HARFORD COUNTY PUBLIC SCHOOLS

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ADDENDUM #1

Bid #26-JHP-006

Commissioning Services for New Combination Harford Academy and Elementary School

TO: **ALL BIDDERS**

FROM: **Jennifer Horner, CPPB, Procurement Agent**

DATE: **October 23, 2025**

This Addendum is issued in response to prospective bidder's inquiries and to add/clarify verbiage in the Bid.

1. **DELETE**: Pages 38-42, Attachment #1.

   ADD: Attachment #1 - REVISED. See attached.

2. **QUESTION**: Since this submission will include both a technical proposal and pricing, is there a specific list of systems that will be provided to ensure an "apples-to-apples" comparison for pricing? The specifications list the systems, but a DWG or approximate count of equipment would help us fine-tune our pricing.

   ANSWER: There is no technical proposal for this Invitation for Bid. Refer to Specifications, Scope of Work, page 20.

3. **QUESTION**: Is there a requirement for the CxA to be located within a certain distance of the project?

   ANSWER: No, but meetings, testing, witnessing, etc. are timely and in person.

4. **QUESTION**: The ADD #1 document does not indicate any Enhanced Cx "X's." Is the project pursuing **LEED Fundamental Cx only**? This contradicts the 3.6 requirement in the spec.

   ANSWER: There is no ADD #1 document. Refer to Item #1 of this Addendum.

5. **QUESTION**: Section 3.6.1.1 indicates enhanced commissioning, while Attachment #1 does not include the requirement for enhanced commissioning (Option 1, Path 1). Please confirm whether enhanced commissioning in accordance with LEED Option 1, Path 1 is required for this project?

   ANSWER: Yes, it is required. Refer to Item #1 of this Addendum.

6. **QUESTION**: Section 3.6.1.2 indicates monitoring-based enhanced commissioning, while Attachment #1 does not include the requirement for monitoring-based enhanced commissioning (Option 1, Path

2). Please confirm whether monitoring-based commissioning in accordance with LEED Option 1, Path 2 is required for this project?

ANSWER: Yes, it is required. Refer to Item #1 of this Addendum.

7. **QUESTION**: Sections 3.3.1 and 3.6.1.3 indicate building envelope commissioning, while Attachment #1 does not include the requirement for envelope commissioning (Option 2). Please confirm whether building envelope commissioning in accordance with LEED Option 2 is required for this project?

   ANSWER: Yes, it is required. Refer to Item #1 of this Addendum.

8. **QUESTION**: In the RFP page 15 for insurance requirements, it is labeled for architects/engineers. We are a commissioning firm and do not carry Professional Liability insurance since we do not design systems. We are officially requesting that as a commissioning firm we do not need to meet that item for insurance requirements if we are selected.

   ANSWER: The insurance requirements will remain the same and a waiver will **not** be accepted.

9. **QUESTION**: Are there any drawings available or narrative other then the one for the planning on the web site. This will assist with estimating equipment. If the engineer did a life cycle for DGS, we can use that to assist. If there are any plans are they available for helping with the estimate.

   ANSWER: See attached equipment schedules for the items being planned for this project. These schedules represent the basis of design and are provided for informational purposes only. They shall not be used or relied upon for bidding purposes.

I hereby acknowledge receipt of Addendum #1 dated October 23, 2025 to Bid #26-JHP-006 Commissioning Services for New Combination Harford Academy and Elementary School.

_____	_____
Company	Name (Print or Type)
_____	_____
Authorized Signature	Date

Note: Bidder shall sign and submit Addendum with submission. The same person signing the Addendum shall sign the Bid Form. Failure to submit the Addendum may deem your bid as non-responsive.

Commissioning Tasks Responsibilities
Harford County Public Schools
New Combination Harford Academy and Elementary School

Index	Task - New Combination Harford Academy and Elementary School	Commissioning Agent	Owner PM	Owner/User Group	Owner O&M	Architect	MEP Engineer	LEED Consultant/Coordinat	Construction Manager	General Contractor	Mechanical Contractor	BAS Contractor	Test & Balance Contractor	Electrical Contractor	LEED
	DESIGN PHASE														
	Administrative														
1	Prepare the Design Phase Commissioning Plan draft	X													
2	Attend selected design meetings	X		X	X			X							X
3	Attend building envelope coordination meetings and design discussions	X		X	X			X							X
4	Prepare a draft Construction Phase Commissioning Plan	X													
5	[M] Maintain & update Exception Records	X	X			X	X	X	X						
	Cx Meetings														
6	Review the Commissioning Process with the Owner (Kick-off Mtg)	X	X	X	X				X						
7	Review the Commissioning Process with the design team (Kick-off)	X				X	X	X	X						X
	Owner's Project Requirements (OPR)														
8	Provide Owner standards or other pre-design documents to the CxA		X		X	X									X
9	Prepare the Owner's Project Requirements (OPR)	X	X		X										X
10	Incorporate Owner standards/pre-design documents into OPR	X													X
11	Distribute the OPR to Cx Team	X													X
12	Review and comment on the OPR					X	X	X	X						X
13	Incorporate design team comments into the OPR	X													X
14	Approve OPR changes		X		X				X						X
	Basis of Design (BOD)														
15	Provide BOD to CxA					X	X								X
16	Review BOD and provide comments	X													X
17	Provide all BOD updates to CxA					X	X								X
	Design Reviews														
18	Provide 100% DD documents to CxA (electronic format)					X	X								
19	Review 100% DD documents and provide comments	X	X	X	X			X	X						
20	Provide 65% CD documents to CxA (electronic format)					X	X								
21	Review 65% CD documents and provide comments	X	X	X	X			X	X						
22	Provide 65% Building envelope design review to CxA (electronic format)					X	X								
23	Review 65% Building envelope design and provide comments	X	X		X			X	X						
24	Prepare and submit commissioning specifications	X													
25	Provide 95% CD documents to CxA (electronic format)					X	X								
26	Review 95% CD documents and provide comments	X	X		X			X	X						
27	Provide 95% Building envelope design review to CxA (electronic format)					X	X								
28	Review 95% Building envelop design and provide comments	X	X		X			X	X						
29	Provide bid documents to the CxA (electronic form - PDF)					X	X								
30	Review bid documents and provide comments	X	X					X	X						

CONSTRUCTION PHASE

Commissioning Tasks Responsibilities
Harford County Public Schools
New Combination Harford Academy and Elementary School

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	Administrative														
31	Prepare the (Preliminary) Construction Phase Commissioning Plan	X													
32	Integrate construction Phase Cx activities into the project schedule	X	X						X		X	X	X	X	
33	[M] Attend Periodic Progress Meetings	X						X							X
34	[M] Conduct Site Visits/Walk-through and distribute Field Reports	X													
35	[M] Maintain & update Exception Records	X	X		X	X	X	X	X		X	X	X	X	
36	[M] Update the web site with contact info, distribution details, & tasks	X							X						
	Cx Meetings														
37	Conduct/Participate in a pre-construction Cx Process meeting (Kick-off)	X	X			X	X	X	X	X	X	X	X	X	
38	[M] Conduct/Participate in (all) Construction-phase Cx team meetings	X	X			X	X		X		X	X		X	
39	[M] Participate in selected Construction-phase Cx team meetings				X	X	X	X					X		
40	[M] Prepare & distribute Cx meeting minutes	X													
	Review Project Documents														
41	Provide bid documents to the CxA (electronic form - PDF)					X									
42	Provide copies of all bid addenda to the CxA								X						
43	Review bid documents and provide comments	X	X												
44	Provide equipment submittals, comments, & resubmittals to CxA								X						
45	Review and comment on the Equipment Submittals	X													
46	[M] Provide all RFI's, ASI's, and changes to the CxA								X						
47	[M] Review and comment on RFI, CCR, ASI	X													
48	Provide O&M manual to the CxA								X						
49	Review and comment on the O&M Manual	X													
45	Prepare and Submit a Systems Manual	X													X
46	LEED On-line document completion	X													X
	Start-up														
47	Provide the contractors with a draft start-up and training plan	X													
48	Assist in preparation of the Start-up and Training Plans	X													
49	Complete the Start-up and Training Plans and submit for review								X		X	X		X	
50	Notify the CxA of major equipment start-up								X		X	X	X	X	
51	Witness major equipment start-up	X	X	X	X		X		X						
52	Provide start-up reports to the CxA								X		X			X	
53	Review the completed start-up reports	X					X	X							
	Training														
54	Provide training schedule, agendas, and material for review								X		X	X		X	
55	Review training schedule, agenda, materials	X	X		X										
56	Attend selected training sessions	X		X											
57	Provide training sign-in sheets to CxA								X		X	X		X	
58	Verify Training of O&M Staff per OPR and contract documents	X							X						

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	Pre-FPT and FPT Testing														
59	Prepare and distribute Pre-FPT Installation Checklists	X													
60	Execute the Pre-FPT Installation Checklists according to the start-up plan								X		X	X		X	
61	Provide the completed Pre-FPT Installation Checklists to the CxA								X						
62	Review and field-verify the Pre-FPT Installation Checklists	X													
63	Prepare and distribute FPT Plans	X													
64	Direct/Participate in theFPT's	X	X		X	X	X		X						
65	Execute the FPT's										X	X		X	
	HVAC														
	Test and Balance														
66	Provide the TAB Plan to the CxA								X		X		X		
67	Meet on-site to review and comment on the TAB plan	X							X		X		X		
68	Provide the TAB Report to the CxA								X		X		X		
69	Review and comment on the TAB Report	X					X								
	Duct Leak Testing														
70	Notify the CxA of Duct Leak Tests								X		X				
71	Witness duct leak test(s)	X													
72	Provide duct leak test results to CxA								X		X				
73	Review the duct leak test results	X					X						X		
	Water-side Systems - Flush/Fill & Water Treatment														
74	Provide the Water Treatment Plan to the CxA								X		X				
75	Review and comment on the Water Treatment Plan	X					X								
76	Provide the Flush/Fill Plan to the CxA								X		X				
77	Review and comment on the Flush/Fill Plan	X					X								
78	Provide the HW/CHW Flush Test Report to the CxA								X		X				
79	Review the HW/CHW System Flush Test Report	X					X								
80	Provide water chemistry report to CxA								X		X				
81	Review the water chemistry report	X					X								
	OCCUPANCY & OPERATION PHASE														
82	Execute/Participate in Seasonal PV Testing	X	X		X						X	X			
83	Complete the Cx Report	X													
	ENHANCED COMMISSIONING: Option 1, Path 1														
84	Review contractor submittals	X													
85	Verify inclusion of systems manual requirements in construction documents										X				
86	Verify inclusion of operator & operation training requirements in construction documents										X				
87	Develop training plan/schedule for operator & occupant training								X		X				

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88	Verify systems manual updates and delivery								X						
89	Verify operator & occupancy training delivery and effectiveness	X													
90	Verify seasonal testing	X													
91	Review building operations 10 months after substantial completion	X													
92	Develop ongoing commissioning plan	X													
93	All enhanced commissioning tasks in the OPR and BOD	X				X									
	ENHANCED COMMISSIONING: Option 1, Path 2														
94	Develop monitoring based procedures & identify points to assess energy system performance	X					X				X	X			
95	Develop monitoring based procedures & identify points to assess water consuming system performance	X					X				X	X			
96	Include procedures and measurement points in the commissioning plan to address the following:	X					X								
97	Roles and Responsibilites	X													
98	Measurement Requirements (meters, points, metering systems, data access)						X								
99	Points to be tracked, frequency and duration for trend monitoring						X				X				
100	Acceptable value limits of tracked points and metered values (where appropriate, predictive algorithms may be used to compare ideal values with actual values)	X					X					X	X		
101	Elements used to evaluate performance, including conflict between systems, out-of sequence operation of systems components, and energy and water usage profiles	X					X				X				
102	An action plan for identifying and correction of operational errors and deficiencies	X										X			
104	Training to prevent errors	X									X	X			
105	Planning for repairs needed to maintain performance				X										
106	The frequency of analyses in the first year of occupancy (at least quaterly)	X			X		X				X				
107	Update the systems manual with any modifications or new settings, and give the reason for any modifications from the original design	X													
	ENHANCED COMMISSIONING: Option 2														
108	Complete the following commissioning process (CxP) activities for the building's thermal envelope in accordance with ASHRAE Guideline 0-2005 and the National Institute for Building Sciense (NIBS) Guideline 3-2012, Exterior Enclosure Technical Requirements for the Commissioning Process, as they relate to energy, water, indoor environmental quality, and durability. Complete Air and water barrier testing in accordance with these standards.	X				X									
109	Provide a matrix of envelope tests to satisfy the above standard					X									
110	Perform envelope tests or witness testing if contracted under a different party	X													
111	Review contractor submittals	X				X				X					
112	Verify inclusion of systems manual requirements in construction documents	X				X									
113	Verify inclusion of operator and occupant training requirements in construction documents	X				X									

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114	Verify systems manual updates and delivery	X													
115	Verify operatior and occupant training delivery and effectiveness	X				X				X					
116	Verify seasonal testing	X				X				X					
117	Review building operations 10 months after substantial completion	X				X				X					
118	Develop an on-going commissioning plan	X													

Notes:

1) The designation '[M]' prior to a task indicates it is a maintenance activity or one that may be repeated an indeterminate number of times as the project requires.

