

APPENDIX A

LOAD CALCULATIONS VS EXISTING CAPACITY EXISTING VENTILATION

ZONE	Heating (kBTU)	Total Cooling (kBTU)	Sensible Cooling (kBTU)	Latent Cooling (kBTU)	Unit ID	Unit Part Number
ZONE 1	5.4	8.56	6.67	1.88	DFC-5 & ECUH-2	PMFY-P06NBMU-E & CWH120BDSAQ
Capacity	13.0	7.5	5.6	1.9		
Capacity/Load Ratio	240%	87%	84%	99%		
1-101 Vestibule	1.2	2.4	2.3	0.1		
2-102 Lobby	0.7	0.5	0.5	0.0		
4-104 Administrative Assistant	2.5	4.4	3.7	0.8		
9-109 HQ Toilet	1.0	1.2	0.2	1.0		
Zone 2	2.9	3.40	2.62	0.78	DFC-2	PMFY-P06NBMU-E
Capacity	13.0	7.5	5.6	1.9		
Capacity/Load Ratio	456%	220%	215%	239%		
3-103 Open Office	2.0	2.6	2.5	0.1		
8-108 Janitor Closet	0.8	0.8	0.2	0.7		
Zone 3	2.9	3.22	2.39	0.83	DFC-8	PMFY-P06NBMU-E
Capacity	4.6	5.6	4.3	1.3		
Capacity/Load Ratio	158%	174%	182%	153%		
5-105 Chiefs Office	2.9	3.2	2.4	0.8		
Zone 4	1.5	2.34	1.63	0.71	DFC-7	PMFY-P06NBMU-E
Capacity	4.6	5.6	4.3	1.3		
Capacity/Load Ratio	307%	239%	266%	179%		
6-106 Interview	1.5	2.3	1.6	0.7		
Zone 5	2.8	2.80	1.98	0.82	DFC-6	PMFY-P06NBMU-E
Capacity	4.6	5.6	4.3	1.3		
Capacity/Load Ratio	163%	200%	219%	155%		
7-107 Lieutenant's Office	2.8	2.8	2.0	0.8		
ZONE 6	1.3	0.53	0.38	0.15	ECUH-1	CWH120BDSAQ
Capacity	6.8	0.0	0.0	0.0		
Capacity/Load Ratio	507%	0%	0%	0%		
10-110 Corridor	1.0	0.3	0.2	0.1		
11-111 Storage	0.4	0.2	0.2	0.0		
ZONE 7	4.3	6.57	6.41	0.16	ECUH-3	EFH4008
Capacity	13.6	0.0	0.0	0.0		
Capacity/Load Ratio	318%	0%	0%	0%		
12-112 Link	4.3	6.6	6.4	0.2		
ZONE 8	7.5	2.79	2.08	0.70	ECUH-2	AWH4458
Capacity	13.6	0.0	0.0	0.0		
Capacity/Load Ratio	183%	0%	0%	0%		
13-113 Stair	2.1	1.2	1.0	0.2		
15-201 Stair	2.5	1.2	0.9	0.3		
24-001 Stair	2.9	0.3	0.2	0.2		
ZONE 9	2.1	1.32	0.75	0.57	DFC-9	PMFY-P06NBMU-E
Capacity	4.6	5.6	4.3	1.3		
Capacity/Load Ratio	224%	424%	577%	222%		
16-202 Hall	0.0	0.1	0.1	0.0		
17-203 Break Room	2.1	1.3	0.7	0.6		
ZONE 10	1.9	1.83	1.24	0.59	DFC-12	PMFY-P06NBMU-E
Capacity	4.6	5.6	4.3	1.3		
Capacity/Load Ratio	239%	306%	350%	215%		
18-204 Animal Control	1.9	1.8	1.2	0.6		
ZONE 11	3.8	2.36	1.87	0.49	DFC-13	PMFY-P06NBMU-E
Capacity	4.6	5.6	4.3	1.3		
Capacity/Load Ratio	123%	238%	233%	257%		
19-205 Future Use	3.8	2.4	1.9	0.5		
ZONE 12	3.9	3.93	2.82	1.11	DFC-11	PLFY-P12NCMU-E
Capacity	9.3	11.2	7.6	3.7		
Capacity/Load Ratio	237%	286%	269%	330%		
20-206 Conference Room	3.9	3.9	2.8	1.1		
ZONE 13	1.7	1.10	0.63	0.47	DFC-10	PMFY-P08NBMU-E
Capacity	6.2	7.5	5.4	2.1		
Capacity/Load Ratio	364%	681%	855%	448%		
21-207 Bunk Room	1.7	1.1	0.6	0.5		
ZONE 14	0.6	0.22	0.15	0.08	WC-NEW	MSZ-FH06NA
Capacity	8.7	5.9	5.0	1.0		
Capacity/Load Ratio	1400%	2625%	3362%	1226%		
22-208 Mechanical	0.6	0.2	0.1	0.1		
ZONE 15	3.0	2.30	0.67	1.63	ECUH-1	CWH120BDSAQ
Capacity	6.8	0.0	0.0	0.0		
Capacity/Load Ratio	227%	0%	0%	0%		
23-209 Lavatory	3.0	2.3	0.7	1.6		
ZONE 16	10.0	3.51	1.07	2.44	FCU-1	FEFY-P06NMAU-E2
Capacity	4.6	5.6	4.8	0.8		
Capacity/Load Ratio	46%	160%	451%	32%		
25-002 Hall	1.4	0.3	0.2	0.1		
26-003 Evidence Room	1.6	0.2	0.1	0.1		
27-004 Long Term Storage (Gym)	1.5	0.2	0.1	0.1		
28-005 Storage	1.0	0.2	0.1	0.1		
29-006 Armory	3.8	1.9	0.4	1.5		
32-009 Jan	0.7	0.8	0.1	0.7		
ZONE 17	5.8	4.29	0.84	3.45	DFC-3 & ECUH-1	PMFY-P06NBMU-E & ECUH-1
Capacity	11.5	5.6	4.3	1.3		
Capacity/Load Ratio	196%	131%	517%	37%		
30-007 Men's Locker	3.7	2.6	0.5	2.1		
31-008 Men's Bathroom	2.1	1.7	0.3	1.4		
ZONE 18	4.3	3.38	0.65	2.73	DFC-2 & ECUH-1	PMFY-P06NBMU-E & CWH120BDSAQ
Capacity	11.5	5.6	4.3	1.3		
Capacity/Load Ratio	269%	166%	666%	47%		
33-010 Women's Bathroom	2.2	1.7	0.3	1.4		
34-011 Women's Locker	2.1	1.7	0.3	1.4		
ZONE 19	3.2	0.45	0.26	0.20	DFC-1 & EUH-1	PMFY-P06NBMU-E & WUH281
Capacity	14.9	5.6	4.3	1.3		
Capacity/Load Ratio	467%	1244%	1697%	650%		
14-114 Elevator	0.2	0.1	0.1	0.0		
35-013 Elevator Mach Room	2.9	0.3	0.2	0.2		

