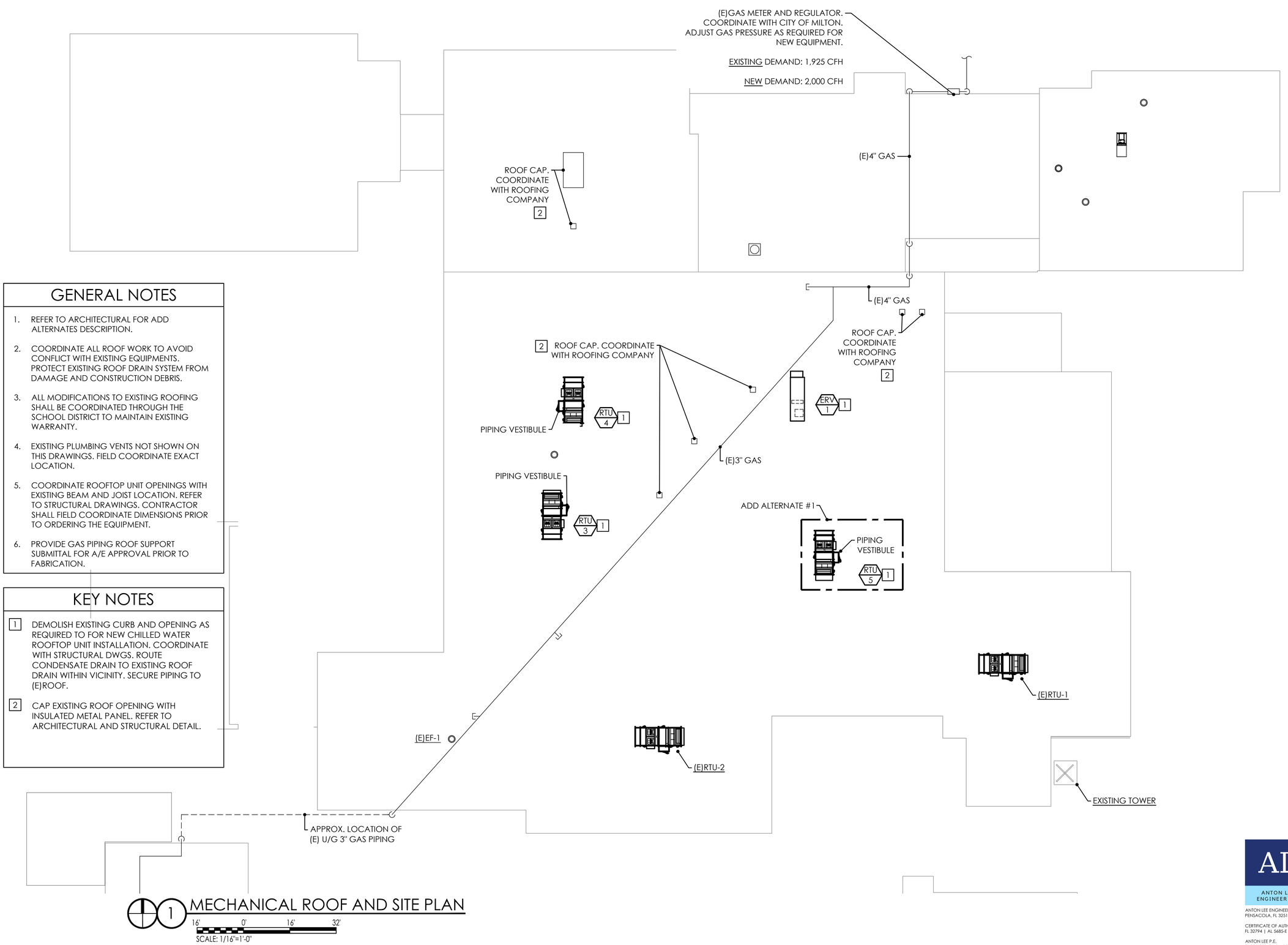
## GENERAL NOTES

1. REFER TO ARCHITECTURAL FOR ADD ALTERNATES DESCRIPTION.
2. COORDINATE ALL ROOF WORK TO AVOID CONFLICT WITH EXISTING EQUIPMENTS. PROTECT EXISTING ROOF DRAIN SYSTEM FROM DAMAGE AND CONSTRUCTION DEBRIS.
3. ALL MODIFICATIONS TO EXISTING ROOFING SHALL BE COORDINATED THROUGH THE SCHOOL DISTRICT TO MAINTAIN EXISTING WARRANTY.
4. EXISTING PLUMBING VENTS NOT SHOWN ON THIS DRAWINGS. FIELD COORDINATE EXACT LOCATION.
5. COORDINATE ROOFTOP UNIT OPENINGS WITH EXISTING BEAM AND JOIST LOCATION. REFER TO STRUCTURAL DRAWINGS. CONTRACTOR SHALL FIELD COORDINATE DIMENSIONS PRIOR TO ORDERING THE EQUIPMENT.
6. PROVIDE GAS PIPING ROOF SUPPORT SUBMITTAL FOR A/E APPROVAL PRIOR TO FABRICATION.

## KEY NOTES

[1] DEMOLISH EXISTING CURB AND OPENING AS REQUIRED TO FOR NEW CHILLED WATER ROOFTOP UNIT INSTALLATION. COORDINATE WITH STRUCTURAL DWGS. ROUTE CONDENSATE DRAIN TO EXISTING ROOF DRAIN WITHIN VICINITY. SECURE PIPING TO (E)ROOF.

[2] CAP EXISTING ROOF OPENING WITH INSULATED METAL PANEL. REFER TO ARCHITECTURAL AND STRUCTURAL DETAIL.




1 MECHANICAL ROOF AND SITE PLAN

16' 0' 16' 32'

SCALE: 1/16"=1'-0"

SAM MARSHALL ARCHITECTS
AA C000293

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SANTA ROSA COUNTY SCHOOL DISTRICT
5317 GLOVER LANE, MILTON, FL 32570

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## MECHANICAL ROOF AND SITE PLAN

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| Date | 09/01/21 |
| Drawn By | AL |
| Checked By | AL |

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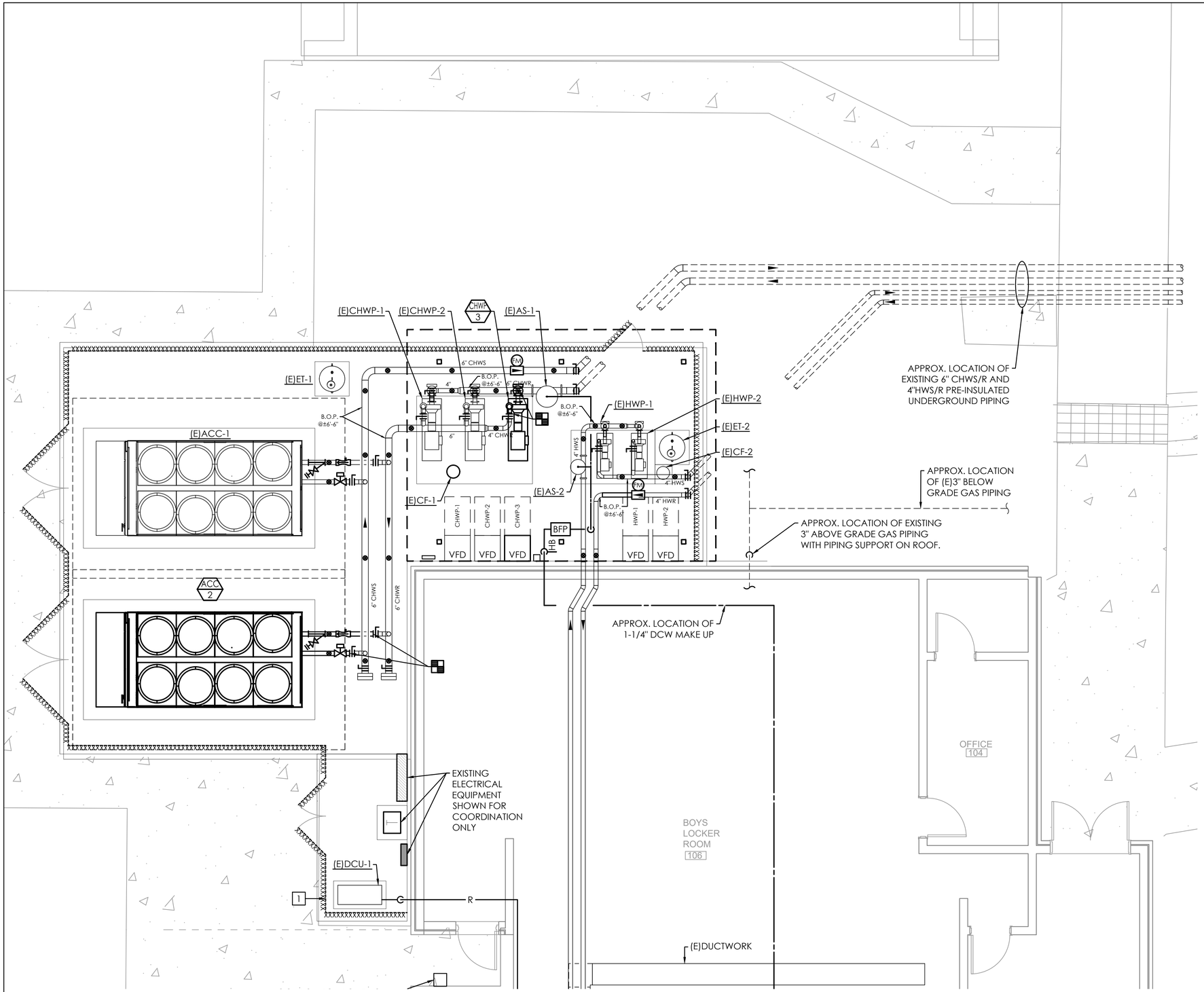
ANTON LEE ENGINEERING
ANTON LEE ENGINEERING, LLC
PENSACOLA, FL 32514
CERTIFICATE OF AUTHORIZATION:
FL 32794 | AL 5685-E
ANTON LEE P.E.
FL PE# 82369 | AL PE# 37427-E
PROJECT NUMBER 21-120




1 ENLARGED MECHANICAL PLAN - CENTRAL PLANT

4' 0' 4' 8'

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

SAM MARSHALL ARCHITECTS
AA C000293

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# HOBBS MIDDLE SCHOOL ENERGY UPGRADES - PHASE B

SANTA ROSA COUNTY SCHOOL DISTRICT
5317 GLOVER LANE, MILTON, FL 32570

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## ENLARGED MECHANICAL PLAN

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| Date | 09/01/21 |
| Drawn By | AL |
| Checked By | AL |

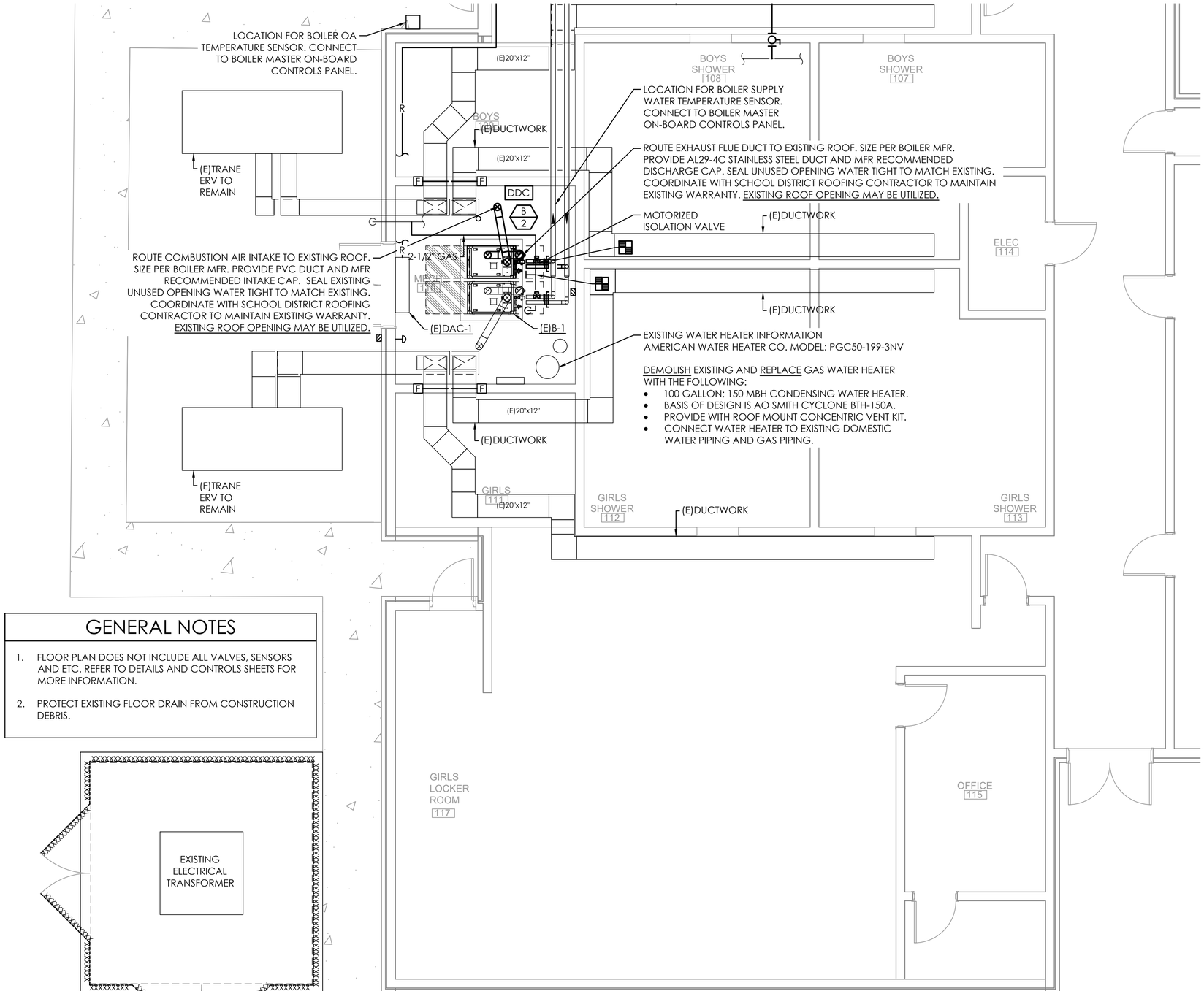
AL
ANTON LEE ENGINEERING

ANTON LEE ENGINEERING, LLC
PENSACOLA, FL 32514

CERTIFICATE OF AUTHORIZATION:
FL 32794 | AL 5685-E

ANTON LEE P.E.
FL PE# 82369 | AL PE# 37427-E
PROJECT NUMBER 21-120

M103




## GENERAL NOTES

1. FLOOR PLAN DOES NOT INCLUDE ALL VALVES, SENSORS AND ETC. REFER TO DETAILS AND CONTROLS SHEETS FOR MORE INFORMATION.
2. PROTECT EXISTING FLOOR DRAIN FROM CONSTRUCTION DEBRIS.

## 1 ENLARGED MECHANICAL PLAN - LOCKER ROOMS

4' 0' 4' 8'
SCALE: 1/4"=1'-0"

SAM MARSHALL ARCHITECTS
AA C000293
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www.sammarshallarch.com

# HOBBS MIDDLE SCHOOL
# ENERGY UPGRADES - PHASE B

SANTA ROSA COUNTY SCHOOL DISTRICT
5317 GLOVER LANE, MILTON, FL 32570

PHASE 2 SUBMITTAL
NOT FOR CONSTRUCTION

| No. | Description | Date |
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ENLARGED MECHANICAL PLAN

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|---|---|
| Date | 09/01/21 |
| Drawn By | AL |
| Checked By | AL |

ANTON LEE ENGINEERING
ANTON LEE ENGINEERING, LLC
PENSACOLA, FL 32514
CERTIFICATE OF AUTHORIZATION:
FL 32794 | AL 5685-E
ANTON LEE P.E.
FL PE# 82369 | AL PE# 37427-E
PROJECT NUMBER 21-120

M104

## KEY NOTES

1. DEMOLISH (E)ROOFTOP UNIT. SUPPLY AND RETURN DUCTWORK SHALL BE DEMOLISHED. REMOVE AND SALVAGE ALL EXISTING CONTROL PANELS AND RETURN TO SCHOOL DISTRICT MAINTENANCE DEPT. COORDINATE WITH NEW WORK ALTERNATE REQUIREMENTS.
2. DEMOLISH (E)DUCTWORK AS INDICATED ALONG WITH ALL ITS ASSOCIATED CEILING DIFFUSERS, MVD, AND FLEX (NOT SHOWN).
3. REMOVE AND SALVAGE ALL (E) VAV BOX WITH ITS THERMOSTAT. RETURN TO SCHOOL DISTRICT MAINTENANCE DEPT. PATCH EXISTING WALL TO MATCH EXISTING FINISH AND COLOR.
4. CAP EXISTING DUCTWORK AS INDICATED.
5. EXISTING DUCTWORK TO REMAIN.
6. EXISTING EQUIPMENT TO REMAIN.
7. DEMOLISH (E)EXHAUST FAN AND DUCTWORK. CAP AND SEAL ALL ROOFTOP OPENING WEATHER TIGHT.

MATCH LINE

CLASSROOM 007 · BOYS 011 · CLASSROOM 010 · CLASSROOM 009 · COMPUTER LAB 008 · RECEPT 036A · CLASSROOM 012 · SCIENCE STORAGE 23 · CLASSROOM 11 · OFFICE 045B · HALL 045 · OFFICE 045A · JANITOR 046 · CLASSROOM 013 · OFFICE 043 · GIRLS RESTROOM 042 · RR 22 · STOR 18 · BOYS RESTROOM 041 · RR 21 · OFFICE 022 · CLASSROOM 016 · CLASSROOM 014 · COUNSELOR 022A · CLASSROOM 038 · ELEC 038B · VANITY 038A · BATH · CLASSROOM 035A · CLASSROOM 018 · CLASSROOM 017 · CORRIDOR · CLASSROOM 023

(E)EF-4 16"x16" TO (E)EF-6 16"x16" · (E)EF-5 · (E)AC-4 CONTROL PANEL · (E)AC-3 CONTROL PANEL · (E)AC-4 · (E)AC-3 · (E)VAV-4-1 · (E)VAV-4-2 · (E)VAV-4-3 · (E)VAV-4-4 · (E)VAV-4-5 · (E)VAV-4-6 · (E)VAV-3-1 · (E)VAV-3-2 · (E)VAV-3-3 · (E)VAV-3-4 · (E)VAV-3-5 · (E)VAV-7-

ADD ALTERNATE #1

## 1 MECHANICAL DEMO PLAN

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


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# HOBBS MIDDLE SCHOOL ENERGY UPGRADES - PHASE B

SANTA ROSA COUNTY SCHOOL DISTRICT
5317 GLOVER LANE, MILTON, FL 32570

PHASE 2 SUBMITTAL
NOT FOR CONSTRUCTION

| No. | Description | Date |
|---|---|---|
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PARTIAL MECHANICAL DEMO PLAN WEST

| | |
|---|---|
| Date | 09/01/21 |
| Drawn By | AL |
| Checked By | AL |

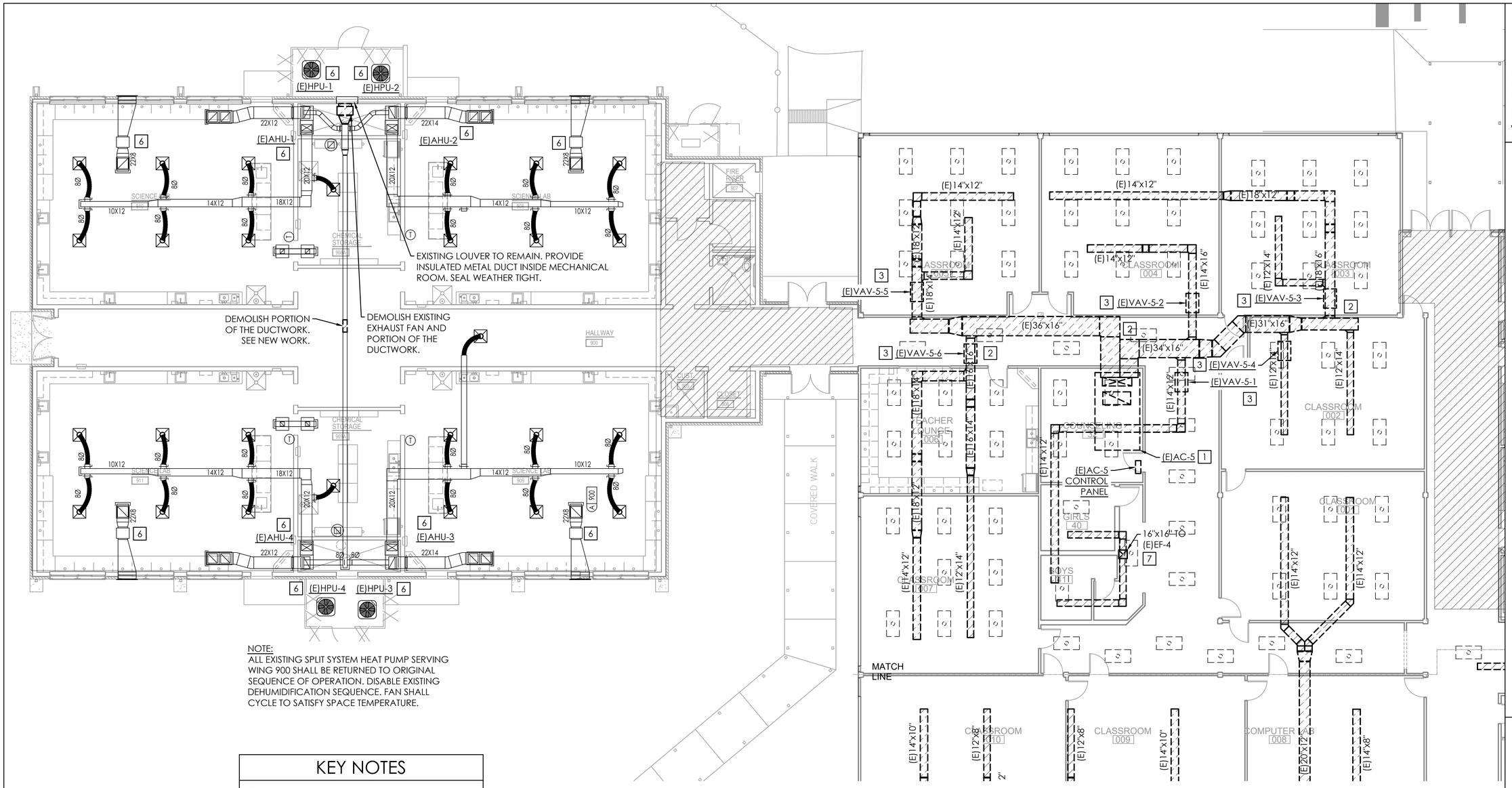

ANTON LEE ENGINEERING

ANTON LEE ENGINEERING, LLC
PENSACOLA, FL 32514

CERTIFICATE OF AUTHORIZATION:
FL 32794 | AL 5685-E

ANTON LEE P.E.
FL PE# 82369 | AL PE# 37427-E
PROJECT NUMBER 21-120


M201




NOTE:
ALL EXISTING SPLIT SYSTEM HEAT PUMP SERVING WING 900 SHALL BE RETURNED TO ORIGINAL SEQUENCE OF OPERATION. DISABLE EXISTING DEHUMIDIFICATION SEQUENCE. FAN SHALL CYCLE TO SATISFY SPACE TEMPERATURE.

