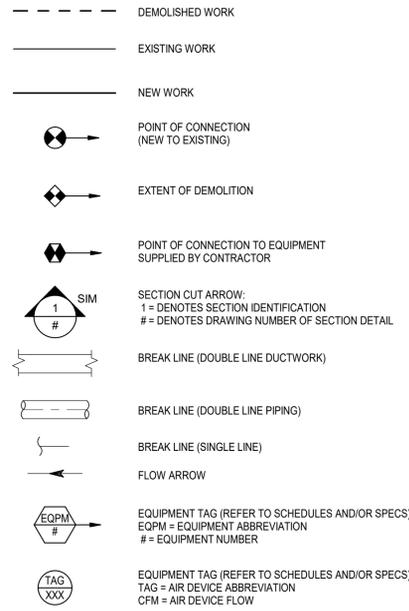
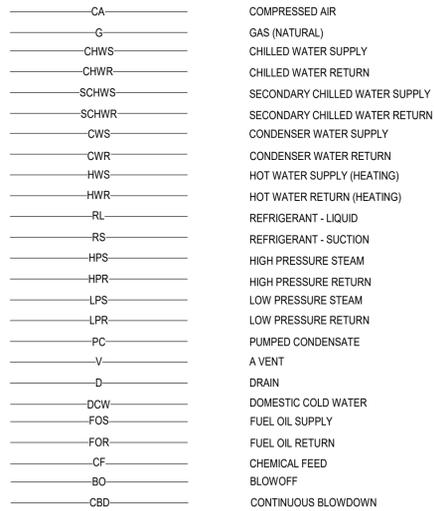


