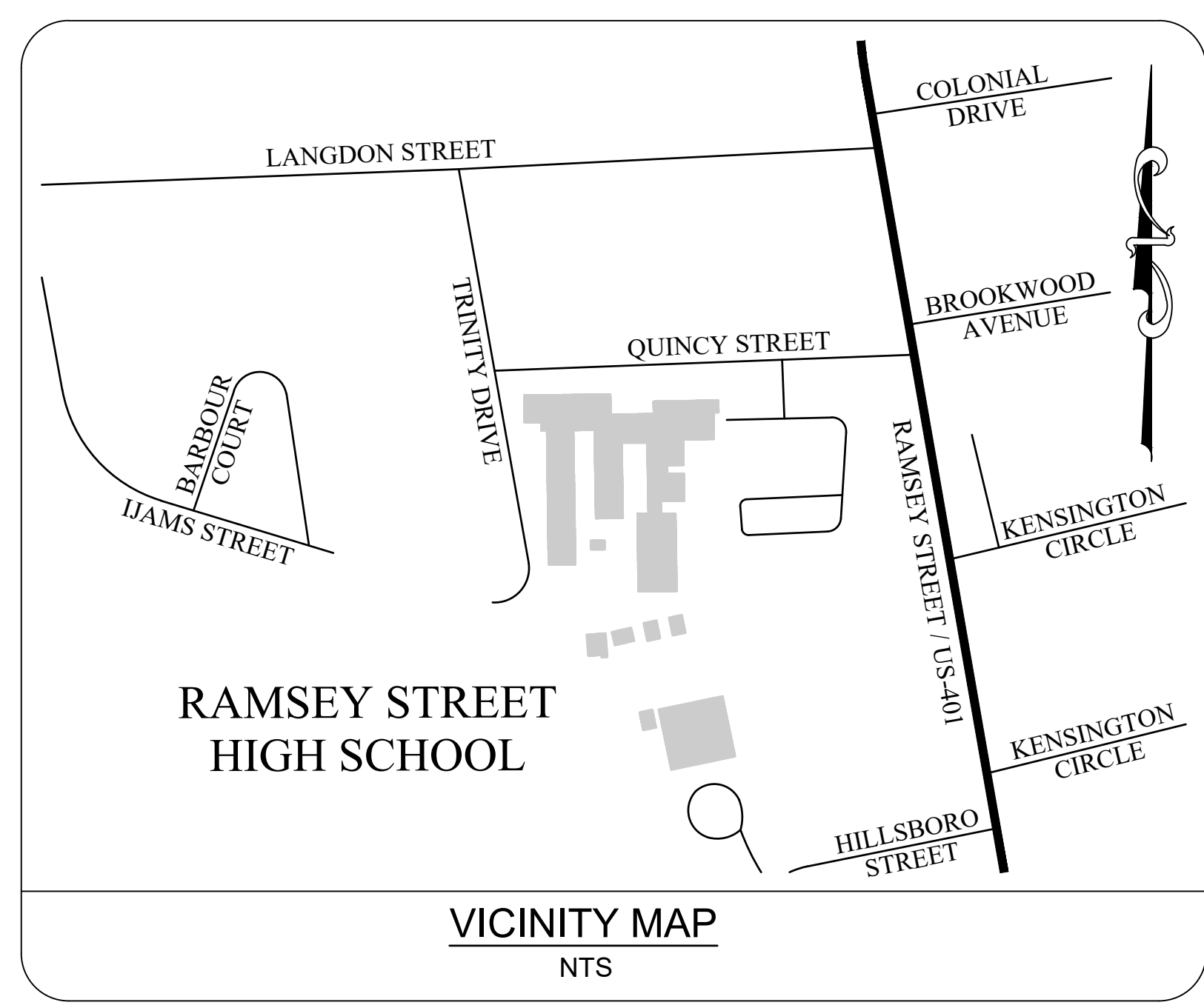
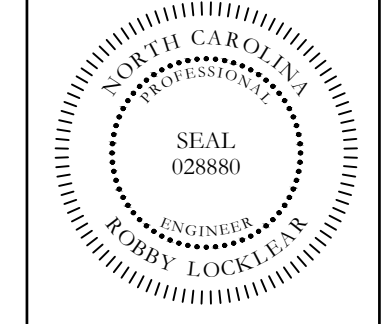
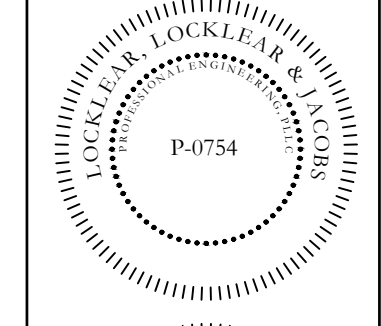
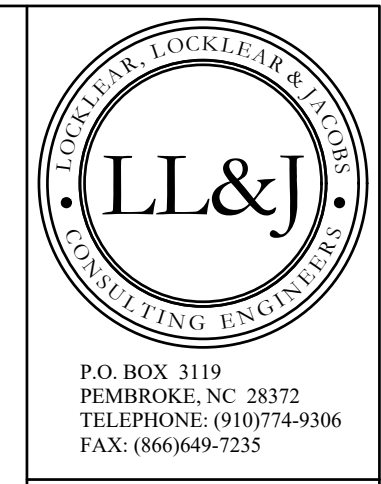


# PHASE 1 HVAC REPLACEMENT RAMSEY STREET HIGH SCHOOL

117 QUINCY ST, FAYETTEVILLE, NC 28301



DRAWING INDEX			
SHEET	SHEET TITLE	REV #	DATE
CS	COVER SHEET	-	-
G-100	GENERAL NOTES	-	-
G-200	GENERAL DEMO PLAN	-	-
G-300	GENERAL WINDOW PLAN	-	-
G-400	WINDOW FRAMING DETAILS	-	-
G-401	WINDOW FRAMING DETAILS	-	-
M-100	MECHANICAL NOTES AND SCHEDULES	-	-
M-200	MECHANICAL DEMO PLAN	-	-
M-300	MECHANICAL PLAN	-	-
M-400	MECHANICAL DETAILS	-	-
E-100	ELECTRICAL NOTES, LEGEND AND ABBREVS	-	-
E-200	ELECTRICAL DEMO PLAN	-	-
E-300	ELECTRICAL PLAN	-	-
E-400	ELECTRICAL DETAILS AND PANEL SCHEDULE	-	-

**OWNER & BUILDER'S NOTES:**

- PLANS SHALL NOT BE USED FOR CONSTRUCTION UNTIL STAMPED AND SIGNED BY AN ENGINEER AND APPROVED BY THE LOCAL INSPECTION DEPARTMENT. THE CONTRACTOR IS EXPECTED TO FOLLOW THESE PLANS, APPLICABLE BUILDING CODES AND LOCAL ORDINANCES. CONTRACTOR SHALL VERIFY THAT SITE CONDITIONS ARE CONSISTENT WITH PLANS BEFORE STARTING WORK. WHILE PLANS ARE DRAWN TO SHOW THE PROPOSED WORK AS ACCURATELY AS POSSIBLE, SCHEMATIC DETAILS MAY BE USED IN SOME CASES FOR CLARITY. WORK NOT SPECIFICALLY DETAILED SHALL BE CONSTRUCTED TO THE SAME QUALITY AS SIMILAR DETAILED WORK.
- WRITTEN DIMENSIONS AND SPECIFIC NOTES SHALL TAKE PRECEDENCE OVER SCALED DIMENSIONS AND GENERAL NOTES. THE ENGINEER SHALL BE CONSULTED FOR CLARIFICATION IF SITE CONDITIONS ARE ENCOUNTERED THAT ARE DIFFERENT THAN SHOWN, IF DISCREPANCIES ARE FOUND IN THE PLANS OR NOTES, OR IF A QUESTION ARISES OVER THE INTENT OF THE PLANS / NOTES.
- THE ENGINEER ASSUMES NO RESPONSIBILITY FOR SCHEDULING, FABRICATION, CONSTRUCTION TECHNIQUES OR MATERIALS, OR QUANTITIES USED IN THE WORK. THE ENGINEER/ DESIGNER ASSUMES NO RESPONSIBILITY FOR FIELD CHANGES, SITE VARIANCES OR DISCREPANCIES NOT BROUGHT TO ENGINEER'S ATTENTION FOR CLARIFICATION.

PHASE 1 HVAC REPLACEMENT  
RAMSEY STREET HIGH SCHOOL  
117 QUINCY ST, FAYETTEVILLE, NC 28301

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 License No. P-0754

BID SET  
4-6-2021

DATE: 4-6-2021
DRAWN BY: CKD
CHECKED BY: RL
SHEET TITLE
COVER SHEET
SHEET NUMBER
CS
PROJECT# 20-11022

**GENERAL NOTES**

**DETAILS:**  
THESE DRAWINGS AND SPECIFICATIONS REPRESENT THE GENERAL DIMENSIONS, AESTHETIC REQUIREMENTS, AND MATERIALS FOR THE WORK TO BE PERFORMED. IF ANY DETAIL SHOWN ON THESE DRAWINGS APPEARS INCONSISTENT WITH THIS INTENT, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IN WRITING AND AWAIT INSTRUCTION FROM ENGINEER BEFORE PROCEEDING WITH WORK. DETAILS PROVIDED DO NOT REPRESENT ALL OF THE DETAILS REQUIRED TO PERFORM THE PROPOSED WORK. ADDITIONAL DETAILS MAY BE FURNISHED BY THE CONTRACTOR ON SUBMITTED SHOP DRAWINGS, OR SCALED DRAWINGS, FOR APPROVAL BY THE ENGINEER.

**PATCHING:**  
CONTRACTOR SHALL BE RESPONSIBLE FOR THE ACCEPTABLE CLOSURE AND REPAIR OF ALL AREAS DISTURBED DURING CONSTRUCTION. REPAIR WORK SHALL UTILIZE LIKE MATERIALS WHERE POSSIBLE, OR MATERIALS COMPATIBLE TO EXISTING AND SHALL RESTORE DISTURBED SURFACE TO ORIGINAL CONDITION, UNLESS OTHERWISE NOTED, PAINT EXPOSED PIPING, CONDUITS, AND HANGER ASSEMBLIES TO MATCH EXISTING FEATURES.

**CLEANUP & SITE MAINTENANCE:**  
CONTRACTOR SHALL BE RESPONSIBLE FOR DAILY CLEANING AND MAINTENANCE OF ALL INVOLVED AREAS FROM CONSTRUCTION DEBRIS AND DUST. SWEEP HARD FLOORS WITH A TREATED DUST MOP. VACUUM AND REMOVE SPOTS FROM CARPETING. IN UNOCCUPIED CONSTRUCTION AREAS THE CONTRACTOR SHALL BE RESPONSIBLE FOR ASSURING NEAT AND CLEAN CONDITIONS AT ALL TIMES. UPON OVERALL COMPLETION OF THE PROJECT, CONTRACTOR IS RESPONSIBLE FOR FINAL CLEANING/TREATMENT (INCLUDING WINDOW WASH) AS FOLLOWS: DUST INVOLVED SURFACES WITH A TREATED RAG OR CLOTH, USE METHODS, AND CHEMICALS AS RECOMMENDED FOR A SPECIFIC SURFACE BY THE RELATED MANUFACTURERS OF THE SURFACE MATERIAL.

**MEANS AND VERIFICATIONS:**  
THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES, AND MATERIALS SUPPLIED FOR THE CONSTRUCTION AND INSTALLATION, VERIFICATION OF DIMENSIONS AT THE SITE, AND THE VERIFICATION OF QUANTITIES. THE BUILDER SHALL VERIFY THAT SITE CONDITIONS ARE CONSISTENT WITH THESE PLANS BEFORE STARTING WORK. WORK NOT SPECIFICALLY DETAILED SHALL BE CONSTRUCTED TO THE SAME QUALITY AS SIMILAR WORK THAT IS DETAILED. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE NC MECHANICAL CODE AND LOCAL CODES.

**CONSTRUCTION ACTIVITY NOTES**

CONTRACTOR SHALL OBSERVE THE FOLLOWING INSTRUCTIONS FOR WORKING WITHIN THE BUILDING AREAS. THESE WILL INCLUDE BUT NOT BE LIMITED TO THE FOLLOWING:

- ALL SHUTDOWNS WILL BE COORDINATED AND APPROVED THROUGH THE OWNER'S REPRESENTATIVE AND WILL REQUIRE ADVANCE NOTICE OF TWO DAYS FOR SHUTDOWNS THAT AFFECT BUILDING OPERATIONS. LENGTH OF TIME MAY BE LONGER OR SHORTER FOR SOME SHUTDOWNS AT THE OWNER'S DISCRETION. SOME SHUTDOWNS MAY BE MORE DIFFICULT TO ARRANGE WHERE BUILDING OPERATIONS ARE ADVERSELY AFFECTED. ANY AND ALL SHUTDOWNS WILL BE INITIATED AND CONTROLLED BY BUILDING SYSTEM STAFF. THE CONTRACTOR MAY NOT SHUTDOWN ANY OPERATING SYSTEM. BUILDING FACILITIES MANAGEMENT WILL SHUTDOWN SYSTEMS SCHEDULED, AND AFTER CONTRACTOR HAS PERFORMED THE WORK BUILDING FACILITIES MANAGEMENT WILL COORDINATE AND OBSERVE RE-ACTIVATION.
- AREAS OF THE BUILDING, OUTSIDE THE MAIN PROJECT LIMITS, IN WHICH WORK MUST TAKE PLACE WILL BE CLEANED AND RETURNED TO NORMAL CONDITION AT THE END OF EACH DAY. CONTRACTOR SHALL COORDINATE WITH THE OWNER'S REPRESENTATIVE EACH DAY BEFORE LEAVING THE CONTRACT PROJECT LIMITS AND ENTERING THE CAMPUS AND SHALL CHECK OUT EACH DAY WITH SAID REPRESENTATIVE REGARDING THE CLEANLINESS OF THE AREA IN WHICH WORK TOOK PLACE.
- WORK IN OPERATIONAL ROADWAYS AND INTERSECTIONS AND/OR MERGING CONSTRUCTION TRAFFIC WITH THE PUBLIC, AND WHERE SCHEDULED WHETHER LOADING, OR UNLOADING CONSTRUCTION WILL BE IMPLEMENTED ONLY WITH THE USE OF A FLAG MAN DEDICATED FOR THE PURPOSE OF DIRECTING TRAFFIC AT THE FRONT, REAR, OR POINT OF SUCH OPERATION.
- WORK TAKING PLACE IN A WALKWAY OR SIDEWALK ON A DAILY BASIS SHALL BE MARKED AT FRONT AND REAR WITH SAFETY CONES OR OTHER SUITABLE CAUTIONARY DEVICES.
- CONTRACTOR, OR EMPLOYEE OF SAME, ON BUILDING GROUNDS OR ENTERING THE BUILDING TO PERFORM WORK SHALL HAVE THE NAME OF THE COMPANY IDENTIFIED ON THEIR DOTTING, HARD HAT, JACKET, OR OTHER ON THEIR PERSONNEL AT ALL TIMES.
- NO CONSTRUCTION PERSONNEL SHALL BE PERMITTED WITHIN THE BUILDING EXCEPT FOR THE EXPLICIT PURPOSE OF PERFORMING THEIR CONTRACTED WORK. CAMPUS FACILITIES, INCLUDING BUT NOT LIMITED TO TOILETS, BREAK ROOMS, CAFETERIA, ETC., SHALL BE OFF LIMITS EXCEPT THOSE EXPRESSLY DESIGNATED FOR CONTRACTOR USE.
- WORK ACTIVITY MUST NOT JEOPARDIZE BUILDING OPERATIONS. WHERE, IN THE OPINION OF THE ENGINEER OR OWNER, THE CONTRACTOR'S ACTIVITIES ARE SERIOUSLY HAMPERING BUILDING OPERATIONS, OR WHERE OPERATIONS ARE DEEMED AT RISK, THE CONTRACTOR WILL BE DIRECTED BY ENGINEER / OWNER TO CEASE SAID ACTIVITIES UNTIL OTHER MEANS AND METHODS CAN BE MUTUALLY AGREED UPON.
- OWNER WILL NOT RECEIVE, UNLOAD, SIGN FOR, OR STORE ANY DELIVERIES MADE TO ANY CONTRACTOR. CONTRACTOR WILL RECEIVE, UNLOAD, SIGN FOR, AND STORE ALL DELIVERIES FOR THE WORK, AT THE JOB SITE STAGING OR LAY-DOWN AREA, AND BE RESPONSIBLE FOR SAME.
- CONTRACTOR SHALL TURN OVER TO THE OWNER, DESIGNATED PLACE OF STORAGE, A QUANTITY OF SURPLUS MATERIALS, AS APPLICABLE, FOR THE WORK.
- A DUMPSTER MAY BE LOCATED AS DIRECT FOR THE DISPOSAL OF DEBRIS. PROTECT THE EXISTING BUILDING FROM DAMAGE (INTERIOR AND EXTERIOR), AND ALONG THE PATH OF TRAVEL TO THE DUMPSTER. DAMAGE AS A RESULT OF CONSTRUCTION USE SHALL BE REPAIRED AND/OR REPLACED BY THE CONTRACTOR.
- CONTRACTOR TO USE CUMBERLAND COUNTY SCHOOL PREFERRED WINDOW CONTRACTOR AND INCLUDE THIS WORK IN THEIR BASE BID.**

**MECHANICAL NOTES**

- ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE LATEST EDITION OF THE NC STATE PLUMBING CODE AND MECHANICAL CODE AS WELL AS ALL LOCAL AND OTHER APPLICABLE CODES.
- ALL WORK SHALL BE PERFORMED BY EXPERIENCED AND SKILLED CRAFTSMEN.
- MECHANICAL CONTRACTOR RESPONSIBLE TO COORDINATE LOCATION OF ANY UNDERGROUND UTILITIES BEFORE ANY DIGGING TAKES PLACE.
- THE MECHANICAL CONTRACTOR SHALL PROVIDE ALL OPENINGS REQUIRED FOR THE PIPING WORK AND SHALL INSTALL FIRE RATED SLEEVES WHEREVER PENETRATIONS OF RATED WALLS OR FLOORS ARE MADE. THE PATCHING SHALL BE BY THE MECHANICAL CONTRACTOR.
- IT IS THE RESPONSIBILITY OF THE MECHANICAL CONTRACTOR TO FIELD VERIFY/REVIEW EXISTING PIPE LOCATIONS, INTENDED NEW PIPE ROUTING LOCATIONS, AND AVAILABLE SUPPORT STRUCTURE FOR NEW PIPING TO AVOID CONFLICTS. IN ADDITION, EXISTING PIPE SIZES AND TYPES TO BE FIELD VERIFIED BEFORE BIDDING AND PERFORMING WORK.
- STRUCTURAL MEMBERS OF THE BUILDING SHALL NOT BE CUT IN ANY MANNER FOR THE INSTALLATION OF ANY EQUIPMENT UNLESS PRIOR APPROVAL IS OBTAINED FROM THE ENGINEER OF RECORD.
- ALL MATERIALS AND WORKMANSHIP SHALL BE GUARANTEED TO BE FREE OF DEFECTS FOR A PERIOD OF ONE YEAR AFTER FINAL ACCEPTANCE OF THE WORK OR IN ACCORDANCE WITH THE PARTICULAR MANUFACTURERS STANDARD GUARANTEE IF LONGER. ANY FAULTY MATERIAL OR WORKMANSHIP OR FAILURE OF ANY PART OF THE SYSTEM DURING NORMAL OPERATIONS UNDER THIS GUARANTEE SHALL BE CORRECTED WITHOUT COST TO THE OWNER.
- MECHANICAL CONTRACTOR SHALL FURNISH SUBMITTALS FOR APPROVAL PRIOR TO ORDERING ANY MATERIAL.
- ALL NECESSARY OFFSETS AND ELEVATION CHANGES ARE NOT SHOWN ON THE DRAWINGS. CONTRACTOR TO REFLECT/COORDINATE THE REQUIRED RISE/DROPS WITH FIELD CONDITIONS.
- THE CONTRACTOR SHALL SURVEY THE SITE AND MAKE ALL NECESSARY CHANGES REQUIRED BASED ON EXISTING CONDITIONS FOR PROPER INSTALLATION OF NEW WORK, AND INCLUDE ALL MATERIALS AND LABOR IN HIS/HER BID PRICE. NO ALLOWANCE WILL BE MADE FOR FAILURE TO DO SO.
- THE CONTRACTOR SHALL EXAMINE THE CONTRACT DOCUMENTS, CONDUCT A COMPLETE FIELD SURVEY TO FAMILIARIZE THEMSELVES WITH ALL THE REQUIREMENTS OF THE PROJECT, AND SHALL NOTIFY THE OWNER/ENGINEER OF ANY OBSERVED FAULTS AND AMBIGUITY IN THE CONTRACT DOCUMENTS.
- BY SUBMISSION OF BID, THE CONTRACTOR SHALL ACKNOWLEDGE ACCEPTANCE OF THE CONTRACT DOCUMENTS AS AN ADEQUATE DEFINITION OF THE SCOPE OF WORK AND EXTRA COST CLAIMS BASED ON INADEQUACY OF CONTRACT DOCUMENTS WILL NOT BE CONSIDERED.
- SUBMISSION OF A PROPOSAL SHALL BE CONSTRUCTED AS EVIDENCE THAT EXAMINATION OF PLANS HAVE BEEN MADE AND THAT THE CONTRACTOR IS FAMILIAR WITH EXISTING CONDITIONS AND DIFFICULTIES THAT WILL AFFECT THE EXECUTION OF THE WORK. LATER CLAIMS SHALL NOT BE MADE FOR LABOR, EQUIPMENT OR MATERIALS REQUIRED BECAUSE OF DIFFICULTIES ENCOUNTERED WHICH COULD HAVE BEEN FORESEEN DURING SUCH AS EXAMINATION.
- CONTRACTOR TO FLASH AROUND ALL SIDES OF WALL MOUNTED HEAT PUMPS.
- CONTRACTOR TO INSTALL DUCT SLEEVE FROM SUPPLY/ RETURN NECK TO GRILLE FOR OUTDOOR UNITS.

