

# PLAZA RESIDENCES

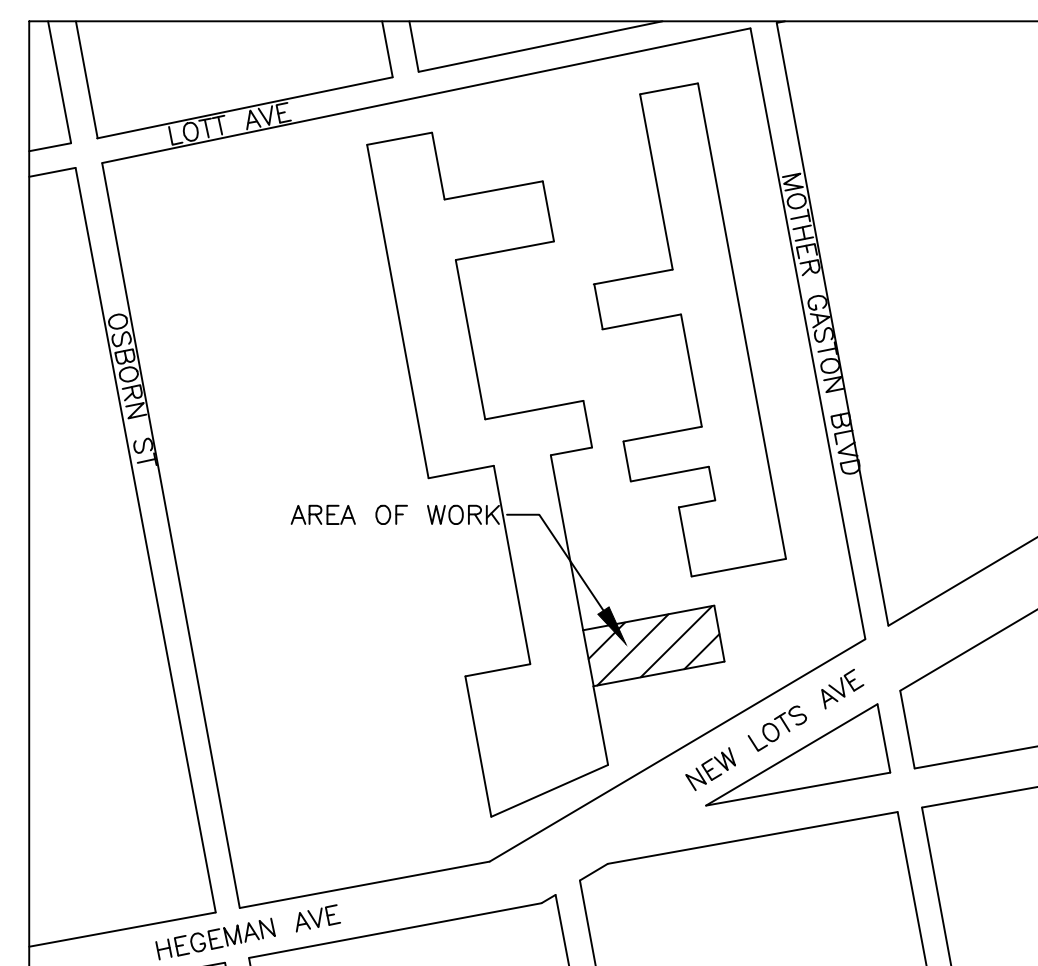
## 25 NEW LOTS AVE

# COGENERATION SYSTEM

(BLOCK 3628, LOT 1)

### DRAWING INDEX:

SHEET NO.	TITLE OF DRAWING
T-101.00	TITLE SHEET, GENERAL NOTES & MECHANICAL SYMBOL LIST
G-101.00	ENERGY ANALYSIS
M-101.00	HVAC SCHEDULES/FLOW DIAGRAM
M-201.00	CELLAR MECHANICAL PIPING AND FLUE LAYOUT
M-201.00	CELLAR HOT AIR EXHAUST LAYOUT
M-301.00	MECHANICAL/HVAC DETAILS
P-101.00	CELLAR PLUMBING/GAS PIPING LAYOUT
P-201.00	GAS RISER DIAGRAM & PLUMBING DETAILS
E-101.00	COGENERATION CELLAR ELECTRICAL PARTIAL PLAN-1
E-102.00	COGENERATION CELLAR ELECTRICAL PARTIAL PLAN-2
E-201.00	COGENERATION ELECTRICAL ONE LINE



ADDRESS: 25 NEW LOTS AVE  
 PIN: 3326601  
 BLOCK: 3628  
 LOT: 1  
 # BUILDINGS: 3  
 # FLOORS: 6 & 1 BELOW GRADE  
 GROSS AREA: 245,538  
 # DWELLING UNITS: 385  
 YEAR OF CONSTRUCTION: 1969

### REVIEWER NOTE:

THE SCOPE OF WORK FOR THIS PROJECT INCLUDES THE INSTALLATION OF THREE (3) 35KW MODULAR COGENERATION MODULES TO GENERATE HEAT AND ELECTRICITY FOR PLAZA RESIDENCES, 25 NEW LOTS AVE, NEW YORK, NEW YORK, 11212

### NOTE:

- DRAWINGS ARE TO BE READ, NOT SCALED.
- ALL WORK SHALL CONFORM TO THE 2016 NEW YORK CITY BUILDING CODE.
- TO THE BEST OF OUR KNOWLEDGE, BELIEF, AND PROFESSIONAL JUDGMENT, SUCH PLANS AND SPECIFICATIONS ARE IN CONFORMANCE WITH THE 2016 NYC ENERGY CONSERVATION CONSTRUCTION CODE. PIPING HAVE BEEN SPECIFIED TO BE INSULATED WITH R-3 INSULATION, DOMESTIC HOT WATER STORAGE TANKS HAVE R-13 INSULATION AND COGENERATION MODULE MEETS EFFICIENCY REQUIREMENTS. SEE ENERGY ANALYSIS ON SHEET G-1.
- ALL CONDITIONS ARE EXISTING EXCEPT AS NOTED.
- THESE PLANS ARE APPROVED ONLY FOR THE WORK INDICATED ON THE APPLICATION SPECIFICATION SHEET. ALL OTHER MATTERS SHOWN ARE NOT TO BE RELIED UPON OR TO BE CONSIDERED EITHER APPROVED OR IN ACCORDANCE WITH APPLICABLE CODE. NO CHANGE IN USE, EGRESS OR OCCUPANCY.

### GENERAL NOTES:

- CONTRACTOR TO VERIFY ALL DIMENSIONS IN FIELD PRIOR TO CONSTRUCTION, AND REPORT TO ENGINEER ALL ERRORS, DISCREPANCIES, OMISSIONS, DEFECTS, OR UNUSUAL WORK CONDITIONS BEFORE COMMENCING CONSTRUCTION.
- ALL WORK IS TO BE PERFORMED IN ACCORDANCE WITH THE APPLICABLE RULES AND REGULATIONS OF ALL GOVERNING AGENCIES INCLUDING BUT NOT LIMITED TO THE CODES AND REGULATIONS AS SET FORTH BY THE CITY OF NEW YORK AND STATE OF NEW YORK.
- CONTRACTOR TO SECURE ALL NECESSARY PERMITS REQUIRED FOR THE STIPULATED WORK PRIOR TO COMMENCING WITH CONSTRUCTION OR DEMOLITION.
- ALL ASBESTOS REMOVAL, PLUMBING, ELECTRICAL, WELDING WORK, ETC. TO BE PERFORMED BY LICENSED CONTRACTORS SUBCONTRACTED BY AEGIS ENERGY SERVICES.
- ALL CONTRACTORS, WORKMEN, AND AGENTS WORKING AT OR VISITING THE SITE SHALL BE COVERED BY ALL NECESSARY STATUTORY INSURANCE INCLUDING LIABILITY, WORKMEN'S COMPENSATION, DISABILITY, ETC.
- ALL WORK SHALL BE PERFORMED IN A NEAT, CLEAN, ORDERLY MANNER AND THE SITE KEPT CLEAN FROM DUST AND DEBRIS AT ALL TIMES.
- CONTRACTORS TO PROVIDE ALL NECESSARY TEMPORARY LIGHTING, POWER, WATER, WATERPROOFING, ETC. NEEDED TO ENSURE PROJECT SAFETY AT ALL TIMES.
- CONTRACTORS TO PROVIDE ALL NECESSARY SHORING, BRIDGING, BARRICADES, SIGNS, ETC. NEEDED TO ENSURE PROJECT SAFETY AT ALL TIMES.
- ALL WORK, INCLUDING TESTING AND TEMPORARY SHUT DOWN OF SERVICES IS TO BE COORDINATED WITH OWNER'S SCHEDULE FOR DELIVERIES, WORKDAYS, TIMES, ETC.
- ALL NEW WORK TO BE THOROUGHLY TIED AND BONDED TO EXISTING WORK
- ALL PATCHING AND JOINING SHALL BE NEAT, CLEAN, AND SQUARE, MATCHING ADJACENT SURFACES IN FINISH AND TEXTURE.
- ALL FIRE RETARDANT MATERIALS SHALL BEAR STAMPS, SEALS, AND/OR PERMANENT LABELS AS REQUIRED. AFFIDAVITS SHALL BE PROVIDED WHEN REQUESTED.
- ALL WORK TO BE PLUMB, LEVEL, AND TO THE BEST OF WORKMANSHIP
- CONTRACTOR TO FULLY COORDINATE HIS WORK AND EFFORTS WITH OTHER TRADES TO ENSURE A NEAT, PROPER, DIMENSIONALLY ACCURATE JOB IN ALL RESPECTS TO RELATED WORK.
- THE JOB SHALL BE ADEQUATELY STAFFED AT ALL TIMES TO ENSURE CONTINUITY AND PROGRESS, WITH ALL PHASES/SEGMENTS OF WORK PROPERLY COORDINATED.
- ALL DEFECTIVE OR UNACCEPTABLE WORK SHALL BE REMOVED AND REPLACED, INCLUDING ANY SURROUNDING AFFECTED AREAS, AT NO ADDITIONAL COST TO THE OWNER.
- CONTRACTOR TO SUBMIT SHOP DRAWINGS AND SAMPLES FOR ENGINEER'S APPROVAL WHERE REQUIRED BY DOCUMENTS PRIOR TO PROCEEDING WITH WORK
- ALL WORK, UNLESS OTHERWISE SPECIFIED, TO BE GUARANTEED FOR A MINIMUM OF ONE YEAR FROM FINAL ACCEPTANCE.
- ANY MATERIAL COMPOSITION WHICH IS QUESTIONABLE SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER. THE DETERMINATION OF THE ACCEPTABILITY OF ALL MATERIALS SHALL BE AT THE SOLE DISCRETION OF THE ENGINEER.
- ANY CONFLICT BETWEEN THE SPECIFICATIONS AND DRAWINGS IS TO BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO WORK.
- ALL PIPES TO BE INSULATED WITH 1" HEAVY DENSITY FIBERGLASS INSULATION WITH ALL SURFACE JACKET.
- ALL PIPING TO BE HARD COPPER "L" GRADE UNLESS OTHERWISE SPECIFIED.

### TENANT PROTECTION PLAN:

- THE BUILDING CONTAINS SPACES WHICH WILL BE OCCUPIED DURING CONSTRUCTION.
- EGRESS: DURING THE COURSE OF CONSTRUCTION EGRESS FROM ALL FLOORS SHALL BE MAINTAINED AT ALL TIMES.
- FIRE SAFETY: ALL REQUIRED PRECAUTIONS WILL BE TAKEN TO PROVIDE FIRE SAFETY DURING CONSTRUCTION.
- HEALTH REQUIREMENTS: DUST SHALL BE KEPT AT A MINIMUM AND SHALL BE REMOVED AT THE END OF EACH WORKING DAY. CONSTRUCTION DEBRIS SHALL BE DISPOSED IN A SAFE MANNER. CONSTRUCTION NOISE WILL BE CEASED AFTER NORMAL WORKING HOURS. NOISE SHALL BE LIMITED TO ACCEPTABLE LIMITS. SANITARY FACILITIES SHALL BE PROVIDED AT ALL TIMES. PEST CONTROL SHALL BE PROVIDED AT ALL TIMES DURING THE COURSE OF CONSTRUCTION.
- THE CONTRACTOR SHALL COMPLY WITH APPLICABLE LAWS RELATING TO LEAD AND ASBESTOS. IN CASE LEAD OR ASBESTOS ARE FOUND THE OWNER OR ENGINEER SHALL BE INFORMED IMMEDIATELY.
- ELECTRICAL, GAS OR OTHER UTILITIES SHALL NOT BE INTERRUPTED DURING CONSTRUCTION. CONTRACTOR OR OWNER SHALL NOTIFY THE TENANT IN WRITING BEFORE ANY INTERRUPTION OF SERVICES IS PERFORMED.
- BUILDING SECURITY SHALL BE MAINTAINED TO PREVENT UNAUTHORIZED PERSONS FROM ENTERING THE BUILDING.
- FLOORS SHALL NOT BE OVERLOADED BEYOND PERMISSIBLE LIMITS.
- NO STRUCTURAL WORK SHALL BE PERFORMED WHICH MAY ENDANGER THE OCCUPANTS.
- CONSTRUCTION OPERATION SHALL BE CONFINED TO NORMAL WORKING HOURS: 8:00 A.M. THROUGH 5:00 P.M. MONDAY THROUGH FRIDAY, EXCEPT LEGAL HOLIDAYS, UNLESS AUTHORIZED IN WRITING BY OWNERS.

### SPECIAL/PROGRESS INSPECTION REQUIREMENTS:

THE FOLLOWING ITEMS OF WORK SHALL BE SUBJECT TO SPECIAL AND/OR PROGRESS INSPECTION, MADE AND WITNESSED BY OR UNDER THE DIRECT SUPERVISION OF AN ARCHITECT OR ENGINEER RETAINED BY THE CONTRACTOR WHO SHALL BE QUALIFIED TO PERFORM SUCH INSPECTIONS. A TEST REPORT AND CERTIFICATE OF INSPECTION SHALL BE FILED WITH THE BUILDING DEPARTMENT.

