

Renovations to

# Bogue Sound Elementary School

Carteret County Schools  
NCDSP Unit 160 - School 306

3323 Hwy. 24 / Newport / North Carolina



STRUCTURAL CONSULTANT:

**QUEEN ENGINEERING & DESIGN, P.A.**

5530 Munford Road Raleigh, North Carolina 27612 tel (919) 420-0480

**Hite associates**  
**ARCHITECTURE / PLANNING / TECHNOLOGY**

2600 Meridian Drive / Greenville, N.C. 27834 / tel 252-757-0333

MEPT ENGINEERING CONSULTANT:

**ENGINEERING SOURCE, P.A.**

102 Regency Boulevard Greenville, North Carolina 27834 tel (252) 439-0338

### ABBREVIATIONS

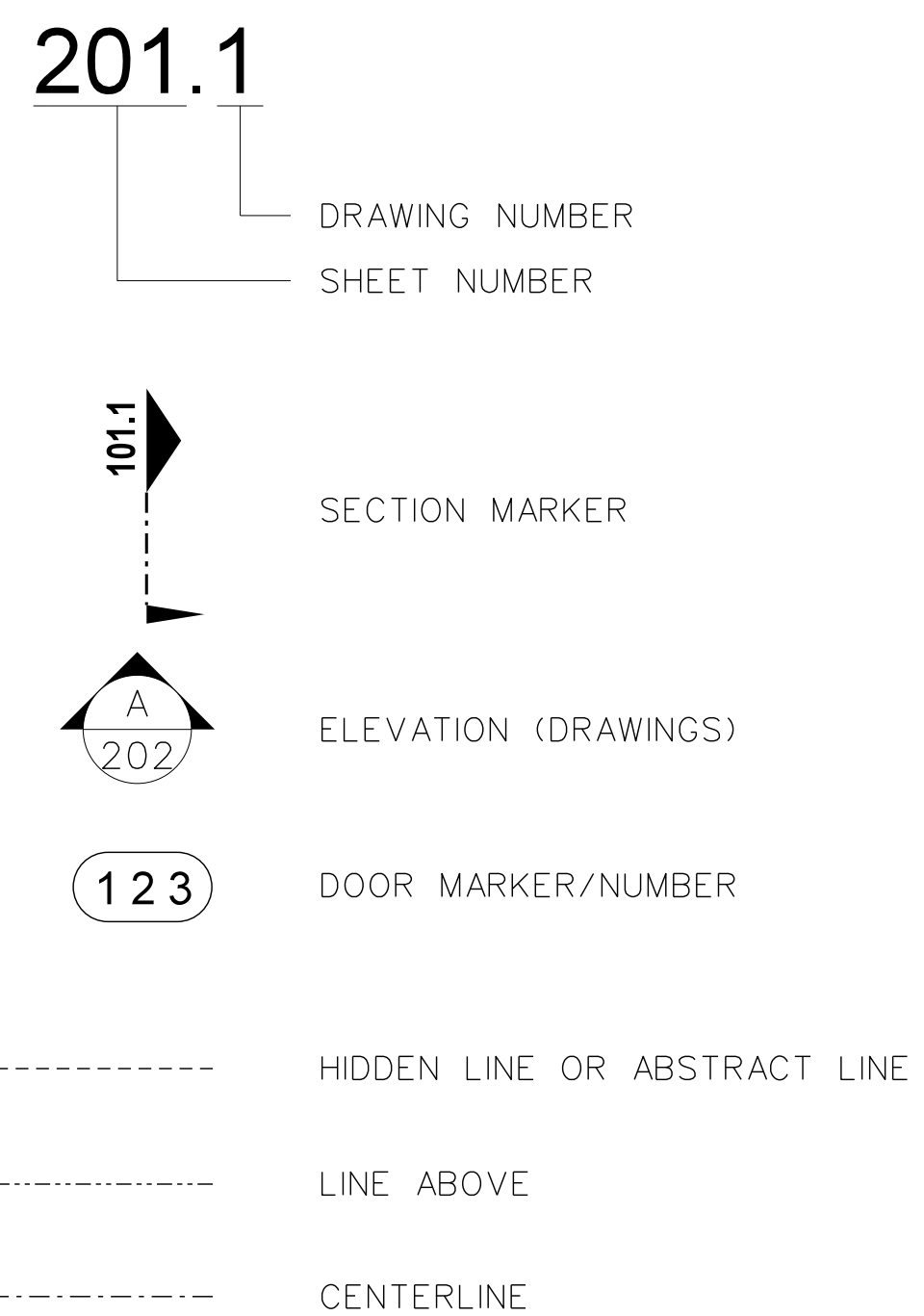
|       |                                  |       |                         |
|-------|----------------------------------|-------|-------------------------|
| AFF   | ABOVE FINISH FLOOR               | INV   | INVERT                  |
| L     | ANGLE                            | JT    | JOINT                   |
| AB    | ANCHOR BOLT                      | LAV   | LAVATORY                |
| @     | AT                               | MAS   | MASONRY                 |
| B/B   | BACK TO BACK (CURB)              | MAX   | MAXIMUM                 |
| BRG   | BEARING                          | MB    | MARKER BOARD            |
| BB    | BOARD                            | MET   | METAL                   |
| RC    | BRICK COURSE                     | MC    | MECHANICAL CONTRACTOR   |
| BLOG  | BUILDING                         | MT    | METAL THRESHOLD         |
| CI    | CAST IRON                        | MIN   | MINIMUM                 |
| CPT   | CARPET                           | MISC  | MISCELLANEOUS           |
| CB    | CATCH BASIN                      | NDM   | NOMINAL                 |
| CLG   | CEILING                          | N     | NORTH                   |
| CT    | CEILING TILE                     | NIC   | NOT IN CONTRACT         |
| CB    | CHALKBOARD                       | NTS   | NOT TO SCALE            |
| CJ    | CONSTRUCTION JOINT               | OC    | ON CENTER               |
| CONC  | CONCRETE                         | OPG   | OPENING                 |
| CMU   | CONCRETE MASONRY UNIT            | OPP   | OPPOSITE                |
| CG    | CORNER GUARD                     | PC    | PLUMBING CONTRACTOR     |
| CMP   | CORRUGATED METAL PIPE            | PLAS  | PLASTER                 |
| CONT. | CONTINUOUS                       | PL    | PLATE                   |
| C & R | CURTAIN & ROD                    | PT    | PRESSURE TREATED        |
| C & T | CURTAIN & TRACK                  | R     | RADIUS                  |
| DIA   | DIAMETER                         | REF   | REFERENCE               |
| DM    | DIMENSION                        | REINP | REINFORCED              |
| DS    | DOWNSPOUT                        | RCP   | REINFORCE CONCRETE PIPE |
| DWR   | DRAWER                           | REQ'D | REQUIRED                |
| EA    | EACH                             | RFS   | RUBBER FASTENING STRIP  |
| EC    | ELECTRICAL CONTRACTOR            | RI    | RIGID INSULATION        |
| EFS   | EXTERIOR INSULATION & FIN SYSTEM | R/W   | RIGHT OF WAY            |
| ELECT | ELECTRICAL                       | RD    | ROOF DRAIN              |
| EWC   | ELECTRIC WATER COOLER            | RDL   | ROOF DRAIN LEADER       |
| ELEV  | ELEVATION                        | RGH   | ROUGH                   |
| EQ    | EQAU                             | SCHED | SCHEDULED               |
| ETR   | EXISTING TO REMAIN               | SH    | SHELF                   |
| EXIST | EXISTING                         | SHG   | SHEATHING               |
| EXP   | EXPOSED, EXPANSION               | SIM   | SIMILAR                 |
| EJ    | EXPANSION JOINT                  | SPEC  | SPECIFIED               |
| F/F   | FACE TO FACE (CURB)              | SPECS | SPECIFICATIONS          |
| FIN   | FINISH                           | STD   | STANDARD                |
| FE    | FIRE EXTINGUISHER                | SUSP  | SUSPENDED               |
| FEC   | FIRE EXTINGUISHER CABINET        | TB    | TACKBOARD               |
| FHC   | FIRE HOSE CABINET                | TYP   | TYPICAL                 |
| FTG   | FOOTING                          | TJC   | TYPICAL CONTROL JOINT   |
| FD    | FLOOR DRAIN                      | UON   | UNLESS OTHERWISE NOTED  |
| FL    | FLOOR                            | UR    | URNAL                   |
| FSR   | FLEXIBLE SHEET ROOFING           | VB    | VAPOR BARRIER           |
| GB    | GYPSUM WALLBOARD                 | VERT  | VERTICAL                |
| GC    | GENERAL CONTRACTOR               | VCT   | VINYL COMPOSITION TILE  |
| HM    | HOLLOW METAL                     | WC    | WATER CLOSET            |
| HOR   | HORIZONTAL                       | WWF   | WELDED WIRE FABRIC      |
| INSUL | INSULATION                       | W/    | WITH                    |

### DRAWING INDEX

|         |   |
|---------|---|
| COVER   |   |
| T-1     | INDEX / LEGEND / ABBREVIATIONS  |
|         |   |
| BCS-700 | BUILDING CODE SUMMARY   |
|         |   |
| LS-001  | LIFE SAFETY PLAN  |
|         |   |
| A-001   | OVERALL FLOOR PLAN  |
| A-101   | FLOOR PLAN / ROOF PLAN / RCP / EXTERIOR ELEVATIONS                                  |
| A-102   | DOOR SCHEDULE / FINISH SCHEDULE / DOOR ELEVATIONS                                   |
| A-103   | SECTION / DETAILS   |
|         |   |
| S-101   | ADDITION FOUNDATION PLAN  |
|         |   |
| ME-101  | 100 AND 300 WING DEMO PLAN  |
| ME-201  | 100 AND LOWER 200 WING PLATFORM DEMO PLAN   |
| ME-301  | ENLARGED 300 WING DEMO PLAN   |
| ME-401  | 300 AND 400 WING PLATFORM DEMO PLAN   |
|         |   |
| M-001   | GENERAL NOTES / CONTROL DIAGRAMS  |
| M-002   | NOTES / SCHEDULES   |
| M-003   | NOTES / DETAILS   |
| M-004   | DETAILS   |
| M-101   | 100 AND 300 WING MECHANICAL PLAN  |
| M-201   | 100 AND 200 WING PLATFORM MECHANICAL PLAN / UPPER 200 WING PLATFORM MECHANICAL PLAN |
| M-301   | ENLARGED 300 WING MECHANICAL PLAN   |
| M-401   | 300 AND 400 WING PLATFORM MECHANICAL PLAN   |
|         |   |
| E-001   | ELECTRICAL RISER / SCHEDULES / DETAILS  |
| E-101   | 100 AND 300 WING ELECTRICAL PLAN  |
| E-201   | 100 AND 200 WING PLATFORM ELECTRICAL PLAN / UPPER 200 WING PLATFORM ELECTRICAL PLAN |
| E-301   | ENLARGED LOWER 300 WING ELECTRICAL PLAN   |
| E-401   | 300 AND 400 WING PLATFORM ELECTRICAL PLAN   |

### DRAWING SYMBOLS

#### DRAWING IDENTIFICATION MARKERS



### MATERIAL SYMBOLS

|  |                            |
|--|----------------------------|
|  | EARTH                      |
|  | SAND                       |
|  | MORTAR OR GROUT            |
|  | CONCRETE                   |
|  | BRICK                      |
|  | CONCRETE MASONRY UNIT      |
|  | STEEL                      |
|  | ROUGH WOOD (CONTINUOUS)    |
|  | ROUGH WOOD (INTERMITTENT)  |
|  | FINISH WOOD                |
|  | PLYWOOD                    |
|  | BATT OR BLOWN INSULATION   |
|  | RIGID INSULATION           |
|  | METAL STUD / GYPBOARD WALL |

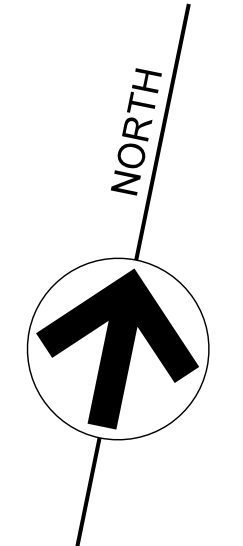
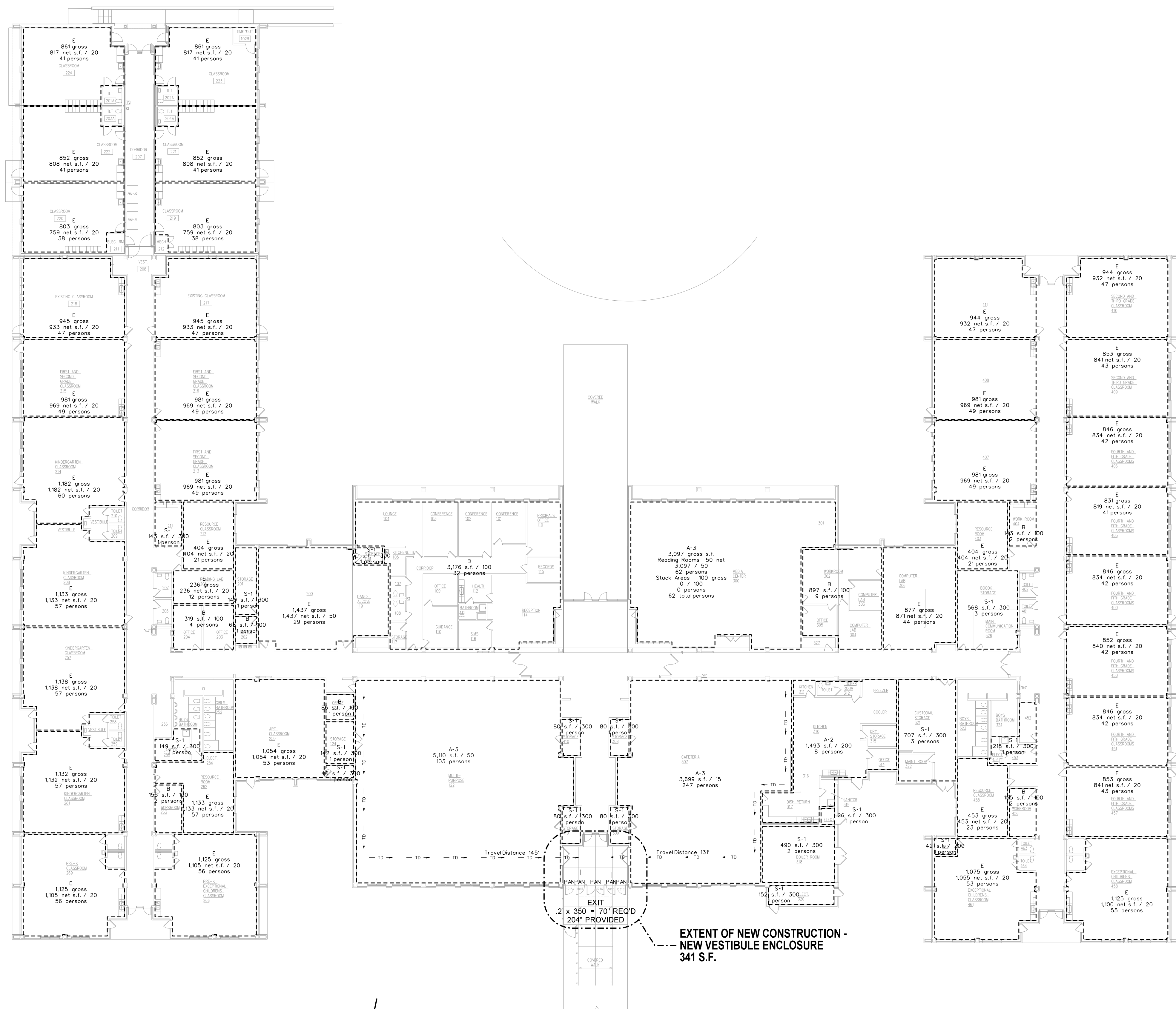
|     |          |
|-----|----------|
|     | Revision |
|     |          |
|     |          |
|     |          |
|     |          |
|     |          |
|     |          |
|     |          |
|     |          |
|     |          |
|     |          |
| No. | Date:    |

**Hite associates**  
ARCHITECTURE / PLANNING / TECHNOLOGY  
2600 Meridian Drive / Greenville, NC 27834 / Tel:(252) 757-0833

Renovations to  
**Bogue Sound Elementary School**  
3323 Hwy. 24, Newport, NC 28570  
Carteret County Schools / North Carolina

Project No. 22419  
Date: 3 Oct 2024  
Drawing no. **T-1**

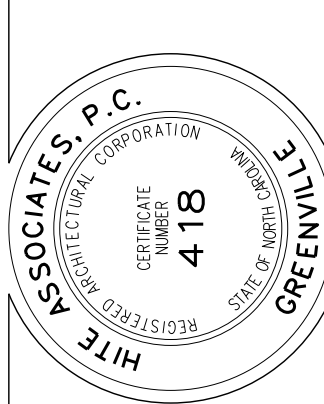




**001.1 OVERALL FLOOR PLAN**  
SCALE: 1" = 20'-0"

| No. | Date | Revision |
|-----|------|----------|
|     |      |          |
|     |      |          |
|     |      |          |
|     |      |          |

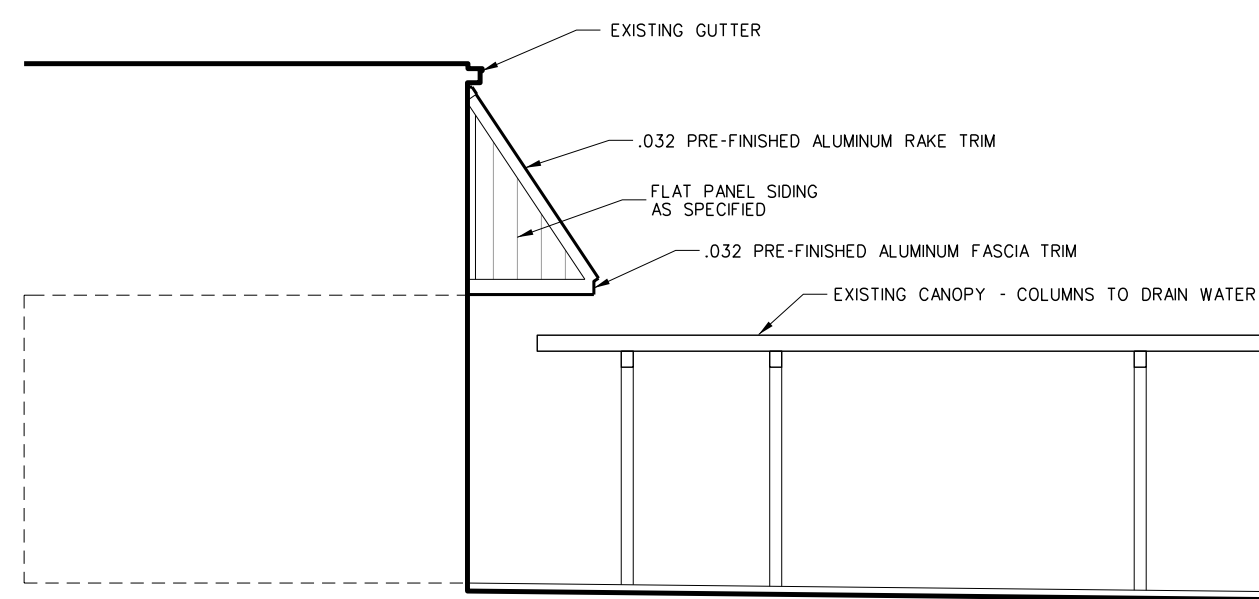
**Hite associates**  
ARCHITECTURE / PLANNING / TECHNOLOGY  
2600 Meridian Drive / Greenville, NC 27834 / Tel (252) 757-0333



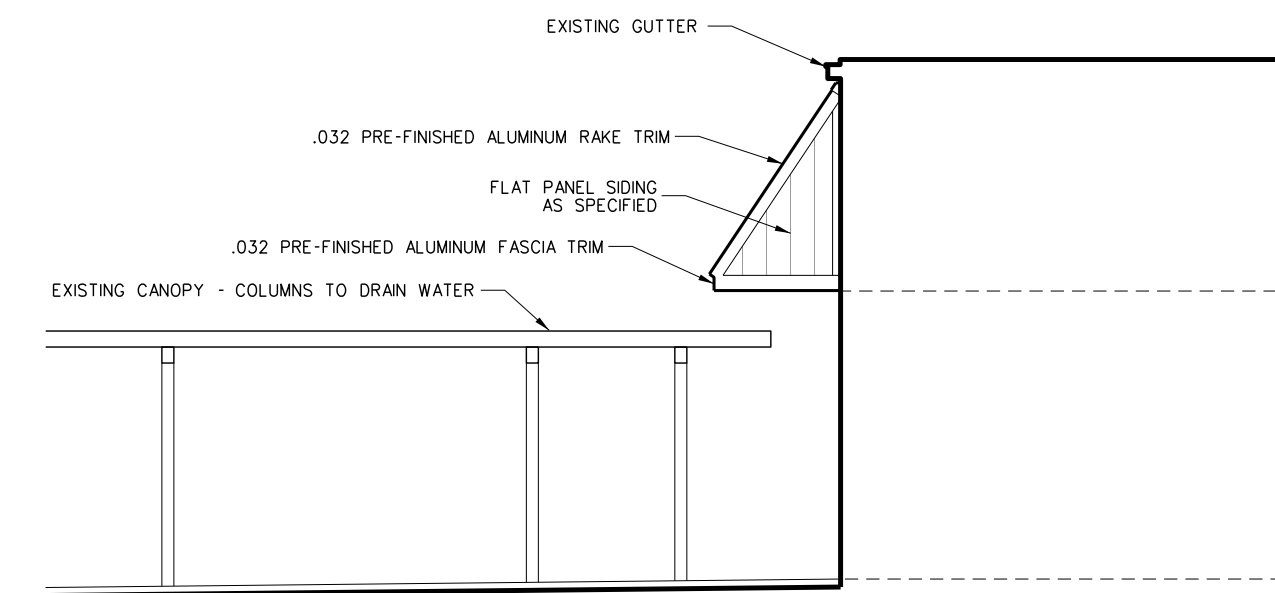
Renovations to  
**Bogue Sound Elementary School**  
3323 Hwy. 24, Newport, NC 28570  
Carteret County Schools / North Carolina

|             |            |
|-------------|------------|
| Project No. | 22419      |
| Date:       | 3 Oct 2024 |
| Drawing no. | LS 001     |

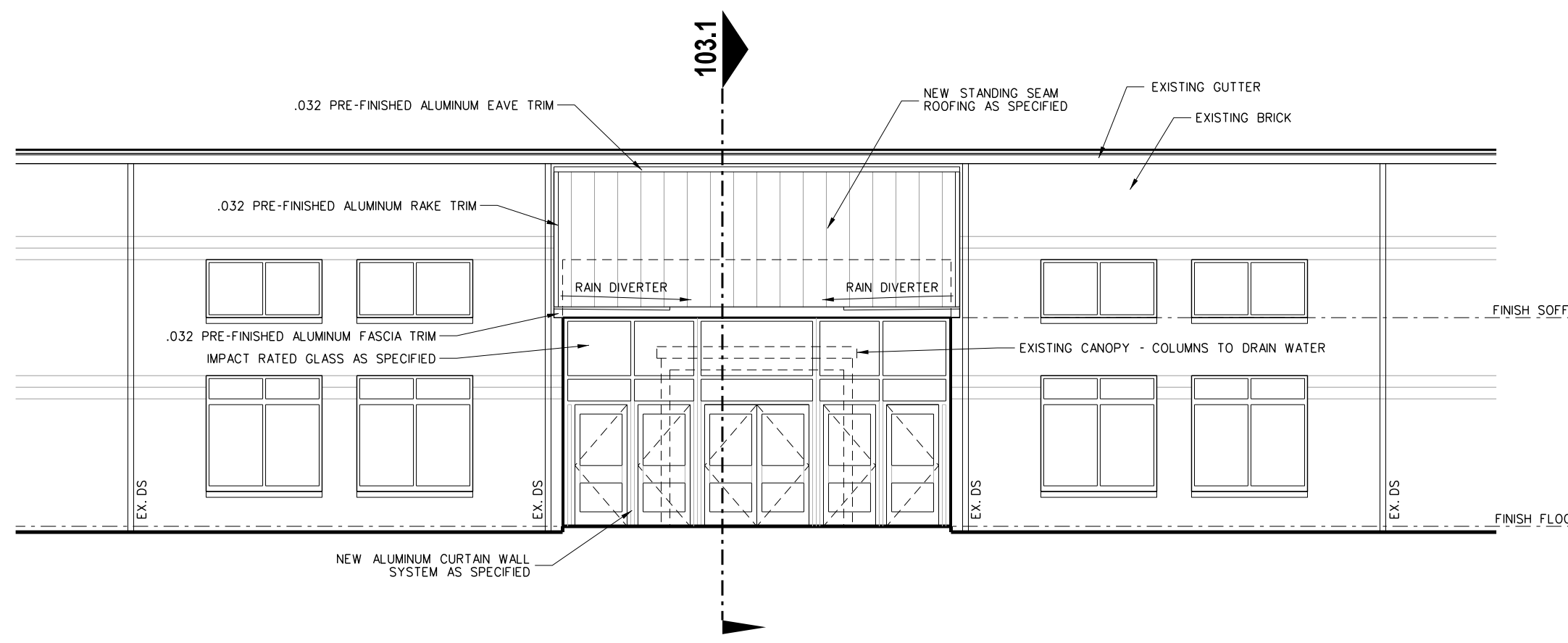




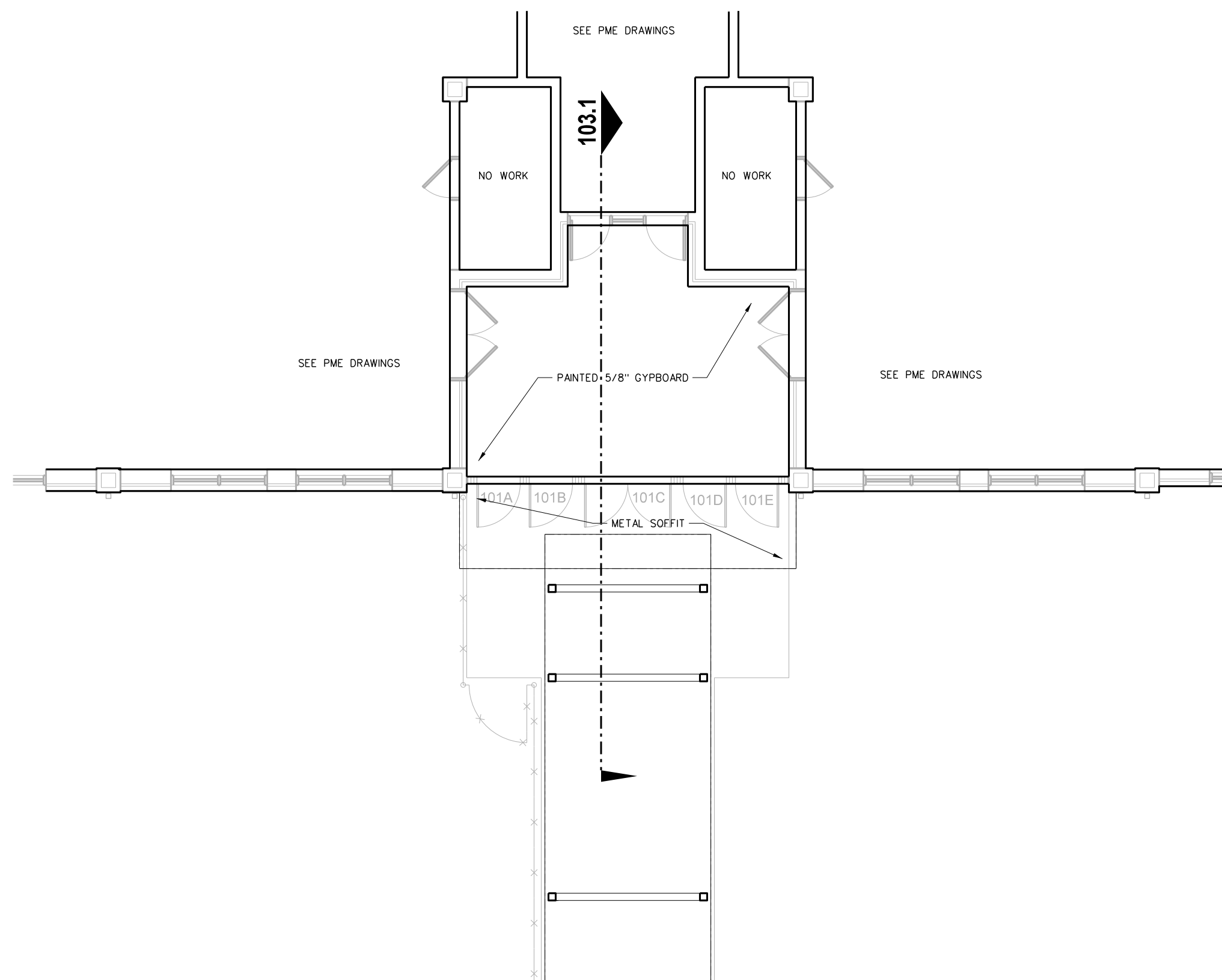
101.6 PARTIAL WEST ELEVATION  
SCALE: 1/8" = 1'-0"



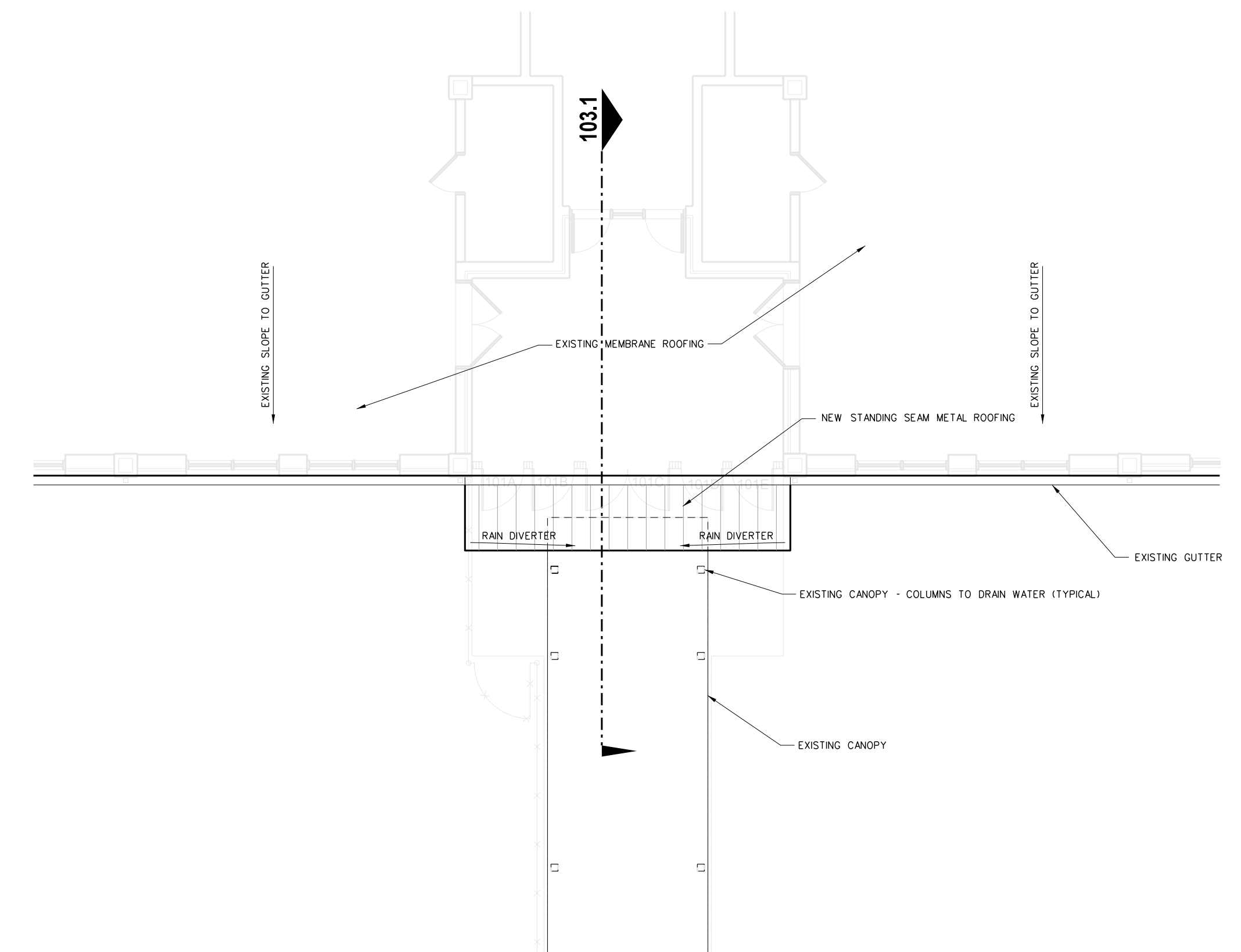
101.5 PARTIAL EAST ELEVATION  
SCALE: 1/8" = 1'-0"



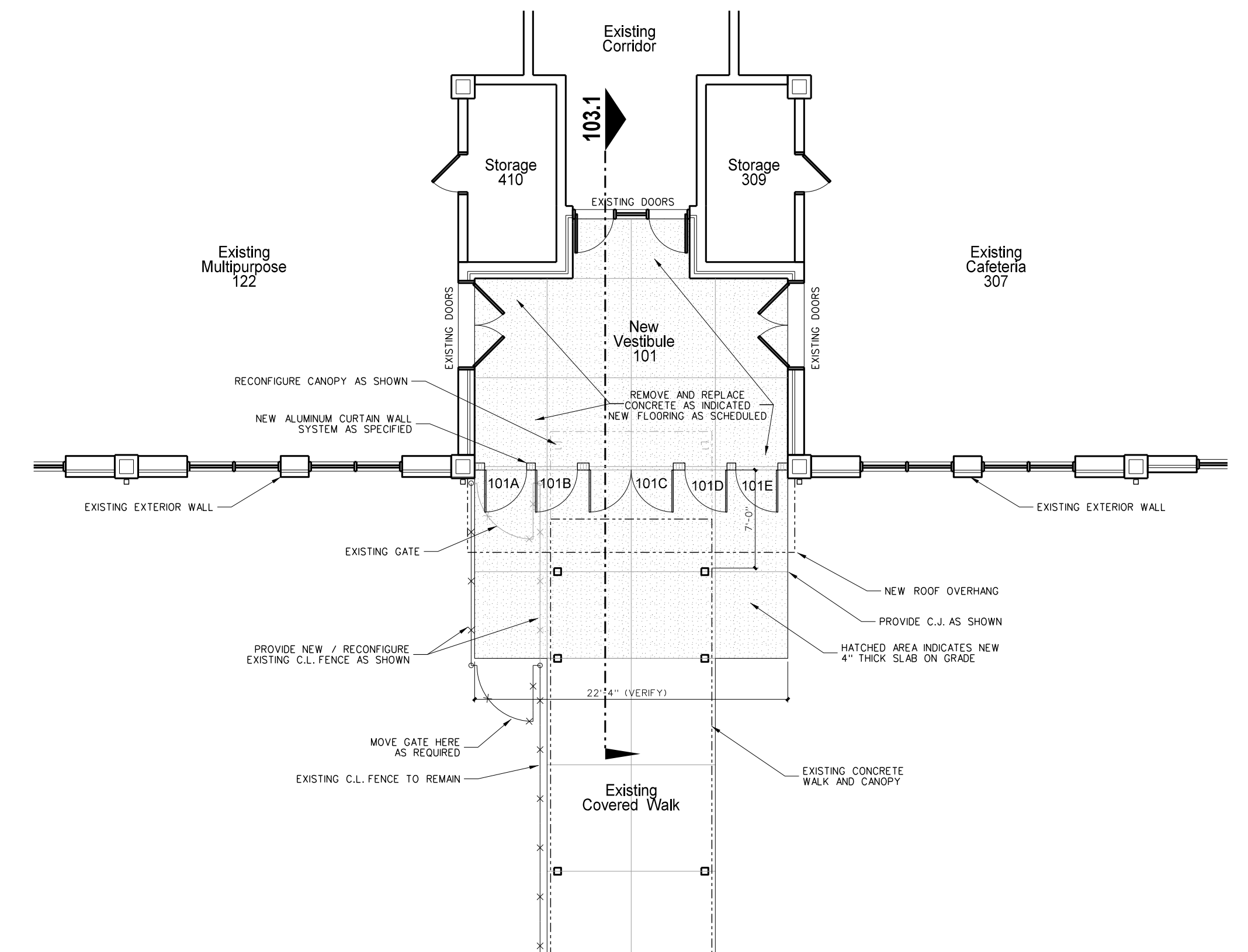
101.4 PARTIAL SOUTH ELEVATION  
SCALE: 1/8" = 1'-0"



101.2 PARTIAL REFLECTED CEILING PLAN  
SCALE: 1/8" = 1'-0"



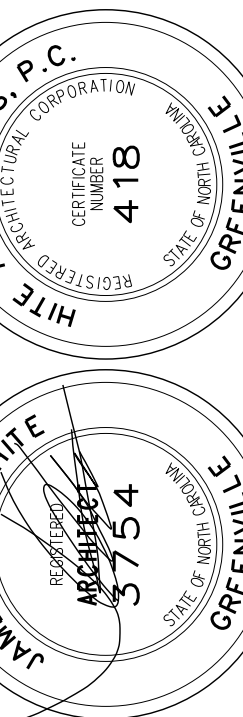
101.3 PARTIAL ROOF PLAN  
SCALE: 1/8" = 1'-0"



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

Hite associates  
ARCHITECTURE / PLANNING / TECHNOLOGY

2600 Meridian Drive / Greenville, NC 27834 / Tel(252) 757-0333



Renovations to  
**Bogue Sound Elementary School**  
3923 Hwy. 24, Newport, NC 28570  
Carteret County Schools / North Carolina

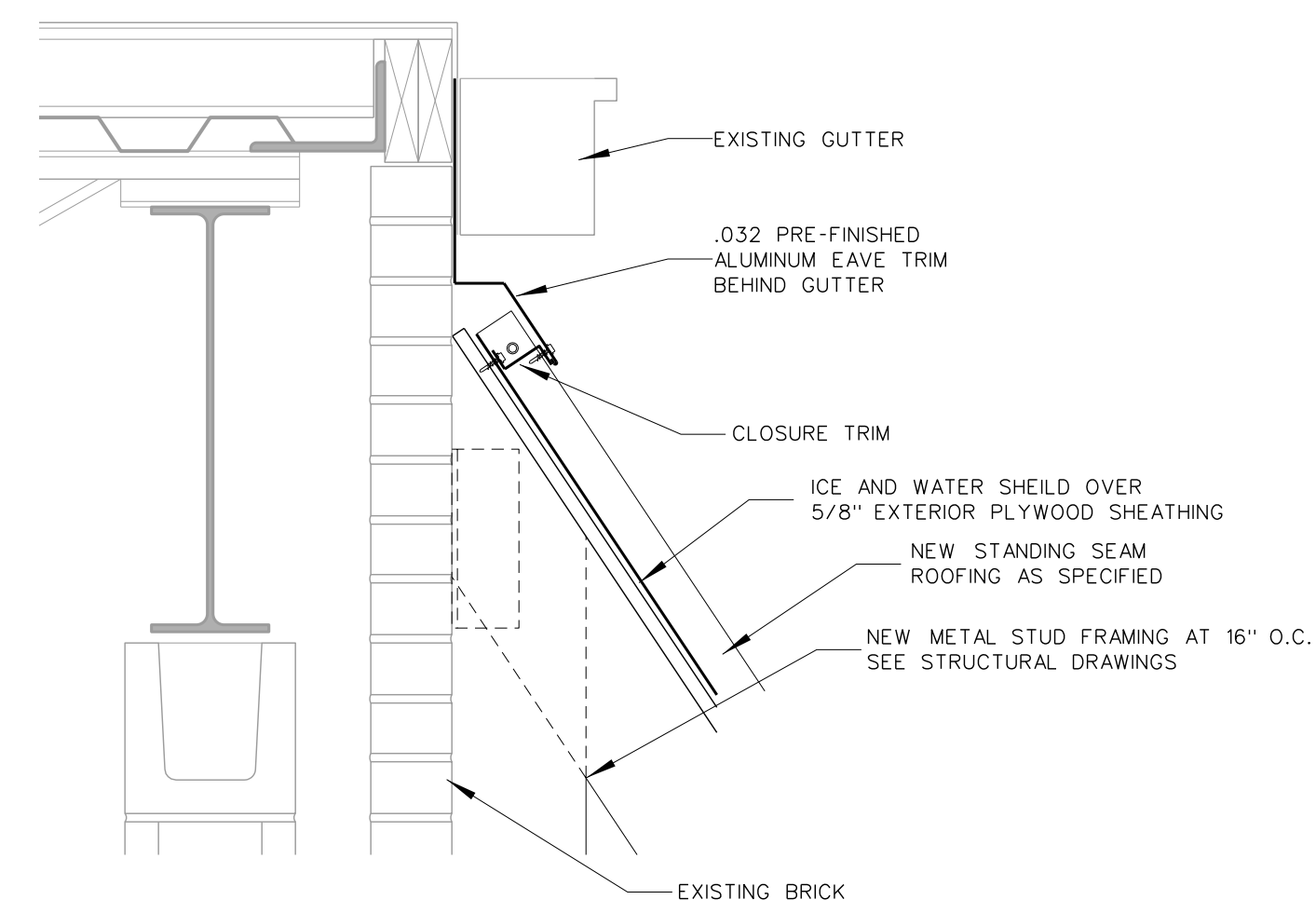
Project No: 22419

Date: 3 Oct 2024

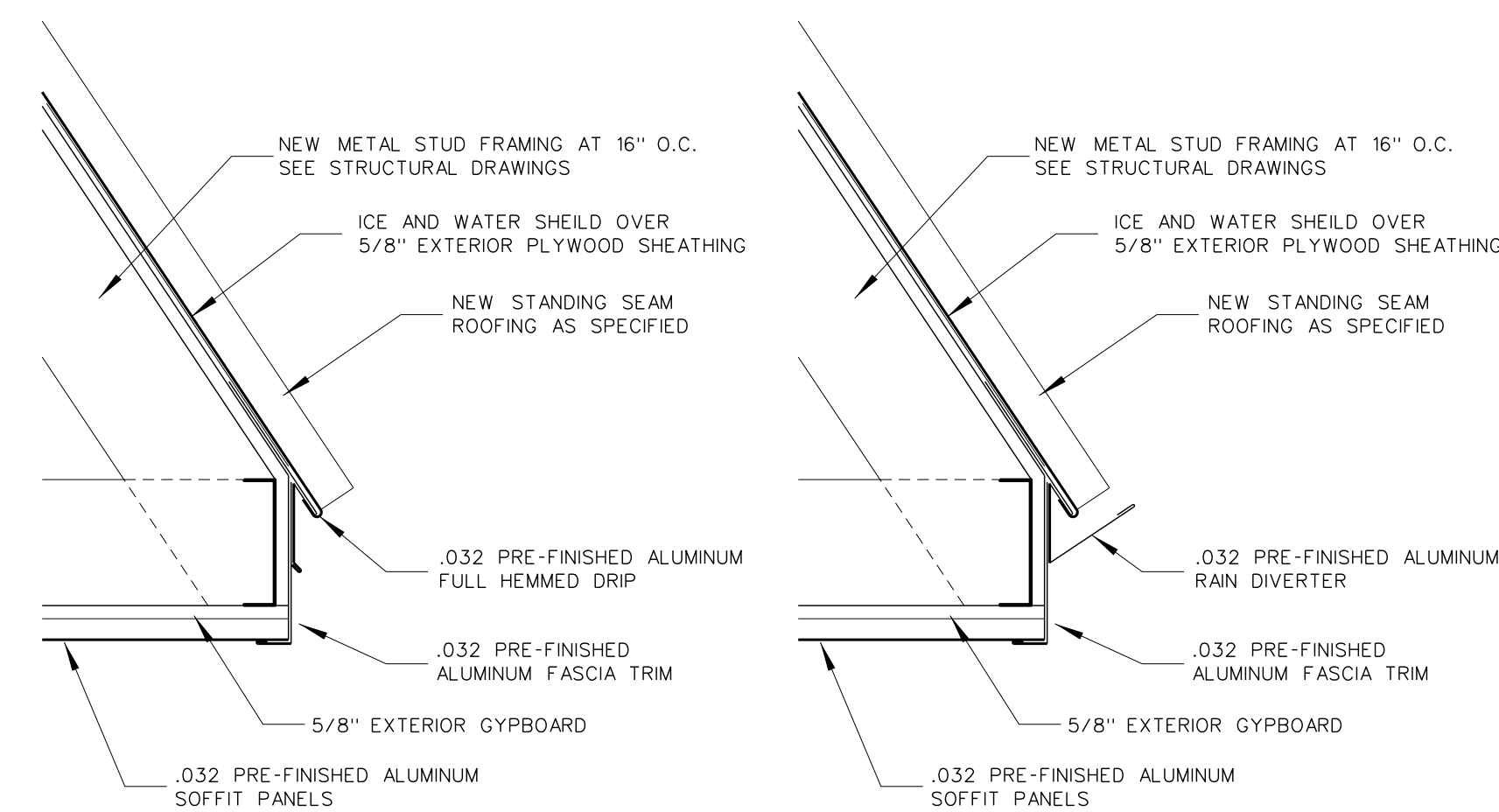
Drawing no.

