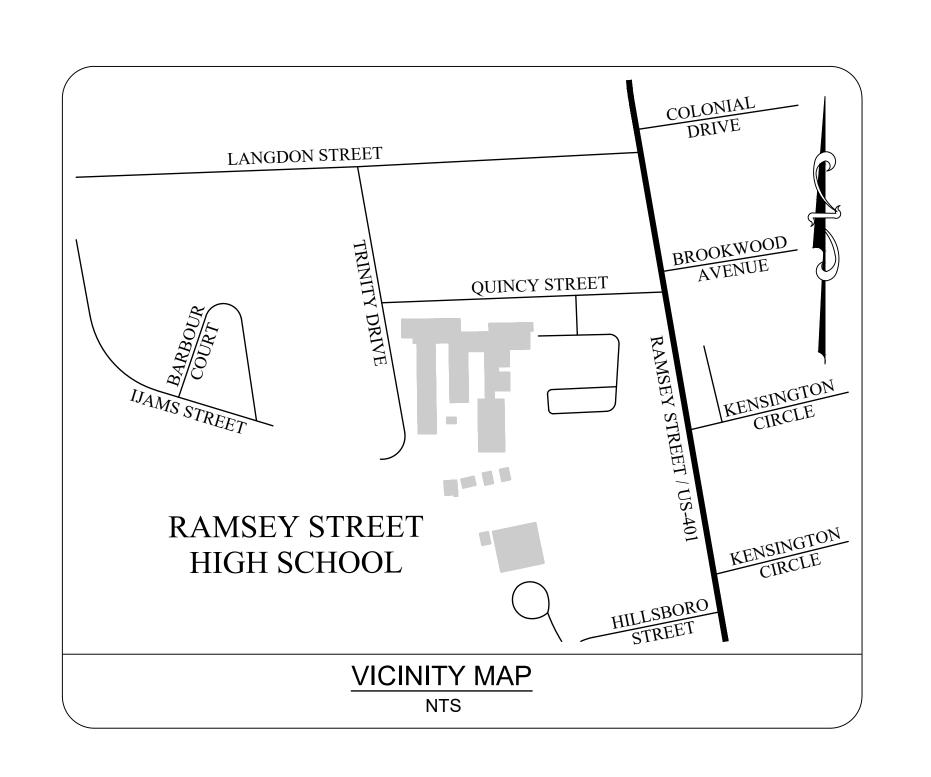
PHASE 1 HVAC REPLACEMENT RAMSEY STREET HIGH SCHOOL 117 QUINCY ST, FAYETTEVILLE, NC 28301





Call before you dig.













LOCKLEAR, LOCKLEAR & JACOBS CIVIL | STRUCTURAL | MEP | ENVIRONMENTAL ENGINEERS 114 WEST 3RD. STREET - PEMBROKE, NORTH CAROLINA 28372 (910) 774-9306 WWW.LLANDJ.COM

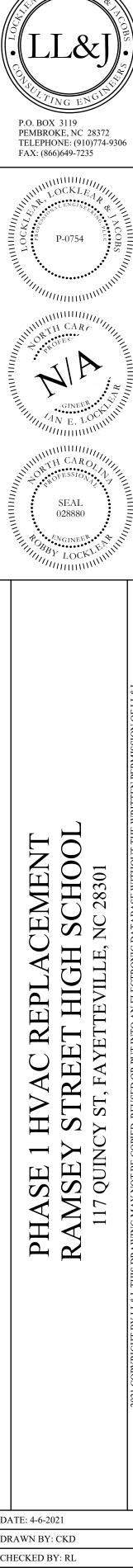
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G-200	GENERAL DEMO PLAN	-	-		
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G-400	WINDOW FRAMING DETAILS	-	-		
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M-100	MECHANICAL NOTES AND SCHEDULES	-	-		
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E-400	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 VERITY 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.

BID SET 4-6-2021



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:

- 1. 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.
- 2. 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.
- 3. 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.
- 4. 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.
- 5. 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.
- 6. 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.
- 7. 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.
- 8. 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.
- 9. CONTRACTOR SHALL TURN OVER TO THE OWNER, DESIGNATED PLACE OF STORAGE, A QUANTITY OF SURPLUS MATERIALS, AS APPLICABLE, FOR THE WORK.
- 10. 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.
- 11. CONTRACTOR TO USE CUMBERLAND COUNTY SCHOOL PREFERRED WINDOW CONTRACTOR AND INCLUDE THIS WORK IN THEIR BASE BID.

MECHANICAL NOTES

- 1. 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.
- 2. ALL WORK SHALL BE PERFORMED BY EXPERIENCED AND SKILLED CRAFTSMEN.
- 3. MECHANICAL CONTRACTOR RESPONSIBLE TO COORDINATE LOCATION OF ANY UNDERGROUND UTILITIES BEFORE ANY DIGGING TAKES PLACE.
- 4. 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.
- 5. 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.
- 6. 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.
- 7. 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.
- 8. MECHANICAL CONTRACTOR SHALL FURNISH SUBMITTALS FOR APPROVAL PRIOR TO ORDERING ANY MATERIAL.
- 9. ALL NECESSARY OFFSETS AND ELEVATION CHANGES ARE NOT SHOWN ON THE DRAWINGS. CONTRACTOR TO REFLECT/COORDINATE THE REQUIRED RISE/DROPS WITH FIELD CONDITIONS.
- 10. 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.
- 11. 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.
- 12. 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.
- 13. 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.
- 14. CONTRACTOR TO FLASH AROUND ALL SIDES OF WALL MOUNTED HEAT PUMPS.

15. CONTRACTOR TO INSTALL DUCT SLEEVE FROM SUPPLY/ RETURN NECK TO GRILLE FOR OUTDOOR UNITS.

ELECTRICAL NOTES

- 1. 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.
- 2. UNDERGROUND CONDUIT SHALL BE PVC, EXTERIOR EXPOSED CONDUIT SHALL BE RIGID AND INTERIOR CONDUIT SHALL BE FMT
- 3. 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.
- 4. 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.
- 5. ALL EXPOSED CONDUIT SHALL BE LABELED AS IT EXITS THE PANEL AND JUST BEFORE IT TIES INTO THE FIXTURE/EQUIPMENT.
- 6. 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.
- 7. 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 REPLACED AT THE REQUEST OF THE OWNER AT THE CONTRACTOR'S EXPENSE.
- 8. THE CONTRACTOR SHALL REFER TO THE BUILDING PLANS FOR FLOOR PLAN DIMENSIONS.
- 9. 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.
- 10. 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.
- 11. WHERE EQUIPMENT PENETRATES EXTERIOR WALL OR ROOF THEY SHALL BE PROPERLY SEALED PER MFG.'S INSTALLATION INSTRUCTIONS.
- 12. ALL CONDUIT TO BE SUPPORTED PER MANUFACTURERS INSTALLATION INSTRUCTIONS.
- 13. ELECTRICAL CONTRACTOR TO COORDINATE WITH OWNER ON THE LOCATION AND QUANTITY OF SPARE CONDUITS REQUIRED FOR FUTURE ADDITIONS.

- LOADS AND TO RESIST DEFORMATION.
- THE RESPECTIVE TRADES INVOLVED.

CONCRETE" (ACI-318).

- ALL AGGREGATES SHALL CONFORM TO ASTM C33.

CONCRETE COVER OF 3".

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.

> SHE G-10 G-20 G-30 G-40 G-40

DEMOLITION NOTES

1. 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.

2. FOR ALL EXISTING SURFACES SCHEDULED TO REMAIN. PATCH SURFACES TO COMPLY WITH FIRE RATINGS, SMOKE-TIGHT RATINGS, ACOUSTICAL CRITERIA AND OTHER PERFORMANCE CRITERIA INDICATED.

3. ALL STRUCTURAL SYSTEMS SHALL BE MAINTAINED AND SHALL BE OF SUFFICIENT STRENGTH TO SUPPORT THE DESIGN

4. 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

CONCRETE NOTES

1. 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

2. 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

3. EXTERIOR CONCRETE SHALL BE AIR ENTRAINED WITH AIR CONTENT TO BE BETWEEN 5% AND 7% BY VOLUME.

4. ALL REINFORCING STEEL SHALL BE IN ACCORDANCE WITH ASTM A615 AND BE GRADE 60.

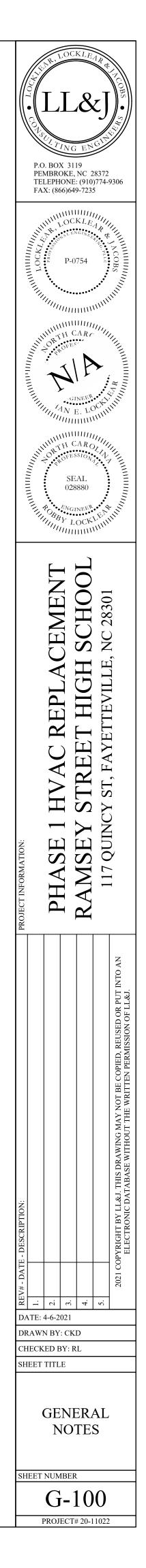
5. ALL REINFORCING STEEL SHALL BE IN ACCORDANCE WITH ASTM A615 (S1), NEW BILLET STEEL DEFORMED BARS, GRADE 60. UNLESS NOTED OTHER WISE, ALL REINFORCING BAR SPLICES SHALL BE ACI CLASS B TENSION LAP SPLICES. WELDED WIRE FABRIC (WWF) SHALL MEET ASTM A185. MINIMUM WWF LAP AT SPLICES SHALL BE 8".

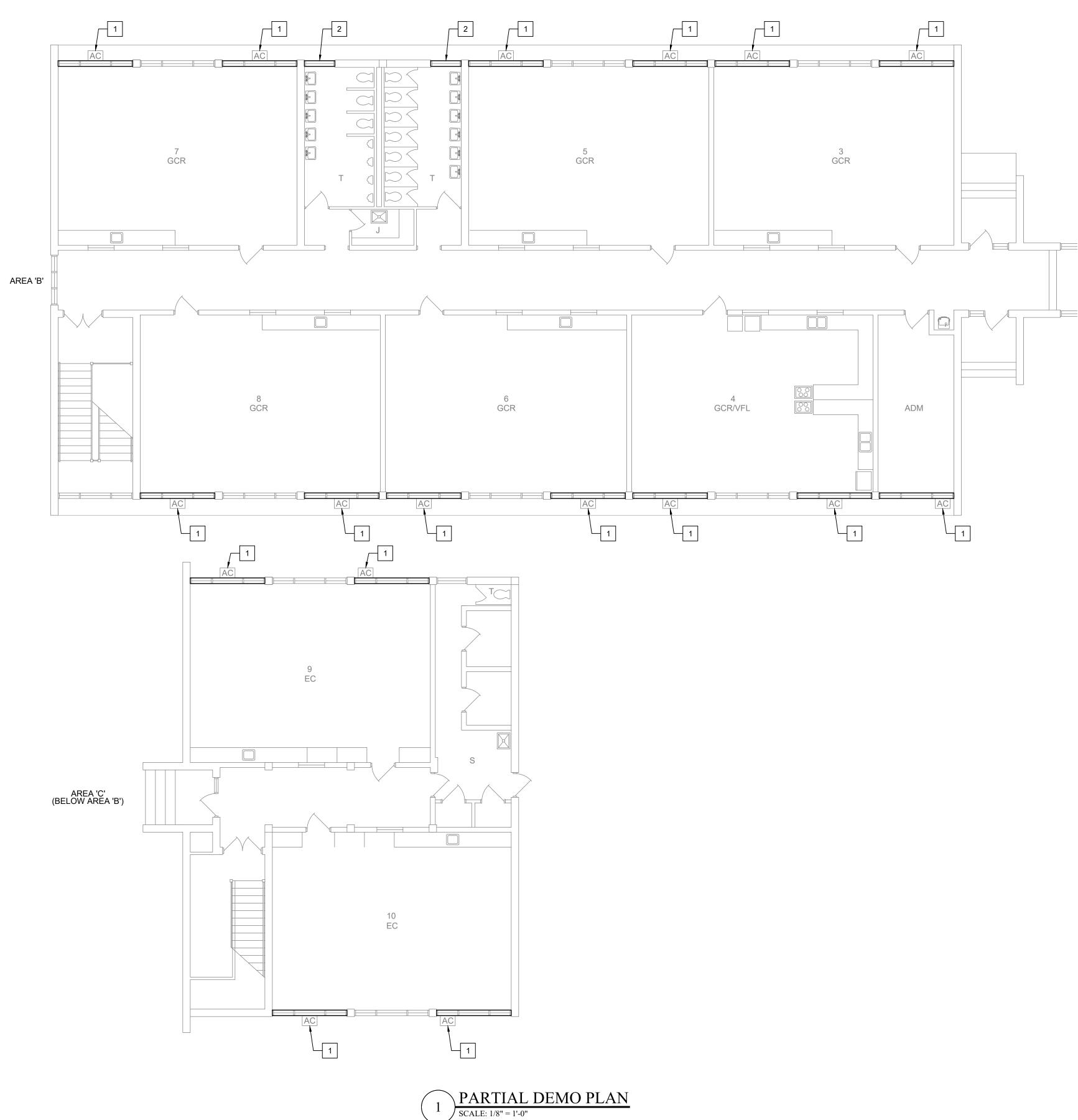
6. UNLESS NOTED OTHERWISE, CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH SHALL HAVE A

DRAWING REVISIONS

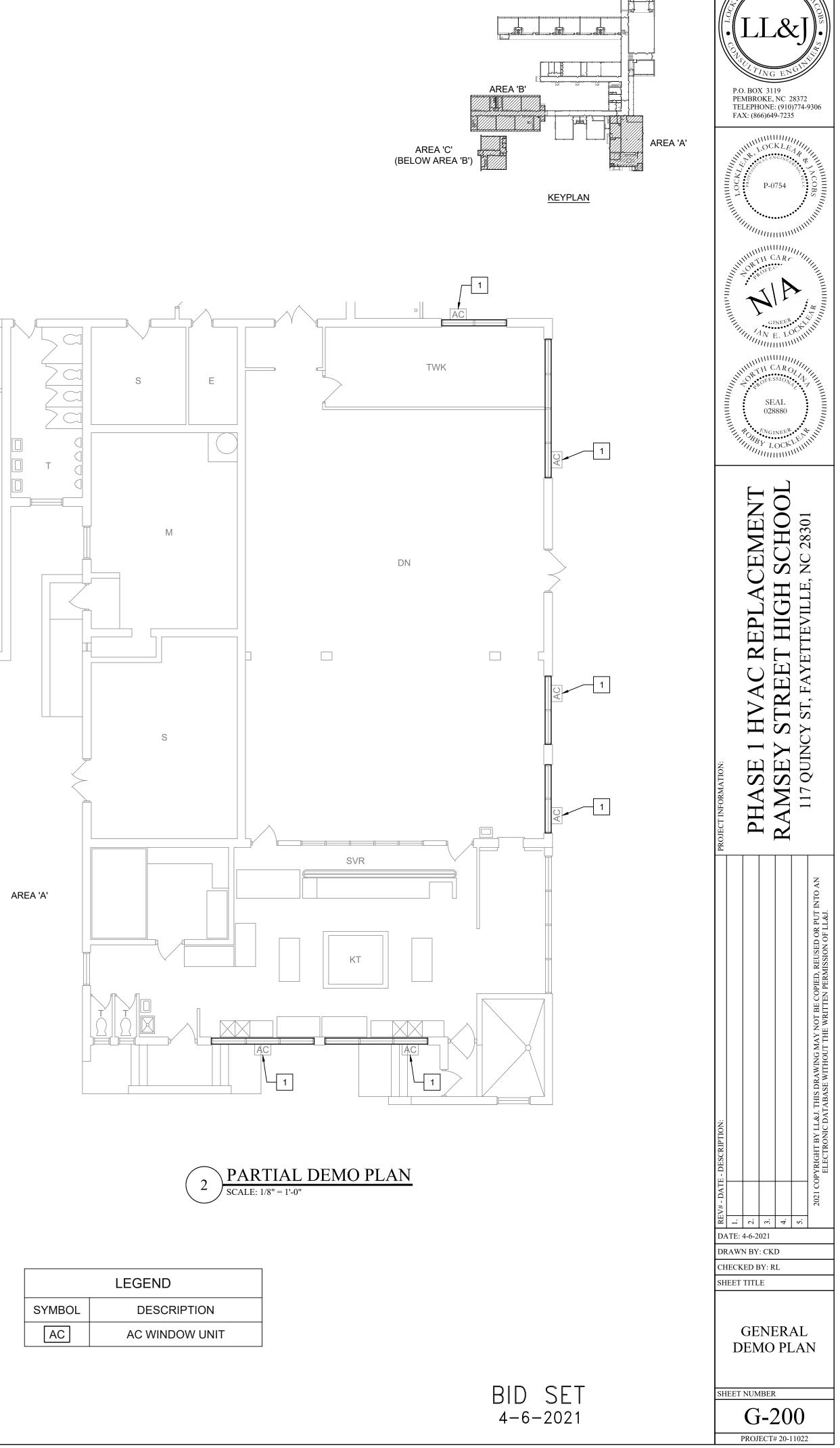
REVISIONS TO DRAWINGS SHALL BE SHOWN UNDER THE REVISION DATE AND DESCRIPTION IN THE TITLE BLOCK. THE REVISION NUMBER AND A TRIANGLE WILL BE SHOWN AT THE LOCATION OF CHANGE ON THE REVISED DRAWING.

