

<b>AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT</b>			1. CONTRACT ID CODE	PAGE 1 OF 4 PAGES
2. AMENDMENT/MODIFICATION NO. AMENDMENT NO. 0005		3. EFFECTIVE DATE 06/10/14	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO. (If applicable) 14-0105
6. ISSUED BY Officer in Charge of Construction MCI-East 1005 Michael Road Camp Lejeune, NC 28547-2521		CODE mks	7. ADMINISTERED BY (If other than Item 6) See Item 6	
8. NAME AND ADDRESS OF CONTRACTOR (No., street, county, State and ZIP Code)			(X)	9A. AMENDMENT OF SOLICITATION NO. N40085-14-R-0105
			X	9B. DATED (SEE ITEM 11) 04/11/14
				10A. MODIFICATION OF CONTRACT/ORDER NO.
				10B. DATED (SEE ITEM 11)
CODE	FACILITY CODE			

**11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS**

The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers  is extended,  is not extended.  
 Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods:  
 (a) By completing items 8 and 15, and returning \_\_\_\_\_ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted;  
 or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment your desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA (If required)

**13. THIS ITEM ONLY APPLIES TO MODIFICATION OF CONTRACTS/ORDERS.  
IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.**

CHECK ONE	A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.
	B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(b).
	C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:
	D. OTHER (Specify type of modification and authority)

E. IMPORTANT: Contractor  is not,  is required to sign this document and return \_\_\_\_\_ copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)

14-0105 Repair BEQ, Building HP509

1. See the revised attached sheets for minor changes to the ERU's and panel schedules.

(CONTINUED)

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER (Type or print)		16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print)	
15B. CONTRACTOR/OFFEROR		16B. UNITED STATES OF AMERICA	
15C. DATE SIGNED		16C. DATE SIGNED	
(Signature of person authorized to sign)		(Signature of Contracting Officer)	

PANEL NO. M1									
VOLTAGE 120/208		PHASE 3	WIRE 4	BUS SIZE 225A		MAIN CB. MLO			
CKT. NO.	BRKR. SIZE	LOAD	VA	CKT. NO.	BRKR. SIZE	LOAD	VA		
1	20	RCPT-169 DEHUMIDIFIER	600	A 2	25	HP-7	3016		
3	20	RCPT-168 DEHUMIDIFIER	600	B 4					
5	20	SBC	100	C 6	35	HP-8	3765		
7	35	HP-1	3765	A 8					
9				B 10					
11	25	HP-2	3016	C 12	60	P-1	16644		
13				A 14					
15	35	HP-3	3765	B 16					
17				C 18	60	P-1A	16644		
19				A 20					
21	25	HP-4	3016	B 22	20	LGTS/RCPT-RM 169	950		
23				C 24	20	LGTS/RCPT CHASE 172-173	1010		
25	25	HP-5	3016	A 26	20	LGTS/RCPT-RM 168	950		
27				B 28	20	LGTS/RCPT CHASE 170-171	1010		
29	35	HP-6	3765	C 30	20	SPARE			
31	20	SPARE		A 32	20	SPARE			
33	20	SPARE		B 34	20	SPARE			
35				C 36					
37				A 38					
39				B 40					
41				C 42					

INTERRUPTING AMPERE CURRENT RATING FOR THIS ASSEMBLY SHALL BE 10,000 A. RMS SYM. TOTAL CONNECTED 65,632 VA TOTAL DEMAND 65,632 VA 182 AMPS