**A  
101**

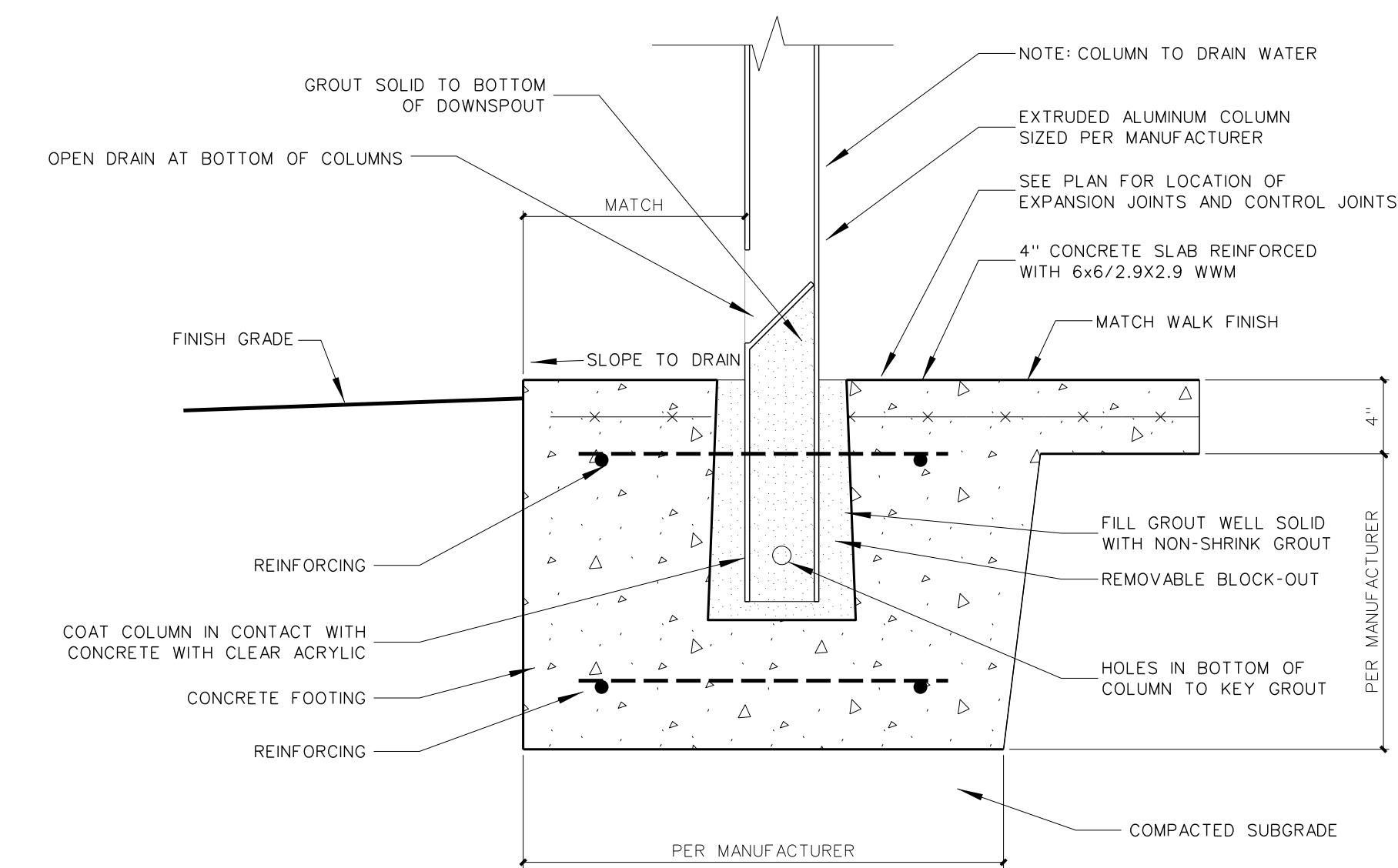




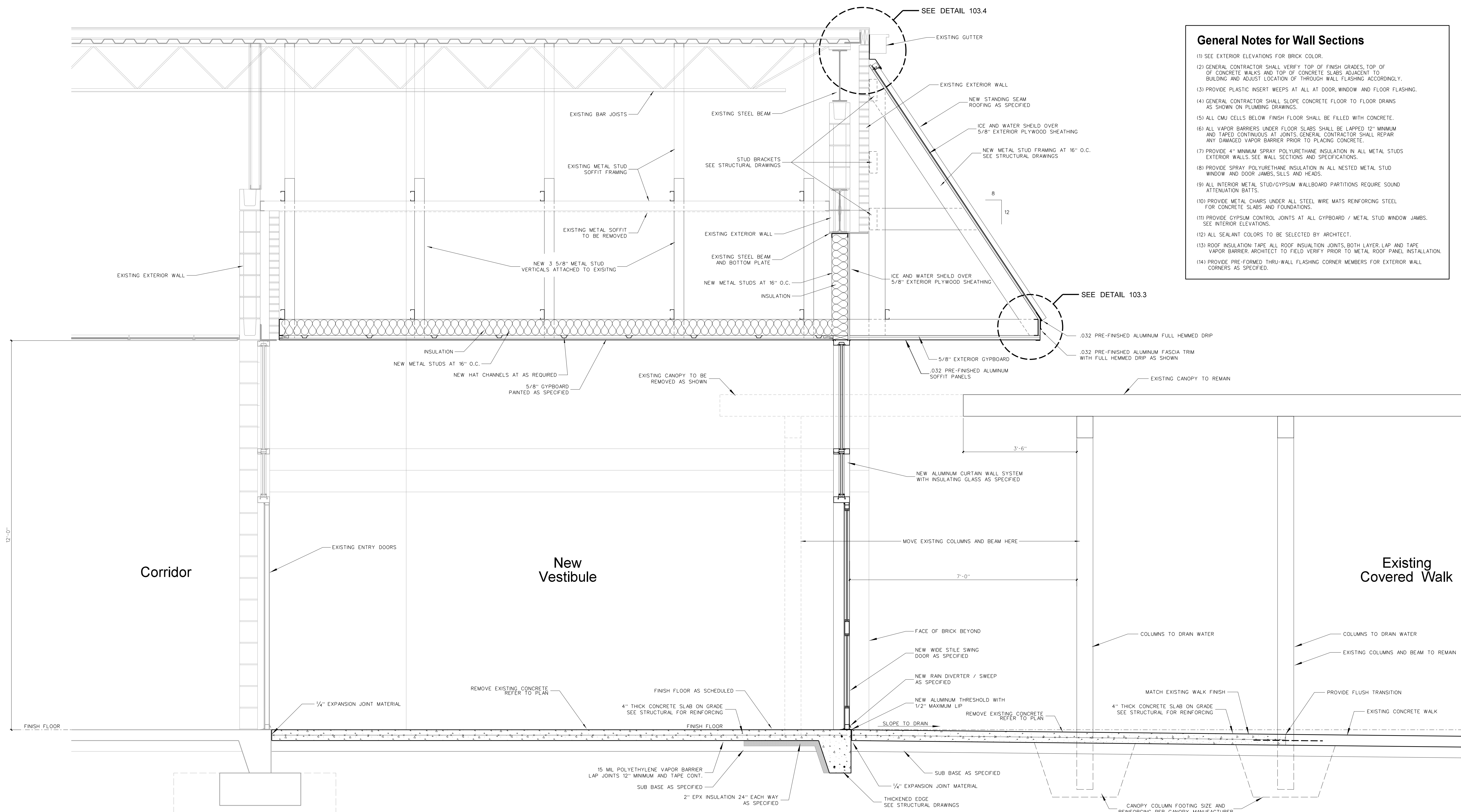
**103.4 HIGH EAVE DETAIL**  
SCALE: 1 1/2" = 1'-0"



**103.3 FASCIA DETAILS**  
SCALE: 1 1/2" = 1'-0"



**103.2 CANOPY FOOTING DETAIL**  
SCALE: 1 1/2" = 1'-0"

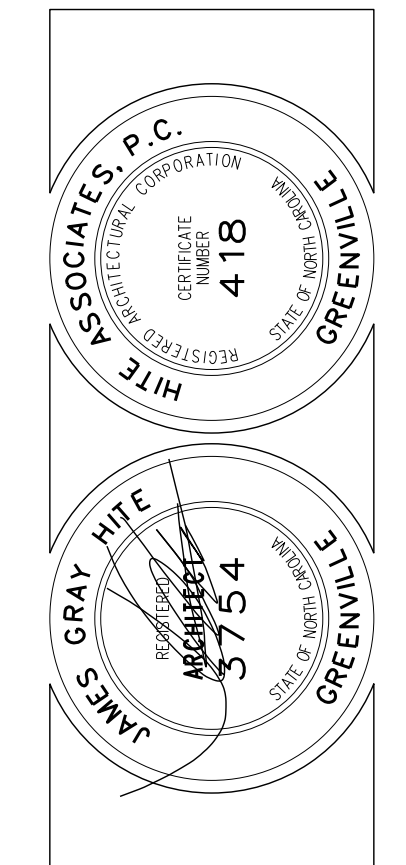


**103.1 WALL SECTION AT NEW VESTIBULE**  
SCALE: 3/4" = 1'-0"

- General Notes for Wall Sections**
- (1) SEE EXTERIOR ELEVATIONS FOR BRICK COLOR.
  - (2) GENERAL CONTRACTOR SHALL VERIFY TOP OF FINISH GRADES, TOP OF CONCRETE WALKS AND TOP OF CONCRETE SLABS ADJACENT TO BUILDING AND ADJUST LOCATION OF THROUGH WALL FLASHING ACCORDINGLY.
  - (3) PROVIDE PLASTIC INSERT WEEPS AT ALL AT DOOR, WINDOW AND FLOOR FLASHING.
  - (4) GENERAL CONTRACTOR SHALL SLOPE CONCRETE FLOOR TO FLOOR DRAINS AS SHOWN ON PLUMBING DRAWINGS.
  - (5) ALL CMU CELLS BELOW FINISH FLOOR SHALL BE FILLED WITH CONCRETE.
  - (6) ALL VAPOR BARRIERS UNDER FLOOR SLABS SHALL BE LAPPED 12" MINIMUM AND TAPED CONTINUOUS AT JOINTS. GENERAL CONTRACTOR SHALL REPAIR ANY DAMAGED VAPOR BARRIER PRIOR TO PLACING CONCRETE.
  - (7) PROVIDE 4" MINIMUM SPRAY POLYURETHANE INSULATION IN ALL METAL STUDS EXTERIOR WALLS SEE WALL SECTIONS AND SPECIFICATIONS.
  - (8) PROVIDE SPRAY POLYURETHANE INSULATION IN ALL NESTED METAL STUD WINDOW AND DOOR JAMBS, SILLS AND HEADS.
  - (9) ALL INTERIOR METAL STUD/GYPSUM WALLBOARD PARTITIONS REQUIRE SOUND ATTENUATION BATTS.
  - (10) PROVIDE METAL CHAIRS UNDER ALL STEEL WIRE MATS REINFORCING STEEL FOR CONCRETE SLABS AND FOUNDATIONS.
  - (11) PROVIDE GYPSUM CONTROL JOINTS AT ALL GYPSUM / METAL STUD WINDOW JAMBS. SEE INTERIOR ELEVATIONS.
  - (12) ALL SEALANT COLORS TO BE SELECTED BY ARCHITECT.
  - (13) ROOF INSULATION TAPE ALL ROOF INSULATION JOINTS, BOTH LAYER LAP AND TAPE VAPOR BARRIER ARCHITECT TO FIELD VERIFY PRIOR TO METAL ROOF PANEL INSTALLATION.
  - (14) PROVIDE PRE-FORMED THRU-WALL FLASHING CORNER MEMBERS FOR EXTERIOR WALL CORNERS AS SPECIFIED.

| No. | Date | Revision |
|-----|------|----------|
|     |      |          |
|     |      |          |
|     |      |          |

**Hite associates**  
ARCHITECTURE / PLANNING / TECHNOLOGY  
2600 Meridian Drive / Greenville, NC 27834 / Tel: (252) 757-0333



Renovations to  
**Bogue Sound Elementary School**  
3323 Hwy. 24, Newport, NC 28570  
Carteret County Schools / North Carolina

Project No. 22419  
Date: 3 Oct 2024  
Drawing No. **A 103**



GENERAL NOTES

CONCRETE

- CONCRETE SHALL DEVELOP THE FOLLOWING MINIMUM COMPRESSIVE STRENGTHS AT 28 DAYS:
  - A) FOOTINGS AND PEDESTALS - 3000 PSI
  - B) INTERIOR SLABS ON GRADE - 3000 PSI
  - C) OTHER INTERIOR CONCRETE - 3000 PSI
  - D) EXPOSED EXTERIOR CONCRETE - 4000 PSI
- CONCRETE FOR FOOTINGS AND SLABS ON GRADE SHALL BE REGULAR STONE CONCRETE.
- CONCRETE TO BE PERMANENTLY EXPOSED TO WEATHER SHALL HAVE 5% (+/- 1%) AIR ENTRAINMENT.
- CONCRETE NOT PERMANENTLY EXPOSED TO THE WEATHER SHALL NOT HAVE AIR ADDED BY ENTRAINMENT. THIS REQUIREMENT SHALL BE VERIFIED AND REPORTED BY LABORATORY TESTS.
- ALL CONCRETE WORK SHALL CONFORM TO "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE," ACI 318.
- OBSERVE ALL AND STRICTLY FOLLOW ALL ACI 305 AND 308 REQUIREMENTS RESPECTIVELY FOR PROTECTION OF CONCRETE IN HOT AND COLD WEATHER.
- ALL CONCRETE SLAB WORK SHALL BE PROPERLY CURED IN CONFORMANCE WITH ACI 308. EITHER WATER CURING, WATERPROOF PAPER CURING, PLASTIC SHEET, OR SPRAY-ON SEALING MATERIALS METHOD MAY BE USED PROVIDED THAT THE METHOD CHOSEN HAS NO DETRIMENTAL EFFECT ON THE FINAL FINISH SPECIFIED FOR THE RESPECTIVE AREAS. THE PROPOSED CURING METHOD TO BE USED SHALL BE APPROVED BY THE ARCHITECT.
- BUILDING SLABS ON GRADE SHALL BE 4" MINIMUM THICKNESS.
- PLACE 1/4" PRE-FORMED, IMPREGNATED EXPANSION JOINT FILLER FULL DEPTH OF SLAB ON GRADE AT ABUTTING WALL SURFACES UNLESS OTHERWISE NOTED.
- PROVIDE CONSTRUCTION OR CONTROL JOINTS IN SLABS ON GRADE IN LOCATIONS AS SHOWN ON FOUNDATION PLAN OR AT OTHER LOCATIONS APPROVED OR REQUIRED BY THE ARCHITECT, BUT SPACING OF JOINTS SHALL NOT EXCEED 12' IN ANY DIRECTION.
- THE TYPE OF JOINT USED WHETHER CONTROL JOINT OR CONSTRUCTION JOINT IS THE OPTION OF THE CONTRACTOR UNLESS OTHERWISE NOTED ON THE DRAWINGS.
- SAW JOINTS AT CONTROL JOINTS IN THE CONCRETE SLABS SHALL BE MADE AS SOON AS THE CONCRETE HAS SUFFICIENT STRENGTH TO PREVENT SPALLING OF THE JOINT DUE TO THE ACTION OF THE SAW, BUT IN NO CASE GREATER THAN 4 HOURS AFTER INITIAL PLACEMENT OF THE CONCRETE.
- SLAB JOINT FILLER SHALL BE OF THE TYPE COMPATIBLE WITH THE FINAL FLOOR COVERING USED. SLAB JOINTS UNDER PERMANENT PARTITIONS OR CASE WORK NEED NOT BE FILLED.
- CHAMFER EXPOSED EDGES AND CORNERS OF CONCRETE 3/4" UNLESS OTHERWISE NOTED.
- SEE ARCHITECTURAL DRAWINGS FOR REQUIRED FLOOR FINAL FINISHES AND PROVIDE NECESSARY SLOPES, DEPRESSIONS, AND SLAB FINISH AS REQUIRED TO ACCEPT THE SPECIFIED FINAL FINISHES.

DIMENSIONS

- THE CONTRACTOR SHALL BE RESPONSIBLE FOR REVIEWING ALL DIMENSIONS IN THE DRAWINGS AND ADVISING THE ARCHITECT OF ANY DIFFERENCES IN THE DIMENSIONS ON THE DRAWINGS PRIOR TO COMMENCING CONSTRUCTION.

EXISTING CONDITIONS

- THE CONTRACTOR SHALL BE RESPONSIBLE FOR REVIEWING ALL EXISTING JOB CONDITIONS. ANY ADVERSE EXISTING CONDITIONS AFFECTING WORK SHOWN ON THESE DRAWINGS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT FOR POSSIBLE CLARIFICATION OR RECONCILIATION.

CONSTRUCTION SAFETY

- THESE DRAWINGS DO NOT CONTAIN THE REQUIREMENTS FOR JOB SAFETY. ALL PROVISIONS FOR SAFETY SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

LIGHT GAGE METAL FRAMING

- LIGHT GAGE METAL STUD LOCATIONS SHALL BE AS NOTED ON THE DRAWINGS.
- ALL MATERIAL SHALL BE GALVANIZED AND ALL SCREWS SHALL BE SUITABLE GRADE STAINLESS STEEL OR ZINC PLATED.
- ALL WELDS AND ABRASIONS IF ANY SHALL BE TOUCHED UP WITH ZINC RICH PAINT.
- ALL MULTIPLE MEMBERS SHALL BE INTERCONNECTED SO AS TO ACT AS A COMPOSITE UNIT. ALL INDIVIDUAL MEMBERS COMPRISING A MULTIPLE MEMBER SHALL BE FULL LENGTH UNSPLICED MATERIAL.
- ALL CONNECTIONS SHALL BE SCREWED OR WELDED TOGETHER BOTH SIDES WITH SUFFICIENT WELDS OR SCREWS TO SAFELY SUPPORT THE LOADS TO BE IMPOSED ON THE CONNECTIONS.
- ALL CONNECTIONS SHALL BE ACCOMPANIED WITH STANDARD ACCESSORY COMPONENTS SUPPLIED FOR THAT PURPOSE.

DESIGN CODE DATA (NEW CONSTRUCTION)

- IMPORTANCE FACTORS:
 

|         |              |
|---------|--------------|
| WIND    | $I_w = 1.0$  |
| SNOW    | $I_s = 1.1$  |
| SEISMIC | $I_e = 1.25$ |
- LIVE LOAD:
 

|      |        |
|------|--------|
| ROOF | 20 PSF |
|------|--------|
- DEAD LOAD:
 

|      |        |
|------|--------|
| ROOF | 24 PSF |
|------|--------|
- SNOW LOAD:
 

|    |          |
|----|----------|
| Ft | 10.0 PSF |
| Ct | 1.0      |
| Ce | 0.9      |
| Pf | 8.5 PSF  |
| Ps | 8.5 PSF  |
- WIND LOAD:  $V_{ult} = 150$  3 SEC PEAK GUST MPH (ASCE 7 - 10)  
 $V_{dir} = 152.2$  MPH  
 EXPOSURE C  
 INTERNAL PRES. COEFF. +/- 0.18 (EXCLUDED)  
 MINORS DESIGN WIND PRES. 49.0 PSF  
 WIND BASE SHEARS (SEE TABLE)
 

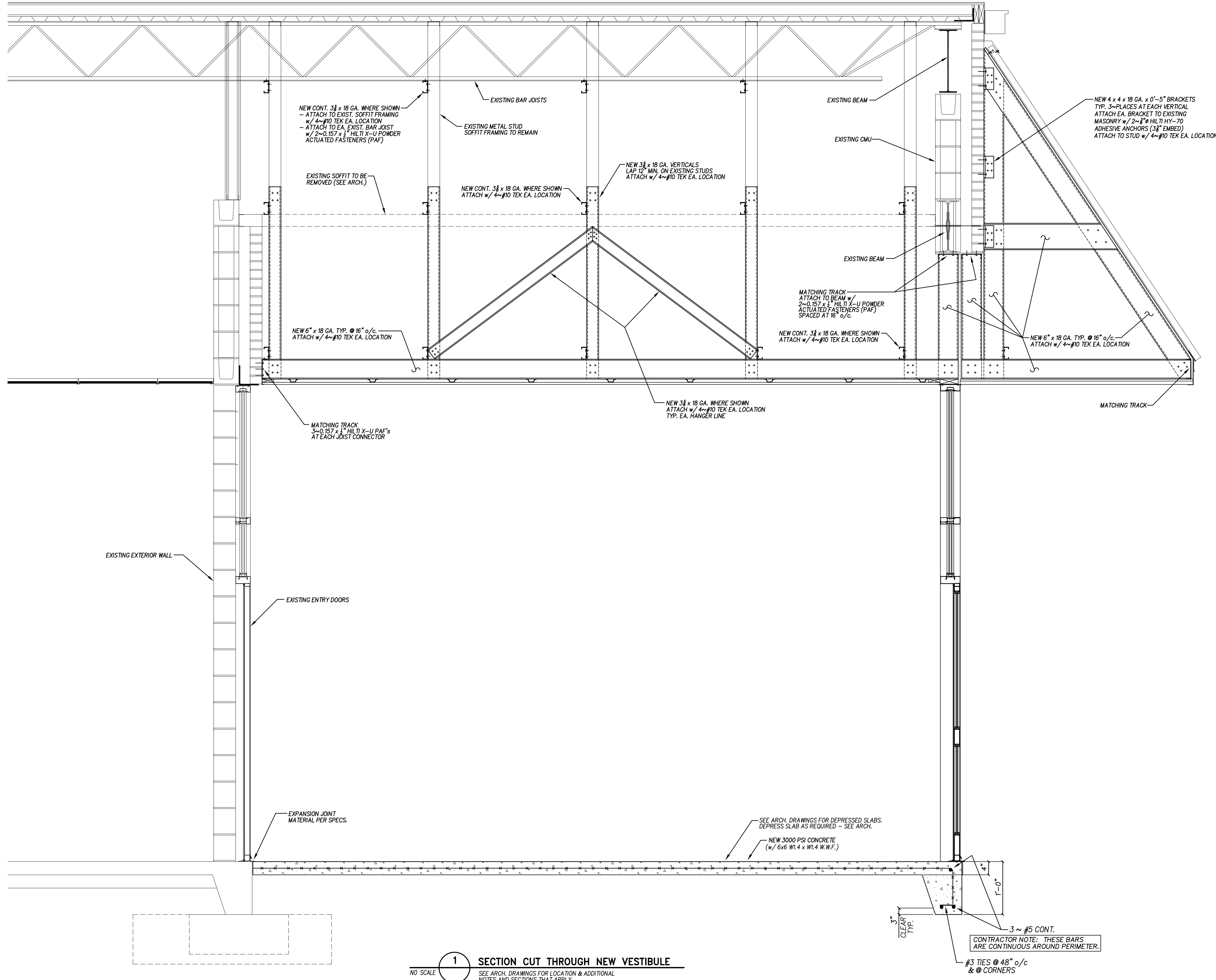
| WIND BASE SHEARS |              |
|------------------|--------------|
| $V_x$ (KIPS)     | $V_y$ (KIPS) |
| 1.0              | 9.8          |

COMPONENTS & CLADDING DESIGN WIND PRESSURES (PSF):

| LOAD CASE | ZONE  |       |        |       |       |
|-----------|-------|-------|--------|-------|-------|
|           | 1     | 2     | 3      | 4     | 5     |
| 1         | -60.9 | -78.6 | -136.0 | -56.5 | -87.4 |
| 2         | 25.6  | 25.6  | 25.6   | 52.1  | 52.1  |

NOTE: INCREASED LATERAL FORCES IMPOSED ON THE EXISTING STRUCTURE AS A RESULT OF INCREASED MEAN ROOF HEIGHT AND EXPOSED ROOF AREA WILL NOT OVERSTRESS THE EXISTING LATERAL FORCE RESISTING SYSTEM OF THE STRUCTURE AT RETROFIT ROOF AREAS.

- SOIL BEARING VALUE 2000 PSF. (ASSUMED)



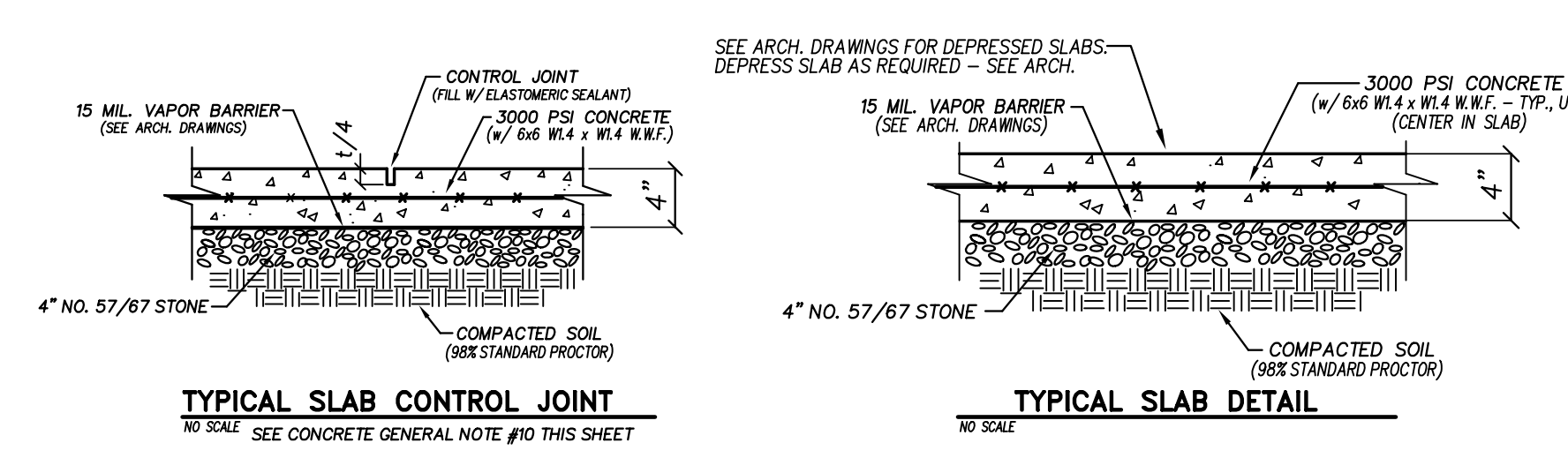
1 SECTION CUT THROUGH NEW VESTIBULE

- NO SCALE. SEE ARCH. DRAWINGS FOR LOCATION & ADDITIONAL NOTES AND SECTIONS THAT APPLY.
- NEW VESTIBULE NOTES**
- FOOTING DESIGN BASED ON AN ASSUMED SOIL BRG. CAPACITY OF 2000 PSF. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE ENGINEER OF RECORD IF UNSTABLE, ORGANIC, WEAK OR OTHERWISE UNACCEPTABLE SOIL CONDITIONS ARE ENCOUNTERED DURING EXCAVATIONS OR SUBSEQUENT GEOTECHNICAL INVESTIGATIONS.
  - ELEV. NOTED ( - ) ARE BELOW REFERENCE FINISHED FLOOR TO TOP/FOOTING.
  - SLAB ON GRADE IS NORMAL WEIGHT CONCRETE WITH REINFORCED WITH 6x6 W1.4 x W1.4 W/M ON A 4" NO. 57/67 WASHED STONE AND 15 MIL POLY VAPOR BARRIER, TYP. U.O.N.
  - ALL CONCRETE SHALL BE A MINIMUM STRENGTH OF 3000 PSI MEETING ACI 301 AND ACI 318. ALL CONCRETE SHALL BE MIXED, HANDLED, SAMPLED, TESTED, AND PLACED IN ACCORDANCE WITH ACI STANDARDS. ALL SAMPLES SUBJECT TO PUMPING SHALL BE TAKEN AT THE EXIT END OF THE PUMP AT THE ELEVATION OF PLACEMENT. (REFERENCE ACI MANUAL OF CONCRETE PRACTICE).
  - ALL REINFORCING BARS SHALL BE GRADE 60 CONFORMING TO ASTM 615. LAP BARS WHERE REQUIRED USING CLASS B TENSION LAP SPLICES, OR 40 BAR DIAMETERS. DEVELOPMENT LENGTHS SHALL BE CRSI MINIMUM UON.
  - REFERENCE ARCHITECTURAL AND PLUMBING DRAWINGS FOR COORDINATION OF SLOPED FLOORS AT FLOOR DRAINS, AND DEPRESSED FLOOR SLAB LOCATIONS.
  - LOCATE ALL WALLS AND OPENINGS PER ARCHITECTURAL DRAWINGS.
  - ARCHITECTURAL BACKGROUND IS SHOWN FOR REFERENCE ONLY. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS OF WALLS.
  - THE CONTRACTOR SHALL COORDINATE AND VERIFY ALL DIMENSIONS & ELEVATIONS PRIOR TO STARTING CONSTRUCTION AND ANY DISCREPANCY SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER OF RECORD.

NOTE: ALL METAL STUDS AND METAL SYSTEM TO BE MANUFACTURED BY DIETRICH INDUSTRIES OR EQUAL

| CONNECTION SCHEDULE #10 TEK SCREWS (U.N.O.) |  |
|---|--|
| CONNECTION TYPE                             | COMMENTS                                   |
| BOTTOM TRACK TO FLOOR                       | 2 ~ POWDER DRIVEN FASTENERS @ 24" o/c      |
| STUD TO BOTTOM TRACK                        | ONE SCREW IN EA. FLANGE, U.O.N.            |
| STUD TO TOP TRACK                           | ONE SCREW IN EA. FLANGE, U.O.N.            |
| PLYWOOD TO STUDS                            | SCREW @ 6" o/c ALONG EA. STUD              |
| TOP PL TO TRACK                             | #10 TEK AT 12" o/c.                        |
| FC TO STUD                                  | 4-#10 TEK                                  |
| FC TO SLAB                                  | 3" EXP. ANCH.                              |
| JOIST TO TOP TRACK (BEARING)                | (2) SCREWS IN FLANGE                       |
| PLYWOOD FLOORING TO JOIST                   | SCREW @ 12" o/c ALONG EA. JOIST            |
| BRIDGING TO JOISTS                          | 16 GA. CLIP ANGLE w/ 4 SCREWS              |
| BLOCKING TO JOISTS                          | 16 GA. CLIP ANGLE w/ 4 SCREWS              |
| TREAD TO VERTICAL STUD                      | (4) #10 TEK SCREWS IN WEB                  |
| WOOD SHEATHING                              | 8d, 12" o/c AT SUPPORTS, 6" o/c. AT EDGES  |
| HEADER TO HEADER                            | #10 TEK AT 12" o/c. STAGGERED (WEB TO WEB) |
| HEADER TO CRIPPLE                           | SA18 GA. w/ #8 TEK PER LEG                 |
| CRIPPLE TO LOWER TRACK                      | 2-#8 TEK EA. FL.                           |
| HEADER TO BEARING STUD                      | SA 18 GA. w/4-#8 TEK PER LEG               |
| BEARING STUD TO CRC BRACE                   | BRIDGE CLIP                                |
| BEARING STUD TO BRIDGE CLIP                 | 4-#10 TEK                                  |
| BRIDGE CLIP TO CRC                          | 4-#10 TEK                                  |
| STUD TO WALL                                | 2 SCREWS IN EA. WEB @ 16" o/c              |
| JOIST TO JOIST INTERFACE                    | ONE SCREW IN EA. FLANGE                    |
| PLYWOOD FLOORING TO JOIST                   | SCREW @ 12" o/c ALONG EA. JOIST            |
| BRIDGING TO JOISTS                          | 16 GA. CLIP ANGLE w/ 4 SCREWS              |
| BLOCKING TO JOISTS                          | 16 GA. CLIP ANGLE w/ 4 SCREWS              |

- METAL STUD GENERAL NOTES**
- ALL METAL STUD MATERIAL SHALL BE MANUFACTURED BY DIETRICH INDUSTRIES OR APPROVED EQUAL.
  - CONTRACTOR SHALL INSTALL ALL COMPONENTS IN STRICT COMPLIANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS.
  - CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND DETAILS PRIOR TO CONSTRUCTION.
  - ALL METAL STUD MEMBERS SHALL HAVE  $F_y = 33$  KSI, MINIMUM.



TYPICAL SLAB CONTROL JOINT

TYPICAL SLAB DETAIL

Revision

No. Date

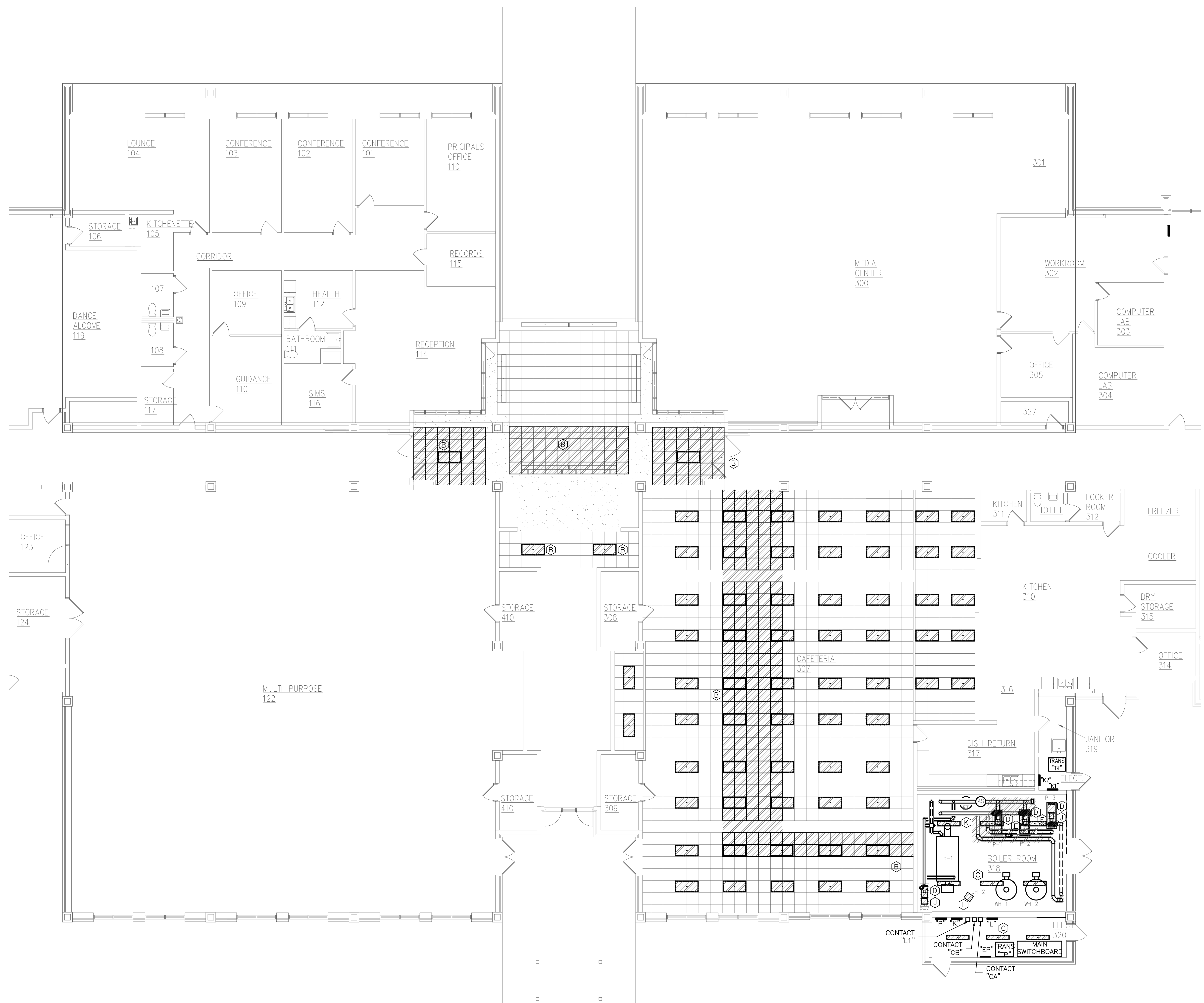
**Hite associates**  
 ARCHITECTURE/ENGINEERING/TECHNOLOGY  
 2600 Meridian Drive / Greenville, NC 27838 / tel (252) 757-0333

NC LIC. C-1003  
**QED**  
 QUEEN ENGINEERING & DESIGN  
 1000 W. STATE ST. SUITE 200  
 GREENVILLE, NC 27601  
 ENGINEER  
 BRUCE L. QUEEN  
 31 OCT 2024

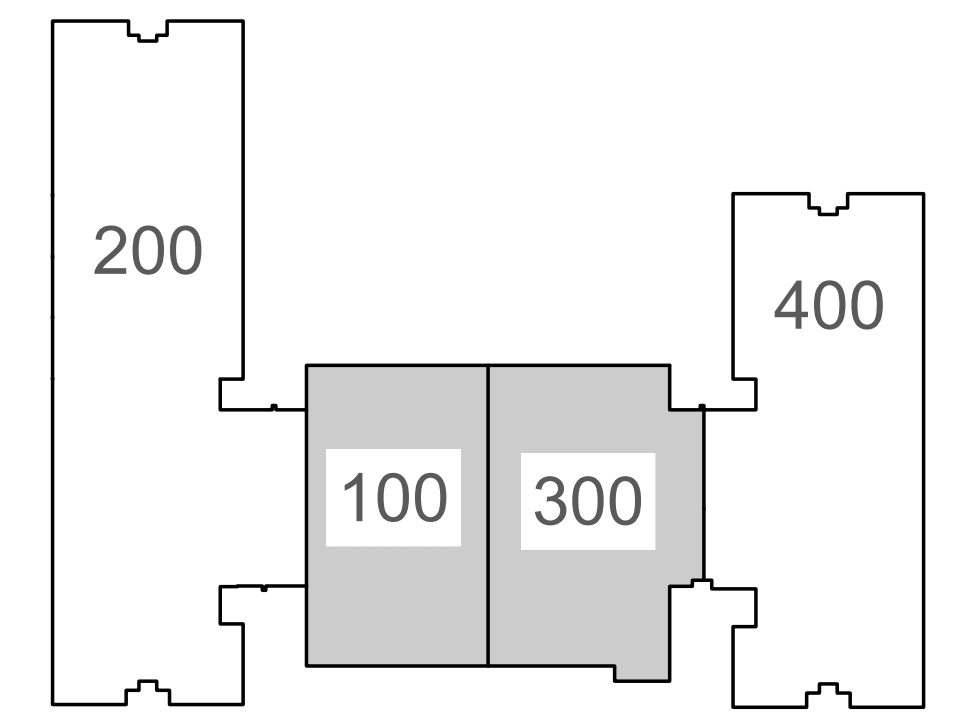
Renovations to  
**Bogue Sound Elementary School**  
 3323 Hwy. 24, Newport, NC 28570  
 Carteret County Schools / North Carolina

Project No. 22419  
 Date: 31 OCT 2024  
 Drawing no. S 101

- MECH-ELEC DEMO KEY NOTES:**  
 GENERAL DEMOLITION KEY NOTE COMMENT: CONTRACTORS ARE RESPONSIBLE FOR READING, UNDERSTANDING AND FOLLOWING WORK SEQUENCING/PHASING PLAN WITH REGARDS TO WHEN THE FOLLOWING DEMOLITION WORK IS TO TAKE PLACE.
- (A) REMOVE EXISTING "PRE-COOLING" (PC) UNITS WITH ALL ASSOCIATED HYDRONIC PIPING BACK TO MAINS AND CAP. REPAIR OA DUCT WHERE UNIT IS REMOVED AND MAINTAIN FOR REUSE WITH NEW AHUS.
  - (B) REMOVE EXISTING CEILING TILES IN THIS AREA AND REWORK GRID AS NECESSARY TO ALLOW NEW CHILLED WATER PIPING TO BE INSTALLED.
  - (C) REMOVE EXISTING FLUORESCENT LIGHTS IN THIS AREA AS INDICATED BY HATCHING. MAINTAIN POWER AND CONTROL WIRING FOR REUSE. INSTALL TEMPORARY LIGHTS AS NECESSARY TO MAINTAIN SAFE WORKING ENVIRONMENT UNTIL NEW LED LIGHTS ARE INSTALLED.
  - (D) REMOVE EXISTING PUMP AND ASSOCIATED PUMP TRIM. MAINTAIN SUPPLY AND RETURN PIPING DROPS FOR RECONNECTION TO NEW PUMP AND ASSOCIATED NEW TRIM.
  - (E) DISCONNECT EQUIPMENT BEING DEMOLISHED, REMOVE SWITCH AND ASSOC. FEEDER BACK TO PANEL LABEL AS "SPARE" OR WITH RE-PURPOSED LOAD AS APPROPRIATE.
  - (F) SEQUENTIALLY REMOVE EXISTING AIR HANDLERS ACCORDING TO SCHEDULE DEVELOPED WITH OWNER, MAINTAIN MAINTENANCE PAD FOR REUSE. REMOVE PIPING, COIL TRIM AND DUCT CONNECTIONS TO THE AHU. MAINTAIN ASSOCIATED DUCT MAINS TO ALLOW NEW AHU TO GO BACK INTO THE SAME LOCATION AND TIE BACK TO NEW UNIT.
  - (G) REPLACE EXISTING DX AIR COOLED SPLIT SYSTEM AHU AND ASSOC. REFRIGERANT PIPING, OUTDOOR UNIT, WATER COIL, ASSOCIATED COIL TRIM, AND EXTERIOR MAINTENANCE PAD. MAINTAIN HYDRONIC SUPPLY/RETURN.
  - (H) REMOVE EXISTING TRANE MODULAR AIR HANDLERS TO ADD A 2-ROW HEATING COIL IN THE REHEAT POSITION. MOVE THE EXIST. COOLING COIL AS NECESSARY TO MAKE ROOM FOR THE NEW COIL.
  - (I) EXISTING UNIT DISCONNECT TO REMAIN. REMOVE CONNECTION TO EQUIPMENT BEING DEMOLISHED. MAINTAIN SWITCH AND ASSOC. FEEDER FOR REUSE.
  - (X) REMOVE EXISTING INSULATION FROM ALL EXISTING DUAL TEMP HYDRONIC PIPING. SCRAPE/CLEAN PIPE, AND PREP FOR NEW INSULATION. SEE PHASING SCHEDULE. PIPING MUST BE INSULATED DURING ALL COOLING SEASONS TO PREVENT SWEATING.
  - (U) REMOVE EXISTING BOILER ROOM UNIT HEATER AND ALL ASSOCIATED UNIT HEATER PIPING TO MAKE ROOM FOR NEW ELECTRIC UNIT HEATER.