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





NOTE:

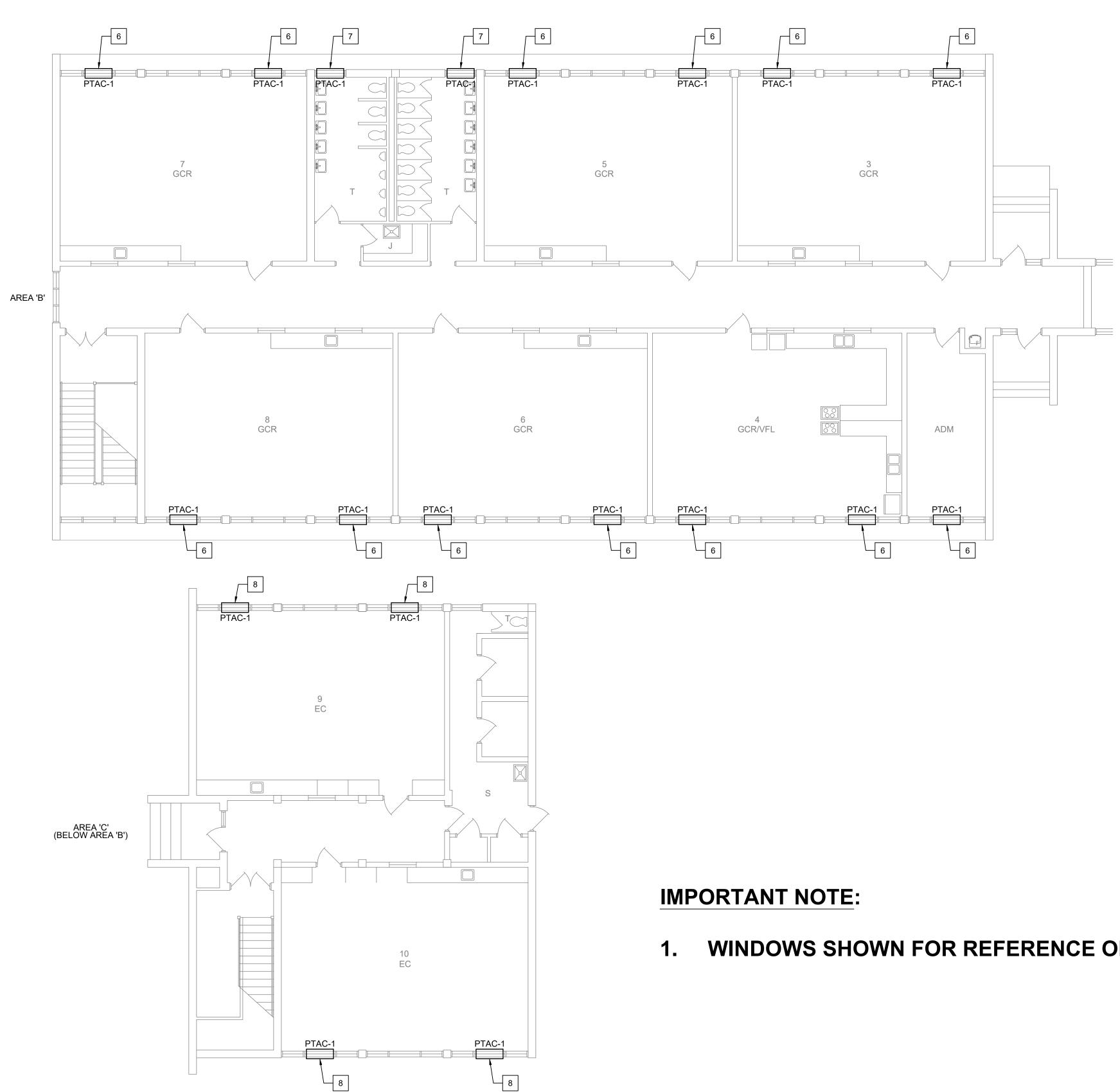


1. DEMO WINDOWS AS NECESSARY FOR THE INSTALLATION OF NEW WALL MOUNTED HEAT PUMPS AND PTAC'S (FIELD VERIFY LOCATIONS W/ ENGINEER AND CUMBERLAND COUNTY SCHOOLS).

KEY DEMO NOTES:

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

	LEGE
SYMBOL	D
AC	AC



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

NOTES:

PUMPS.

WINDOWS SHOWN FOR REFERENCE ONLY.

INSTALL WINDOWS AS NECESSARY AND PTAC'S (FIELD VERIFY LOCATIONS W/ ENGINEER AND CUMBERLAND COUNTY SCHOOLS).
 ALL WINDOW FRAMING TO SUPPORT WALL MOUNTED HEAT SUMPORT OF A MINIMUM OF 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

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.

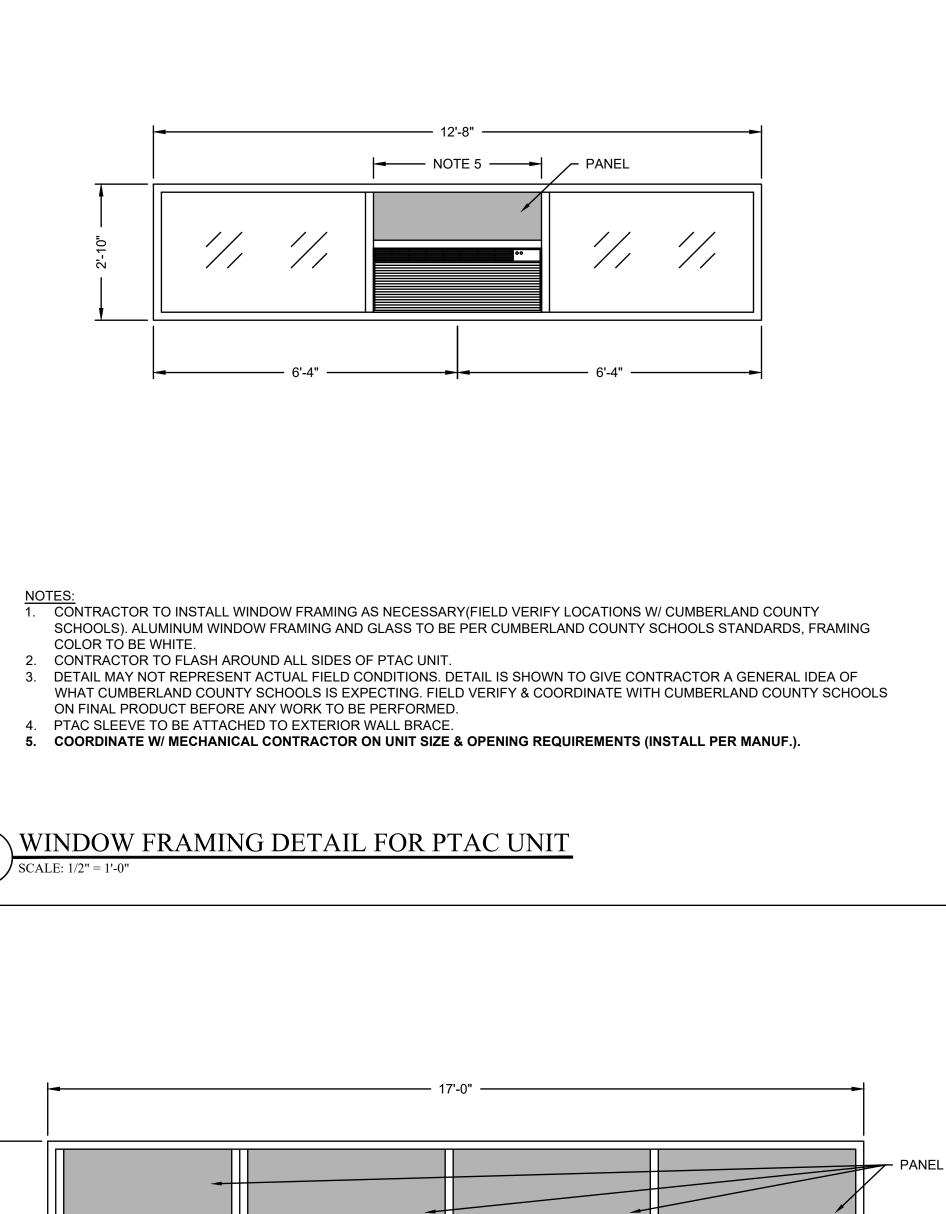
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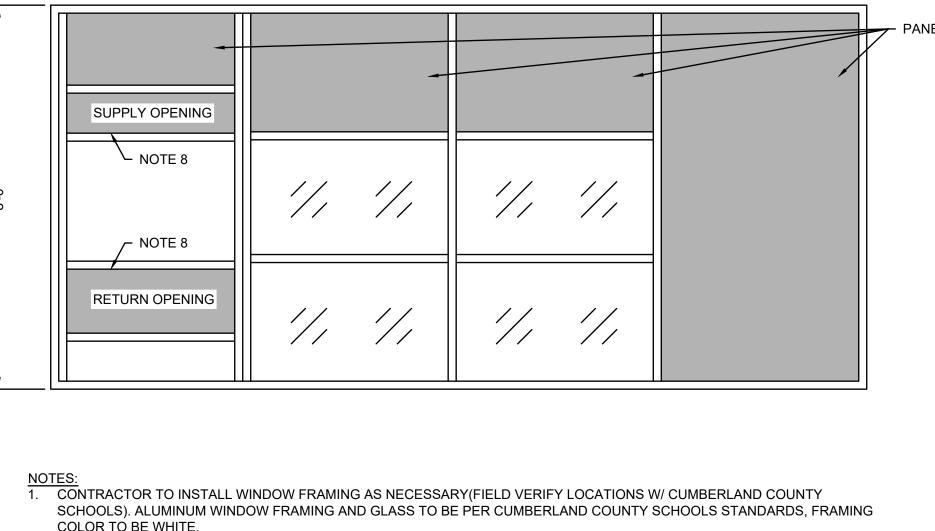
SYMBOL

PTAC-1

 \sum

	AREA 'C' (BELOW AREA 'B') KEYPLAN	P.O. BOX 3119 PEMBROKE, NC 28372 TELEPHONE: (910)774-9306 FAX: (866)649-7235
	TWK	SEAL 028880
		PROJECT INFORMATION: PHASE 1 HVAC REPLACEMENT RAMSEY STREET HIGH SCHOOL 117 QUINCY ST, FAYETTEVILLE, NC 28301
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WINDOW MTD. PACKAGED TERMINAL AC UNIT WALL MTD. HEAT PUMP		GENERAL WINDOW PLAN
	BID SET 4-6-2021	SHEET NUMBER G-300 PROJECT# 20-11022

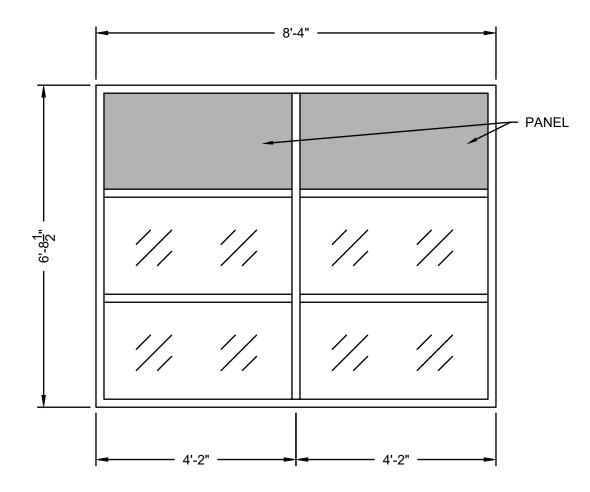




COLOR TO BE WHITE.

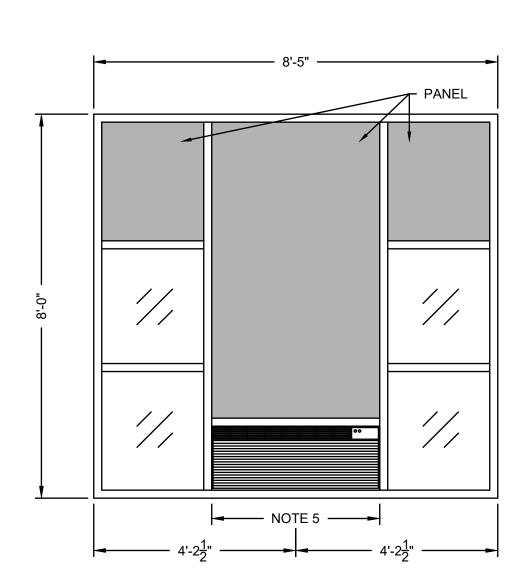
- CONTRACTOR TO FLASH AROUND ALL SIDES OF WALL MOUNTED HEAT PUMPS. CONTRACTOR TO VERIFY LOCATIONS OF WALL MOUNTED HEAT PUMPS THAT REQUIRE WALL CURBS.
- ALL WINDOW FRAMING TO SUPPORT WALL MOUNTED HEAT PUMPS TO BE A MINIMUM OF 2"X2"X3/16" STEEL TUBING.
- ALL STEEL TO BE PAINTED WITH (1) COAT OF OIL BASED 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. 9. COORDINATE W/ MECHANICAL CONTRACTOR ON UNIT SIZE & OPENING REQUIREMENTS (INSTALL PER MANUF.).

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



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

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



- 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.
- 2. CONTRACTOR TO FLASH AROUND ALL SIDES OF PTAC UNIT.
- 3. 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.
- 4. PTAC SLEEVE TO BE ATTACHED TO EXTERIOR WALL BRACE.
- 5. COORDINATE W/ MECHANICAL CONTRACTOR ON UNIT SIZE & OPENING REQUIREMENTS (INSTALL PER MANUF.).

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

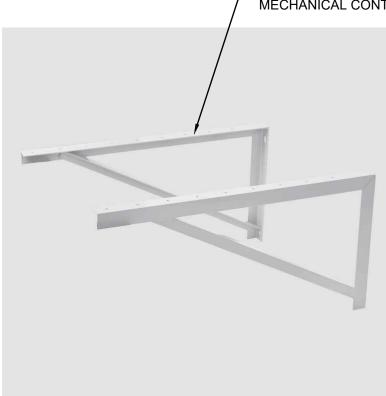
1. CONTRACTOR TO INSTALL WINDOW FRAMING AS NECESSARY(FIELD VERIFY LOCATIONS W/ CUMBERLAND COUNTY SCHOOLS). ALUMINUM WINDOW FRAMING AND GLASS TO BE PER CUMBERLAND COUNTY SCHOOLS STANDARDS, FRAMING COLOR TO BE WHITE. CONTRACTOR TO FLASH AROUND ALL SIDES OF WALL MOUNTED HEAT PUMPS. CONTRACTOR TO VERIFY 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. 9. COORDINATE W/ MECHANICAL CONTRACTOR ON UNIT SIZE & OPENING REQUIREMENTS (INSTALL PER MANUF.).

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

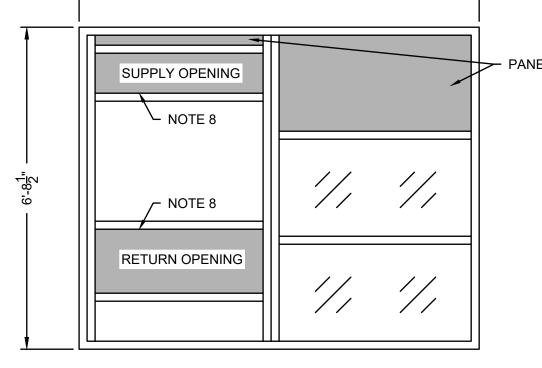


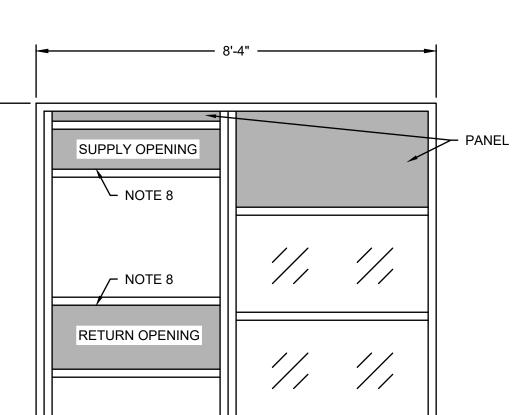
EXTERIOR BRACE FOR PTAC'S

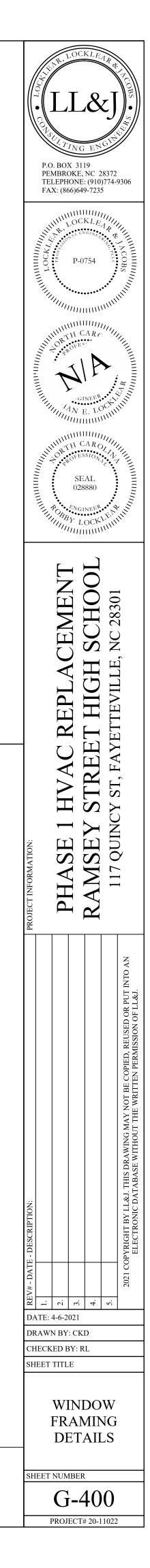


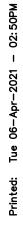
DIVERSITECH MODEL ACB-30 MOUNTING BRACKET (PROVIDED AND INSTALLED BY MECHANICAL CONTRACTOR)