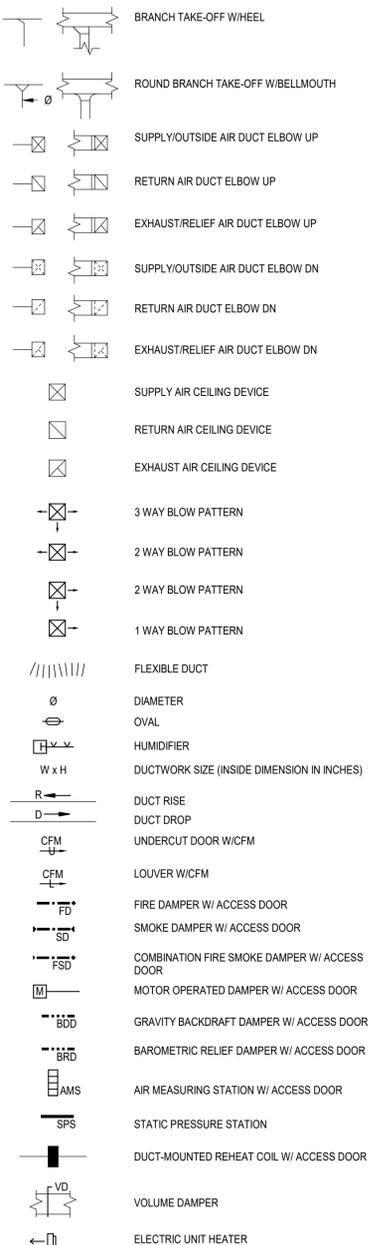
GENERAL SYMBOLS



LINE STYLES



MECHANICAL SYMBOLS



MECHANICAL ABBREVIATIONS

(D) EXISTING	DEMOLISH	EM	EQUIPMENT MANUFACTURER	OA	OUTSIDE AIR
(E) EXISTING	DEMOLISH	EMER	EMERGENCY	OAE	OUTSIDE AIR ENTHALPY
(F) REFURBISH	REFURBISH	ENT	ENTERING	OAH	OUTSIDE AIR HUMIDITY
(M) PROVIDED BY MANUFACTURER	PROVIDED BY MANUFACTURER	ER	EXHAUST REGISTER	OAI	OUTSIDE AIR INTAKE
(N) NEW	NEW	ERAD	ELECTRIC RADIATION	OAT	OUTSIDE AIR TEMPERATURE
(R) RELOCATE	RELOCATE	ERC	EXHAUST ENERGY RECOVERY COIL	OBD	OPPOSED BLADE DAMPER
ACC AIR CONDITIONING UNIT	AIR CONDITIONING UNIT	ERU	ENERGY RECOVERY UNIT	OC	ON CENTER
ACU AIR COOLED CONDENSER	AIR COOLED CONDENSER	ESP	EXTERNAL STATIC PRESSURE	OED	OPEN ENDED DUCT
ACFM ACTUAL CUBIC FEET PER MINUTE	ACTUAL CUBIC FEET PER MINUTE	ET	EXPANSION TANK	OEM	ORIGINAL EQUIPMENT MANUFACTURER
AD ACCESS DOOR	ACCESS DOOR	EVC	EVAPORATIVE COOLER	OPER	OPERATING
ADJ ADJUSTABLE	ADJUSTABLE	EWB	ENTERING WET BULB TEMPERATURE	OPNG	OPENING
AF AIRFLOW	AIRFLOW	EWV	ELECTRIC WATER HEATER	P	PUMP
AFF ABOVE FINISHED FLOOR	ABOVE FINISHED FLOOR	EWT	ENTERING WATER TEMPERATURE	PBD	PARALLEL BLADE DAMPER
AHU AIR HANDLING UNIT	AIR HANDLING UNIT	EXH	EXHAUST	PC	PUMPED CONDENSATE
AI ANALOG INPUT	ANALOG INPUT	EXIST	EXISTING	PD	PRESSURE DROP
AL ACOUSTICAL LINING	ACOUSTICAL LINING	EXT	EXTERNAL	PFHC	PLATE & FRAME HEAT EXCHANGER
AMB AMBIENT	AMBIENT	F	FILTER	PHC	PREHEAT COIL
AMS AIR FLOW MEASURING STATION	AIR FLOW MEASURING STATION	FAT	FLOAT AND THERMOSTATIC STEAM TRAP	PLN	PLENUM
AO ANALOG OUTPUT	ANALOG OUTPUT	FA	FACE AREA	POS	POSITION
AP ACCESS PANEL	ACCESS PANEL	FA	FROM ABOVE	PRESS	PRESSURE
APD AIR PRESSURE DROP	AIR PRESSURE DROP	FAS	FIRE ALARM SYSTEM	PRV	PRESSURE REDUCING VALVE
ARCH ARCHITECTURAL	ARCHITECTURAL	FB	FROM BELOW	PSI	POUNDS PER SQUARE INCH
AS AIR SEPARATOR	AIR SEPARATOR	FC	FORWARD CURVED	PSIA	POUNDS PER SQUARE INCH- ABSOLUTE
ASC APPLICATION SPECIFIC CONTROLLER	APPLICATION SPECIFIC CONTROLLER	FCU	FAN COIL UNIT	PSIG	POUNDS PER SQUARE INCH- GAUGE
ATC AUTOMATIC TEMPERATURE CONTROL	AUTOMATIC TEMPERATURE CONTROL	FD	FIRE DAMPER OR FLOOR DRAIN	QUAN	QUANTITY
AVG AVERAGE	AVERAGE	FLA	FINAL	R	RISE
AWT AVERAGE WATER TEMPERATURE	AVERAGE WATER TEMPERATURE	FLN	FULL LOAD AMPS	R	RETURN AIR RELIEF AIR
B BOILER	BOILER	FLX	FLEXIBLE	RA	RETURN AIR ENTHALPY
BAS BUILDING AUTOMATION SYSTEM	BUILDING AUTOMATION SYSTEM	FLR	FLOOR	RAE	RETURN AIR HUMIDITY
BDD BACKDRAFT DAMPER	BACKDRAFT DAMPER	FLTR	FILTER	RAH	RETURN AIR TEMPERATURE
BDS BLOWDOWN SEPARATOR	BLOWDOWN SEPARATOR	FM	FLOW METERING DEVICE	RAT	RADIANT CEILING PANEL
BFP BACK FLOW PREVENTER OR BOILER FEED PUMP	BACK FLOW PREVENTER OR BOILER FEED PUMP	FO	FUEL OIL	RCP	REQUIRED
BFU BOILER FEED UNIT	BOILER FEED UNIT	FOB	FUEL OIL BOTTOM	REN	RETURN
BHP BRAKE HORSEPOWER OR BOILER HORSEPOWER	BRAKE HORSEPOWER OR BOILER HORSEPOWER	FOF	FUEL OIL FILL	REV	REVISION
BI BACKWARD INCLINED OR BINARY INPUT	BACKWARD INCLINED OR BINARY INPUT	FOO	FUEL OIL OVERFLOW	RF	RETURN GRILLE
BLD BUILDING	BUILDING	FOP	FUEL OIL PUMP	RG	RELIEF HOOD OR RELATIVE HUMIDITY
BO BINARY OUTPUT	BINARY OUTPUT	FOS	FUEL OIL SUPPLY	RH	REHEAT COIL
BOD BOTTOM OF DUCT OR BASIS OF DESIGN	BOTTOM OF DUCT OR BASIS OF DESIGN	FOT	FLAT ON TOP	RHC	ROTARY HEAT WHEEL
BOP BOTTOM OF PIPE	BOTTOM OF PIPE	FPB	FAN POWERED BOX	RHW	RUN LOAD AMPS
BT BOTTOM	BOTTOM	FPM	FEET PER MINUTE	RLA	ROOM
BRD BAROMETRIC RELIEF DAMPER	BAROMETRIC RELIEF DAMPER	FPS	FEET PER SECOND	RM	RECIRCULATION PUMP
BT BT	BT	FT	FLASH TANK OR FOOT OR FEET	R	REVOLUTIONS PER MINUTE
BTU BRITISH THERMAL UNIT	BRITISH THERMAL UNIT	FTR	FINED TUBE RADIATION	RPM	RETURN REGISTER
BTUH BTU PER HOUR	BTU PER HOUR	FUT	FUTURE	RR	ROOFTOP UNIT
C CONVECTOR	CONVECTOR	FXC	FLEXIBLE CONNECTION	RTU	RELIEF VALVE
CAP CAPACITY	CAPACITY	GPM	GALLONS PER MINUTE	SA	STRUCTURAL BASE
CAV CONSTANT AIR VOLUME	CONSTANT AIR VOLUME	GR	GRAVITY	SB	SELF CONTAINED UNIT
CB CONCRETE BASE	CONCRETE BASE	GRV	GRAVITY ROOF VENT	SCU	SMOKE DAMPER OR DETECTOR
CC COOLING COIL	COOLING COIL	GV	GRAVITY VENT	SD	SECOND
CCO CAPPED CURB OPENING	CAPPED CURB OPENING	H	HUMIDIFIER	SEC	EFFICIENCY RATING
CD CEILING DIFFUSER	CEILING DIFFUSER	HAV	HEAT ACTUATED SHUTOFF VALVE	SEB	SENSIBLE
CFH CUBIC FEET PER HOUR	CUBIC FEET PER HOUR	HC	HEATING COIL	SEER	SUPPLY FAN
CFM CUBIC FEET PER MINUTE	CUBIC FEET PER MINUTE	HG	MERCURY	SF	SUPPLY GRILLE
CH CHILLER	CHILLER	HO	HORSEPOWER	SG	SPRING HANGER
CL COOLING	COOLING	HP	HORSEPOWER	SI	SCREENED OPENING
CLG CEILING	CEILING	HTG	HEATING	SI	SCREENED OPENING
CMPR COMPRESSOR	COMPRESSOR	HV	HEATING & VENTILATING UNIT	SP	STATIC PRESSURE IN WG
COL CLEAN OUT	CLEAN OUT	HWG	HOT WATER GENERATOR	SPD	STEAM PRESSURE DROP
CONC CONCENTRATION OR CONCRETE	CONCENTRATION OR CONCRETE	HX	HEAT EXCHANGER	SR	SUPPLY REGISTER
COND CONDENSATE (STEAM/ COOLING COIL)	CONDENSATE (STEAM/ COOLING COIL)	ID	INSIDE DIAMETER	SR	SUPPLY ENERGY RECOVERY COIL
CONN CONNECTION	CONNECTION	IN	INCHES	SRC	SAFETY RELIEF VALVE
CONT CONTINUATION	CONTINUATION	INT	INITIAL	SS	STEAM PRESSURE DROP
CP CONDENSATE PUMP	CONDENSATE PUMP	INT	KILOWATT	SSF	SOUND ATTENUATOR
CRAC COMPUTER ROOM AIR CONDITIONING UNIT	COMPUTER ROOM AIR CONDITIONING UNIT	LAT	LEAVING AIR TEMPERATURE	ST	STANDBY
CT COOLING TOWER	COOLING TOWER	LB	POUND	STBY	STEAM
CU COEFFICIENT OF CAPACITY	COEFFICIENT OF CAPACITY	LD	LINEAR DIFFUSER	STM	SUPPLY
D DRAIN	DRAIN	LDB	LEAVING DRY BULB TEMPERATURE	SUP	SURGE TANK
DA DEAERATOR	DEAERATOR	LDF	LEAVING WET BULB TEMPERATURE	SUT	TRANSFER AIR
DB DRY BULB	DRY BULB	LG	LINEAR GRILLE	TA	TRANSFER AIR DUCT
DV DRY COOLER	DRY COOLER	LOC	LOCATION	TAD	TERMINAL EQUIPMENT CONTROLLER
DDC DIRECT DIGITAL CONTROL	DIRECT DIGITAL CONTROL	LP	PROPANE	TEC	TRANSFER GRILLE
DEFL DEFLECTION	DEFLECTION	LRA	LOCKED ROTOR AMPS	TG	TOP OF DUCT
DET DETAIL	DETAIL	LWG	LEAVING WET BULB TEMPERATURE	TOD	TOP OF PIPE
DIA DIAMETER	DIAMETER	LWT	LEAVING WATER TEMPERATURE	TOT	TOTAL
DISC DISCONNECT	DISCONNECT	MAX	MAXIMUM	TPT	TYPICAL
DISCH DISCHARGE	DISCHARGE	MBC	MODULAR BUILDING CONTROLLER	TSP	TIGHT TO STRUCTURE
DI DIGITAL INPUT	DIGITAL INPUT	MCH	MECHANICAL CONTRACTOR	TTS	TYPICAL
DN DOWN	DOWN	MCC	MOTOR CONTROL CENTER	TYP	UNIT HEATER
DO DIGITAL OUTPUT	DIGITAL OUTPUT	MECH	MECHANICAL	UH	UNLESS NOTED OTHERWISE
DR DRAIN	DRAIN	MER	MECHANICAL EQUIPMENT ROOM	UNO	UNLESS NOTED OTHERWISE
DS DISCONNECT SWITCH	DISCONNECT SWITCH	MFR	MANUFACTURER	VAV	VOLUME DAMPER
DWG DRAWING	DRAWING	MH	MANHOLE	VD	VELOCITY
EA EXHAUST AIR OR EACH	EXHAUST AIR OR EACH	MIN	MINIMUM OR MINUTE	VEL	VARIABLE FREQUENCY DRIVE
EAT ENTERING AIR TEMPERATURE	ENTERING AIR TEMPERATURE	MOC	MAXIMUM OVER-CURRENT PROTECTION	VFD	VARIABLE INLET VALVES
ECC ELECTRICAL CONTRACTOR	ELECTRICAL CONTRACTOR	MOD	MOTOR OPERATED DAMPER	VIV	VENT THROUGH ROOF
ECH ELECTRIC CEILING HEATER	ELECTRIC CEILING HEATER	MODU	MODULATING	VTR	VARIABLE VOLUME AND TEMPERATURE
EDB ENTERING DRY BULB TEMPERATURE	ENTERING DRY BULB TEMPERATURE	MXB	MIXING BOX	VVT	VENT WITH
EDH ELECTRIC DUCT HEATER	ELECTRIC DUCT HEATER	N	NEW	W	WITHOUT
EF EXHAUST FAN	EXHAUST FAN	NC	NORMALLY CLOSED	W/O	WET BULB
EFF EFFICIENCY	EFFICIENCY	NG	NATURAL GAS	WB	WATER COOLED CONDENSING UNIT
EG EXHAUST GRILLE	EXHAUST GRILLE	NO	NOT IN CONTRACT	WCU	WATER GAUGE
EJ EXPANSION JOINT	EXPANSION JOINT	NO	NORMALLY OPEN OR NUMBER	WG	WATER SOURCE HEAT PUMP
ELEC ELECTRIC	ELECTRIC	NTS	NOT TO SCALE	WHP	WIRE MESH SCREEN
ELEV ELEVATION	ELEVATION			WMS	WATER PRESSURE DROP
				WPD	

