

CLIENT INFORMATION

REVISIONS

NO.	DATE	DESCRIPTION
1	3/11/09	ISSUED FOR BID
2	11/25/09	SUBMISSION TO UTILITY
3	2/19/10	2ND SUBMISSION TO UTILITY

ULTRA FLEX PACKAGING CORP.  
COMBINED HEAT  
AND  
POWER PLANT

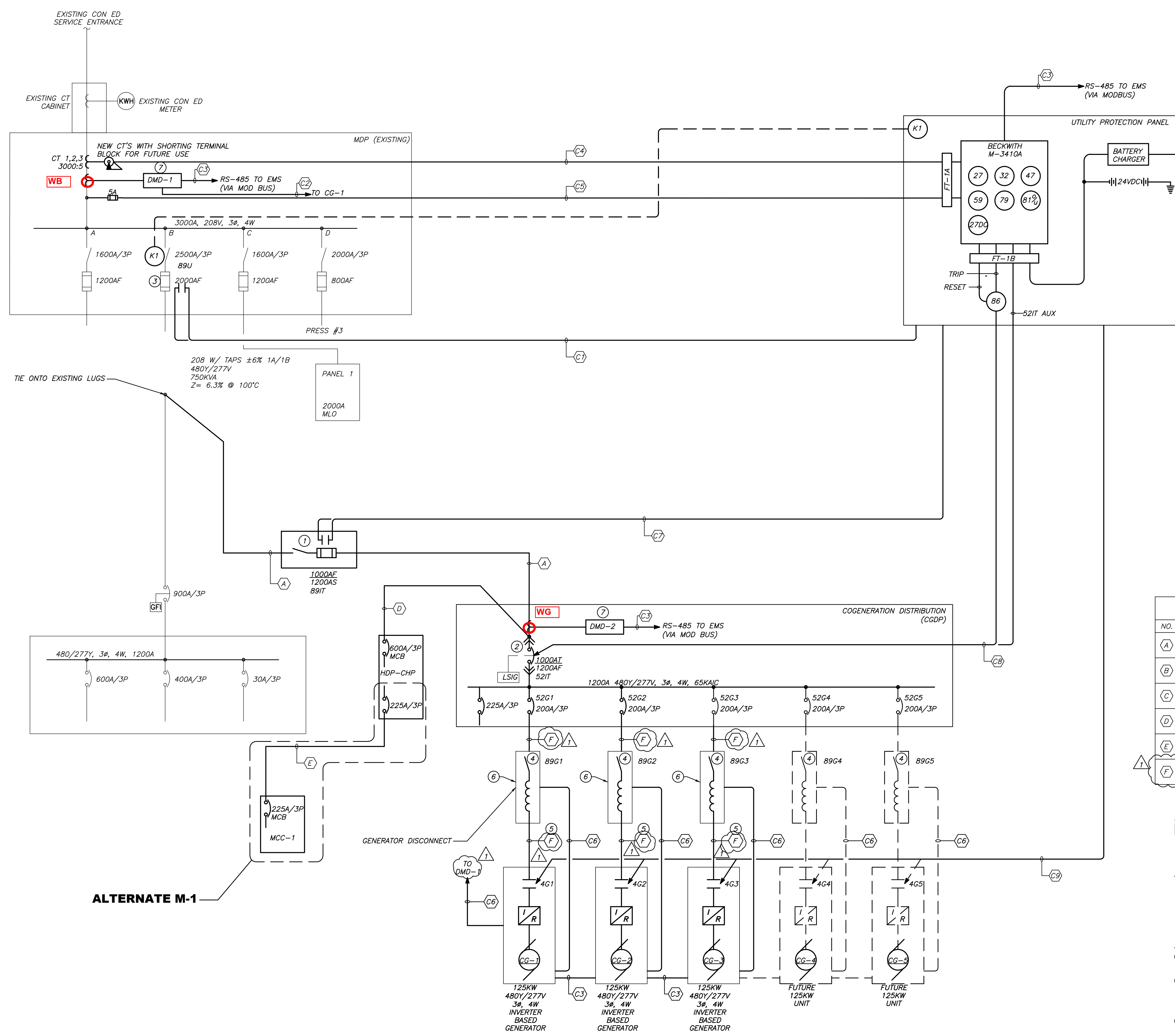
PROJECT NAME

SCALE PHASE

ONE-LINE DIAGRAM

DRAWING TITLE

DATE: 3-6-2009
PROJECT No.: 08017
DRAWING BY: GIC
CHK BY: KAH
DWG No:
<b>E-301.00</b>
CADD FILE No: 1 of 1



**CONTROL WIRING SCHEDULE** WIRE SIZE IN AWG

NO.	TYPE	NUMBER	SPARES	TOTAL	CONDUIT
C1	1/C #14 MULTISTRANDED	10	2	16	1" C
C2	2/C #16 SCREENED TWISTED PAIR	1	1	2	3/4" C
C3	4/C #16 TWISTED SHIELDED PAIR	1	1	2	3/4" C
C4	1/C #10 MULTISTRANDED	4	-	4	3/4" C
C5	1/C #14 MULTISTRANDED	4	-	4	3/4" C
C6	2/C #14 TWISTED PAIR	1	1	2	3/4" C
C7	1/C #14 MULTISTRANDED	8	2	10	3/4" C
C8	1/C #14 MULTISTRANDED	16	2	18	1 1/4" C
C9	1/C #14 MULTISTRANDED	20	10	30	1 1/2" C

**CONTROL WIRING NOTES:**

- CONTROL WIRING SHOWN IS ESTIMATED. VERIFY EXACT WIRING QUANTITIES, TYPES, RACEWAY SIZING AND DESTINATIONS WITH COGENERATION SYSTEM CONTROL SWITCHBOARD MANUFACTURER PRIOR TO INSTALLATION.