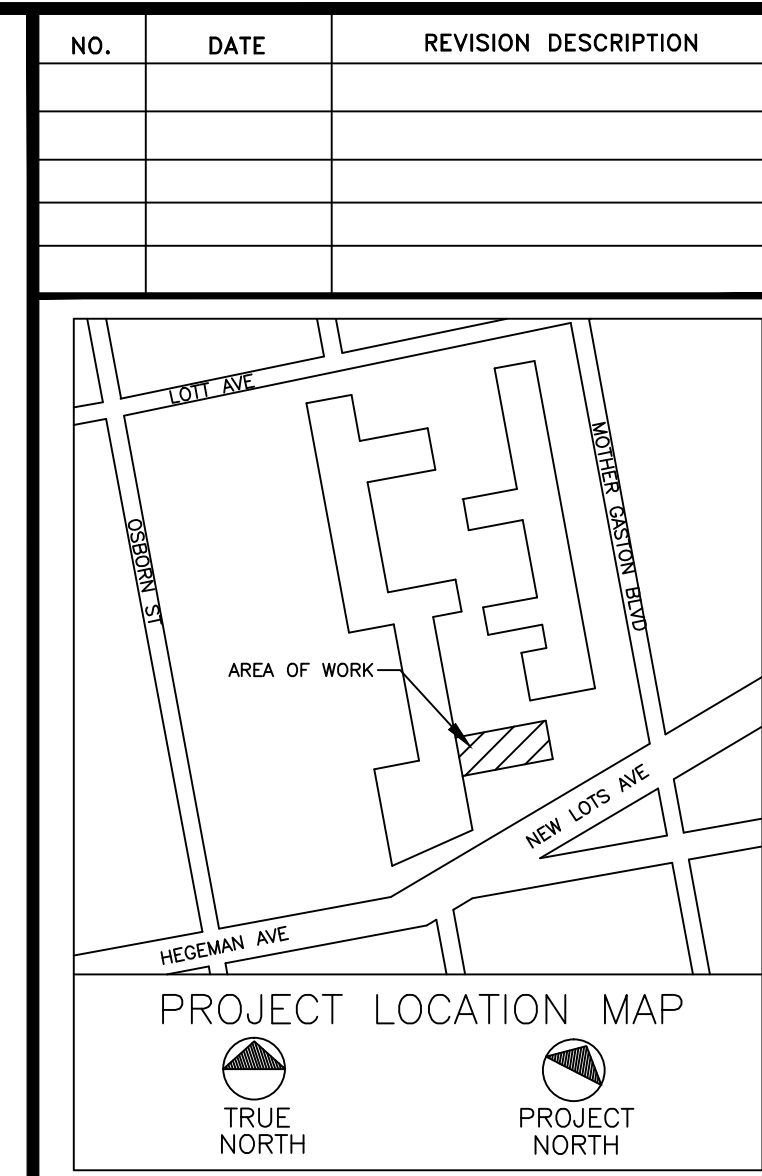
- MECHANICAL SYSTEMS - BC 1704.16
- HEATING SYSTEMS - BC 1704.25
- FIRESTOP, DRAFTSTOP & FIREBLOCK - BC 1704.27

SPECIAL INSPECTIONS/PROGRESS (TR-1)		ENERGY CODE COMPLIANCE INSPECTIONS (TR-6)	
<input checked="" type="checkbox"/>	MECHANICAL SYSTEMS BC 1704.16	<input checked="" type="checkbox"/>	HVAC & SERVICE WATER HEATING EQUIPMENT IIB3
<input checked="" type="checkbox"/>	HEATING SYSTEMS BC 1704.25	<input checked="" type="checkbox"/>	HVAC & SERVICE WATER HEATING CONTROLS IIB4
<input checked="" type="checkbox"/>	FIRE-RESISTANT PENETRATIONS AND JOINTS BC 1704.27	<input checked="" type="checkbox"/>	DUCT PLENUM AND PIPING INSULATION & SEALING IIB5
<input checked="" type="checkbox"/>	ENERGY CODE COMPLIANCE INSPECTION BC 110.3.5	<input checked="" type="checkbox"/>	MAINTENANCE INFORMATION IID1

### MECHANICAL SYMBOLS LIST:

- METER
- CIRCULATION PUMP
- TEMPERATURE SENSOR
- BALL VALVE
- BUTTERFLY VALVE
- UNION
- THERMOMETER
- PRESSURE RELIEF VALVE
- AQUASTAT
- STRAINER - Y TYPE
- MANUAL AIR VENT
- FLOW DIRECTION
- COGEN TEMPERATURE SENSOR
- GATE VALVE
- CHECK VALVE
- FLOW CHECK
- FAN/COIL UNIT
- HEAT EXCHANGER
- 3-WAY VALVE  
 A: NORMALLY CLOSED  
 B: NORMALLY OPEN  
 AB: MIXED WATER
- N.O. NORMALLY OPEN/ON
- N.C. NORMALLY CLOSED/OFF
- C.W. CLOSED WINTER
- C.S. CLOSED SUMMER
- POINT OF CONNECTION TO EXISTING

- CW- COLD WATER (DOMESTIC)
- CWF- COLD WATER FILL
- HWS- BUILDING HEAT SUPPLY
- HWR- BUILDING HEAT RETURN
- DHW- BUILDING DHW RETURN
- DHS- BUILDING DHW CIRCULATION
- C- COGEN PROCESS LOOP PIPING
- CDHW- COGEN DHW SUPPLY
- GS- GLYCOL SUPPLY
- GR- GLYCOL RETURN
- E- COGEN EXHAUST PIPE
- G- COGEN GAS LINE



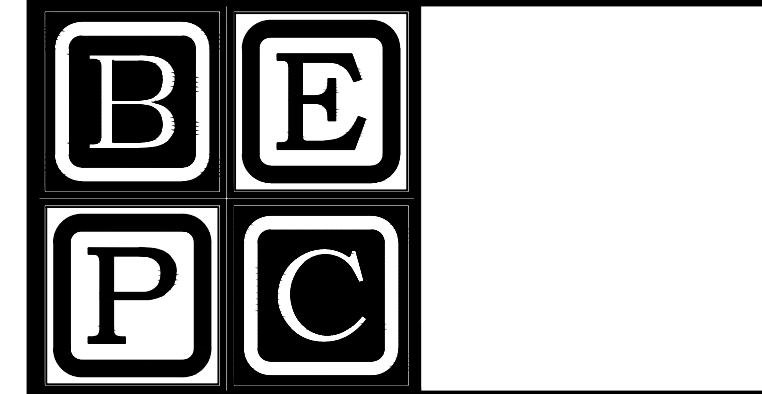
CLIENT:  
 AEGIS ENERGY SERVICES, INC  
 55 JACKSON STREET  
 HOLYOKE, MA 01040  
 TEL.: 413-536-1156  
 FAX: 413-536-1104  
 ATTN: KEVIN MAY

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STATEMENT:  
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PREPARED BY:  
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PROJECT  
 PLAZA RESIDENCES  
 COGENERATION PROJECT  
 25 NEW LOTS AVE  
 BROOKLYN, NY 11212

DRAWING TITLE:  
 TITLE SHEET, GENERAL  
 NOTES & MECHANICAL  
 SYMBOL LIST

DESIGN BY:	KM	DATE:	10/20/16
DRN BY:	KM	DATE:	10/20/16
CKD BY:	.	DATE:	.
FINAL CKD BY:	.	DATE:	.
SCALE:	AS NOTED	DATE:	
DWG No.	PAGE 1 OF 9		

T-001.01  
 PROJECT NO.  
 60-335

B-SCAN:

NO.	DATE	REVISION DESCRIPTION

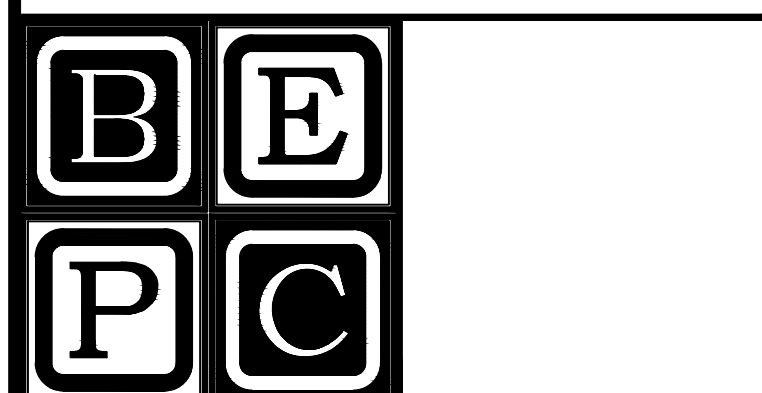
CLIENT:  
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 55 JACKSON STREET  
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PROJECT  
**PLAZA RESIDENCES  
 COGENERATION PROJECT**  
 25 NEW LOTS AVE  
 BROOKLYN, NY 11212

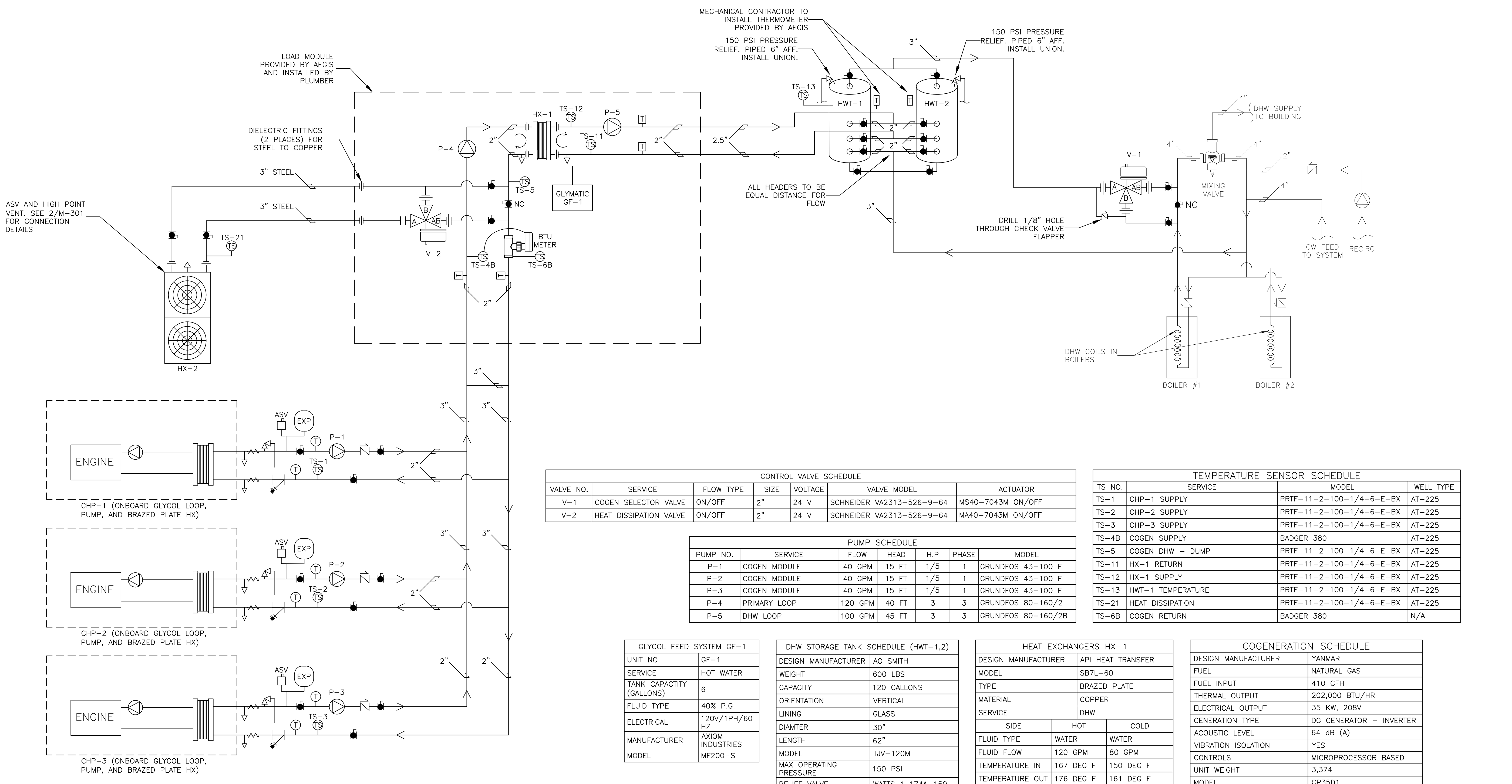
**MECHANICAL/HVAC  
 SCHEDULES & FLOW  
 DIAGRAM**

DESIGN BY:	KM	DATE:	10/20/16
DRN BY:	KM	DATE:	10/20/16
CKD BY:	.	DATE:	.
FINAL CKD BY:	.	DATE:	.
SCALE:	AS NOTED	DATE:	.
DWG No.	PAGE 3 OF 9		

**M-101.01**

PROJECT NO.  
**60-335**

B-SCAN:



VALVE NO.	SERVICE	FLOW TYPE	SIZE	VOLTAGE	VALVE MODEL	ACTUATOR
V-1	COGEN SELECTOR VALVE	ON/OFF	2"	24 V	SCHNEIDER VA2313-526-9-64	MS40-7043M ON/OFF
V-2	HEAT DISSIPATION VALVE	ON/OFF	2"	24 V	SCHNEIDER VA2313-526-9-64	MA40-7043M ON/OFF

PUMP NO.	SERVICE	FLOW	HEAD	H.P.	PHASE	MODEL
P-1	COGEN MODULE	40 GPM	15 FT	1/5	1	GRUNDFOS 43-100 F
P-2	COGEN MODULE	40 GPM	15 FT	1/5	1	GRUNDFOS 43-100 F
P-3	COGEN MODULE	40 GPM	15 FT	1/5	1	GRUNDFOS 43-100 F
P-4	PRIMARY LOOP	120 GPM	40 FT	3	3	GRUNDFOS 80-160/2
P-5	DHW LOOP	100 GPM	45 FT	3	3	GRUNDFOS 80-160/2B

TS NO.	SERVICE	MODEL	WELL TYPE
TS-1	CHP-1 SUPPLY	PRTF-11-2-100-1/4-6-E-BX	AT-225
TS-2	CHP-2 SUPPLY	PRTF-11-2-100-1/4-6-E-BX	AT-225
TS-3	CHP-3 SUPPLY	PRTF-11-2-100-1/4-6-E-BX	AT-225
TS-4B	COGEN SUPPLY	BADGER 380	AT-225
TS-5	COGEN DHW - DUMP	PRTF-11-2-100-1/4-6-E-BX	AT-225
TS-11	HX-1 RETURN	PRTF-11-2-100-1/4-6-E-BX	AT-225
TS-12	HX-1 SUPPLY	PRTF-11-2-100-1/4-6-E-BX	AT-225
TS-13	HWT-1 TEMPERATURE	PRTF-11-2-100-1/4-6-E-BX	AT-225
TS-21	HEAT DISSIPATION	PRTF-11-2-100-1/4-6-E-BX	AT-225
TS-6B	COGEN RETURN	BADGER 380	N/A