MECHANICAL DEMOLITION NOTES

- IT IS THE INTENT THAT ALL EXISTING PIPING, DUCTWORK, FIXTURES, AND OTHER EQUIPMENT AND MATERIALS THAT INTERFERE WITH THE ALTERED EXISTING BUILDING ARRANGEMENTS AND NEW SYSTEMS BE REMOVED, RELOCATED, REROUTED, OR ABANDONED. THE DRAWINGS GENERALLY INDICATE MAJOR ITEMS OF EXISTING MATERIALS AND EQUIPMENT THAT ARE TO BE REMOVED, RELOCATED, REROUTED, OR ABANDONED BY EACH TRADE. IT IS NOT POSSIBLE TO INDICATE ALL RELATED ACCESSORIES, SPECIALTIES, AND OTHER MINOR ITEMS. HOWEVER, THEIR REMOVAL, RELOCATION, REROUTING, OR ABANDONMENT SHALL ALSO BE INCLUDED IN THIS CONTRACT AND SHALL BE DONE AT NO ADDITIONAL COST TO THE OWNER.
- THE CONTRACTOR MUST SURVEY AND VERIFY LOCATIONS AND PHYSICAL SIZES OF ALL EXISTING ITEMS AND DETERMINE WHETHER RELOCATION OR REROUTING WILL BE REQUIRED. IF RELOCATION OR REROUTING IS REQUIRED, INCLUDING ALL THAT OF ALL RELATED ACCESSORIES, SPECIALTIES, AND OTHER MINOR ITEMS, THE CONTRACTOR SHALL INCLUDE ALL NECESSARY WORK AS PART OF HIS CONTRACT AND IT SHALL BE DONE AT NO ADDITIONAL COST TO THE OWNER.
- SHOULD A CONTRACTOR REQUIRE REMOVAL, RELOCATION, OR REROUTING OF ANOTHER TRADE'S WORK THAT IS NOT INDICATED ON DRAWINGS, THE CONTRACTOR REQUIRING SUCH WORK SHALL BE RESPONSIBLE FOR THAT WORK, AND PAY ALL REQUIRED COSTS.
- EXISTING CONCEALED AND EXPOSED EQUIPMENT AND MATERIALS THAT WILL BECOME ABANDONED DUE TO NEW WORK, SHALL BE REMOVED BACK TO RISER OR MAIN AND PROPERLY PLUGGED OR CAPPED BEHIND FINISHED SURFACES.
- EXISTING CONCEALED EQUIPMENT AND MATERIALS THAT ARE TO REMAIN, BUT BECOME EXPOSED DUE TO NEW WORK, SHALL BE RELOCATED AND RECONNECTED AS DIRECTED BY ARCHITECT.
- UNLESS INDICATED OTHERWISE, ABANDONED EXISTING PIPING AND SIMILAR MATERIALS CONCEALED WITHIN FINAL CONSTRUCTION, SUCH AS WITHIN WALLS AND UNDER FLOORS ON GRADE, NEED NOT BE REMOVED, BUT NEED ONLY TO BE PROPERLY SHUT OFF AND PLUGGED BEHIND FINISHED SURFACES, PROVIDED THEY DO NOT INTERFERE WITH THE NEW SYSTEMS, EQUIPMENT, AND BUILDING ARRANGEMENTS.
- ALL WORK INVOLVING ALTERATIONS TO EXISTING SYSTEMS, EQUIPMENT, AND MATERIALS SHALL BE REVIEWED WITH THE ARCHITECT AND OWNER BEFORE BEGINNING WORK.