## KEY NOTES

1. DEMOLISH (E)ROOFTOP UNIT. SUPPLY AND RETURN DUCTWORK SHALL BE DEMOLISHED. REMOVE AND SALVAGE ALL EXISTING CONTROL PANELS AND RETURN TO SCHOOL DISTRICT MAINTENANCE DEPT. COORDINATE WITH NEW WORK ALTERNATE REQUIREMENTS.
2. DEMOLISH (E)DUCTWORK AS INDICATED ALONG WITH ALL ITS ASSOCIATED CEILING DIFFUSERS, MVD, AND FLEX (NOT SHOWN).
3. REMOVE AND SALVAGE ALL (E) VAV BOX WITH ITS THERMOSTAT. RETURN TO SCHOOL DISTRICT MAINTENANCE DEPT. PATCH EXISTING WALL TO MATCH EXISTING FINISH AND COLOR.
4. CAP EXISTING DUCTWORK AS INDICATED.
5. EXISTING DUCTWORK TO REMAIN.
6. EXISTING EQUIPMENT TO REMAIN.
7. DEMOLISH (E)EXHAUST FAN AND DUCTWORK. CAP AND SEAL ALL ROOFTOP OPENING WEATHER TIGHT.

## 1 MECHANICAL DEMO PLAN

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

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# HOBBS MIDDLE SCHOOL ENERGY UPGRADES - PHASE B

SANTA ROSA COUNTY SCHOOL DISTRICT
5317 GLOVER LANE, MILTON, FL 32570

PHASE 2 SUBMITTAL
NOT FOR CONSTRUCTION

| No. | Description | Date |
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PARTIAL MECHANICAL DEMO PLAN NORTH

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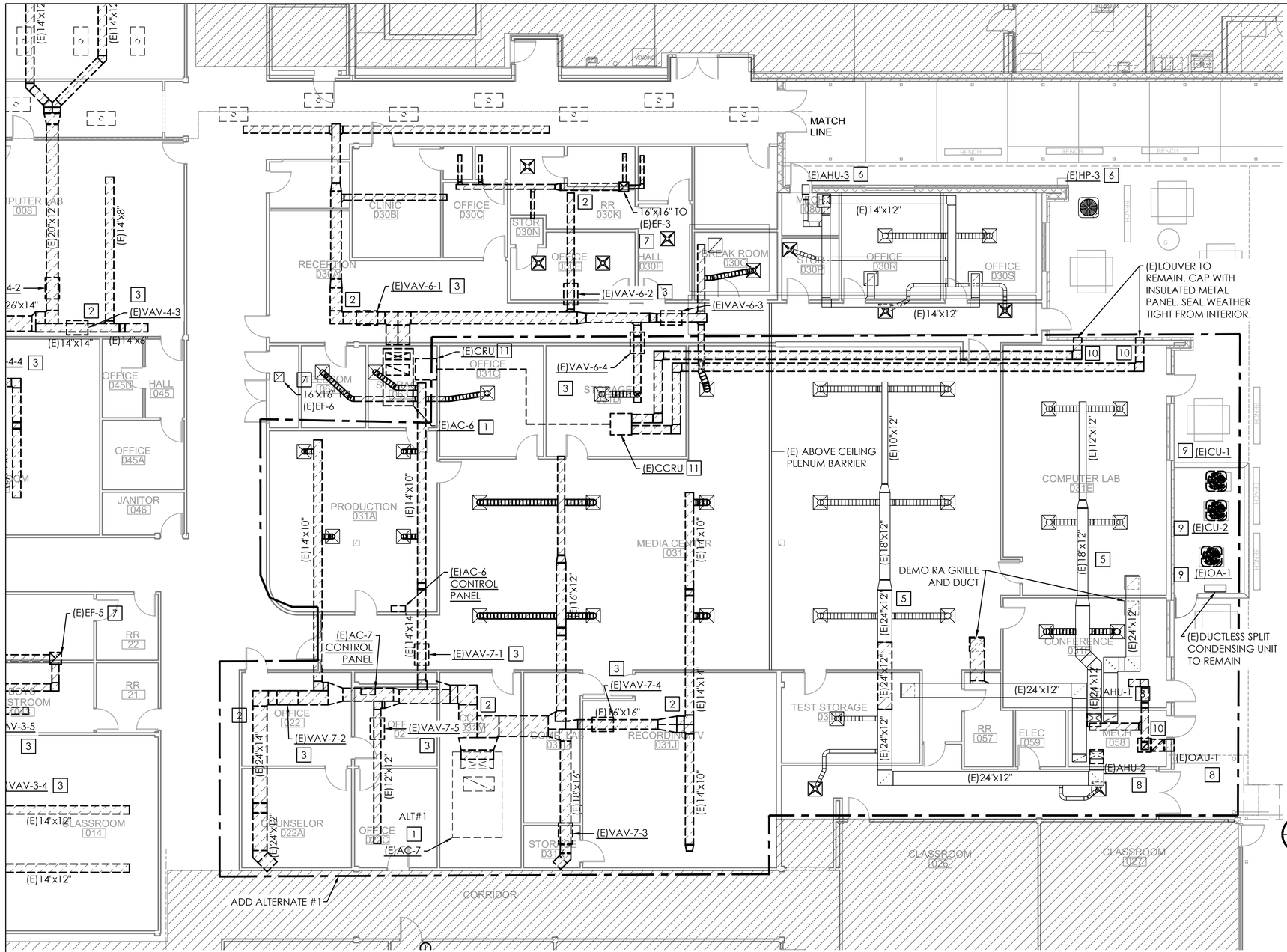
|---|---|
| Date | 09/01/21 |
| Drawn By | AL |
| Checked By | AL |

ANTON LEE ENGINEERING
ANTON LEE ENGINEERING, LLC
PENSACOLA, FL 32514
CERTIFICATE OF AUTHORIZATION:
FL 32794 | AL 5685-E
ANTON LEE P.E.
FL PE# 82369 | AL PE# 37427-E
PROJECT NUMBER 21-120

M202




1 MECHANICAL DEMO PLAN

8' 0' 8' 16'

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

## KEY NOTES

1. DEMOLISH (E)ROOFTOP UNIT. SUPPLY AND RETURN DUCTWORK SHALL BE DEMOLISHED. REMOVE AND SALVAGE ALL EXISTING CONTROL PANELS AND RETURN TO SCHOOL DISTRICT MAINTENANCE DEPT. COORDINATE WITH NEW WORK ALTERNATE REQUIREMENTS.
2. DEMOLISH (E)DUCTWORK AS INDICATED ALONG WITH ALL ITS ASSOCIATED CEILING DIFFUSERS, MVD, AND FLEX (NOT SHOWN).
3. REMOVE AND SALVAGE ALL (E) VAV BOX WITH ITS THERMOSTAT. RETURN TO SCHOOL DISTRICT MAINTENANCE DEPT. PATCH EXISTING WALL TO MATCH EXISTING FINISH AND COLOR.
4. CAP EXISTING DUCTWORK AS INDICATED.
5. EXISTING DUCTWORK TO REMAIN.
6. EXISTING EQUIPMENT TO REMAIN.
7. DEMOLISH (E)EXHAUST FAN AND DUCTWORK. CAP AND SEAL ALL ROOFTOP OPENING WEATHER TIGHT.
8. DEMOLISH (E)EQUIPMENT UNIT. OUTSIDE AIR DUCTWORK TO EXTERIOR LOUVER SHALL BE DEMOLISHED. SALVAGE ALL EXISTING SUPPLY DUCTWORK TO EXISTING RETURN DUCT ON EACH SPLIT SYSTEM UNIT. COORDINATE WITH NEW WORK REQUIREMENTS. EXISTING LOUVER SHALL BE DEMOLISHED AND CAPPED WEATHER TIGHT.
9. DEMOLISH EXISTING CONDENSING UNIT, CONTROLS, ELECTRICAL, AND ALL REFRIGERANT PIPING. PATCH WALL AND FLOOR TO MATCH EXISTING WEATHER TIGHT.
10. EXISTING LOUVER TO REMAIN. SEAL EXISTING LOUVER FROM INTERIOR SIDE. PROVIDE INSULATED METAL PANEL AND SEAL WEATHER TIGHT.
11. DEMOLISH EXISTING ABANDONED ABOVE CEILING COMPUTER ROOM UNIT WITH ITS ABOVE CEILING CONDENSING UNIT, DUCTWORK, CONTROLS, ELECTRICAL, AND ETC. COMPLETE.

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# HOBBS MIDDLE SCHOOL ENERGY UPGRADES - PHASE B

SANTA ROSA COUNTY SCHOOL DISTRICT
5317 GLOVER LANE, MILTON, FL 32570

PHASE 2 SUBMITTAL
NOT FOR CONSTRUCTION

| No. | Description | Date |
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## PARTIAL MECHANICAL DEMO PLAN ALTERNATE #1

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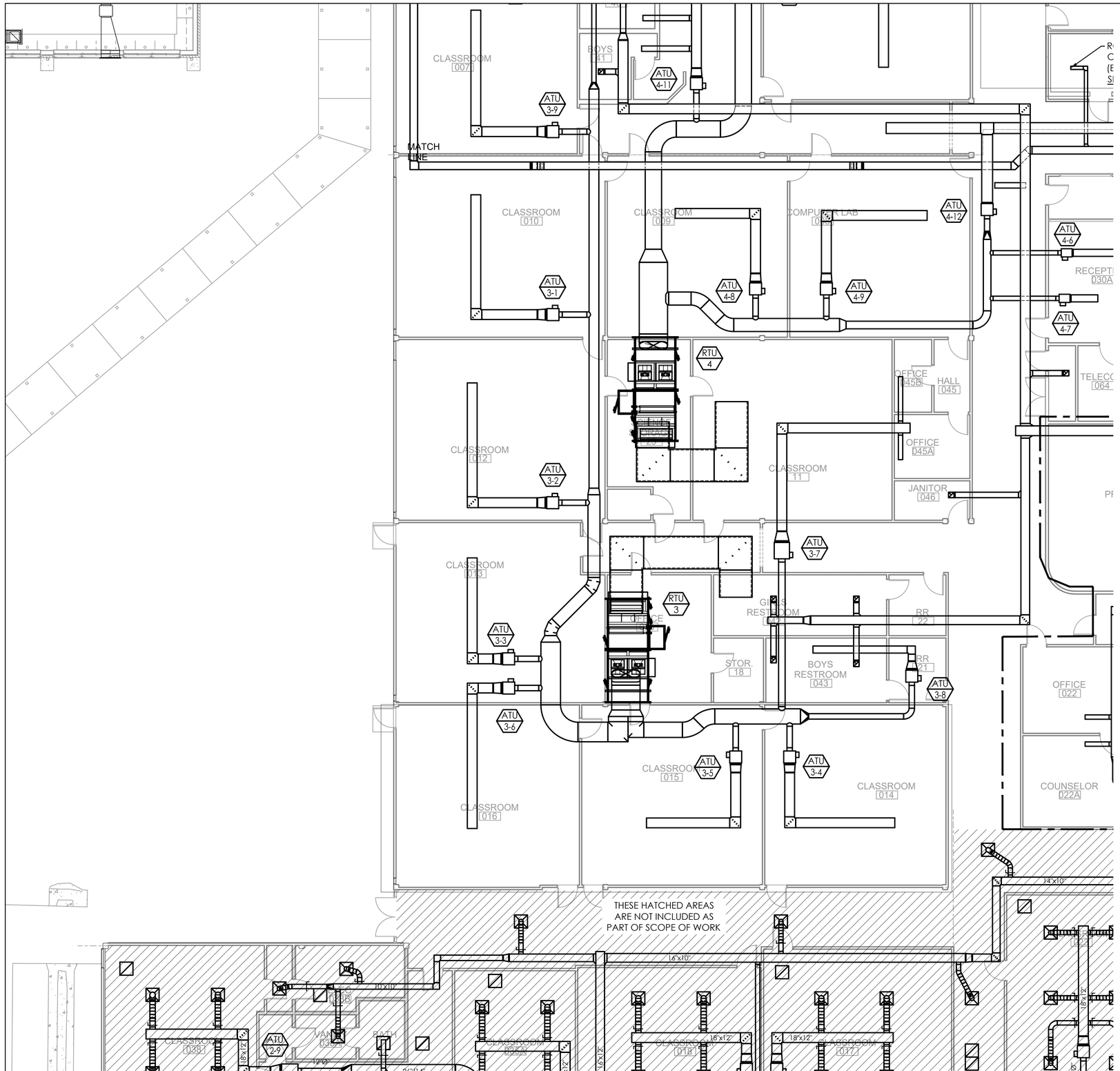
|---|---|
| Date | 09/01/21 |
| Drawn By | AL |
| Checked By | AL |

ANTON LEE ENGINEERING
ANTON LEE ENGINEERING, LLC
PENSACOLA, FL 32514
CERTIFICATE OF AUTHORIZATION:
FL 32794 | AL 5685-E
ANTON LEE P.E.
FL PE# 82369 | AL PE# 37427-E
PROJECT NUMBER 21-120

M203




## GENERAL NOTES

1. REFER TO ARCHITECTURAL FOR ADD ALTERNATES DESCRIPTION.
2. COORDINATE ALL WORK WITH OTHER TRADES.
3. AIR TERMINAL UNITS SHALL BE LOCATED NO HIGHER THAN 1'-0" ABOVE CEILING GRID. EACH UNIT SHALL BE LOCATED AT APPROX. 24" (HORIZONTAL DISTANCE) FROM EXTERIOR OR INTERIOR WALL FOR MAINTENANCE.
4. COORDINATE DIFFUSER AND CEILING GRID LOCATION WITH EXISTING SPRINKLER HEADS. EXISTING SPRINKLER HEADS TO BE PROTECTED DURING CONSTRUCTION. DIV. 21 SHALL RELOCATE EXISTING SPRINKLER HEADS TO ACCOMMODATE ALL CONFLICTS WITH NEW WORK.

## KEY NOTES

1. PROVIDE 22"x22" RAG WITH 16" DIA FLEX - 72" LENGTH. EQUAL TO TITUS FLEXABOOT.
2. RETURN AIR OPENING TO THE PLENUM SPACE. PROVIDE INSULATION PER SPECS AND 1" ACOUSTIC DUCT LINER AS SHOWN.
3. ROUTE SUPPLY AND RETURN DUCTWORK TO ROOF MOUNTED HVAC UNIT. PROVIDE TRANSITION AS REQUIRED. COORDINATE LOCATION OF ROOFTOP UNIT WITH EXISTING STRUCTURAL OPENING.

1 MECHANICAL PLAN

8' 0' 8' 16'

SCALE: 1/8"=1'-0"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# HOBBS MIDDLE SCHOOL ENERGY UPGRADES - PHASE B

SANTA ROSA COUNTY SCHOOL DISTRICT
5317 GLOVER LANE, MILTON, FL 32570

PHASE 2 SUBMITTAL
NOT FOR CONSTRUCTION

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## PARTIAL MECHANICAL PLAN WEST

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| Date | 09/01/21 |
| Drawn By | AL |
| Checked By | AL |

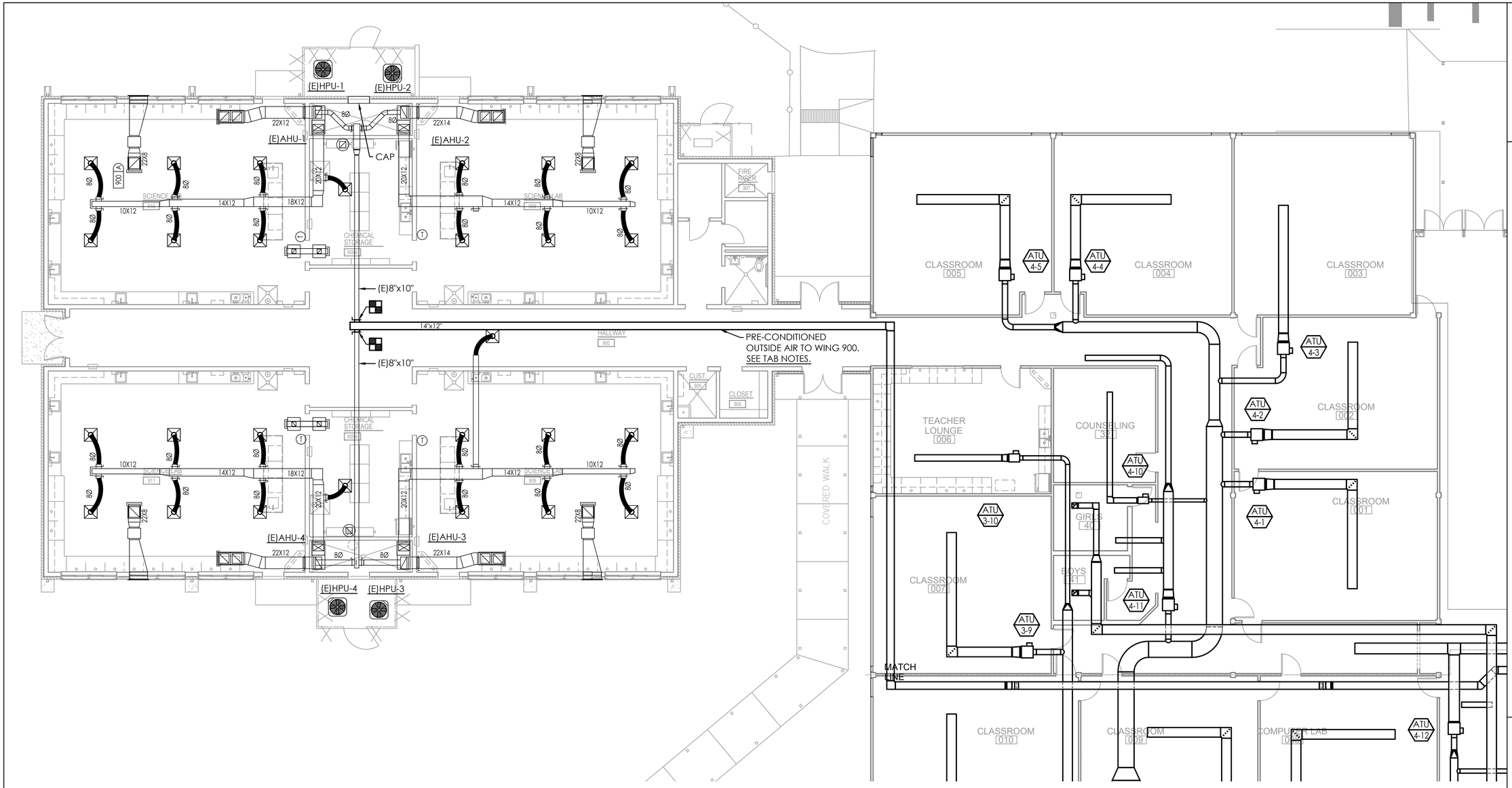

ANTON LEE ENGINEERING

ANTON LEE ENGINEERING, LLC
PENSACOLA, FL 32514

CERTIFICATE OF AUTHORIZATION:
FL 32794 | AL 5685-E

ANTON LEE P.E.
FL PE# 82369 | AL PE# 37427-E
PROJECT NUMBER 21-120


# M301




1 MECHANICAL PLAN

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

## TAB NOTES

BALANCE THE FOLLOWING EXISTING UNITS VENTILATION RATE FROM ERV:

WING 900:
(E)AHU-1: 180 CFM
(E)AHU-2: 160 CFM
(E)AHU-3: 150 CFM
(E)AHU-4: 150 CFM

ADMIN:
(E)AHU-5: 60 CFM

DINING: 600 CFM

COMPUTER LAB: FCU-1: 400 CFM
CONFERENCE RM: FCU-2: 100 CFM

## KEY NOTES

1. PROVIDE 22"x22" RAG WITH 16" DIA FLEX - 72" LENGTH. EQUAL TO TITUS FLEXABOOT.
2. RETURN AIR OPENING TO THE PLENUM SPACE. PROVIDE INSULATION PER SPECS AND 1" ACOUSTIC DUCT LINER AS SHOWN.
3. ROUTE SUPPLY AND RETURN DUCTWORK TO ROOF MOUNTED HVAC UNIT. PROVIDE TRANSITION AS REQUIRED. COORDINATE LOCATION OF ROOFTOP UNIT WITH EXISTING STRUCTURAL OPENING.