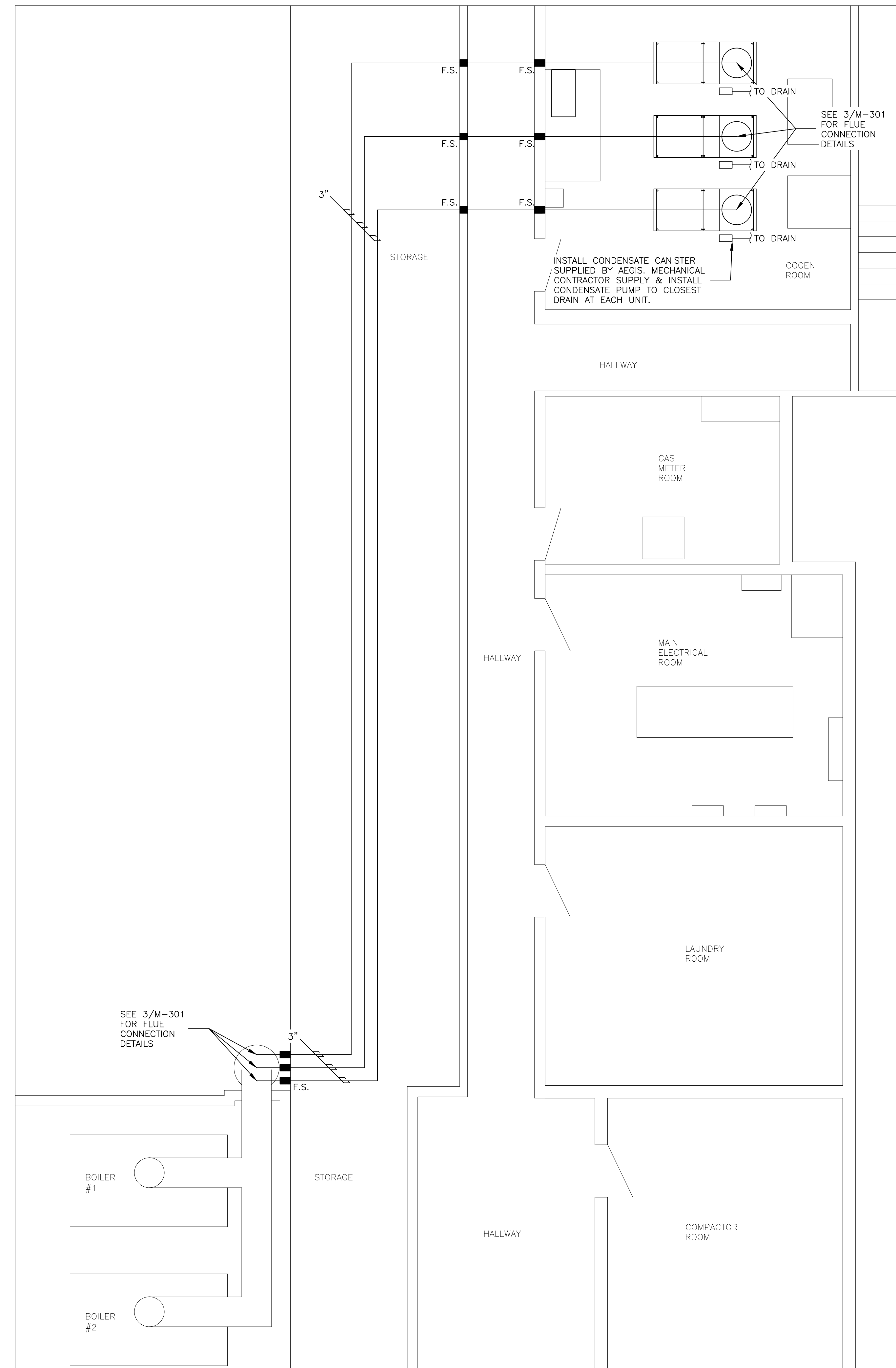
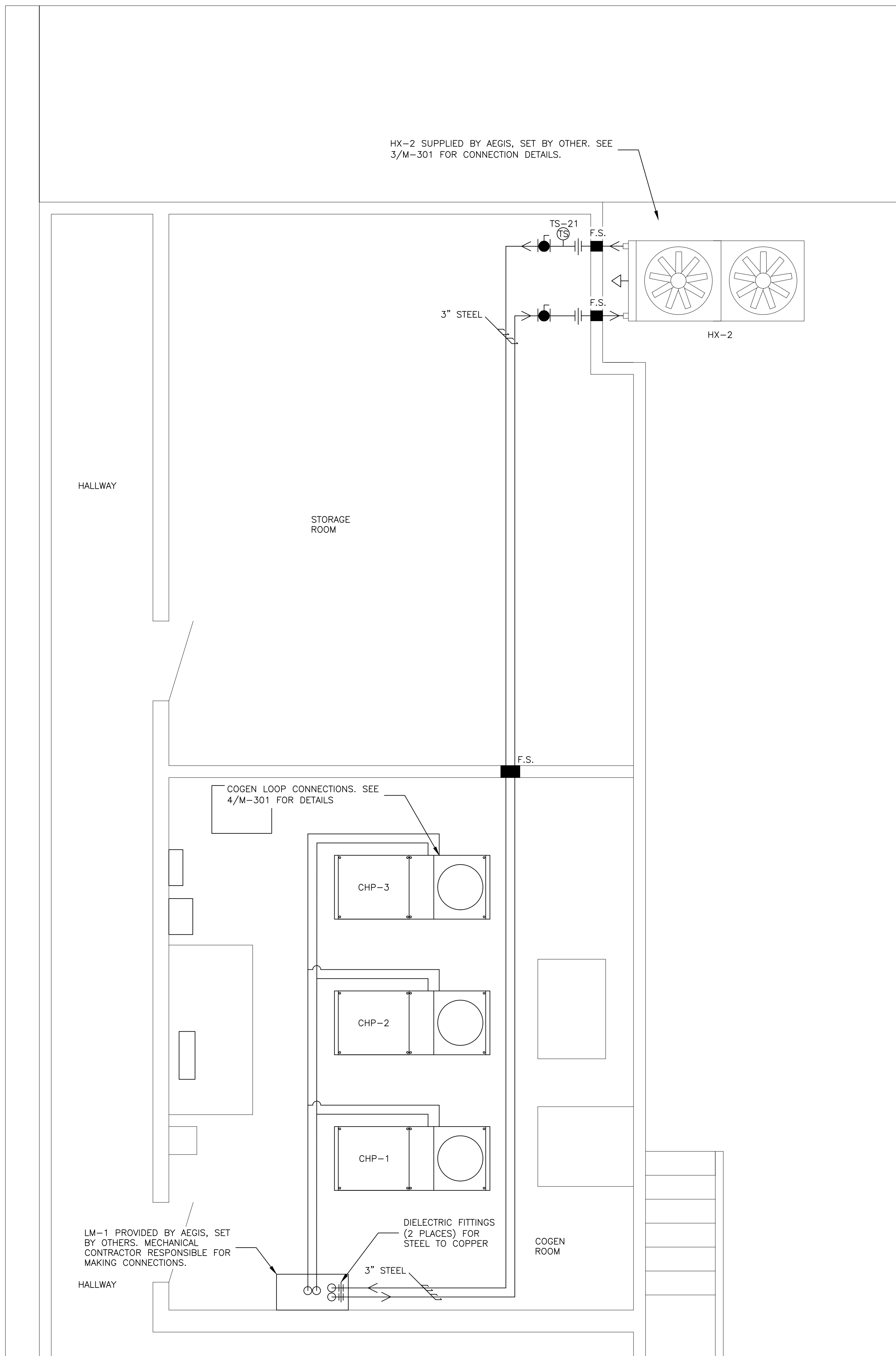
UNIT NO	GF-1
SERVICE	HOT WATER
TANK CAPACITY (GALLONS)	6
FLUID TYPE	40% P.G.
ELECTRICAL	120V/1PH/60 HZ
MANUFACTURER	AXIOM INDUSTRIES
MODEL	MF200-S

DESIGN MANUFACTURER	AO SMITH
WEIGHT	600 LBS
CAPACITY	120 GALLONS
ORIENTATION	VERTICAL
LINING	GLASS
DIAMETER	30"
LENGTH	62"
MODEL	TJV-120M
MAX OPERATING PRESSURE	150 PSI
RELIEF VALVE	WATTS 1 174A-150

DESIGN MANUFACTURER	API HEAT TRANSFER	
MODEL	SB7L-60	
TYPE	BRAZED PLATE	
MATERIAL	COPPER	
SERVICE	DHW	
SIDE	HOT	COLD
FLUID TYPE	WATER	WATER
FLUID FLOW	120 GPM	80 GPM
TEMPERATURE IN	167 DEG F	150 DEG F
TEMPERATURE OUT	176 DEG F	161 DEG F
PRESSURE DROP	4.1 PSI	2.81 PSI
INLET SIZE	2" NPT	2" NPT

DESIGN MANUFACTURER	IEA OR EQUAL
SERVICE	HEAT DISSIPATION
FLOW RATE	35 GPM
GROSS HEAT LOAD	1000 MBH
INLET WATER TEMP	197 DEG F
OUTLET WATER TEMP	158
BLOWER FAN	2 HP
NUMBER OF FANS	2
MODEL	HCR-M14-02-08-S01
FAN SPEED	880 RPM
LIQUID MEDIUM	40% P.G.
DRY WEIGHT	700 LBS

DESIGN MANUFACTURER	YANMAR
FUEL	NATURAL GAS
FUEL INPUT	410 CFH
THERMAL OUTPUT	202,000 BTU/HR
ELECTRICAL OUTPUT	35 KW, 208V
GENERATION TYPE	DG GENERATOR - INVERTER
ACOUSTIC LEVEL	64 dB (A)
VIBRATION ISOLATION	YES
CONTROLS	MICROPROCESSOR BASED
UNIT WEIGHT	3,374
MODEL	CP35D1
NOMINAL INLET TEMP	167 DEG F
NOMINAL OUTLET TEMP	176 DEG F
NOMINAL WATER FLOW RATE	39.6 GPM
DIMENSIONS	32"W x 79" x 79"H



NO.	DATE	REVISION DESCRIPTION

PROJECT LOCATION MAP

TRUE NORTH

PROJECT NORTH

CLIENT:

**AEGIS ENERGY SERVICES, INC**  
 55 JACKSON STREET  
 HOLYOKE, MA 01040  
 TEL.: 413-536-1156  
 FAX: 413-536-1104  
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PROJECT

**PLAZA RESIDENCES  
 COGENERATION PROJECT  
 25 NEW LOTS AVE  
 BROOKLYN, NY 11212**

DRAWING TITLE:

**CELLAR MECHANICAL  
 PIPING AND FLUE  
 LAYOUT**

DESIGN BY:	KM	DATE:	10/20/16
DRN BY:	KM	DATE:	10/20/16
CKD BY:	.	DATE:	.
FINAL CKD BY:	.	DATE:	.
SCALE:	AS NOTED	DATE:	.

DWG No. PAGE 4 OF 9

**M-201.00**

PROJECT NO. **60-335**

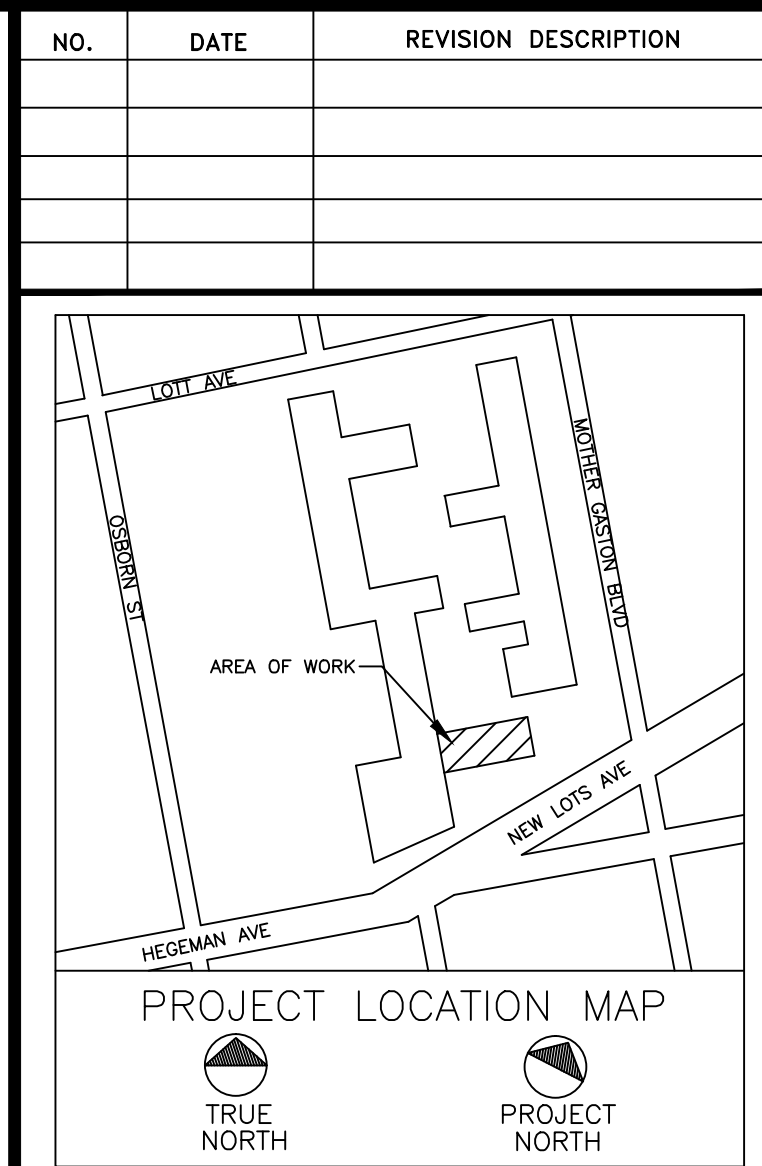
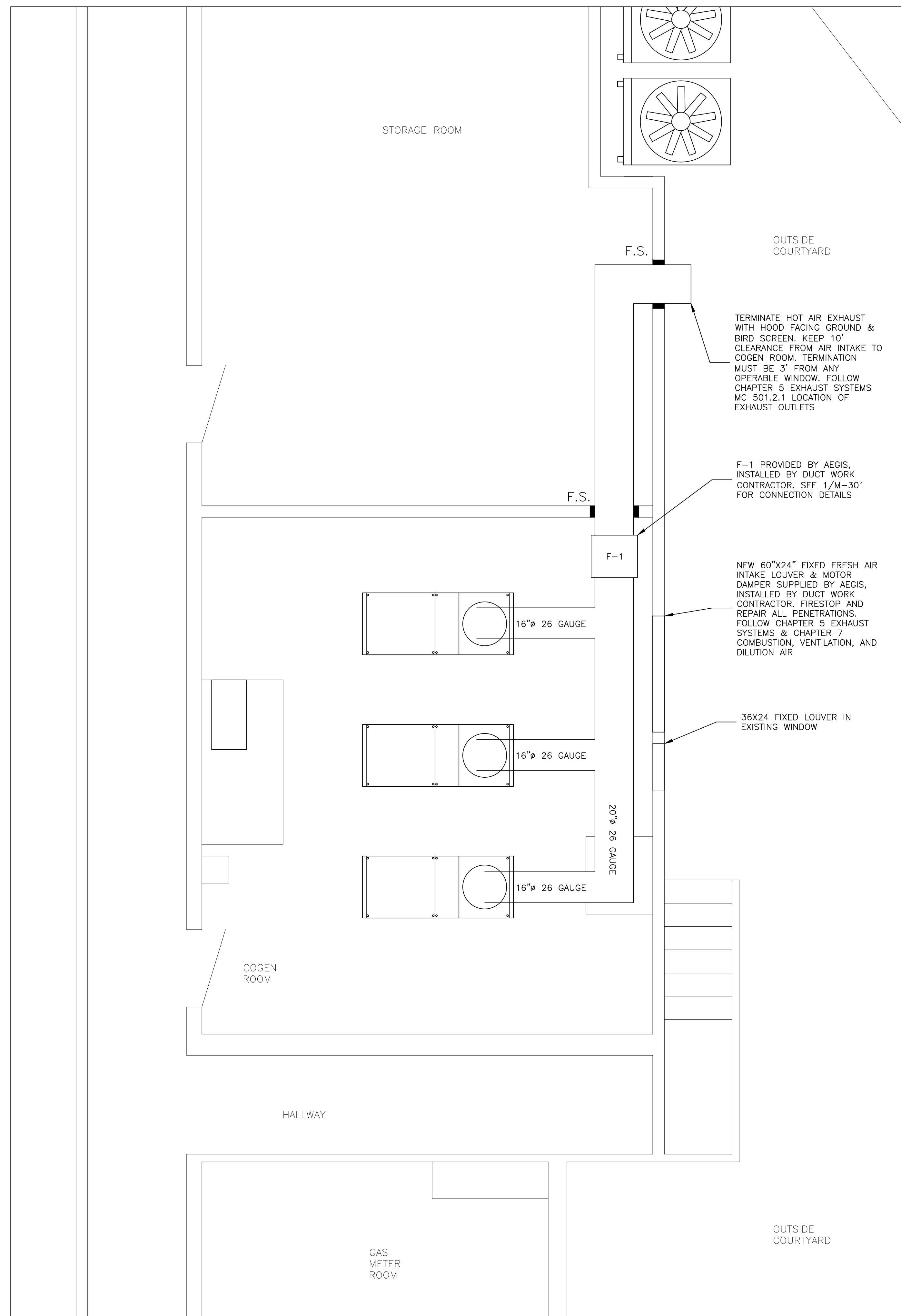
B-SCAN:

1 CELLAR MECHANICAL PIPING LAYOUT  
 M-201 SCALE: 3/8"=1'-0"



2 CELLAR MECHANICAL FLUE LAYOUT  
 M-201 SCALE: 1/4"=1'-0"





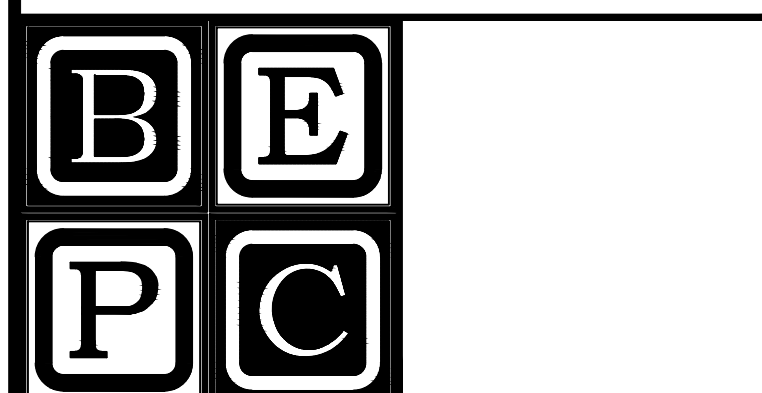
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 55 JACKSON STREET  
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PROJECT  
**PLAZA RESIDENCES  
 COGENERATION PROJECT  
 25 NEW LOTS AVE  
 BROOKLYN, NY 11212**

DRAWING TITLE:  
**CELLAR HOT AIR  
 EXHAUST LAYOUT**

DESIGN BY:	KM	DATE:	10/20/16
DRN BY:	KM	DATE:	10/20/16
CKD BY:	.	DATE:	.
FINAL CKD BY:	.	DATE:	.
SCALE:	AS NOTED	DATE:	.
DWG No.	PAGE 5 OF 9		