APPENDIX B

LOAD CALCULATIONS VS EXISTING CAPACITY UPDATED VENTILATION

ZONE	Heating (kBTU)	Total Cooling (kBTU)	Sensible Cooling (kBTU)	Latent Cooling (kBTU)	Unit ID	Unit Part Number
ZONE 1	4.6	7.59	6.51	1.08	DFC-5 & ECUH-2	PMFY-P06NBMU-E & CWH120BDSAQ
Capacity	13.0	7.5	5.6	1.9		
Capacity/Load Ratio	283%	99%	86%	172%		
1-101 Vestibule	1.6	2.8	2.4	0.4		
2-102 Lobby	1.0	0.9	0.6	0.3		
4-104 Administrative Assistant	2.1	3.9	3.6	0.3		
9-109 HQ Toilet	0.0	0.0	0.0	0.0		
Zone 2	2.7	3.25	2.60	0.65	DFC-2	PMFY-P06NBMU-E
Capacity	13.0	7.5	5.6	1.9		
Capacity/Load Ratio	477%	230%	217%	284%		
3-103 Open Office	2.6	3.2	2.6	0.6		
8-108 Janitor Closet	0.1	0.0	0.0	0.0		
Zone 3	2.4	2.64	2.30	0.35	DFC-8	PMFY-P06NBMU-E
Capacity	4.6	5.6	4.3	1.3		
Capacity/Load Ratio	190%	212%	189%	366%		
5-105 Chiefs Office	2.4	2.6	2.3	0.3		
Zone 4	0.9	1.67	1.52	0.15	DFC-7	PMFY-P06NBMU-E
Capacity	4.6	5.6	4.3	1.3		
Capacity/Load Ratio	497%	337%	286%	866%		
6-106 Interview	0.9	1.7	1.5	0.1		
Zone 5	2.3	2.20	1.88	0.32	DFC-6	PMFY-P06NBMU-E
Capacity	4.6	5.6	4.3	1.3		
Capacity/Load Ratio	199%	255%	231%	401%		
7-107 Lieutenant's Office	2.3	2.2	1.9	0.3		
ZONE 6	1.5	0.69	0.40	0.29	ECUH-1	CWH120BDSAQ
Capacity	6.8	0.0	0.0	0.0		
Capacity/Load Ratio	461%	0%	0%	0%		
10-110 Corridor	1.1	0.4	0.2	0.2		
11-111 Storage	0.4	0.3	0.2	0.1		
ZONE 7	4.4	6.64	6.42	0.22	ECUH-3	EFH4008
Capacity	13.6	0.0	0.0	0.0		
Capacity/Load Ratio	314%	0%	0%	0%		
12-112 Link	4.4	6.6	6.4	0.2		
ZONE 8	7.9	3.26	2.16	1.10	ECUH-2	AWH4458
Capacity	13.6	0.0	0.0	0.0		
Capacity/Load Ratio	173%	0%	0%	0%		
13-113 Stair	2.3	1.4	1.0	0.4		
15-201 Stair	2.7	1.5	1.0	0.5		
24-001 Stair	2.9	0.3	0.2	0.2		
ZONE 9	2.2	1.47	0.78	0.70	DFC-9	PMFY-P06NBMU-E
Capacity	4.6	5.6	4.3	1.3		
Capacity/Load Ratio	211%	381%	559%	183%		
16-202 Hall	0.1	0.2	0.1	0.1		
17-203 Break Room	2.1	1.3	0.7	0.6		
ZONE 10	2.1	2.06	1.28	0.78	DFC-12	PMFY-P06NBMU-E