2) An 'X' in the 'LEED' column indicates this activity is uniquely associated with LEED requirements and should not be included in the commissioning process if LEED certification is not being pursued.

AIR HANDLING UNIT SCHEDULE

DESIG	AREA SERVED	LOCATION	SUPPLY FAN										
			CFM	MIN OA CFM	TSP (IN)	ESP (IN)	MOTOR					RPM	WHEEL TYPE
							Quantity	HP	MAX BHP	VOLTS	PHASE		
AHU-1	PDS HIGH CLASSROOMS	PENTHOUSE	17,405	5,850	6.2	3.3	6	8	6.8	480	3	3079	PLENUM
AHU-2	PDS MIDDLE CLASSROOMS	PENTHOUSE	17,135	5,770	7.1	4.2	6	8	6.8	480	3	3215	PLENUM
AHU-3	PDS ELEM CLASSROOMS	PENTHOUSE	13,710	4,570	6.3	3.2	5	8	6.8	480	3	3053	PLENUM
AHU-4	1ST FLOOR NORTH CLASSROOMS	PENTHOUSE	11,930	5,510	6.1	3.1	3	8	6.8	480	3	3414	PLENUM
AHU-5	2ND FLOOR NORTH CLASSROOMS	PENTHOUSE	13,435	6,370	6.1	3.0	4	8	6.8	480	3	3198	PLENUM
AHU-6	1ST FLOOR SOUTH CLASSROOMS	PENTHOUSE	7,810	3,570	6.7	3.2	4	4	3.4	480	3	3755	PLENUM
AHU-7	2ND FLOOR SOUTH CLASSROOMS	PENTHOUSE	11,500	4,900	6.4	3.1	4	8	6.8	480	3	3105	PLENUM
AHU-8	ART / MEDIA CENTER	PENTHOUSE	12,940	5,820	7.5	4.5	4	8	6.8	480	3	3404	PLENUM
AHU-9	ADMIN(ES SIDE)	PENTHOUSE	13,155	3,300	6.5	3.2	5	8	6.8	480	3	3049	PLENUM
AHU-10	ADMIN(HA SIDE)	PENTHOUSE	11,015	2,700	6.4	3.4	4	8	6.8	480	3	3061	PLENUM
AHU-11	GYMNASIUM(ES)	PENTHOUSE	5,450	2,385	5.3	1.9	2	8	6.8	480	3	2857	PLENUM
AHU-12	DINING(ES)	PENTHOUSE	5,000	2,270	3.9	1.5	1	8	6.8	480	3	1903	PLENUM
AHU-13	GYMNASIUM(PDS)	PENTHOUSE	4,400	2,080	5.3	1.7	2	4	3.4	480	3	3572	PLENUM
AHU-14	DINING(PDS)	PENTHOUSE	2,400	1,220	4.1	1.7	1	8	6.8	480	3	2504	PLENUM
AHU-15	GYMNASIUM(PDS ES)	PENTHOUSE	2,250	680	3.5	1.3	1	8	6.8	480	3	2333	PLENUM
AHU-16	FITNESS LAB	PENTHOUSE	1,950	460	4.4	1.6	1	4	3.4	480	3	3222	PLENUM
AHU-17	STAGE(PDS)	PENTHOUSE	930	455	3.3	1.3	1	1	0.75	480	3	3207	PLENUM

DESIG	RETURN FAN										
	FAN POSITION	CFM	TSP (IN)	ESP (IN)	MOTOR					RPM	WHEEL TYPE
					Quantity	HP	MAX BHP	VOLTS	PHASE		
AHU-1	EXHAUST	-	3.2	1.6	3	6	5.1	480	3	2273	PLENUM
AHU-2	EXHAUST	-	3.5	1.9	3	8	6.8	480	3	1918	PLENUM
AHU-3	EXHAUST	-	3.2	1.7	2	8	6.8	480	3	2032	PLENUM
AHU-4	EXHAUST	-	2.8	1.3	2	8	6.8	480	3	2302	PLENUM
AHU-5	EXHAUST	-	2.8	1.2	2	6	5.1	480	3	1568	PLENUM
AHU-6	EXHAUST	-	3.6	1.3	2	6	5.1	480	3	1994	PLENUM
AHU-7	EXHAUST	-	2.7	1.3	2	8	6.8	480	3	1778	PLENUM
AHU-8	EXHAUST	-	3.5	2.1	2	8	6.8	480	3	2011	PLENUM
AHU-9	RETURN	-	3.3	2.4	2	8	6.8	480	3	2003	PLENUM
AHU-10	RETURN	-	2.3	1.5	2	8	6.8	480	3	1677	PLENUM
AHU-11	RELIEF	-	1.8	1.4	1	6	5.1	480	3	1953	PLENUM
AHU-12	RELIEF	-	1.3	1.0	1	8	6.8	480	3	1387	PLENUM
AHU-13	RELIEF	-	1.6	1.3	1	6	5.1	480	3	1667	PLENUM
AHU-14	RELIEF	-	1.5	1.3	1	4	3.4	480	3	2768	PLENUM
AHU-15	RELIEF	-	1.4	1.2	1	4	3.4	480	3	2609	PLENUM
AHU-16	RELIEF	-	1.4	1.2	1	4	3.4	480	3	2351	PLENUM
AHU-17	RELIEF	-	1.2	1.1	1	4	3.4	480	3	1633	PLENUM

DESIG	ENERGY RECOVERY WHEEL HEAT EXCHANGER											
	OUTSIDE AIR CFM	EXHAUST AIR CFM	SUPPLY SIDE (SUMMER)		EXHAUST SIDE (SUMMER)		SUPPLY SIDE (WINTER)		EXHAUST SIDE (WINTER)		MAX APD (IN)	MIN EFF (%) SUMMER / WINTER
			EAT DB/ WB (°F)	LAT DB/ WB (°F)	EAT DB/ WB (°F)	LAT DB/ WB (°F)	EAT DB (°F)	LAT DB (°F)	EAT DB (°F)	LAT DB (°F)		
AHU-1	5,850	2,865	95.0 / 78.0	86.0/74.4	75.0 / 62.5	-	0	28.9	70	-	1.0	60.1/76.8
AHU-2	5,770	4,145	95.0 / 78.0	83.0/70.8	75.0 / 62.5	-	0	39.4	70	-	1.0	61.7/74.2
AHU-3	4,570	2,795	95.0 / 78.0	84.4/73.1	75.0 / 62.5	-	0	34.7	70	-	1.0	61.2/75.7
AHU-4	5,510	4,140	95.0 / 78.0	82.8/71.7	75.0 / 62.5	-	0	40.3	70	-	1.0	61.1/73.4
AHU-5	6,370	3,640	95.0 / 78.0	84.9/73.3	75.0 / 62.5	-	0	35.0	70	-	1.0	61.0/76.1
AHU-6	3,570	2,075	95.0 / 78.0	84.9/73.4	75.0 / 62.5	-	0	32.7	70	-	1.0	60.3/75.9
AHU-7	4,900	2,835	95.0 / 78.0	84.8/73.4	75.0 / 62.5	-	0	29.0	70	-	1.0	60.9/76.1
AHU-8	5,820	3,365	95.0 / 78.0	84.8/73.4	75.0 / 62.5	-	0	32.9	70	-	1.0	60.9/76.1
AHU-9	N/A											
AHU-10	N/A											
AHU-11	N/A											
AHU-12	N/A											
AHU-13	N/A											
AHU-14	N/A											
AHU-15	N/A											
AHU-16	N/A											
AHU-17	N/A											

DESIG	HEATING COIL										
	FLUID	MBH	EAT (°F)	LAT (°F)	EWT (°F)	LWT (°F)	GPM	PIPE CONNECTION SIZE	MAX WPD (FT)	MAX APD (IN)	MAX FV (FPM)
AHU-1	WATER	376	35	55	160	120	18.8	2"	2.0	0.2	500
AHU-2	WATER	370	35	55	160	120	18.5	2"	2.0	0.2	500
AHU-3	WATER	296	35	55	160	120	14.8	2"	2.0	0.2	500
AHU-4	WATER	258	35	55	160	120	12.9	1 1/2"	2.0	0.2	500
AHU-5	WATER	290	35	55	160	120	14.5	2"	2.0	0.2	500
AHU-6	WATER	169	35	55	160	120	8.4	1 1/2"	2.0	0.2	500
AHU-7	WATER	248	35	55	160	120	12.4	1 1/2"	2.0	0.2	500
AHU-8	WATER	280	35	55	160	120	14.0	2"	2.0	0.2	500
AHU-9	WATER	284	35	55	160	120	14.2	2"	2.0	0.2	500
AHU-10	WATER	238	35	55	160	120	11.9	1 1/2"	2.0	0.2	500
AHU-11	WATER	298	39.4	90	160	120	14.9	2"	2.0	0.2	500
AHU-12	WATER	280	38.2	90	160	120	14.0	2"	2.0	0.2	500
AHU-13	WATER	252	36.9	90	160	120	12.6	1 1/2"	2.0	0.2	500
AHU-14	WATER	144	34.4	90	160	120	7.2	1 1/4"	2.0	0.2	500
AHU-15	WATER	100	48.8	90	160	120	5.0	1 1/4"	2.0	0.2	500
AHU-16	WATER	77	53.5	90	160	120	3.8	1"	2.0	0.2	500
AHU-17	WATER	54	35.8	90	160	120	2.7	1"	2.0	0.2	500

DESIG	AREA SERVED	LOCATION	COOLING COIL									
			FLUID	MBH TOTAL	MBH SENS	EAT DB/WB (°F)	LAT DB/WB (°F)	GPM	PIPE CONNECTION SIZE	MAX WPD (FT)	MAX APD (IN)	MAX FV (FPM)
AHU-1	PDS HIGH CLASSROOMS	PENTHOUSE	WATER	693	474	78.7/66.5	53.0 / 53.0	92.4	4"	2.0	0.7	500
AHU-2	PDS MIDDLE CLASSROOMS	PENTHOUSE	WATER	638	457	77.7/65.3	53.0 / 53.0	85.0	3"	2.0	0.7	500
AHU-3	PDS ELEM CLASSROOMS	PENTHOUSE	WATER	544	372	78.1/66.0	53.0 / 53.0	72.5	3"	2.0	0.7	500
AHU-4	1ST FLOOR NORTH CLASSROOMS	PENTHOUSE	WATER	503	330	78.6/66.7	53.0 / 53.0	67.1	3"	2.0	0.7	500
AHU-5	2ND FLOOR NORTH CLASSROOMS	PENTHOUSE	WATER	609	387	79.7/67.6	53.0 / 53.0	81.2	3"	2.0	0.7	500
AHU-6	1ST FLOOR SOUTH CLASSROOMS	PENTHOUSE	WATER	351	224	79.5/67.5	53.0 / 53.0	46.8	2 1/2"	2.0	0.7	500
AHU-7	2ND FLOOR SOUTH CLASSROOMS	PENTHOUSE	WATER	501	325	79.2/67.1	53.0 / 53.0	66.8	3"	2.0	0.7	500
AHU-8	ART / MEDIA CENTER	PENTHOUSE	WATER	572	369	79.4/67.4	53.0 / 53.0	76.3	3"	2.0	0.7	500
AHU-9	ADMIN(ES SIDE)	PENTHOUSE	WATER	540	384	80.0/66.4	53.0 / 53.0	72.1	3"	2.0	0.7	500
AHU-10	ADMIN(HA SIDE)	PENTHOUSE	WATER	449	320	79.9/66.3	53.0 / 53.0	59.8	3"	2.0	0.7	500
AHU-11	GYMNASIUM(ES)	PENTHOUSE	WATER	282	181	83.8/69.3	53.0 / 53.0	37.5	2 1/2"	2.0	0.7	500
AHU-12	DINING(ES)	PENTHOUSE	WATER	262	168	84.1/69.5	53.0 / 53.0	35.0	2 1/2"	2.0	0.7	500
AHU-13	GYMNASIUM(PDS)	PENTHOUSE	WATER	236	150	84.5/69.8	53.0 / 53.0	31.4	2 1/2"	2.0	0.7	500
AHU-14	DINING(PDS)	PENTHOUSE	WATER	134	83	85.2/70.4	53.0 / 53.0	17.9	1 1/2"	2.0	0.7	500
AHU-15	GYMNASIUM(PDS ES)	PENTHOUSE	WATER	99	68	81.0/67.2	53.0 / 53.0	13.2	1 1/2"	2.0	0.7	500
AHU-16	FITNESS LAB	PENTHOUSE	WATER	79	56	79.7/66.2	53.0 / 53.0	10.5	1 1/4"	2.0	0.7	500
AHU-17	STAGE(PDS)	PENTHOUSE	WATER	51	32	84.8/70.1	53.0 / 53.0	6.8	1"	2.0	0.7	500

DESIG	SUPPLEMENTAL DX COOLING COIL						
	MBH TOTAL	MBH SENS	EAT DB/WB (°F)	LAT DB/WB (°F)	MAX APD (IN)	MAX FV (FPM)	ASSOCIATED AIR COOLED CONDENSING UNIT
AHU-1	N/A						
AHU-2	N/A						
AHU-3	N/A						
AHU-4	N/A						
AHU-5	N/A						
AHU-6	N/A						
AHU-7	N/A						
AHU-8	N/A						
AHU-9	540	384	80.0/66.4	53.0 / 53.0	0.7	500	CU-1
AHU-10	449	320	79.9/66.3	53.0 / 53.0	0.7	500	CU-2
AHU-11	282	181	83.8/69.3	53.0 / 53.0	0.7	500	CU-3
AHU-12	N/A						
AHU-13	236	150	84.5/69.8	53.0 / 53.0	0.7	500	CU-4
AHU-14	N/A						
AHU-15	N/A						
AHU-16	N/A						
AHU-17	N/A						