## GENERAL NOTES

1. REFER TO ARCHITECTURAL FOR ADD ALTERNATES DESCRIPTION.
2. COORDINATE ALL WORK WITH OTHER TRADES.
3. AIR TERMINAL UNITS SHALL BE LOCATED NO HIGHER THAN 1'-0" ABOVE CEILING GRID. EACH UNIT SHALL BE LOCATED AT APPROX. 24" (HORIZONTAL DISTANCE) FROM EXTERIOR OR INTERIOR WALL FOR MAINTENANCE.
4. COORDINATE DIFFUSER AND CEILING GRID LOCATION WITH EXISTING SPRINKLER HEADS. EXISTING SPRINKLER HEADS TO BE PROTECTED DURING CONSTRUCTION. DIV. 21 SHALL RELOCATE EXISTING SPRINKLER HEADS TO ACCOMMODATE ALL CONFLICTS WITH NEW WORK.

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# HOBBS MIDDLE SCHOOL
# ENERGY UPGRADES - PHASE B

SANTA ROSA COUNTY SCHOOL DISTRICT
5317 GLOVER LANE, MILTON, FL 32570

PHASE 2 SUBMITTAL
NOT FOR CONSTRUCTION

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PARTIAL MECHANICAL PLAN NORTH

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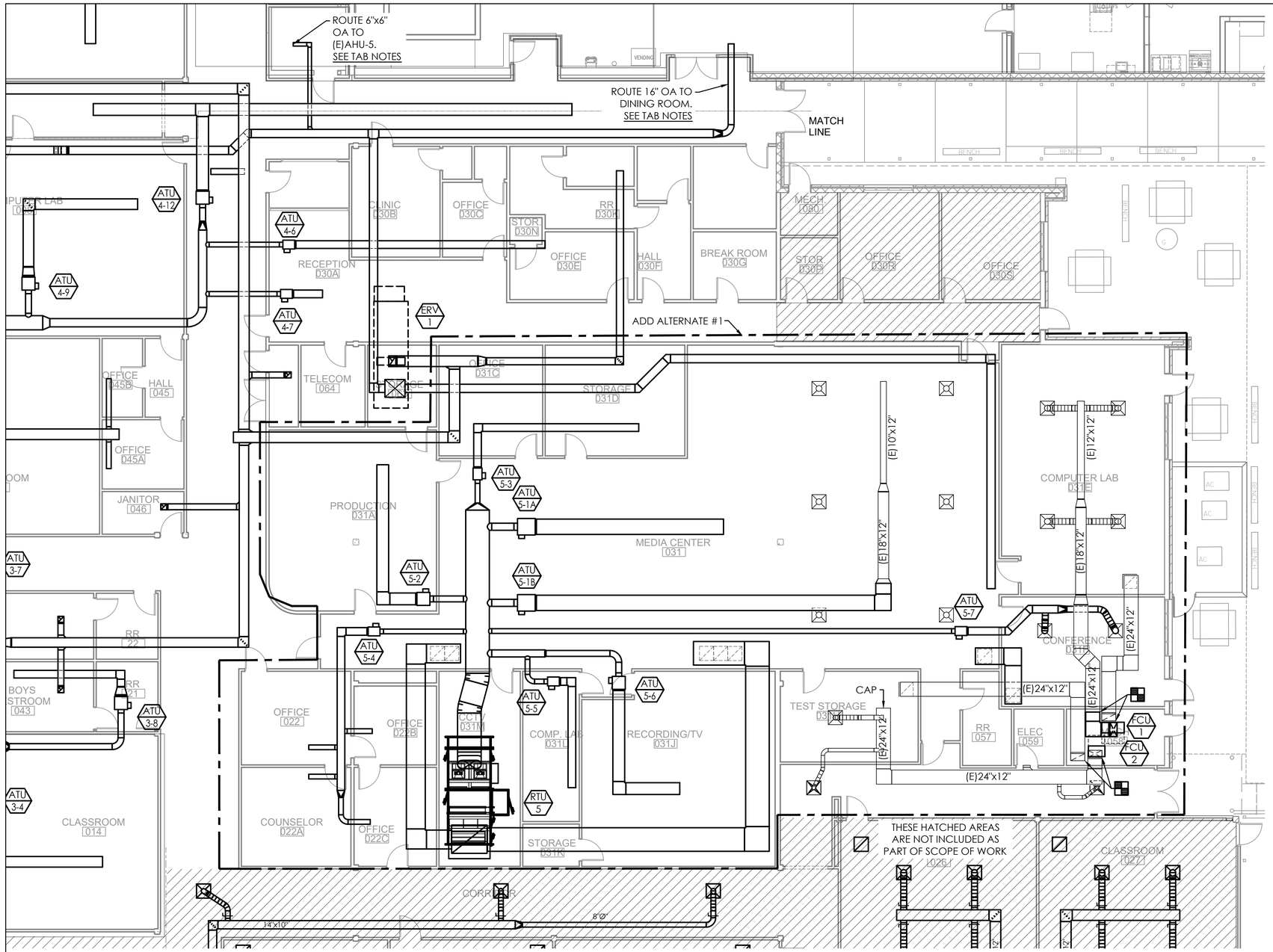
| Date | 09/01/21 |
| Drawn By | AL |
| Checked By | AL |

M302

ANTON LEE ENGINEERING
ANTON LEE ENGINEERING, LLC
PENSACOLA, FL 32514

CERTIFICATE OF AUTHORIZATION:
FL 32794 | AL 5685-E

ANTON LEE P.E.
FL PE# 82369 | AL PE# 37427-E
PROJECT NUMBER 21-120




1 MECHANICAL PLAN

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

## GENERAL NOTES

1. REFER TO ARCHITECTURAL FOR ADD ALTERNATES DESCRIPTION.
2. COORDINATE ALL WORK WITH OTHER TRADES.
3. AIR TERMINAL UNITS SHALL BE LOCATED NO HIGHER THAN 1'-0" ABOVE CEILING GRID. EACH UNIT SHALL BE LOCATED AT APPROX. 24" (HORIZONTAL DISTANCE) FROM EXTERIOR OR INTERIOR WALL FOR MAINTENANCE.
4. COORDINATE DIFFUSER AND CEILING GRID LOCATION WITH EXISTING SPRINKLER HEADS. EXISTING SPRINKLER HEADS TO BE PROTECTED DURING CONSTRUCTION. DIV. 21 SHALL RELOCATE EXISTING SPRINKLER HEADS TO ACCOMMODATE ALL CONFLICTS WITH NEW WORK.

## KEY NOTES

1. PROVIDE 22"x22" RAG WITH 16" DIA FLEX - 72" LENGTH. EQUAL TO TITUS FLEXABOOT.
2. RETURN AIR OPENING TO THE PLENUM SPACE. PROVIDE INSULATION PER SPECS AND 1" ACOUSTIC DUCT LINER AS SHOWN.
3. ROUTE SUPPLY AND RETURN DUCTWORK TO ROOF MOUNTED HVAC UNIT. PROVIDE TRANSITION AS REQUIRED. COORDINATE LOCATION OF ROOFTOP UNIT WITH EXISTING STRUCTURAL OPENING.

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# HOBBS MIDDLE SCHOOL ENERGY UPGRADES - PHASE B

SANTA ROSA COUNTY SCHOOL DISTRICT
5317 GLOVER LANE, MILTON, FL 32570

PHASE 2 SUBMITTAL
NOT FOR CONSTRUCTION

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## PARTIAL MECHANICAL PLAN ALTERNATE 1

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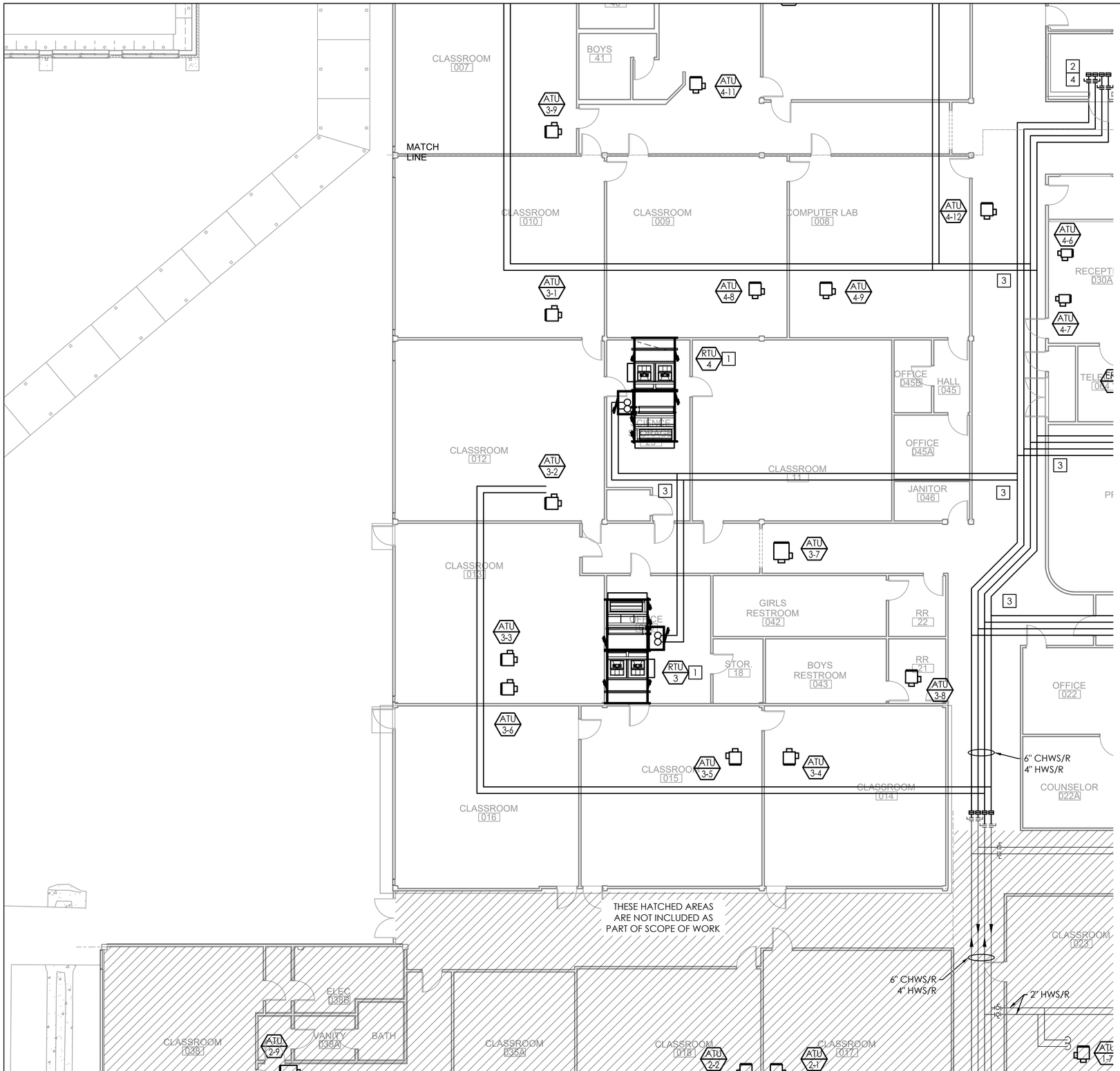
|---|---|
| Date | 09/01/21 |
| Drawn By | AL |
| Checked By | AL |

M303

ANTON LEE ENGINEERING
ANTON LEE ENGINEERING, LLC
PENSACOLA, FL 32514

CERTIFICATE OF AUTHORIZATION:
FL 32794 | AL 5685-E

ANTON LEE P.E.
FL PE# 82369 | AL PE# 37427-E
PROJECT NUMBER 21-120




## GENERAL NOTES

1. REFER TO ARCHITECTURAL FOR ADD ALTERNATES DESCRIPTION.
2. COORDINATE ALL PIPING WORK WITH OTHER TRADES. PROVIDE TRANSITION AS NECESSARY FOR PIPE CONNECTION TO RTU AND ATU.
3. UNLESS NOTED OTHERWISE, PROVIDE 3/4" HOT WATER SUPPLY/RETURN RUNOUT TO EACH ATU OR VAV BOX.
4. PROVIDE ABOVE CEILING ISOLATION VALVES AND ATU EQUIPMENT LABEL PER SPECS. MOUNT IN CEILING GRID. (E.G: LABEL: "ISOLATION VALVES" OR "ATU 3-1"). IN ADDITION, PROVIDE WITH MIN. 1" DIA. BLUE DOT LABEL FOR VALVE AND RED DOT LABEL FOR EQUIPMENT.

## KEY NOTES

1. ROUTE 3" CHWS/R UP TO RTU. AUTOFLOW, ISOLATION VALVES, STRAINER, ETC SHALL BE LOCATED ABOVE CEILING PER COIL DETAIL 1/M506.
2. BLIND FLANGE AND ISOLATION VALVES FOR FUTURE PIPING CONNECTION.
3. ISOLATION VALVES. TYPICAL.
4. PROVIDE 1/4" MANUAL AIR VENT AT EACH CHWS/R AND HWS/R PIPING AT THIS END OF BRANCH LOCATION. MANUAL AIR VENT, 1/4" BRASS PIPE WITH BALL VALVE AND SOFT COPPER GOOSENECK.
5. IT IS RECOMMENDED THAT ALL INTERIOR ABOVE CEILING PIPING AS INDICATED, TO BE CONSTRUCTED DURING SCHOOL BREAKS OR AFTER HOURS. WORK TO BE COMPLETED BEFORE FIRST DAY OF SCHOOL AFTER 2022 SPRING BREAK. COORDINATE WITH THE SCHOOL DISTRICT. REMOVE AND REINSTALL CEILING TILES AND GRID AS REQUIRED. FACILITIES SHALL BE CLEANED TO BE READY FOR NEXT DAY SCHOOL.

## 1 MECHANICAL PIPING PLAN

8' 0' 8' 16'
SCALE: 1/8"=1'-0"

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# HOBBS MIDDLE SCHOOL ENERGY UPGRADES - PHASE B

SANTA ROSA COUNTY SCHOOL DISTRICT
5317 GLOVER LANE, MILTON, FL 32570

PHASE 2 SUBMITTAL
NOT FOR CONSTRUCTION

| No. | Description | Date |
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## PARTIAL MECHANICAL PIPING PLAN WEST

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|---|---|
| Date | 09/01/21 |
| Drawn By | AL |
| Checked By | AL |

ANTON LEE ENGINEERING
ANTON LEE ENGINEERING, LLC
PENSACOLA, FL 32514
CERTIFICATE OF AUTHORIZATION:
FL 32794 | AL 5685-E
ANTON LEE P.E.
FL PE# 82369 | AL PE# 37427-E
PROJECT NUMBER 21-120

# M401


1 MECHANICAL PIPING PLAN

8' 0' 8' 16'

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

## KEY NOTES

1. ROUTE 3" CHWS/R UP TO RTU. AUTOFLOW, ISOLATION VALVES, STRAINER, ETC SHALL BE LOCATED ABOVE CEILING PER COIL DETAIL 1/M506.
2. BLIND FLANGE AND ISOLATION VALVES FOR FUTURE PIPING CONNECTION.
3. ISOLATION VALVES. TYPICAL.
4. PROVIDE 1/4" MANUAL AIR VENT AT EACH CHWS/R AND HWS/R PIPING AT THIS END OF BRANCH LOCATION. MANUAL AIR VENT, 1/4" BRASS PIPE WITH BALL VALVE AND SOFT COPPER GOOSENECK.
5. IT IS RECOMMENDED THAT ALL INTERIOR ABOVE CEILING PIPING AS INDICATED, TO BE CONSTRUCTED DURING SCHOOL BREAKS OR AFTER HOURS. WORK TO BE COMPLETED BEFORE FIRST DAY OF SCHOOL AFTER 2022 SPRING BREAK. COORDINATE WITH THE SCHOOL DISTRICT. REMOVE AND REINSTALL CEILING TILES AND GRID AS REQUIRED. FACILITIES SHALL BE CLEANED TO BE READY FOR NEXT DAY SCHOOL.

## GENERAL NOTES

1. REFER TO ARCHITECTURAL FOR ADD ALTERNATES DESCRIPTION.
2. COORDINATE ALL PIPING WORK WITH OTHER TRADES. PROVIDE TRANSITION AS NECESSARY FOR PIPE CONNECTION TO RTU AND ATU.
3. UNLESS NOTED OTHERWISE, PROVIDE 3/4" HOT WATER SUPPLY/RETURN RUNOUT TO EACH ATU OR VAV BOX.
4. PROVIDE ABOVE CEILING ISOLATION VALVES AND ATU EQUIPMENT LABEL PER SPECS. MOUNT IN CEILING GRID. (E.G: LABEL: "ISOLATION VALVES" OR "ATU 3-1"). IN ADDITION, PROVIDE WITH MIN. 1" DIA. BLUE DOT LABEL FOR VALVE AND RED DOT LABEL FOR EQUIPMENT.

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# HOBBS MIDDLE SCHOOL
# ENERGY UPGRADES - PHASE B

SANTA ROSA COUNTY SCHOOL DISTRICT
5317 GLOVER LANE, MILTON, FL 32570

PHASE 2 SUBMITTAL
NOT FOR CONSTRUCTION

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AL
ANTON LEE ENGINEERING
ANTON LEE ENGINEERING, LLC
PENSACOLA, FL 32514
CERTIFICATE OF AUTHORIZATION:
FL 32794 | AL 5685-E
ANTON LEE P.E.
FL PE# 82369 | AL PE# 37427-E
PROJECT NUMBER 21-120

## PARTIAL MECHANICAL PIPING PLAN SOUTH

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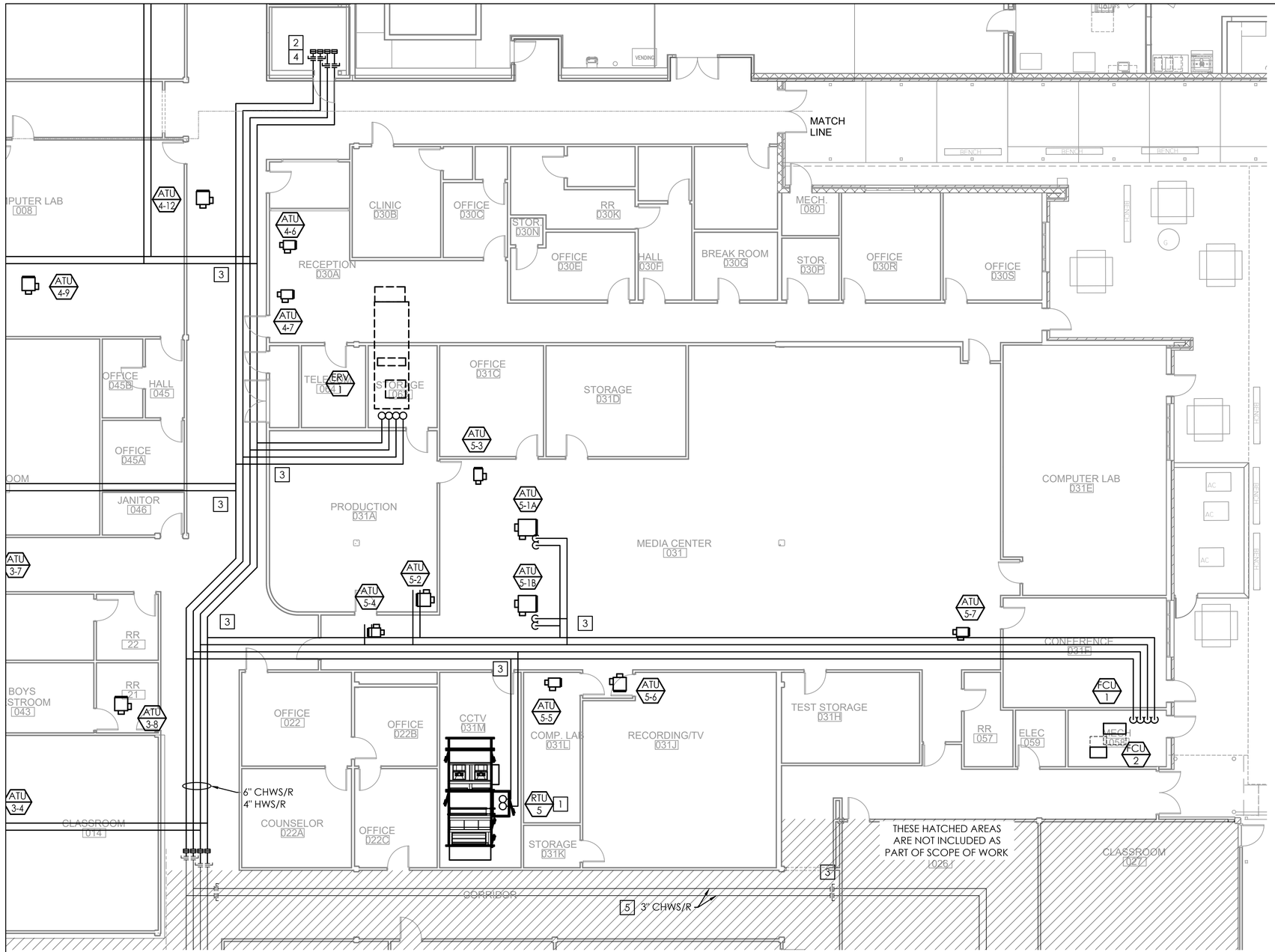
|---|---|
| Date | 09/01/21 |
| Drawn By | AL |
| Checked By | AL |

# M402




## GENERAL NOTES

1. REFER TO ARCHITECTURAL FOR ADD ALTERNATES DESCRIPTION.
2. COORDINATE ALL PIPING WORK WITH OTHER TRADES. PROVIDE TRANSITION AS NECESSARY FOR PIPE CONNECTION TO RTU AND ATU.
3. UNLESS NOTED OTHERWISE, PROVIDE 3/4" HOT WATER SUPPLY/RETURN RUNOUT TO EACH ATU OR VAV BOX.
4. PROVIDE ABOVE CEILING ISOLATION VALVES AND ATU EQUIPMENT LABEL PER SPECS. MOUNT IN CEILING GRID. (E.G: LABEL: "ISOLATION VALVES" OR "ATU 3-1"). IN ADDITION, PROVIDE WITH MIN. 1" DIA. BLUE DOT LABEL FOR VALVE AND RED DOT LABEL FOR EQUIPMENT.