PANEL NO. M2									
VOLTAGE 120/208		PHASE 3	WIRE 4	BUS SIZE 225A		MAIN CB. MLO			
CKT. NO.	BRKR. SIZE	LOAD	VA	CKT. NO.	BRKR. SIZE	LOAD	VA		
1	20	RCPT-269 DEHUMIDIFIER	600	A 2	25	HP-15	3016		
3	20	RCPT-268 DEHUMIDIFIER	600	B 4					
5	20	P-2, 4	504	C 6	35	HP-16	3765		
7	20	P-3, 5	504	A 8					
9				B 10					
11	35	HP-9	3765	C 12	30	DHP-1	5040		
13				A 14					
15	25	HP-10	3016	B 16					
17				C 18	30	DHP-1A	5040		
19	35	HP-11	3765	A 20					
21				B 22					
23	25	HP-12	3016	C 24	30	DHP-2	5040		
25				A 26					
27	25	HP-13	3016	B 28					
29				C 30	30	DHP-2A	5040		
31	35	HP-14	3765	A 32					
33				B 34					
35	30	DHP-3	5040	C 36	30	DHP-3A	5040		
37				A 38					
39	20	SPARE		B 40	20	SPARE			
41	20	SPARE		C 42	20	SPARE			

INTERRUPTING AMPERE CURRENT RATING FOR THIS ASSEMBLY SHALL BE 10,000 A. RMS SYM. TOTAL CONNECTED 59,572 VA TOTAL DEMAND 59,572 VA 165 AMPS

PANEL NO. M2A									
VOLTAGE 120/208		PHASE 3	WIRE 4	BUS SIZE 225A		MAIN CB. MLO			
CKT. NO.	BRKR. SIZE	LOAD	VA	CKT. NO.	BRKR. SIZE	LOAD	VA		
1				A 2					
3	50	EWH-1	14000	B 4	50	EWH-2	14000		
5				C 6					
7				A 8	20	SPARE			
9	50	EWH-3	14000	B 10	20	SPARE			
11				C 12	20	SPARE			
13	20	LGTS/RCPT-RM 269	950	A 14	20	LGTS/RCPT-RM 268	950		
15	20	LGTS/RCPT CHASE 272-273	1010	B 16	20	LGTS/RCPT CHASE 270-271	1010		
17				C 18					
19				A 20					
21				B 22					
23				C 24					
25				A 26					
27				B 28					
29				C 30					

INTERRUPTING AMPERE CURRENT RATING FOR THIS ASSEMBLY SHALL BE 10,000 A. RMS SYM. TOTAL CONNECTED 45,920 VA TOTAL DEMAND 45,920 VA 128 AMPS

PANEL NO. M3									
VOLTAGE 120/208		PHASE 3	WIRE 4	BUS SIZE 225A		MAIN CB. MLO			
CKT. NO.	BRKR. SIZE	LOAD	VA	CKT. NO.	BRKR. SIZE	LOAD	VA		
1	20	RCPT-369 DEHUMIDIFIER	600	A 2	60	OAU-1	13248		
3	20	RCPT-368 DEHUMIDIFIER	600	B 4					
5				C 6					
7	35	HP-17	3765	A 8					
9				B 10	45	OAU-2	9360		
11	25	HP-18	3016	C 12					
13				A 14					
15	35	HP-19	3765	B 16	45	OAU-3	9360		
17				C 18					
19	25	HP-20	3016	A 20					
21				B 22	60	OAU-4	13248		
23	25	HP-21	3016	C 24					
25				A 26	20	MOD RM 369	100		
27	35	HP-22	3765	B 28	20	MOD RM 368	100		
29				C 30	20	LGTS/RCPT-RM 369	950		
31	25	HP-23	3016	A 32	20	LGTS/RCPT CHASE 372-373	1010		
33				B 34	20	LGTS/RCPT-RM 368	950		
35	35	HP-24	3765	C 36	20	LGTS/RCPT CHASE 370-371	1010		
37	20	SPARE		A 38	20	SPARE			
39	20	SPARE		B 40	20	SPARE			
41				C 42					


