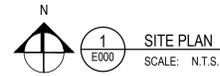
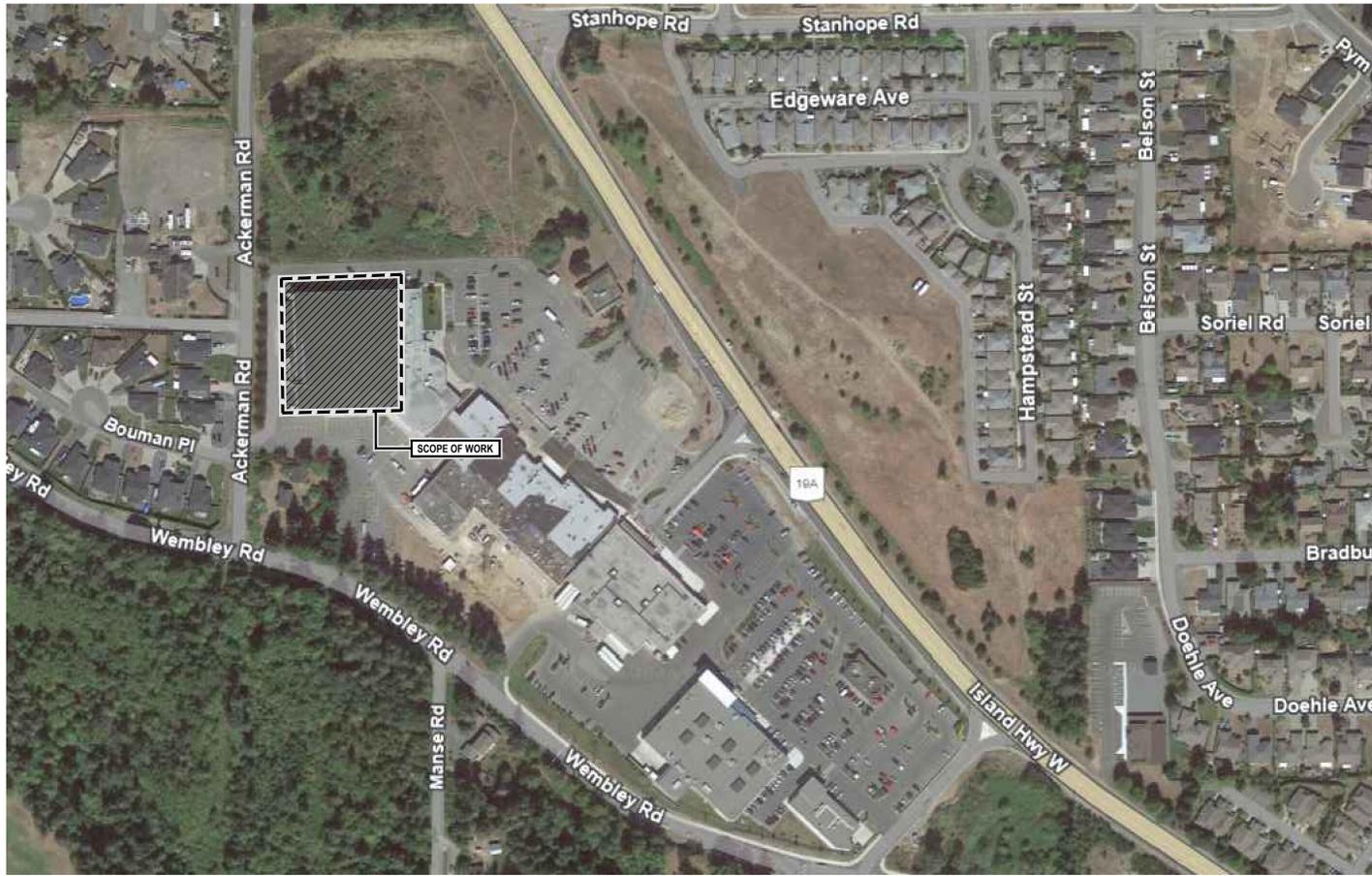


OCEANSIDE PLACE ARENA NEW DEHUMIDIFIER

830 W ISLAND HWY W, PARKSVILLE, BC



1 SITE PLAN
SCALE: N.T.S.

DRAWING LIST	
E000	COVER PAGE
E010	SINGLE LINE DIAGRAM
E100	DEMOLITION PLAN
E150	NEW POWER PLAN - GROUND FLOOR
E151	NEW POWER PLAN - MEZZANINE
E200	ELECTRICAL DETAILS I
E201	ELECTRICAL DETAILS II
E210	MECHANICAL SCHEDULE & LOAD CALCULATION
E300	ELECTRICAL SPECIFICATIONS

SCOPE LADDERING:
 SCOPE 1: HEAT PUMP, DEHUMIDIFIER, HYDRONIC HEADER TO ARENA
 SCOPE 2: HYDRONIC HEADER IN ARENA WITH TOP OUTS (NO ELECTRICAL)
 SCOPE 3: LOBBY AIR HANDLER INTEGRATION (HC3) (NO ELECTRICAL)
 SCOPE 4: POND AIR HANDLER (AHU7)
 SCOPE 5: CHANGE ROOM AIR HANDLER INTEGRATION (HC1 & HC2) (NO ELECTRICAL)
 SCOPE 6: BOILER REPLACEMENTS

		POWER AND COMMUNICATION OUTLETS									
		POWER					PWR & COMM COMBO		COMMUNICATIONS		
		SINGLE	DUPLEX	SPLIT	QUAD	CORD REEL DROP	SPE-CIALTY	STRUCTURED OUTLET	DATA	VOICE	STRUCTURED OUTLET
WALL	5-15R	⊕	⊕	⊕	⊕	-	⊕	-	∇#D	▼#V	▼#D/#V/#C/#H
	5-15R GFI	⊕	⊕	⊕	⊕	-	-	-	-	-	-
	5-20R	⊕	⊕	⊕	⊕	-	-	-	-	-	-
	5-20R GFI	⊕	⊕	⊕	⊕	-	-	-	-	-	-
FLOOR	5-15R	-	⊕	-	⊕	-	-	#D/#V/#C/#H	∇#D	▼#V	▼#D/#V/#C/#H
	5-20R	-	⊕	-	⊕	-	-	#D/#V/#C/#H	∇#D	▼#V	▼#D/#V/#C/#H
	5-15R	-	⊕	-	⊕	-	-	-	∇#D	▼#V	▼#D/#V/#C/#H
CEILING	5-20R	-	⊕	-	⊕	-	-	-	∇#D	▼#V	▼#D/#V/#C/#H
	WI/RCPPT	-	-	-	-	-	-	⊕-xxR	-	-	-
W/O RCPPT	-	-	-	-	-	-	-	-	-	-	

RECEPTACLE ABBREVIATIONS
 USB: CW DUAL MIN. 3.1A USB PORTS.
 IG: CW ISOLATED GROUND
 HP: HOSPITAL GRADE
 WP: WEATHER PROOF
 HK: HOUSE KEEPING
 ARC: ARC FAULT PROTECTION.

COMMUNICATION ABBREVIATIONS
 WAP: WIRELESS ACCESS POINT.
 C: CATV.
 D: DATA.
 H: HDMI
 V: VOICE.

COMMUNICATION NOTES:
 COMMUNICATION OUTLETS TO BE ANNOTATED AS #C FOR COAXIAL, #D FOR DATA, #V FOR VOICE AND #H FOR HDMI DROPS.
 IE. 1C/2D/2V/1H INDICATES 1 CCTV, 2 DATA, 2 VOICE AND 1 HDMI.

