

**PROJECT: BCS OWEN HIGH SCHOOL  
 MEDIA CENTER DEHUMIDIFICATION  
 99 LAKE EDEN ROAD BLACK MOUNTAIN, NC 28711  
 BID DOCUMENTS**



**DESIGNER: SUD ASSOCIATES, P.A.**

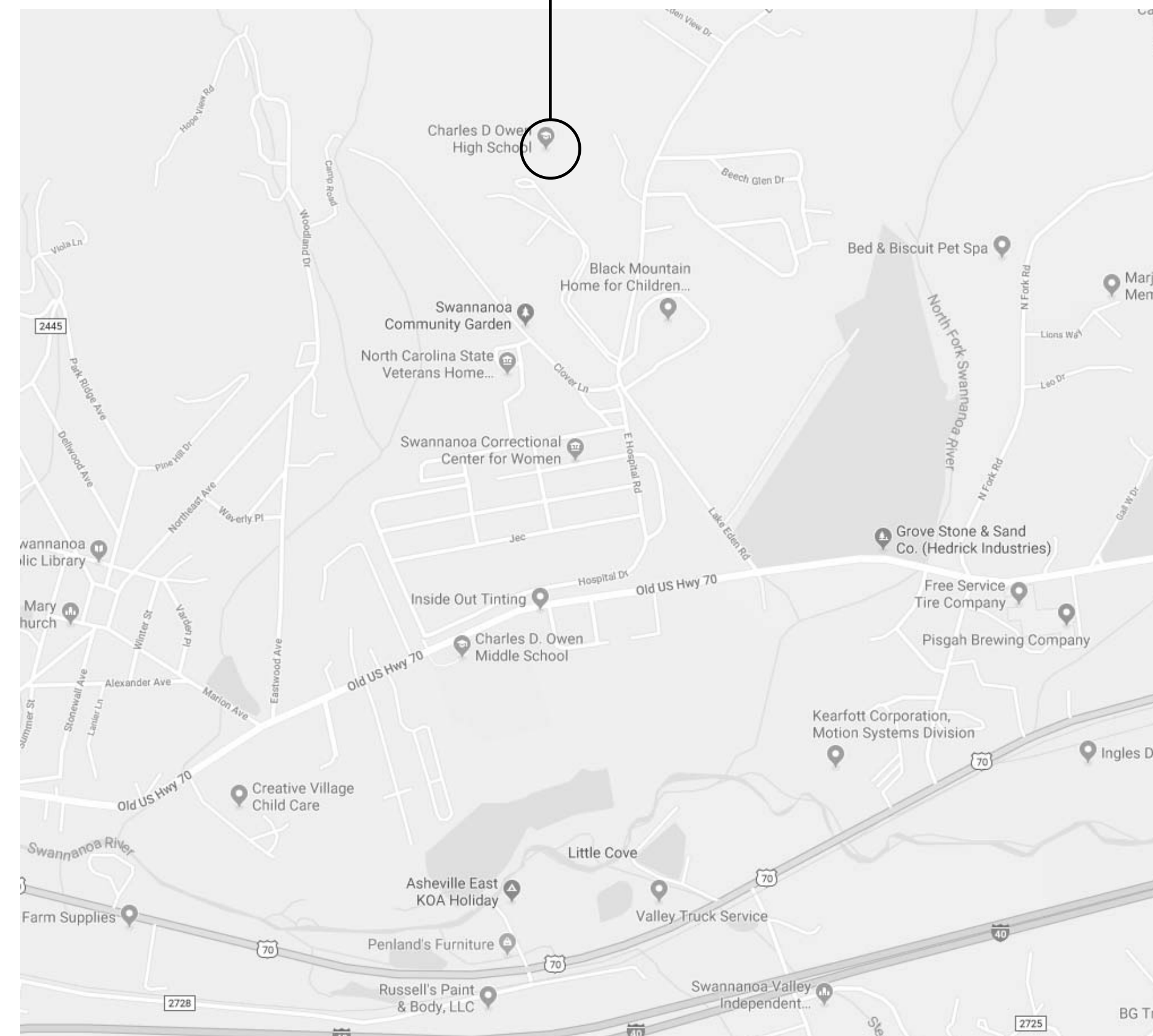
CONSULTING ENGINEERS  
 LICENSE NO. C-0315  
 PROJECT #18249

07/29/2019

**OWNER'S REPRESENTATIVE:** Mr. Jamie Messer,  
 HVAC Supervisor

SHEET LIST	
Sheet Number	Sheet Name
COVER	COVER
M-100	MECHANICAL SPECIFICATIONS & DETAILS
M-101	MECHANICAL FLOOR PLAN AND SCHEDULES
E-101	ELECTRICAL - POWER

BCS OWEN HIGH SCHOOL



**2018 APPENDIX B  
 BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS  
 (EXCEPT 1 AND 2-FAMILY DWELLINGS AND TOWNHOUSES)**  
 (Reproduce the following data on the building plans sheet 1 or 2)

Name of Project: BCS Owen High School Media Center Dehumidification  
 Address: 99 Lake Eden Road, Black Mountain, North Carolina Zip Code 28711  
 Owner/Authorized Agent: Jamie Messer Phone # ( 828 ) 775-5317 E-Mail Jamie.messer@bcsesmail.org  
 Owned By: County  
 Code Enforcement Jurisdiction: County

DESIGNER	FIRM	NAME	LICENSE #	TELEPHONE #	E-MAIL
Architectural					
Civil					
Electrical	Sud Associates	David L. Briggs	30835	(828)255-4691	dbriggs@sudassociates.com
Fire Alarm					
Plumbing					
Mechanical	Sud Associates	Jerome C. Hay	18486	(828)255-4691	jhay@sudassociates.com
Sprinkler-Standpipe					
Structural					
Retaining Walls >5' High					
Other					

2018 NC BUILDING CODE: Renovation  
 2018 NC EXISTING BUILDING CODE: N/A N/A N/A  
 CONSTRUCTED: (date) 1989 CURRENT OCCUPANCY(S) (Ch. 3): Education  
 RENOVATED: (date) PROPOSED OCCUPANCY(S) (Ch. 3):  
 RISK CATEGORY (Table 1604.5) Current: N/A Proposed: N/A

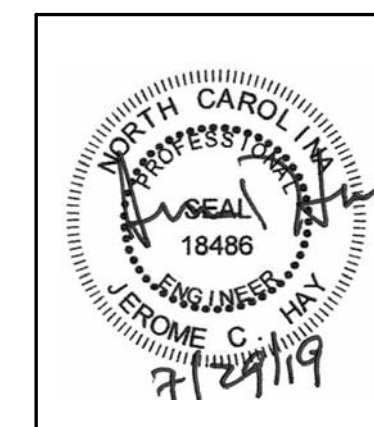
BASIC BUILDING DATA  
 Construction Type: II-E  
 Sprinklers: No N/A  
 Standpipes: No  
 Primary Fire District: No Flood Hazard Area: No  
 Special Inspections Required: No