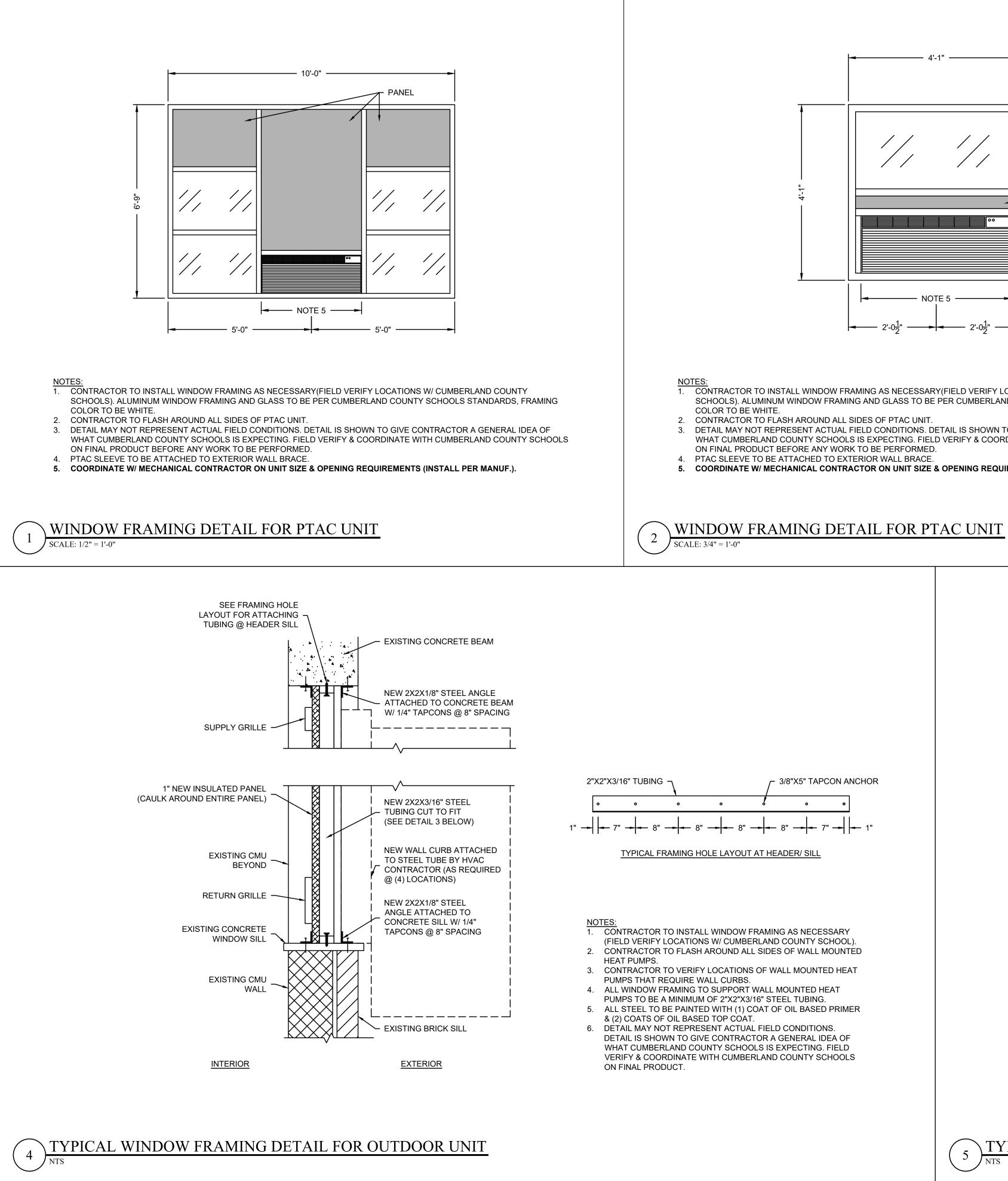
WINDOW FRAMING DETAIL FOR OUTDOOR UNIT

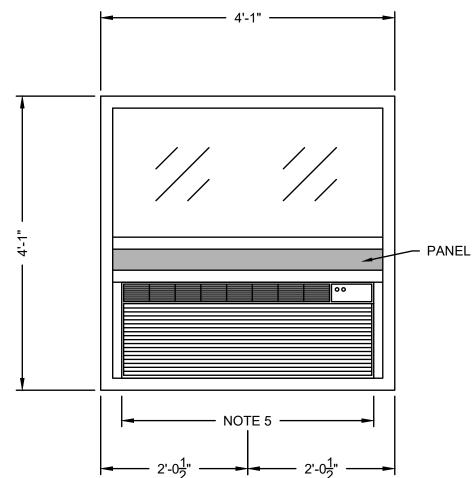




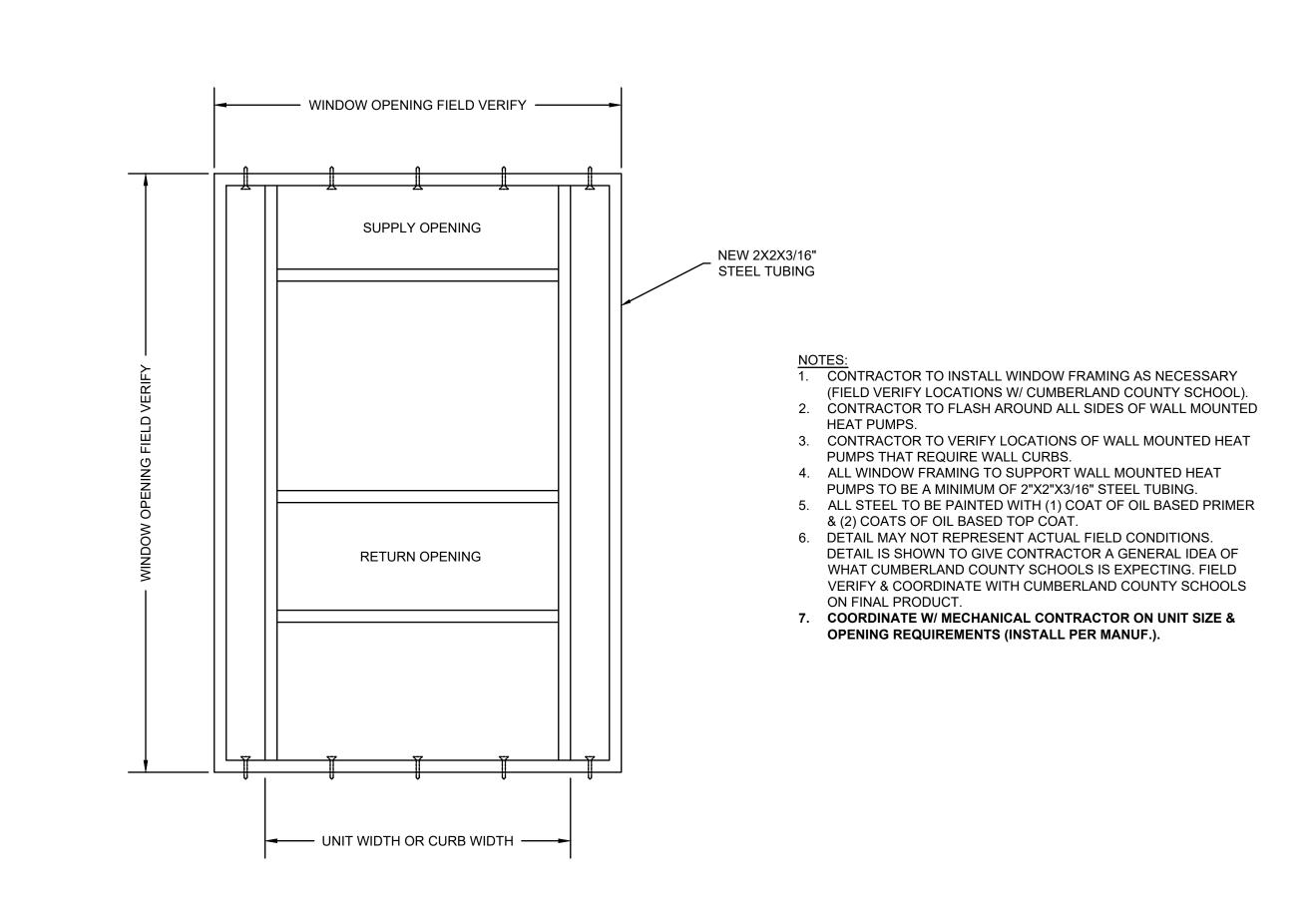








- CONTRACTOR TO INSTALL WINDOW FRAMING AS NECESSARY (FIELD VERIFY LOCATIONS W/ CUMBERLAND COUNTY SCHOOLS). ALUMINUM WINDOW FRAMING AND GLASS TO BE PER CUMBERLAND COUNTY SCHOOLS STANDARDS, FRAMING
- CONTRACTOR TO FLASH AROUND ALL SIDES OF PTAC UNIT.
- DETAIL MAY NOT REPRESENT ACTUAL FIELD CONDITIONS. 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.
- 5. COORDINATE W/ MECHANICAL CONTRACTOR ON UNIT SIZE & OPENING REQUIREMENTS (INSTALL PER MANUF.).

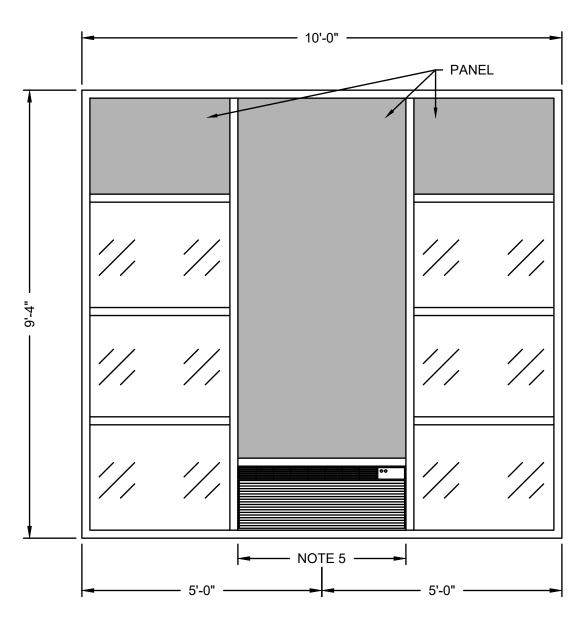


TYPICAL OUTDOOR FRAMING DETAIL

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. 5. COORDINATE W/ MECHANICAL CONTRACTOR ON UNIT SIZE & OPENING REQUIREMENTS (INSTALL PER MANUF.).

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



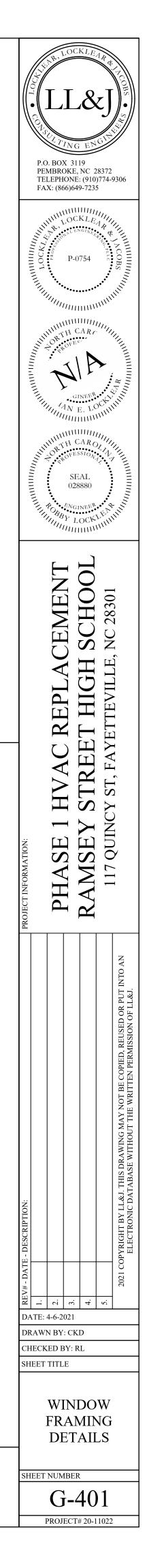


I. CONTRACTOR TO INSTALL WINDOW FRAMING AS NECESSARY(FIELD VERIFY LOCATIONS W/ CUMBERLAND COUNTY SCHOOLS). ALUMINUM WINDOW FRAMING AND GLASS TO BE PER CUMBERLAND COUNTY SCHOOLS STANDARDS, FRAMING COLOR TO BE WHITE.

CONTRACTOR TO FLASH AROUND ALL SIDES OF PTAC UNIT.

WINDOW FRAMING DETAIL FOR PTAC UNIT





MECHANICAL GENERAL NOTES:

- 1. 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.
- 2. 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

3. 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...)

4. 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.

- AMBIGUITY IN THE CONTRACT DOCUMENTS.
- CONSIDERED.
- EXAMINATION.
- SPECIFIED FOR THE SYSTEMS INCLUDED.
- MANUFACTURER'S PUBLISHED RECOMMENDATIONS.

	HEAT PUMP SCHEDULE																								
Unit Name	Unit Room	Unit Qty	Unit Model	Power Volts	EER1 EER	IPLV P	hase M	CA MOC	P WireSi	e Air Flow	Electric Heat k	W Cooling Capacity	Sensible Cooling Capaci	ity Outside DB	Entering DB	Return Air DB	Entering WB	Return Air WB	Dehumid Air Flow	Dehumid Latent	Dehumid Pounds Wat	er Heating Cap	Heating Cap Input	Weight	Unit Model - Complete
				Volts	EER EER	IPLV P	hase Ar	nps Amp)S	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 5	5 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	0 15	3 5	5 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

. APPROVED EQUALS MAY BE USED FOR ALL LISTED EQUIPMENT BASED ON PRE-APPROVAL OF SUBMITTAL 10 DAYS PRIOR TO BID. 2. ALL WALL MOUNTED HEAT PUMPS TO BE EQUIPPED WITH CONTROLLER THAT PROVIDES THERMOSTAT, DEHUMIDISTAT, C02 SENSOR, OCCUPANCY SENSOR & BACNET CAPABLE.

3. ERV'S TO OPERATE BASED ON CO₂ SENSORS.

4. WMHP-2 TO REQUIRE WALL CURB.

5. ALL WALL MOUNTED UNITS TO BE 2 STAGE COMPRESSORS COOLING AND HEATING.

6. ALL WALL MOUNTED UNITS TO HAVE ECM BLOWER MOTORS, ADJUST TO STAGING AND MODE OF OPERATION.

7. ALL WALL MOUNTED UNITS TO HAVE 5-YEAR PARTS AND COMPRESSOR WARRANTY.

8.	PROVIDE FACTORY	STARTUP	ON ALL	WALL	MOUNTED UNITS.	

Ν	/ECHANICAL SUMMARY		
	S, 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 Conditioni	ng 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 oversize	ed, state reason:N/A		
Chiller			
Size category. If oversize	ed, state reason:N/A		
List equipment efficiencies:	SEE MECHANICAL EQUIPMENT SCHEDULES		

		F	РΤ				
TAG	AMANA MODEL #	DESCRIPTION	V				
PTAC-1	PTH153G35V	PTAC UNIT	2				
NOTES:							

INCLUDE CONDENSATE DRAIN KIT.

2. INCLUDE WALL SLEEVE

3. INCLUDE ARCHITECTURAL ALUMINUM OUTDOOR GRILLE.

4. INCLUDE FACTORY INSTALLED POWER VENT KIT. 5. INCLUDE GPS-FC-3-BAS BIPOLAR IONIZATION DEVICE OR APPROVED EQUAL.

6 INCLUDE DIVERSITECH MODEL ACB-30 MOUNTING BRACKET

υ.	INCLODE L		ACD-30	

PRODUCT TAG	MANUFACTURER	MODEL NUMBER
UH-1	TPI CORPORATION	HF5605T
IOTE:		

1. APPROVED EQUALS MAY BE USED FOR LISTED EQUIPMENT.

5. 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

6. 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

7. 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

8. 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

9. 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 PLACES 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.

10. INSTALLATION OF ALL EQUIPMENTS AND THIS ACCESSORIES SHALL BE PER

11. 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.
- 12. 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.
- 13. 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.
- 14. 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.
- 15. ALL WALL AND ROOF OPENINGS SHALL BE WATER PROOFED AND AIR TIGHT SEALED AND SHALL BE PROVIDED BY THE MECHANICAL CONTRACTOR.
- 16. 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: MINIMUM G<u>AUGE ALL</u> DIMENSION OF LONGEST SIDE OF DUCT

	FOUR SIDES
UP THRU 12"	26 (0.022")
13" THRU 30"	24 (0.028")

- 13" THRU 30" 31" THRU 54"
 - 22 (0.034")
- 17. ALL DUCT DIMENSIONS SHOWN ARE INSIDE METAL DIMENSIONS AND ARE IN INCHES. DUCT SIZES HAVE BEEN INCREASED, WHERE REQUIRED, TO ALLOW FOR LINING.
- 18. 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.
- 19. 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.
- 20. 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.
- 21. ALL JOINTS IN DUCTS, CASINGS, AND PLENUMS SHALL BE SEALED TO PREVENT AIR

TAC EQUIPMENT SCHEDULE COOLING | HEAT NOMINAL OUTSIDE CAPACITY STRIPS EER OLT, ¢, Hz | MCA | MOCP CFM AIR CFM (BTU/HR) (KW) 15,000 3.5 208, 1, 60 14.1 410 9.7 20 95

	UNIT HEATER SCHEDULE										
R	WATTS	BREAKER	VOLTS	PHASE	TEMP RISE	AIR THROW	CFM	WT (LBS)	ACCESSORIES		
Г	3750	25A	208	1	43°F	16'	275	32	INCLUDE OPTIONAL, INTEGRAL THERMOSTAT		

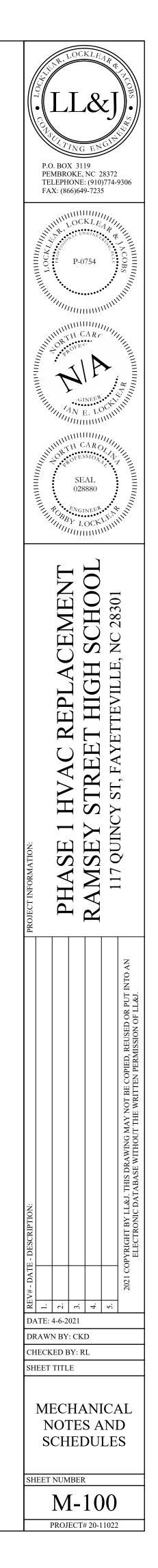
DR SHEET SHEE M-100 MECHANICAL NOT M-200 MECHANICAL DEM M-300 MECHANICAL PLAN M-400 MECHANICAL DET