GENERAL	
⊕	KEY NOTE - CIRCLE
⊕	KEY NOTE - HEXAGON
⊕	KEY NOTE - SQUARE
⊕	DETAIL MARK
⊕	DETAIL MARK C/W LEADER
⊕	SECTION VIEW
⊕	SECTION CUT
⊕	ELEVATION VIEWS
N	NORTH ARROW
△	REVISION TRIANGLE
XXX	TEXT BOX
ZZZ	GENERAL TAG BOX
MAU-E100	MECHANICAL EQUIPMENT TAG / SLD FEEDER SIZE
L10	LUMINAIRE TAG
XX-YY	PROCESS EQUIPMENT TAG
{ }	BRACKET
~	BREAK / CONTINUATION MARK
1	LINE1 LINE2 SCALE: 1/8" = 1'-0" (1:60)

POWER	
⊕	PACPOLE BY ELECTRICAL CONTRACTOR
⊕	FURNITURE POLE SUPPLIED BY FURNITURE SUPPLIER, WIRED BY ELECTRICAL CONTRACTOR
FWP	FURNITURE WHIP CONNECTION - POWER
FWC	FURNITURE WHIP CONNECTION - COMMUNICATION
⊕	JUNCTION BOX - WALL / FLOOR / CEILING
⊕	PULL BOX - WALL / FLOOR / CEILING
⊕	DIRECT EQUIPMENT CONNECTION
⊕	MOTOR CONNECTION
⊕	MOTOR CONNECTION C/W DISCONNECT
⊕	MOTOR CONNECTION C/W DISCONNECT & MAGNETIC STARTER
⊕	DISCONNECT SWITCH
⊕	FUSED DISCONNECT SWITCH
⊕	DISCONNECT SWITCH C/W MAGNETIC STARTER
⊕	MAGNETIC STARTER
⊕	MOTOR RATED DISCONNECT SWITCH
⊕	CONDUIT RUN UP
⊕	CONDUIT RUN DOWN
⊕	CONDUIT STUB-OUT
⊕	PUSH BUTTON
⊕	THERMOSTAT
⊕	GROUND BUS
⊕	PANEL RECESSED
⊕	PANEL SURFACE
⊕	TRANSFORMER (SIZE VARY)
⊕	ROOM REFERENCE GROUND BUS
⊕	VARIOUS FREQUENCY DRIVE
⊕	ELECTRIC BASEBOARD HEATER
⊕	INDICATES ABOVE COUNTER

SINGLE LINE DIAGRAM	
⊕	CIRCUIT BREAKER - 600V OR LESS
⊕	CIRCUIT BREAKER - GREATER THAN 600V
⊕	DRAW-OUT CIRCUIT BREAKER - 600V OR LESS
⊕	DRAW-OUT CIRCUIT BREAKER - GREATER THAN 600V
⊕	DISCONNECT
⊕	DISCONNECT - FUSED
⊕	LOAD BREAK SWITCH
⊕	LOAD BREAK SWITCH - FUSED
⊕	FUSE - 600V OR LESS
⊕	FUSE - GREATER THAN 600V
⊕	POTHEAD
⊕	STRESS CONE
⊕	SURGE PROTECTIVE DEVICE
⊕	CURRENT TRANSFORMER
⊕	POTENTIAL TRANSFORMER
⊕	TRANSFORMER
⊕	DELTA-WYE / DELTA-DELTA CONNECTION
⊕	DELTA / WYE / GROUND CONNECTION
⊕	JUNCTION BOX
⊕	PULL BOX
⊕	LIGHTNING ARRESTER
⊕	UTILITY METER
⊕	DIGITAL METERING UNIT
⊕	SHUNT TRIP
⊕	TRIP CONTROL
⊕	MOTOR OPERATOR FOR CIRCUIT BREAKERS OR SWITCHES
⊕	INTERLOCK
⊕	KIRK KEY INTERLOCK SYSTEM
⊕	RELAY - SINGLE OR DUAL
⊕	PARALLELING CONTROL UNIT
⊕	GENERATOR SIZE AS NOTED
⊕	RECTIFIER
⊕	INVERTER
⊕	ISOLATED GROUND BUSBAR
⊕	UPS
⊕	HAND-OFF-AUTO
⊕	BYPASS
⊕	FLYWHEEL
⊕	PANELBOARD
⊕	TRANSFER SWITCH
⊕	AUTOMATIC TRANSFER SWITCH C/W SINGLE BYPASS
⊕	AUTOMATIC TRANSFER SWITCH C/W DOUBLE BYPASS
⊕	INDUCTOR
⊕	CAPACITOR
⊕	CONTACT NORMALLY OPEN (NO)
⊕	CONTACT NORMALLY CLOSED (NC)
⊕	MAGNETIC MOTOR STARTER
⊕	MANUAL MOTOR STARTER
⊕	MOTOR OVERLOAD
⊕	DOOR INTERLOCK SWITCH
⊕	REACTOR (LINE OR LOAD)
⊕	NEUTRAL GROUNDING RESISTER

ABBREVIATIONS:
 E = EXISTING EQUIPMENT TO REMAIN
 R = REMOVE EXISTING EQUIPMENT AND ASSOCIATED WIRING AND DEVICES
 ER = EXISTING EQUIPMENT TO BE RELOCATED
 ERR = EXISTING EQUIPMENT TO BE RELOCATED AND REPLACED WITH NEW
 RP = EXISTING EQUIPMENT IN RELOCATED POSITION
 RN = EXISTING EQUIPMENT TO BE REPLACED WITH NEW
 HE = HIGH ELEVATION (TO BE CONFIRMED WITH ARCHITECT)
 BP# = BATTERY PACK (# INDICATES BP NUMBER)
 GFCCI = GROUND FAULT CIRCUIT INTERRUPTER
 WP = WEATHERPROOF
 ADO = AUTOMATIC DOOR OPERATOR
 +XX = DIMENSIONED HEIGHT ABOVE FINISHED FLOOR

AFF = ABOVE FINISHED FLOOR
 RI = ROUGH-IN
 HK = HOUSEKEEPING RECEPTACLE
 EM = EMERGENCY POWERED DEVICE
 FR = FRIDGE (DEDICATED RECEPTACLE)
 MW = MICROWAVE (DEDICATED RECEPTACLE)
 DW = DISHWASHER
 RNG = RANGE
 RNGHD = RANGE HOOD
 WSHR = WASHING MACHINE
 DRYR = CLOTH DRYER
 CKTP = COOK TOP
 OV = OVEN
 WO = WALL OVER

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A	ISSUED FOR PRELIMINARY DESIGN	08/02/2024
NO.	SUBMISSIONS:	DATE: MM/DD/YYYY

CLIENT:

POLAR ENGINEERING
 300 - 722 CORMORANT ST, VICTORIA, BC V8W 1P8

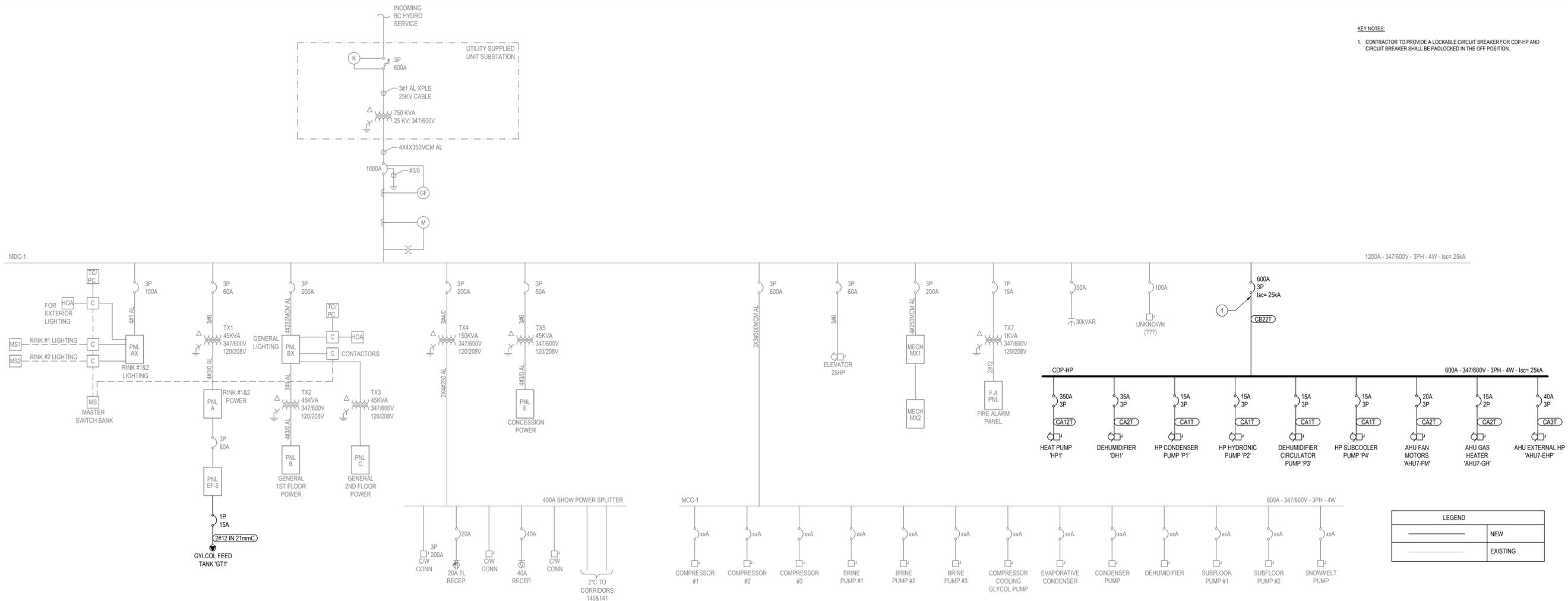
PROJECT NAME/ADDRESS:

**OCEANSIDE PLACE ARENA
 NEW DEHUMIDIFIER**
 830 W ISLAND HWY W, PARKSVILLE, BC

DRAWING TITLE:

COVER PAGE

SCALE AT 24x36:	DATE:	DRAWN/DESIGNED:	CHECKED:
AS NOTED	1/31/25	BK	BL
PROJECT NO:	DRAWING NO:	REVISIONS:	
24-281	E000	C	



KEY NOTES:
 1. CONTRACTOR TO PROVIDE A LOCKABLE CIRCUIT BREAKER FOR CDP-HP AND CIRCUIT BREAKER SHALL BE PADLOCKED IN THE OFF POSITION.

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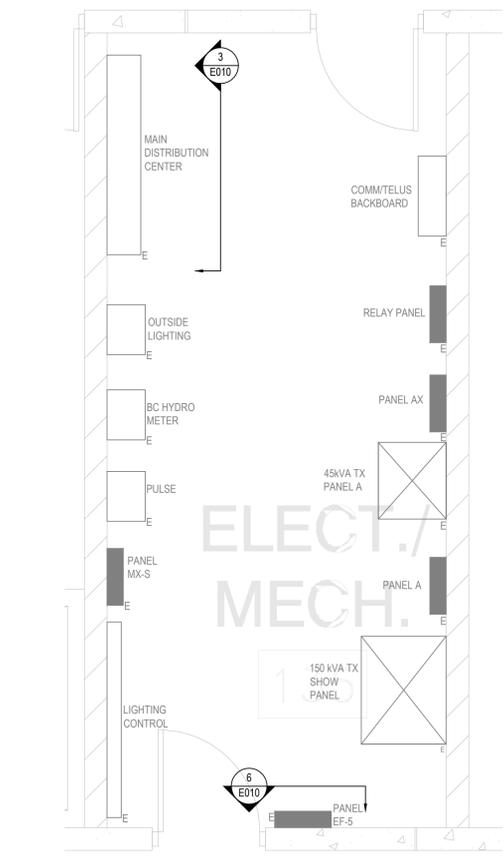
MDC-1

1200A - 347/600V - 3PH - 4W - I_{sc} 25KA

LEGEND

—	NEW
- - -	EXISTING

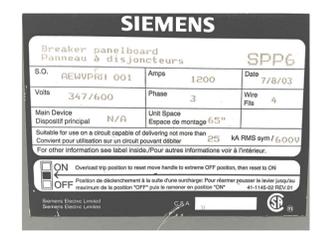
1 SINGLE LINE DIAGRAM
SCALE: NTS



2 GROUND FLOOR LOWER PLAN
SCALE: 1:30



3 EXISTING MDC-1
SCALE: NTS



4 EXISTING MDC-1 NAME PLATE
SCALE: NTS



5 EXISTING PANEL EF-5 NAME PLATE
SCALE: NTS

FEEDER SCHEDULE - COPPER

1 & 3 PH, 3 WIRE, CONDUCTOR SIZE (AWG / KCMIL)					3PH, 4 WIRE, CONDUCTOR SIZE (AWG / KCMIL)					P # # S (CODE/TYPE)
CODE	FEEDER AMP	3 WIRE CURRENT CARRYING CONDUCTOR	BONDING CONDUCTOR	COND. SIZE (MM)	CODE	FEEDER AMP	4 WIRE CURRENT CARRYING CONDUCTOR	BONDING CONDUCTOR	COND. SIZE (MM)	TYPE
A1	20	3#12	#12	21	B1	20	4#12	#12	21	PREFIX (P)
A2	35	3#10	#10	21	B2	35	4#10	#10	21	A. AL
A3	50	3#8	#8	21	B3	50	4#8	#8	27	C. CU
A4	65	3#6	#6	27	B4	65	4#6	#6	27	
A5	85	3#4	#4	27	B5	85	4#4	#4	35	SUFFIX (S)
A6	100	3#3	#3	35	B6	100	4#3	#3	35	A. AC30
A7	115	3#2	#2	35	B7	115	4#2	#2	35	AW ACVU90
A8	130	3#1	#1	41	B8	130	4#1	#1	53	T. TECK90
A9	150	3#1/0	#1/0	41	B9	150	4#1/0	#1/0	53	M. MI CABLE
A10	175	3#2/0	#2/0	53	B10	175	4#2/0	#2/0	53	E. EMT (RW90)
A11	200	3#3/0	#3/0	53	B11	200	4#3/0	#3/0	53	D. DB2 PVC (RW90)
A12	230	3#4/0	#4/0	53	B12	230	4#4/0	#4/0	63	RP: RPVC (RW90)
A20	510	2 (3#250)	2 (#4)	2 (63)	B20	510	2 (4#250)	2 (#4)	2 (63)	RG: RGS (RW90)
A21	570	2 (3#300)	2 (#4)	2 (63)	B21	570	2 (4#300)	2 (#4)	2 (78)	
A22	620	2 (3#350)	2 (#3)	2 (78)	B22	620	2 (4#350)	2 (#3)	2 (78)	
A23	855	3 (3#300)	3 (#4)	3 (63)	B23	855	3 (4#300)	3 (#4)	3 (78)	
A24	1005	3 (3#400)	3 (#3)	3 (78)	B24	1005	3 (4#400)	3 (#3)	3 (78)	
A25	1275	5 (3#250)	5 (#4)	5 (63)	B25	1275	5 (4#250)	5 (#4)	5 (63)	
A26	1675	5 (3#400)	5 (#3)	5 (78)	B26	1675	5 (4#400)	5 (#3)	5 (78)	
A27	2010	6 (3#400)	6 (#3)	6 (78)	B27	2010	6 (4#400)	6 (#3)	6 (78)	
A28	2680	8 (3#400)	8 (#3)	8 (78)	B28	2680	8 (4#400)	8 (#3)	8 (78)	
A29	3015	9 (3#400)	9 (#3)	9 (78)	B29	3015	9 (4#400)	9 (#3)	9 (78)	

NOTES:
 - ELECTRICAL CONTRACTOR SHALL CONDUCT FIELD MEASUREMENT OF FEEDER LENGTH AND UPSIZE FEEDERS IF REQUIRED TO COMPLY WITH CANADIAN ELECTRICAL CODE CEC 8-102 VOLTAGE DROP REQUIREMENTS.

NOTE:
 1. INSTALL A 15A, 1P CIRCUIT BREAKER IN THE AVAILABLE SPACE NUMBERED '1' OF EXISTING PANEL EF-5. THIS CIRCUIT WILL FEED THE GLYCOL TANK 'GT1'.