**M-202.00**

PROJECT NO.  
**60-335**

B-SCAN:

**1**  
**CELLAR HOT AIR EXHAUST LAYOUT**  
 SCALE: 3/8"=1'-0"

NO.	DATE	REVISION DESCRIPTION

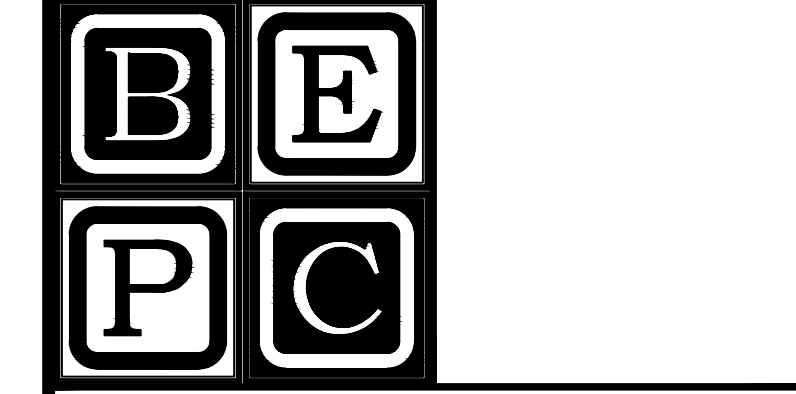
CLIENT:  
**AGIS ENERGY SERVICES, INC**  
 55 JACKSON STREET  
 HOLYOKE, MA 01040  
 TEL: 413-536-1156  
 FAX: 413-536-1104  
 ATTN: KEVIN MAY

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PREPARED BY:  
**BECKER ENGINEERING, PC**  
 777 SUNRISE HIGHWAY, SUITE 300  
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 WEB: WWW.BEPC.US



PROJECT  
**PLAZA RESIDENCES  
 COGENERATION PROJECT**  
 25 NEW LOTS AVE  
 BROOKLYN, NY 11212

DRAWING TITLE:  
**MECHANICAL/  
 HVAC DETAILS**

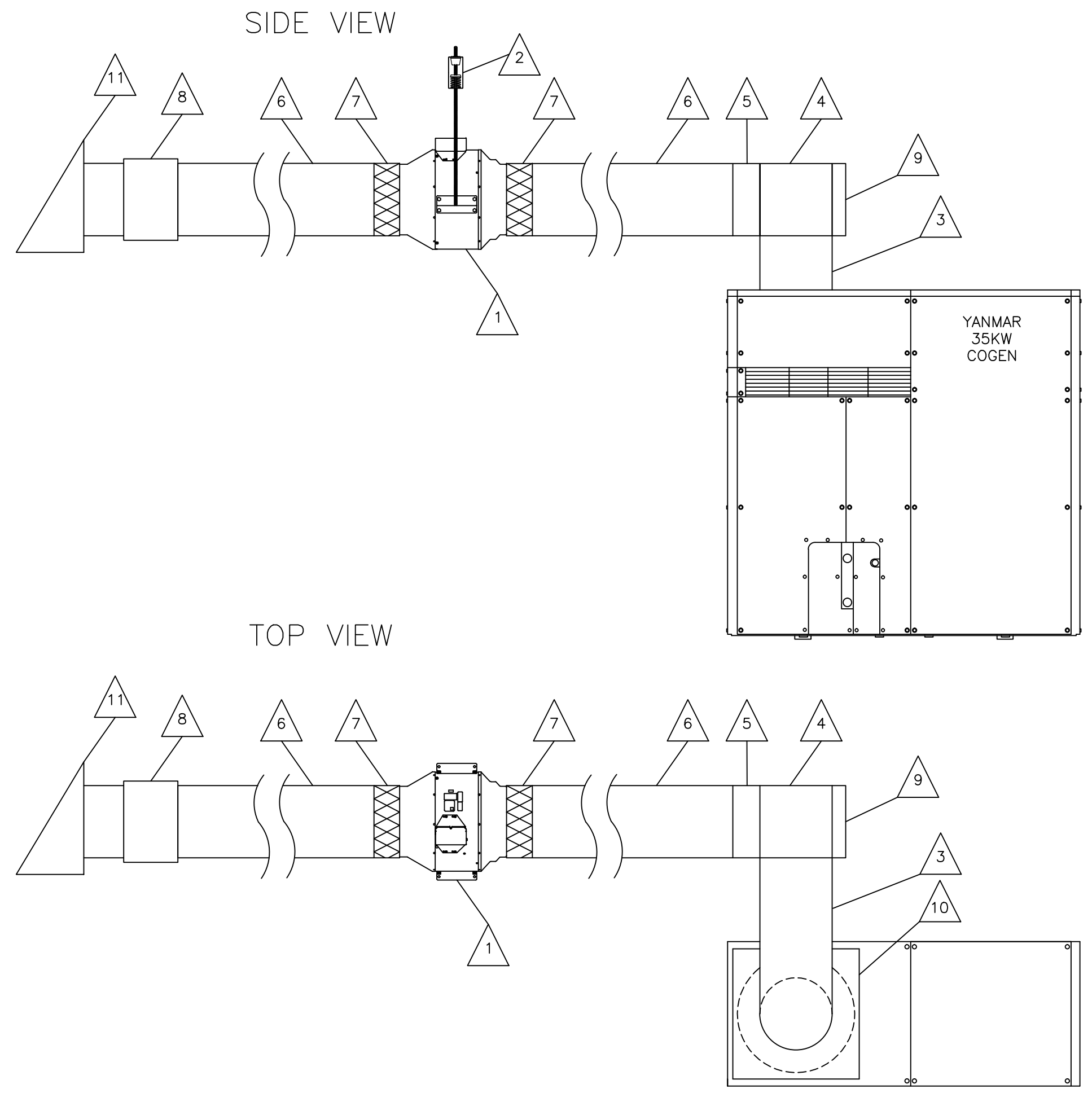
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DRN BY:	KM	DATE:	10/20/16
CKD BY:	.	DATE:	.
FINAL CKD BY:	.	DATE:	.
SCALE:	AS NOTED	DATE:	.
DWG No.	PAGE 5 OF 9		

PROJECT NO.  
**M-301.00**

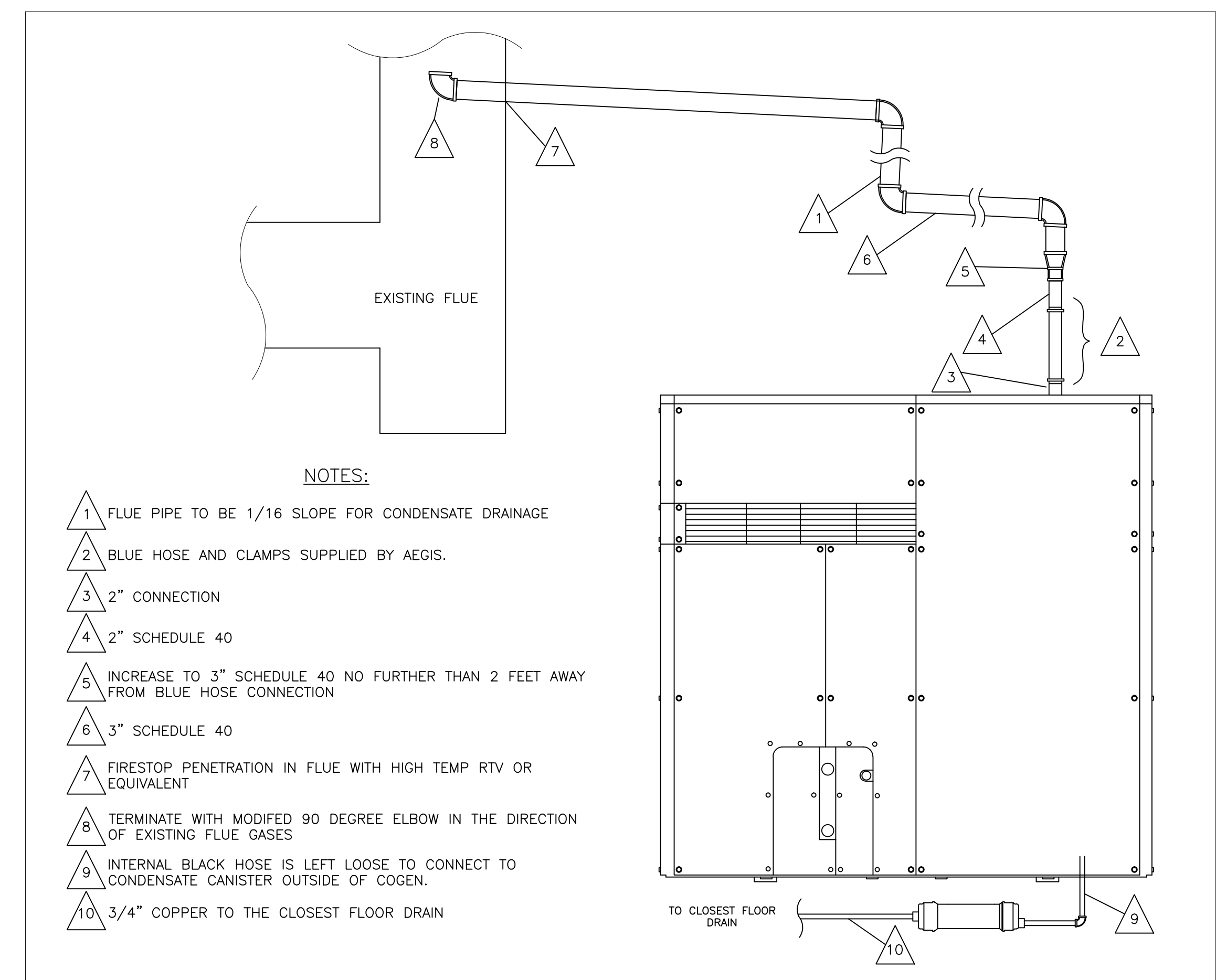
PROJECT NO.  
**60-335**

B-SCAN:

- NOTES:
- \*\*\* ALL DUCTWORK IS TO BE 26 GAUGE SHEET METAL
  - \*\*\* ALL DUCTWORK TO HAVE 1" INSULATION
  - 1 FANTECH 16XL FAN SUPPLIED BY AEGIS, INSTALLED BY DUCT WORK CONTRACTOR. 16" CONNECTIONS
  - 2 VIBRATION HANGARS SUPPLIED & INSTALLED BY DUCTWORK CONTRACTOR.
  - 3 16" ROUND CONNECTION
  - 4 16" X 20" X 20" TEE
  - 5 20" ROUND CONNECTION
  - 6 20" ROUND DUCT
  - 7 20" FLEX CONNECTION TO FANTECH FKD-20 FAN
  - 8 PENETRATE WALL TO OUTSIDE & FIRESTOP PENETRATION
  - 9 16" RETURN GRILLE SUPPLIED & INSTALLED BY DUCTWORK CONTRACTOR
  - 10 28"L X 28"W X 3"H PLATE
  - 11 TERMINATE WITH HOOD POINTING TOWARDS GROUND WITH BIRD SCREEN INSTALLED