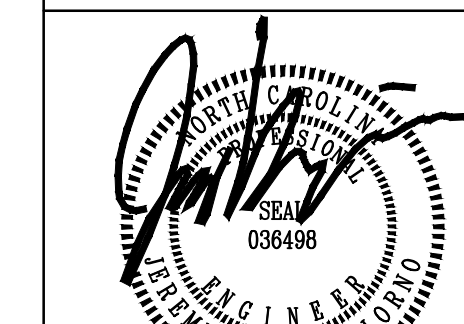
INTERRUPTING AMPERE CURRENT RATING FOR THIS ASSEMBLY SHALL BE 10,000 A. RMS SYM. TOTAL CONNECTED 79,620 VA TOTAL DEMAND 79,620 VA 221 AMPS

L - CIRCUIT BREAKER TO BE LOCKABLE TYPE

EQUIPMENT SCHEDULE		
EQUIPMENT	FEEDER	DISCONNECT
OAU-1, 2	3#4, #8G, 1" C	60/3/250V/NF/N1
OAU-3, 4	3#6, #10G, 3/4" C	30/3/250V/NF/N1
DHP-1, 1A, 2, 2A	3#8, #10G, 3/4" C	30/3/250V/NF/N1
DHP-3, 3A	3#10, #10G, 3/4" C	30/3/250V/NF/N1
HP-2, 4, 5, 7, 10, 12, 13, 15, 18, 20, 21, 23	2#10, #10G, 1/2" C	30/2/250V/NF/N1
HP-1, 3, 6, 8, 9, 11, 14, 16, 17, 19, 22, 24-27	2#8, #10G, 3/4" C	60/2/250V/NF/N1
P-1, 1A	3#6, #10G, 3/4" C	60/3/250V/NF/N1
P-2-4	#4, #4N, #6G, 1" C	20A MOTOR RATED SWITCH
P-5	#12, #12N, #12G, 1/2" C	20A MOTOR RATED SWITCH
UH-1, 2, 3 FLOORS	3#10, #10G, 1/2" C	30/3/250V/NF/N1
DRYERS IN NEW LAUNDRY	2#12, #12G, 1/2" C	NEMA 14-30R
DRYERS IN PREV LAUNDRY	2#8, #10G, 1/2" C	NEMA 14-30R
HAND DRYER	#6, #6N, #6G, 3/4" C	
MOD	#12, #12N, #12G, 1/2" C	20A MOTOR RATED SWITCH
EWH-1, 2	3#4, #6G, 1" C	60/3/250V/NF/N1
EWH-3	3#8, #10G, 3/4" C	60/3/250V/NF/N1

**DISCLOSURE OF INFORMATION**

- CONTRACTOR SHALL COMPLY AS FOLLOWS:
- A. THE CONTRACTOR SHALL NOT RELEASE TO ANYONE OUTSIDE THE CONTRACTOR'S ORGANIZATION ANY UNCLASSIFIED INFORMATION, REGARDLESS OF MEDIUM (E.G., FILM, TAPE, DOCUMENT), PERTAINING TO ANY PART OF THE CONTRACT OR ANY PROGRAM RELATED TO THIS CONTRACT, UNLESS-
    1. THE CONTRACTING OFFICE HAS GIVEN PRIOR WRITTEN APPROVAL; OR
    2. THE INFORMATION IS OTHERWISE IN THE PUBLIC DOMAIN BEFORE THE DATE OF RELEASE.
  - B. REQUESTS FOR APPROVAL SHALL IDENTIFY THE SPECIFIC INFORMATION TO BE RELEASED, THE MEDIUM TO BE USED, AND THE PURPOSE FOR THE RELEASE. THE CONTRACTOR SHALL SUBMIT ITS REQUEST TO THE CONTRACTING OFFICER AT LEAST 45 DAYS BEFORE PROPOSED DATE FOR RELEASE.
  - C. THE CONTRACTOR AGREES TO INCLUDE A SIMILAR REQUIREMENT IN EACH SUBCONTRACT UNDER THIS CONTRACT. SUBCONTRACTORS SHALL SUBMIT REQUESTS FOR AUTHORIZATION TO RELEASE THROUGH THE PRIME CONTRACTOR TO THE CONTRACTING OFFICER.