Capacity	4.6	5.6	4.3	1.3		
Capacity/Load Ratio	217%	273%	339%	163%		
18-204 Animal Control	2.1	2.1	1.3	0.8		
ZONE 11	4.2	2.87	1.95	0.92	DFC-13	PMFY-P06NBMU-E
Capacity	4.6	5.6	4.3	1.3		
Capacity/Load Ratio	110%	195%	223%	138%		
19-205 Future Use	4.2	2.9	2.0	0.9		
ZONE 12	4.2	4.23	2.87	1.36	DFC-11	PLFY-P12NCMU-E
Capacity	9.3	11.2	7.6	3.7		
Capacity/Load Ratio	223%	265%	264%	268%		
20-206 Conference Room	4.2	4.2	2.9	1.4		
ZONE 13	1.7	1.06	0.62	0.44	DFC-10	PMFY-P08NBMU-E
Capacity	6.2	7.5	5.4	2.1		
Capacity/Load Ratio	370%	704%	863%	478%		
21-207 Bunk Room	1.7	1.1	0.6	0.4		
ZONE 14	0.6	0.22	0.15	0.08	WC-NEW	MSZ-FH06NA
Capacity	8.7	5.9	5.0	1.0		
Capacity/Load Ratio	1400%	2625%	3362%	1226%		
22-208 Mechanical	0.6	0.2	0.1	0.1		
ZONE 15	1.5	0.56	0.38	0.18	ECUH-1	CWH120BDSAQ
Capacity	6.8	0.0	0.0	0.0		
Capacity/Load Ratio	448%	0%	0%	0%		
23-209 Lavatory	1.5	0.6	0.4	0.2		
ZONE 16	8.8	2.07	0.83	1.24	FCU-1	FEFY-P06NMAU-E2
Capacity	4.6	5.6	4.8	0.8		
Capacity/Load Ratio	53%	271%	580%	63%		
25-002 Hall	1.4	0.3	0.2	0.1		
26-003 Evidence Room	1.6	0.2	0.1	0.1		
27-004 Long Term Storage (Gym)	2.2	1.0	0.3	0.7		
28-005 Storage	1.0	0.2	0.1	0.1		
29-006 Armory	2.6	0.4	0.2	0.3		
32-009 Jan	0.1	0.0	0.0	0.0		
ZONE 17	2.5	0.34	0.18	0.16	DFC-3 & ECUH-1	PMFY-P06NBMU-E & ECUH-1
Capacity	11.5	5.6	4.3	1.3		
Capacity/Load Ratio	462%	1658%	2403%	805%		
30-007 Men's Locker	1.7	0.2	0.1	0.1		
31-008 Men's Bathroom	0.8	0.1	0.1	0.0		
ZONE 18	1.6	0.22	0.13	0.09	DFC-2 & ECUH-1	PMFY-P06NBMU-E & CWH120BDSAQ
Capacity	11.5	5.6	4.3	1.3		
Capacity/Load Ratio	731%	2609%	3466%	1414%		
33-010 Women's Bathroom	0.8	0.1	0.1	0.0		
34-011 Women's Locker	0.8	0.1	0.1	0.0		
ZONE 19	3.2	0.50	0.26	0.24	DFC-1 & EUH-1	PMFY-P06NBMU-E & WUH281
Capacity	14.9	5.6	4.3	1.3		
Capacity/Load Ratio	460%	1118%	1642%	534%		
14-114 Elevator	0.3	0.2	0.1	0.1		
35-013 Elevator Mach Room	2.9	0.3	0.2	0.2		