GENERAL NOTES

- THE SUBMISSION OF A PROPOSAL BY THE CONTRACTOR IS NOTIFICATION THAT THE CONTRACTOR HAS THOROUGHLY FAMILIARIZED HIMSELF WITH THE CONTRACT AND EXISTING SITE CONDITIONS AND HAS AGREED TO PROVIDE THE NECESSARY MATERIAL FOR THE COMPLETE INSTALLATION OF EACH SYSTEM IN A NEAT AND WORKMANLIKE MANNER IN ACCORDANCE WITH THE BEST PRACTICES OF THE INDUSTRY AND IN COMPLIANCE WITH ALL AUTHORITIES HAVING JURISDICTION.
- THESE DRAWINGS ARE PRESENTED TO THE CONTRACTOR WITH THE UNDERSTANDING THAT THE CONTRACTOR IS AN EXPERT AND COMPETENT IN THE PREPARATION OF CONTRACT BID PRICES ON THE BASIS OF INFORMATION SUCH AS IS CONTAINED IN THESE DOCUMENTS. IT IS THE INTENT OF THE DRAWINGS AND SPECIFICATIONS TO CALL FOR FINISHED WORK, TESTED AND READY FOR OPERATION AND IN COMPLETE CONFORMANCE WITH ALL APPLICABLE CODES, RULES, AND REGULATIONS. MINOR ITEMS NOT USUALLY SHOWN OR SPECIFIED, BUT MANIFESTLY NECESSARY FOR THE PROPER INSTALLATION AND OPERATION OF THE VARIOUS SYSTEMS, SHALL BE INCLUDED IN THE WORK AND IN THE PROPOSAL THE SAME AS IF SPECIFIED OR SHOWN ON THE DRAWINGS. IF ANY DEPARTURES FROM THE DRAWINGS ARE DEEMED NECESSARY, DETAILS OF SUCH DEPARTURES AND THE REASONS THEREFOR SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL. NO DEPARTURES SHALL BE MADE WITHOUT PRIOR APPROVAL OF THE ENGINEER.

MECHANICAL NOTES

- THE DRAWINGS INDICATE ARRANGEMENTS, APPROXIMATE SIZES AND RELATIVE LOCATION OF PRINCIPAL APPARATUS, EQUIPMENT, DEVICES AND SERVICES TO BE PROVIDED. NOT ALL OFFSETS, RISES AND DROPS FOR DUCTWORK AND PIPING ARE SHOWN. DRAWINGS ARE DIAGRAMMATIC AND ARE A GRAPHIC REPRESENTATION OF CONTRACT REQUIREMENTS. CHANGES IN DUCT SIZES AND/OR LOCATIONS SHALL BE MADE WHERE NECESSARY TO CONFORM TO SPACE CONDITIONS WITHOUT ADDITIONAL COST TO THE OWNER.
- THE CONTRACTOR SHALL PREPARE, IN BOOKLET FORM, AND SUBMIT DIRECTLY TO THE OWNER FOR REVIEW AND APPROVAL, SHOP DRAWINGS AND CATALOG CUTS OF ALL EQUIPMENT TO BE SUPPLIED.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO FULFILL THE INTENT OF THE WORK INDICATED BY THE CONTRACT DOCUMENTS. CONTRACTOR SHALL VERIFY ALL CONDITIONS AND DIMENSIONS. DEVIATIONS FROM THE CONTRACT DOCUMENTS NECESSITATED BY FIELD CONDITIONS SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE ENGINEER.
- CONTRACTOR SHALL PROVIDE TO OWNER'S STAFF MINIMUM (4) HOURS IN INSTRUCTION TO INSURE PROPER OPERATION OF SYSTEMS.
- ALL EQUIPMENT SHALL BE INSTALLED IN STRICT COMPLIANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS.
- THIS CONTRACTOR SHALL SECURE AND PAY FOR ALL FEES AND PERMITS PERTAINING TO THE CONTRACT.
- THIS CONTRACTOR SHALL BE RESPONSIBLE FOR ALL RIGGING, HANDLING AND PROTECTION OF MATERIALS FOR HIS OR HER WORK. ALL EQUIPMENT AND MATERIALS SHALL BE NEW AND WITHOUT BLEMISH OR DEFECT.
- ALL WORK AND MATERIAL SHALL CONFORM WITH APPLICABLE SMACNA STANDARDS AND BY LOCAL CODES HAVING JURISDICTION.
- MECHANICAL CONTRACTOR SHALL PROVIDE (3) COPIES OF EQUIPMENT OPERATION AND MAINTENANCE MANUALS, WHICH SHALL INCLUDE INSTALLATION INSTRUCTIONS, REPLACEMENT PARTS LIST, MAINTENANCE INSTRUCTIONS AND ANY OTHER PERTINENT INFORMATION PROVIDED BY THE EQUIPMENT MANUFACTURER.
- MECHANICAL CONTRACTOR SHALL MAINTAIN A RECORD SET OF DRAWINGS TO RECORD ALL DEVIATIONS FROM CONTRACT DOCUMENTS. PROVIDE DRAWINGS TO OWNER AT COMPLETION OF PROJECT.
- ALL ROOF PENETRATIONS SHALL BE SEALED WATERPROOF.
- PROVIDE PVC CONDENSATE TRAP LINE WITH SPLASH BLOCK FOR ROOFTOP UNIT.
- MOUNT THERMOSTATS AT 4'-0" MAX ABOVE FINISHED FLOOR (2'-10" MAX ABOVE FINISHED FLOOR IN SIDE REACH ADA ACCESSIBLE LOCATIONS), COORDINATE EXACT LOCATIONS W/ARCHITECT.
- PROVIDE CONTROL WIRING FROM THERMOSTAT TO CONTROL PANEL AND TO ROOFTOP UNIT. ALL LOW VOLTAGE CONTROL WIRING SHALL BE INSTALLED IN A MANNER TO PREVENT PHYSICAL DAMAGE.
- CONTRACTOR SHALL PROVIDE ALL AUTOMATIC TEMPERATURE CONTROLS (ATO) INCLUDING WIRING TO ALL SENSORS AND ALL MISCELLANEOUS APPURTENANCES TO MEET THE INTENT OF THESE DOCUMENTS.
- AN INDEPENDENT BALANCING CONTRACTOR SHALL BALANCE AIR SYSTEM, AND SUBMIT BALANCING REPORT UPON COMPLETION IN ACCORDANCE WITH AABC AND NEBB STANDARDS.
- WHERE CONDUIT, CABLE, OR PIPING PASSES THROUGH FIRE RATED WALLS, THE PENETRATION SHALL BE COMPLETELY SEALED WITH A FIRE STOP MATERIAL THAT IS UL LISTED AND ACCEPTED BY THE FIRE DEPARTMENT AS BEING SUITABLE FOR THIS SERVICE. THIS MATERIAL SHALL BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF THE MANUFACTURER TO MAINTAIN THE UL LISTED FIRE RATING OF THE PENETRATED WALL.
- THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL WIRING FOR SMOKE DETECTORS.
- THE SUPPLY FAN SHALL STOP AND THE OUTSIDE AIR DAMPER SHALL RETURN TO THE CLOSED POSITION IF PRODUCTS OF COMBUSTION ARE DETECTED. RESET FOR THE SMOKE DETECTOR SHALL BE AT THE FIRE ALARM PANEL.
- THIS CONTRACTOR SHALL ASSIST THE ELECTRICAL CONTRACTOR IN TESTING THE SMOKE DETECTION SYSTEM.
- SEAL ALL SEAM JOINTS. FASTENER PENETRATIONS AND CONNECTIONS IN NEW DUCTWORK AS SPECIFIED AND INDICATED IN SMACNA DUCT CONSTRUCTION STANDARDS PER SEAL CLASS A.
- THE MECHANICAL EQUIPMENT SHOWN ON PLANS AND THE CORRESPONDING MANUFACTURER LISTED IN THE DRAWING SCHEDULES IS THE BASIS OF DESIGN FOR THIS PROJECT. IF THE CONTRACTOR CHOOSES TO SUBSTITUTE THE BASIS OF DESIGN WITH AN APPROVED ALTERNATE MANUFACTURER AS LISTED IN THE CONTRACT SPECIFICATIONS, THAT CONTRACTOR SHALL BE RESPONSIBLE FOR DESIGNING, VERIFYING AND COORDINATING ALL MODIFICATIONS TO ALL MECHANICAL, ELECTRICAL, PLUMBING AND FIRE PROTECTION SYSTEMS AS REQUIRED TO ACCOMMODATE PROPER INSTALLATION OF THE SUBSTITUTED EQUIPMENT AT NO ADDITIONAL COST TO OWNER, ARCHITECT OR ENGINEER.
- IT IS THE DESIGN INTENT THAT VENTILATION AIR FOR ALL PUBLIC TOILET ROOMS, EXCLUDING FAMILY TOILETS AND TOILET ROOMS CONTAINED WITHIN A CONDITIONED SPACE, SHALL BE OBTAINED THROUGH OPENED DOORS TO AVOID DAMAGING THE FAN MOTOR, DO NOT ENERGIZE EXHAUST FANS PRIOR TO ALL DOORS BEING SECURELY OPENED.

