Reviewed for Code Compliance
Inspection Division
Portland, Maine
Date: 05/17/17

LIGHTING SYMBOL LEGEND:

NOTE: SEE SHEET E-601 FOR LIGHTING FIXTURE SCHEDULE

- Ax — 2x2 RECESSED LED FIXTURE; INDICATES ASSOCIATED CONTROL DEVICE; INDICATES FIXTURE TYPE
- Bx — 1x4 LINEAR LED FIXTURE; INDICATES ASSOCIATED CONTROL DEVICE; INDICATES FIXTURE TYPE
- C — EXTERIOR LED WALLPACK; INDICATES FIXTURE TYPE
- Dx — RECESSED LED DOWN LIGHT; INDICATES ASSOCIATED CONTROL DEVICE; INDICATES FIXTURE TYPE
- EXIT SIGN, WALL MOUNTED; SHADING INDICATES SIGN FACE
- DUAL HEAD EMERGENCY LIGHT BATTERY PACK
- REMOTE EMERGENCY LIGHTING HEAD
- S3x — SINGLE POLE TOGGLE SWITCH; INDICATES ASSOCIATED CONTROLLED FIXTURE; INDICATES 3-WAY CONTROL

POWER SYMBOL LEGEND:

- PANELBOARD, SERVICE ENTRANCE (SEE SHEET E-601 FOR SPECIFICATIONS)
- #AS #AF F (X) — FUSED SAFETY SWITCH; 240V/3P; HEAVY-DUTY; #AS INDICATES SWITCH AMPERE RATING; #AF INDICATES FUSE RATING; NEMA ENCLOSURE; MANUFACTURERS: SQUARE D, EATON, OR SIEMENS
- MOTOR STARTER; HAND/OFF/AUTO; VOLTAGE AND CURRENT RATING TO MATCH EQUIPMENT; MANUFACTURERS: SQUARE D, EATON, OR SIEMENS
- M WP — MANUAL MOTOR STARTER W/ OVERLOAD PROTECTION; TOGGLE OPERATED, PHASE/POLES AS REQUIRED; MANUFACTURERS: SQUARE D OR HUBBELL; INDICATES WEATHERPROOF RATING
- DUPLEX RECEPTACLE, NEMA 5-20R; MANUFACTURERS: LEVITON OR HUBBELL
- 48",WP — GFCI DUPLEX RECEPTACLE, NEMA 5-20R; MANUFACTURERS: LEVITON OR HUBBELL; INDICATES WEATHERPROOF RATING; INDICATES MOUNTING HEIGHT (IF DIFFERENT THAN NORMAL SPECIFIED REQUIREMENT)
- DUPLEX RECEPTACLE, NEMA 5-20R, BELOW GRADE (EXISTING DEVICES TO REMAIN)
- MULTI OUTLET ASSEMBLY/WIRE MOLD (DEMOLITION)
- J — JUNCTION BOX (TYPICALLY USED TO INDICATE A HARD-WIRED CONNECTION TO A PIECE OF EQUIPMENT)
- ELECTRICAL CONNECTION
- CONDUIT TURNING UP/DOWN, AS NOTED

ABBREVIATIONS:

ø	DIAMETER
A	AMPERE
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHJ	AUTHORITY HAVING JURISDICTION
AIC	AMPERE INTERRUPTING CAPACITY
AWG	AMERICAN WIRE GAUGE
C	CONDUIT
CO	CARBON MONOXIDE
COMM	COMMUNICATIONS (VOICE/DATA)
EC	ELECTRICAL CONTRACTOR
EMT	ELECTRICAL METALLIC TUBING
FWE	FURNISHED WITH EQUIPMENT
GFCI	GROUND FAULT CIRCUIT INTERRUPT
GND	GROUND
HACR	HEATING, AIR CONDITIONING, AND REFRIGERATION
HPS	HIGH-PRESSURE SODIUM
K	KILO
KCMIL	THOUSAND CIRCULAR MILS
KVA	KILOVOLT-AMPERE
KW	KILOWATT
LFMC	LIQUID-TIGHT FLEXIBLE METALLIC CONDUIT
LTG	LIGHTING
MAX	MAXIMUM
MC	METAL CLAD
MCB	MAIN CIRCUIT BREAKER
MIN	MINIMUM
MTD	MOUNTED
NEC	NATIONAL ELECTRICAL CODE
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
P	POLE
PH	PHASE
PVC	POLYVINYL CHLORIDE
QTY	QUANTITY
RM(S)	ROOM(S)
RGS	RIGID GALVANIZED STEEL
SPD	SURGE PROTECTIVE DEVICE
STP	SHIELDED TWISTED PAIR
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSION
TYP	TYPICAL
UL	UNDERWRITERS LABORATORIES
UPS	UNINTERRUPTIBLE POWER SUPPLY
V	VOLT
VA	VOLT-AMPERE
VAC	VOLTS – ALTERNATING CURRENT
WP	WEATHER PROOF