Quick Results

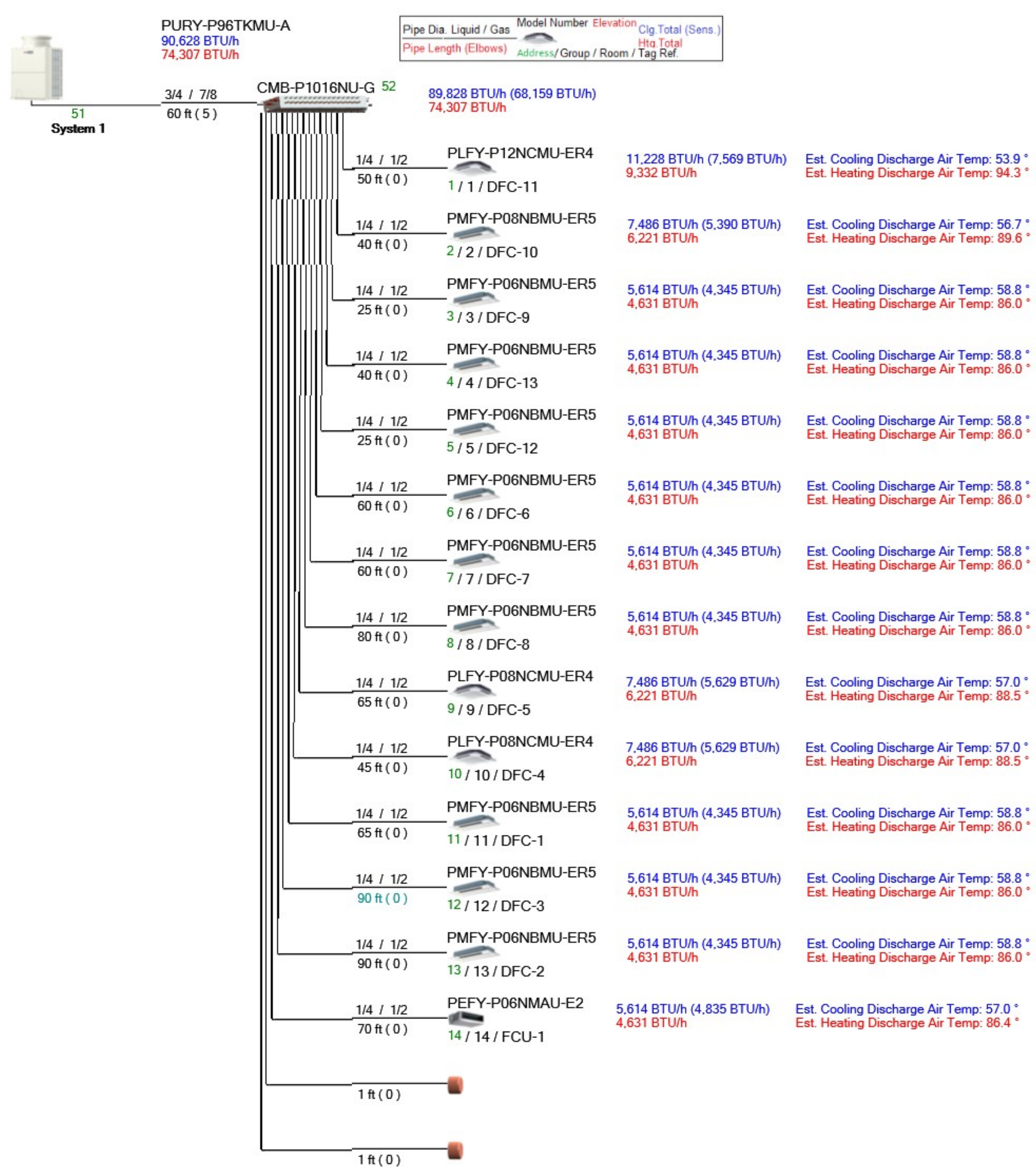
APPENDIX C

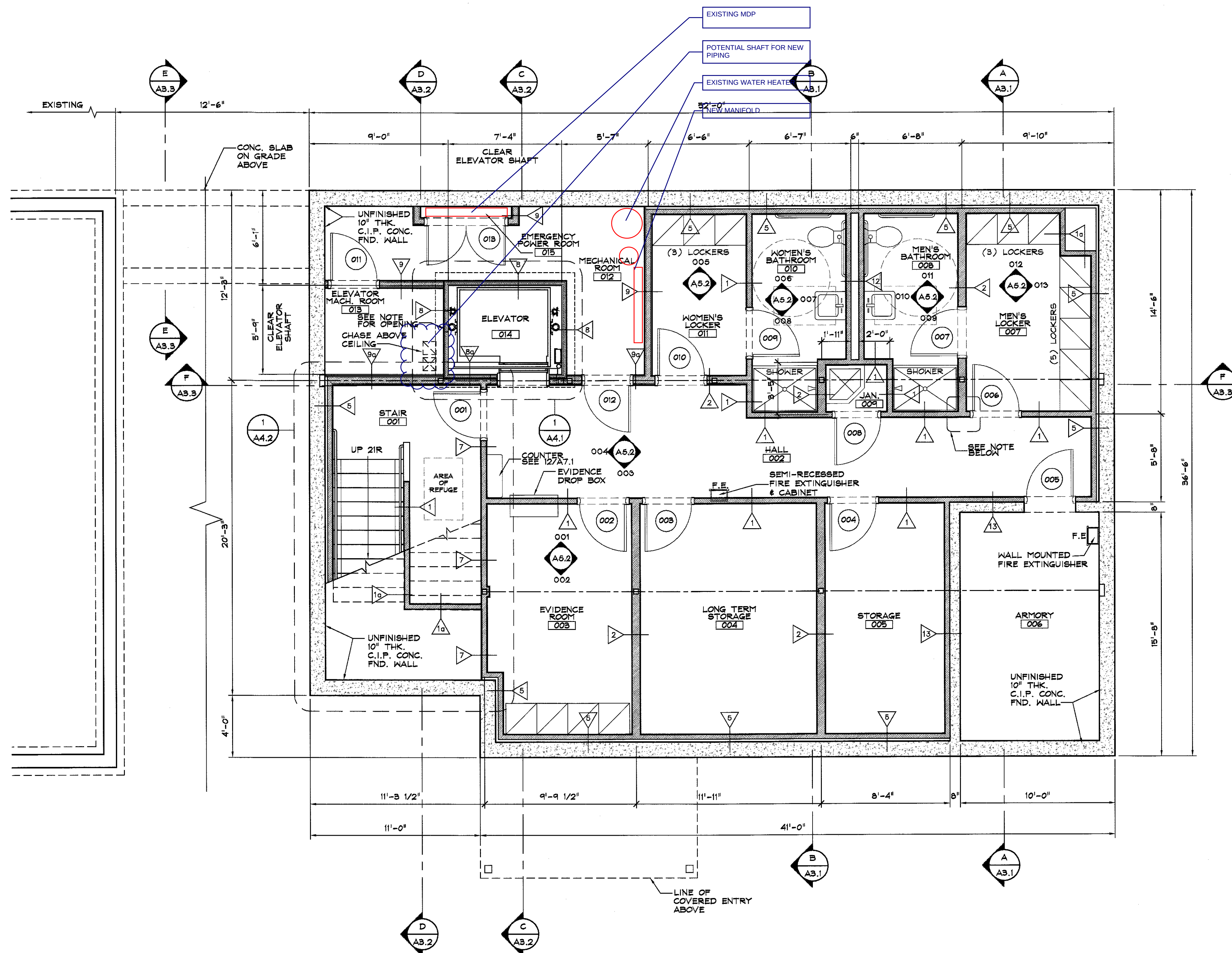
Connection Summary	
Indoor Units:	14 / 1 to 24
Capacity:	96 / 48 to 144 (100.0%)
* Connectable capacity is not actual capacity.	
Total Pipe Length:	871.8/1736.4 feet
Furthest Actual:	150/541 feet
Furthest Equiv.:	156.8/623 feet
Furthest IU from Parent BC Actual:	90/131 feet
Furthest IU from Parent BC Equiv.:	90/131 feet
Furthest IU from Main BC Thru Sub BC Actual:	0/0 feet
Furthest IU from Main BC Thru Sub BC Equiv.:	0/0 feet