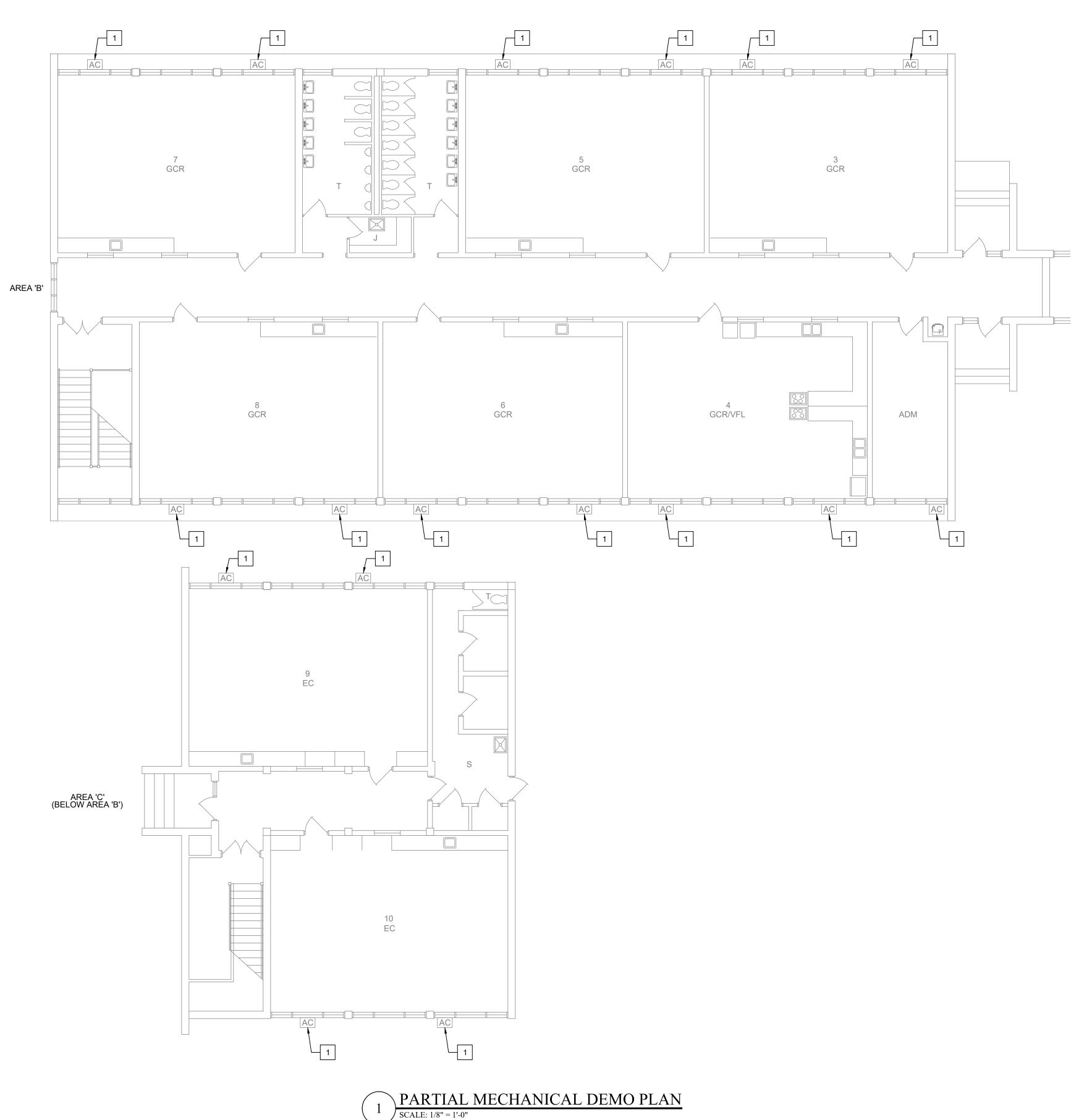
LEAKAGE. ALL SEALANT AND TAPES SHALL HAVE A FLAME RATING UNDER 25 AND A SMOKE DEVELOPED BY HARDCAST, INC., UNITED SHEET METAL DUCT SEALER OR APPROVED EQUAL, DUCTWORK TAPE SHALL BE HARDCAST, INC., TYPE DT-5300 OR DT-5400 OR APPROVED EQUAL. TAPE ADHESIVE SHALL BE HARDCAST, INC, TYPE FTA-20, OR APPROVED EQUAL.

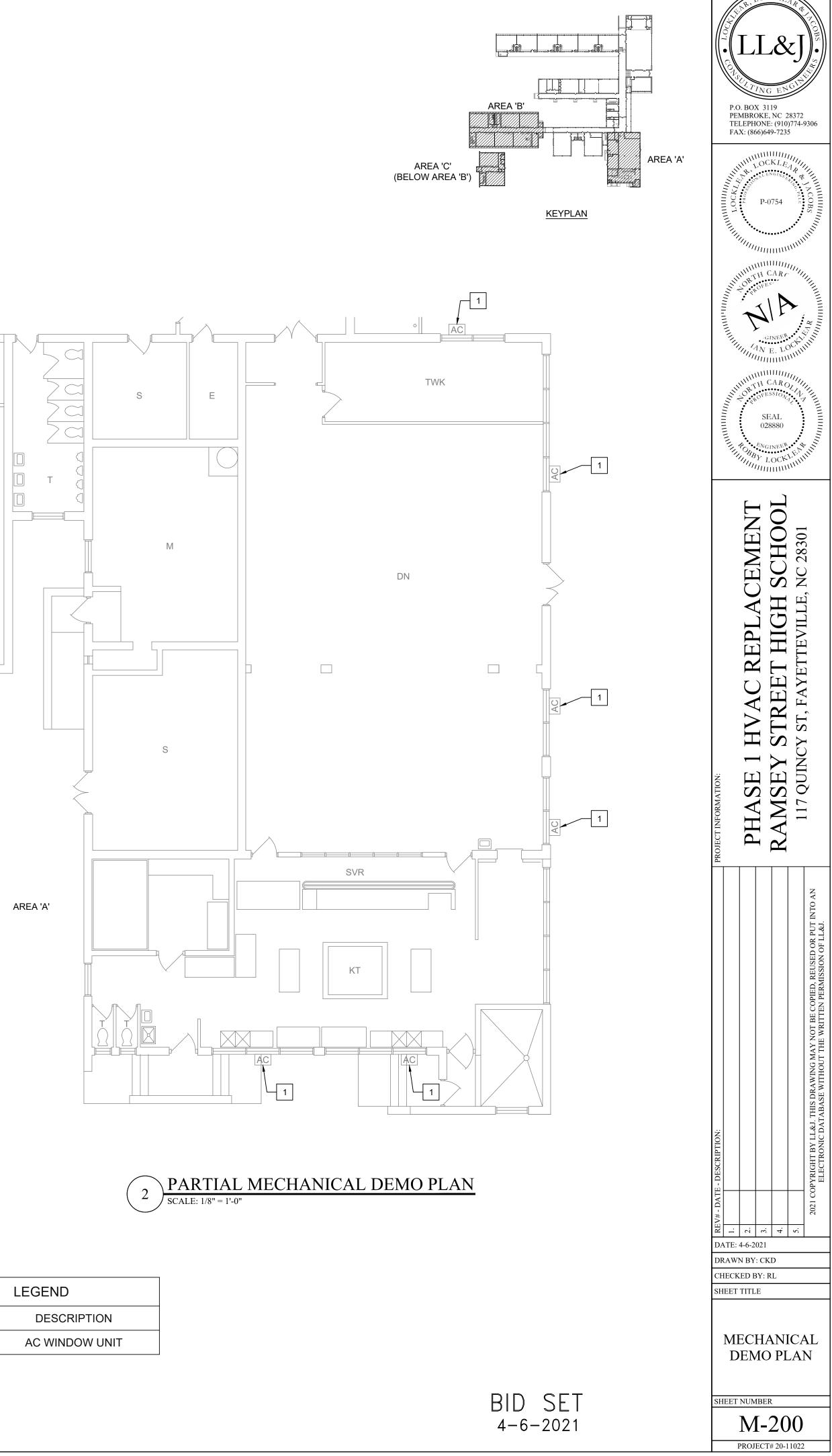
- 22. BRANCH TAKE-OFF TO THE CEILING MOUNTED DIFFUSERS, NOT EXCEEDING 8FT. IN LENGTH, SHALL BE BY PRE-INSULATED FLEXIBLE DUCT. FLEXIBLE DUCTS SHALL HAVE A R-5 MINIMUM VALUE AND COVERED WITH AN OUTER VAPOR BARRIER JACKET. FLEXIBLE DUCTS SHALL BE ATTACHED TO SHEET METAL MAIN DUCTS USING SPIN-IN CONICAL BELLMOUTH FITTINGS WITH DAMPERS AND LOCKING QUADRANTS.
- 23. ALL HVAC PENETRATIONS THROUGH FIRE RATED WALLS AND CEILING SHALL BE PROTECTED WITH FIRE DAMPERS, CLASSIFIED UNDER UL STANDARD 555.
- 24. 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.
- 25. ACCESS DOORS SHALL BE PROVIDED AT EACH FIRE DAMPER LOCATION. ACCESS DOORS SHALL BE RUSKIN (OR APPROVED EQUAL).
- 26. 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.
- 27. MECHANICAL CONTRACTOR SHALL FURNISH SUBMITTALS CONTAINING EQUIPMENT. DUCTWORK AND CONTROL DRAWINGS FOR APPROVAL PRIOR TO ORDERING ANY EQUIPMENT, OR MATERIAL.
- 28. DUCT INSULATION ALL SUPPLY AND RETURN DUCT LOCATED OUTSIDE THE BUILDING SHALL BE INSULATED EXTERNALLY USING R-8 MIN. DUCT WRAP INSULATION.
- 29. ALL NECESSARY OFFSETS AND ELEVATION CHANGES ARE NOT SHOWN ON THE DRAWINGS. CONTRACTOR TO REFLECT/COORDINATE THE REQUIRED RISE/DROPS WITH FIELD CONDITIONS.
- 30. ALL DUCTWORK SHALL BE RUN CONCEALED ABOVE CEILINGS.
- 31. ALL WORK SHALL BE PERFORMED BY EXPERIENCED AND SKILLED CRAFTSMEN.
- 32. 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.
- 33. CONTRACTOR TO FLASH AROUND ALL SIDES OF WALL MOUNTED HEAT PUMPS
- 34. CONTRACTOR TO INSTALL DUCT SLEEVE FROM SUPPLY/ RETURN NECK TO GRILLE FOR OUTDOOR UNITS.

A	W	INC	Ηf	ND	EX

ET TITLE	REV #	DATE						
TES AND SCHEDULES	-							
IO PLAN	-							
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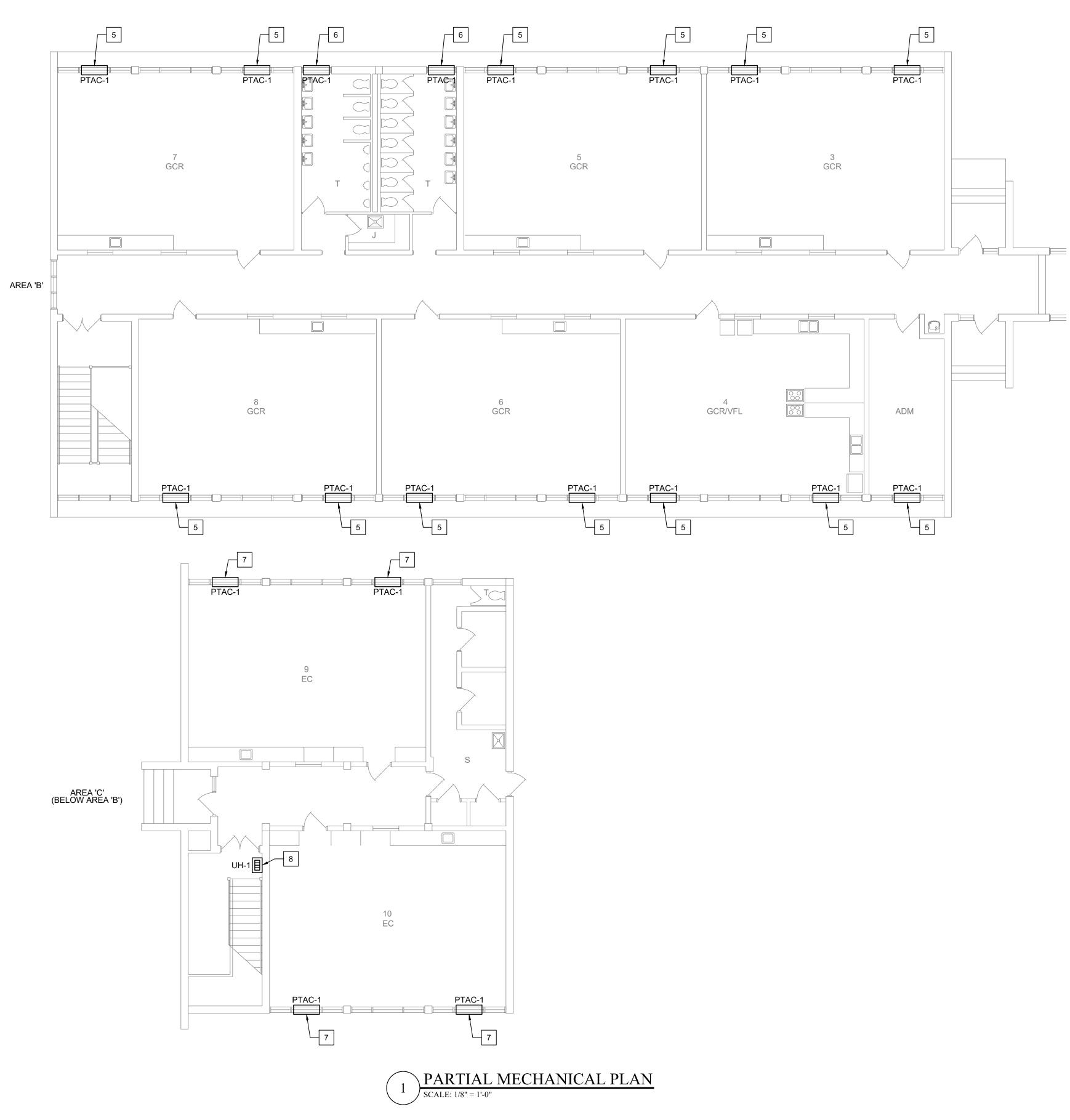
NOTE:

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

KEY DEMO NOTE:

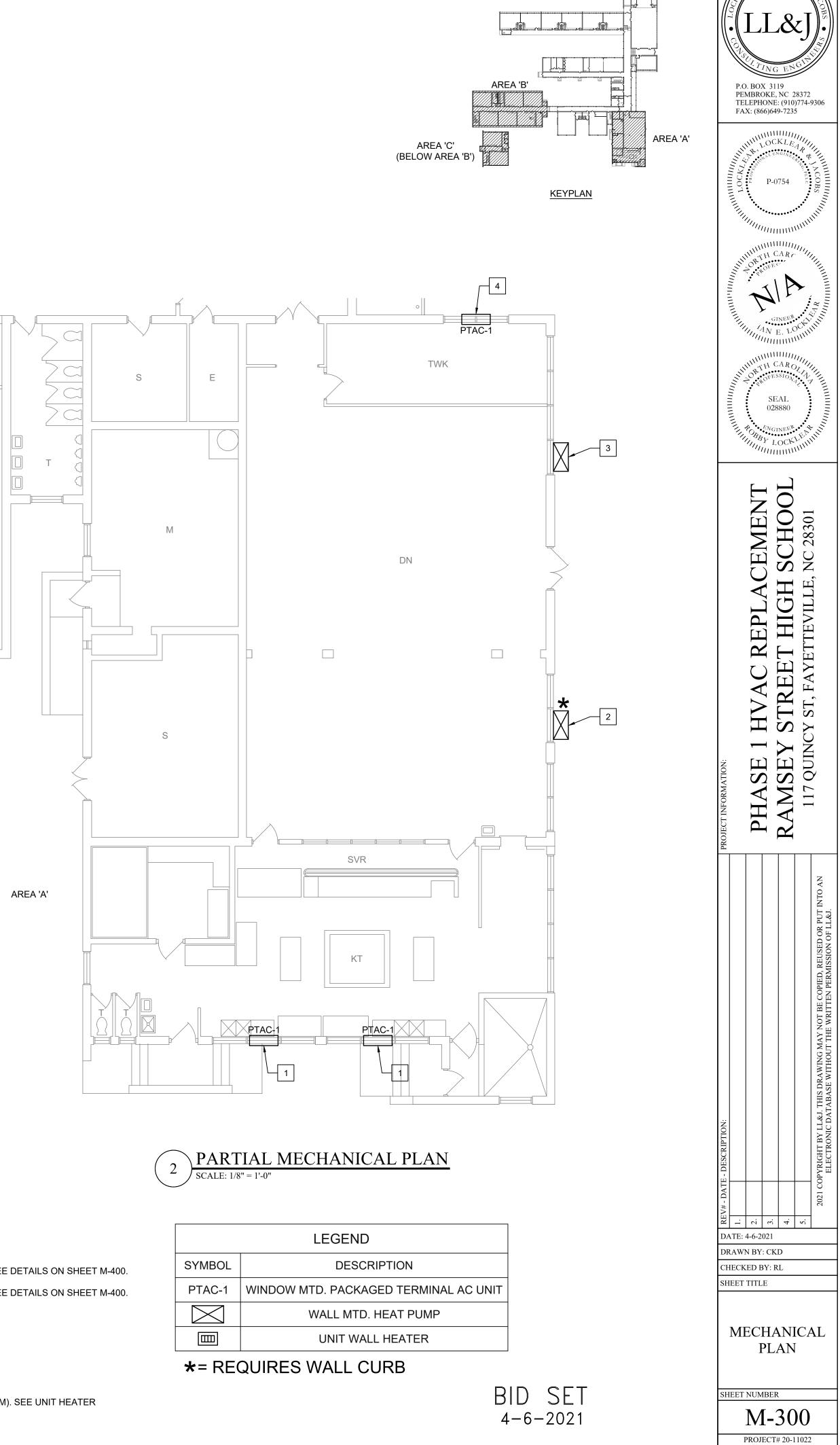
1 DEMO EXISTING WINDOW AC UNIT.