- ALL FIELD WIRING (INCLUDING SPARES) SHALL BE IDENTIFIED WITH UNIQUE PERMANENT WIRE NUMBERS WHICH SHALL ALSO IDENTIFY THE LOCATION OF THE OPPOSITE TERMINATION.
- ALL FIELD WIRING SHALL BE POINT-TO-POINT VERIFIED AND CONTINUITY TESTED AFTER INSTALLATION BUT PRIOR TO FINAL TERMINATION.

**FEEDER SCHEDULE** WIRE SIZE IN AWG

NO.	PHASE	NEUTRAL	GROUND	CONDUIT
A	9-500KCM	3-500KCM	3-#2/0	(3)-4"
B	3-350KCM	1-350KCM	1-#2	4"
C	6-#4/0	2-#4/0	1-#2	(2)-2-1/2"
D	2 SETS OF 3-#350KCM	2 SETS OF 1-#350KCM	2 SETS OF 1-#1	(2)-3"
E	3-#4/0	1-#4/0	1-#4	2 1/2"
F	3-#3/0	1-#3/0	1-#6	2"

**REMOVAL NOTES:**

- DISCONNECT EXISTING CABLE AND RACEWAY FROM EXISTING TRANSFORMER. WIRE AND RACE TO REMAIN TO BE REUSED.

**KEY INTERLOCKS**

- PROVIDE KEY INTERLOCK FOR 89U TO PREVENT CLOSURE OF THE DEVICE WITHOUT THE PRESENCE AND CAPTURE OF THE ASSOCIATED KEY. PROVIDE KEY INTERLOCK TO ALLOW COGEN PLANT TO RUN IN STANDBY MODE. PROVIDE ONE (1) SPARE KEY SWITCH. EACH KEY SWITCH SHALL HAVE TWO (2) SETS OF FORM "C" CONTACTS.