## KEY NOTES

1. ROUTE 3" CHWS/R UP TO RTU. AUTOFLOW, ISOLATION VALVES, STRAINER, ETC SHALL BE LOCATED ABOVE CEILING PER COIL DETAIL 1/M506.
2. BLIND FLANGE AND ISOLATION VALVES FOR FUTURE PIPING CONNECTION.
3. ISOLATION VALVES. TYPICAL.
4. PROVIDE 1/4" MANUAL AIR VENT AT EACH CHWS/R AND HWS/R PIPING AT THIS END OF BRANCH LOCATION. MANUAL AIR VENT, 1/4" BRASS PIPE WITH BALL VALVE AND SOFT COPPER GOOSENECK.
5. IT IS RECOMMENDED THAT ALL INTERIOR ABOVE CEILING PIPING AS INDICATED, TO BE CONSTRUCTED DURING SCHOOL BREAKS OR AFTER HOURS. WORK TO BE COMPLETED BEFORE FIRST DAY OF SCHOOL AFTER 2022 SPRING BREAK. COORDINATE WITH THE SCHOOL DISTRICT. REMOVE AND REINSTALL CEILING TILES AND GRID AS REQUIRED. FACILITIES SHALL BE CLEANED TO BE READY FOR NEXT DAY SCHOOL.

1 MECHANICAL PIPING PLAN

8' 0' 8' 16'

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

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# HOBBS MIDDLE SCHOOL
# ENERGY UPGRADES - PHASE B

SANTA ROSA COUNTY SCHOOL DISTRICT
5317 GLOVER LANE, MILTON, FL 32570

PHASE 2 SUBMITTAL
NOT FOR CONSTRUCTION

| No. | Description | Date |
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PARTIAL MECHANICAL PLAN ALTERNATE 1

| | |
|---|---|
| Date | 09/01/21 |
| Drawn By | AL |
| Checked By | AL |

M403

ANTON LEE ENGINEERING

ANTON LEE ENGINEERING, LLC
PENSACOLA, FL 32514

CERTIFICATE OF AUTHORIZATION:
FL 32794 | AL 5685-E

ANTON LEE P.E.
FL PE# 82369 | AL PE# 37427-E
PROJECT NUMBER 21-120

## ABBREVIATIONS

| | | |
|---|---|---|
| 1P | – | ONE POLE |
| 2P | – | TWO POLE |
| 3P | – | THREE POLE |
| 4P | – | FOUR POLE |
| A | – | AMPERE |
| AC | – | ALTERNATING CURRENT |
| AFF | – | ABOVE FINISHED FLOOR |
| AFG | – | ABOVE FINISHED GRADE |
| AHU | – | AIR HANDLING UNIT |
| AIC | – | AMPERE INTERRUPTING CAPACITY |
| AL | – | ALUMINUM |
| ARCH | – | ARCHITECT |
| AWG | – | AMERICAN WIRE GAUGE |
| BLDG | – | BUILDING |
| C | – | CONDUIT |
| CB | – | CIRCUIT BREAKER |
| CKT | – | CIRCUIT |
| CT | – | CURRENT TRANSFORMER |
| CU | – | COPPER |
| DC | – | DIRECT CURRENT |
| DISC | – | DISCONNECT |
| DN | – | DOWN |
| DWG | – | DRAWING |
| EC | – | ELECTRICAL CONTRACTOR |
| ECB | – | ENCLOSED CIRCUIT BREAKER |
| EF | – | EXHAUST FAN |
| ELEC | – | ELECTRICAL |
| EWC | – | ELECTRIC WATER COOLER |
| FA | – | FIRE ALARM |
| FLA | – | FULL LOAD AMPS |
| FLEX | – | FLEXIBLE |
| FURN | – | FURNITURE |
| GC | – | GENERAL CONTRACTOR |
| GFCI | – | GROUND FAULT CIRCUIT INTERRUPTER |
| GND | – | GROUNDED |
| HP | – | HORSEPOWER |
| HVAC | – | HEATING, VENTILATING AND AIR CONDITIONING |
| HZ | – | HERTZ (CYCLE) PER SECOND |
| JB | – | JUNCTION BOX |
| KCMIL | – | THOUSAND CIRCULAR MILS |
| KVA | – | KILOVOLT AMPERE |
| KW | – | KILOWATT |
| LTG | – | LIGHTING |
| LV | – | LOW VOLTAGE |
| LSIG | – | LONG TIME, SHORT TIME, INSTANTANEOUS, AND GROUND TRIP UNITS |
| MCB | – | MAIN CIRCUIT BREAKER |
| MLO | – | MAIN LUGS ONLY |
| MTD | – | MOUNTED |
| MTG | – | MOUNTING |
| NEC | – | NATIONAL ELECTRICAL CODE |
| Ø | – | PHASE |
| PNL | – | PANELBOARD |
| PRI | – | PRIMARY |
| RTU | – | ROOFTOP UNIT |
| SEC | – | SECONDARY |
| SW | – | SWITCH |
| UG | – | UNDERGROUND |
| V | – | VOLT |
| W | – | WATT |
| XFMR | – | TRANSFORMER |
| +48" | – | MOUNTING HEIGHT IN INCHES TO CENTERLINE ABOVE FINISHED FLOOR OR GRADE. VALUE MAY VARY. |

## POWER DISTRIBUTION SYMBOLS

| | |
|---|---|
| | SURFACE MOUNTED PANELBOARD; 120/208V; MT 72" AFF TO TOP |
| | SURFACE MOUNTED PANELBOARD; 277/480V; MT 72" AFF TO TOP |
| | FLUSH MOUNTED PANELBOARD; 120/208V; MT 72" AFF TO TOP |
| | FLUSH MOUNTED PANELBOARD; 277/480V; MT 72" AFF TO TOP |
| T | DRY TYPE TRANSFORMER; SIZE AND RATING AS NOTED |
| | FUSED DISCONNECT SWITCH |
| | NON-FUSED DISCONNECT SWITCH |

## POWER DISTRIBUTION DESIGNATIONS

| | |
|---|---|
| P1 | LETTERS "P1" INDICATE PANEL LABEL; REFER TO ELECTRIC EQUIPMENT NAMEPLATE DETAIL FOR FULL NAMEPLATE REQUIREMENTS |
| 30/3/1 | SIZE NOTED AS "AMPERAGE/POLES/NEMA" (I.E. 30/3/1 SHALL INDICATE 30A, 3 POLE, NEMA 1) |

## SPECIAL DEMOLITION NOTE

THE LOCATIONS OF ALL ELECTRICAL EQUIPMENT INDICATED (FIXTURES & DEVICES) MAY VARY FROM DRAWING. EXISTING CONDITIONS AND DEMOLITION WORK WAS DETERMINED BY SITE OBSERVATION AND REVIEW OF EXISTING DOCUMENTS WITHOUT THE BENEFIT OF DESTRUCTIVE INVESTIGATION. VERIFY ACTUAL LOCATIONS, TYPES, AND QUANTITIES OF EQUIPMENT AND APPLY DEMOLITION NOTES AS APPROPRIATE FOR THE EQUIPMENT AND ROOM OR AREA.

## RECEPTACLE SYMBOLS

| FLR | CLG | WALL | |
|---|---|---|---|
| | | | DUPLEX RECEPTACLE, 125 V, 20 A; NEMA 5-20R; HUBBELL SERIES HBL5352 |
| | | | HALF-CONTROLLED DUPLEX RECEPTACLE; 125V, 20A; NEMA 5-20R; HUBBELL SERIES BR20C1 |
| | | | QUAD – 2 DUPLEX RECEPTACLE, 125 V, 20 A; NEMA 5-20R; HUBBELL SERIES HBL5352 |
| | | | HALF-CONTROLLED QUAD – 2 DUPLEX RECEPTACLE, 125 V, 20 A; NEMA 5-20R; HUBBELL SERIES BR20C1 |
| | | | DUPLEX GFCI RECEPTACLE, 125 V, 20 A; NEMA 5-20R; HUBBELL SERIES GF5362 |
| | | | TAMPER-RESISTANT DUPLEX RECEPTACLE, 125 V, 20 A; NEMA 5-20R; HUBBELL SERIES BR20'XX'TR |
| | | | TAMPER-RESISTANT QUAD – 2 DUPLEX RECEPTACLE, 125 V, 20 A; NEMA 5-20R; HUBBELL SERIES BR20'XX'TR |
| | | | TAMPER-RESISTANT DUPLEX GFCI RECEPTACLE, 125 V, 20 A; NEMA 5-20R; HUBBELL SERIES GFTR20 |
| | | | SPD DUPLEX RECEPTACLE, 125 V, 20 A; NEMA 5-20R; HUBBELL SERIES HBL5362SA |
| | | | SPECIAL TYPE RECEPTACLE 'X' DENOTES TYPE NOTED BELOW<br>A = 120V, 20A, 2P, 3W, NEMA L5-20R; HUBBELL SERIES HBL2310 |

## RECEPTACLE DESIGNATIONS

| | |
|---|---|
| WP | LETTERS "WP" ADJACENT TO SYMBOL INDICATES WEATHER RESISTANT RECEPTACLE; HUBBELL/TAYMAC MR420CW COVER. |
| | LETTERS +XX" ADJACENT TO SYMBOL INDICATES RECEPTACLE MOUNTING HEIGHT. WHERE NO HEIGHT IS INDICATED MOUNT 18" AFF TO C/L.<br>+AC" = ABOVE COUNTER.<br>+DF" = VERIFY HEIGHT FOR DRINKING FOUNTAIN WITH CONTRACTOR<br>+TV" = VERIFY HEIGHT OF TV WITH OWNER. |

## LIGHT FIXTURE SYMBOLS

| | |
|---|---|
| | LED 2' x 2' FIXTURE; ARROW INDICATES DIFFUSER/LENS DIRECTION (PARALLEL TO ARROW); MOUNTING TYPE DEFINED ON LIGHTING FIXTURE SCHEDULE; |
| | LED 2' x 4' FIXTURE; MOUNTING TYPE DEFINED ON LIGHTING FIXTURE SCHEDULE |
| | LED 1' x 4' FIXTURE; MOUNTING TYPE DEFINED ON LIGHTING FIXTURE SCHEDULE |
| | LED LINEAR FIXTURE; MOUNTING TYPE DEFINED ON LIGHTING FIXTURE SCHEDULE |
| | LED WALL MOUNTED FIXTURE |
| | LED CAN/CYLINDER FIXTURE; MOUNTING TYPE DEFINED ON LIGHTING FIXTURE SCHEDULE |
| | LED POLE MOUNTED FIXTURE |
| | WALL MOUNTED EXIT SIGN; SHADED REGION INDICATES FACE; ARROWS INDICATE DIRECTIONAL ARROW ORIENTATION ON FACE |
| | CEILING MOUNTED EXIT SIGN; SHADED REGION INDICATES FACE; ARROWS INDICATE DIRECTIONAL ARROW ORIENTATION ON FACE |
| | LED WALL PACK FIXTURE |
| | LED WALL MOUNTED EMERGENCY BATTERY PACK FIXTURE |
| | LED CEILING MOUNTED EMERGENCY BATTERY PACK FIXTURE |
| | LIGHTED BOLLARD; SPECIFICATIONS AS INDICATED ON FIXTURE SCHEDULE |

## LIGHT FIXTURE DESIGNATIONS

| | |
|---|---|
| 'XXX' | SHADED CENTER REPRESENTS FIXTURE FOR EMERGENCY LIGHTING; LETTERS 'XXX' NEXT TO FIXTURE INDICATE FIXTURE DESIGNATION ON LIGHTING FIXTURE SCHEDULE |

## CONTROL DEVICE SYMBOLS

| | |
|---|---|
| S | WALL SWITCH; 120/277V; 20A; 1 POLE; A.C. ONLY; MT 48" AFF TO C/L; HUBBELL SERIES HBL1221 |
| S3 | WALL SWITCH; 120/277V; 20A; 3 WAY; A.C. ONLY; MT 48" AFF TO C/L; HUBBELL SERIES HBL1223 |
| | |
| SM | WALL SWITCH; 120/277V; 20A; OCCUPANCY SENSOR DUAL TECHNOLOGY MULTI-WAY TYPE; MT 48" AFF TO C/L; REFER TO SPECS |
| SLX | LOW VOLTAGE WALL SWITCH; MT 48" AFF TO C/L; REFER TO SPECS; "x" REPRESENTS BUTTON COUNT; SEE LIGHTING CONTROL DETAILS |
| MS | MOTOR CONTROL SWITCH; LOCKABLE IN THE "OFF" POSITION; 600V; 30A; 2 POLE; A.C. ONLY; NEAR OR ON EQUIPMENT BEING SERVED; HUBBELL SERIES 30102D. |
| MSWP | MOTOR CONTROL SWITCH; LOCKABLE IN THE "OFF" POSITION; NEMA 3R; 600V; 30A; 2 POLE; A.C. ONLY; NEAR OR ON EQUIPMENT BEING SERVED; HUBBELL SERIES 30322D. |
| | RED MUSHROOM PUSH-BUTTON WITH KEY RELEASE; MT. 60" AFF TO C/L. LABEL 'EMERGENCY STOP', EQUAL TO SQUARE D MODEL XB6AS9345B |
| P | DISTRIBUTED LIGHTING CONTROL POWER PACK/ROOM CONTROLLER; MOUNT ABOVE CEILING; REFER TO LIGHTING CONTROL DETAILS |
| | LOW VOLTAGE OCCUPANCY SENSOR; MODE AS INDICATED (V = VACANCY SENSE, O = OCCUPANCY SENSE); REFER TO LIGHTING CONTROL DETAILS; CEILING MOUNTED |

## CONTROL DEVICE DESIGNATIONS

| | |
|---|---|
| SWP | "WP" INDICATES WEATHERPROOF DEVICE. WEATHER PROOF ENCLOSURE EQUAL TO PASS AND SEYMOUR. REFER TO SPECS. |

# ELECTRICAL GENERAL NOTES

A. CONTRACTOR SHALL COORDINATE ALL WORK WITH OTHER TRADES PRIOR TO INSTALLATION. REFER TO MECHANICAL AND PLUMBING DRAWINGS FOR EXACT SIZE AND LOCATION OF EQUIPMENT WHICH IS FURNISHED BY OTHERS AND CONNECTED BY ELECTRICAL.

B. RECEPTACLES, SWITCHES AND COVERPLATES COLOR SHALL BE SELECTED BY THE ARCHITECT FROM STANDARD COLORS.

C. VERIFY ALL DOOR SWINGS WITH ARCHITECTURAL DRAWINGS PRIOR TO ROUGHING-IN WALL FOR SWITCHES.

D. LOCATION OF LIGHTING FIXTURES, DISCONNECT SWITCHES, ETC. FOR MECHANICAL EQUIPMENT/ROOM SHALL BE COORDINATED WITH FINAL MECHANICAL EQUIPMENT LOCATION TO PROVIDE NATIONAL ELECTRIC CODE REQUIRED ACCESS SPACE.

E. FINAL CONNECTION TO ALL MOTORS SHALL BE WITH FLEXIBLE CONDUIT CONNECTION.

F. ALL EXIT AND EMERGENCY FIXTURES SHALL BE CONNECTED TO LIGHT CIRCUIT AHEAD OF LOCAL SWITCH.

G. ALL PANELBOARDS, BACKBOARDS, TERMINAL CABINETS, ETC SHALL HAVE CUSTOM ENGRAVED MICARTA NAMEPLATE MECHANICALLY AFFIXED IDENTIFYING SYSTEM.

H. PROVIDE GREEN GROUND CONDUCTOR IN ALL CIRCUITS – SIZE PER N.E.C.

I. ALL EXPOSED CONDUITS, BOXES, STRAPS AND HANGERS IN THE CONTRACT AREA WHETHER NEW OR EXISTING THAT ARE PART OF THE ELECTRICAL SYSTEM SHALL BE PAINTED TO MATCH ADJACENT FINISH.

J. GENERAL CONTRACTOR SHALL FIELD-VERIFY ALL EXISTING CONDITIONS PRIOR TO BEGINNING ANY WORK, AND SHALL IMMEDIATELY NOTIFY THE ARCHITECT OF ANY DISCREPANCIES. FAILURE TO DO SO INDICATES THAT THE CONTRACTOR ACCEPTS THE CONDITIONS AS THEY EXIST, AND SHALL PERFORM THE WORK REQUIRED AS SHOWN AND SPECIFIED.

K. THE ELECTRICAL CONTRACTOR SHALL OBTAIN AND REVIEW THE MECHANICAL AND SPECIAL EQUIPMENT SUBMITTALS PRIOR TO SUBMITTING THE ELECTRICAL SUBMITTALS. ANY ELECTRICAL EQUIPMENT, CONDUIT, AND WIRE SIZE CHANGES RESULTING FROM THIS REVIEW SHALL ALSO BE SUBMITTED FOR APPROVAL.

L. VERIFY EXACT LOCATION OF ALL FLOOR OUTLETS WITH THE ARCHITECT PRIOR TO ROUGHING-IN.

M. FINAL CONNECTION TO ALL DRY TYPE TRANSFORMERS SHALL BE WITH FLEXIBLE CONDUIT CONNECTION

N. THE ELECTRICAL CONTRACTOR SHALL PROVIDE FAULT CURRENT CALCULATIONS FOR THE SERVICE EQUIPMENT AND SHALL MARK THE EQUIPMENT WITH THE AVAILABLE FAULT CURRENT AND DATE OF THE CALCULATION PER NEC 110.24. REFER TO TYPICAL SERVICE EQUIPMENT FAULT CURRENT LABEL DETAIL.

O. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ARC FAULT LABELS PER NFPA 70E ARTICLE 110.16 FOR NEW EQUIPMENT. THE OWNER SHALL PROVIDE AVAILABLE CALCULATION DATA FOR THE EXISTING EQUIPMENT IN THE ELECTRICAL SYSTEM. REFER TO TYPICAL ARC FLASH HAZARD LABEL DETAIL.

P. PROVIDE NEUTRAL AT ALL LINE VOLTAGE SWITCH LOCATIONS PER N.E.C. 404.2(C).

Q. PROVIDE 'LSI' TRIP UNITS FOR ALL BREAKERS GREATER THAN OR EQUAL TO 200A.

# ELECTRICAL DEMOLITION NOTES

1. PLANNED INTERRUPTIONS OF UTILITY SERVICE TO ANY FACILITY OR AREAS WITHIN ANY FACILITY AFFECTED BY THIS CONTRACT, SHALL BE CAREFULLY PLANNED AND COORDINATED WITH THE FACILITY PERONNEL IN ADVANCE OF THE REQUESTED INTERRUPTION. THE CONTRACTOR SHALL NOT INTERRUPT SERVICES UNTIL SPECIFIED APPROVAL HAS BEEN GRANTED. THE REQUEST SHALL INDICATE SERVICES AND AREAS TO BE AFFECTED, DATE AND TIME OF INTERRUPTION AND DURATION OF OUTAGE. REQUEST FOR INTERRUPTION OF SERVICE WILL NOT BE APPROVED UNTIL ALL EQUIPMENT AND MATERIAL REQUIRED FOR THE COMPLETION OF THAT PARTICULAR PHASE OF WORK ARE ON THE JOB SITE.

2. ALL DEMOLITION WORK REQUIRED SHALL BE PERFORMED WITH CARE SO AS NOT TO INTERRUPT OTHER EXISTING SERVICES (WATER, GAS, ELECTRICAL, SEWER, SPRINKLERS, ETC.). IF ACCIDENTAL UTILITY INTERRUPTION, DAMAGE, ETC., RESULTS FROM WORK PERFORMED BY THE CONTRACTOR, THE AFFECTED UTILITY OR SERVICE SHALL BE RETURNED TO ITS ORIGINAL CONDITION WITHOUT DELAY, BY AND AT THE EXPENSE OF THE CONTRACTOR, USING SKILLED WORKMEN OF THE TRADE INVOLVED.

3. REMOVE ALL OUTLETS, PULL BOXES, JUNCTION BOXES, ETC., AS REQUIRED TO COMPLETELY REMOVE THE ELECTRICAL ITEMS SHOWN FOR DEMOLITION UNLESS NOTED TO REMAIN. DISCONNECT AND REMOVE ALL ELECTRICAL PROVISIONS TO EQUIPMENT BEING REMOVED.

4. REMOVE ALL WIRING, CONDUIT, RACEWAYS, OUTLET BOXES, SUPPORTING APPARATUS ETC., AS REQUIRED.

5. SYMBOLS SHOWN ARE TYPICAL AND LOCATIONS ARE APPROXIMATE AND ARE NOT INTENDED TO LIMIT THE AMOUNT OF DEMOLITION. COORDINATE WITH EXISTING CONDITIONS AND THESE NOTES AND REMOVE ALL APPLICABLE SYSTEMS AND COMPONENTS CONFLICTING WITH FINISHED DESIGN INTENT.

6. EXISTING BRANCH WIRING SHOWN IS DIAGRAMMATICAL ONLY AND IS BASED UPON EXISTING AS-BUILT DRAWINGS AND SURVEYS. COORDINATE WITH ACTUAL EXISTING CONDITIONS FOR NUMBER OF CONDUCTORS PER CONDUIT AND EXACT LOCATIONS OF CONDUIT RUNS AND EQUIPMENT.

