

ELECTRICAL LIGHTING SYMBOL LIST *

SYMBOL: DESCRIPTION:

REFER TO LUMINAIRE SCHEDULE FOR DIMENSIONS AND TYPES

S	SINGLE POLE SWITCH	
S _#	3=3-WAY SWITCH 4=4-WAY SWITCH	
S _O	OCCUPANCY SENSOR, WALL MOUNTED	
S _{WP}	WEATHER PROOF SWITCH	
S ₃	THREE WAY SWITCH	
S ₄	FOUR WAY SWITCH	
S _{O2}	OCCUPANCY SENSOR AND DUAL SWITCHES	
OC _U	OCCUPANCY SENSOR, ULTRASONIC	
OC _D	OCCUPANCY SENSOR, DUAL TECHNOLOGY	
	2'x4' LUMINAIRE	SHADING DENOTES LUMINAIRE WITH EMERGENCY LIGHTING CAPABILITY.
	1'x4' LUMINAIRE	
	6'x4' LUMINAIRE	
	DOWN LIGHT	
	4' INDUSTRIAL LUMINAIRE	
	SUSPENDED LUMINAIRE	
	EXTERIOR WALL-PACK LUMINAIRE	
	SINGLE FACE EXIT SIGN	SHADING INDICATES ILLUMINATED FACE(S). ARROWS INDICATE DIRECTION TO EXIT
	DOUBLE FACE EXIT SIGN	
	EMERGENCY LIGHTING UNIT	
	EMERGENCY LIGHTING UNIT WITH EXIT SIGN	

ELECTRICAL POWER SYMBOL LIST *

SYMBOL: DESCRIPTION:

	DUPLEX RECEPTACLE	SHADE DEVICE INDICATES EMERGENCY POWER.
	GROUND FAULT DUPLEX RECEPTACLE	
	DOUBLE DUPLEX RECEPTACLE	
	ELECTRICAL CONNECTION, WALL MOUNTED	
	ELECTRICAL CONNECTION, CEILING OR FLOOR MOUNTED	
	JUNCTION BOX, WALL MOUNTED	
	JUNCTION BOX, CEILING OR FLOOR MOUNTED	
	STARTER OR VARIABLE FREQUENCY DRIVE (VFD)	
	MANUAL MOTOR STARTER	
	DISCONNECT SWITCH	
	COMBINATION STARTER / DISCONNECT	
	SURFACE MOUNTED PANELBOARD	

LUMINAIRE SYMBOL KEY

SYMBOL: DESCRIPTION:

	NORMAL BRANCH LUMINAIRE, REFER TO LUMINAIRE SCHEDULES FOR ADDITION INFORMATION.
	BATTERY BALLAST BACKED LUMINAIRE, UNSWITCHED FOR NIGHT LIGHT, UNLESS NOTED 'SE'. REFER TO LUMINAIRE SCHEDULES FOR ADDITION INFORMATION.

* ALL SYMBOLS AND ABBREVIATIONS LISTED MAY NOT BE APPLICABLE TO THIS PROJECT. REFER TO GENERAL ELECTRICAL EQUIPMENT SCHEDULE FOR MORE COMPLETE DESCRIPTION AND ADDITIONAL SYMBOLS.

ELECTRICAL SYSTEMS SYMBOL LIST *

SYMBOL: DESCRIPTION:

WALL CLG FLOOR MOUNT

FACP	FIRE ALARM CONTROL PANEL
V#	FIRE ALARM - VISUAL DEVICE
F	FIRE ALARM - MANUAL PULL STATION
FT	FIRE ALARM - MANUAL PULL STATION WITH TAMPER GUARD
A#	FIRE ALARM - AUDIO/VISUAL DEVICE
H	FIRE ALARM - HEAT DETECTOR
HX	HEAT DETECTOR - EXPLOSION PROOF
SD	FIRE ALARM - SMOKE DETECTOR
MM	FIRE ALARM - MONITOR MODULE
FS	FIRE PROTECTION - FLOW SWITCH
MS	FIRE PROTECTION - VALVE MONITOR SWITCH
PIV	FIRE PROTECTION - POST INDICATOR VALVE
PB	PUSH-BUTTON
PP	PUSH-PAD

GENERAL ELECTRICAL NOTES:

- "1/300" INDICATES DETAIL NUMBER/SHEET NUMBER.
- ##-### INDICATES ELECTRICAL EQUIPMENT DEFINED IN ELECTRICAL SCHEDULES. REFER TO DRAWINGS CONTAINING ELECTRICAL SCHEDULES. PERMANENT NAMEPLATE SHALL MATCH FINAL EQUIPMENT NOMENCLATURE, NOT ELECTRICAL EQUIPMENT TAG NAME, REFER TO SPECIFICATIONS.
- INDICATES KEYED NOTE USED TO DESCRIBE ADDITIONAL INFORMATION OF WORK REQUIRED, SPECIFIC TO THE SHEET AND/OR DETAIL IT IS SHOWN WITH.
- "SE" INDICATES LUMINAIRE IS SWITCHED DURING NORMAL OPERATION AND OPERATES FROM EMERGENCY BATTERY UPON LOSS OF POWER. CONNECT THE SWITCHING DEVICE TO THE BALLAST FOR NORMAL OPERATION. EXTEND "AN" UNSWITCHED PORTION OF THE SAME CIRCUIT TO THE FIXTURE FOR CONNECTION TO THE EMERGENCY BATTERY AND BALLAST.
- SHADE LUMINAIRE OR DEVICE INDICATES LUMINAIRE OR DEVICE IS CONNECTED TO AN EMERGENCY CIRCUIT.
- ALL ELECTRICAL CONDUCTORS SHALL BE COPPER.
- INDICATES NUMBER OF WIRES IN CONDUIT. INDICATES A HOMERUN BACK TO THE ELECTRICAL PANEL. PANEL NAME AND CIRCUIT NUMBER SHOWN AT END OF ARROW.
GROUND WIRE
NEUTRAL WIRE
PHASE WIRE
- INDICATES NUMBER OF WIRES IN CONDUIT FROM LIGHT FIXTURE TO LIGHT FIXTURE OR DEVICE TO DEVICE. (EX: RECEPTACLES)
GROUND WIRE
NEUTRAL WIRE
PHASE/SWITCHING WIRE
- ABBREVIATION KEY:
E.C. ELECTRICAL CONTRACTOR
T.C. TELECOMMUNICATIONS CONTRACTOR
M.C. MECHANICAL CONTRACTOR
G.C. GENERAL CONTRACTOR
AFF. ABOVE FINISHED FLOOR
C. CONDUIT
TYP. TYPICAL
+.#' MOUNTING HEIGHT FROM FINISHED FLOOR TO CENTERLINE
- MOUNTING SUBSCRIPT KEY:
RECEPTACLES AND TELECOMMUNICATIONS OUTLETS:
A MOUNT ABOVE COUNTER (+6" TO CENTERLINE ABOVE COUNTER OR BACKSPASH)

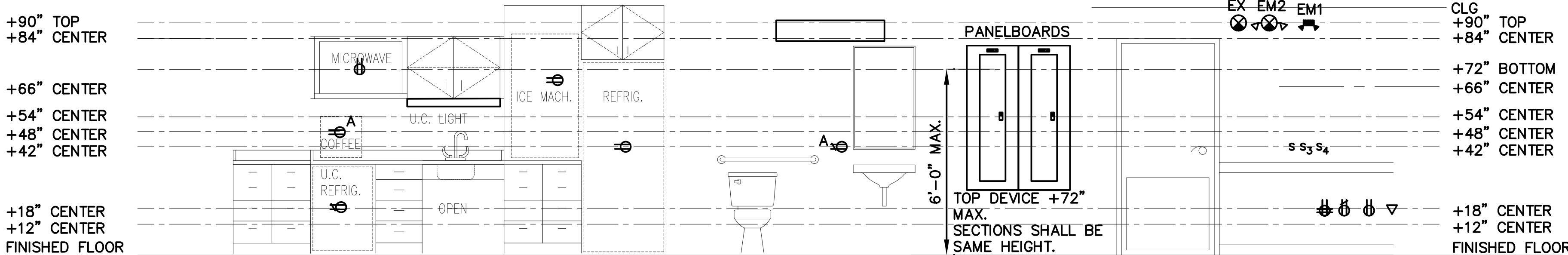
- LINE TYPE KEY:
NEW WORK BY THIS CONTRACTOR (DARK SOLID LINE)
NEW WORK UNDERFLOOR OR UNDERGROUND BY THIS CONTRACTOR (DARK LONG DASHED LINE)
NEW WORK BY OTHERS AND/OR EXISTING TO REMAIN (LIGHT SOLID LINE)
EXISTING TO BE REMOVED BY THIS CONTRACTOR (DARK SHORT DASHED LINE)

SHEET INDEX

E-3002-0.1	ELECTRICAL GENERAL NOTES - MAINTENANCE
E-3002-2.1	MAINTENANCE BLDG. FLOOR PLAN - LIGHTING
E-3002-3.1	MAINTENANCE BLDG. FLOOR PLAN - POWER AND SYSTEMS
E-3002-5.1	ELECTRICAL MATERIAL LIST - MAINTENANCE
E-3002-6.1	ELECTRICAL LUMINAIRE SCHEDULE - MAINTENANCE
E-3002-7.1	TECHNOLOGY COVER SHEET
E-3002-7.2	TECHNOLOGY RISERS AND DETAILS
E-3002-7.3	TECHNOLOGY RISERS AND DETAILS
E-3002-7.4	TECHNOLOGY MATERIAL LIST
E-3002-7.5	MAINTENANCE BUILDING FLOOR PLAN - TECHNOLOGY
E-3002-7.6	SECURITY SCHEDULES

ELECTRICAL INSTALLATION NOTES:

- THE COMPLETE INSTALLATION SHALL BE IN ACCORDANCE WITH THE ADAAG (AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES).
- CIRCUIT NUMBERS ARE SHOWN FOR CIRCUIT IDENTIFICATION. CIRCUITING SHALL AGREE WITH NUMBERING ON THE PANEL PROVIDED, COMMON NEUTRALS MAY NOT BE USED FOR BRANCH CIRCUITS. BALANCE THE LOAD ON PANEL AS EVENLY AS POSSIBLE BETWEEN EACH PHASE.
- CIRCUITS SERVING EMERGENCY AND EXIT LUMINAIRES WILL BE RUN IN SEPARATE RACEWAY FROM ALL OTHER CIRCUITS.
- A #12 GREEN INSULATED GROUND CONDUCTOR SHALL BE INSTALLED WITH CIRCUIT CONDUCTORS TO ALL RECEPTACLES.
- CONCEAL ALL CONDUIT IN WALLS, PARTITIONS, ABOVE CEILING, AND IN FLOOR SLAB, ETC. UNLESS OTHERWISE INDICATED ON THE PLANS OR IN THE SPECIFICATIONS. CONDUIT IN MECHANICAL ROOMS, AND STORAGE ROOMS WITHOUT CEILINGS MAY BE EXPOSED ON BUILDING STRUCTURE.
- BOXES LOCATED ON OPPOSITE SIDES OF NON-RATED WALLS SHALL BE OFFSET A MINIMUM OF 6" HORIZONTALLY. BOXES ON OPPOSITE SIDES OF FIRE RATED WALLS SHALL BE OFFSET A MINIMUM OF 24" HORIZONTALLY. "THRU-THE-WALL" BOXES SHALL NOT BE ALLOWED WITHOUT PRIOR WRITTEN APPROVAL OF THE ARCHITECT/ENGINEER.
- FLUSH MOUNT ALL TOGGLE SWITCHES AT +42" FROM FLOOR (CENTERLINE DIMENSION), EXCEPT WHERE OTHERWISE NOTED. TOGGLE SWITCHES MAY BE SURFACE MOUNTED WHEN CONDUIT IS SPECIFIED EXPOSED.
- TWO ADJACENT SWITCHES SHOWN WITH A SINGLE CIRCUIT CONNECTION INDICATES MULTI-LEVEL SWITCHING; INBOARD AND OUTBOARD LAMPS ARE TO BE SWITCHED SEPARATELY.
- FLUSH MOUNT ALL DUPLEX RECEPTACLES AND TELECOMMUNICATION OUTLETS AT +18" FROM FLOOR (CENTERLINE DIMENSION), EXCEPT WHERE OTHERWISE NOTED. RECEPTACLES AND OUTLETS MAY BE SURFACE MOUNTED WHEN CONDUIT IS SPECIFIED EXPOSED.
- DUPLEX RECEPTACLES FOR ELECTRIC WATER COOLERS (EWC) SHALL BE CONCEALED BEHIND WATER COOLER ACCESS PLATE OR BE DIRECTLY BELOW AND CENTERED ON EWC. CONTRACTOR SHALL VERIFY TYPE OF EWC TO BE INSTALLED.
- CONTRACTOR SHALL VERIFY ALL FURNITURE, MODULAR FURNITURE AND EQUIPMENT LOCATIONS WITH ARCHITECTURAL PLANS, ELEVATIONS AND REVIEWED SHOP DRAWINGS. PRIOR TO MAKING THE ACTUAL ELECTRICAL INSTALLATION THIS CONTRACTOR SHALL ADJUST RECEPTACLES, OUTLETS OR CONNECTION LOCATIONS TO ACCOMMODATE FURNITURE AND/OR EQUIPMENT.
- ELECTRICAL AND TELECOMMUNICATIONS EQUIPMENT SHALL BE MOUNTED TO AVOID IMPEDANCE OF OPERATION OF AND/OR ACCESS TO ELECTRICAL AND MECHANICAL EQUIPMENT. ALL MOUNTING OF ELECTRICAL AND TELECOMMUNICATIONS, ON EQUIPMENT SUPPLIED BY ANOTHER CONTRACTOR, SHALL BE APPROVED IN ADVANCE BY THE OTHER CONTRACTOR.
- ALL FINAL ELECTRICAL CONNECTIONS TO MOTORS SHALL BE MADE WITH FLEXIBLE METAL CONDUIT. USE LIQUIDTIGHT CONDUIT AND FITTINGS WHERE SUBJECT TO MOISTURE. ROUTE GROUND WIRE FROM CIRCUIT GROUND TO MOTOR GROUND THROUGH FLEXIBLE CONDUIT. FLEXIBLE CONDUIT SHALL NOT EXCEED 6' IN LENGTH.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ALL OPENINGS REQUIRED IN WALLS. ALL OPENINGS SHALL BE REPAIRED TO MATCH EXISTING BY A QUALIFIED CONTRACTOR AT THE EXPENSE OF THIS CONTRACTOR. ALL CONDUITS THROUGH WALLS SHALL BE GROUTED OR SEALED INTO OPENINGS.
- ALL MATERIALS USED TO SEAL PENETRATIONS OF FIRE RATED WALLS AND FLOORS SHALL BE TESTED AND CERTIFIED AS A SYSTEM PER ASTM E814 STANDARDS FOR FIRE TESTS OF THROUGH-PENETRATION FIRESTOPS, SEE SECTION 16080.
- CONTRACTOR SHALL INSTALL AT EACH SERVICE ENTRANCE A PERMANENT DIRECTORY ACCORDING TO ARTICLE 230, PART 1 OF THE NATIONAL ELECTRIC CODE.
- ALL WELDING SHALL BE ACCORDING TO AMERICAN WELDING SOCIETY STANDARDS. CONTRACTOR SHALL FURNISH TO THE ARCHITECT/ENGINEER CERTIFICATES QUALIFYING EACH WELDER, PRIOR TO START OF WORK. THE ARCHITECT/ENGINEER RESERVES THE RIGHT TO REQUIRE QUALIFYING DEMONSTRATION, AT THE CONTRACTOR'S EXPENSE, OF ANY WELDERS ASSIGNED TO THE JOB.



TYPICAL ELECTRICAL MOUNTING HEIGHTS

NO SCALE

NOTES:

- TYPICAL MOUNTING HEIGHT, UNLESS NOTED OTHERWISE ON PLANS. VERIFY WITH OTHER CONTRACTORS PRIOR TO START OF ROUGH-IN. ARCHITECTURAL ELEVATIONS AND EQUIPMENT DRAWINGS SHALL TAKE PRECEDENCE. COORDINATE LOCATIONS WITH EQUIPMENT AND MILLWORK DRAWINGS.

Anderson Engineering of Minnesota, LLC

13605 1st AVENUE NORTH, SUITE 100, PLYMOUTH, MN 55441
TEL (763) 412-4000 FAX (763) 412-4090

www.ae-mn.com



N ATIONAL
C EMETERY
A DMINISTRATION

BID DOCUMENTS 7/1/2011

		<div><div><div><div>KJWW</div></div><div>ENGINEERING CONSULTANTS</div><div>Experience you can build on.™</div></div><div>623 26TH AVENUE ROCK ISLAND, IL 61201 309.786.0673 FAX: 309.786.5967 www.kjww.com KJWW Project # 10.0356.00</div><div>STRUCTURAL / MECHANICAL / ELECTRICAL / TECHNOLOGY / MEDICAL EQUIPMENT SOLUTIONS</div></div>	<div>I hereby certify that this Plan, Specification, or Report was prepared by me, or under my direct supervision and that I am a duly licensed Professional Engineer under the laws of the State of Oregon. Signature: Name: Lee D. VanOpdorp Discipline: Electrical Oregon Registration No. 78702PE Expiration date: 06.30.12 Date Issued: **, **, **</div>	<div>Anderson Engineering of Minnesota, LLC</div> <div>13605 1st AVENUE NORTH, SUITE 100, PLYMOUTH, MN 55441</div> <div>TEL (763) 412-4000 FAX (763) 412-4090</div> <div>www.ae-mn.com</div>	<div></div> <div>N ATIONAL C EMETERY A DMINISTRATION</div>	<div>Drawing Title ELECTRICAL GENERAL NOTES - MAINTENANCE</div>	<div>Project Title REPLACE ADMINISTRATION AND MAINTENANCE BUILDING AND SITE IMPROVEMENTS</div>	<div>Date 7-1-2011 Project No. 906CM3009</div>	
			<div>Approved: Director, Office of Construction Management</div>			<div>Building Number 3002</div>	<div>Checked JOHMcG</div>	<div>Drawn BRAWIT</div>	<div>DRAWING NO. E-3002-0.1</div>
			<div>Approved: Director, Project Management Service</div>			<div>Location EAGLE POINT NATIONAL CEMETERY 2763 RILEY ROAD EAGLE POINT, OR 97524</div>			<div>Dwg. 136 OF 181</div>
			<div>Revisions</div>			<div>Date</div>			