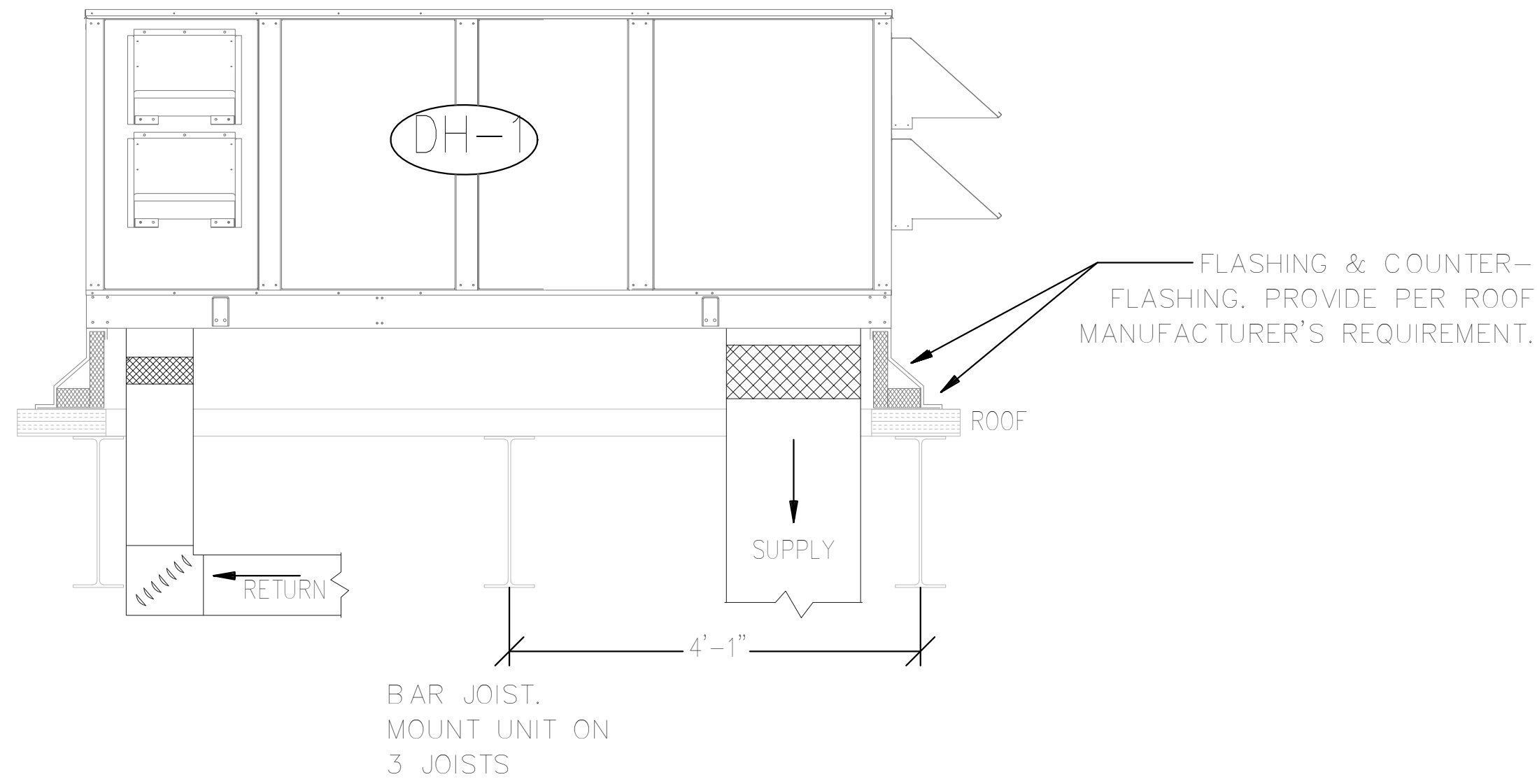
Gross Building Area Table			
FLOOR	EXISTING (SQ FT)	NEW (SQ FT)	SUB-TOTAL
3 <sup>rd</sup> Floor			
2 <sup>nd</sup> Floor			
Mezzanine	59,199		
1 <sup>st</sup> Floor	100,260		
Basement	37,877		
TOTAL	197,336		

2018 NC Administrative Code and Policies

**BID DOCUMENTS**

ID	Revision		PROJECT NUMBER	18249
	Date	Description		
			REVIEWED BY	JCH
			DESIGNED BY	JCH
			DRAWN BY	PSD
			DRAWING DATE	07.29.2019
			SHEET NUMBER	
			<b>COVER</b>	





**1 RTU ON ROOF DETAIL**  
NTS

**SPECIFICATIONS:**

**INTENT:** THESE OUTLINE SPECIFICATIONS AND ACCOMPANYING DRAWINGS DESCRIBE SCOPE OF WORK REQUIRED FOR MECHANICAL WORK. LABOR AND MATERIAL SHALL BE PROVIDED AS REQUIRED FOR A COMPLETE, WORKMANLIKE INSTALLATION OF ALL WORK SHOWN ON DIAGRAMMATIC DRAWINGS AND/OR AS SPECIFIED HEREIN.

**CODES, PERMITS, AND INSPECTIONS:** ALL WORK SHALL BE IN ACCORDANCE WITH APPLICABLE STATE AND LOCAL CODES AND NFPA REQUIREMENTS. OBTAIN ALL PERMITS REQUIRED, GIVE ALL LEGAL NOTICES, AND HAVE ALL WORK INSPECTED AS REQUIRED BY LOCAL OR STATE LAW.

**WORKMANSHIP:** COMPETENT SKILLFUL WORKMEN SHALL DO ALL WORK IN A FINISHED, THOROUGHLY SUBSTANTIAL AND CRAFTSMANLIKE MANNER. THIS IS INTENDED TO REFER PARTICULARLY TO SMALLER DETAILS NECESSARY BUT USUALLY NOT SPECIFIED OR INDICATED ON THE DRAWINGS. ALL SUB-STANDARD WORK, INSTALLED BY THIS CONTRACTOR, SHALL BE REPLACED BY THIS CONTRACTOR AT NO ADDITIONAL EXPENSE TO THE OWNER. IF THIS CONTRACTOR DAMAGES EXISTING WORK, HE SHALL PAY THE COST OF REPLACEMENT OF THE DAMAGED WORK AT NO ADDITIONAL EXPENSE TO THE OWNER. ENGINEER SHALL BE THE JUDGE OF WORKMANSHIP AND HIS OPINION SHALL BE FINAL.

**SUPERVISION:** CONSTANTLY SUPERVISE THE WORK FROM THE BEGINNING TO COMPLETION AND FINAL REVIEW.

**PROGRESS OF WORK:** DILIGENTLY PERFORM THE WORK AS RAPIDLY AS POSSIBLE AND MINIMIZE DISCOMFORT OF BUILDING OCCUPANTS.

**EQUIPMENT LOCATIONS:** DETERMINE EXACT EQUIPMENT AND MATERIALS LOCATIONS TO PROVIDE BEST ARRANGEMENT AND TO FACILITATE PROPER MAINTENANCE AND SERVICING OF EQUIPMENT. COORDINATE CLOSELY WITH OWNER.

