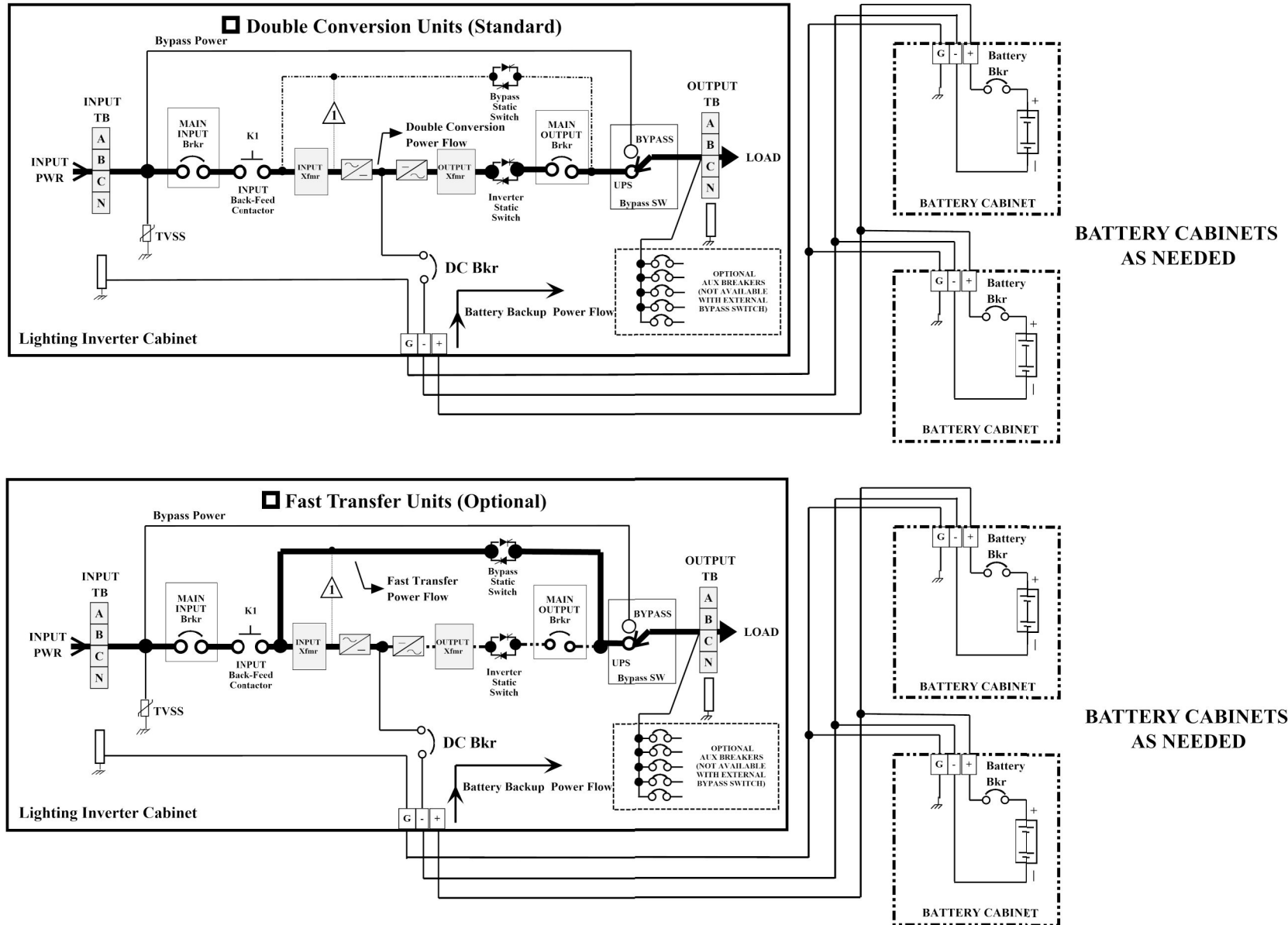


3 PHASE LIGHTING INVERTER TYPICAL SINGLE LINE DIAGRAM



NOTES:

1. Optional Delta Input Power available using External Transformer transformer must be sized min 25% larger that UPS capacity.