LEGEND							
	SYMBOL	DESCRIPTION					
	AC	AC WINDOW UNIT					



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"X3/16" 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.

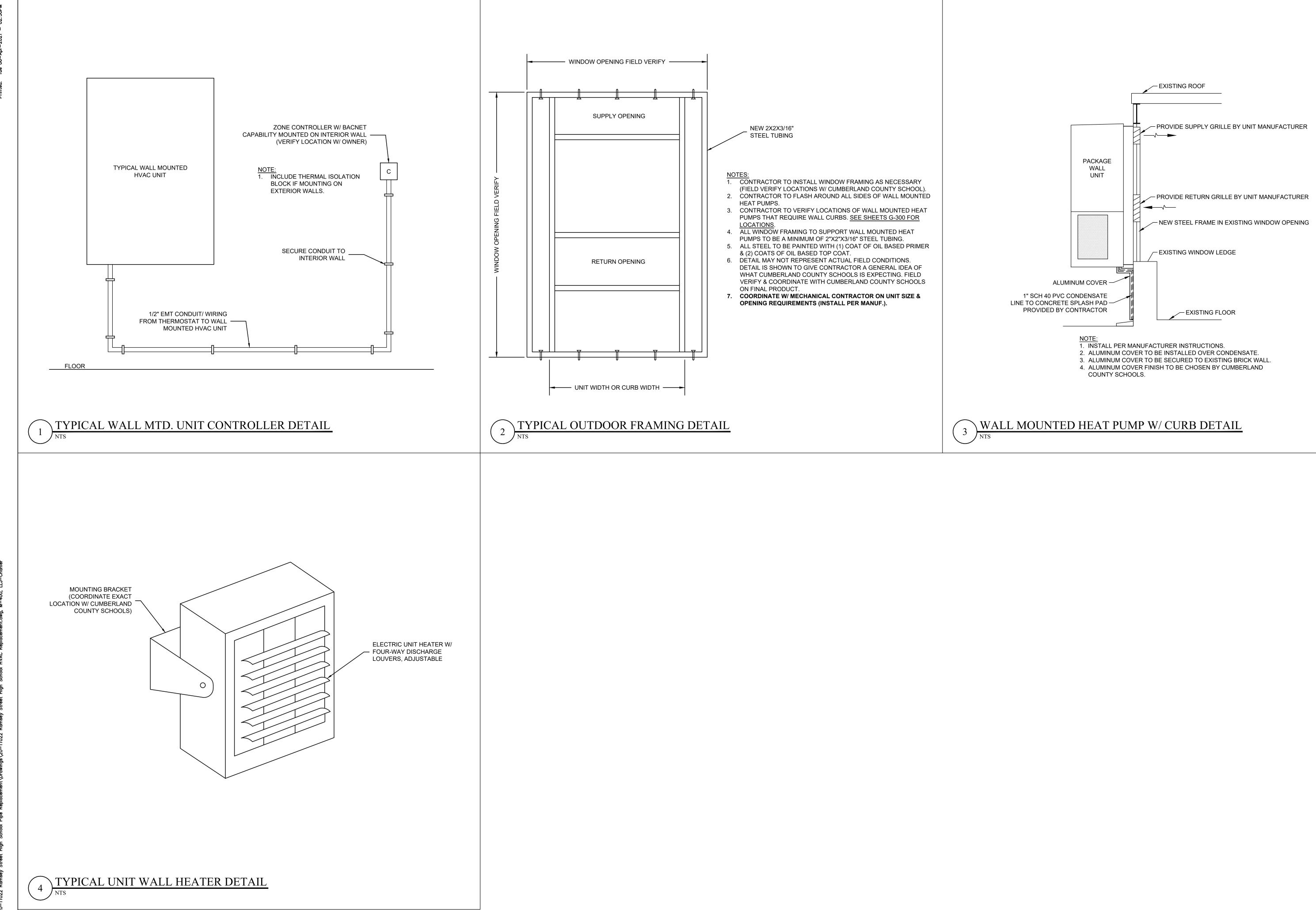
4 INSTALL NEW PTAC. SEE PTAC SCHEDULE ON SHEET M-100 AND DETAIL 5 ON SHEET G-400.

5 INSTALL NEW PTAC. SEE PTAC SCHEDULE ON SHEET M-100 AND DETAIL 1 ON SHEET G-401.

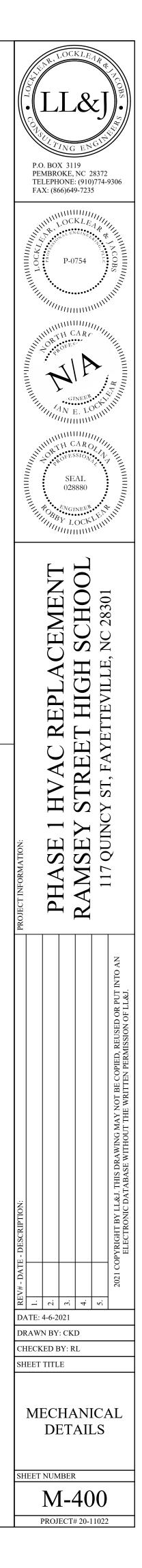
6 INSTALL NEW PTAC. SEE PTAC SCHEDULE ON SHEET M-100 AND DETAIL 2 ON SHEET G-401.

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.



ADA AND LEGAL DISCLAIMER: THE DOCUMENT IS INTENDED TO COMPLY WITH THE REQUIREMENTS OF THE AMERICAN WITH DISABILITIES ACT (ADA.) HOWEVER, ARCHITECTS AND ENGINEERS ARE NOT LICENSED TO INTERPRET LAWS OR GIVE ADVICE CONCERNING LAWS. THE OWNER SHOULD HAVE THIS DOCUMENT REVIEWED BY HIS OR HER ATTORNEY TO DETERMINE IF IT COMPLIES WITH ADA AND OTHER LAWS