**101.1 100 & 300 WING DEMO PLAN**  
 SCALE: 1/8" = 1'-0"

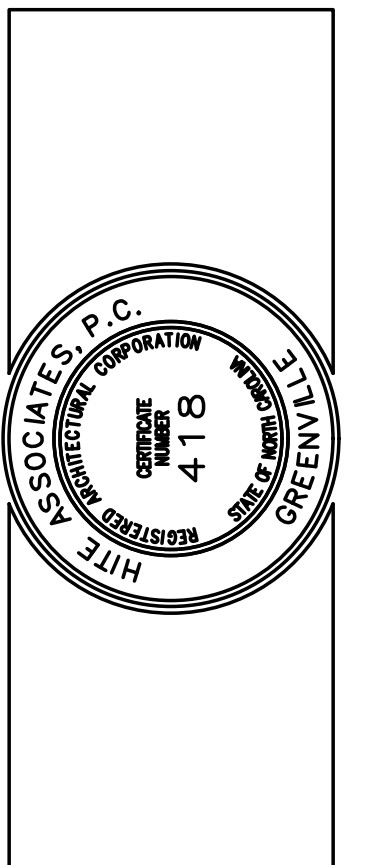


**KEY PLAN**  
 SCALE: NTS

THIS DRAWING IS THE PROPERTY OF ENGINEERING SOURCE OF NC, P.A. THIS DRAWING IS NOT TO BE COPIED IN WHOLE OR IN PART. THIS DRAWING OR THE INFORMATION HEREON IS NOT TO BE USED ON ANY OTHER PROJECT AND MUST BE RETURNED TO ENGINEERING SOURCE OF NC, P.A. UPON REQUEST. DO NOT SCALE THESE DRAWINGS. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT DIMENSIONS.

| No. | Date | Revision |
|-----|------|----------|
|     |      |          |
|     |      |          |
|     |      |          |
|     |      |          |

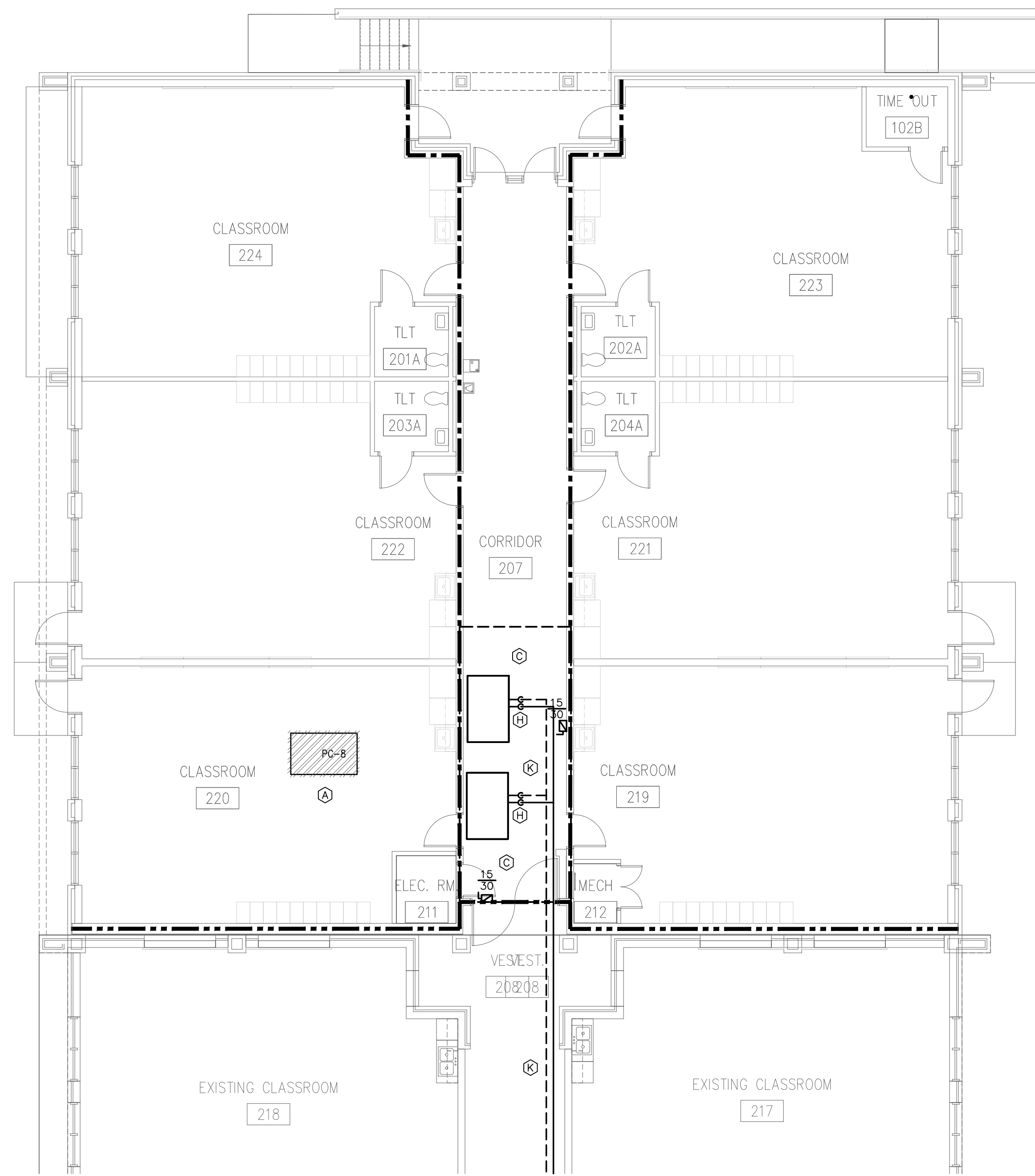
**Hite associates**  
 ARCHITECTURE / PLANNING / TECHNOLOGY  
 2600 Meridian Drive / Greenville, NC 27634 / Tel (252) 757-0333



HVAC Renovations to  
**Bogue Elementary School**  
 3355 Hwy. 24, Newport, NC 28570  
 Carteret County Schools / North Carolina

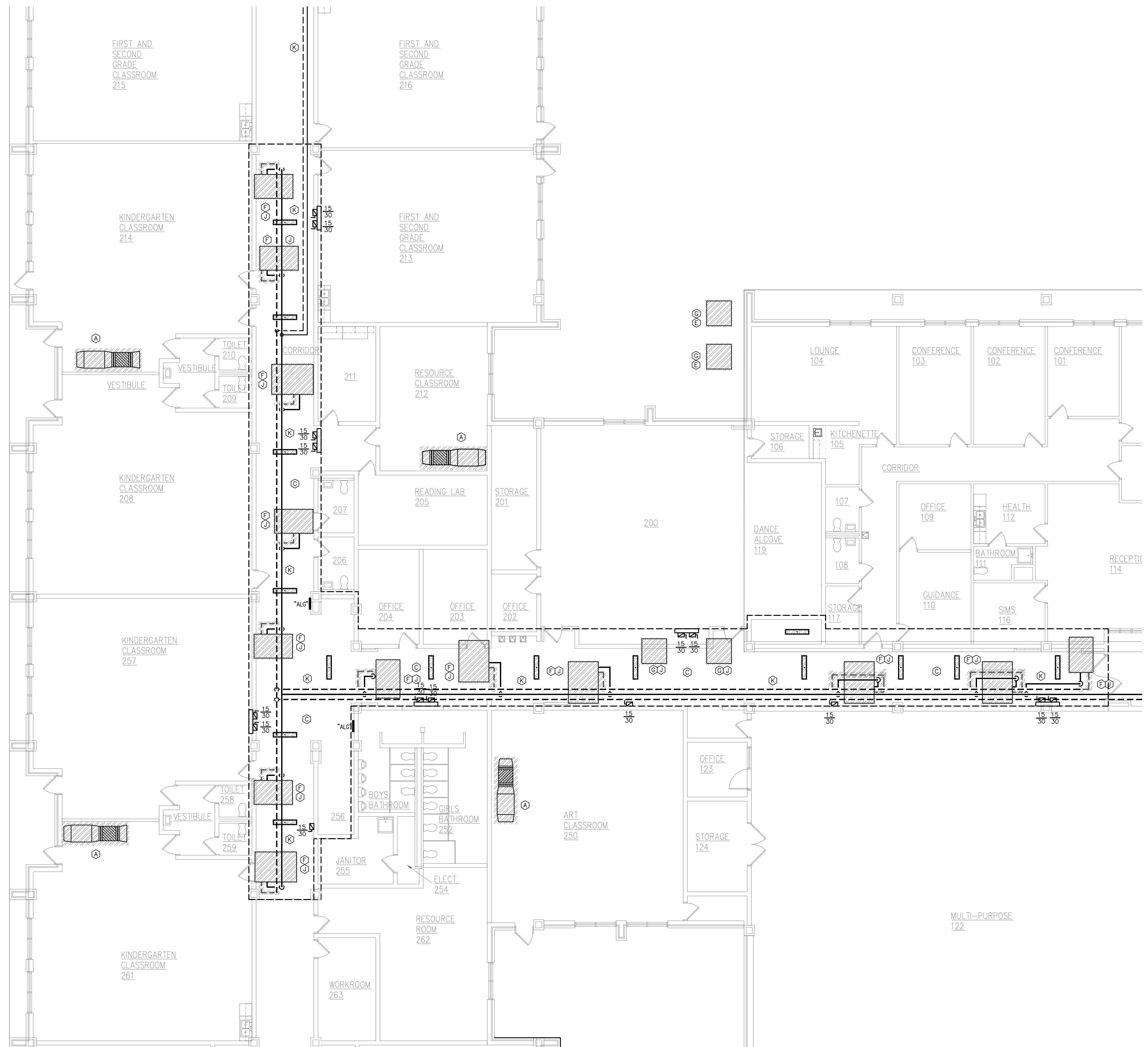
Project No. 22419  
 Date: 11 Nov 2024  
 Drawing No. **ME 101**

ES24005  
**ENGINEERING**  
 SOURCE OF NC, P.A.  
 102-42 Regency Blvd. Greenville, NC 27634  
 E-Mail Address: general@engsource.com  
 Tel (252) 432-0333 • Fax (252) 432-0462 • Fax P-1073

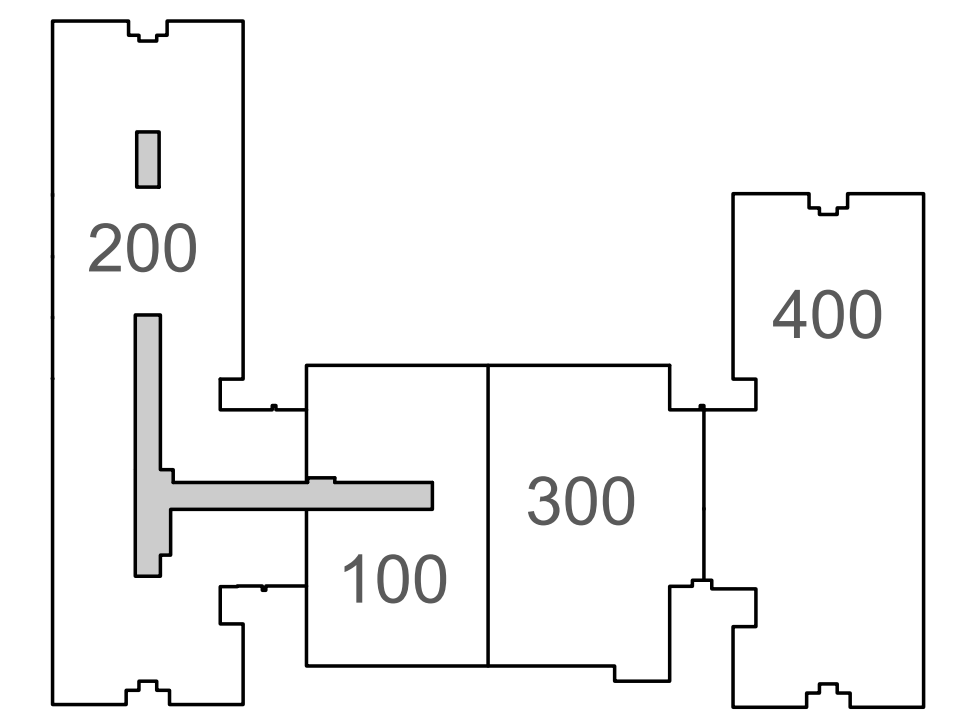


**201.2 UPPER 200 WING PLATFORM DEMO PLAN**  
SCALE: 1/8" = 1'-0"

- MECH-ELEC DEMO KEY NOTES:**  
GENERAL DEMOLITION KEY NOTE COMMENT: CONTRACTORS ARE RESPONSIBLE FOR READING, UNDERSTANDING AND FOLLOWING WORK SEQUENCING/PHASING PLAN WITH REGARDS TO WHEN THE FOLLOWING DEMOLITION WORK IS TO TAKE PLACE.
- (A) REMOVE EXISTING "PRE-COOLING" (PC) UNITS WITH ALL ASSOCIATED HYDRONIC PIPING BACK TO MAINS AND CAP. REPAIR OR DUCT WHERE UNIT IS REMOVED AND MAINTAIN FOR REUSE WITH NEW AHUS.
  - (B) REMOVE EXISTING CEILING TILES IN THIS AREA AND REWORK GRID AS NECESSARY TO ALLOW NEW CHILLED WATER PIPING TO BE INSTALLED.
  - (C) REMOVE EXISTING FLUORESCENT LIGHTS IN THIS AREA AS INDICATED BY HATCHING. MAINTAIN POWER AND CONTROL WIRING FOR REUSE. INSTALL TEMPORARY LIGHTS AS NECESSARY TO MAINTAIN SAFE WORKING ENVIRONMENT UNTIL NEW LED LIGHTS ARE INSTALLED.
  - (D) REMOVE EXISTING PUMP AND ASSOCIATED PUMP TRIM. MAINTAIN SUPPLY AND RETURN PIPING DROPS FOR RECONNECTION TO NEW PUMP AND ASSOCIATED NEW TRIM.
  - (E) DISCONNECT EQUIPMENT BEING DEMOLISHED, REMOVE SWITCH AND ASSOC. FEEDER BACK TO PANEL. LABEL AS "SPARE" OR WITH RE-PURPOSED LOAD AS APPROPRIATE.
  - (F) SEQUENTIALLY REMOVE EXISTING AIR HANDLERS ACCORDING TO SCHEDULE DEVELOPED WITH OWNER. MAINTAIN MAINTENANCE PAD FOR REUSE. REMOVE PIPING, COIL TRIM AND DUCT CONNECTIONS TO THE AHU. MAINTAIN ASSOCIATED DUCT MAINS TO ALLOW NEW AHU TO GO BACK INTO THE SAME LOCATION AND TIE BACK TO NEW UNIT.
  - (G) REPLACE EXISTING DX AIR COOLED SPLIT SYSTEM AHU AND ASSOCIATED REFRIGERANT PIPING, OUTDOOR UNIT, WATER COIL, ASSOCIATED COIL TRIM, AND EXTERIOR MAINTENANCE PAD. MAINTAIN HYDRONIC SUPPLY/RETURN.
  - (H) REWORK EXISTING TRANE MODULAR AIR HANDLERS TO ADD A 2-ROW HEATING COIL IN THE REHEAT POSITION. MOVE THE EXIST. COOLING COIL AS NECESSARY TO MAKE ROOM FOR THE NEW COIL.
  - (I) EXISTING UNIT DISCONNECT TO REMAIN. REMOVE CONNECTION TO EQUIPMENT BEING DEMOLISHED. MAINTAIN SWITCH AND ASSOC. FEEDER FOR REUSE.
  - (J) REMOVE EXISTING INSULATION FROM ALL EXISTING DUAL TEMP HYDRONIC PIPING, SCRAPE/CLEAN PIPE, AND PREP FOR NEW INSULATION. SEE PHASING SCHEDULE. PIPING MUST BE INSULATED DURING ALL COOLING SEASONS TO PREVENT SWEATING.
  - (K) REMOVE EXISTING BOILER ROOM UNIT HEATER AND ALL ASSOCIATED UNIT HEATER PIPING TO MAKE ROOM FOR NEW ELECTRIC UNIT HEATER.



**201.1 100 & LOWER 200 WING PLATFORM DEMO PLAN**  
SCALE: 1/8" = 1'-0"



**KEY PLAN**  
SCALE: NTS

ES24005  
PROJECT No. 22419  
DATE: 11 Nov 2024  
DRAWING No. ME 201

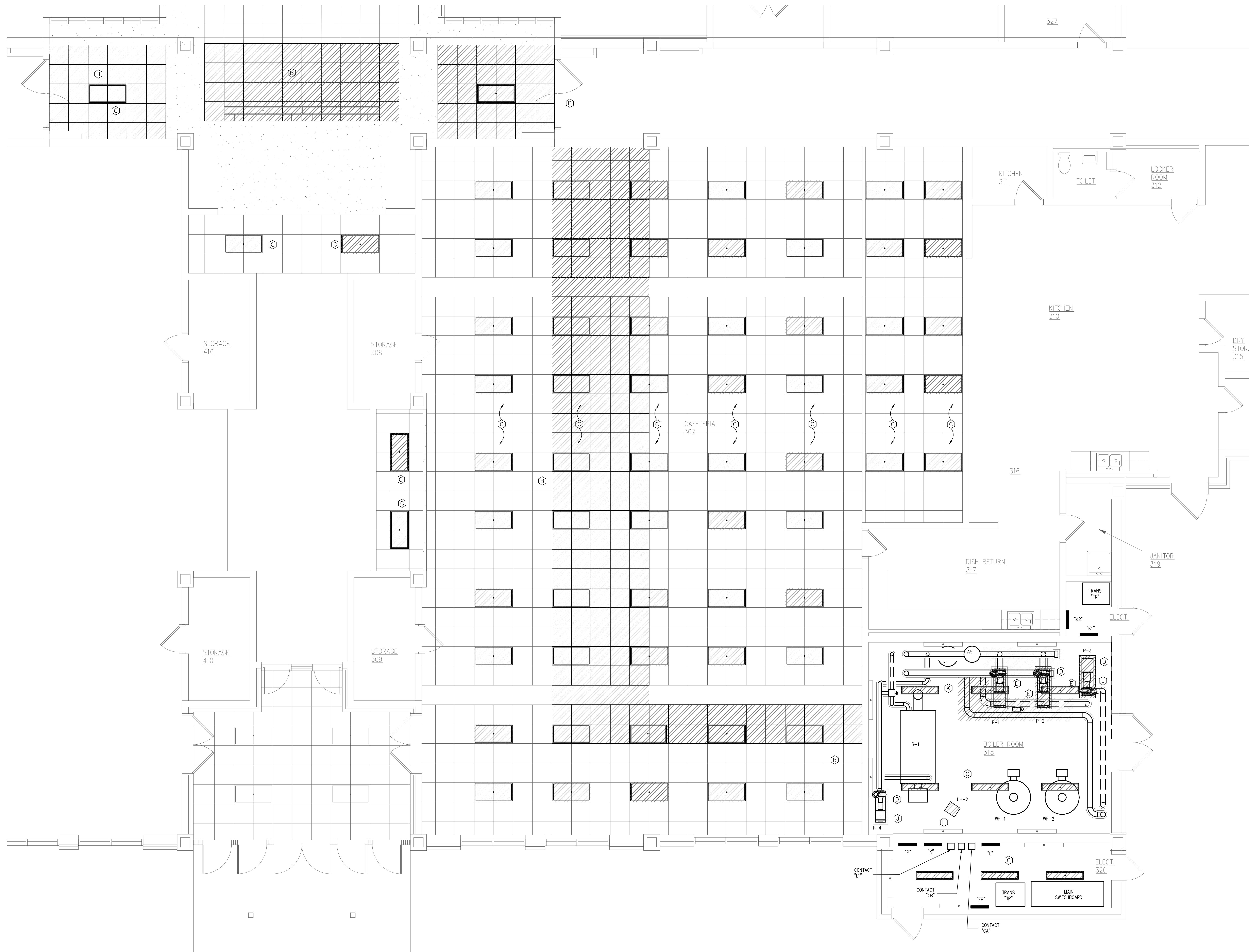
**ENGINEERING**  
SOURCE OF NC, PA.

103-42 Regency Blvd. Greensboro, NC 27434  
E-Mail Address: general@hiteengineering.com  
Tel (336) 438-0338 • Fax (336) 438-0462 • Fax P-1073

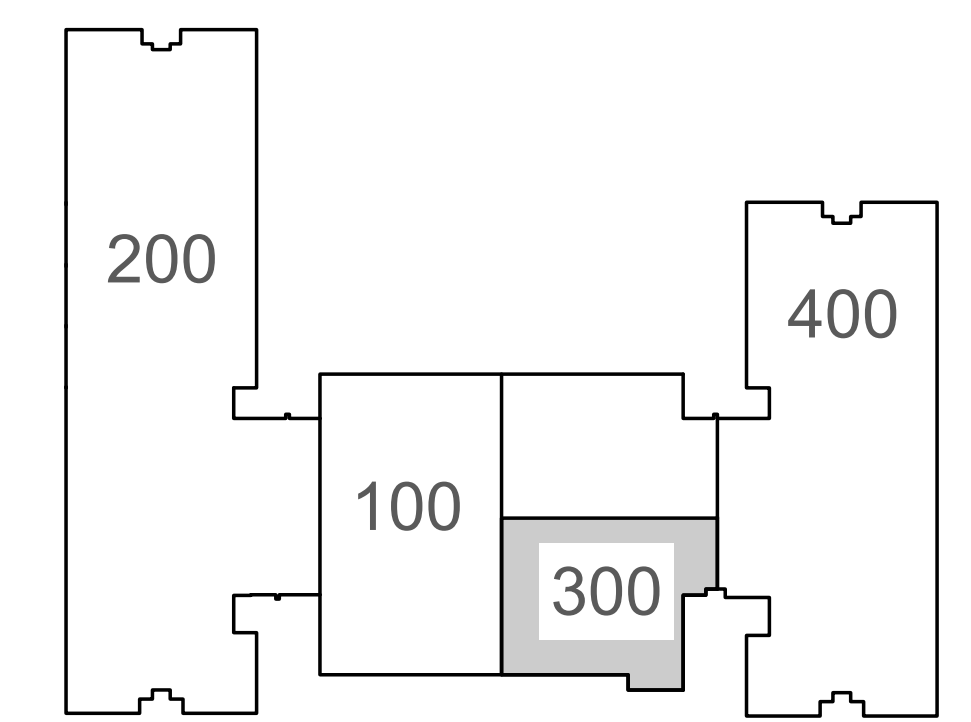
*D. Wilson*  
11/14/24  
ENGINEER  
WILSON FOU

THIS DRAWING IS THE PROPERTY OF ENGINEERING SOURCE OF NC, P.A. THIS DRAWING IS NOT TO BE COPIED IN WHOLE OR IN PART. THIS DRAWING OR THE INFORMATION HEREON IS NOT TO BE USED ON ANY OTHER PROJECT AND MUST BE RETURNED TO ENGINEERING SOURCE OF NC, P.A. UPON REQUEST. DO NOT SCALE THESE DRAWINGS. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT DIMENSIONS.

|  |   |
|--|---|
| <p><b>Hite associates</b><br/>ARCHITECTURE / PLANNING / TECHNOLOGY<br/>2600 Meridian Drive / Greenville, NC 27634 / Tel (252) 757-0333</p>     | <p><b>Hite associates</b><br/>P.C.<br/>MEMBER OF THE ASSOCIATION OF ARCHITECTS OF NORTH CAROLINA<br/>LICENSE NO. 418<br/>GREENVILLE, NC</p> |
| <p>HVAC Renovations to<br/><b>Bogue Elementary School</b><br/>3355 Hwy. 24, Newport, NC 28570<br/>Carteret County Schools / North Carolina</p> | <p>Project No. 22419<br/>Date: 11 Nov 2024<br/>Drawing No. <b>ME 201</b></p>  |



**301.1 ENLARGED 300 WING DEMO PLAN**  
SCALE: 1/4" = 1'-0"



**KEY PLAN**  
SCALE: NTS

ES Project No: ES24005  
**ENGINEERING**  
 SOURCE OF NC, PA.  
 102-42 Regency Blvd. Greenville, NC 27834  
 E-Mail Address: general@hiteassociates.com  
 Tel (252) 432-0328 • Fax (252) 432-0462 • Twp P-1073

*D. Wilson*  
 11/14/24  
 ENGINEER  
 WILSON FOU

Project No: 22419  
 Date: 11 Nov 2024  
 Drawing No: **ME 301**

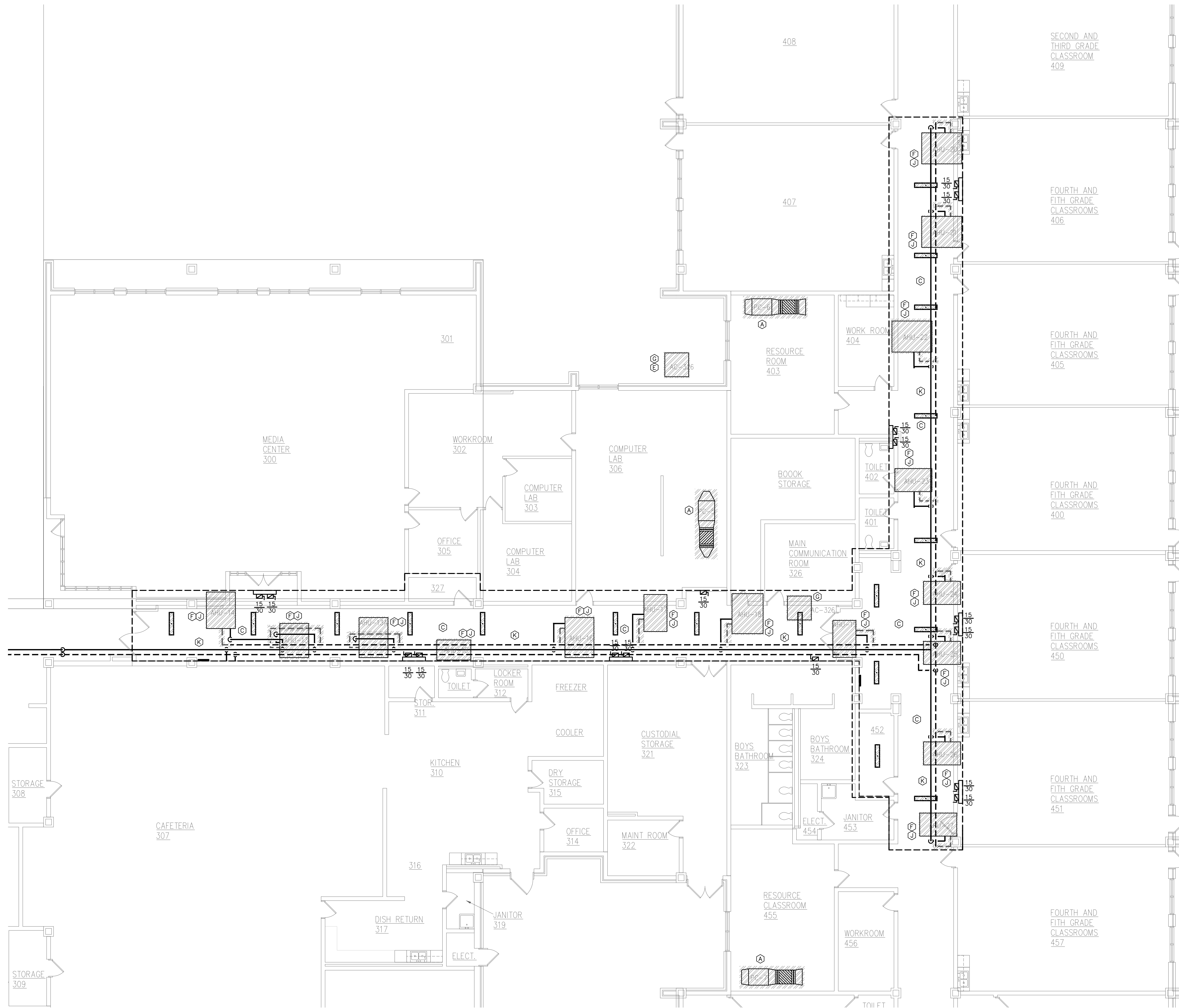
| No. | Date | Revision |
|-----|------|----------|
|     |      |          |
|     |      |          |
|     |      |          |
|     |      |          |

**Hite associates**  
 ARCHITECTURE / PLANNING / TECHNOLOGY  
 2600 Meridian Drive / Greenville, NC 27834 / Tel (252) 757-0333

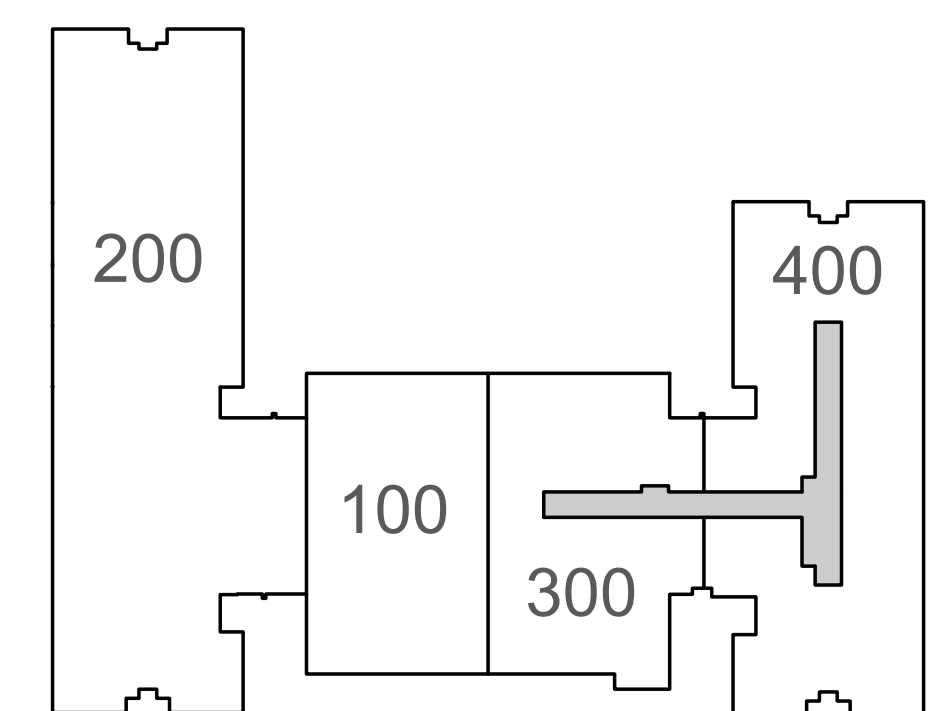
HITE ASSOCIATES, P.C.  
 REGISTERED PROFESSIONAL ENGINEERING FIRM  
 LICENSE NO. 418  
 GREENVILLE, NC

HVAC Renovations to  
**Bogue Elementary School**  
 3355 Hwy. 24, Newport, NC 28570  
 Carteret County Schools / North Carolina

THIS DRAWING IS THE PROPERTY OF ENGINEERING SOURCE OF NC, P.A. THIS DRAWING IS NOT TO BE COPIED IN WHOLE OR IN PART. THIS DRAWING OR THE INFORMATION HEREON IS NOT TO BE USED ON ANY OTHER PROJECT AND MUST BE RETURNED TO ENGINEERING SOURCE OF NC, P.A. UPON REQUEST. DO NOT SCALE THESE DRAWINGS. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT DIMENSIONS.



**401.1 300 & 400 WING PLATFORM DEMO PLAN**  
SCALE: 1/8" = 1'-0"



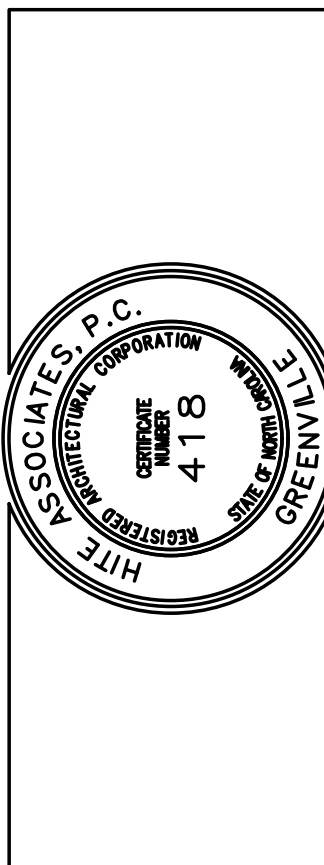
**KEY PLAN**  
SCALE: NTS

- MECH-ELEC DEMO KEY NOTES:**  
GENERAL DEMOLITION KEY NOTE COMMENT: CONTRACTORS ARE RESPONSIBLE FOR READING, UNDERSTANDING AND FOLLOWING WORK SEQUENCING/PHASING PLAN WITH REGARDS TO WHEN THE FOLLOWING DEMOLITION WORK IS TO TAKE PLACE.
- (A) REMOVE EXISTING "PRE-COOLING" (PC) UNITS WITH ALL ASSOCIATED HYDRONIC PIPING BACK TO MAINS AND CAP. REPAIR QA DUCT WHERE UNIT IS REMOVED AND MAINTAIN FOR REUSE WITH NEW AHU.
  - (B) REMOVE EXISTING CEILING TILES IN THIS AREA AND REWORK GRID AS NECESSARY TO ALLOW NEW CHILLED WATER PIPING TO BE INSTALLED.
  - (C) REMOVE EXISTING FLUORESCENT LIGHTS IN THIS AREA AS INDICATED BY HATCHING. MAINTAIN POWER AND CONTROL WIRING FOR REUSE. INSTALL TEMPORARY LIGHTS AS NECESSARY TO MAINTAIN SAFE WORKING ENVIRONMENT UNTIL NEW LED LIGHTS ARE INSTALLED.
  - (D) REMOVE EXISTING PUMP AND ASSOCIATED PUMP TRIM. MAINTAIN SUPPLY AND RETURN PIPING DROPS FOR RECONNECTION TO NEW PUMP AND ASSOCIATED NEW TRIM.
  - (E) DISCONNECT EQUIPMENT BEING DEMOLISHED, REMOVE SWITCH AND ASSOC. FEEDER BACK TO PANEL LABEL AS "SPARE" OR WITH RE-PURPOSED LOAD AS APPROPRIATE.
  - (F) SEQUENTIALLY REMOVE EXISTING AIR HANDLERS ACCORDING TO SCHEDULE DEVELOPED WITH OWNER. MAINTAIN MAINTENANCE PAD FOR REUSE. REMOVE PIPING, COIL TRIM AND DUCT CONNECTIONS TO THE AHU. MAINTAIN ASSOCIATED DUCT MAINS TO ALLOW NEW AHU TO GO BACK INTO THE SAME LOCATION AND TIE BACK TO NEW UNIT.
  - (G) REPLACE EXISTING DX AIR COOLED SPLIT SYSTEM AHU AND ASSOCIATED REFRIGERANT PIPING, OUTDOOR UNIT, WATER COIL, ASSOCIATED COIL TRIM, AND EXTERIOR MAINTENANCE PAD. MAINTAIN HYDRONIC SUPPLY/RETURN.
  - (H) REWORK EXISTING TRANE MODULAR AIR HANDLERS TO ADD A 2-ROW HEATING COIL IN THE REHEAT POSITION. MOVE THE EXIST. COOLING COIL AS NECESSARY TO MAKE ROOM FOR THE NEW COIL.
  - (I) EXISTING UNIT DISCONNECT TO REMAIN. REMOVE CONNECTION TO EQUIPMENT BEING DEMOLISHED. MAINTAIN SWITCH AND ASSOC. FEEDER FOR REUSE.
  - (K) REMOVE EXISTING INSULATION FROM ALL EXISTING DUAL TEMP HYDRONIC PIPING, SCRAPE/CLEAN PIPE, AND PREP FOR NEW INSULATION. SEE PHASING SCHEDULE. PIPING MUST BE INSULATED DURING ALL COOLING SEASONS TO PREVENT SWEATING.
  - (L) REMOVE EXISTING BOILER ROOM UNIT HEATER AND ALL ASSOCIATED UNIT HEATER PIPING TO MAKE ROOM FOR NEW ELECTRIC UNIT HEATER.