2. Optional Wrap around Bypass Switch is available.

3-PH LIGHTING INVERTER
FUNCTIONAL BLOCK DIAGRAM

SHT
1 OF 1



SUBJECT TO CHANGE WITHOUT NOTICE

DRAWN : SS

9/6/22

415-TD-010

REV

APPVD : HN

9/6/22

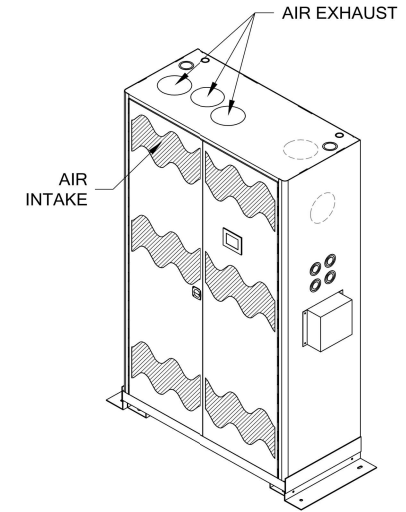
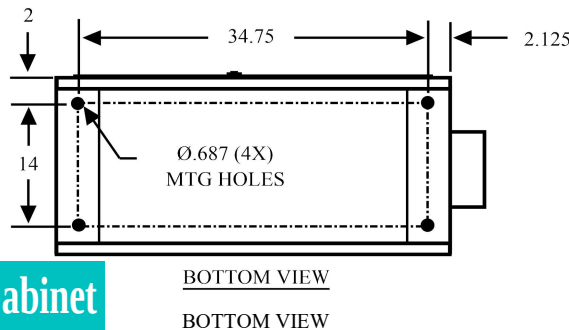
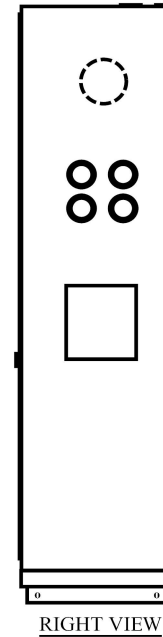
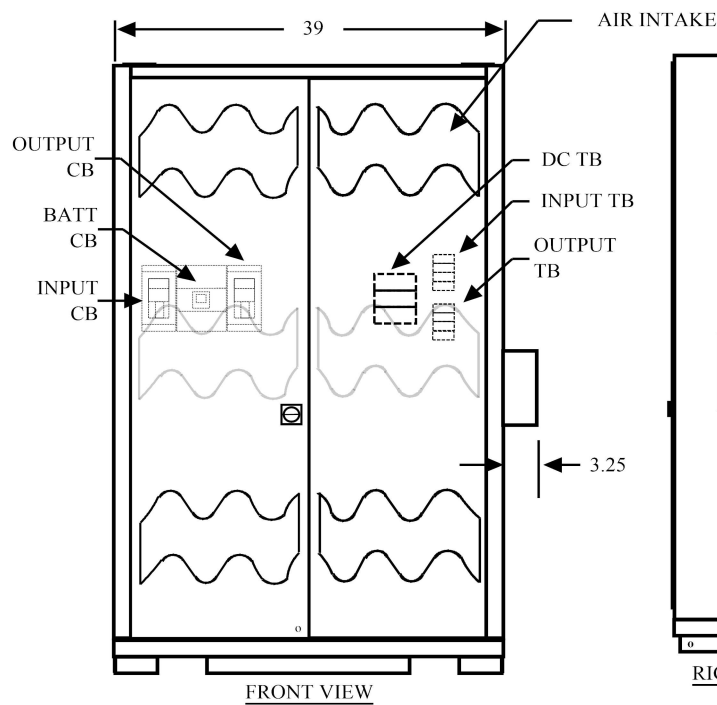
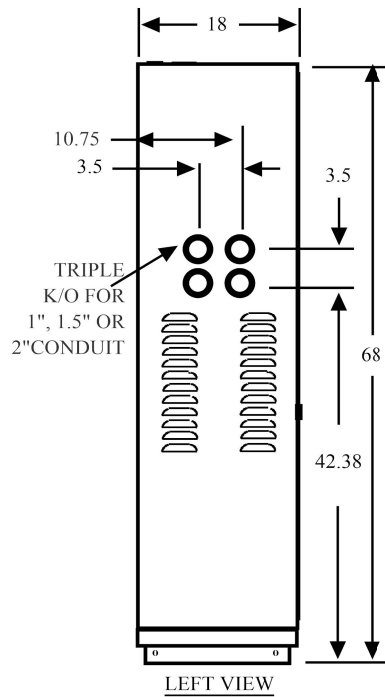
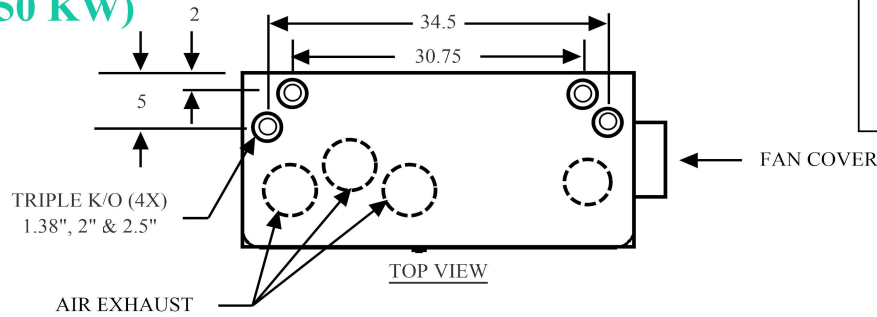
B

ELECTRONIC CABINET ONLY (8 KW THRU 50 KW)

WAVE RIDER 3 INVERTER CABINET

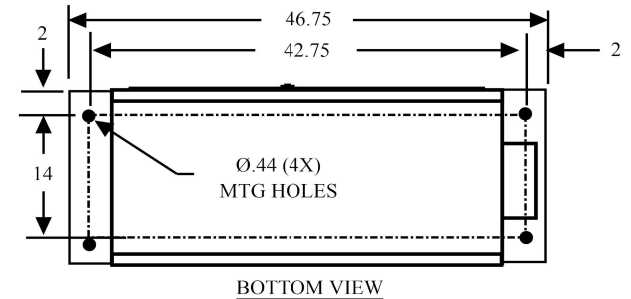
NOTES:

- 1) CONSTRUCTION: NEMA1 INDOOR
- 2) OPTIONAL SEISMIC BRACKETS AVAILABLE
- 3) ANCHORING HARDWARE TO BE SUPPLIED BY CUSTOMER



ISOMETRIC VIEW SHOWN WITH SEISMIC BRACKETS

INSTALLATION WITH SEISMIC BRACKETS FOR ZONE 4 BOTTOM VIEW



Technical Drawing: Inverter Cabinet

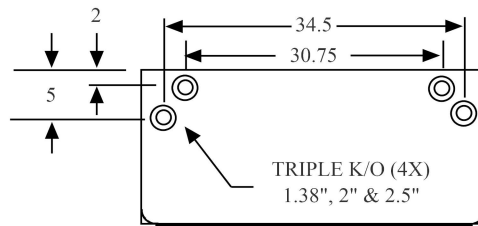
WAVE RIDER 3 INVERTER CABINET			SHT 1 OF 1
 CRUCIAL POWER PRODUCTS SUBJECT TO CHANGE WITHOUT NOTICE			
DRAWN : SS	10/7/22	415-TD-011	REV A
APPVD: HN	10/7/22		

BATTERY CABINET (10KVA/8KW), STANDARD VRLA BATTERY

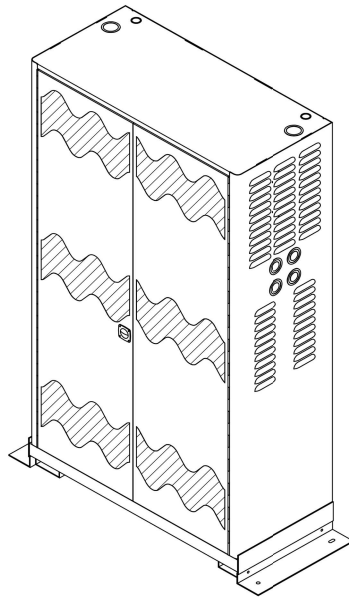
NOTES:

- 1) CONSTRUCTION: NEMA1 INDOOR
- 2) OPTIONAL SEISMIC BRACKETS AVAILABLE
- 3) OPTIONAL STACKABLE RACKS AVAILABLE. 10KVA/8KW UNITS ONLY.
- 4) ANCHORING HARDWARE TO BE SUPPLIED BY CUSTOMER (REFER TO SEISMIC DWG)

