LN3

BUS NUMBER: 26 | AMPERE RATING: 200 | VOLTAGE (L-L): 208 | PHASE: 3
SERVED FROM: LN2 | MAIN TYPE: MAIN LUGS ONLY | VOLTAGE (L-N): 120 | WIRE: 4
MOUNTING: SURFACE | LUG OPTIONS: | MIN. KAIC: 22
REMARKS:

CKT NO.	CIRCUIT BRKR TRIP	P	LOAD DESCRIPTION	CODE	LOAD KVA	BRANCH CIRCUIT S	PHASE/NEUT. NO	SIZE	GND SIZE	MIN CND SIZE	BRANCH CIRCUIT S	PHASE/NEUT. NO	SIZE	GND SIZE	MIN CND SIZE	LOAD KVA	CODE	LOAD DESCRIPTION	CIRCUIT BRKR TRIP	P	CKT NO.
1	20	1	SPARE															SPARE	20	1	2
3	20	1	SPARE															SPARE	20	1	4
5	20	1	REC-KITCHEN	R	1.00	1	2	12	12	3/4								SPARE	20	1	6
7	20	1	REC-KITCHEN	R	1.00	1	2	12	12	3/4								SPARE	20	1	8
9	20	1	DISPOSAL	K	1.65	1	2	12	12	3/4								SPARE	20	1	10
11	20	1	SPARE															SPARE	20	1	12
13	20	1	SPARE															SPARE	20	1	14
15	20	1	SPARE															SPARE	20	1	16
17	20	1	SPARE															SPARE	20	1	18
19	20	1	SPARE															SPARE	20	1	20
21		1	SPACE ONLY															SPACE ONLY		1	22
23		1	SPACE ONLY															SPACE ONLY		1	24
25		1	SPACE ONLY															SPACE ONLY		1	26
27		1	SPACE ONLY															SPACE ONLY		1	28
29		1	SPACE ONLY															SPACE ONLY		1	30
31		1	SPACE ONLY															SPACE ONLY		1	32
33		1	SPACE ONLY															SPACE ONLY		1	34
35		1	SPACE ONLY															SPACE ONLY		1	36
37		1	SPACE ONLY															SPACE ONLY		1	38
39		1	SPACE ONLY															SPACE ONLY		1	40
41		1	SPACE ONLY															SPACE ONLY		1	42

NEC ART. 220 LOAD CATEGORY	TOTAL CONNECTED LOAD (KVA)	X	NEC ART. 220 FEEDER SIZING FACTOR	=	NEC ART. 220 FEEDER SIZING LOAD (KVA)
A – HOSPITAL LIGHTING	0.00		0.00		0.00
B – HOTEL/MOTEL LIGHTING	0.00		0.00		0.00
C – SPACE COOLING*	0.00		0.00		0.00
D – OTHER HVAC LOADS	0.00		0.00		0.00
H – SPACE HEATING*	0.00		0.00		0.00
K – KITCHEN APPLIANCES	1.65		1.00		1.65
L – GENERAL LIGHTING	0.00		0.00		0.00
M – MISC. CONTINUOUS	0.00		0.00		0.00
N – MISC. NONCONTINUOUS	0.00		0.00		0.00
R – RECEPTACLES	2.00		1.00		2.00
W – WAREHOUSE LIGHTING	0.00		0.00		0.00
LARGEST MOTOR**	10.00		0.25		2.50
	3.65				6.15

MIN. NEC ART. 220 REQUIRED OVERCURRENT PROTECTION: 45 A.

PHASE BALANCE (% OF 3 PHASE LOAD): A: 82.3 % B: 135.7 % C: 82.3 %

BALANCED 3 PHASE NEC ART. 220 FEEDER SIZING LOAD (AMPS): 17.0 A.
X LARGEST UNBALANCED PHASE %: x 1.35
TOTAL: 23.1 A.
+ RESERVED FUTURE CAPACITY: + 20.0 A.
TOTAL UNBALANCED 3 PHASE NEC ART. 220 FEEDER SIZING LOAD: 43.1 A.

* NON-COINCIDENTAL LOADS. LARGEST LOAD INCLUDED IN TOTAL. ** LARGEST MOTOR LOAD INCLUDED IN CATEGORIZED LOADS.