**ELECTRICAL NOTES**

- WIRE AND CABLE SHALL BE COPPER AND HAVE MINIMUM 75 DEG. C INSULATION. CONDUCTOR SIZES NO. 8 AWG AND LARGER MAY BE STRANDED. CONDUCTORS SIZES NO. 10 AWG AND SMALLER MAY BE SOLID OR STRANDED.
- UNDERGROUND CONDUIT SHALL BE PVC, EXTERIOR EXPOSED CONDUIT SHALL BE RIGID AND INTERIOR CONDUIT SHALL BE EMT.
- ELECTRICAL CONTRACTOR TO MINIMIZE THE AMOUNT OF CONDUIT THAT IS INSTALLED IN THE ROOF AND ON THE WALLS. ELECTRICAL CONTRACTOR TO REFERENCE BUILDING LAYOUT DRAWINGS AND EQUIPMENT DRAWINGS TO PREVENT ANY INTERFERENCE.
- CIRCUIT BREAKERS AND WIRE ARE SIZED FOR SPECIFIC EQUIPMENT. BEFORE ORDERING WIRE, BREAKERS AND CONDUIT FOR THIS PROJECT THE CONTRACTOR SHALL COORDINATE WITH THE OTHER CONTRACTORS ON THE JOB AND VERIFY THE ELECTRICAL DATA FOR THE EQUIPMENT WHICH WILL ACTUALLY BE INSTALLED, RECOMPUTING WIRE AND BREAKER SIZES IF REQUIRED BY THE NEC.
- ALL EXPOSED CONDUIT SHALL BE LABELED AS IT EXITS THE PANEL AND JUST BEFORE IT TIES INTO THE FIXTURE/EQUIPMENT.
- THE MOUNTING HEIGHTS AND LOCATIONS OF ALL DISCONNECTS AND JUNCTION BOXES SHALL BE REVIEWED AND COORDINATED WITH THE OWNER, PRIOR TO INSTALLATION, FOR USE WITH ACTUAL EQUIPMENT.
- EACH CONTRACTOR WILL PROVIDE HIS/HER OWN SUPPORT OF ALL DEVICES AND EQUIPMENT PROVIDED BY HIMSELF/HERSELF AND SHALL SUPPORT SUCH EQUIPMENT PER APPROVED GOVERNING CODES OR PER APPROVAL OF THE ENGINEER. UNACCEPTABLE WORKMANSHIP OR MATERIALS SHALL BE REPLACED AT THE REQUEST OF THE OWNER AT THE CONTRACTOR'S EXPENSE.
- THE CONTRACTOR SHALL REFER TO THE BUILDING PLANS FOR FLOOR PLAN DIMENSIONS.
- THE CONTRACTOR SHALL COORDINATE ANY AND ALL WORK WITH OTHER TRADES INVOLVED IN THIS PROJECT PRIOR TO THE INSTALLATION OF HIS EQUIPMENT, SO AS TO AVOID CONFLICTS DURING CONSTRUCTION AND ALLOW FOR OPTIMUM WORKING SPACE AND MAINTENANCE.
- ALL FUSES, DISCONNECT SWITCHES, AND BREAKER SIZES SHOWN FOR MECHANICAL EQUIPMENT SHALL BE VERIFIED BEFORE PURCHASE AND INSTALLATION OF SAID EQUIPMENT WITH THE EQUIPMENT SUPPLIER AND MECHANICAL CONTRACTOR.
- WHERE EQUIPMENT PENETRATES EXTERIOR WALL OR ROOF THEY SHALL BE PROPERLY SEALED PER MFG.'S INSTALLATION INSTRUCTIONS.
- ALL CONDUIT TO BE SUPPORTED PER MANUFACTURERS INSTALLATION INSTRUCTIONS.
- ELECTRICAL CONTRACTOR TO COORDINATE WITH OWNER ON THE LOCATION AND QUANTITY OF SPARE CONDUITS REQUIRED FOR FUTURE ADDITIONS.

**DEMOLITION NOTES**

- REMOVE ALL EXISTING CONSTRUCTIONS AND FINISHES NECESSARY FOR THE COMPLETION OF THE WORK AS DEPICTED ON THE DRAWINGS. THE CONTRACTOR SHALL NOT CONSIDER DEMOLITION AND ALTERATION NOTES TO BE ALL-INCLUSIVE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO INSPECT AND ASSESS EACH AREA AND TO FULFILL THE INTENT OF THE DESIGN INDICATED BY THE CONTRACT DOCUMENTS. WHERE CONTRACTOR IS DESIGNATED TO MAKE REMOVALS, DISPOSITION OF MATERIALS IS THE RESPONSIBILITY OF THE CONTRACTOR. PROPERTY OWNER OWNS ALL MATERIAL AND REMOVAL SHOULD BE COORDINATED BY OWNER. ALL COMPONENTS OF SALVAGEABLE VALUE, UNLESS SPECIFICALLY NOTED OR REQUESTED BY THE OWNER, SHALL BECOME THE PROPERTY OF THE OWNER. THE CONTRACTOR SHALL REMOVE ALL ITEMS AND/OR MATERIALS NOT CLAIMED BY THE OWNER. ADDITIONALLY, THE CONTRACTOR SHALL DELIVER, WITHOUT DAMAGE, ALL ITEMS AND/OR MATERIALS CLAIMED BY THE OWNER TO A DESIGNATED LOCATION.
- FOR ALL EXISTING SURFACES SCHEDULED TO REMAIN, PATCH SURFACES TO COMPLY WITH FIRE RATINGS, SMOKE-TIGHT RATINGS, ACOUSTICAL CRITERIA AND OTHER PERFORMANCE CRITERIA INDICATED.
- ALL STRUCTURAL SYSTEMS SHALL BE MAINTAINED AND SHALL BE OF SUFFICIENT STRENGTH TO SUPPORT THE DESIGN LOADS AND TO RESIST DEFORMATION.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DAMAGE TO EXISTING MATERIALS NOT EFFECTED BY THE SCOPE OF WORK WHICH IS DAMAGED BY HIS WORK. THE CONTRACTOR SHALL REPAIR OR REPLACE ANY/ ALL DAMAGED MATERIALS AND/OR EQUIPMENT AS DIRECTED, AT NO ADDITIONAL COST TO THE OWNER. REPAIRING AND PATCHING SHALL BE DONE BY THE RESPECTIVE TRADES INVOLVED.

**CONCRETE NOTES**

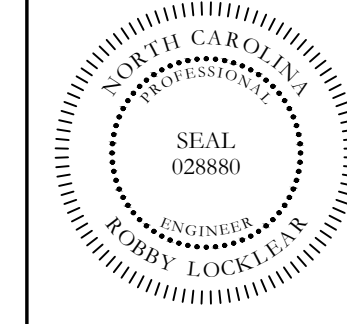
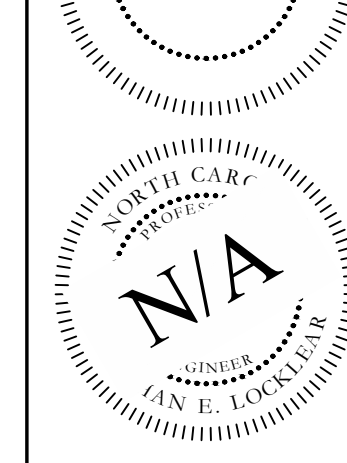
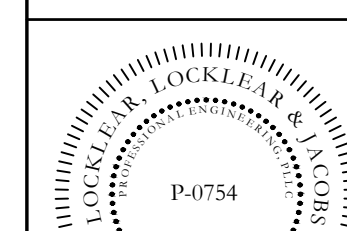
- ALL DETAILING, FABRICATION AND PLACEMENT OF REINFORCING STEEL, FORM WORK, MIXING, HANDLING, PLACING, FINISHING AND CURING OF CONCRETE SHALL BE IN ACCORDANCE WITH ACI "MANUAL OF STANDARD PRACTICE FOR DETAILED REINFORCED CONCRETE STRUCTURES" (ACI-315) AND ACI "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE" (ACI-318).
- CONCRETE SHALL CONFORM TO ASTM C94. MINIMUM STRENGTH AT 28 DAYS SHALL BE 4000 PSI. MAXIMUM WATER TO CEMENT RATIO SHALL BE 0.60 WITH MAXIMUM SLUMP OF 4". MAXIMUM SIZE OF COARSE AGGREGATE SHALL BE 3/4" AND ALL AGGREGATES SHALL CONFORM TO ASTM C33.
- EXTERIOR CONCRETE SHALL BE AIR ENTRAINED WITH AIR CONTENT TO BE BETWEEN 5% AND 7% BY VOLUME.
- ALL REINFORCING STEEL SHALL BE IN ACCORDANCE WITH ASTM A615 AND BE GRADE 60.
- ALL REINFORCING STEEL SHALL BE IN ACCORDANCE WITH ASTM A615 (S1), NEW BILLET STEEL DEFORMED BARS, GRADE 60. UNLESS NOTED OTHERWISE, ALL REINFORCING BAR SPLICES SHALL BE ACI CLASS B TENSION LAP SPLICES. WELDED WIRE FABRIC (WWF) SHALL MEET ASTM A185. MINIMUM WWF LAP AT SPLICES SHALL BE 8".
- UNLESS NOTED OTHERWISE, CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH SHALL HAVE A CONCRETE COVER OF 3".

**DRAWING REVISIONS**

REVISIONS TO DRAWINGS SHALL BE SHOWN UNDER THE REVISION DATE AND DESCRIPTION IN THE TITLE BLOCK. THE REVISION NUMBER AND A TRIANGLE WILL BE SHOWN AT THE LOCATION OF CHANGE ON THE REVISED DRAWING.

NOTE: REVISION NUMBERS ARE IN ASCENDING ORDER UNIQUE TO EACH DRAWING. PREVIOUS DATES AND REVISION REMAIN ON THE DRAWINGS REVISED AS A RECORD OF ALL CHANGES TO DRAWINGS.

DRAWING INDEX			
SHEET	SHEET TITLE	REV #	DATE
G-100	GENERAL NOTES	-	
G-200	GENERAL DEMO PLAN	-	
G-300	GENERAL WINDOW PLAN	-	
G-400	WINDOW FRAMING DETAILS	-	
G-401	WINDOW FRAMING DETAILS	-	



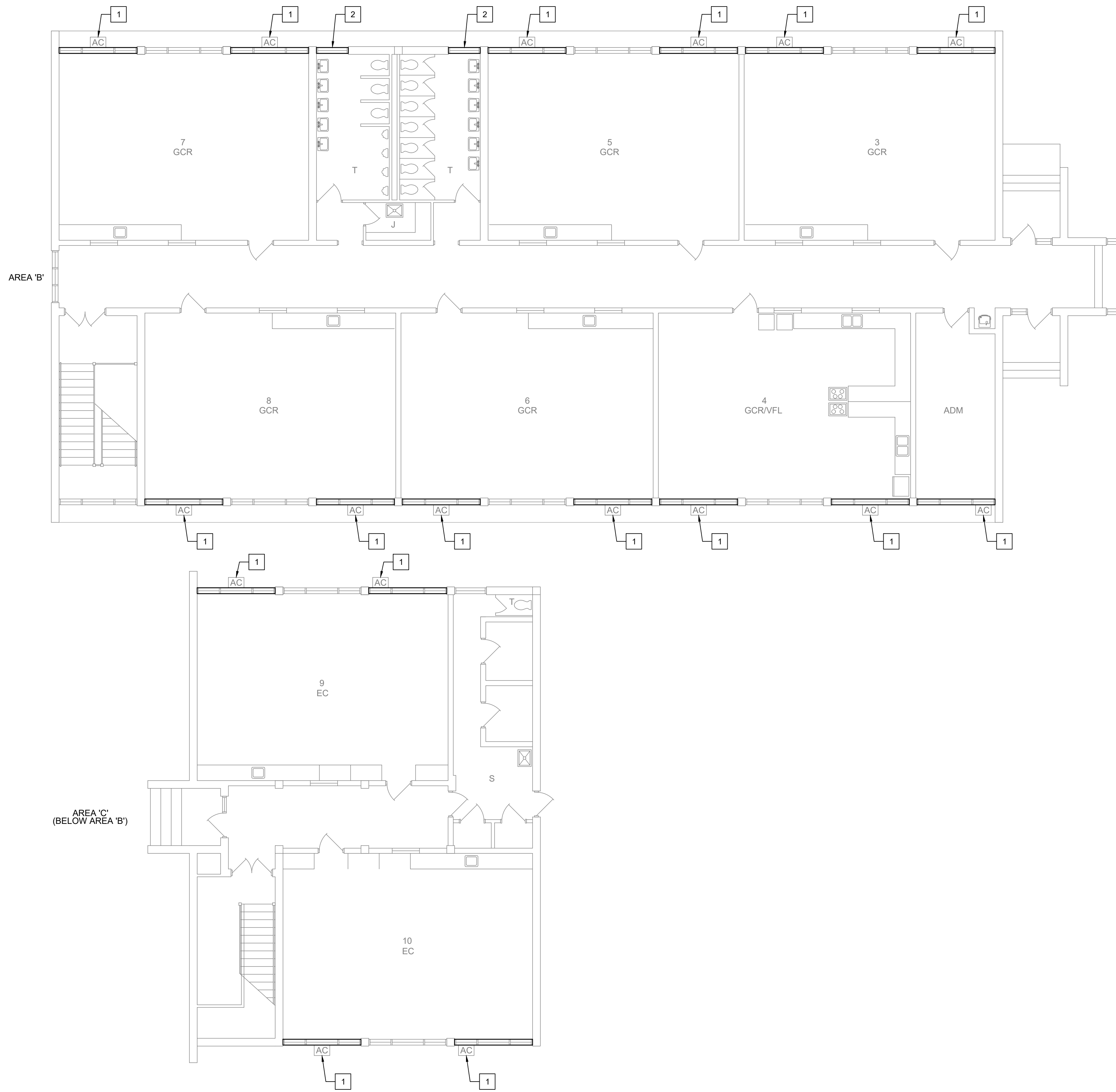
**PHASE 1 HVAC REPLACEMENT**  
**RAMSEY STREET HIGH SCHOOL**  
 117 QUINCY ST, FAYETTEVILLE, NC 28301

REV#	DATE	DESCRIPTION
1.		
2.		
3.		
4.		
5.		

DATE: 4-6-2021  
 DRAWN BY: CKD  
 CHECKED BY: RL  
 SHEET TITLE

**GENERAL NOTES**

SHEET NUMBER  
**G-100**  
 PROJECT# 20-11022



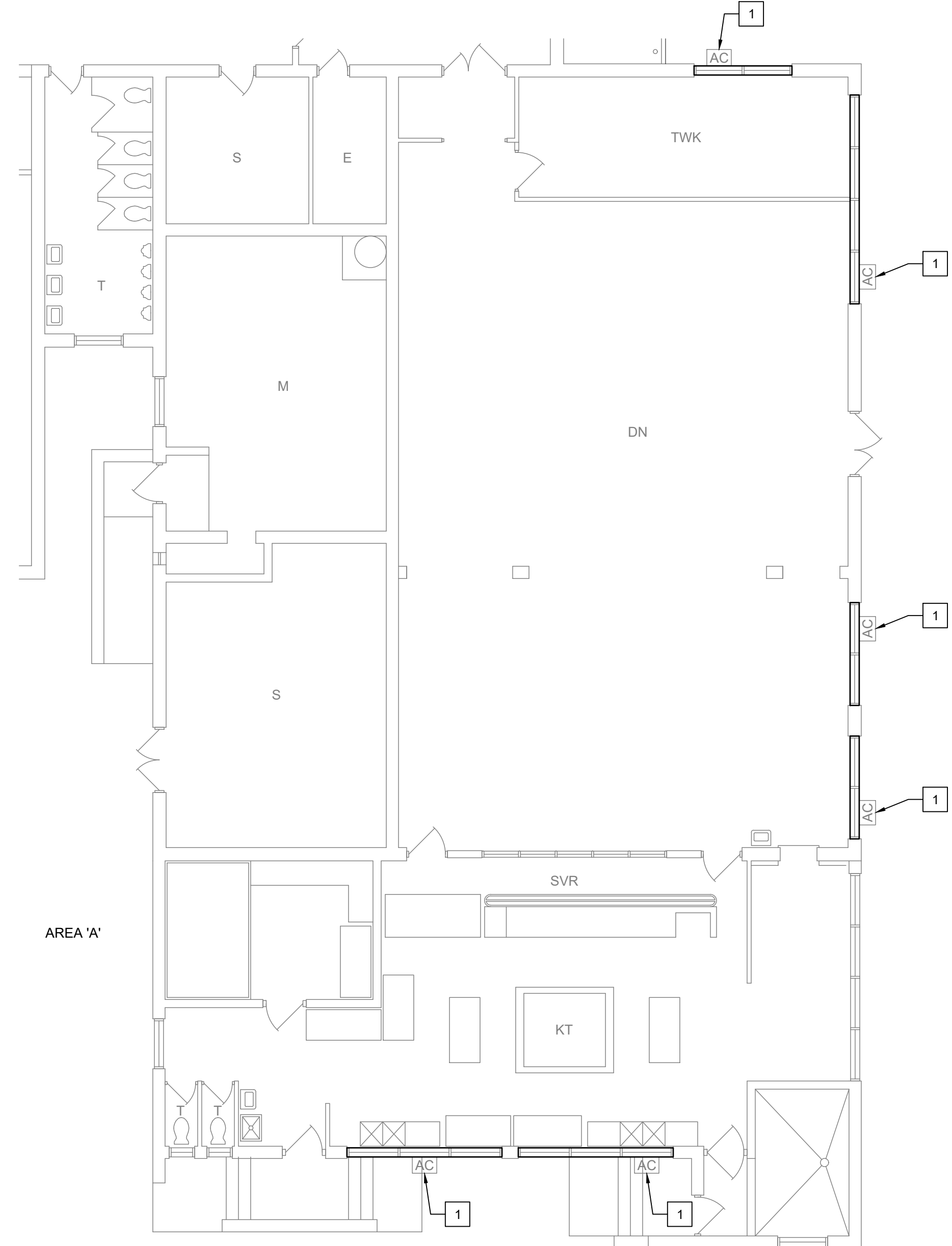
**1 PARTIAL DEMO PLAN**  
SCALE: 1/8" = 1'-0"

**NOTE:**

1. DEMO WINDOWS AS NECESSARY FOR THE INSTALLATION OF NEW WALL MOUNTED HEAT PUMPS AND PTAC'S (FIELD VERIFY LOCATIONS W/ ENGINEER AND CUMBERLAND COUNTY SCHOOLS).

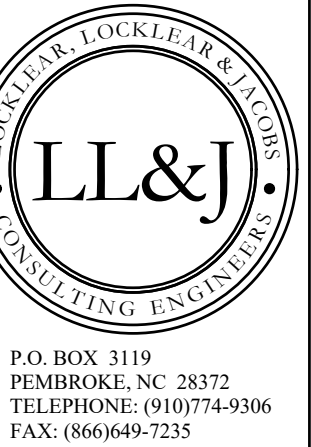
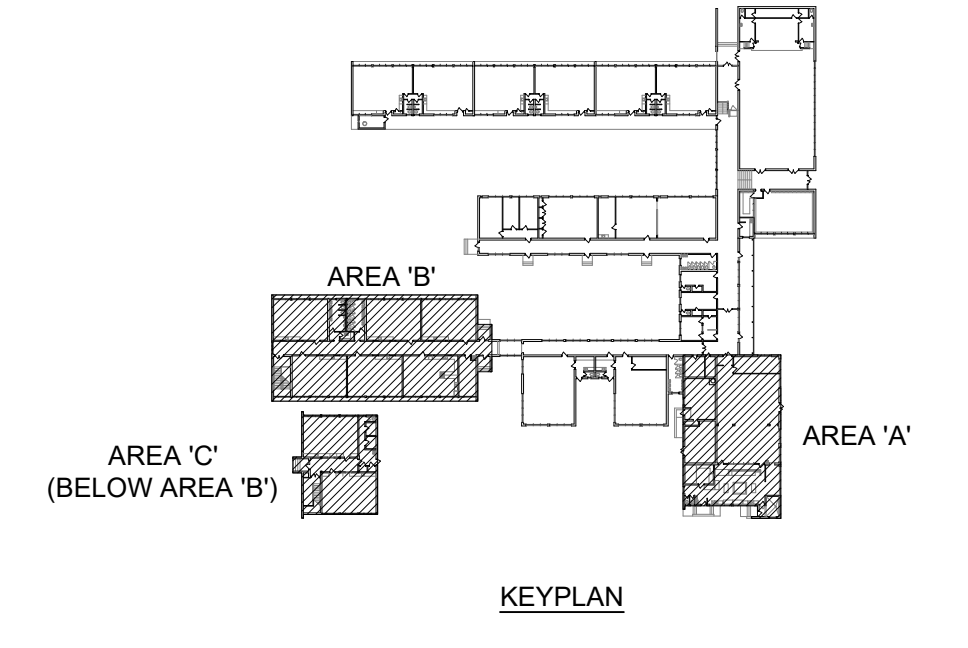
**KEY DEMO NOTES:**

- 1 DEMO AC UNIT, ENTIRE WINDOW AND FRAMING AT LOCATION.
- 2 DEMO ENTIRE WINDOW AND FRAMING AT LOCATION.

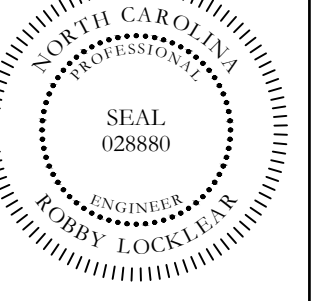
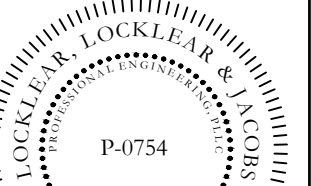


**2 PARTIAL DEMO PLAN**  
SCALE: 1/8" = 1'-0"

LEGEND	
SYMBOL	DESCRIPTION
AC	AC WINDOW UNIT



P.O. BOX 3119  
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**PROJECT INFORMATION:**  
**PHASE 1 HVAC REPLACEMENT**  
**RAMSEY STREET HIGH SCHOOL**  
117 QUINCY ST, FAYETTEVILLE, NC 28301

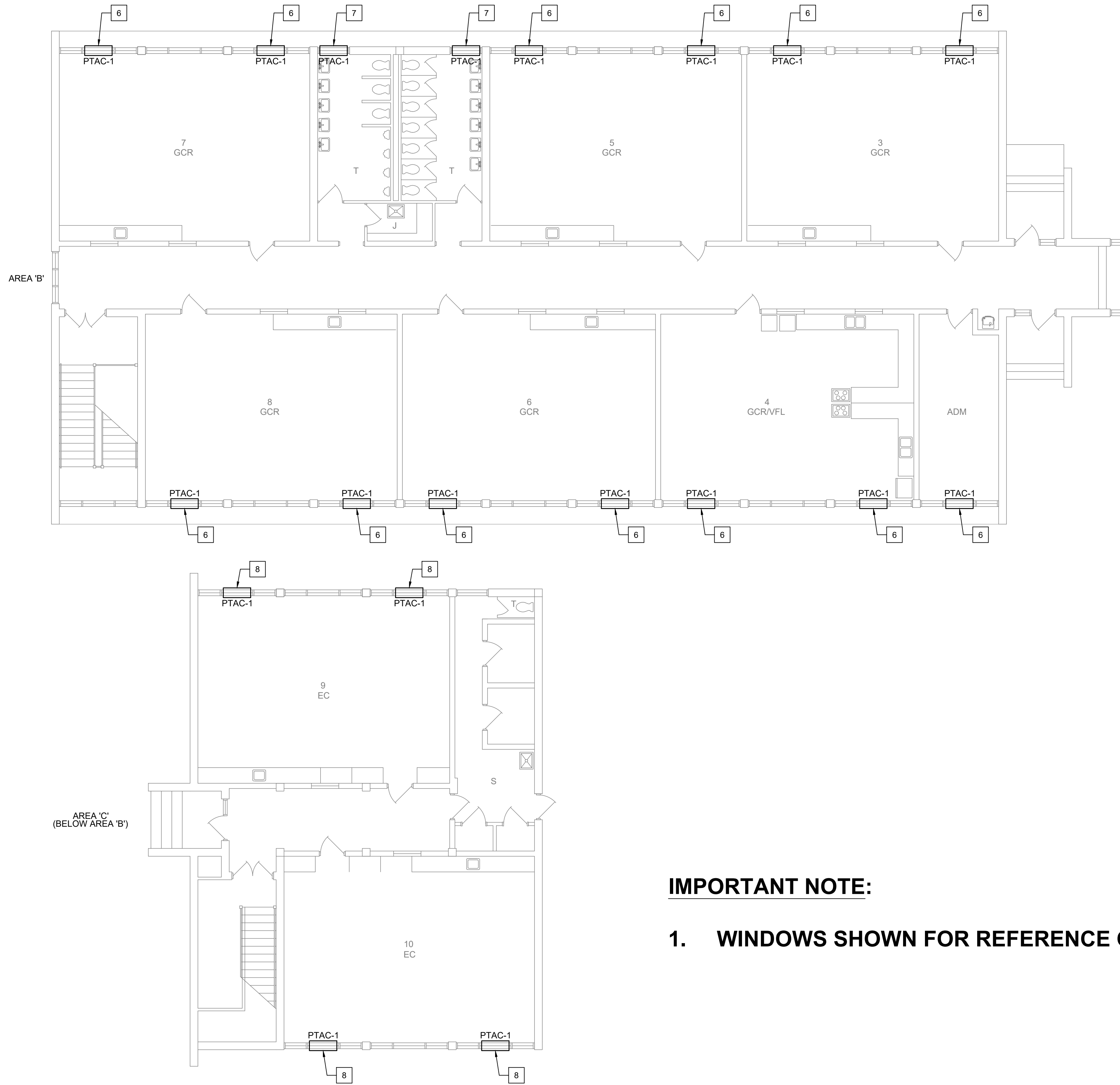
REV#	DATE	DESCRIPTION
1		
2		
3		
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5		