Refrigerant	
System Refrigerant:	R410A
Additional Field-Charge:	26.18 lbs
Total System Charge:	52.20 lbs

Correction Factors	
	Cooling Heating
Outdoor Unit Capacity:	1.00 1.00
Outdoor Temperature:	1.02 0.74
Piping Length:	0.93 0.97
Defrosting:	- 0.95
User Derate:	1.00 1.00
Outdoor Altitude:	1.00 1.00
	0.94 0.69

Conditions	
	Cooling Heating
Indoor Dry Bulb 72.0 °F	Indoor Dry Bulb 72.0 °F
Indoor Wet Bulb 62.5 °F	
Indoor Humidity 59.3 %	Outdoor Dry Bulb 6.0 °F
	Outdoor Wet Bulb 5.1 °F
Outdoor Dry Bulb 91.0 °F	Outdoor Humidity 75.7 %





BASEMENT FLOOR PLAN
SCALE: 1/4" = 1'-0"

AND CURB LOCATIONS

DIMENSION LEGEND

DIM. DIMENSION TO EDGE OF STRUCTURE

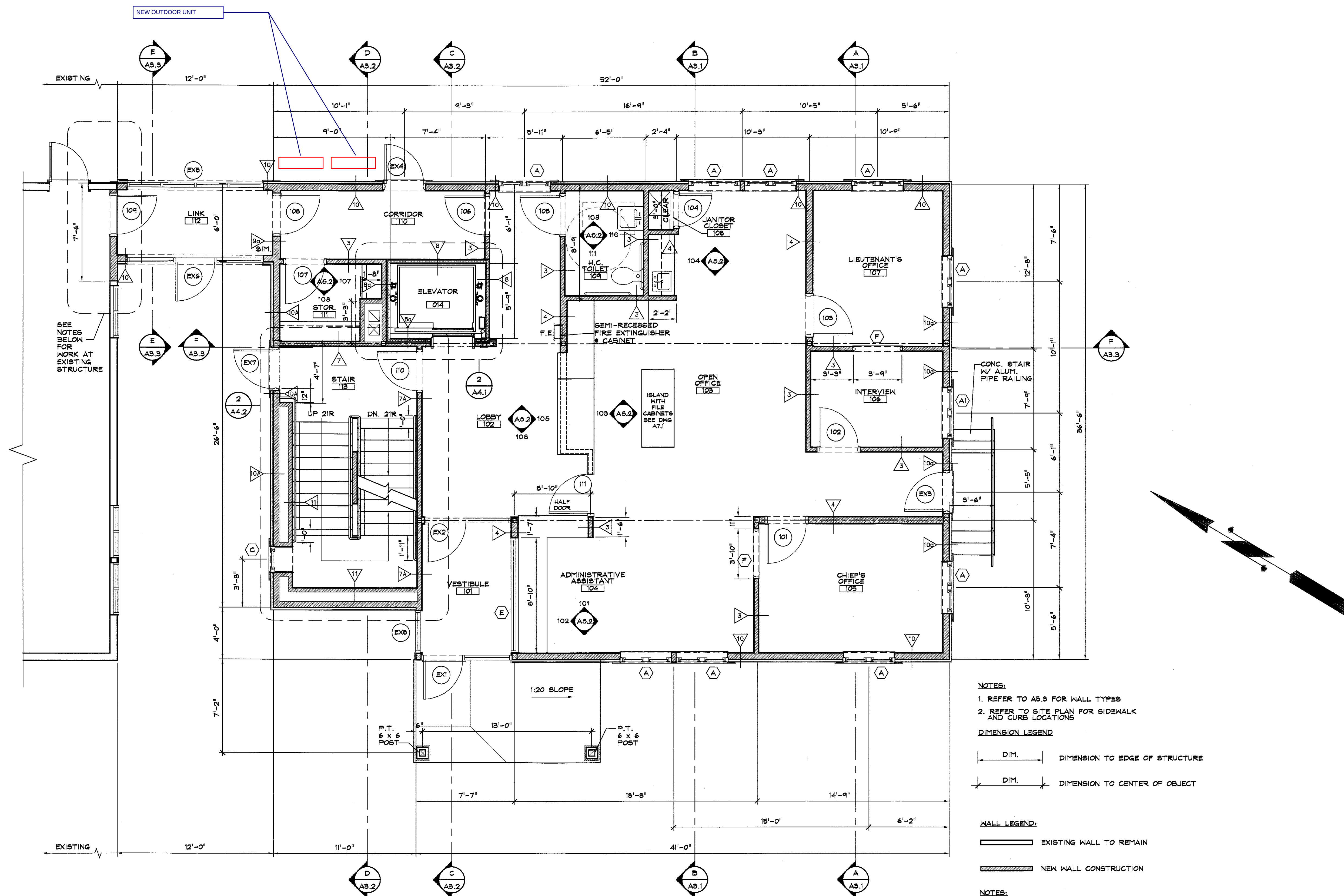
DIM. DIMENSION TO CENTER OF OBJECT

WALL LEGEND:

EXISTING WALL TO REMAIN

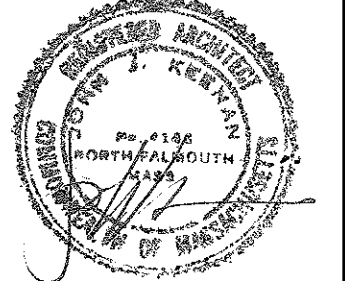
NEW WALL CONSTRUCTION

- NOTE:
1. PROVIDE OPENING AS REQUIRED BY CODE, MINIMUM 8' X 16" BETWEEN ELEVATOR MACHINE ROOM (013) AND ELEVATOR SHAFT WALL. PROVIDE LOUVERS OR METAL SCREEN AT OPENING.
 2. DOORS: TYPICAL AT ALL INTERIOR DOORS, PROVIDE MINIMUM 5' AT HINGE JAMB ROUGH OPENING TO NEAREST INTERSECTING PARTITION.