7. ALL FEEDERS, SYSTEMS, CONTROL WIRING, MISCELLANEOUS AUXILIARY SYSTEMS, ETC., PASSING THROUGH THE AREA OF WORK SHALL BE MAINTAINED AT ALL TIMES, REMAIN IN SERVICE, CONTINUOUS AND UNINTERRUPTED. ANY DAMAGE, DISRUPTION OR DISCONNECTION SHALL BE IMMEDIATELY REPAIRED, REPLACED AND/OR REROUTED AS REQUIRED TO MAINTAIN CONTINUITY OF SYSTEMS. ANY EXISTING SERVICE OR OPERATING SYSTEM WHICH MUST BE INTERRUPTED SHALL BE SUPPLIED WITH A TEMPORARY SERVICE FOR CONTINUATION OF THE NORMAL OPERATIONS OF THE FACILITY.

8. ANY EQUIPMENT THAT REQUIRES REMOVAL FROM EXISTING LOCATION FOR RE-USE OR TO BE RETURNED TO OWNER SHALL BE INSPECTED AND TESTED TO CONFIRM EQUIPMENT OPERATES AS INTENDED. OWNER SHALL BE NOTIFIED OF ANY EQUIPMENT THAT DOES NOT OPERATE AS INTENDED BEFORE REMOVAL.

9. CONCEALED CONDUIT THAT CANNOT BE REMOVED DUE TO INACCESSIBILITY MAY BE ABANDONED. CONDUCTORS SHALL BE REMOVED AND CONDUIT CUT FLUSH WITH SURFACE.

10. OUTLET BOXES THAT CANNOT BE REMOVED DUE TO FLUSH MOUNTING IN PARTITIONS SHALL BE FILLED WITH GROUT, PATCHED AND FINISHED FLUSH TO MATCH EXISTING WALL CONDITIONS.

11. IN GENERAL, THE WORK SHALL INCLUDE BUT NOT BE LIMITED TO THE FOLLOWING:
    a. PROVIDE ALL DEMOLITION AS REQUIRED OF EXISTING SYSTEMS REMOVING ALL ITEMS THAT CONFLICT WITH FINISHED DESIGN INTENT AS INDICATED ABOVE.
    b. MODIFY, REPLACE, REPAIR, REVISE ETC., EXISTING SYSTEMS AND/OR EQUIPMENT.
    c. EXTEND EXISTING SYSTEMS AS REQUIRED TO FUNCTION AS SPECIFIED AND IN ACCORDANCE WITH SYSTEM REQUIREMENTS.
    d. NEW SYSTEM COMPONENTS SHALL MATCH EXISTING SYSTEMS PROVISIONS AND BE COMPLETELY COMPATIBLE AND IN ACCORDANCE WITH THE MANUFACTURER'S REQUIREMENTS. WHEN REQUIRED, APPROVAL FROM A SYSTEM MANUFACTURER SHALL BE OBTAINED BY THE CONTRACTOR PRIOR TO INSTALLING ANY NEW EQUIPMENT OR DEVICES TO AN EXISTING SYSTEM.
    e. ALL EQUIPMENT, DEVICES, OUTLETS, COMPONENTS, ETC., TO BE REUSED SHALL BE CLEANED, REPAIRED AND PLACED IN OPERATING CONDITION. LUMINARIES NOTED TO BE REUSED SHALL BE CLEANED, REPAIRED, PROVIDED WITH NEW LAMPS AND PLACED IN OPERATING CONDITION.
    f. EXISTING OUTLET BOXES MAY BE USED AS NOTED IF OF THE PROPER CONFIGURATION AND SIZE REQUIRED. MODIFICATIONS SHALL BE MADE WHEN REQUIRED SUCH AS PROVIDING EXTENSION RINGS, LOCKNUTS, BUSHINGS, ETC.
    g. EXISTING PANELBOARDS SHALL BE UTILIZED TO THE EXTENT SHOWN ON THE DRAWINGS AND MODIFIED AS REQUIRED TO FACILITATE THE NEW REQUIREMENTS AS INDICATED HEREIN OR SHOWN ON THE DRAWINGS. NEW CIRCUIT BREAKERS SHALL BE OF THE SAME MANUFACTURER, FRAME SIZE, SHORT CIRCUIT RATING AND TYPE AS EXISTING. WHERE APPLICABLE, THE CONTRACTOR SHALL BE REQUIRED TO FURNISH AND INSTALL ADDITIONAL MOUNTING HARDWARE AS REQUIRED BY THE MANUFACTURER.
    h. WHEN EXISTING DEVICES, SWITCHES, EQUIPMENT ETC., ARE NOTED TO BE REMOVED AND THE CIRCUIT(S) SERVING SUCH ITEMS SERVES OTHER ITEMS OR DEVICES WHICH ARE TO BE MAINTAINED, THE CONTRACTOR SHALL REROUTE, EXTEND, MODIFY, ETC., EXISTING CIRCUITS AS REQUIRED TO MAINTAIN COMPLETE AND OPERATING SYSTEMS.

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HOBBS MIDDLE SCHOOL
ENERGY UPGRADES - PHASE B

SANTA ROSA COUNTY SCHOOL DISTRICT
5317 GLOVER LANE, MILTON, FL 32570

| No. | Description | Date |
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LEGEND AND NOTES

Date XX
Drawn By CM
Checked By CL

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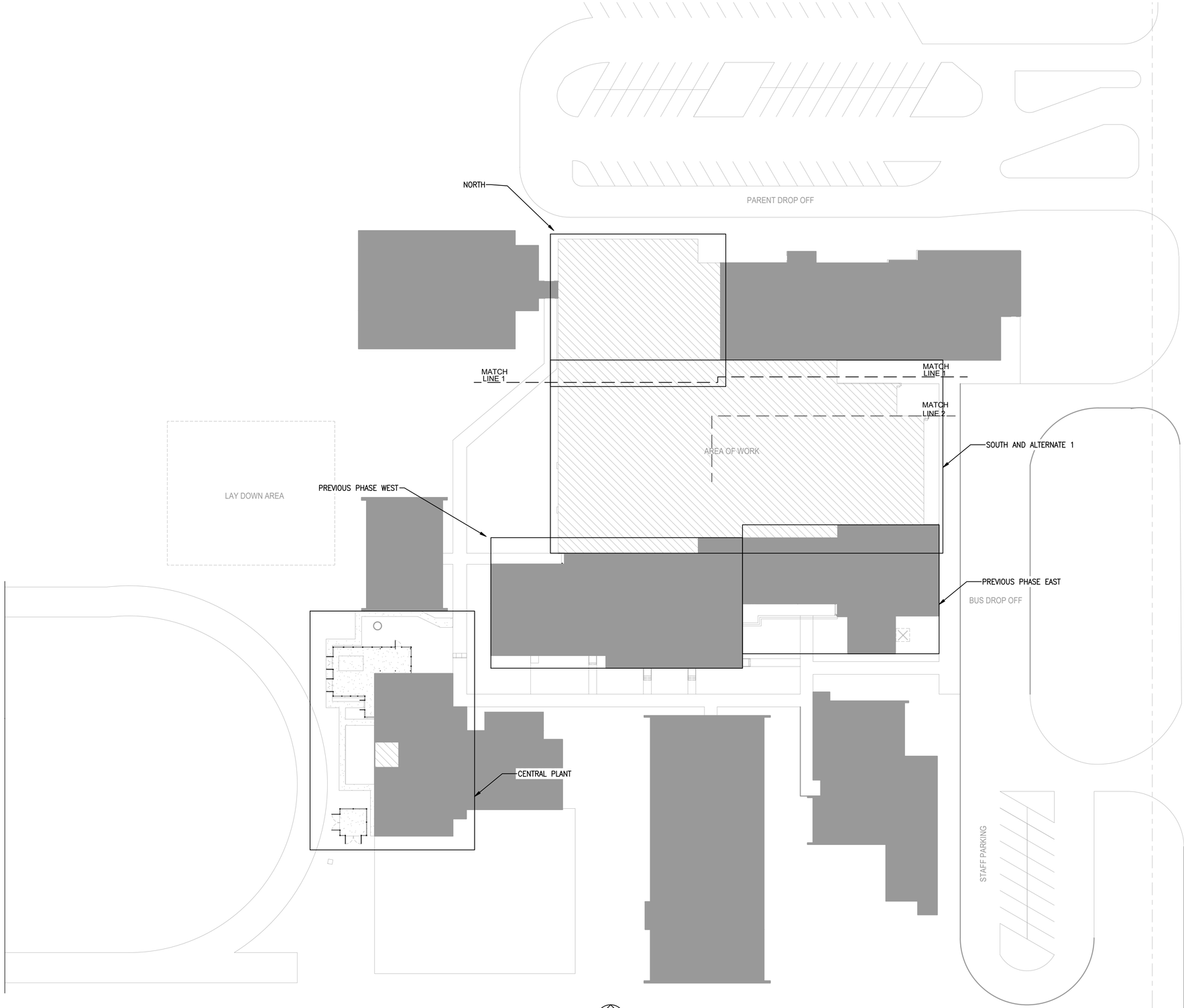
HG Engineers
142 Eglin Parkway SE
Fort Walton Beach, Florida, 32548
E-mail: office@hgengineers.com
Ph: 850.243.6723 Fax: 850.664.5420
Fl. Authorization No.00006680
Christopher A. Garick; FL. PE No.53924
Thomas A. Alexander; FL. PE No.73172
Daniel J. White; FL. PE No.73790

2159 Job No.




SITE PLAN – REFERENCE

1/32" = 1'-0"

0 16' 32' 64'

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# HOBBS MIDDLE SCHOOL ENERGY UPGRADES - PHASE B

SANTA ROSA COUNTY SCHOOL DISTRICT
5317 GLOVER LANE, MILTON, FL 32570

| No. | Description | Date |
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## SITE PLAN - REFERENCE

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| Date | XX |
| Drawn By | CM |
| Checked By | CL |

E002

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Ph: 850.243.6723 Fax: 850.664.5420
Fl. Authorization No.00006680

Christopher A. Garick; FL. PE No.53924
Thomas A. Alexander; FL. PE No.73172
Daniel J. White; FL. PE No.73790

2159
Job No.

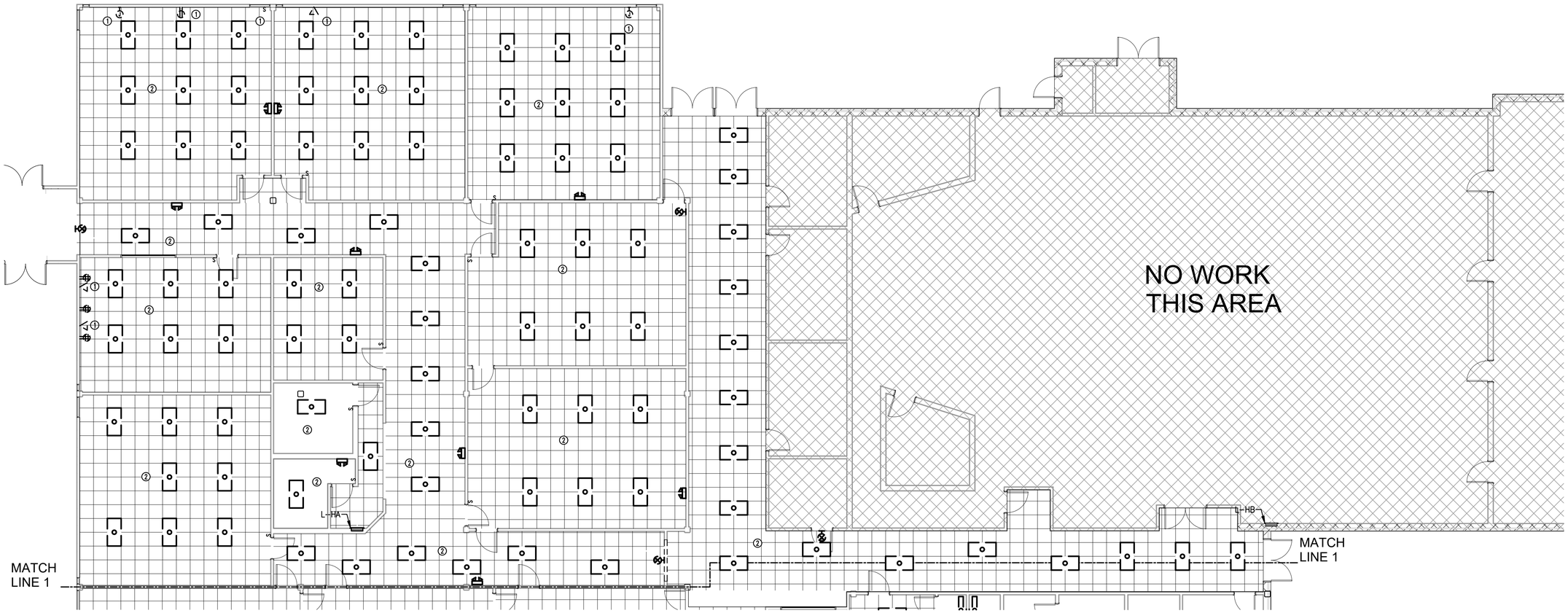
## GENERAL NOTES

1. ALL FIRE ALARM, SECURITY, INTERCOM, AND DATA DEVICES LOCATED IN DEMOLISHED CEILING SHALL BE REMOVED AND PRESERVED FOR REINSTALLATION. CONTRACTOR SHALL COORDINATE WITH OWNER.
2. THE ELECTRICAL CONTRACTOR SHALL REMOVE ALL ABANDONED ELECTRICAL MATERIAL ABOVE CEILING WITHIN THE PROJECT AREA.
3. THE ELECTRICAL CONTRACTOR SHALL REPAIR EXISTING ELECTRICAL ABOVE CEILING AS NECESSARY TO BE COMPLIANT WITH ALL CODES LISTED IN ELECTRICAL SPECIFICATIONS.

## KEYNOTES

① ALL EXTERIOR WALL SURFACE MOUNT DEVICES TO BE RE-INSTALLED AS CONCEALED FLUSH MOUNT IN STUD WALL ABOVE BRICK.

② DEMOLISH ALL LIGHTING CONTROL DEVICES FOR THIS ROOM.




N

DEMO PLAN – LIGHTING NORTH

1/8" = 1'-0"  0  4'  8'  16'

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AA C000293

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DEMO PLAN - LIGHTING NORTH

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|---|---|
| Date | XX |
| Drawn By | CM |
| Checked By | CL |

E101

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Thomas A. Alexander; FL. PE No.73172
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2159
Job No.

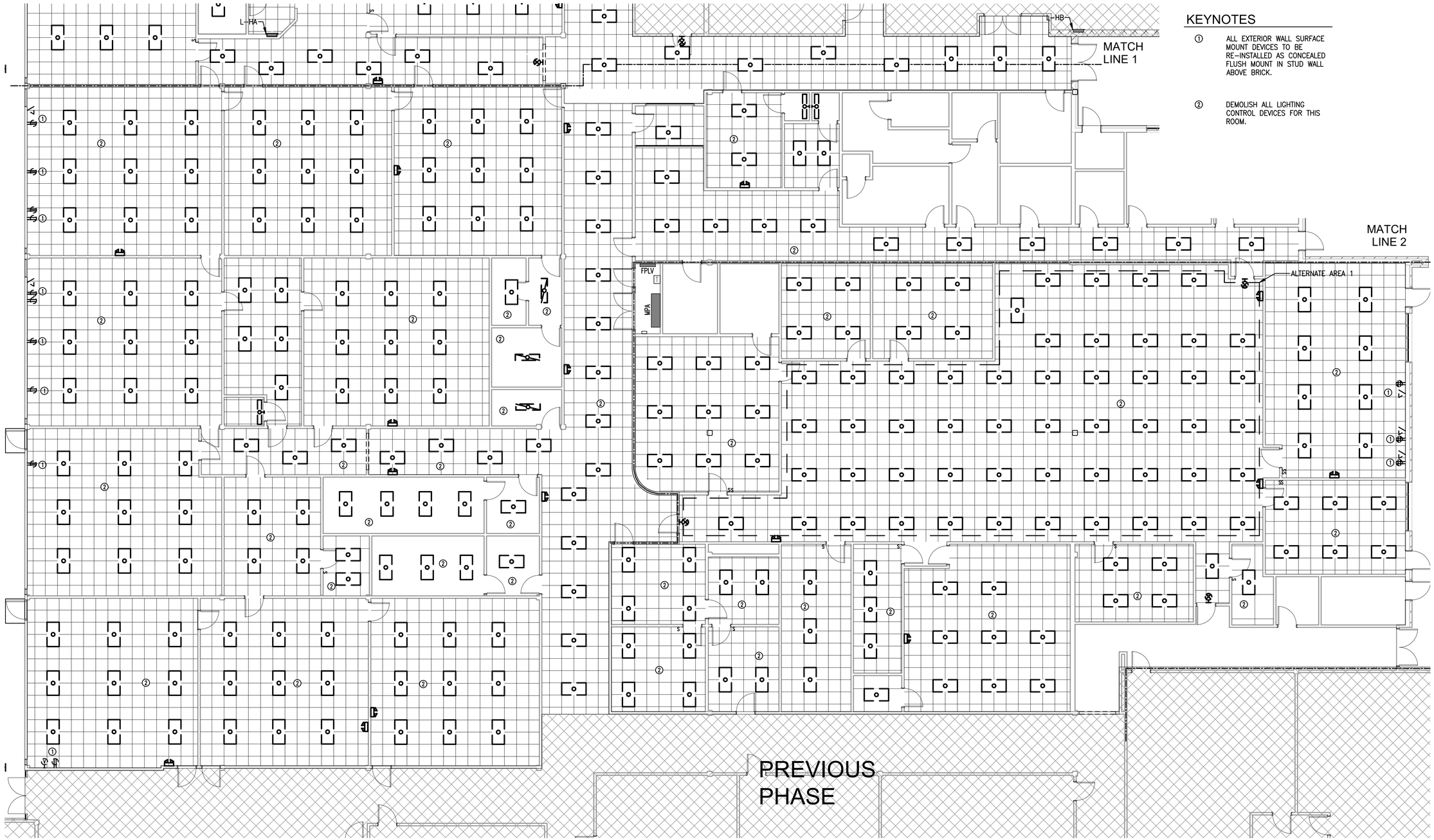
## GENERAL NOTES

1. ALL FIRE ALARM, SECURITY, INTERCOM, AND DATA DEVICES LOCATED IN DEMOLISHED CEILING SHALL BE REMOVED AND PRESERVED FOR REINSTALLATION. CONTRACTOR SHALL COORDINATE WITH OWNER.

## KEYNOTES

① ALL EXTERIOR WALL SURFACE MOUNT DEVICES TO BE RE-INSTALLED AS CONCEALED FLUSH MOUNT IN STUD WALL ABOVE BRICK.

② DEMOLISH ALL LIGHTING CONTROL DEVICES FOR THIS ROOM.




## DEMO PLAN- LIGHTING SOUTH AND ALTERNATE 1

1/8" = 1'-0"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AA C000293

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# HOBBS MIDDLE SCHOOL
# ENERGY UPGRADES - PHASE B

SANTA ROSA COUNTY SCHOOL DISTRICT
5317 GLOVER LANE, MILTON, FL 32570

| No. | Description | Date |
|---|---|---|
| | | |

## DEMO PLAN- LIGHTING SOUTH AND ALTERNATE 1

| | |
|---|---|
| Date | XX |
| Drawn By | CM |
| Checked By | CL |

E102


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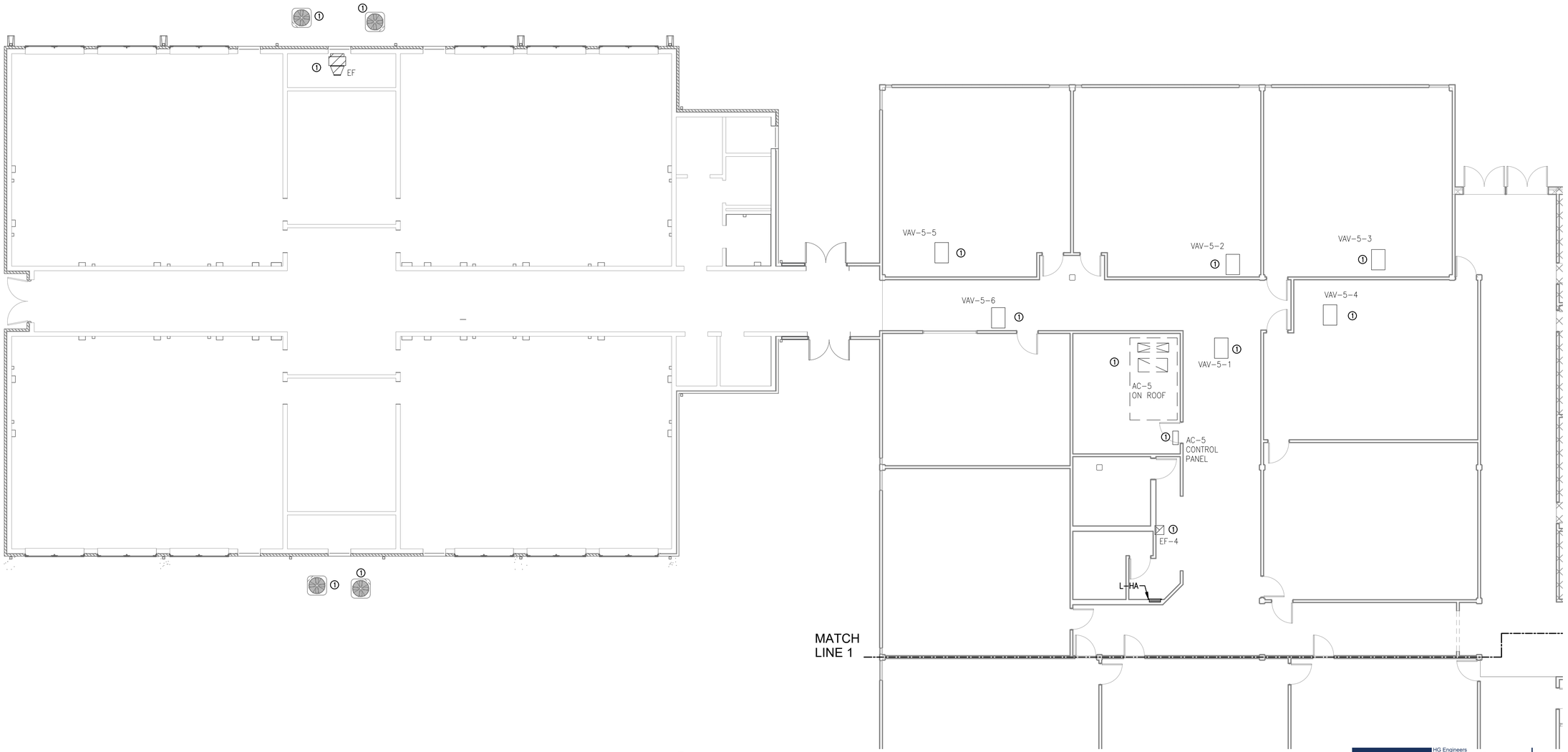
2159
Job No.