**EQUIPMENT SUPPORTS:** PROVIDE ALL NECESSARY SUPPORTS FOR MOUNTING ALL EQUIPMENT AND PIPING, SUCH SUPPORTS TO BE INSTALLED IN A NEAT AND WORKMANLIKE MANNER.

**INTERFERENCES:** PLANS ARE GENERALLY DIAGRAMMATIC. CONTRACTOR SHALL AVOID INTERFERENCES WITH CONDUITS, PIPING, AND EQUIPMENT, ARCHITECTURAL AND STRUCTURAL WORK. NECESSARY OFFSETS IN FITTINGS, ETC., REQUIRED TO PROPERLY INSTALL EQUIPMENT SO AS TO TAKE UP A MINIMUM SPACE SHALL BE FURNISHED AND INSTALLED BY THIS CONTRACTOR WITH NO ADDITIONAL EXPENSE TO THE OWNER.

**UNDERWRITER'S LABORATORIES APPROVAL:** ALL ELECTRICAL EQUIPMENT FURNISHED SHALL BE UL APPROVED AND SHALL BE LABELED OR LISTED BY UL. NO EQUIPMENT SHALL BE APPROVED WHICH FAILS TO MEET THESE CONDITIONS.

**STORAGE OF MATERIAL:** CONSULT WITH THE OWNER FOR STORAGE SPACE AT THE JOB SITE IF REQUIRED. STORAGE SPACE MUST BE SECURED AND CONTRACTOR'S REPRESENTATIVE MUST BE ON JOB BEFORE ANY MATERIAL MAY BE RECEIVED. OWNER IS NOT RESPONSIBLE FOR SECURITY.

**CLEAN-UP:** REMOVE ALL DEBRIS DUE TO THIS WORK AND REPAIR, CLEAN AND REPLACE ALL SURFACES DAMAGED OR SOILED AS A RESULT OF THIS WORK AT NO ADDITIONAL EXPENSE TO THE OWNER. REMOVAL OF DEBRIS SHALL BE DAILY OR AS REQUIRED TO MAINTAIN SAFE, CLEAN WORKING CONDITIONS.

**SHOP DRAWINGS/SUBMITTAL DATA:** SUBMIT ELECTRONIC COPIES OF SHOP DRAWINGS/SUBMITTAL DATA FOR ALL EQUIPMENT AND MATERIALS FOR REVIEW. CLEARLY IDENTIFY ALL ITEMS.

**PLACING IN SERVICE, TESTS, INSTRUCTIONS AND MAINTENANCE:** MAKE ALL NECESSARY TESTS, TRIAL OPERATIONS, ETC., REQUIRED AND DIRECTED BY THE DESIGNER TO PROVE THAT ALL SYSTEMS ARE IN COMPLETE SERVICEABLE CONDITION AND WILL FUNCTION AS INTENDED. PROVIDE 3 COPIES OF SUBMITTAL, INSTALLATION AND MAINTENANCE DATA FOR ALL EQUIPMENT BOUND IN THREE RING BINDERS.

**WARRANTY:** CORRECT ANY DEFECTS IN WORKMANSHIP AND/OR MATERIAL WHICH OCCUR DURING THE FIRST YEAR OF OPERATION. WARRANTY CERTIFICATE FOR EQUIPMENT WILL COMMENCE UPON DATE OF ACCEPTANCE OF WORK BY OWNER. SUBMIT WRITTEN CERTIFICATE WITH MAINTENANCE DATA.

**HANGERS, SUPPORTS AND ANCHORS:** SUPPORT AND FASTEN ALL CONDUIT, PIPING, DUCTWORK, EQUIPMENT, ETC., SECURELY IN PLACE. SPACE, SECURE AND ADJUST HANGERS WITHOUT DEFLECTION OR SAG. CHAIN, STRAP, PERFORATED STRAP, WIRE HANGERS, OR WOOD PLUGS ARE PROHIBITED.

PROVIDE STEEL SUPPORTS, ANCHORS, FRAMES, BRACING, PLATES, BOLTS, NUTS, WASHERS, ETC., INCIDENTAL TO INSTALLATION OF WORK AS SPECIFIED OR REQUIRED.

SUPPORT EQUIPMENT FROM THE STRUCTURE IN AN APPROVED MANNER. NO PORTION OF THE STRUCTURE SHALL BE OVERSTRESSED BY THE HANGING OPERATION OR BY THE FINAL SUPPORTS. PROVIDE AUXILIARY STRUCTURAL MEMBERS WHERE REQUIRED BETWEEN MEMBERS OF THE STRUCTURE. INSTALL IN ACCORDANCE WITH THE REQUIREMENTS OF THE AISC AND ANSI B31.9.

ALL EQUIPMENT, UNLESS SHOWN OTHERWISE, SHALL BE SECURELY ATTACHED TO THE BUILDING STRUCTURE IN AN APPROVED MANNER. ATTACHMENTS THAT ARE, IN THE OPINION OF THE DESIGNER, INADEQUATE SHALL BE REPLACED AS DIRECTED.

**DUCTWORK:** DUCTS SHALL BE CONSTRUCTED FROM GALVANIZED COATED STEEL CONFORMING TO ASTM SPECIFICATION A527, COATING DESIGNATION G90, IN ACCORDANCE WITH SMACTA "HVAC DUCT CONSTRUCTION STANDARDS, METAL AND FLEXIBLE". CONFORM TO REQUIREMENTS IN THE REFERENCED STANDARD FOR METAL THICKNESS, REINFORCING TYPES AND INTERVALS, TIE ROD APPLICATIONS, AND JOINT TYPES AND INTERVALS. ALL DUCTWORK IS CLASSIFIED AS LOW PRESSURE DUCTWORK RATED AT 1" W.G.

SEAL ALL LOW PRESSURE DUCTWORK WITH DUCT SEALER, MINNESOTA MINING AND MANUFACTURING DUCT SEALER 800 OR EQUIVALENT.

CONDENSATE PIPING SHALL BE SCHEDULE 40 PVC CONFORMING TO ASTM D2865. FITTINGS SHALL BE SCHEDULE 40 PVC SOLVENT WELD FITTINGS CONFORMING TO ASTM D2466.

**INSULATION:** CONFORM TO THE FOLLOWING CHARACTERISTICS FOR INSULATION INCLUDING FACINGS, CEMENTS, AND ADHESIVES. WHEN TESTED IN ACCORDING TO ASTM E 84, BY U.L. LABELLED INSULATION WITH APPROPRIATE MARKINGS OF THE TESTING LABORATORY. ALL INSULATION MATERIALS APPLIED TO THE DUCTWORK SYSTEMS SHALL HAVE A MAXIMUM FLAME SPREAD OF 25 AND A SMOKE DEVELOPED RATING OF 50. NO JOINTS SHALL BE COVERED WITH INSULATION UNTIL ALL REQUIRED TESTS HAVE BEEN PERFORMED. FINISH INSULATION NEATLY AT ALL HANGERS, SUPPORTS AND OTHER PROTRUSIONS.