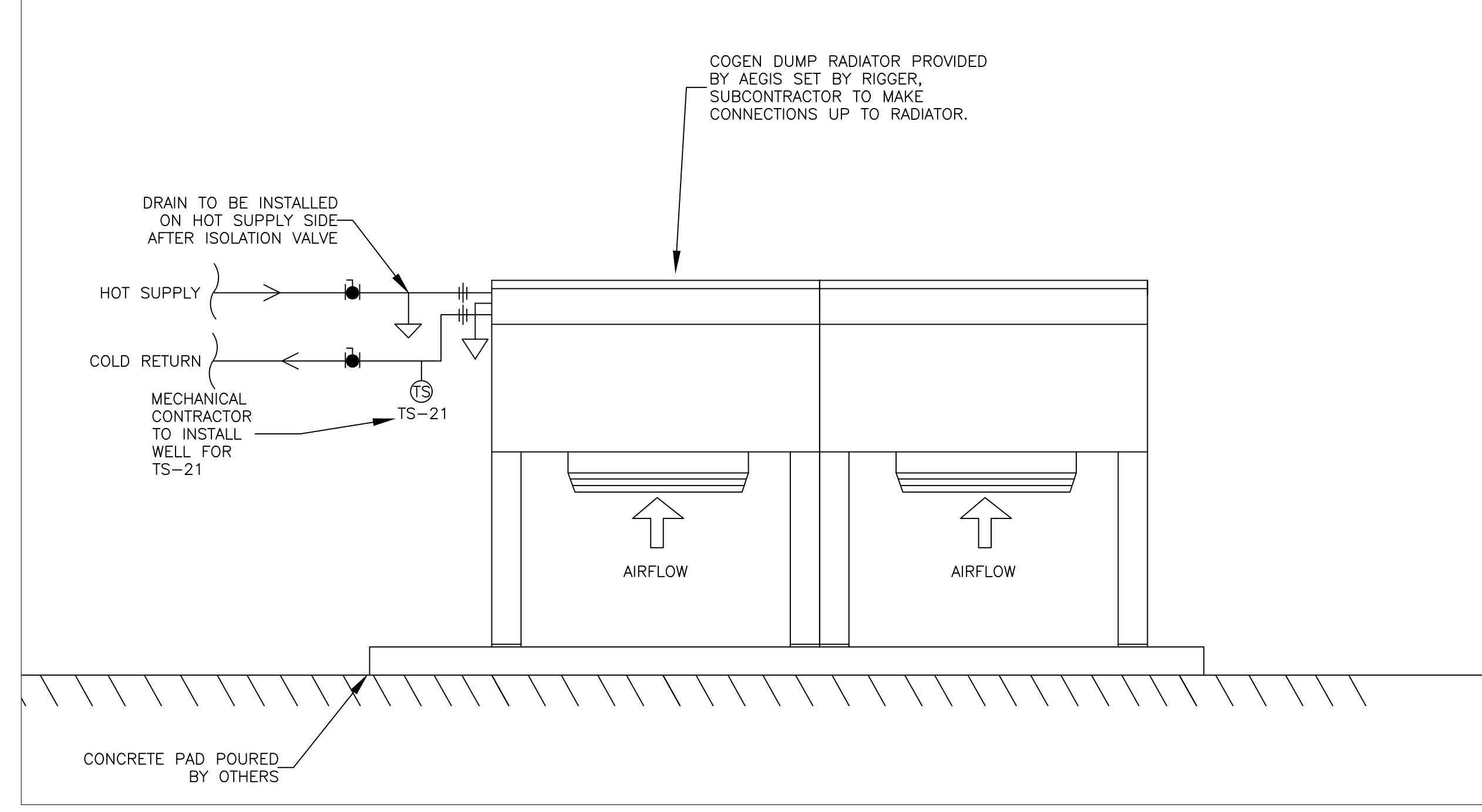


1 **COGENERATION DUCT WORK DETAIL**  
 M-301 SCALE: NTS

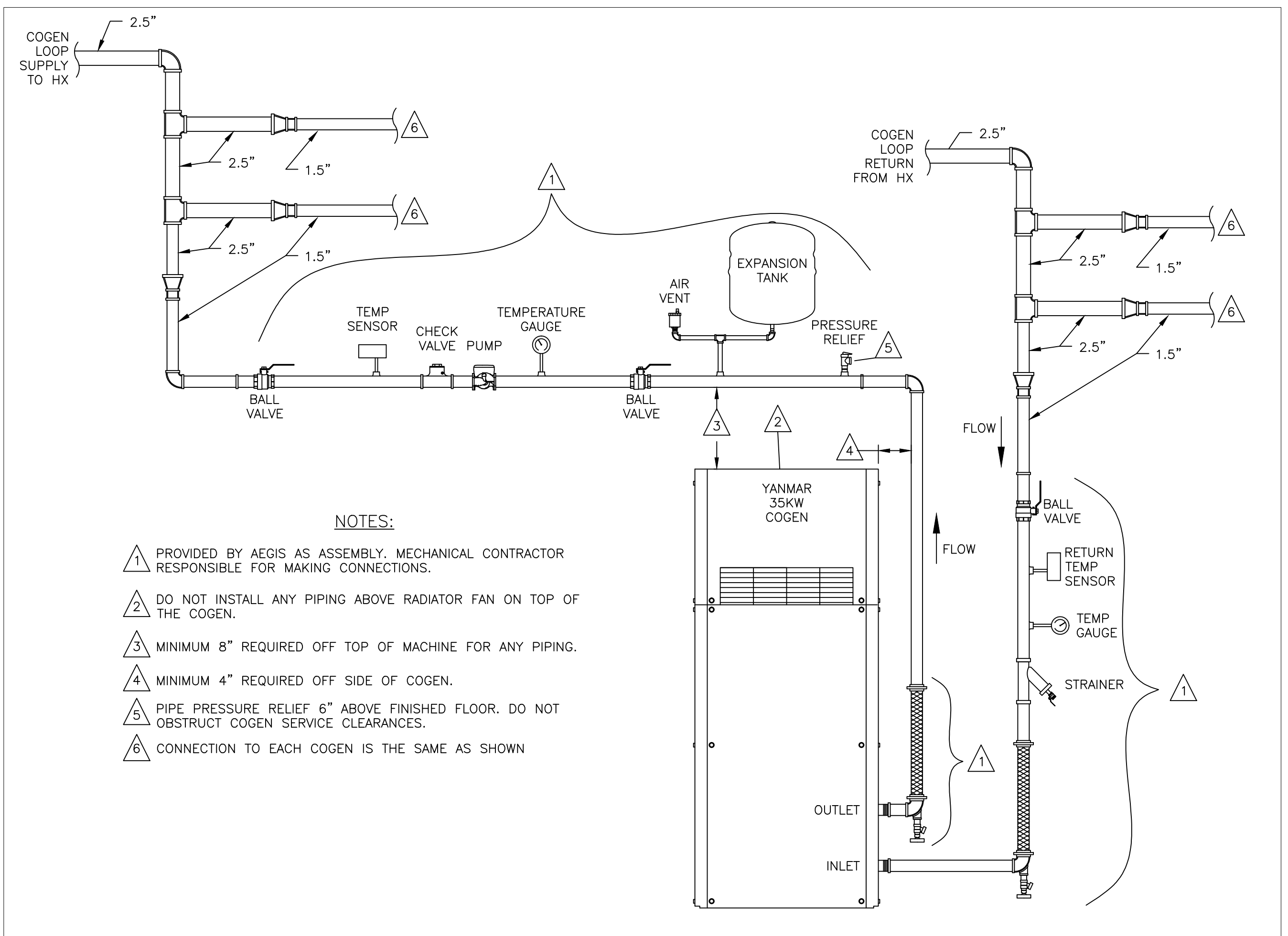


3 **COGENERATION FLUE DETAIL**  
 M-301 SCALE: NTS

- NOTES:
- 1. ALL PIPING TO BE INSULATED WITH 1" FIBERGLASS INSULATION. EXTERIOR INSULATION TO BE COVERED WITH PVC OR ALUMINUM JACKET.
  - 2. MECHANICAL SUBCONTRACTOR TO INSTALL 3/4" MANUAL AIR VENT IN PLUG PROVIDED IN RADIATOR COIL.
  - 3. MECHANICAL SUBCONTRACTOR TO INSTALL 3/4" DRAIN IN PLUG PROVIDED IN RADIATOR COIL.

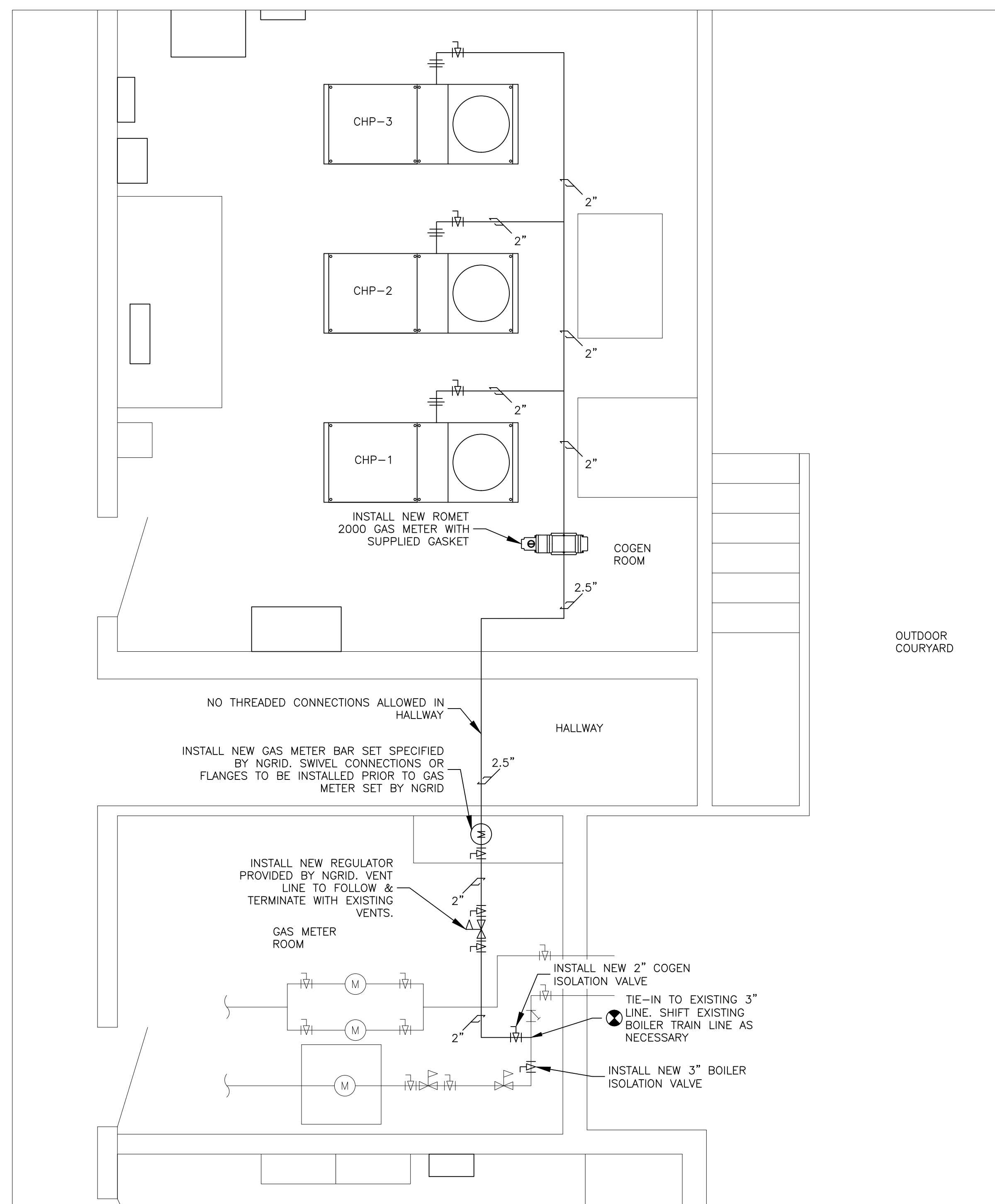


2 **RADIATOR CONNECTION DETAIL**  
 M-301 SCALE: NTS

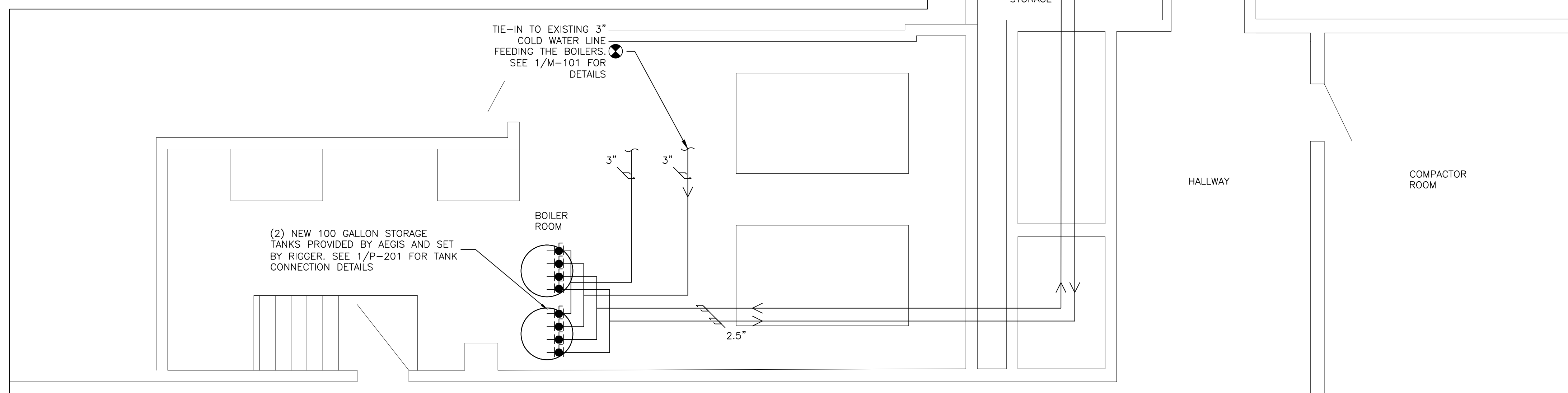


- NOTES:
- 1 PROVIDED BY AEGIS AS ASSEMBLY. MECHANICAL CONTRACTOR RESPONSIBLE FOR MAKING CONNECTIONS.
  - 2 DO NOT INSTALL ANY PIPING ABOVE RADIATOR FAN ON TOP OF THE COGEN.
  - 3 MINIMUM 8" REQUIRED OFF TOP OF MACHINE FOR ANY PIPING.
  - 4 MINIMUM 4" REQUIRED OFF SIDE OF COGEN.
  - 5 PIPE PRESSURE RELIEF 6" ABOVE FINISHED FLOOR. DO NOT OBSTRUCT COGEN SERVICE CLEARANCES.
  - 6 CONNECTION TO EACH COGEN IS THE SAME AS SHOWN

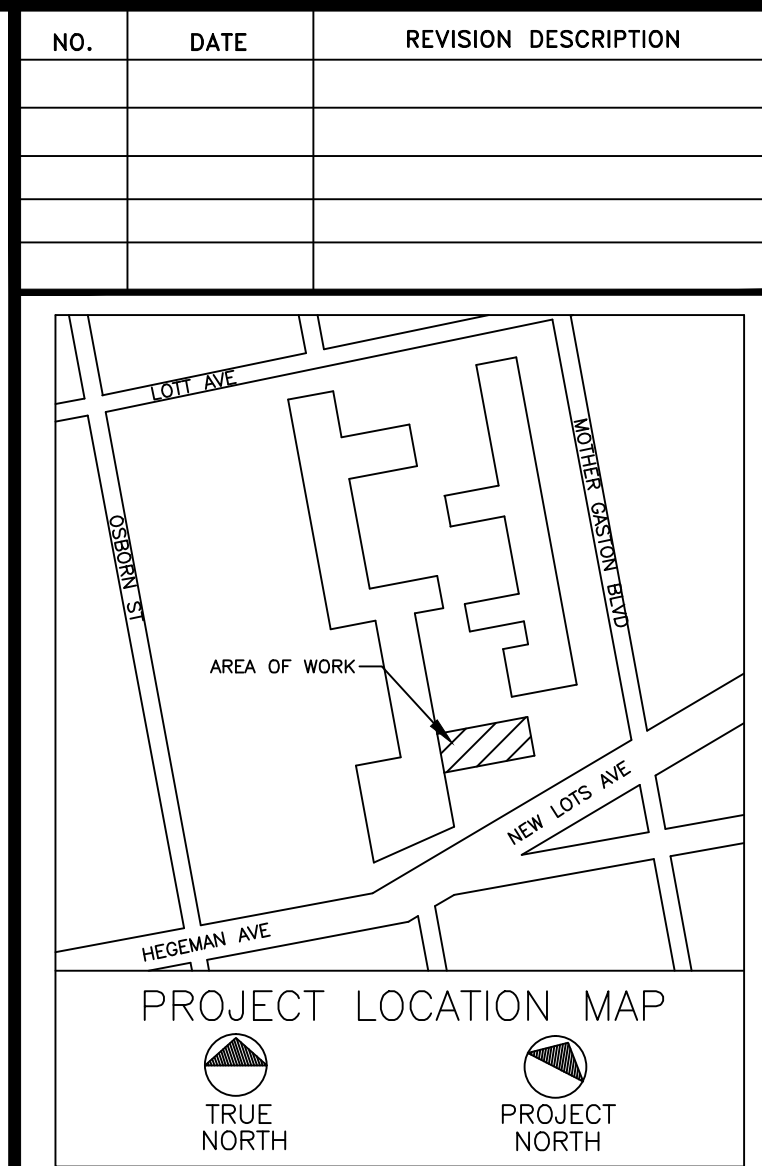
4 **COGENERATION MECHANICAL CONNECTION DETAIL**  
 M-301 SCALE: NTS



1  
P-101  
**CELLAR GAS PIPING LAYOUT**  
SCALE: 3/8"=1'-0"



2  
P-101  
**CELLAR PLUMBING LAYOUT**  
SCALE: 1/4"=1'-0"



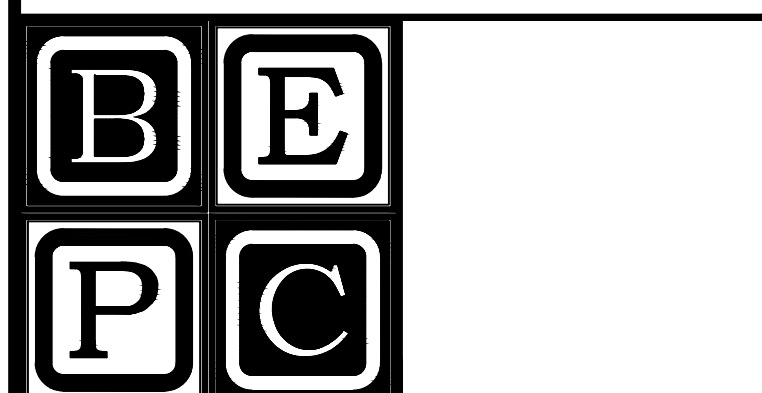
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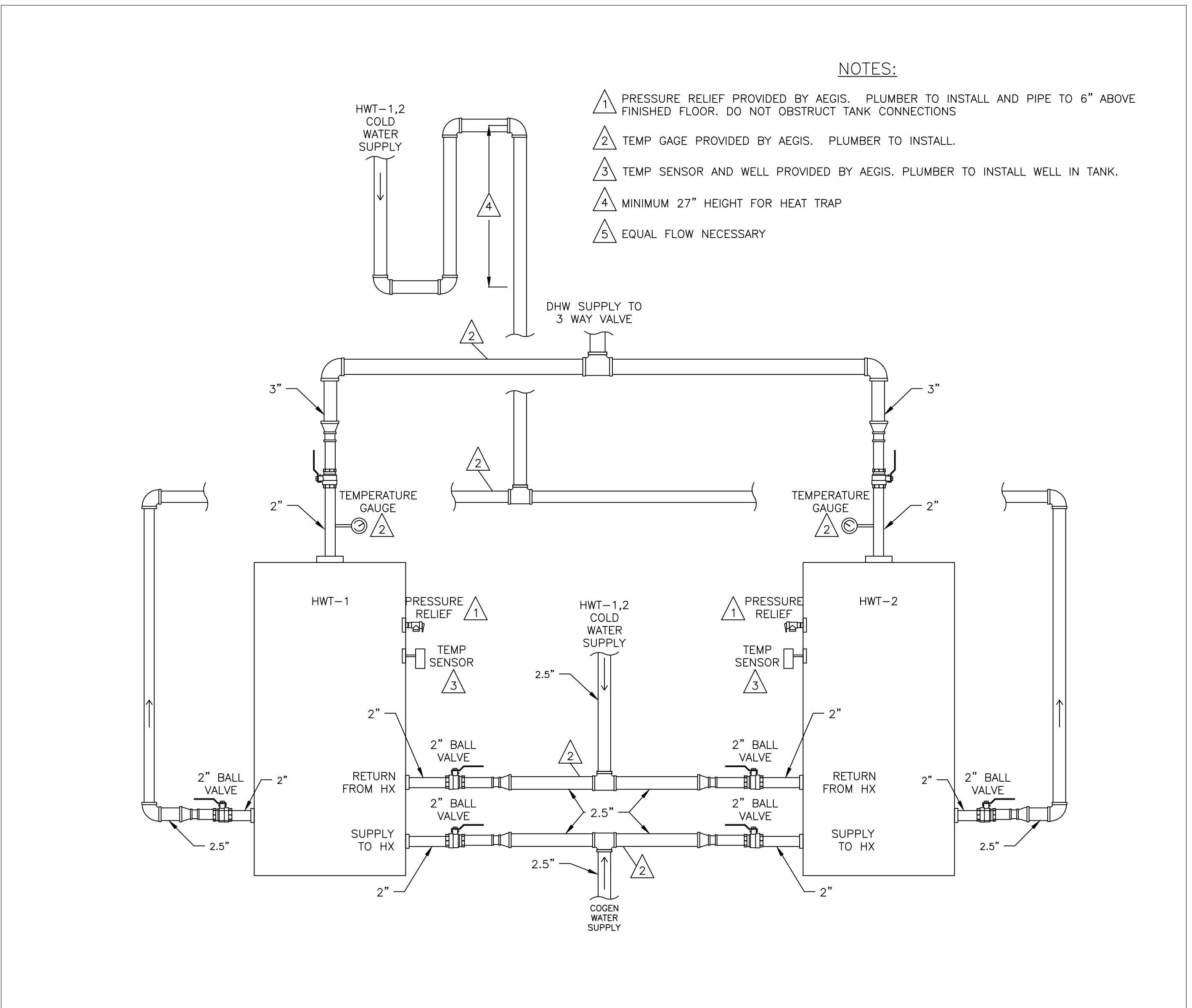
PROJECT  
PLAZA RESIDENCES  
COGENERATION PROJECT  
25 NEW LOTS AVE  
BROOKLYN, NY 11212