**INSTALLATION NOTES:**

- PROVIDE DISCONNECT WITH TWO (2) SETS OF FORM "C" AUXILIARY CONTACT. WIRE IN ACCORDANCE WITH DETAIL 1 ON DRAWING ES.01.
- FURNISH ELECTRICALLY OPERATED, FIXED MOUNTED, POWER CIRCUIT BREAKER WITH 24VDC SHUNT TRIP, 24VDC REMOTE CLOSE, 24VDC SPRING CHARGED MOTOR, OVERCURRENT TRIP SWITCH READY TO CLOSE SWITCH, AND FOUR (4) SETS OF FORM "C" CONTACTS.
- FURNISH AND INSTALL THREE (3) SETS OF FORM "C" AUXILIARY CONTACTS ON EXISTING MAIN SWITCH.
- REACTANCE PANEL FURNISHED BY COGENERATION VENDOR, INSTALLED AND WIRED BY ELECTRICAL CONTRACTOR.
- CONDUCTORS SHALL NOT EXCEED 25'-0".
- PROVIDE PERMANENT ENGRAVED NAMEPLATE WITH RED BACKGROUND AND WHITE LETTERING WITH THE FOLLOWING IN 3/8" OR LARGER TEXT: "GENERATOR DISCONNECT SWITCH"
- FURNISH AND INSTALL POWERLOGIC METER SHOWING KW, AMPERAGE, VOLTAGE, AND FREQUENCY. METER SHALL BE SQUARE D CM4250 WITH MODBUS COMMUNICATION CARD AND 0-10DC ANALOG SIGNAL OR APPROVED EQUIVALENT.