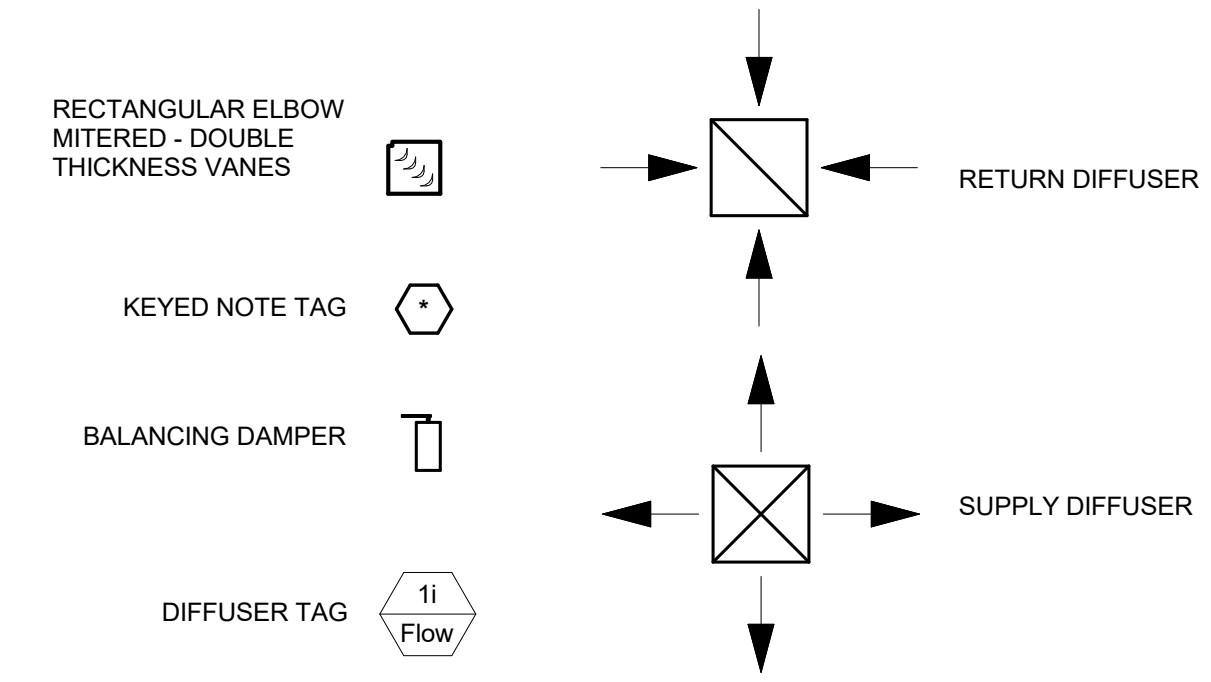
CLEAN AND DRY SURFACES TO RECEIVE INSULATION. REMOVE MATERIALS THAT WILL ADVERSELY EFFECT INSULATION APPLICATION. APPLY INSULATION MATERIALS, ACCESSORIES AND FINISHES ACCORDING TO THE MANUFACTURERS WRITTEN INSTRUCTIONS, WITH SMOOTH, STRAIGHT, AND EVEN SURFACES; FREE OF VOIDS THROUGHOUT THE LENGTH OF THE DUCTS AND FITTINGS. KEEP INSULATION MATERIALS DRY DURING APPLICATION AND FINISHING. APPLY INSULATION WITH TIGHT LONGITUDINAL SEAMS AND END JOINTS. BOND SEAMS AND JOINTS WITH ADHESIVE RECOMMENDED BY THE INSULATION MANUFACTURER. APPLY INSULATION OVER FITTINGS AND SPECIALTIES WITH CONTINUOUS THERMAL AND VAPOR-RETARDER INTEGRITY, UNLESS OTHERWISE NOTED. SEAL ALL PENETRATIONS AT HANGERS, SUPPORTS, ANCHORS, AND OTHER PROJECTIONS WITH VAPOR-RETARDER MASTIC.

INSULATE SUPPLY AND RETURN AIR DUCTS WITH 2" THICK 3/4 LB DENSITY DUCT WRAP WITH A MINIMUM R VALUE OF 6. PROPERLY TAPE AND SEAL TO PROVIDE A CONTINUOUS VAPOR BARRIER.

**ROOF TOP UNIT:** ROOF TOP UNITS SHALL BE AS LISTED IN THE SCHEDULE. PROVIDE FACTORY START UP AND SET UP.

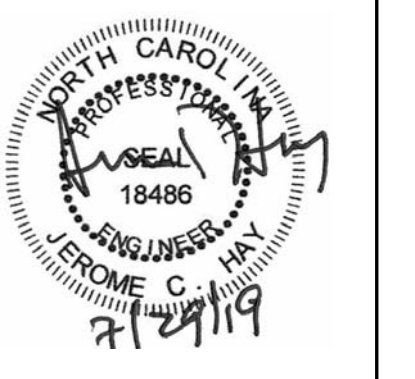
**AIR INLETS AND OUTLETS:** AIR INLETS AND OUTLETS SHALL BE AS LISTED IN THE SCHEDULE OR EQUAL BY PRICE OR NAILOR.

**TEST AND BALANCE:** PROVIDE TEST AND BALANCE, SET GRILLES TO VALUES SHOWN. TAB AGENCY TO BE HIRED DIRECTLY BY OWNER OUTSIDE OF THIS CONTACT.



**MECHANICAL LEGEND**  
NTS

**SUD ASSOCIATES, P.A.**  
CONSULTING ENGINEERS  
LICENSE NO. C-0315  
1813 CHAPEL HILL ROAD  
DURHAM, NORTH CAROLINA  
(919) 493-5277  
FLAT IRON BUILDING SUITE 706  
20 BATTERY PARK AVENUE  
ASHEVILLE, NORTH CAROLINA  
(828) 255-4691