DRAWING TITLE:  
**CELLAR PLUMBING/GAS PIPING LAYOUT**

DESIGN BY:	KM	DATE:	10/20/16
DRN BY:	KM	DATE:	10/20/16
CKD BY:	.	DATE:	.
FINAL CKD BY:	.	DATE:	.
SCALE:	AS NOTED	DATE:	.
DWG No.	PAGE 6 OF 9		

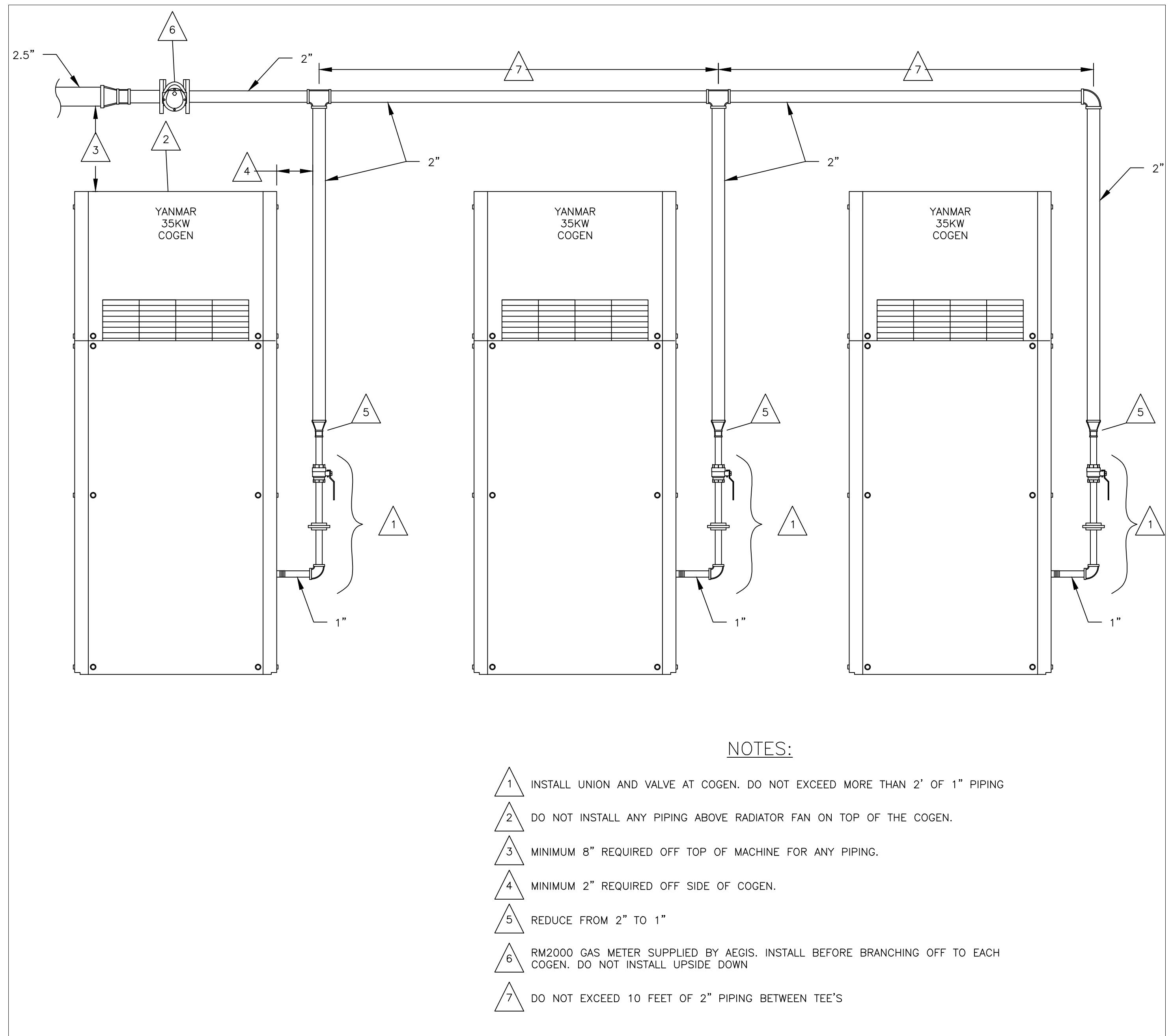
P-101.00  
PROJECT NO.  
60-335

B-SCAN:



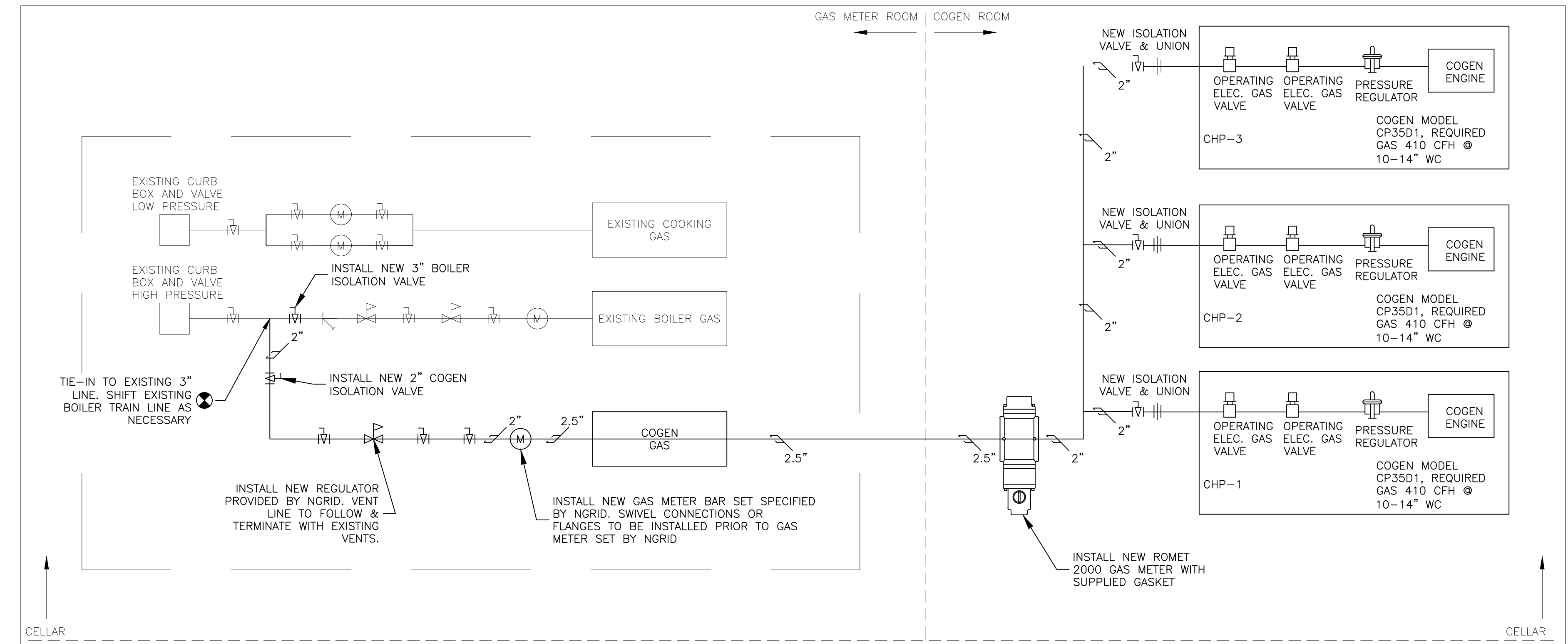
- NOTES:**
- 1 PRESSURE RELIEF PROVIDED BY AEGIS. PLUMBER TO INSTALL AND PIPE TO 6" ABOVE FINISHED FLOOR. DO NOT OBSTRUCT TANK CONNECTIONS
  - 2 TEMP GAUGE PROVIDED BY AEGIS. PLUMBER TO INSTALL.
  - 3 TEMP SENSOR AND WELL PROVIDED BY AEGIS. PLUMBER TO INSTALL WELL IN TANK.
  - 4 MINIMUM 27" HEIGHT FOR HEAT TRAP
  - 5 EQUAL FLOW NECESSARY

**1 STORAGE TANK CONNECTION DETAIL**  
 P-201 SCALE: NTS



- NOTES:**
- 1 INSTALL UNION AND VALVE AT COGEN. DO NOT EXCEED MORE THAN 2' OF 1" PIPING
  - 2 DO NOT INSTALL ANY PIPING ABOVE RADIATOR FAN ON TOP OF THE COGEN.
  - 3 MINIMUM 8" REQUIRED OFF TOP OF MACHINE FOR ANY PIPING.
  - 4 MINIMUM 2" REQUIRED OFF SIDE OF COGEN.
  - 5 REDUCE FROM 2" TO 1"
  - 6 RM2000 GAS METER SUPPLIED BY AEGIS. INSTALL BEFORE BRANCHING OFF TO EACH COGEN. DO NOT INSTALL UPSIDE DOWN
  - 7 DO NOT EXCEED 10 FEET OF 2" PIPING BETWEEN TEE'S

**2 COGENERATION GAS CONNECTION DIAGRAM**  
 P-201 SCALE: NTS



**1 COGENERATION GAS RISER DIAGRAM**  
 P-201 SCALE: NTS

NO.	DATE	REVISION DESCRIPTION

**PROJECT LOCATION MAP**

TRUE NORTH PROJECT NORTH

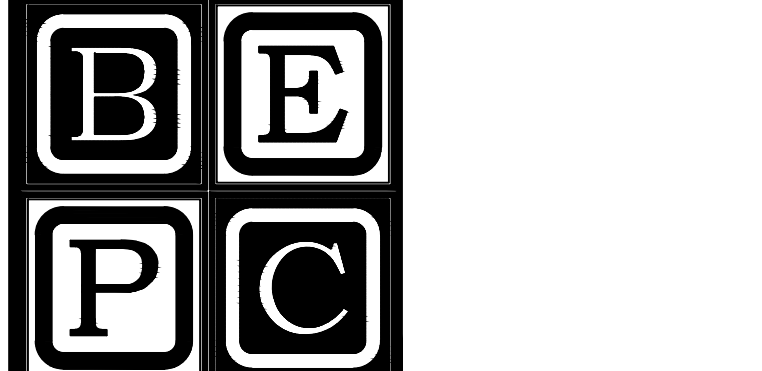
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PROJECT  
**PLAZA RESIDENCES  
 COGENERATION PROJECT**  
 25 NEW LOTS AVE  
 BROOKLYN, NY 11212

**GAS RISER DIAGRAM & PLUMBING DETAILS**

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DRN BY:	KM	DATE:	10/20/16
CKD BY:	.	DATE:	.
FINAL CKD BY:	.	DATE:	.
SCALE:	AS NOTED	DATE:	.
DWG No.	PAGE 7 OF 9		

**P-201.00**

PROJECT NO.  
**60-335**

B-SCAN:

- PROVIDED BY AEGIS, ELECTRICAL CONTRACTOR TO MAKE CONNECTIONS: (1-5)**
- 1 (CCP) COGEN CONTROL PANEL, MOUNTED BY ELECTRICIAN.
  - 2 (HX-2) RADIATOR
  - 3 (LM-1) LOAD MODULE 1
  - 4 (CHP-1,2,3) COGEN
  - 5 (H8043) H8043 METER TO BE INSTALLED IN MAINS CABINET. CT'S INSTALLED ON MAIN BUS LOAD SIDE OF CONED CT'S. VOLTAGE TAPS INSTALLED FOR POWER WHERE CONVENIENT. SEE PERFORMANCE MONITORING NOTE FOR CONNECTIONS

- SUPPLIED, INSTALLED & TERMINATED BY ELECTRICIAN: (10-17)**
- 10 (DC-1) NEW 208V 400A FUSED DISCONNECT WITH 400A FUSES, MANUAL, GANG OPERATED, LOAD BREAK, LOCKABLE.
  - 11 (DC-2) NEW 208V 200A FUSED DISCONNECT WITH 200A FUSES, MANUAL, GANG OPERATED, LOAD BREAK, LOCKABLE.
  - 12 (DC-3) NEW 208V 200A FUSED DISCONNECT WITH 200A FUSES, MANUAL, GANG OPERATED, LOAD BREAK, LOCKABLE.
  - 13 (XFER) NEW 112 KVA 208Δ/208Y DELTA WYE TRANSFORMER.
  - 14 (GFCI-1) 120V OUTDOOR RATED OUTLET FOR CONVENIENCE POWER AT EQUIPMENT.
  - 15 (JB) JUNCTION BOX USED FOR TAPS TO EACH COGEN
  - 16 (SBDP) STANDBY DISTRIBUTION PANEL COGEN NEW 200A, 120/208V, 3 POLE DISTRIBUTION BOARD WITH 200A MAINS BREAKER. SEE SCHEDULE ON THIS SHEET.
  - 17 (DC-VT'S) NEW 3P, 208V RATED, 30 AMP RATED, FUSED DISCONNECT WITH 15 AMP FUSES. VISIBLE BREAK, GANG OPERATED. TAP FROM ANY PANEL IN MAIN ELECTRIC ROOM

- POWER: (25-29)**
- 25 TO CCP FROM HX-2 (HV) 208V F-2, F-3 (6) #12 W/ GND & (2) 3P NEMA3R SS (15A)
  - 26 TO CCP FROM F-1 F-1 (3) #12 W/ GND & SERVICE SW (15A)
  - 27 (3 PLACES) FROM CCP TO PUMP P-1,2,3 (2) #12 W/GND & SS (15A)
  - 28 FROM HX-2 TO SBDP GFCI - (2) #12 W/ GND. (20A)
  - 29 FROM LM-1 TO SBDP GFCI GLYMATIC (2) #12 W/ GND (20A)
  - 30 FROM CCP TO LM-1 P-4,5 (3) #12 W/GND & SS (15A)
  - 31 FROM SBDP TO CCP 3 PHASE (4) #10 W/GND (30A) 1 PHASE (2) #12 W/GND (20A)

- CONTROLS: (35-39)**
- 35 (3 PLACES) FROM CCP TO CHP-1/2/3 (10) #18/2 SHIELDED, SEE WIRING NOTES BELOW (1) CATSE SHIELDED
  - 36 (3 PLACES) FROM CCP TO CHP-1/2/3 TS-1,2,3 (1) 18/3 SHIELDED
  - 37 FROM LM-1 TO CCP TS-11,12 (2) 18/3 SHIELDED V-2 (2) #18 THHN W/ SERVICE SW (1) #18 SHIELDED BTU METER (1) #18/2 SHLD (24V POWER) (1) #18/3 TWISTED SHIELDED (MODBUS)
  - 38 FROM RADIATOR TO CCP TS-21 (1) 18/3 SHIELDED
  - 39 FROM ESTOP TO CCP (2) #18/2 SHLD
  - 40 FROM MD-1 TO CCP (1) 18/2 SHIELDED (POWER) (1) 18/2 SHIELDED (STATUS)

- PERFORMANCE MONITORING: (45-49)**
- 45 FROM MAINS TO CCP TO COGEN (DAISY CHAIN) H8043 LOCATED IN MAIN SWITCHGEAR (1) 18/2 TWISTED SHIELDED
  - 46 FROM MAINS TO H8043 CT'S (3) H8043 CT'S DOWNSTREAM OF CONED CT'S VT'S (3)H8043 VOLTAGE TAPS FOR 208V
  - 47 FROM GAS METER TO CCP PULSE OUT (1) 18/2 SHIELDED
  - 48 FROM H8035-1 TO CCP PARASITIC POWER (1) 18/2 TWISTED SHIELDED
  - 49 FROM H8035-2 TO CCP COGEN POWER (1) 18/2 TWISTED SHIELDED
- COGEN INTERLOCK: (55-56)**
- 55 FROM CHP-1 TO CHP-2 (2) 18/2 SHIELDED (4) 18/3 SHIELDED
  - 56 FROM CHP-2 TO CHP-3 (2) 18/2 SHIELDED (4) 18/3 SHIELDED

**NOTES:**

USE 3/4" EMT MINIMUM FOR ALL RUNS, SEPARATE CONTROL AND LINE VOLTAGE WIRE.