NOTES:

1. ALL GENERAL NOTES, SYMBOL LISTS AND DETAILS ARE TO BE CONSIDERED AS APPLICABLE TO ALL ELECTRICAL DRAWINGS FOR THIS PROJECT. SYMBOLS AND ABBREVIATIONS SHOWN ON THIS SHEET ARE FOR REFERENCE ONLY AND DO NOT INDICATE THEIR INCORPORATION IN THE DESIGN.
2. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH NFPA-70, NATIONAL ELECTRICAL CODE (NEC) 2014.
3. ALL CONDUCTOR MATERIAL, INCLUDING WIRING, PANELBOARD BUSES, AND GROUNDING SHALL BE COPPER. ALUMINUM CONDUCTORS SHALL NOT BE ALLOWED.
4. ALL INTERIOR DISTRIBUTION AND BRANCH WIRING SHALL BE 600V COPPER WITH THHN/THWN INSULATION. ALL EXTERIOR DISTRIBUTION AND BRANCH WIRING SHALL BE 600V COPPER WITH XHHW INSULATION.
5. CONDUIT TYPES (MINIMUM TRADE SIZE 3/4"):
   - INTERIOR: EMT
   - INTERIOR, SURFACE MOUNT (OFFICE): WIREMOLD
   - INTERIOR, LIGHTING CONNECTIONS: MC CABLE
   - EXTERIOR, EXPOSED: RGS
   - EXTERIOR, UNDERGROUND: PVC
   - EXTERIOR, EQUIPMENT CONNECTIONS: LFMC
6. ALL EQUIPMENT DISCONNECTS AND MANUAL MOTOR STARTERS ARE PROVIDED BY ELECTRICAL CONTRACTOR UNLESS NOTED OTHERWISE. REFER TO MECHANICAL EQUIPMENT SCHEDULES FOR UNITS PROVIDED WITH STARTERS. ELECTRICAL CONTRACTOR SHALL ASSUME RESPONSIBILITY OF DISCONNECT/STARTER INSTALLATION AND CONNECTION. MOUNT ALL DISCONNECTS AND MOTOR STARTERS IN AN ACCESSIBLE LOCATION WITHIN SIGHT OF THE LOAD SERVED.
7. ALL WALL-MOUNTED DEVICE BOXES AND FACEPLATES SHALL BE STAINLESS STEEL.
8. DEVICE MOUNTING HEIGHTS, UNLESS OTHERWISE NOTED:
   - CONVENIENCE RECEPTACLES: 18-INCHES AFF
   - LAVATORY GFCI RECEPTACLES: 48-INCHES AFF
   - EXTERIOR GFCI RECEPTACLES: 48-INCHES AFF
   - LIGHTING TOGGLE SWITCHES: 48-INCHES AFF
   - TEL/DATA SYSTEM OUTLETS: 18-INCHES AFF
   - EQUIPMENT DISCONNECT/STARTER, INTERIOR: 48-INCHES AFF
8. ALL PENETRATIONS THROUGH FLOORS, RATED WALLS AND PARTITIONS SHALL BE SEALED WITH UL APPROVED FIRE SEALANT MATERIAL TO MAINTAIN THE RATING OF SEPARATION.
9. EQUIPMENT CONNECTIONS ARE SHOWN FOR BASIS-OF-DESIGN PRODUCTS. CONTRACTOR SHALL COORDINATE ALL EQUIPMENT CONNECTIONS – INCLUDING DISCONNECTING MEANS, OVERCURRENT PROTECTION, AND WIRE SIZING – WITH SELECTED MANUFACTURERS' RECOMMENDED INSTRUCTIONS.
10. CONTRACTOR SHALL COORDINATE FINAL DEVICE LOCATIONS WITH OWNER'S PROPOSED FURNITURE LAYOUT.
11. CONTRACTOR SHALL PROVIDE ALL MOUNTING HARDWARE NECESSARY FOR A COMPLETE INSTALLATION. MOUNT EQUIPMENT AND ROUTE CONDUIT SO AS NOT TO INTERFERE WITH OPERATIONS SUCH AS DOOR SWINGS, MECHANICAL EQUIPMENT OPERATION, ETC. HARDWARE USED FOR EXTERIOR INSTALLATIONS SHALL BE RATED FOR EXTERIOR ENVIRONMENTS
12. MANUFACTURERS NAME AND MODEL NUMBERS ARE USED THROUGHOUT THE PROJECT FOR DESCRIPTIVE PURPOSES ONLY AND ARE INTENDED TO INDICATE THE STANDARD OF MATERIAL OR ARTICLES REQUIRED. DESIGN IS PREDICATED AROUND LISTED MANUFACTURERS AS NOTED ON SCHEDULES AND NOTES AND IS NOT INTENDED TO LIMIT THE CONTRACTOR TO ONE MANUFACTURER.
13. PANELBOARD SHALL HAVE APPROPRIATE ARC-FLASH LABELS INSTALLED IN ACCORDANCE WITH NFPA 70E REQUIREMENTS.
14. GROUND THE ELECTRICAL DISTRIBUTION SYSTEM IN ACCORDANCE WITH NEC ARTICLE 250 AND SHEET E-101.
15. ALL VOICE/DATA CABLING SHALL BE CAT 5. COORDINATE ALL VOICE AND DATA INSTALLATIONS WITH OWNER.
16. PROVIDE ADHESIVE LAMINATED LABELS FOR ALL DEVICES. LABELS SHALL BE BLACK LETTERING ON A WHITE BACKGROUND. LABELS SHALL INDICATE SOURCE CIRCUIT OF DEVICE AND BE LOCATED ON DEVICE WALL PLATE OR OTHER CONSPICUOUS LOCATION.