DESIG	HOT WATER REHEAT COIL										
	FLUID	MBH	EAT (°F)	LAT (°F)	EWT (°F)	LWT (°F)	GPM	PIPE CONNECTION SIZE	MAX WPD (FT)	MAX APD (IN)	MAX FV (FPM)
AHU-1	N/A										
AHU-2	N/A										
AHU-3	N/A										
AHU-4	N/A										
AHU-5	N/A										
AHU-6	N/A										
AHU-7	N/A										
AHU-8	N/A										
AHU-9	N/A										
AHU-10	N/A										
AHU-11	WATER	18	55	75	160	120	11.8	1 1/2"	2.0	0.2	500
AHU-12	WATER	10.8	55	75	160	120	10.8	1 1/2"	2.0	0.2	500
AHU-13	WATER	95	55	75	160	120	9.5	1 1/2"	2.0	0.2	500
AHU-14	WATER	52	55	75	160	120	5.2	1 1/4"	2.0	0.2	500
AHU-15	WATER	49	55	75	160	120	4.9	1"	2.0	0.2	500
AHU-16	WATER	42	55	75	160	120	4.2	1"	2.0	0.2	500
AHU-17	WATER	20	55	75	160	120	2.0	3/4"	2.0	0.2	500

DESIG	ELECTRICAL DATA				BASIS OF DESIGN (MANUFACTURER - MODEL)	MAX OPERATING WEIGHT (LBS)
	MCA	MFS	VOLTS	PHASE		
AHU-1	86.4	110	480	3	TRANE - CLIMATE CHANGER	10000
AHU-2	86.4	110	480	3	TRANE - CLIMATE CHANGER	10000
AHU-3	68.5	80	480	3	TRANE - CLIMATE CHANGER	7100
AHU-4	43.4	50	480	3	TRANE - CLIMATE CHANGER	6600
AHU-5	52.4	60	480	3	TRANE - CLIMATE CHANGER	7100
AHU-6	35.7	45	480	3	TRANE - CLIMATE CHANGER	4700
AHU-7	51.6	60	480	3	TRANE - CLIMATE CHANGER	6300
AHU-8	61.2	80	480	3	TRANE - CLIMATE CHANGER	7100
AHU-9	60.5	70	480	3	TRANE - CLIMATE CHANGER	5300
AHU-10	52.3	60	480	3	TRANE - CLIMATE CHANGER	4600
AHU-11	25.7	30	480	3	TRANE - CLIMATE CHANGER	3500
AHU-12	19.4	25	480	3	TRANE - CLIMATE CHANGER	3200
AHU-13	17.2	20	480	3	TRANE - CLIMATE CHANGER	3100
AHU-14	15.6	20	480	3	TRANE - CLIMATE CHANGER	2100
AHU-15	15.6	20	480	3	TRANE - CLIMATE CHANGER	2100
AHU-16	10.6	15	480	3	TRANE - CLIMATE CHANGER	1900
AHU-17	10.6	15	480	3	TRANE - CLIMATE CHANGER	1800

NOTES:
1. UNITS SHALL BE COMPLETE W/ MERV 10 AND MERV 13 ASHRAE EFFICIENT FILTERS. UNITS SHALL BE SIZED TO ACCOMMODATE A COMBINED DIRTY FILTER PRESSURE DROP OF 0.5".
2. ALL FANS SHALL BE EQUIPPED WITH INTEGRAL VFD'S OR ECM MOTORS. SEE ELECTRICAL SPECIFICATIONS FOR VFD REQUIREMENTS.
3. PROVIDE INTEGRAL FUSED DISCONNECTS FOR ALL UNITS.
4. FAN MOTORS SHALL BE DIRECT DRIVE.
5. UNIT MANUFACTURER SHALL PROVIDE MOD'S AND OUTSIDE AIR FLOW MONITOR. ALL OTHER SENSORS AND CONTROL DEVICES SHALL BE PROVIDED BY THE ATC CONTRACTOR.

AIR HANDLING UNIT SCHEDULE

DESIG	AREA SERVED	LOCATION	SUPPLY FAN							DX COOLING COIL									GAS FURNACE DATA					ELECTRICAL DATA					BASIS OF DESIGN	MAX OPERATING WEIGHT (LBS)
			CFM	OA CFM	TSP (IN)	ESP (IN)	MOTOR		RPM	MBH TOTAL	MBH SENS	EAT		LAT		MIN EER	MIN IEER	ASSOCIATED AIR COOLED CONDENSING UNIT	INPUT MBH	OUTPUT MBH	EAT (°F)	LAT (°F)	MAX APD (IN)	MCA	MOP	VOLTS	PHASE	SCCR		
							HP	MAX BHP				DB (°F)	WB (°F)	DB (°F)	WB (°F)															
AHU-18	KITCHEN	PENTHOUSE	3,000	2,600	-	2.0	-	-	-	236	127	92.3	75.9	53.0	53.0	-	-	CU-5	325	260	10	90	-	-	-	480	3	65 kAIC	TRANE	-

NOTES:
1. UNITS SHALL BE COMPLETE W/ MERV 10 AND MERV 13 ASHRAE EFFICIENT FILTERS. UNITS SHALL BE SIZED TO ACCOMMODATE A COMBINED DIRTY FILTER PRESSURE DROP OF 0.5".
2. ALL FANS SHALL BE EQUIPPED WITH INTEGRAL VFD'S OR ECM MOTORS. SEE ELECTRICAL SPECIFICATIONS FOR VFD REQUIREMENTS.
3. UNIT SHALL BE EQUIPPED WITH MODULATING HOT GAS REHEAT.
4. PROVIDE PLENUM CURB AND ASSOCIATED INCREASE IN STATIC PRESSURE AS REQUIRED FOR DUCT PENETRATIONS.
5. UNIT SHALL BE PROVIDED WITH MULTIPLE COMPRESSORS. THE LEAD COMPRESSOR SHALL BE INVERTER VARIABLE SPEED TYPE.
6. UNIT MANUFACTURER SHALL PROVIDE REFRIGERATION CIRCUIT CONTROLS, GAS HEAT CONTROLS, MOD'S AND OUTSIDE AIR FLOW MONITOR. ALL OTHER SENSORS AND CONTROL DEVICES SHALL BE PROVIDED BY THE ATC CONTRACTOR.

AIR-COOLED CONDENSING UNIT SCHEDULE

DESIG	LOCATION	SERVICE	TOTAL MBH	REFRIG.	OA TEMP	MIN EER	MIN IEER	ELECTRICAL					MAX SIZE (L x W x H)	MAX OPERATING WEIGHT (LBS)	BASIS OF DESIGN (MANUFACTURER / MODEL)
								VOLTS	PHASE	MCA	MOP	SCCR			
CU-1	ROOF	AHU-9 (ES ADMIN)	540	R-454B	95	11.1	15.6	480	3	99.0	110.0	65 kAIC	90 x 90 x 80	3,200	TRANE
CU-2	ROOF	AHU-10 (HA SIDE)	449	R-454B	95	11.1	15.6	480	3	99.0	110.0	65 kAIC	90 x 90 x 80	3,200	TRANE
CU-3	ROOF	AHU-11 (ES GYM)	282	R-454B	95	10.9	15.5	480	3	62.0	80.0	65 kAIC	90 x 60 x 75	2,000	TRANE
CU-4	ROOF	AHU-13 (PDS GYM)	236	R-454B	95	10.9	15.5	480	3	45.0	60.0	65 kAIC	94 x 46 x 46	800	TRANE
CU-5	ROOF	AHU-18 (KITCHEN)	-	R-454B	95	10.9	15.5	480	3	-	-	65 kAIC	-	-	TRANE

NOTES:
1. PROVIDE INTEGRAL STARTER FOR ALL UNITS.
2. EACH COMPRESSORS SHALL BE CAPABLE OF TURN DOWN TO 30% OF SCHEDULED CAPACITY. PROVIDE ALL ACCESSORIES REQUIRED TO ACCOMMODATE TURN DOWN.
3. ALL UNIT SHALL HAVE AT LEAST TWO REFRIGERATION CIRCUITS.

STATE OF MARYLAND
ANDREW CHARLES ENDRES JR
18528
PROFESSIONAL ENGINEER

PROFESSIONAL CERTIFICATION

I CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND,
LICENSE NO. 18528 ,
EXPIRATION DATE 07/27/26 .

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GP #22419

MECHANICAL SCHEDULES

NEW COMBINATION HARFORD ACADEMY & ELEMENTARY SCHOOL
1605 EVA MAR BOULEVARD, BEL AIR, MARYLAND

DATE	DESCRIPTION

M801

10/16/25
IAC CD SUBMISSION

BKM# 24138.01

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Plotted By: Jeff Rice | 10/14/2025 10:48 AM

PACKAGED AIR-COOLED CHILLER SCHEDULE

DESIG	TYPE	TONS	MBH	GPM	MIN FLOW (GPM)	EWT (°F)	LWT (°F)	MAX WPD (FT)	OUTDOOR AMBIENT	MIN IPLV (EER)	FLUID TYPE	ELECTRICAL					SIZE (L x W x H)	OPERATING WEIGHT (LBS)	BASIS OF DESIGN	
												VOLTS	PHASE	MCA (A)	MOP (A)	SCCR			MANUFACTURER	MODEL
ACC-1 & ACC-2	SCREW	270	3,240	432	273	55	40	7.0	95	20.7	30% PROPYLENE GLYCOL	480	3	592	800	65 KAIC	500 x 88 x 99	21,000	TRANE	ACR

NOTE:
1. SCHEDULE CHILLER CAPACITY IS NET CAPACITY AFTER ALL DE-RATINGS HAVE BEEN TAKEN FOR PROPYLENE GLYCOL.
2. CHILLERS SHALL HAVE BACNET MS/TP PROTOCOL
3. EACH CHILLER SHALL HAVE A MINIMUM OF TWO REFRIGERATION CIRCUITS

BOILER SCHEDULE

DESIG	LOCATION	SYSTEM	TYPE	GPM	EWT (°F)	LWT (°F)	FUEL TYPE	NET MIN OUTPUT (MBH)	NET MIN INPUT (MBH)	MIN - MAX GAS INLET PRESSURE (IN WG)	ELECTRICAL			BASIS OF DESIGN	
											MCA	VOLTS	PHASE	MANUFACTURER	MODEL
B-1, B-2, & B-3	MAIN MECHANICAL ROOM	HEATING WATER	CONDENSING	192	120	160	NATURAL GAS	3,840	4,000	4" - 14"	7.5	480	3	LOCHINVAR	CREST - FCB

NOTES:
1. PROVIDE CONDENSATE NEUTRALIZATION KIT FOR EACH BOILER.

PUMP SCHEDULE

DESIG	SERVICE	LOCATION	GPM	HEAD (FT)	MOTOR					RPM	CONTROL	BASIS OF DESIGN		TYPE
					HP	MAX BHP	VOLTS	PHASE	VFD			MANUFACTURER	MODEL	
HWP-1 & HWP-2	HEATING WATER	MECHANICAL ROOM	384	120	20	17.5	480	3	YES	3600	ATC	BELL & GOSSETT	SERIES 1510	BASE MOUNTED END SUCTION
CWP-1 & CWP-2	CHILLED WATER	PENTHOUSE	864	120	40	33.4	480	3	YES	1800	ATC	BELL & GOSSETT	SERIES 1510	BASE MOUNTED END SUCTION
GWP-1, GWP-2 & GWP-3	GLYCOL	PENTHOUSE	432	110	20	15.5	480	3	YES	3600	ATC	BELL & GOSSETT	SERIES 1510	BASE MOUNTED END SUCTION

EXPANSION TANK SCHEDULE

DESIG	LOCATION	SYSTEM	TYPE	TANK VOL (GAL)	MIN ACCEP VOLUME (GAL)	MAX OPER PSIG	AIR CHARGE		DIMENSIONS			BASIS OF DESIGN	
							PRECHARG PSIG	OPER PSIG	DIA	H / L	SYSTEM CONN (IN)	MANUFACTURER	MODEL
EXP-1	MECHANICAL ROOM	HEATING WATER	FULL ACCEPT	-	-	125	-	(5)	-	-	-	BELL & GOSSETT	-
EXP-2	PENTHOUSE	CHILLED WATER	FULL ACCEPT	-	-	125	-	(5)	-	-	-	BELL & GOSSETT	-
EXP-3	PENTHOUSE	GLYCOL WATER	FULL ACCEPT	-	-	125	-	(5)	-	-	-	BELL & GOSSETT	-

NOTES:
1. ALL EXPANSION TANKS SHALL BE FACTORY PRECHARGED TO CAPACITIES SHOWN.
2. BLADDER SHALL BE REMOVABLE THRU ACCESS HANDHOLE.
3. PROVIDE ALL PIPING SPECIALTIES AS SHOWN IN TYPICAL PIPING DIAGRAM
4. ALL TANKS SHALL BE A.S.M.E. STAMPED.
5. THE CALCULATED OPERATING PRESSURE IS THE SAME AS PRECHARGE PRESSURE, HOWEVER, THIS SHALL BE CONFIRMED AND ADJUSTED (IF NECESSARY) BY CONTRACTOR IN FIELD.
6. CONTRACTOR SHALL SET PRESSURE REDUCING VALVE TO FINAL DETERMINED OPERATING PRESSURE.