BID	SET
4-6-	-2021

ELECTRICAL NOTES

- 1. THE CONTRACT DOCUMENTS CONSIST OF DRAWINGS, SPECIFICATIONS AND DESIGN INFORMATION PREPARED BY MULTIPLE DISCIPLINES AND MUST BE USED AS A WHOLE AND IN COORDINATION WITH EACH OTHER. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY APPARENT DISCREPANCIES OR OMISSION OF INFORMATION NOT SHOWN ON THE ELECTRICAL DRAWINGS. SHOP DRAWINGS SHALL BE PROVIDED WHERE NECESSARY FOR COORDINATION. THE CONTRACTOR IS RESPONSIBLE FOR CORRECTING ERRORS RESULTING FROM LACK OF COORDINATION OF DOCUMENTS.
- 2. THE CONTRACTOR SHALL BRING ANY CONFLICTS OR DISCREPANCIES TO THE ATTENTION OF THE ENGINEER IN WRITING PRIOR TO PROCEEDING WITH WORK. 3. THE CONTRACTOR SHALL FIELD VISIT THE SITE PRIOR TO BID TO FAMILIARIZE HIMSELF WITH THE SCOPE OF WORK.
- 4. ALL WORK SHALL BE DONE IN A FIRST CLASS WORKMANLIKE MANNER BY A LICENSED ELECTRICAL CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING A SAFE, CLEANLY, AND UNDISRUPTIVE JOB SITE THAT DOES NOT IMPEDE EGRESS PATHS OR OTHER TENANTS. DISRUPTIONS TO POWER AFFECTING OTHER TENANTS OR AREAS OUTSIDE THE SCOPE OF WORK SHALL BE COORDINATED WITH THE OWNER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CUTTING AND PATCHING OF HIS WORK. WHEN THE WORK IS COMPLETE, ALL ELECTRICAL DEVICES SHALL BE VACUUMED CLEAN. THE FINAL PRODUCT SHALL BE A FULLY FUNCTIONAL SYSTEM MEETING THE INTENT OF THE DRAWINGS/DOCUMENTS. WORKMANSHIP AND ALL MATERIALS AND EQUIPMENT SHALL BE GUARANTEED FOR A MINIMUM OF ONE YEAR IN WRITING COMMENCING UPON ACCEPTANCE OF INSTALLATION BY OWNER.
- WITHIN 30 DAYS AFTER THE DATE OF THE SYSTEM ACCEPTANCE, RECORD DRAWINGS OF THE ACTUAL INSTALLATION SHALL BE PROVIDED TO THE BUILDING OWNER, INCLUDING A SINGLE-LINE DIAGRAM OF THE BUILDING ELECTRICAL DISTRIBUTION SYSTEM AND FLOOR PLANS INDICATING LOCATION AND AREA SERVED FOR ALL DISTRIBUTION. ADDITIONALLY, AN OPERATING MANUAL AND MAINTENANCE MANUAL SHALL BE PROVIDED TO THE BUILDING OWNER INCLUDING THE FOLLOWING: SUBMITTAL DATA STATING EQUIPMENT RATING AND SELECTED OPTIONS FOR EACH PIECE OF EQUIPMENT REQUIRING MAINTENANCE, OPERATION MANUALS AND MAINTENANCE MANUALS FOR EACH PIECE OF EQUIPMENT REQUIRING MAINTENANCE INCLUDING CLEARLY IDENTIFIED ROUTINE MAINTENANCE ACTIONS, AND NAMES AND ADDRESSES OF AT LEAST ONE QUALIFIED SERVICE AGENCY.
- 6. UNLESS PROVIDED WITH DIMENSIONS OR NOTED OTHERWISE, ELECTRICAL PLANS ARE STRICTLY DIAGRAMMATIC ONLY. REFER TO THE DRAWINGS FOR ALL DIMENSIONS, MOUNTING HEIGHTS, ETC. EFFORT HAS BEEN MADE TO PROPERLY ACCOUNT FOR ALL SPACE REQUIREMENTS, CLEARANCES, ETC. BUT SITE CONDITIONS AND PRODUCTS SELECTED MAY VARY AND IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN PROPER ARRANGEMENTS AND CLEARANCES. DRAWINGS SHALL NOT BE SCALED.
- 7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS, PAYING ALL ASSOCIATED FEES, AND DOCUMENTING AND FILING ALL PAPERWORK ASSOCIATED WITH THIS SCOPE OF WORK. WHEN THE WORK IS COMPLETE, THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL REQUIRED CERTIFICATES OF INSPECTION.
- THE CONTRACTOR IS EXPECTED TO HAVE A FULL FUNCTIONAL KNOWLEDGE OF ELECTRICAL SYSTEMS AND WHETHER INDICATED ON THE DRAWINGS OR NOT SHALL PROVIDE THE CORRECT NUMBER OF WIRES, AT NO ADDITIONAL CHARGE, TO FACILITATE PROPER OPERATION OF ALL EQUIPMENT. QUANTITY OF WIRES WILL ONLY BE INDICATED WHERE NECESSARY FOR CLARIFICATION. 9. THE INSTALLATION SHALL BE IN COMPLIANCE WITH THE AMERICAN WITH DISABILITIES ACT (ADA), UNLESS INSTALLED FOR SPECIFIC USES EXEMPT FROM ADA OR IN AREAS NOT NORMALLY
- ACCESSED BY BUILDING OCCUPANTS. 10. THE ELECTRICAL CONTRACTOR SHALL REFER TO THE MECHANICAL AND PLUMBING DRAWINGS FOR EXACT LOCATIONS OF EQUIPMENT. PRIOR TO ORDERING ELECTRICAL EQUIPMENT SERVING MECHANICAL & PLUMBING EQUIPMENT, THE ELECTRICAL CONTRACTOR SHALL CONFIRM THE EQUIPMENT BEING ORDERED BY THE HVAC OR PLUMBING CONTRACTORS AND PROVIDE WIRING, CONDUIT, AND OVERCURRENT PROTECTION MEETING THE REQUIREMENTS AT NO ADDITIONAL COST. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR REVIEWING AND COORDINATING WITH THE HVAC CONTRACTOR FOR PROVIDING ANY NECESSARY LINE AND LOW VOLTAGE WIRING. FINAL TERMINATION TO BE MADE BY THE HVAC CONTRACTOR. ALL BREAKERS SUPPLYING HVAC LOADS SHALL BE HACR TYPE.
- 11. ALL MATERIALS AND EQUIPMENT FURNISHED SHALL BE NEW (UNLESS NOTED OTHERWISE) AND BEAR THE U.L. LISTING FOR THEIR INTENDED USE. MATCH BUILDING STANDARDS FOR MANUFACTURER AND TYPE OF EQUIPMENT FOR LIGHTS, EXIT SIGNS, FIRE ALARM DEVICES, WIRING DEVICES, AND ELECTRICAL DISTRIBUTION EQUIPMENT. WHERE NO BUILDING STANDARD EXISTS FOR ELECTRICAL EQUIPMENT, EQUIPMENT SHALL BE MANUFACTURED BY G.E., SQUARE-D, EATON CUTLER-HAMMER OR SIEMENS. INSTALL A PLASTIC-LAMINATE SIGN ON EACH NEW UNIT OF ELECTRICAL EQUIPMENT WITH 1/2" ENGRAVED LETTERING FOR IDENTIFICATION. IDENTIFICATION SHALL MATCH CONTRACT DOCUMENTS AND/OR INDICATE SOURCE FED (FOR DISCONNECTS, ETC).
- 12. THE FAULT CURRENT RATING OF ALL EQUIPMENT ADDED TO THE ELECTRICAL DISTRIBUTION SHALL MEET THE AVAILABLE FAULT CURRENT. EQUIPMENT SHALL BE FULLY RATED UNLESS NOTED OTHERWISE
- 13. THE CONTRACTOR SHALL GIVE PERMISSION FOR THE AHJ, ENGINEER, INSPECTOR, ETC. TO PERFORM TESTS OF THE ELECTRICAL SYSTEM AS REQUIRED. 14. SWITCH OUTLETS SHALL NOT BE OBSTRUCTED BY DOOR SWINGS AND OCCUPANCY SENSORS SHALL HAVE FULL VIEW OF THE INTENDED SPACE.
- 15. SWITCH AND RECEPTACLES INDICATED IN THE SAME LOCATION SHALL BE MOUNTED UNDER A COMMON COVERPLATE UNLESS OTHERWISE NOTED. 16. EVEN IF THE PLANS INDICATE, OUTLETS SHALL NOT BE INSTALLED PRECISELY BACK TO BACK ON COMMON WALLS. REFER TO THE ARCHITECTURAL DRAWINGS FOR EXACT MOUNTING METHODS
- AND LOCATIONS. 17. JUNCTION AND PULL BOXES ARE ONLY INDICATED WHERE REQUIRED FOR LARGE SCALE COORDINATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING JUNCTION AND PULL BOXES AS REQUIRED BY THE CODE AND PER A STANDARD INSTALLATION, AND SHALL INCLUDE THIS IN THEIR BID. BOXES SHALL BE STEEL AND INCLUDE EARS INSIDE TO ATTACH COVERS. OUTLET BOXES SHALL BE FOUR INCH SQUARE DEEP TYPE. OUTLET BOXES FOR 120V OR HIGHER CIRCUITS SHALL INCLUDE A #12 AWG SOLID COPPER PIGTAIL. OUTLET BOXES LOCATED OUTDOOR OR EXPOSED TO WET CONDITIONS SHALL INCLUDE GASKETED COVERS. THE MAXIMUM GAP AROUND BOXES SHALL BE 1/8" OR SMALLER ON ALL EDGES. JUNCTION BOXES SHALL BE COLOR CODED WITH PAINT TO INDICATE THEIR USE AS FOLLOWS: NORMAL POWER - BLACK, STANDBY POWER - ORANGE, FIRE ALARM - RED, TELEPHONE/DATA - YELLOW, HVAC CONTROLS - BLUE.
- 18. CONDUCTORS SHALL BE LOOPED AROUND SCREW POSTS SO THAT ROTATION OF THE SCREW TENDS TO FURTHER WRAP THE CONNECTION. SCREW TERMINALS SHALL BE WRAPPED IN ELECTRICAL TAPE. AT LEAST 6" OF FREE CONDUCTOR SHALL BE LEFT AT EACH J-BOX, OUTLET AND SWITCH BACK-BOX, ETC FOR FUTURE SPLICING. 19. THE CONTRACTOR SHALL MAINTAIN THE FIRE RATING OF ALL FIRE-RATED PARTITIONS. IF A DEVICE WILL VOID THE FIRE RATING OF A WALL, IT SHALL BE INSTALLED IN AN ALTERNATE LOCATION PER THE ARCHITECT OR ENGINEER'S DIRECTION. ALL VOIDS AROUND CONDUITS AND/OR CORE DRILLS PENETRATING FIRE RATED PARTITIONS SHALL BE FILLED WITH FIRE-SAFING MATERIAL OR
- UL APPROVED FIRE RATING DEVICE. THE FIRE RATING OF A PARTITION SHALL NEVER BE COMPROMISED. 20. THE CONTRACTOR SHALL MAINTAIN THE INSULATION RATING AND VAPOR BARRIERS ON ALL PERIMETER WALLS. IF A DEVICE WILL DAMAGE OR COMPROMISE THE VAPOR BARRIER OR INSULATION, IT SHALL BE INSTALLED IN AN ALTERNATE LOCATION PER THE ARCHITECT OR ENGINEER'S DIRECTION.
- 21. ALL EQUIPMENT REQUIRING ACCESS SUCH AS J-BOXES, PULL BOXES, TRANSFORMERS, DRIVERS, ETC. SHALL BE INSTALLED IN ACCESSIBLE LOCATIONS. EXISTING ELECTRICAL DEVICES WHICH ARE LOCATED BEHIND INACCESSIBLE LOCATIONS DUE TO THE RENOVATION SHALL BE REROUTED AND MADE ACCESSIBLE.
- 22. CONDUITS AND/OR MATERIALS LOCATED IN ENVIRONMENTAL AIR PLENUMS SHALL BE PROPERLY LISTED FOR THE APPLICATION. INTERIOR CONCEALED RACEWAYS MAY BE AC OR MC CABLE IF ALLOWED BY THE AHJ. EXPOSED RACEWAYS, INCLUDING RACEWAYS EXPOSED IN THE BACK OF HOUSE SHALL BE GALVANIZED STEEL OR ALUMINUM EMT. MOTOR CONNECTIONS SHALL BE FLEXIBLE METAL CONDUIT FOR INTERIOR APPLICATIONS AND LIQUID TIGHT FLEX FOR EXTERIOR APPLICATIONS. ALL OTHER EXTERIOR CONDUITS SHALL BE GALVANIZED STEEL, ALUMINUM EMT OR RIGID STEEL IF EXPOSED TO STRIKING. EXTERIOR CONDUITS SHALL UTILIZE COMPRESSION CONNECTORS. AC/MC CABLE SHALL NOT TERMINATE AT PANELBOARDS. A GUTTER ABOVE THE ELECTRICAL PANELS SHALL BE PROVIDED WITH CONDUIT FROM THE GUTTER TO THE PANELBOARD.
- 23. CABLE AND CONDUIT ROUTING SHALL BE DONE IN A NEAT AND ORDERLY FASHION. LINES SHALL BE RUN PARALLEL TO ALL BUILDING FEATURES, AND SHALL BE GROUPED TOGETHER TO CREATE AN AESTHETICALLY PLEASING AND EASY TO FOLLOW ROUTE. CABLES SHALL BE PERMITTED TO BE BUNDLED BUT SHALL NOT EXCEED TEN IN QUANTITY. ROUTING SHALL BE COORDINATED WITH OTHER TRADES TO AVOID CONFLICT.
- 24. CONDUITS SHALL BE RIGIDLY SUPPORTED TO THE BUILDING STRUCTURE. AC AND MC CABLES SHALL BE SUPPORTED WITHIN 12" OF EVERY BOX, FITTING, ETC. AND SUPPORT SPACINGS SHALL NOT EXCEED 6' INTERVALS. RIGID CONDUIT SUPPORT SPACINGS FOR ALL CONDUIT TYPES SHALL BE IN ACCORDANCE WITH THE NEC. COUPLINGS AND FITTINGS SHALL BE STEEL WITH COMPRESSION OR SET STEEL SCREW CONNECTIONS. THERE SHALL NOT BE MORE THAN THE EQUIVALENT OF FOUR QUARTER BENDS (360 DEGREES TOTAL) BETWEEN PULL POINTS FOR POWER (120V OR HIGHER) CIRCUITS AND NOT MORE THAN THE EQUIVALENT OF TWO QUARTER BENDS (180 DEGREES TOTAL) BETWEEN PULL FOR LOW VOLTAGE (TELEPHONE, DATA, ETC) CIRCUITS. LOW VOLTAGE CONDUIT RUNS SHALL ALSO NOT EXCEED 100' BETWEEN PULL POINTS. ALL CONDUITS SHALL BE FASTENED AT BOTH ENDS. EXPANSION FITTINGS SHALL BE PROVIDED AT ALL BUILDING EXPANSION JOINTS OR WHERE NEEDED TO ALLOW FOR THERMAL EXPANSION.
- 25. CONDUIT SIZES INDICATED IN PANEL SCHEDULES AND ON THE SINGLE LINE ARE BASED ON TYPE THHN IN EMT. AS OTHER TYPES OF CONDUIT AND CONDUCTORS ARE PERMISSIBLE IN THIS PROJECT, THE CONTRACTOR SHALL ADJUST THE DIMENSION OF THE CONDUIT TO COMPLY WITH CHAPTER 9, TABLE 1 IN THE NEC. ADJUSTMENTS TO THE CONDUIT SIZE SHALL BE PART OF THE BID AND SHALL BE AT NO ADDITIONAL EXPENSE TO THE OWNER.
- 26. WIRE SIZES INDICATED ARE BASED UPON DIRECT ORTHOGONAL PATHS TO THE PANELBOARD. FEEDERS ARE SIZED FOR A MAXIMUM OF 2% VOLTAGE DROP, AND BRANCH CIRCUITS ARE DESIGNED FOR A MAXIMUM OF 3% VOLTAGE DROP. IF FIELD CONDITIONS DO NOT ALLOW THESE PATHS OR IF THE CONTRACTOR RUNS ADDITIONAL LENGTHS, THEY SHALL BE RESPONSIBLE FOR INCREASING WIRE SIZE TO ACCOUNT FOR VOLTAGE DROP AT NO ADDITIONAL COST. 20 AMP. 120 VOLT HOMERUNS EXCEEDING 57' SHALL BE A MINIMUM OF #10 AWG. 20 AMP. 277 VOLT HOMERUNS EXCEEDING 131' SHALL BE A MINIMUM OF #10 AWG. WIRING SMALLER THAN #12 AWG SHALL NOT BE USED FOR ANY INSTALLATIONS.
- 27. THE CONTRACTOR SHALL CIRCUIT PANELBOARDS EXACTLY AS INDICATED IN THE PANEL SCHEDULES. IF ANY DEVIATIONS ARE NECESSARY, THE ENGINEER SHALL BE NOTIFIED. TYPED DIRECTORY CARDS SHALL BE PROVIDED AT EACH PANELBOARD INDICATING LOAD SERVED AND FINAL ROOM NUMBERS PER THE NEC. WHEN EXISTING DIRECTORIES ARE REPLACED FOR RENOVATION WORK, EXISTING LOAD INFORMATION SHALL BE DIRECTLY TRANSFERRED TO THE NEW DIRECTORY CARDS.
- 28. NEUTRAL CONDUCTORS SHALL ONLY BE SHARED WHEN INDICATED ON THE DRAWINGS. WHERE NEUTRALS ARE INDICATED TO BE SHARED, THE NEUTRAL SHALL BE A MINIMUM OF #10 AWG. 29. CONDUCTORS SHALL BE COPPER. CONDUCTORS #10 AWG AND SMALLER SHALL BE SOLID, AND CONDUCTORS #8 AWG AND LARGER SHALL BE STRANDED. CONDUCTORS SHALL BE CODE TYPE THW, THHN, THWN, OR XHHW UNLESS OTHERWISE REQUIRED BY THE NEC. CONDUCTORS SHALL BE MARKED WITH INSULATION CODE, VOLTAGE RATING, AWG SIZE, AND MANUFACTURER AND INCLUDE A CONTINUOUS COLOR CODING FROM PANEL TO LOAD SERVED. WHERE CONTINUOUS MARKINGS ARE NOT AVAILABLE, USE COLOR CODED TAPE AT EACH TERMINATION. #8 AWG AND
- SMALLER CONDUCTORS SHALL BE SPLICED WITH SPRING CONNECTORS. #6 AWG AND LARGER SHALL BE SPLICED WITH BARREL CONNECTORS REQUIRING COMPRESSION ON EACH END. 30. ALL EMERGENCY EGRESS, STANDBY LIGHTING, AND EXIT LIGHTING SHALL HAVE A BATTERY WITH RUN TIME MEETING OR EXCEEDING 90 MINUTES. THE BATTERY SHALL NOT BE CAPABLE OF BEING DISCONNECTED. REGARDLESS OF MODEL NUMBER SPECIFIED, LIGHT FIXTURES SPECIFIED WITH BACKUP BATTERY SHALL HAVE THE TEST BUTTON INTEGRALLY MOUNTED WHERE POSSIBLE. WHERE FIXTURES ARE NOT AVAILABLE WITH INTEGRALLY MOUNTED TEST BUTTONS, THE TEST BUTTONS SHALL BE LOCATED IN A DISCRETE LOCATION AS DETERMINED BY THE ENGINEER, UP TO 50' AWAY FROM THE FIXTURE.
- 31. ALL LIGHT FIXTURES SHALL BE SUPPORTED FROM THE BUILDING STRUCTURAL SYSTEM BY SUPPORT WIRES, INDEPENDENT OF CEILING GRID SYSTEMS. TROFFER TYPE FIXTURES SHALL BE SUPPORTED BY WIRES AT ALL FOUR CORNERS. RECESSED DOWNLIGHTS SHALL BE SUPPORTED VIA HANGER BARS SUPPORTED BY WIRES AT ALL FOUR CORNERS. SUPPORT MEANS SHALL BE IN ACCORDANCE WITH LOCAL SEISMIC REQUIREMENTS.
- 32. THE EQUIPMENT GROUNDING SYSTEM SHALL CONSIST OF AN ELECTRICALLY CONTINUOUS METALLIC CONDUIT SYSTEM TOGETHER WITH INSULATED EQUIPMENT GROUNDING CONDUCTORS EVERY ITEM SERVED BY THE ELECTRICAL SYSTEM SHALL BE PROPERLY GROUNDED IN ACCORDANCE WITH NEC ARTICLE 250. THIS SHALL INCLUDE RACEWAYS, JUNCTION/OUTLET BOXES, MACHINE FRAMES, ETC. ALL BRANCH CIRCUITS AND FEEDERS SHALL HAVE A GREEN INSULATED EQUIPMENT GROUNDING CONDUCTOR OR GROUND ELECTRODE SIZED IN ACCORDANCE WITH THE NEC. PROVIDE BONDING JUMPERS FOR ALL NON-CURRENT CARRYING CONDUCTORS OF DIFFERENT SYSTEMS TO ENSURE NO VOLTAGE POTENTIAL. METAL GAS PIPING SHALL ONLY BE GROUNDED AT EQUIPMENT HOUSING BOTH ELECTRICAL CIRCUITS AND UTILIZING GAS VIA THE EQUIPMENT GROUND ROUTED WITH THE CIRCUIT. ALL GROUND WIRES SHALL BE COPPER. 33. SUBMITTALS SHALL BE SUBMITTED ELECTRONICALLY, IN PDF FORMAT. THE CONTRACTOR SHALL ALLOW FOR A TOTAL OF 10 BUSINESS DAYS FOR REVIEW BY THE ENGINEER. SUBMITTALS SHALL
- INCLUDE PANELBOARDS, DISCONNECTS, WIRING DEVICES AND LIGHT FIXTURES. SUBMITTALS SHALL ONLY INCLUDE DATA RELEVANT TO THIS PROJECT; DATA SHEETS INDICATING SEVERAL PRODUCTS SHALL HAVE THE RELEVANT PRODUCTS HIGH-LITED OR CLEARLY IDENTIFIED. SIMILAR EQUIPMENT SHALL BE SUBMITTED IN ONE COMPLETE SUBMITTAL PACKAGE (I.E. ALL PANELBOARDS, ALL LIGHTING FIXTURES, ETC.).
- 34. PROVIDE PAD LOCKING HARDWARE ON CIRCUIT BREAKERS FOR EQUIPMENT WHICH IS HARDWIRED WITHOUT A LOCAL DISCONNECTING MEANS THAT ARE NOT WITHIN SIGHT OF THE PANELBOARD. 35. DUPLEX RECEPTACLES SHALL BE NEMA 5-20R.
- 36. WALL MOUNTED OCCUPANCY SENSORS SHALL BE ACUITY WSD PDT OR APPROVED EQUAL. CEILING MOUNTED OCCUPANCY SENSORS FOR CONFERENCE ROOMS, LOBBIES, AND OTHER SIMILAR AREAS SHALL BE DUAL TECHNOLOGY PASSIVE INFRARED AND ULTRASONIC SIMILAR TO ACUITY EMR PDT9. DEVICES SHALL BE MOUNTED SUCH THAT THE SENSORS HAVE FULL COVERAGE OF THE INTENDED AREAS AND PER THE MANUFACTURER'S RECOMMENDATIONS. PROVIDE ALL ACCESSORIES NECESSARY FOR A FULLY FUNCTIONING SYSTEM, INCLUDING POWER PACKS, CONTROL AND POWER WIRING, BACKBOXES, ETC. POWER PACKS FOR CEILING MOUNTED SENSORS SHALL BE PROVIDED, SIMILAR TO WATT STOPPER BZ-150. SENSORS SHALL BE WATT STOPPER, HUBBEL, COOPER, OR LUTRON PROVIDED IT IS EQUIVALENT OR EXCEEDS THE REQUIREMENTS LISTED HEREIN. THE CONTRACTOR SHALL FULLY COMMISSION THE OCCUPANCY SENSORS SYSTEM TO CONFIRM IT IS FUNCTIONING AS INTENDED.
- 37. MOLDED CASE CIRCUIT BREAKERS SHALL BE THERMAL MAGNETIC AND AMBIENT COMPENSATED INVERSE TIME-DELAY OVERLOAD AND INSTANTANEOUS SHORT CIRCUIT PROTECTED, FULL SIZE, BOLT-ON, WITH A QUICK-MAKE, QUICK-BREAK OVER-CENTER SWITCHING MECHANISM THAT IS MECHANICALLY TRIP-FREE FROM THE HANDLE SUCH THAT THE CONTACTS CAN NOT BE CLOSED AGAINST SHORT CIRCUITS. CONTACTS SHALL BE NON-WELDING SILVER ALLOY. TRIPPING DUE TO OVERLOAD OR SHORT CIRCUIT SHALL BE INDICATED BY THE BREAKER RESTING AT A MID POINT BETWEEN THE ON AND OFF POSITIONS. AMPERE AND FAULT CURRENT RATINGS SHALL BE CLEARLY VISIBLE. WHERE NEUTRALS ARE SHARED AMONG CIRCUITS, THE CONTRACTOR SHALL PROVIDE MULTI-POLE BREAKERS TO SIMULTANEOUSLY DISCONNECT ALL CIRCUITS IN THE EVENT OF ONE TRIPPING; IN THIS CASE SINGLE POLE BREAKERS MAY BE CONNECTED BY A COMMON TRIP HANDLE.
- 38. ALL FUSES SHALL BE DUAL-ELEMENT LOW PEAK CLASS RK1 AS MANUFACTURED BY BUSSMAN OR LITTLE FUSE. FUSE VOLTAGE RATING SHALL BE 250 VOLT FOR 120/208 VOLT SYSTEM 39. DISCONNECT SWITCHES SHALL BE HEAVY DUTY TYPE, HIGH 12T RATED, APPROVED FOR SERVICE ENTRANCE APPLICATIONS. DISCONNECT SWITCHES SPECIFIED FOR 208 VOLT CIRCUITS SHALL BE RATED AT 240 VOLT. ALL DISCONNECTS SHALL BE QUICK-MAKE, QUICK-BREAK TYPE AND HAVE PROVISIONS FOR ACCOMMODATING R TYPE FUSES. SWITCHES IN EXTERIOR LOCATIONS SHALL BE NEMA TYPE 4X, AND INDOOR SWITCHES EXPOSED TO WET OR DAMP CONDITIONS SHALL BE NEMA TYPE 3R. SWITCHES SHALL HAVE PROVISIONS FOR PADLOCKING. SWITCHES SHALL BE PREVENTED FROM OPENING WHILE SWITCH IS ON. FUSED DISCONNECTS SHALL BE PROVIDED WHEN REQUIRED BY THE MANUFACTURER OR BY THE LOCAL INSPECTING AUTHORITY. 40. ALL 15 AND 20A RECEPTACLES LOCATED IN KITCHENS, WITHIN 6' OF SINKS, BATHROOMS, IN EXTERIOR LOCATIONS, IN AREAS EXPOSED TO WET CONDITIONS, ROOFTOPS SHALL BE GFI TYPE. IF A
- SIMPLEX RECEPTACLE IS REQUIRED. THE CIRCUIT BREAKER SHALL BE GFI TYPE.
- 41. PANELBOARDS SHALL HAVE COPPER FULL SIZE PHASE BUSSES. NEUTRAL BUSSES, AND BOLTED ON COPPER GROUNDING BUS WITH MAIN LUGS, BUS BAR CONNECTIONS SHALL BE COLUMN. CONSECUTIVE PHASE-SEQUENCE TYPE. BUS BARS SHALL BE DRILLED AND EQUIPPED FOR BOLT-ON MOLDED CASE CIRCUIT BREAKERS. SHORT CIRCUIT BRACING AND BREAKER INTERRUPTING CAPACITY SHALL BE AS INDICATED ON THE PANEL SCHEDULES, BUT SHALL NOT BE BELOW 10,000 A.I.C. FOR 120/208V PANELS AND 14,000 A.I.C. FOR 277/480V PANELS. PANEL CONSTRUCTION SHALL BE HINGED DOOR IN DOOR COVERS WITH MASTER-KEYED DOOR LOCKS, GALVANIZED SHEET STEEL CABINETS WITH MULTIPLE KNOCKOUTS, WIRING GUTTERS, AND SPACE FOR A TYPED CIRCUIT DIRECTORY. MAIN BREAKERS OR MAIN LUGS ONLY SHALL BE PROVIDED AS INDICATED IN THE PANEL SCHEDULES. PANELS SHALL BE PROVIDED WITH FEED THRU LUGS UNLESS OTHERWISE NOTED.
- 42. UNDERGROUND CONDUIT SHALL BE PVC, EXTERIOR EXPOSED CONDUIT SHALL BE RIGID AND INTERIOR CONDUIT SHALL BE EMT.