## KEYNOTES

① DEMOLISH ALL ELECTRICAL SERVING MECHANICAL EQUIPMENT TO BE REMOVED. COORDINATE WITH MECHANICAL CONTRACTOR.

② DEMOLISH DISC. SERVING EQUIPMENT. PRESERVE RACEWAY AND CONDUCTORS BACK TO PANEL MPA FOR REUSE.




DEMO PLAN – MECHANICAL NORTH

1/8" = 1'-0"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DEMO PLAN - MECHANICAL NORTH

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|---|---|
| Date | XX |
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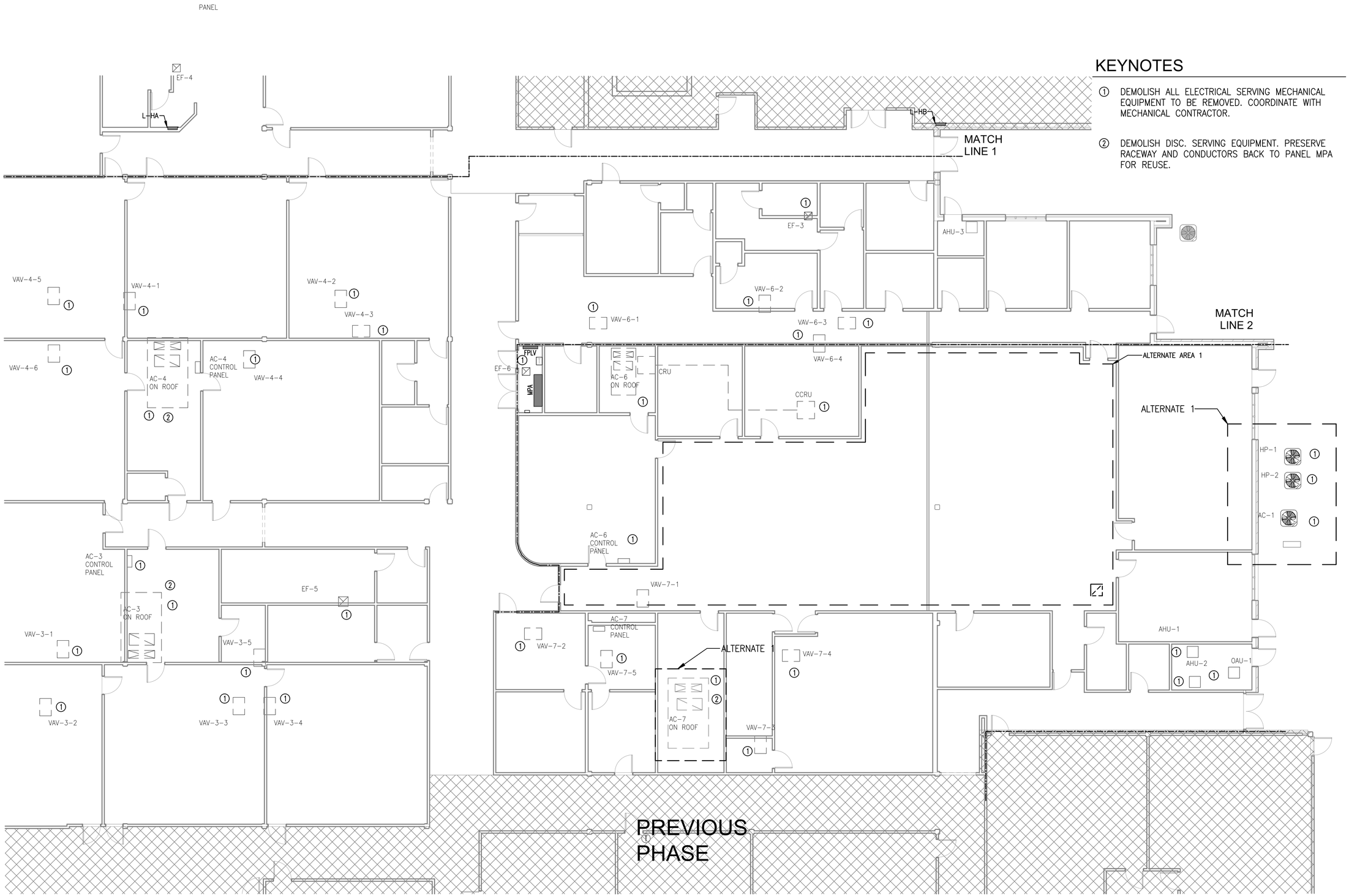


## KEYNOTES

1. DEMOLISH ALL ELECTRICAL SERVING MECHANICAL EQUIPMENT TO BE REMOVED. COORDINATE WITH MECHANICAL CONTRACTOR.
2. DEMOLISH DISC. SERVING EQUIPMENT. PRESERVE RACEWAY AND CONDUCTORS BACK TO PANEL MPA FOR REUSE.

N

DEMO PLAN – MECHANICAL SOUTH AND ALTERNATE 1

1/8" = 1'-0"  0  4'  8'  16'


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## DEMO PLAN - MECHANICAL SOUTH AND ALTERNATE 1

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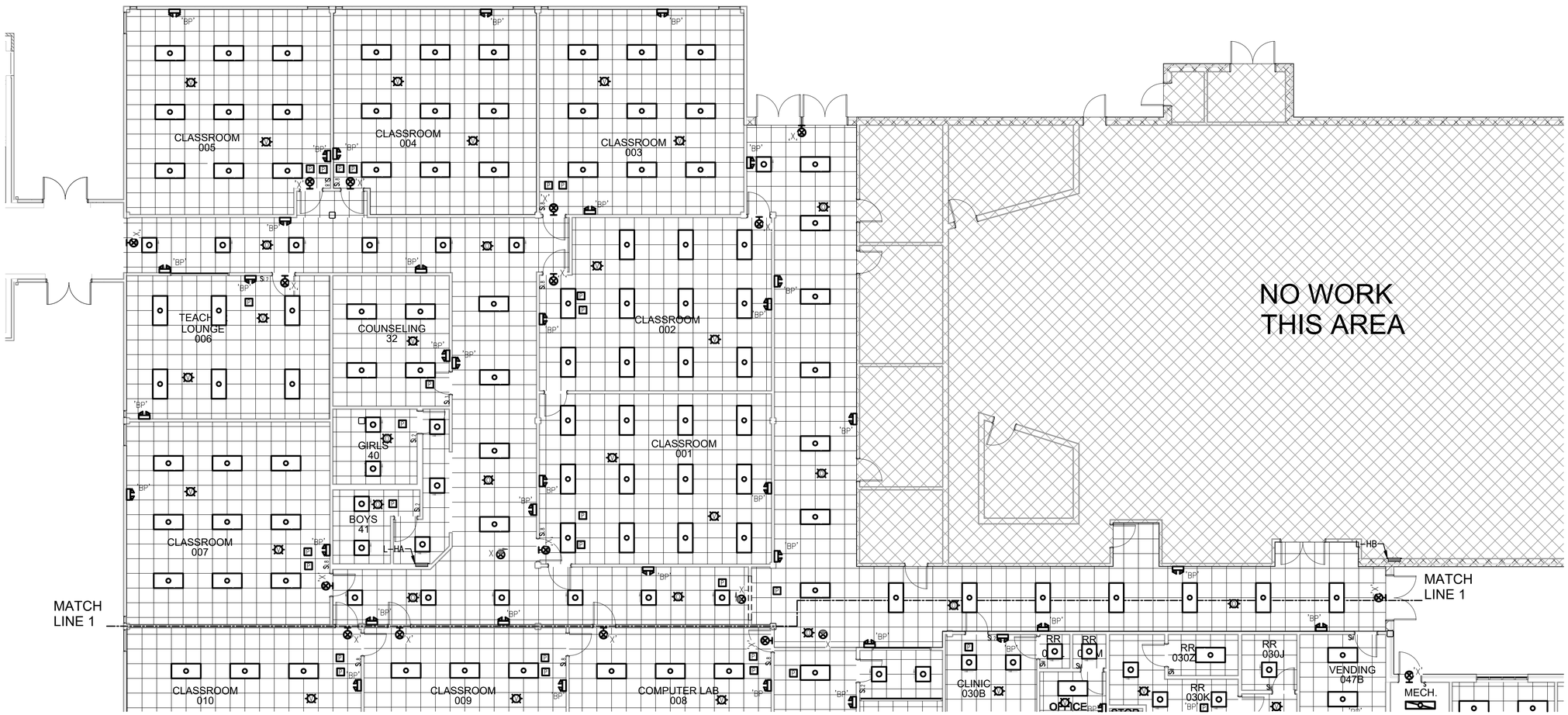
2159
Job No.

GENERAL NOTES:
1. ALL LIGHT SWITCHES/ WALL STATIONS SHALL BE INSTALLED AT 48" AFF TO CENTER

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NEW WORK – LIGHTING NORTH
1/8" = 1'-0"

0 4' 8' 16'

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HOBBS MIDDLE SCHOOL
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NEW WORK - LIGHTING NORTH

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|---|---|
| Date | XX |
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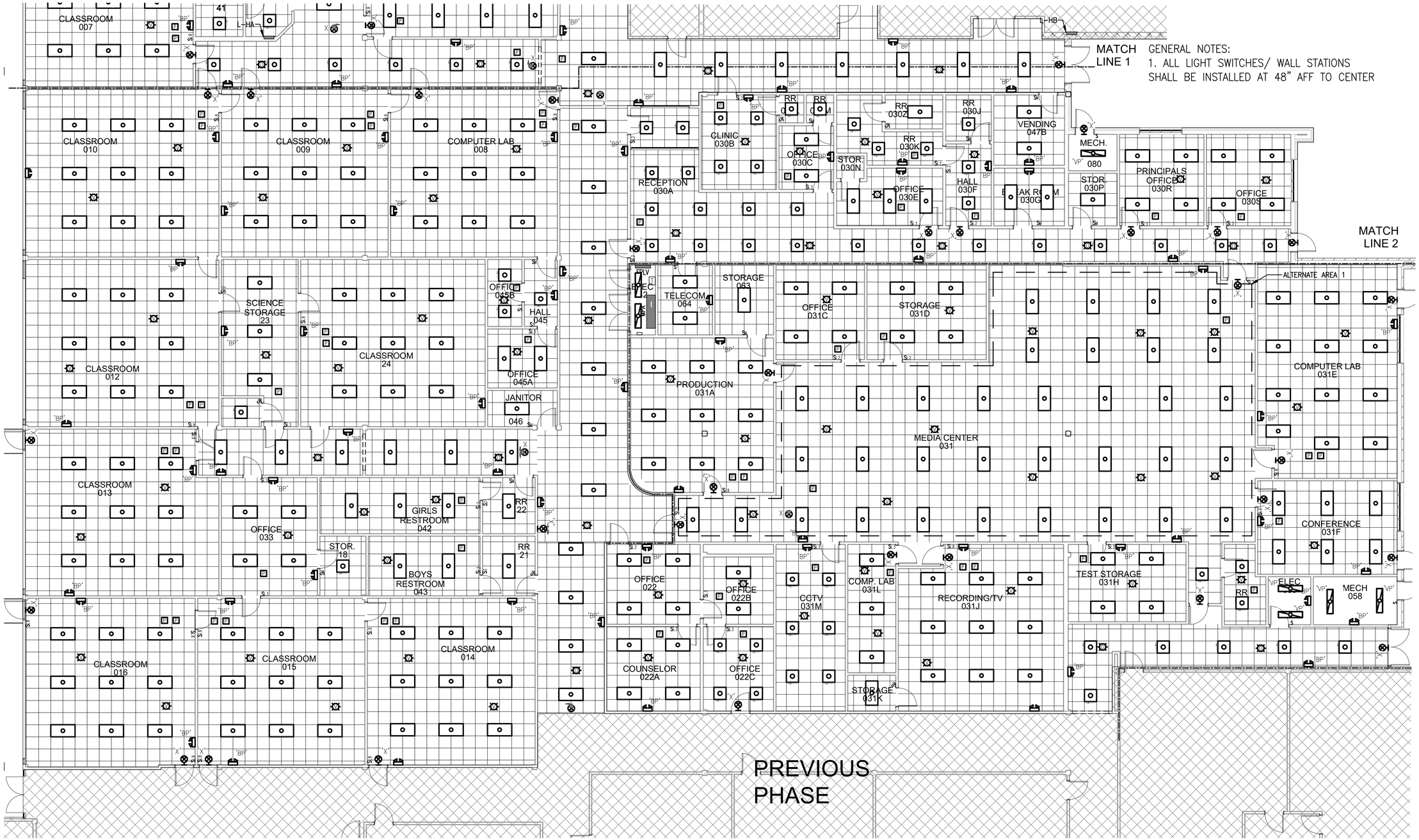


GENERAL NOTES:
1. ALL LIGHT SWITCHES/ WALL STATIONS SHALL BE INSTALLED AT 48" AFF TO CENTER

NEW WORK – LIGHTING SOUTH & ALTERNATE 1
1/8" = 1'-0"

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# HOBBS MIDDLE SCHOOL
# ENERGY UPGRADES - PHASE B

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5317 GLOVER LANE, MILTON, FL 32570

| No. | Description | Date |
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## NEW WORK - LIGHTING SOUTH & ALTERNATE 1

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|---|---|
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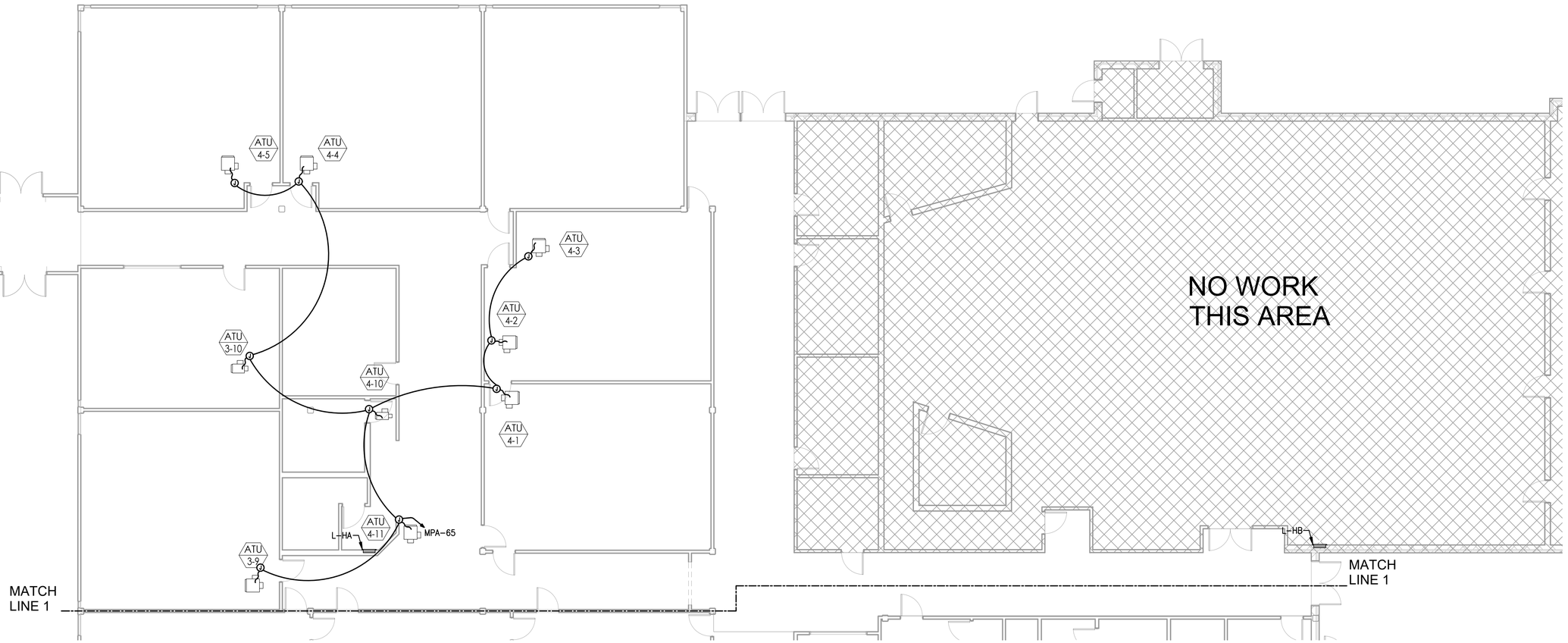


NEW WORK – MECHANICAL NORTH

1/8" = 1'-0"

0 4' 8' 16'

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NEW WORK - MECHANICAL NORTH

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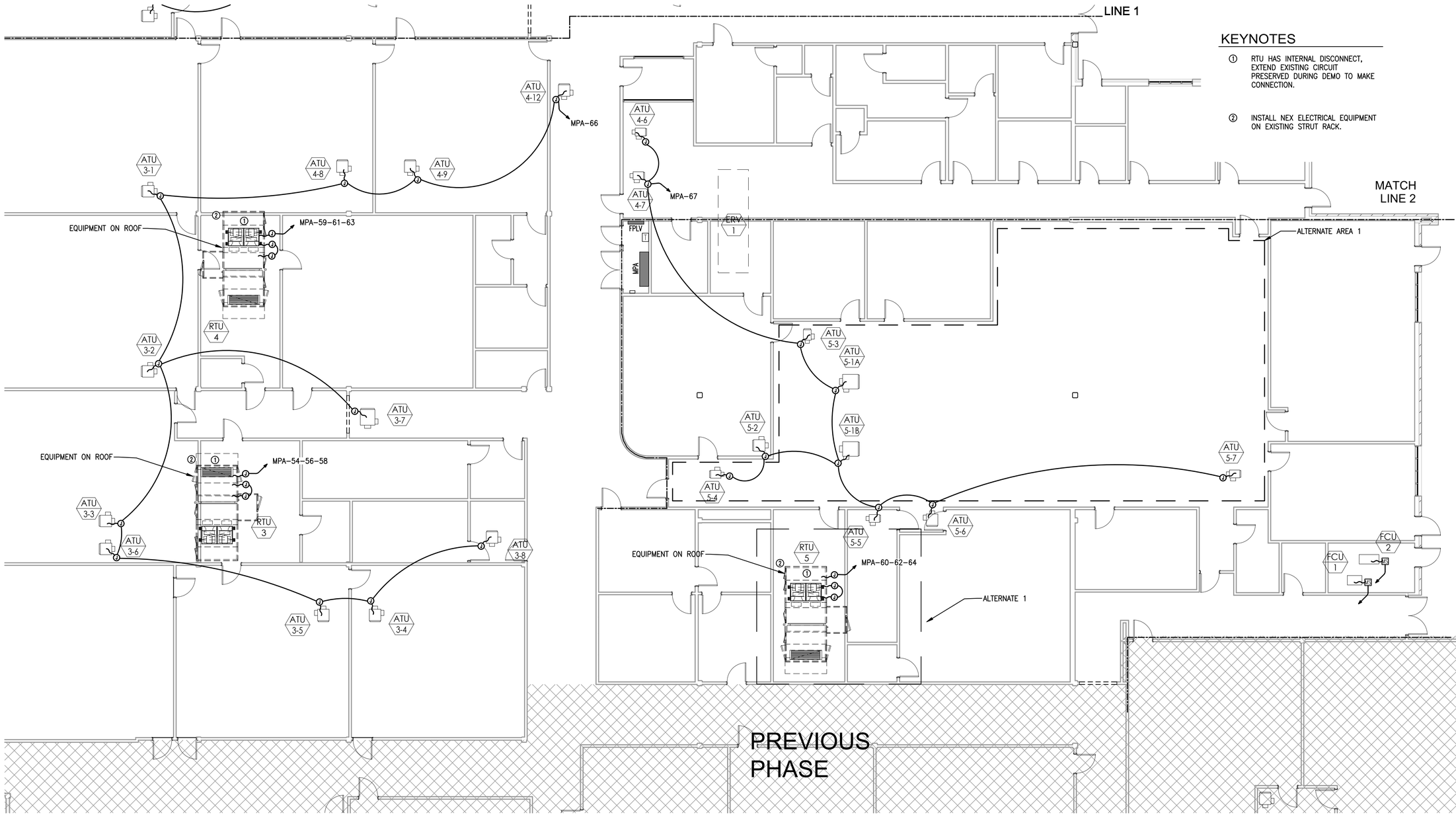


## KEYNOTES

1. RTU HAS INTERNAL DISCONNECT, EXTEND EXISTING CIRCUIT PRESERVED DURING DEMO TO MAKE CONNECTION.
2. INSTALL NEX ELECTRICAL EQUIPMENT ON EXISTING STRUT RACK.