**ONE-LINE DIAGRAM**

1  
E-301.00



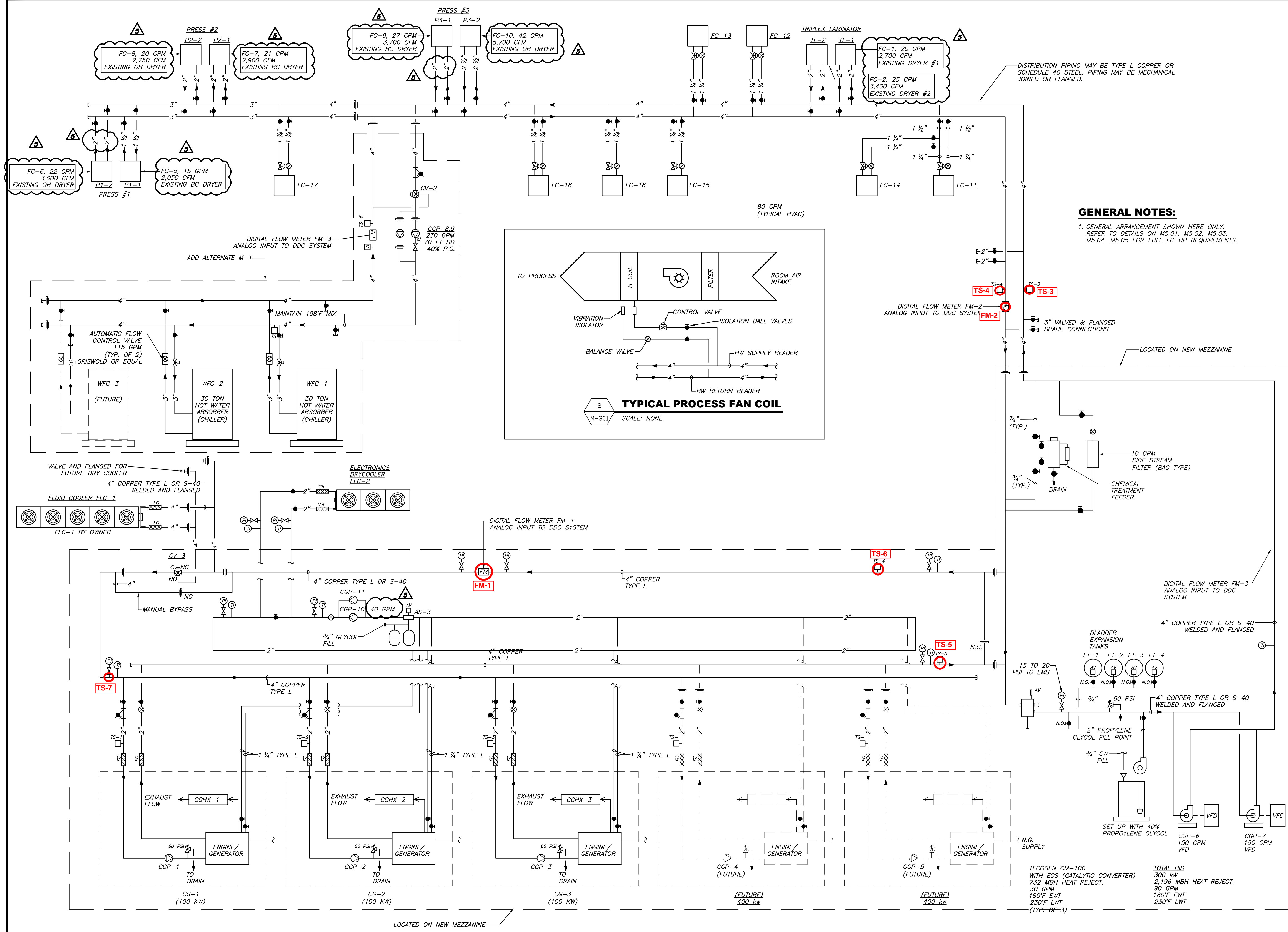
CLIENT INFORMATION

REVISIONS		
NO.	DATE	DESCRIPTION
1	3/11/09	ISSUED FOR BID
2	3/18/09	ADDENDUM #1
3	8/31/09	ISSUED TO DOB
4	11/13/09	UPDATED ELECTRONICS COOLER
5	12/22/09	UPDATED GPM AND CFM

ULTRA FLEX PACKAGING CORP.  
COMBINED HEAT AND POWER PLANT

PROJECT NAME  
SCALE PHASE  
**CHP PLANT FLOW SCHEMATIC**

DATE: 3-6-2009
PROJECT No.: 08017
DRAWING BY: CLK
CHK BY: CV
DWG No:
<b>M-301.00</b>
CADD FILE No:
1 of 1



**GENERAL NOTES:**  
1. GENERAL ARRANGEMENT SHOWN HERE ONLY. REFER TO DETAILS ON M5.01, M5.02, M5.03, M5.04, M5.05 FOR FULL FIT UP REQUIREMENTS.