	ELECTRICAL LEGEND			ELECTR	RICAL ABBREVIATIONS		
	DESCRIPTION						
		1PH 1P	SINGLE-PHASE SINGLE POLE	DMR SW DPS	DIMMER SWITCH DOOR POSITION SWITCH	MDP MECH	MAIN DISTRIBUTION PANEL MECHANICAL
	SINGLE POLE SWITCH	2/C 3/C	TWO-CONDUCTOR THREE-CONDUCTOR	DN DPDT	DOWN DOUBLE POLE, DOUBLE THROW	MG MH	MOTOR GENERATOR MANHOLE
	THREE WAY WALL MOUNTED SWITCH	3PH 4/C	THREE-PHASE FOUR-CONDUCTOR	DPST DR	DOUBLE POLE, SINGLE THROW DOOR CARD READER / PUSH TO	MIN MOCP	MINIMUM MAXIMUM OVERCURRENT
	WALL MOUNTED OCCUPANCY SENSOR	4W	FOUR-WIRE	DRSW	EXIT BUTTON DOOR SWITCH	MLO	PROTECTION MAIN LUGS ONLY
	CEILING MOUNTED OCCUPANCY SENSOR	A/C UNIT A/E	AIR CONDITIONING UNIT ARCHITECT/ENGINEER	DS DWG	DISCONNECT SWITCH DRAWING	MT MTD	MOUNT MOUNTED
1	EMERGENCY EXIT COMBO LIGHT	AAP	ALARM ANNUNCIATOR PANEL ALTERNATING CURRENT OR	EC	EMPTY CONDUIT	MTG MTS	MOUNTING MANUAL TRANSFER SWITCH
	EMERGENCY LIGHT	ACC	ARMORED CABLE ACCESSIBLE	ED EG	ELECTRIC EXIT DEVICE EQUIPMENT GROUND	MV MVA	MEDIUM VOLTAGE MEGAVOLT-AMPERE
	REMOTE HEAD	ADDL ADJ	ADDITIONAL ADJACENT, ADJOINING	EL ELEC	ELEVATION ELECTRIC OR ELECTRICAL	MW	MEGAWATT MICROWAVE
_	WALL PACK LIGHT FIXTURE	ADO AF	AUTOMATIC DOOR OPENER AMPERE FRAME OR AMP FUSE	ELEV EMCP	ELEVATOR EMERGENCY MONITORING	NA NEC	NOT APPLICABLE NATIONAL ELECTRICAL COD
_		AFC	ABOVE FINISHED COUNTER, AUTOMATIC FREQUENCY	EMER	CONTROL PANEL EMERGENCY	NEMA	NATIONAL ELECTRICAL MANUFACTURERS
_	2'X2' LED TROFFER LIGHT FIXTURE		CONTROL, OR AVAILABLE FAULT CURRENT	EMI	ELECTROMAGNETIC INTERFERENCE	NEUT OR N	ASSOCIATION
	2'X4' LED TROFFER LIGHT FIXTURE	AFF AFG	ABOVE FINISHED FLOOR ABOVE FINISHED GRADE	EMT ENCL	ELECTRICAL METALLIC TUBING ENCLOSURE	NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
	EXHAUST FAN	AH	AMPERE HOUR AUTHORITY HAVING	EPO	EMERGENCY POWER OFF EXPLOSION PROOF	NIC NL	NOT IN CONTRACT NIGHT LIGHT
	EXHAUST FAN THERMOSTAT	AIC	JURISDICTION AMPERE INTERRUPTING	ESMT EWC	EASEMENT ELECTRIC WATER COOLER	NO NS	NORMALLY OPEN NO SCALE
	MAIN DISTRIBUTION PANEL	ALT	CAPACITY ALTERNATE	EWH EXIST	ELECTRIC WATER HEATER EXISTING	NTS	NOT TO SCALE
+	POWER PANEL ''	AMB OR A AMP		FA	FIRE ALARM	OC OD	ON CENTER OUTSIDE DIAMETER
	FIELD LIGHTING CONTROL PANEL	AP	WIRELESS ACCESS POINT ARCHITECT	FAAP	FIRE ALARM ANNUNCIATOR	OL	OVERLOAD
		ASC	AMPS SHORT CIRCUIT AMPERE TRIP	FABL FABX	FANEL FIRE ALARM BELL FIRE ALARM BOX	P PA	POLE PUBLIC ADDRESS
	TRANSFORMER	AT ATS AUTO	AUTOMATIC TRANSFER SWITCH AUTOMATIC	FABX FACP FC	FIRE ALARM BOX FIRE ALARM CONTROL PANEL FOOTCANDLE	PA PB	PUBLIC ADDRESS PANELBOARD, PULL BOX, OF PUSHBUTTON
	BOX & 1" CONDUIT ABOVE CEILING	AUTO	AUDIO VISUAL	FC FI FIXT	FUDICANDLE FILM ILLUMINATOR FIXTURE	PBPU	POSHBOTTON PREFABRICATED BEDSIDE PATIENT UNIT
	AUTOMATIC TRANSFER SWITCH	BAT BC	BATTERY BARE COPPER	FLA FLEX	FIXTORE FULL LOAD AMPS FLEXIBLE METALLIC CONDUIT	PCB PEC	PATIENT UNIT POLYCHLORINATED BIPHENY PHOTOELECTRIC CELL
ſ	MANUAL TRANSFER SWITCH	BC BD BFF	BARE COPPER BOARD BELOW FINISH FLOOR	FLEX FLT FLUOR	FLEXIBLE METALLIC CONDOTT FLOODLIGHT FLUORESCENT	PEC PED PEND	PHOTOELECTRIC CELL PEDESTAL PENDANT
	POWER PACK	BIL BLDG	BASIC INSULATION LEVEL BUILDING	FLUOR FIX		PF PH	POWER FACTOR PHASE
	120V DUPLEX RECEPTACLE	BPIP	BOILER PLANT INSTRUMENTATION	FP FT	FIRE PROTECTION FEET OR FOOT	PNL POD	PASE PANEL POWER OPERATED DAMPER
	GROUND FAULT INTERRUPTER DUPLEX RECEPTACLE	BRKR	PANEL BREAKER	FU SW FVNR	FUSED SWITCH FULL VOLTAGE	POD PT PTRV	POWER OPERATED DAMPER POWER TRANSFER HINGE POWER TYPE ROOF
	GROUND FAULT INTERRUPTER DUPLEX RECEPTACLE W/	BYP	BY PASS	FVR	NON-REVERSING FULL VOLTAGE REVERSING	PVC	VENTILATION POLYVINYL CHLORIDE
	WEATHERPROOF IN-USE COVER	C CAB	CONDUIT CABINET	G OR GND		PVC	POLYVINYL CHLORIDE (PLASTIC) POWER
	GROUND FAULT INTERRUPTER DUPLEX RECEPTACLE W/	CAB CALC CAP	CABINET CALCULATE CAPACITY	GEN GECI	GROUND OR GENERATOR GENERATOR GROUND FAULT CIRCUIT	RCP	POWER
	WEATHERPROOF IN-USE COVER 30 AMP, NEMA L5-30R SINGLE, LOCKING RECEPTACLE	CAP CAT CATV	CAPACITY CATALOG COMMUNITY ANTENNA	GFCI	GROUND FAULT CIRCUIT INTERRUPTER GROUND TERMINAL BOX	RCP REC RECPT	REFLECTED CEILING PLAN RECESSED RECEPTACLE
	(INSTALLED 80" ABOVE FINISHED FLOOR)	CATV	TELEVISION CONTROL CONTACTOR	HID	GROUND TERMINAL BOX	RGS	RECEPTACLE RIGID GALVANIZED STEEL ROOM
	QUAD RECEPTACLE	CCTV	CLOSED CIRCUIT TELEVISION	HOA	HAND-OFF-AUTOMATIC	RMS	ROOT MEAN SQUARE
	FLOOR MOUNTED GFI DUPLEX RECEPTACLE	CD CF	CANDELA CONSTRUCTION DOCUMENTS CONTRACTOR FURNISHED	HP HT HZ	HORSEPOWER HEIGHT HERTZ	REQD SCC	REQUIRED SHORT CIRCUIT CAPACITY
	(PLASTIC FLOOR BOX W/ STAINLESS STEEL COVER)	CF CF/CI	CONTRACTOR FURNISHED CONTRACTOR FURNISHED/ CONTRACTOR INSTALLED	HZ		SES SD	SHORT CIRCUIT CAPACITY SERVICE ENTRANCE SECTIO SMOKE DETECTOR
	FLOOR MOUNTED QUAD RECEPTACLE W/ VOICE/DATA (DUAL DATA DROP & PLASTIC FLOOR BOX W/ STAINLESS	CF/OI	CONTRACTOR INSTALLED CONTRACTOR FURNISHED/ OWNER INSTALLED	IESNA	SOCIETY OF NORTH AMERICA	SD SF SHT	SMOKE DETECTOR SQUARE FOOT (FEET) SHEET
	STEEL COVER)	CFE	CONTRACTOR FURNISHED EQUIPMENT	INC INCAND IR	INTERMEDIATE METAL CONDUIT INCANDESCENT INFRARED	SHI SI	INTERNATIONAL SYSTEM OF
	VOICE/ DATA (DUAL DATA DROP, BOX & 3/4" EMT CONDUIT IN WALL TO ABOVE CEILING GRID)	CHW CHWP	CHILLED WATER CHILLED WATER PUMP	IWH	INFRARED INSTANTANEOUS WATER HEATER	SPEC SPST	SPECIFICATION SINGLE POLE, SINGLE THRO
	CEILING DUAL DATA DROP (BOX & 3/4" EMT CONDUIT	CHWP CTB CKT	CHILLED WATER POMP CEILING JUNCTION BOX CIRCUIT	J-BOX	JUNCTION BOX	SURF SW	SINGLE POLE, SINGLE THRO SURFACE SWITCH
	ABOVE CEILING GRID)	CKT BRKF	R CIRCUIT BREAKER			SWBD	SWITCHBOARD
Ţ	CEILING MOUNTED WIRELESS ACCESS POINT W/ POWER	CLF CLG CMU	CURRENT LIMITING FUSE CEILING CONCRETE MASONRY LINIT	kV kVA kVAH	KILOVOLT KILOVOLT AMPERE	SWGR	
	OVER ETHERNET (BOX & 3/4" EMT CONDUIT ABOVE CEILING)	CMU COAX	CONCRETE MASONRY UNIT COAX CABLE	kVAH kVAR	KILOVOLT AMPERE PER HOUR KILOVOLT AMPERE REACTIVE	TC TEL TD	TIME CLOCK TELEPHONE
	DOOR ENTRY - NUMBER PAD	COMM COMPT	COMMUNICATION COMPARTMENT	kW kWH	KILOWATT KILOWATT HOUR	TP TPS TTP	TWISTED PAIR TWISTED PAIR SHIELDED
	ELECTRICAL DOOR STRIKE	CONC CONT	CONCRETE CONTINUE	kWHM		TTB TV TVD	TELEPHONE TERMINAL BOAF
	PUSH BUTTON FOR DOOR ENTRY	CONTR COORD	CONTRACTOR COORDINATE	LED LF	LIGHT EMITTING DIODE LINEAR FEET (FOOT)	TYP	
	(MOUNTED UNDER DESK)	CPT	CONTROL POWER TRANSFORMER	LM LP	LUMEN LIGHT POLE	UFD UGND	UNDERFLOOR DUCT UNDERGROUND
1	CONTROL TRANSFORMER 120V INPUT, COORDINATE	CRI CT	COLOR RENDERING INDEX CURRENT TRANSFORMER	LPS LRA	LOW PRESSURE SODIUM LOCKED ROTOR AMPS	UL UON	UNDERWRITERS LABORATOR
	OUTPUT W/ ELECTRIC DOOR STRIKE ABOVE CEILING MOUNTED JUNCTION BOX FOR	CTV CU	CABLE TELEVISION COPPER	LTCP	LOCAL TEMPERATURE CONTROL	UPS	UNINTERRUPTIBLE POWER SUPPLY
	PROCEDURE LIGHT	CU FT CUR	CUBIC FEET CURRENT	LT	PANEL LIGHT	UTIL	UTILITY
1	HOT WATER CIRCULATOR PUMP	DB	DECIBEL OR DIRECT BURIAL	LTG LTG PNL	LIGHTING LIGHTING PANEL	V VA	VOLT VOLT AMPERE
	TV OUTLET (RECEPTACLE, DUAL DATA & COAX)	DC DCP	DIRECT CURRENT DIMMER CONTROL PANEL	LTNG LV	LIGHTNING LOW VOLTAGE	VAR VFD	VOLT AMPERE REACTIVE VARIABLE FREQUENCY DRIV
	DOOR ENTRY - CARD SWIPE	DEG C DEG F	DEGREES CELSIUS DEGREES FAHRENHEIT	MATV	MASTER ANTENNA TELEVISION	VOLT	VOLTAGE
	AUDIO/ VIDEO PASS-THRU (HDMI)	DEMO DIAG	DEMOLITION DIAGRAM	MAX	SYSTEM MAXIMUM	W WH	WATT WATER HEATER
+		DISC DISTR	DISCONNECT DISTRIBUTION	MC MCA	METAL-CLAD MINIMUM CIRCUIT AMPS	WP	WEATHERPROOF
		DISTR PN DJB	L DISTRIBUTION PANEL DOOR JUNCTION BOX	MCB MCC	MAIN CIRCUIT BREAKER MOTOR CONTROL CENTER	XFER XFMR	TRANSFER TRANSFORMER
	WALL MOUNTED TELEVISION W/ FULL MOTION ARTICULATING WALL MOUNT		NOTI	E: NOT ALL A	BBREVIATIONS MAY APPLY TO PLA	NS	
	WALL MOUNTED WORK STATION	·					
	(OWNER PROVIDED & GC INSTALLED)	 	DRAWING IN	DEX			
	DISCONNECT (NEMA 1 INSIDE BUILDING & NEMA 3R OUTSIDE BUILDING)	SHEET	SHEET TITLE		REV # DATE		
	FLOOR MOUNTED GFI QUAD RECEPTACLE		ELECTRICAL NOTES, LEGEND AND A	BREAS	-		
	(PLASTIC FLOOR BOX W/ STAINLESS STEEL COVER)		ELECTRICAL DEMO PLAN		-		
	FLOOR MOUNTED VOICE/ DATA (PLASTIC FLOOR BOX W/ STAINLESS STEEL COVER)		ELECTRICAL PLAN	CHEDUIF	-		
+	ALTRONIX AL1012ULACMCB, POWER SUPPLY/ CHARGES		DETAILS AND I AND S				
	W/ MULTI-OUTPUT ACCESS POWER CONTROLLER						

SYMBOL

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EXIT

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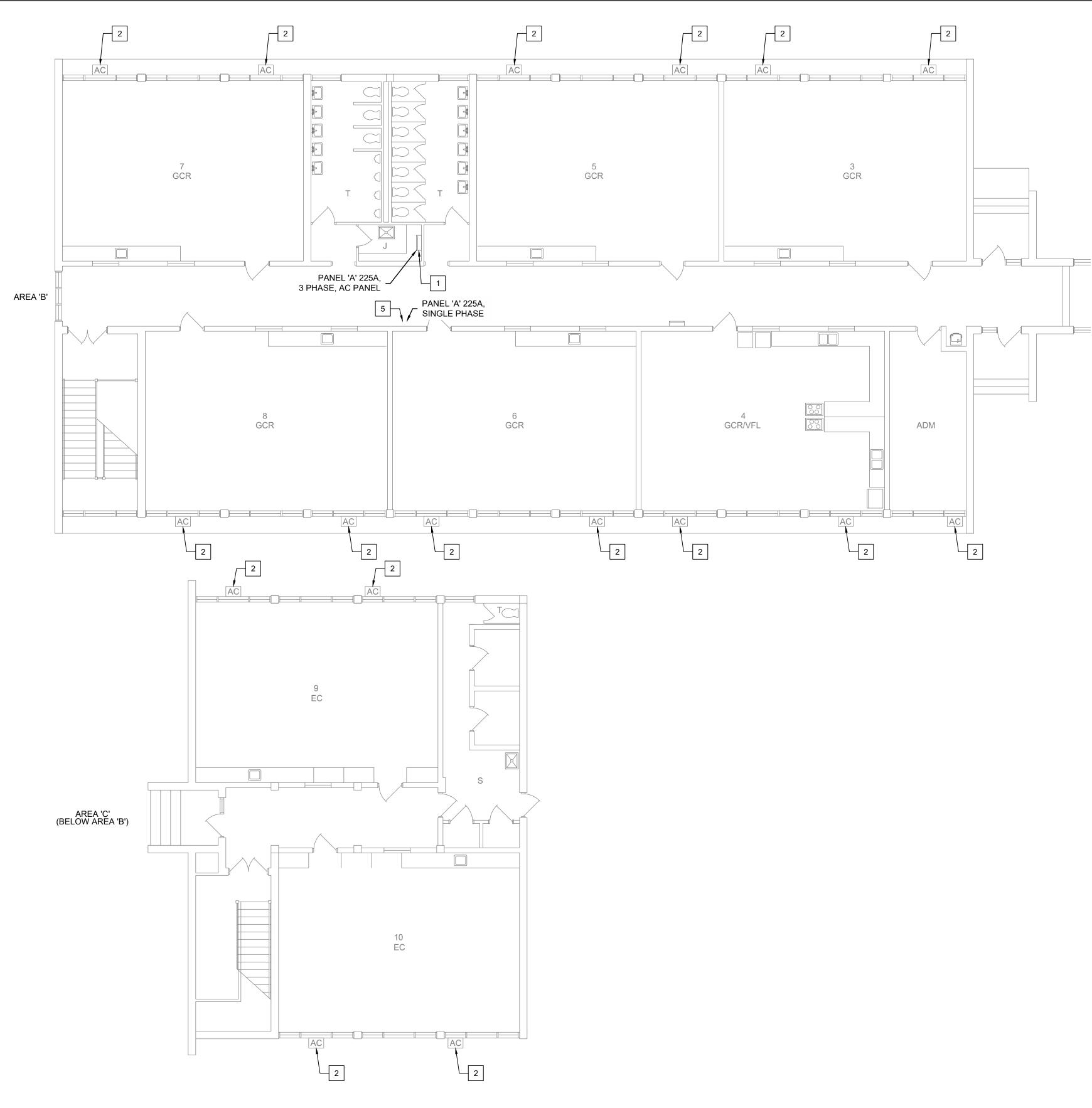
FLR ,

