

A

three inches = one foot

B

one and one half inches = one foot

C

one inch = one foot

D

three quarters inch = one foot

E

one half inch = one foot

F

one eighth inch = one foot

ELECTRICAL ABBREVIATIONS

1PH SINGLE-PHASE	EC EMPTY CONDUIT
1P SINGLE POLE	EG EQUIPMENT GROUND
2/C TWO-CONDUCTOR	EL ELEVATION
3/C THREE-CONDUCTOR	ELEC ELECTRIC OR ELECTRICAL
3PH THREE-PHASE	ELEV ELEVATOR
4/C FOUR-CONDUCTOR	EMCP EMERGENCY MONITORING CONTROL PANEL
4W FOUR-WIRE	EMER EMERGENCY
	EMI ELECTROMAGNETIC INTERFERENCE
A/C UNIT AIR CONDITIONING UNIT	EMT ELECTRICAL METALLIC TUBING
A/E ARCHITECT/ENGINEER	ENCL ENCLOSURE
AP ALARM ANNUNCIATOR PANEL	EPQ EMERGENCY POWER OFF
AC ALTERNATING CURRENT OR ARMORED CABLE	EPRF EXPLOSION PROOF
ACC ACCESSIBLE	ESMT EASEMENT
ADDL ADDITIONAL	EWC ELECTRIC WATER COOLER
ADJ ADJACENT, ADJOINING	EWB ELECTRIC WATER HEATER
ADO AUTOMATIC DOOR OPENER	EXIST EXISTING
AF AMPERE FRAME OR AMP FUSE	
AFC ABOVE FINISHED COUNTER, AUTOMATIC FREQUENCY CONTROL, OR AVAILABLE FAULT CURRENT	FA FIRE ALARM
	FAAP FIRE ALARM ANNUNCIATOR PANEL
AFF ABOVE FINISHED FLOOR	FABL FIRE ALARM BELL
AFG ABOVE FINISHED GRADE	FABX FIRE ALARM BOX
AH AMPERE HOUR	FACP FIRE ALARM CONTROL PANEL
AHJ AUTHORITY HAVING JURISDICTION	FC FOOTCANDLE
AIC AMPERE INTERRUPTING CAPACITY	FI FILM ILLUMINATOR
ALT ALTERNATE	FIXT FIXTURE
AMB OR A AMBIENT	FLA FULL LOAD AMPS
AMP AMPERE	FLEX FLEXIBLE METALLIC CONDUIT
ARCH ARCHITECT	FLT FLOODLIGHT
ASC AMPS SHORT CIRCUIT	FLUR FLUORESCENT
AT AMPERE TRIP	FLUR FIX FLUORESCENT FIXTURE
ATS AUTOMATIC TRANSFER SWITCH	FOUTT TELEPHONE FLOOR OUTLET
AUTO AUTOMATIC	FP FIRE PROTECTION
AV AUDIO VISUAL	FT FEET OR FOOT
	FU SW FUSED SWITCH
BAT BATTERY	FVNR FULL VOLTAGE NON-REVERSING
BC BARE COPPER	FVR FULL VOLTAGE REVERSING
BD BOARD	
BFF BELOW FINISH FLOOR	G OR GND GROUND OR GENERATOR
BIL BASIC INSULATION LEVEL	GEN GENERATOR
BLDG BUILDING	GFCI GROUND FAULT CIRCUIT INTERRUPTER
BPMP BOILER PLANT INSTRUMENTATION PANEL	GTB GROUND TERMINAL BOX
BRKR BREAKER	
BYP BY PASS	HID HIGH INTENSITY DISCHARGE
	HOA HAND-OFF-AUTOMATIC
C CONDUIT	HP HORSEPOWER
CAB CABINET	HT HEIGHT
CALC CALCULATE	HZ HERTZ
CAP CAPACITY	
CAT CATALOG	IESNA ILLUMINATION ENGINEERING SOCIETY OF NORTH AMERICA
CATV COMMUNITY ANTENNA TELEVISION	IMC INTERMEDIATE METAL CONDUIT
CCR CONTROL CONTACTOR	INCAND INCANDESCENT
CCTV CLOSED CIRCUIT TELEVISION	IR INFRARED
cd CANDELA	IWH INSTANTANEOUS WATER HEATER
CD CONSTRUCTION DOCUMENTS	
CF CONTRACTOR FURNISHED	J-BOX JUNCTION BOX
CF/CI CONTRACTOR FURNISHED/CONTRACTOR INSTALLED	
CF/OI CONTRACTOR FURNISHED/OWNER INSTALLED	KV KILOVOLT
CFE CONTRACTOR FURNISHED EQUIPMENT	KVA KILOVOLT AMPERE
CHW CHILLED WATER	KVAH KILOVOLT AMPERE PER HOUR
CHWP CHILLED WATER PUMP	KVAR KILOVOLT AMPERE REACTIVE
CKT CIRCUIT	KW KILOWATT
CKT BRKR CIRCUIT BREAKER	KWH KILOWATT HOUR
CLF CURRENT LIMITING FUSE	KWHM KILOWATT HOUR METER
CLG CEILING	
CNU CONCRETE MASONRY UNIT	LED LIGHT EMITTING DIODE
COAX COAX CABLE	LF LINEAR FEET (FOOT)
COMM COMMUNICATION	LM LUMEN
COMPT COMPARTMENT	LP LIGHT POLE
CONC CONCRETE	LPS LOW PRESSURE SODIUM
CONT CONTINUE	LRA LOCKED ROTOR AMPS
CONTR CONTRACTOR	LTCP LOCAL TEMPERATURE CONTROL PANEL
COORD COORDINATE	LT LIGHT
CPT CONTROL POWER TRANSFORMER	LTG LIGHTING
CRI COLOR RENDERING INDEX	LTG PNL LIGHTING PANEL
CT CURRENT TRANSFORMER	LTNG LIGHTNING
CTV CABLE TELEVISION	LV LOW VOLTAGE
CU COPPER	
CU FT CUBIC FEET	MATV MASTER ANTENNA TELEVISION SYSTEM
CUR CURRENT	MAX MAXIMUM
	MC METAL-CLAD
DB DECIBEL OR DIRECT BURIAL	MCA MINIMUM CIRCUIT AMPS
DC DIRECT CURRENT	MCB MAIN CIRCUIT BREAKER
DCP DIMMER CONTROL PANEL	MCC MOTOR CONTROL CENTER
DEG C DEGREES CELSIUS	MDP MAIN DISTRIBUTION PANEL
DEG F DEGREES FAHRENHEIT	MECH MECHANICAL
DEMO DEMOLITION	MG MOTOR GENERATOR
DIAG DIAGRAM	MH MANHOLE
DISC DISCONNECT	MIN MINIMUM
DISTR DISTRIBUTION	MOCPP MAXIMUM OVERCURRENT PROTECTION
DISTR PNL DISTRIBUTION PANEL	MLO MAIN LUGS ONLY
DMR SW DIMMER SWITCH	MT MOUNT
DN DOWN	MTD MOUNTED
DPDT DOUBLE POLE, DOUBLE THROW	MTG MOUNTING
DPST DOUBLE POLE, SINGLE THROW	MTS MANUAL TRANSFER SWITCH
DRSW DOOR SWITCH	MV MEDIUM VOLTAGE
DS DISCONNECT SWITCH	MVA MEGAVOLT-AMPERE
DWG DRAWING	MW MEGAWATT MICROWAVE

NA NOT APPLICABLE
NEC NATIONAL ELECTRICAL CODE
NEMA NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
NEUT OR N NEUTRAL
NFPA NATIONAL FIRE PROTECTION ASSOCIATION
NIC NOT IN CONTRACT
NL NIGHT LIGHT
NO NORMALLY OPEN
NS NO SCALE
NTS NOT TO SCALE

P POLE
PA PUBLIC ADDRESS
PS PANELBOARD, PULL BOX, OR PUSH-BUTTON
PBPU PREFABRICATED BEDSIDE PATIENT UNIT
PCB POLYCHLORINATED BIPHENYL
PEC PHOTOELECTRIC CELL
PEDESTAL
PEND PENDANT
PF POWER FACTOR
PH PHASE
PNL PANEL
POD POWER OPERATED DAMPER
PT POTENTIAL TRANSFORMER
PTV POWER TYPE ROOF VENTILATION
PVC POLYVINYL CHLORIDE (PLASTIC)
PWR POWER

RCP REFLECTED CEILING PLAN
REC RECESSED
RECPRT RECEPTACLE
RGS RIGID GALVANIZED STEEL
RM ROOM
RMS ROOT MEAN SQUARE
REQD REQUIRED

SCC SHORT CIRCUIT CAPACITY
SES SERVICE ENTRANCE SECTION
SD SMOKE DETECTOR
SF SQUARE FOOT (FEET)
SHT SHEET
SI INTERNATIONAL SYSTEM OF UNITS
SPEC SPECIFICATION
SPST SINGLE POLE, SINGLE THROW
SURF SURFACE
SW SWITCH
SWBD SWITCHBOARD
SWGR SWITCHGEAR

TC TIME CLOCK
TEL TELEPHONE
TP TWISTED PAIR
TPS TWISTED PAIR SHIELDED
TTB TELEPHONE TERMINAL BOARD
TV TELEVISION
TYP TYPICAL

UFD UNDERFLOOR DUCT
UGND UNDERGROUND
UL UNDERWRITERS LABORATORY
UNON UNLESS OTHERWISE NOTED
UPS UNINTERRUPTIBLE POWER SUPPLY
UTIL UTILITY

V VOLT
VA VOLT AMPERE
VAR VOLT AMPERE REACTIVE
VFD VARIABLE FREQUENCY DRIVE
VOLT VOLTAGE

W WATT
WH WATER HEATER
WP WEATHERPROOF

XFER TRANSFER
XFMR TRANSFORMER

ELECTRICAL SYMBOLS

SYMBOL	ONE-LINE	SYMBOL	LIGHTING	SYMBOL	FIRE
	CIRCUIT BREAKER		FLUORESCENT OR LED LUMINAIRE		FIRE ALARM CONTROL PANEL (FACP)
	ENCLOSED CIRCUIT BREAKER		WALL MOUNTED LUMINAIRE		FIRE ALARM ANNUNCIATOR (FAA)
	DISCONNECT SWITCH		FLUORESCENT LUMINAIRE		FIRE ALARM LOC PANEL
	FUSE		SUSPENDED INDIRECT FLUORESCENT LUMINAIRE		SPRINKLER FLOW SWITCH
	FUSED DISCONNECT SWITCH		BARE LAMP FLUORESCENT STRIP/INDUSTRIAL		SPRINKLER VALVE (TAMPER SWITCH)
	FUSED CUTOUT		POLE MOUNTED LUMINAIRE		SPEAKER - 84\"/>
	LOW VOLTAGE DRAWOUT TYPE CIRCUIT BREAKER		EXTERIOR WALL MOUNTED AREA LIGHTING LUMINAIRE		MASS NOTIFICATION/FIRE ALARM HORN STROBE - 84\"/>
	LOW VOLTAGE DRAWOUT TYPE CIRCUIT BREAKER WITH CURRENT LIMITING FUSES		POLE MOUNTED - EXISTING		MANUAL PULL STATION - 48\"/>
	HIGH VOLTAGE DRAWOUT TYPE CIRCUIT BREAKER WITH CURRENT LIMITING FUSES		BOLLARD		DOOR HOLDER
	TRANSFORMER		BRACKET MOUNTED EXT LIGHT, ARROWS AS INDICATED		PHOTO-ELECTRIC SMOKE DETECTOR (USE I FOR IONIZATION)
	CONTACT, NORMALLY OPEN		CEILING OR PENDANT MOUNTED EXT LIGHT, ARROWS AS INDICATED		PHOTO-ELECTRIC DUCT SMOKE DETECTOR (USE I FOR IONIZATION)
	CONTACT, NORMALLY CLOSED		EMERGENCY WALL PACK FIXTURE (DOUBLE OR SINGLE HEAD)		HEAT DETECTOR
	OVERLOAD RELAY		LIFE SAFETY LIGHT		FIRE ALARM INPUT MODULE
	MAGNETIC STARTER		STANDBY LIGHT		
	TRANSFER SWITCH		FIXTURE TYPE AND CIRCUIT NUMBER ADJACENT TO FIXTURE		
	BUS DUCT				
	MOTOR				
	CIRCUIT BREAKER PANELBOARD (208/120V)				
	GROUND FAULT PROTECTOR				
	GROUND FAULT CIRCUIT INTERRUPTER				
	CURRENT TRANSFORMER				
	POTENTIAL TRANSFORMER				
	SURGE ARRESTER				
	GROUND CONNECTION				
	METER				
	GENERATOR				
	LUG OR BUS CONNECTION				

SYMBOL	SWITCHES
	SWITCH - 48\"/>
	THREE-WAY SWITCH - 48\"/>
	FOUR-WAY SWITCH - 48\"/>
	MOTOR STARTER SWITCH
	DIMMER SWITCH - 48\"/>
	OCCUPANCY SENSOR - 48\"/>
	TIME SWITCH - 54\"/>
	MULTIPLE DEVICES UNDER ONE COVERPLATE
	THERMOSTAT

SYMBOL	TELECOMMUNICATIONS
	TELEPHONE OUTLET - 18\"/>
	PHONE / DATA OUTLET - 18\"/>
	WALL TELEPHONE OUTLET - 48\"/>
	DATA OUTLET - 18\"/>
	FLOOR TELEPHONE/ DATA

SYMBOL	SYSTEMS
	SPECIAL PURPOSE RECEPTACLE - 18\"/>
	SINGLE RECEPTACLE - 18\"/>
	DUPLEX RECEPTACLE - 18\"/>
	DOUBLE DUPLEX RECEPTACLE - 18\"/>
	DUPLEX RECEPTACLE - SPLIT WIRED - 18\"/>
	CEILING MOUNTED DUPLEX RECEPTACLE
	CEILING MOUNTED DOUBLE DUPLEX RECEPTACLE
	FLOOR MOUNTED DUPLEX RECEPTACLE, DEVICE AS INDICATED
	FLOOR MOUNTED DOUBLE DUPLEX RECEPTACLE, DEVICE AS INDICATED
	JUNCTION BOX - WALL MOUNT - 18\"/>
	JUNCTION BOX CEILING
	CLOCK OUTLET - 84\"/>
	FLOOR JUNCTION BOX
	PULL BOX
	DISTRIBUTION PANELBOARD
	FLUSH MOUNTED BRANCH CIRCUIT PANELBOARD
	SURFACE BRANCH CIRCUIT PANELBOARD
	AUTOMATIC TRANSFER SWITCH
	TRANSFORMER (WALL OR SUSPENDED TRANSFORMER)

SYMBOL	CONDUIT/WIRING
	CONDUIT CONCEALED IN CEILING OR WALL
	CONDUIT CONCEALED IN FLOOR SLAB
	CONDUIT EXPOSED
	CONDUIT RUN UNDERGROUND
	CONDUIT TURNED UP
	CONDUIT TURNED DOWN
	EXISTING CONDUIT TO REMAIN
	GROUND CONNECTION AS NOTED
	CONDUIT SEAL
	CONDUIT STUB BUSHED (C=CAPPED)

	BRANCH CIRCUIT HOME RUN TO PANELBOARD, (UPPER CODE - PANEL ID, LOWER NUMERALS, IDENTIFY CIRCUIT NUMBERS)
	WIRING METHOD AND IDENTIFICATION (NOTE: WITHOUT FURTHER IDENTIFICATION, SYMBOL INDICATES 1/2\"/>
	NOTE: INCREASE CONDUCTOR SIZES AS LISTED IN THE BRANCH CIRCUIT HOMERUN CONDUCTOR SIZING SCHEDULE. INCREASE CONDUIT SIZE TO ACCOMMODATE INCREASE IN CONDUCTOR SIZE AS PER THE NEC.

SYMBOL	ELECTRICAL SYMBOL NOTES
A	EQUIPMENT SHALL BE INSTALLED AT THE MOUNTING HEIGHTS INDICATED UNLESS OTHERWISE SHOWN ON THE ARCHITECTURAL ELEVATIONS, NOTED ON THE DRAWINGS, OR IN THE SPECIFICATIONS.
B	UPPER CASE LETTERS ADJACENT TO SYMBOLS INDICATE TYPE (SEE SPECIFICATION OR SCHEDULES). LOWER CASE INDICATES SWITCHING AND THE NUMBER INDICATES THE CIRCUIT.
C	THIS IS A STANDARD SYMBOL LIST. ALL SYMBOLS MAY NOT NECESSARILY BE USED ON THIS PROJECT.
D	SHADED LIGHTING FIXTURE SYMBOLS INDICATE EGRESS LIGHTING.
E	ALL ELECTRICAL EQUIPMENT AND MATERIAL TO BE LISTED AND INSTALLED PER A RECOGNIZED ELECTRICAL TESTING LABORATORY.
F	PROVIDE DECORATOR STYLE DUPLEX RECEPTACLES FOR \"C\" COMPUTER RECEPTACLES.

CONSTRUCTION DOCUMENTS

<div>Revisions:</div> <div>Date</div>		<div>CONSULTANTS:</div> <div>SIGNAGE</div> <div>SIGNIA DESIGN</div> <div>2395 UNIVERSITY AVENUE W., SUITE 316</div> <div>SAINT PAUL, MN 55114</div> <div>PHONE: 651-209-6254</div> <div>LANDSCAPE</div> <div>ANDERSON ENGINEERING</div> <div>13605 1ST AVENUE NORTH, SUITE 100</div> <div>PLYMOUTH, MN 55441</div> <div>PHONE: 763-412-4000</div>	<div>ARCHITECTS/ENGINEERS:</div> <div>LEO A DAILY</div> <div>PLANNING, ARCHITECTURE, INTERIORS</div> <div>730 Second Avenue South, Suite 1100</div> <div>Minneapolis, MN 55402-2455 USA</div> <div>Tel 612-338-0741 Fax 612-338-4840</div> <div>Project #023-10131-000</div>	<div>Drawing Title: ELECTRICAL SYMBOLS LEGEND</div> <div>I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am duly licensed Professional Engineer under the laws of the State of Minnesota</div> <div>Signature: </div> <div>Printed Name: Randall A. Jacobs</div> <div>Date: 02-24-2012</div> <div>License: 25414</div>	<div>Project Title</div> <div>CONSTRUCT PARKING RAMP DESIGN</div> <div>Location</div> <div>1 VETERANS DRIVE</div> <div>MINNEAPOLIS, MN 55417</div> <div>Date</div> <div>02-24-2012</div> <div>Checked</div> <div>RAJ</div> <div>Modeled</div> <div>ATR</div> <div>Drawing 095 of 116</div>	<div>Project Number</div> <div>618-820</div> <div>Building Number</div> <div>78</div> <div>Drawing Number</div> <div>ES-010</div> <div>Office of Construction and Facilities Management</div> <div>Department of Veterans Affairs</div>
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