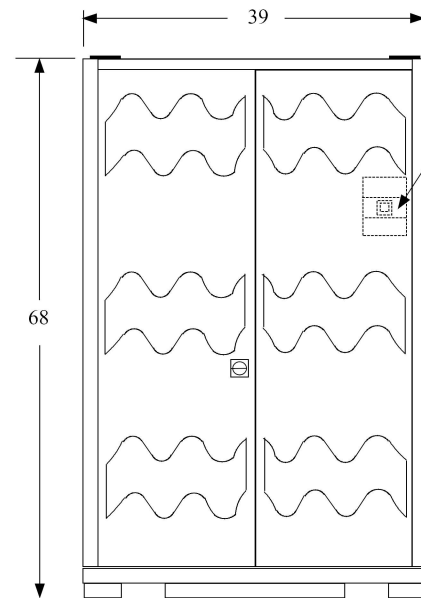
Technical Drawing: 39" Battery Cabinet



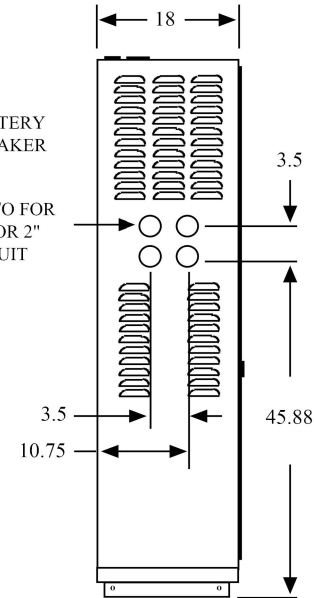
TOP VIEW



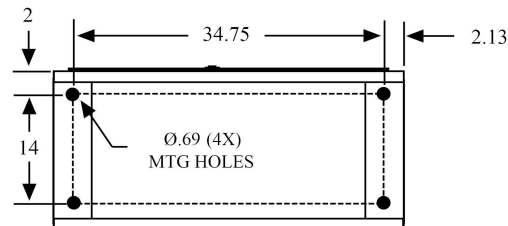
ISO VIEW SHOWN WITH SEISMIC BRACKETS



FRONT VIEW

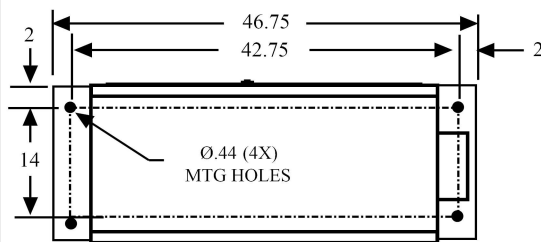


SIDE VIEW



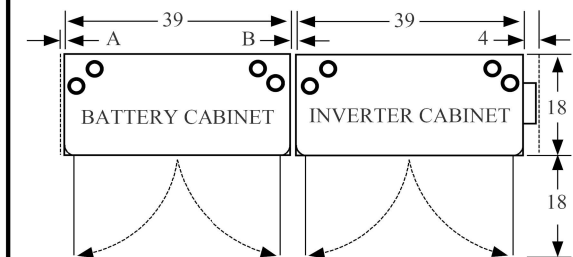
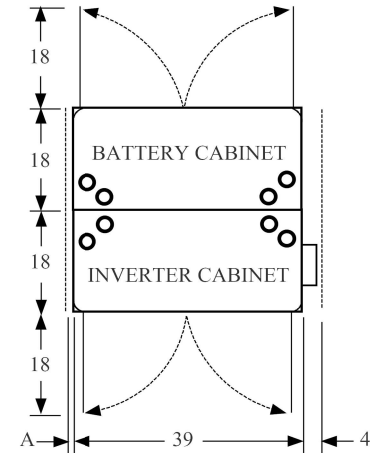
BOTTOM VIEW

INSTALLATION WITH SEISMIC BRACKETS FOR ZONE 4 BOTTOM VIEW



RECOMMENDED SYSTEM LAYOUT

STANDARD VRLA BATTERY		
KVA/KW	BATTERY CABINET QTY 90 MIN.	BATTERY CABINET QTY 120 MIN.
10KVA/8KW	1	1



B	1.0"	8.0"
A	1.0"	4.0"
DIM	WITHOUT EXTERNAL SEISMIC	WITH EXTERNAL SEISMIC

WAVE RIDER 3 BATTERY CABINET (39"WIDE)