DATE: 4-6-2021  
DRAWN BY: CKD  
CHECKED BY: RL  
SHEET TITLE

GENERAL DEMO PLAN

SHEET NUMBER  
**G-200**

PROJECT# 20-11022



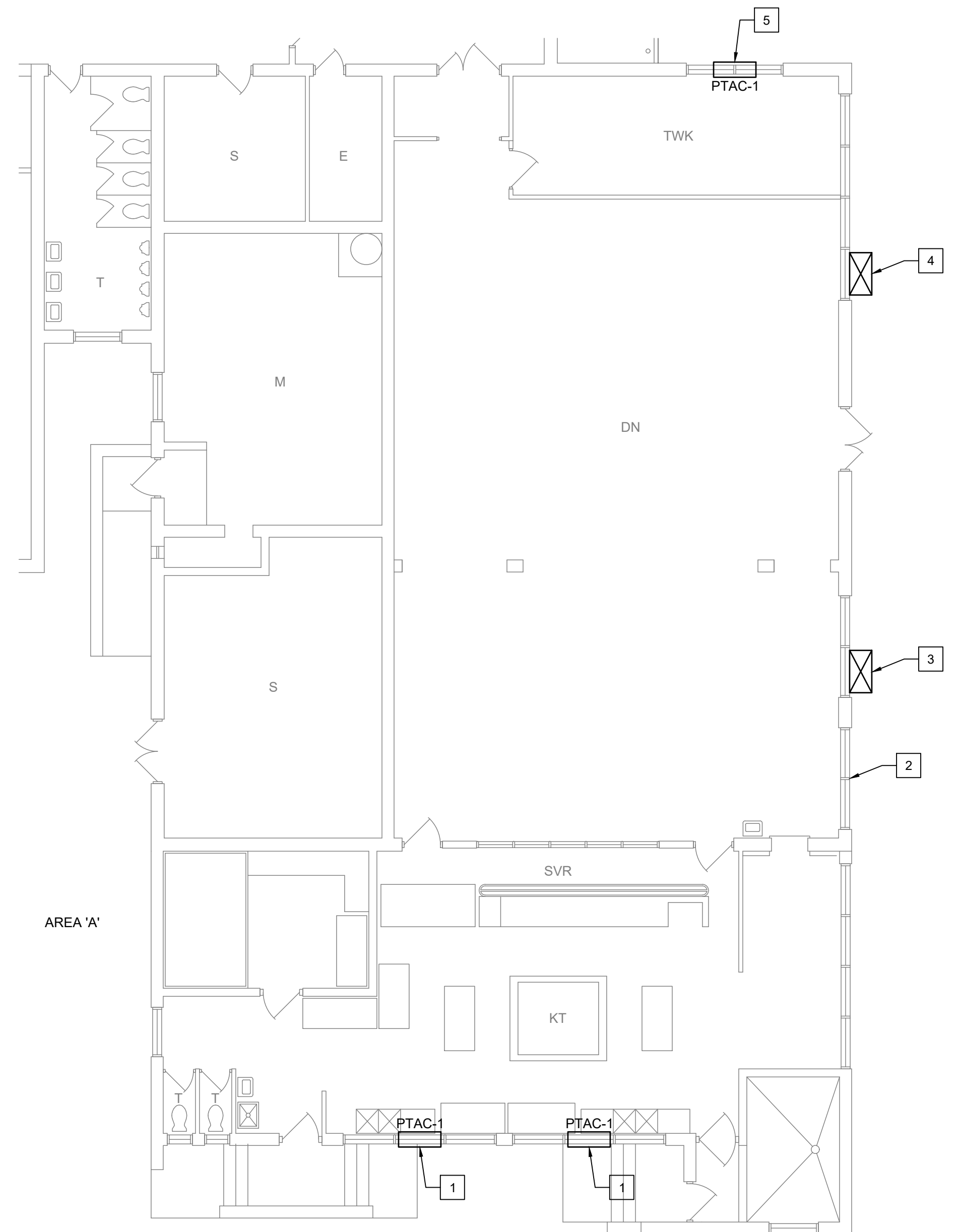
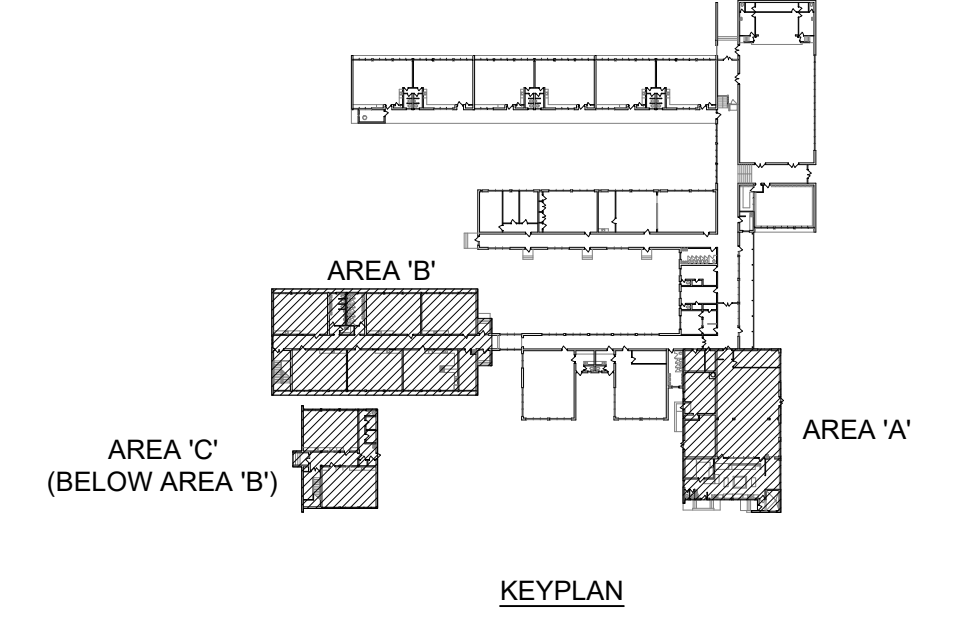
**1 PARTIAL WINDOW PLAN**  
SCALE: 1/8" = 1'-0"

**NOTES:**

1. INSTALL WINDOWS AS NECESSARY AND PTAC'S (FIELD VERIFY LOCATIONS W/ ENGINEER AND CUMBERLAND COUNTY SCHOOLS).
2. ALL WINDOW FRAMING TO SUPPORT WALL MOUNTED HEAT PUMPS TO BE A MINIMUM OF 2"X2"X1/8" STEEL TUBING.
3. FLASH AROUND ALL SIDES OF ALL WALL MOUNTED HEAT PUMPS.

**KEY NOTES:**

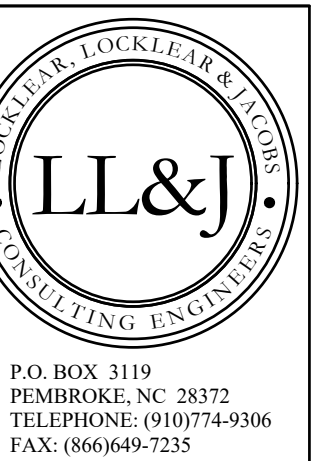
- 1 SEE DETAIL 1 ON SHEET G-400 FOR WINDOW LAYOUT IN THIS AREA.
- 2 SEE DETAIL 2 ON SHEET G-400 FOR WINDOW LAYOUT IN THIS AREA.
- 3 SEE DETAIL 3 ON SHEET G-400 FOR WINDOW LAYOUT IN THIS AREA.
- 4 SEE DETAIL 4 ON SHEET G-400 FOR WINDOW LAYOUT IN THIS AREA.
- 5 SEE DETAIL 5 ON SHEET G-400 FOR WINDOW LAYOUT IN THIS AREA.
- 6 SEE DETAIL 1 ON SHEET G-401 FOR WINDOW LAYOUT IN THIS AREA.
- 7 SEE DETAIL 2 ON SHEET G-401 FOR WINDOW LAYOUT IN THIS AREA.
- 8 SEE DETAIL 3 ON SHEET G-401 FOR WINDOW LAYOUT IN THIS AREA.



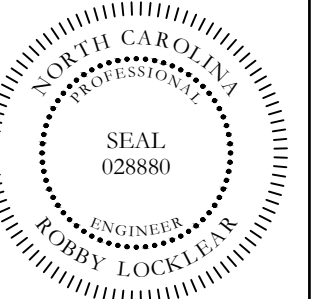
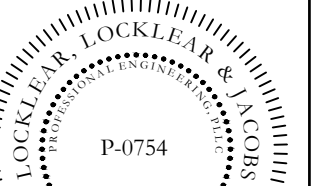
**2 PARTIAL WINDOW PLAN**  
SCALE: 1/8" = 1'-0"

LEGEND	
SYMBOL	DESCRIPTION
PTAC-1	WINDOW MTD. PACKAGED TERMINAL AC UNIT
	WALL MTD. HEAT PUMP

**IMPORTANT NOTE:**  
**1. WINDOWS SHOWN FOR REFERENCE ONLY.**



P.O. BOX 3119  
PEMBROKE, NC 28372  
TELEPHONE: (910)774-9306  
FAX: (866)649-7235

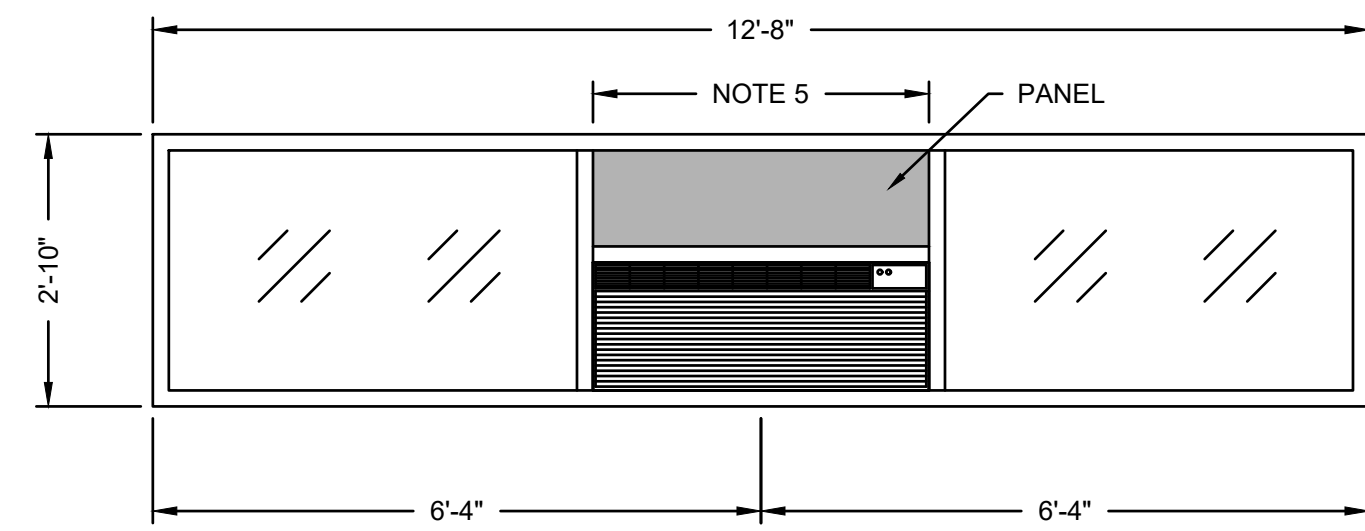


**PROJECT INFORMATION:**  
**PHASE 1 HVAC REPLACEMENT**  
**RAMSEY STREET HIGH SCHOOL**  
117 QUINCY ST, FAYETTEVILLE, NC 28301

REV.	DATE	DESCRIPTION
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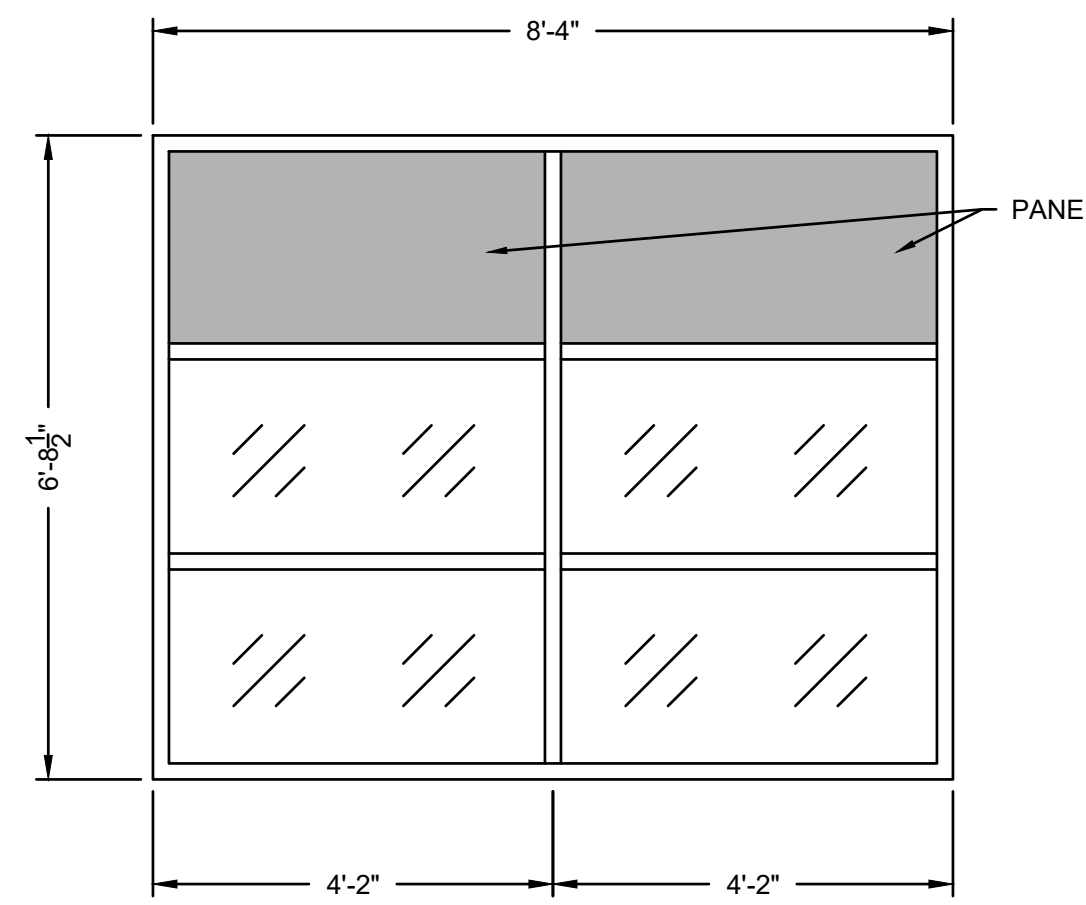
DATE: 4-6-2021  
DRAWN BY: CKD  
CHECKED BY: RL  
SHEET TITLE

**GENERAL WINDOW PLAN**  
SHEET NUMBER  
**G-300**  
PROJECT# 20-11022



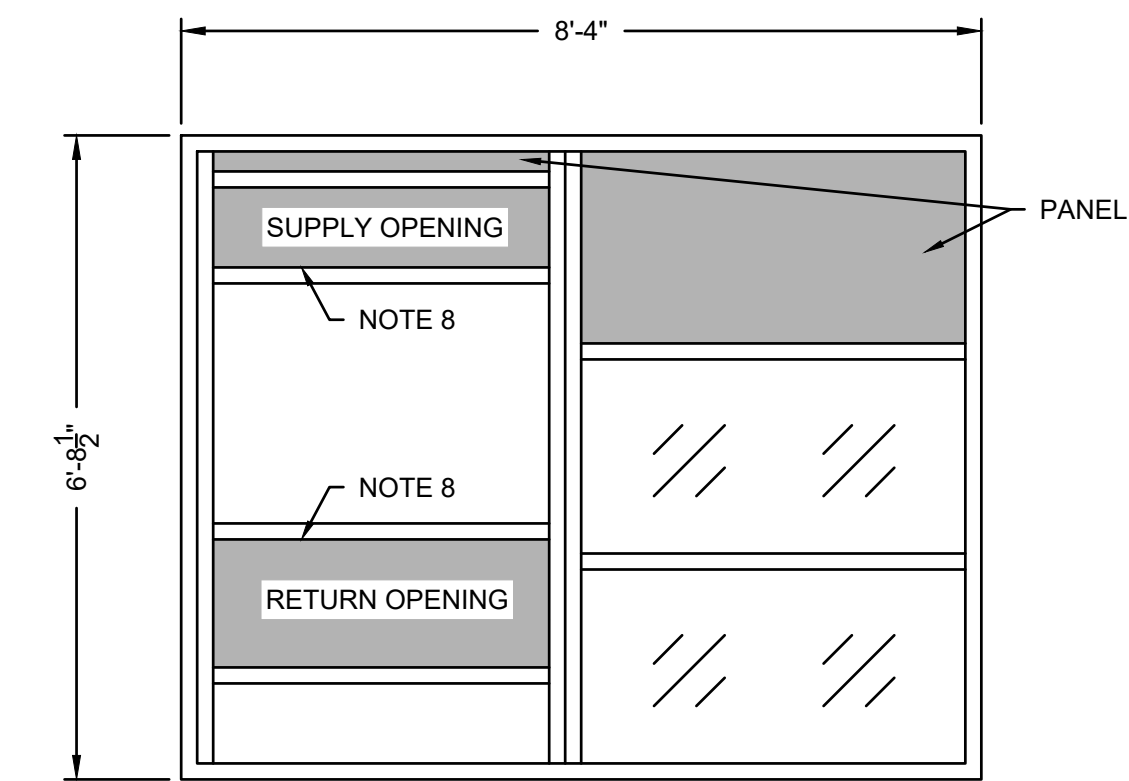
- NOTES:**
- CONTRACTOR TO INSTALL WINDOW FRAMING AS NECESSARY(FIELD VERIFY LOCATIONS W/ CUMBERLAND COUNTY SCHOOLS). ALUMINUM WINDOW FRAMING AND GLASS TO BE PER CUMBERLAND COUNTY SCHOOLS STANDARDS, FRAMING COLOR TO BE WHITE.
  - CONTRACTOR TO FLASH AROUND ALL SIDES OF PTAC UNIT.
  - DETAIL MAY NOT REPRESENT ACTUAL FIELD CONDITIONS. DETAIL IS SHOWN TO GIVE CONTRACTOR A GENERAL IDEA OF WHAT CUMBERLAND COUNTY SCHOOLS IS EXPECTING. FIELD VERIFY & COORDINATE WITH CUMBERLAND COUNTY SCHOOLS ON FINAL PRODUCT BEFORE ANY WORK TO BE PERFORMED.
  - PTAC SLEEVE TO BE ATTACHED TO EXTERIOR WALL BRACE.
  - COORDINATE W/ MECHANICAL CONTRACTOR ON UNIT SIZE & OPENING REQUIREMENTS (INSTALL PER MANUF.).**

**1 WINDOW FRAMING DETAIL FOR PTAC UNIT**  
SCALE: 1/2" = 1'-0"



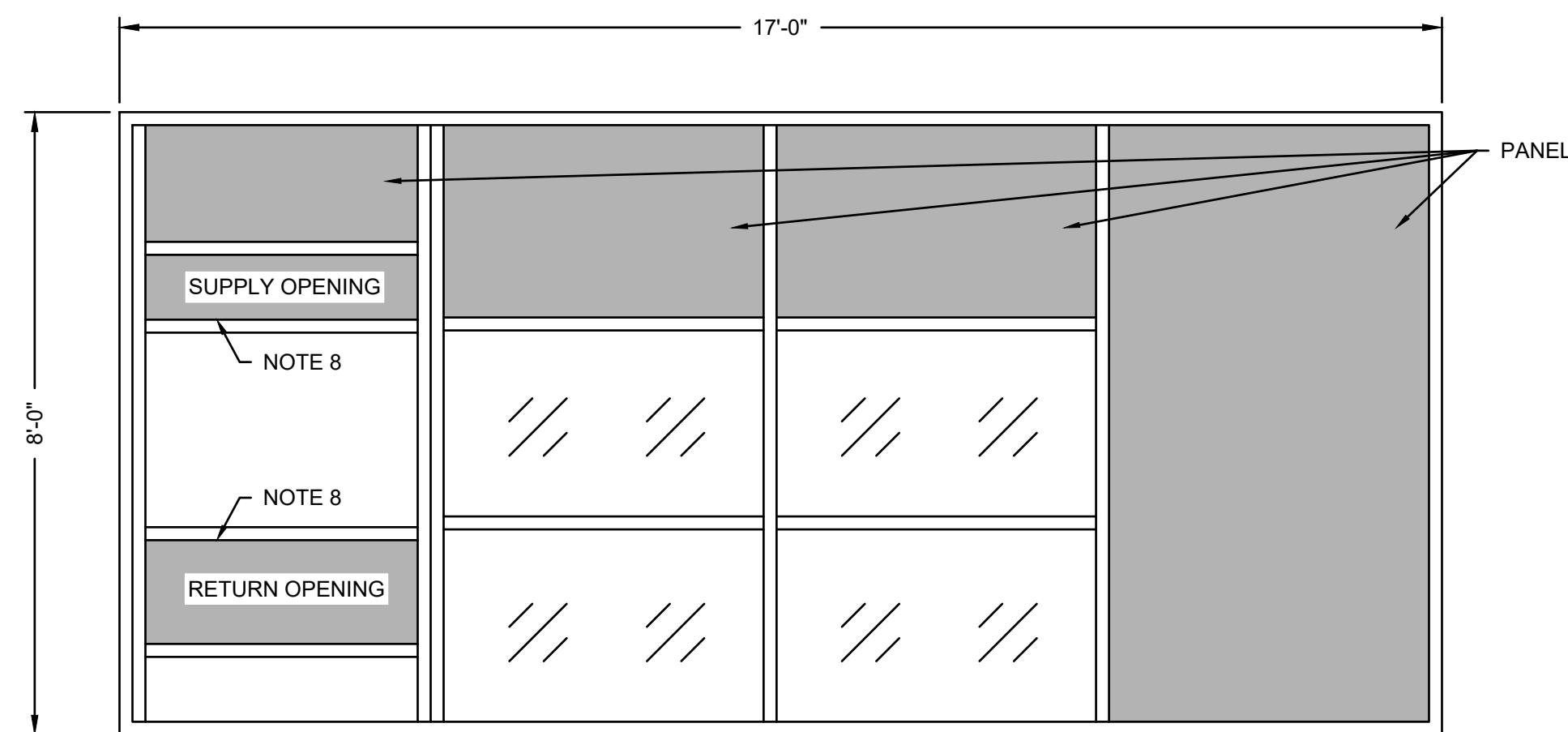
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  - MULLION SPACING TO MATCH EXISTING WINDOWS AS CLOSE AS POSSIBLE.