REV. REVISIONS DATE: MM/DD/YYYY

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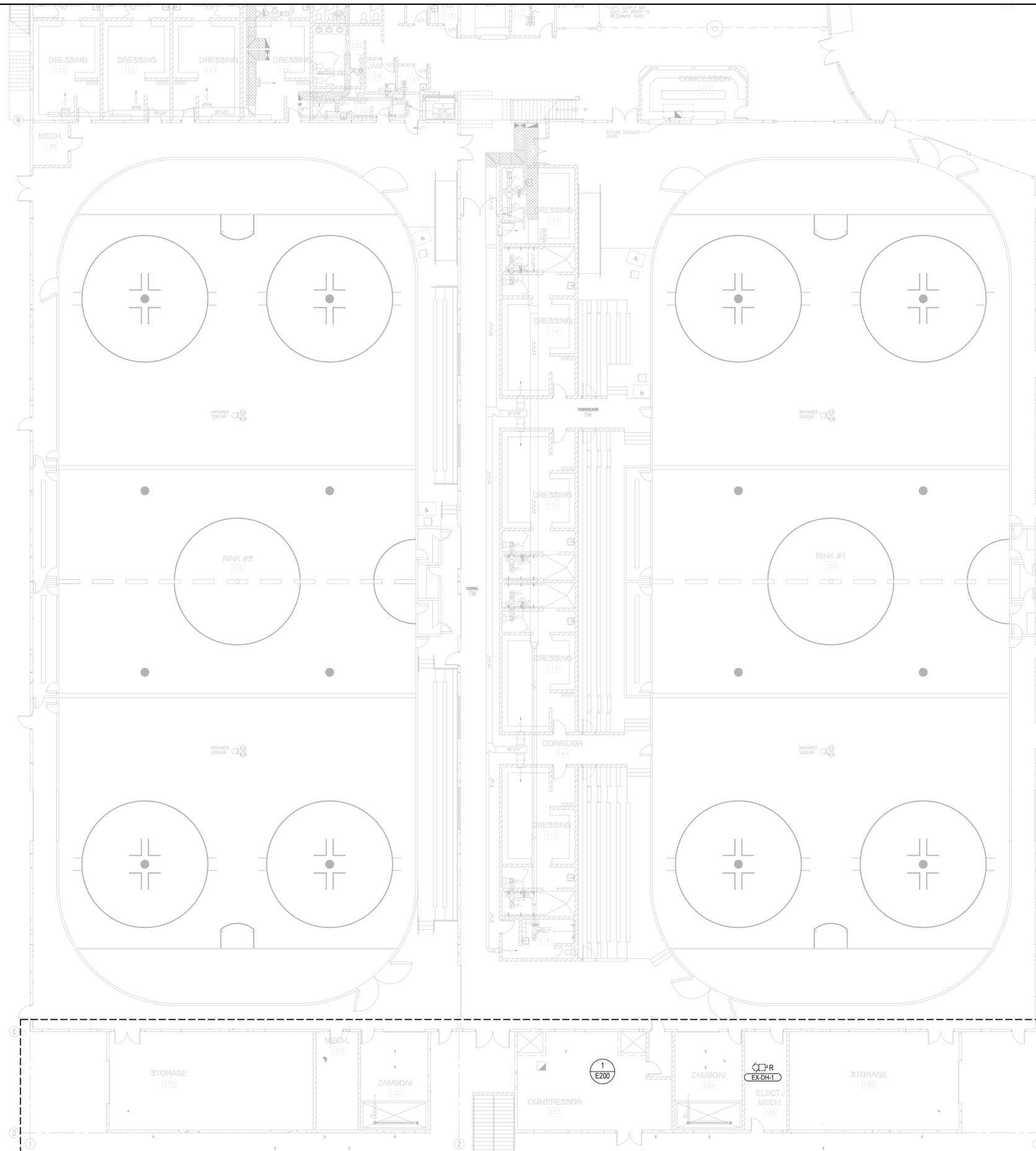
STATUS: SUBMISSIONS: DATE: MM/DD/YYYY

CLIENT: POLAR ENGINEERING
300 - 722 CORMORANT ST, VICTORIA, BC V8W 1P8

PROJECT NAME/ADDRESS: OCEANSIDE PLACE ARENA
NEW DEHUMIDIFIER
830 W ISLAND HWY W, PARKSVILLE, BC

DRAWING TITLE: SINGLE LINE DIAGRAM

SCALE AT 2X: AS NOTED	DATE: 1/31/25	DRAWN/DESIGNED: BK	CHECKED: BL
PROJECT NO: 24-281	DRAWING NO: E010	REVISION: C	



GENERAL NOTES:

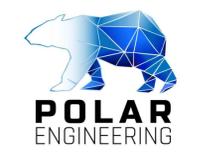
- A. CONTRACTOR TO VERIFY THE SITE FOR ALL DEMOLISHING AS REQUIRED.
- B. CONTRACTOR SHALL REVIEW AND COORDINATE WITH ARCHITECTURAL AND MECHANICAL DRAWINGS TO DETERMINE THE EXACT EXTENT OF THE DEMOLITION WORK BEING DONE.
- C. ALL REDUNDANT, UNUSED WIRING AND JUNCTION BOXES INCLUDING ANY WIRING IN THE CEILING SPACE SHALL BE REMOVED BY THIS CONTRACTOR. ALL UNUSED WIRING SHALL BE REMOVED BACK TO SOURCE AND MADE SAFE.
- D. ALL DEVICES SHOWN WITHIN THE DEMOLITION AREA ARE TO BE REMOVED AND STORED FOR REUSE UNLESS OTHERWISE NOTED. THE CONTRACTOR IS TO REVIEW ARCHITECTURAL/MECHANICAL DRAWINGS AND REVIEW THE SITE IN DETAIL TO DETERMINE THE EXACT QUANTITIES OF DEVICES AND MECHANICAL EQUIPMENT INCLUDED IN THE DEMOLITION.
- E. ALL DEVICES SHOWN OUTSIDE OF THE DEMOLITION AREA ARE TO REMAIN UNLESS OTHERWISE NOTED. ENSURE DEVICES TO REMAIN CONTINUE TO WORK AND ARE NOT IMPACTED. DO NOT REMOVE ANY CABLING/WIRING FOR OUTLETS OR EQUIPMENT THAT ARE NOT WITHIN THE CURRENT CONSTRUCTION SCOPE OF WORK AREA.
- F. FOR ALL EXISTING DEVICES INDICATED TO REMAIN, OR NOT INDICATED TO BE REMOVED, UNINSTALL/REINSTALL AND RECONNECT TO ALLOW CONSTRUCTION AS NECESSARY.
- G. WHERE INDICATED FOR REMOVE AND REINSTALL, ALLOW FOR REMOVAL, REINSTALLATION OF PANELS, DEVICES AND ALL ASSOCIATED WIRING.
- H. FOR ALL ITEMS INDICATED TO BE REMOVED, REMOVE ITEMS INCLUDING CONDUIT AND WIRING ALL THE WAY BACK TO THE NEAREST PANELBOARD AND MAKE IT SAFE. DISPOSE OF WASTE MATERIALS APPROPRIATELY, OR RECYCLE AS APPLICABLE. STORE ITEMS FOR REUSE, SUCH AS LUMINAIRES, FIRE ALARM DEVICES, SECURITY DEVICES, AND PANELBOARDS. HAND OVER ITEMS TO OWNER FOR REUSE, IF REQUIRED BY OWNER.
- I. THE INTENT OF THESE DRAWINGS IS TO AID BIDDING CONTRACTORS IN DETERMINING THE APPROXIMATE EXTENT OF THE EXISTING EQUIPMENT TO BE REMOVED AND THE EQUIPMENT TO BE RE-USED. THESE DRAWINGS ARE PROVIDED FOR THE BIDDING PROCESS AND ARE FOR INFORMATION PURPOSES ONLY. EXACT COUNTS AND EXTENT OF WIRING TO BE REMOVED, RE-USED, RELOCATED IS TO BE DETERMINED ON SITE BY THE CONTRACTOR. CONTRACTOR SHALL ALLOW FOR RELOCATION, RE-WIRING OF OUTLETS AND DEVICES WHICH ARE NOT SHOWN ON DRAWINGS BUT WHICH MAY BE FOUND AS WORK PROCEEDS. CONTRACTOR TO USE HIS EXPERIENCE AND BEST JUDGMENT FROM SITE VISIT AND WORK OF A SIMILAR NATURE TO DETERMINE HOW MUCH WORK THIS WILL entail. MAKE ALLOWANCE IN TENDER PRICE AS NECESSARY. THE CONTRACTOR IS TO ALLOW FOR SITE VISITS, PRIOR TO SUBMITTING TENDER, TO VERIFY ALL ITEMS THAT ARE TO BE REMOVED.
- J. WHERE FIRE ALARM DEVICES ARE REQUIRED TO BE RELOCATED TO FACILITATE CONSTRUCTION ACTIVITIES, RECONNECT AND PERFORM RE-VERIFICATION AS REQUIRED. WHERE FIRE ALARM DEVICES ARE REMOVED AND THE FIRE ALARM SYSTEM IS MODIFIED, RE-PROGRAM AND RE-VERIFY THE SYSTEM. NOTE THAT MULTIPLE RE-VERIFICATIONS WILL BE NECESSARY DUE TO THE DEMOLITION.

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PROJECT NORTH:



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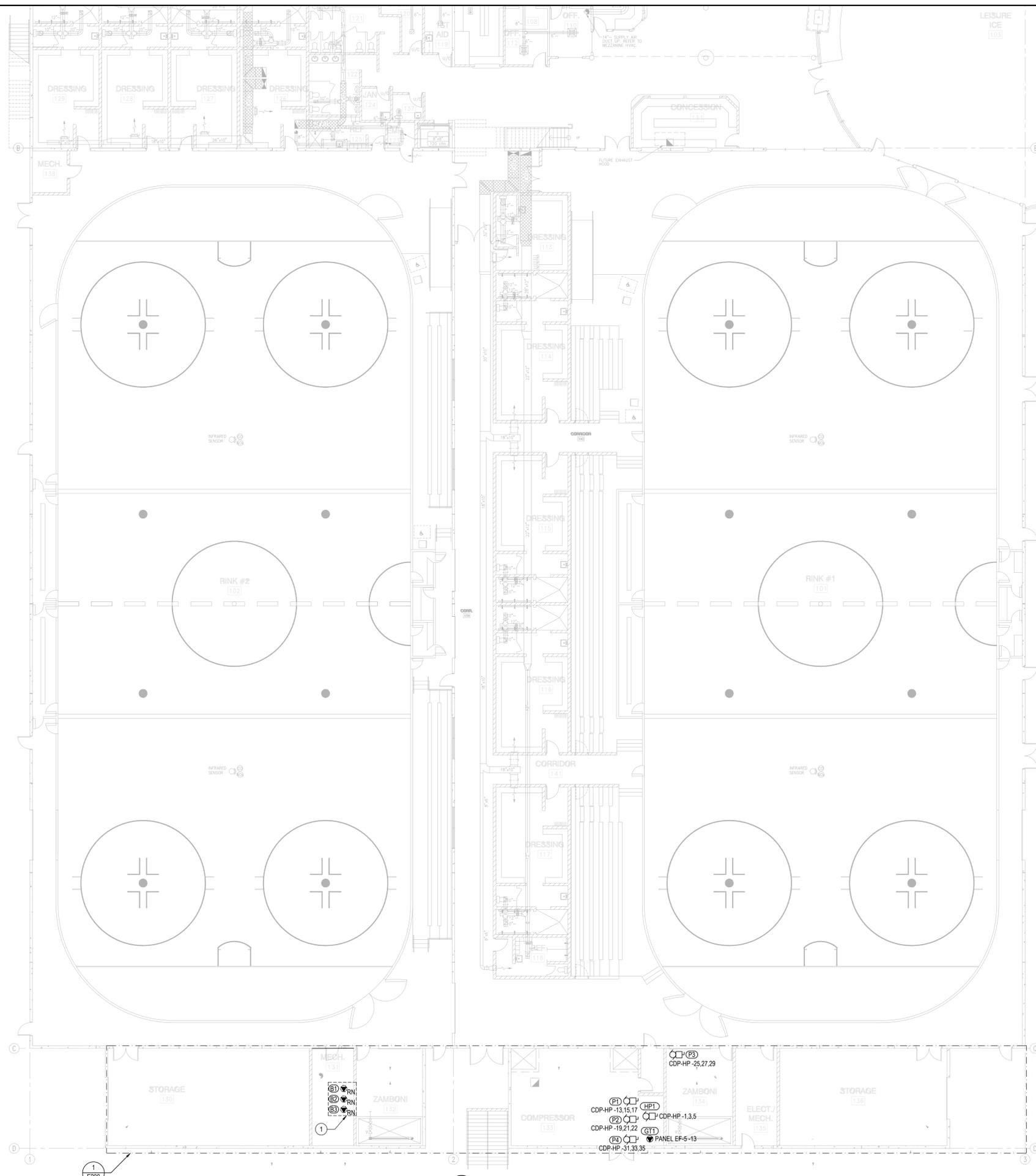
CLIENT:
POLAR ENGINEERING
300 - 722 CORMORANT ST, VICTORIA, BC V8W 1P8

PROJECT NAME/ADDRESS:
**OCEANSIDE PLACE ARENA
NEW DEHUMIDIFIER**
830 W ISLAND HWY W, PARKSVILLE, BC

DRAWING TITLE:
DEMOLITION PLAN

SCALE AT 24x36:	DATE:	DRAWN/DESIGNED:	CHECKED:
AS NOTED	1/31/25	BK	BL
PROJECT NO:	DRAWING NO:	REVISION:	
24-281	E100	C	

1
E100
GROUND FLOOR DEMOLITION PLAN
SCALE: 1:150



GENERAL NOTES:

- A. THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH MECHANICAL DRAWINGS. ENGINEER SHALL BE NOTIFIED OF ANY CONFLICTS PRIOR TO PROCEEDING WITH INSTALLATION.
- B. REFER TO MECHANICAL DRAWING TO EXTENT OF EXISTING DEVICES TO BE REMOVED AND REINSTALLED.
- C. ALL WIRING MUST BE TESTED FOR CONTINUITY AND ALL EQUIPMENT TESTED FOR PROPER GROUNDING PRIOR TO ENERGIZING ANY EQUIPMENT.
- D. THE CONTRACTOR SHOULD NOTIFY THE ENGINEER IF ANY CIRCUIT IS MISSING ON ANY DEVE AND OBTAIN DIRECTION FOR THE CIRCUIT NUMBER. NO EXTRAS WILL BE ALLOWED IF ANY CIRCUIT NUMBER IS MISSING ON DRAWING.
- E. THE TOTAL NUMBER OF BENDS IN A CONDUIT SYSTEM SHALL NOT EXCEED TWO 90 DEGREE BENDS. THE INSIDE RADIUS OF A BEND IN A CONDUIT SHALL BE AT LEAST 6 TIMES THE INTERNAL DIAMETER. WHEN THE CONDUIT SIZE IS LARGER THAN 53mm, THE INSIDE RADIUS SHALL BE AT LEAST 10 TIMES THE INTERNAL DIAMETER.
- F. ALL PATHWAYS THROUGH FIRE RATED WALLS OR FLOORS MUST BE FIRE STOPPED.
- G. ELECTRICAL CONTRACTOR SHALL LABEL CONDUIT EVERY 10 FEET, BOTH AND BEFORE PASSING THROUGH WALL OR FLOOR. ALL JUNCTION BOXES AND PULL BOXES SHALL BE LABELED.
- H. ALL PATHWAYS THROUGH FIRE RATED WALLS OR FLOOR SHALL BE FIRE STOPPED.
- I. ELECTRICAL CONTRACTOR SHALL ALLOW FOR X-RAY AND CORING IN QUOTE. CORE LOCATIONS SHALL BE REVIEWED BY STRUCTURAL ENGINEER PRIOR TO PROCEEDING. COST OF STRUCTURAL ENGINEER SHALL BE INCLUDED IN QUOTE.
- J. ELECTRICAL CONTRACTOR SHALL WEATHER SEAL AROUND ALL PENETRATIONS TO EXTERIOR.

CIRCUITING NOTES:

- A. CIRCUITING ANNOTATIONS ARE PROVIDED FOR GROUPING PURPOSE ONLY. CONTRACTOR TO FIND SPACE IN REFERENCED PANEL AND CONNECT.
- B. THE PREFIX LETTER OF CIRCUIT ANNOTATIONS REFERS TO THE PANEL THAT MUST BE CONNECTED TO. (FOR EXAMPLE: THE CONTRACTOR SHALL CIRCUIT ITEMS ANNOTATED 'A-3' TO PANEL A.)
- C. THE NUMBER ASSOCIATED WITH A CIRCUIT ANNOTATION REFERS TO A UNIQUE CIRCUIT AND NOT A SPECIFIC PANEL SPACE. (FOR EXAMPLE: THE CONTRACTOR SHALL SELECT AN AVAILABLE SPACE ON PANEL F FOR ANNOTATION 'F-5'. THEN ALL ITEMS ANNOTATED 'F-5' SHALL BE CIRCUITED TO THAT SPACE.)
- D. CONTRACTOR SHALL ALLOW FOR THE REORGANIZATION OF BREAKERS TO MAKE SPACE AVAILABLE AND PROVIDE NEW BREAKERS AS REQUIRED.
- E. CONTRACTOR SHALL VERIFY LOADING OF PANELS PRIOR TO ROUGH-IN. CIRCUITS SHALL BE BALANCED ACROSS PANELS AS REQUIRED TO ENSURE PANELS ARENT OVERLOADED. CONTRACTOR MUST SUBMIT ALL DOCUMENTATION FOR THE EXISTING PANEL LOADS BEFORE REPLACING THE PANELS.
- F. CONTRACTOR SHALL ALLOW FOR MODIFICATION TO EXISTING WIRING AS REQUIRED TO ENSURE IT WILL BE OPERATIONAL WITH NEW LIGHTING CONTROL CONFIGURATION.

CABLING ON EXTERIOR OF BUILDING GENERAL NOTES:

- A. CABLES ARE TO BE SECURED AS PER C.E.C REQUIREMENTS USING STAINLESS STEEL CLAMPS. TIE WRAPS ARE NOT ACCEPTABLE.
- B. REFER TO CEC SECTION 12 RULES 302-318 FOR EXPOSED WIRING ON EXTERIORS OF BUILDINGS AND BETWEEN BUILDINGS ON THE SAME PREMISES.
- C. ENSURE THAT ALL CABLES HAVE AT LEAST ONE (1) CABLE DIAMETER DISTANCE BETWEEN CABLES. USE LARGEST CABLE DIAMETER. REFER TO DETAIL 10 ON THIS DRAWING FOR CABLE TRAY AND CABLE SPACING.
- D. REFER TO DETAILS ON E 90 FOR FEEDER SIZES AND THEIR ASSOCIATED CONDUCTORS TAGS.
- E. CONTRACTOR TO COORDINATE WITH MECHANICAL DRAWINGS FOR FINAL ROUTING AND DETAILS FOR ROOF CURBING.
- F. ALL UNISTRUT TO BE HOT DIPPED GALVANIZED AND ALL HARDWARE TO BE IN STAINLESS STEEL. CUT EDGES OF UNISTRUT TO BE PAINTED WITH GALVACON.
- G. CONTRACTOR TO ALLOW FOR SCANNING, CORING AND MAKING GOOD OF PENETRATIONS ALONG CABLE ROUTE. PROVIDE 2 HOUR RATED FIRE STOPPING WHEN PENETRATING FIRE WALL.
- H. ELECTRICAL CONTRACTOR TO SUPPLY AND INSTALL ALL NEW ROOFING MAIN SUPPORTS FOR ALL ELECTRICAL WORK.

KEY NOTES:

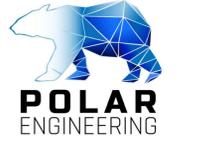
- 1. EXISTING BOILERS 1.2.3 IN THE MECHANICAL ROOM (RM131) TO BE REPLACED WITH NEW. ELECTRICAL CONTRACTOR TO DISCONNECT AND RECONNECT POWER CONNECTION DURING THE CONSTRUCTION.

NOTES:

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- 3. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTS, SERVICE ENGINEERS AND O'M ENGINEERING INC. DRAWINGS AND SPECIFICATIONS.



PROJECT NORTH:



REV.	REVISIONS	DATE: MM/DD/YYYY
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C	ISSUED FOR TENDER	01/31/2024
B	ISSUED FOR TENDER REVIEW	01/17/2024
A	ISSUED FOR PRELIMINARY DESIGN	08/02/2024
NO.	SUBMISSIONS	DATE: MM/DD/YYYY

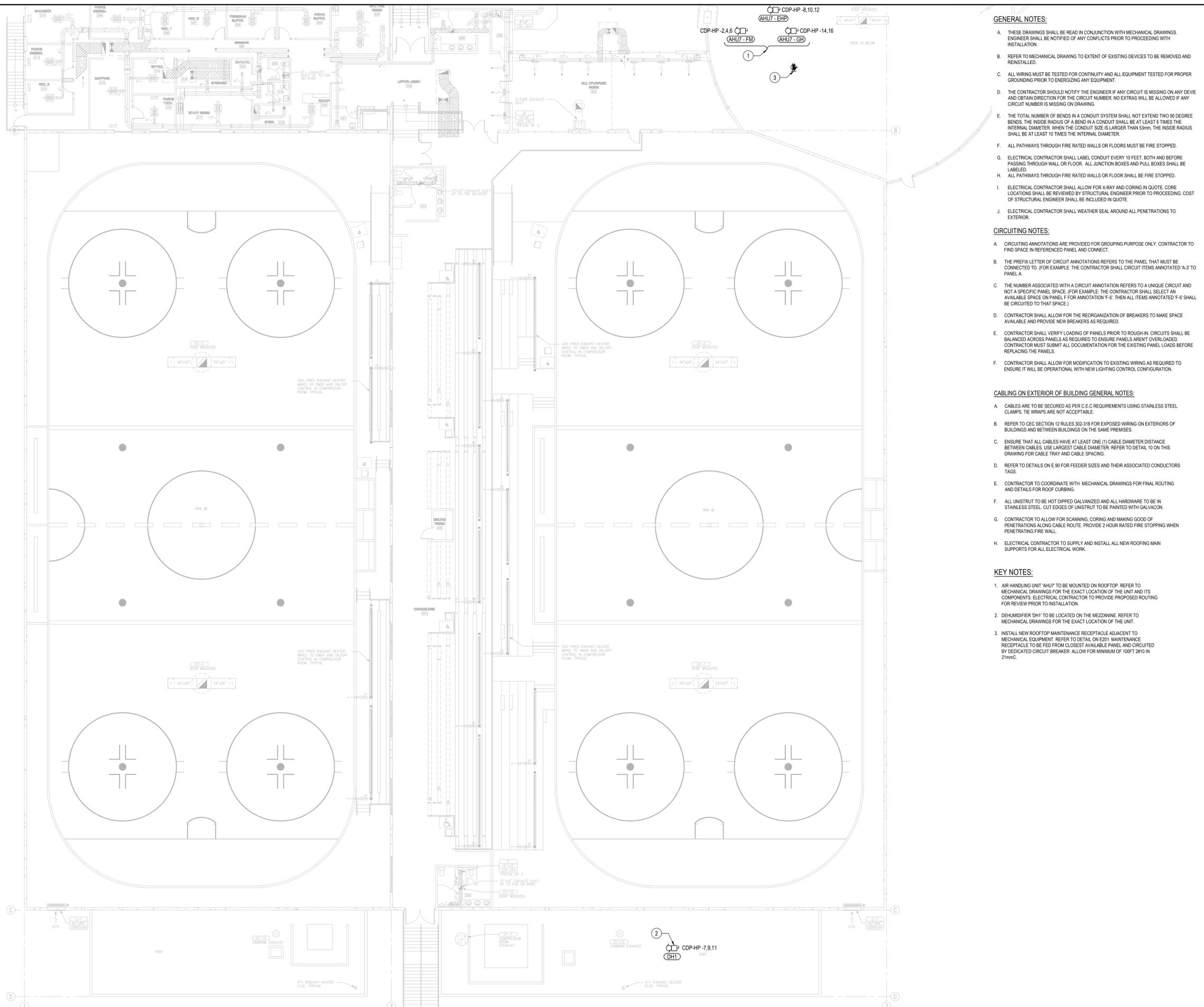
CLIENT:
POLAR ENGINEERING
300 - 722 CORMORANT ST, VICTORIA, BC V8W 1P8

PROJECT NAME/ADDRESS:
**OCEANSIDE PLACE ARENA
NEW DEHUMIDIFIER**
830 W ISLAND HWY W, PARKSVILLE, BC

DRAWING TITLE:
NEW POWER PLAN - GROUND FLOOR

SCALE AT 24x36:	DATE:	DRAWN/DESIGNED:	CHECKED:
AS NOTED	1/31/25	BK	BL
PROJECT NO:	DRAWING NO:	REVISION:	
24-281	E150	C	

1
E150
GROUND FLOOR NEW POWER PLAN
SCALE: 1:150



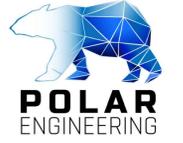
- GENERAL NOTES:**
- THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH MECHANICAL DRAWINGS. ENGINEER SHALL BE NOTIFIED OF ANY CONFLICTS PRIOR TO PROCEEDING WITH INSTALLATION.
 - REFER TO MECHANICAL DRAWING TO EXTENT OF EXISTING DEVICES TO BE REMOVED AND REINSTALLED.
 - ALL WIRING MUST BE TESTED FOR CONTINUITY AND ALL EQUIPMENT TESTED FOR PROPER GROUNDING PRIOR TO ENERGIZING ANY EQUIPMENT.
 - THE CONTRACTOR SHOULD NOTIFY THE ENGINEER IF ANY CIRCUIT IS MISSING ON ANY DEVICE AND OBTAIN DIRECTION FOR THE CIRCUIT NUMBER. NO EXTRAS WILL BE ALLOWED IF ANY CIRCUIT NUMBER IS MISSING ON DRAWING.
 - THE TOTAL NUMBER OF BENDS IN A CONDUIT SYSTEM SHALL NOT EXCEED TWO 90 DEGREE BENDS. THE INSIDE RADIUS OF A BEND IN A CONDUIT SHALL BE AT LEAST 6 TIMES THE INTERNAL DIAMETER. WHEN THE CONDUIT SIZE IS LARGER THAN 50mm, THE INSIDE RADIUS SHALL BE AT LEAST 10 TIMES THE INTERNAL DIAMETER.
 - ALL PATHWAYS THROUGH FIRE RATED WALLS OR FLOORS MUST BE FIRE STOPPED.
 - ELECTRICAL CONTRACTOR SHALL LABEL CONDUIT EVERY 10 FEET, BOTH AND BEFORE PASSING THROUGH WALL OR FLOOR. ALL JUNCTION BOXES AND PULL BOXES SHALL BE LABELED.
 - ALL PATHWAYS THROUGH FIRE RATED WALLS OR FLOOR SHALL BE FIRE STOPPED.
 - ELECTRICAL CONTRACTOR SHALL ALLOW FOR X-RAY AND CORING IN QUOTE. CORE LOCATIONS SHALL BE REVIEWED BY STRUCTURAL ENGINEER PRIOR TO PROCEEDING. COST OF STRUCTURAL ENGINEER SHALL BE INCLUDED IN QUOTE.
 - ELECTRICAL CONTRACTOR SHALL WEATHER SEAL AROUND ALL PENETRATIONS TO EXTERIOR.
- CIRCUITING NOTES:**
- CIRCUITING ANNOTATIONS ARE PROVIDED FOR GROUPING PURPOSE ONLY. CONTRACTOR TO FIND SPACE IN REFERENCED PANEL AND CONNECT.
 - THE PREFIX LETTER OF CIRCUIT ANNOTATIONS REFERS TO THE PANEL THAT MUST BE CONNECTED TO. (FOR EXAMPLE: THE CONTRACTOR SHALL CIRCUIT ITEMS ANNOTATED 'A-3' TO PANEL A.)
 - THE NUMBER ASSOCIATED WITH A CIRCUIT ANNOTATION REFERS TO A UNIQUE CIRCUIT AND NOT A SPECIFIC PANEL SPACE. (FOR EXAMPLE: THE CONTRACTOR SHALL SELECT AN AVAILABLE SPACE ON PANEL F FOR ANNOTATION 'F-5'. THEN ALL ITEMS ANNOTATED 'F-5' SHALL BE CIRCUITED TO THAT SPACE.)
 - CONTRACTOR SHALL ALLOW FOR THE REORGANIZATION OF BREAKERS TO MAKE SPACE AVAILABLE AND PROVIDE NEW BREAKERS AS REQUIRED.
 - CONTRACTOR SHALL VERIFY LOADING OF PANELS PRIOR TO ROUGH-IN. CIRCUITS SHALL BE BALANCED ACROSS PANELS AS REQUIRED TO ENSURE PANELS ARE NOT OVERLOADED. CONTRACTOR MUST SUBMIT ALL DOCUMENTATION FOR THE EXISTING PANEL LOADS BEFORE REPLACING THE PANELS.
 - CONTRACTOR SHALL ALLOW FOR MODIFICATION TO EXISTING WIRING AS REQUIRED TO ENSURE IT WILL BE OPERATIONAL WITH NEW LIGHTING CONTROL CONFIGURATION.
- CABLING ON EXTERIOR OF BUILDING GENERAL NOTES:**
- CABLES ARE TO BE SECURED AS PER C.E.C. REQUIREMENTS USING STAINLESS STEEL CLAMPS. TIE WRAPS ARE NOT ACCEPTABLE.
 - REFER TO CEC SECTION 12 RULES 303-318 FOR EXPOSED WIRING ON EXTERIORS OF BUILDINGS AND BETWEEN BUILDINGS ON THE SAME PREMISES.
 - ENSURE THAT ALL CABLES HAVE AT LEAST ONE (1) CABLE DIAMETER DISTANCE BETWEEN CABLES. USE LARGEST CABLE DIAMETER. REFER TO DETAIL 10 ON THIS DRAWING FOR CABLE TRAY AND CABLE SPACING.
 - REFER TO DETAILS ON E.90 FOR FEEDER SIZES AND THEIR ASSOCIATED CONDUCTORS TAGS.
 - CONTRACTOR TO COORDINATE WITH MECHANICAL DRAWINGS FOR FINAL ROUTING AND DETAILS FOR ROOF CURBING.
 - ALL UNISTRUT TO BE HOT DIPPED GALVANIZED AND ALL HARDWARE TO BE IN STAINLESS STEEL. CUT EDGES OF UNISTRUT TO BE PAINTED WITH GALVACON.
 - CONTRACTOR TO ALLOW FOR SCANNING, CORING AND MAKING GOOD OF PENETRATIONS ALONG CABLE ROUTE. PROVIDE 2 HOUR RATED FIRE STOPPING WHEN PENETRATING FIRE WALL.
 - ELECTRICAL CONTRACTOR TO SUPPLY AND INSTALL ALL NEW ROOFING MAIN SUPPORTS FOR ALL ELECTRICAL WORK.
- KEY NOTES:**
- AIR HANDLING UNIT 'AHU7' TO BE MOUNTED ON ROOFTOP. REFER TO MECHANICAL DRAWINGS FOR THE EXACT LOCATION OF THE UNIT AND ITS COMPONENTS. ELECTRICAL CONTRACTOR TO PROVIDE PROPOSED ROUTING FOR REVIEW PRIOR TO INSTALLATION.
 - DEHUMIDIFIER 'DHT' TO BE LOCATED ON THE MEZZANINE. REFER TO MECHANICAL DRAWINGS FOR THE EXACT LOCATION OF THE UNIT.
 - INSTALL NEW ROOFTOP MAINTENANCE RECEPTACLE ADJACENT TO MECHANICAL EQUIPMENT. REFER TO DETAIL ON E201. MAINTENANCE RECEPTACLE TO BE FED FROM CLOSEST AVAILABLE PANEL AND CIRCUITED BY DEDICATED CIRCUIT BREAKER. ALLOW FOR MINIMUM OF 10FT 2#10 IN 2mmC.