AIR SEPARATOR SCHEDULE

DESIG	LOCATION	SYSTEM	PIPE SIZE (IN)	GPM	STRAINER	BASIS OF DESIGN		REMARKS
						MANUFACTURER	MODEL	
AS-1	MECHANICAL ROOM	HEATING WATER	-	-	N	SPIROTHERM	SPIROVENT	-
AS-2	PENTHOUSE	CHILLED WATER	8"	-	N	SPIROTHERM	SPIROVENT	-
AS-3	PENTHOUSE	GLYCOL WATER	8"	-	N	SPIROTHERM	SPIROVENT	-

NOTES:
1. MAXIMUM PRESSURE DROP THRU AIR SEPARATORS SHALL BE ONE FOOT OF DROP.
2. PROVIDE HIGH CAPACITY AUTOMATIC AIR VENT ON AIR VENT PORT OF EACH SEPARATOR.
3. CONSTRUCTION SHALL BE A.S.M.E. STAMPED FOR 125 PSI WORKING PRESSURE.

AIR DEVICE SCHEDULE

DESIG	DUTY	SIZE (IN)	CFM RANGE	INLET / NECK SIZE (IN)	MAX SP	MAX NC	DESCRIPTION	BASIS OF DESIGN	
								MANUFACTURER	MODEL
A	SUPPLY	24 x 24 MODULE	0 - 120	6"Ø	0.10"	20	(18 x 18 NECK W/ FACTORY MOUNTED SQUARE - ROUND TRANSITION)	TITUS	TDC
A	SUPPLY	24 x 24 MODULE	121 - 210	8"Ø	0.10"	20	(18 x 18 NECK W/ FACTORY MOUNTED SQUARE - ROUND TRANSITION)	TITUS	TDC
A	SUPPLY	24 x 24 MODULE	211 - 325	10"Ø	0.10"	25	(18 x 18 NECK W/ FACTORY MOUNTED SQUARE - ROUND TRANSITION)	TITUS	TDC
A	SUPPLY	24 x 24 MODULE	326 - 470	12"Ø	0.10"	25	(18 x 18 NECK W/ FACTORY MOUNTED SQUARE - ROUND TRANSITION)	TITUS	TDC
A	SUPPLY	24 x 24 MODULE	471 - 640	14"Ø	0.10"	25	(18 x 18 NECK W/ FACTORY MOUNTED SQUARE - ROUND TRANSITION)	TITUS	TDC
A	SUPPLY	24 x 24 MODULE	641 - 830	16"Ø	0.10"	25	(18 x 18 NECK W/ FACTORY MOUNTED SQUARE - ROUND TRANSITION)	TITUS	TDC
B	RETURN / EXHAUST	10 x 10	0 - 295	10 x 10	0.06"	20	FIXED LOUVER 35° DEFLECTION 3/4" SPACING - REGISTER	TITUS	350 FL
B	RETURN / EXHAUST	12 x 12	296 - 440	12 x 12	0.06"	20	FIXED LOUVER 35° DEFLECTION 3/4" SPACING - REGISTER	TITUS	350 FL
B	RETURN / EXHAUST	14 x 14	441 - 610	14 x 14	0.06"	20	FIXED LOUVER 35° DEFLECTION 3/4" SPACING - REGISTER	TITUS	350 FL
B	RETURN / EXHAUST	16 x 16	611 - 800	16 x 16	0.06"	20	FIXED LOUVER 35° DEFLECTION 3/4" SPACING - REGISTER	TITUS	350 FL
B	RETURN / EXHAUST	18 x 18	801 - 1030	18 x18	0.06"	20	FIXED LOUVER 35° DEFLECTION 3/4" SPACING - REGISTER	TITUS	350 FL
B	RETURN / EXHAUST	24 x 24	1031 - 1875	24 x 24	0.06"	20	FIXED LOUVER 35° DEFLECTION 3/4" SPACING - REGISTER	TITUS	350 FL
C	SUPPLY	4 FT LONG	0 - 110	6"Ø	0.10"	20	LINEAR SLOT, 3/4" SLOT (3 SLOTS)	TITUS	ML-38 W/ MPI-38 INSULATED PLENUM
D	SUPPLY	13 - 1/2" Ø FACE	0 - 140	6"Ø	0.10"	30	ROUND LOUVERED FACE	TITUS	TMRA
D	SUPPLY	18"Ø FACE	141 - 250	8"Ø	0.10"	30	ROUND LOUVERED FACE	TITUS	TMRA
D	SUPPLY	22 - 1/2" Ø FACE	251 - 385	10"Ø	0.10"	30	ROUND LOUVERED FACE	TITUS	TMRA
D	SUPPLY	27" Ø FACE	386 - 550	12"Ø	0.10"	30	ROUND LOUVERED FACE	TITUS	TMRA
D	SUPPLY	31 - 1/2" Ø FACE	551 - 745	14"Ø	0.10"	30	ROUND LOUVERED FACE	TITUS	TMRA
E	RETURN	REFER TO FLOOR PLAN FOR SIZE (STAGE, MUSIC CR'S)			0.10	20	HEAVY DUTY BAR GRILLE, 0° DEFLECTION, 3/8" SPACING	TITUS	30 RL
E	RETURN	REFER TO FLOOR PLAN FOR SIZE (GYM, DINING, LOBBY)			0.10	25	HEAVY DUTY BAR GRILLE, 0° DEFLECTION, 3/8" SPACING	TITUS	30 RL
F	SUPPLY	18X8	0-310	18X8	0.10"	20	SPIRAL DUCT MOUNTED GRILLE WITH ASD - AIR SCOOP DIFFUSER	TITUS	S301
G	SUPPLY	4' LONG	170 CFM / LF	6"Ø	0.10"	20	LINEAR BAR DIFFUSER 1/4" BARS, 1/2" SPACING, 15°F DEFLECTION	TITUS	CT-541
H	RETURN/EXHAUST	24 x 24	1875-2400	24 x 24	0.06"	30	FIXED LOUVER 35° DEFLECTION 3/4" SPACING - REGISTER	TITUS	350 FL

NOTE:
1. MANUFACTURERS MAY PROVIDE ALUMINUM OR STEEL AIR DEVICES UNLESS OTHERWISE INDICATED. ALL AIR DEVICES IN HIGH HUMIDITY AREAS (ie. TOILET ROOMS, KITCHENS, ETC.) SHALL BE ALUMINUM.
2. ALL TYPE C, D, E, F, & G AIR DEVICES SHALL HAVE PAINTABLE SURFACES. CONTRACTOR SHALL PAINT DEVICE IN FIELD WITH COLOR SELECTED BY A/E.
3. ALL TYPE D AIR DEVICES SHALL BE PROVIDED WITH RETAINER CABLE TO ALLOW FOR DIFFUSERS TO HANG DURING MAINTENANCE OR IF DISLODGED.
4. ALL TYPE E & G AIR DEVICES SHALL PROVIDE RT-150 DAMPER SYSTEM BY METROPOLITAN AIR TECHNOLOGY OR APPROVED EQUAL TO ALLOW FOR BALANCING THRU FACE OF AIR DEVICE.
5. ALL TYPE G AIR DEVICES SHALL BE PROVIDED WITH BORDER ON CORE DEVICE.

PLATE AND FRAME HEAT EXCHANGER SCHEDULE

DESIG	GLYCOL CHILLER LOOP						BUILDING LOOP						BASIS OF DESIGN	
	MBH	GPM	EWT (°F)	LWT (°F)	MAX WPD (FT)	WATER TYPE	MBH	GPM	EWT (°F)	LWT (°F)	MAX WPD (FT)	WATER TYPE	MANUFACTURER	MODEL
HX-1	3,240	462	40	55	10	30% PROPYLENE GLYCOL	3,240	432	57	42	10	FRESH WATER	BELL & GOSSETT	GPX
HX-2	3,240	462	40	55	10	30% PROPYLENE GLYCOL	3,240	432	57	42	10	FRESH WATER	BELL & GOSSETT	GPX

NOTES:
1. FRAMES SHALL BE ADEQUATELY SIZED FOR 10% FUTURE PLATE EXPANSION.

AUTOMATIC GLYCOL FEEDER SCHEDULE

DESIG	DESCRIPTION	LOCATION	FLUID TYPE	GALLONS	VOLTS	PHASE	BASIS OF DESIGN
GF-1	GLYCOL FEEDER	PENTHOUSE	30% PROPYLENE GLYCOL	50	120	1	NEPTUNE

NOTES:
1. FEEDER SHALL BE EQUIPPED WITH A REFRACTOMETER.
2. ASSEMBLY SHALL BE MOUNTED ON A WELDED STEEL STAND.
3. TANK SHALL BE FILLED PRIOR TO COMPLETION OF WORK.

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STATE OF MARYLAND
ANDREW CHARLES ENDRES JR
18528
PROFESSIONAL ENGINEER

PROFESSIONAL CERTIFICATION

I CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 18528, EXPIRATION DATE 07/27/26.