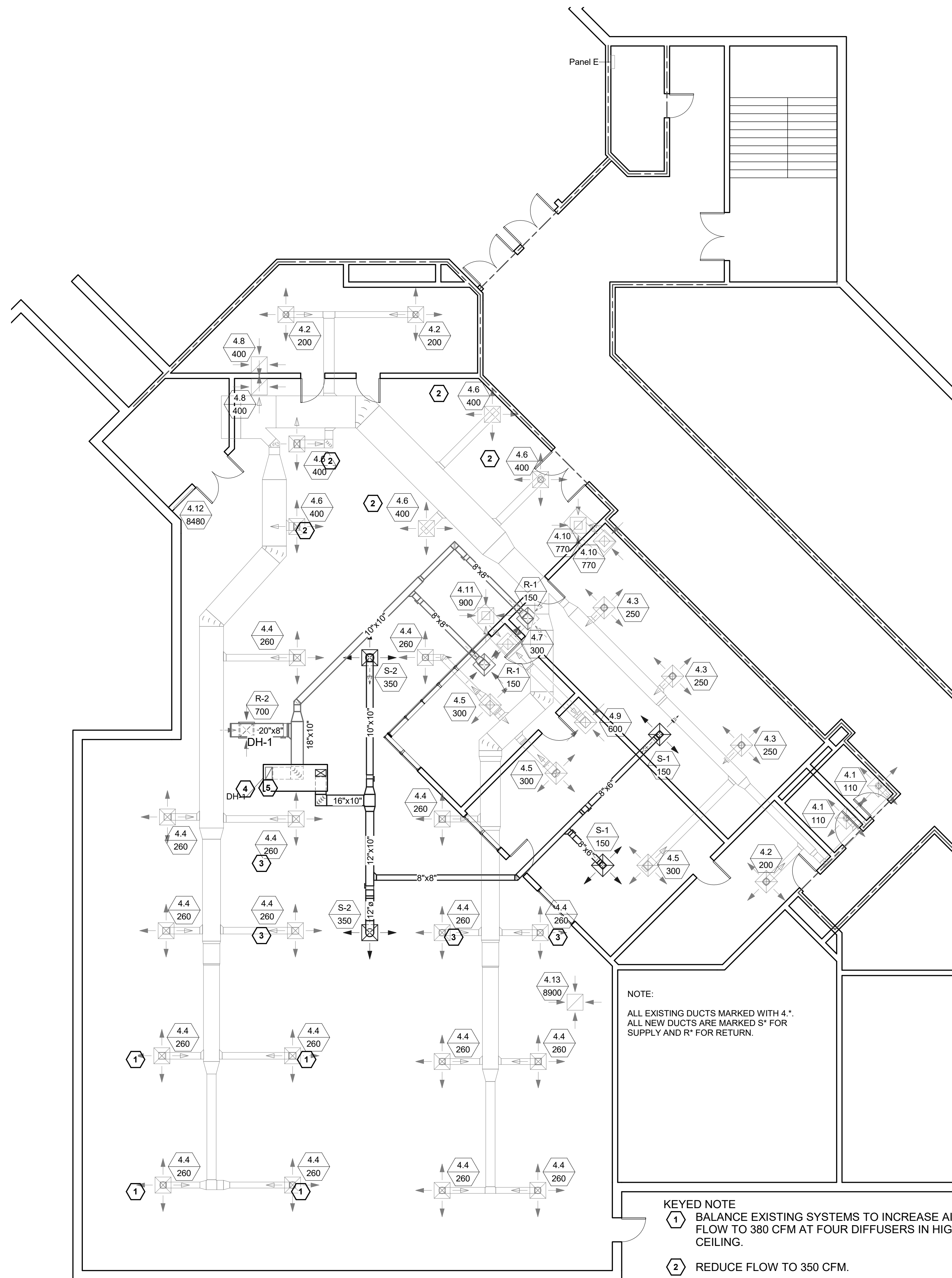
BCS OWEN HIGH SCHOOL  
MEDIA CENTER DEHUMIDIFICATION  
99 LAKE EDEN RD, BLACK MOUNTAIN, NC 28711

MECHANICAL SPECIFICATIONS & DETAILS

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Revision		
ID	Date	Description
PROJECT NUMBER	18249	
REVIEWED BY	JCH	
DESIGNED BY	JCH	
DRAWN BY	JS	
DRAWING DATE	07.29.2019	
SHEET NUMBER		

**M-100**



AIR TERMINAL SCHEDULE								
Mark	Manufacturer	Model	Description	Min Flow	Max Flow	Neck Size	Type	System Classification
R-1	Metalaire	7000R-6	T-Bar Lay-in - Return, Aluminum, Perforated Grille	200 CFM	300 CFM	12"x12"	24 x 24 Face 12 x 12 Connection	Return Air
R-2	Metalaire	7000R-6	T-Bar Lay-in - Return, Aluminum, Perforated Grille	555 CFM	830 CFM	20"x20"	24 x 24 Face 20 x 20 Connection	Return Air
S-1	Metalaire	5700-6 AL	T-bar Lay-in - 2 Cone Supply Round Neck, Aluminum	130 CFM	195 CFM	8"ø	24x24 - 8 Neck	Supply Air
S-2	Metalaire	5700-6 AL	T-bar Lay-in - 2 Cone Supply Round Neck, Aluminum	305 CFM	450 CFM	12"ø	24x24 - 12 Neck	Supply Air

DEHUMIDIFIER SCHEDULE											
Mark	Manufacturer	Model	H2O Reduction	CFM	Supply Motor Power	Regen Motor	Volts	Phase	Full Load Amps	MCA	Max Circuit Breaker
DH-1	Novel Aire Technologies	1000 DES/DX	21.4 lb/hr	1000	0.5 HP	0.75 HP	440/480	3	10.3	12 A	20 A