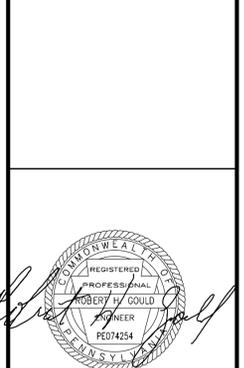
GENERAL COMPLIANCE - PA

DESIGN AND PERFORMANCE OF COMPONENTS AND METHODS SPECIFIED HEREIN SHALL COMPLY WITH THE LATEST ADOPTED VERSIONS OF THE STATE CODES, STANDARDS, AND MANUFACTURER'S RECOMMENDATIONS OF THE ENTITIES LISTED BELOW BUT NOT LIMITED TO:

IBC	2015 INTERNATIONAL BUILDING CODE
IFGC	2015 INTERNATIONAL FUEL GAS CODE
IMC	2015 INTERNATIONAL MECHANICAL CODE
IECC	2015 INTERNATIONAL ENERGY CONSERVATION CODE
ASHRAE	AMERICAN SOCIETY OF HEATING, REFRIGERATION AND AIR CONDITIONING ENGINEERS
ASTM	AMERICAN SOCIETY FOR TESTING MATERIALS
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
UL	UNDERWRITERS LABORATORIES, INC.
FM	FACTORY MUTUAL
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
SMACNA	SHEET METAL AND AIR CONDITIONING CONTRACTOR'S NATIONAL ASSOCIATION
ASME	AMERICAN SOCIETY OF MECHANICAL ENGINEERS
AMCA	AIR MOVING AND CONDITIONING ASSOCIATION
ARI	AMERICAN REFRIGERATION INSTITUTE
MSS	MANUFACTURER'S STANDARDIZATION SOCIETY OF THE VALVE AND FITTING INDUSTRY
PA CODE	COMMONWEALTH OF PENNSYLVANIA CODE



PENNONI ASSOCIATES INC.
 1900 Market Street, Suite 300
 Philadelphia, PA 19103
 T 215.222.3000 F 215.222.3588



AAMBC at Core Creek Park
 Langhorne, PA
MECHANICAL INDEX SHEET
 Buck's County PA

PROJECT	BUICPD20007	DATE	09/04/2014	DRAWING SCALE	AS NOTED	DRAWN BY	AAS	APPROVED BY	AAS	NO.	DATE	REVISIONS

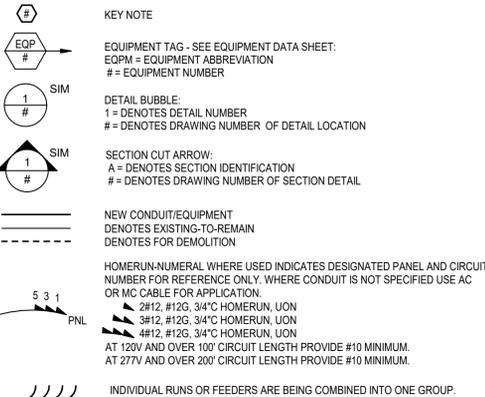
ALL DOCUMENTS PREPARED BY PENNONI ASSOCIATES ARE INSTRUMENTS OF SERVICE IN RESPECT OF THE PROJECT. THEY ARE NOT TO BE REPRODUCED OR COPIED TO BE SUITABLE FOR REUSE BY OWNER OR OTHERS ON THE EXTENSIONS OF THE PROJECT OR ON ANY OTHER PROJECT. ANY REUSE WITHOUT WRITTEN VERIFICATION OR ADAPTATION BY PENNONI ASSOCIATES FOR THE SPECIFIC PURPOSE INTENDED WILL BE AT OWNERS SOLE RISK AND WITHOUT LIABILITY OR LEGAL EXPOSURE TO PENNONI ASSOCIATES. PENNONI ASSOCIATES SHALL INDEMNIFY AND HOLD HARMLESS PENNONI ASSOCIATES FROM ALL CLAIMS, DAMAGES, LOSSES AND EXPENSES ARISING OUT OF OR RESULTING THEREFROM.