THIS DRAWING IS THE PROPERTY OF ENGINEERING SOURCE OF NC, P.A. THIS DRAWING IS NOT TO BE COPIED IN WHOLE OR IN PART. THIS DRAWING OR THE INFORMATION HEREON IS NOT TO BE USED ON ANY OTHER PROJECT AND MUST BE RETURNED TO ENGINEERING SOURCE OF NC, P.A. UPON REQUEST. DO NOT SCALE THESE DRAWINGS. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT DIMENSIONS.

| No. | Date | Revision |
|-----|------|----------|
|     |      |          |
|     |      |          |
|     |      |          |
|     |      |          |
|     |      |          |

**Hite associates**  
ARCHITECTURE / PLANNING / TECHNOLOGY  
2600 Meridian Drive / Greenville, NC 27634 / tel (252) 757-0333



HVAC Renovations to  
**Bogue Elementary School**  
3355 Hwy. 24, Newport, NC 28570  
Carteret County Schools / North Carolina

Project No. 22419

Date: 11 Nov 2024

Drawing No. **ME 401**

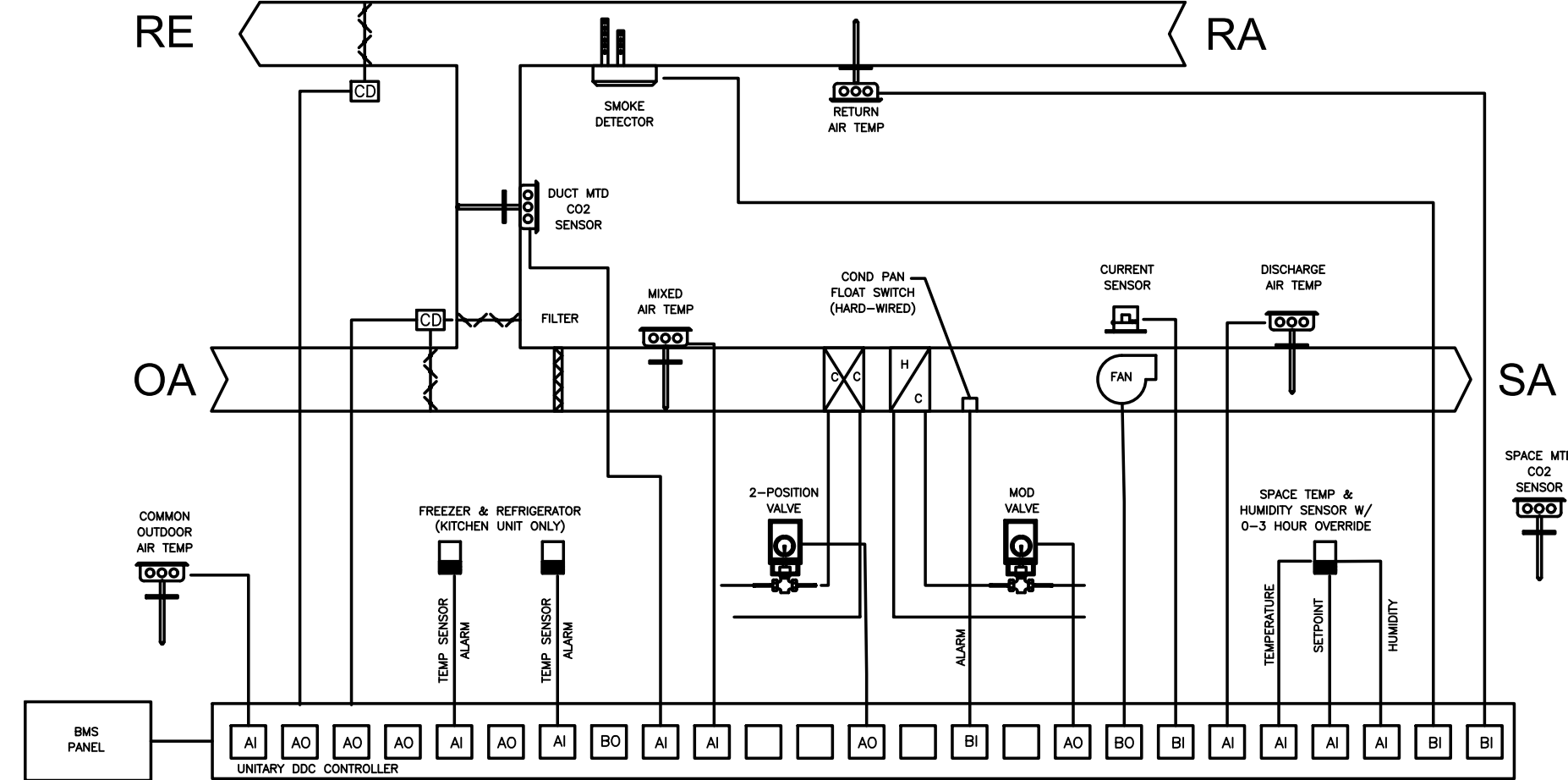
ES Project No. ES24005  
**ENGINEERING**  
SOURCE OF NC, P.A.  
103-42 Regency Blvd. Greenville, NC 27634  
E-Mail Address: general@engsource.com  
Tel (252) 438-0333 • Fax (252) 438-0462 • Fax P-1973

MECHANICAL GENERAL NOTES:

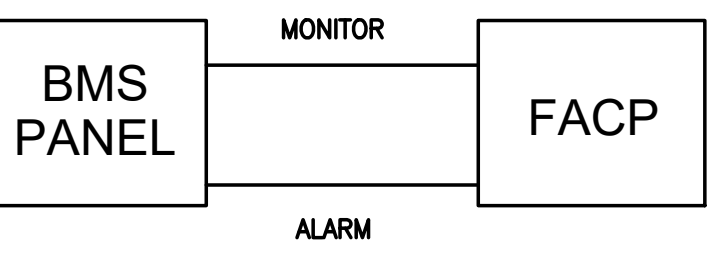
- 1. REFERENCE THE FULL AND COMPLETE SET OF DRAWINGS... MECHANICAL GENERAL NOTES: 1. REFERENCE THE FULL AND COMPLETE SET OF DRAWINGS, AND SPECIFICATIONS PRIOR TO CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF WORK WITH OTHER CONTRACTORS ON SITE. CONTRACTOR SHALL VISIT SITE AND WALK THROUGH THE PROJECT SCOPE OF WORK AREA PRIOR TO SUBMITTING BID. 2. ALL WORK SHALL BE IN STRICT ACCORDANCE WITH THE NC BUILDING CODE & CONTR. SHALL NOTIFY ENGINEER IN WRITING REGARDING ANY CODE DISCREPANCIES FOUND ON PLANS. CONTR. IS RESPONSIBLE FOR PERMITS, INSPECTIONS AND FEES. THE CONTROLS CONTRACTOR (C.C.) SHALL PROVIDE ALL CONTROL VALVES, ACTUATORS, DAMPERS, FAN COIL COMBINATION STARTERS, VALVE TAGS AND LABELING SHALL BE PROVIDED BY THE MECHANICAL CONTRACTOR (M.C.). 3. DO NOT SCALE THESE DRAWINGS; REFER TO LARGEST SCALE ARCHITECTURAL DRAWINGS. THESE DRAWINGS ARE DIAGRAMMATIC ONLY & ARE NOT INTENDED TO SHOW MINOR DETAILS & EXACT LOCATIONS. DESIGN ADJUSTMENTS SHALL BE ANTICIPATED BY THE CONTRACTORS TO PROVIDE A COMPLETE AND OPERATIONAL SYSTEM. 4. "PROVIDE" IS DEFINED AS FURNISH & INSTALL AS PER MANUFACTURERS RECOMMENDATIONS. 5. THE MECHANICAL & CONTROLS CONTRACTOR SHALL COORDINATE THE INSTALLATION OF HVAC EQUIPMENT & CONTROLS WITH EXISTING CONDITIONS, FIELD VERIFY PRIOR TO INSTALLATION TO AVOID CONFLICT. CONTACT ENGINEER IF ALTERNATE INSTALLATION METHOD IS REQUIRED. 6. SYSTEMS INDICATED ON PLANS ARE DIAGRAMMATIC IN NATURE. CONTRACTOR SHALL EXAMINE SITE CONDITIONS PRIOR TO DUCT CONSTRUCTION AND COORDINATE INSTALLATION WITH OTHER TRADES. CONTRACTOR SHALL PROVIDE NECESSARY HANGERS, FASTENERS ETC. TO PROVIDE A COMPLETE AND WORKING SYSTEM. 7. CONTRACTOR SHALL SEAL ALL DUCTWORK WITH A PAINT ON MASTIC. ALL WALL PENETRATIONS SHALL BE SEALED AIR TIGHT. 8. CONTRACTOR SHALL INSTALL BALANCING DAMPERS IN EACH MAIN RETURN AND VENTILATION AIR DUCT TO PROVIDE PROPER AIRFLOW BALANCE TO EACH UNIT. 9. LOCATE THERMOSTATS AND TEMPERATURE SENSORS AT 4"-0" A.F.F. (CENTER OF BOX FOR GYP BRD, TOP OF BOX FOR MASONRY) IN LOCATIONS INDICATED ON PLANS. 10. ALL DUCT DIMENSIONS ARE INSIDE CLEAR DIMENSIONS. 11. CONTRACTOR SHALL COORDINATE ALL WALL, ROOF AND FLOOR PENETRATION LOCATIONS AND SIZES. SEAL ALL OPENINGS, MAINTAIN WALL RATINGS WHEN PENETRATING FIRE OR SMOKE RATED WALLS. 12. FABRICATE AND INSTALL ALL DUCT WORK PER SMACNA 1.5" W.C. PRESSURE. ALL ELBOWS SHALL HAVE 1.5R CENTERLINE. ALL DUCT UNDER SLAB SHALL BE FIBERGLASS. 13. ALL SUPPLY AND RETURN DUCT SHALL BE INSULATED WITH A MINIMUM OF 2-3/16" 3/4 LB. OR 2" OF 1.0 LB. DENSITY FIBERGLASS WRAP. INSULATED DOUBLE WALLED SPIRAL DUCT SHALL HAVE A MINIMUM INSULATION THICKNESS OF 2" OF 1.5 LB. DENSITY. PIPING INSULATION (REFRIGERANT OR WATER) SHALL BE A MINIMUM OF 1-1/2" THICK OR PER LATEST NC ENERGY CODE, WHICHEVER IS GREATER. 14. CABLE TRAY HAS RIGHT-OF-WAY OVER DUCTWORK; SEE ELECTRICAL DRAWINGS FOR LOCATION. 15. PROVIDE FLEXIBLE CONNECTORS ON SUPPLY AND RETURN CONNECTIONS TO HVAC UNITS. 16. PROVIDE AUXILIARY CONDENSATE DRAIN PAN FOR ALL AIR HANDLING UNITS, FAN COIL UNITS, FURNACE WITH COOLING COIL, ETC. CONTRACTOR SHALL PROVIDE AND INSTALL WATER LEVEL FLOAT SWITCH IN AUXILIARY DRAIN PAN. FLOAT SWITCH SHALL SHUT DOWN INDOOR AND ASSOCIATED OUTDOOR UNIT WHEN ACTIVATED. 17. CONDENSATE PIPE SHALL BE SCHEDULE 40 PVC OR HARD DRAWN COPPER. INSTALL WITH PROPER SLOPE AND NO SAGS. CONDENSATE PIPE SHALL BE INSULATED WITH 1/2" THICK CLOSED CELL INSULATION. 18. ALL DUCTWORK AND PIPING SHALL BE CONCEALED ABOVE CEILINGS, TRUSSES AND SOFFITS EXCEPT IN MECHANICAL ROOMS, UTILITY PLATFORMS, AREAS WITH EXPOSED STRUCTURE (NO CEILINGS), AND WHERE NOTED OTHERWISE. 19. CONTROLS CONTRACTOR IS RESPONSIBLE FOR ALL CONTROLLERS, CONTACTORS, PROGRAMMING, CONTROL WIRING, CONDUIT AND CONNECTIONS TO MECHANICAL EQUIPMENT AS REQUIRED TO MEET THE SEQUENCES OF OPERATION FOR ALL NEW AND EXISTING EQUIPMENT BEING CONTROLLED BY THE BMS. 20. MECHANICAL CONTRACTOR MAY REUSE EXISTING UNIT DISCONNECT SWITCHES WHERE THEY ARE IN GOOD WORKING ORDER AND THE CORRECT SIZE FOR THE UNIT. MECHANICAL CONTRACTOR IS RESPONSIBLE FOR FURNISHING ALL NEW DISCONNECTS THAT MAY BE REQUIRED FOR EQUIPMENT PROVIDED UNDER THIS CONTRACT. MECHANICAL CONTRACTOR SHALL FURNISH ALL REQUIRED FUSES FOR ALL FUSED DISCONNECT SWITCHES. COORDINATE DISCONNECT AND FUSE INSTALLATION WITH ELECTRICAL CONTRACTOR. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING DISCONNECT SWITCHES AND FUSES. ELECTRICAL CONTRACTOR SHALL PROVIDE AND INSTALL ALL LINE SIDE WIRING AND CONDUIT TO EXTERNALLY OR INTERNALLY MOUNTED DISCONNECTS AND SHALL PROVIDE AND INSTALL LOAD SIDE WIRING AND CONDUIT FROM EXTERNALLY MOUNTED DISCONNECT SWITCHES TO MECHANICAL EQUIPMENT. MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL FINAL ELECTRICAL CONNECTIONS TO EQUIPMENT PROVIDED BY THE MECHANICAL CONTRACTOR. SEE "MECHANICAL EQUIPMENT ELECTRICAL CONNECTION DETAIL". 21. ALL EXPOSED GAS PIPE IN BOILER ROOM (NEW AND EXISTING) SHALL BE PAINTED OSHA YELLOW. ALL GAS PIPING SHALL BE LABELED WITH THE TYPE OF GAS AND SUPPLY PRESSURE. GAS PIPING CONCEALED IN WALL CAVITY SHALL NOT BE REQUIRED TO BE PAINTED YELLOW. CONTRACTOR SHALL INSTALL NEW GAS PIPE PER INSTALLATION STANDARD MSS SP-58. M.C. SHALL PROVIDE MAPA PRODUCTS PIPE SUPPORTS WITH E-6000 ADHESIVE OR APPROVED EQUALS. 22. MECHANICAL CONTRACTOR SHALL PROVIDE ENGR. WITH AN INDEPENDENT AIR AND WATER BALANCE REPORT. REPORT SHALL INDICATE INITIAL AND FINAL READINGS OF UNIT SUPPLY, RETURN AND VENT AIR CFM, AS WELL AS GPM PER UNIT, AND PER PUMP. INCLUDE IN DOCUMENTS PROVIDED TO OWNER AT JOB CLOSEOUT. 23. MECHANICAL CONTRACTOR SHALL LABEL ALL EQUIPMENT WITH ENGRAVED PLASTIC LAMINATE, SCREWED TO PIECE OF EQUIPMENT. 24. BMS UNIT CONTROLLER SHALL HAVE 7 DAY PROGRAMING, 2 DEGREE LOCAL ADJUSTMENT, LOCAL TIMED OVER-RIDE AND THE ABILITY TO RUN FANS IN OCCUP. MODE & CYCLE FANS IN UN-OCCUP. MODE. 25. MECHANICAL CONTRACTOR SHALL CHANGE NEW UNIT FILTERS AFTER EACH MONTH OF RUN TIME, AND SHALL LEAVE ONE CHANGE OF FILTERS FOR EACH UNIT FOR OWNER TO USE FOR NEXT FILTER CHANGE. 26. MECHANICAL CONTRACTOR SHALL NOT ALLOW DUCTWORK TO CONTACT LAY-IN LIGHT FIXTURES. ROUTE ACCORDINGLY.

KITCHEN-DINING & MULTI-PURPOSE UNIT CONTROL SEQUENCE

START/STOP: EMS shall index system during School's specified occupied and setback periods. Unit fans shall run continuously during occupied times and cycle during unoccupied times. TEMPERATURE CONTROL: Each unit is provided with combination temp/humidity sensors w/temperature setpoint adjust capabilities and timed local over-ride in their respective zones. The EMS will monitor the supply air temperature. The space sensor controls, the modulating heating valve and the cooling valve to maintain temperature for scheduled hours and night setback setpoint after scheduled hours. DEHUMIDIFICATION CYCLE: Upon the space temp being satisfied and sensing a humidity level above set point (80% RH) the supply air (SA) fan shall be set to heating CFM, the chilled water valve shall index open, and the hot water valve (coil in the re-heat position) shall modulate as required to maintain a 70F discharge air temperature until space humidity falls below set point. SAFETIES: The electrical contractor to provide duct type smoke detector to be installed in return air duct per NFPA 72 Item 5-10.5.2.2 for fan shut-down. M.C. shall provide float cut-off switch in each drain pan and a freeze stat (remote reset capable) at the chilled water coil to shut-down unit and place into alarm status. C.C. shall provide a freeze-stat reset and a fan status input to the BMS. VENTILATION: (Dining & MPT) EMS shall index common building outside air control damper open during occupied school hours. System fan shall run continuously during occupied hours. Unit damper shall start at minimum position. Unit damper shall drive to max position upon the CO2 monitor sensing a level above set point (700 PPM), after system start-up. Unit OA dampers shall close during night setback and morning warm-up (verify sched. w/owner). (Kitchen) System fan shall run continuously during occupied hours. Unit damper shall start at minimum position. Unit damper shall drive to max position upon the kitchen hood exhaust and make-up unit being energized and return to minimum upon hood being de-energized. Unit OA damper shall close during night setback and morning warm-up.

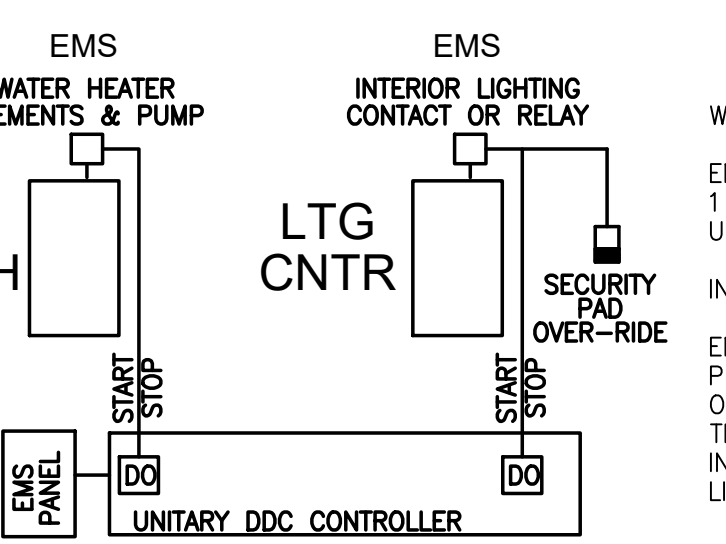


001.7 DINING CONTROL DIAGRAM SCALE: N.T.S



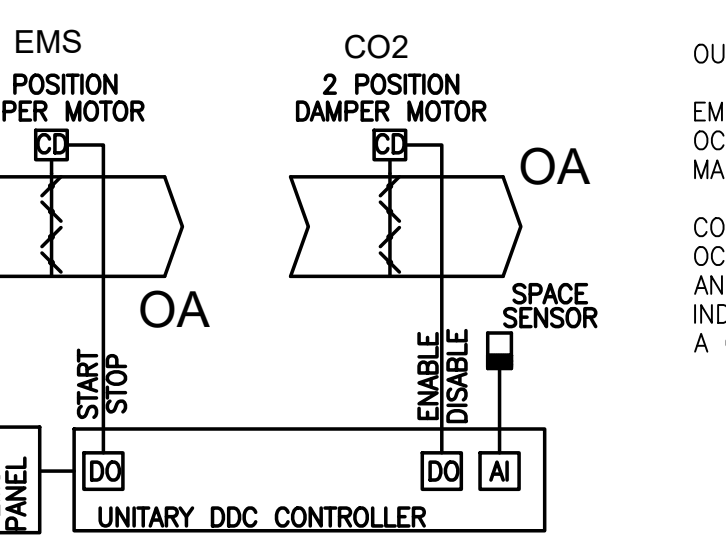
SHUT-DOWN: UPON RECEIPT OF AN ALARM SIGNAL FROM THE FACP OR ACTIVATION OF THE GLOBAL FAN SHUT-DOWN SWITCH, THE BMS SHALL SHUT DOWN ALL AIR MOVING UNITS (AHU, FC, RTU, ETC.) IN A SAFE MANNER THAT WILL PREVENT ANY DAMAGE TO CHILLERS, PUMPS, CONDENSING UNITS, BOILERS, ETC. SYSTEM SHALL RETURN TO NORMAL OPERATION UPON CANCELLATION OF ALARM. FIRE DRILL MODE SHALL NOT ACTIVATE GLOBAL FAN SHUT DOWN.

001.6 GLOBAL FAN SHUT-DOWN SCALE: N.T.S



WATER HEATER CONTROL SEQUENCES: EMS SHALL INDEX WATER HEATER ELEMENTS AND RECIRCULATION PUMPS ON 1 HOUR PRIOR TO OWNER-SPECIFIED OCCUPIED HOURS AND INDEX OFF DURING UNOCCUPIED TIMES. INTERIOR LIGHTING CONTACTOR: EMS SHALL INDEX LIGHTS ON DURING OCCUPIED HOURS BASED ON OWNER PROVIDED SCHEDULE AND OFF WHEN UNOCCUPIED. OVER-RIDE BUILDING TO OCCUPIED MODE UPON SECURITY SYSTEM BEING DISARMED DURING UNOCCUPIED TIME AND RESET WHEN RE-ARMED. CONTROLS CONTRACTOR SHALL PROVIDE AND INSTALL LTC CONTACTORS OR RELAYS IN EACH WING AS REQ'D TO CONTROL THE LIGHTS IN THAT WING. CLOSELY COORDINATE WITH E.C. PRIOR TO ROUGH-IN.

001.5 EQUIPMENT ON TIME CLOCK CONTROL SCALE: NONE

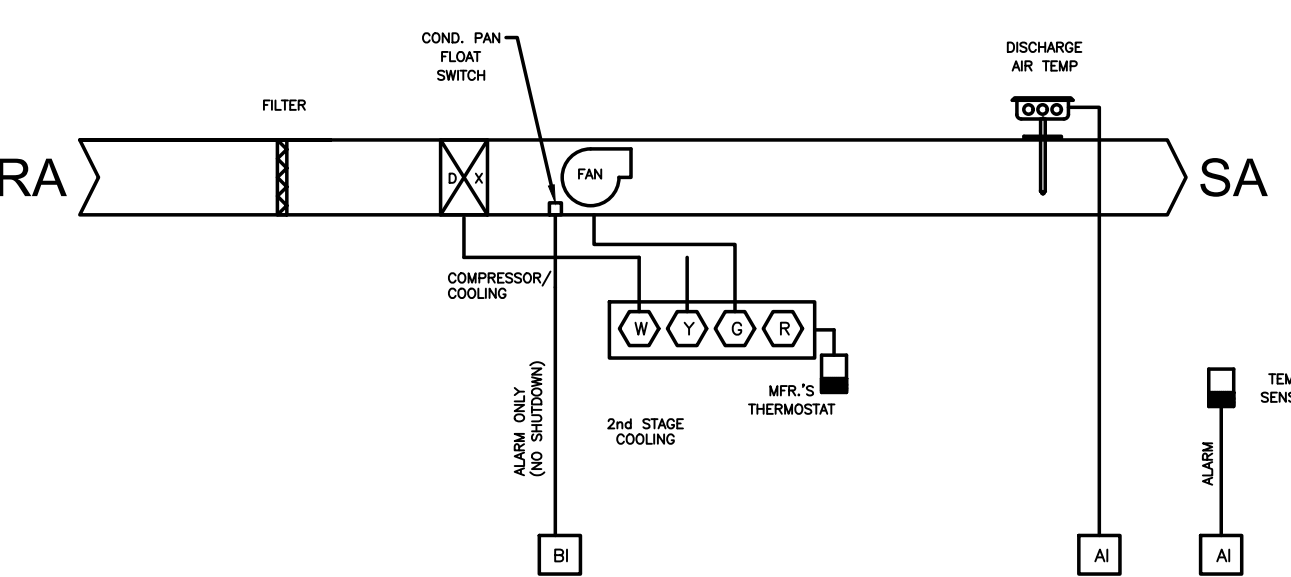


OUTSIDE AIR DAMPER CONTROL SEQUENCES: EMS CONTROL: EMS SHALL INDEX DAMPER OPEN DURING OWNER-SPECIFIED OCCUPIED HOURS AND DRIVE DAMPER CLOSED DURING UNOCCUPIED TIMES. MAINTAIN CLOSED POSITION DURING MORNING WARM-UP. (SEE ALSO UNIT SEQ.) CO2 CONTROL: EMS SHALL INDEX DAMPER OPEN DURING OWNER-SPECIFIED OCCUPIED HOURS TO COINCIDE WITH UNIT OUTDOOR AIR DAMPER CONTROL AND DRIVE DAMPER CLOSED DURING UNOCCUPIED TIMES. DAMPER SHALL BE INDEXED OPEN REGARDLESS OF SCHEDULE UPON SPACE CO2 SENSOR SENSING A CO2 LEVEL ABOVE SET POINT (700 PPM).

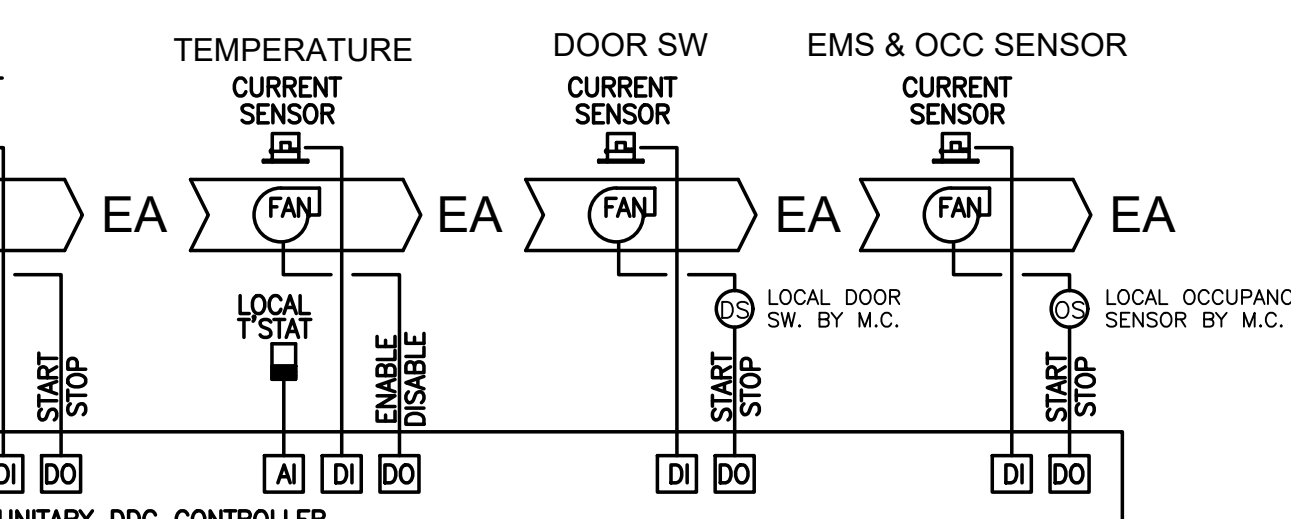
001.4 OUTSIDE AIR LOUVER DAMPER CONTROL SCALE: NONE

MOF UNIT CONTROL SEQUENCE:

START/STOP: Unit shall run to maintain min. 68°F (adj) year-round temperature. TEMPERATURE CONTROL: Unit is provided with manufacturer's thermostat which controls the DX condenser and SA fan to maintain space temperature. SAFETIES: A condensate pan float switch will activate an alarm upon being activated; however the unit shall continue to operate.



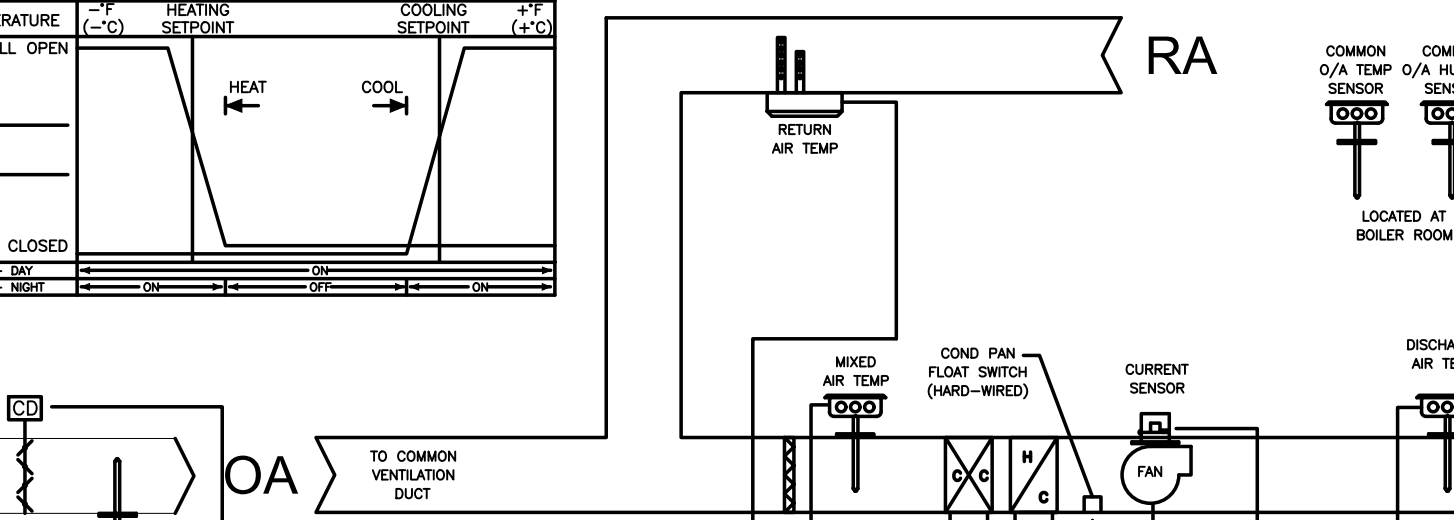
001.3 MDF/IDF UNIT CONTROL DIAGRAM SCALE: N.T.S



001.2 MISC FAN CONTROLS SCALE: NONE

CLASSROOM FAN COIL CONTROL SEQUENCE:

START/STOP: Building Management System (BMS) shall index fan coils on during School's specified occupied periods to run continuously. The Fan Coil units will be indexed by zones with each building unit being a zone for start/stop and timed override operation. Timed override operation will be programmed and indexed through the County's BMS system. TEMPERATURE CONTROL: Each unit is provided with combination temp/humidity sensors w/temperature setpoint adjust capabilities and timed local over-ride in their respective zones. The BMS will monitor the supply air temperature. The space sensor controls, the modulating heating valve and the cooling valve to maintain temperature for scheduled hours and night setback setpoint after scheduled hours. DEHUMIDIFICATION CYCLE: Upon the space temp being satisfied and sensing a humidity level above set point (80% RH) the supply air (SA) fan shall be set to 50% cooling CFM, the chilled water valve shall modulate to maintain 37F discharge air temp. Upon sensing a space temp 1.5F below set point the hot water valve (coil in the re-heat position) shall modulate as required to maintain a 77F discharge air temperature until space temperature returns to cooling set point or unit space humidity falls below humidity set point. VENTILATION: EMS shall index common building outside air control damper open during occupied school hours. System fan shall run continuously during occupied hours. OA dampers shall close during night setback and morning warm-up (verify sched. w/owner). SAFETIES: Provide a Remote Relay (RR) to shutdown all FCU's with remote switch located adjacent to the Fire Alarm System. Activation of a duct smoke detector, fire alarm initiating device, or manual emergency fan shut-down switch shall shut down fan in accordance with NFPA 72. The fire alarm panel shall have a reset / defect switch (Provided E.C.) for fan reset/locks. C.C. shall perform all connections to BMS system. Controls contractor shall provide float cut-off switch in each drain pan to shut-down unit and place into alarm status. C.C. shall provide all fan coil unit switch and input to the BMS indicating fan status. EXHAUST FANS: Index local exhaust fans as indicated on exhaust fan equipment schedule with FCU operating schedule serving zone.



001.1 TYPICAL CLASSROOM UNIT CONTROL DIAGRAM SCALE: N.T.S

MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT

PRESCRIPTIVE ENERGY COST BUDGET CLIMATE ZONE: IBC - 4A (CARTERET CO.) THERMAL ZONE WINTER DRY BULB: 18.8F SUMMER DRY BULB: 91.7F INTERIOR DESIGN CONDITIONS WINTER DRY BULB: 70F SUMMER DRY BULB: 75F RELATIVE HUMIDITY: 50% BUILDING HEATING LOAD: BUILDING COOLING LOAD: MECHANICAL SPACE CONDITIONING SYSTEM UNITARY DESCRIPTION OF UNIT: HEATING EFFICIENCY: COOLING EFFICIENCY: HEAT OUTPUT OF UNIT: COOLING OUTPUT OF UNIT: BOILER TOTAL BOILER OUTPUT: 2,400 MBH (if oversized, state reason) (EXISTING BOILER TO REMAIN) CHILLER TOTAL CHILLER OUTPUT: 225 TONS (if oversized, state reason) (EXISTING CHILLERS TO REMAIN) LIST EQUIPMENT EFFICIENCIES EQUIPMENT SCHEDULES WITH MOTORS (Not used for mechanical systems) MOTOR HORSEPOWER: NUMBER OF PHASES: MINIMUM EFFICIENCY: MOTOR TYPE: # OF POLES: DESIGNER STATEMENT: To the best of my knowledge and belief, the design of this building complies with the mechanical systems, service systems and equipment requirements of the 2012 North Carolina energy conservation code. SIGNED: [Signature] NAME: D. WILSON POU, P.E. TITLE: PRESIDENT

CONTROL SYSTEM GENERAL DESCRIPTION OF WORK

BASE BID: MECHANICAL CONTRACTOR SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT, PROGRAMMING, SOFTWARE AND WARRANTIES NECESSARY TO TIE THE NEW EQUIPMENT IN THE AREAS BEING RENOVATED BACK INTO THE EXISTING JCI CONTROL SYSTEM SUCH THAT IT WILL BE A FULLY FUNCTIONAL SINGLE SYSTEM. MODIFY EXISTING EQUIPMENT WITH EXPANSION CARDS, NEW GRAPHICS AND PROGRAMMING AS REQUIRED TO CONTROL NEW AHUS, PUMPS, ETC TO MEET THE NEW SEQUENCE OF OPERATIONS FOR SEAMLESS OPERATION. CONTROLS ALTERNATE BID MECHANICAL CONTRACTOR SHALL INCLUDE ALL DEMOLITION, LABOR, MATERIALS, EQUIPMENT, NECESSARY TO REMOVE THE EXISTING JCI SYSTEM COMPLETE, INCLUDING ALL ASSOCIATED WIRING, CABLING, CONTROLLERS, PROGRAMMING, SOFTWARE, ETC. DOWN TO EMPTY RACEWAY AND OUTLET BOXES. RACEWAY AND OUTLET BOXES MAY BE REUSED FOR PULLING NEW WIRING AND CABLING. PROVIDE A NEW TRidium NAGARA FRONT END AND COMPATIBLE CONTROLS SYSTEM EQUIPMENT, HARDWARE, SOFTWARE, PROGRAMMING, ETC. BY SIEMENS, DISTECH, LYNKSPEED, OR RELIABLE TO CONTROL THE ENTIRE CAMPUS, SUCH THAT IT WILL BE A FULLY FUNCTIONAL SINGLE SYSTEM. SEE LIST OF EXISTING EQUIPMENT BELOW THAT WILL NEED TO BE CONTROLLED BY THE NEW SYSTEM. EXISTING EQUIPMENT LIST: (INCLUDING BUT NOT LIMITED TO) 2 - CHILLERS 1 - BOILER 6 - PUMPS 34 - AIR HANDLERS (HOT AND CHILLED WATER COILS) 2 - MINI SPLITS 20 - FANS 2 - ELECTRIC UNIT HEATERS 3 - ELECTRIC WATER HEATERS AND ASSOCIATED RE-CIRCULATION PUMPS CORRIDOR AND BATHROOM LIGHTS BUILDING EXTERIOR LIGHTS PARKING LOT POLE LIGHTS (IF NOT DUSK TO DAWN LIGHTS) \* THIS LIST WAS CREATED FROM RECORD DRAWINGS PROVIDED BY THE OWNER, IT MAY OR MAY NOT CONSTITUTE A COMPLETE LIST. IT IS THE MECHANICAL AND CONTROLS CONTRACTORS' RESPONSIBILITY TO FIELD VERIFY EXISTING CONDITIONS AND ALL EQUIPMENT TO BE CONTROLLED PRIOR TO BID.

Revision table with columns for No., Date, and Revision.

Hite Associates Architecture / Planning / Technology logo and address: 2600 Meridian Drive / Greenville, NC 27834 / Tel (252) 757-0333

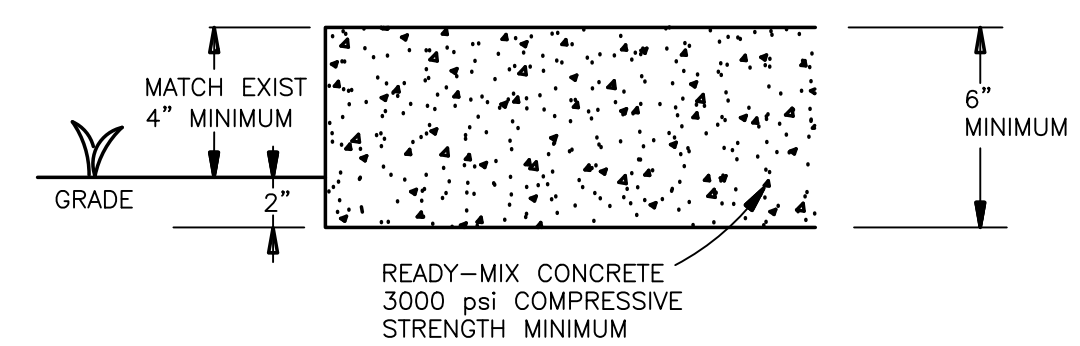
Professional seal for Hite Associates P.C., License No. 418, State of North Carolina, Mechanical/Plumbing/Engineering.

Project information for HVAC Renovations to Bogue Elementary School, 3355 Hwy. 24, Newport, NC 28570, Carteret County Schools / North Carolina. Project No. 22419, Date: 11 Nov 2024.

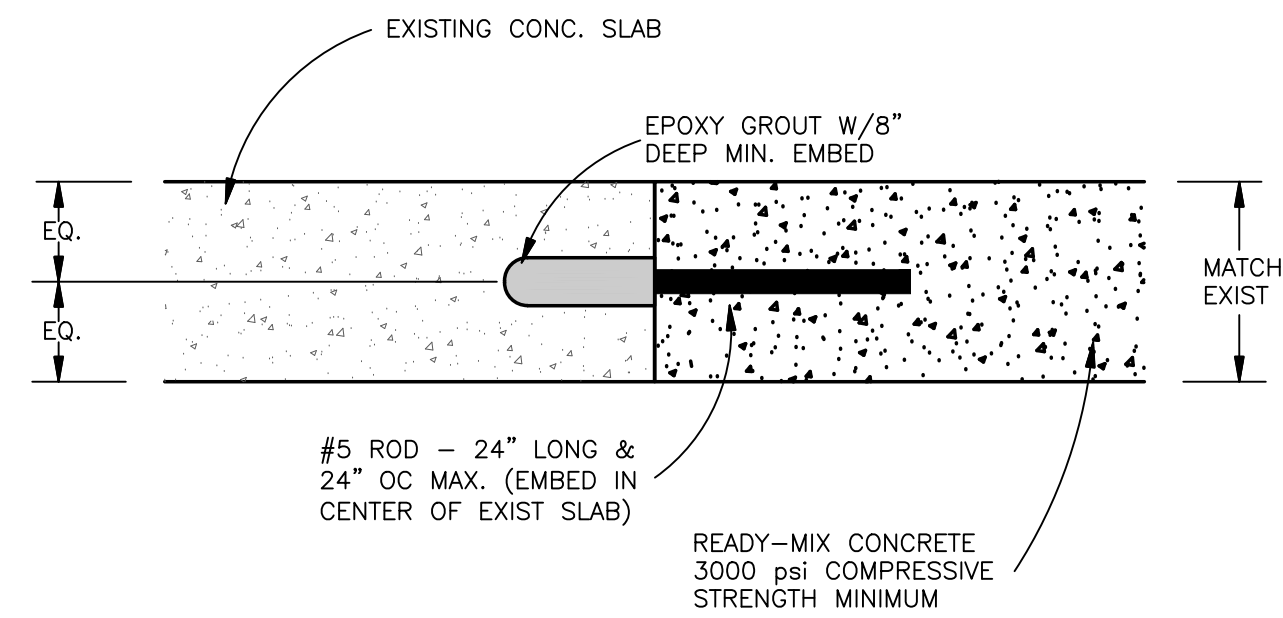
Drawing information: Drawing No. M001.

THIS DRAWING IS THE PROPERTY OF ENGINEERING SOURCE OF NC, P.A. THIS DRAWING IS NOT TO BE COPIED IN WHOLE OR IN PART. THIS DRAWING OR THE INFORMATION HEREON IS NOT TO BE USED ON ANY OTHER PROJECT AND MUST BE RETURNED TO ENGINEERING SOURCE OF NC, P.A. UPON REQUEST. DO NOT SCALE THESE DRAWINGS. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT DIMENSIONS.