3/04/28/14 ELECTRICAL UPDATE		E-602	
4/06/08/14 ERV UPDATE			
		DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND <b>MARINE CORPS BASE</b> CAMP LEJUNE, NORTH CAROLINA	
		DES. R. ALVAR DR. C. COOPER CHK. J. BONGIORNO SUBMITTED BY: DESIGN DIR.	
APPROVED: PWO OR OICC DATE:		ELECTRICAL PANEL SCHEDULES NAVFAC DRAWING NO. 60011991	
SATISFACTORY TO: DATE:		F 80091 CONST. CONTR. NO. N40085-12-B-0123	
8 JUNE 2014		SCALE: NONE SPEC. 05-12-0123 SHEET 86 OF 87	

PANEL NO. MDP
VOLTAGE 120/208 PHASE 3 WIRE 4 BUS SIZE 1600A MAIN CB. 1600A
Circuit breaker and load schedule for Panel MDP.

PANEL NO. A
VOLTAGE 120/208 PHASE 3 WIRE 4 BUS SIZE 225A MAIN CB. MLO
Circuit breaker and load schedule for Panel A.

PANEL NO. B
VOLTAGE 120/208 PHASE 3 WIRE 4 BUS SIZE 225A MAIN CB. MLO
Circuit breaker and load schedule for Panel B.

PANEL NO. C
VOLTAGE 120/208 PHASE 3 WIRE 4 BUS SIZE 225A MAIN CB. MLO
Circuit breaker and load schedule for Panel C.

PANEL NO. D
VOLTAGE 120/208 PHASE 3 WIRE 4 BUS SIZE 225A MAIN CB. MLO
Circuit breaker and load schedule for Panel D.

PANEL NO. F
VOLTAGE 120/208 PHASE 3 WIRE 4 BUS SIZE 225A MAIN CB. MLO
Circuit breaker and load schedule for Panel F.

PANEL NO. G
VOLTAGE 120/208 PHASE 3 WIRE 4 BUS SIZE 225A MAIN CB. MLO
Circuit breaker and load schedule for Panel G.

PANEL NO. K
VOLTAGE 120/208 PHASE 3 WIRE 4 BUS SIZE 400A MAIN CB. MLO
Circuit breaker and load schedule for Panel K.

DISCLOSURE OF INFORMATION
CONTRACTOR SHALL COMPLY AS FOLLOWS:
A. THE CONTRACTOR SHALL NOT RELEASE TO ANYONE OUTSIDE THE CONTRACTOR'S ORGANIZATION ANY UNCLASSIFIED INFORMATION...

Administrative header and footer containing: 4/06/08/14 ERV UPDATE, E-601, CEMS ENGINEERING | ARCHITECTURE, DEPARTMENT OF THE NAVY NAVFAC MARINE CORPS BASE CAMP LEJUNE, NORTH CAROLINA, and revision data.

### OUTDOOR AIR WATER SOURCE HEAT PUMP SCHEDULE

TAG	SUPPLY FAN		EXHAUST FAN		ROTARY HEAT WHEEL				COOLING CAPACITY @ 95°F ENTERING WATER (MBTUH)				HEATING CAPACITY @ 60°F ENTERING WATER (MBTUH)				SYS. VOLTS	FILTER	NOTES	GEOTHERMAL WATER FLOW (GPM)	PRES. DROP (FT HD)	DESIGN BASIS						
	SUPPLY CFM	EXHAUST CFM	HP	ESP IN WG	HP	ESP IN WG	EFFECTIVENESS	SUMMER	WINTER	SUMMER	WINTER	O/A ENTR. °FDB/°FWB	MAX COIL FACE VELOCITY (FPM)	COIL LEAVING AIR °FDB/°FWB	REHEAT LEAVING AIR °F	TOTAL							SENS.	EER WITH WHEEL	O/A ENTR. °FDB/°FWB	LEAVING AIR	CAP.	COP WITH WHEEL
OAU-1,4	1620	1620	1.5	0.75	1.5	0.75	78%	90.0/79.0 78.3/66.7	23.0/19.3 58.1/46.9	75.0/50% 86.7/75.9	68.0/35% 32.9/28.0	79.8/68.5	350	53/53	75.0	77.9	47.1	23.8	53.6	68.0 °F	25.3	5.5	208/60/3	2" PLEATED	①②③④⑤⑥⑦⑧⑨	16.8	12.6	GREENHECK ERCH-20H-30L
OAU-2,3	1080	1080	3/4	0.75	3/4	0.75	83%	90.0/79.0 77.6/65.8	23.0/19.3 60.4/48.4	75.0/50% 87.5/76.6	68.0/35% 30.7/26.1	82.5/71.5	350	53/53	75.0	64.3	34.6	37.0	45.5	68.0 °F	26.4	5.4	208/60/3	2" PLEATED	①②③④⑤⑥⑦⑧⑨	11.2	6.8	GREENHECK ERCH-20H-30L