HEQ

BUS NUMBER: 55 | AMPERE RATING: 125 | VOLTAGE (L-L): 480 | PHASE: 3
SERVED FROM: HCR | MAIN TYPE: MAIN BREAKER | VOLTAGE (L-N): 277 | WIRE: 4
MOUNTING: SURFACE | LUG OPTIONS: | MIN. KAIC: 22
REMARKS:

CKT NO.	CIRCUIT BRKR TRIP	P	LOAD DESCRIPTION	CODE	LOAD KVA	BRANCH CIRCUIT S	PHASE/NEUT. NO	SIZE	GND SIZE	MIN CND SIZE	BRANCH CIRCUIT S	PHASE/NEUT. NO	SIZE	GND SIZE	MIN CND SIZE	LOAD KVA	CODE	LOAD DESCRIPTION	CIRCUIT BRKR TRIP	P	CKT NO.
																0.44	D				
3	15	3	SPARE								1	3	12	12	3/4	0.44	D	EXH FAN EF-4	20	3	4
																0.44	D				
				D	0.58											0.83	D				
9	20	3	HOT WATER PUMP 1	D	0.58	1	3	12	12	3/4	1	3	12	12	3/4	0.83	D	EXH FAN EF-5	20	3	10
				D	0.58											0.83	D				
				D	0.58											5.81	D				
15	20	3	HOT WATER PUMP 2	D	0.58	1	3	12	12	3/4	1	3	8	10	1-1/4	5.81	D	AHU 1 SUPPLY FAN	40	3	16
				D	0.58											5.81	D				
				D	0.94											1.33	D				
21	20	3	CHILLED H20 PUMP 1	D	0.94	1	3	12	12	3/4	1	3	12	12	3/4	1.33	D	AHU 1 RETURN FAN	20	3	22
				D	0.94											1.33	D				
				D	0.94											5.81	D				
27	20	3	CHILLED H20 PUMP 2	D	0.94	1	3	12	12	3/4	1	3	8	10	1-1/4	5.81	D	AHU 2 SUPPLY FAN	40	3	28
				D	0.94											5.81	D				
				X	6.93											1.33	D				
33	70	3	T4	X	4.89	1	3	6	8	1	1	3	12	12	3/4	1.33	D	AHU 2 RETURN FAN	20	3	34
1				X	4.51											1.33	D				
37	20	1	CWS HT TRACE	D	1.50	1	2	8	10	3/4	1	2	8	10	3/4	1.50	D	CWR HT TRACE	20	1	38
39	20	1	CWS HT TRACE	D	1.50	1	2	8	10	3/4	1	2	8	10	3/4	1.50	D	CWR HT TRACE	20	1	40
41	20	1	SPARE															SPARE	20	1	42

NEC ART. 220 LOAD CATEGORY	TOTAL CONNECTED LOAD (KVA)	X	NEC ART. 220 FEEDER SIZING FACTOR	=	NEC ART. 220 FEEDER SIZING LOAD (KVA)
A – HOSPITAL LIGHTING	0.00		0.00		0.00
B – HOTEL/MOTEL LIGHTING	0.00		0.00		0.00
C – SPACE COOLING*	0.00		0.00		0.00
D – OTHER HVAC LOADS	69.26		0.75		51.94
H – SPACE HEATING*	0.00		0.00		0.00
K – KITCHEN APPLIANCES	0.00		0.00		0.00
L – GENERAL LIGHTING	0.00		0.00		0.00
M – MISC. CONTINUOUS	1.50		1.25		1.87
N – MISC. NONCONTINUOUS	3.72		0.65		2.41
R – RECEPTACLES	3.62		1.00		3.62
W – WAREHOUSE LIGHTING	0.00		0.00		0.00
LARGEST MOTOR**	15.00		0.25		3.75
	78.10				63.60

MIN. NEC ART. 220 REQUIRED OVERCURRENT PROTECTION: 100 A.

PHASE BALANCE (% OF 3 PHASE LOAD): A: 109.6 % B: 101.8 % C: 88.8 %

BALANCED 3 PHASE NEC ART. 220 FEEDER SIZING LOAD (AMPS): 76.5 A.
X LARGEST UNBALANCED PHASE %: x 1.09
TOTAL: 83.8 A.
+ RESERVED FUTURE CAPACITY: + 12.5 A.
TOTAL UNBALANCED 3 PHASE NEC ART. 220 FEEDER SIZING LOAD: 96.3 A.

* NON-COINCIDENTAL LOADS. LARGEST LOAD INCLUDED IN TOTAL. ** LARGEST MOTOR LOAD INCLUDED IN CATEGORIZED LOADS.