**MECHANICAL GENERAL NOTES:**

- DRAWINGS ARE DIAGRAMMATIC. DRAWINGS ARE NOT INTENDED TO BE ABSOLUTELY PRECISE, AND DO NOT SPECIFY OR SHOW EVERY OFFSET, FITTING, AND COMPONENT. THE PURPOSE OF THE DRAWINGS IS TO INDICATE A SYSTEM CONCEPT, THE MAIN COMPONENTS OF THE SYSTEMS, AND THE APPROXIMATE GEOMETRICAL RELATIONSHIPS. BASED ON THE SYSTEMS CONCEPT, THE MAIN COMPONENTS AND APPROXIMATE GEOMETRICAL RELATIONSHIPS, THE CONTRACTOR SHALL PROVIDE ALL OTHER COMPONENTS AND MATERIALS NECESSARY TO MAKE THE SYSTEMS FULLY COMPLETE AND OPERATIONAL. THE CONTRACTOR SHALL ROUTE PIPING OR PROVIDE OFFSETS TO AVOID INTERFERENCE WITH STRUCTURAL ELEMENTS, EQUIPMENT, ELECTRICAL PANELS AND JUNCTION BOXES, ETC. VERIFY LOCATIONS, DIMENSIONS, EXISTING FLOW DIRECTIONS, AVAILABLE POWER CHARACTERISTICS (VOLTS/PHASE), ETC., BEFORE CONSTRUCTION. EXISTING AREAS WHETHER WITHIN OR WITHOUT THE "GENERAL LIMITS OF CONSTRUCTION", SHALL BE REPAIRED WHERE ANY DAMAGE HAS OCCURRED DUE TO CONSTRUCTION BY THE CONTRACTOR.
- ALL PENETRATIONS SHOULD BE REUSED TO EXTENT POSSIBLE REPAIR AND PATCH ALL (NEW AND DEMOLISHED) WALL AND FLOOR PENETRATIONS TO MATCH EXISTING FINISH. REPAIR AND PATCH ALL CONCRETE FLOORS, SLABS OR ASPHALT PAVING TO MATCH EXISTING FINISHES WHERE EQUIPMENT, SLABS OR SUPPORTS ARE REMOVED. SEAL ALL PENETRATIONS OF FIRE RATED WALLS/FLOORS IN ACCORDANCE WITH UL SPECIFICATIONS. REFER TO DRAWINGS FOR WALL RATINGS. TREAT ALL FLOORS AS TWO HOUR RATED.
- ALL WORK SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND THE NORTH CAROLINA STATE MECHANICAL CODE.
- UNLESS OTHERWISE INDICATED MECHANICAL CONTRACTOR IS RESPONSIBLE FOR ALL CUTTING, CORE-DRILLING AND PATCHING OF FLOORING AND WALLS AS REQUIRED TO MATCH EXISTING CONDITIONS.
- MECHANICAL CONTRACTOR IS RESPONSIBLE FOR COORDINATING MECHANICAL RELATED WORK WITH OTHER TRADES. MECHANICAL CONTRACTOR IS CAUTIONED THAT IT IS TOTALLY HIS RESPONSIBILITY TO COORDINATE HANGERS AND SUPPORTS ETC. WITH OTHER TRADES.
- DUCT DIMENSIONS INDICATED ON THE PLANS ARE NET INSIDE DIMENSIONS. FIELD VERIFY ALL MEASUREMENTS AND DIMENSIONS BEFORE FABRICATING DUCTWORK.
- ALL SOLID DUCTWORK SHALL BE GALVANIZED AND SHALL BE FABRICATED IN ACCORDANCE WITH THE CURRENT SMACNA DUCT CONSTRUCTION STANDARDS. DUCT SHALL BE CONSTRUCTED FOR ANTICIPATED STATIC PRESSURES. ALL JOINTS SHALL BE SEALED WITH MASTIC. MAXIMUM FLEX DUCT LENGTH IS 5'.
- ALL NEW METAL SUPPLY DUCTWORK AND ALL RETURN DUCTWORK SHALL BE INSULATED WITH 2" EXTERNAL, 3/4 LB. DENSITY DUCT INSULATION, PROPERLY TAPED AND SEALED TO PROVIDE A CONTINUOUS VAPOR BARRIER. FRESH AIR DUCTS SHALL BE INSULATED SAME AS ABOVE. EXHAUST DUCTWORK DOES NOT TO BE INSULATED.
- ALL SUPPLY DUCT ELBOWS SHALL CONTAIN TURNING VANES.
- FIELD VERIFY UNIT & DUCT LOCATIONS. COORDINATE DUCT SIZING AND LAYOUT WITH BUILDING STRUCTURE PRIOR TO INSTALLATION. REVISE DUCTS TO EQUIVALENT SIZES AS NEEDED.
- MOUNT ROOM TEMPERATURE SENSORS AT 48" AFF. MOUNT THERMOSTATS AT 48" AFF. REPAIR WALL FROM REMOVAL OF EXISTING SENSOR TO MATCH EXISTING. ROUTE CONTROL WIRING IN WALL.
- ALL SHUTDOWNS OF THE EXISTING UTILITIES SHALL BE SCHEDULED IN ADVANCE WITH OWNER.
- ALL NEW EQUIPMENT SHALL BE LABELED WITH PERMANENT LABELS, PROPERLY AFFIXED TO THE EQUIPMENT.
- TEST AND BALANCE OF DH-1 AND EXISTING AIR SYSTEM BY CERTIFIED TAB AGENCY CONTRACTED INDEPENDENTLY BY THE OWNER. THE MECHANICAL CONTRACTOR SHALL COORDINATE WITH THE TAB AGENCY.
- PROPER FIRE WATCH TO BE MAINTAINED AT ALL TIMES DURING WELDING OR OPEN FLAME USE. WELDING PROCEDURE QUALIFICATIONS AND WELDER QUALIFICATIONS SHALL BE SUBMITTED TO THE ENGINEER PRIOR TO THE START OF ANY FABRICATIONS. PROCEDURES SHALL COMPLY WITH APPLICABLE SECTIONS OF ASME AND ANSI CODES.
- IF THE BUILDING WILL BE OCCUPIED DURING CONSTRUCTION. COORDINATE WORK SO THAT UTILITIES ARE OPERATIONAL WHEN NEEDED IN OCCUPIED AREAS.
- INSTALLING CONTRACTOR IS RESPONSIBLE FOR INSTALLATION OF NEW HVAC EQUIPMENT ON THE ROOF. THE ROOF IS CURRENTLY UNDER WARRANTY BY FIRESTONE. ALL ROOF WORK MUST BE EXECUTED BY A FIRESTONE CERTIFIED ROOFING CONTRACTOR. INSTALLATION DETAILS SHALL BE APPROVED BY FIRESTONE, AND A LETTER FROM FIRESTONE CERTIFYING THAT THE MODIFICATIONS WERE MADE IN ACCORDANCE WITH THEIR PUBLISHED DETAILS AND THAT THE ROOF WARRANTY REMAINS IN PLACE.
- DEHUMIDIFICATION UNIT TO HAVE STANDALONE CONTROLS WITH BACNET INTERFACE TO INTEGRATE INTO EXISTING DELTA CONTROL SYSTEM. PROVIDE SCHEDULING, MONITORING, AND REMOTE SETPOINT ADJUSTMENT.

**NOTE:**

ALL EXISTING DUCTS MARKED WITH 4'. ALL NEW DUCTS ARE MARKED S' FOR SUPPLY AND R' FOR RETURN.

**KEYED NOTE**

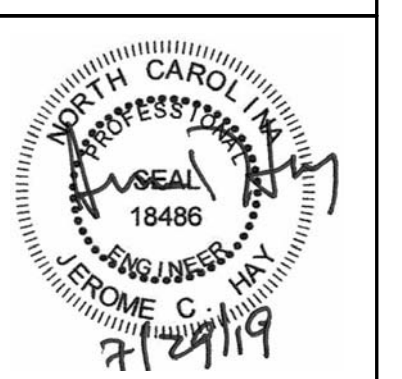
- 1 BALANCE EXISTING SYSTEMS TO INCREASE AIR FLOW TO 380 CFM AT FOUR DIFFUSERS IN HIGH CEILING.
- 2 REDUCE FLOW TO 350 CFM.
- 3 REDUCE FLOW TO 220 CFM.
- 4 LOCATE UNIT ON ROOF SO THAT IT CAN REST ON 3 STRUCTURAL ROOF JOISTS.
- 5 PROVIDE P-TRAP AND 1" CONDENSATE DRAIN TO NEAREST ROOF DRAIN.

**1 MEDIA CENTER FLOOR PLAN - MECHANICAL**

1/8" = 1'-0"