ISSUED FOR BID/ PERMIT
 DATE: 12/01/2020

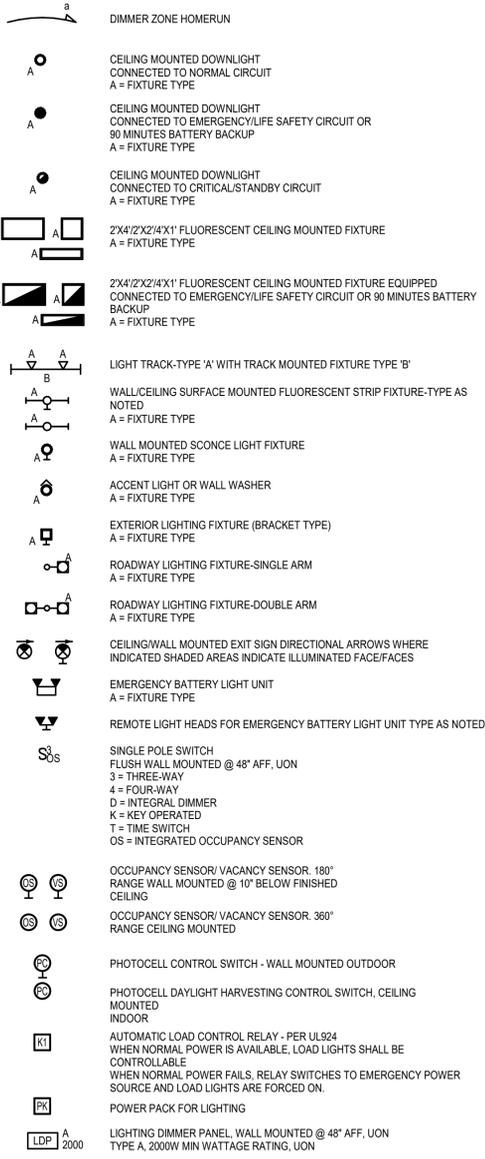
MP-001
 SHEET 52 OF 102

GENERAL SYMBOLS

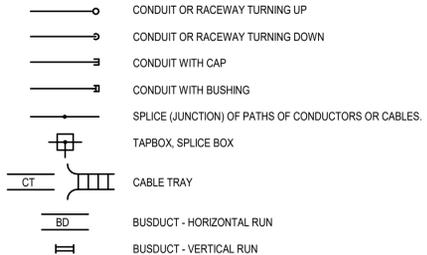
(NOT ALL SYMBOLS ARE NECESSARILY USED ON THIS PROJECT)



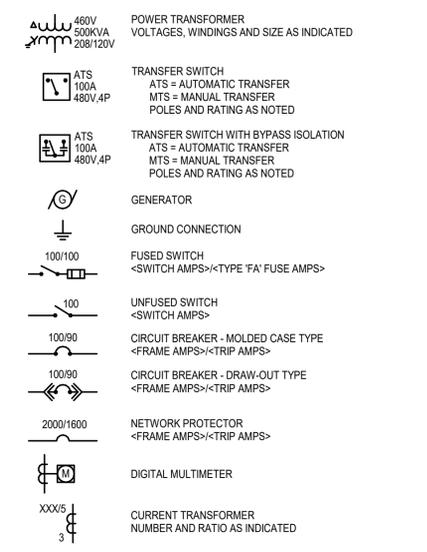
LIGHTING SYMBOLS



POWER SYMBOLS



SINGLE LINE SYMBOLS



GENERAL COMPLIANCE - PA

DESIGN AND PERFORMANCE OF COMPONENTS AND METHODS SPECIFIED HEREIN SHALL COMPLY WITH THE LATEST ADOPTED VERSIONS OF THE STATE OF PENNSYLVANIA CODES, AND STANDARDS LISTED BELOW NOT LIMITED TO:

- List of codes and standards including IBC, IECC, NEC, NFPA 70, NFPA 72, NFPA 101, NFPA 70E, NFPA 110, NFPA 780, International Building Code, International Energy Conservation Code, National Electrical Code, National Fire Alarm and Signaling Code, Life Safety Code, Standard for Electrical Safety in the Workplace, Standard for Emergency and Standby Power Systems, and Standard for Lightning Protection Systems.

ABBREVIATIONS

Table of abbreviations including symbols for building, conduit, degree Celsius, circuit breaker, closed circuit television, canelara, ceiling mount, circuit continuation, copper, degree, diameter, disconnect, division, each, electrical contractor, emergency, electrical metallic tubing, degree Fahrenheit, fire alarm control panel, fire alarm annunciator panel, fire alarm termination cabinet, furnished by others, feeder, floor, full load amperes, flexible metal conduit, ground, ground fault interrupter, galvanized rigid conduit, horse power, hertz, isolated ground, intermediate metal conduit, junction box, thousand circular mils, kilovolt, kilowatt, kilowatt hour, lighting, main circuit breaker, motor control center, mineral insulated, metal-sheathed cable, mounted, neutral, normally closed, normally open, pole, pull box, provided by factory, phase, panel, polyvinyl chloride conduit, power, receptacle, rigid metal conduit, surge protection device, specification, switch, switchboard, switchgear, systems, transient voltage surge suppression, typical, ungrounded, uninterrupter power supply, volts, variable frequency drive, weatherproof, transformer, wye, delta.