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GP #22419

MECHANICAL SCHEDULES

NEW COMBINATION HARFORD ACADEMY & ELEMENTARY SCHOOL
1605 EVA MAR BOULEVARD, BEL AIR, MARYLAND

DATE	DESCRIPTION

M802

10/16/25
IAC CD SUBMISSION

BKM# 24138.01

AIR VOLUME TERMINAL WITH HOT WATER HEATING COIL SCHEDULE

ASSOCIATED AHU	DESIG	MAX CFM	MIN CFM	HEATING CFM	MIN OA CFM OCC	MIN OA CFM UNOCC	MIN INLET SIZE (IN) (2)	OUTLET SIZE (3) (IN x IN)	MAX APD (IN) (4)	MAX NC (5)	MIN INLET SP (IN) (7)	HEATING CAPACITY CFM	EAT (°F)	LAT (°F)	BTUH	EWT (°F)	LWT (°F)	GPM	PIPE SIZE
AHU-1	1-1	1200	445	445	445	160	-	-	0.6	35	1.5	445	55	95	19.2	160	120	0.96	3/4"
	1-2	1300	445	445	445	160	-	-	0.6	35	1.5	445	55	95	19.2	160	120	0.96	3/4"
	1-3	1110	455	460	455	170	-	-	0.6	35	1.5	460	55	95	19.9	160	120	0.99	3/4"
	1-4	1100	405	405	405	130	-	-	0.6	35	1.5	405	55	95	17.5	160	120	0.87	3/4"
	1-5	1310	455	455	455	170	-	-	0.6	35	1.5	455	55	95	19.7	160	120	0.98	3/4"
	1-6	1150	405	405	405	130	-	-	0.6	35	1.5	405	55	95	17.5	160	120	0.87	3/4"
	1-7	1160	405	405	405	130	-	-	0.6	35	1.5	405	55	95	17.5	160	120	0.87	3/4"
	1-8	1180	380	400	380	110	-	-	0.6	35	1.5	400	55	95	17.3	160	120	0.86	3/4"
	1-9	1320	455	455	455	170	-	-	0.6	35	1.5	455	55	95	19.7	160	120	0.98	3/4"
	1-10	1360	455	470	455	170	-	-	0.6	35	1.5	470	55	95	20.3	160	120	1.02	3/4"
	1-11	1170	380	400	380	110	-	-	0.6	35	1.5	380	55	95	16.4	160	120	0.82	3/4"
	1-12	1750	420	420	420	135	-	-	0.6	35	1.5	420	55	95	18.1	160	120	0.91	3/4"
	1-13	885	290	360	290	110	-	-	0.6	35	1.5	360	55	95	15.6	160	120	0.78	3/4"
	1-14	190	120	220	120	70	-	-	0.6	35	1.5	220	55	95	7.1	160	120	0.36	3/4"
	1-15	730	175	540	175	100	-	-	0.6	35	1.5	540	55	95	23.3	160	120	1.17	3/4"
	1-16	510	185	510	185	50	-	-	0.6	35	1.5	510	55	95	16.5	160	120	0.83	3/4"
AHU-2	2-1	585	170	210	170	90	-	-	0.6	35	1.5	210	55	95	9.1	160	120	0.45	3/4"
	2-2	1170	495	495	495	200	-	-	0.6	35	1.5	495	55	95	21.4	160	120	1.07	3/4"
	2-3	180	70	70	70	30	-	-	0.6	35	1.5	70	55	95	2.3	160	120	0.11	3/4"
	2-4	1300	410	410	410	130	-	-	0.6	35	1.5	410	55	95	17.7	160	120	0.89	3/4"
	2-5	1070	410	410	410	130	-	-	0.6	35	1.5	410	55	95	17.7	160	120	0.89	3/4"
	2-6	1150	405	405	405	130	-	-	0.6	35	1.5	405	55	95	17.5	160	120	0.87	3/4"
	2-7	1385	405	405	405	130	-	-	0.6	35	1.5	405	55	95	17.5	160	120	0.87	3/4"
	2-8	1160	405	405	405	130	-	-	0.6	35	1.5	405	55	95	17.5	160	120	0.87	3/4"
	2-9	1200	455	455	455	160	-	-	0.6	35	1.5	455	55	95	19.7	160	120	0.98	3/4"
	2-10	1130	410	410	410	130	-	-	0.6	35	1.5	410	55	95	17.7	160	120	0.89	3/4"
	2-11	1385	455	455	455	160	-	-	0.6	35	1.5	455	55	95	19.7	160	120	0.98	3/4"
	2-12	350	120	120	120	70	-	-	0.6	35	1.5	120	55	95	3.9	160	120	0.19	3/4"
	2-13	280	105	105	105	30	-	-	0.6	35	1.5	105	55	95	3.4	160	120	0.17	3/4"
	2-14	970	515	515	515	210	-	-	0.6	35	1.5	515	55	95	16.7	160	120	0.83	3/4"
	2-15	1420	480	480	480	185	-	-	0.6	35	1.5	480	55	95	20.7	160	120	1.04	3/4"
	2-16	1500	365	440	365	90	-	-	0.6	35	1.5	440	55	95	19.0	160	120	0.95	3/4"
	2-17	900	260	1050	285	210	-	-	0.6	35	1.5	1050	55	95	45.4	160	120	2.27	1"
AHU-3	3-1	1080	410	410	410	130	-	-	0.6	35	1.5	410	55	95	17.7	160	120	0.89	3/4"
	3-2	650	235	250	235	70	-	-	0.6	35	1.5	250	55	95	10.8	160	120	0.54	3/4"
	3-3	1280	410	460	410	130	-	-	0.6	35	1.5	460	55	95	19.9	160	120	0.99	3/4"
	3-4	1500	410	530	410	130	-	-	0.6	35	1.5	530	55	95	22.9	160	120	1.14	3/4"
	3-5	440	105	180	105	60	-	-	0.6	35	1.5	180	55	95	7.8	160	120	0.39	3/4"
	3-6	1370	405	405	405	130	-	-	0.6	35	1.5	405	55	95	17.5	160	120	0.87	3/4"
	3-7	1250	410	440	410	130	-	-	0.6	35	1.5	440	55	95	19.0	160	120	0.95	3/4"
	3-8	1190	405	405	405	130	-	-	0.6	35	1.5	405	55	95	17.5	160	120	0.87	3/4"
	3-9	1260	405	405	405	130	-	-	0.6	35	1.5	405	55	95	17.5	160	120	0.87	3/4"
	3-10	1180	405	405	405	130	-	-	0.6	35	1.5	405	55	95	17.5	160	120	0.87	3/4"
	3-11	1460	405	440	405	130	-	-	0.6	35	1.5	440	55	95	19.0	160	120	0.95	3/4"
	3-12	240	80	90	80	30	-	-	0.6	35	1.5	90	55	95	3.9	160	120	0.19	3/4"
	3-13	180	70	70	70	30	-	-	0.6	35	1.5	70	55	95	3.0	160	120	0.15	3/4"
	3-14	630	130	350	75	75	-	-	0.6	35	1.5	350	55	95	15.1	160	120	0.76	3/4
AHU-4	4-1	930	440	440	440	105	-	-	0.6	35	1.5	440	55	95	19.0	160	120	0.95	3/4"
	4-2	260	85	85	85	25	-	-	0.6	35	1.5	85	55	95	2.8	160	120	0.14	3/4"
	4-3	300	120	120	120	35	-	-	0.6	35	1.5	120	55	95	3.9	160	120	0.19	3/4"
	4-4	300	90	90	90	30	-	-	0.6	35	1.5	90	55	95	3.9	160	120	0.19	3/4"
	4-5	170	50	50	50	20	-	-	0.6	35	1.5	50	55	95	1.6	160	120	0.08	3/4"
	4-6	1115	515	515	515	165	-	-	0.6	35	1.5	515	55	95	22.2	160	120	1.11	3/4"
	4-7	1060	515	435	515	165	-	-	0.6	35	1.5	435	55	95	18.8	160	120	0.94	3/4"
	4-8	1070	460	460	460	120	-	-	0.6	35	1.5	460	55	95	19.9	160	120	0.99	3/4"
	4-9	1310	540	460	540	185	-	-	0.6	35	1.5	460	55	95	19.9	160	120	0.99	3/4"
	4-10	1160	540	460	540	180	-	-	0.6	35	1.5	460	55	95	19.9	160	120	0.99	3/4"
	4-11	1470	490	490	490	95	-	-	0.6	35	1.5	490	55	95	21.2	160	120	1.06	3/4"
	4-12	1150	435	435	435	100	-	-	0.6	35	1.5	435	55	95	18.8	160	120	0.94	3/4"
	4-13	790	315	275	275	70	-	-	0.6	35	1.5	315	55	95	13.6	160	120	0.68	3/4"
	4-14	940	435	435	435	100	-	-	0.6	35	1.5	435	55	95	18.8	160	120	0.94	3/4"

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ASSOCIATED AHU	DESIG	MAX CFM	MIN CFM	HEATING CFM	MIN OA CFM OCC	MIN OA CFM UNOCC	MIN INLET SIZE (IN) (2)	OUTLET SIZE (3) (IN x IN)	MAX APD (IN) (4)	MAX NC (5)	MIN INLET SP (IN) (7)	HEATING CAPACITY CFM	EAT (°F)	LAT (°F)	BTUH	EWT (°F)	LWT (°F)	GPM	PIPE SIZE
AHU-5	5-1	970	445	445	445	105	-	-	0.6	35	1.5	445	55	95	19.2	160	120	0.96	3/4"
	5-2	780	405	405	405	75	-	-	0.6	35	1.5	405	55	95	17.5	160	120	0.87	3/4"
	5-3	760	405	405	405	75	-	-	0.6	35	1.5	405	55	95	17.5	160	120	0.87	3/4"
	5-4	810	425	425	425	90	-	-	0.6	35	1.5	425	55	95	18.4	160	120	0.92	3/4"
	5-5	300	85	85	85	30	-	-	0.6	35	1.5	85	55	95	3.7	160	120	0.18	3/4"
	5-6	1080	435	435	435	100	-	-	0.6	35	1.5	435	55	95	18.8	160	120	0.94	3/4"
	5-7	1240	445	445	445	190	-	-	0.6	35	1.5	445	55	95	19.2	160	120	0.96	3/4"
	5-8	1205	540	450	540	190	-	-	0.6	35	1.5	450	55	95	19.4	160	120	0.97	3/4"
	5-9	1140	545	445	545	110	-	-	0.6	35	1.5	445	55	95	19.2	160	120	0.96	3/4"
	5-10	1270	540	445	540	180	-	-	0.6	35	1.5	445	55	95	19.2	160	120	0.96	3/4"
	5-11	410	155	155	155	45	-	-	0.6	35	1.5	155	55	95	5.0	160	120	0.25	3/4"
	5-12	600	280	280	280	75	-	-	0.6	35	1.5	280	55	95	12.1	160	120	0.60	3/4"
	5-13	960	440	440	440	105	-	-	0.6	35	1.5	440	55	95	19.0	160	120	0.95	3/4"
	5-14	1120	435	435	435	100	-	-	0.6	35	1.5	435	55	95	18.8	160	120	0.94	3/4"
	5-15	790	275	315	275	70	-	-	0.6	35	1.5	315	55	95	13.6	160	120	0.68	3/4"
AHU-6	6-1	860	410	410	410	80	-	-	0.6	35	1.5	410	55	95	17.7	160	120	0.89	3/4"
	6-2	250	95	95	95	50	-	-	0.6	35	1.5	95	55	95	3.1	160	120	0.15	3/4"
	6-3	110	30	50	30	10	-	-	0.6	35	1.5	50	55	95	1.6	160	120	0.08	3/4"
	6-4	270	55	55	55	30	-	-	0.6	35	1.5	55	55	95	1.8	160	120	0.09	3/4"
	6-5	370	140	140	140	50	-	-	0.6	35	1.5	140	55	95	4.5	160	120	0.23	3/4"
	6-6	285	75	75	75	40	-	-	0.6	35	1.5	75	55	95	2.4	160	120	0.12	3/4"
	6-7	220	55	55	55	15	-	-	0.6	35	1.5	55	55	95	1.8	160	120	0.09	3/4"
	6-8	1265	460	460	460	120	-	-	0.6	35	1.5	460	55	95	19.9	160	120	0.99	3/4"
	6-9	1080	455	455	455	115	-	-	0.6	35	1.5	455	55	95	19.7	160	120	0.98	3/4"
	6-10	1180	450	450	450	110	-	-	0.6	35	1.5	450	55	95	19.4	160	120	0.97	3/4"
	6-11	1160	460	460	460	120	-	-	0.6	35	1.5	460	55	95	19.9	160	120	0.99	3/4"
	6-12	760	350	350	350	130	-	-	0.6	35	1.5	350	55	95	15.1	160	120	0.76	3/4"
AHU-7	7-1	290	105	150	105	55	-	-	0.6	35	1.5	150	55	95	4.9	160	120	0.24	3/4"
	7-2	860	450	450	450	110	-	-	0.6	35	1.5	450	55	95	19.4	160	120	0.97	3/4"
	7-3	930	460	460	460	120	-	-	0.6	35	1.5	460	55	95	19.9	160	120	0.99	3/4"
	7-4	1020	445	445	445	110	-	-	0.6	35	1.5	445	55	95	19.2	160	120	0.96	3/4"
	7-5	1710	345	350	345	95	-	-	0.6	35	1.5	350	55	95	15.1	160	120	0.76	3/4"
	7-6	1130	440	440	440	110	-	-	0.6	35	1.5	440	55	95	19.0	160	120	0.95	3/4"
	7-7	1070	465	465	465	120	-	-	0.6	35	1.5	465	55	95	20.1	160	120	1.00	3/4"
	7-8	240	50	110	30	10	-	-	0.6	35	1.5	110	55	95	3.6	160	120	0.18	3/4"
	7-9	1050	445	445	445	110	-	-	0.6	35	1.5	445	55	95	19.2	160	120	0.96	3/4"
	7-10	1140	440	440	440	110	-	-	0.6	35	1.5	440	55	95	19.0	160	120	0.95	3/4"
	7-11	1160	440	440	440	110	-	-	0.6	35	1.5	440	55	95	19.0	160	120	0.95	3/4"
	7-12	850	355	355	355	140	-	-	0.6	35	1.5	355	55	95	15.3	160	120	0.77	3/4"
AHU-8	8-1	1400	400	400	400	120	-	-	0.6	35	1.5	400	55	95	17.3	160	120	0.86	3/4"
	8-2	1160	400	400	400	120	-	-	0.6	35	1.5	400	55	95	17.3	160	120	0.86	3/4"
	8-3	1140	465	465	465	120	-	-	0.6	35	1.5	465	55	95	20.1	160	120	1.00	3/4"
	8-4	980	400	400	400	160	-	-	0.6	35	1.5	400	55	95	17.3	160	120	0.86	3/4"
	8-5	980	400	400	400	160	-	-	0.6	35	1.5	400	55	95	17.3	160	120	0.86	3/4"
	8-6	920	400	400	400	160	-	-	0.6	35	1.5	400	55	95	17.3	160	120	0.86	3/4"
	8-7	925	420	420	420	90	-	-	0.6	35	1.5	420	55	95	18.1	160	120	0.91	3/4"
	8-8	1125	450	450	450	110	-	-	0.6	35	1.5	450	55	95	14.6	160	120	0.73	3/4"
	8-9	1100	420	420	420	120	-	-	0.6	35	1.5	420	55	95	18.1	160	120	0.91	3/4"
	8-10	960	360	360	360	100	-	-	0.6	35	1.5	360	55	95	15.6	160	120	0.78	3/4"
	8-11	940	470	470	470	130	-	-	0.6	35	1.5	470	55	95	15.2	160	120	0.76	3/4"
	8-12	930	510	510	510	110	-	-	0.6	35	1.5	510	55	95	16.5	160	120	0.83	3/4"
	8-13	400	210	210	145	60	-	-	0.6	35	1.5	210	55	95	6.8	160	120	0.34	3/4"