GROUNDING SYMBOL LEGEND:

- GROUND ROD: 10'-0" x 3/4" DIAMETER; COPPER CLAD
- EXOTHERMIC WELD CONNECTION
- COMPRESSION CONNECTION
- G — BARE COPPER CONDUCTOR RUN EXPOSED
- G — BARE COPPER CONDUCTOR EMBEDDED IN CONCRETE OR BURIED

SYSTEMS/LOW-VOLTAGE SYMBOL LEGEND:

- COMBINATION VOICE/DATA SYSTEM OUTLET; TWO (2) RJ45 PORTS FOR CAT 5 CONNECTIONS
- S-DC — SECURITY SYSTEM – DOOR CONTACT (NEW)
- S-KP — SECURITY SYSTEM – KEYPAD
- C — SECURITY CAMERA (EXISTING)
- A — ANTENNA (EXISTING)
- INT — INTERCOM SYSTEM STATION; SEE PLANS FOR DESCRIPTION
- PHOTOELECTRIC SMOKE DETECTOR
- CO — CARBON MONOXIDE DETECTOR

DEMOLITION NOTES:

1. SEE SHEET ED-101 FOR EXISTING CONDITIONS AND DEMOLITION SCOPE.
2. ELECTRICAL CONTRACTOR (EC) SHALL ATTEND PRE-BID SITE WALK-THROUGH TO VERIFY EXISTING CONDITIONS. ALL QUESTIONS REGARDING WORK SCOPE SHALL BE SUBMITTED TO OWNER FOR CLARIFICATION.
3. EC SHALL INVENTORY ALL ELECTRICAL UTILITIES ENTERING AND LEAVING THE BUILDING, INCLUDING BOTH FEEDERS/BRANCH CIRCUITS (GREATER THAN OR EQUAL TO 120V) AND LOW-VOLTAGE (LESS THAN 120V) CONTROL/SIGNAL CABLING. KEEP AS-BUILT RECORDS OF EXISTING ELECTRICAL UTILITIES FOR RECONNECTION DURING INSTALLATION PHASE.