N

## NEW WORK – MECHANICAL SOUTH & ALTERNATE 1

1/8" = 1'-0"  0  4'  8'  16'


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SANTA ROSA COUNTY SCHOOL DISTRICT
5317 GLOVER LANE, MILTON, FL 32570

| No. | Description | Date |
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## NEW WORK - MECHANICAL SOUTH & ALTERNATE 1

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|---|---|
| Date | XX |
| Drawn By | CM |
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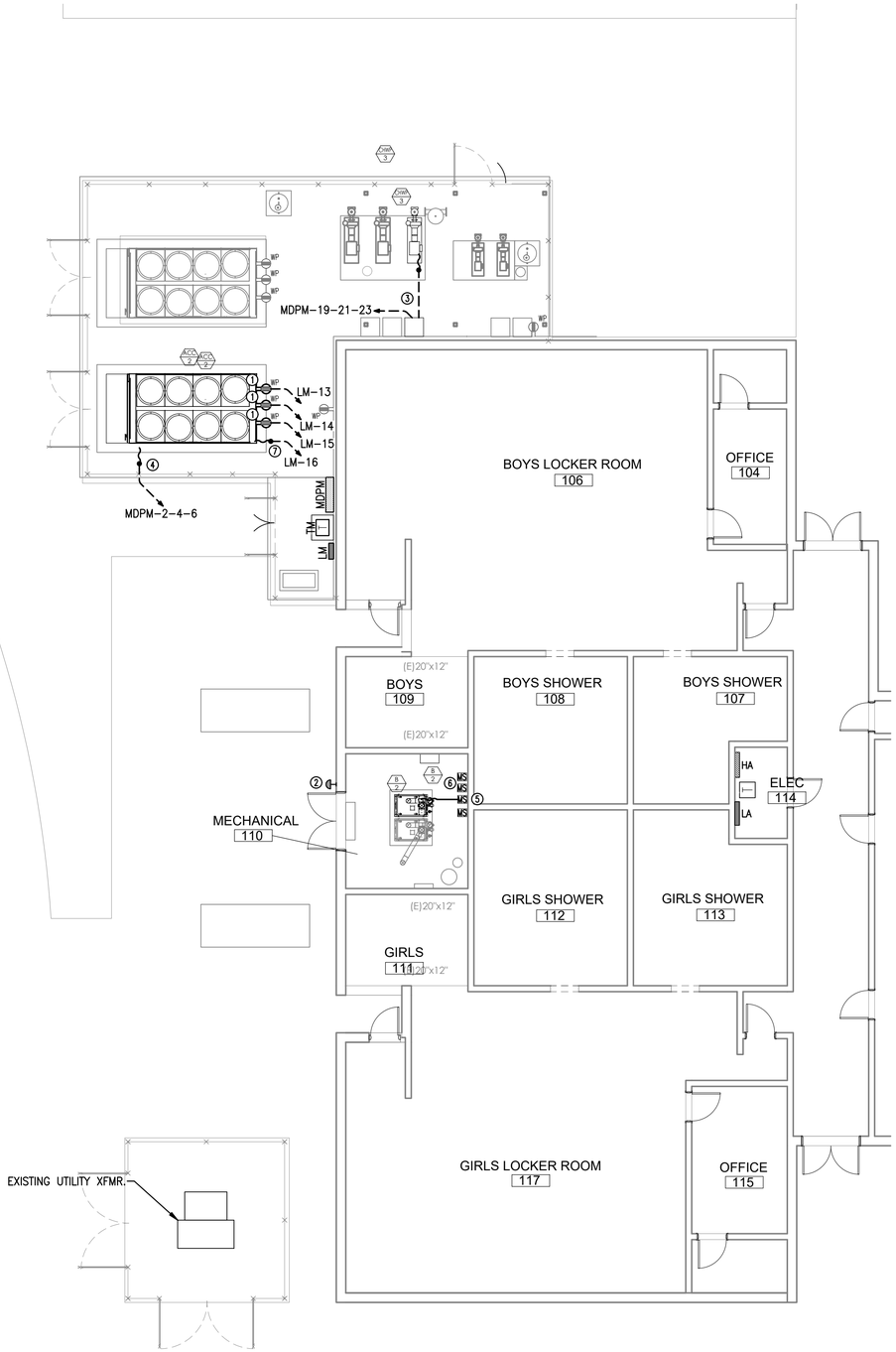
2159
Job No.




NEW WORK – CENTRAL PLANT

1/8" = 1'-0"

## KEYNOTES

4. INSTALL RECEPTACLE FOR HEAT TRACE POWER. PROVIDE IN-USE WEATHERPROOF ENCLOSURE. COORDINATE FINAL LOCATION WITH MECHANICAL CONTRACTOR PRIOR TO ROUGH-IN. COORDINATE CIRCUITS WITH HVAC CONTROLS CONTRACTOR.

5. PROVIDE NEW BOILER "EMERGENCY STOP" SWITCH ADJACENT TO DOOR. CONNECT SWITCH SUCH THAT POWER TO BOILER(S) SHALL BE DE-ENGERGIZED COMPLETELY UPON ACTIVATION AND SHALL REQUIRE MANUAL RESET TO RE-ENERGIZE BOILER CIRCUIT. CONNECT TO BOILER CONTROLS. COORDINATE WITH BOILER MFR AND MECH CONTRACTOR. PROVIDE RED PHENOLIC WITH WHITE LABEL DIRECTLY ABOVE SWITCH THAT SHALL READ "BOILER EMERGENCY – OFF SWITCH". CONNECT SHUT-DOWN WIRING TO TERMINALS ON BOILER CONTROLS SPECIFICALLY PROVIDED FOR BOILER SHUT DOWN.

8. PROVIDE 2" CONDUIT AND PULL RIBBON FOR FUTURE EQUIPMENT. CONDUIT SHALL EXTEND FROM PANEL MDPM TO FUTURE VFD LOCATION AND STUB UP FOR CONNECTION. CONDUIT SHALL ALSO EXTEND FROM FUTURE VFD LOCATION TO FUTURE EQUIPMENT PAD AND STUB UP FOR CONNECTION. PROVIDE CAP ON ALL STUB-UPS. REFER TO PVC STUB-UP DETAIL.

9. PROVIDE TWO(2) 3" CONDUITS AND PULL RIBBON FOR FUTURE EQUIPMENT. STUB-UP AND CAP CONDUIT. HOMERUN TO PANEL MDPM. REFER TO PVC STUB-UP DETAIL.

10. LABEL AS "FUTURE BOILER".

13. PROVIDE FOUR(4) 3/4" CONDUITS AND PULL RIBBON FOR FUTURE HEAT TRACE AND UNIT HEATER. STUB UP AND CAP CONDUIT. HOMERUN TO PANEL LM. REFER TO PVC STUB UP DETAIL.

14. DISCONNECTS FOR ISOLATION VALVE. ONE FOR B-1, ONE FOR FUTURE B-2.

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# HOBBS MIDDLE SCHOOL
# ENERGY UPGRADES - PHASE B

SANTA ROSA COUNTY SCHOOL DISTRICT
5317 GLOVER LANE, MILTON, FL 32570

| No. | Description | Date |
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NEW WORK - CENTRAL PLANT

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| Date | XX |
| Drawn By | CM |
| Checked By | CL |

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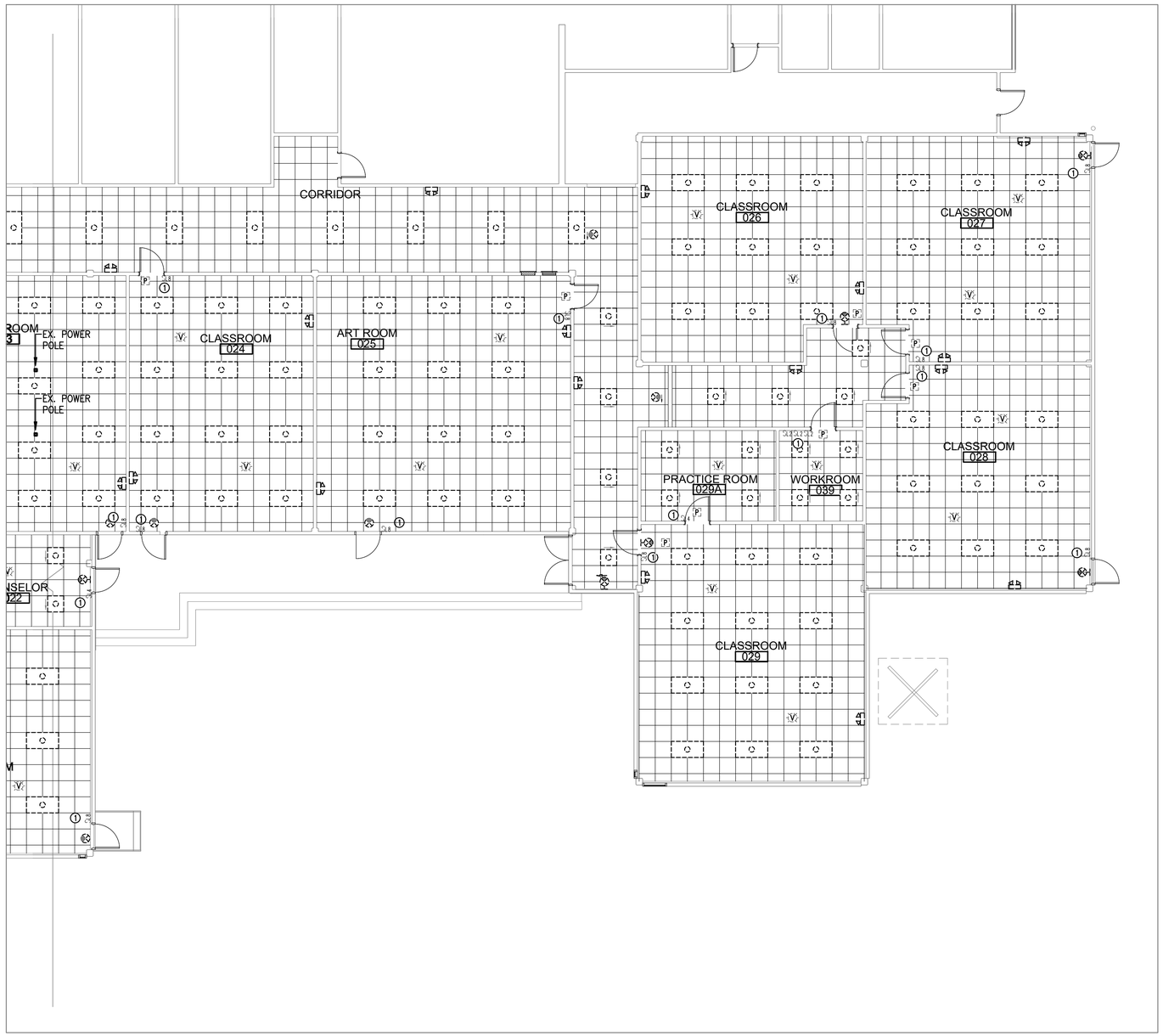
2159
Job No.

## KEYNOTES

① LOWER LIGHT SWITCH TO 48" AFF. UTILIZE EXTRA CAT5E SLACK ABOVE CEILING.




NEW WORK – PREVIOUS PHASE EAST

1/8" = 1'-0"  0  4'  8'  16'

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NEW WORK - PREVIOUS PHASE EAST

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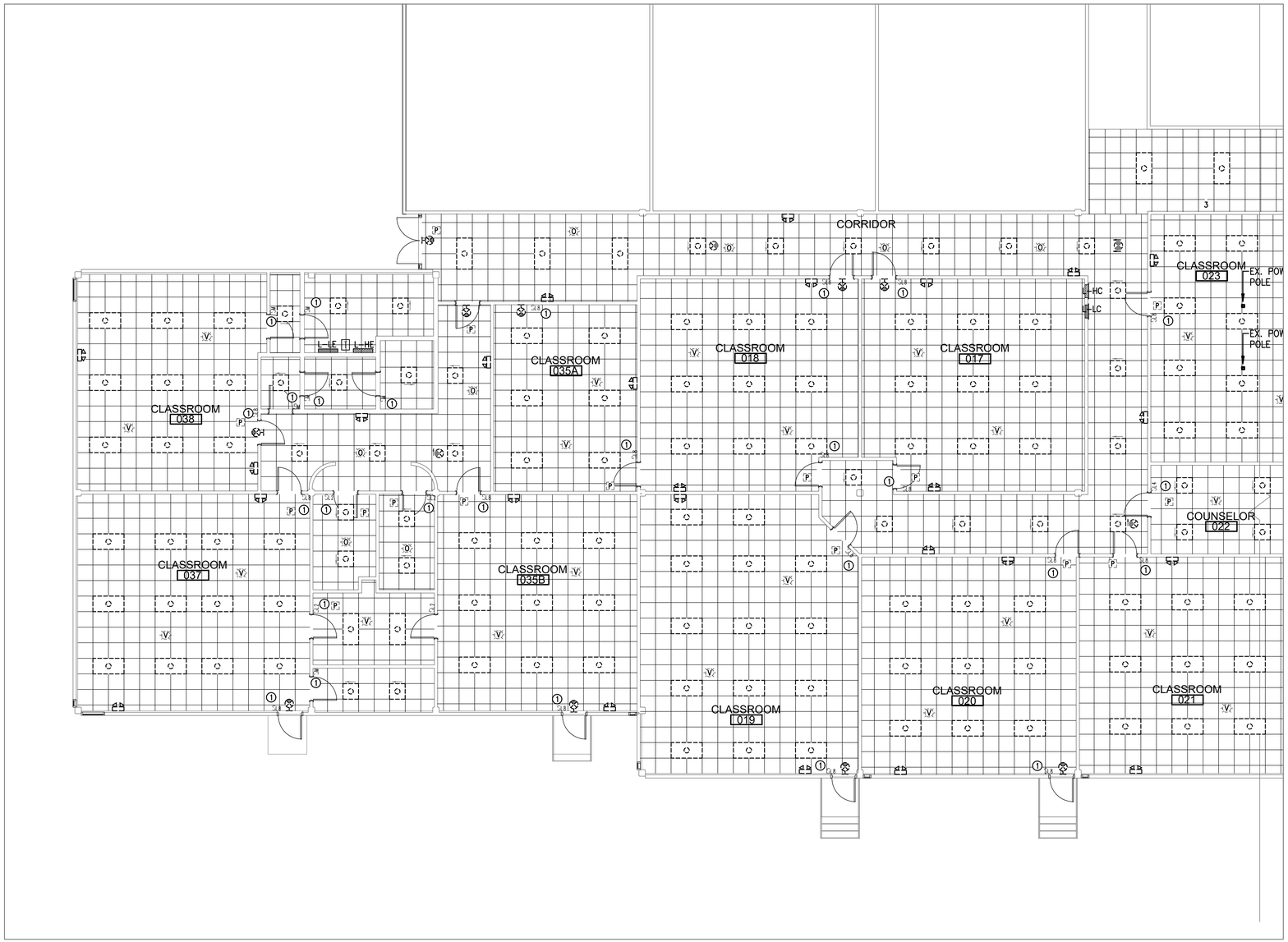


N

NEW WORK – PREVIOUS PHASE WEST

1/8" = 1'-0"

0 4' 8' 16'

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NEW WORK - PREVIOUS PHASE WEST

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|---|---|
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2159
Job No.

## LIGHTING FIXTURE SCHEDULE

| Note: | Per electrical specifications, alternate fixtures shall be submitted to the engineer for prior approval a minimum of (10) ten business days prior to bid date. Any alternate fixtures not submitted for prior approval will not be reviewed. | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Luminaire Designation | Manufacturer | Catalog Number | Connected Voltage | Luminaire Load (va) | Lamping Source | Color Rendering Index(CRI) | Kelvin Temperature | Mounting | Comments |
| BP | LITHONIA | ELM4L | 277 | 3.15 | LED | - | - | WALL | MOUNT FIXTURE 8' AFF; BATTERY POWERED EMERGENCY EGRESS FIXTURE |
| L22A | LITHONIA | 2BLT2-33LHE-ADSM-EZ1-LP840 | 277 | 24.7 | LED | 80 | 4000 | RECESSED | |
| L22B | LITHONIA | 2BLT2-40LHE-ADSM-EZ1-LP841 | 277 | 30.79 | LED | 80 | 4000 | RECESSED | |
| L24 | LITHONIA | 2BLT4-40LHE-ADSM-EZ1-LP842 | 277 | 29.48 | LED | 80 | 4000 | RECESSED | |
| VP | LITHONIA | FEM-6000LM-LPPFL-MD-M VOLT-GZ10-40K-80CRI-WLF-STSL | 277 | 37.8 | LED | 80 | 4000 | SURFACE | ALTERNATE #3 FIXTURE |
| X | LITHONIA | LE-S-W-1-R-ELN | 277 | - | LED | - | - | UNIVERSAL | UNIVERSAL SINGLE FACE/DOUBLE FACE |
| | | | | | | | | | |

## LIGHTING CONTROL GENERAL NOTES

A. THE DIAGRAMS ARE NOT INTENDED TO SHOW EXACT QUANTITIES OF DEVICES. REFER TO PLAN FOR ESTIMATED DEVICE QUANTITIES AND LOCATIONS.

B. THE LIGHTING CONTROL SYSTEM BASIS OF DESIGN IS NLIGHT.

C. THE LOCAL DEVICE INTERCONNECTIONS FOR ALL LIGHTING CONTROL DEVICES SHALL BE OF THE TOPOLOGY FREE TYPE.

D. COLORS FOR ALL DEVICES AND DEVICE COVERS SHALL BE SELECTED BY THE ARCHITECT.

E. ALL DATA LINE SWITCHES SHALL INCLUDE CUSTOM ENGRAVED LABEL INDICATING FUNCTION OF SWITCH. COORDINATE EXACT LABEL DESCRIPTIONS WITH OWNER PRIOR TO INSTALLATION.

F. PROVIDE ADDITIONAL POWER AND CONTROL MODULES AS RECOMMENDED BY THE SYSTEM SUPPLIER.

G. THE DIAGRAMS REPRESENT A TYPICAL SYSTEM AND ARE NOT INTENDED FOR INSTALLATION, SYSTEM SUPPLIER SHALL PROVIDE INSTALLATION DRAWINGS AND WIRING DIAGRAMS.

H. E.C. SHALL COORDINATE FIELD PROGRAMMING OF LIGHTING CONTROL SYSTEM WITH SYSTEM PROGRAMMER, SPECIFYING ENGINEER, AND OWNER TO ENSURE PROPER OPERATION AND TIME SCHEDULES.

I. ALL EMERGENCY AND EXIT LIGHTING CIRCUITS SHALL BE CONNECTED TO CONTINUOUS POWER SOURCE AHEAD OF RELAY PANEL OR INDIVIDUAL RELAY COMPONENTS.