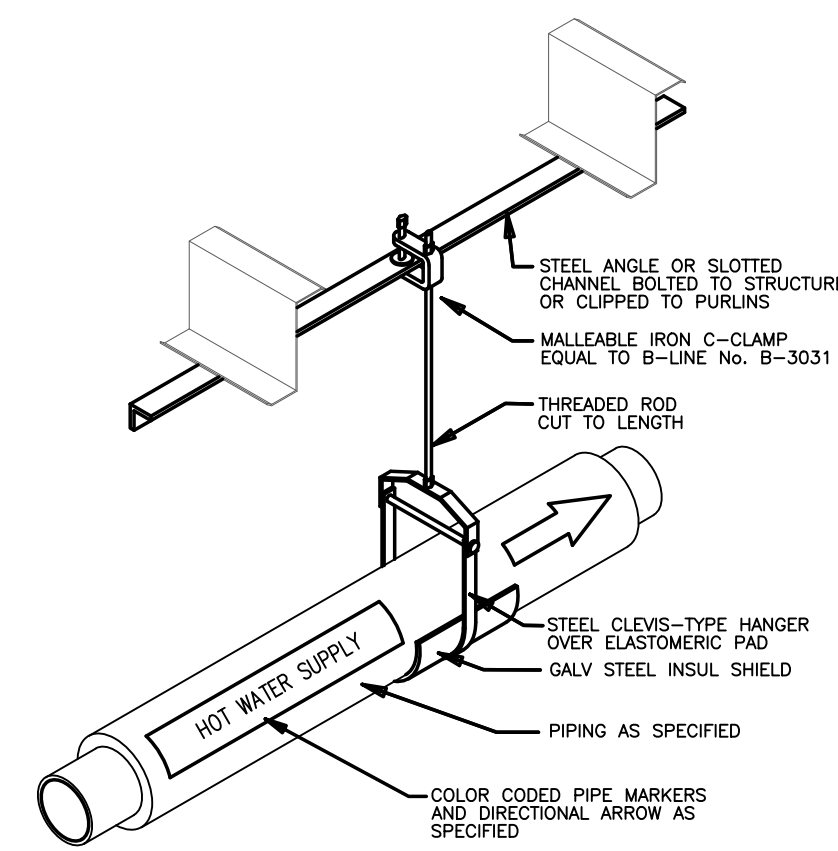




**003.1 EQUIPMENT PAD DETAIL**  
SCALE: N.T.S.

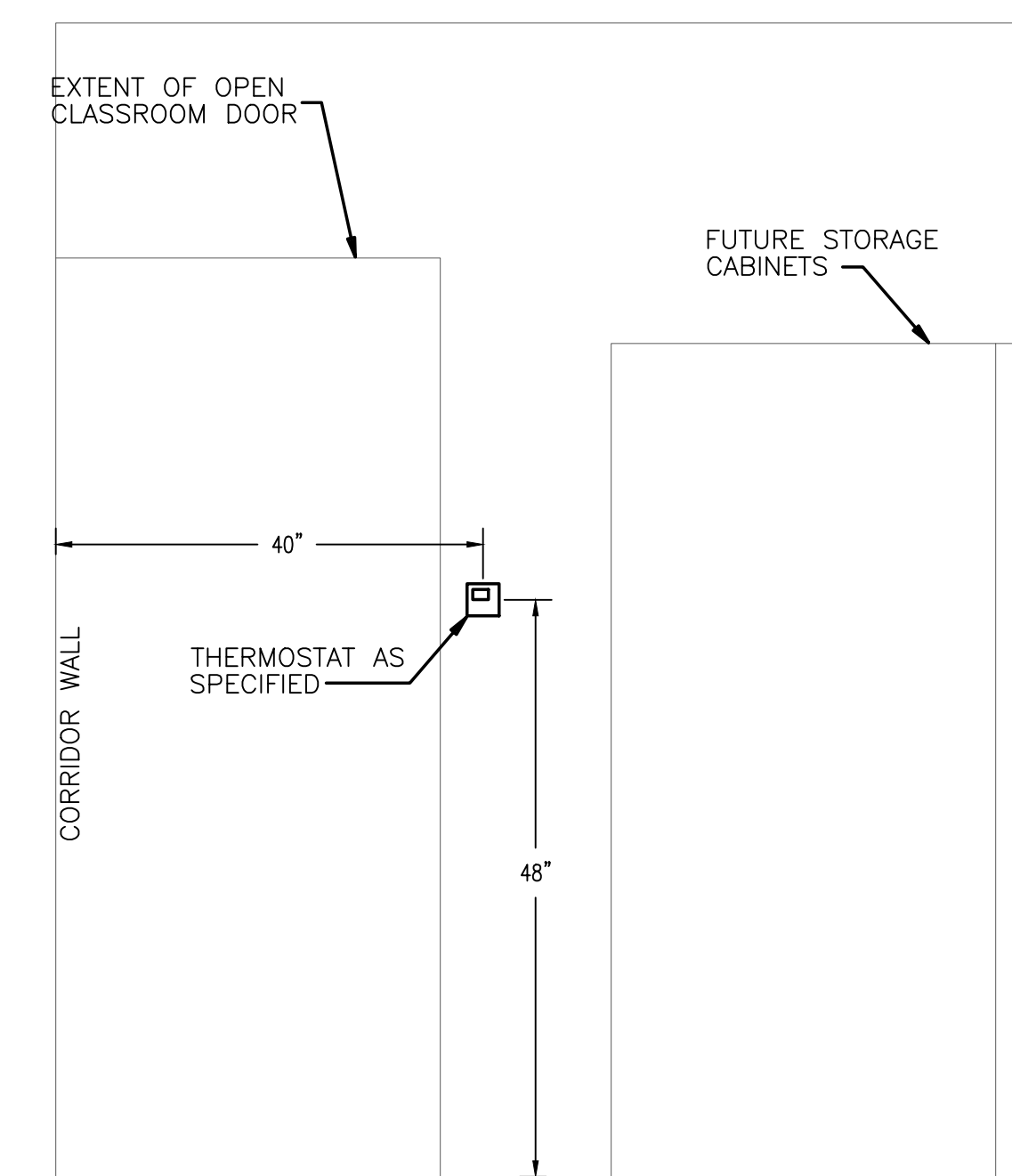


**003.2 PAD CONNECTION DETAIL**  
SCALE: N.T.S.



| PIPE SIZE    | SPACING | ROD     |
|--------------|---------|---------|
| < 1"         | 6'-0"   | 1/4" DA |
| 1 to 1.5"    | 8'-0"   | 3/8" DA |
| 1.5" to 2"   | 10'-0"  | 3/8" DA |
| 2.5" to 3.5" | 12'-0"  | 1/2" DA |
| 4" & 5"      | 12'-0"  | 5/8" DA |
| 6"           | 12'-0"  | 3/4" DA |

**003.3 HYDRONIC PIPE HANGAR DETAIL**  
SCALE: N.T.S.



**003.4 THERMOSTAT INSTALLATION DETAIL**  
SCALE: N.T.S.

**SCOPE OF WORK STATEMENT:**

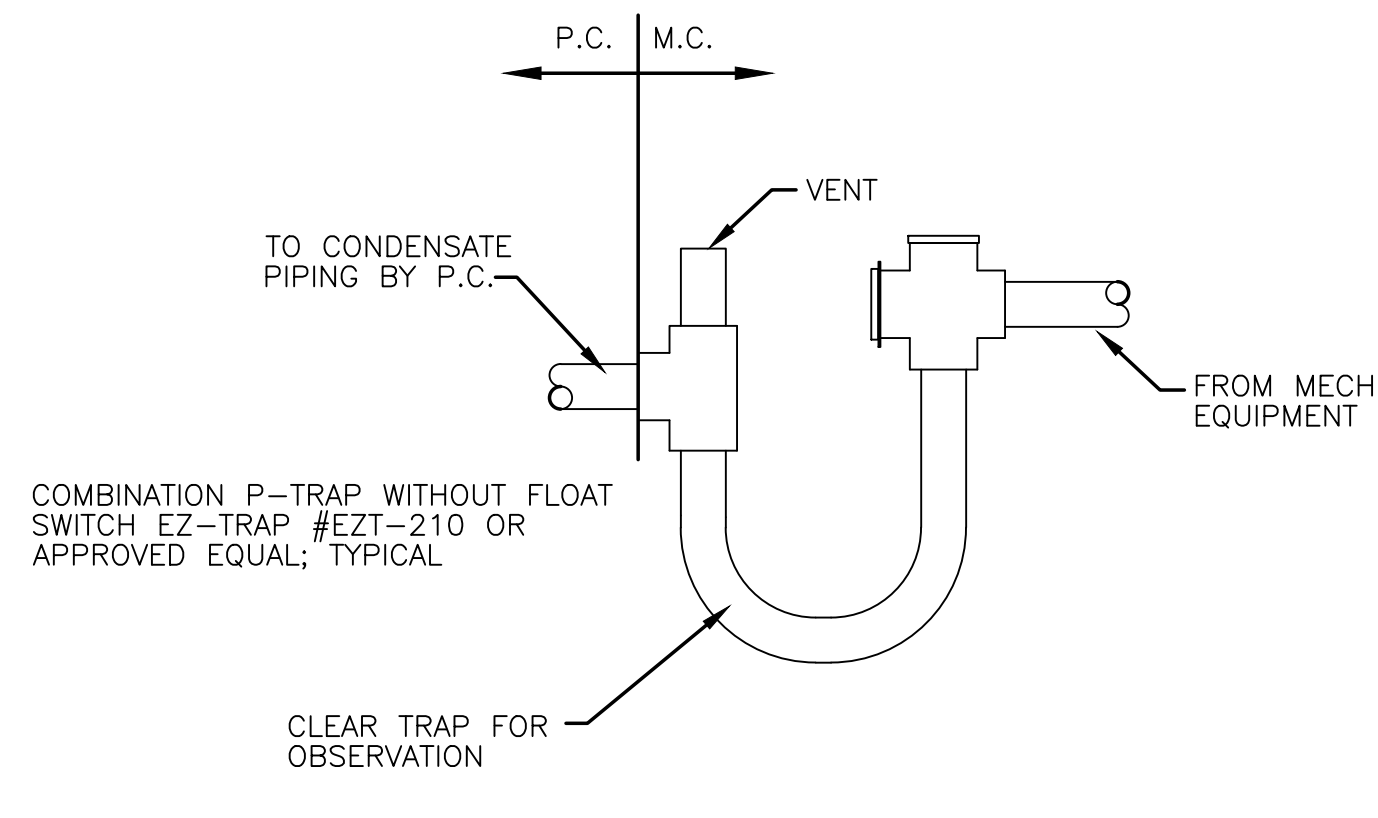
IT IS THE INTENT OF THESE PLANS AND SPECIFICATIONS TO SHOW THE REMOVAL AND COMPLETE REPLACEMENT OF THE EXISTING DUAL TEMP AIR HANDLERS, THE BUILDING LOOP PUMPS AND THE INSTALLATION OF A NEW CHILLED WATER BUILDING LOOP PIPING SYSTEM. THE NEW EQUIPMENT SHALL BE TIED INTO THE EXISTING JCI CONTROL SYSTEM (BASE BID) OR INTO NEW TRIDIUM NIAGARA COMPATIBLE SYSTEM (ALTERNATE BID). CONTROLS SYSTEM SHALL BE ACCESSIBLE BY THE OWNER FOR PROGRAMMING AND MAINTENANCE AND SHALL NOT HAVE ANY PASSWORDS OR LOCK-OUTS THAT PREVENT THE OWNER FROM MAKING DESIRED MODIFICATIONS TO SET POINTS, SCHEDULES, RUN TIMES, ETC. THE NEW CHILLED WATER PIPING SYSTEM SHALL BE INSULATED NON-METALLIC PIPING (SEE SPECIFICATIONS).

CONTRACTOR IS RESPONSIBLE FOR THE REMOVAL OF ALL EXISTING HYDRONIC AIR HANDLERS WITH ASSOCIATED COIL TRIM, SPLIT DX UNITS AND LOOP PUMPS AS INDICATED. THE OLD EQUIPMENT SHALL BE OFFERED TO OWNER FOR SALVAGE; DISPOSE OF ANY EQUIPMENT NOT CLAIMED BY OWNER PROPERLY OFF SITE. CONTRACTOR SHALL INCLUDE ANY AND ALL EQUIPMENT, CRANES, TRANSPORT, LABOR AND MATERIALS ASSOCIATED WITH DISCONNECTING THE UNITS FROM THE EXISTING PIPING, MAINTENANCE PADS AND POWER CIRCUITS. CONTRACTOR SHALL REMOVE ANY AND ALL CONTROL DEVICES ON EXISTING EQUIPMENT AS WELL AS ANY PIPING THAT IS SHOWN TO BE REMOVED. ALL EXISTING CONTROL DEVICES SHALL BE KEPT FOR RE-USE ON NEW EQUIPMENT OR FOR SURPLUS BY OWNER IF NOT REUSED OR IF ALTERNATE TRIDIUM COMPATIBLE CONTROLS BID IS ACCEPTED.

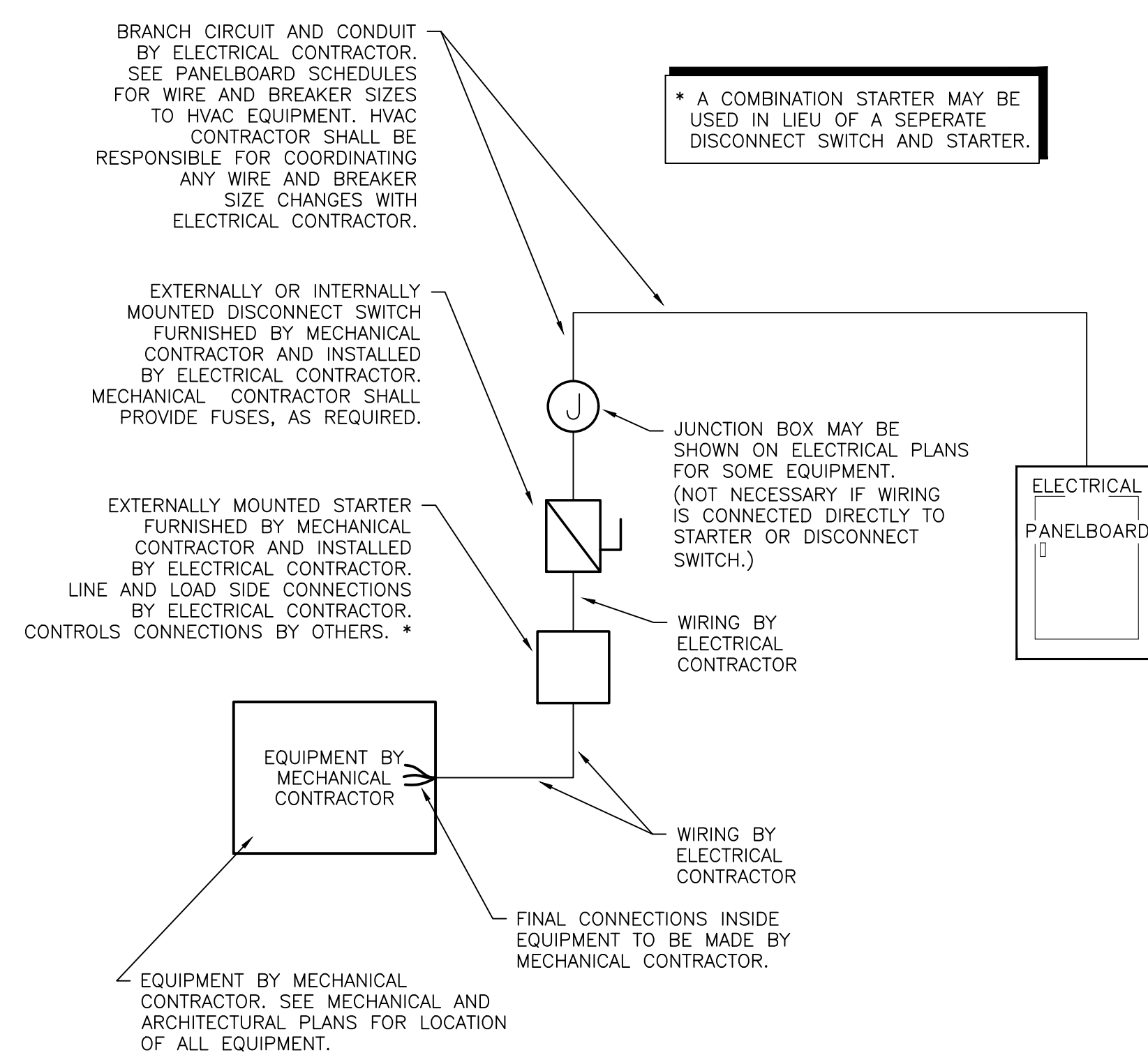
CONTRACTOR IS RESPONSIBLE FOR THE REMOVAL OF HYDRONIC PIPING AS INDICATED/REQUIRED TO REMOVE AND INSTALL NEW UNITS AND PUMPS. CONTRACTOR SHALL FIELD VERIFY EXACT INSTALLATION LOCATION OF THE AIR HANDLERS AND PUMPS AND SHALL MODIFY HYDRONIC PIPING AS REQUIRED TO CONNECT NEW EQUIPMENT BACK TO EXISTING PIPING AT POINTS INDICATED. NEW ISOLATION VALVES SHALL BE PROVIDED AND INSTALLED WHERE INDICATED ON PLANS AND NEW COIL TRIM SHALL BE PROVIDED FOR HHW & CHW AT EACH UNIT. DRAIN HYDRONIC SYSTEM AS REQUIRED AND RE-FILL AFTER NEW EQUIPMENT IS INSTALLED. SEE SPECIFICATIONS FOR WATER TREATMENT REQUIREMENTS. MC IS RESPONSIBLE FOR UNDERSTANDING AND SCHEDULING THE WORK TO MEET THE PHASING SCHEDULE AS INDICATED.

ELECTRICAL CONTRACTOR SHALL DISCONNECT ELECTRICAL FEEDERS FROM EXISTING PIECES OF EQUIPMENT THAT ARE SHOWN TO BE REPLACED. MAINTAIN ALL EXISTING DISCONNECT SWITCHES AND FEEDERS INDICATED FOR RE-USE. REMOVE WIRING/FEEDER BACK TO BREAKER IF NOT REUSED. TURN OFF ANY UNUSED EXISTING BREAKERS AND LABEL AS "SPARE" ON NEW TYPED DIRECTORY. CONTRACTOR SHALL PROVIDE ALL LABOR AND MATERIALS NECESSARY FOR ANY MODIFICATIONS THAT NEED TO BE DONE TO THE EXISTING FEEDERS FOR RECONNECTION TO NEW UNITS AND PUMPS.

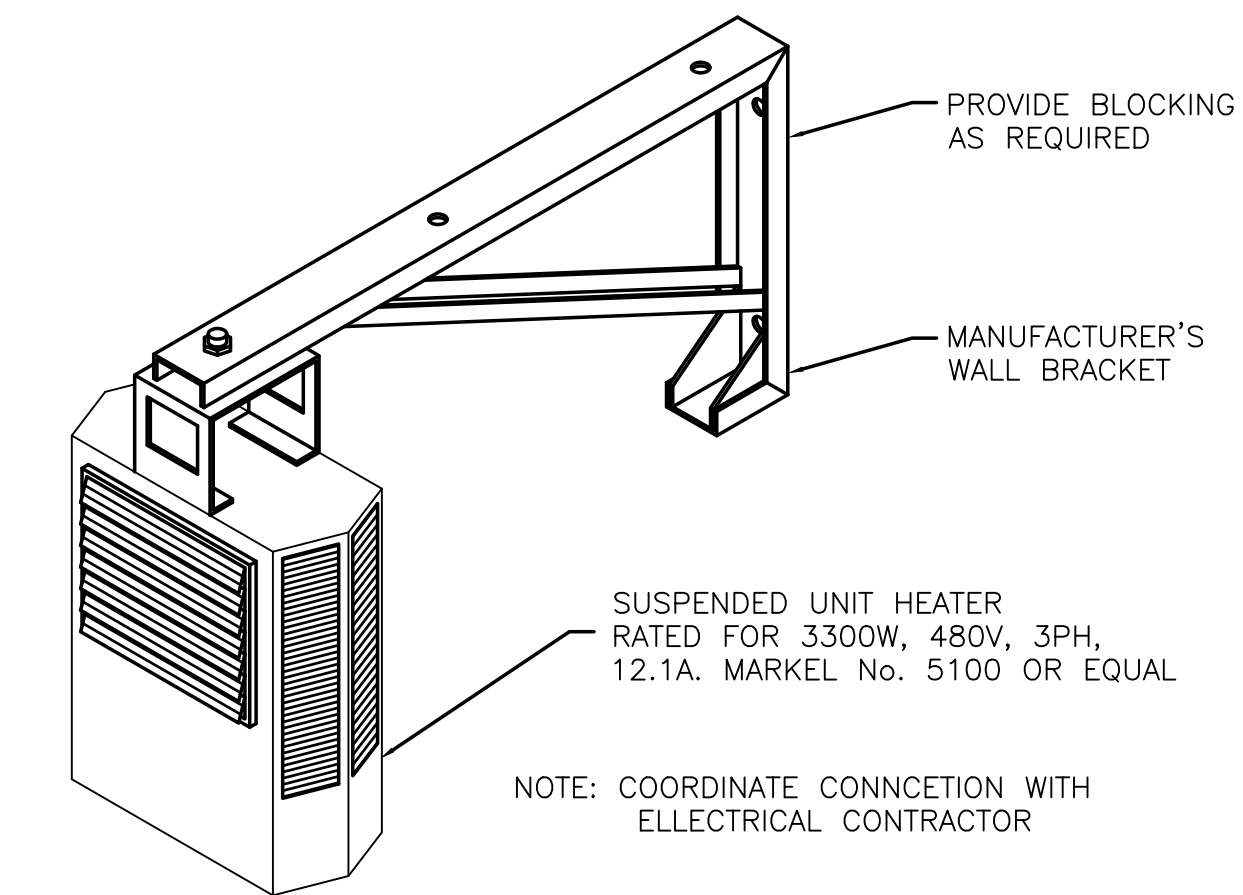
PLEASE MAKE ENGINEER AWARE OF ANY DIFFERENCES BETWEEN THIS SCOPE OF WORK AND THE WORK INDICATED ON THE BID DOCUMENTS PRIOR TO BID. IF NO NOTICE IS RECEIVED IT IS UNDERSTOOD THAT THE CONTRACTOR HAS A FULL UNDERSTANDING OF THE SCOPE OF WORK AND THAT THESE DOCUMENTS HAVE SUFFICIENT INFORMATION INCLUDED IN THEM TO PRODUCE THE DESIRED SCOPE.



**003.5 CONDENSATE TRAP DETAIL**  
SCALE: N.T.S.



**MECHANICAL EQUIPMENT**  
**003.6 ELECTRICAL CONNECTION DETAIL**  
SCALE: N.T.S.

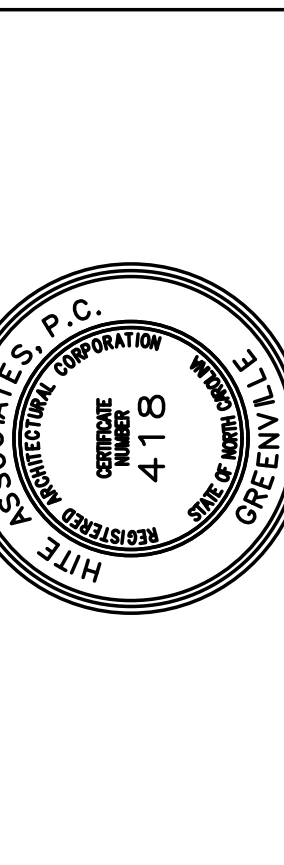


**003.7 UNIT HEATER INSTALLATION DETAIL**  
SCALE: N.T.S.

THIS DRAWING IS THE PROPERTY OF ENGINEERING SOURCE OF NC, P.A. THIS DRAWING IS NOT TO BE COPIED IN WHOLE OR IN PART. THIS DRAWING OR THE INFORMATION HEREON IS NOT TO BE USED ON ANY OTHER PROJECT AND MUST BE RETURNED TO ENGINEERING SOURCE OF NC, P.A. UPON REQUEST. DO NOT SCALE THESE DRAWINGS. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT DIMENSIONS.

| No. | Date | Revision |
|-----|------|----------|
|     |      |          |
|     |      |          |
|     |      |          |
|     |      |          |

**Hite associates**  
ARCHITECTURE / PLANNING / TECHNOLOGY  
2600 Meridian Drive / Greenville, NC 27834 / tel (252) 757-0333

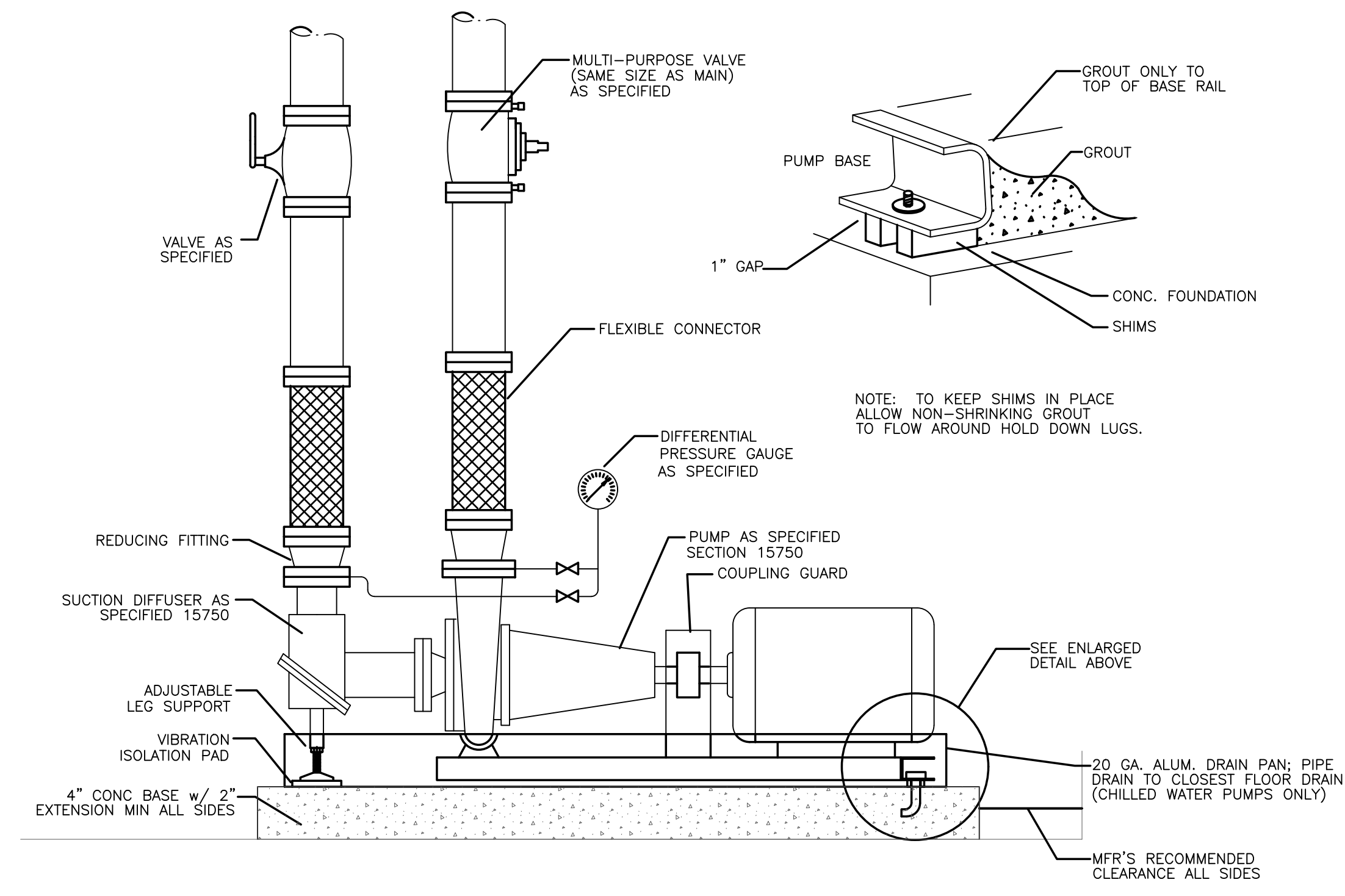


HVAC Renovations to  
**Bogue Elementary School**  
3355 Hwy. 24, Newport, NC 28570  
Carteret County Schools / North Carolina

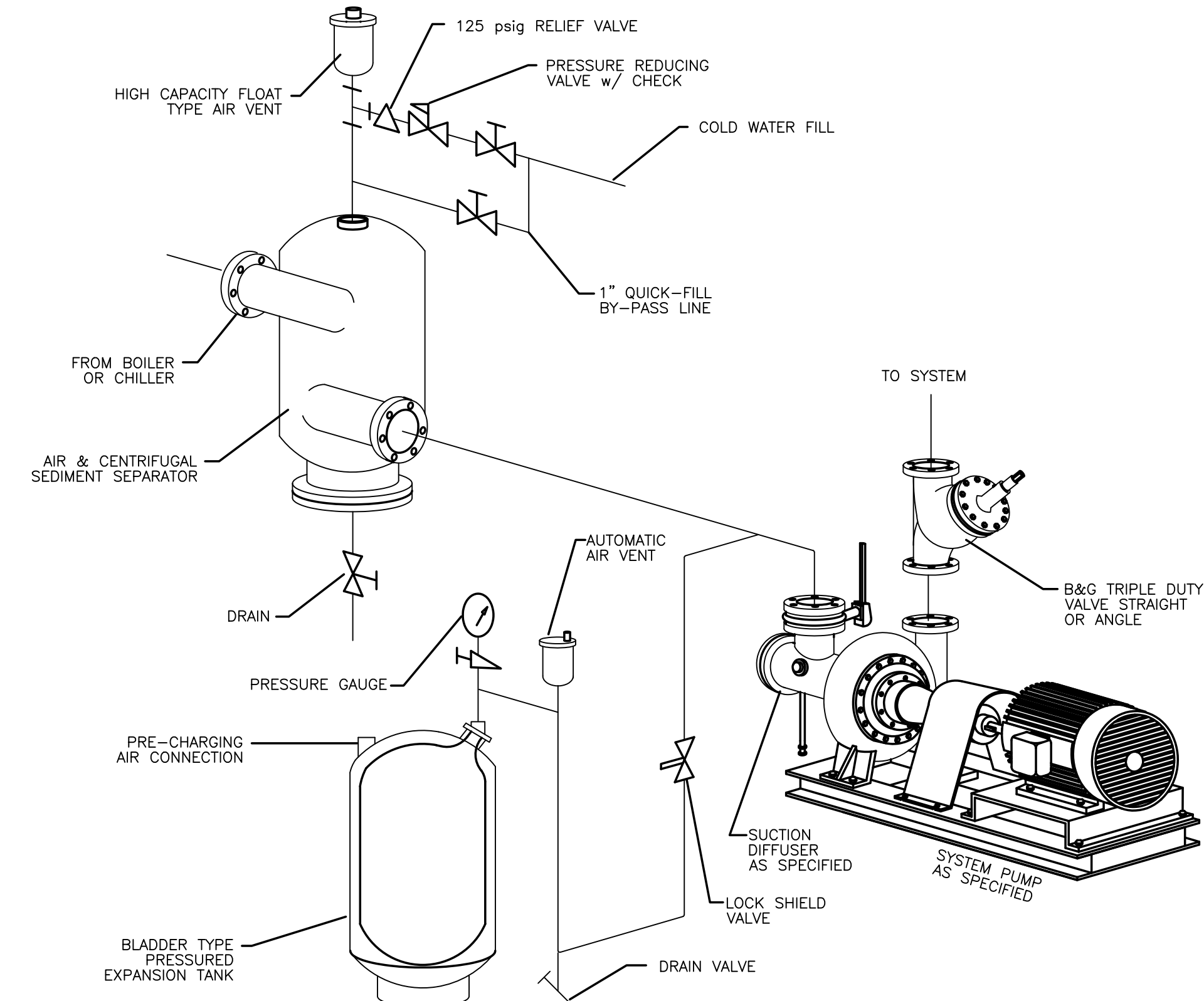
Project No. 22419  
Date: 11 Nov 2024  
Drawing No. **M 003**

ES Project No. ES24005  
**ENGINEERING**  
SOURCE OF NC, P.A.  
103-42 Regency Blvd. Greenville, NC 27834  
E-Mail Address: general@engsource.com  
Tel (252) 432-0338 • Fax (252) 432-0462 • Fax P-1973

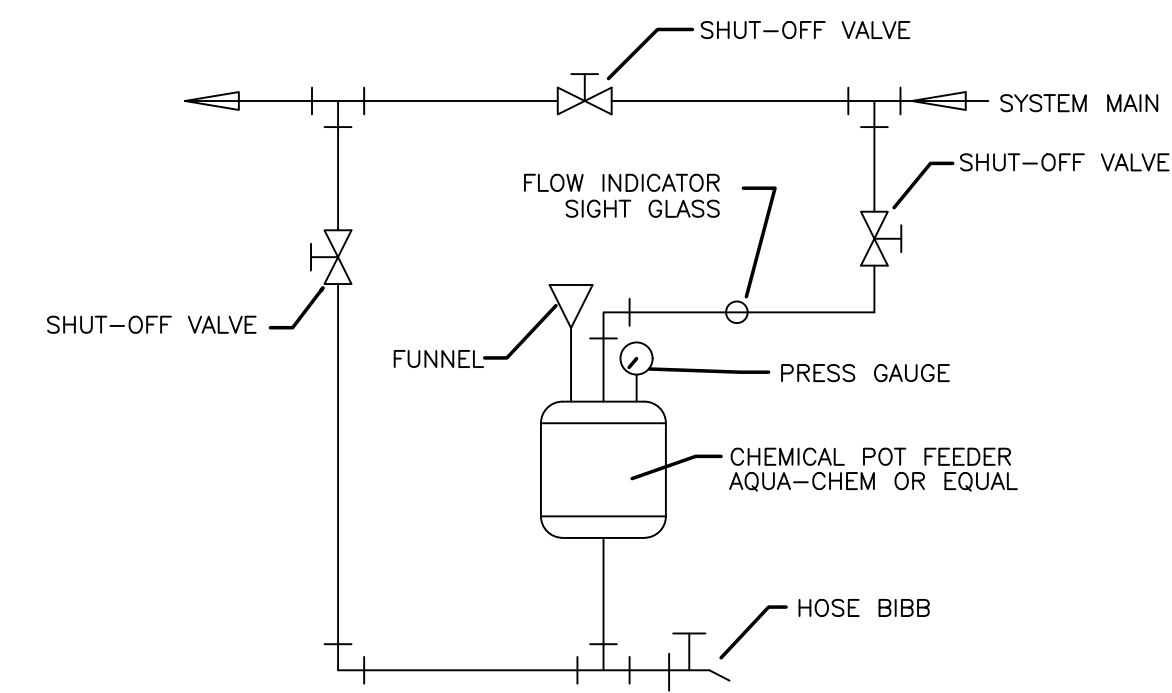




**004.1 BASE MOUNTED END SUCTION PUMP DETAIL**  
SCALE: N.T.S.



**004.2 AIR CONTROL DETAIL**  
SCALE: N.T.S.

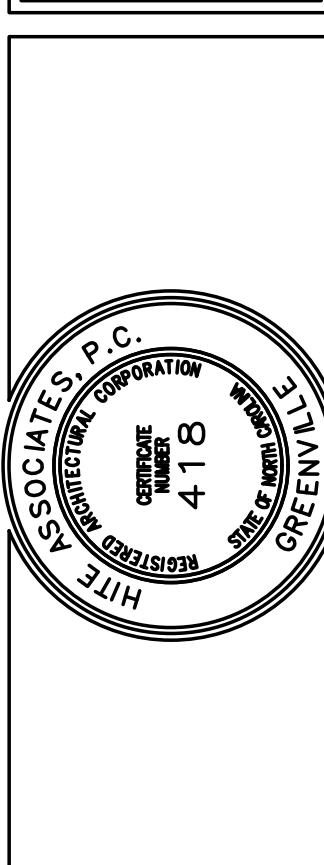


NOTE: FOR HW SYSTEM ONLY

**004.3 CHEMICAL SHOT FEEDER DETAIL**  
SCALE: N.T.S.

|     |      |          |
|-----|------|----------|
| No. | Date | Revision |
|     |      |          |
|     |      |          |
|     |      |          |

**Hite associates**  
ARCHITECTURE / PLANNING / TECHNOLOGY  
2600 Meridian Drive / Greenville, NC 27634 / Tel (252) 757-0333



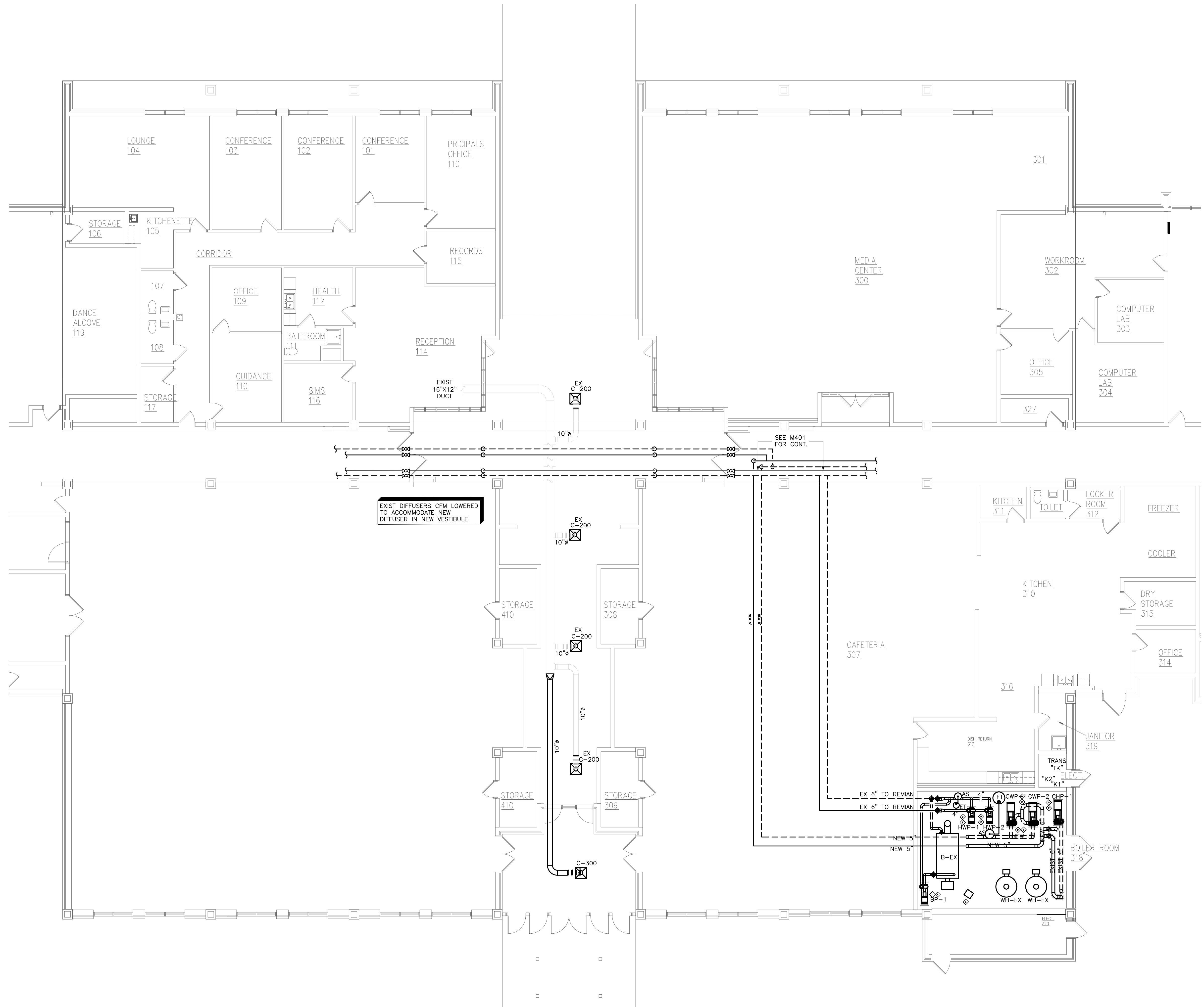
HVAC Renovations to  
**Bogue Elementary School**  
3355 Hwy. 24, Newport, NC 28570  
Carteret County Schools / North Carolina

|             |             |
|-------------|-------------|
| Project No. | 22419       |
| Date:       | 11 Nov 2024 |
| Drawing No. | M<br>004    |

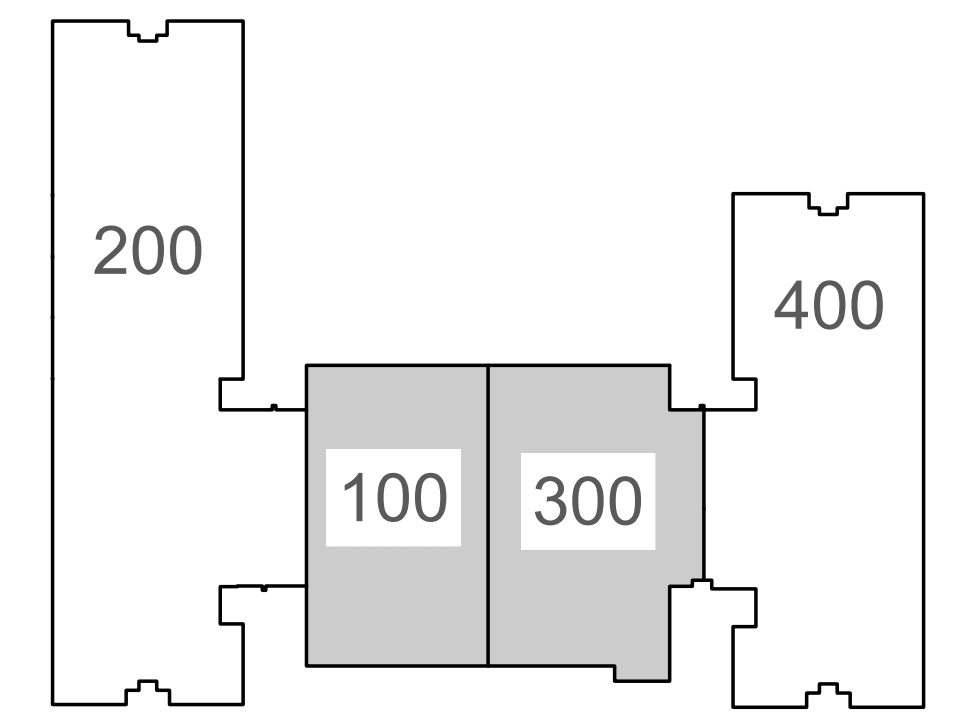
ES Project No. ES24005  
**ENGINEERING**  
SOURCE OF NC, P.A.  
102-42 Regency Blvd. Greenville, NC 27634  
E-Mail Address: general@engsource.com  
Tel (252) 438-0338 • Fax (252) 438-0462 • TDD (252) 438-0338

THIS DRAWING IS THE PROPERTY OF ENGINEERING SOURCE OF NC, P.A. THIS DRAWING IS NOT TO BE COPIED IN WHOLE OR IN PART. THIS DRAWING OR THE INFORMATION HEREON IS NOT TO BE USED ON ANY OTHER PROJECT AND MUST BE RETURNED TO ENGINEERING SOURCE OF NC, P.A. UPON REQUEST. DO NOT SCALE THESE DRAWINGS. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT DIMENSIONS.