FIRST FLOOR PLAN
SCALE: 1/4" = 1'-0"

- NOTES:**
1. REFER TO A5.3 FOR WALL TYPES
 2. REFER TO SITE PLAN FOR SIDEWALK AND CURB LOCATIONS
- DIMENSION LEGEND:**
- DIM. DIMENSION TO EDGE OF STRUCTURE
- DIM. DIMENSION TO CENTER OF OBJECT
- WALL LEGEND:**
- EXISTING WALL TO REMAIN
- NEW WALL CONSTRUCTION
- NOTES:**
1. AT EXISTING FIRE STATION EXTERIOR WALL:
 - A. REMOVE EXISTING ALUMINUM WINDOWS AND STUD WALL AND ALL FINISHES INTERIOR AND EXTERIOR.
 - B. REMOVE AND / OR REVISE EXISTING HEATING, ELECTRICAL AND FIRE ALARM COMPONENTS.
 - C. REMOVE EXISTING EXTERIOR WALL LIGHT FIXTURES.
 - D. INSTALL NEW H.M. DOOR AND FRAME.
 - E. RE-TRIM ONE REINSTALLED EXISTING WINDOW AND INSTALL NEW SHINGLE SIDING.
 - F. REPAIR GYPSUM WALLS, PAINT.
 - G. REPAIR V.C.T. FLOOR

DATE: 1 FEB. 2013	
REVISIONS	
 KEENAN + KENNY ARCHITECTS, LTD. 189 Main St. Falmouth, MA 02540 508-540-0075 tel. kkaroch@verizon.net	
TOWN OF WEST TISBURY West Tisbury Public Safety Building Police Station Addition 452 State Road West Tisbury, Massachusetts 02575	
SHEET TITLE FIRST FLOOR PLAN	
	
PROJECT NO. WTPS	
SCALE: 1/4" = 1'-0"	
DRAWING NO. A1.1	