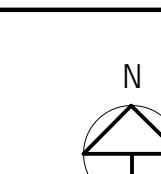


University of Southern Maine

Science Building  
Lab A203 Renovation

70 Falmouth Street  
Portland, ME 04104

NO.	DESCRIPTION	DATE
	ISSUED FOR PERMIT	03/17/2016



FOR ADDITIONAL INFORMATION, REFER TO PROJECT MANUAL

CONTENT: ELECTRICAL LEGENDS, ABBREVIATIONS AND GENERAL NOTES	
DRAWN BY:	GMC
PROJECT NO:	16-005-00
DATE:	3/17/2016
REVISED:	
SCALE:	12" = 1'-0"
<b>E-000</b>	
Project Phase	
BID DOCUMENTS	
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**NOTE**  
SYMBOLS AND ABBREVIATIONS SHOWN  
ON THIS SHEET ARE FOR REFERENCE  
ONLY AND DO NOT NECESSARILY INDICATE  
THEIR INCORPORATION INTO THE DESIGN

A	AMPERE	MT	MOUNT
AC	ALTERNATING CURRENT	MTS	MANUAL TRANSFER SWITCH
AFF	ABOVE FINISHED FLOOR	MCP	MOTOR CONTROL PANEL
AFG	ABOVE FINISHED GRADE	MH	METAL HALIDE
AHU	AIR HANDLING UNIT	MDP	MAIN DISTRIBUTION PANEL
AIC	AMPERES INTERRUPTING CAPACITY	MIN	MINIMUM
ATS	AUTOMATIC TRANSFER SWITCH	N	NEUTRAL
AWG	AMERICAN WIRE GAUGE	NC	NORMALLY CLOSED
BAS	BUILDING AUTOMATION SYSTEM	NEC	NATIONAL ELECTRICAL CODE ASSOCIATION
BKBD	BACKBOARD	NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
C	CONDUIT	NIC	NOT IN CONTRACT
CAT	CATALOG, CATEGORY	NF	NON-FUSED
CATV	CABLE TV	NO	NORMALLY OPEN
CB	CIRCUIT BREAKER	NO., #	NUMBER
CCTV	CLOSED CIRCUIT TELEVISION	NTS	NOT TO SCALE
CM	CIRCULAR MILS	OC	ON CENTER
COMM	COMMUNICATIONS	OCC	OCCUPANCY
CU	MECH CONDENSING UNIT	OH	OVERHEAD
CJ	COPPER	P	POLE
CUH	CABINET UNIT HEATER	PA	PUBLIC ADDRESS
DDC	DIGITAL DIRECT CONTROL	PH	PHASE
DN	DOWN	PIR	PASSIVE INFRARED
DW	DISHWASHER	PNL	PANELBOARD
DWG	DRAWING	P/O	PART OF
EF	EXHAUST FAN	PV	PHOTOVOLTAIC
ELEV	ELEVATOR	PVC	POLY-VINYL CHLORIDE TUBING
EMT	ELECTRICAL METALLIC TUBING	REC	RECEPTACLE
EP	EXPLOSION PROOF	REF	REFRIGERATOR
ERU	ENERGY RECOVERY UNIT	RF	RETURN FAN
EWC	ELECTRIC WATER COOLER	RGS	RIGID GALVANIZED STEEL
FACP	FIRE ALARM CONTROL PANEL	RM	ROOM
FB	FLOOR BOX	RMC	RIGID METAL CONDUIT
FLA	FULL LOAD AMPS	RTU	ROOFTOP UNIT
FWE	FURNISHED WITH EQUIPMENT	REF	REFRIGERATOR
G, GND	GROUND	SF	SUPPLY FAN
GFCI	GROUND FAULT CIRCUIT INTERRUPTER	SPDT	SINGLE POLE, DOUBLE T HROW
GFP	GROUND FAULT PROTECTION	SQ	SQUARE
HID	HIGH INTENSITY DISCHARGE	TEL	TELEPHONE
HOA	HAND-OFF-AUTO SELECTOR SWITCH	TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSOR
HP	HORSEPOWER	TYP	TYPICAL
HVAC	HEATING, VENTILATION AND COOLING UNIT	UF	UNDER FLOOR
IDS	INTRUSION DETECTION SYSTEM	UG	UNDERGROUND
IG	ISOLATED GROUND	UH	UNIT HEATER
IMC	INTERMEDIATE METAL CONDUIT	UL	UNDERWRITER'S LABORATORY
IR	INFRARED	UNO	UNLESS NOTED OTHERWISE
K	KILO	UPS	UNINTERRUPTIBLE POWER SUPPLY
KCMIL	KILO CIRCULAR MILS	V	VOLTS
KW	KILOWATT	VFD	VARIABLE FREQUENCY DRIVE
KVA	KILO VOLT-AMPS	W	WATT
LAN	LOCAL AREA NETWORK	WP	WEATHERPROOF
LC	LIGHTING CONTACTOR	WG	WIREGUARD
LF	LINEAR FEET	XFMR	TRANSFORMER
LC	LOADCENTER		
LCP	LIGHTING CONTROL PANEL	(E)	EXISTING ITEM TO REMAIN
LED	LIGHT EMITTING DIODE	(R)	REMOVE ITEM AND DISPOSE PROPERLY
LTG	LIGHTING	(ER)	RELOCATED ITEM AT NEW LOCATION
MAX	MAXIMUM	(RL)	REMOVE AND RELOCATE
MCB	MAIN CIRCUIT BREAKER		
MECH	MECHANICAL		
MH	MOUNTING HEIGHT		
MICRO	MICROWAVE		
MLO	MAIN LUG ONLY		