**2 WINDOW FRAMING DETAIL**  
SCALE: 1/2" = 1'-0"



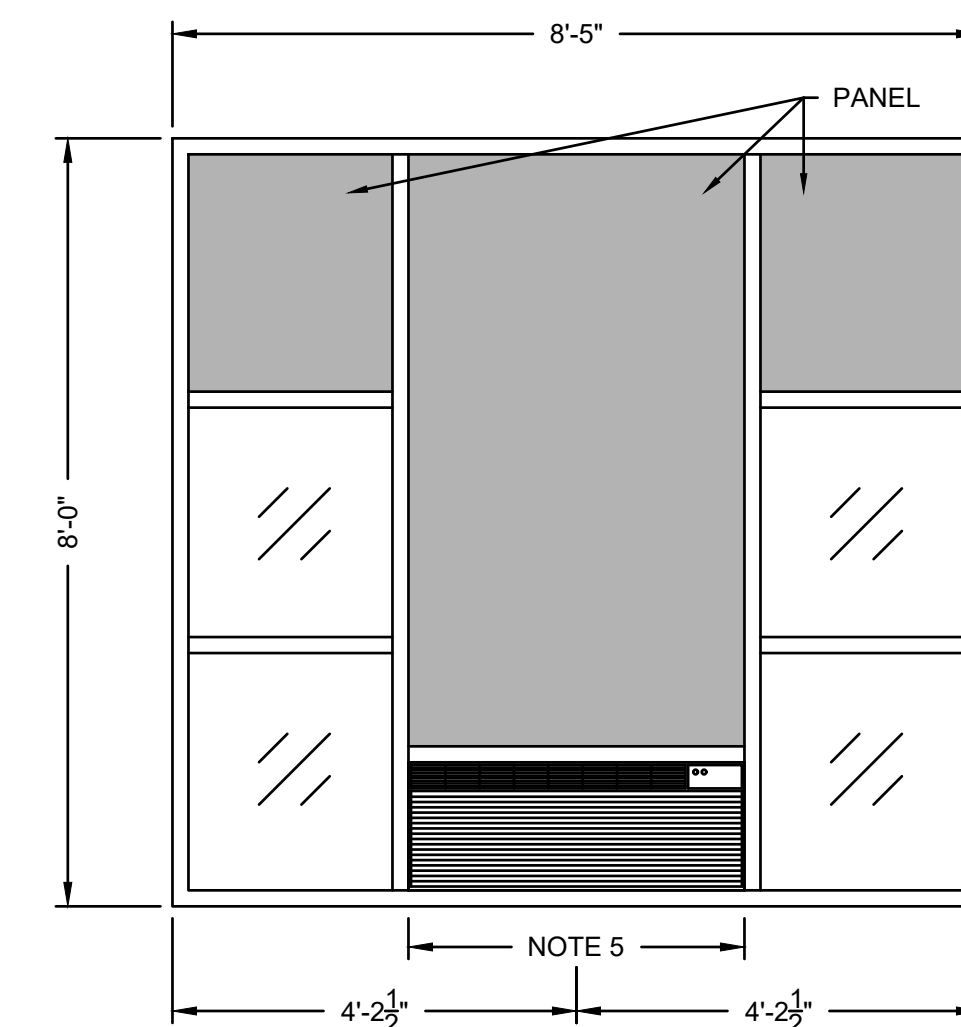
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  - CONTRACTOR TO FLASH AROUND ALL SIDES OF WALL MOUNTED HEAT PUMPS.
  - CONTRACTOR TO VERIFY LOCATIONS OF WALL MOUNTED HEAT PUMPS THAT REQUIRE WALL CURBS.
  - ALL WINDOW FRAMING TO SUPPORT WALL MOUNTED HEAT PUMPS TO BE A MINIMUM OF 2"X2"X3/16" STEEL TUBING.
  - ALL STEEL TO BE PAINTED WITH (1) COAT OF OIL BASED PRIMER & (2) COATS OF OIL BASED TOP COAT.
  - DETAIL MAY NOT REPRESENT ACTUAL FIELD CONDITIONS. DETAIL IS SHOWN TO GIVE CONTRACTOR A GENERAL IDEA OF WHAT CUMBERLAND COUNTY SCHOOLS IS EXPECTING. FIELD VERIFY & COORDINATE WITH CUMBERLAND COUNTY SCHOOLS ON FINAL PRODUCT BEFORE ANY WORK TO BE PERFORMED.
  - MULLION SPACING TO MATCH EXISTING WINDOWS AS CLOSE AS POSSIBLE.
  - MECHANICAL CONTRACTOR TO CUT OPENINGS IN PANEL FOR SUPPLY AND RETURN.
  - COORDINATE W/ MECHANICAL CONTRACTOR ON UNIT SIZE & OPENING REQUIREMENTS (INSTALL PER MANUF.).**

**3 WINDOW FRAMING DETAIL FOR OUTDOOR UNIT**  
SCALE: 1/2" = 1'-0"



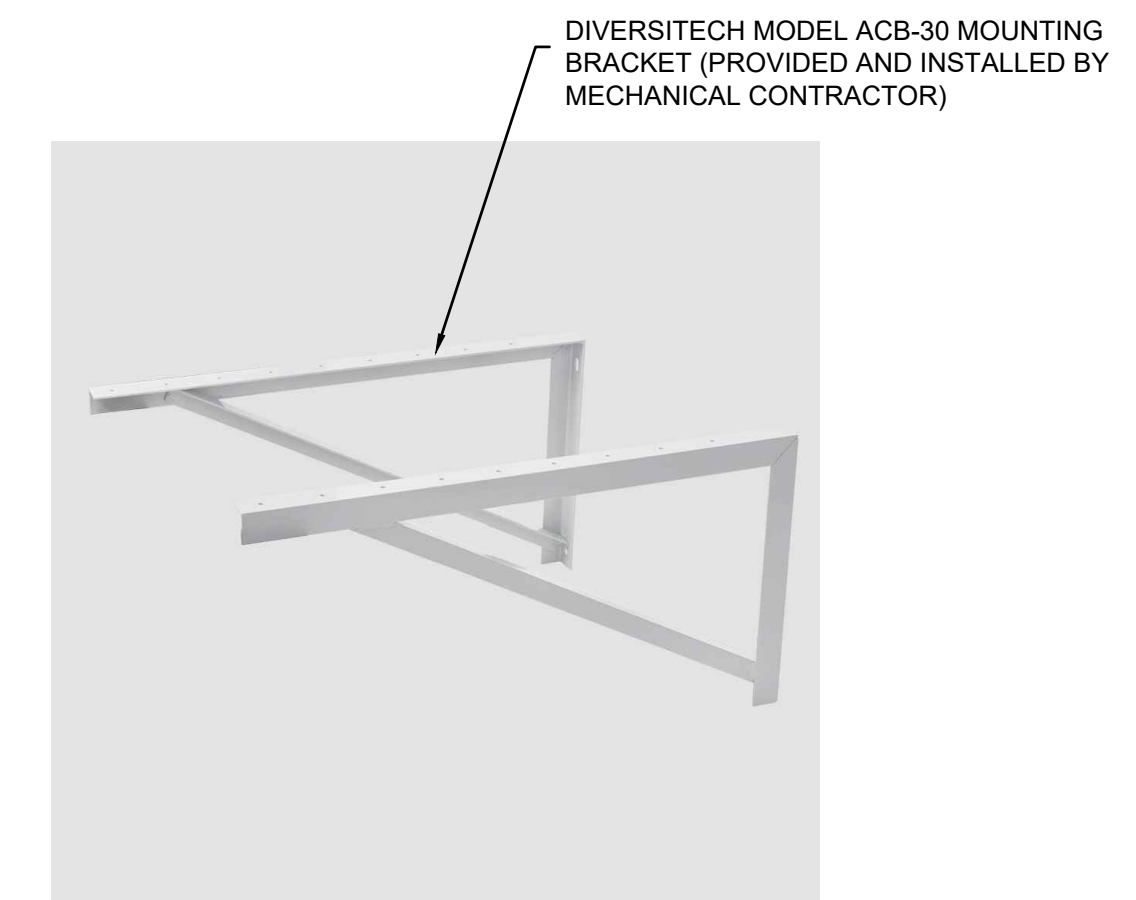
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**4 WINDOW FRAMING DETAIL FOR OUTDOOR UNIT**  
SCALE: 1/2" = 1'-0"

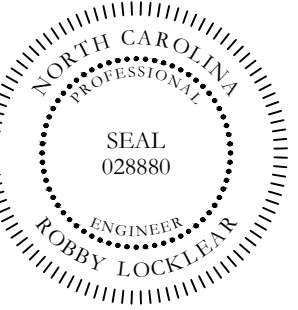
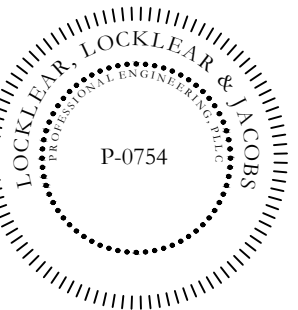


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  - PTAC SLEEVE TO BE ATTACHED TO EXTERIOR WALL BRACE.
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**5 WINDOW FRAMING DETAIL FOR PTAC UNIT**  
SCALE: 1/2" = 1'-0"



**6 EXTERIOR BRACE FOR PTAC'S**  
NTS

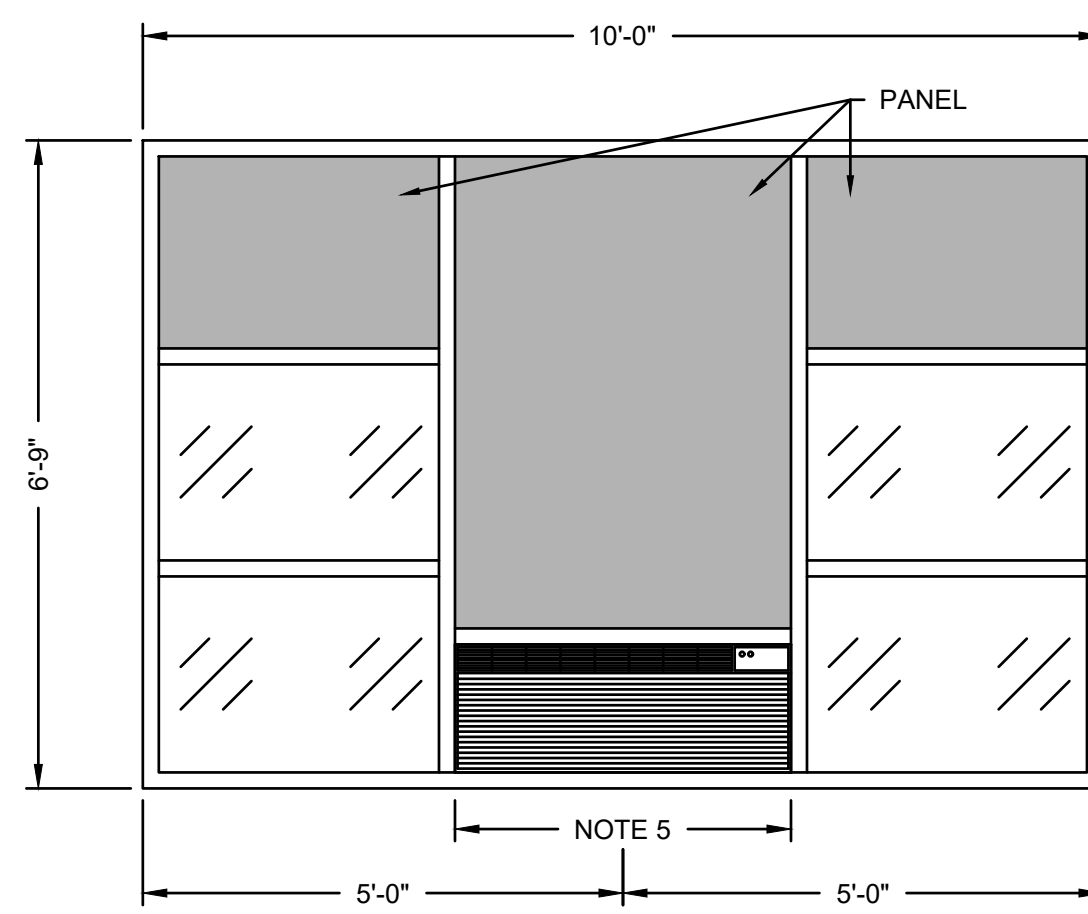


PROJECT INFORMATION:  
**PHASE 1 HVAC REPLACEMENT**  
**RAMSEY STREET HIGH SCHOOL**  
117 QUINCY ST, FAYETTEVILLE, NC 28301

REV.	DATE	DESCRIPTION
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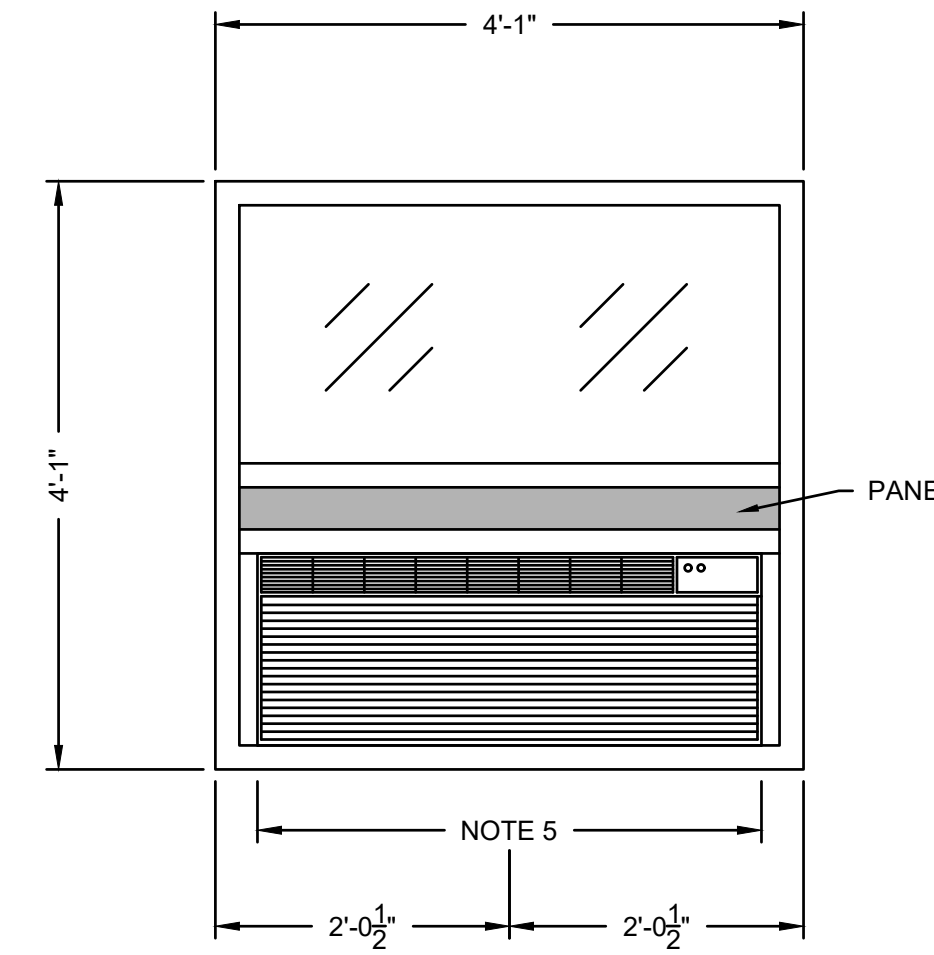
DATE: 4-6-2021  
DRAWN BY: CKD  
CHECKED BY: RL  
SHEET TITLE

WINDOW FRAMING DETAILS  
SHEET NUMBER  
**G-400**  
PROJECT# 20-11022



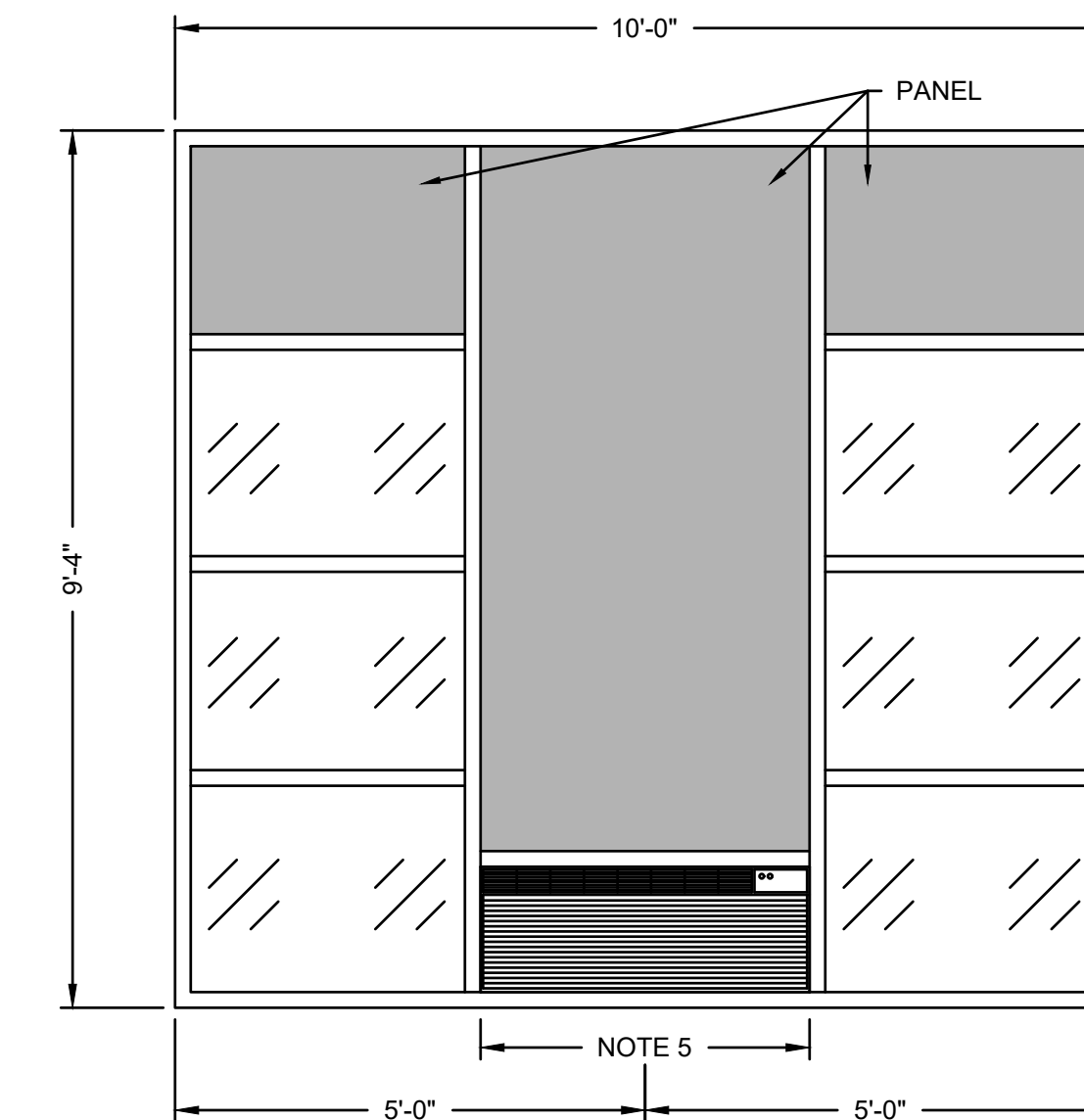
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**1 WINDOW FRAMING DETAIL FOR PTAC UNIT**  
SCALE: 1/2" = 1'-0"



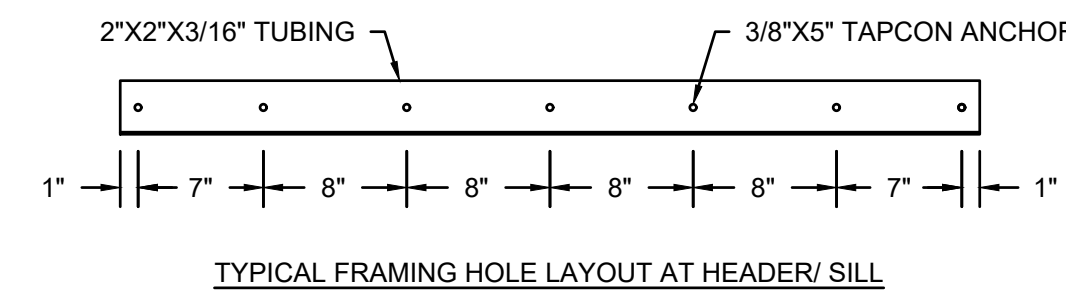
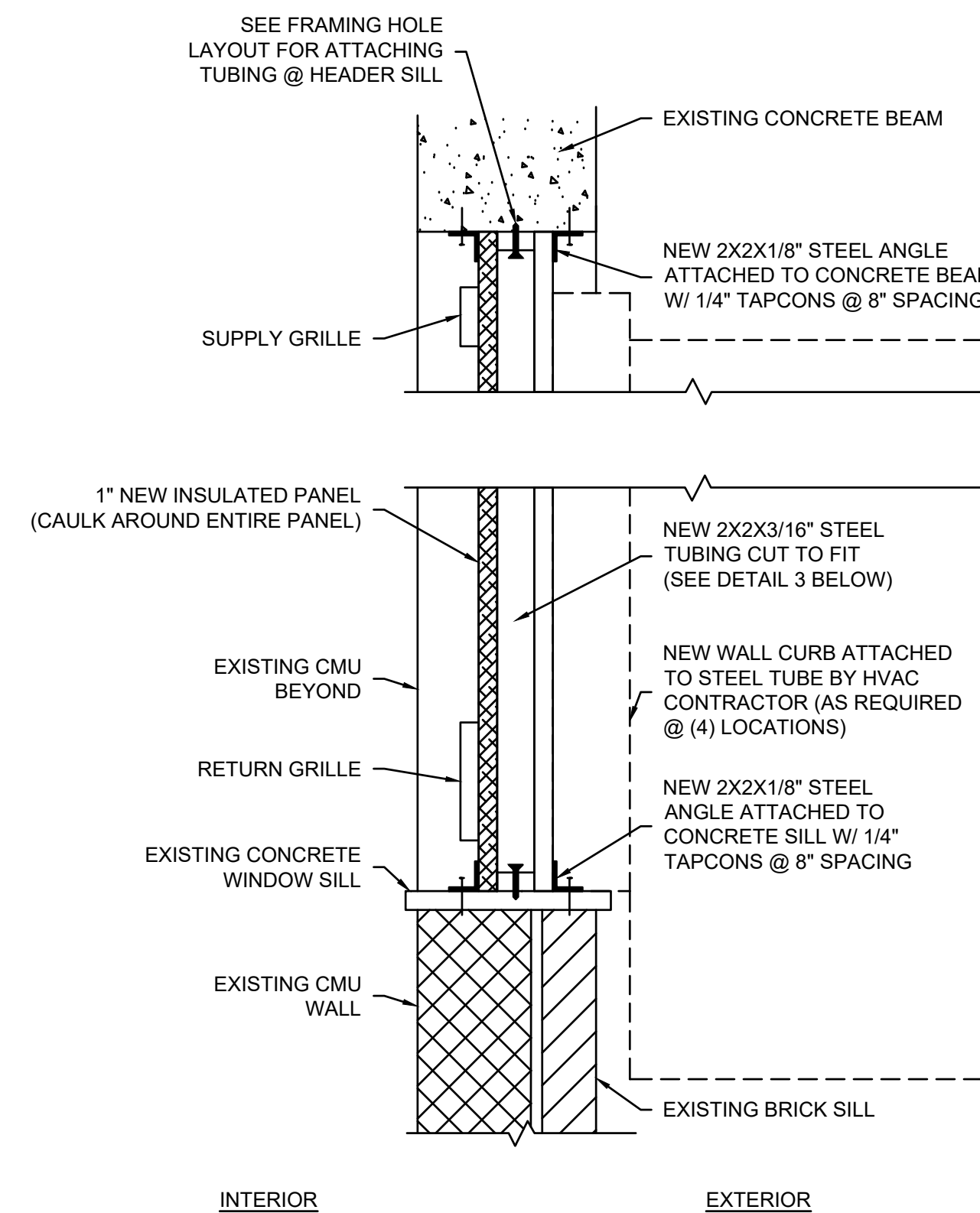
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**2 WINDOW FRAMING DETAIL FOR PTAC UNIT**  
SCALE: 3/4" = 1'-0"