- MECH-ELEC NEW WORK KEY NOTES:**  
 GENERAL NOTE COMMENT: CONTRACTORS ARE RESPONSIBLE FOR READING, UNDERSTANDING AND FOLLOWING WORK SEQUENCING/PHASING PLAN WITH REGARDS TO WHEN THE FOLLOWING WORK IS TO BE SCHEDULED, COMPLETED AND OPERATIONAL.
- ◆ TIE EXISTING OA DUCT WHERE PRE-CONDITIONING UNIT WAS REMOVED INTO NEW AHU MIXING BOX OR RETURN AIR DUCT IF IT DOESN'T HAVE A MIXING BOX. INSTALL DAMPERS FOR AIR BALANCE IF MIXING BOX IS NOT PRESENT.
  - ◆ REPLACE CEILING TILES IN THIS AREA AFTER NEW CHILLED WATER PIPING IS INSTALLED, INSULATED, INSPECTED AND ACCEPTED. INSTALL NEW LIGHTS IN GRID AND TIE BACK TO LOCAL POWER & CONTROL CIRCUITS AS INDICATED.
  - ◆ INSTALL NEW FLUORESCENT LIGHTS IN THIS AREA AS INDICATED. CONNECT BACK TO EXISTING POWER AND CONTROL WIRING AS SHOWN. MODIFY SWITCH-LEG AS NECESSARY. REMOVE ANY TEMPORARY LIGHTS THAT WERE INSTALLED ONCE NEW LIGHTS ARE INSTALLED AND FUNCTIONING.
  - ◆ INSTALL NEW PUMP AND ASSOCIATED PUMP TRIM BACK TO EXISTING SUPPLY AND RETURN PIPING DROPS MAINTAINED FOR RECONNECTION DURING DEMOLITION.
  - ◆ RECONNECT NEW EQUIPMENT BACK TO EXISTING DISCONNECT SWITCH AND FEEDER MAINTAINED FOR REUSE. LABEL PANEL DIRECTORY WITH NEW EQUIPMENT ID AS APPROPRIATE.
  - ◆ SEQUENTIALLY INSTALL NEW AIR HANDLERS ACCORDING TO SCHEDULE DEVELOPED WITH OWNER. REUSE EXISTING MAINTENANCE PAD WHERE POSSIBLE. EXPAND OR INSTALL NEW PADS AS REQUIRED FOR NEW UNITS IN NEW LOCATIONS. CONNECT NEW UNIT BACK TO RETURN AND SUPPLY MAINTAINED FOR REUSE.
  - ◆ INSTALL NEW HYDRONIC UNIT IN PLACE OF EXISTING DX AIR COOLED SPLIT SYSTEM REMOVED. PROVIDE NEW HYDRONIC SUPPLY & RETURN PIPING BACK TO MAINS WITH ASSOCIATED COIL TRIM.
  - ◆ REWORK EXISTING TRANE MODULAR AIR HANDLERS TO ADD A 2-RW HEATING COIL IN THE REHEAT POSITION. MOVE THE EXIST. COOLING COIL AS NECESSARY TO MAKE ROOM FOR THE NEW COIL.
  - ◆ CONNECT NEW EQUIPMENT BACK TO EXISTING DISCONNECT SWITCH MAINTAINED FOR REUSE. PROVIDE NEW FUSES AS REQUIRED TO MATCH NEW EQUIPMENT DATA PLATE. LABEL PANEL DIRECTORY WITH NEW AHU NUMBER AS NECESSARY.
  - ◆ INSTALL NEW INSULATION ON ALL EXISTING HYDRONIC PIPING THAT HAD INSULATION REMOVED AND HAD EXISTING PIPE PREPARED FOR NEW INSULATION. COLD/CHILLED WATER PIPING MUST BE INSULATED DURING ALL COOLING SEASONS TO PREVENT SWEATING.
  - ◆ INSTALL NEW ELECTRIC UNIT HEATER AS INDICATED.
  - ◆ REMOVE EXISTING RECESSED CAN LIGHTS IN THIS AREA. MAINTAIN POWER AND CONTROL TO ALL UP AND DOWN STREAM LIGHTING TO REMAIN. TIE NEW LAY-IN LIGHTS TO UNSWITCHED LEG OF EXISTING CORRIDOR LIGHTS. (CCT L-12 PER RECORD DWGS.)



**101.1 100 & 300 WING MECHANICAL PLAN**  
 SCALE: 1/8" = 1'-0"



**KEY PLAN**  
 SCALE: NTS

**ENGINEERING**  
 SOURCE OF NC, PA.  
 102-42 Regency Blvd. Greensboro, NC 27434  
 E-Mail Address: general@hiteassociates.com  
 Web (919) 438-0328 • Fax (919) 438-0462 • File #E-1073

*D. Wilson*  
 02/28/24  
 11/4/24  
 WILSON FOU

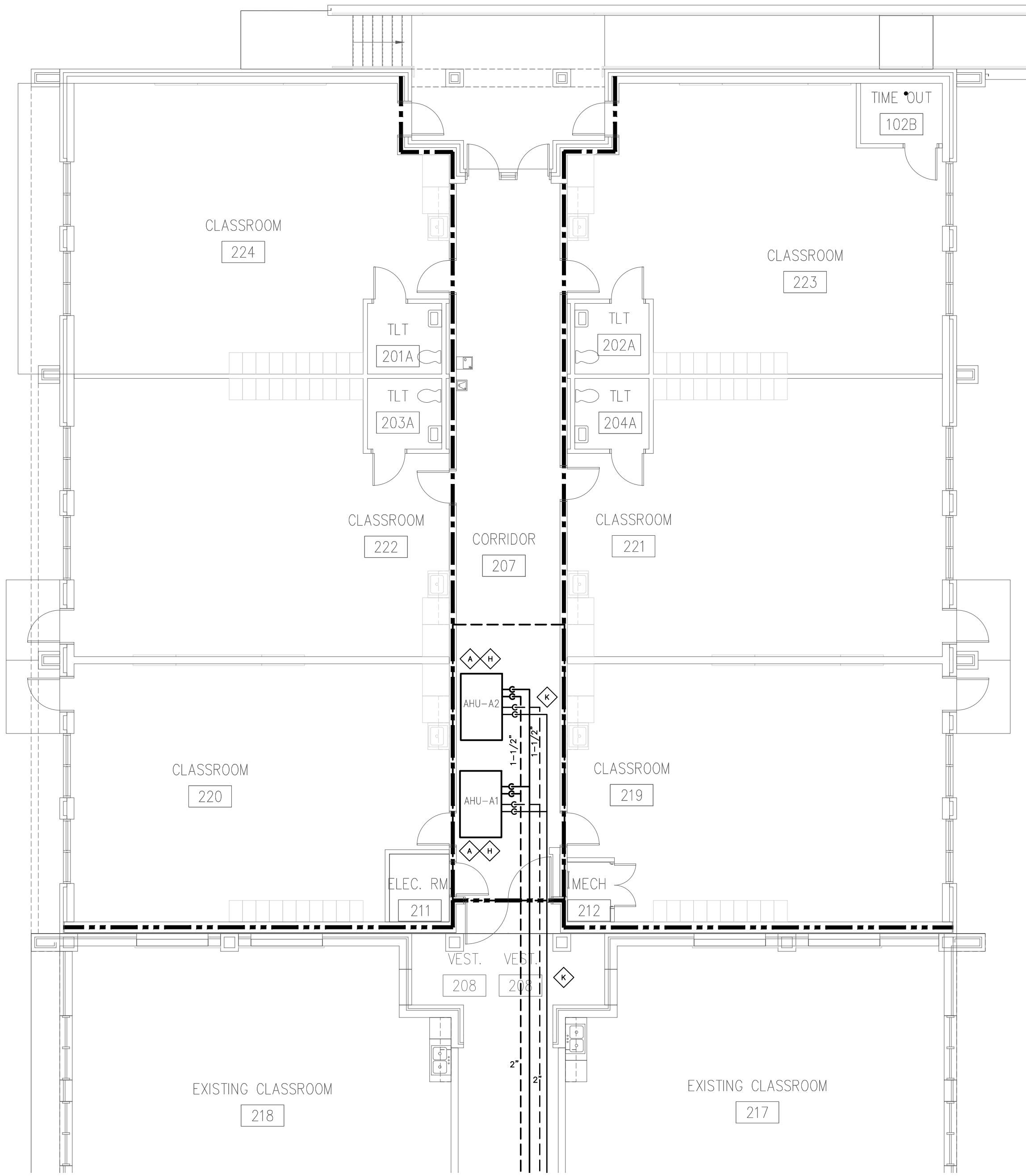
THIS DRAWING IS THE PROPERTY OF ENGINEERING SOURCE OF NC, P.A. THIS DRAWING IS NOT TO BE COPIED IN WHOLE OR IN PART. THIS DRAWING OR THE INFORMATION HEREON IS NOT TO BE USED ON ANY OTHER PROJECT AND MUST BE RETURNED TO ENGINEERING SOURCE OF NC, P.A. UPON REQUEST. DO NOT SCALE THESE DRAWINGS. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT DIMENSIONS.

**Hite associates**  
 ARCHITECTURE / PLANNING / TECHNOLOGY  
 2600 Meridian Drive / Greenville, NC 27834 / Tel (252) 757-0333

**HITE ASSOCIATES, P.C.**  
 REGISTERED PROFESSIONAL ENGINEER  
 NO. 418  
 EXPIRES 12/31/27  
 GREENVILLE, NC

HVAC Renovations to  
**Bogue Elementary School**  
 3355 Hwy. 24, Newport, NC 28570  
 Carteret County Schools / North Carolina

Project No. 22419  
 Date: 11 Nov 2024  
 Drawing No. **M 101**

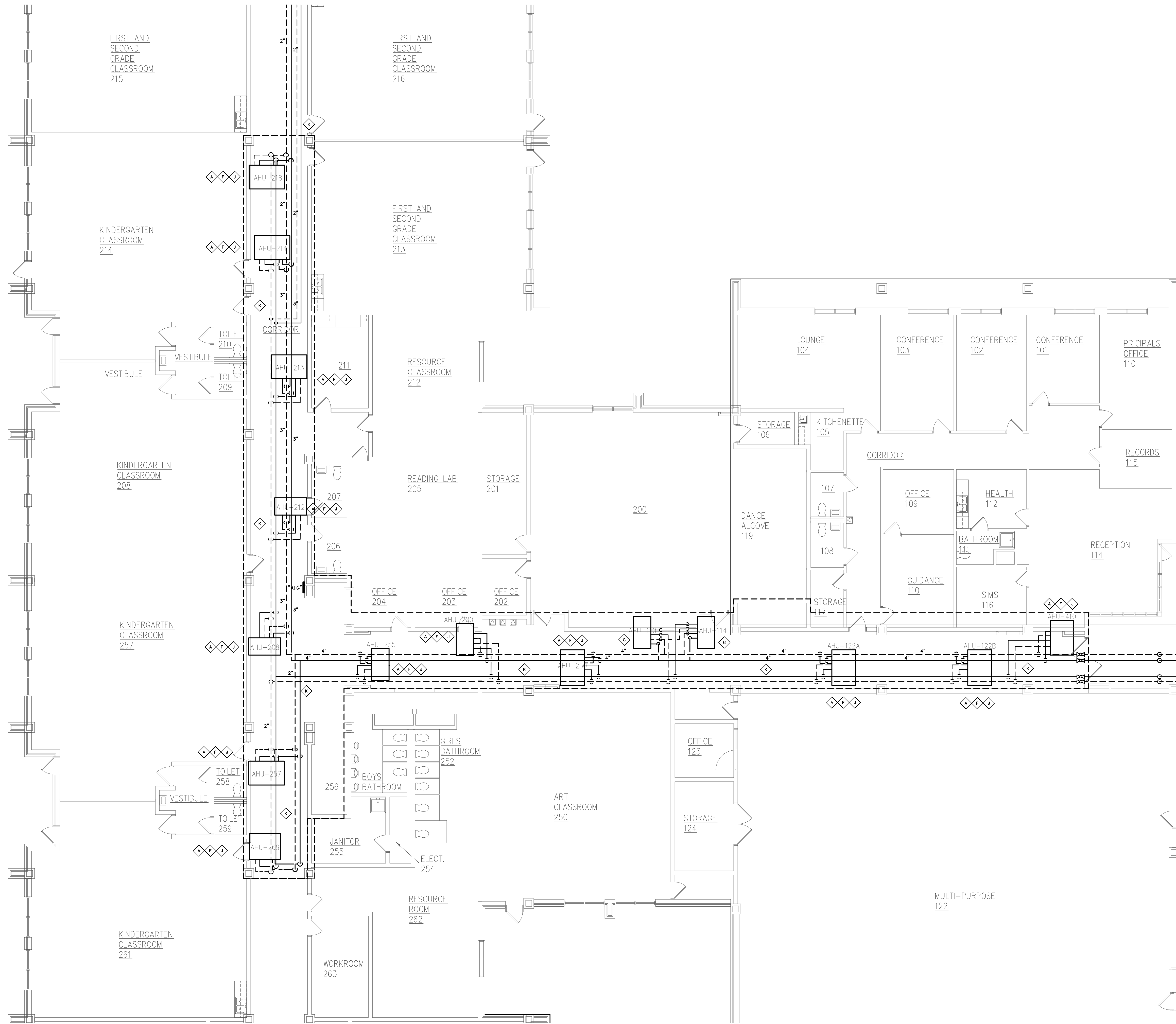


**201.2 UPPER 200 WING PLATFORM MECHANICAL PLAN**  
SCALE: 1/8" = 1'-0"

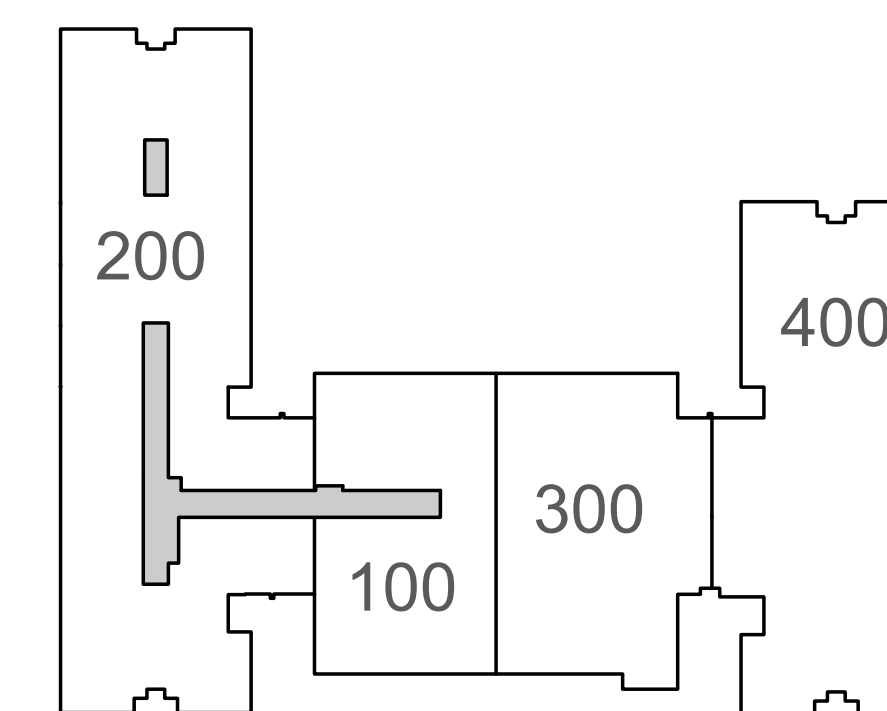
**MECH-ELEC NEW WORK KEY NOTES:**

GENERAL NOTE: CONTRACTORS ARE RESPONSIBLE FOR READING, UNDERSTANDING AND FOLLOWING WORK SEQUENCING/PHASING PLAN WITH REGARDS TO WHEN THE FOLLOWING WORK IS TO BE SCHEDULED, COMPLETED AND OPERATIONAL.

- ◆ TIE EXISTING OA DUCT WHERE PRE-CONDITIONING UNIT WAS REMOVED INTO NEW AHU MIXING BOX OR RETURN AIR DUCT IF IT DOESN'T HAVE A MIXING BOX. INSTALL DAMPERS FOR AIR BALANCE IF MIXING BOX IS NOT PRESENT.
- ◆ REPLACE CEILING TILES IN THIS AREA AFTER NEW CHILLED WATER PIPING IS INSTALLED, INSULATED, INSPECTED AND ACCEPTED. INSTALL NEW LIGHTS IN GRID AND TIE BACK TO LOCAL POWER & CONTROL CIRCUITS AS INDICATED.
- ◆ INSTALL NEW FLUORESCENT LIGHTS IN THIS AREA AS INDICATED. CONNECT BACK TO EXISTING POWER AND CONTROL WIRING AS SHOWN. MODIFY SWITCH-LEG AS NECESSARY. REMOVE ANY TEMPORARY LIGHTS THAT WERE INSTALLED ONCE NEW LIGHTS ARE INSTALLED AND FUNCTIONING.
- ◆ INSTALL NEW PUMP AND ASSOCIATED PUMP TRIM BACK TO EXISTING SUPPLY AND RETURN PIPING DROPS MAINTAINED FOR RECONNECTION DURING DEMOLITION.
- ◆ RECONNECT NEW EQUIPMENT BACK TO EXISTING DISCONNECT SWITCH AND FEEDER MAINTAINED FOR REUSE. LABEL PANEL DIRECTORY WITH NEW EQUIPMENT ID AS APPROPRIATE.
- ◆ SEQUENTIALLY INSTALL NEW AIR HANDLERS ACCORDING TO SCHEDULE DEVELOPED WITH OWNER. REUSE EXISTING MAINTENANCE PAD WHERE POSSIBLE. EXPAND OR INSTALL NEW PADS AS REQUIRED FOR NEW UNITS IN NEW LOCATIONS. CONNECT NEW UNIT BACK TO RETURN AND SUPPLY MAINTAINED FOR REUSE.
- ◆ INSTALL NEW HYDRONIC UNIT IN PLACE OF EXISTING DX AIR COOLED SPLIT SYSTEM REMOVED. PROVIDE NEW HYDRONIC SUPPLY & RETURN PIPING BACK TO MAINS WITH ASSOCIATED COIL TRIM.
- ◆ REWORK EXISTING TRANE MODULAR AIR HANDLERS TO ADD A 2-ROW HEATING COIL IN THE REHEAT POSITION. MOVE THE EXIST. COOLING COIL AS NECESSARY TO MAKE ROOM FOR THE NEW COIL.
- ◆ CONNECT NEW EQUIPMENT BACK TO EXISTING DISCONNECT SWITCH MAINTAINED FOR REUSE. PROVIDE NEW FUSES AS REQUIRED TO MATCH NEW EQUIPMENT DATA PLATE. LABEL PANEL DIRECTORY WITH NEW AHU NUMBER AS NECESSARY.
- ◆ INSTALL NEW INSULATION ON ALL EXISTING HYDRONIC PIPING THAT HAD INSULATION REMOVED AND HAD EXISTING PIPE PREPARED FOR NEW INSULATION. COLD/CHILLED WATER PIPING MUST BE INSULATED DURING ALL COOLING SEASONS TO PREVENT SWEATING.
- ◆ INSTALL NEW ELECTRIC UNIT HEATER AS INDICATED.
- ◆ REMOVE EXISTING RECESSED CAN LIGHTS IN THIS AREA. MAINTAIN POWER AND CONTROL TO ALL UP AND DOWN STREAM LIGHTING TO REMAIN. TIE NEW LAY-IN LIGHTS TO UNSWITCHED LEG OF EXISTING CORRIDOR LIGHTS. (CKT L-12 PER RECORD DWGS.)



**201.1 100 & 200 WING PLATFORM MECHANICAL PLAN**  
SCALE: 1/8" = 1'-0"



**KEY PLAN**  
SCALE: NTS

ES Project No: ES24005

**ENGINEERING**  
SOURCE OF NC, P.A.

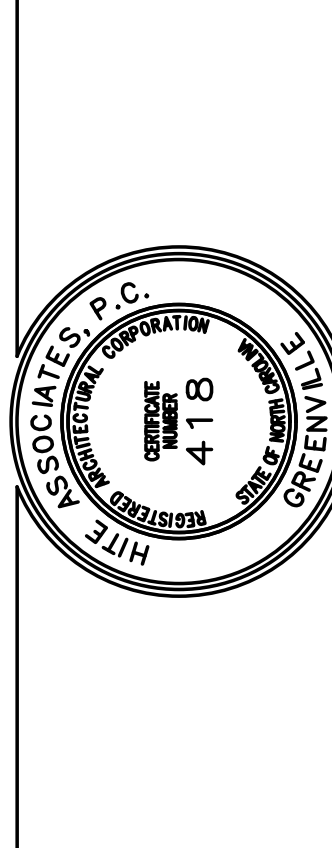
**ENGINEERS**  
1111 WILSON FOU

102-42 Regency Blvd. Greenville, NC 27834  
E-Mail Address: general@hiteassociates.com  
Tel (252) 439-0228 • Fax (252) 439-0462 • Fax (252) 439-0462

THIS DRAWING IS THE PROPERTY OF ENGINEERING SOURCE OF NC, P.A. THIS DRAWING IS NOT TO BE COPIED IN WHOLE OR IN PART. THIS DRAWING OR THE INFORMATION HEREON IS NOT TO BE USED ON ANY OTHER PROJECT AND MUST BE RETURNED TO ENGINEERING SOURCE OF NC, P.A. UPON REQUEST. DO NOT SCALE THESE DRAWINGS. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT DIMENSIONS.

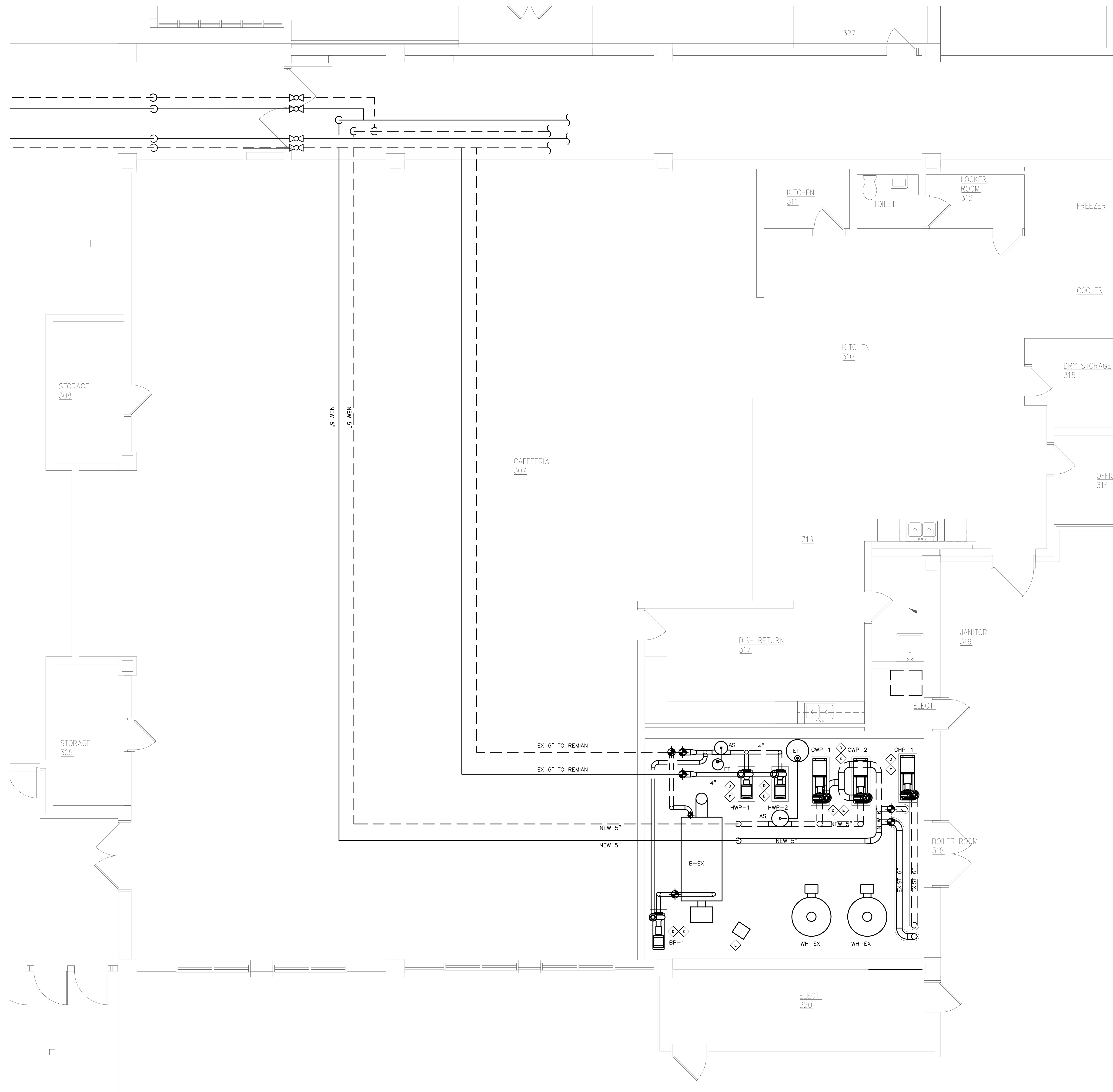
| No. | Date | Revision |
|-----|------|----------|
|     |      |          |
|     |      |          |
|     |      |          |
|     |      |          |

**Hite associates**  
ARCHITECTURE / PLANNING / TECHNOLOGY  
2600 Meridian Drive / Greenville, NC 27834 / Tel (252) 757-0333

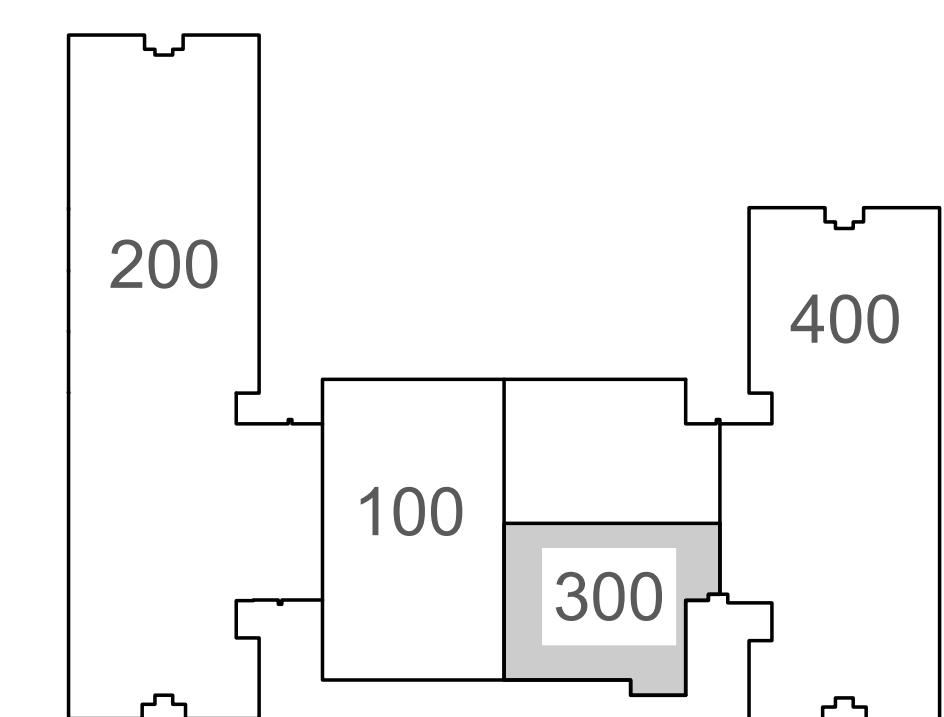


**HVAC Renovations to  
Bogue Elementary School**  
3355 Hwy. 24, Newport, NC 28570  
Carteret County Schools / North Carolina

Project No: 22419  
Date: 11 Nov 2024  
Drawing no: **M 201**



**301.1 ENLARGED 300 WING MECHANICAL PLAN**  
SCALE: 1/4" = 1'-0"



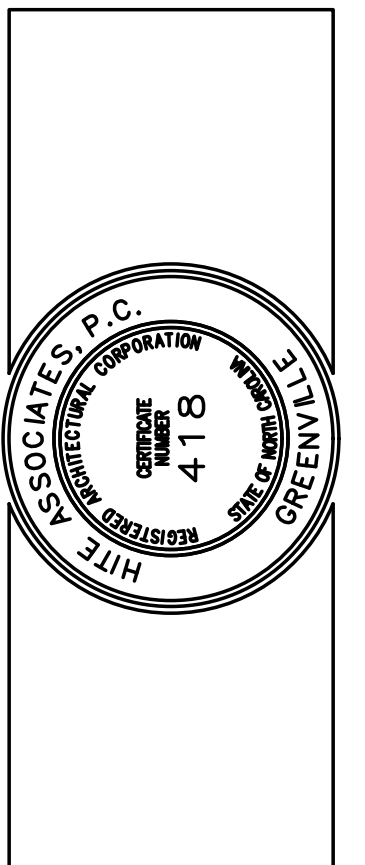
**KEY PLAN**  
SCALE: NTS

- MECH-ELEC NEW WORK KEY NOTES:**  
GENERAL NOTE COMMENT: CONTRACTORS ARE RESPONSIBLE FOR READING, UNDERSTANDING AND FOLLOWING WORK SEQUENCING/PHASING PLAN WITH REGARDS TO WHEN THE FOLLOWING WORK IS TO BE SCHEDULED, COMPLETED AND OPERATIONAL.
- ◇ TIE EXISTING OA DUCT WHERE PRE-CONDITIONING UNIT WAS REMOVED INTO NEW AHU MIXING BOX OR RETURN AIR DUCT IF IT DOESN'T HAVE A MIXING BOX. INSTALL DAMPERS FOR AIR BALANCE IF MIXING BOX IS NOT PRESENT.
  - ◇ REPLACE CEILING TILES IN THIS AREA AFTER NEW CHILLED WATER PIPING IS INSTALLED, INSULATED, INSPECTED AND ACCEPTED. INSTALL NEW LIGHTS IN GRID AND TIE BACK TO LOCAL POWER & CONTROL CIRCUITS AS INDICATED.
  - ◇ INSTALL NEW FLUORESCENT LIGHTS IN THIS AREA AS INDICATED. CONNECT BACK TO EXISTING POWER AND CONTROL WIRING AS SHOWN. MODIFY SWITCH-LEG AS NECESSARY. REMOVE ANY TEMPORARY LIGHTS THAT WERE INSTALLED ONCE NEW LIGHTS ARE INSTALLED AND FUNCTIONING.
  - ◇ INSTALL NEW PUMP AND ASSOCIATED PUMP TRIM BACK TO EXISTING SUPPLY AND RETURN PIPING DROPS MAINTAINED FOR RECONNECTION DURING DEMOLITION.
  - ◇ RECONNECT NEW EQUIPMENT BACK TO EXISTING DISCONNECT SWITCH AND FEEDER MAINTAINED FOR REUSE. LABEL PANEL DIRECTORY WITH NEW EQUIPMENT ID AS APPROPRIATE
  - ◇ SEQUENTIALLY INSTALL NEW AIR HANDLERS ACCORDING TO SCHEDULE DEVELOPED WITH OWNER. REUSE EXISTING MAINTENANCE PAD WHERE POSSIBLE. EXPAND OR INSTALL NEW PADS AS REQUIRED FOR NEW UNITS IN NEW LOCATIONS. CONNECT NEW UNIT BACK TO RETURN AND SUPPLY MAINTAINED FOR REUSE.
  - ◇ INSTALL NEW HYDRONIC UNIT IN PLACE OF EXISTING DX AIR COOLED SPLIT SYSTEM. REMOVE. PROVIDE NEW HYDRONIC SUPPLY & RETURN PIPING BACK TO MAINS WITH ASSOCIATED COIL TRIM
  - ◇ REWORK EXISTING TRANE MODULAR AIR HANDLERS TO ADD A 2-ROW HEATING COIL IN THE REHEAT POSITION. MOVE THE EXIST. COOLING COIL AS NECESSARY TO MAKE ROOM FOR THE NEW COIL.
  - ◇ CONNECT NEW EQUIPMENT BACK TO EXISTING DISCONNECT SWITCH MAINTAINED FOR REUSE. PROVIDE NEW FUSES AS REQUIRED TO MATCH NEW EQUIPMENT DATA PLATE. LABEL PANEL DIRECTORY WITH NEW AHU NUMBER AS NECESSARY.
  - ◇ INSTALL NEW INSULATION ON ALL EXISTING HYDRONIC PIPING THAT HAD INSULATION REMOVED AND HAD EXISTING PIPE PREPARED FOR NEW INSULATION. COLD/CHILLED WATER PIPING MUST BE INSULATED DURING ALL COOLING SEASONS TO PREVENT SWEATING.
  - ◇ INSTALL NEW ELECTRIC UNIT HEATER AS INDICATED.
  - ◇ REMOVE EXISTING RECESSED CAN LIGHTS IN THIS AREA. MAINTAIN POWER AND CONTROL TO ALL UP AND DOWN STREAM LIGHTING TO REMAIN. THE NEW LAY-IN LIGHTS TO UNSWITCHED LEG OF EXISTING CORRIDOR LIGHTS. (CKT L-12 PER RECORD DWGS.)

THIS DRAWING IS THE PROPERTY OF ENGINEERING SOURCE OF NC, P.A. THIS DRAWING IS NOT TO BE COPIED IN WHOLE OR IN PART. THIS DRAWING OR THE INFORMATION HEREON IS NOT TO BE USED ON ANY OTHER PROJECT AND MUST BE RETURNED TO ENGINEERING SOURCE OF NC, P.A. UPON REQUEST. DO NOT SCALE THESE DRAWINGS. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT DIMENSIONS.

| No. | Date | Revision |
|-----|------|----------|
|     |      |          |
|     |      |          |
|     |      |          |
|     |      |          |

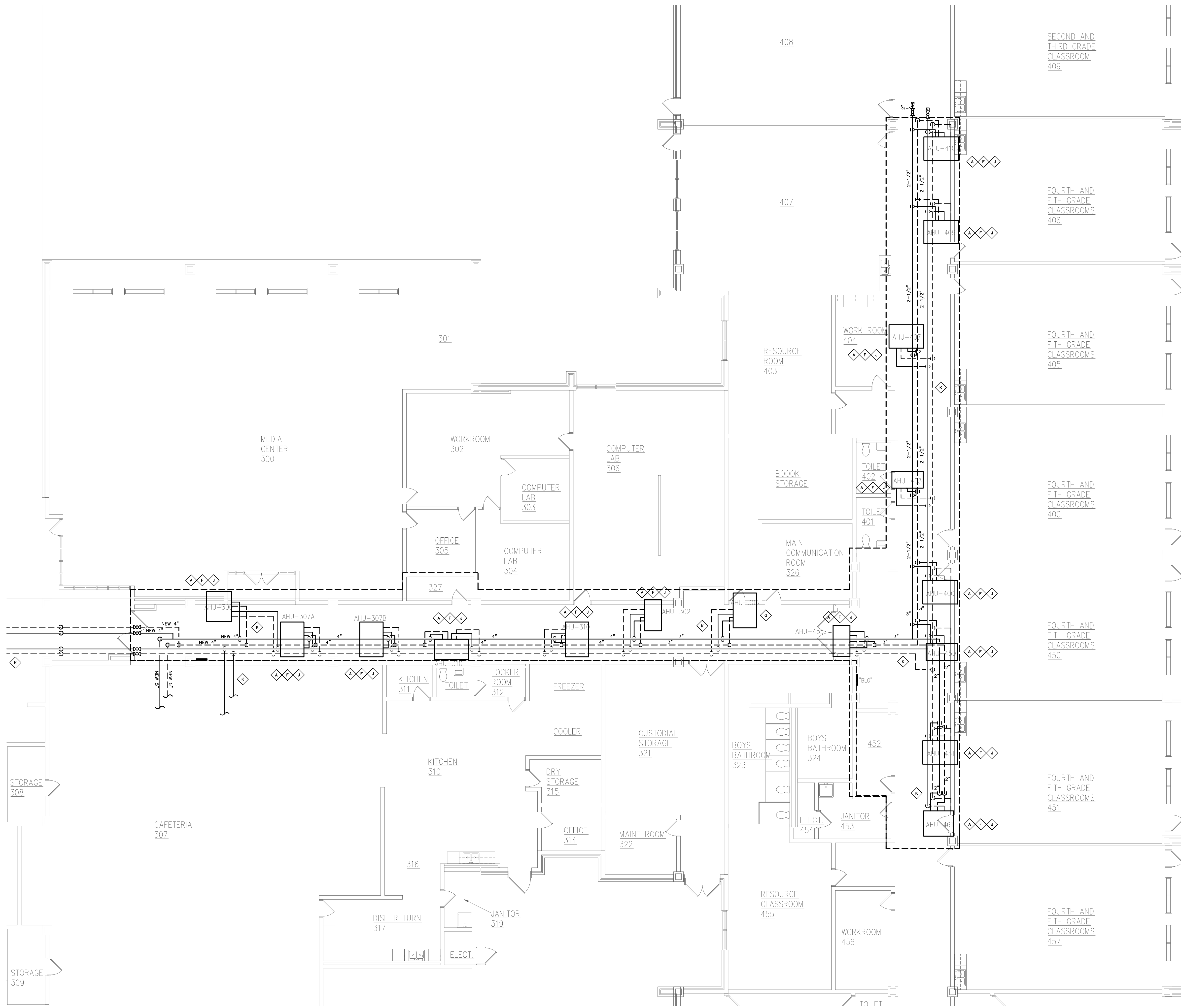
**Hite associates**  
ARCHITECTURE / PLANNING / TECHNOLOGY  
2600 Meridian Drive / Greenville, NC 27634 / Tel (252) 757-0333



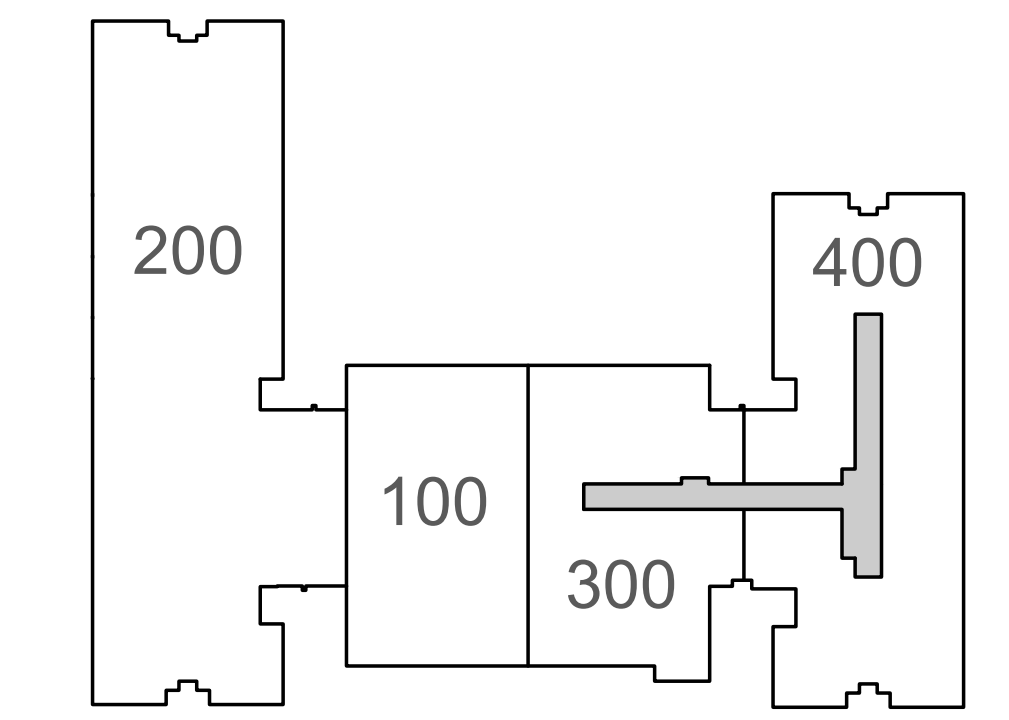
HVAC Renovations to  
**Bogue Elementary School**  
3355 Hwy. 24, Newport, NC 28570  
Carteret County Schools / North Carolina

|             |                        |
|-------------|------------------------|
| Project No. | 22419                  |
| Date:       | 11 Nov 2024            |
| Drawing no. | <b>M</b><br><b>301</b> |

ES24005  
ENGINEERING  
SOURCE OF NC, P.A.  
103-42 Regency Blvd. Greenville, NC 27634  
E-Mail Address: general@hiteassociates.com  
Tel (252) 432-0333 • Fax (252) 432-0462 • Fax P-1073



**401.1 300 & 400 WING PLATFORM MECHANICAL PLAN**  
SCALE: 1/8" = 1'-0"

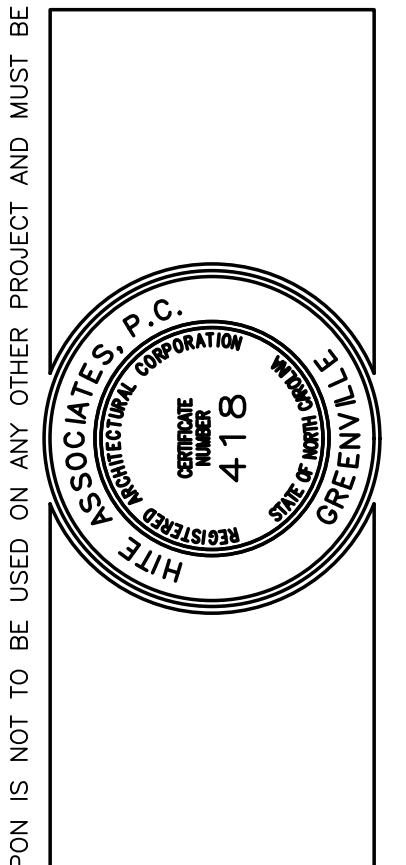


**KEY PLAN**  
SCALE: NTS

- MECH-ELEC NEW WORK KEY NOTES:**  
GENERAL NOTE COMMENT: CONTRACTORS ARE RESPONSIBLE FOR READING, UNDERSTANDING AND FOLLOWING WORK SEQUENCING/PHASING PLAN WITH REGARDS TO WHEN THE FOLLOWING WORK IS TO BE SCHEDULED, COMPLETED AND OPERATIONAL.
- ◇ THE EXISTING OA DUCT WHERE PRE-CONDITIONING UNIT WAS REMOVED INTO NEW AHU MIXING BOX OR RETURN AIR DUCT IF IT DOESN'T HAVE A MIXING BOX. INSTALL DAMPERS FOR AIR BALANCE IF MIXING BOX IS NOT PRESENT.
  - ◇ REPLACE CEILING TILES IN THIS AREA AFTER NEW CHILLED WATER PIPING IS INSTALLED, INSULATED, INSPECTED AND ACCEPTED. INSTALL NEW LIGHTS IN GRID AND TIE BACK TO LOCAL POWER & CONTROL CIRCUITS AS INDICATED.
  - ◇ INSTALL NEW FLUORESCENT LIGHTS IN THIS AREA AS INDICATED. CONNECT BACK TO EXISTING POWER AND CONTROL WIRING AS SHOWN. MODIFY SWITCH-LEG AS NECESSARY. REMOVE ANY TEMPORARY LIGHTS THAT WERE INSTALLED ONCE NEW LIGHTS ARE INSTALLED AND FUNCTIONING.
  - ◇ INSTALL NEW PUMP AND ASSOCIATED PUMP TRIM BACK TO EXISTING SUPPLY AND RETURN PIPING DROPS MAINTAINED FOR RECONNECTION DURING DEMOLITION.
  - ◇ RECONNECT NEW EQUIPMENT BACK TO EXISTING DISCONNECT SWITCH AND FEEDER MAINTAINED FOR REUSE. LABEL PANEL DIRECTORY WITH NEW EQUIPMENT ID AS APPROPRIATE.
  - ◇ SEQUENTIALLY INSTALL NEW AIR HANDLERS ACCORDING TO SCHEDULE DEVELOPED WITH OWNER. REUSE EXISTING MAINTENANCE PAD WHERE POSSIBLE. EXPAND OR INSTALL NEW PADS AS REQUIRED FOR NEW UNITS IN NEW LOCATIONS. CONNECT NEW UNIT BACK TO RETURN AND SUPPLY MAINTAINED FOR REUSE.
  - ◇ INSTALL NEW HYDRONIC UNIT IN PLACE OF EXISTING DX AIR COOLED SPLIT SYSTEM REMOVED. PROVIDE NEW HYDRONIC SUPPLY & RETURN PIPING BACK TO MAINS WITH ASSOCIATED COIL TRIM.
  - ◇ REWORK EXISTING TRANE MODULAR AIR HANDLERS TO ADD A 2-ROW HEATING COIL IN THE REHEAT POSITION. MOVE THE EXIST. COOLING COIL AS NECESSARY TO MAKE ROOM FOR THE NEW COIL.
  - ◇ CONNECT NEW EQUIPMENT BACK TO EXISTING DISCONNECT SWITCH MAINTAINED FOR REUSE. PROVIDE NEW FUSES AS REQUIRED TO MATCH NEW EQUIPMENT DATA PLATE. LABEL PANEL DIRECTORY WITH NEW AHU NUMBER AS NECESSARY.
  - ◇ INSTALL NEW INSULATION ON ALL EXISTING HYDRONIC PIPING THAT HAD INSULATION REMOVED AND HAD EXISTING PIPE PREPARED FOR NEW INSULATION. COLD/CHILLED WATER PIPING MUST BE INSULATED DURING ALL COOLING SEASONS TO PREVENT SWEATING.
  - ◇ INSTALL NEW ELECTRIC UNIT HEATER AS INDICATED.
  - ◇ REMOVE EXISTING RECESSED CAN LIGHTS IN THIS AREA. MAINTAIN POWER AND CONTROL TO ALL UP AND DOWN STREAM LIGHTING TO REMAIN. THE NEW LAY-IN LIGHTS TO UNSWITCHED LEG OF EXISTING CORRIDOR LIGHTS. (CKT L-12 PER RECORD DWGS.)

| No. | Date | Revision |
|-----|------|----------|
|     |      |          |
|     |      |          |
|     |      |          |
|     |      |          |
|     |      |          |
|     |      |          |
|     |      |          |
|     |      |          |
|     |      |          |

**Hite associates**  
ARCHITECTURE / PLANNING / TECHNOLOGY  
2600 Meridian Drive / Greenville, NC 27834 / tel (252) 757-0333

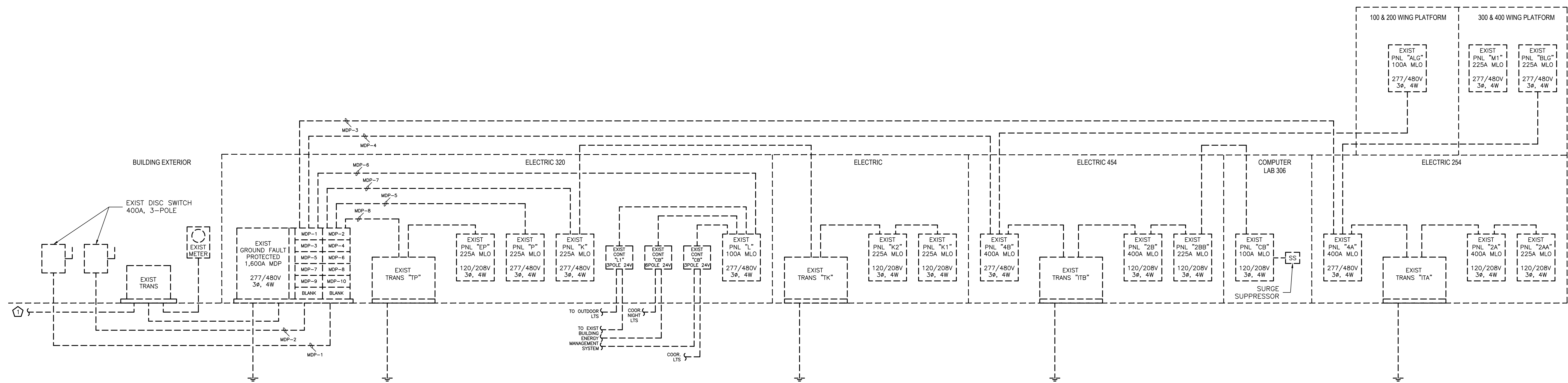


HVAC Renovations to  
**Bogue Elementary School**  
3355 Hwy. 24, Newport, NC 28570  
Carteret County Schools / North Carolina

|                                 |
|---------------------------------|
| Project No.<br>22419            |
| Date:<br>11 Nov 2024            |
| Drawing No.<br><b>M<br/>401</b> |

Project No. ES24005  
**ENGINEERING**  
SOURCE OF NC, P.A.  
103-42 Regency Blvd. Greenville, NC 27834  
E-Mail Address: general@hiteassociates.com  
Tel (252) 438-0328 • Fax (252) 438-0462 • Fax P-1973

THIS DRAWING IS THE PROPERTY OF ENGINEERING SOURCE OF NC, P.A. THIS DRAWING IS NOT TO BE COPIED IN WHOLE OR IN PART. THIS DRAWING OR THE INFORMATION HEREON IS NOT TO BE USED ON ANY OTHER PROJECT AND MUST BE RETURNED TO ENGINEERING SOURCE OF NC, P.A. UPON REQUEST. DO NOT SCALE THESE DRAWINGS. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT DIMENSIONS.