- HATCHING INDICATES FIXTURE WITH ONE LAMP ON EMERGENCY BATTERY/BALLAST
- EMER BATTERY UNIT WITH NO HEADS, MT 7'-6" AFF. BP# INDICATES BATTERY UNIT DESIGNATION, CONNECT TO UNSWITCHED PORTION OF AREA LIGHTING
- EMER BATTERY UNIT WITH INTEGRAL HEADS, MT 7'-6" AFF. BP# INDICATES BATTERY UNIT DESIGNATION, CONNECT TO UNSWITCHED PORTION OF AREA LIGHTING
- SINGLE REMOTE EMERGENCY LIGHT HEAD, MOUNT 7'-6" AFF, BP# INDICATES BATTERY UNIT CONNECTED TO
- DOUBLE REMOTE EMERGENCY LIGHT HEAD, MOUNT 7'-6" AFF, BP# INDICATES BATTERY UNIT CONNECTED TO
- DOUBLE REMOTE EMERGENCY LIGHT HEAD, CEILING MOUNTED, BP# INDICATES BATTERY UNIT CONNECTED TO
- EXIT SIGN, AC/DC, CEILING MOUNTED, SHADING INDICATES FACE(S), ARROWHEAD INDICATES CHEVRON(S) REQUIRED, BP# INDICATES BATTERY UNIT CONNECTED TO
- EXIT SIGN, AC/DC, WALL MOUNTED, SHADING INDICATES FACE(S), MOUNT AT 7'-6" AFF OR OVER DOOR, BP# INDICATES BATTERY UNIT CONNECTED TO
- EXIT SIGN WITH BATTERY, CEILING MOUNTED, SHADING INDICATES FACE(S), ARROWHEAD INDICATES CHEVRON(S) REQUIRED, CONNECT TO UNSWITCHED PORTION OF AREA LIGHTING
- EXIT SIGN WITH BATTERY, WALL MOUNTED, SHADING INDICATES FACE(S), MOUNT AT 7'-6" AFF OR OVER DOOR, CONNECT TO UNSWITCHED PORTION OF AREA LIGHTING

- LIGHT FIXTURE, RECESSED TROFFER, TYPICAL
  - RECESSED DOWNLIGHT
  - RECESSED WALL WASHER DOWNLIGHT
  - WALL MOUNTED LIGHT FIXTURE
  - CEILING SURFACE MOUNTED LIGHT FIXTURE
  - PENDANT MOUNTED LIGHT FIXTURE
  - LINEAR LIGHT FIXTURE, CEILING SURFACE MOUNTED
  - LINEAR LIGHT FIXTURE, PENDANT MOUNTED
  - LINEAR LIGHT FIXTURE, WALL MOUNTED
  - REMOTE BALLAST, ALLOW 9" IN ALL DIRECTIONS BETWEEN BALLASTS
- NOTE TYPICAL FOR ALL LUMINAIRES:  
 INDICATES LIGHT FIXTURE TYPE ON LUMINAIRE SCHEDULE  
 LOWER CASE LETTER INDICATES SWITCHING  
 NUMBER INDICATES CIRCUITING

- DUPLEX RECEPTACLE, 20A, 125V, 2P, 3W, NEMA 5-20R, MOUNT IN FLUSH FLOOR BOX
- DOUBLE DUPLEX RECEPTACLE, 20A, 125V, 2P, 3W, NEMA 5-20R, MOUNT IN FLUSH FLOOR BOX
- JUNCTION BOX, MOUNT IN FLUSH FLOOR BOX
- DATA OUTLET, FLUSH MOUNTED IN FLOOR BOX
- EMPTY FLUSH FLOOR BOX
- DUPLEX RECEPTACLE, PEDESTAL MOUNTED
- SINGLE RECEPTACLE, PEDESTAL MOUNTED
- JUNCTION BOX, PEDESTAL MOUNTED
- DUPLEX RECEPTACLE, FLUSH MOUNTED IN CEILING
- DOUBLE DUPLEX RECEPTACLE, FLUSH MOUNTED IN CEILING
- DUPLEX GFCI RECEPTACLE, FLUSH MOUNTED IN CEILING
- DOUBLE DUPLEX GFCI RECEPTACLE, FLUSH MOUNTED IN CEILING
- JUNCTION BOX, FLUSH MOUNTED IN CEILING
- OVERHEAD RECEPTACLE DROP, DUPLEX
- OVERHEAD RECEPTACLE DROP, DOUBLE DUPLEX
- OVERHEAD RECEPTACLE DROP, GFCI
- OVERHEAD DATA DROP, SEE MATRIX FOR TYPE
- POKE-THROUGH DEVICE WITH (1) DUPLEX RECEPTACLE AND (2) DATA OUTLETS

**EMERGENCY LIGHTING**      **LIGHTING**      **FLOOR AND CEILING DEVICES**

<ul style="list-style-type: none"> <li> CLOCK HANGER RECEPTACLE - NEMA 5-20R</li> <li> DUPLEX RECEPTACLE - 20A, 125V, 2P, 3W, NEMA 5-20R</li> <li> DOUBLE DUPLEX RECEPTACLE</li> <li> GFCI DUPLEX RECEPTACLE, MOUNT 44" AFF UNO</li> <li> GFCI DOUBLE DUPLEX RECEPTACLE, MOUNT 44" AFF UNO</li> <li> GFCI RECEPTACLE WITH WEATHERPROOF COVER</li> <li> GFCI RECEPTACLE IN WP ENCLOSURE ON ROOF</li> <li> WIREMOLD 4000 SERIES OR EQUAL, WITH DIVIDER, OUTLETS SPACED AS INDICATED ON DRAWINGS</li> </ul> <p>NOTES:          1. MOUNT RECEPTABLES WITH CENTERLINE 18" AFF UNO          2. MOUNT EXTERIOR RECEPTABLES WITH CENTERLINE 24" AFF UNO</p>	<ol style="list-style-type: none"> <li>1. BRANCH CIRCUIT WIRING NOT SHOWN, WIRE AND CONNECT ELECTRICAL ITEMS TO CIRCUITS INDICATED.</li> <li>2. DISCONNECT, REMOVE, RELOCATE, AND RECONNECT ELECTRICAL CONDUIT, WIRING, DEVICES, BOXES, FIXTURES, EQUIPMENT, ETC. AS INDICATED AND AS REQUIRED TO FACILITATE THE WORK OF THIS PROJECT. WHERE ELECTRICAL ITEMS ARE REMOVED, REMOVE CONDUIT AND WIRING BACK TO SOURCE, UNLESS DIRECTED OTHERWISE BY OWNER. TAG SPARE CONDUITS AND CONDUCTORS TO IDENTIFY SOURCE.</li> <li>3. DO NOT SCALE THE DRAWINGS. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT DIMENSIONS.</li> <li>4. THE LOCATION OF EQUIPMENT, OUTLETS, ETC. AS GIVEN ON THE DRAWINGS, IS APPROXIMATE. IT SHALL BE UNDERSTOOD THAT THESE LOCATIONS ARE SUBJECT TO MODIFICATION AS MAY BE FOUND NECESSARY OR DESIRABLE AT THE TIME OF INSTALLATION IN ORDER TO MEET STRUCTURAL/ ARCHITECTURAL REQUIREMENTS. SUCH CHANGES SHALL BE MADE WITHOUT EXTRA CHARGE.</li> <li>5. ELECTRICAL DEVICES, WHEN INSTALLED, SHALL BE PROTECTED FROM DAMAGE DURING CONSTRUCTION. COVER PLATES SHALL BE INSTALLED AFTER FINISH MATERIALS HAVE BEEN APPLIED.</li> <li>6. COORDINATE WORK WITH OTHER DIVISIONS. VERIFY EXACT POWER REQUIREMENTS OF MECHANICAL EQUIPMENT WITH DIVISION 23. POWER WIRING FOR EQUIPMENT &amp; CONTROL SHALL BE PERFORMED BY DIVISION 26. CONTROL WIRING BY DIVISION 23.</li> </ol>	<p>TELECOMMUNICATIONS OUTLET MOUNTED IN 4000 SERIES WIREMOLD - PROVIDE 1-GANG MOUNTING FRAME WITH BLANK COVER AND PULL STRING TO ABOVE CEILING</p>
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**RECEPTABLES**      **GENERAL NOTES**      **TECHNOLOGY**

<ul style="list-style-type: none"> <li>- CENTERLINE 48" AFF, UNO -</li> <li> LIGHT SWITCH, 20A, 125/277V, LETTER INDICATES SWITCHING</li> <li> THREE-WAY LIGHT SWITCH</li> <li> FOUR-WAY LIGHT SWITCH</li> <li> TWO-POLE SWITCH</li> <li> KEY OPERATED SWITCH</li> <li> MOTOR RATED SWITCH</li> <li> SINGLE POLE SWITCH WITH RED PILOT LIGHT - RED LIGHT SHALL GLOW WHEN CIRCUIT IS ENERGIZED</li> <li> MULTI-GANGED SWITCHES, GANG UNDER ONE PLATE, LETTER INDICATES SWITCHING</li> <li> OCCUPANCY SENSOR SWITCH, WALL MOUNTED</li> <li> 2-BUTTON OCCUPANCY SENSOR SWITCH</li> <li> OCCUPANCY SENSOR, CEILING MOUNTED</li> <li> OCCUPANCY SENSOR, WALL MOUNTED</li> <li> DIMMER SWITCH, COORDINATE DIMMING TECHNOLOGY WITH DIMMED LOAD IN EACH AREA</li> <li> LOW VOLTAGE SWITCH, MOMENTARY CONTACT</li> <li> 2-BUTTON LOW VOLTAGE SWITCH</li> <li> 4-BUTTON LOW VOLTAGE SWITCH</li> <li> LOW VOLTAGE DIMMER SWITCH</li> <li> HANDICAP SWITCHES FOR HOOD LIGHT AND FAN</li> <li> TIMER SWITCH, 60 MINUTES</li> <li> LIGHTING TIME CLOCK</li> <li> LIGHTING CONTACTOR</li> <li> LIGHTING CONTROL PANEL</li> <li> PHOTOCCELL</li> </ul>	<ul style="list-style-type: none"> <li> PANELBOARD, SURFACE MOUNTED</li> <li> PANELBOARD, FLUSH MOUNTED</li> <li> FUSED DISCONNECT SWITCH</li> <li> NON-FUSED DISCONNECT SWITCH</li> <li> MOTOR STARTER</li> <li> COMBINATION MOTOR STARTER/FUSED DISCONNECT</li> <li> MOTOR OR FAN</li> <li> METER AND CABINET</li> <li> JUNCTION BOX - CEILING MOUNTED</li> <li> JUNCTION BOX - WALL MOUNTED</li> <li> JUNCTION BOX FOR CLOCK POWER</li> <li> JUNCTION BOX MOUNTED AT 32" FOR HAND DRYER</li> <li> TRANSFORMER - NUMBER INDICATES DESIGNATION SEE TRANSFORMER SCHEDULE</li> <li> VARIABLE FREQUENCY DRIVE</li> <li> TRANSIENT VOLTAGE SURGE SUPPRESSOR</li> <li> EMERGENCY SHUTOFF SWITCH - WALL MOUNTED 48" TO CENTERLINE - PROVIDE TAMPER-PROOF COVER</li> <li> CONDUIT TURNING UP</li> <li> CONDUIT TURNING DOWN</li> <li> WIRING UNDERGROUND OR UNDERSLAB</li> <li> HOMERUN - (2)#12+(1)#12G UNO (EXCEPT LIGHTING CIRCUITS: (1)#12+(1)#10N+(1)#12G UNO)</li> <li> SINGLE-PHASE HOMERUN OR MULTIPLE HOMERUN UTILIZING THE SAME CONDUIT</li> <li> 3-PHASE HOMERUN OR MULTIPLE HOMERUN UTILIZING THE SAME CONDUIT</li> <li> FLEXIBLE CONNECTION</li> <li> GROUNDING SYSTEM</li> <li> MOTORIZED DOOR OPERATOR AND PUSH PADDLE - FURNISHED BY DIVISION 08, WIRE BY DIVISION 26</li> <li> DOORBELL PUSHBUTTON</li> <li> DOORBELL CHIME</li> <li> SYSTEMS FURNITURE WHIP</li> </ul>	<ul style="list-style-type: none"> <li> FIRE ALARM CONTROL PANEL, MOUNT WITH TOP OF PANEL NOT MORE THAN 72" AFF</li> <li> FIRE ALARM ANNUCIATOR, MOUNT WITH TOP OF PANEL NOT MORE THAN 72" AFF</li> <li> SMOKE DETECTOR</li> <li> SMOKE DETECTOR, "E" INDICATES CONNECTION FOR ELEVATOR RECALL</li> <li> SINGLE STATION SMOKE DETECTOR WITH AUDIBLE INDICATING APPLIANCE, WALL MOUNTED</li> <li> SINGLE STATION SMOKE DETECTOR WITH AUDIBLE/VISUAL INDICATING APPLIANCE</li> <li> HEAT DETECTOR</li> <li> DUCT SMOKE DETECTOR</li> <li> REMOTE TEST INDICATOR FOR DUCT SMOKES, MOUNT ON CEILING BENEATH UNIT, OR WALL MOUNT WHERE INDICATED ON PLANS</li> <li> MANUAL PULL STATION, MOUNT 48" AFF</li> <li> HORN/STROBE, CANDELA AS NOTED ON PLANS</li> <li> CEILING MOUNTED HORN/STROBE, CANDELA AS NOTED ON PLANS</li> <li> STROBE ONLY INDICATING APPLIANCE, CANDELA AS NOTED ON PLANS</li> <li> STROBE, 15 CANDELA, 120V, CONNECT TO OPERATE UPON ACTIVATION OF ROOM SMOKE DETECTOR</li> <li> SPEAKER/STROBE, CANDELA AS NOTED ON PLANS</li> <li> CEILING MOUNTED SPEAKER/STROBE, CANDELA AS NOTED ON PLANS</li> <li> MINI HORN</li> <li> HORN/STROBE WITH PULL STATION DIRECTLY BELOW</li> <li> MAGNETIC DOOR HOLD OPEN DEVICE</li> <li> TRANSFORMER</li> <li> SPRINKLER SYSTEM WATER FLOW SWITCH, PROVIDED UNDER DIVISION 23, WIRED UNDER DIVISION 26</li> <li> SPRINKLER SYSTEM TAMPER SWITCH, PROVIDED UNDER DIVISION 23, WIRED UNDER DIVISION 26</li> <li> SPRINKLER SYSTEM CHECK VALVE PRESSURE SWITCH, FURNISHED AND INSTALLED UNDER DIVISION 23, WIRED UNDER DIVISION 26</li> <li> SPRINKLER SYSTEM EXCESS PRESSURE PUMP, FURNISHED AND INSTALLED UNDER DIVISION 23, WIRED UNDER DIVISION 26</li> <li> KNOX BOX, MOUNT 60" AFF</li> <li> SMOKE DAMPER</li> </ul>
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**ABBREVIATIONS**      **LIGHT SWITCHES**      **POWER DISTRIBUTION**      **FIRE ALARM SYSTEM**