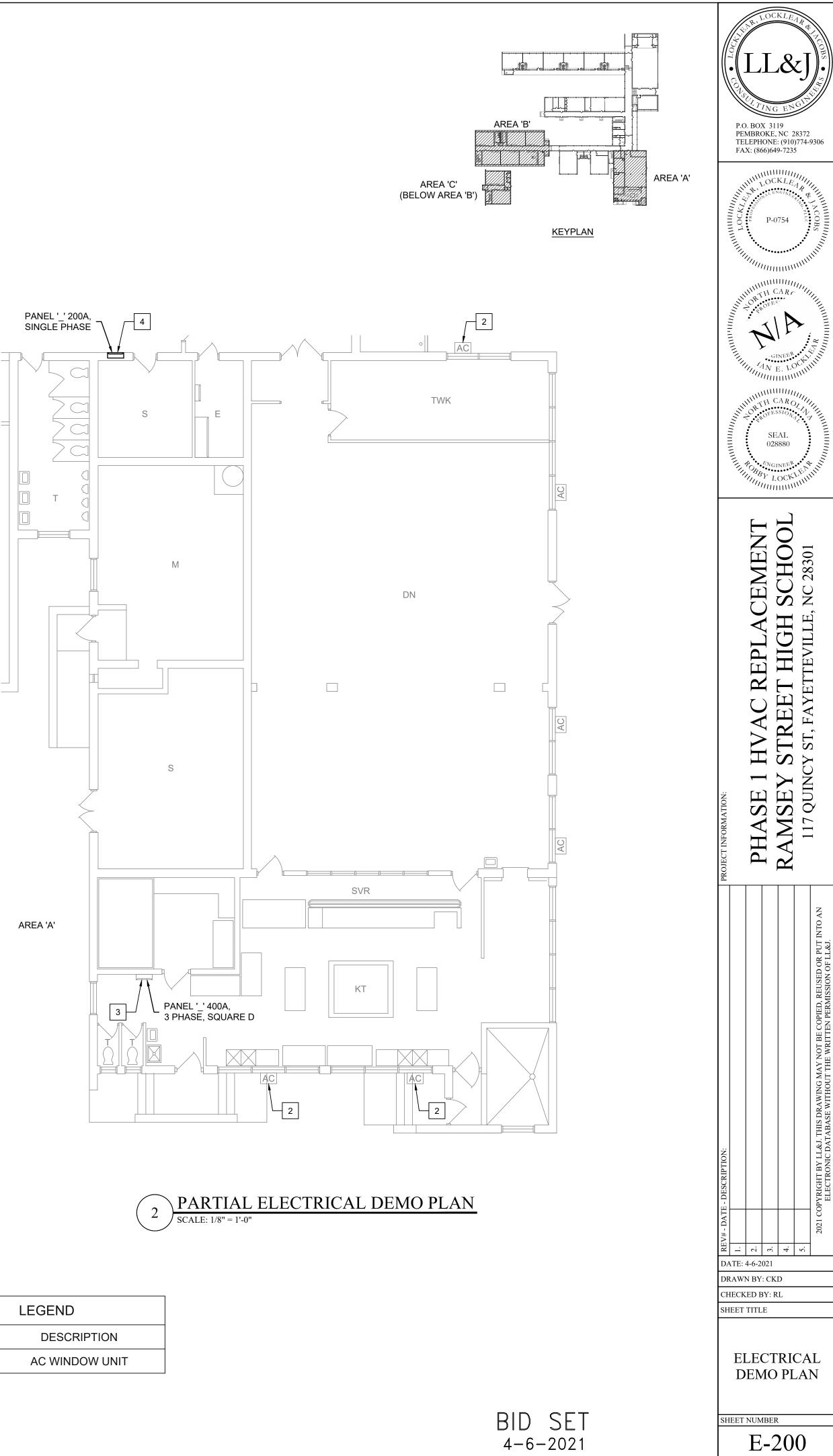
PS

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NOTE: NOT ALL SYMBOLS SHOWN ARE NECESSARILY USED

P.O. BOX 3119 PEMBROKE, NC 28372 TELEPHONE: (910)774-9306 FAX: (866)649-7235 A CAR A CAR SEAL 028880 ΓT) 2 L L L $\infty \infty \infty$ 1 2 8 DATE: 4-6-2021 DRAWN BY: CKD HECKED BY: RL SHEET TITLE ELECTRICAL NOTES, LEGEND AND ABBREVS HEET NUMBER E-100 PROJECT# 20-11022





) 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.

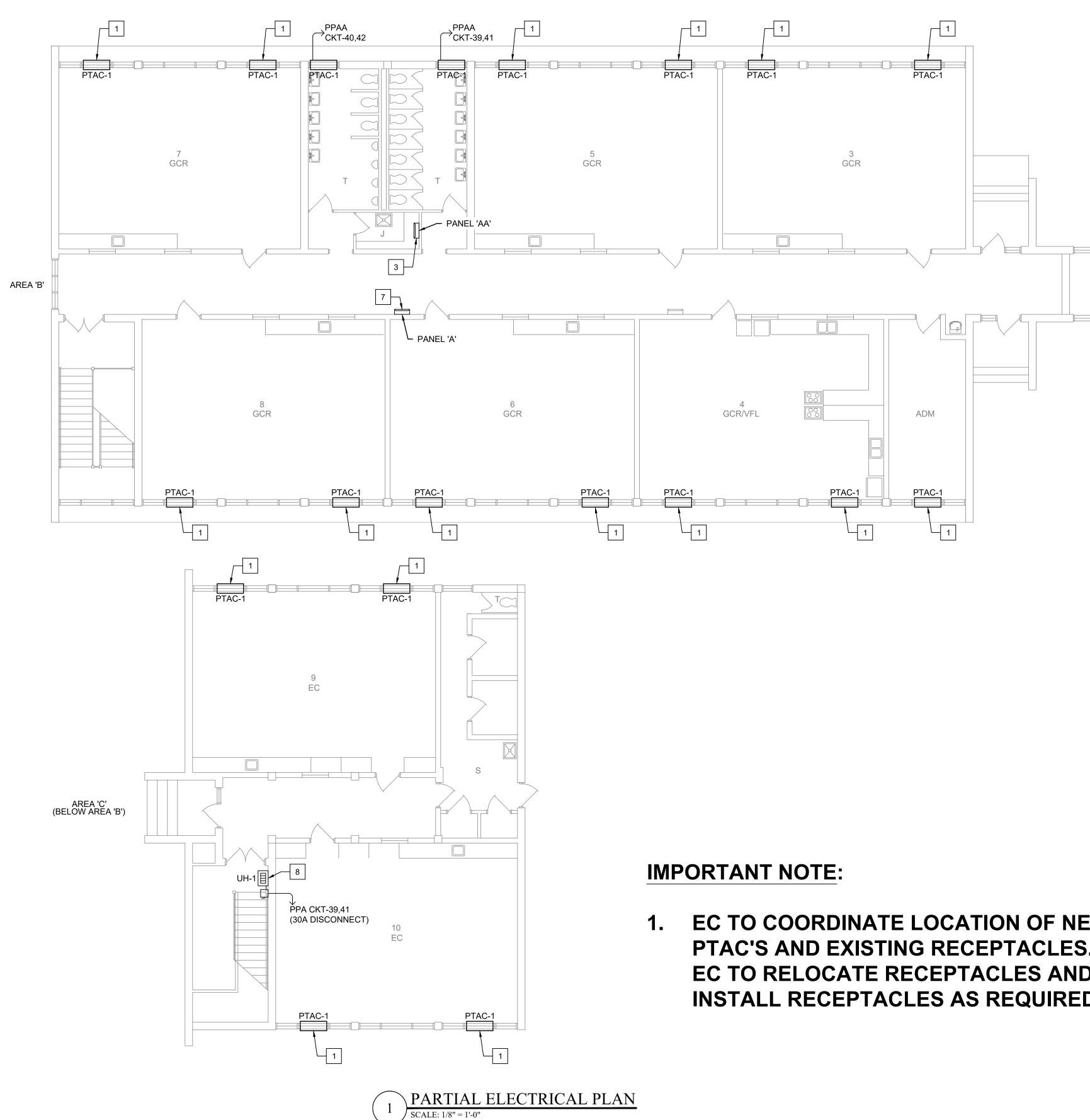
4 DEMO 200A, SINGLE PHASE, PANEL '_' (NEW PANEL TO BE INSTALLED IN ITS PLACE, CIRCUITS TO BE RECONNECTED).

5 DEMO 225A, SINGLE PHASE, PANEL 'A' (NEW PANEL TO BE INSTALLED IN ITS PLACE, CIRCUITS TO BE RECONNECTED).

SYMBOL AC

DR E I

PROJECT# 20-11022



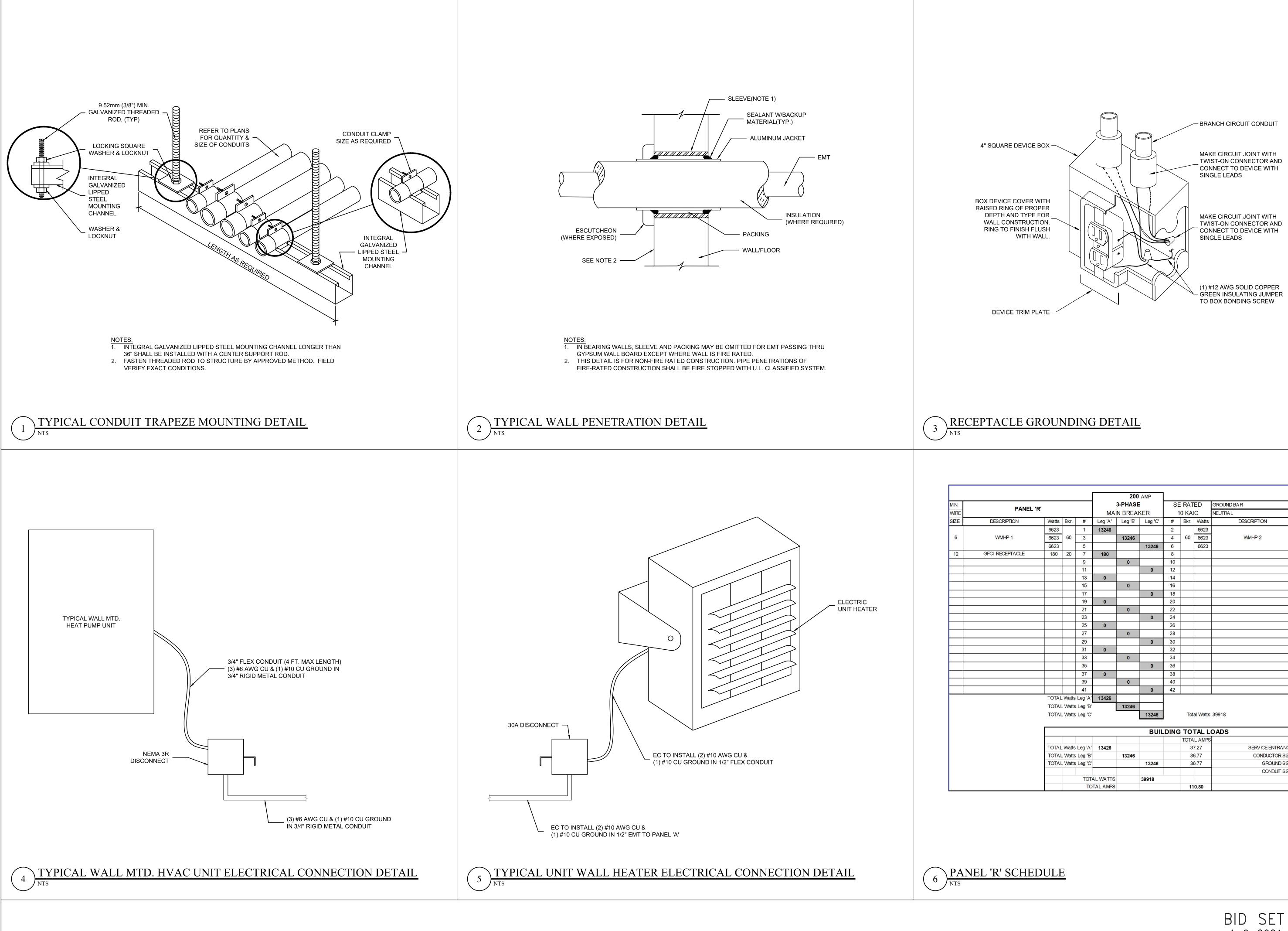
KEY NOTES:

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 '_'. 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).

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

		Image: series of the series	P.O. BOX 3119 PEMBROKE, NC 28372 TELEPHONE: (910)774-9306 FAX: (866)649-7235 P-0754 P-0754 P-0754
	6 7 7 1600A, MDP 4 1600A, MDP	PPR CKT-1,3,5 (3 PHASE 60A CIRCUIT) WMHP-1 PPR CKT-7	CINEER CAN E. LOCKLOW CHOOR CORECT CONTRACTOR CON
		PPR CKT-2,4,6 (3 PHASE 60A CIRCUIT) WMHP-2	PROJECT INFORMATION: PHASE 1 HVAC REPLAC RAMSEY STREET HIGH 117 QUINCY ST, FAYETTEVILLE,
	AREA 'A' AREA 'A' PANEL ' '400A, 3 PHASE, SQUARE D THE PANEL ' '400A, 3 PHASE, SQUARE D THE PANEL ' '400A, 1 PANE	N	# - DATE - DESCRIPTION:
	LEGEND		$\begin{array}{c ccccccccccccccccccccccccccccccccccc$
IBOL	DESCRIPTION WINDOW MTD. PACKAGED TERMINAL AC UNIT		DRAWN BY: CKD CHECKED BY: RL SHEET TITLE
≤ ĭ	WALL MTD. HEAT PUMP NEMA 3R DISCONNECT GFCI RECEPTACLE W/ WEATHERPROOF IN USE COVER		ELECTRICAL PLAN
	UNIT WALL HEATER	BID SET 4-6-2021	SHEET NUMBER E-300 PROJECT# 20-11022

AREA 15 (BELOW AREA 15) KEYPLAN GELOWAREA 15) KEYPLAN	P.O. BOX 3119 PEMBROKE, NC 28372 TELEPHONE: (910)774-930 FAX: (866)649-7235 P-0754 P-0754 P-0754 P-0754 P-0754 P-0754 CGINEER CONTENT AN E. LOCKLEN
I 1800A, MDP	PHASE 1 HVAC REPLACEMENT PHASE 1 HVAC REPLACEMENT RAMSEY STREET HIGH SCHOOL 117 QUINCY ST, FAYETTEVILLE, NC 28301
AREA 'A' AREA 'A' PAREL' '400A, 3PHASE, SOUARE D TTAC-1 VIT VIT VIT VIT VIT VIT VIT VIT	Image: Stress of the stres of the stress of the stress of the stress
WALL MTD. HEAT PUMP Image: NEMA 3R DISCONNECT WP + GFCI RECEPTACLE W/ WEATHERPROOF IN USE COVER Image: UNIT WALL HEATER BID SET 4-6-2021	ELECTRICAL PLAN SHEET NUMBER E-300 PROJECT# 20-11022





					200) AMP						
				3-PHASE MAIN BREAKER			SE	RAT	ΈD	GROUND BAR	MIN.	
PANEL '	R'						10 KAIC				WIRE	
CRIPTION	Watts	Bkr.	#	Leg 'A'	Leg 'B'	Leg 'C'	#	Bkr.	Watts	DESCRIPTION	SIZE	
	6623		1	13246			2		6623			
MHP-1	6623	60	3		13246		4	60	6623	WMHP-2	6	
	6623	1	5			13246	6	1	6623			
ECEPTACLE	180	20	7	180			8					
			9		0		10					
			11			0	12					
			13	0			14					
			15		0		16					
			17			0	18					
			19	0			20					
			21		0		22					
			23			0	24					
			25	0			26					
			27		0		28					
			29			0	30					
			31	0			32					
			33		0		<mark>34</mark>					
			35			0	36					
			37	0			38					
			39		0		40					
			41			0	42					
	TOTAL	Watts	Leg 'A'	13426								
	TOTAL	Watts	Leg 'B'		13246							
	TOTAL	Watts	Leg 'C'			13246		Tot	al Watts	39918		
						BUIL	DING	TO	TAL L	OADS		
								-	LAMPS			
	TOTAL	Watts	Leg 'A'	13426				-	7.27	SERVICE ENTRANCE	200	AMP
			Leg 'B'		13246	_			6.77	CONDUCTOR SIZE	3/0	AWC
			Leg 'C'			13246			6.77	GROUND SIZE	4	AWC
										CONDUIT SIZE	2	INCH
			TOT	AL WATTS		39918	1					
			то	TAL AMPS				11	0.80			

4-6-2021