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ASSOCIATED AHU	DESIG	MAX CFM	MIN CFM	HEATING CFM	MIN OA CFM OCC	MIN OA CFM UNOCC	MIN INLET SIZE (IN) (2)	OUTLET SIZE (3) (IN x IN)	MAX APD (IN) (4)	MAX NC (5)	MIN INLET SP (IN) (7)	HEATING CAPACITY CFM	EAT (°F)	LAT (°F)	BTUH	EWT (°F)	LWT (°F)	GPM	PIPE SIZE
AHU-9	9-1	130	50	50	50	15	-	-	0.6	35	1.5	50	55	95	1.6	160	120	0.08	3/4"
	9-2	245	50	120	50	10	-	-	0.6	35	1.5	120	55	95	3.9	160	120	0.19	3/4"
	9-3	130	50	50	50	10	-	-	0.6	35	1.5	50	55	95	1.6	160	120	0.08	3/4"
	9-4	360	75	100	75	15	-	-	0.6	35	1.5	100	55	95	4.3	160	120	0.22	3/4"
	9-5	480	85	190	50	15	-	-	0.6	35	1.5	190	55	95	6.2	160	120	0.31	3/4"
	9-6	130	50	50	50	10	-	-	0.6	35	1.5	50	55	95	1.6	160	120	0.08	3/4"
	9-7	130	50	50	50	10	-	-	0.6	35	1.5	50	55	95	1.6	160	120	0.08	3/4"
	9-8	240	50	80	50	10	-	-	0.6	35	1.5	80	55	95	3.4	160	120	0.17	3/4"
	9-9	280	60	90	60	15	-	-	0.6	35	1.5	90	55	95	3.7	160	120	0.18	3/4"
	9-10	430	90	110	90	25	-	-	0.6	35	1.5	110	55	95	3.2	160	120	0.16	3/4"
	9-11	265	55	130	50	15	-	-	0.6	35	1.5	130	55	95	3.7	160	120	0.18	3/4"
	9-12	250	50	80	50	15	-	-	0.6	35	1.5	80	55	95	3.0	160	120	0.15	3/4"
	9-13	190	50	70	50	25	-	-	0.6	35	1.5	70	55	95	1.8	160	120	0.09	3/4"
	9-14	250	50	80	50	15	-	-	0.6	35	1.5	80	55	95	2.9	160	120	0.14	3/4"
	9-15	630	115	250	115	30	-	-	0.6	35	1.5	250	55	95	5.9	160	120	0.30	3/4"
	9-16	480	100	160	100	20	-	-	0.6	35	1.5	160	55	95	5.4	160	120	0.27	3/4"
	9-17	600	120	170	120	40	-	-	0.6	35	1.5	170	55	95	3.7	160	120	0.18	3/4"
	9-18	1150	230	430	230	90	-	-	0.6	35	1.5	430	55	95	13.5	160	120	0.67	3/4"
	9-19	170	50	50	50	15	-	-	0.6	35	1.5	50	55	95	1.0	160	120	0.05	3/4"
	9-20	140	50	50	50	15	-	-	0.6	35	1.5	50	55	95	1.6	160	120	0.08	3/4"
	9-21	400	160	160	160	30	-	-	0.6	35	1.5	160	55	95	5.2	160	120	0.26	3/4"
	9-22	435	85	160	85	30	-	-	0.6	35	1.5	160	55	95	5.2	160	120	0.26	3/4"
	9-23	680	160	160	160	40	-	-	0.6	35	1.5	160	55	95	5.2	160	120	0.26	3/4"
	9-24	810	190	190	190	40	-	-	0.6	35	1.5	190	55	95	8.2	160	120	0.41	3/4"
	9-25	160	50	50	50	10	-	-	0.6	35	1.5	50	55	95	1.6	160	120	0.08	3/4"
	9-26	260	55	85	50	10	-	-	0.6	35	1.5	85	55	95	3.7	160	120	0.18	3/4"
	9-27	350	70	90	70	15	-	-	0.6	35	1.5	90	55	95	3.9	160	120	0.19	3/4"
	9-28	1160	215	800	215	35	-	-	0.6	35	1.5	800	55	95	34.6	160	120	1.73	3/4"
	9-29	1710	345	450	345	40	-	-	0.6	35	1.5	450	55	95	14.6	160	120	0.73	3/4"
	9-30	480	100	150	100	40	-	-	0.6	35	1.5	150	55	95	4.9	160	120	0.24	3/4"
AHU-10	10-1	360	75	140	75	30	-	-	0.6	35	1.5	140	55	95	6.0	160	120	0.30	3/4"
	10-2	850	310	310	310	50	-	-	0.6	35	1.5	310	55	95	13.4	160	120	0.67	3/4"
	10-3	850	310	310	310	50	-	-	0.6	35	1.5	310	55	95	13.4	160	120	0.67	3/4"
	10-4	1150	410	410	410	130	-	-	0.6	35	1.5	410	55	95	17.7	160	120	0.89	3/4"
	10-5	800	160	270	160	40	-	-	0.6	35	1.5	270	55	95	11.7	160	120	0.58	3/4"
	10-6	260	95	95	95	30	-	-	0.6	35	1.5	95	55	95	3.1	160	120	0.15	3/4"
	10-7	815	165	380	165	50	-	-	0.6	35	1.5	380	55	95	12.3	160	120	0.62	3/4"
	10-8	550	60	120	60	20	-	-	0.6	35	1.5	120	55	95	5.2	160	120	0.26	3/4"
	10-9	400	85	170	85	40	-	-	0.6	35	1.5	170	55	95	5.5	160	120	0.28	3/4"
	10-10	200	40	100	40	20	-	-	0.6	35	1.5	100	55	95	3.2	160	120	0.16	3/4"
	10-11	470	95	220	95	40	-	-	0.6	35	1.5	220	55	95	9.5	160	120	0.48	3/4"
	10-12	430	120	100	120	20	-	-	0.6	35	1.5	100	55	95	4.3	160	120	0.22	3/4"
	10-13	170	35	65	35	30	-	-	0.6	35	1.5	65	55	95	2.1	160	120	0.11	3/4"
	10-14	310	65	80	65	10	-	-	0.6	35	1.5	80	55	95	3.5	160	120	0.17	3/4"
	10-15	140	30	50	30	10	-	-	0.6	35	1.5	50	55	95	1.6	160	120	0.08	3/4"
	10-16	130	30	40	30	10	-	-	0.6	35	1.5	40	55	95	1.3	160	120	0.06	3/4"
	10-17	170	35	40	35	15	-	-	0.6	35	1.5	40	55	95	1.3	160	120	0.06	3/4"
	10-18	355	75	110	75	40	-	-	0.6	35	1.5	110	55	95	3.6	160	120	0.18	3/4"
	10-19	170	35	50	35	15	-	-	0.6	35	1.5	50	55	95	1.6	160	120	0.08	3/4"
	10-20	375	75	170	75	10	-	-	0.6	35	1.5	170	55	95	7.3	160	120	0.37	3/4"
	10-21	260	55	70	55	10	-	-	0.6	35	1.5	70	55	95	3.0	160	120	0.15	3/4"
	10-22	260	55	70	55	10	-	-	0.6	35	1.5	70	55	95	3.0	160	120	0.15	3/4"
	10-23	250	95	95	95	25	-	-	0.6	35	1.5	95	55	95	3.1	160	120	0.15	3/4"
	10-24	420	85	160	85	30	-	-	0.6	35	1.5	160	55	95	6.9	160	120	0.35	3/4"
	10-25	740	245	740	245	150	-	-	0.6	35	1.5	740	55	95	32.0	160	120	1.60	3/4"

NOTES:
1. AIR VOLUME TERMINALS SHALL BE PRESSURE INDEPENDENT TYPE.
2. PROVIDE MINIMUM OF THREE (3) DUCT DIAMETERS OR TWO (2) FEET (WHICHEVER IS GREATER) OF STRAIGHT SHEET METAL DUCT AT TERMINAL UNIT INLET. MEDIUM PRESSURE FLEXIBLE DUCTWORK WILL NOT BE PERMITTED.
3. WHERE OUTLET SIZE IS INDICATED OTHERWISE ON HVAC PLANS, PROVIDE DUCT TRANSITION AS REQUIRED. WHERE SOUND SILENCERS ARE REQUIRED, PROVIDE TRANSITION FROM TERMINAL OUTLET TO SOUND SILENCER AND FROM SOUND SILENCER TO DUCT SIZE INDICATED ON PLANS.
4. MAX. APD SHALL BE FOR AIR VOLUME TERMINAL PLUS HEATING COIL AND SOUND SILENCER.
5. MAXIMUM NOISE CRITERIA (NC) LEVELS FOR DISCHARGE AND RADIATED SOUND SHALL NOT BE EXCEEDED IN ANY OF THE 2ND THRU 7TH OCTAVE BANDS AT THE SCHEDULED INLET STATIC PRESSURE. STANDARD CATALOGUED ATTENUATION CREDITS SHALL NOT BE USED. SEE SPECIFICATIONS FOR ALLOWABLE SOUND ADJUSTMENT FACTORS. PROVIDE SOUND SILENCERS AS REQUIRED TO MEET NC VALUES INDICATED.
6. PROVIDE WHERE REQUIRED TO MEET NC VALUES SCHEDULED. SOUND SILENCER PRESSURE DROP SHALL NOT EXCEED 0.15 IN WC.
7. THE MINIMUM INLET STATIC PRESSURE INDICATED SHALL BE EQUAL TO THE DIFFERENCE IN STATIC PRESSURE FROM AIR TERMINAL INLET TO AIR TERMINAL DISCHARGE (NOT INCLUDING COIL, SILENCER, ETC.).

ARL: G:\24138.01\Drawings\Acad\M\M803 - Schedules

Plotted By: Jeff Rice | 10/10/2025 11:29 AM

STATE OF MARYLAND
ANDREW CHARLES ENDRES JR
18528
PROFESSIONAL ENGINEER

PROFESSIONAL CERTIFICATION

I CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 18528 , EXPIRATION DATE 07/27/26 .

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G+P GRIMM + PARKER ARCHITECTS

GP #22419

MECHANICAL SCHEDULES

NEW COMBINATION HARFORD ACADEMY & ELEMENTARY SCHOOL
1605 EVA MAR BOULEVARD, BEL AIR, MARYLAND

DATE	DESCRIPTION

M803

10/16/25
IAC CD SUBMISSION

BKM# 24138.01

18 | 17 | 16 | 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1

FAN SCHEDULE

DESIG	LOCATION	AREA SERVED	CFM	ESP (IN)	MOTOR				RPM	MIN FAN DIA	WHEEL TYPE	CLASS	DRIVE TYPE	METHOD OF CONTROL	BASIS OF DESIGN	
					HP	MAX BHP	VOLTS	PHASE							MANUFACTURER	MODEL
EF-1	ROOF	TOILETS/ELECTRICAL/ WORM ROOM	400	0.6	1/6	0.10	115	1	-	-	BI	1	DIRECT	ATC	GREENHECK	G
EF-2	ROOF	HEALTH SUITE	1200	0.8	1/2	0.27	115	1	-	-	BI	1	DIRECT	ATC	GREENHECK	CUE
EF-3	ROOF	KILN	85	0.4	1/15	0.02	115	1	-	-	BI	1	DIRECT	ATC	GREENHECK	G
EF-4	ROOF	ART/STORAGE	150	0.4	1/15	0.02	115	1	-	-	BI	1	DIRECT	ATC	GREENHECK	G
EF-5	ROOF	TOILETS	150	0.5	1/4	0.05	115	1	-	-	BI	1	DIRECT	ATC	GREENHECK	G
EF-6	ROOF	TOILETS/STORAGE	325	0.8	1/4	0.10	115	1	-	-	BI	1	DIRECT	ATC	GREENHECK	G
EF-7	ROOF	ART ROOM/STORAGE	900	0.5	1/2	0.14	115	1	-	-	BI	1	DIRECT	ATC	GREENHECK	G
EF-8	ROOF	TOILETS/STORAGE	75	0.4	1/15	0.02	115	1	-	-	BI	1	DIRECT	ATC	GREENHECK	G
EF-9	ROOF	HEALTH SUITE	2500	0.7	1	0.51	208	1	-	-	BI	1	DIRECT	ATC	GREENHECK	CUE
EF-10	ROOF	TOILETS/STORAGE/ WORK ROOM/ELECTRICAL	945	0.8	1/2	0.20	115	1	-	-	BI	1	DIRECT	ATC	GREENHECK	G
EF-11	ROOF	TOILETS	150	0.5	1/4	0.05	115	1	-	-	BI	1	DIRECT	ATC	GREENHECK	G
EF-12	ROOF	TOILETS	150	0.5	1/4	0.05	115	1	-	-	BI	1	DIRECT	ATC	GREENHECK	G
EF-13	ROOF	TOILETS/CUSTODIAL/ ELECTRICAL	390	0.8	1/4	0.11	115	1	-	-	BI	1	DIRECT	ATC	GREENHECK	G
EF-14	ROOF	TOILETS	150	0.6	1/4	.05	115	1	-	-	BI	1	DIRECT	ATC	GREENHECK	G
EF-15	ROOF	TOILET/WORK ROOM	425	0.6	1/6	0.08	115	1	-	-	BI	1	DIRECT	ATC	GREENHECK	G
EF-16	ROOF	TOILETS/STORAGE	305	0.6	1/4	0.07	115	1	-	-	BI	1	DIRECT	ATC	GREENHECK	G
EF-17	ROOF	TOILET/ELECTRICAL	240	0.5	1/10	0.06	115	1	-	-	BI	1	DIRECT	ATC	GREENHECK	G
EF-18	ROOF	TOILET	75	0.4	1/15	0.02	115	1	-	-	BI	1	DIRECT	ATC	GREENHECK	G
EF-19	ROOF	TOILETS	150	0.5	1/4	0.05	115	1	-	-	BI	1	DIRECT	ATC	GREENHECK	G
EF-20	ROOF	TOILETS	150	0.5	1/4	0.05	115	1	-	-	BI	1	DIRECT	ATC	GREENHECK	G
EF-21	ROOF	TOILET/CUSTODIAL	125	0.5	1/4	0.04	115	1	-	-	BI	1	DIRECT	ATC	GREENHECK	G
EF-22	ROOF	TOILETS/WORK ROOM	75	0.3	1/60	0.01	115	1	-	-	BI	1	DIRECT	ATC	GREENHECK	G
EF-23	ROOF	HS KITCHEN	660	0.4	1/4	0.07	115	1	-	-	BI	1	DIRECT	ATC	GREENHECK	G
EF-24	ROOF	TOILETS	75	0.3	1/15	0.01	115	1	-	-	BI	1	DIRECT	ATC	GREENHECK	G
EF-25	ROOF	TOILETS	300	0.7	1/4	0.08	115	1	-	-	BI	1	DIRECT	ATC	GREENHECK	G
EF-26	ROOF	SKILLS FOR LIFE/STORAGE	965	0.5	1/4	0.13	115	1	-	-	BI	1	DIRECT	ATC	GREENHECK	G
EF-27	ROOF	TOILET/ELECTRICAL	240	0.5	1/10	0.06	115	1	-	-	BI	1	DIRECT	ATC	GREENHECK	G
EF-28	ROOF	TOILETS	150	0.4	1/15	0.02	115	1	-	-	BI	1	DIRECT	ATC	GREENHECK	G
EF-29	ROOF	TECH ED/STORAGE/ TOILET	1550	0.6	3/4	0.32	115	1	-	-	BI	1	DIRECT	ATC	GREENHECK	G
EF-30	ROOF	TOILETS	150	0.4	1/4	0.04	115	1	-	-	BI	1	DIRECT	ATC	GREENHECK	G
EF-31	ROOF	TOILETS	150	0.4	1/4	0.04	115	1	-	-	BI	1	DIRECT	ATC	GREENHECK	G
EF-32	ROOF	HORTICULTURE/STORAGE	520	0.4	1/4	0.06	115	1	-	-	BI	1	DIRECT	ATC	GREENHECK	G
EF-33	ROOF	TOILETS	825	0.6	1/4	0.13	115	1	-	-	BI	1	DIRECT	ATC	GREENHECK	G
EF-34	ROOF	STORAGE/TOILET	335	0.4	1/6	0.05	115	1	-	-	BI	1	DIRECT	ATC	GREENHECK	G
EF-35	ROOF	MECHANICAL ROOM	600	0.4	1/4	0.08	115	1	-	-	BI	1	DIRECT	ATC	GREENHECK	G
EF-36	ROOF	KITCHEN	1520	0.7	0.75	0.34	115	1	-	-	BI	1	DIRECT	ATC	GREENHECK	CUE
EF-37	ROOF	KITCHEN HOOD	3600	1.0	2	1.14	208	1	-	-	BI	1	DIRECT	ATC	GREENHECK	CUE
EF-38	ROOF	TOILETS/STORAGE	590	0.7	1/4	0.13	115	1	-	-	BI	1	DIRECT	ATC	GREENHECK	G
EF-39	ROOF	TOILETS/STORAGE	515	0.7	1/4	0.11	115	1	-	-	BI	1	DIRECT	ATC	GREENHECK	G
EF-40	ROOF	TOILETS/STORAGE	805	0.7	1/4	0.15	115	1	-	-	BI	1	DIRECT	ATC	GREENHECK	G

