

LEGEND – SINGLE LINE & SCHEMATIC DIAGRAMS					
NOT ALL SYMBOLS MAY APPEAR ON DRAWINGS					
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	H.V. CABLE STRESS CONE TERMINATION		HAND-OFF-AUTO 3 POSITION, 2 POLE, SHOWN IN 'HAND' POSITION		PANEL A
	CABLE SIDE		TWO POSITION SELECTOR SWITCH SHOWN IN 'LOCAL' POSITION		FLOAT SWITCH
	INCOMING UTILITY CONNECTION		KEYSWITCH		ULTRASONIC HEAD
	ULTIMATE AVAILABLE FAULT LEVEL (RMS SYM)		SPEED SWITCH		RADIO ANTENNA
	PRESENT AVAILABLE FAULT LEVEL (RMS SYM)		EMERGENCY STOP		METAL OXIDE VARISTOR
	SHORT CIRCUIT RATING OF EQUIPMENT		PUSHBUTTON – NORMALLY CLOSED		RECTIFIER
	LV CIRCUIT BREAKER (FIXED)		PUSHBUTTON – NORMALLY OPEN		THYRISTOR GENERAL
	LV CIRCUIT BREAKER (DRAWOUT)		N.O. DELAYED CLOSING AFTER ENERGIZATION OF ACTUATING COIL		BATTERY
	BREAKER AUX CONTACTS		N.C. DELAYED CLOSING AFTER ENERGIZATION OF ACTUATING COIL		GROUND
	BREAKER KEY INTERLOCK		N.O. DELAYED CLOSING AFTER DE-ENERGIZATION OF ACTUATING COIL		1 CONDUCTOR
	KEY MATCH		N.C. DELAYED CLOSING AFTER DE-ENERGIZATION OF ACTUATING COIL		1 CONDUCTOR + NEUTRAL
	DRAWOUT CELL		LEVEL SWITCH – CLOSSES ON FALLING LEVEL		1 NEUTRAL
	HV CIRCUIT BREAKER (DRAWOUT)		LEVEL SWITCH – CLOSSES ON RISING LEVEL		2 CONDUCTORS
	LETTER DESIGNATIONS IF USED: OCB: OIL CIRCUIT BREAKER SFB: SFB VAC: VACUUM R: RECLOSER		LEVEL SWITCH – OPENS ON RISING LEVEL		2 CONDUCTORS + NEUTRAL
	LIGHTNING ARRESTOR		TEMPERATURE SWITCH – CLOSSES ON RISING TEMPERATURE		3 CONDUCTORS
	POWER DISCONNECT SWITCH		TEMPERATURE SWITCH – OPENS ON RISING TEMPERATURE		3 CONDUCTORS + NEUTRAL
	LOAD BREAK SWITCH		PRESSURE SWITCH – CLOSSES ON RISING PRESSURE		PORTABLE CABLE WITH SEPARABLE CONNECTORS
	FUSED CUTOUT (POLE MOUNTED)		PRESSURE SWITCH – OPENS ON RISING PRESSURE		EYS SEAL
	FUSED SWITCH		FLOW SWITCH – CLOSSES ON INCREASING MATERIAL FLOW		STUB-OUT FOR CONDUIT; OR INSULATED END FOR SPARE CABLE OR CONTROL WIRING
	ATS		FLOW SWITCH – OPENS ON INCREASING MATERIAL FLOW		TRANSFORMER
	AUTOMATIC TRANSFER SWITCH		LIMIT SWITCH – NORMALLY OPEN		AUTO TRANSFORMER
	MANUAL TRANSFER SWITCH		LIMIT SWITCH – NORMALLY CLOSED		REACTOR
	CONTROL FUSE		LIMIT SWITCH – NORMALLY CLOSED HELD OPEN		REACTOR (ALTERNATE SYMBOL)
	INDICATING INSTRUMENT: V = VOLTMETER A = AMMETER Hz = FREQUENCY METER kW = KILOWATT METER SS = SYNCHROSCOPE		LIMIT SWITCH NORMALLY OPEN HELD CLOSED		FIELD WINDING
	VS = VOLT METER SWITCH AS = AMMETER SWITCH		LIMIT SWITCH MAINTAINED NORMALLY OPEN		POTENTIAL TRANSFORMER
	TRANSDUCER		LIMIT SWITCH MAINTAINED NORMALLY CLOSED		CURRENT TRANSFORMER
	CONVERTER		FOOT SWITCH – DEPRESS TO CLOSE		ZERO SEQUENCE CURRENT TRANSFORMER
	INVERTER		FOOT SWITCH – DEPRESS TO OPEN		TEST LINK/SWITCH/BLOCK (1-LINE DIAGRAM)
	REDUCED VOLTAGE STARTER		RELAY COIL WITH INHIBIT		TEST LINK (WIRING DIAGRAM)
	VARIABLE FREQUENCY DRIVE		RELAY COIL OR CONTACTOR COIL		PRIMARY SYSTEM/H.V. BUS/CABLE
	INTEGRATING/RECORDING/MAX. DEMAND INSTRUMENT: kW = KILOWATT DEMAND METRE KVAR = KILOVOLT AMPERE REACTIVE METRE ET = ELAPSED TIME (OR HOUR METRE) Ad = AMMETER DEMAND METRE		N.O. CONTACT – OPEN WHEN RELAY DE-ENERGIZED		INTERMEDIATE SYSTEM/H.V./M.V. BUS/CABLE
	DIGITAL POWER METER (NUMBER DENOTES MODEL, e.g. PML 7330 ION, R INDICATES REVENUE METERING CERTIFICATION, # INDICATES SCADA DESIGNATION)		N.C. CONTACT – CLOSED WHEN RELAY DE-ENERGIZED		SECONDARY SYSTEM 600V AND LOWER BUS/CABLE
	DIGITAL METERING SYSTEM POWER METER (ALTERNATE)		DEVICE/AUXILIARY CONTACT (N.O. or a)		600V BUSDUCT
	UTILITY POWER METER		DEVICE/AUXILIARY CONTACT (N.C. or b)		CONTROL SCHEMATICS
	SLIP RING		FORM-C CONTROL CONTACT		METERING AND PROTECTION
	CAPACITOR		N.O. CONTACT (ALTERNATE) OR DISCONNECT SWITCH		CONTROL INTERLOCKS
	AC MOTOR (20 DESIGNATES HP)		N.C. CONTACT (ALTERNATE)		ROOM/EQUIPMENT OUTLINES
	AC MOTOR (GENERAL)		RESISTANCE TEMPERATURE DETECTOR		MECHANICAL INTERLOCK
	DC MOTOR (GENERAL)		RESISTOR (GENERAL)		ELECTRICAL AND/OR MECHANICAL INTERLOCK
	AC GENERATOR SET		NEUTRAL GROUNDING RESISTOR		CABLE LABELS
	DC GENERATOR (OR EXCITER)		SHUNT		6T12.5MS-78KR
	CONTACTOR MAIN CONTACTS		RESISTOR (ALTERNATE SYMBOL)		62A-7
	VACUUM CONTACTOR		HEATER		PANEL FRONT DEVICES
	THERMAL OVERLOAD DEVICE		COIL/SERIES MAGNETIC OVERLOAD DEVICE/SOLENOID		ILLUMINATED PUSHBUTTON (GREEN)
			INDICATOR LIGHT		PILOT LIGHT (RED)
			PLUG CONNECTOR (CONTROL CCTS); STAB CONNECTOR OR DRAWOUT CONTACTS (PWR CCTS)		NON-ILLUMINATED PUSHBUTTON (STOP)
					MUSHROOM HEAD PUSHBUTTON
					2-POSITION SELECTOR SWITCH
					3-POSITION SELECTOR SWITCH
					POTENTIOMETER
					CUT-OUT WITH CLOSING BUTTON

ESD 16010-1201

LEGEND – LAYOUT DRAWINGS	
NOT ALL SYMBOLS MAY APPEAR ON DRAWINGS. SOME SYMBOLS MAY ALSO APPEAR ON SINGLE LINE AND SCHEMATIC DRAWINGS	
SYMBOL	DESCRIPTION
	LIGHTING:
	FLUORESCENT LUMINAIRE
	CEILING MOUNTED LUMINAIRE
	WALL MOUNTED LUMINAIRE
	LUMINAIRE ON EMERGENCY/24hr CIRCUIT
	BOLLARD/POST TOP LUMINAIRE
	POLE MOUNTED LUMINAIRES
	DIRECTIONAL LUMINAIRE
	SINGLE POLE TOGGLE SWITCH, GANGED AS SHOWN. LETTERS, WHERE SHOWN, DENOTE SWITCHING
	SINGLE POLE TOGGLE SWITCH MODIFIERS AS FOLLOWS: 2 – TWO POLE 3 – THREE WAY 4 – FOUR WAY WP – WEATHER PROOF XP – EXPLOSION PROOF P – C/W PILOT LIGHT K – KEY OPERATED D – DOOR OPERATED M – MOTOR STARTER MC – MOMENTARY CONTACT, 3-POSITION
	LOW VOLTAGE SWITCH
	DIMMER SWITCH
	3 WAY DIMMER SWITCH
	VARIABLE SPEED SWITCH
	PHOTO ELECTRIC CELL
	EXIT SIGN C/W ARROWS AS SHOWN
	EMERGENCY LIGHT BATTERY UNIT, WATTAGE AS SHOWN
	REMOTE EMERGENCY HEADS
	EMERGENCY LIGHT BATTERY PACK, SELF CONTAINED UNIT
	RECEPTACLES AND OUTLETS:
	DUPLEX RECEPTACLE
	SPLIT WIRED DUPLEX RECEPTACLE
	4-PLEX RECEPTACLE
	SINGLE RECEPTACLE
	CEILING MOUNTED JUNCTION BOX
	WALL MOUNTED JUNCTION BOX
	MECHANICAL EQUIPMENT CONNECTION
	SPECIAL PURPOSE RECEPTACLE
	SPECIAL PURPOSE OUTLET
	MANUAL MOTOR STARTER
	MAGNETIC MOTOR STARTER
	NON-FUSED DISCONNECT SWITCH
	FUSED DISCONNECT SWITCH
	COMBINATION MAGNETIC STARTER/DISCONNECT SWITCH
	INDOOR SERVICE POLE
	SINGLE PHASE MOTOR CONNECTION
	THREE PHASE MOTOR CONNECTION
	SURFACE MOUNTED POWER PANEL
	RECESSED/FLUSH MOUNTED POWER PANEL
	PANEL DESIGNATION
	DISTRIBUTION PANEL DESIGNATION
	HEATING:
	LINE VOLTAGE THERMOSTAT
	LOW VOLTAGE THERMOSTAT
	ELECTRIC FORCE FLOW HEATER
	ELECTRIC UNIT HEATER
	ELECTRIC BASEBOARD HEATER RELAY
	ELECTRIC BASEBOARD HEATER RELAY AND TRANSFORMER
	ELECTRIC BASEBOARD HEATER; WATTAGE AS SHOWN
	GROUNDING:
	GROUND ROD
	GROUND ROD IN ACCESSIBLE BOX
	END-TO-END GROUND CONNECTION POINT
	X-CONNECTION (GROUNDING)
	T-CONNECTION (GROUNDING)
	GROUNDING END CONNECTION WITH CABLE LUG, CLAMP CONNECTOR OR OTHER MECHANICAL CONNECTOR BOLTED TO EQUIPMENT
	WELDED OR EXOTHERMIC END CONNECTION (GROUNDING)
	GROUNDING PLATE (CAST FLUSH IN CONCRETE)
	COMMUNICATIONS:
	TELEPHONE OUTLET
	DATA OUTLET
	COMBINATION DATA/TEL OUTLET C/W 2 DATA & 1 TEL UNLESS OTHERWISE INDICATED
	INTERCOM
	MICROPHONE OUTLET
	CEILING MOUNTED HORN
	WALL MOUNTED HORN
	WIREMOLD 5400 C/W OUTLETS AS INDICATED
	CEILING MOUNTED FIRE ALARM/PAGING SPEAKER
	WALL MOUNTED FIRE ALARM/PAGING SPEAKER
	CLOCK C/W MASTER CLOCK WIRING AND 120V RECEPTACLE
	SURFACE MOUNTED COMMUNICATIONS PANEL
	RECESSED/FLUSH MOUNTED COMMUNICATIONS PANEL
	FIRE ALARM:
	FIRE ALARM SMOKE DETECTOR
	FIRE ALARM DUCT SMOKE DETECTOR
	FIRE ALARM HEAT DETECTOR, RATE OF RISE
	FIRE ALARM PULL STATION
	FIRE ALARM MAGNETIC DOOR HOLDER
	FIRE ALARM GONG
	FIRE ALARM CHIME
	FIRE ALARM STROBE
	END OF LINE RESISTOR
	HORN (FIRE ALARM SPEAKER)
	SMOKE ALARM
	FIRE ALARM ANNUNCIATOR
	FIRE ALARM CONTROL PANEL
	ZONE ADDRESSABLE MODULE
	BARRIER MODULE (INTRINSICALLY SAFE)
	FIRE ALARM ZONE ISOLATION MODULE
	Mechanical equipment connection
	SUPERVISORY SWITCH
	FLOW SWITCH
	PRESSURE SWITCH
	GATE VALVE
	SECURITY:
	CARD READER
	DOOR CONTACT
	ELECTRIC STRIKE
	ELECTROMAGNETIC LOCK
	POWER HINGE ELECTRIC LOCK
	REQUEST TO EXIT DEVICE
	PIR TYPE REQUEST TO EXIT DEVICE
	DOOR REFERENCE NO.
	PIR MOTION DETECTOR
	ACTIVE BEAM MOTION DETECTOR
	GLASS BREAK DETECTOR
	DURESS BUTTON
	COMBINED STROBE AND SIREN
	STROBE
	ALARM HORN
	BUZZER
	INTRUSION ALARM KEYPAD
	INTERCOM STATION
	MISCELLANEOUS
	SITEPLAN CONDUIT/DUCT RUNS (SURFACE)
	SITEPLAN CONDUIT/DUCT RUNS (UNDERGROUND)
	SITEPLAN CONDUIT/DUCT RUNS (OVERHEAD)
	NEW DEVICES
	DEVICE WIRING (SURFACE)
	DEVICE WIRING (IN FLOOR/CONCEALED)
	EXISTING DEVICES
	FUTURE DEVICES
	MAIN CONDUIT ROUTE
	CONDUIT DOWN (AWAY FROM VIEWER)
	CONDUIT UP (TOWARDS VIEWER)
	CONDUIT HOME RUN
	CABLE TRAY DESIGNATOR (e.g. LADDER TYPE, 300mm WIDE)
	CABLE TRAY
	OPEN GRATE METAL PLATE
	SOLID METAL CHECKER PLATE

ESD 16010-1204(+)

NOTES:  
1. STANDARD FWSSC FONT SIZE OF 2.5mm NOT IMPLEMENTED ON EMD DRAWINGS BY SPECIAL PERMISSION.  
NOMINAL SIZE OF 2mm USED.



Pacific Region

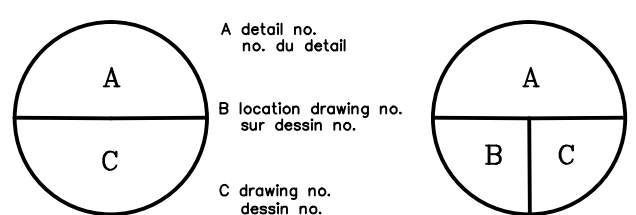


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TEMPORARY NOTES:

1 SYMBOL IN REVIEW

3	BY RFA: ADDED MUSHROOM HEAD PB; EM PB; BUS CONNECTIONS	14 NOV 2006
2	BY RFA: ADDED SECURITY AND HEATING SYMBOLS; GENERAL UPDATE	27 JAN 2006
1	BY RFA: DWG NO. WAS EMD E1, SH 3 of 4; ADDED GROUNDING SYMBOLS	15 AUG 2005
-	BY RFA: APPROVED ISSUE	31 MAY 2005
revisions		date



project  
ESQUIMALT GRAVING DOCK  
ESQUIMALT, B.C.  
ELECTRICAL MASTER DRAWING

drawing  
design

SYMBOL  
LEGEND

designed	M. K. ÇANÇAR	conco
date		
drawn	J.O. / A.S. / P.P.	desine
date		
approved		approve
date		
AS BUILT		Sourmission
FWSSC Project Manager	Administrateur de projets TPSSC	
project no.		no. du projet
drawing no.		no. du dessin
EMD E9001		REV.3