**NOTES:**

- ① PROVIDE WITH SINGLE POINT POWER CONNECTION.
- ② EER REQUIREMENTS ARE MINIMUM ARI STANDARDS AND SHALL INCLUDE FAN MOTOR HEAT ADDITION.
- ③ FAN SECTIONS SHALL BE FACTORY PROVIDED WITH INTERNAL VIBRATION ISOLATION.
- ④ UNITS & COILS TO COME WITH SEA COAST CORROSION RESISTANT COATING, PASSING THE 1,000 HR SALT SPRAY TEST.
- ⑤ PROVIDE WITH FACTORY INSTALLED DRAIN PAN AND FLOAT SWITCH FOR AUTOMATIC SHUT DOWN OF UNIT UPON HIGH CONDENSATE LEVELS.
- ⑥ UNIT SHALL BE FURNISHED WITH PREMIUM EFFICIENCY MOTORS.
- ⑦ UNIT SHALL BE FACTORY TESTED COMPLETE WITH ALL APPURTENANCES INTEGRAL. EACH UNIT SHALL INCLUDE OUTSIDE AIR AND EXHAUST AIR DAMPERS WITH ACTUATORS. UNIT CASING SHALL BE INTERNALLY INSULATED WITH A MINIMUM R VALUE OF 7 AND SHALL HAVE AN INTERNAL METAL LINER. UNITS SHALL BE PROVIDED IN SECTIONS AND ASSEMBLED WITHIN MECHANICAL ROOMS. COORDAINTE SERVICE ACCESS OPENINGS WITH PLAN LAYOUTS.
- ⑧ PROVIDE UNITS WITH HOT GAS REHEAT AND HOT GAS BYPASS.
- ⑨ EER TO BE CALCULATED WITH RESPECT TO TOTAL UNIT ENERGY CONSUMPTION AND CONDITIONING OUTPUTS INCLUDING THE EFFECTS OF ALL COMPRESSORS, HEAT WHEELS, COILS, FANS AND APPURTENANCES WITHIN THE UNIT. EER SHALL BE DISPLAYED FOR THE COOLING ENTERING AND LEAVING CONDITIONS LISTED IN THIS SCHEDULE.