J. INSTALL ALL CEILING SENSORS MINIMUM OF 6FT CLEAR OF DUCT REGISTERS.

K. PROGRAMMER / COMMISSIONING AGENT SHALL BE CERTIFIED BY THE EQUIPMENT MANUFACTURER ON THE SYSTEM INSTALLED.

| Lighting Space and Zones | | | | Lighting Control Matrix | | | | | | | | | | | | Low Voltage (Button Labels to be designated by owner during installation) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | ZONE OF CONTROL | | CONTROL SCENARIOS | | | | | | | | | | | | CONNECT TO LOCAL ROOM CONTROL | | | |
| Space Type | Room Number | Description | Designator | Manual On | Manual Off | Dimming | Multi-Level Control | Timeclock On | Timeclock Off | Occupancy Sensor On | Vacancy Sensor Off | Daylight Harvesting | Photo Sensor On | Fire Alarm System Override to On | Security System Override to On | SL2 (2-Button) | SL3 (3-Button) | SL8 (8-Button) | Detail No. |
| CORRIDOR | TYPICAL | | | X | X | | | | | X | | | | | | X | | | 3 |
| RESTROOM | TYPICAL | | | X | X | | | | | X | | | | | | X | | | 4 |
| CLASSROOM | TYPICAL | NORMAL | a | X | X | X | | | | | X | | | | | | | X | |
| | | AV | b | X | X | X | | | | | X | | | | | | | | 1 |
| OFFICE | TYPICAL | | | X | X | X | | | | | X | | | | | | X | | 2 |
| COPY/WORK ROOM | TYPICAL | | | X | X | | | | | | X | | | | | X | | | 4 |


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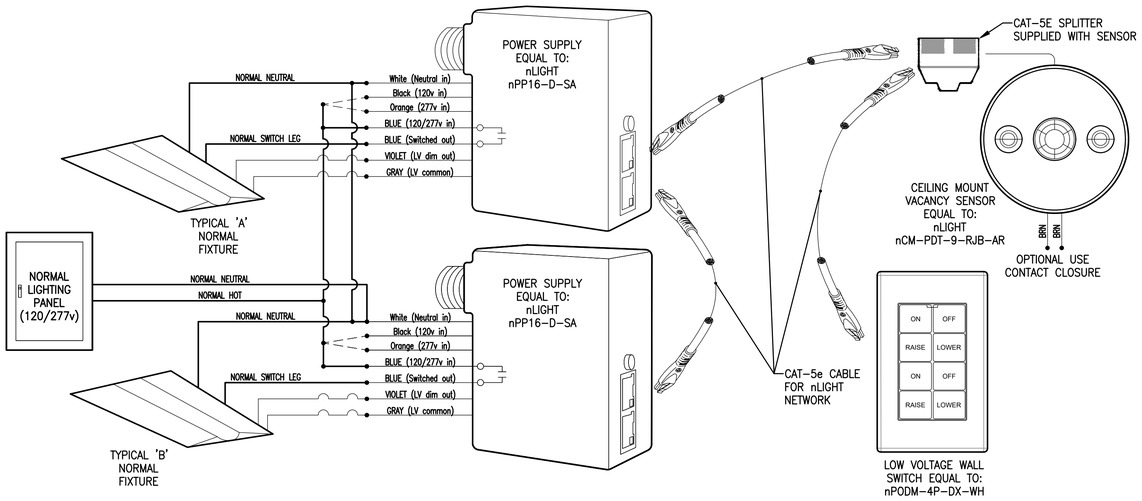
LIGHTING FIXTURE SCHEDULE AND CONTROL DETAILS

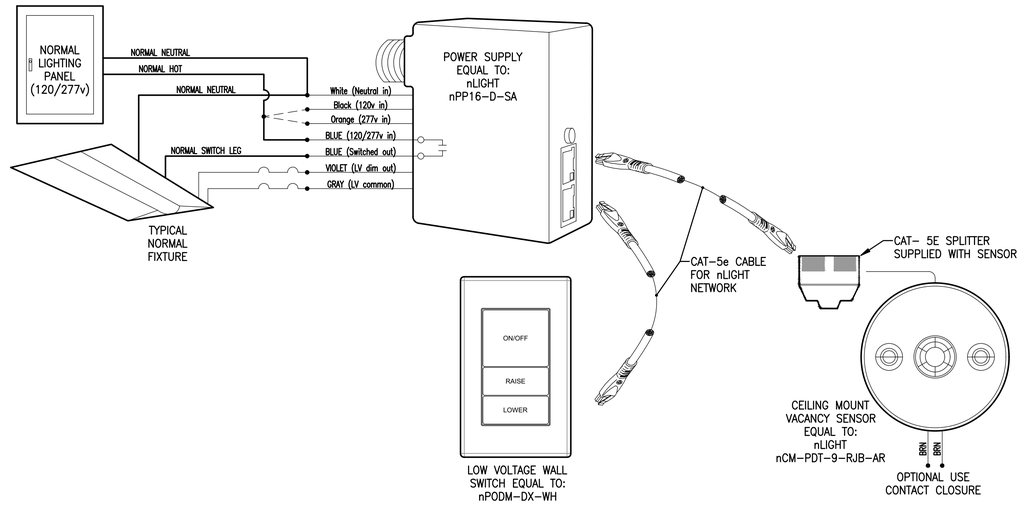
Date XX
Drawn By CM
Checked By CL

E301



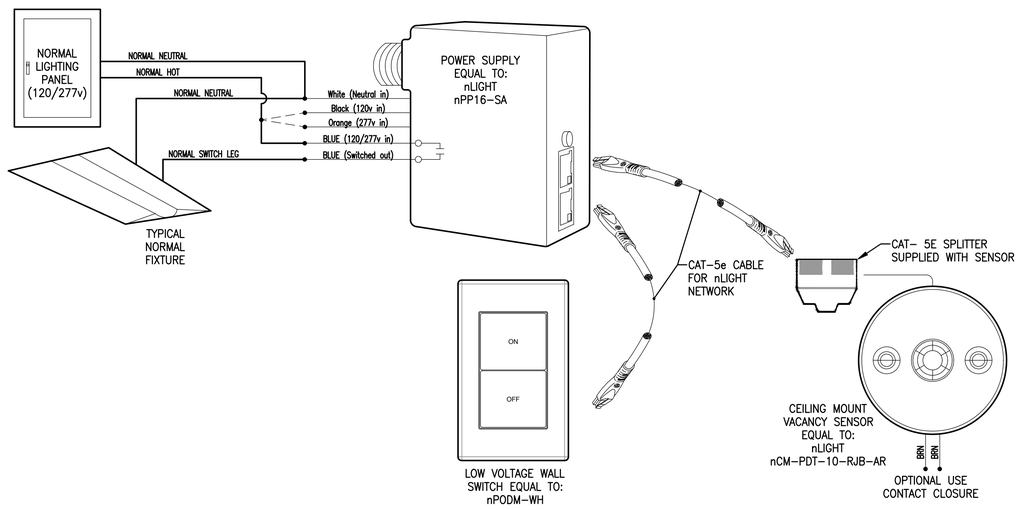

LIGHTING CONTROL DETAIL #1
TYPICAL CLASSROOM

NOT TO SCALE



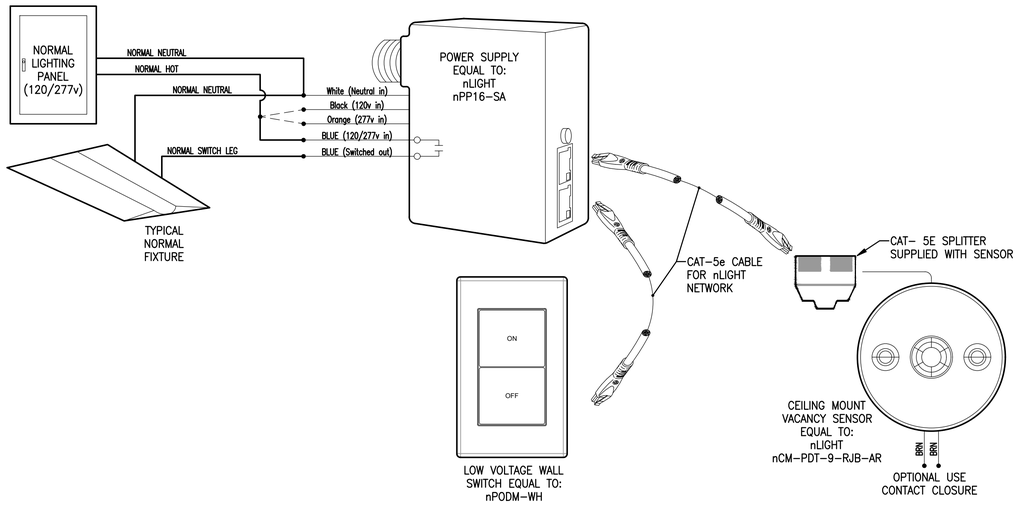

LIGHTING CONTROL DETAIL #2
TYPICAL ENCLOSED OFFICE

NOT TO SCALE




LIGHTING CONTROL DETAIL #3
TYPICAL CORRIDOR AND LOBBY

NOT TO SCALE




LIGHTING CONTROL DETAIL #4
TYPICAL RESTROOM/COPY ROOM/WORK ROOM

NOT TO SCALE

SAM MARSHALL ARCHITECTS
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# HOBBS MIDDLE SCHOOL
# ENERGY UPGRADES - PHASE B

SANTA ROSA COUNTY SCHOOL DISTRICT
5317 GLOVER LANE, MILTON, FL 32570

| No. | Description | Date |
|---|---|---|
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## LIGHTING CONTROL DETAILS

| | |
|---|---|
| Date | XX |
| Drawn By | CM |
| Checked By | CL |

E302

HG Engineers
142 Eglin Parkway SE
Fort Walton Beach, Florida, 32548
E-mail: office@hgengineers.com
Ph: 850.243.6723 Fax: 850.664.5420
Fl. Authorization No.00006680

Christopher A. Garick; FL. PE No.53924
Thomas A. Alexander; FL. PE No.73172
Daniel J. White; FL. PE No.73790

2159
Job No.

## EXISTING CHILLER YARD MAIN PANEL

**MDPM**

SYSTEM 480/277V 3Φ 4W
RATING 800A M.C.B. 30,000 AIC MINIMUM
ENCLOSURE NEMA 3R SURFACE MOUNT
OPTIONS BOLT ON BREAKERS; SERVICE ENTRANCE RATED

| CKT # | SERVING | CKT BKR TRIP | CKT BKR POLE | CONNECTED LOAD (VA) | | CKT BKR POLE | CKT BKR TRIP | SERVING | CKT # |
|---|---|---|---|---|---|---|---|---|---|
| 1 | ACC-1 | 250 | 3 | 156467 | 156467 | 3 | 250 | ACC-2 (1) | 2 |
| 3 | - | - | - | - | - | - | - | - | 4 |
| 5 | - | - | - | - | - | - | - | - | 6 |
| 7 | CHWP-1 | 50 | 3 | 17459 | 6319 | 3 | 20 | HWP-1 | 8 |
| 9 | - | - | - | - | - | - | - | - | 10 |
| 11 | - | - | - | - | - | - | - | - | 12 |
| 13 | CHWP-2 | 50 | 3 | 17459 | 6319 | 3 | 20 | HWP-2 | 14 |
| 15 | | - | - | - | - | - | - | | 16 |
| 17 | | - | - | - | - | - | - | | 18 |
| 19 | CHWP-3 | 50 | 3 | 17459 | 3360 | 3 | 45 | PANEL L-M VIA XFMR T-M | 20 |
| 21 | - | - | - | - | - | - | - | - | 22 |
| 23 | - | - | - | - | - | - | - | - | 24 |
| 25 | CANOPY LIGHTS | 20 | 1 | 151 | 49860 | 1 | 100 | PANEL HA | 26 |
| 27 | SPARE | 20 | 1 | - | - | - | - | - | 28 |
| 29 | SPARE | 20 | 1 | - | - | - | - | - | 30 |
| 31 | SPACE ONLY | - | - | - | - | - | - | SPACE ONLY | 32 |
| 33 | SPACE ONLY | - | - | - | - | - | - | SPACE ONLY | 34 |
| 35 | SPACE ONLY | - | - | - | - | - | - | SPACE ONLY | 36 |
| 37 | SPACE ONLY | - | - | - | 0 | 3 | 60 | SURGE PROTECTIVE DEVICE | 38 |
| 39 | SPACE ONLY | - | - | - | - | - | - | ---- | 40 |
| 41 | SPACE ONLY | - | - | - | - | - | - | ---- | 42 |

**TOTAL CONNECTED LOAD =** 431320 VA / 831 = 519.0 A

**NOTES:**
1 LSI BRANCH BREAKER

## EXISTING CHILLER YARD LIGHTING/POWER PANEL

**LM**

SYSTEM 208/120V 3Φ 4W
RATING 125A M.C.B. 22,000 AIC MINIMUM
ENCLOSURE NEMA 3R SURFACE MOUNT
OPTIONS BOLT ON BREAKERS

| CKT # | SERVING | CKT BKR TRIP | CKT BKR POLE | CONNECTED LOAD (VA) | | CKT BKR POLE | CKT BKR TRIP | SERVING | CKT # |
|---|---|---|---|---|---|---|---|---|---|
| 1 | REC - CHILLER YARD | 20 | 1 | 360 | 1500 | 1 | 20 | REC - HEAT TRACE | 2 |
| 3 | DCU, DAC | 30 | 2 | 1529 | 1500 | 1 | 20 | REC - HEAT TRACE | 4 |
| 5 | --- | - | - | - | 2400 | 1 | 30 | BOILER-1 | 6 |
| 7 | REC - HEAT TRACE | 20 | 1 | 1500 | 1500 | 1 | 20 | REC - HEAT TRACE | 8 |
| 9 | ACC-1 UNIT HEATER | 20 | 1 | 1000 | 100 | 1 | 20 | DDC | 10 |
| 11 | ISOLATION VALVE | 20 | 1 | 1000 | 2400 | 1 | 30 | BOILER-2 | 12 |
| 13 | REC-HEAT TRACE (1) | 20 | 1 | 1500 | 1500 | 1 | 20 | REC-HEAT TRACE (1) | 14 |
| 15 | REC-HEAT TRACE (1) | 20 | 1 | 1500 | 1000 | 1 | 20 | ACC-2 UNIT HEATER | 16 |
| 17 | SPARE | 20 | 1 | - | - | 1 | 20 | SPARE | 18 |
| 19 | SPARE | 20 | 1 | - | - | 1 | 20 | SPARE | 20 |
| 21 | SPARE | 20 | 1 | - | - | - | - | SPACE ONLY | 22 |
| 23 | SPACE ONLY | - | - | - | - | - | - | SPACE ONLY | 24 |
| 25 | SPACE ONLY | - | - | - | 0 | 3 | 30 | SURGE PROTECTIVE DEVICE | 26 |
| 27 | SPACE ONLY | - | - | - | - | - | - | ---- | 28 |
| 29 | SPACE ONLY | - | - | - | - | - | - | ---- | 30 |

**TOTAL CONNECTED LOAD =** 20289 VA / 360 = 56.4 A

**NOTES:**
1 UTILIZE SPARE BREAKER

## MECHANICAL EQUIPMENT SCHEDULE

(VERIFY ALL EQUIPMENT CIRCUIT REQUIREMENTS WITH MANUFACTURERS SHOP DRAWINGS PRIOR TO ROUGH-IN)

| EQUIPMENT DESIGNATION | DESCRIPTION | CFM | VOLT | Φ | ELECTRICAL LOAD: MOTOR(S) FLA QTY | LARGEST | SUM OF REMAINING | ELECTRIC HEAT KW | OTHER VA | TOTAL CONNECTED VA | PROTECTION MCA | MOCP | SPECIFIED TRIP | SPECIFIED POLE | CONDUCTOR / CONDUIT SIZE SETS | CONDUCTORS QTY. | SIZE | GND | CONDUIT | DISC. | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CHWP | CHILLED WATER PUMP | - | 480 | 3 | 1 | 21 | - | - | - | 17459 | - | - | 50 | 3 | 1 | 3 | #8 | #10 | 3/4" | VFD | |
| ACC-2 | AIR COOLED CHILLER | - | 480 | 3 | 12 | 50.6 | 137.6 | - | - | 156467 | 226 | 250 | 250 | 3 | 1 | 4 | #250kcmil | #4 | 2-1/2" | CB | |
| B-2 | BOILER | - | 120 | 1 | - | - | - | - | 2400 | 2400 | - | - | 30 | 1 | 1 | 2 | #10 | #10 | 3/4" | SW | |
| RTU-# | ROOF TOP UNIT | 7315 | 480 | 3 | 1 | 14 | - | - | 1080 | 12719 | 18.45 | - | 25 | 3 | 1 | 4 | #10 | #10 | 3/4" | INTEGRAL | |
| | UV LIGHTS | - | 120 | 1 | - | - | - | - | 184 | 184 | 1.93 | 15 | 15 | 1 | 1 | 2 | #12 | #12 | 3/4" | SW | |
| | LIGHTS AND SWITCH | - | 120 | 1 | - | - | - | - | | 0 | 3.26 | | 15 | 1 | 1 | 2 | #12 | #12 | 3/4" | SW | |
| | INTEGRAL RECEPTACLE | - | 120 | 1 | - | - | - | - | 180 | 180 | 10 | 15 | 20 | 1 | 1 | 2 | #12 | #12 | 3/4" | SW | |
| ERV-1 | ENERGY RECOVERY UNIT | - | 480 | 1 | 2 | 2.3 | 3.62 | - | - | 2842 | 5.2 | 15 | 15 | 3 | 1 | 4 | #12 | #12 | 3/4" | 30/3/3R | |
| | INTEGRAL RECEPTACLE | - | 120 | 1 | - | - | - | - | 180 | 180 | - | - | 20 | 1 | 1 | 2 | #12 | #12 | 3/4" | - | |
| FCU-# | FAN COIL UNIT | 1330 | 208 | 1 | 2 | 4.2 | 4.2 | - | - | 1747 | 9.4 | 15 | 15 | 2 | 1 | 3 | #12 | #12 | 3/4" | MS | |
| ATU-# | AIR TERMINAL UNIT | - | 277 | 1 | | | | | | 0 | | | 20 | 1 | 1 | 4 | #12 | #12 | 3/4" | SW | |

## EXISTING PANEL MPA

**MPA**

SYSTEM 480/277V 3Φ 4W
RATING 800A M.C.B. 25,000 AIC MINIMUM
ENCLOSURE NEMA 1 SURFACE MOUNT
OPTIONS BOLT ON BREAKERS; TWO EQUAL SECTIONS; SERVICE ENTRANCE RATED

| CKT # | SERVING | CKT BKR TRIP | CKT BKR POLE | CONNECTED LOAD (VA) | | CKT BKR POLE | CKT BKR TRIP | SERVING | CKT # |
|---|---|---|---|---|---|---|---|---|---|
| 1 | FIRE ALARM TRANSF | 20 | 2 | - | - | 2 | 20 | EXIT LIGHTS | 2 |
| 3 | ---- | - | - | - | - | - | - | ---- | 4 |
| 5 | SPARE (1) | 60 | 3 | - | - | 3 | 35 | SPARE (1) | 6 |
| 7 | ---- | - | - | - | - | - | - | ---- | 8 |
| 9 | ---- | - | - | - | - | - | - | ---- | 10 |
| 11 | AC-8 | 100 | 3 | - | - | 3 | 25 | RTU-1 | 12 |
| 13 | ---- | - | - | - | - | - | - | ---- | 14 |
| 15 | ---- | - | - | - | - | - | - | ---- | 16 |
| 17 | SPARE (1) | 70 | 3 | - | - | 3 | 25 | RTU-2 | 18 |
| 19 | ---- | - | - | - | - | - | - | ---- | 20 |
| 21 | ---- | - | - | - | - | - | - | ---- | 22 |
| 23 | PANEL L-HB | 100 | 3 | - | | 3 | 150 | PANEL HA PE BUILDING | 24 |
| 25 | ---- | - | - | - | - | - | - | ---- | 26 |
| 27 | ---- | - | - | - | - | - | - | ---- | 28 |
| 29 | EXISTING | 175 | 3 | - | - | 3 | 125 | PANEL FP-LV VIA XFMR | 30 |
| 31 | ---- | - | - | - | - | - | - | ---- | 32 |
| 33 | ---- | - | - | - | - | - | - | ---- | 34 |
| 35 | SPARE (1) | 70 | 3 | - | - | 3 | 150 | PANEL L-HC | 36 |
| 37 | ---- | - | - | - | - | - | - | ---- | 38 |
| 39 | ---- | - | - | - | - | - | - | ---- | 40 |
| 41 | SPARE (1) | 70 | 3 | - | - | 3 | 100 | PANEL L-HE | 42 |
| 43 | ---- | - | - | - | - | - | - | ---- | 44 |
| 45 | ---- | - | - | - | - | - | - | ---- | 46 |
| 47 | PANEL L-HD | 150 | 3 | - | | 3 | 200 | EXISTING | 48 |
| 49 | ---- | - | - | - | - | - | - | ---- | 50 |
| 51 | ---- | - | - | - | - | - | - | ---- | 52 |
| 53 | PANEL L-HA | 150 | 3 | - | 12719 | 3 | 25 | RTU-3 (2) | 54 |
| 55 | ---- | - | - | - | - | - | - | ---- | 56 |
| 57 | ---- | - | - | - | - | - | - | ---- | 58 |
| 59 | RTU-4 (2) | 25 | 3 | 12718 | 12719 | 3 | 25 | RTU-5 (2) | 60 |
| 61 | ---- | - | - | - | - | - | - | ---- | 62 |
| 63 | ---- | - | - | - | - | - | - | ---- | 64 |
| 65 | ATU'S NORTH (2) | 20 | 1 | 500 | 700 | - | - | ATU'S CENTRAL WEST (2) | 66 |
| 67 | ATU'S CENTRAL EAST (2) | 20 | 1 | 700 | - | - | - | SPACE ONLY | 68 |
| 69 | SPACE ONLY | - | - | - | - | - | - | SPACE ONLY | 70 |
| 71 | SPACE ONLY | - | - | - | - | - | - | SPACE ONLY | 72 |
| 73 | SPACE ONLY | - | - | - | - | - | - | SPACE ONLY | 74 |
| 75 | SPACE ONLY | - | - | - | - | - | - | SPACE ONLY | 76 |
| 77 | SPACE ONLY | - | - | - | - | - | - | SPACE ONLY | 78 |
| 79 | SPACE ONLY | - | - | - | 0 | 3 | 60 | SURGE PROTECTIVE DEVICE | 80 |
| 81 | SPACE ONLY | - | - | - | - | - | - | ---- | 82 |
| 83 | SPACE ONLY | - | - | - | - | - | - | ---- | 84 |

**TOTAL ADDED CONNECTED LOAD =** 40056 VA / 831 = 48.2 A

**NOTES:**
1 PROVIDE NEW LABEL FOR EXISTING BREAKER AS "SPARE".
2 PROVIDE NEW LABEL FOR BREAKER ACCORDINGLY.

### PANEL MPA LOAD CALCULATION

| PREVIOUS PHASE LOAD CALC | | | | | |
|---|---|---|---|---|---|
| MPA 12 MONTH PEEK DEMAND | 301 kW | | | | |
| PER NEC 220.87 | 301 kW | x 1.25 | = | 376.25 kW | = 453 A |
| MPA CAPCITY | 800 A | x 80% | = | 640 A | |
| APRX DEMOLISHED LOAD | 230 A | | | | |
| ADDED LOAD | 31 A | | | | |
| NET ADDED LOAD | -199 A | | | | |
| NEW LOAD | 453 A | - 199 A | = | 254 A | |

| PHASE B LOAD CALC | | | | |
|---|---|---|---|---|
| MPA LOAD | 254 A | | | |
| MPA CAPCITY | 800 A | x 80% | = | 640 A |
| APRX DEMOLISHED LOAD | 183 A | | | |
| ADDED LOAD | 48 A | | | |
| NET ADDED LOAD | -135 A | | | |
| NEW LOAD | 254 A | - 135 A | = | 119 A |

NARRATIVE: THE LOAD TO PANEL MPA IS GREATLY REDUCED DUE TO HVAC LOADS BEING TRANSFERRED TO THE NEW CENTRAL PLANT ON PANEL MDPM. LIGHTING LOADS WERE NOT INCLUDED IN CALC. FLOURESCENT FIXTURES ARE BEING REPLACED WITH MORE EFFICIENT LED'S AND WILL YIELD A NET NEGATIVE LOAD ADDED.


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HOBBS MIDDLE SCHOOL
ENERGY UPGRADES - PHASE B

SANTA ROSA COUNTY SCHOOL DISTRICT
5317 GLOVER LANE, MILTON, FL 32570

| No. | Description | Date |
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ELECTRICAL SCHEDULES

Date XX
Drawn By CM
Checked By CL

E303


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142 Eglin Parkway SE
Fort Walton Beach, Florida, 32548
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2159 Job No.