SHT
1 OF 1



SUBJECT TO CHANGE WITHOUT NOTICE

DRAWN : SS
APPVD : HN

10/11/22
10/11/22

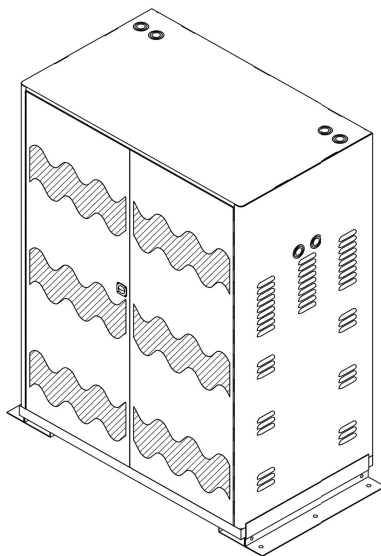
415-TD-012

REV
A

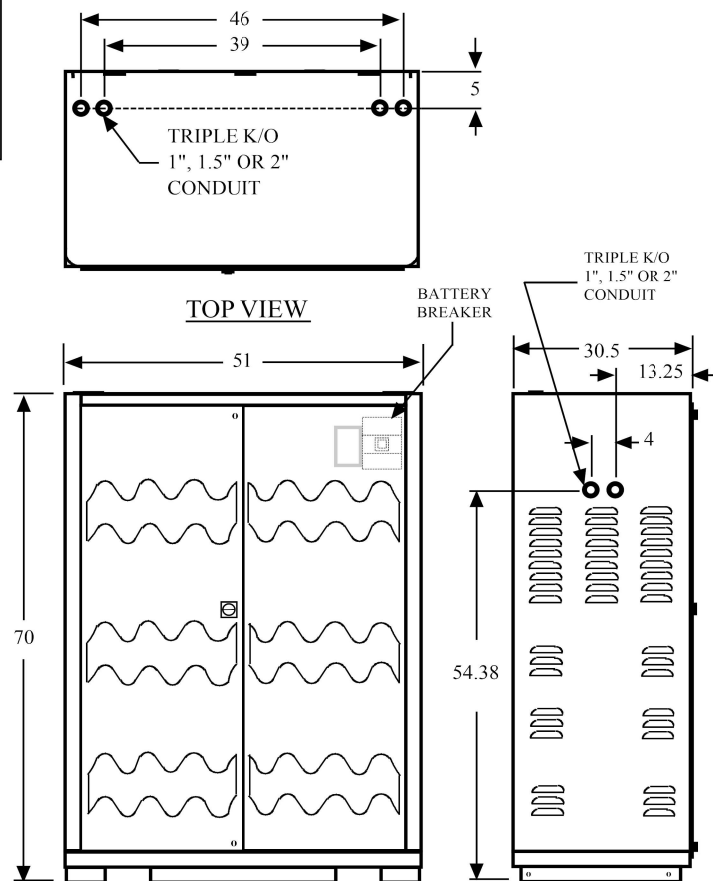
BATTERY CABINET (12KW THRU 50KW) STANDARD VRLA BATTERY

NOTES:

- 1) CONSTRUCTION: NEMA1 INDOOR.
2) OPTIONAL SEISMIC BRACKETS AVAILABLE.
(FOR ANCHOR DETAILS, REFER TO SEISMIC DWG)

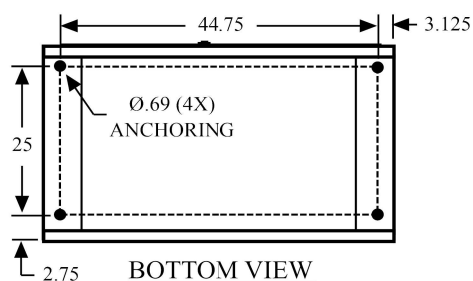
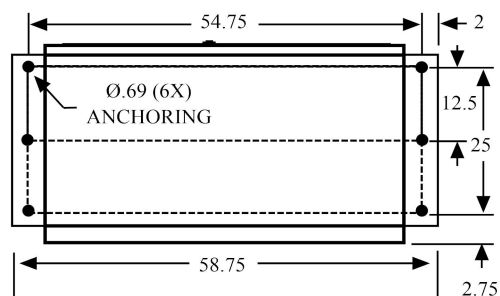


ISO VIEW SHOWN WITH SEISMIC BRACKETS



FRONT VIEW

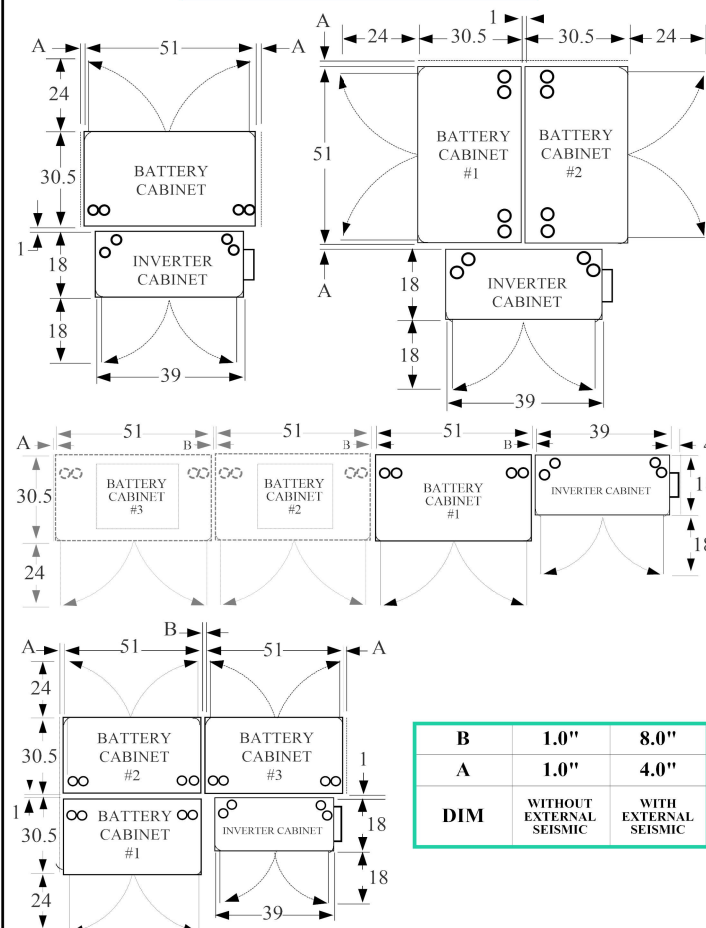
SIDE VIEW



BOTTOM VIEW

RECOMMENDED SYSTEM LAYOUT

STANDARD VRLA BATTERY		
KVA/KW	BATTERY CABINET QTY 90 MIN.	BATTERY CABINET QTY 120 MIN.
15KVA/12KW	1	1
20KVA/16KW	1	1
25KVA/20KW	1	1
30KVA/24KW	1	2
40KVA/32KW	2	2
50KVA/40KW	2	2
50KW	2	3



B	1.0"	8.0"
A	1.0"	4.0"
DIM	WITHOUT EXTERNAL SEISMIC	WITH EXTERNAL SEISMIC

WAVE RIDER 3 BATTERY CABINET (51" WIDE)

SHT
1 OF 1



SUBJECT TO CHANGE WITHOUT NOTICE

DRAWN · SS 10/7/22

10/7/22

415-TD-013

REV
A

Technical Drawing: 51" Battery Cabinet

RECOMMENDED SYSTEM LAYOUT

NOTES:

1) CONSTRUCTION: NEMA1 INDOOR.