4

### WATER SOURCE HEAT PUMP SCHEDULE

TAG	MIN CFM	O/A CFM	ENTERING AIR	E.S.P. I.W.G.	COOLING LEAVING AIR	FULL LOAD COOLING CAPACITY @ 85°F ENTERING WATER (MBTUH)				PARTIAL LOAD COOLING CAPACITY @ 85°F ENTERING WATER (MBTUH)				HEATING LEAVING AIR	FULL LOAD HEATING CAPACITY @ 60°F ENTERING WATER (MBTUH)			PARTIAL LOAD HEATING CAPACITY @ 60°F ENTERING WATER (MBTUH)			SYS. VOLTS	WATER FLOW (GPM)	PRES. DROP (FT HD)	DESIGN BASIS
						CFM	TOTAL	SENS.	EER	CFM	TOTAL	SENS.	EER		CFM	CAP.	COP	CFM	CAP.	COP				
HP-4,5,7,10,12,13,15,18,20,21,23	400	180	77°F DB/ 63.7°F WB	0.4	55.0 °F	800	23.8	19.6	14.5	640	19.7	16.5	17.4	85 °F	800	27.6	4.6	640	21.0	5.3	208/60/1	5.0	2.9	FLORIDA HEAT PUMP #AP025
HP-2	400	180	77°F DB/ 63.7°F WB	0.4	55.0 °F	900	24.0	21.5	14.6	740	19.7	16.5	17.4	85 °F	900	28.2	4.7	640	21.0	5.3	208/60/1	5.0	2.9	FLORIDA HEAT PUMP #AP025
HP-1,3,6,8,9,11,14,16,17,19,22,24	600	270	77°F DB/ 63.7°F WB	0.4	55.0 °F	1380	34.5	30.4	11.8	900	24.7	21.6	15.6	85 °F	1380	44.2	4.4	900	30.4	4.9	208/60/1	7.0	3.5	FLORIDA HEAT PUMP #AP035
HP-25	N/A	0	77°F DB/ 63.7°F WB	0.4	55.0 °F	1200	34.4	29.0	12.6	800	24.4	20.2	16.0	85 °F	1200	43.2	4.5	800	29.9	4.9	208/60/1	7.0	3.5	FLORIDA HEAT PUMP #AP035
HP-26, 27	N/A	120	77°F DB/ 63.7°F WB	0.4	55.0 °F	1200	34.4	29.0	12.6	800	24.4	20.2	16.0	85 °F	1200	43.2	4.5	800	29.9	4.9	208/60/1	7.0	3.5	FLORIDA HEAT PUMP #AP035

**NOTES:**

1. PROVIDE WITH SINGLE POINT POWER CONNECTION.
2. EER REQUIREMENTS ARE MINIMUM ARI STANDARDS AND SHALL INCLUDE FAN MOTOR HEAT ADDITION.
3. FAN SECTIONS SHALL BE FACTORY PROVIDED WITH INTERNAL VIBRATION ISOLATION.
4. PROVIDE HEAT PUMPS WITH MINIMUM R-6 INSULATION ON WALL PANELS.
5. PROVIDE UNITS WITH 2" THICK DISPOSABLE FILTERS.
6. MIN CFM FOR CONTINUOUS FAN ONLY OPERATION WHEN NOT IN HEATING/COOLING MODE.
7. PROVIDE UNITS WITH ECM (ELECTRONICALLY COMMUTATED MOTORS) FANS AND TWO STAGE REFRIGERATION SYSTEMS.
8. UNITS TO HAVE BACNET CAPABLE DDC CONTROLS (PROVIDED BY UNIT MANUFACTURER OR CONTROLS CONTRACTOR). UNIT STAGING TO BE DETERMINED BY UNIT MANUFACTURER'S CONTROL LOGIC. DDC CONTRACTOR AND UNIT PROVIDER TO DETERMINE NECESSARY THERMISTOR/HEAT PUMP LOGIC FOR PROPER SYSTEM OPERATION.
9. PROVIDE WITH FACTORY INSTALLED STAINLESS STEEL DRAIN PAN AND FLOAT SWITCH FOR AUTOMATIC SHUT DOWN OF UNIT UPON HIGH CONDENSATE LEVELS.
10. HP-1 THRU 24 TO BE BALANCED FOR 1ST STAGE UNIT OPERATION. HP-25,26,27 AIR FLOWS TO BE BALANCED FOR 2ND STAGE UNIT OPERATION.