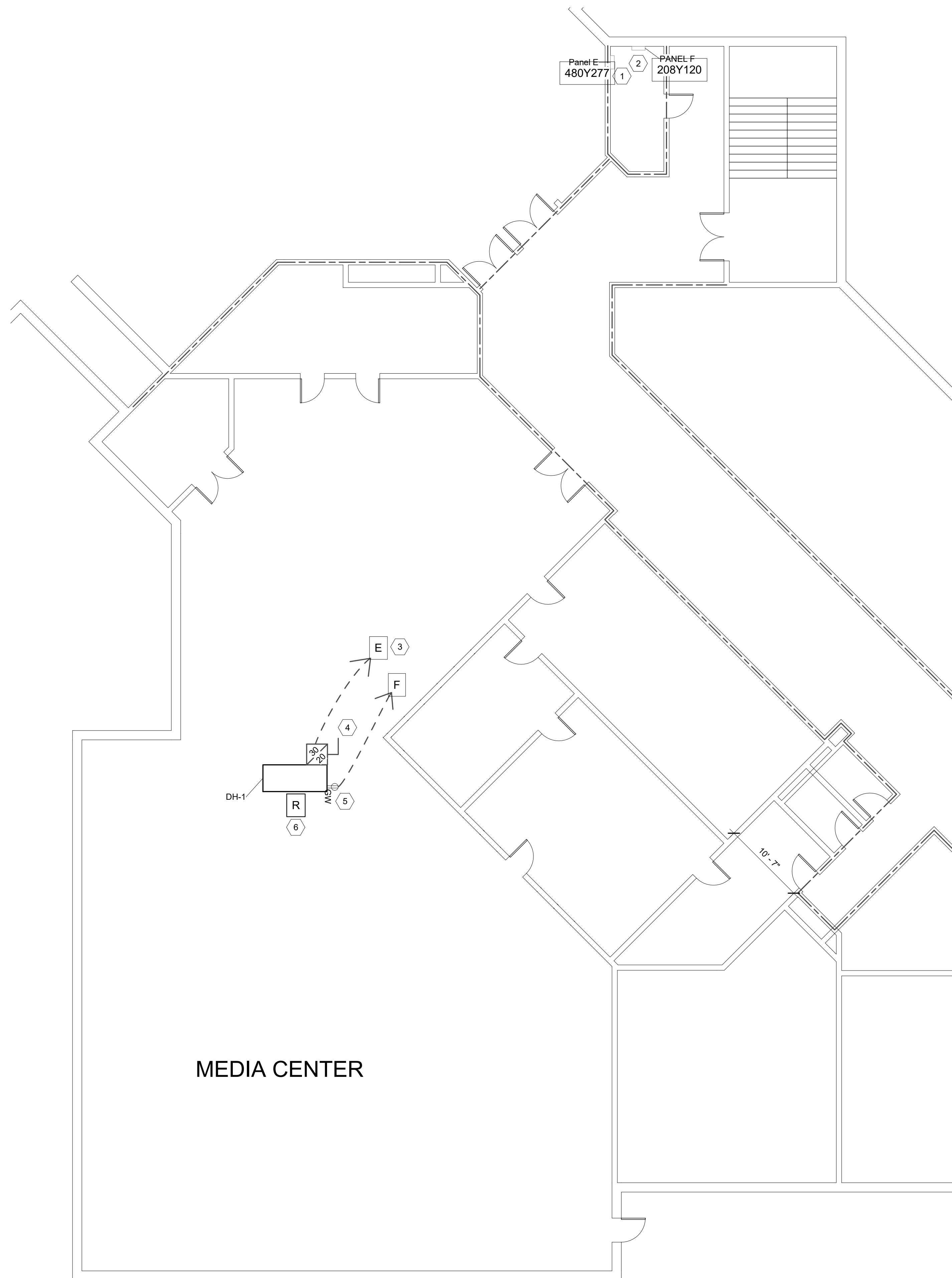
**2 KEY PLAN - MAIN LEVEL**

NTS



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Revision	
ID	Description
PROJECT NUMBER	18249
REVIEWED BY	JCH
DESIGNED BY	JCH
DRAWN BY	JS
DRAWING DATE	07.29.2019
SHEET NUMBER	



**SCOPE OF WORK**

PROVIDE TEMPORARY CONSTRUCTION PHASE POWER AND LIGHTING FOR ALL TRADES AS NEEDED.

PROVIDE SUBMITTALS ON ALL EQUIPMENT.

PROVIDE ALL ELECTRICAL SHOWN ON DRAWINGS AND SPECIFICATIONS AND AS NEEDED TO PROVIDE A COMPLETE FUNCTIONAL INSTALLATION IN COMPLIANCE WITH STATE AND LOCAL CODES.

PROVIDE FIELD COORDINATION WITH OTHER TRADES AND PROVIDE RED-LINE MARKED UP DRAWINGS TO OWNER OF ALL FIELD CHANGES.

TEST ALL MOTORS FOR CORRECT ROTATION.

ASSIST OTHER TRADES IN TESTING OF HVAC EQUIPMENT.

PROVIDE ALL REQUIRED ELECTRICALLY RELATED PERMITS AND INSPECTIONS.

PROVIDE ONE YEAR WARRANTY ON ALL PARTS AND LABOR FROM DATE OF PROJECT ACCEPTANCE

**GENERAL NOTES (ALL ELECTRICAL SHEETS)**

- THIS DRAWING IS DIAGRAMMATIC AND INDICATES THE APPROXIMATE LOCATION OF DEVICES AND EQUIPMENT. THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS ON SITE. MINOR ADJUSTMENTS AND OFFSETS SHALL BE PROVIDED WHERE REQUIRED AT NO ADDITIONAL COST TO THE OWNER.
- PROVIDE ALL WORK IN COMPLIANCE WITH ALL STATE AND LOCAL CODES AND IN AN INDUSTRY STANDARD WORKMANLIKE MANNER.
- NMC (ROMEX AND SE CABLE FOR FEEDERS) IS NOT ACCEPTABLE. AC/MC CABLE IS ACCEPTABLE WHEN FISHED INSIDE EXISTING WALLS. EMT CONDUITS WITH CRIMP COUPLINGS AND CONDUCTORS SHALL BE USED IN EXPOSED LOCATIONS AND FOR ALL FEEDERS 100A OR LARGER. CONDUIT MINIMUM 3/4". RIGID CONDUIT SHALL BE USED IN EXTERIOR LOCATIONS.
- RACEWAYS SHALL NOT BE RUN ON THE EXTERIOR OF BUILDING OR EXPOSED IN FINISHED USER/PUBLIC AREAS.
- ALL WALLS AND PENETRATIONS SHALL BE REPAIRED AND SEALED.
- ALL WIRE SIZES SHOWN ARE FOR COPPER, UNLESS OTHERWISE NOTED. WIRES #10 OR LESS SHALL BE SOLID.
- ALL SPARE BREAKERS SHALL BE TURNED OFF AND LABELED "SPARE" ON DIRECTORY CARD.
- PROVIDE ALL CONDUIT AND WIRE TERMINATIONS TO EQUIPMENT.
- THE ENGINEER HAS ATTEMPTED TO PROVIDE A COMPLETE DESIGN, COMPLIANT WITH ALL CODES. THE CONTRACTOR IS STILL RESPONSIBLE FOR MAKING MINOR ADJUSTMENTS TO MEET CODES AND THE DESIGN INTENT.