NOTES:
1. PROVIDE FAN SPEED CONTROLLER FOR EACH FAN.
2. EF-27 AND INSTALLATION SHALL COMPLY WITH NFPA 96.
3. PROVIDE MOD FOR ALL ROOF MOUNTED FANS
4. POWER DISCONNECT SWITCH SHALL BE LOCATED UNDER THE FAN.

FAN SCHEDULE

DESIG	LOCATION	AREA SERVED	CFM	ESP (IN)	MOTOR				RPM	MIN FAN DIA	WHEEL TYPE	CLASS	DRIVE TYPE	METHOD OF CONTROL	BASIS OF DESIGN	
					HP	MAX BHP	VOLTS	PHASE							MANUFACTURER	MODEL
EF-41	ROOF	STORAGE ROOMS	300	0.4	1/6	0.05	115	1	-	-	BI	1	DIRECT	ATC	GREENHECK	G
EF-42	ROOF	TOILETS	650	0.4	1/4	0.07	115	1	-	-	BI	1	DIRECT	ATC	GREENHECK	G
EF-43	ROOF	TOILETS/STORAGE	1190	1.0	3/4	0.38	115	1	-	-	BI	1	DIRECT	ATC	GREENHECK	G
EF-44	ROOF	WORK ROOM	380	0.4	1/10	0.05	115	1	-	-	BI	1	DIRECT	ATC	GREENHECK	G
EF-45	ROOF	WORK ROOM/TOILETS	275	0.7	1/6	0.09	115	1	-	-	BI	1	DIRECT	ATC	GREENHECK	G
EF-46	ROOF	TOILETS/CUSTODIAL/ ELECTRICAL/ WORK ROOM	430	0.7	1/4	0.11	115	1	-	-	BI	1	DIRECT	ATC	GREENHECK	G
EF-47	ROOF	TOILETS/CUSTODIAL /STORAGE	475	0.7	1/4	0.12	115	1	-	-	BI	1	DIRECT	ATC	GREENHECK	G
EF-48	ROOF	TOILET/CUSTODIAL/ STORAGE	225	0.4	1/15	0.02	115	1	-	-	BI	1	DIRECT	ATC	GREENHECK	G
EF-49	ROOF	TOILET/CUSTODIAL/ ELECTRICAL	380	0.7	1/4	0.10	115	1	-	-	BI	1	DIRECT	ATC	GREENHECK	G
EF-50	ROOF	TOILETS	300	0.8	¼	0.09	115	1	-	-	BI	1	DIRECT	ATC	GREENHECK	G
EF-51	ROOF	TOILET/STORAGE/WORK ROOM	1375	0.5	1/6	0.07	115	1	-	-	BI	1	DIRECT	ATC	GREENHECK	G
EF-52	PENTHOUSE AREA A	PENTHOUSE AREA A	2080	0.5	3/4	0.31	115	1	-	-	BI	1	DIRECT	ATC	GREENHECK	SQ
EF-53	PENTHOUSE AREA B	PENTHOUSE AREA B	3270	0.5	1	0.64	208	1	-	-	BI	1	DIRECT	ATC	GREENHECK	SQ
EF-54	PENTHOUSE AREA C	PENTHOUSE AREA C	1640	0.4	3/4	0.2	115	1	-	-	BI	1	DIRECT	ATC	GREENHECK	SQ
EF-55	PENTHOUSE AREA D	PENTHOUSE AREA D	1620	0.4	3/4	0.2	115	1	-	-	BI	1	DIRECT	ATC	GREENHECK	SQ
EF-56	PENTHOUSE AREA E	PENTHOUSE AREA E	1950	0.4	3/4	0.26	115	1	-	-	BI	1	DIRECT	ATC	GREENHECK	SQ
EF-57	PENTHOUSE AREA F/G	PENTHOUSE AREA F/G	2000	0.5	3/4	0.32	115	1	-	-	BI	1	DIRECT	ATC	GREENHECK	SQ
EF-58	PENTHOUSE AREA H	PENTHOUSE AREA H	2320	0.4	3/4	0.31	115	1	-	-	BI	1	DIRECT	ATC	GREENHECK	SQ
EF-59	ROOF	STORAGE	60	0.3	1/15	0.01	115	1	-	-	BI	1	DIRECT	ATC	GREENHECK	G
EF-60	ROOF	STORAGE/TOILETS	200	0.7	1/4	0.09	115	1	-	-	BI	1	DIRECT	ATC	GREENHECK	G
EF-61	ROOF	ART PDS	1390	0.4	1/2	0.20	115	1	-	-	BI	1	DIRECT	ATC	GREENHECK	G
EF-62	ROOF	VISION STORAGE	60	0.3	1/15	0.01	115	1	-	-	BI	1	DIRECT	ATC	GREENHECK	G
EF-63	ROOF	ELECTRICAL	170	0.4	1/15	0.02	115	1	-	-	BI	1	DIRECT	ATC	GREENHECK	G
EF-64	ROOF	TOILET	75	0.4	1/15	0.02	115	1	-	-	BI	1	DIRECT	ATC	GREENHECK	G
EF-65	ROOF	ELECTRICAL	165	0.5	1/4	0.05	115	1	-	-	BI	1	DIRECT	ATC	GREENHECK	G
EF-66	ROOF	SPEECH OFFICE	500	0.5	1/6	0.08	115	1	-	-	BI	1	DIRECT	ATC	GREENHECK	G
EF-67	ROOF	DISHWASHING	900	0.6	1/4	0.15	115	1	-	-	BI	1	DIRECT	ATC	GREENHECK	G
EF-68	ROOF	TOILETS	300	0.7	1/4	0.08	115	1	-	-	BI	1	DIRECT	ATC	GREENHECK	G
EF-69	PENTHOUSE AREA F/G	PENTHOUSE AREA F/G	2000	0.5	3/4	0.32	115	1	-	-	BI	1	DIRECT	ATC	GREENHECK	SQ

DUCTLESS SPLIT SYSTEM AIR CONDITIONING UNIT SCHEDULE

AREA SERVED	DESIGNATION		CFM	UNIT TYPE	COOLING		HEATING MBH	ELECTRICAL CHARACTERISTICS				BASIS OF DESIGN	
	INDOOR UNIT	OUTDOOR UNIT			TOTAL MBH	SENS MBH		MCA (A)	MOCP (A)	VOLTS	PHASE	MANUFACTURER	MODEL
RM 202 - KILN ROOM	DSS-1	ACCU-1	370	WALL MOUNTED	13.0	12.0	6.0	11.0	28.0	208	1	TRANE/MITSUBISHI	PKA-18 / PUZ-18
RM 142 - IDF	DSS-2	ACCU-2	370	WALL MOUNTED	14.0	14.0	N/A	11.0	28.0	208	1	TRANE/MITSUBISHI	PKA-18 / PUY-18
RM214 - IDF	DSS-3	ACCU-3	370	WALL MOUNTED	14.0	14.0	N/A	11.0	28.0	208	1	TRANE/MITSUBISHI	PKA-18 / PUY-18
RM308 - IDF	DSS-4	ACCU-4	370	WALL MOUNTED	14.0	14.0	N/A	11.0	28.0	208	1	TRANE/MITSUBISHI	PKA-18 / PUY-18
RM318 - IDF	DSS-5	ACCU-5	370	WALL MOUNTED	14.0	14.0	N/A	11.0	28.0	208	1	TRANE/MITSUBISHI	PKA-18 / PUY-18
RM335 - IDF	DSS-6	ACCU-6	370	WALL MOUNTED	14.0	14.0	N/A	11.0	28.0	208	1	TRANE/MITSUBISHI	PKA-18 / PUY-18
RM 238 - PE OFFICE (PDS)	DSS-7	ACCU-7	265	2x2 CEILING CASSETTE	9.0	8.0	6.0	9.0	16.0	208	1	TRANE/MITSUBISHI	SLZ-12 / SUZ-12
RM 251 - BLDG SERV OFFICE	DSS-8	ACCU-8	265	2x2 CEILING CASSETTE	9.0	8.0	6.0	9.0	16.0	208	1	TRANE/MITSUBISHI	SLZ-12 / SUZ-12
RM 249 - BLDG SERV WORKROOM	DSS-9	ACCU-9	530	DUCTED	13.0	12.0	6.0	13.0	20.0	208	1	TRANE/MITSUBISHI	PEA-18 / PUZ-18
RM 248 - IDF	DSS-10	ACCU-10	370	WALL MOUNTED	14.0	14.0	N/A	11.0	28.0	208	1	TRANE/MITSUBISHI	PKA-18 / PUY-18
RM 253E - MAIN ELEC ROOM	DSS-11	ACCU-11	705	WALL MOUNTED	22.0	22.0	12.0	19.0	26.0	208	1	TRANE/MITSUBISHI	PKA-24 / PUZ-24
RM 254E - EMERGENCY ELEC ROOM	DSS-12	ACCU-12	370	WALL MOUNTED	13.0	13.0	8.0	11.0	28.0	208	1	TRANE/MITSUBISHI	PKA-18 / PUZ-18
RM 259 - CAFE OFFICE	DSS-13	ACCU-13	265	2x2 CEILING CASSETTE	9.0	8.0	6.0	9.0	16.0	208	1	TRANE/MITSUBISHI	SLZ-12 / SUZ-12
RM 262 - DRY STORAGE	DSS-14	ACCU-14	370	WALL MOUNTED	13.0	13.0	10.0	11.0	28.0	208	1	TRANE/MITSUBISHI	PKA-18 / PUZ-18
RM 281 - PE OFFICE (ES)	DSS-15	ACCU-15	265	2x2 CEILING CASSETTE	9.0	8.0	6.0	9.0	16.0	208	1	TRANE/MITSUBISHI	SLZ-12 / SUZ-12
RM408 - MDF	DSS-16	ACCU-16	705	WALL MOUNTED	22.0	22.0	N/A	19.0	26.0	208	1	TRANE/MITSUBISHI	PKA-24 / PUY-24
RM421 - IDF	DSS-17	ACCU-17	370	WALL MOUNTED	14.0	14.0	N/A	11.0	28.0	208	1	TRANE/MITSUBISHI	PKA-18 / PUY-18
RM519 - IDF	DSS-18	ACCU-18	370	WALL MOUNTED	14.0	14.0	N/A	11.0	28.0	208	1	TRANE/MITSUBISHI	PKA-18 / PUY-18
EL01 - ELEVATOR	DSS-19	ACCU-19	530	DUCTED	13.0	13.0	10.0	13.0	20.0	208	1	TRANE/MITSUBISHI	PEA-18 / PUZ-18
ST01 - STAIR	DSS-20	ACCU-20	570	3X3 CEILING CASSETTE	19.5	19.5	N/A	18.0	30.0	208	1	TRANE/MITSUBISHI	PLA-A24/PUY-A24
ST03 - STAIR	DSS-21	ACCU-21	570	3X3 CEILING CASSETTE	19.5	19.5	N/A	18.0	30.0	208	1	TRANE/MITSUBISHI	PLA-A24/PUY-A24

NOTES:
1. PROVIDE DOUBLE SUCTION REFRIGERANT PIPING RISERS AND TRAPS AS RECOMMENDED BY MANUFACTURER. QUANTITY AND SIZES OF REFRIGERANT PIPING SHALL BE AS RECOMMENDED BY MANUFACTURER.
2. COOLING CAPACITIES INDICATED SHALL BE AT 75°F / 50% RH RETURN AIR AND 95°F OUTDOOR AIR AMBIENT.
3. PROVIDE WALL MOUNTED THERMOSTAT/CONTROLLER.
4. PROVIDE INTEGRAL CONDENSATE PUMP FOR ALL UNITS.