DESIGN CONDITIONS		
	OUTDOOR	INDOOR
SUMMER	90°DB/79°WB	75°DB/50%RH
WINTER	23°DB	68°DB

### DOMESTIC WATER HEAT PUMP SCHEDULE

TAG	SERVICE	TYPE	LOAD FLOW (GPM)	GEO WATER FLOW (GPM)	ENTERING LOAD FLUID (°F)	LEAVING LOAD FLUID (°F)	ENTERING SOURCE FLUID (°F)	HEATING CAPACITY (MBTUH)	COP	REFRIGERANT	PRES. DROP (FT HD)	SET POINT TEMP (°F)	SYS. VOLTS	DESIGN BASIS
DHP-1, 1A, 2,2A,3,3A	DOMESTIC HOT WATER	GEOTHERMAL HEAT PUMP	11.5	9.0	120	130	70	56.4	3.6	R-410A	6.2	130	208/60/3	FLORIDA HEAT PUMP #WWO48

### AIR DISTRIBUTION SCHEDULE

MARK	1	2	3	4	A	B	C	D	E
DESCRIPTION	SIDE WALL GRILLE	SIDE-WALL GRILLE	SUPPLY DIFFUSER	SIDE WALL GRILLE	RETURN GRILLE	EXHAUST GRILLE	RETURN GRILLE	SIDEWALL RETURN GRILLE	SIDEWALL TRANSFER GRILLE
MATERIAL	ALUM.	ALUM.	ALUM.	ALUM.	ALUM.	ALUM.	ALUM.	ALUM.	ALUM.
FINISH	WHITE	WHITE	WHITE	WHITE	WHITE	WHITE	WHITE	WHITE	WHITE
DUCT CONNECTION SIZE	8"ø	8"ø	8"ø	8"ø	6x6	8"ø	16x16	8"ø	6x6
FACE SIZE	8x12	8x16	24x24	8x10	8x8	8x8	20x20	8x12	8x8
MAXIMUM NC	30	30	30	30	30	30	30	30	30
FACE STYLE	RECT	RECT	SQUARE	RECT	SQUARE	SQUARE	SQUARE	RECT	SQUARE
FACE BLADE ARRANGEMENT (grilles & registers only)	N/A	N/A	N/A	N/A	35' HORIZ	0' HORIZ	35' HORIZ	35' HORIZ	0' HORIZ
MOUNTING	SURFACE	SURFACE	LAY-IN	SURFACE	SURFACE	SURFACE	SURFACE	SURFACE	SURFACE
PATTERN (diffusers only)	THREE WAY	THREE WAY	N/A	THREE WAY	N/A	N/A	N/A	N/A	N/A
DAMPERS	N/A	N/A	N/A	N/A	OBD	N/A	FIRE	N/A	OBD

**NOTES:**

1. A LIMITED AMOUNT OF AVAILABLE CEILING AREA MAY REQUIRE THE CEILING BE CUT TO ACCOMMODATE A SMALL GRILLE FACE IN LAY-IN AS WELL AS SURFACE MOUNT. CONTRACTOR IS RESPONSIBLE FOR VERIFYING CEILING TYPE AND AVAILABLE SPACE WITH ARCHITECTURAL AND ELECTRICAL DRAWINGS.
2. AIR DISTRIBUTION CALL-OUT CFM MARK CFM

### PUMP SCHEDULE

TAG	SERVICE	TYPE	FLOW (GPM)	HEAD (FT)	RPM	PUMP MIN. (EFF)	MOTOR DATA				DESIGN BASIS	
							DRIVES	HP	VOLTS	PHASE		HZ
P-1, P-1A	GEOTHERMAL HEAT PUMP	GEOTHERMAL PUMPS	275	107	1750	66%	VARIABLE FREQUENCY	15.0	208	3	60	B&G 80
P-2	DOMESTIC HOT WATER RECIRC.	INLINE PUMPS	10	17.5	3300	60%	CONSTANT SPEED	1/6	120	1	60	B&G PL-36
P-3,4,5	DOMESTIC HEAT PUMP CIRCULATOR	INLINE PUMPS	23.0	13.0	3300	60%	CONSTANT SPEED	1/6	120	1	60	B&G PL-36