GENERAL NOTES

- 1. DRAWINGS ARE DIAGRAMMATIC AND INDICATE GENERAL ARRANGEMENT OF SYSTEMS AND WORK. CONDUIT ROUTING IS SHOWN DIAGRAMMATICALLY AND DOES NOT SHOW ALL BENDS, OFFSETS, DROPS AND RISES OF RUNS. THE CONTRACTOR SHALL ALLOW FOR ROUTING OF CONDUIT TO AVOID OBSTRUCTIONS...
2. INSTALL NEW WORK AND CONNECT TO EXISTING WORK WITH MINIMUM INTERFERENCE TO EXISTING FACILITIES...
3. SECURE ALL SUPPORTS TO BUILDING STRUCTURE UTILIZING TOGGLE BOLTS (HOLLOW MASONRY), EXPANSION SHIELDS OR INSERTS (CONCRETE AND BRICK), MACHINE SCREWS (METAL), BEAM CLAMPS (FRAMEWORK), WOOD SCREWS (WOOD) OR PAN THRU SCREWS (METAL DECK)...
4. PROVIDE TEMPORARY LIGHT AND POWER SYSTEMS AT EARLIEST POSSIBLE DATE WITHIN THE CONSTRUCTION AREAS FOR THE REQUIREMENTS OF ALL TRADES AS HEREIN DESCRIBED...
5. IN LOCATING BOXES AND OUTLETS, ALLOW FOR OVERHEAD PIPES, DUCTS AND MECHANICAL EQUIPMENT...
6. PASS RACEWAYS OVER WATER, STEAM OR OTHER PIPING WHEN PULL BOXES ARE NOT REQUIRED...
7. CUT CONDUIT ENDS SQUARE. REAM SMOOTH. PAINT MALE THREAD OF FIELD THREADED RACEWAYS WITH GRAPHITE BASE PIPE COMPOUND...
8. HORIZONTAL OR CROSS RUNS IN PARTITIONS AND WALLS ARE NOT PERMITTED...
9. LEAVE WIRES WITH SUFFICIENT SLACK TO PERMIT MAKING FINAL CONNECTIONS...
10. VERIFY LOCATIONS OF OUTLETS AND SWITCHES IN FINISHED ROOMS WITH ARCHITECTURAL DRAWINGS...
11. SET BOXES SQUARE AND TRUE WITH BUILDING FINISH...
12. COVERS OF JUNCTION AND PULLBOXES SHALL BE READILY ACCESSIBLE...
13. PROVIDE PULLBOXES WHERE INDICATED...
14. EMPTY RACEWAY RUNS: PROVIDE PULLBOXES EVERY 100' AND AS INDICATED...
15. SUPPORT PANEL, JUNCTION AND PULLBOXES INDEPENDENTLY TO BUILDING STRUCTURE...
16. ALL ACCESS DOOR LOCATIONS SHALL BE REVIEWED BY ARCHITECT PRIOR TO INSTALLATION...
17. CONNECT CONDUIT TO MOTOR TERMINAL BOXES WITH FLEXIBLE CONDUIT...
18. PULL NO THERMOPLASTIC WIRES AT TEMPERATURES LOWER THAN 32°F...
19. PROVIDE SEPARATE SYSTEMS AND ENCLOSURES FOR 208/120V AND 480/277V POWER...
20. WIRE COLOR CODING: AS PER CODE...
21. FIRESTOPPING SHALL BE INSTALLED WHENEVER WIRING OR RACEWAYS CROSS FIRE RATED CONSTRUCTION...
22. PROVIDE EACH 120V, 20A BRANCH CIRCUIT FROM LIGHTING AND APPLIANCE PANELBOARDS...
23. THESE ARE STANDARD COVER SHEET ABBREVIATION LISTS AND SYMBOLS...
24. REFER TO REFLECTED CEILING PLANS FOR LUMINAIRE LOCATIONS...
25. ELECTRICAL CONTRACTOR SHALL COORDINATE LOCATION OF LUMINAIRES...
26. CONDUIT IN THE GREENHOUSES ARE TO BE RUN IN THE SHADE OF STRUCTURAL...
27. ALL SWITCHES TO BE LABELED WITH PANEL AND CIRCUIT.

Pennoni logo and contact information for Pennoni Associates Inc., 1900 Market Street, Suite 300, Philadelphia, PA 19103.

Professional Engineer seal for Robert H. Gould, License No. PE074254, State of Pennsylvania.

Project title block: AAMBC at Core Creek Park, Langhorne, PA, Electrical Index Sheet, Buck's County PA.

Table with columns for PROJECT, DATE, DRAWING SCALE, DRAWN BY, APPROVED BY, and REVISIONS.

ALL DOCUMENTS PREPARED BY PENNONI ASSOCIATES ARE INSTRUMENTS OF SERVICE IN RESPECT OF THE PROJECT. THEY ARE NOT INTENDED OR REPRESENTED TO BE SUITABLE FOR REUSE BY OWNER OR OTHERS...

Table with columns for PROJECT (BUCPD20007), DATE (09/04/2014), DRAWING SCALE (AS NOTED), DRAWN BY (Author), and APPROVED BY (Approver).

Large graphic: ISSUED FOR BID/ PERMIT, DATE: 12/01/2020, SHEET 62 OF 102.