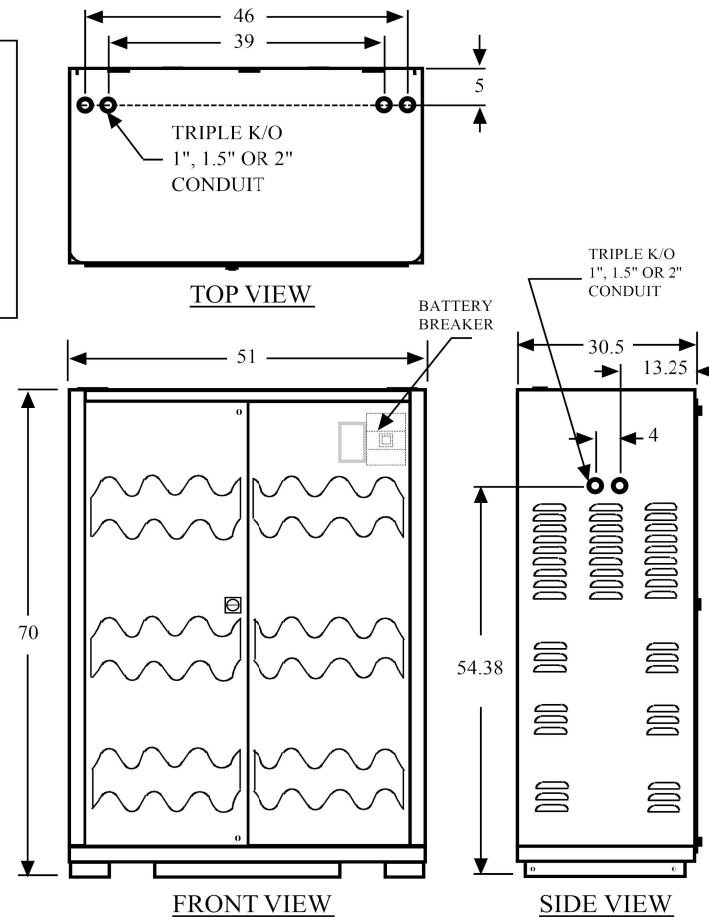
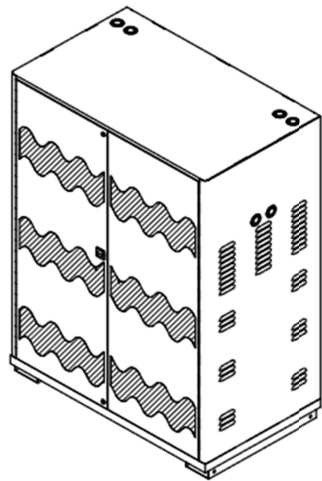
2) ANCHORS FOR INTEGRATED SEISMIC MOUNTING:

A. USE 5/8" DIA x 3-3/4" MIN. EMBEDMENT T-BOLTS, ICCESR-1917 (LARR 25701) OR APPROVED EQUAL

(4) TOTAL PER CABINET, (2) PER ANCHOR BRACKET
B. CONCRETE 5" THICK x 2,500 PSI (MIN. REQ'D).

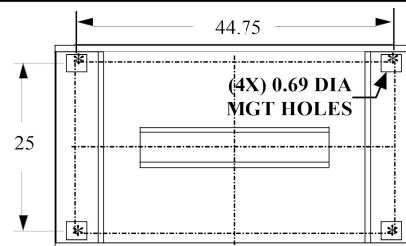
C. SOIL BEARING PRESSURE 500 PSF (MIN. REQ'D)

FOR ALL DETAILS REFER TO SEISMIC DWG. FOR EACH CABINET MOUNTING



ISO VIEW SHOWN WITH INTERNAL BRACKETS

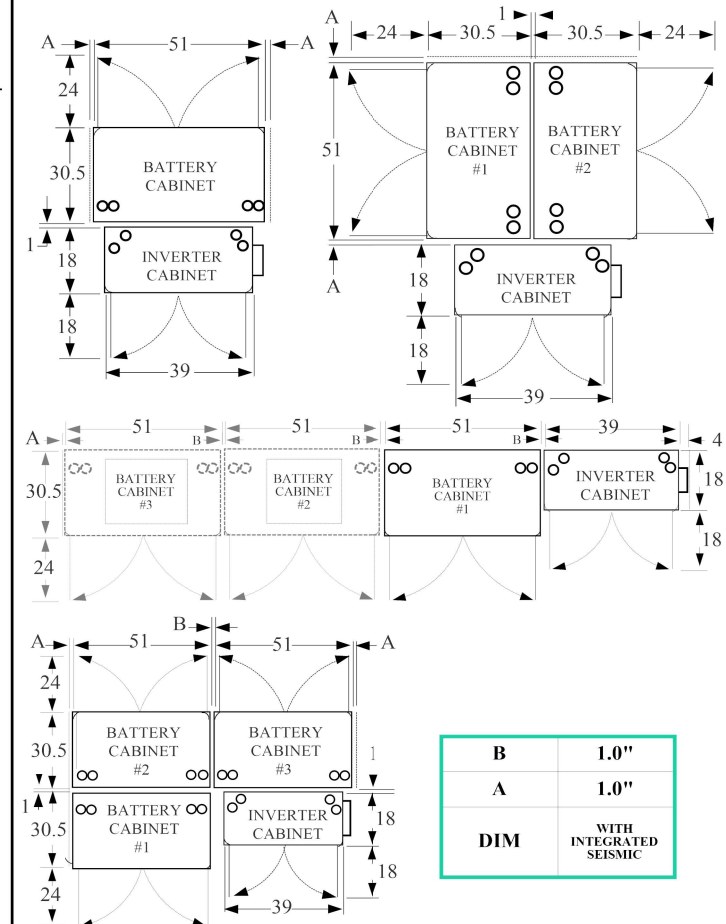
INSTALLATION WITH INTEGRATED SEISMIC BRACKETS FOR ZONE 4 BOTTOM VIEW



BOTTOM VIEW

***- DENOTES ANCHOR LOCATION**

STANDARD VRLA BATTERY		
KVA/KW	BATTERY CABINET QTY 90 MN.	BATTERY CABINET QTY 120 MN.
15KVA/12KW	1	1
20KVA/16KW	1	1
25KVA/20KW	1	1
30KVA/24KW	1	2
40KVA/32KW	2	2
50KVA/40KW	2	2
50KW	2	3



B	1.0"
A	1.0"
DIM	WITH INTEGRATED SEISMIC

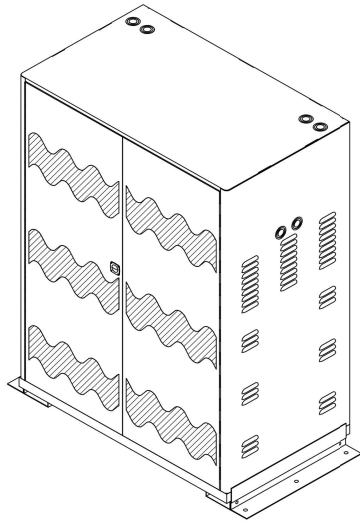
WAVE RIDER 3 BATTERY CABINET (51" WIDE)		SHT 1 OF 1	
 CRUCIAL POWER PRODUCTS			
SUBJECT TO CHANGE WITHOUT NOTICE			
DRAWN : SS	10/7/22	415-TD-014	REV
APPVD: HN	10/7/22		A

Technical Drawing: 51" Battery Cabinet

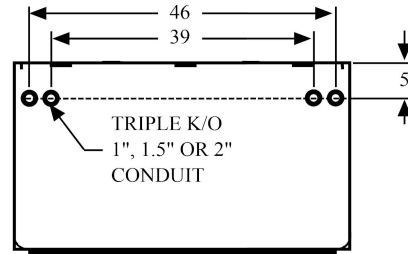
BATTERY CABINET (8 KW THRU 50 KW) LONG LIFE BATTERY

NOTES:

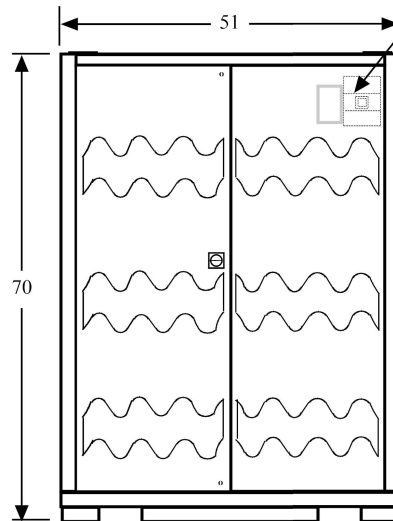
- 1) CONSTRUCTION: NEMA1 INDOOR.
- 2) OPTIONAL SEISMIC BRACKETS AVAILABLE.
(FOR ANCHOR DETAILS, REFER TO SEISMIC DWG)



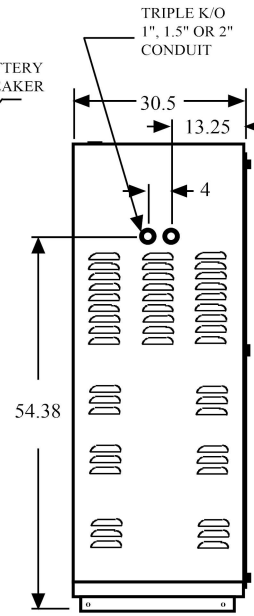
ISO VIEW
SHOWN WITH SEISMIC BRACKET



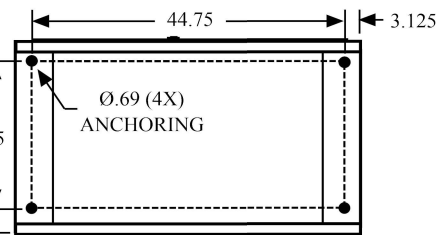
TOP VIEW



FRONT VIEW

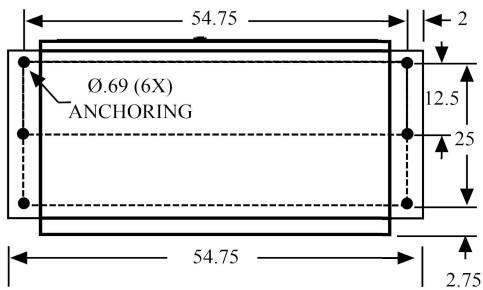


SIDE VIEW



BOTTOM VIEW

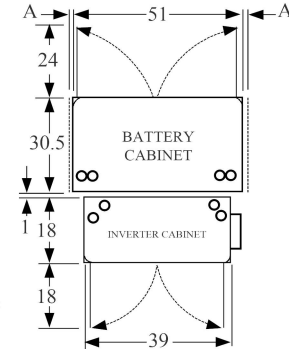
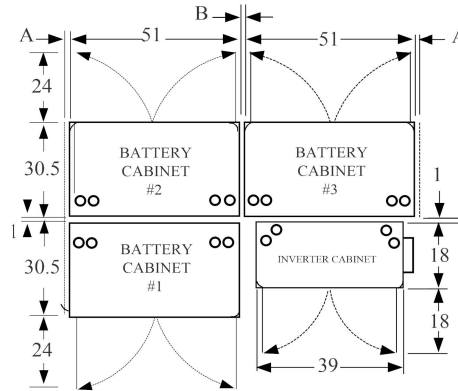
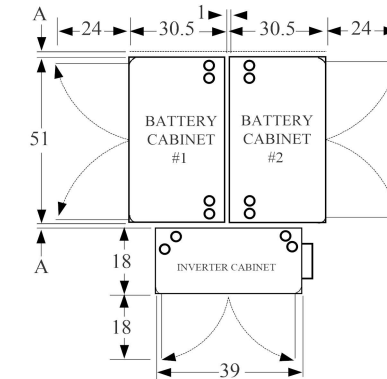
INSTALLATION WITH SEISMIC BRACKETS FOR ZONE 4 BOTTOM VIEW



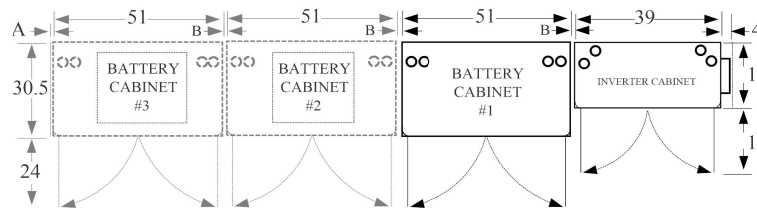
RECOMMENDED SYSTEM LAYOUT

LONG LIFE BATTERY

KVA/KW	BATTERY CABINET QTY 90 MIN.	BATTERY CABINET QTY 120 MIN.
10KVA/8KW	1	1
15KVA/12KW	1	1
20KVA/16KW	1	1
25KVA/20KW	1	1
30KVA/24KW	1	2
40KVA/32KW	2	2
50KVA/40KW	2	3
50KW	3	3



B	1.0"	8.0"
A	1.0"	4.0"
DIM	WITHOUT EXTERNAL SEISMIC	WITH EXTERNAL SEISMIC



WAVE RIDER 3 BATTERY CABINET (51"WIDE)

SHT
1 OF 1



CRUCIAL POWER PRODUCTS

SUBJECT TO CHANGE WITHOUT NOTICE

DRAWN :SS

10/7/22

APPVD: HN

10/7/22

415-TD-015

REV
A

Technical Drawing: 51" Battery Cabinet

REMOTE STATUS PANEL

**SIDE
MOUNT
PROVISION**

**BACK
MOUNT
PROVISION**

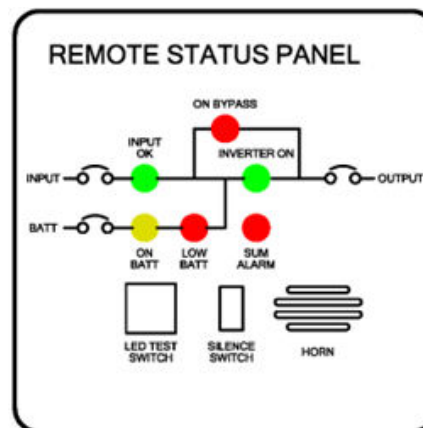


**USE
BUMPER
FOR
CONSOLE
INSTALL**

**TO UPS P100 TERMINAL
BLOCK
SEE INSTALLATION
INSTRUCTION SHIPPED
WITH THE ASSEMBLY**

Remote Status Panel displays the following:

INPUT OK:	Input power is within acceptable range
INVERTER ON:	Inverter is on
ON BYPASS:	Unit is on Bypass Mode
ON BATT:	Unit is running from Battery
LOW BATT:	Battery voltage is at low voltage before shutdown
SUM ALARM:	Unit is on critical alarm such as: Over temperature, DC OV/UV
HORN:	Audible warning for alarm condition
SILENCE WATCH:	Silences the audible warning
LED TEST:	Tests the LED's by push in



NOTES:

1. ALL DIMENSIONS ARE IN INCHES.
2. 7.5KW CAN BE IN 39" OR 51" WIDE CABINET DEPENDING ON THE BATTERY TYPE.

REMOTE STATUS PANEL ASSEMBLY

SHT
1 OF 1



Crucial Power Products

SUBJECT TO CHANGE WITHOUT NOTICE

DRAWN : M.TANG

12/07/22

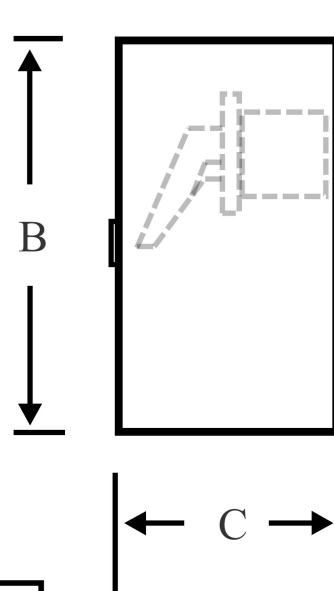
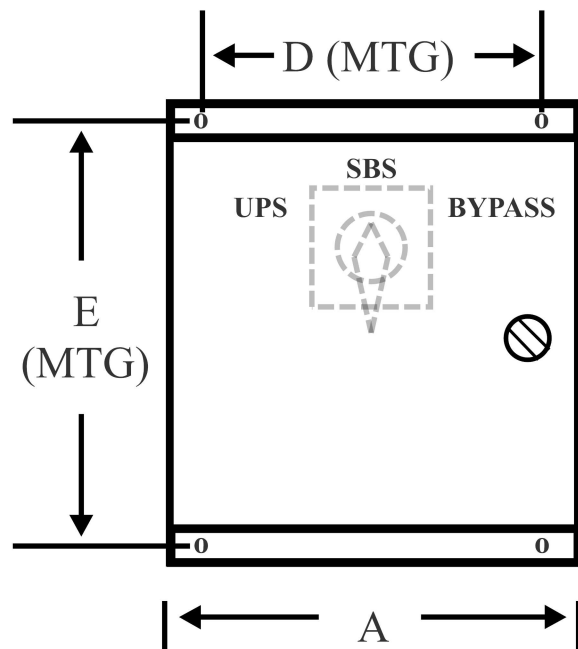
APPVD : H.N

12/07/22

410-SV-TD-014

REV
A

MAKE BEFORE BREAK EXTERNAL WRAP AROUND BY-PASS SWITCH

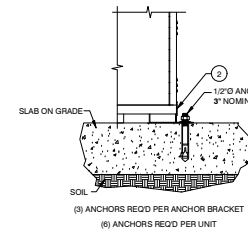
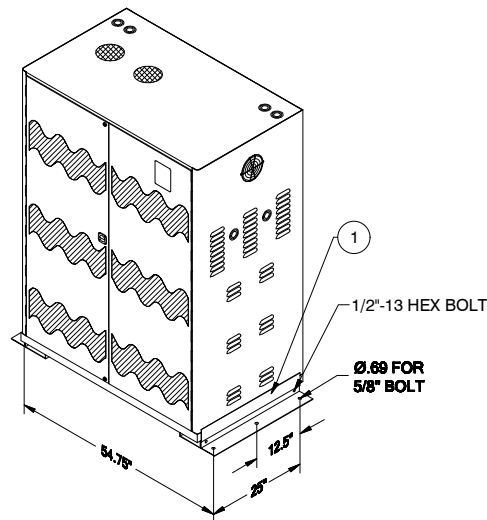
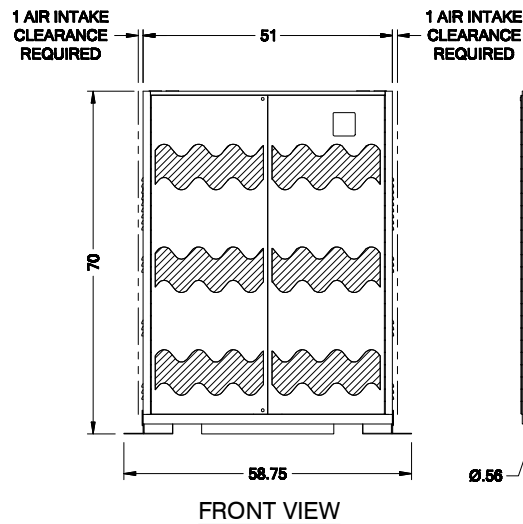
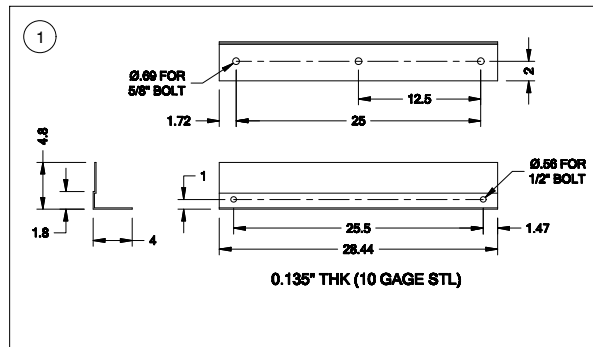
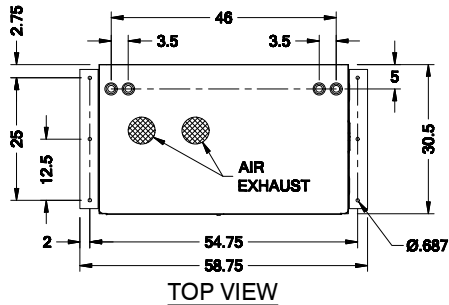


RATING	VOLTAGE	DIM A	DIM B	DIM C	DIM D (MTG)	DIM E (MTG)
350 AMPS	600V	30	36	16	28.5	34.5
240 AMPS	600V	30	30	12	28.5	28.5
175 AMPS	600V	20	20	12	18.5	18.5
110 AMPS	600V	14	16	10	12	16.75
55 AMPS	600V	14	16	8	12	16.75

NOTES:

- 1) SWITCH CONTACTS ARE THREE PHASE L-NEUTRAL "MAKE BEFORE-BREAK"
- 2) CONTACTS MARKED "UPS" ARE CLOSED IN THE "UPS" POSITION
- 3) CONTACTS MARKED "BYPASS" ARE CLOSED IN THE "BYPASS" POSITION
- 4) CONTACTS MARKED "SBS" ARE CLOSED IN THE "SBS" POSITION
- 5) WRAP AROUND BY-PASS SWITCH IS FOR SAME INPUT/OUTPUT VOLTAGES ONLY
- 6) WRAP AROUND BY-PASS SWITCH CAN ONLY BE USED WITHOUT ANY BUILT-IN SECONDARY DISTRIBUTION CIRCUIT BREAKERS IN UPS

WAVE RIDER 3 / 4			SHT
EXTERNAL WRAP AROUND BY-PASS SWITCH			1 OF 1
 CRUCIAL POWER PRODUCTS SUBJECT TO CHANGE WITHOUT NOTICE			
DRAWN : SS	4/17/24	415-TD-016	REV
APPVD: HN	4/17/24		A



NOTES:

- DESIGNED PER THE 2021 IBC / 2022 CBC / 2023 LABC.
- STORAGE CAPACITY: 4,640# MAX. WEIGHT.
- ANCHORS: HILTI KWIK BOLT T2 Z.
- CONCRETE: 4\"/>

LOADS & DISTRIBUTION: CABINET

ANALYSIS BASED ON SECTION 13.3 OF THE ASCE 7-16 SPECIFICATION
REFERENCED IN CHAPTER 16 OF THE 2021 IBC/2022 CBC/2023 LABC

F_p (13.3-1): $0.4 \times ap \times S_{ps} \times W_p / (R_p / I_p)$	$0.234 \times W_p$	SHALL NOT BE GREATER THAN SHALL NOT BE LESS THAN
F_p (13.3-2): $1.6 \times S_{ps} \times I_p \times W_p$	$2.336 \times W_p$	
F_p (13.3-3): $0.3 \times S_{ps} \times I_p \times W_p$	$0.438 \times W_p$	

SITE CLASS = D

$F_a = 1.2$

$S_s = 1.83$

$S_{ps} = 1.46$

$I_p = 1.00$

$ap = 2.5$

$ap = 1$

ASCE 7-16 Table 13.5-1

ASCE 7-16 Table 13.5-1

$W_p = 4640 \text{ LB}$

$D \cdot F_p = 0.7 \cdot D \cdot 438 \cdot W_p$

$= 0.31 \cdot 4640 \text{ LB}$

$= 1,423 \text{ LB}$

OVERTURNING ANALYSIS:

CABINET HEIGHT, $H = 70.0 \text{ IN}$

ANCHORS SPACING, $D = 25.0 \text{ IN}$

$M_{ot} = V_{total} \cdot H / 2$

$= 1423 \text{ LB} \cdot 70 \text{ IN} \cdot 1/2$

$= 49,792 \text{ IN-LB}$

$M_{st} = W_p \cdot D / 2$

$= 4640 \text{ LB} \cdot 25 \text{ IN} / 2$

$= 58,000 \text{ IN-LB}$

$P_{u\text{lift}} = (M_{ot} - 0.6 \cdot M_{st}) / D$

$= (49,792 \text{ IN-LB} - 0.6 \cdot 58,000 \text{ IN-LB}) / 25 \text{ IN}$

$= 600 \text{ LB}$

$\leq UPLIFT$

ANCHORS

ALLOWABLE CAPACITY PER ICC REPORT AND ACI 318-14 CHAPTER 17

PULLOUT: 1170 LB

SHEAR: 2590 LB

$V_{allowable, ACI}$

COMBINED STRESS = $(600 \text{ LB} / 3510 \text{ LB}) + (1423 \text{ LB} / 14340 \text{ LB})$

< 0.27

USE 1/2" $\times$ 3" MIN. EMBED. HILTI KB-T22 (ICC ESR-4266) OR APPROVED EQUAL

(6) PER CABINET

POWER COMPANY
NORTHBRIDGE, CA 91364

NOTES:

NO.	DESCRIPTION
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	

REV.	DATE	BY	DESCRIPTION
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			



DRAWN BY: M.V. / T.C.
DATE: 01/25/24
CHECKED BY:
REV. DATE:
TYPE:
SCALE: N.T.S.
APPROVED BY: SALE / PATRICK



DESCRIPTION:
CABINET DETAILS

DRAWING NUMBER:
24-0186-B

CABINET ELEVATIONS

CALCULATIONS