STATE OF MARYLAND
ANDREW CHARLES ENDRES JR
18528
PROFESSIONAL ENGINEER

PROFESSIONAL CERTIFICATION

I CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND,
LICENSE NO. 18528 ,
EXPIRATION DATE 07/27/26 .

bkm
Burdette, Koehler, Murphy & Assoc., Inc.
Mechanical / Electrical Engineers
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ARCHITECTS

GP #22419

MECHANICAL SCHEDULES

NEW COMBINATION HARFORD ACADEMY & ELEMENTARY SCHOOL
1605 EVA MAR BOULEVARD, BEL AIR, MARYLAND

DATE	DESCRIPTION

M804

10/16/25
IAC CD SUBMISSION

BKM# 24138.01

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Plotted By: Jeff Rice | 10/13/2025 5:10 PM

CONVECTOR SCHEDULE

DESIG	CFM	BTU / HR	FAN MOTOR				MAX WPD (FT)	GPM	EWT (°F)	LWT (°F)	EAT (°F)	PIPE SIZE	TYPE	BASIS OF DESIGN		
			HP/KW	VOLTS	PHASE	CYCLE								MANUFACTURER	MODEL	NOTES
CONV-1	-	1,300	N/A				2.0	0.13	160	140	65	3/4"	WALL RECESSED	STERLING	FWG-A 420-32	1, 2, 3, 4, 5, 6
CONV-2	-	3,000	N/A				2.0	0.3	160	140	65	3/4"	WALL RECESSED	STERLING	FWG-A 440-32	1, 2, 3, 4, 5, 6

NOTES:
1. CAPACITIES INDICATED ARE NET CAPACITIES AFTER DE-RATING HAVE BEEN TAKEN.
2. PROVIDE INTEGRAL DISCONNECT & STARTER FOR EACH UNIT.
3. COLOR OF EACH UNIT SHALL BE SELECTED BY A/E FROM MANUFACTURERS FULL RANGE OF STANDARD ENAMEL COLORS.
4. PROVIDE HIGH CAPACITY - 2 ROW COILS WHERE NECESSARY TO ACHIEVE MBH IN SCHEDULED CABINET SIZE.
5. UNITS SHALL BE PROVIDED WITH END POCKETS. CONTRACTOR SHALL COORDINATE END POCKET SIZE.
6. PROVIDE INTEGRAL TEMPERATURE SENSOR LOCATED IN RETURN AIR PATH FOR ALL CONVECTORS.

UNIT HEATER SCHEDULE

DESIG	SERVICE	CFM	BTU / HR	FAN MOTOR				MAX WPD (FT)	GPM	EWT (°F)	LWT (°F)	EAT (°F)	PIPE SIZE	TYPE	BASIS OF DESIGN		
				HP/KW	VOLTS	PHASE	CYCLE								MANUFACTURER	MODEL	NOTES
UH-1	MAIN MECH RM	-	30,000	1/20 HP	120	1	60	2.0	1.5	160	120	65	3/4"	SUSPENDED	STERLING	HS-84	1, 2. 3
UH-2	MAIN MECH RM	-	30,000	1/20 HP	120	1	60	2.0	1.5	160	120	65	3/4"	SUSPENDED	STERLING	HS-84	1, 2. 3
UH-3	PENTHOUSE	-	30,000	1/20 HP	120	1	60	2.0	1.5	160	120	65	3/4"	SUSPENDED	STERLING	HS-84	1, 2. 3
UH-4	PENTHOUSE	-	30,000	1/20 HP	120	1	60	2.0	1.5	160	120	65	3/4"	SUSPENDED	STERLING	HS-84	1, 2. 3
UH-5	PENTHOUSE	-	30,000	1/20 HP	120	1	60	2.0	1.5	160	120	65	3/4"	SUSPENDED	STERLING	HS-84	1, 2. 3
UH-6	PENTHOUSE	-	30,000	1/20 HP	120	1	60	2.0	1.5	160	120	65	3/4"	SUSPENDED	STERLING	HS-84	1, 2. 3
UH-7	PENTHOUSE	-	30,000	1/20 HP	120	1	60	2.0	1.5	160	120	65	3/4"	SUSPENDED	STERLING	HS-84	1, 2. 3
UH-8	PENTHOUSE	-	30,000	1/20 HP	120	1	60	2.0	1.5	160	120	65	3/4"	SUSPENDED	STERLING	HS-84	1, 2. 3
UH-9	PENTHOUSE	-	30,000	1/20 HP	120	1	60	2.0	1.5	160	120	65	3/4"	SUSPENDED	STERLING	HS-84	1, 2. 3
UH-10	PENTHOUSE	-	30,000	1/20 HP	120	1	60	2.0	1.5	160	120	65	3/4"	SUSPENDED	STERLING	HS-84	1, 2. 3
UH-11	PENTHOUSE	-	30,000	1/20 HP	120	1	60	2.0	1.5	160	120	65	3/4"	SUSPENDED	STERLING	HS-84	1, 2. 3
UH-12	PENTHOUSE	-	30,000	1/20 HP	120	1	60	2.0	1.5	160	120	65	3/4"	SUSPENDED	STERLING	HS-84	1, 2. 3
UH-13	PENTHOUSE	-	30,000	1/20 HP	120	1	60	2.0	1.5	160	120	65	3/4"	SUSPENDED	STERLING	HS-84	1, 2. 3
UH-14	PENTHOUSE	-	30,000	1/20 HP	120	1	60	2.0	1.5	160	120	65	3/4"	SUSPENDED	STERLING	HS-84	1, 2. 3
UH-15	PENTHOUSE	-	30,000	1/20 HP	120	1	60	2.0	1.5	160	120	65	3/4"	SUSPENDED	STERLING	HS-84	1, 2. 3
UH-16	PENTHOUSE	-	30,000	1/20 HP	120	1	60	2.0	1.5	160	120	65	3/4"	SUSPENDED	STERLING	HS-84	1, 2. 3
UH-17	PENTHOUSE	-	30,000	1/20 HP	120	1	60	2.0	1.5	160	120	65	3/4"	SUSPENDED	STERLING	HS-84	1, 2. 3
UH-18	PENTHOUSE	-	30,000	1/20 HP	120	1	60	2.0	1.5	160	120	65	3/4"	SUSPENDED	STERLING	HS-84	1, 2. 3
UH-19	PENTHOUSE	-	30,000	1/20 HP	120	1	60	2.0	1.5	160	120	65	3/4"	SUSPENDED	STERLING	HS-84	1, 2. 3
UH-20	PENTHOUSE	-	30,000	1/20 HP	120	1	60	2.0	1.5	160	120	65	3/4"	SUSPENDED	STERLING	HS-84	1, 2. 3
UH-21	VESTIBULE	-	20,000	1/15 HP	120	1	60	2.0	1.0	160	120	65	3/4"	WALL RECESSED	STERLING	RW-	1, 2, 3, 4, 5
UH-22	VESTIBULE	-	20,000	1/15 HP	120	1	60	2.0	1.0	160	120	65	3/4"	WALL RECESSED	STERLING	RW-	1, 2, 3, 4, 5
UH-23	VESTIBULE	-	20,000	1/15 HP	120	1	60	2.0	1.0	160	120	65	3/4"	WALL RECESSED	STERLING	RW-	1, 2, 3, 4, 5
UH-24	VESTIBULE	-	20,000	1/15 HP	120	1	60	2.0	1.0	160	120	65	3/4"	WALL RECESSED	STERLING	RW-	1, 2, 3, 4, 5
UH-25	VESTIBULE	-	20,000	1/15 HP	120	1	60	2.0	1.0	160	120	65	3/4"	WALL RECESSED	STERLING	RW-	1, 2, 3, 4, 5
UH-26	VESTIBULE	-	20,000	1/15 HP	120	1	60	2.0	1.0	160	120	65	3/4"	WALL RECESSED	STERLING	RW-	1, 2, 3, 4, 5
UH-27	VESTIBULE	-	20,000	1/15 HP	120	1	60	2.0	1.0	160	120	65	3/4"	WALL RECESSED	STERLING	RW-	1, 2, 3, 4, 5
UH-28	VESTIBULE	-	20,000	1/15 HP	120	1	60	2.0	1.0	160	120	65	3/4"	WALL RECESSED	STERLING	RW-	1, 2, 3, 4, 5
UH-29	BLDG STAIR	-	20,000	1/15 HP	120	1	60	2.0	1.0	160	120	65	3/4"	WALL RECESSED	STERLING	RW-	1, 2, 3, 4, 5
UH-30	BLDG STAIR	-	20,000	1/15 HP	120	1	60	2.0	1.0	160	120	65	3/4"	WALL RECESSED	STERLING	RW-	1, 2, 3, 4, 5
UH-31	BLDG STAIR	-	20,000	1/15 HP	120	1	60	2.0	1.0	160	120	65	3/4"	WALL RECESSED	STERLING	RW-	1, 2, 3, 4, 5
UH-32	BLDG ENTRANCE	-	-	1/15 HP	120	1	60	2.0	-	160	120	65	3/4"	CEILING RECESSED	STERLING	RC-	1, 2, 3, 4, 5
UH-33	BLDG ENTRANCE	-	-	1/15 HP	120	1	60	2.0	-	160	120	65	3/4"	CEILING RECESSED	STERLING	RC-	1, 2, 3, 4, 5
UH-34	BLDG ENTRANCE	-	-	1/15 HP	120	1	60	2.0	-	160	120	65	3/4"	CEILING RECESSED	STERLING	RC-	1, 2, 3, 4, 5
UH-35	BLDG ENTRANCE	-	-	1/15 HP	120	1	60	2.0	-	160	120	65	3/4"	CEILING RECESSED	STERLING	RC-	1, 2, 3, 4, 5
UH-36	BLDG ENTRANCE	-	-	1/15 HP	120	1	60	2.0	-	160	120	65	3/4"	CEILING RECESSED	STERLING	RC-	1, 2, 3, 4, 5
UH-37	BLDG ENTRANCE	-	-	1/15 HP	120	1	60	2.0	-	160	120	65	3/4"	CEILING RECESSED	STERLING	RC-	1, 2, 3, 4, 5
UH-38	BLDG ENTRANCE	-	-	1/15 HP	120	1	60	2.0	-	160	120	65	3/4"	CEILING RECESSED	STERLING	RC-	1, 2, 3, 4, 5
UH-39	BLDG ENTRANCE	-	-	1/15 HP	120	1	60	2.0	-	160	120	65	3/4"	CEILING RECESSED	STERLING	RC-	1, 2, 3, 4, 5
UH-40	BLDG ENTRANCE	-	-	1/15 HP	120	1	60	2.0	-	160	120	65	3/4"	CEILING RECESSED	STERLING	RC-	1, 2, 3, 4, 5
EUH-1	P&R STORAGE	-	17,100	5 KW	208	3	60	ELECTRIC						SUSPENDED	MARKEL	5100 SERIES	1, 2
EUH-2	TRASH RM	-	11,200	3.3 KW	208	3	60	ELECTRIC						SUSPENDED	MARKEL	5100 SERIES	1, 2
EUH-3	EXT EQUIP STORAGE	-	17,100	5 KW	208	3	60	ELECTRIC						SUSPENDED	MARKEL	5100 SERIES	1, 2
EUH-4	COURTYARD STORAGE	-	11,200	3.3 KW	208	3	60	ELECTRIC						SUSPENDED	MARKEL	5100 SERIES	1, 2
EUH-5	P&R STORAGE	-	11,200	3.3 KW	208	3	60	ELECTRIC						SUSPENDED	MARKEL	5100 SERIES	1, 2
EUH-6	OUTDOOR STORAGE	-	17,100	5 KW	208	3	60	ELECTRIC						SUSPENDED	MARKEL	5100 SERIES	1, 2

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STATE OF MARYLAND
ANDREW CHARLES ENDRES JR
18528
PROFESSIONAL ENGINEER

PROFESSIONAL CERTIFICATION

I CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND,
LICENSE NO. 18528 ,
EXPIRATION DATE 07/27/26 .

bkm
Burdette, Koehler, Murphy & Assoc., Inc.
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Plotted By: Jeff Rice | 10/10/2025 8:09 AM