### EXHAUST FAN SCHEDULE

MARK	AREA SERVED	TYPE	CFM	SP. IN. WATER	MOTOR	OPERATING POWER	FAN RPM	V/ø/HZ	DRIVE	MAX OPER. TEMP	CONTROL	NOTES	DESIGN BASIS
EF-1	RESTROOMS & CLOSETS	IN-LINE CABINET	400	0.4	1/4 HP	0.1 HP	1166	120/1/60	BELT	150°F	CONSTANT	①②③	GREENHECK BSQ-90-4

**NOTES:**

- ① PROVIDE WITH INTEGRAL BACKDRAFT DAMPERS.
- ② PROVIDE WITH SINGLE POINT POWER CONNECTION.
- ③ PROVIDE WITH INTEGRAL DISCONNECT SWITCH.

### ELECTRIC WATER HEATER SCHEDULE

SYMBOL	DESCRIPTION	GALLONS	RATING	CONNECTION SIZES				VOLTS	DESIGN BASIS
				C W	H W	DRAIN	VENT		
EW-1,2,3	ELECTRIC WATER HEATER	50	14 KW	1"	1"	--	--	208/60/3	AO SMITH DVE/DRE-52

### UNIT HEATER SCHEDULE

MARK	AREA SERVED	TYPE	CFM	KW	V/ø/HZ	CONTROL	DESIGN BASIS
UH-1,2,3	LAUNDRY	ELECTRIC	350	5	208/3/60	THERMOSTAT	DAYTON #2YU65

**NOTES:**

1. UNIT HEATER SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS INCLUDING MOUNTING CLEARANCE AND MOUNTING HEIGHT REQUIREMENTS.
2. PROVIDE WITH SINGLE POINT POWER CONNECTION.

**DISCLOSURE OF INFORMATION**

CONTRACTOR SHALL COMPLY AS FOLLOWS:

- A. THE CONTRACTOR SHALL NOT RELEASE TO ANYONE OUTSIDE THE CONTRACTOR'S ORGANIZATION ANY UNCLASSIFIED INFORMATION, REGARDLESS OF MEDIUM (E.G., FILM, TAPE, DOCUMENT), PERTAINING TO ANY PART OF THE CONTRACT OR ANY PROGRAM RELATED TO THIS CONTRACT, UNLESS--
  1. THE CONTRACTING OFFICE HAS GIVEN PRIOR WRITTEN APPROVAL; OR
  2. THE INFORMATION IS OTHERWISE IN THE PUBLIC DOMAIN BEFORE THE DATE OF RELEASE.
- B. REQUESTS FOR APPROVAL SHALL IDENTIFY THE SPECIFIC INFORMATION TO BE RELEASED, THE MEDIUM TO BE USED, AND THE PURPOSE FOR THE RELEASE. THE CONTRACTOR SHALL SUBMIT ITS REQUEST TO THE CONTRACTING OFFICER AT LEAST 45 DAYS BEFORE PROPOSED DATE FOR RELEASE.
- C. THE CONTRACTOR AGREES TO INCLUDE A SIMILAR REQUIREMENT IN EACH SUBCONTRACT UNDER THIS CONTRACT. SUBCONTRACTORS SHALL SUBMIT REQUESTS FOR AUTHORIZATION TO RELEASE THROUGH THE PRIME CONTRACTOR TO THE CONTRACTING OFFICER.

06/08/14 ERV UPDATE		<b>M-604</b>
		DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND <b>MARINE CORPS BASE</b> CAMP LEJEUNE, NORTH CAROLINA
DES. J. CARR DR. J. BARNES CHK. P. MAHAFFEY SUBMITTED BY: DESIGN DIR.		<b>REPAIR BEQ BUILDING HP509</b>
APPROVED: PWO OR OICC DATE:		MECHANICAL SCHEDULES NAVFAC DRAWING NO. <b>60011969</b>
SATISFACTORY TO: DATE:		CONSTR. CONTR. NO. N40085-12-B-0123 SCALE: AS NOTED   SPEC. 05-12-0123   SHEET 64 OF 87