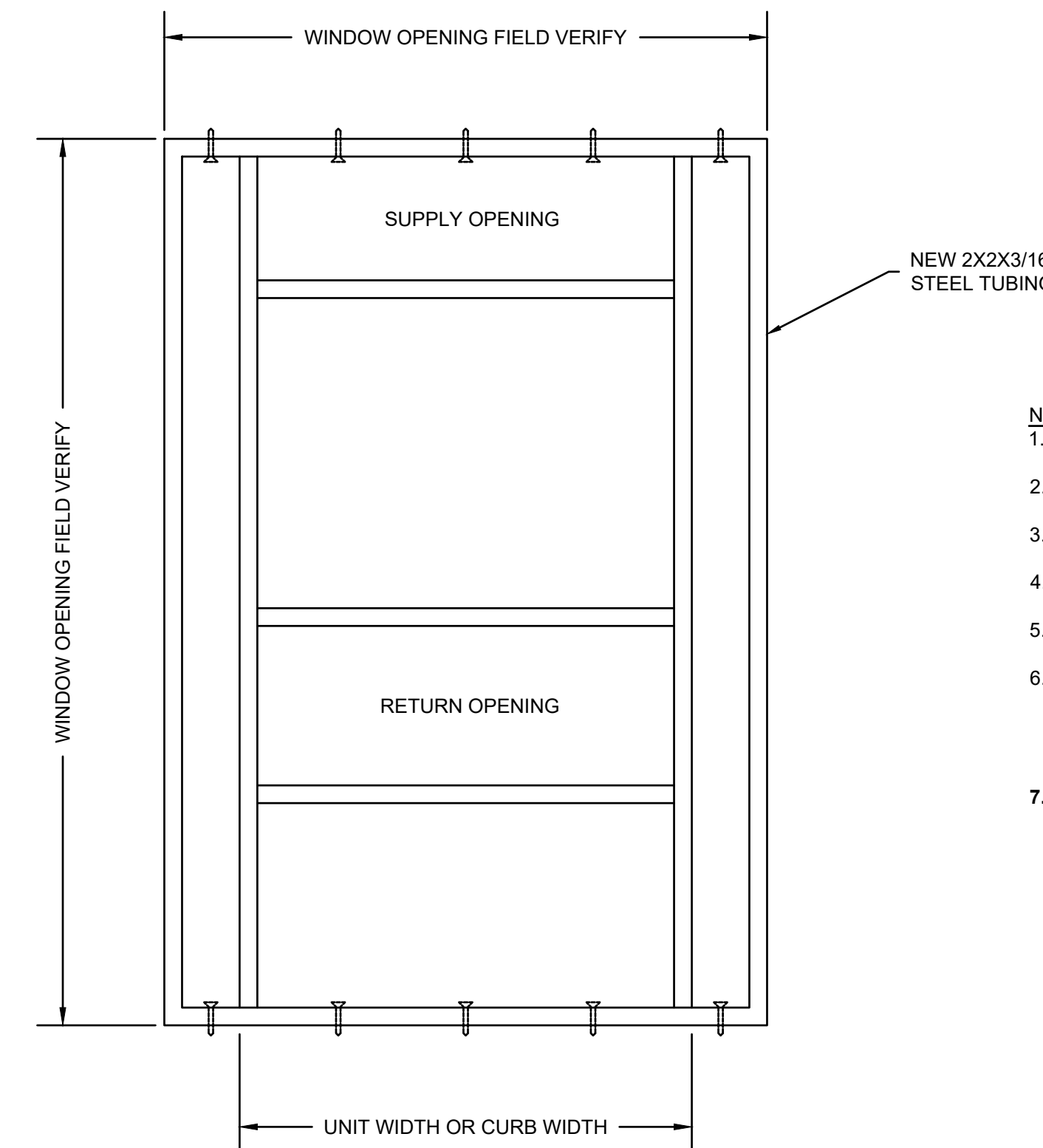
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**3 WINDOW FRAMING DETAIL FOR PTAC UNIT**  
SCALE: 1/2" = 1'-0"



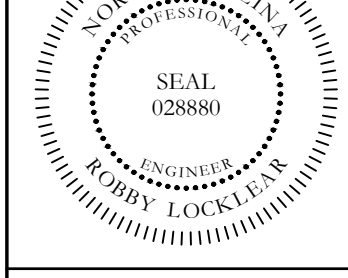
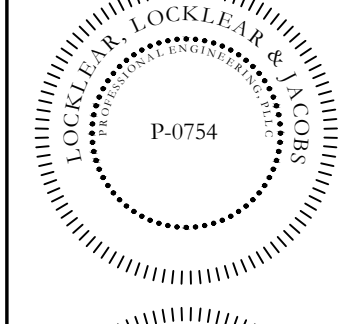
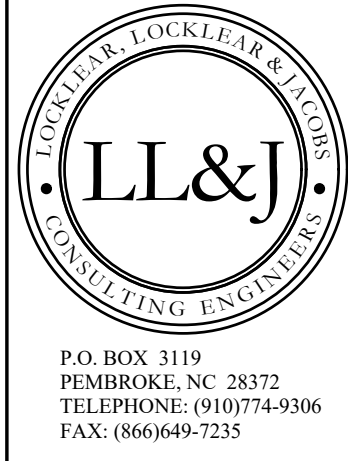
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**4 TYPICAL WINDOW FRAMING DETAIL FOR OUTDOOR UNIT**  
NTS



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  2. CONTRACTOR TO FLASH AROUND ALL SIDES OF WALL MOUNTED HEAT PUMPS.
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  7. COORDINATE W/ MECHANICAL CONTRACTOR ON UNIT SIZE & OPENING REQUIREMENTS (INSTALL PER MANUF.).

**5 TYPICAL OUTDOOR FRAMING DETAIL**  
NTS



**PHASE 1 HVAC REPLACEMENT**  
**RAMSEY STREET HIGH SCHOOL**  
117 QUINCY ST, FAYETTEVILLE, NC 28301

PROJECT INFORMATION:

REV.	DATE	DESCRIPTION
1.		
2.		
3.		
4.		
5.		

DATE: 4-6-2021  
DRAWN BY: CKD  
CHECKED BY: RL  
SHEET TITLE

**WINDOW FRAMING DETAILS**

SHEET NUMBER  
**G-401**  
PROJECT# 20-11022

**MECHANICAL GENERAL NOTES:**

- THE DRAWINGS ARE DIAGRAMMATIC AND SHOW THE GENERAL ARRANGEMENT OF THE VENTILATION AND AIR CONDITIONING SYSTEMS. DETAILS OF CONSTRUCTION AND OF WORKMANSHIP WHERE NOT SPECIFICALLY DESCRIBED HEREIN OR INDICATED ON THE DRAWINGS SHALL BE SUBJECT TO THE ENGINEER'S APPROVAL. IT IS THE INTENT OF THESE SPECIFICATIONS TO PROVIDE COMPLETE SYSTEMS, LEFT IN GOOD WORKING ORDER, READY FOR OPERATION, INCLUDING NECESSARY LABOR AND MATERIALS, WHETHER OR NOT SPECIFICALLY SHOWN ON THE DRAWINGS OR MENTIONED HEREIN. IT IS NOT THE INTENTION OF THESE DRAWINGS TO SHOW ALL NECESSARY OFFSETS, OBSTRUCTIONS OR STRUCTURAL CONDITIONS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO INSTALL HIS WORK IN SUCH A MANNER TO AVOID OBSTRUCTIONS, PRESERVE HEADROOM AND KEEP OPENINGS AND PASSAGEWAYS CLEAR WITHOUT FURTHER COST OR INSTRUCTIONS.
- ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF THE LATEST APPLICABLE CODES AND STANDARDS LISTED BELOW. IN ADDITION THE WORK SHALL COMPLY WITH ANY LOCAL, STATE OR FEDERAL CODES, STANDARDS, AND REGULATIONS, HAVING JURISDICTION IN THE AREA WHERE THE EQUIPMENT OR WORK WILL BE INSTALLED.
 

AABC	AMERICAN AIR BALANCE COUNCIL
AMCA	AIR MOVING AND CONTROL ASSOCIATION, INC.
ANSI	AMERICAN NATIONAL STANDARD INSTITUTE
ARI	AIR CONDITIONING AND REFRIGERATION INSTITUTE
ASHARE	AMERICAN SOCIETY OF HEATING, REFRIGERATION, AND AIR CONDITIONING ENGINEERS
ASME	AMERICAN SOCIETY OF MECHANICAL ENGINEERS
ASTM	AMERICAN SOCIETY OF TESTING AND MATERIALS
NEC	NATIONAL ELECTRICAL CODE
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
SMACNA	SHEET METAL AND AIR CONDITION CONTRACTORS NATIONAL ASSOCIATION
UL	UNDERWRITERS LABORATORY
BOCA	THE BOCA NATIONAL MECHANICAL CODE LATEST EDITION
- ALL EXISTING CONDITIONS ARE NOT COMPLETELY DETAILED ON THE DRAWINGS. CONTRACTOR SHALL VERIFY ALL FIELD DIMENSIONS AND EQUIPMENT LOCATIONS PRIOR TO FABRICATION AND PURCHASE OF NEW EQUIPMENT. (i.e. DIFFUSERS, ETC...)
- THE CONTRACTOR SHALL SURVEY THE SITE AND MAKE ALL NECESSARY CHANGES REQUIRED BASED ON EXISTING CONDITIONS FOR PROPER INSTALLATION OF NEW WORK, AND INCLUDE ALL MATERIALS AND LABOR IN HIS BID PRICE. NO ALLOWANCE WILL BE MADE FOR FAILURE TO DO SO.

- THE CONTRACTOR SHALL EXAMINE THE CONTRACT DOCUMENTS, CONDUCT A COMPLETE FIELD SURVEY TO FAMILIARIZE THEMSELVES WITH ALL THE REQUIREMENTS OF THE PROJECT, AND SHALL NOTIFY THE OWNER/ENGINEER OF ANY OBSERVED FAULTS AND AMBIGUITY IN THE CONTRACT DOCUMENTS.
- BY SUBMISSION OF BID, THE CONTRACTOR SHALL ACKNOWLEDGE ACCEPTANCE OF THE CONTRACT DOCUMENTS AS AN ADEQUATE DEFINITION OF THE SCOPE OF WORK AND EXTRA COST CLAIMS BASED ON INADEQUACY OF CONTRACT DOCUMENTS WILL NOT BE CONSIDERED.
- SUBMISSION OF A PROPOSAL SHALL BE CONSTRUCTED AS EVIDENCE THAT EXAMINATION OF PLANS HAVE BEEN MADE AND THAT THE CONTRACTOR IS FAMILIAR WITH EXISTING CONDITIONS AND DIFFICULTIES THAT WILL AFFECT THE EXECUTION OF THE WORK. LATER CLAIMS SHALL NOT BE MADE FOR LABOR, EQUIPMENT OR MATERIALS REQUIRED BECAUSE OF DIFFICULTIES ENCOUNTERED WHICH COULD HAVE BEEN FORESEEN DURING SUCH AS EXAMINATION.
- ALL APPLICABLE CODES, LAWS AND REGULATIONS GOVERNING OR RELATING TO ANY PORTION OF THIS WORK ARE HEREBY INCORPORATED INTO AND MADE A PART OF THESE SPECIFICATIONS, AND THEIR PROVISIONS SHALL BE CARRIED OUT BY THE CONTRACTOR WHO SHALL INFORM THE OWNER/ENGINEER, PRIOR TO SUBMITTING A PROPOSAL, OF ANY WORK OR MATERIALS WHICH VIOLATE ANY OF THE ABOVE LAWS AND REGULATIONS. ANY WORK DONE BY THE CONTRACTOR CAUSING SUCH VIOLATION SHALL BE CORRECTED BY THE CONTRACTOR. PROVIDE ALL REQUIRED LABOR, MATERIALS, EQUIPMENT, AND SERVICES NECESSARY FOR A COMPLETE AND SAFE INSTALLATION OF HVAC SYSTEMS IN FULL CONFORMITY WITH REQUIREMENTS OF ALL AUTHORITIES HAVING JURISDICTION. INCLUDE ALL COSTS FOR PERMITS, LICENSES, CERTIFICATES, FILING AND INSPECTIONS REQUIRED BY AUTHORITIES HAVING JURISDICTION; AS INDICATED ON DRAWINGS AND/OR HEREIN SPECIFIED FOR THE SYSTEMS INCLUDED.
- WORK SHALL BE INSTALLED IN A NEAT, WORKMANLIKE MANNER. INSTALL WORK SO AS TO BE READILY ACCESSIBLE FOR OPERATION, MAINTENANCE AND REPAIR. MINOR DEVIATIONS FROM DRAWINGS MAY BE MADE TO ACCOMPLISH THIS, BUT CHANGES WHICH INVOLVE EXTRA COST SHALL NOT BE MADE WITHOUT APPROVAL. ALL SYSTEMS SHALL BE CLEAN OF FOREIGN MATERIAL AND ROUGH SPOTS PRIOR TO BEING PLACED IN SERVICE AND BEFORE OPERATIONAL TESTS ARE PERFORMED. THE CONTRACTOR SHALL THOROUGHLY CLEAN HIS WORK AREA DAILY. CONTRACTOR SHALL THOROUGHLY CLEAN ALL AIR HANDLING UNITS AND REPLACE FILTERS, AS WELL AS REMOVE ALL TRASH AT COMPLETION OF WORK.
- INSTALLATION OF ALL EQUIPMENTS AND THIS ACCESSORIES SHALL BE PER MANUFACTURER'S PUBLISHED RECOMMENDATIONS.
- THE CONTRACTOR SHALL FURNISH A WRITTEN GUARANTEE TO REPLACE OR REPAIR PROMPTLY AND ASSUME RESPONSIBILITY FOR ALL EXPENSES INCURRED FOR ANY WORKMANSHIP AND EQUIPMENT IN WHICH DEFECTS DEVELOP WITHIN ONE YEAR FROM THE DATE OF ACCEPTANCE BY OWNER. THIS WORK SHALL BE DONE AS DIRECTED BY THE OWNER. THIS GUARANTEE SHALL ALSO PROVIDE THAT WHERE DEFECTS OCCUR, THE CONTRACTOR WILL ASSUME RESPONSIBILITY FOR ALL EXPENSES INCURRED IN REPAIRING AND REPLACING WORK OF OTHER TRADES AFFECTED BY DEFECTS, REPAIRS OR

- REPLACEMENTS IN EQUIPMENTS SUPPLIED BY THE CONTRACTOR.
- SUPPORT ALL DUCTWORK FROM BUILDING STRUCTURE AND/OR FRAMING IN AN APPROVED MANNER. WHERE OVERHEAD CONSTRUCTION DOES NOT PERMIT FASTENING OF SUPPORTS FOR EQUIPMENT, FURNISH ADDITIONAL FRAMING.
  - FOR EXACT LOCATION OF CEILING DIFFUSERS, GRILLES AND REGISTERS REFER TO REFLECTED CEILING PLAN AND DETAILS. OBTAIN FROM THE ENGINEER THE LOCATION OF ANY APPARATUS NOT DEFINITELY LOCATED ON THE DRAWINGS. LOCATE EQUIPMENT AND ACCESSORIES IN SUCH A MANNER AS TO PROVIDE EASY ACCESS FOR PROPER SERVICE AND MAINTENANCE OF ALL EQUIPMENT AND ITEMS REQUIRING MAINTENANCE.
  - REVIEW WITH THE ENGINEER ANY CONDITION WHICH PREVENT ADEQUATE ACCESSIBILITY FOR MAINTENANCE PRIOR TO INSTALLATION OF THE WORK. ALL EQUIPMENT AND/OR ACCESSORIES THAT ARE INSTALLED WITHOUT PROPER ACCESS, IN THE OPINION OF THE ENGINEER, AND INSTALLED WITHOUT THE ENGINEER'S APPROVAL, SHALL BE REMOVED AND REVISED AS DIRECTED BY THE ENGINEER AT NO ADDITIONAL COST TO OWNER.
  - ALL WALL AND ROOF OPENINGS SHALL BE WATER PROOFED AND AIR TIGHT SEALED AND SHALL BE PROVIDED BY THE MECHANICAL CONTRACTOR.
  - ALL DUCTS SHALL BE FABRICATED OF GALVANIZED LOCK FORMING QUALITY STEEL, AND INSTALLED IN STRICT COMPLIANCE WITH THE NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) BULLETIN 90A, THE SHEET METAL AND AIR CONDITIONING CONTRACTORS AND NATIONAL ASSOCIATION (SMACNA) DUCT CONSTRUCTION STANDARDS. SHEET METAL DUCTS SHALL BE FABRICATED USING THE FOLLOWING MINIMUM GAUGES FOR RECTANGULAR DUCT:
 

DIMENSION OF LONGEST SIDE OF DUCT	MINIMUM GAUGE ALL FOUR SIDES
UP THRU 12"	26 (0.022")
13" THRU 30"	24 (0.028")
31" THRU 54"	22 (0.034")
  - ALL DUCT DIMENSIONS SHOWN ARE INSIDE METAL DIMENSIONS AND ARE IN INCHES. DUCT SIZES HAVE BEEN INCREASED, WHERE REQUIRED, TO ALLOW FOR LINING.
  - MECHANICAL CONTRACTOR SHALL TAKE ACTUAL MEASUREMENTS IN THE FIELD BEFORE FABRICATION AND SHEET METAL WORK AND SHALL OBSERVE AND ALLOW FOR CLEARANCES AND SPACE REQUIREMENTS FOR PIPING AND EQUIPMENT, OR OTHER OBSTRUCTIONS.
  - THE DUCTWORK SHALL INCLUDE FURNISHING AND INSTALLING GALVANIZED SHEET METAL DUCTS, FLEXIBLE CONNECTIONS ROOF/WALL EXHAUST CAP, DUCT SUPPORTERS, REGISTERS, GRILLES, DAMPERS, BRACING AND OTHER ACCESSORIES TO MAKE A COMPLETE AND OPERABLE SYSTEM.
  - PROVIDE SQUARE ELBOWS WITH TURNING VANES, AND SPLITTER DAMPERS IN BRANCHES. ALL TURNING VANES SHALL BE 16-GAUGE SINGLE THICKNESS METAL WITH A 4-INCH RADIUS. DOUBLE WALL TURNING VANES ARE NOT ACCEPTABLE.
  - ALL JOINTS IN DUCTS, CASINGS, AND PLENUMS SHALL BE SEALED TO PREVENT AIR

- LEAKAGE. ALL SEALANT AND TAPES SHALL HAVE A FLAME RATING UNDER 25 AND A SMOKE DEVELOPED BY HARDCAST, INC., UNITED SHEET METAL DUCT SEALER OR APPROVED EQUAL. DUCTWORK TAPE SHALL BE HARDCAST, INC., TYPE DT-5300 OR DT-5400 OR APPROVED EQUAL. TAPE ADHESIVE SHALL BE HARDCAST, INC, TYPE FTA-20, OR APPROVED EQUAL.
- BRANCH TAKE-OFF TO THE CEILING MOUNTED DIFFUSERS, NOT EXCEEDING 8FT. IN LENGTH, SHALL BE BY PRE-INSULATED FLEXIBLE DUCT. FLEXIBLE DUCTS SHALL HAVE A R-5 MINIMUM VALUE AND COVERED WITH AN OUTER VAPOR BARRIER JACKET. FLEXIBLE DUCTS SHALL BE ATTACHED TO SHEET METAL MAIN DUCTS USING SPIN-IN CONICAL BELLMOUTH FITTINGS WITH DAMPERS AND LOCKING QUADRANTS.
  - ALL HVAC PENETRATIONS THROUGH FIRE RATED WALLS AND CEILING SHALL BE PROTECTED WITH FIRE DAMPERS, CLASSIFIED UNDER UL STANDARD 555.
  - A FLEXIBLE CONNECTION AT THE INLET AND OUTLET OF EACH FAN AND AIR CONDITIONING EQUIPMENT SHALL BE PROVIDED. CONNECTION SHALL BE VENTLAS (VENTFABRIC, INC.) OR APPROVED EQUAL, NOT LESS THAN 4 INCHES LONG. INSTALL IN ANGLE OR SHEET METAL FRAMES SECURELY FASTENED TO DUCTS AND EQUIPMENT. JOINTS IN FABRIC SHALL BE SEWN AND MADE AIRTIGHT WITH AN APPROVED SEALER.
  - ACCESS DOORS SHALL BE PROVIDED AT EACH FIRE DAMPER LOCATION. ACCESS DOORS SHALL BE RUSKIN (OR APPROVED EQUAL).
  - FURNISH AND INSTALL FULL SIZE COIL CONDENSATE DRAIN LINES FROM ALL AIR CONDITIONING UNITS AS INDICATED ON THE MECHANICAL DRAWINGS AND APPROVED BY THE ENGINEER. PIPE SHALL BE PVC.
  - MECHANICAL CONTRACTOR SHALL FURNISH SUBMITTALS CONTAINING EQUIPMENT, DUCTWORK AND CONTROL DRAWINGS FOR APPROVAL PRIOR TO ORDERING ANY EQUIPMENT, OR MATERIAL.
  - DUCT INSULATION - ALL SUPPLY AND RETURN DUCT LOCATED OUTSIDE THE BUILDING SHALL BE INSULATED EXTERNALLY USING R-8 MIN. DUCT WRAP INSULATION.
  - ALL NECESSARY OFFSETS AND ELEVATION CHANGES ARE NOT SHOWN ON THE DRAWINGS. CONTRACTOR TO REFLECT/COORDINATE THE REQUIRED RISE/DROPS WITH FIELD CONDITIONS.
  - ALL DUCTWORK SHALL BE RUN CONCEALED ABOVE CEILINGS.
  - ALL WORK SHALL BE PERFORMED BY EXPERIENCED AND SKILLED CRAFTSMEN.
  - THE MECHANICAL CONTRACTOR SHALL PROVIDE ALL OPENINGS REQUIRED FOR THE REQUIRED PLUMBING WORK FOR HVAC EQUIPMENT AND SHALL INSTALL FIRE RATED SLEEVES WHEREVER PENETRATIONS OF RATED WALLS OR FLOORS ARE MADE. THE PATCHING REQUIRED FOR HVAC WORK SHALL BE BY THE MECHANICAL CONTRACTOR. THE MECHANICAL CONTRACTOR SHALL REVIEW ALL UTILITY SITE PLANS AND CIVIL SITE PLANS FOR WORK BY OTHERS.
  - CONTRACTOR TO FLASH AROUND ALL SIDES OF WALL MOUNTED HEAT PUMPS.
  - CONTRACTOR TO INSTALL DUCT SLEEVE FROM SUPPLY/ RETURN NECK TO GRILLE FOR OUTDOOR UNITS.

HEAT PUMP SCHEDULE																												
Unit Name	Unit Room	Unit Qty	Unit Model	Power Volts	EER1	EER	IPLV	Phase	MCA	MOCP	WireSize	Air Flow	Electric Heat kW	Cooling Capacity	Sensible Cooling Capacity	Outside DB	Entering DB	Return Air DB	Entering WB	Return Air WB	Dehumid Air Flow	Dehumid Latent	Dehumid Pounds Water	Heating Cap	Heating Cap Input	Weight	Unit Model - Complete	
				Volts	EER	EER	IPLV	Phase	Amps	Amps		cfm	kW	Btuh	Btuh	°F	°F	°F	°F	°F	cfm	Btuh	lb	Btuh	Btuh	lb		
WMHP-1	DINING	1	T48S1DB	208/230	15.60	11.00	15	3	55	60	6	1550	9	46,500	36,000	95.0	80.0	80.0	67.0	67.0	1550	25,278	24.00	23,300	0	560	T48S1DB09RP4XXX	
WMHP-2	DINING	1	T48S1DB	208/230	15.60	11.00	15	3	55	60	6	1550	9	46,500	36,000	95.0	80.0	80.0	67.0	67.0	1550	25,278	24.00	23,300	0	560	T48S1DB09RP4XXX	

- NOTES:**
- APPROVED EQUALS MAY BE USED FOR ALL LISTED EQUIPMENT BASED ON PRE-APPROVAL OF SUBMITTAL 10 DAYS PRIOR TO BID.
  - ALL WALL MOUNTED HEAT PUMPS TO BE EQUIPPED WITH CONTROLLER THAT PROVIDES THERMOSTAT, DEHUMIDISTAT, CO<sub>2</sub> SENSOR, OCCUPANCY SENSOR & BACNET CAPABLE.
  - ERV'S TO OPERATE BASED ON CO<sub>2</sub> SENSORS.
  - WMHP-2 TO REQUIRE WALL CURB.
  - ALL WALL MOUNTED UNITS TO BE 2 STAGE COMPRESSORS COOLING AND HEATING.
  - ALL WALL MOUNTED UNITS TO HAVE ECM BLOWER MOTORS, ADJUST TO STAGING AND MODE OF OPERATION.
  - ALL WALL MOUNTED UNITS TO HAVE 5-YEAR PARTS AND COMPRESSOR WARRANTY.
  - PROVIDE FACTORY STARTUP ON ALL WALL MOUNTED UNITS.