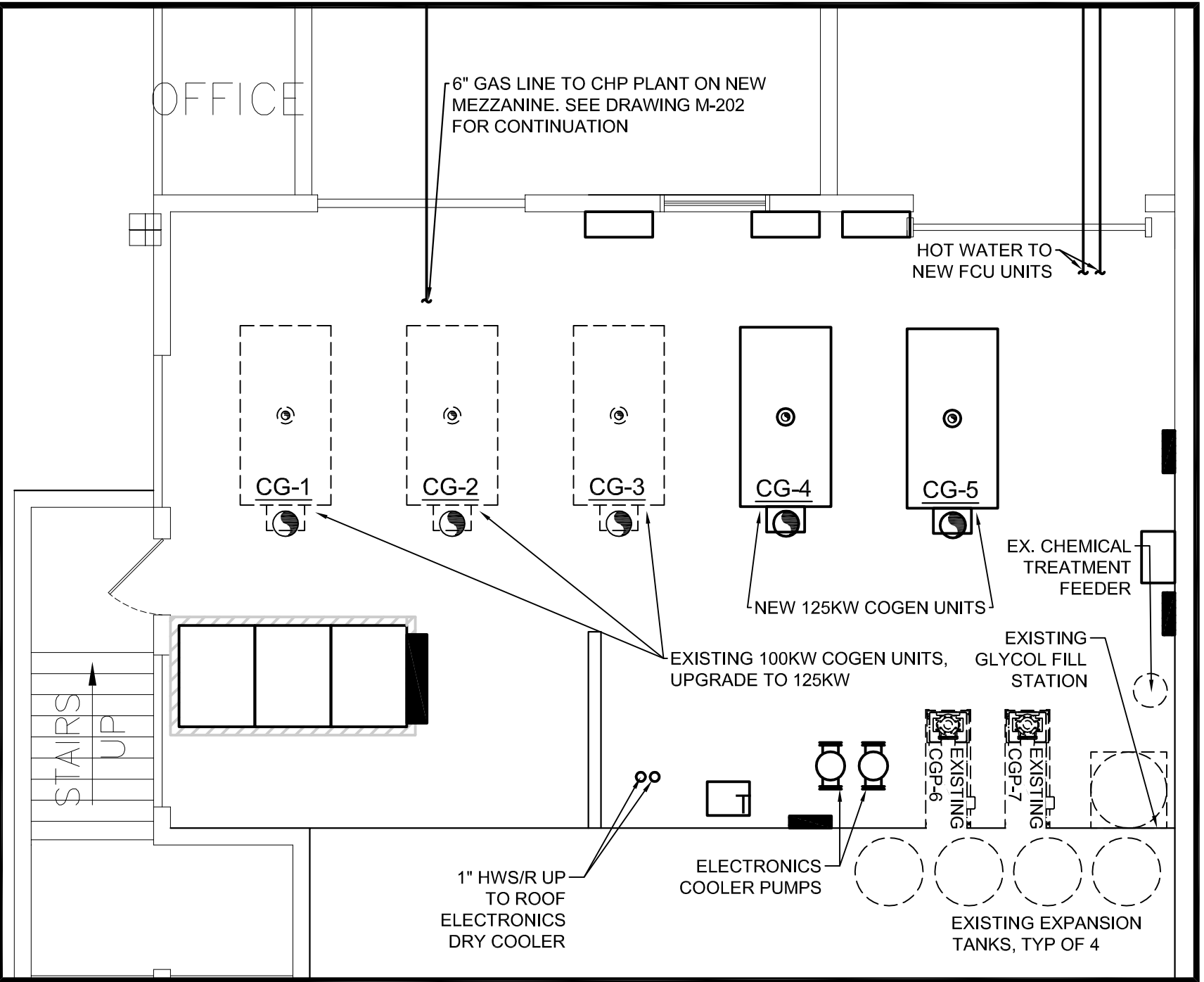
**TYPICAL PROCESS FAN COIL**  
SCALE: NONE