LEQ

BUS NUMBER: 65 | AMPERE RATING: 125 | 1 | VOLTAGE (L-L): 208 | PHASE: 3
SERVED FROM: T4 | MAIN TYPE: MAIN BREAKER | VOLTAGE (L-N): 120 | WIRE: 4
MOUNTING: SURFACE | LUG OPTIONS: | MIN. KAIC: 22
REMARKS:

CKT NO.	CIRCUIT BRKR TRIP	P	LOAD DESCRIPTION	CODE	LOAD KVA	BRANCH CIRCUIT S	PHASE/NEUT. NO	SIZE	GND SIZE	MIN CND SIZE	BRANCH CIRCUIT S	PHASE/NEUT. NO	SIZE	GND SIZE	MIN CND SIZE	LOAD KVA	CODE	LOAD DESCRIPTION	CIRCUIT BRKR TRIP	P	CKT NO.
				N	0.30						1	2	12	12	3/4	1.10	D	MINI-SPLIT CU 1	15	2	2
3	20	3	RECIRC PUMP NO. 2	N	0.30	1	3	12	12	3/4						1.10	D				
				N	0.30						1	2	12	12	3/4	1.10	D	MINI-SPLIT CU 2	15	2	6
7	20	1	RECIRC PUMP NO. 1	N	0.52	1	2	12	12	3/4						1.10	D				
				N	0.30													SPARE	20	1	10
11	20	1	SPARE															SPARE	20	1	12
13	20	1	VAV CONTROLS	R	0.50	1	2	12	12	3/4								SPARE	20	1	14
15	20	1	VAV CONTROLS	R	0.50	1	2	12	12	3/4								SPARE	20	1	16
17	20	1	REC-MECH ROOM	R	0.90	1	2	12	12	3/4								SPARE	20	1	18
19	20	1	REC.-EXTERIOR	R	0.72	1	2	12	12	3/4	1	2	12	12	3/4	0.50	N	HEAT EXCHANGER 1	20	1	20
21	20	1	PTZ CAMERA HEATERS	M	1.50	1	3	12	12	3/4	1	2	12	12	3/4	0.50	N	HEAT EXCHANGER 2	20	1	22
23	20	1	AHU CONTROLS	N	1.00	1	3	12	12	3/4	1	2	12	12	3/4	0.52	D	ATTIC UNIT HEATERS	15	1	24
25	20	1	AHU LTS,REC	R	1.00	1	3	12	12	3/4	1	2	12	12	3/4	0.50	D	BAS CONTROL PANEL	20	1	26
27	20	1	SPARE								1	2	12	12	3/4	0.69	D	EXH FAN EF-1	15	1	28
29	20	1	SPARE								1	2	12	12	3/4	0.69	D	EXH FAN EF-2	15	1	30
31	20	1	SPARE								1	2	12	12	3/4	0.69	D	EXH FAN EF-3	15	1	32
33	20	1	SPARE															SPARE	20	1	34
35	20	1	SPARE															SPARE	20	1	36
37	20	1	SPARE															SPARE	20	1	38
39	20	1	SPARE															SPARE	20	1	40
41	20	1	SPARE															SPARE	20	1	42

NEC ART. 220 LOAD CATEGORY	TOTAL CONNECTED LOAD (KVA)	X	NEC ART. 220 FEEDER SIZING FACTOR	=	NEC ART. 220 FEEDER SIZING LOAD (KVA)
A – HOSPITAL LIGHTING	0.00		0.00		0.00
B – HOTEL/MOTEL LIGHTING	0.00		0.00		0.00
C – SPACE COOLING*	0.00		0.00		0.00
D – OTHER HVAC LOADS	7.49		0.75		5.61
H – SPACE HEATING*	0.00		0.00		0.00
K – KITCHEN APPLIANCES	0.00		0.00		0.00
L – GENERAL LIGHTING	0.00		0.00		0.00
M – MISC. CONTINUOUS	1.50		1.25		1.87
N – MISC. NONCONTINUOUS	3.72		0.65		2.41
R – RECEPTACLES	3.62		1.00		3.62
W – WAREHOUSE LIGHTING	0.00		0.00		0.00
LARGEST MOTOR**	20.00		0.25		5.00
	16.33				18.53

MIN. NEC ART. 220 REQUIRED OVERCURRENT PROTECTION: 80 A.

PHASE BALANCE (% OF 3 PHASE LOAD): A: 127.4 % B: 89.9 % C: 82.9 %

BALANCED 3 PHASE NEC ART. 220 FEEDER SIZING LOAD (AMPS): 51.4 A.
X LARGEST UNBALANCED PHASE %: x 1.27
TOTAL: 65.5 A.
+ RESERVED FUTURE CAPACITY: + 12.5 A.
TOTAL UNBALANCED 3 PHASE NEC ART. 220 FEEDER SIZING LOAD: 78.0 A.

* NON-COINCIDENTAL LOADS. LARGEST LOAD INCLUDED IN TOTAL. ** LARGEST MOTOR LOAD INCLUDED IN CATEGORIZED LOADS.

HLS

BUS NUMBER: 75 | AMPERE RATING: 100 | VOLTAGE (L-L): 480 | PHASE: 3
SERVED FROM: ATSLS | MAIN TYPE: MAIN BREAKER | VOLTAGE (L-N): 277 | WIRE: 4
MOUNTING: SURFACE | LUG OPTIONS: | MIN. KAIC: 25
REMARKS:

CKT NO.	CIRCUIT BRKR TRIP	P	LOAD DESCRIPTION	CODE	LOAD KVA	BRANCH CIRCUIT S	PHASE/NEUT. NO	SIZE	GND SIZE	MIN CND SIZE	BRANCH CIRCUIT S	PHASE/NEUT. NO	SIZE	GND SIZE	MIN CND SIZE	LOAD KVA	CODE	LOAD DESCRIPTION	CIRCUIT BRKR TRIP	P	CKT NO.
1	20	1	LTG – LIFE SAFETY	L	0.60	1	2	12	12	3/4								SPARE	20	1	2
3	20	1	SPARE															SPARE	20	1	4
5	20	1	SPARE															SPARE	20	1	6
7		1	SPACE ONLY													1.22	X				
9		1	SPACE ONLY								1	3	10	10	3/4	1.35	X	T3	25	3	10
11		1	SPACE ONLY													1.70	X				

NEC ART. 220 LOAD CATEGORY	TOTAL CONNECTED LOAD (KVA)	X	NEC ART. 220 FEEDER SIZING FACTOR	=	NEC ART. 220 FEEDER SIZING LOAD (KVA)
A – HOSPITAL LIGHTING	0.00		0.00		0.00
B – HOTEL/MOTEL LIGHTING	0.00		0.00		0.00
C – SPACE COOLING*	0.00		0.00		0.00
D – OTHER HVAC LOADS	0.00		0.00		0.00
H – SPACE HEATING*	0.00		0.00		0.00
K – KITCHEN APPLIANCES	0.00		0.00		0.00
L – GENERAL LIGHTING	3.12		1.25		3.90
M – MISC. CONTINUOUS	0.25		1.24		0.31
N – MISC. NONCONTINUOUS	1.50		1.00		1.50
R – RECEPTACLES	0.00		0.00		0.00
W – WAREHOUSE LIGHTING	0.00		0.00		0.00
LARGEST MOTOR**	15.00		0.25		3.75
	4.87				9.46

MIN. NEC ART. 220 REQUIRED OVERCURRENT PROTECTION: 35 A.

PHASE BALANCE (% OF 3 PHASE LOAD): A: 112.2 % B: 83.2 % C: 104.8 %

BALANCED 3 PHASE NEC ART. 220 FEEDER SIZING LOAD (AMPS): 11.3 A.
X LARGEST UNBALANCED PHASE %: x 1.12
TOTAL: 12.7 A.
+ RESERVED FUTURE CAPACITY: + 20.0 A.
TOTAL UNBALANCED 3 PHASE NEC ART. 220 FEEDER SIZING LOAD: 32.7 A.

* NON-COINCIDENTAL LOADS. LARGEST LOAD INCLUDED IN TOTAL. ** LARGEST MOTOR LOAD INCLUDED IN CATEGORIZED LOADS.

LLS

BUS NUMBER: 85 | AMPERE RATING: 50 | 1 | VOLTAGE (L-L): 208 | PHASE: 3
SERVED FROM: T3 | MAIN TYPE: MAIN BREAKER | VOLTAGE (L-N): 120 | WIRE: 4
MOUNTING: SURFACE | LUG OPTIONS: | MIN. KAIC: 22
REMARKS:

CKT NO.	CIRCUIT BRKR TRIP	P	LOAD DESCRIPTION	CODE	LOAD KVA	BRANCH CIRCUIT S	PHASE/NEUT. NO	SIZE	GND SIZE	MIN CND SIZE	BRANCH CIRCUIT S	PHASE/NEUT. NO	SIZE	GND SIZE	MIN CND SIZE	LOAD KVA	CODE	LOAD DESCRIPTION	CIRCUIT BRKR TRIP	P	CKT NO.
1	20	1	LTG-LIFE SAFETY	L	0.60	1	2	12	12	3/4								SPARE	20	1	2
3	20	1	LTG-LIFE SAFETY	L	0.60	1	2	12	12	3/4	1	2	12	12	3/4	0.25	M	FIRE ALARM CTRL PNL	20	1	4
5	20	1	LTG-BLDG EXTERIOR	L	0.60	1	2	12	12	3/4	1	2	12	12	3/4	0.60	L	LIFE SAFETY ATTIC	20	1	6
7	20	1	AUTO DOOR OPERATOR	N	0.50	1	2	12	12	3/4	1	2	12	12	3/4	0.12	L	EXTERIOR LTG.	20	1	8
9	20	1	AUTO DOOR OPERATOR	N	0.50	1	2	12	12	3/4								SPARE	20	1	10
11	20	1	AUTO DOOR OPERATOR	N	0.50	1	2	12	12	3/4								SPARE	20	1	12
13	20	1	SPARE															SPARE	20	1	14
15	20	1	SPARE															SPARE	20	1	16
17	20	1	SPARE															SPARE	20	1	18
19		1	SPACE ONLY															SPACE ONLY		1	20
21		1	SPACE ONLY															SPACE ONLY		1	22
23		1	SPACE ONLY															SPACE ONLY		1	24

NEC ART. 220 LOAD CATEGORY	TOTAL CONNECTED LOAD (KVA)	X	NEC ART. 220 FEEDER SIZING FACTOR	=	NEC ART. 220 FEEDER SIZING LOAD (KVA)
A – HOSPITAL LIGHTING	0.00		0.00		0.00
B – HOTEL/MOTEL LIGHTING	0.00		0.00		0.00
C – SPACE COOLING*	0.00		0.00		0.00
D – OTHER HVAC LOADS	0.00		0.00		0.00
H – SPACE HEATING*	0.00		0.00		0.00
K – KITCHEN APPLIANCES	0.00		0.00		0.00
L – GENERAL LIGHTING	2.52		1.25		3.15
M – MISC. CONTINUOUS	0.25		1.24		0.31
N – MISC. NONCONTINUOUS	1.50		0.65		0.97
R – RECEPTACLES	0.00		0.00		0.00
W – WAREHOUSE LIGHTING	0.00		0.00		0.00
LARGEST MOTOR**	15.00		0.25		3.75
	4.27				8.18

MIN. NEC ART. 220 REQUIRED OVERCURRENT PROTECTION: 35 A.

PHASE BALANCE (% OF 3 PHASE LOAD): A: 85.8 % B: 94.9 % C: 119.5 %

BALANCED 3 PHASE NEC ART. 220 FEEDER SIZING LOAD (AMPS): 22.7 A.
X LARGEST UNBALANCED PHASE %: x 1.19
TOTAL: 27.1 A.
+ RESERVED FUTURE CAPACITY: + 5.0 A.
TOTAL UNBALANCED 3 PHASE NEC ART. 220 FEEDER SIZING LOAD: 32.1 A.

* NON-COINCIDENTAL LOADS. LARGEST LOAD INCLUDED IN TOTAL. ** LARGEST MOTOR LOAD INCLUDED IN CATEGORIZED LOADS.

***PROVIDE CIRCUIT BREAKER WITH RED HANDLE AND LOCK OFF DEVICE.

REVISION NO.	REVISION DESCRIPTION	
1	AMENDMENT #1	4/8/2016
2	AMENDMENT NO. 2	8/03/2016

Revisions | By Date

Department of Veterans Affairs
Martinsburg
VA Medical Center
510 Butler Avenue
Martinsburg, WV 25401

NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER SEAL 3857 JOHN S. ROSS 8/3/2016
SEAL

Architect/Engineer Address
HARRELL • DESIGN GROUP, PC •
formerly HARRELL, SALTRICK & HOPPER, PC
8016 TOMER POINT DRIVE CHARLOTTE, NC 28227
P 704.814.1320 F 704.321.0833
WWW.HARRELLDG.COM
COPYRIGHT © 2015 HARRELL DESIGN GROUP, PC
HDG PROJECT # 12011

Recommended Approvals:	
1. MEDICAL DIRECTOR	6. OPERATIONS SERVICE LINE MANAGER
2. ASSOCIATE DIRECTOR	7. INFECTION CONTROL MANAGER
3. CHIEF OF STAFF	8. SAFETY MANAGER
4. ASSOC. DIRECTOR	9. GENERAL ENGINEER
5. SERVICE LINE MGRS.	10. COR

Drawing Title: PANEL SCHEDULES
100% SUBMISSION
FULLY SPRINKLERED

Project Title: VAMC MARTINSBURG, WV BUILD WOMEN'S WELLNESS CENTER
Date: 03-11-2016
Project Number: 613-115
Drawn: WAO | Building Number: 516 | AutoCAD File Name:
Checked: | Reviewed: | Const. Contract No.:
DRAWING No.: E702

Veterans Affairs