**001.1 ELECTRICAL RISER**  
SCALE: N.T.S.

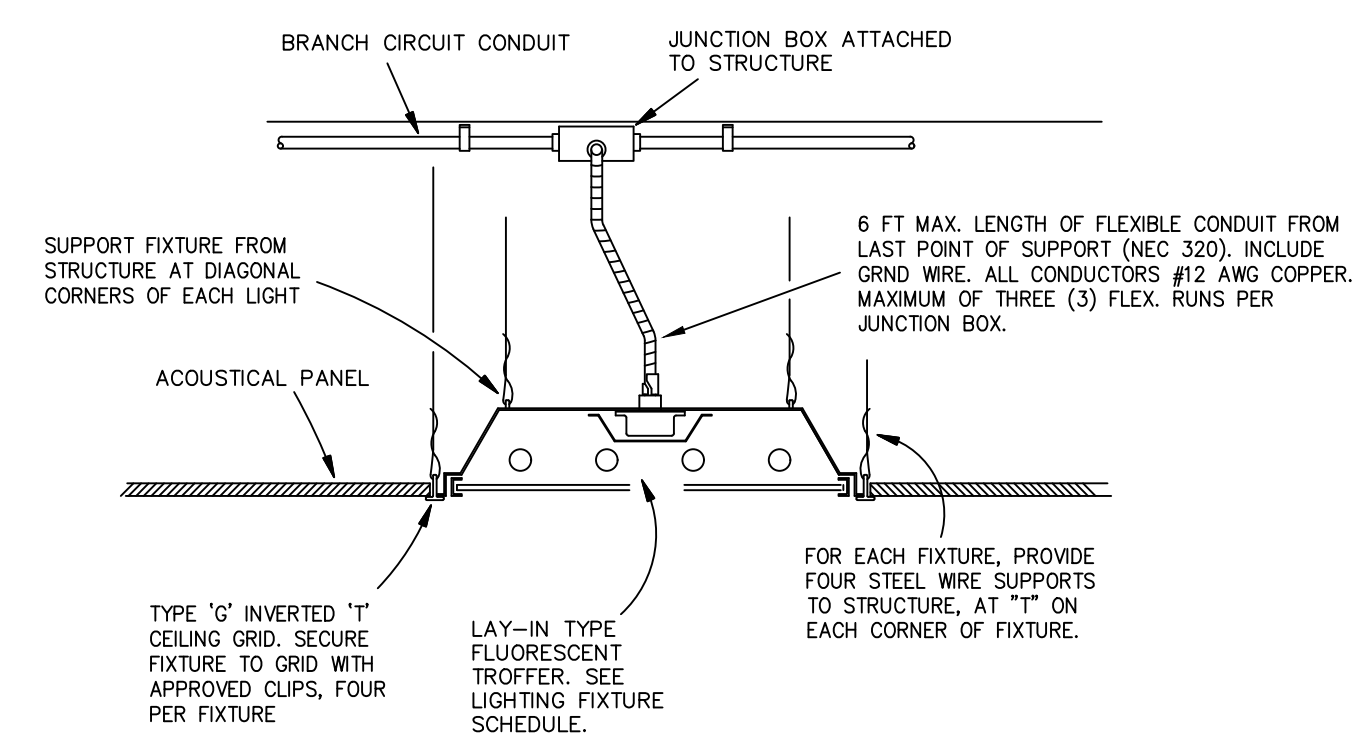
**ELECTRICAL RISER NOTES:**  
EXISTING UNDERGROUND SERVICE ENTRANCE

**PANELBOARD SCHEDULE - "EP"**

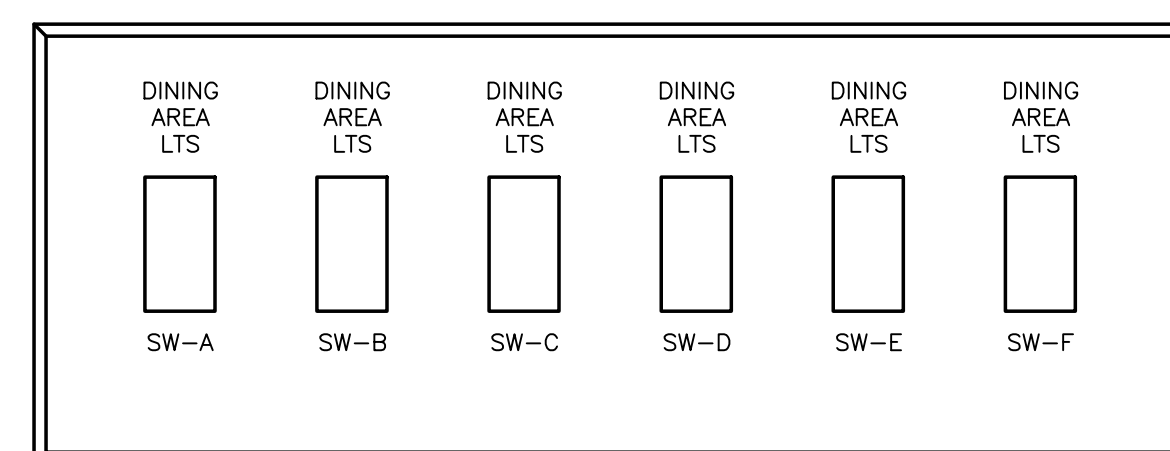
| CKT #               | TRIP | POLE | WIRE SIZE | COND. SIZE | DESCRIPTION        | LOAD (KVA) |     |     |     |     |     | CONDUIT SIZE | POLE   | BKR | CKT # |      |      |          |     |      |  |  |  |
|---------------------|------|------|-----------|------------|--------------------|------------|-----|-----|-----|-----|-----|--------------|--------|-----|-------|------|------|----------|-----|------|--|--|--|
|                     |      |      |           |            |                    | LTG        | REC | MTR | A/C | HTR | KIT |              |        |     |       | MISC | TRIP |          |     |      |  |  |  |
| 1                   | 20   | 1    | 12        | 3/4"       | WIR HTR CONTROLS   |            |     |     |     | 0.2 | 1.0 |              | 12     | 1   | 20    | 2    |      |          |     |      |  |  |  |
| 3                   | 20   | 1    | 12        | 3/4"       | WIR HTR CONTROLS   |            |     |     |     | 0.6 | 1.0 |              | 12     | 1   | 20    | 4    |      |          |     |      |  |  |  |
| 5                   | 20   | 1    | 12        | 3/4"       | CIRC PUMP          |            |     | 0.5 |     |     | 1.0 |              | 12     | 1   | 20    | 6    |      |          |     |      |  |  |  |
| 7                   | 20   | 1    | 12        | 3/4"       | CIRC PUMP          |            |     | 0.5 |     |     | 1.0 |              | 12     | 1   | 20    | 8    |      |          |     |      |  |  |  |
| 9                   | 20   | 1    | 12        | 3/4"       | EXTERIOR REC       |            |     | 1.2 |     |     | 0.5 |              | 12     | 1   | 20    | 10   |      |          |     |      |  |  |  |
| 11                  | 20   | 1    | 12        | 3/4"       | UNKNOWN            |            |     |     |     | 1.0 | 1.0 |              | 12     | 1   | 20    | 12   |      |          |     |      |  |  |  |
| 13                  | 20   | 1    | 12        | 3/4"       | UNKNOWN            |            |     |     |     | 1.0 | 1.0 |              | 12     | 1   | 20    | 14   |      |          |     |      |  |  |  |
| 15                  | 20   | 1    | 12        | 3/4"       | CHILLER HEAT       |            |     |     | 1.0 |     | 1.0 |              | 12     | 1   | 20    | 16   |      |          |     |      |  |  |  |
| 17                  | 20   | 1    | 12        | 3/4"       | UNKNOWN            |            |     |     |     | 1.0 | 1.0 |              | 12     | 1   | 20    | 18   |      |          |     |      |  |  |  |
| 19                  | 20   | 1    | 12        | 3/4"       | UNKNOWN            |            |     |     |     | 1.0 | 0.5 |              | 12     | 1   | 20    | 20   |      |          |     |      |  |  |  |
| 21                  | 20   | 2    | 12        | 3/4"       | + UH-2 BOILER ROOM |            |     |     | 2.2 |     | 3.0 |              | 1 1/4" | 3   | 2     | 100  | 22   |          |     |      |  |  |  |
| 23                  |      |      |           |            | SPACE              |            |     |     | 2.2 |     | 3.0 |              |        |     |       | 24   | 24   |          |     |      |  |  |  |
| 25                  |      |      |           |            | SPACE              |            |     |     |     |     |     |              |        |     |       | 26   | 26   |          |     |      |  |  |  |
| 27                  |      |      |           |            | SPACE              |            |     |     |     |     |     |              |        |     |       | 28   | 28   |          |     |      |  |  |  |
| 29                  |      |      |           |            | SPACE              |            |     |     |     |     |     |              |        |     |       | 30   | 30   |          |     |      |  |  |  |
| LIGHTING (KVA)      |      |      |           |            |                    | 6.5        | 0.0 | 1.2 | 1.0 | 0.0 | 5.3 | 0.0          | 4.4    | 6.5 | 0.0   | 0.0  | 1.6  | 0.0      | 6.0 | 26.0 |  |  |  |
| RECEPTACLES (KVA)   |      |      |           |            |                    | 1.2        |     |     |     |     |     |              |        |     |       |      |      |          |     | 27.7 |  |  |  |
| MOTORS (KVA)        |      |      |           |            |                    | 1.0        |     |     |     |     |     |              |        |     |       |      |      |          |     | 72.3 |  |  |  |
| HEATING (KVA)       |      |      |           |            |                    | 6.9        |     |     |     |     |     |              |        |     |       |      |      |          |     | 76.8 |  |  |  |
| KITCHEN (KVA)       |      |      |           |            |                    | 0.0        |     |     |     |     |     |              |        |     |       |      |      |          |     |      |  |  |  |
| MISCELLANEOUS (KVA) |      |      |           |            |                    | 10.4       |     |     |     |     |     |              |        |     |       |      |      |          |     |      |  |  |  |
| TOTAL               |      |      |           |            |                    |            |     |     |     |     |     | 76.8 amps    |        |     |       |      |      | 27.7 KVA |     |      |  |  |  |

**EP DEMAND CALCS**

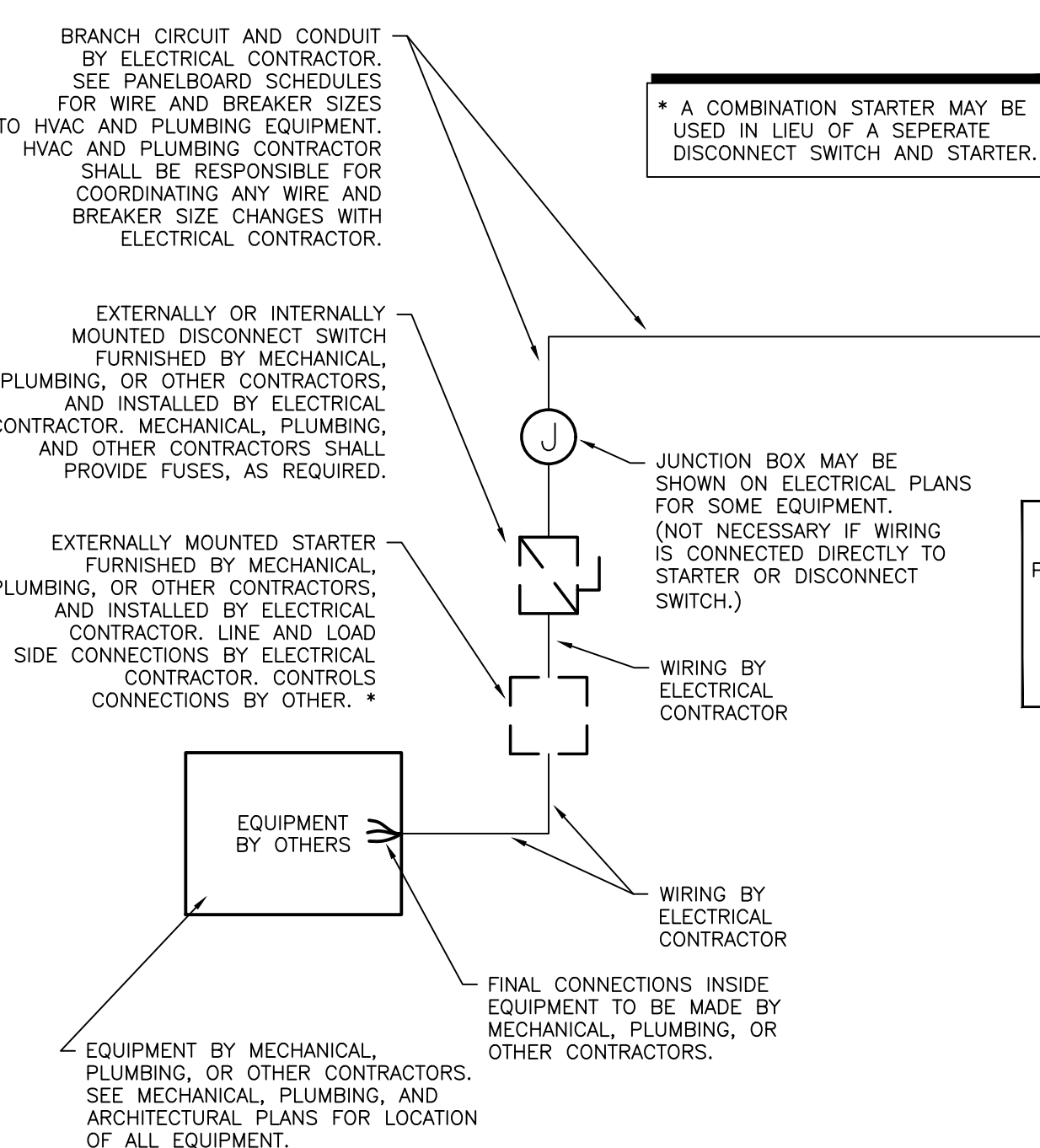
|                   |             |             |         |   |                 |
|-------------------|-------------|-------------|---------|---|-----------------|
| LIGHTING          | 6.50        | KVA         | X 125 % | = | 8.1 KVA         |
| RECEPTACLES TOTAL | 1.20        | KVA         | X 100 % | = | 1.2 KVA         |
| REMAIN            | 0.00        | KVA         | X 50 %  | = | 0.0 KVA         |
| MOTORS            | 1.00        | KVA         | X 100 % | = | 1.0 KVA         |
| LARGEST           | 0.00        | KVA         | X 125 % | = | 0.0 KVA         |
| A/C               | 0.00        | KVA         | X 100 % | = | 0.0 KVA         |
| HEATING           | 6.95        | KVA         | X 100 % | = | 6.9 KVA         |
| EXIST CKTS        |             | KVA         | X 100 % | = | 0.0 KVA         |
| KITCHEN           | 0.00        | KVA         | X 65 %  | = | 0.0 KVA         |
| MISCELLANEOUS     | 10.40       | KVA         | X 100 % | = | 10.4 KVA        |
| <b>TOTAL</b>      | <b>27.7</b> | <b>amps</b> |         |   | <b>27.7 KVA</b> |



**001.3 FLUORESCENT / LED TROFFER INSTALLATION**  
SCALE: N.T.S.



**001.2 DINING AREA MULTI-SWITCH DETAIL**  
SCALE: N.T.S.



**001.4 ELECTRICAL CONNECTION DETAIL**  
SCALE: N.T.S.

**LIGHT FIXTURE SCHEDULE**

| TYPE      | DESCRIPTION   | LAMPS   | VOLTS             | WATTS | B. F. |
|-----------|---|---------|-------------------|-------|-------|
| A         | 2'x4' LAY-IN STEP-DIMMING FLAT PANEL LED WITH ACRYLIC LENS. PROVIDE:<br>COLUMBIA#: SRP24-3050T-LW-G-ESD-UJ OR<br>LITHONIA#: EPANL-244-4000LM-80CRI-40K-MVOLT-SLD OR<br>WILLIAMS#: 50-G-S24-L59/840-SD50-UNV   | LED     | UNV               | 40W   | -     |
| B         | 4' SURFACE MOUNTED WRAP AROUND LED WITH ACRYLIC LENS.<br>COLUMBIA#: CRW4-LSCS<br>LITHONIA#: FMLWL-LNK-48-AL04-85W2<br>WILLIAMS#: 39-4-L52/835-A-UNV   | LED     | UNV               | 38W   | -     |
| EXIT      | CEILING OR WALL MOUNTED LED EXIT LIGHT CONFORMING TO NFPA 101 STANDARDS, W/ BATTERY & SOLID STATE CHARGER. SELF-DIAGNOSTICS W/ A TEST CYCLE EVERY 30 DAYS MINIMUM. SELF-CONTAINED, DOUBLE OR SINGLE WHITE FACE/BODY. ABS THERMOPLASTIC HOUSING, PILOT & STATUS INDICATING LIGHTS. TEST SWITCH, & 90 MIN. EMERGENCY RUN TIME. EXIT SIGN SHALL HAVE 5 YEAR WARRANTY. PROVIDE HUBBELL #: CER50 OR WILLIAMS #: EXIT-R-EM-WHT-SDT OR LITHONIA #: LQM-S-W-3-R-120/277-ELN-SD  | RED LED | UNV<br>277/<br>6V | 3.5W  | N/A   |
| EMERGENCY | AUTOMATIC, SELF-CONTAINED, SELF-DIAGNOSTIC, UL 924 MAINTENANCE FREE, 2-HEAD EMERGENCY LIGHT. UL LISTED AND NFPA 101 COMPLIANT. ABS THERMOPLASTIC HOUSING, PILOT & STATUS INDICATING LIGHTS. SELF-DIAGNOSTICS SHALL INCLUDE CONTINUOUS SELF-CHECKS AND 30 MINUTE FULL LOAD TEST WITH CHARGER OFF EVERY 30 DAYS. PROVIDE HUBBELL #: CU2SD OR WILLIAMS #: EMER/LED-WHT-HL-SDT OR LITHONIA #: EU2-LED-M12   | 2-10W   | UNV<br>277/<br>6V | 20W   | N/A   |
| EXIT      | CEILING OR WALL MOUNTED LED EXIT & 2-HEAD EMERGENCY LIGHT CONFORMING TO NFPA 101 STANDARDS, W/ BATTERY & SOLID STATE CHARGER. SELF-DIAGNOSTICS W/ A TEST CYCLE EVERY 30 DAYS MINIMUM. SELF-CONTAINED, DOUBLE OR SINGLE WHITE FACE/BODY, ABS THERMOPLASTIC HOUSING, PILOT & STATUS INDICATING LIGHTS. TEST SWITCH, & 90 MIN. EMERGENCY RUN TIME. EXIT LIGHT SHALL CONTINUE TO OPERATE FOR 24 HOURS FOLLOWING POWER OUTAGE. EXIT SIGN SHALL HAVE 5 YEAR WARRANTY. PROVIDE HUBBELL #: CCRSD OR LITHONIA #: LHQM-LED-R-HO-SD OR WILLIAMS #: EXIT/EM/LED-SF-R-WHT-HL-SDT | RED LED | UNV<br>277/<br>6V | 20    | N/A   |
| SCENE     | WALL MOUNTED SCENE LIGHT WITH PREMIUM MARINE GRADE DIE-CAST ALUMINUM HOUSING AND POLYCARBONATE GASKETED LENS TO WITHSTAND EXTREME WEATHER CONDITIONS. MOUNT ABOVE EXTERIOR DOOR. EMERGENCY LIGHT SHALL CONFORM WITH NFPA 101 STANDARDS AND NEC-700.16. PROVIDE HUBBELL #: CUWZ-PC OR WILLIAMS #: EMER/DECO-DBR-LT OR LITHONIA #: AFN-DB-EXT   | 2-6W    | UNV<br>277/6VDC   | 12W   | -     |

**SCOPE OF WORK STATEMENT:**  
IT IS THE INTENT OF THESE PLANS AND SPECIFICATIONS TO SHOW THE REMOVAL AND COMPLETE REPLACEMENT OF THE EXISTING DUAL TEMP AIR HANDLERS, THE BUILDING LOOP PUMPS AND THE INSTALLATION OF A NEW CHILLED WATER BUILDING LOOP PIPING SYSTEM. THE NEW EQUIPMENT SHALL BE TIED INTO THE EXISTING JCI CONTROL SYSTEM (BASE BID) OR INTO NEW TRIDUUM NIAGARA COMPATIBLE SYSTEM (ALTERNATE BID). CONTROLS SYSTEM SHALL BE ACCESSIBLE BY THE OWNER FOR PROGRAMMING AND MAINTENANCE AND SHALL NOT HAVE ANY PASSWORDS OR LOCK-OUTS THAT PREVENT THE OWNER FROM MAKING DESIRED MODIFICATIONS TO SET POINTS, SCHEDULES, RUN TIMES, ETC. THE NEW CHILLED WATER PIPING SYSTEM SHALL BE INSULATED NON-METALLIC PIPING (SEE SPECIFICATIONS).

CONTRACTOR IS RESPONSIBLE FOR THE REMOVAL OF ALL EXISTING HYDRONIC AIR HANDLERS WITH ASSOCIATED COIL TRIM, SPLIT DX UNITS AND LOOP PUMPS AS INDICATED. THE OLD EQUIPMENT SHALL BE OFFERED TO OWNER FOR SALVAGE. DISPOSE OF ANY EQUIPMENT NOT CLAIMED BY OWNER PROPERLY OFF SITE. CONTRACTOR SHALL INCLUDE ANY AND ALL EQUIPMENT, CRANES, TRANSPORT, LABOR AND MATERIALS ASSOCIATED WITH DISCONNECTING THE UNITS FROM THE EXISTING PIPING, MAINTENANCE PADS AND POWER CIRCUITS. CONTRACTOR SHALL REMOVE ANY AND ALL CONTROL DEVICES ON EXISTING EQUIPMENT AS WELL AS ANY PIPING THAT IS SHOWN TO BE REMOVED. ALL EXISTING CONTROL DEVICES SHALL BE KEPT FOR RE-USE ON NEW EQUIPMENT OR FOR SURPLUS BY OWNER IF NOT REUSED OR IF ALTERNATE TRIDUUM COMPATIBLE CONTROLS BID IS ACCEPTED.

CONTRACTOR IS RESPONSIBLE FOR THE REMOVAL OF HYDRONIC PIPING AS INDICATED/REQUIRED TO REMOVE AND INSTALL NEW UNITS AND PUMPS. CONTRACTOR SHALL FIELD VERIFY EXACT INSTALLATION LOCATION OF THE AIR HANDLERS AND PUMPS AND SHALL MODIFY HYDRONIC PIPING AS REQUIRED TO CONNECT NEW EQUIPMENT BACK TO EXISTING PIPING AT POINTS INDICATED. NEW ISOLATION VALVES SHALL BE PROVIDED AND INSTALLED WHERE INDICATED ON PLANS AND NEW COIL TRIM SHALL BE PROVIDED FOR HHV & CHW AT EACH UNIT. DRAIN HYDRONIC SYSTEM AS REQUIRED AND RE-FILL AFTER NEW EQUIPMENT IS INSTALLED. SEE SPECIFICATIONS FOR WATER TREATMENT REQUIREMENTS. MC IS RESPONSIBLE FOR UNDERSTANDING AND SCHEDULING THE WORK TO MEET THE PHASING SCHEDULE AS INDICATED.

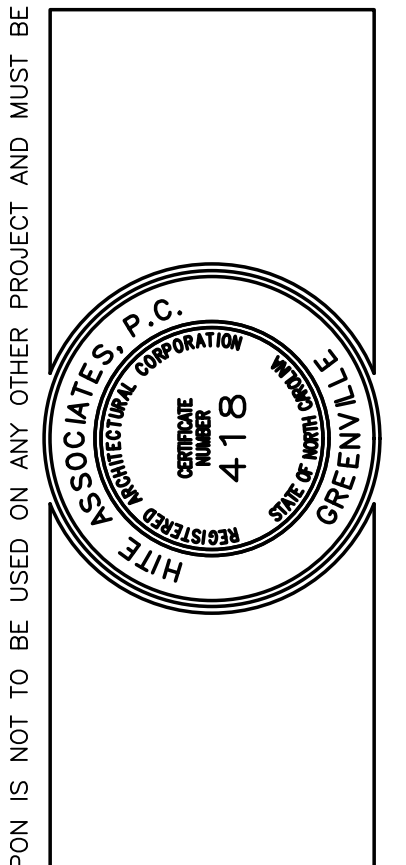
ELECTRICAL CONTRACTOR SHALL DISCONNECT ELECTRICAL FEEDERS FROM EXISTING PIECES OF EQUIPMENT THAT ARE SHOWN TO BE REPLACED. MAINTAIN ALL EXISTING DISCONNECT SWITCHES AND FEEDERS INDICATED FOR RE-USE. REMOVE WIRING/FEEDER BACK TO BREAKER IF NOT REUSED. TURN OFF ANY UNUSED EXISTING BREAKERS AND LABEL AS "SPARE" ON NEW TYPED DIRECTORY. CONTRACTOR SHALL PROVIDE ALL LABOR AND MATERIALS NECESSARY FOR ANY MODIFICATIONS THAT NEED TO BE DONE TO THE EXISTING FEEDERS FOR RECONNECTION TO NEW UNITS AND PUMPS.

PLEASE MAKE ENGINEER AWARE OF ANY DIFFERENCES BETWEEN THIS SCOPE OF WORK AND THE WORK INDICATED ON THE BID DOCUMENTS PRIOR TO BID. IF NO NOTICE IS RECEIVED IT IS UNDERSTOOD THAT THE CONTRACTOR HAS A FULL UNDERSTANDING OF THE SCOPE OF WORK AND THAT THESE DOCUMENTS HAVE SUFFICIENT INFORMATION INCLUDED IN THEM TO PRODUCE THE DESIRED SCOPE.

THIS DRAWING IS THE PROPERTY OF ENGINEERING SOURCE OF NC, P.A. THIS DRAWING IS NOT TO BE COPIED IN WHOLE OR IN PART. THIS DRAWING OR THE INFORMATION HEREON IS NOT TO BE USED ON ANY OTHER PROJECT AND MUST BE RETURNED TO ARCHITECTURAL DRAWINGS FOR EXACT DIMENSIONS.

| No. | Date | Revision |
|-----|------|----------|
|     |      |          |
|     |      |          |
|     |      |          |

**Hite associates**  
ARCHITECTURE / PLANNING / TECHNOLOGY  
2600 Meridian Drive / Greenville, NC 27834 / tel (252) 757-0333



HVAC Renovations to  
**Bogue Elementary School**  
3355 Hwy. 24, Newport, NC 28570  
Carteret County Schools / North Carolina

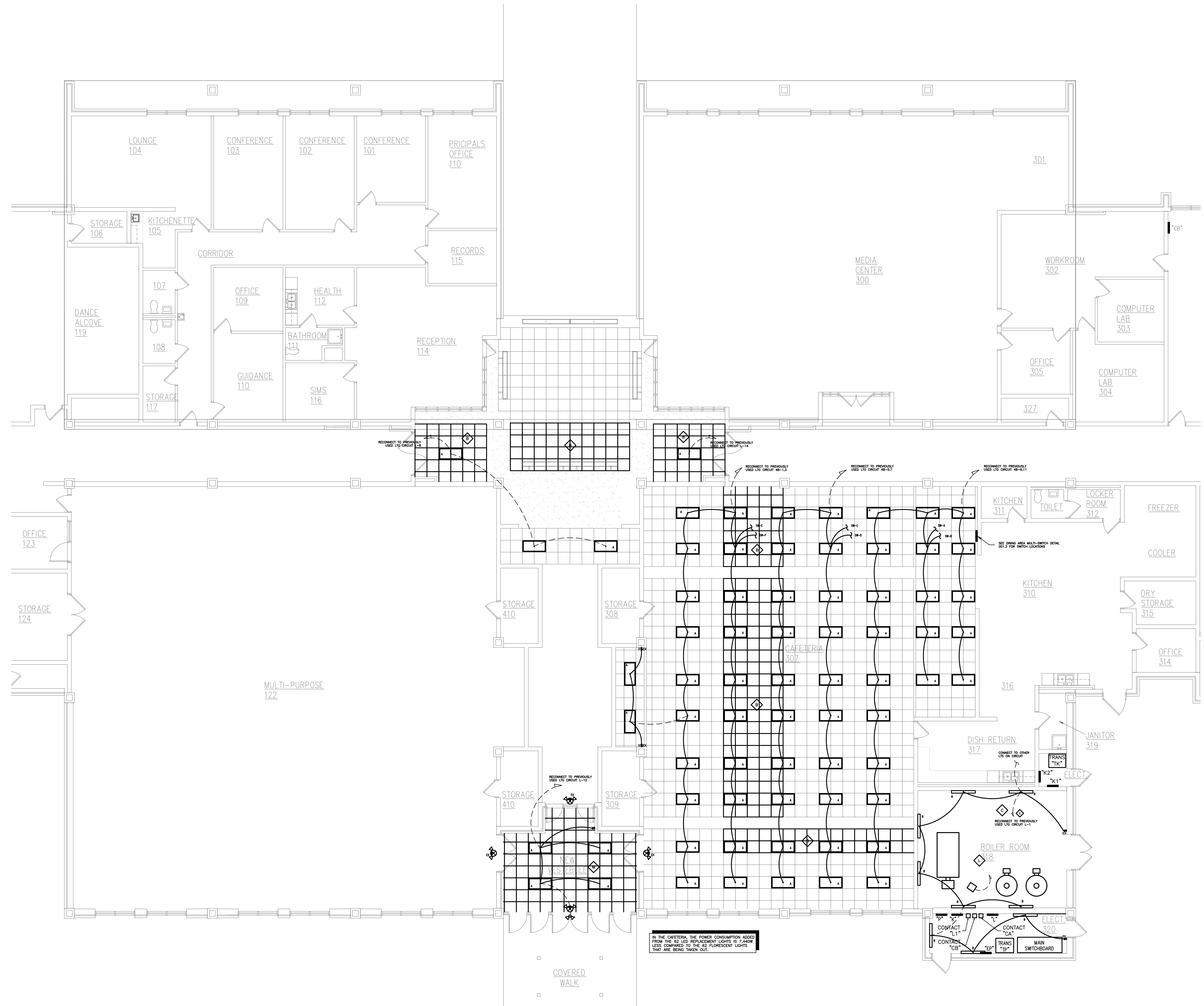
Project No. 22419  
Date: 11 Nov 2024  
Drawing No. **E 001**

ES24005  
Project No. ES24005  
103-42 Hopyway Inc. Greenville, NC 27834  
E-Mail Address: general@hiteassociates.com  
Tel (252) 49-0328 • Fax (252) 49-0462 • Fax P-1073

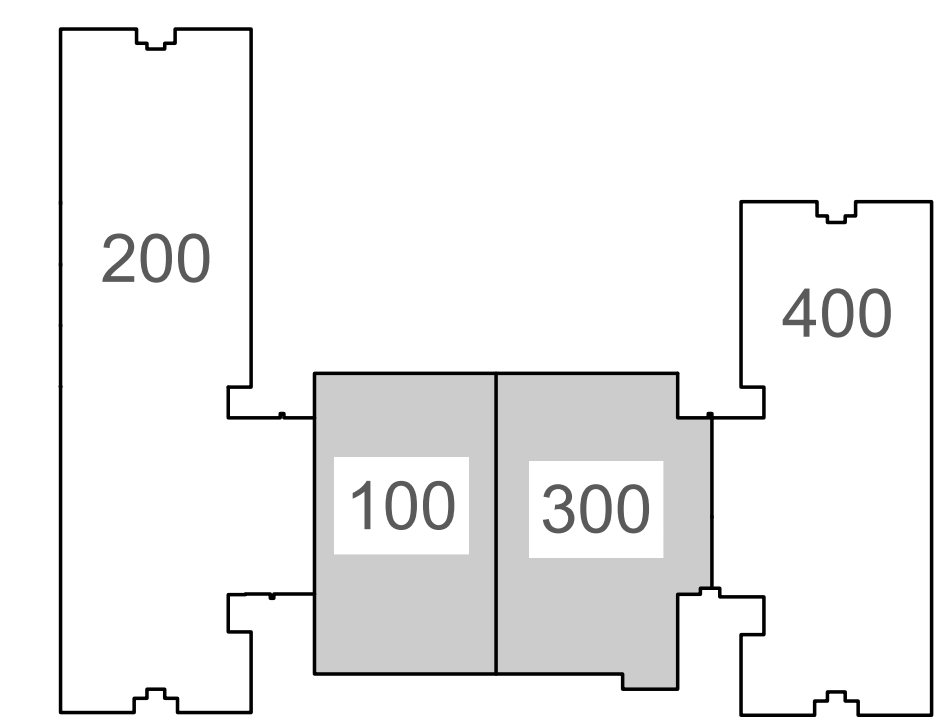
**ENGINEERING**  
SOURCE OF NC, P.A.

**D. Hite**  
Professional Engineer  
License No. 418  
State of North Carolina

- MECH-ELEC NEW WORK KEY NOTES:**
- GENERAL NOTE COMMENT: CONTRACTORS ARE RESPONSIBLE FOR READING, UNDERSTANDING AND FOLLOWING WORK SEQUENCING/PHASING PLAN WITH REGARDS TO WHEN THE FOLLOWING WORK IS TO BE SCHEDULED, COMPLETED AND OPERATIONAL.
- ◇ TIE EXISTING OA DUCT WHERE PRE-CONDITIONING UNIT WAS REMOVED INTO NEW AHU MIXING BOX OR RETURN AIR DUCT IF IT DOESN'T HAVE A MIXING BOX. INSTALL DAMPERS FOR AIR BALANCE IF MIXING BOX IS NOT PRESENT.
  - ◇ REPLACE CEILING TILES IN THIS AREA AFTER NEW CHILLED WATER PIPING IS INSTALLED, INSULATED, INSPECTED AND ACCEPTED. INSTALL NEW LIGHTS IN GRID AND TIE BACK TO LOCAL POWER & CONTROL CIRCUITS AS INDICATED.
  - ◇ INSTALL NEW FLUORESCENT LIGHTS IN THIS AREA AS INDICATED. CONNECT BACK TO EXISTING POWER AND CONTROL WIRING AS SHOWN. MODIFY SWITCH-LEG AS NECESSARY. REMOVE ANY TEMPORARY LIGHTS THAT WERE INSTALLED ONCE NEW LIGHTS ARE INSTALLED AND FUNCTIONING.
  - ◇ INSTALL NEW PUMP AND ASSOCIATED PUMP TRIM BACK TO EXISTING SUPPLY AND RETURN PIPING DROPS MAINTAINED FOR RECONNECTION DURING DEMOLITION.
  - ◇ RECONNECT NEW EQUIPMENT BACK TO EXISTING DISCONNECT SWITCH AND FEEDER MAINTAINED FOR REUSE. LABEL PANEL DIRECTORY WITH NEW EQUIPMENT ID AS APPROPRIATE.
  - ◇ SEQUENTIALLY INSTALL NEW AIR HANDLERS ACCORDING TO SCHEDULE DEVELOPED WITH OWNER. REUSE EXISTING MAINTENANCE PAD WHERE POSSIBLE. EXPAND OR INSTALL NEW PADS AS REQUIRED FOR NEW UNITS IN NEW LOCATIONS. CONNECT NEW UNIT BACK TO RETURN AND SUPPLY MAINTAINED FOR REUSE.
  - ◇ INSTALL NEW HYDRONIC UNIT IN PLACE OF EXISTING DX AIR COOLED SPLIT SYSTEM REMOVED. PROVIDE NEW HYDRONIC SUPPLY & RETURN PIPING BACK TO MAINS WITH ASSOCIATED COIL TRIM.
  - ◇ REWORK EXISTING TRANE MODULAR AIR HANDLERS TO ADD A 2-ROW HEATING COIL IN THE REHEAT POSITION. MOVE THE EXIST. COOLING COIL AS NECESSARY TO MAKE ROOM FOR THE NEW COIL.
  - ◇ CONNECT NEW EQUIPMENT BACK TO EXISTING DISCONNECT SWITCH MAINTAINED FOR REUSE. PROVIDE NEW FUSES AS REQUIRED TO MATCH NEW EQUIPMENT DATA PLATE. LABEL PANEL DIRECTORY WITH NEW AHU NUMBER AS NECESSARY.
  - ◇ INSTALL NEW INSULATION ON ALL EXISTING HYDRONIC PIPING THAT HAD INSULATION REMOVED AND HAD EXISTING PIPE PREPARED FOR NEW INSULATION. COLD/CHILLED WATER PIPING MUST BE INSULATED DURING ALL COOLING SEASONS TO PREVENT SWEATING.
  - ◇ INSTALL NEW ELECTRIC UNIT HEATER AS INDICATED.
  - ◇ REMOVE EXISTING RECESSED CAN LIGHTS IN THIS AREA. MAINTAIN POWER AND CONTROL TO ALL UP AND DOWN STREAM LIGHTING TO REMAIN. THE NEW LAY-IN LIGHTS TO UNSWITCHED LEG OF EXISTING CORRIDOR LIGHTS. (CKT L-12 PER RECORD DWGS.)