   NOTE: UTILITIES SCHEDULED TO BE RECONNECTED SHALL BE SPLICED IN JUNCTION BOXES BELOW FINISHED FLOOR OF NEW SCALE HOUSE BUILDING. UTILITIES WILL THEN EXTEND TO NEW LOCATIONS AS SHOWN ON PLANS.
4. ALL POWER AND CONTROL WIRING FOR TRUCK SCALES SHALL BE HANDLED BY SCALE VENDOR.
5. EC SHALL INSPECT SALVAGED CONDUCTORS FOR ELECTRICAL INTEGRITY. NOTE CONDUCTORS THAT EXHIBIT DISCOLORATION OR DAMAGED INSULATION AND BRING TO THE OWNER'S ATTENTION.
6. REMOVE EXISTING BUILDING GROUND WIRE WHERE CONCRETE CURB/SIDEWALK IS BEING REMOVED. SALVAGE REMAINING GROUND WIRE FOR RECONNECTION DURING INSTALLATION PHASE.

SUBMITTALS:

NOTE: EACH SUBMITTAL SHALL BE CLEARLY MARKED WITH UNIQUE EQUIPMENT IDENTIFIER.

1. PANELBOARD
2. LIGHTING FIXTURES (EACH TYPE)
3. DEVICES
   - 3.1. RECEPTACLES (NORMAL AND GFCI)
   - 3.2. LIGHTING TOGGLE SWITCHES
   - 3.3. VOICE/DATA OUTLETS
4. DISCONNECT SWITCH (DWH-1)
5. DISCONNECT SWITCH (RTU-1)
6. MOTOR STARTER (RTU-1)
7. ENVIRONMENTAL MONITORING SYSTEM
   - 7.1. CONTROLLER
   - 7.2. SMOKE DETECTOR
   - 7.3. CARBON MONOXIDE DETECTOR
8. AS-BUILT INFORMATION
   - 8.1. ELECTRICAL PLAN VIEWS (SEPARATE POWER/SYSTEMS AND LIGHTING) INDICATING FINAL DEVICE/EQUIPMENT LOCATION AND CIRCUIT, IF APPLICABLE
   - 8.2. FINAL PANELBOARD DIRECTORY
   - 8.3. GATE INTERCONNECTIONS
   - 8.4. INTERCOM SYSTEM INTERCONNECTIONS
   - 8.5. ACCESS CONTROL SYSTEM INTERCONNECTIONS

ACCESS CONTROL SYSTEM NOTES:

1. VISITORS CAN ONLY ACCESS RESTROOM FROM BUILDING EXTERIOR
   - 1.1. VISITOR USES EXTERIOR INTERCOM TO COMMUNICATE REQUEST TO SCALE HOUSE ATTENDANT.
   - 1.2. ATTENDANT RELEASES EXTERIOR DOOR LOCK CONTACT FROM OFFICE DESK CONSOLE.
   - 1.3. VISITOR CAN NOT ACCESS INTERIOR OF SCALE HOUSE AS THERE IS A KEYPAD ON INTERIOR OF RESTROOM DOOR TO VESTIBULE.
   - 1.4. VISITOR EXITS THROUGH EXTERIOR DOOR USING NORMAL HARDWARE.
2. SCALE HOUSE ATTENDANT ACCESSES RESTROOM VIA VESTIBULE RESTROOM DOOR
   - 2.1. ATTENDANT MUST USE KEYPAD TO ACCESS RESTROOM
   - 2.2. ATTENDANT MUST USE EXIT KEYPAD ON INTERIOR OF RESTROOM TO EXIT.
3. ALL DOOR HARDWARE SYSTEMS SHALL OPERATE AT 24VDC

ISSUED FOR BID
NOT FOR CONSTRUCTION
JANUARY 5, 2017

STATE OF MAINE
MATTHEW R. LYLE
No. 11685
LICENSED
PROFESSIONAL ENGINEER
01-05-17

REV	DESCRIPTION	DWN	APP	DATE
C	RE-ISSUED FOR BID	MRL	CBC	01/05/17
B	RE-ISSUED FOR BID	MRL	CBC	10/28/16
A	ISSUED FOR BID	MRL	CBC	9/02/16

ecomaine
64 BLUEBERRY ROAD, PORTLAND, ME

SCALE HOUSE WITH INSULATED BLOCK CONSTRUCTION

ELECTRICAL LEGEND, ABBREVIATIONS, AND GENERAL NOTES

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CKD BY: CBC

PROJECT NO. 162.002.002
SHEET 36 OF 40
DRAWING NO. E-001

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