PROVIDED BY OWNER, 1) CATS COMMUNICATIONS LINE FOR CCP PANEL, WITH (1) DEDICATED STATIC IP.

ELECTRICAL SUBCONTRACTOR IS RESPONSIBLE FOR FIRESTOPPING ALL PENETRATIONS. ALL FIRE STOPPING SHALL USE APPROVED SYSTEMS AND METHODS AND SHALL MEET OR EXCEED 2 HR RATING.

TRANSFORMER SCHEDULE								
KEY	SIZE	PHASE	PRIMARY					CONDUIT
			VOLTS	SETS	CONDUCTOR	NEUTRAL	GROUND	
XFMR	112KVA	3	208	1	3/0	3/0	#6	2"
			SECONDARY					
			208	1	3/0	3/0	#6	2"

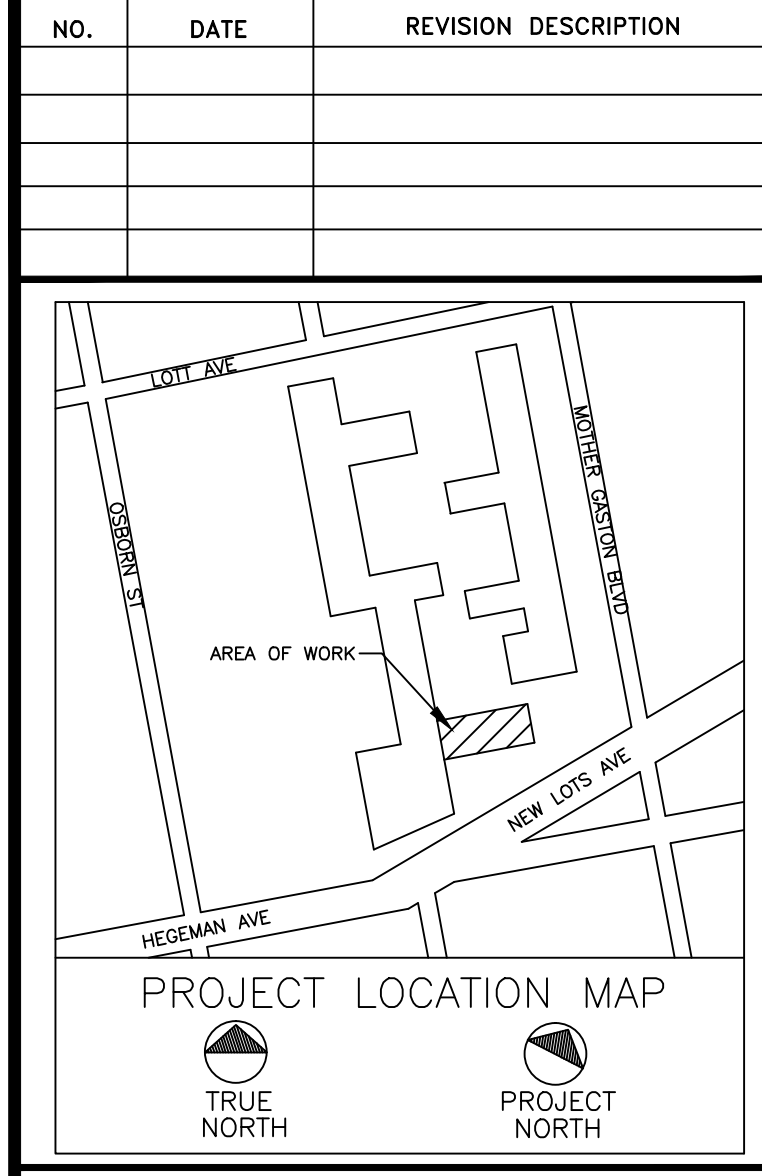
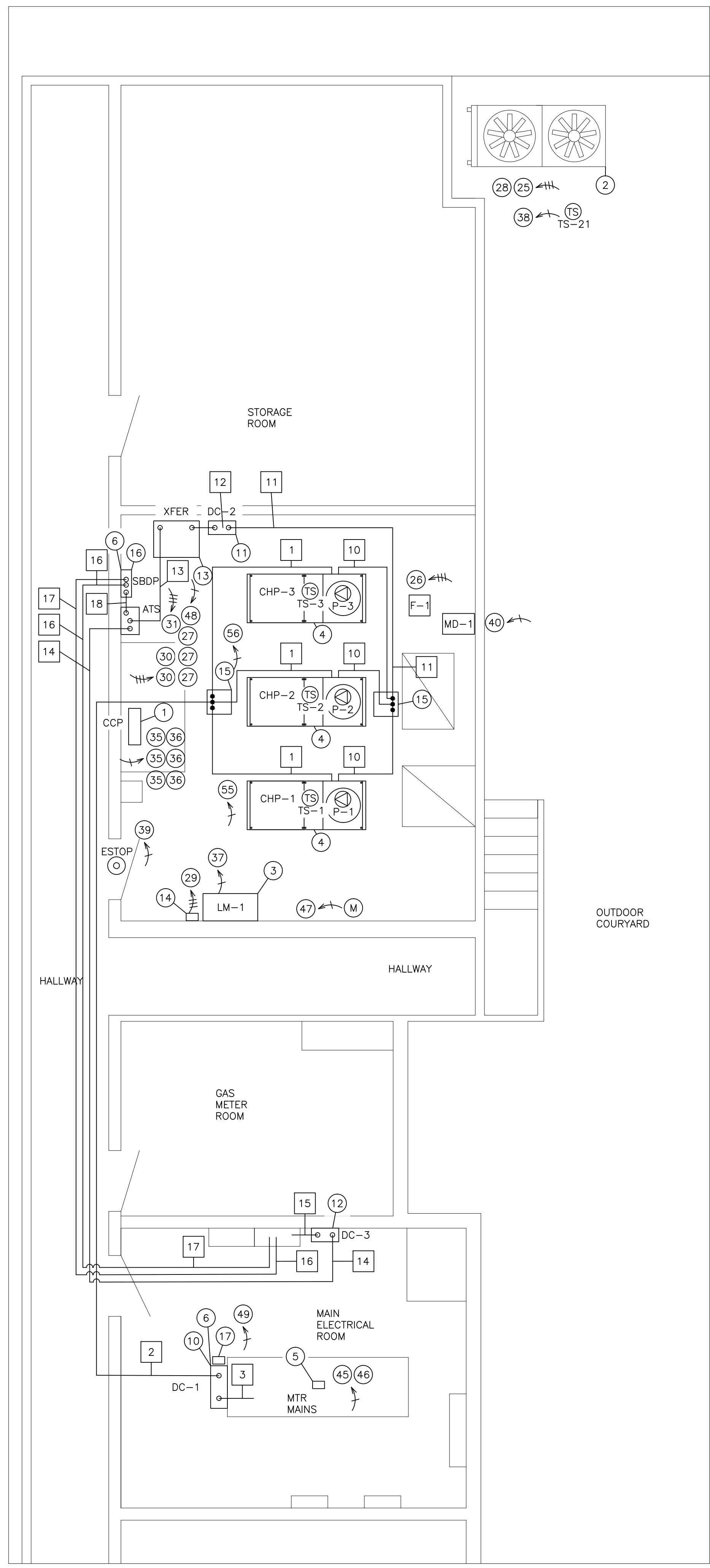
AUTOMATIC TRANSFER SWITCH SCHEDULE					
KEY	MODEL	VOLTAGE	AMPS	NORMAL	STANDBY
ATS	ASCO 300	208	200	LN	CPNL

FEEDER SCHEDULE 1-3								
KEY	DESCRIPTION	VOLTAGE	AMPS	# SETS	CONDUCTOR SIZE	NEUTRAL SIZE	GROUND SIZE	EMT SIZE
1	COGEN TO JUNCTION BOX	208	150	1	1/0	N/A	#6	2"
2	JUNCTION BOX TO DC-1	208	375	1	500 MCM	N/A	#3	3"
3	DC-1 TO 1600A SWITCH	208	375	1	500 MCM	N/A	#3	3"

STANDBY FEEDER SCHEDULE 10-18								
KEY	DESCRIPTION	VOLTAGE	AMPS	# SETS	CONDUCTOR SIZE	NEUTRAL SIZE	GROUND SIZE	EMT SIZE
10	COGEN TO JUNCTION BOX	208	150	1	1/0	N/A	#6	2"
11	JUNCTION BOX TO DC-2	208	200	1	3/0	N/A	#6	2"
12	DC-2 TO XFER	208	200	1	3/0	N/A	#6	2"
13	XFER TO ATS	208	200	1	3/0	3/0	#6	2"
14	ATS TO DC-3	208	200	1	3/0	3/0	#6	2"
15	DC-3 TO 800A PANEL	208	200	1	3/0	3/0	#6	2"
16	SBDP TO 800A PANEL	208	200	1	3/0	3/0	#6	2"
17	800A PANEL TO SBDP	208	200	1	3/0	3/0	#6	2"
18	SBDP TO ATS	208	200	1	3/0	3/0	#6	2"

NEW SBDP 200A MAIN CIRCUIT BREAKER PANEL SCHEDULE						
VOLTAGE: 120/208V, 3φ, 4W MAIN FEEDER: 1 SET OF (4) #3/0 CU, #6 CU G IN 2.5" C MOUNTING: SURFACE AIC: 65 KA						
CIRCUIT DESC.	TRIP AMPS	A	B	C	TRIP AMPS	CIRCUIT DESC.
MAIN DISCONNECT	200A	1	●		2	30A CCP
		3	●	●	4	
		5			6	
		7	●		8	
BOILER	100A	9	●		10	X SPARE
		11			12	
		13	●		14	
GFCI	20A	13	●		14	X SPARE
SPARE	X	15		●	16	X SPARE
SPARE	X	17		●	18	X SPARE

CONTROL WIRING DETAILS							
WIRE TYPE	DESCRIPTION	TYPE	FROM	WIRE ###'S	TO	WIRE ###'S	
18/2 SHIELDED	RUN COMMAND	OUTPUT	CCP	881-1 882-1	CHP-1	881 882	
18/2 SHIELDED	ALARM	INPUT	CCP	861-1 862-1	CHP-1	861 862	
18/2 SHIELDED	STATUS	INPUT	CCP	841-1 842-1	CHP-1	841 842	
18/2 SHIELDED	HEAT MAIN	OUTPUT	CCP	H1-1 H2-1	CHP-1	H1 H2	
18/2 SHIELDED	E-STOP	OUTPUT	CCP	GS1-1 GS2-1	CHP-1	GS1 GS1	
18/2 SHIELDED	BAT PWR	POWER	CCP	24+1 24-1	CHP-1	24+ 24-	
18/2 SHIELDED	REMOTE MONITOR	COM	CCP	LC1+1 LC1-1	CHP-1	LC1+ LC1-	
18/2 SHIELDED	SYS CONTROLLER	COM	CCP	RDA-1 RDB-1	CHP-1	RDA RDB	
	CAT5	CP CHECK	COM	CCP	CAT5-1	CHP-1	CAT5 **
18/2 SHIELDED	8035 POWER	COM	CCP		CHP-1		
18/2 SHIELDED	SPARE		CCP		CHP-1		
18/2 SHIELDED	RUN COMMAND	OUTPUT	CCP	881-2 882-2	CHP-2	881 882	
18/2 SHIELDED	ALARM	INPUT	CCP	861-2 862-2	CHP-2	861 862	
18/2 SHIELDED	STATUS	INPUT	CCP	841-2 842-2	CHP-2	841 842	
18/2 SHIELDED	HEAT MAIN	OUTPUT	CCP	H1-2 H2-2	CHP-2	H1 H2	
18/2 SHIELDED	E-STOP	OUTPUT	CCP	GS1-2 GS2-2	CHP-2	GS1 GS1	
18/2 SHIELDED	BAT PWR	POWER	CCP	24+2 24-2	CHP-2	24+ 24-	
18/2 SHIELDED	REMOTE MONITOR	COM	CCP	LC1+2 LC1-2	CHP-2	LC1+ LC1-	
18/2 SHIELDED	SYS CONTROLLER	COM	CCP	RDA-2 RDB-2	CHP-2	RDA RDB	
	CAT5	CP CHECK	COM	CCP	CAT5-2	CHP-2	CAT5 **
18/2 SHIELDED	8035 POWER	COM	CCP		CHP-2		
18/2 SHIELDED	SPARE		CCP		CHP-2		
18/2 SHIELDED	RUN COMMAND	OUTPUT	CCP	881-3 882-3	CHP-3	881 882	
18/2 SHIELDED	ALARM	INPUT	CCP	861-3 862-3	CHP-3	861 862	
18/2 SHIELDED	STATUS	INPUT	CCP	841-3 842-3	CHP-3	841 842	
18/2 SHIELDED	HEAT MAIN	OUTPUT	CCP	H1-3 H2-3	CHP-3	H1 H2	
18/2 SHIELDED	E-STOP	OUTPUT	CCP	GS1-3 GS2-3	CHP-3	GS1 GS1	
18/2 SHIELDED	BAT PWR	POWER	CCP	24+3 24-3	CHP-3	24+ 24-	
18/2 SHIELDED	REMOTE MONITOR	COM	CCP	LC1+3 LC1-3	CHP-3	LC1+ LC1-	
18/2 SHIELDED	SYS CONTROLLER	COM	CCP	RDA-3 RDB-3	CHP-3	RDA RDB	
	CAT5	CP CHECK	COM	CCP	CAT5-3	CHP-3	CAT5 **
18/2 SHIELDED	8035 POWER	COM	CCP		CHP-3		
18/2 SHIELDED	SPARE		CCP		CHP-3		



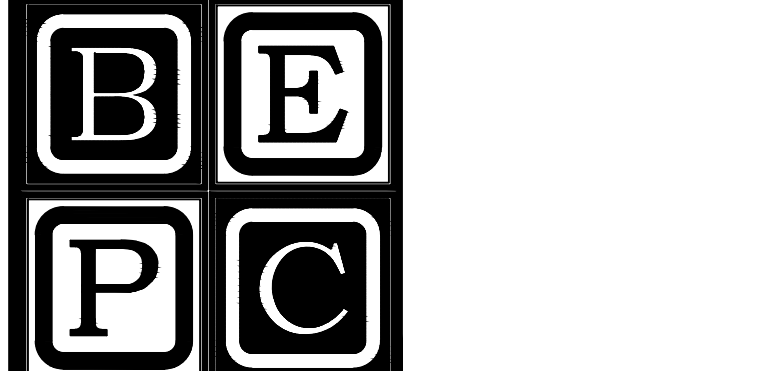
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**PREPARED BY:**  
**BECKER ENGINEERING, PC**  
 777 SUNRISE HIGHWAY, SUITE 300  
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 PHONE: (516) 561-5922  
 FAX: (516) 823-0219 EMAIL: SUPPORT@BEPC.US  
 WEB: WWW.BEPC.US