MECHANICAL SUMMARY	
MECH. SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT	
Thermal Zone	
winter dry bulb:	21°F
summer dry bulb:	92°F
Interior design conditions	
winter dry bulb:	70°F
summer dry bulb:	75°F
relative humidity:	55 %
Building heating load:	180,000 BTU/HR
Building cooling load:	360,000 BTU/HR
Mechanical Spacing Conditioning System	
Unitary	
description of unit:	WALL-MOUNTED HEAT PUMPS AND PTAC'S
heating efficiency:	SEE MECHANICAL EQUIPMENT SCHEDULES
cooling efficiency:	SEE MECHANICAL EQUIPMENT SCHEDULES
size category of unit:	SEE MECHANICAL EQUIPMENT SCHEDULES
Boiler	
Size category. If oversized, state reason:	N/A
Chiller	
Size category. If oversized, state reason:	N/A
List equipment efficiencies:	SEE MECHANICAL EQUIPMENT SCHEDULES

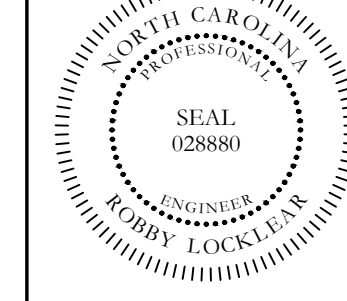
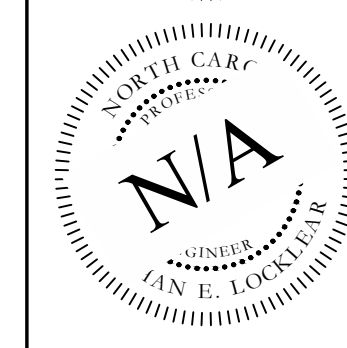
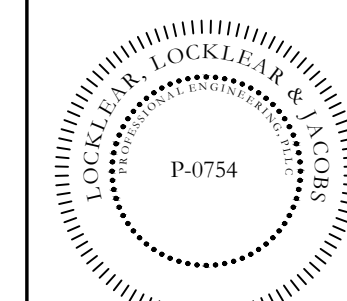
PTAC EQUIPMENT SCHEDULE										
TAG	AMANA MODEL #	DESCRIPTION	VOLT, φ, Hz	MCA	MOCP	NOMINAL CFM	COOLING CAPACITY (BTU/HR)	HEAT STRIPS (KW)	EER	OUTSIDE AIR CFM
PTAC-1	PTH153G35V	PTAC UNIT	208, 1, 60	14.1	20	410	15,000	3.5	9.7	95

- NOTES:**
- INCLUDE CONDENSATE DRAIN KIT.
  - INCLUDE WALL SLEEVE.
  - INCLUDE ARCHITECTURAL ALUMINUM OUTDOOR GRILLE.
  - INCLUDE FACTORY INSTALLED POWER VENT KIT.
  - INCLUDE GPS-FC-3-BAS BIPOLAR IONIZATION DEVICE OR APPROVED EQUAL.
  - INCLUDE DIVERSITECH MODEL ACB-30 MOUNTING BRACKET.

UNIT HEATER SCHEDULE											
PRODUCT TAG	MANUFACTURER	MODEL NUMBER	WATTS	BREAKER	VOLTS	PHASE	TEMP RISE	AIR THROW	CFM	WT (LBS)	ACCESSORIES
UH-1	TPI CORPORATION	HF5605T	3750	25A	208	1	43°F	16'	275	32	INCLUDE OPTIONAL, INTEGRAL THERMOSTAT

- NOTE:**
- APPROVED EQUALS MAY BE USED FOR LISTED EQUIPMENT.

DRAWING INDEX			
SHEET	SHEET TITLE	REV #	DATE
M-100	MECHANICAL NOTES AND SCHEDULES	-	
M-200	MECHANICAL DEMO PLAN	-	
M-300	MECHANICAL PLAN	-	
M-400	MECHANICAL DETAILS	-	



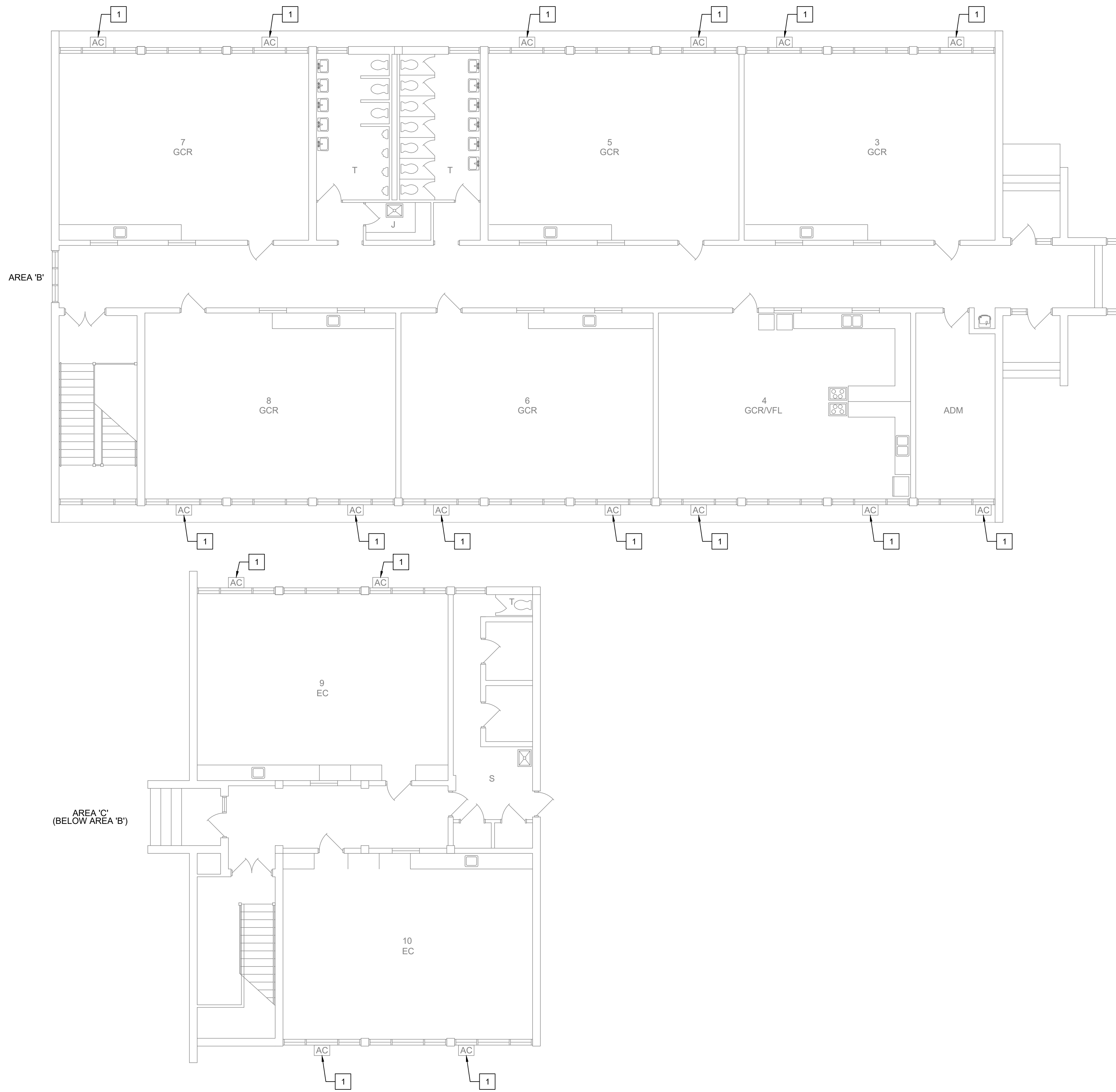
PROJECT INFORMATION:  
**PHASE 1 HVAC REPLACEMENT**  
**RAMSEY STREET HIGH SCHOOL**  
 117 QUINCY ST, FAYETTEVILLE, NC 28301

REV#	DATE	DESCRIPTION
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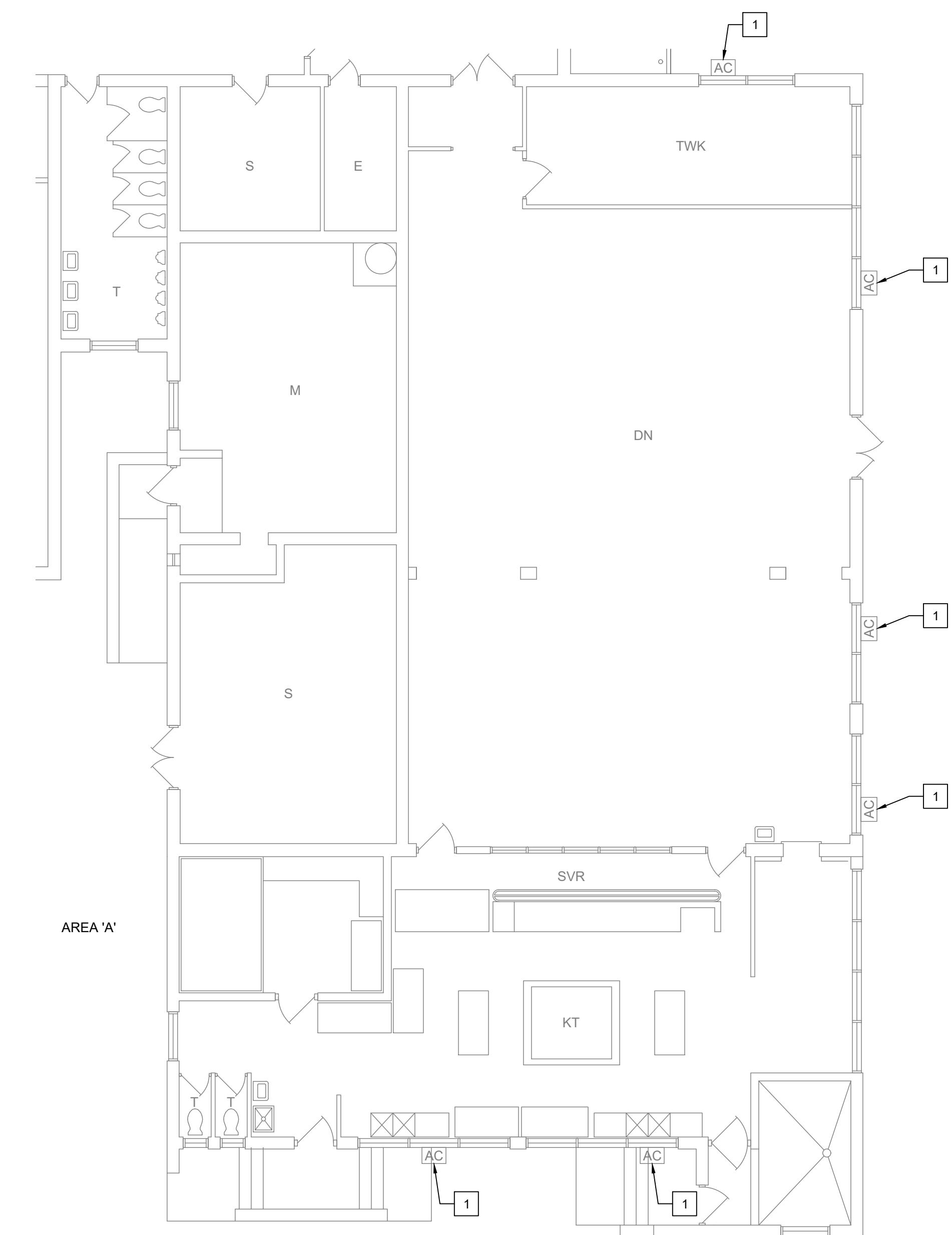
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 DRAWN BY: CKD  
 CHECKED BY: RL  
 SHEET TITLE

MECHANICAL NOTES AND SCHEDULES

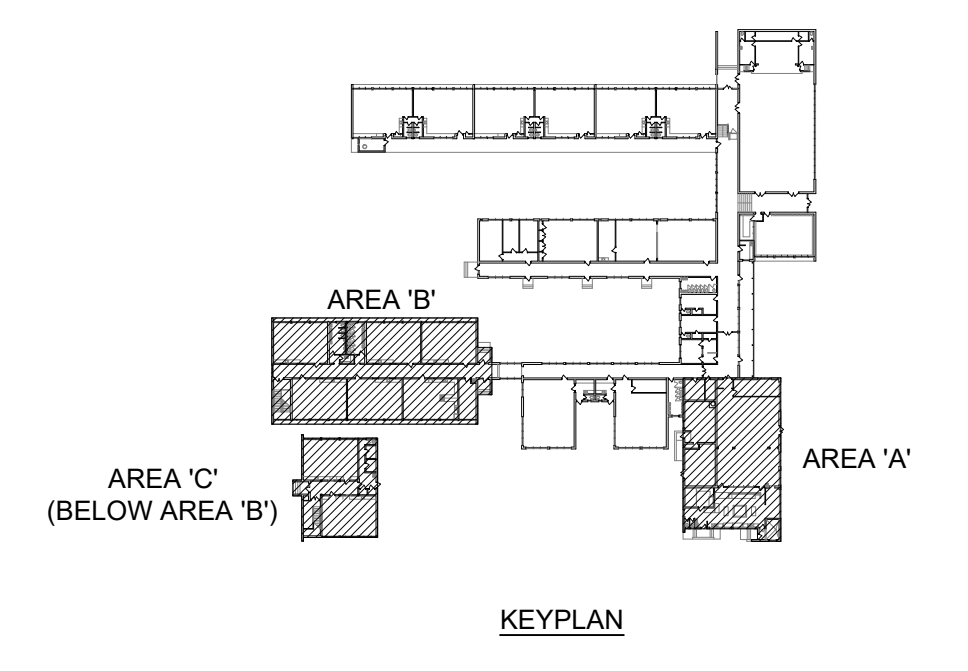
SHEET NUMBER  
**M-100**  
 PROJECT# 20-11022



**1 PARTIAL MECHANICAL DEMO PLAN**  
SCALE: 1/8" = 1'-0"



**2 PARTIAL MECHANICAL DEMO PLAN**  
SCALE: 1/8" = 1'-0"



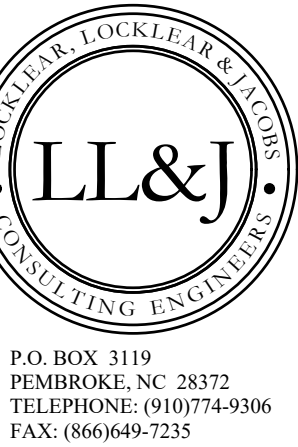
**NOTE:**

1. PLACE AC UNITS IN OUTSIDE AREA DESIGNATED BY OWNER. OWNER RESPONSIBLE FOR PICKING UP AC UNITS.

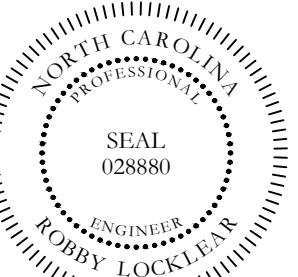
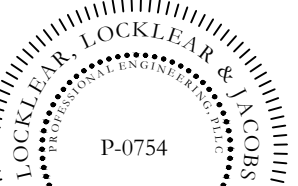
**KEY DEMO NOTE:**

- 1 DEMO EXISTING WINDOW AC UNIT.

LEGEND	
SYMBOL	DESCRIPTION
1	AC WINDOW UNIT



P.O. BOX 3119  
PEMBROKE, NC 28372  
TELEPHONE: (910)774-9306  
FAX: (866)649-7235



**PROJECT INFORMATION:**  
**PHASE 1 HVAC REPLACEMENT**  
**RAMSEY STREET HIGH SCHOOL**  
117 QUINCY ST., FAYETTEVILLE, NC 28301

REV.	DATE	DESCRIPTION
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DATE: 4-6-2021  
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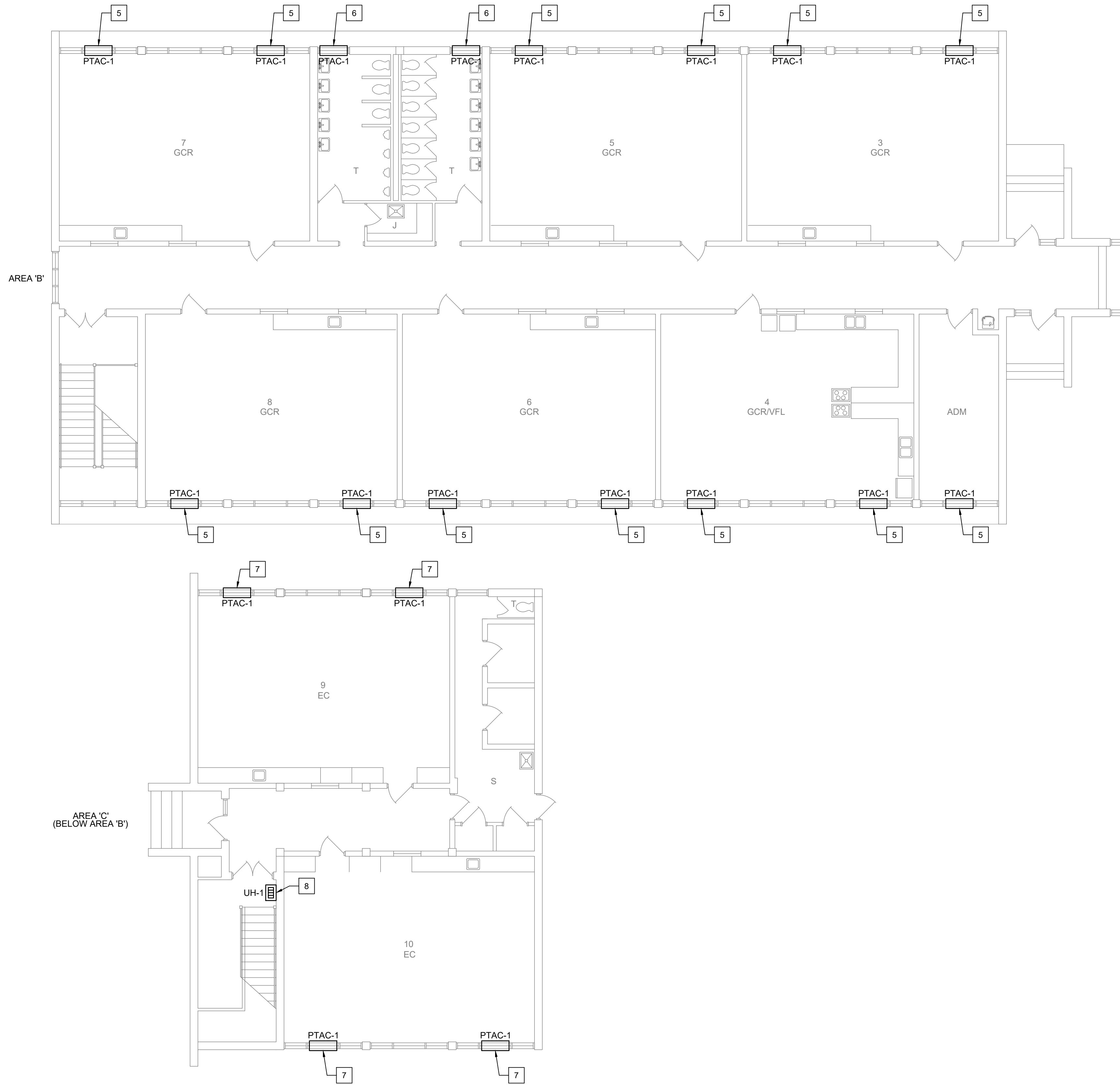
**MECHANICAL DEMO PLAN**

SHEET NUMBER  
**M-200**

PROJECT# 20-11022

**BID SET**  
4-6-2021





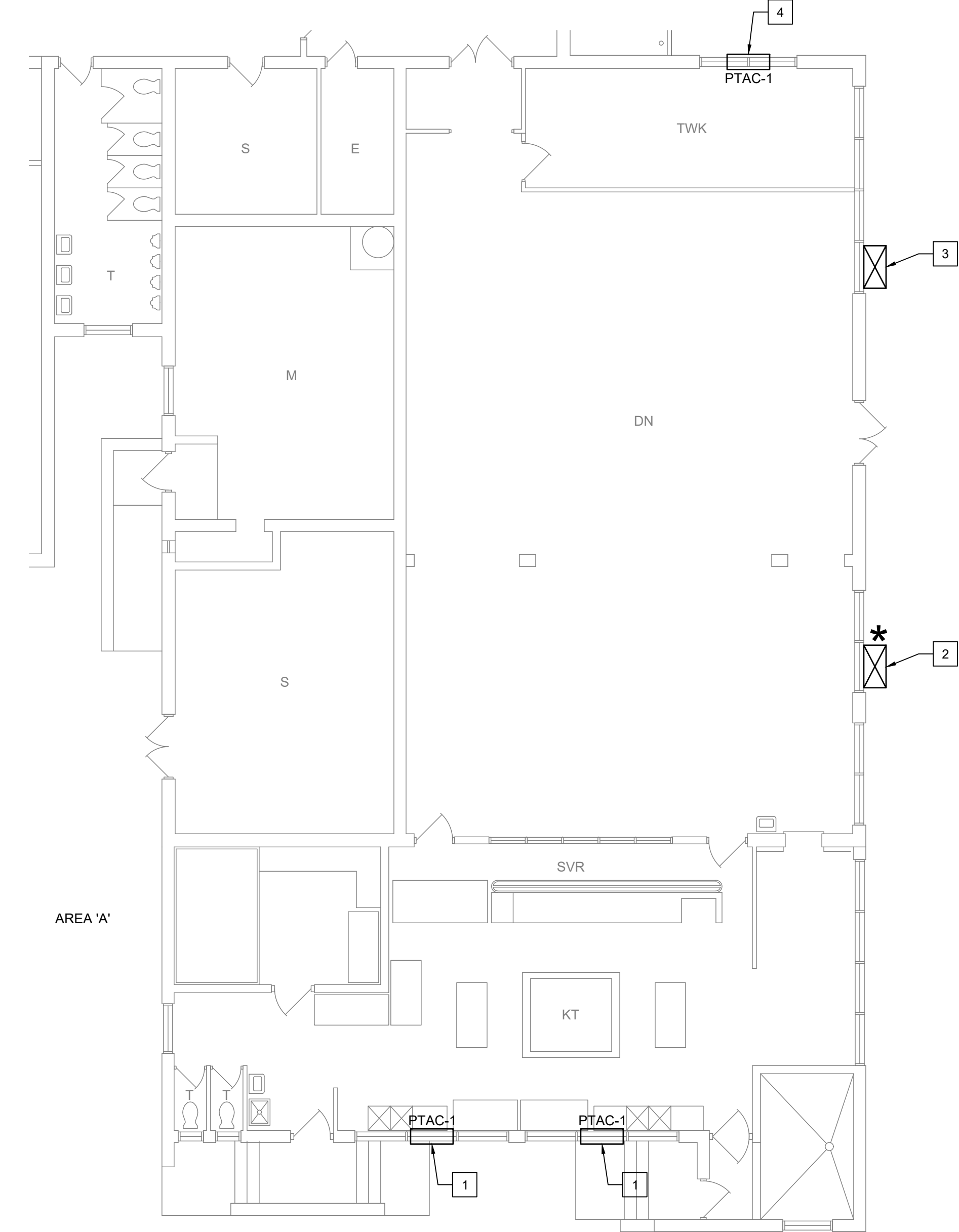
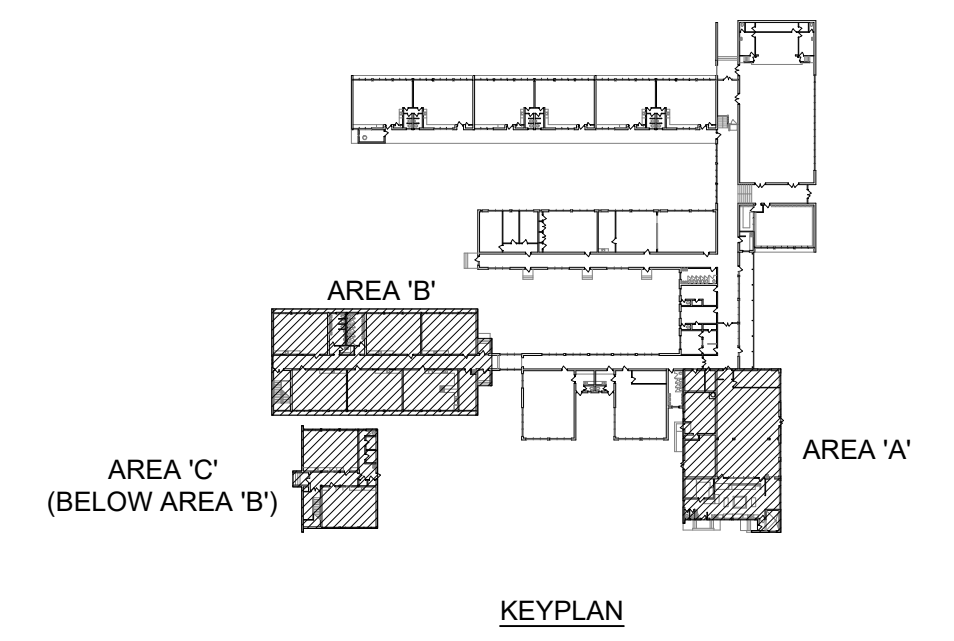
**1 PARTIAL MECHANICAL PLAN**  
SCALE: 1/8" = 1'-0"

**NOTES:**

1. FLASH AROUND ALL SIDES OF OUTDOOR WALL MOUNTED HEAT PUMP.
2. INSTALL DUCT SLEEVE FROM SUPPLY/RETURN NECK TO GRILLE FOR OUTDOOR WALL MOUNTED UNIT.
3. INSTALL STEEL TUBE FRAMING 2"x2"x1/16" MIN. FOR ALL WALL MOUNTED HEAT PUMPS.
4. INSTALL 1" INSULATED PANEL OUTSIDE AND 1" INSULATED PANEL INSIDE AROUND WALL MOUNTED HEAT PUMPS W/ WHITE FRP TEXTURED FINISHED BOTH SIDES (SEE DETAILS ON SHEET G-401).

**KEY NOTES:**

1. INSTALL NEW PTAC. SEE PTAC SCHEDULE ON SHEET M-100 AND DETAIL 1 ON SHEET G-400.
2. INSTALL NEW WALL MOUNTED HEAT PUMP. SEE HEAT PUMP SCHEDULE ON SHEET M-100 AND DETAIL 3 ON SHEET G-400. SEE DETAILS ON SHEET M-400.
3. INSTALL NEW WALL MOUNTED HEAT PUMP. SEE HEAT PUMP SCHEDULE ON SHEET M-100 AND DETAIL 4 ON SHEET G-400. SEE DETAILS ON SHEET M-400.
4. INSTALL NEW PTAC. SEE PTAC SCHEDULE ON SHEET M-100 AND DETAIL 5 ON SHEET G-400.
5. INSTALL NEW PTAC. SEE PTAC SCHEDULE ON SHEET M-100 AND DETAIL 1 ON SHEET G-401.
6. INSTALL NEW PTAC. SEE PTAC SCHEDULE ON SHEET M-100 AND DETAIL 2 ON SHEET G-401.
7. INSTALL NEW PTAC. SEE PTAC SCHEDULE ON SHEET M-100 AND DETAIL 3 ON SHEET G-401.
8. INSTALL NEW UNIT WALL HEATER (INCLUDING CONTROLS, WIRING, ETC REQUIRED FOR A COMPLETE OPERATIONAL SYSTEM). SEE UNIT HEATER SCHEDULE ON SHEET M-100 AND DETAIL 4 ON SHEET M-400. COORDINATE LOCATION W/ CUMBERLAND COUNTY SCHOOLS.



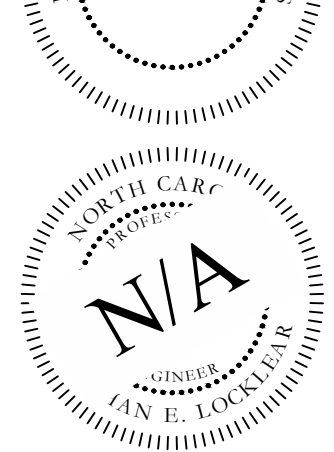
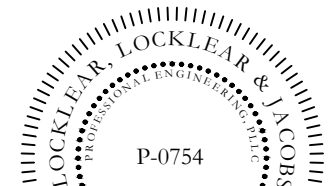
**2 PARTIAL MECHANICAL PLAN**  
SCALE: 1/8" = 1'-0"

LEGEND	
SYMBOL	DESCRIPTION
PTAC-1	WINDOW MTD. PACKAGED TERMINAL AC UNIT
	WALL MTD. HEAT PUMP
	UNIT WALL HEATER

**\* = REQUIRES WALL CURB**



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**PHASE 1 HVAC REPLACEMENT**  
**RAMSEY STREET HIGH SCHOOL**  
117 QUINCY ST, FAYETTEVILLE, NC 28301

PROJECT INFORMATION:

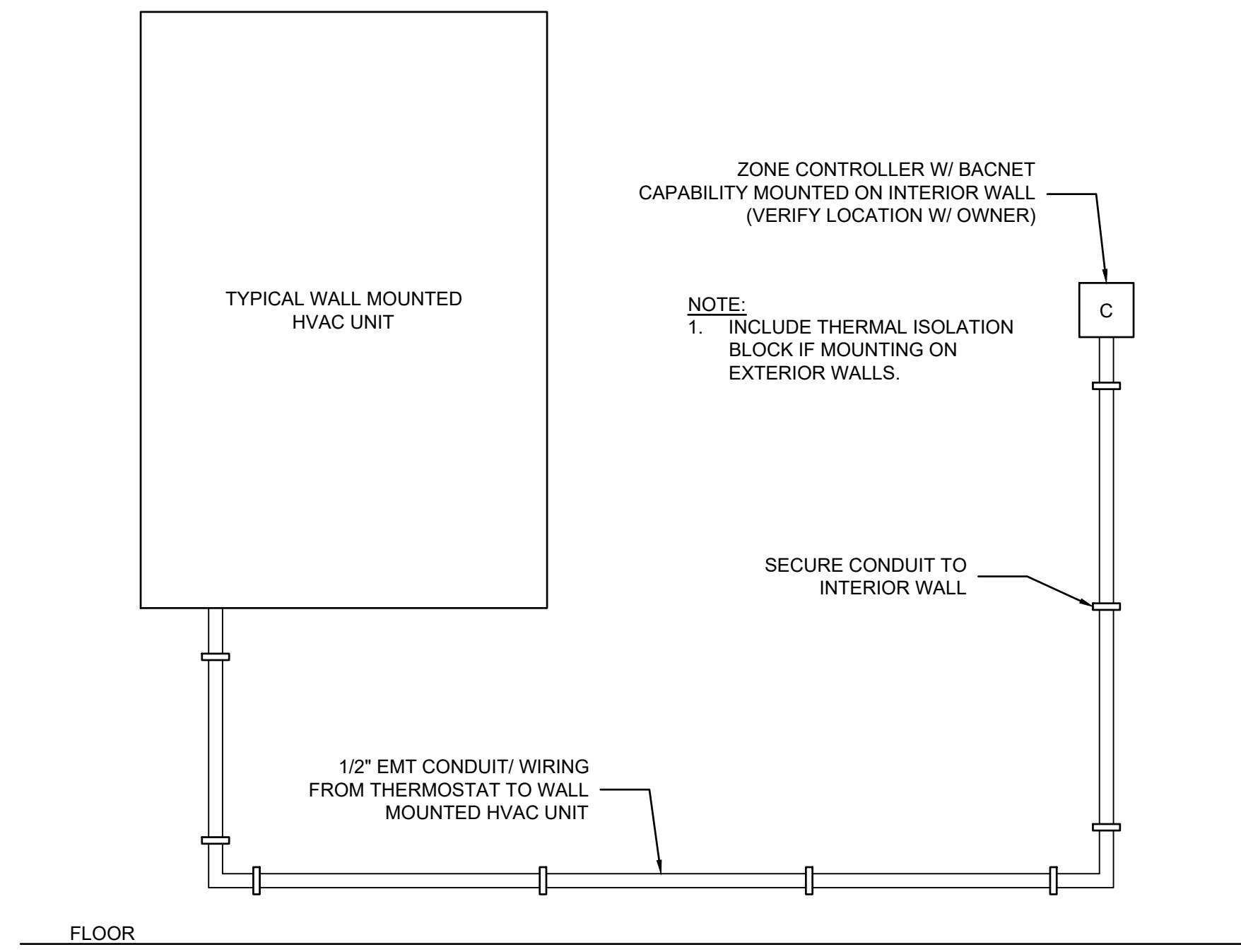
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DATE: 4-6-2021  
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CHECKED BY: RL  
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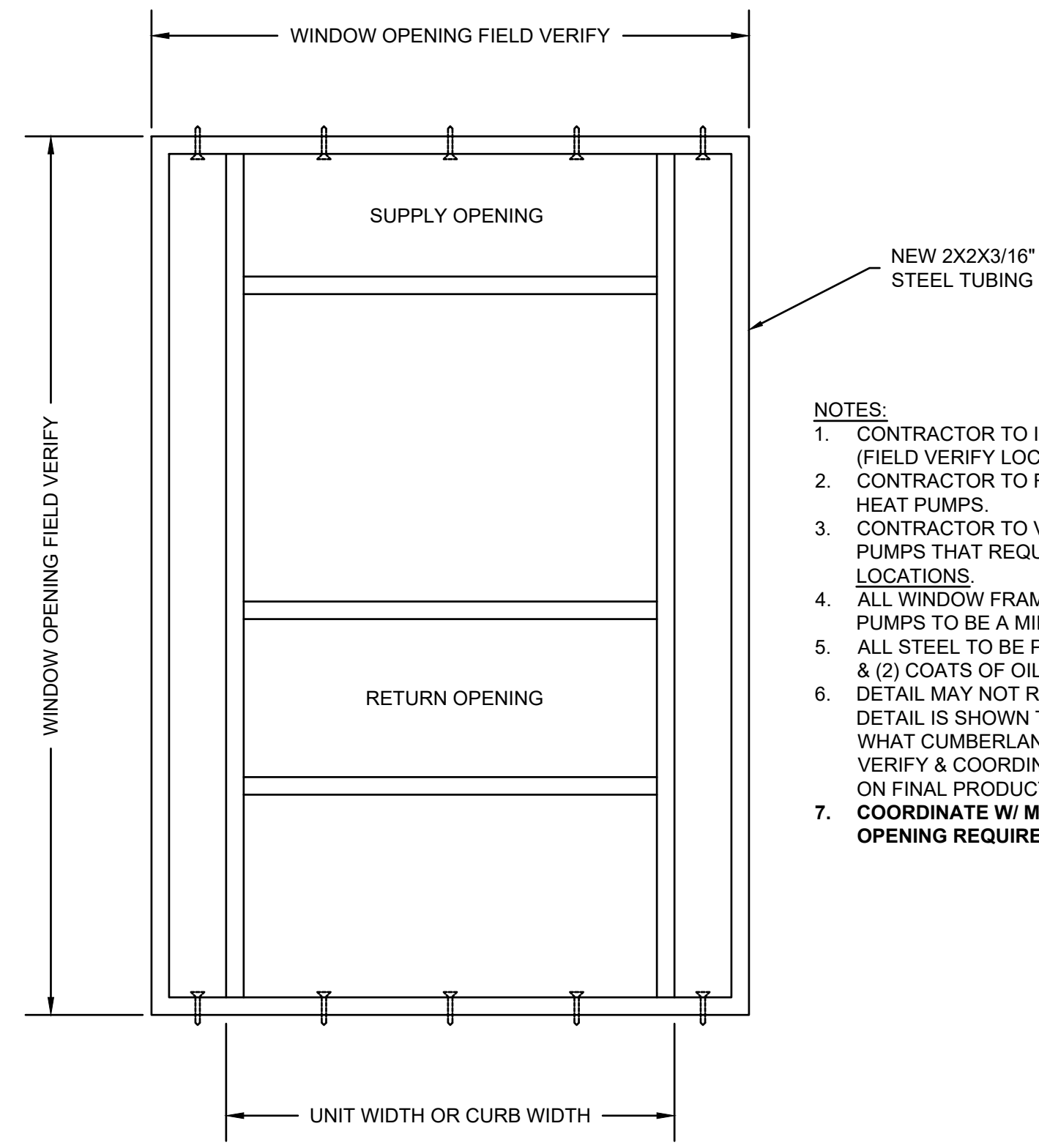
**MECHANICAL PLAN**

SHEET NUMBER  
**M-300**

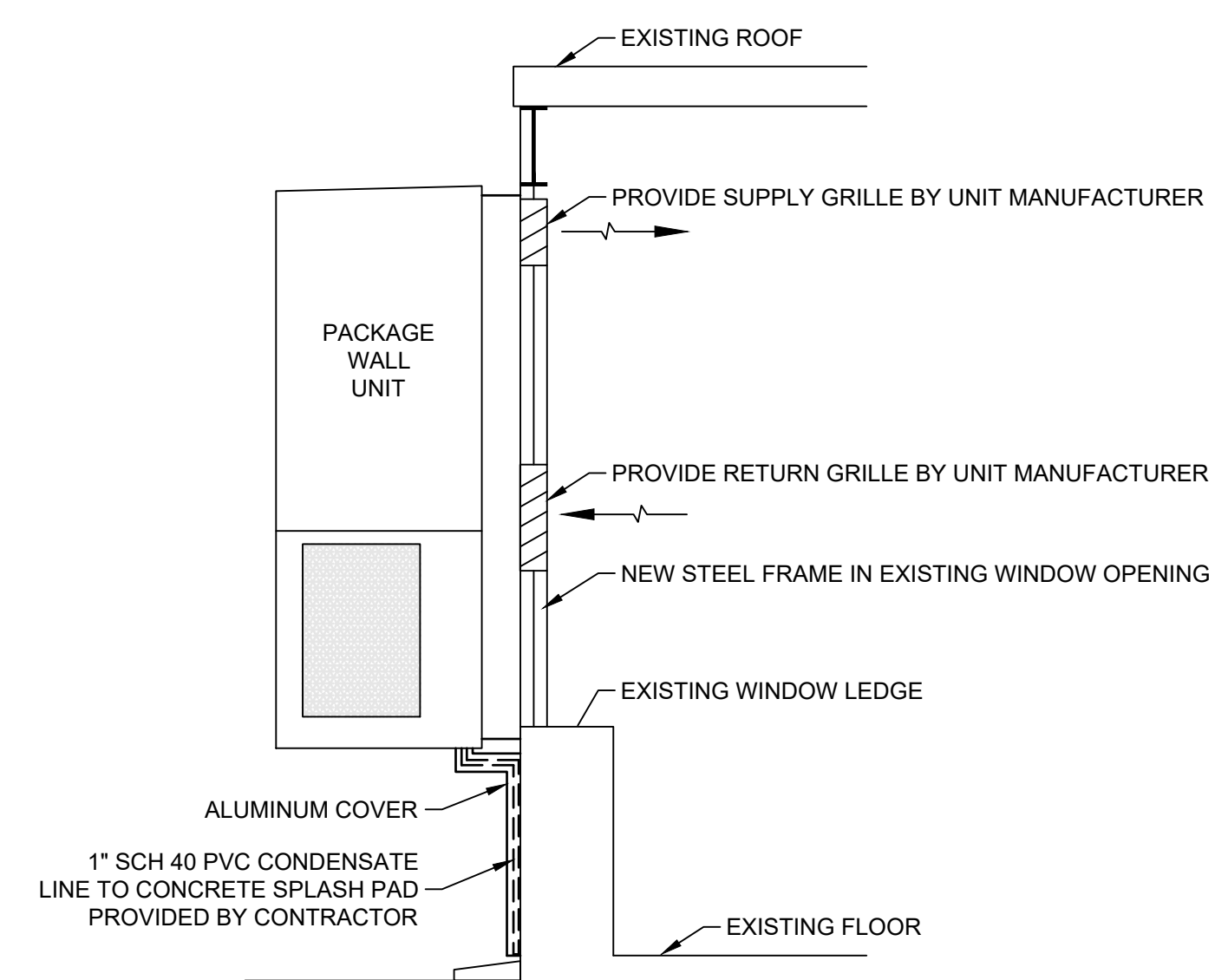
PROJECT# 20-11022



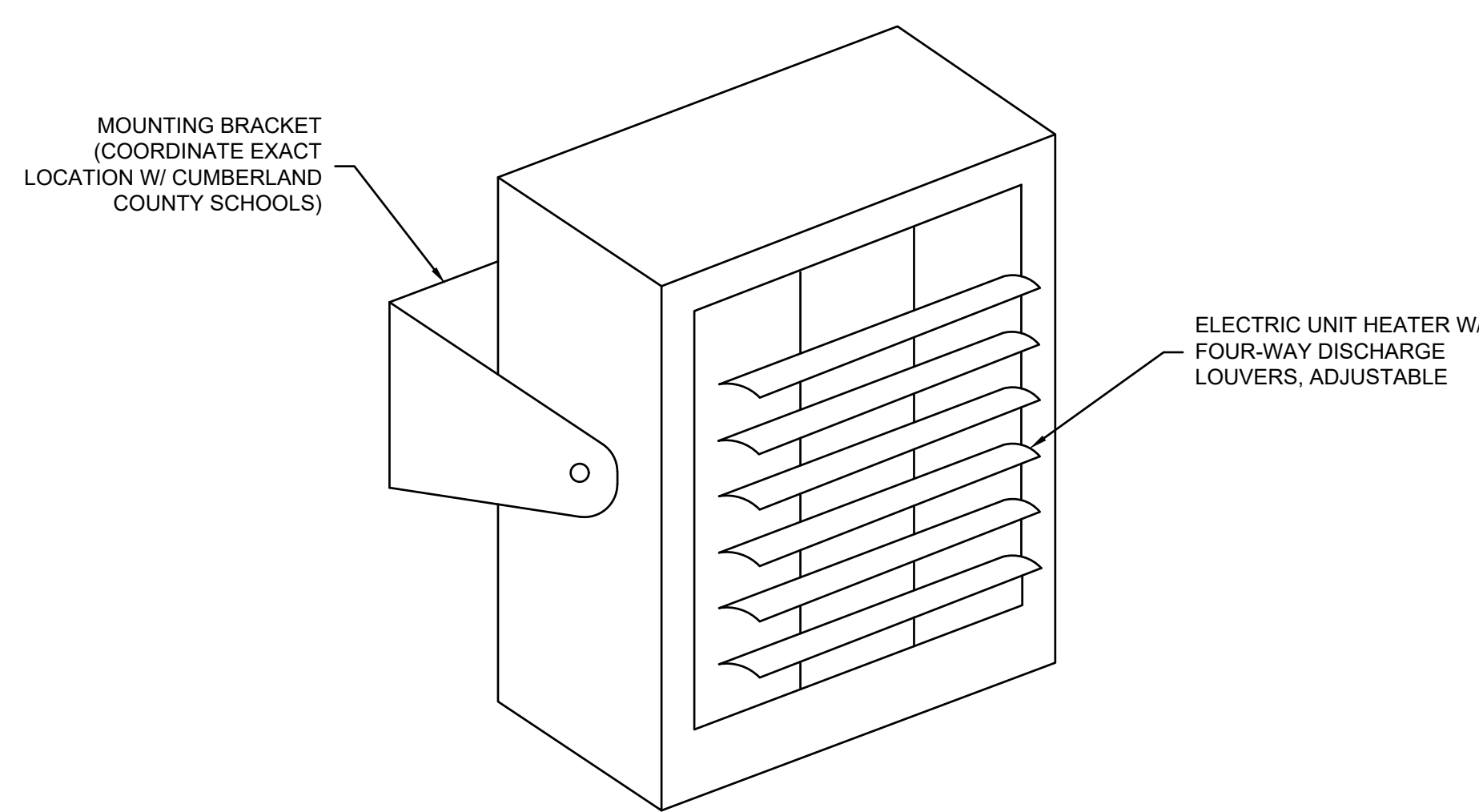
1 TYPICAL WALL MTD. UNIT CONTROLLER DETAIL  
NTS



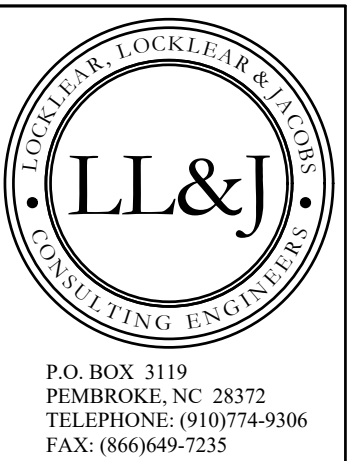
2 TYPICAL OUTDOOR FRAMING DETAIL  
NTS



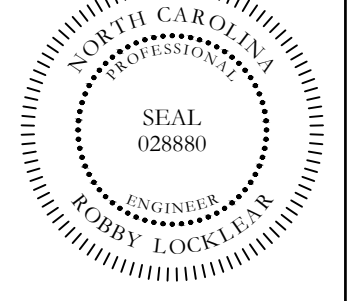
3 WALL MOUNTED HEAT PUMP W/ CURB DETAIL  
NTS



4 TYPICAL UNIT WALL HEATER DETAIL  
NTS



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PROJECT INFORMATION:  
**PHASE 1 HVAC REPLACEMENT**  
**RAMSEY STREET HIGH SCHOOL**  
117 QUINCY ST, FAYETTEVILLE, NC 28301

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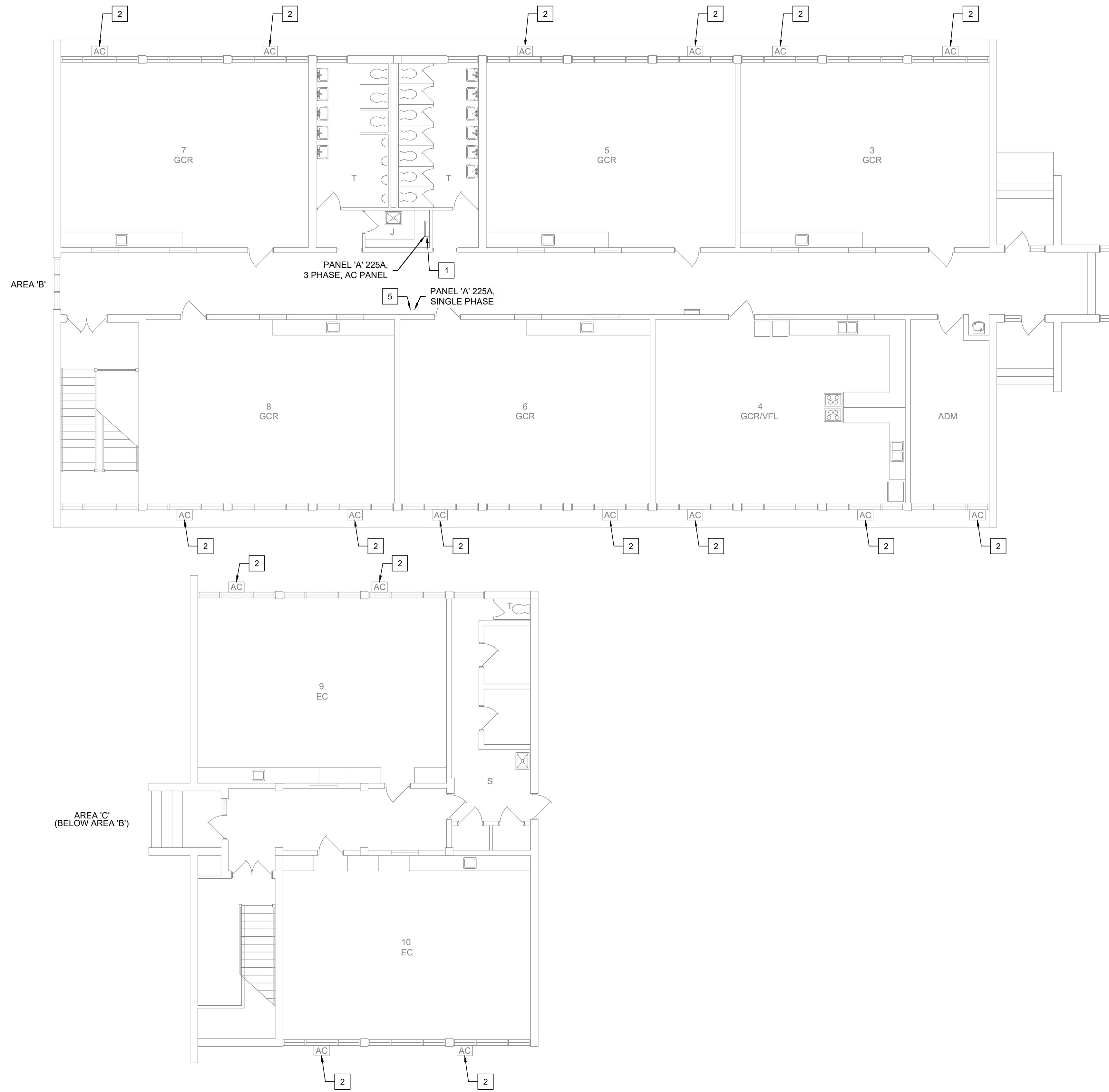
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DRAWN BY: CKD  
CHECKED BY: RL  
SHEET TITLE

