

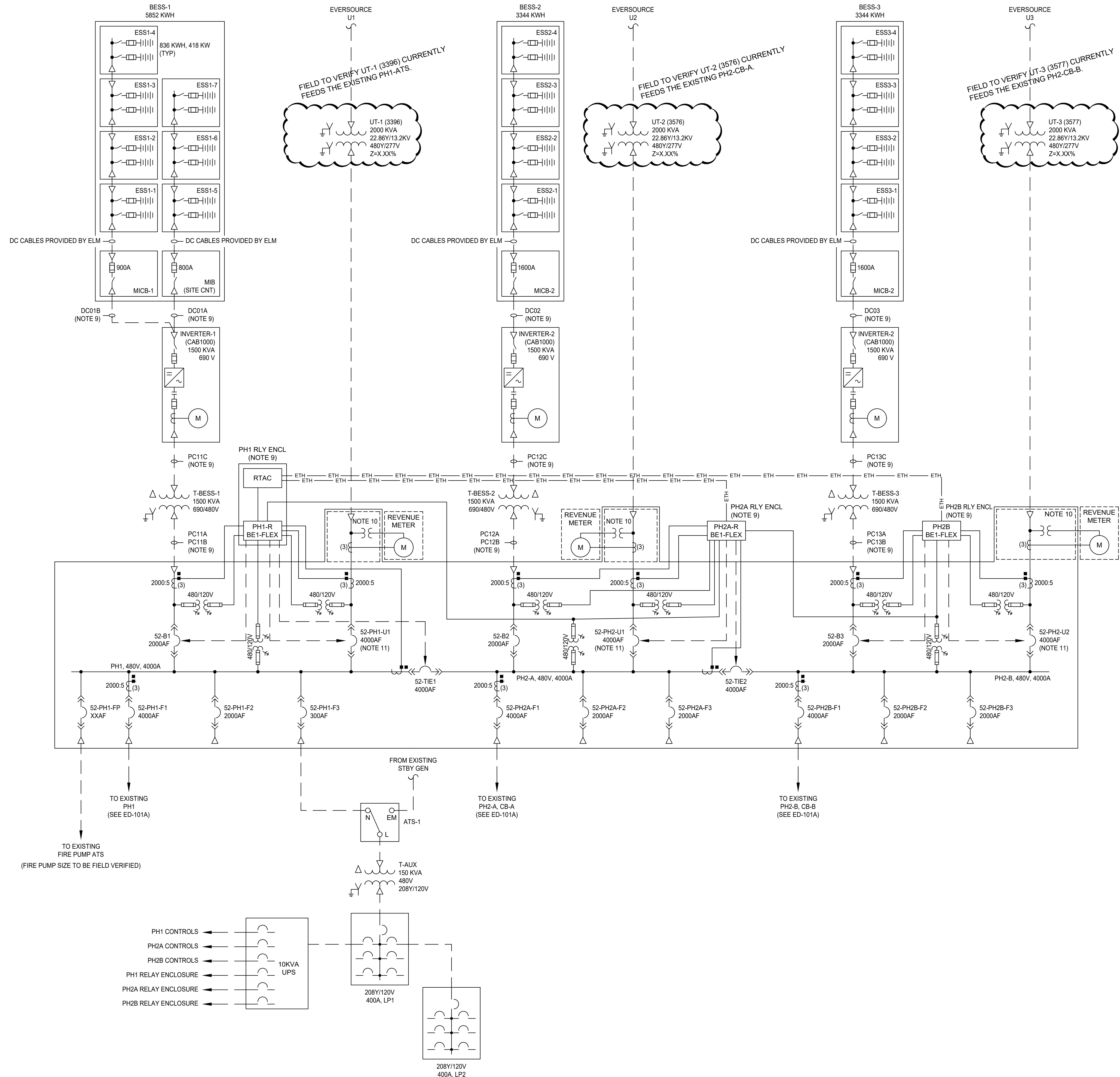
NOTES:

- BREAKERS SHALL BE 100% RATED, 3 PHASE, 3 POLE, EXCEPT WHERE NOTED.
- BREAKERS SHALL BE LOCKABLE IN THE OPEN POSITION. ALL BREAKERS SHALL BE SUITABLE FOR BACKFEED.
- BUS CONNECTED CPTS SHALL BE PROVIDED ON EACH BUS TO POWER SPRING CHARGING CIRCUITS, HEATERS, ETC. CONTROL VOLTAGE TO BE 120VAC.
- ALL BREAKERS SHALL BE ELECTRICALLY OPERABLE VIA 120VAC SHUNT TRIP AND CLOSE COIL. BREAKERS SHALL ALSO HAVE REMOTE CONTROL VIA ETHERNET.
- ALL BREAKERS SHALL HAVE 52A/52B BREAKER STATUS CONTACTS AVAILABLE.
- 2000.5A CTS WITH A THERMAL RATING FACTOR OF 2.0 SHALL BE USED AT ALL 4000A BREAKER POSITIONS.
- SEE E-403A & E-403B CONDUIT SCHEDULE FOR CABLE AND CONDUIT SIZES.
- WM TO PROVIDE RELAY ENCLOSURES AND ASSOCIATED INTERNAL DEVICES. ELECTRICAL CONTRACTOR TO INSTALL EXTERNAL TO THE SWITCHBOARDS.
- LOCKABLE EVERSOURCE METERING INSTRUMENTATION COMPARTMENT TO BE PROVIDED BY THE SWBD MANUFACTURER. REVENUE METERING CT, PT, METER SOCKET AND BI-DIRECTIONAL METER TO BE PROVIDED BY EVERSOURCE, INSTALLED BY ELECTRICAL CONTRACTOR.
- GANG OPERATED CIRCUIT BREAKER, LOCKABLE IN THE WITHDRAWN/DISCONNECTED POSITION.