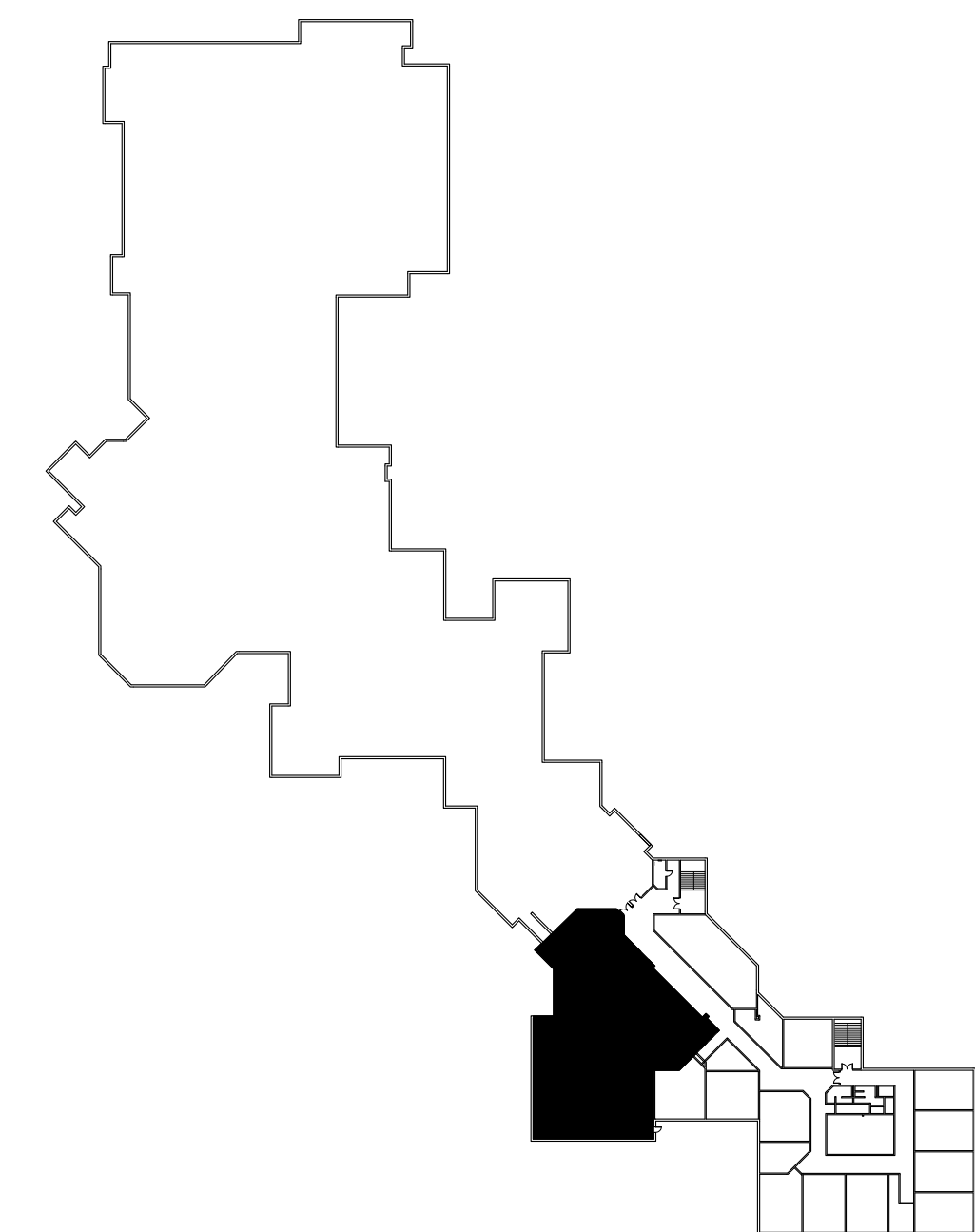
**KEYED NOTES**

- PROVIDE 3 POLE, 30 AMP BREAKER FOR PANEL E.
- PROVIDE 1 POLE, 20 AMP BREAKER FOR PANEL F.
- PROVIDE 3/4" (3) #12 + #12G + (2) #12 (FOR RECEPTACLE), ROUTE THROUGH ROOF PITCH POCKET. PROVIDE 18"-24" LFMC AT CONNECTION TO SWITCH (TO ISOLATE UNIT FROM CONDUIT).
- PROVIDE 30 AMP, 3 POLE + GROUND, NEMA 3R FUSIBLE DISCONNECT ON UNIT.
- PROVIDE GFCI WEATHERPROOF RECEPTACLE AT/ON UNIT. ROUTE IN MAIN POWER JUNCTION BOX AS NEEDED.
- PROVIDE FIRE ALARM RELAY TO SHUT DOWN UNIT UPON GENERAL FIRE ALARM EVACUATION ALARM. CIRCUIT TO LOCAL NAC CIRCUIT.

**ABBREVIATIONS**

A AMP  
 AL ALUMINUM  
 C CONDUIT (AND DEVICE COUNTER HEIGHT)  
 CU COPPER OR CONDENSING UNIT  
 EC ELECTRICAL CONTRACTOR  
 FMC FLEXIBLE METAL CONDUIT  
 G GROUND  
 GC GENERAL CONTRACTOR  
 GFI GROUND FAULT INTERRUPTER  
 MC MECHANICAL CONTRACTOR  
 MCA MINIMUM CIRCUIT AMPACITY  
 MCB MAIN CIRCUIT BREAKER  
 MDS MAIN DISCONNECT SWITCH  
 MDP MAIN DISTRIBUTION PANEL  
 N NEUTRAL  
 NIC NOT IN CONTRACT  
 OEM ORIGINAL EQUIPMENT MANU.  
 PVC POLYVINYL CHLORIDE PIPE  
 PNL PANELBOARD  
 RSC RIGID STEEL CONDUIT  
 RTU ROOF TOP UNIT  
 SA SURGE ARRESTER  
 UON UNLESS OTHERWISE NOTED  
 VAC VOLTAGE AC  
 W WET LOCATION RATED  
 WIR WIRE (SIZE/RATING)

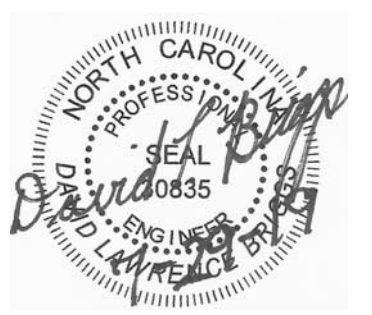
GENERAL ELECTRICAL LEGEND	
SYMBOL	DESCRIPTION
	NEW EQUIPMENT
	EXISTING EQUIPMENT
	DISCONNECT SWITCH - AMP RATING/NO. OF POLES/FUSE SIZE INDICATED
	DUPLEX RECEPTACLE, NEMA CONFIGURATION 5-20R
	GFCI DUPLEX RECEPTACLE
	WEATHER TIGHT DUPLEX RECEPTACLE
	SWITCHED CIRCUIT
	UNSWITCHED CIRCUIT
	HOMERUN CIRCUIT TO PANEL - CIRCUIT INDICATED



**1 MEDIA CENTER FLOOR PLAN - ELECTRICAL**  
 1/8" = 1'-0"

**2 KEY PLAN - MAIN LEVEL**  
 NTS

**SUD ASSOCIATES, P.A.**  
 CONSULTING ENGINEERS  
 LICENSE NO. C-0315  
 1813 CHAPEL HILL ROAD  
 DURHAM, NORTH CAROLINA  
 (919) 493-5277



BCS OWEN HIGH SCHOOL  
 MEDIA CENTER DEHUMIDIFICATION  
 99 LAKE EDEN ROAD BLACK MOUNTAIN, NC 28711

ELECTRICAL - POWER

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