**101.1 100 & 300 WING ELECTRICAL PLAN**  
SCALE: 1/8" = 1'-0"



**KEY PLAN**  
SCALE: NTS

ES Project No: ES24005

**ENGINEERING**  
SOURCE OF NC, P.A.

103-42 Regency Blvd. Greensboro, NC 27334  
E-Mail Address: general@hiteengineering.com  
Tel (336) 432-0328 • Fax (336) 432-0462 • Fax P-1073

*D. Wilson*  
11/14/24  
REGISTERED PROFESSIONAL ENGINEER  
WILSON FOU

Project No. 22419

Date: 11 Nov 2024

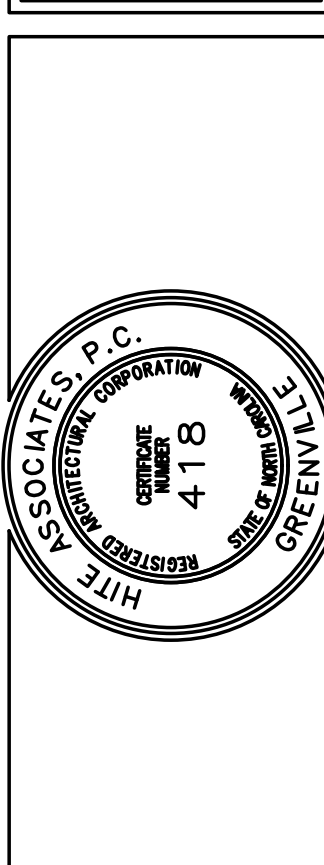
Drawing No.

**E**  
**101**

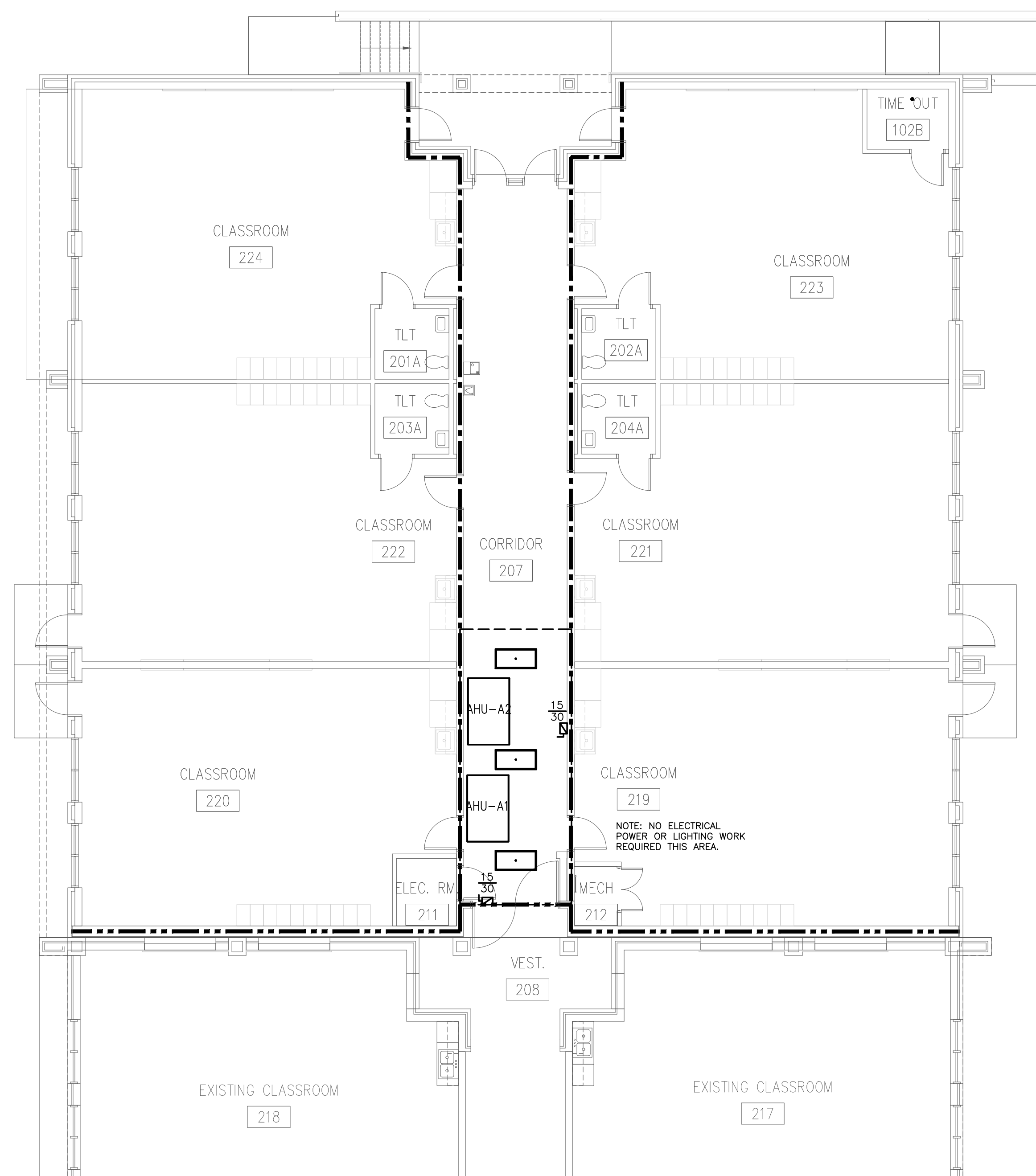
THIS DRAWING IS THE PROPERTY OF ENGINEERING SOURCE OF NC, P.A. THIS DRAWING IS NOT TO BE COPIED IN WHOLE OR IN PART. THIS DRAWING OR THE INFORMATION HEREON IS NOT TO BE USED ON ANY OTHER PROJECT AND MUST BE RETURNED TO ENGINEERING SOURCE OF NC, P.A. UPON REQUEST. DO NOT SCALE THESE DRAWINGS. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT DIMENSIONS.

| No. | Date | Revision |
|-----|------|----------|
|     |      |          |
|     |      |          |
|     |      |          |

**Hite associates**  
ARCHITECTURE / PLANNING / TECHNOLOGY  
2600 Meridian Drive / Greenville, NC 27634 / Tel (252) 757-0333



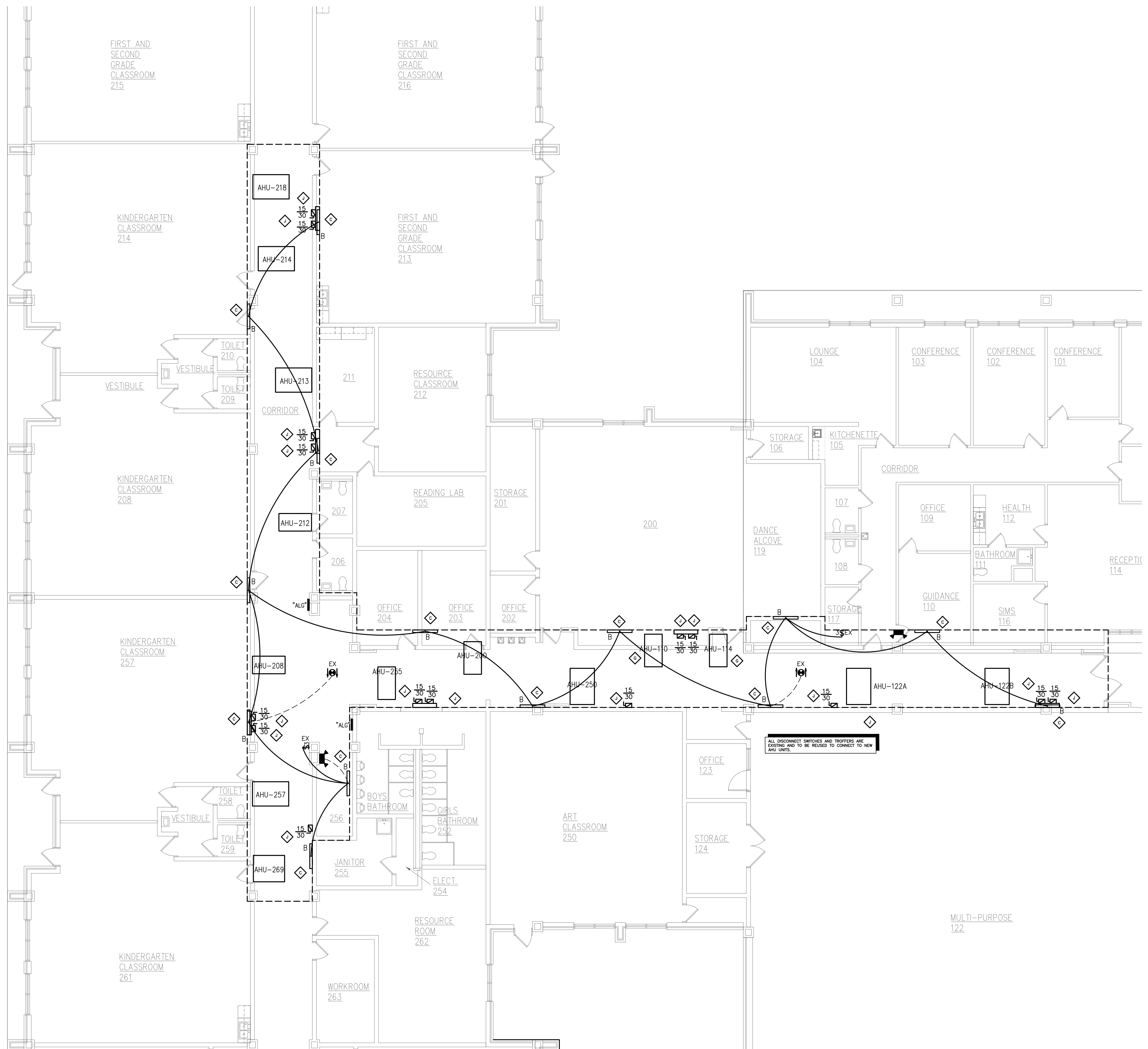
HVAC Renovations to  
**Bogue Elementary School**  
3355 Hwy. 24, Newport, NC 28570  
Carteret County Schools / North Carolina



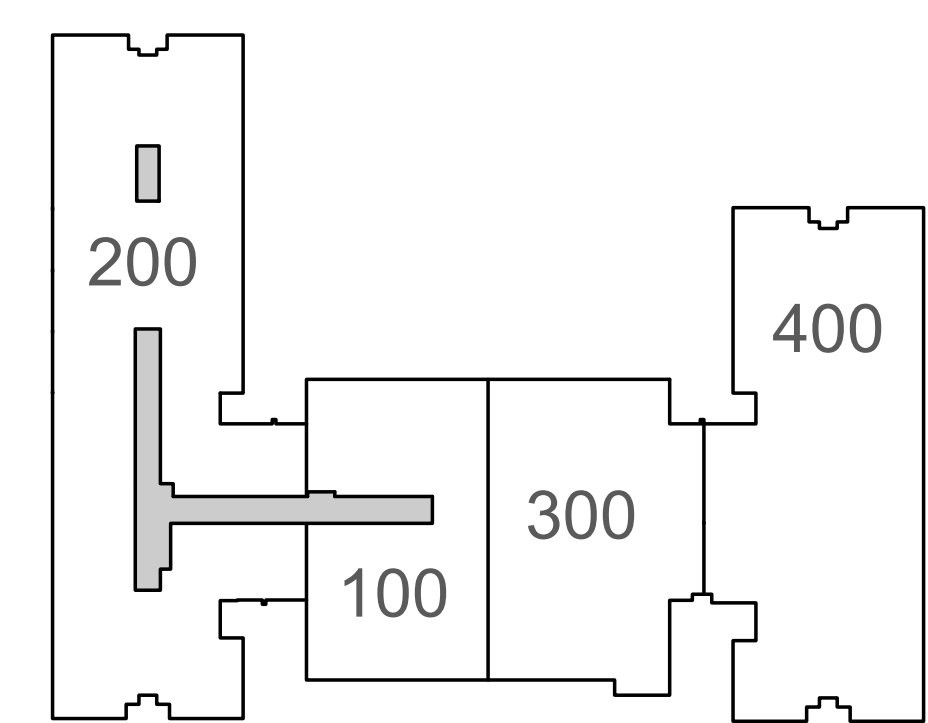
**201.2 UPPER 200 WING PLATFORM ELECTRICAL PLAN**  
SCALE: 1/8" = 1'-0"

**MECH-ELEC NEW WORK KEY NOTES:**

- GENERAL NOTE COMMENT: CONTRACTORS ARE RESPONSIBLE FOR READING, UNDERSTANDING AND FOLLOWING WORK SEQUENCING/PHASING PLAN WITH REGARDS TO WHEN THE FOLLOWING WORK IS TO BE SCHEDULED, COMPLETED AND OPERATIONAL.
- ◇ THE EXISTING OA DUCT WHERE PRE-CONDITIONING UNIT WAS REMOVED INTO NEW AHU MIXING BOX OR RETURN AIR DUCT IF IT DOESN'T HAVE A MIXING BOX. INSTALL DAMPERS FOR AIR BALANCE IF MIXING BOX IS NOT PRESENT.
- ◇ REPLACE CEILING TILES IN THIS AREA AFTER NEW CHILLED WATER PIPING IS INSTALLED, INSULATED, INSPECTED AND ACCEPTED. INSTALL NEW LIGHTS IN GRID AND TIE BACK TO LOCAL POWER & CONTROL CIRCUITS AS INDICATED.
- ◇ INSTALL NEW FLUORESCENT LIGHTS IN THIS AREA AS INDICATED. CONNECT BACK TO EXISTING POWER AND CONTROL WIRING AS SHOWN. MODIFY SWITCH-LEG AS NECESSARY. REMOVE ANY TEMPORARY LIGHTS THAT WERE INSTALLED ONCE NEW LIGHTS ARE INSTALLED AND FUNCTIONING.
- ◇ INSTALL NEW PUMP AND ASSOCIATED PUMP TRIM BACK TO EXISTING SUPPLY AND RETURN PIPING DROPS MAINTAINED FOR RECONNECTION DURING DEMOLITION.
- ◇ RECONNECT NEW EQUIPMENT BACK TO EXISTING DISCONNECT SWITCH AND FEEDER MAINTAINED FOR REUSE. LABEL PANEL DIRECTORY WITH NEW EQUIPMENT ID AS APPROPRIATE.
- ◇ SEQUENTIALLY INSTALL NEW AIR HANDLERS ACCORDING TO SCHEDULE DEVELOPED WITH OWNER. REUSE EXISTING MAINTENANCE PAD WHERE POSSIBLE. EXPAND OR INSTALL NEW PADS AS REQUIRED FOR NEW UNITS IN NEW LOCATIONS. CONNECT NEW UNIT BACK TO RETURN AND SUPPLY MAINTAINED FOR REUSE.
- ◇ INSTALL NEW HYDRONIC UNIT IN PLACE OF EXISTING DX AIR COOLED SPLIT SYSTEM REMOVED. PROVIDE NEW HYDRONIC SUPPLY & RETURN PIPING BACK TO MAINS WITH ASSOCIATED COIL TRIM.
- ◇ REWORK EXISTING TRANE MODULAR AIR HANDLERS TO ADD A 2-ROW HEATING COIL IN THE REHEAT POSITION. MOVE THE EXIST. COILING COIL AS NECESSARY TO MAKE ROOM FOR THE NEW COIL.
- ◇ CONNECT NEW EQUIPMENT BACK TO EXISTING DISCONNECT SWITCH MAINTAINED FOR REUSE. PROVIDE NEW FUSES AS REQUIRED TO MATCH NEW EQUIPMENT DATA PLATE. LABEL PANEL DIRECTORY WITH NEW AHU NUMBERS AS NECESSARY.
- ◇ INSTALL NEW INSULATION ON ALL EXISTING HYDRONIC PIPING THAT HAD INSULATION REMOVED AND HAD EXISTING PIPE PREPARED FOR NEW INSULATION. COLD/CHILLED WATER PIPING MUST BE INSULATED DURING ALL COOLING SEASONS TO PREVENT SWEATING.
- ◇ INSTALL NEW ELECTRIC UNIT HEATER AS INDICATED.
- ◇ REMOVE EXISTING RECESSED CAN LIGHTS IN THIS AREA. MAINTAIN POWER AND CONTROL TO ALL UP AND DOWN STREAM LIGHTING TO REMAIN. THE NEW LAY-IN LIGHTS TO UNSWITCHED LEG OF EXISTING CORRIDOR LIGHTS. (CKT L-12 PER RECORD DWGS.)



**201.1 100 & 200 WING PLATFORM ELECTRICAL PLAN**  
SCALE: 1/8" = 1'-0"



**KEY PLAN**  
SCALE: NTS

ES Project No: ES24005

**ENGINEERING**  
SOURCE OF NC, PA.

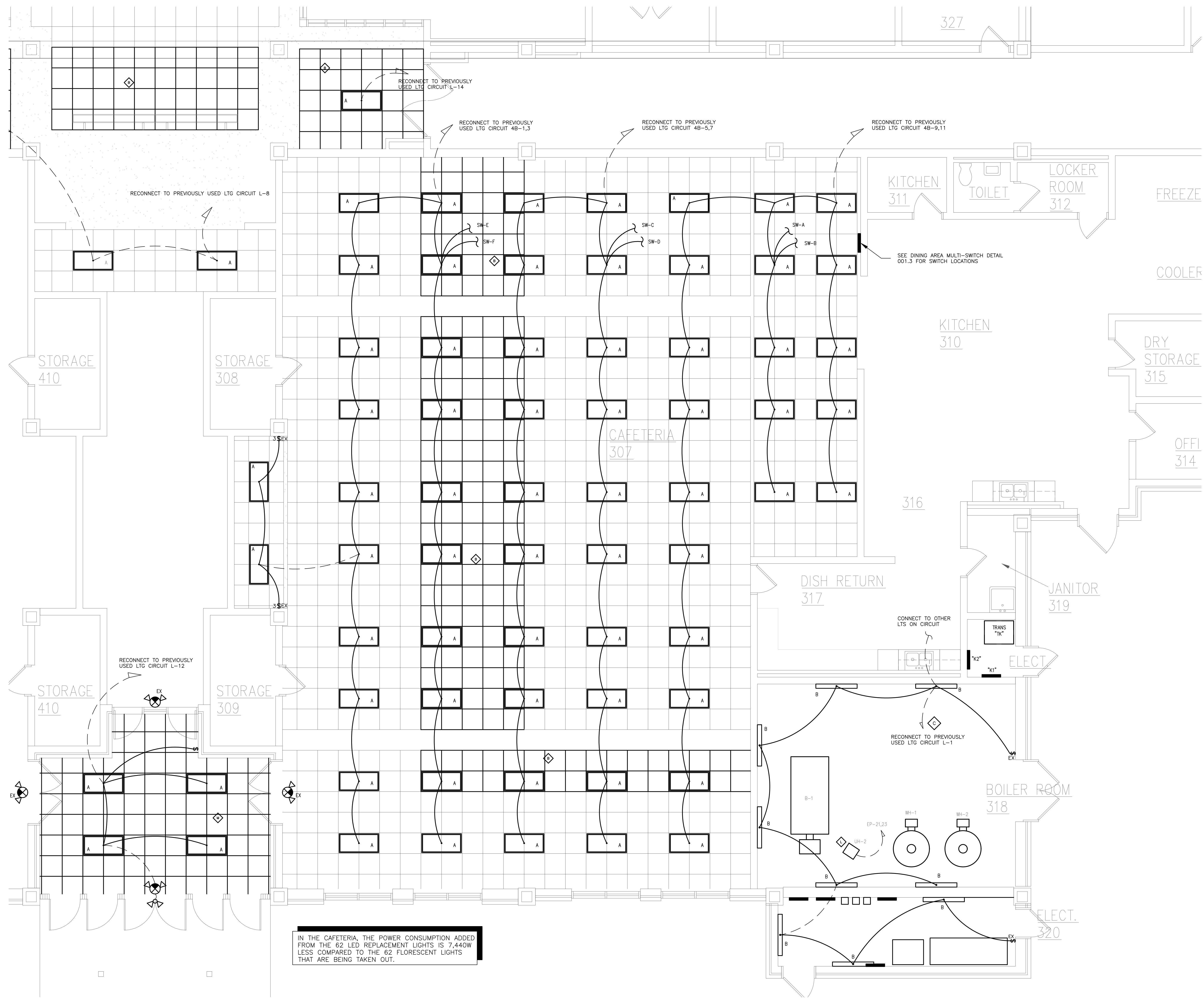
103-42 Regency Blvd. Greensboro, NC 27434  
E-Mail Address: general@hiteassociates.com  
Tel (336) 432-0328 • Fax (336) 432-0462 • Fax P-1073

Professional Engineer  
D. Wilson  
11/14/24

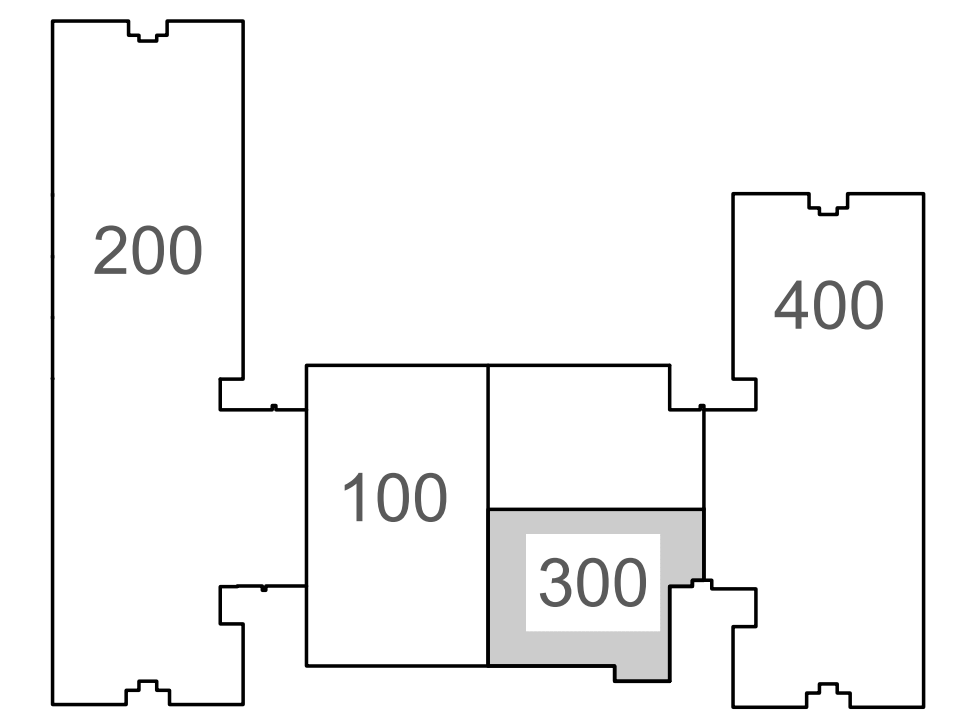
THIS DRAWING IS THE PROPERTY OF ENGINEERING SOURCE OF NC, P.A. THIS DRAWING IS NOT TO BE COPIED IN WHOLE OR IN PART. THIS DRAWING OR THE INFORMATION HEREON IS NOT TO BE USED ON ANY OTHER PROJECT AND MUST BE RETURNED TO ENGINEERING SOURCE OF NC, P.A. UPON REQUEST. DO NOT SCALE THESE DRAWINGS. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT DIMENSIONS.

| <p><b>Hite associates</b><br/>ARCHITECTURE / PLANNING / TECHNOLOGY<br/>2600 Meridian Drive / Greenville, NC 27634 / Tel (252) 757-0333</p>     |  |     |      |  |  |
|--|--|-----|------|--|--|
| <p>HITE ASSOCIATES, P.C.<br/>MEMBER OF THE ASSOCIATION OF PROFESSIONAL ENGINEERS<br/>NOV 4 18<br/>GREENVILLE, NC</p>                           |  |     |      |  |  |
| <p>HVAC Renovations to<br/><b>Bogue Elementary School</b><br/>3355 Hwy. 24, Newport, NC 28570<br/>Carteret County Schools / North Carolina</p> |  |     |      |  |  |
| <p>Project No:<br/>22419</p>   | <p>Date:<br/>11 Nov 2024</p>   |     |      |  |  |
| <p>Drawing No:<br/><b>E</b><br/><b>201</b></p>   | <p>Revision</p> <table border="1"> <tr> <th>No.</th> <th>Date</th> </tr> <tr> <td> </td> <td> </td> </tr> </table> | No. | Date |  |  |
| No.  | Date   |     |      |  |  |
|  |  |     |      |  |  |





**301.1 ENLARGED LOWER 300 WING ELECTRICAL PLAN**  
SCALE: 1/4" = 1'-0"



**KEY PLAN**  
SCALE: NTS

- MECH-ELEC NEW WORK KEY NOTES:**  
GENERAL NOTE COMMENT: CONTRACTORS ARE RESPONSIBLE FOR READING, UNDERSTANDING AND FOLLOWING WORK SEQUENCING/PHASING PLAN WITH REGARDS TO WHEN THE FOLLOWING WORK IS TO BE SCHEDULED, COMPLETED AND OPERATIONAL.
- ◆ THE EXISTING OA DUCT WHERE PRE-CONDITIONING UNIT WAS REMOVED INTO NEW AHU MIXING BOX OR RETURN AIR DUCT IF IT DOESN'T HAVE A MIXING BOX, INSTALL DAMPERS FOR AIR BALANCE IF MIXING BOX IS NOT PRESENT.
  - ◆ REPLACE CEILING TILES IN THIS AREA AFTER NEW CHILLED WATER PIPING IS INSTALLED, INSULATED, INSPECTED AND ACCEPTED. INSTALL NEW LIGHTS IN GRID AND TIE BACK TO LOCAL POWER & CONTROL CIRCUITS AS INDICATED.
  - ◆ INSTALL NEW FLUORESCENT LIGHTS IN THIS AREA AS INDICATED. CONNECT BACK TO EXISTING POWER AND CONTROL WIRING AS SHOWN. MODIFY SWITCH-LEG AS NECESSARY. REMOVE ANY TEMPORARY LIGHTS THAT WERE INSTALLED ONCE NEW LIGHTS ARE INSTALLED AND FUNCTIONING.
  - ◆ INSTALL NEW PUMP AND ASSOCIATED PUMP TRIM BACK TO EXISTING SUPPLY AND RETURN PIPING DROPS MAINTAINED DURING RECONNECTION DURING DEMOLITION.
  - ◆ RECONNECT NEW EQUIPMENT BACK TO EXISTING DISCONNECT SWITCH AND FEEDER MAINTAINED FOR REUSE. LABEL PANEL DIRECTORY WITH NEW EQUIPMENT ID AS APPROPRIATE.
  - ◆ SEQUENTIALLY INSTALL NEW AIR HANDLERS ACCORDING TO SCHEDULE DEVELOPED WITH OWNER. REUSE EXISTING MAINTENANCE PAD WHERE POSSIBLE. EXPAND OR INSTALL NEW PADS AS REQUIRED FOR NEW UNITS IN NEW LOCATIONS. CONNECT NEW UNIT BACK TO RETURN AND SUPPLY MAINTAINED FOR REUSE.
  - ◆ INSTALL NEW HYDRONIC UNIT IN PLACE OF EXISTING DX AIR COOLED SPLIT SYSTEM REMOVED. PROVIDE NEW HYDRONIC SUPPLY & RETURN PIPING BACK TO MAINS WITH ASSOCIATED COIL TRIM
  - ◆ REWORK EXISTING TRANE MODULAR AIR HANDLERS TO ADD A 2-RW HEATING COIL IN THE REHEAT POSITION. MOVE THE EXIST. COOLING COIL AS NECESSARY TO MAKE ROOM FOR THE NEW COIL.
  - ◆ CONNECT NEW EQUIPMENT BACK TO EXISTING DISCONNECT SWITCH MAINTAINED FOR REUSE. PROVIDE NEW FUSES AS REQUIRED TO MATCH NEW EQUIPMENT DATA PLATE. LABEL PANEL DIRECTORY WITH NEW AHU NUMBER AS NECESSARY.
  - ◆ INSTALL NEW INSULATION ON ALL EXISTING HYDRONIC PIPING THAT HAD INSULATION REMOVED AND HAD EXISTING PIPE PREPARED FOR NEW INSULATION. COLD/CHILLED WATER PIPING MUST BE INSULATED DURING ALL COOLING SEASONS TO PREVENT SWEATING.
  - ◆ INSTALL NEW ELECTRIC UNIT HEATER AS INDICATED.
  - ◆ REMOVE EXISTING RECESSED CAN LIGHTS IN THIS AREA. MAINTAIN POWER AND CONTROL TO ALL UP AND DOWN STREAM LIGHTING TO REMAIN. THE NEW LAY-IN LIGHTS TO UNSWITCHED LEG OF EXISTING CORRIDOR LIGHTS. (CMT L-12 PER RECORD DWGS.)

THIS DRAWING IS THE PROPERTY OF ENGINEERING SOURCE OF NC, P.A. THIS DRAWING IS NOT TO BE COPIED IN WHOLE OR IN PART. THIS DRAWING OR THE INFORMATION HEREON IS NOT TO BE USED ON ANY OTHER PROJECT AND MUST BE RETURNED TO ENGINEERING SOURCE OF NC, P.A. UPON REQUEST. DO NOT SCALE THESE DRAWINGS. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT DIMENSIONS.

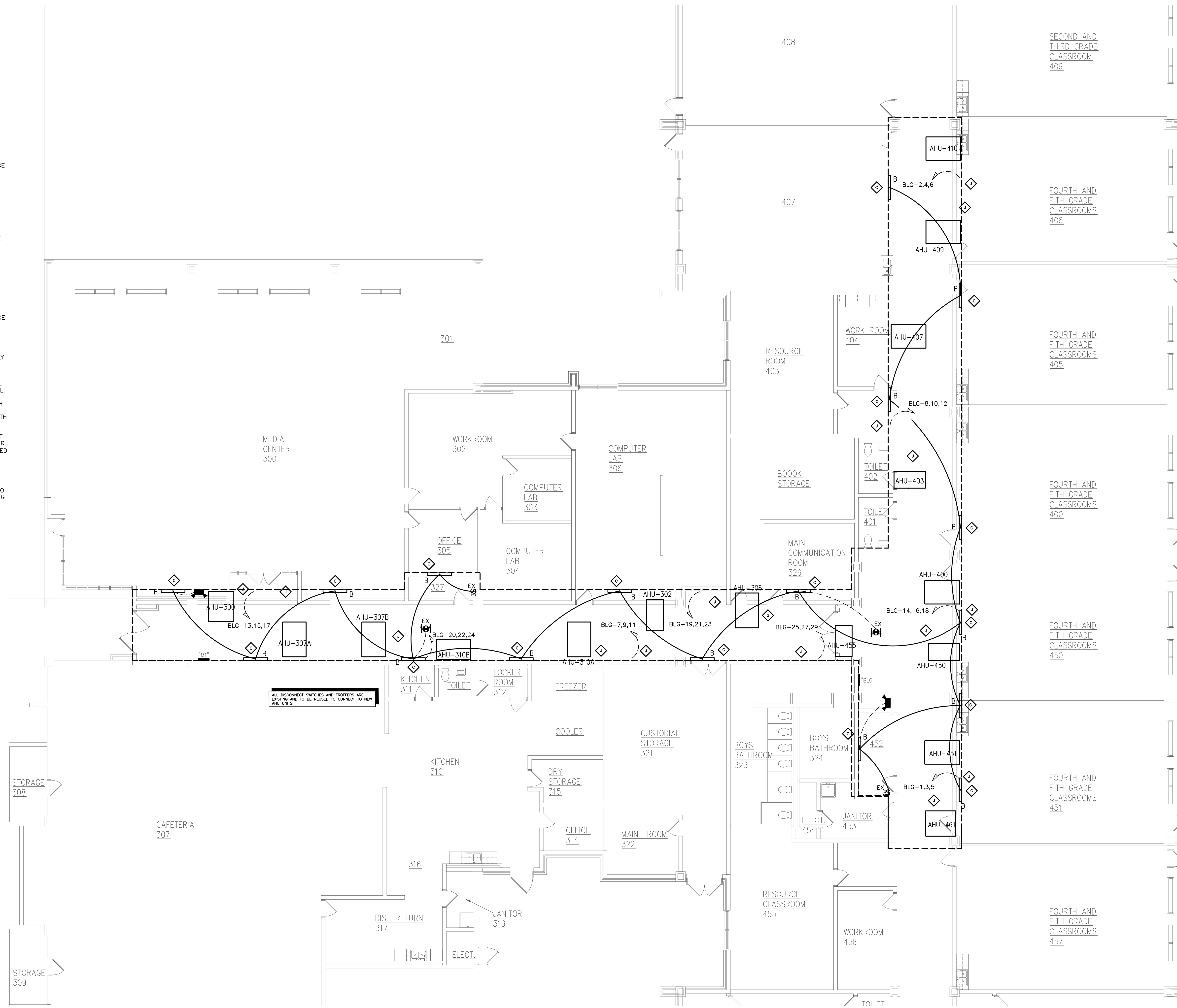
**Hite associates**  
ARCHITECTURE / PLANNING / TECHNOLOGY  
2600 Meridian Drive / Greenville, NC 27834 / tel (252) 757-0333

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

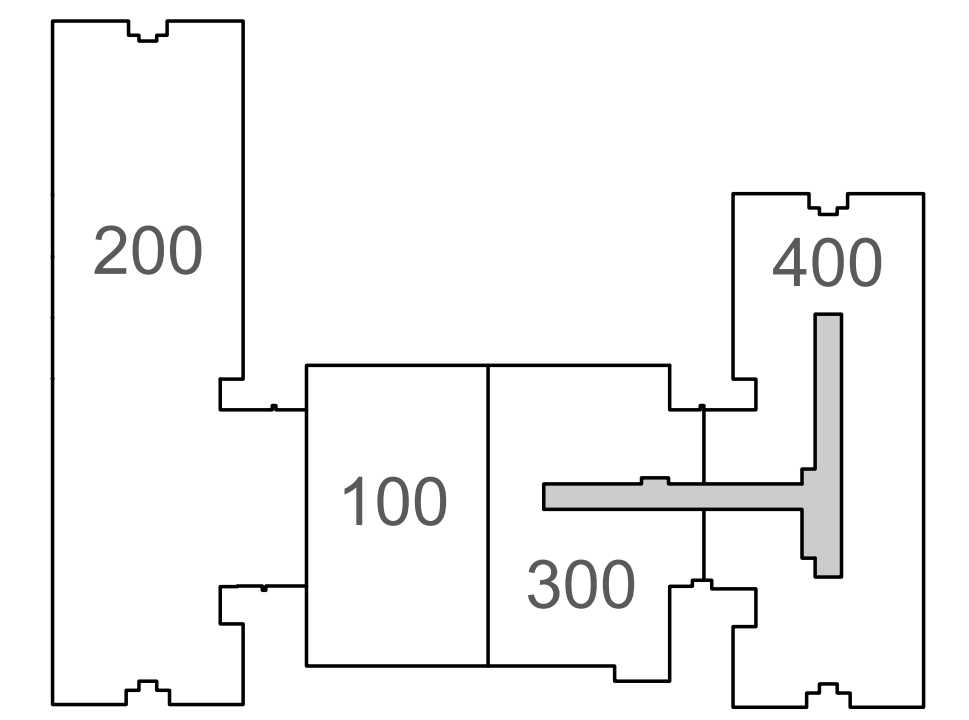
HVAC Renovations to  
**Bogue Elementary School**  
3355 Hwy. 24, Newport, NC 28570  
Carteret County Schools / North Carolina

Project No. 22419  
Date: 11 Nov 2024  
Drawing No. **E 301**

- MECH-ELEC NEW WORK KEY NOTES:**
- GENERAL NOTE COMMENT: CONTRACTORS ARE RESPONSIBLE FOR READING, UNDERSTANDING AND FOLLOWING WORK SEQUENCING/PHASING PLAN WITH REGARDS TO WHEN THE FOLLOWING WORK IS TO BE SCHEDULED, COMPLETED AND OPERATIONAL.
- ◆ THE EXISTING OA DUCT WHERE PRE-CONDITIONING UNIT WAS REMOVED INTO NEW AHU MIXING BOX OR RETURN AIR DUCT IF IT DOESN'T HAVE A MIXING BOX. INSTALL DAMPERS FOR AIR BALANCE IF MIXING BOX IS NOT PRESENT.
  - ◆ REPLACE CEILING TILES IN THIS AREA AFTER NEW CHILLED WATER PIPING IS INSTALLED, INSULATED, INSPECTED AND ACCEPTED. INSTALL NEW LIGHTS IN GRID AND TIE BACK TO LOCAL POWER & CONTROL CIRCUITS AS INDICATED.
  - ◆ INSTALL NEW FLUORESCENT LIGHTS IN THIS AREA AS INDICATED. CONNECT BACK TO EXISTING POWER AND CONTROL WIRING AS SHOWN. MODIFY SWITCH-LEG AS NECESSARY. REMOVE ANY TEMPORARY LIGHTS THAT WERE INSTALLED ONCE NEW LIGHTS ARE INSTALLED AND FUNCTIONING.
  - ◆ INSTALL NEW PUMP AND ASSOCIATED PUMP TRIM BACK TO EXISTING SUPPLY AND RETURN PIPING DROPS MAINTAINED FOR RECONNECTION DURING DEMOLITION.
  - ◆ RECONNECT NEW EQUIPMENT BACK TO EXISTING DISCONNECT SWITCH AND FEEDER MAINTAINED FOR REUSE. LABEL PANEL DIRECTORY WITH NEW EQUIPMENT ID AS APPROPRIATE.
  - ◆ SEQUENTIALLY INSTALL NEW AIR HANDLERS ACCORDING TO SCHEDULE DEVELOPED WITH OWNER. REUSE EXISTING MAINTENANCE PAD WHERE POSSIBLE. EXPAND OR INSTALL NEW PADS AS REQUIRED FOR NEW UNITS IN NEW LOCATIONS. CONNECT NEW UNIT BACK TO RETURN AND SUPPLY MAINTAINED FOR REUSE.
  - ◆ INSTALL NEW HYDRONIC UNIT IN PLACE OF EXISTING DX AIR COOLED SPLIT SYSTEM REMOVED. PROVIDE NEW HYDRONIC SUPPLY & RETURN PIPING BACK TO MAINS WITH ASSOCIATED COIL TRIM
  - ◆ REWORK EXISTING TRANE MODULAR AIR HANDLERS TO ADD A 2-ROW HEATING COIL IN THE REHEAT POSITION. MOVE THE EXIST. COOLING COIL AS NECESSARY TO MAKE ROOM FOR THE NEW COIL.
  - ◆ CONNECT NEW EQUIPMENT BACK TO EXISTING DISCONNECT SWITCH MAINTAINED FOR REUSE. PROVIDE NEW FUSES AS REQUIRED TO MATCH NEW EQUIPMENT DATA PLATE. LABEL PANEL DIRECTORY WITH NEW AHU NUMBER AS NECESSARY.
  - ◆ INSTALL NEW INSULATION ON ALL EXISTING HYDRONIC PIPING THAT HAD INSULATION REMOVED AND HAD EXISTING PIPE PREPARED FOR NEW INSULATION. COLD/CHILLED WATER PIPING MUST BE INSULATED DURING ALL COOLING SEASONS TO PREVENT SWEATING.
  - ◆ INSTALL NEW ELECTRIC UNIT HEATER AS INDICATED.
  - ◆ REMOVE EXISTING RECESSED CAN LIGHTS IN THIS AREA. MAINTAIN POWER AND CONTROL TO ALL UP AND DOWN STREAM LIGHTING TO REMAIN. THE NEW LAY-IN LIGHTS TO UNSWITCHED LEG OF EXISTING CORRIDOR LIGHTS. (CKT L-12 PER RECORD DWGS.)



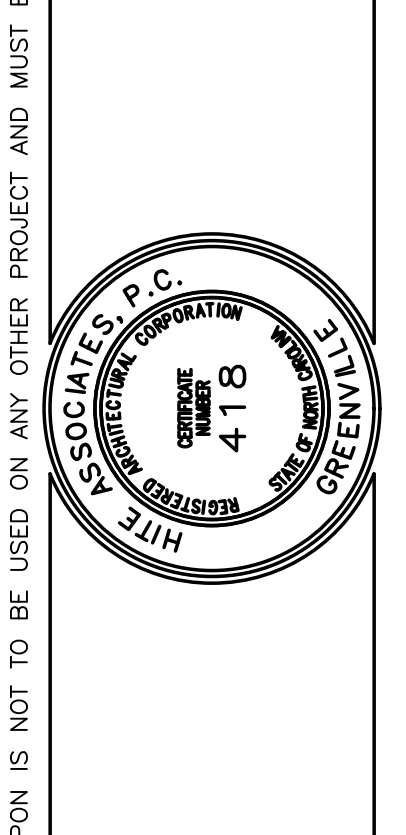
**401.1 300 & 400 WING PLATFORM ELECTRICAL PLAN**  
SCALE: 1/8" = 1'-0"



**KEY PLAN**  
SCALE: NTS

| No. | Date | Revision |
|-----|------|----------|
|     |      |          |
|     |      |          |
|     |      |          |
|     |      |          |

**Hite associates**  
ARCHITECTURE / PLANNING / TECHNOLOGY  
2600 Meridian Drive / Greenville, NC 27834 / tel (252) 757-0333



HVAC Renovations to  
**Bogue Elementary School**  
3355 Hwy. 24, Newport, NC 28570  
Carteret County Schools / North Carolina

|                                 |
|---------------------------------|
| Project No.<br>22419            |
| Date:<br>11 Nov 2024            |
| Drawing No.<br><b>E<br/>401</b> |

ES Project No. ES24005  
**ENGINEERING**  
SOURCE OF NC, P.A.  
102-42 Regency Blvd. Greenville, NC 27834  
E-Mail Address: general@hiteassociates.com  
Tel (252) 432-0333 • Fax (252) 432-0462 • Fax P-1073

THIS DRAWING IS THE PROPERTY OF ENGINEERING SOURCE OF NC, P.A. THIS DRAWING IS NOT TO BE COPIED IN WHOLE OR IN PART. THIS DRAWING OR THE INFORMATION HEREON IS NOT TO BE USED ON ANY OTHER PROJECT AND MUST BE RETURNED TO ENGINEERING SOURCE OF NC, P.A. UPON REQUEST. DO NOT SCALE THESE DRAWINGS. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT DIMENSIONS.