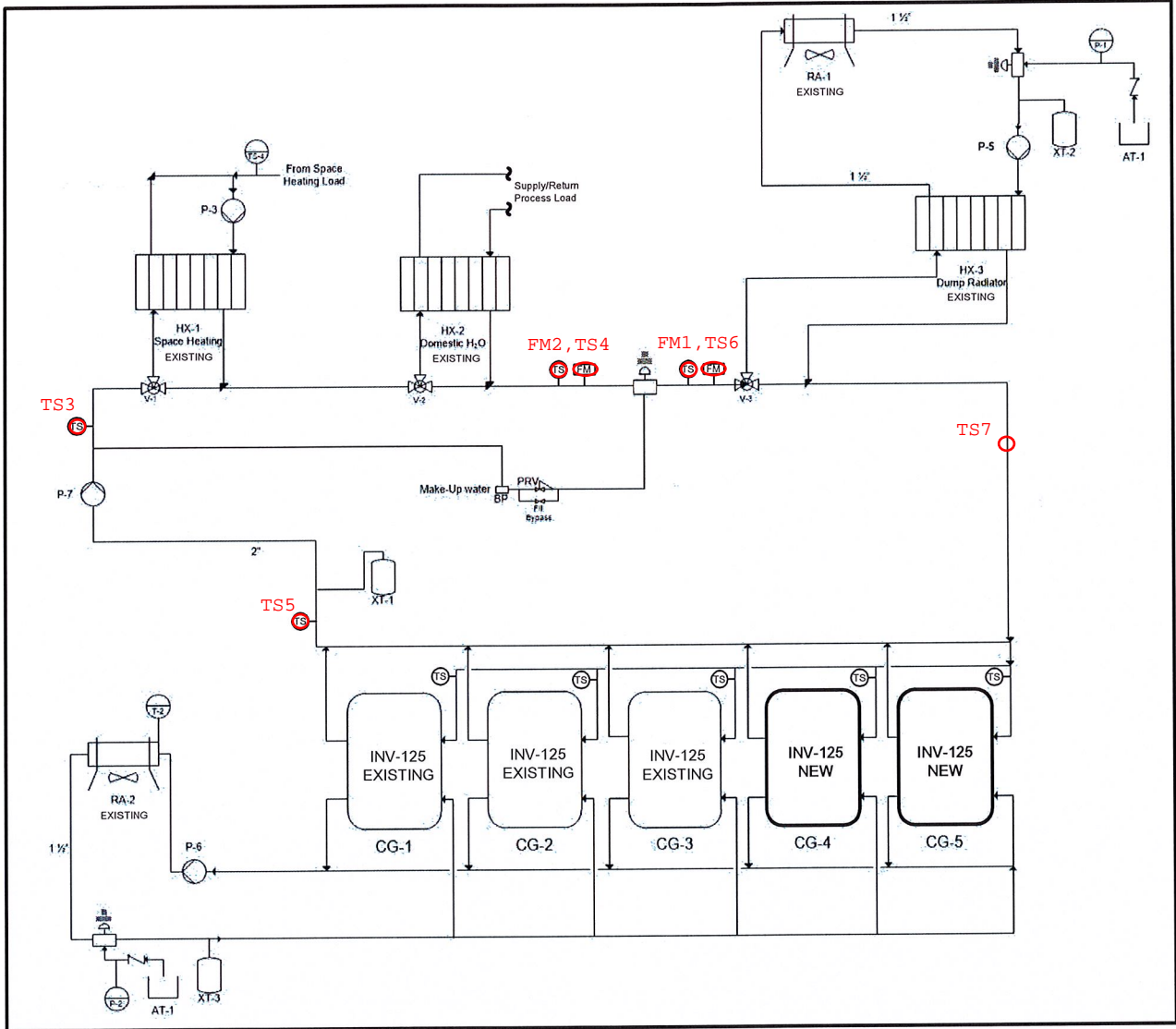
**CHP PLANT FLOW SCHEMATIC**  
M-301.00

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 Combined Heat & Power,  
 Energy, Mechanical and  
 Electrical - Consultants

**ULTRA FLEX EXPAND**  
 PROJECT NAME  
**ENLARGED COGEN ROOM**  
 DRAWING TITLE  
 17002  
 PROJECT NUMBER  
 12/29/2017  
 DATE  
 KMF  
 DRAWN BY  
 PPP  
 CHECKED BY

**SK-2**  
 DRAWING NO.





NOTE: ALL EQUIPMENT ARE EXISTING WITH EXCEPTIONAL OF CG-4 & CG-5 NEW COGEN UNITS



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Combined Heat & Power,  
 Energy, Mechanical and  
 Electrical - Consultants

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ULTRA FLEX EXPAND

PROJECT NAME

MECHANICAL/PLUMBING SCHEMATIC & PID  
 DRAWING TITLE

17002  
 PROJECT NUMBER

12/29/2017  
 DATE

KMF  
 DRAWN BY

PPK  
 CHECKED BY

SK-4

DRAWING NO.