OPERATIONAL SEQUENCE

- A) NORMAL OPERATION:
OPERATION OF BESS ISOLATED INVERTER GROUPS IN PARALLEL WITH THREE INDEPENDENT UTILITY FEEDS. THE BREAKERS ARE OPEN. CHARGE / DISCHARGE BASED ON OPERATIONAL SCHEDULE ASSOCIATED WITH CONNECTICUT BESS PROGRAM.
- B) LOSS OF UTILITY:
UTILITY BREAKERS OPEN. INVERTERS ENTER GRID INDEPENDANT MODE. TIE BREAKERS BETWEEN BESS CLOSE AND BESS LOAD SHARE TO SUPPORT OVERALL ALLIED PAPER DEMAND FOR 4 HOURS IF IN A FULLY CHARGED STATE UPON POWER LOSS. UPON DRAIN OF BATTERIES TO NOMINAL DISCHARGED STATE, EMERGENCY / STANDBY GENSETS START, TIE BREAKERS OPEN AND INVERTERS POWER DOWN TO WAIT FOR RETURN OF UTILITY POWER. EXISTING NON-GEN BACKED LOADS ON MTM GEAR LOSE POWER.
- C) RETURN OF UTILITY:
UTILITY BREAKERS CLOSE. RESTORING UTILITY POWER TO ALL ALLIED PAPER FACILITY LOADS. EMERGENCY / STANDBY GENSETS ATS SWITCH TO NORMAL POWER AND GENSETS SHUT DOWN. BESS CHARGE TO A DEFINED POINT AND THEN RETURN TO REGULAR OPERATIONAL SCHEDULE.

RELAY	BREAKER	PROTECTION & CONTROL FUNCTIONS
PH1-R (Basler BE1-FLEX)	PH1-U1	50/51P, 50/51G, 27, 59, 81U, 81O, 78V, 32R, MANUAL & REMOTE TRIP/CLOSE, 25 (SYNC-CHECK)
	TIE1	50/51P, 50/51G, MANUAL & REMOTE TRIP/CLOSE, 25 (SYNC-CHECK)
	B1	50/51P, 50/51G, MANUAL & REMOTE TRIP/CLOSE, 25 (SYNC-CHECK)
PH2A-R (Basler BE1-FLEX)	PH2-U1	50/51P, 50/51G, 27, 59, 81U, 81O, 78V, 32R, MANUAL & REMOTE TRIP/CLOSE, 25 (SYNC-CHECK)
	TIE2	50/51P, 50/51G, MANUAL & REMOTE TRIP/CLOSE, 25 (SYNC-CHECK)
	B2	50/51P, 50/51G, MANUAL & REMOTE TRIP/CLOSE, 25 (SYNC-CHECK)
PH2B-R (Basler BE1-FLEX)	PH2-U2	50/51P, 50/51G, 27, 59, 81U, 81O, 78V, 32R, MANUAL & REMOTE TRIP/CLOSE, 25 (SYNC-CHECK)
	B3	50/51P, 50/51G, MANUAL & REMOTE TRIP/CLOSE, 25 (SYNC-CHECK)



YSC	DATE	DESCRIPTION
F	6/8/2026	REVISED PER UTILITY COMMENTS
E	5/15/2026	PROGRESS REVIEW SET
D	5/6/2026	REVISED PER UTILITY COMMENTS
C	4/23/2026	PROGRESS REVIEW SET
B	3/4/2026	ADDED CONDUIT ID
A	1/2/2026	PROGRESS REVIEW SET
SYM		

SEAL

KEY PLAN

SHEET NAME:

ONE-LINE DIAGRAM PROTECTION

PROJECT TITLE
ALLIED PRINTING BATTERY ENERGY STORAGE SYSTEM EOR

ARCHITECT/ENGINEER/OWNER
WUNDERLICH-MALEC ENGINEERING
 8 MERRILL INDUSTRIAL DRIVE, UNIT 8
 HAMPTON, NH 03842
 WWW.WMENG.COM | 603-430-0288

CLIENT
ALLIED PRINTING SERVICES, INC.
 1 ALLIED WAY
 MANCHESTER, CT 06042

SCALE	
N.T.S.	
PROJECT PHASE	DATE ISSUED
---	1/2/2026
DRAWN BY	REVIEWED BY
YSC	MH
PROJECT NO.	DRAWING NO.
3525576	E-102A