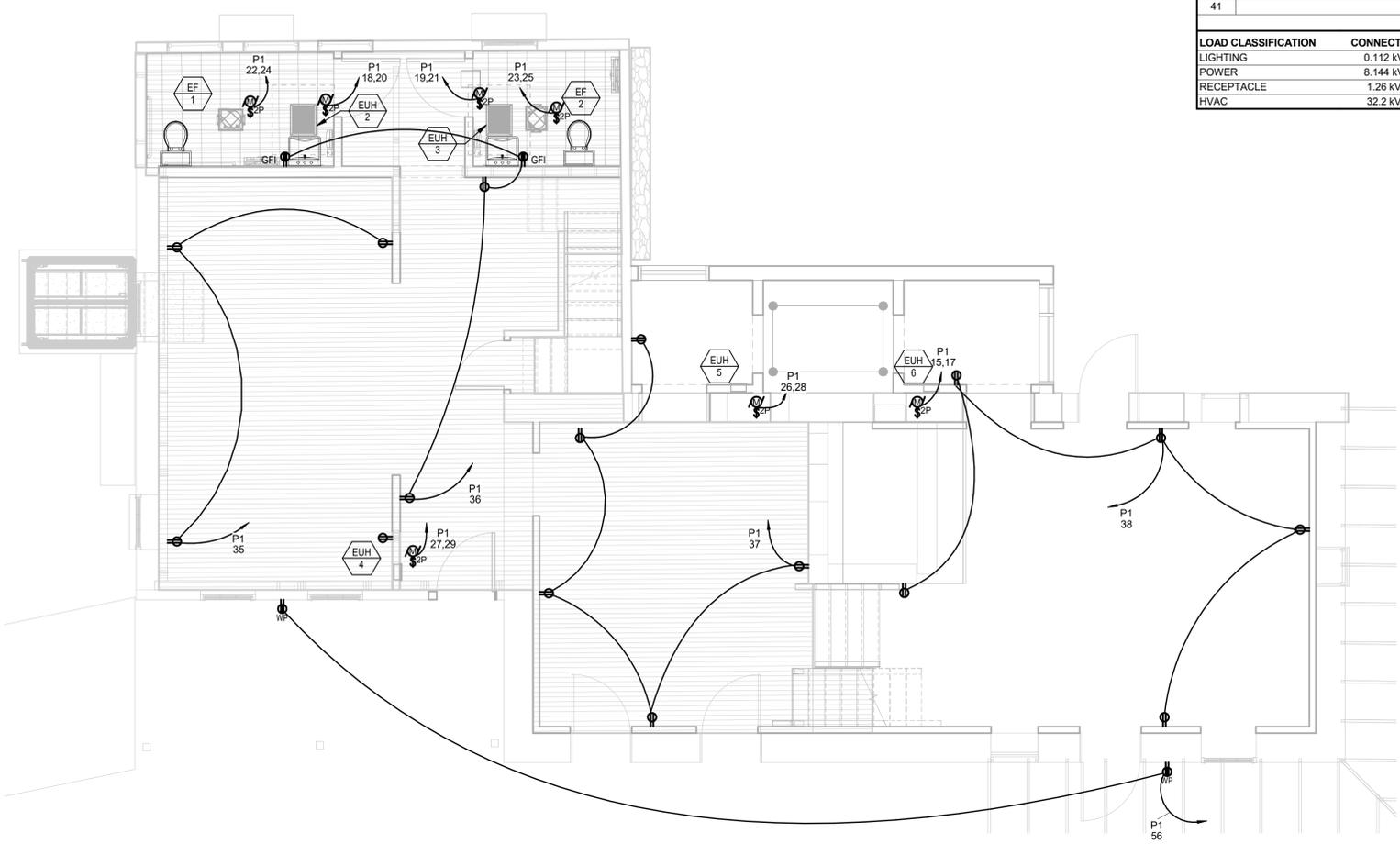
PENNONI ASSOCIATES INC.
 1900 Market Street, Suite 300
 Philadelphia, PA 19103
 T 215.222.3000 F 215.222.3588

Panel: P2

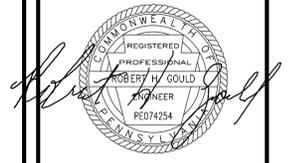
LOCATION:	BASEMENT	VOLTS:	120/208 Wye	BUS:	200A
SUPPLIED FROM:		PHASES:	3	GROUND BUS:	MAIN: 200 A MCB
FEEDER SIZE:	Refer to Power Riser Diagram	WIRES:	4	ISOLATED GROUND:	AIC: 35 KAIC
MANUFACTURER:		MOUNTING:	Surface	NEUTRAL:	LUGS:

CKT	CIRCUIT DESCRIPTION	WIRE SIZE	TRIP	POLES	A			B		C		POLES	TRIP	WIRE SIZE	CIRCUIT DESCRIPTION	CKT
					1.3	0.6		1.3	0.2		1.3					
1											1	15	2#12,#12G	ELEVATOR CAR	2	
3	ELEVATOR	3#12,#12G	15	3							1	15	2#12,#12G	PITT LIGHTING & RECEPT.	4	
5											2	40	2#8,#10G	ACCU-1	6	
7	HOISTWAY LIGHTING & RECEPT.	2#12,#12G	15	1	0.2	3.4					1	20	2#12,#12G	EXTERIOR RECEPTACLE	10	
9	MACHINE RM. LTG & RECEPT.	2#12,#12G	15	1			0.1	0.4			1	20	2#12,#12G	AIR COMPRESSOR	12	
11									8.5	0.9	1	20	2#12,#12G	SUMP PUMP	14	
13	CH-1	3#1,#6G	125	3	8.5	1.4					1	20	2#12,#12G	SUMP PUMP	16	
15									8.5	1.4	1	20	2#12,#12G	SUMP PUMP	18	
17	RECEPTS.	2#12,#12G	20	1						0.5					20	
19															22	
21															24	
23															26	
25															28	
27															30	
29															32	
31															34	
33															36	
35															38	
37															40	
39															42	
41																
					15.3 kVA		11.8 kVA		14.5 kVA							

LOAD CLASSIFICATION	CONNECTED...	DEMAND...	DEMAND LOAD	TOTAL CONNECTED LOAD:	
LIGHTING	0.112 kVA	100%	0.112 kVA	42 kVA	116 A
POWER	8.144 kVA	100%	8.144 kVA	42 kVA	116 A
RECEPTACLE	1.26 kVA	100%	1.26 kVA	52.138 kVA	145 A
HVAC	32.2 kVA	100%	32.2 kVA		
				TOTAL DEMAND PLUS 25%:	



1 GROUND FLR. ELECTRICAL
 E-111 1/4" = 1'-0"



AAMBC at Core Creek Park
 Langhorne, PA
**ELECTRICAL PROPOSED
 POWER - GROUND FLOOR**
 Bucks County PA

NO.	DATE	BY	REVISIONS

ALL DOCUMENTS PREPARED BY PENNONI ASSOCIATES ARE INSTRUMENTS OF SERVICE IN RESPECT OF THE PROJECT. THEY ARE NOT INTENDED OR REPRESENTED TO BE SUITABLE FOR REUSE BY OWNER OR OTHERS OR THE EXTENSIONS OF THE PROJECT OR ON ANY OTHER PROJECT. ANY REUSE WITHOUT WRITTEN VERIFICATION OR ADAPTATION BY PENNONI ASSOCIATES FOR THE SPECIFIC PURPOSE INTENDED WILL BE AT OWNERS SOLE RISK AND WITHOUT LIABILITY OR LEGAL EXPOSURE TO PENNONI ASSOCIATE, AND OWNER SHALL INDEMNIFY AND HOLD HARMLESS PENNONI ASSOCIATES FROM ALL CLAIMS, DAMAGES, LOSSES AND EXPENSES ARISING OUT OF OR RESULTING THEREFROM.

PROJECT	BUCPD20007
DATE	09/04/2014
DRAWING SCALE	AS NOTED
DRAWN BY	Author
APPROVED BY	Approver

E-111
 SHEET 65 OF 102

ISSUED FOR BID/ PERMIT
 DATE: 12/01/2020

12/30/2020 10:31:16 AM BM 190/BUCPD20007 - AAMBC at Core Creek Park - MEP - General_V02.rvt