**PROJECT**  
**PLAZA RESIDENCES**  
**COGENERATION PROJECT**  
 25 NEW LOTS AVE  
 BROOKLYN, NY 11212

**DRAWING TITLE:**  
**COGENERATION CELLAR**  
**ELECTRICAL PARTIAL**  
**PLAN-1**

DESIGN BY:	KM	DATE:	10/20/16
DRN BY:	KM	DATE:	10/20/16
CKD BY:	.	DATE:	.
FINAL CKD BY:	.	DATE:	.
SCALE:	AS NOTED	DATE:	
DWG No.	PAGE 8 OF 9		

**E-101.00**  
 PROJECT NO. **60-335**  
 B-SCAN:





NO.	DATE	REVISION DESCRIPTION

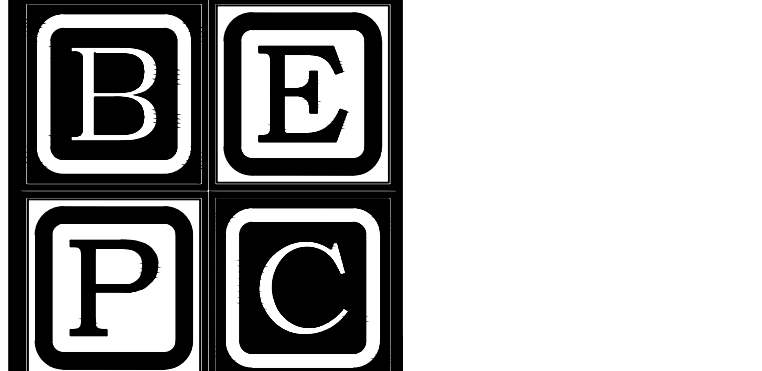
CLIENT:  
**AEGIS ENERGY SERVICES, INC**  
 55 JACKSON STREET  
 HOLYOKE, MA 01040  
 TEL.: 413-536-1156  
 FAX: 413-536-1104  
 ATTN: KEVIN MAY

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PROJECT  
**PLAZA RESIDENCES  
 COGENERATION PROJECT  
 25 NEW LOTS AVE  
 BROOKLYN, NY 11212**

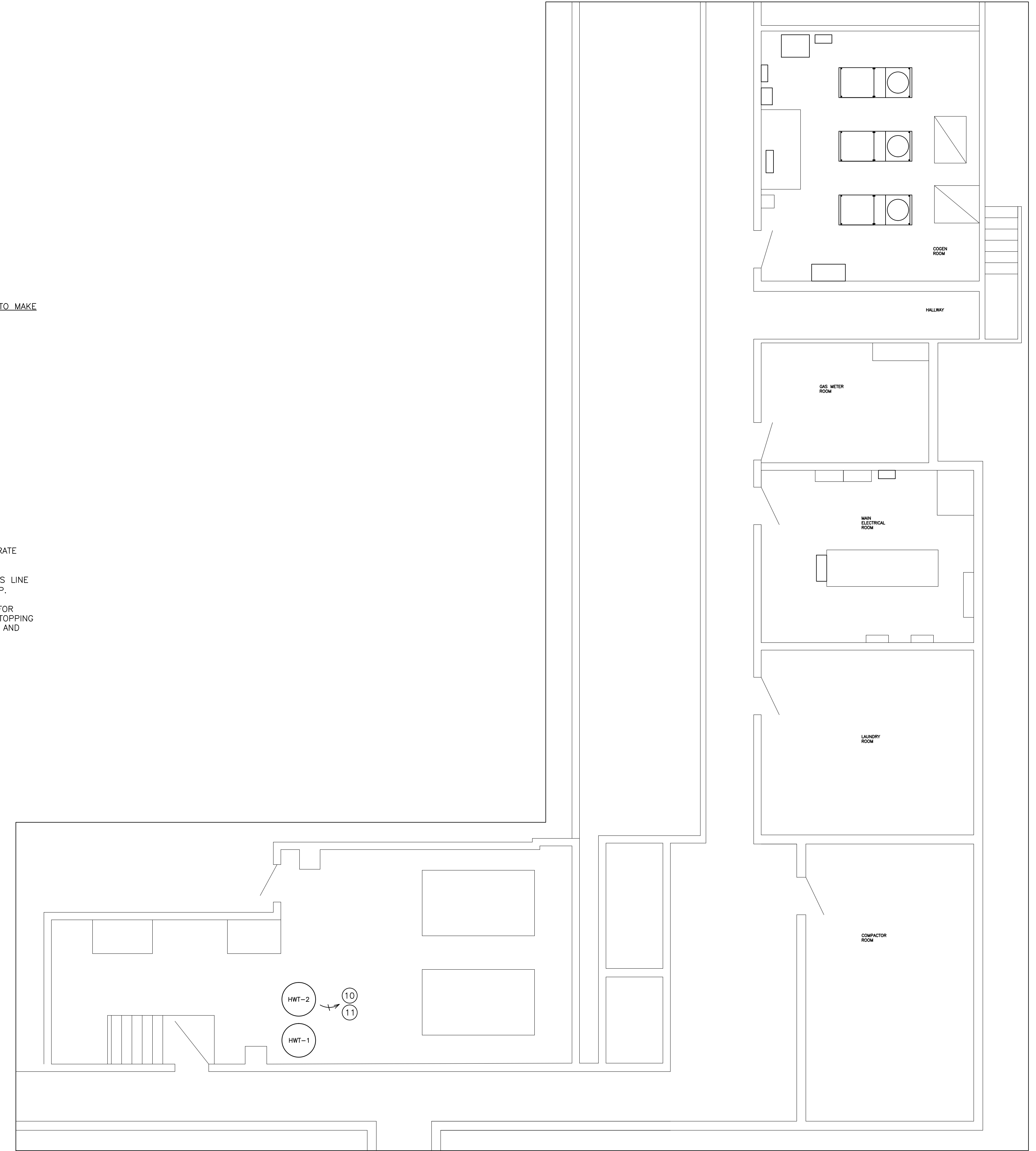
DRAWING TITLE:  
**COGENERATION CELLAR  
 ELECTRICAL PARTIAL  
 PLAN-2**

DESIGN BY:	KM	DATE:	10/20/16
DRN BY:	KM	DATE:	10/20/16
CKD BY:	.	DATE:	.
FINAL CKD BY:	.	DATE:	.
SCALE:	AS NOTED	DATE:	.
DWG No.	PAGE 8 OF 9		

**E-101.00**

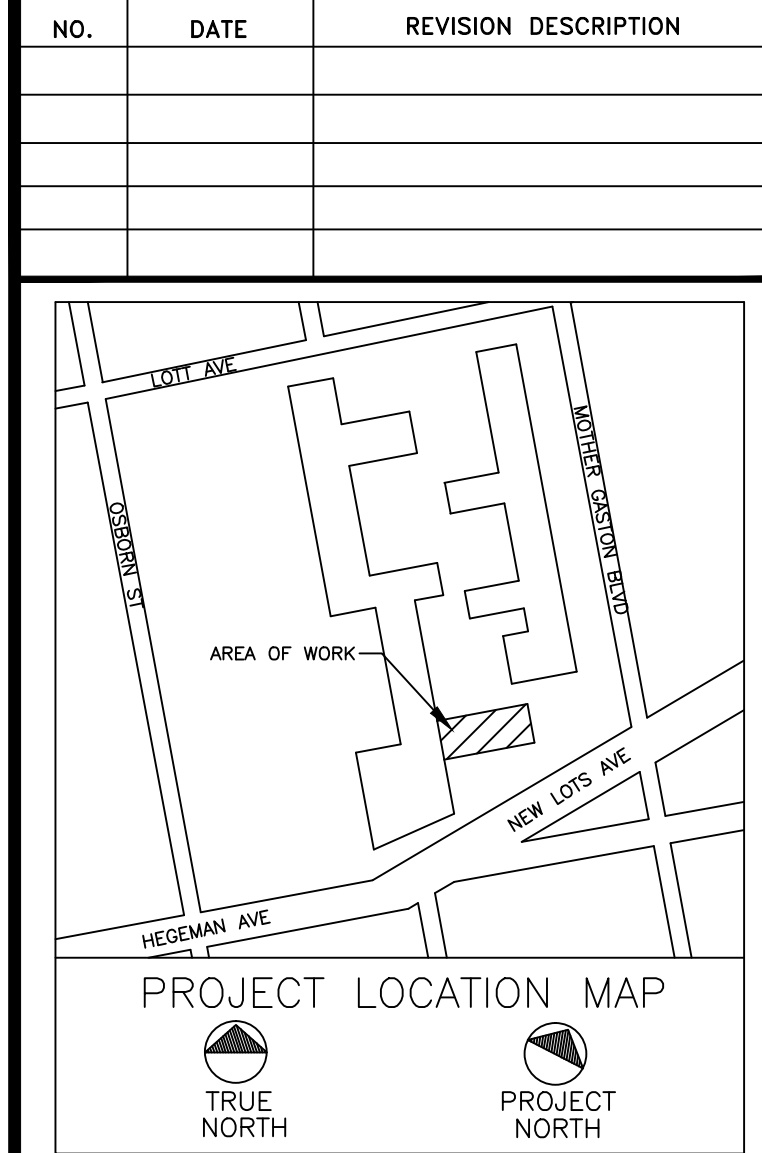
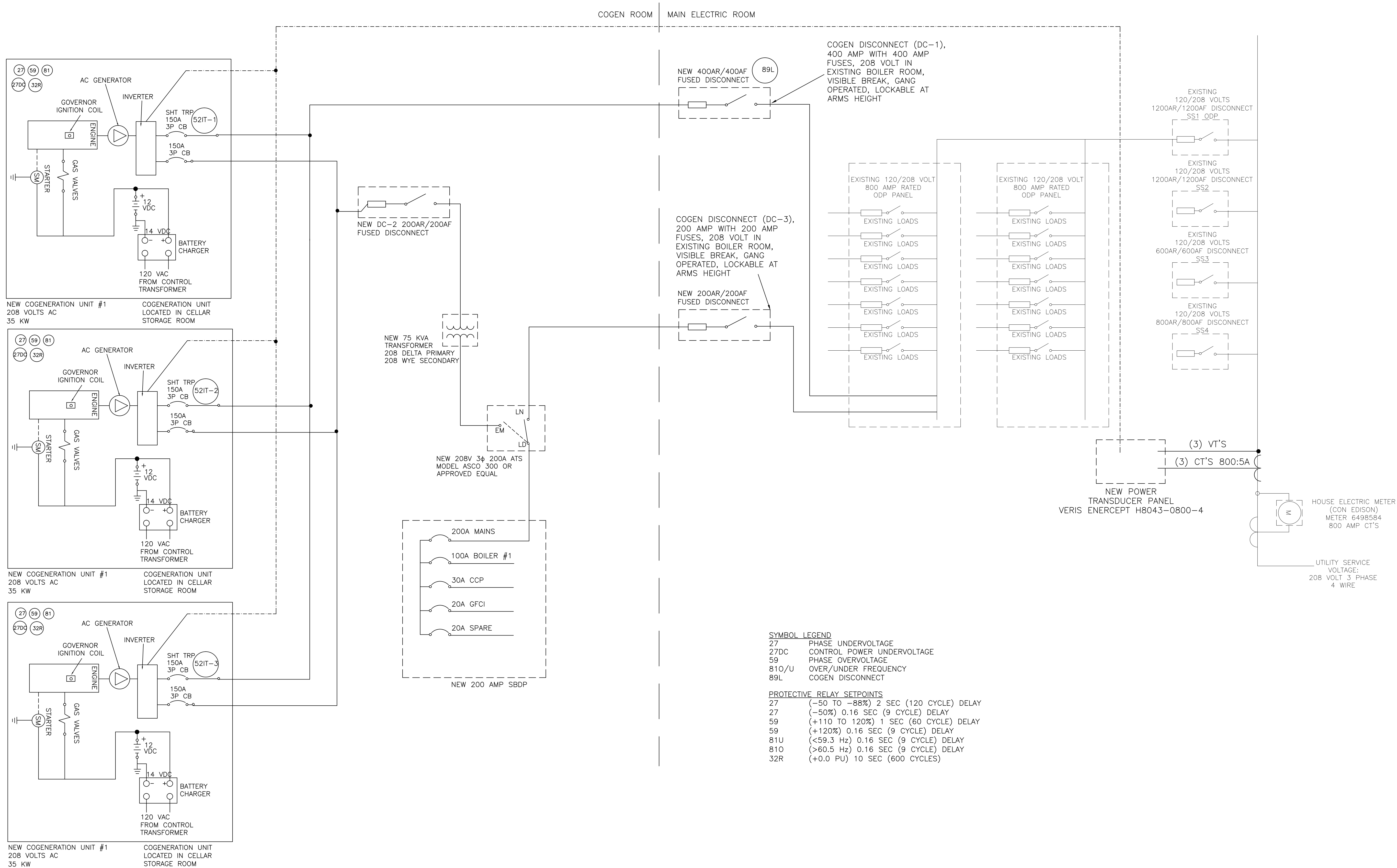
PROJECT NO.  
**60-335**

B-SCAN:



- PROVIDED BY AEGIS, ELECTRICAL CONTRACTOR TO MAKE CONNECTIONS: (1-2)
- ① (HWT-1) HOT WATER TANK #1
  - ② (HWT-2) HOT WATER TANK #2
- CONTROLS: (10-11)
- ⑩ FROM BOILER ROOM TO CCP V-1  
 (2) #18 W/ SERVICE SW  
 (1) #18 SHIELDED
  - ⑪ FROM HWT-1/2 TO CCP TS-13.14  
 (2) 18/3 SHIELDED
- NOTES: (X-X)
- USE 3/4" EMT MINIMUM FOR ALL RUNS, SEPARATE CONTROL AND LINE VOLTAGE WIRE.
- PROVIDED BY OWNER, 1) CATS COMMUNICATIONS LINE FOR CCP PANEL, WITH (1) DEDICATED STATIC IP.
- ELECTRICAL SUBCONTRACTOR IS RESPONSIBLE FOR FIRESTOPPING ALL PENETRATIONS. ALL FIRE STOPPING SHALL USE APPROVED SYSTEMS AND METHODS AND SHALL MEET OR EXCEED 2 HR RATING.





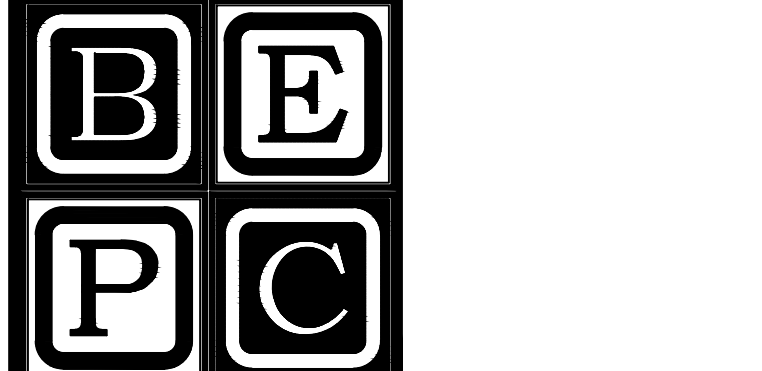
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PROJECT  
**PLAZA RESIDENCES  
 COGENERATION PROJECT  
 25 NEW LOTS AVE  
 BROOKLYN, NY 11212**

DRAWING TITLE:  
**COGENERATION  
 ELECTRICAL ONE LINE  
 DIAGRAM**

DESIGN BY:	KM	DATE:	10/20/16
DRN BY:	KM	DATE:	10/20/16
CKD BY:	.	DATE:	.
FINAL CKD BY:	.	DATE:	.
SCALE:	AS NOTED	DATE:	
DWG No.	PAGE 9 OF 9		

E-201.00

PROJECT NO.  
**60-335**

B-SCAN: