24x36 SHEET
1:1

GENERAL

- P1-## — HOME RUN. ARROWS INDICATE NUMBER OF CIRCUITS, CROSS LINES INDICATE NUMBER OF WIRES, OTHER THAN TWO (2) PLUS BOND, WIRE SIZE NOT SHOWN INDICATES #12AWG MIN.
- INDICATES CIRCUIT NUMBER
- PANEL DESIGNATION
- WIRING IN RACEWAY
- WIRING IN RACEWAY CONCEALED UNDERGROUND OR UNDERSLAB, MINIMUM 3/4"C
- 3/C #nn W/GND
- EquipNo-P — CONDUIT AND CABLE ID TAG
- CONDUIT TURNING UP
- CONDUIT TURNING DOWN
- CONDUIT STUB
- EY CONDUIT SEAL
- FLEXIBLE NON-METALLIC CONDUIT
- PANELBOARD
- CP — CONTROL PANEL
- ATC — AUTOMATIC TEMPERATURE CONTROL PANEL
- ISBP — INTRINSIC SAFETY BARRIER PANEL
- POWER COMPANY METER
- HS — LOCAL SELECTOR SWITCH
  - H/O/A – HAND/OFF/AUTO
  - H/O/R – HAND/OFF/REMOTE
  - L/O/R – LOCAL/OFF/REMOTE
- PUSHBUTTON STATION, WITH "EM" EMERGENCY
- J — JUNCTION BOX
- MD — MOTORIZED DAMPER
- T — THERMOSTAT
- R — RELAY
- B T — DOOR BELL/BUZZER AND TRANSFORMER – MTD CL UP 7'-0" AFF
- x-# EQUIP# — EQUIPMENT TAGS
- X — KEYED NOTE TAG
- 2 — REVISION TRIANGLE
- BRACKET
- HH — HANDHOLE
- MH — MANHOLE

POWER

- NON-FUSED SAFETY SWITCH
- F — FUSED SAFETY SWITCH
- NON-FUSED DISCONNECT/MAGNETIC MOTOR STARTER
- M — MANUAL MOTOR SWITCH (MOTOR RATED SWITCH), TOGGLE OPERATED, SINGLE PHASE. 1 OR 2 POLE AS REQUIRED
- CB 100A — ENCLOSED CIRCUIT BREAKER W/AMPERE RATING
- M — ELECTRIC MOTOR, NUMBER INDICATES HORSEPOWER RATING, "F" INDICATES FRACTIONAL LESS THAN 1/20HP OR 100W
- T — TRANSFORMER
- P — POWER POLE
- DUPLEX RECEPTACLE, NEMA 5-20R – MTD CL UP 24" OR AS NOTED."WP" WEATHER PROOF, "G" PROTECTED BY GFCI RECEPTACLE OR BREAKER UPSTREAM, "H" MOUNTED 0'-6" BELOW CEILING, "TV" MOUNT 7'-6" UP
- DOUBLE DUPLEX RECEPTACLE, NEMA 5-20R – MTD CL UP 24" OR AS NOTED
- SINGLE RECEPTACLE, NEMA 5-20R – MTD CL UP 24" OR AS NOTED
- GFCI DUPLEX RECEPTACLE, NEMA 5-20R – MOUNTED CL UP 48" OR 6" ABOVE COUNTER
- DOUBLE DUPLEX GFCI RECEPTACLE, NEMA 5-20R – MOUNTED CL UP 48" OR 6" ABOVE COUNTER
- FLUSH FLOOR OUTLET, DUPLEX RECEPTACLE, NEMA 5-20R
- MULTI SERVICE FLUSH FLOOR BOX WITH DUPLEX RECEPTACLE AND PROVISIONS FOR DATA
- POWER RECEPTACLE, NEMA CONFIGURATION AS NOTED OR AS REQUIRED FOR EQUIPMENT SERVED.
- FLUSH CEILING MTD DEVICE BOXES, ONE W/ DUPLEX RCPT FOR PROJECTOR POWER AND ONE FOR DATA TO SERVE OH PROJECTOR. RUN ONE 1 1/2"C TO JBOX LOCATED AT FRONT OF ROOM FOR PROJECTOR CABLE PATHWAY. VERIFY FINAL LOCATION W/ OWNER PRIOR TO ROUGH IN.
- MULITI-OUTLET POWER STRIP, MOUNT 0'-6" ABOVE COUNTERTOP, RECEPTACLE SPACING AS NOTED.

MISCELLANEOUS

- DETAIL # / B / 80.01 / SHEET # — SECTION CALL OUT
- DETAIL TITLE — 1 / X-0X — DETAIL CALL OUT

LIGHTING

- 2x4 FLUOREXCENT FIXTURE
- Ab — ASSOCIATED CONTROL DEVICE; FIXTURE TYPE (SEE LIGHT FIXTURE SCHEDULE)
- 1x4 FLUORESCENT FIXTURE
- 2x2 FLUORESCENT FIXTURE
- FIXTURE WIRED TO UNSWITCHED NORMAL CIRCUIT
- FIXTURE WIRED TO UNSWITCHED EMERGENCY CIRCUIT
- FIXTURE WIRED TO SWITCHED EMERGENCY CIRCUIT
- DOWN LIGHT
- FLUORESCENT STRIP
- WALL MOUNTED FIXTURES
- ab — POLE MOUNTED SITE LIGHTING FIXTURE; FIXTURE TYPE (SEE LIGHT FIXTURE SCHEDULE)
- FLOOD LIGHT
- EXIT SIGN, CEILING MOUNTED. ARROW INDICATES EGRESS DIRECTION. SHADING INDICATES SIGN FACE. NUMERAL INDICATES BATTERY UNIT CONNECTED
- EXIT SIGN, WALL MOUNTED 7'-6" AFF OR 0'-6" ABOVE DOOR. SHADING INDICATES SIGN FACE. NUMERAL INDICATES BATTERY UNIT CONNECTED TO.
- BATT — DUAL HEAD EMERGENCY LIGHT BATTERY PACK WITH NUMBER OF HEADS AS INDICATED – WALL MOUNTED MTD 7'-6" AFF. NUMERAL INDICATES BATTERY ID NUMBER.
- TANDEM EMERGENCY LIGHT BATTERY PACK & EXIT SIGN – WALL MOUNTED MTD 7'-6" AFF OR 0,-6" ABOVE DOOR. NUMERAL INDICATES BATTERY ID NUMBER.
- REMOTE EMERGENCY LIGHTING HEAD – WALL MOUNTED MTD 7'-6" AFF. NUMERAL INDICATES BATTERY UNIT CONNECTED TO.
- S — SINGLE POLE TOGGLE SWITCH – MTD CL UP 4'-0" AFF
- S_2 — DOUBLE POLE TOGGLE SWITCH – MTD CL UP 4'-0" AFF
- S_3 — 3-WAY TOGGLE SWITCH – MTD CL UP 4'-0" AFF
- S_4 — 4-WAY TOGGLE SWITCH – MTD CL UP 4'-0" AFF
- S_M — WALL MOUNTED OCCUPANCY SENSOR – MTD CL UP 4'-0" AFF
- S_P — TOGGLE SWITCH WITH PILOT LIGHT – MTD CL UP 4'-0" AFF
- S_D — DIMMER SWITCH – MTD CL UP 4'-0" AFF
- S_{LV} — LOW VOLTAGE SWITCH – MTD CL UP 4'-0" AFF
- a — OCCUPANCY SENSOR; a. INDICATES CONTROLLED FIXTURE
- PC — PHOTOCELL
- LC — LIGHTING CONTRACTOR
- MS — MOTION SENSOR

FIRE ALARM DIAGRAM SYMBOLS

- FACP — FIRE ALARM CONTROL PANEL
- FAA — FIRE ALARM ANNUNCIATOR
- FCPS — FIELD CHARGER POWER SUPPLY
- M — FIRE ALARM MASTER BOX
- K — KNOX BOX
- F — FIRE ALARM MANUAL PULL STATION – WALL MTD CL UP 4'-0"
- H L — FIRE ALARM AUDIBLE/VISIBLE NOTIFICATION APPLIANCE CANDELA (CD) POWER PER NFPA 72 OR AS NOTED – WALL MTD BOTTOM UP 80" AFF. "H" HORN, "V" VOICE.
- L — FIRE ALARM VISUAL NOTIFICATION APPLIANCE CANDELA (CD) POWER PER NFPA 72 OR AS NOTED – WALL MTD BOTTOM UP 80" AFF
- CEILING MOUNTED SMOKE DETECTOR
- CEILING MOUNTED HEAT DETECTOR
- DUCT SMOKE DETECTOR S=SUPPLY, R=RETURN
- FS — SPRINKLER SYSTEM FLOW SWITCH
- TS — SPRINKLER SYSTEM TAMPER SWITCH
- PS — SPRINKLER SYSTEM PRESSURE SWITCH
- DH — FIRE ALARM SYSTEM MAGNETIC DOOR HOLDER
- Z — MONITOR MODULE
- C — CONTROL MODULE
- R — RELAY MODULE

COMMUNICATIONS

- TEL — TELEPHONE BACKBOARD
- WX — PROVISIONS FOR TELEPHONE OUTLET. TWO-GANG WALL BOX WITH ONE 1"C STUB TO ABOVE ACCESSIBLE CEILING – MTD CL UP SAME AS ASSOCIATED RECEPTACLE
  - W-INDICATES WALL MOUNTED AT 60" AFF
  - P-INDICATES PAYPHONE MOUNTED AT 4'-0" AFF
  - X-INDCATES NUMBER OF JACKS, SINGLE BOX
- PROVISIONS FOR DATA OUTLET. TWO-GANG WALL BOX WITH ONE 1"C STUB TO ABOVE ACCESSIBLE CEILING – MTD CL UP SAME AS ASSOCIATED RECEPTACLE. SUBSCRIPTS AS NOTED ABOVE.
- 2D2T — PROVISIONS FOR TELEPHONE & DATA OUTLET. TWO-GANG WALL BOX WITH ONE 1"C STUB TO ABOVE ACCESSIBLE CEILING – MTD CL UP SAME AS ASSOCIATED RECEPTACLE. SUBSCRIPTS AS NOTED ABOVE.
- PROVISIONS FOR SCADA SYSTEM OUTLET. TWO-GANG WALL BOX WITH ONE 1"C STUB TO ABOVE ACCESSIBLE CEILING – MTD CL UP SAME AS ASSOCIATED RECEPTACLE
- CEILING MOUNTED TELEPHONE SYSTEM OUTLET
- CEILING MOUNTED DATA SYSTEM OUTLET
- CEILING MOUNTED VOICE & DATA OUTLET
- FLUSH TELEPHONE FLOOR OUTLET
- FLUSH DATA FLOOR OUTLET
- FLUSH VOICE & DATA FLOOR OUTLET
- TV — TELEVISION COAXIAL OUTLET. MOUNTED UP SAME AS ASSOCIATED RECEPTACLE

SECURITY

- SEC — SECURITY PANEL
- DS — DOOR INTRUSION SWITCH
- DE — ELECTRIC DOOR STRIKE
- CR — CARD READER
- KP — KEY PAD
- MOTION DETECTOR
- CAM — SECURITY CAMERA; PTZ = PAN/TILT/ZOOM

INTERCOM & PAGING SYSTEM

- S — CEILING MOUNTED SPEAKER
- PA — PAGING SYSTEM CONTROL PANEL
- HS — PAGING SYSTEM HANDSET

INSTRUMENTATION

- LS / XX — FIELD MOUNTED INSTRUMENT; INSTRUMENT IDENTIFICATION TYPE; INSTRUMENT LOOP #
- FS / XX — VENDOR SUPPLIED INSTRUMENT

INSTRUMENT IDENTIFIER:

AE	ANALYSIS ELEMENT
AIT	ANALYSIS INDICATING TRANSMITTER
AT	ANALYSIS TRANSMITTER
DPS	DIFFERENTIAL PRESSURE SWITCH
FCV	FLOW CONTROL VALVE
FE	FLOW ELEMENT
FIT	FLOW INDICATING TRANSMITTER
FT	FLOW TRANSMITTER
FS	FLOW SWITCH
LE	LEVEL ELEMENT
LIT	LEVEL INDICATING TRANSMITTER
LT	LEVEL TRANSMITTER
LS	LEVEL SWITCH
LSH	LEVEL SWITCH HIGH
LSL	LEVEL SWITCH LOW
MOV	MOTOR OPERATED VALVE
PE	PRESSURE ELEMENT
PIT	PRESSURE INDICATING TRANSMITTER
PT	PRESSURE TRANSMITTER
PS	PRESSURE SWITCH
SV	SOLENOID VALVE
TE	TEMPERATURE ELEMENT
TIT	TEMPERATURE INDICATING TRANSMITTER
TT	TEMPERATURE TRANSMITTER
ZS	PROXIMITY SWITCH

MISC TERMINALS

- ARROW, SMALL
- ARROW, LARGE
- ARROW, TRIANGULAR
- CONTINUE, SMALL
- CONTINUE, LARGE
- DOT, SMALL
- DOT, MEDIUM
- DOT, LARGE
- POLARITY SQUARE
- SCREW TERMINAL
- TERMINAL POINT, SMALL
- TERMINAL POINT, LARGE
- TERMINAL POINT, SQUARE
- SHIELD
- SHIELD W/TERMINAL POINT

ONE-LINE DIAGRAM SYMBOLS

- 52 / CB1 / CB 800A E.O / 52 — HV VOLTAGE DRAWOUT TYPE POWER CIRCUIT BREAKER ELECTRICALLY OPERATED
- MV VOLTAGE DRAWOUT TYPE POWER CIRCUIT BREAKER WITH MANUAL CONTROL SWITCH
- AT / AF / EO — LOW VOLTAGE CIRCUIT BREAKER
  - AF – AMP FRAME
  - AT – AMP TRIP
  - EO – ELECTRICALLY OPERATED
- ST — ST – SHUNT TRIP; GF – GROUND FAULT; EO – ELECTRICALLY OPERATED
- DISCONNECT, ISOLATION OR SAFETY SWITCH
- FUSED DISCONNECT SWITCH
- 1 — MAGNETIC MOTOR STARTER. NUMERAL INDICATES NEMA SIZE FVNR UNLESS OTHERWISE NOTED.
  - FVR – FULL VOLTAGE REVERSING
  - RVAT – REDUCING VOLTAGE AUTO TRANSFORMER
  - 2S – TWO SPEED
  - YD – WYE DELTA REDUCED VOLTAGE STARTER
- CAPACITOR
- VFD 11 — VFD = VARIABLE FREQUENCY DRIVE; SS = SOLID STATE STARTER; DC = DC VARIABLE DRIVE; NUMERAL INDICATES AMP RATING
- OA — POWER TRANSFORMER; OA – LIQUID TYPE SELF COOLED; AA – DRY TYPE SELF COOLED; FA – FAN COOLED; CONNECTION
- 2 / 480/120 — POTENTIAL TRANSFORMER; RATIO; NUMBER REQUIRED
- 2 / 600/5 — CURRENT TRANSFORMER; RATIO; PHASE
- 5 — MOTOR, NUMERAL INDICATES HORSEPOWER
- X — GENERAL LOAD, NUMERAL INDICATES LOAD IN KVA
- GENERATOR
- N E L ATS — ATS – AUTOMATIC TRANSFER SWITCH; MTS – MANUAL TRANSFER SWITCH
- A — METER; A – AMMETER; V – VOLTMETER; W – WATTMETER; KWH – KILOWATT HOUR; KVAR – KILOVAR METER; VAR – VAR METER; HZ – FREQUENCY METER; PF – POWER FACTOR METER
- 3 — LINE OR LOAD REACTOR; NUMERAL INDICATES % IMPENDENCE
- DPM — DIGITAL POWER MONITOR
- AS — METER TRANSFER SWITCH; AS – AMMETER SWITCH; VS – VOLTMETER SWITCH
- SPD — SPD = SURGE PROTECTION DEVICE; ENDN = ETHERNET TO DEVICENET LINKING DEVICE; DPS = DEVICENET POWER SUPPLY
- MEDIUM VOLTAGE CABLE TERMINATION
- DRAWOUT DEVICE
- LA — LIGHTNING ARRESTOR
- K — KEY INTERLOCK

GROUNDING

- BARE COPPER GROUND CABLE. (SIZE 4/O UNLESS OTHERWISE NOTED)
- 3/4ø X 10'-0" LONG GROUND ROD. (10'-0" MINIMUM LENGTH)
- EQUIPMENT BOLTED CONNECTION OR APPROVED EQUAL.
- CADWELD EXOTHERMIC CONNECTION
- GROUND

CONTROL DIAGRAM SYMBOLS

NOTE: ALL CONTROL SYMBOLS ARE DRAWN ASSUMING DE-ENERGIZED CIRCUITS, EMPTY TANKS, UNPRESSURIZED LINES, ETC.

- OPEN ON INCREASE / CLOSE ON INCREASE — PRESSURE SWITCH
- LEVEL SWITCH
- FLOW SWITCH
- TEMPERATURE SWITCH
- NORMALLY CLOSED / NORMALLY OPEN — PUSH BUTTON
- INSTANTANEOUS CONTACT
- TIMED CLOSE CONTACT
- TIMED OPEN CONTACT
- LIMIT SWITCH
- H O A / XOO / OOX — SELECTOR SWITCH; QUANTITY OF ARROWS INDICATES NUMBER OF POSITIONS. XOO INDICATES UPPER CONTACT CLOSED IN LEFT POSITION AND OPEN IN CENTER AND RIGHT POSITIONS
- INTERNAL WIRING
- FIELD WIRING
- RELAY COIL

ABBREVIATIONS

A,AMP	AMPERES
AC	ALTERNATING CURRENT
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHJ	AUTHORITY HAVING JURISDICTION
AIC	AMPERE INTERRUPT CAPACITY
AWG	AMERICAN WIRE GAUGE
BFG	BELOW FINISHED GRADE
CATV	CABLE TELEVISION
CB	CIRCUIT BREAKER
CCTV	CLOSED CIRCUIT TELEVISION
CL	CENTER LINE
CKT	CIRCUIT
CP	CONTROL PANEL
CPT	CONTROL POWER TRANSFORMER
CT	CURRENT TRANSFORMER
CU	COPPER
E.C.	ELECTRICAL CONTRACTOR
EMT	ELECTRIC METALLIC TUBING
FAA	FIRE ALARM ANNUNCIATOR
FACP	FIRE ALARM CONTROL PANEL
FBO	FURNISHED BY OTHERS
FWE	FURNISHED WITH EQUIPMENT
G.C.	GENERAL CONTRACTOR
GEN	GENERATOR
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
G,GND	GROUND
HP	HORSEPOWER
HZ	FREQUENCY IN CYCLES/SECOND
IG	ISOLATED GROUND
IMT	INTERMEDIATE METALLIC CONDUIT
JBOX	JUNCTION BOX
K	KILO
KCMIL	1000 CIRCULAR MILS
KVA	KILOVOLT AMPERE
KVAR	KILOVOLT AMPERE REACTIVE
KW	KILOWATT
KWH	KILOWATT HOUR
MCC	MOTOR CONTROL CENTER
MCB	MAIN CIRCUIT BREAKER
MFG	MANUFACTURER
MH	MANHOLE
MLO	MAIN LUGS ONLY
MTD	MOUNTED
MTR	MOTOR
MV	MEDIUM VOLTAGE
NC	NORMALLY CLOSED
NEC	NATIONAL ELECTRIC CODE
NEUT	NEUTRAL
NO	NORMALLY OPEN
OL	OVERLOAD ELEMENT
PF	POWER FACTOR
PH	PHASE
PRI	PRIMARY
PT	POTENTIAL TRANSFORMER
PVC	POLYVINYL CHLORIDE
RGS	RIGID STEEL CONDUIT
RTD	RESISTANCE TEMPERATURE DETECTOR
SEC	SECONDARY
SS	STAINLESS STEEL
SV	SOLENOID VALVE
TEMP	TEMPERATURE
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSOR
TYP	TYPICAL
UE	UNDERGROUND ELECTRIC
UG	UNDERGROUND
UPS	UNINTERRUPTED POWER SUPPLY
V	VOLTS
VA	VOLT-AMPERES
VAR	VOLT-AMPERE REACTIVE
W	WATT
WM	WATT METER
WP	WEATHER PROOF
XFMR	TRANSFORMER
XP	EXPLOSION PROOF

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ELECTRICAL LEGEND

CITY OF PORTLAND
PORTLAND, MAINE 40101

EASTERN WATERFRONT
ROADWAY EXTENSION

JOB NO.:0230637.37
DATE: MAY 2018
SCALE: AS NOTED
SHEET: ---- OF 13

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