MECHANICAL  
DETAILS

SHEET NUMBER  
**M-400**

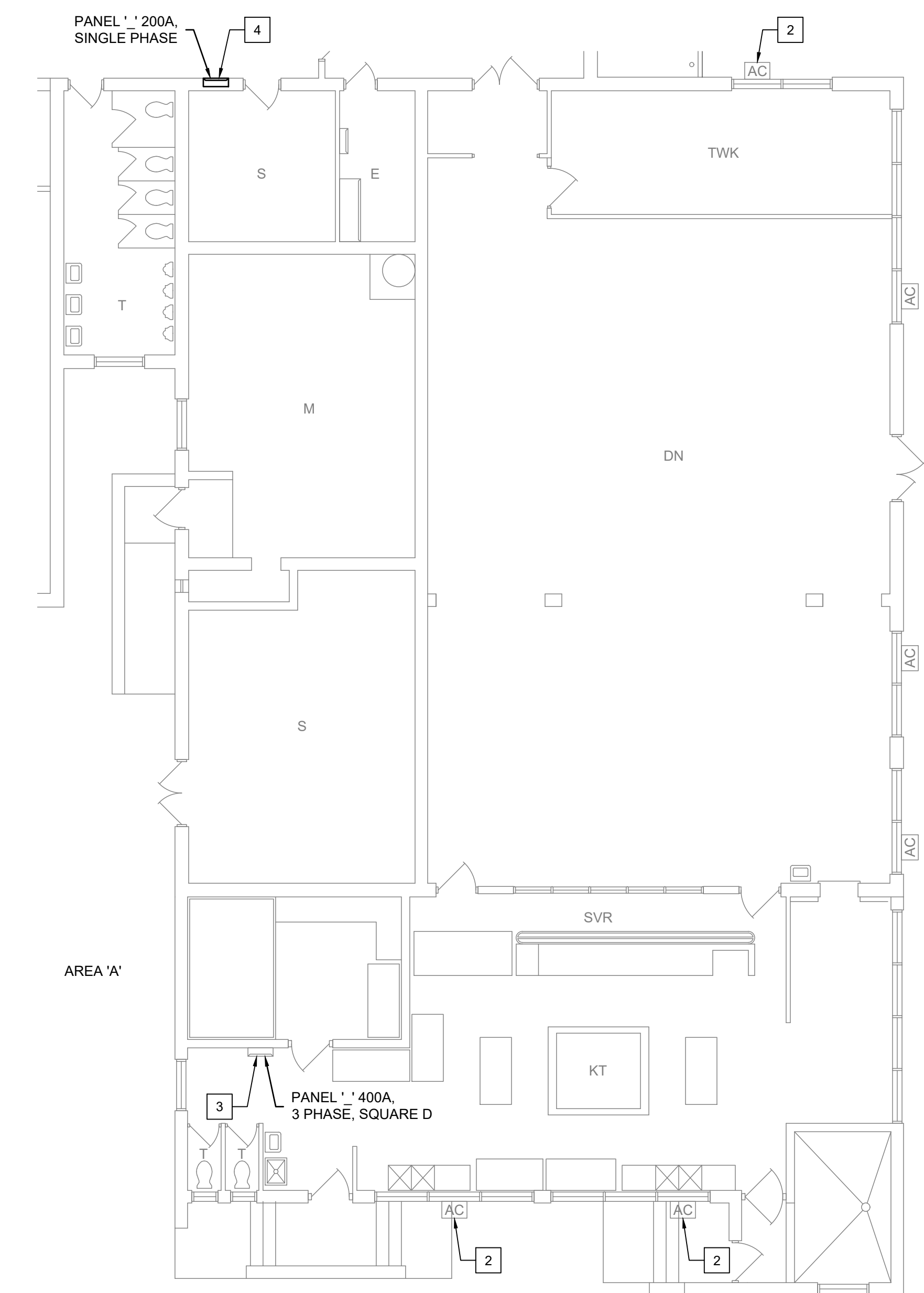
PROJECT# 20-11022





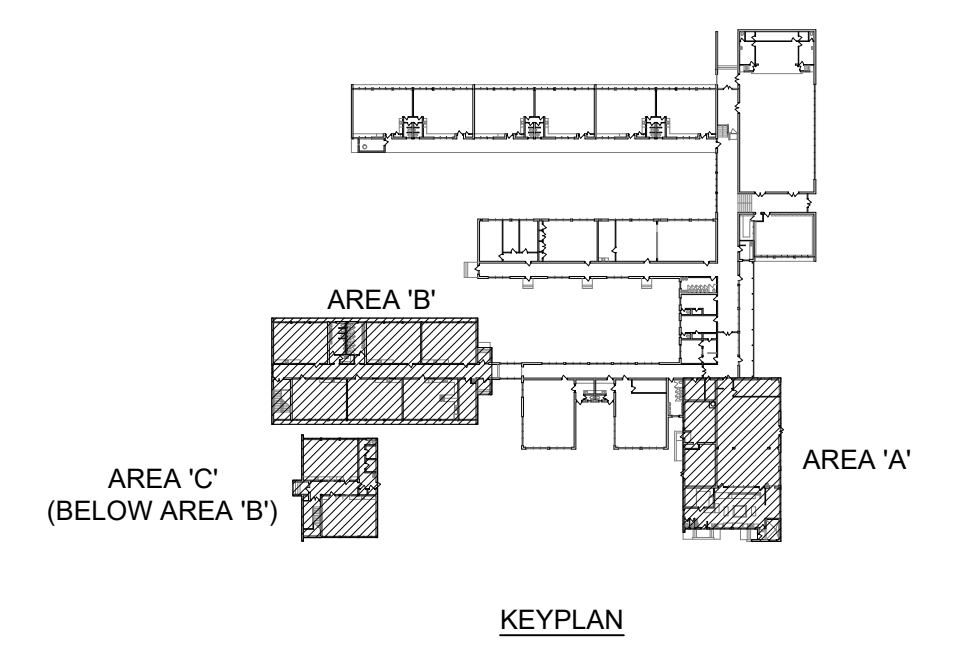
**1 PARTIAL ELECTRICAL DEMO PLAN**  
SCALE: 1/8" = 1'-0"

- KEY DEMO NOTES:**
- 1 DEMO 225A, 3 PHASE, PANEL 'A' (NEW PANEL TO BE INSTALLED IN ITS PLACE, CIRCUITS TO BE RECONNECTED).
  - 2 DEMO AC WINDOW UNIT RECEPTACLE.
  - 3 DEMO CIRCUIT BREAKER 31/33 AND 35/37.
  - 4 DEMO 200A, SINGLE PHASE, PANEL 'L' (NEW PANEL TO BE INSTALLED IN ITS PLACE, CIRCUITS TO BE RECONNECTED).
  - 5 DEMO 225A, SINGLE PHASE, PANEL 'A' (NEW PANEL TO BE INSTALLED IN ITS PLACE, CIRCUITS TO BE RECONNECTED).



**2 PARTIAL ELECTRICAL DEMO PLAN**  
SCALE: 1/8" = 1'-0"

LEGEND	
SYMBOL	DESCRIPTION
AC	AC WINDOW UNIT



**LL&J**  
CONSULTING ENGINEERS  
P.O. BOX 3119  
PEMBROKE, NC 28372  
TELEPHONE: (910)774-9306  
FAX: (866)649-7235

PROFESSIONAL SEAL  
P-0754  
NORTH CAROLINA  
REGISTERED PROFESSIONAL ENGINEER  
JAN E. LOCKLEAR

N/A  
NORTH CAROLINA  
REGISTERED PROFESSIONAL ENGINEER  
JAN E. LOCKLEAR

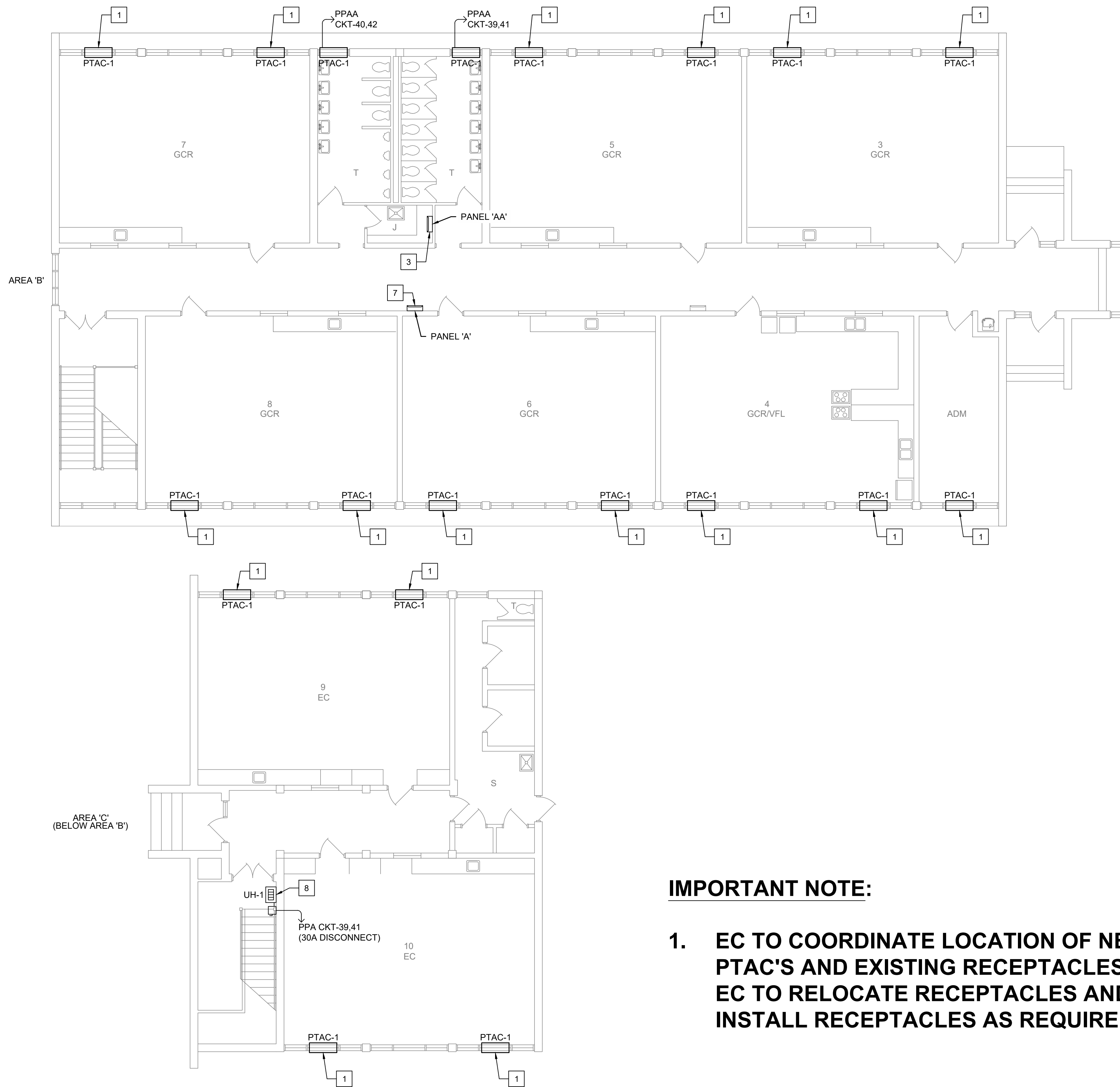
PROFESSIONAL SEAL  
SEAL 028880  
NORTH CAROLINA  
REGISTERED PROFESSIONAL ENGINEER  
ROBBY LOCKLEAR

**PROJECT INFORMATION:**  
**PHASE 1 HVAC REPLACEMENT**  
**RAMSEY STREET HIGH SCHOOL**  
117 QUINCY ST, FAYETTEVILLE, NC 28301

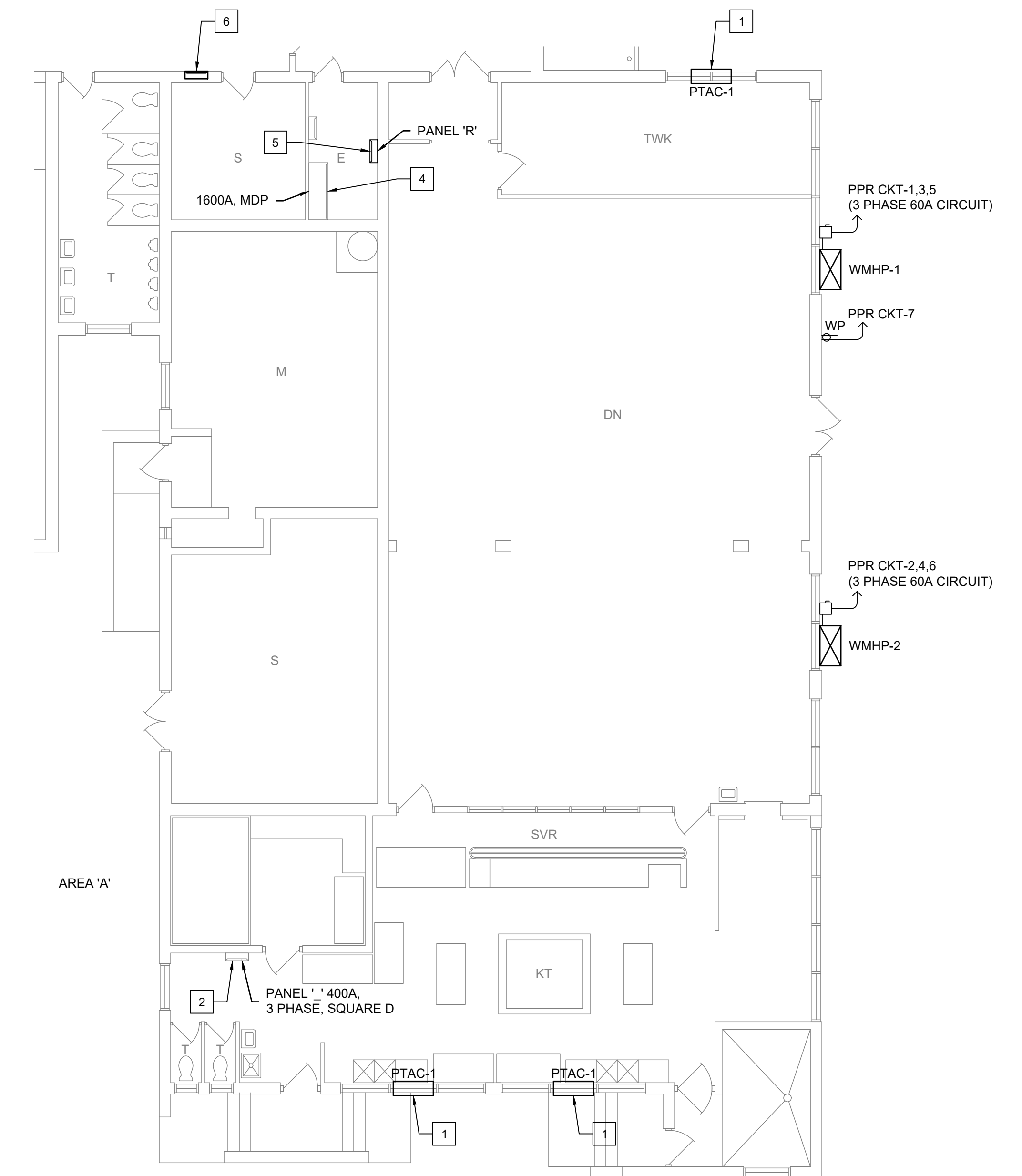
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DATE: 4-6-2021  
DRAWN BY: CKD  
CHECKED BY: RL  
SHEET TITLE

**ELECTRICAL DEMO PLAN**  
SHEET NUMBER  
**E-200**  
PROJECT# 20-11022



**1 PARTIAL ELECTRICAL PLAN**  
SCALE: 1/8" = 1'-0"



**2 PARTIAL ELECTRICAL PLAN**  
SCALE: 1/8" = 1'-0"

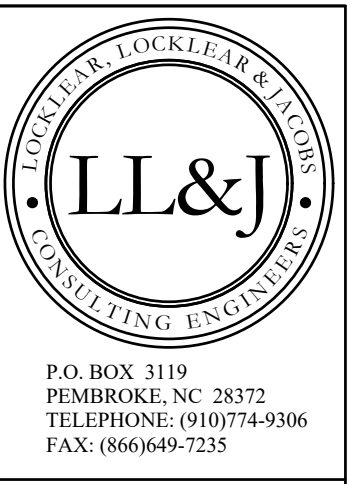
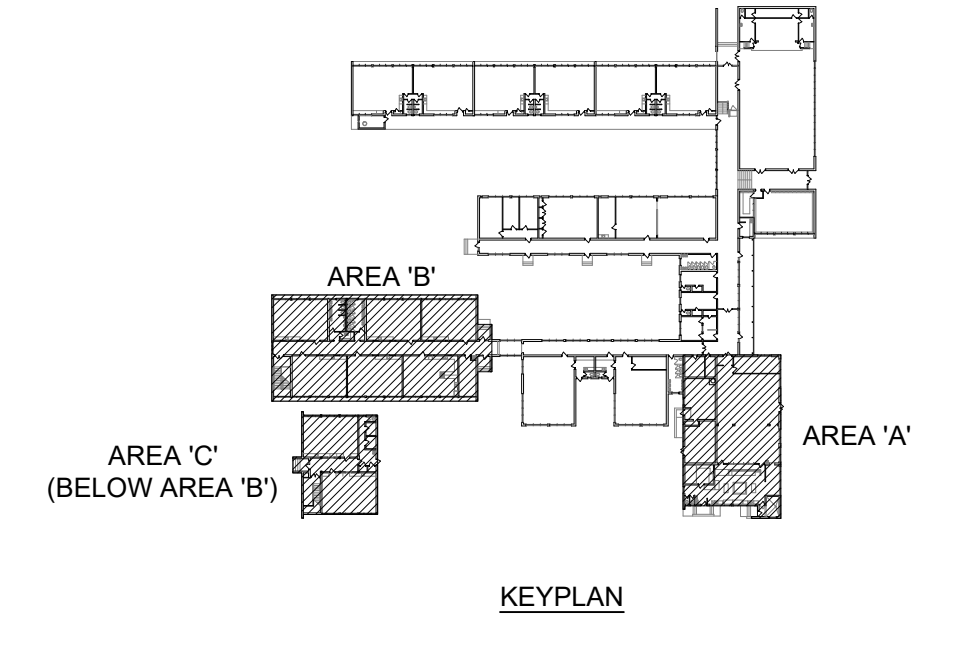
**IMPORTANT NOTE:**

- 1. EC TO COORDINATE LOCATION OF NEW PTAC'S AND EXISTING RECEPTACLES. EC TO RELOCATE RECEPTACLES AND INSTALL RECEPTACLES AS REQUIRED.**

**KEY NOTES:**

- 1 INSTALL NEW 6-20 P RECEPTACLE AND STAINLESS FACEPLATE (EXTEND RECEPTACLE AS REQUIRED TO ALLOW PTAC TO PLUG IN).
- 2 INSTALL 20A DOUBLE POLE SQUARE D BOLT IN BREAKER IN CIRCUIT 31/33 AND 35/37. EC TO VERIFY BREAKER STYLE AND TYPE (BREAKERS FEED PTAC'S IN KITCHEN).
- 3 INSTALL NEW 225A, 120/208V, 3 PHASE, NEMA 1, 10 KAIC, 42 CIRCUIT PANEL 'AA'. EC TO VERIFY NEW PANEL TO FIT EXISTING AREA (QUANTITY AND SIZE OF BREAKERS/BOLT IN TYPE) IN NEW PANEL TO MATCH EXISTING, ALL CIRCUITS TO BE TIED BACK IN).
- 4 INSTALL 200A, 3 PHASE BREAKER IN EXISTING 1600A, MDP, SQUARE D, POWER STYLE TO FEED NEW PANEL 'R'.
- 5 INSTALL NEW 200A, 120/208V, 3 PHASE, NEMA 1, 10 KAIC, 42 CIRCUIT, PANEL 'R'. INCLUDE (2) 60A, 3 PHASE BOLT IN BREAKERS TO FEED WMHP-1 AND WMHP-2. INSTALL 20A, SINGLE POLE BOLT IN BREAKER TO FEED OUTSIDE SERVICE RECEPTACLE.
- 6 INSTALL NEW 200A, 120/208V, SINGLE PHASE, NEMA 1, 10 KAIC, 42 CIRCUIT PANEL 'S'. EC TO VERIFY NEW PANEL TO FIT EXISTING AREA (QUANTITY AND SIZE OF BREAKERS IN NEW PANEL TO MATCH EXISTING, ALL CIRCUITS TO BE TIED BACK IN).
- 7 INSTALL NEW 225A, 120/208V, SINGLE PHASE, NEMA 1, 10 KAIC, 42 CIRCUIT PANEL 'A'. EC TO VERIFY NEW PANEL TO FIT EXISTING AREA (QUANTITY AND SIZE OF BREAKERS/BOLT IN TYPE) IN NEW PANEL TO MATCH EXISTING, ALL CIRCUITS TO BE TIED BACK IN).
- 8 INSTALL 25A, DOUBLE POLE BOLT IN BREAKER TO FEED UNIT WALL HEATER FROM PANEL 'A' (KEY NOTE 7).

LEGEND	
SYMBOL	DESCRIPTION
PTAC-1	WINDOW MTD. PACKAGED TERMINAL AC UNIT
⊗	WALL MTD. HEAT PUMP
□	NEMA 3R DISCONNECT
WP ⊕	GFCI RECEPTACLE W/ WEATHERPROOF IN USE COVER
⊞	UNIT WALL HEATER



PROJECT INFORMATION:  
**PHASE 1 HVAC REPLACEMENT**  
**RAMSEY STREET HIGH SCHOOL**  
 117 QUINCY ST, FAYETTEVILLE, NC 28301

REV.	DATE	DESCRIPTION
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DATE: 4-6-2021  
 DRAWN BY: CKD  
 CHECKED BY: RL  
 SHEET TITLE

**ELECTRICAL PLAN**  
 SHEET NUMBER  
**E-300**  
 PROJECT# 20-11022

**BID SET**  
 4-6-2021