NOTES:

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PROJECT NORTH:



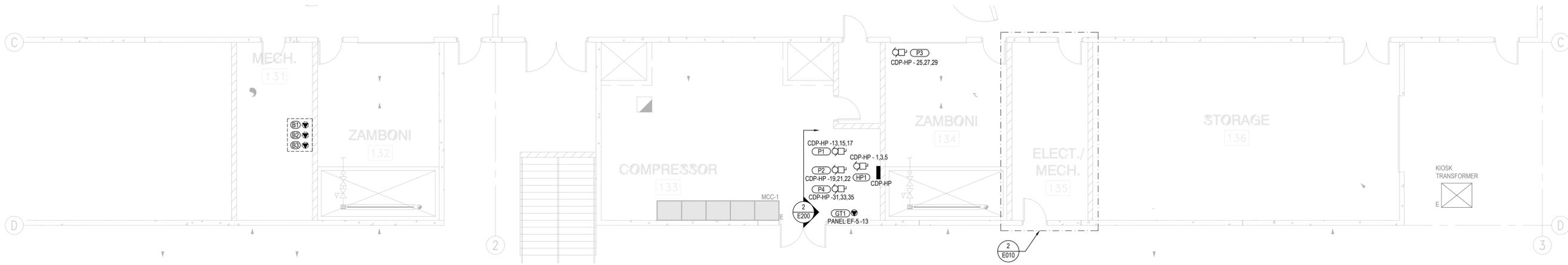
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B	ISSUED FOR TENDER REVIEW	01/17/2024
A	ISSUED FOR PRELIMINARY DESIGN	08/02/2024
NO.	SUBMISSIONS	DATE: MM/DD/YYYY

STATUS:		
CLIENT:		
POLAR ENGINEERING 300 - 722 CORMORANT ST, VICTORIA, BC V8W 1P8		
PROJECT NAME/ADDRESS:		
OCEANSIDE PLACE ARENA NEW DEHUMIDIFIER 830 W ISLAND HWY W, PARKSVILLE, BC		
DRAWING TITLE:		
NEW POWER PLAN - MEZZANINE		
SCALE AT 24x36:	DATE:	DRAWN/DESIGNED:
AS NOTED	1/31/25	BK
PROJECT NO:	DRAWING NO:	CHECKED:
24-281	E151	BL
		REVISION:
		C

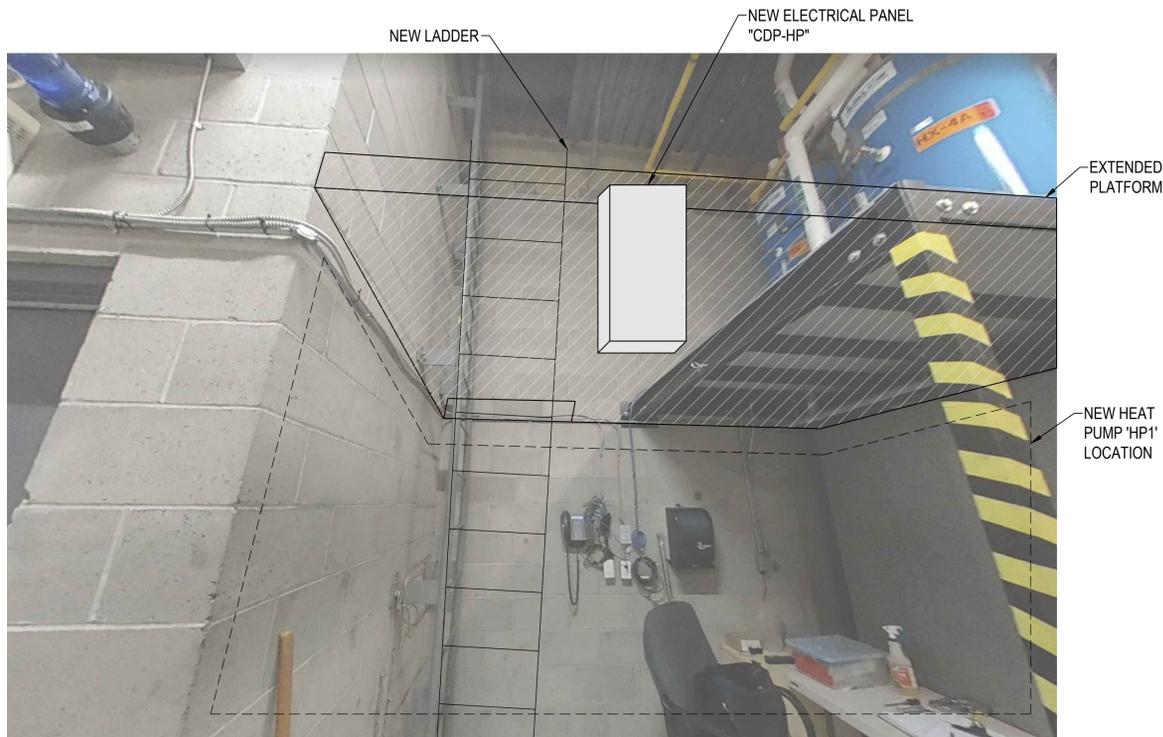
1
E151
MEZZANINE NEW POWER PLAN
SCALE: 1:150

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1 GROUND FLOOR LOWER PLAN
E200 SCALE: 1:80



2 NEW PANEL 'CDP-HP' LOCATION
E200 SCALE: N.T.S.

NEW PANEL CDP-HP		347/600 V		3 PH		4 W						
FED FROM: MDC-1		600 A		MAIN BUS		25 KA						
LOCATION: COMPRESSOR ROOM (133)		600 A		MAIN BKR								
FEED ENTRY: BOTTOM		BONDING SURFACE		BUS MOUNT								
NEMA: 2												
NO.	DESCRIPTION	BKR AMP	PL	NOTE	KILOWATTS			NOTE	PL	BKR AMP	DESCRIPTION	NO.
					A	B	C					
1	HEAT PUMP 'HP1'	450A	3		61.6	3			3	20A	AHU FAN MOTORS 'AHU7-FM'	2
3												4
5												6
7	DEHUMIDIFIER 'DH1'	80A	3		10.6	8.1			3	40A	AHU EXTERNAL HP 'AHU7-EHP'	8
9												10
11												12
13	HP CONDENSER PUMP 'P1'	15A	3		0.3	0.75			2	15A	AHU GAS HEATER 'AHU7-GH'	14
15												16
17												18
19	HP HYDRONIC PUMP 'P2'	15A	3		2.02							20
21												22
23												24
25	DEHUMIDIFIER CIRCULATOR PUMP 'P3'	15A	3		0.43							26
27												28
29												30
31	HP SUBCOOLER PUMP 'P4'	15A	3		0.3							32
33												34
35												36
37												38
39												40
41												42
43												44
45												46
47												48
TOTALS					87.10	87.10	86.35					
TOTAL LOAD					260.55 KW	251.01	AMPS					

3 CDP-HP - PANEL SCHEDULE
E200 SCALE: N.T.S.



REV. REVISIONS: DATE: MM/DD/YYYY

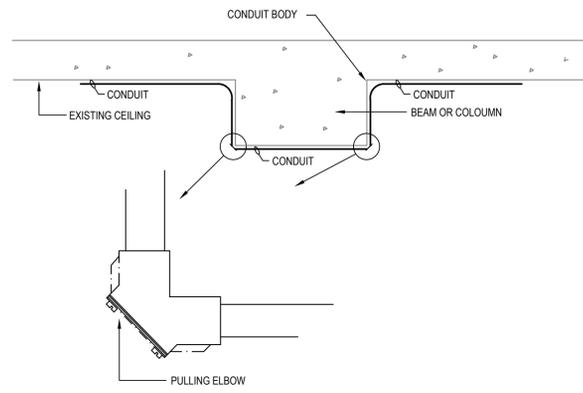
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B	ISSUED FOR TENDER REVIEW	01/17/2024
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NO.	SUBMISSIONS:	DATE: MM/DD/YYYY

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300 - 722 CORMORANT ST, VICTORIA, BC V8W 1P8

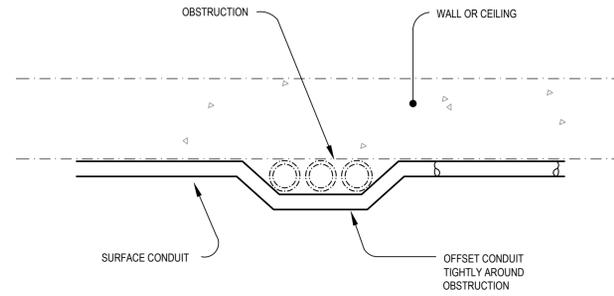
PROJECT NAME/ADDRESS:
**OCEANSIDE PLACE ARENA
NEW DEHUMIDIFIER**
830 W ISLAND HWY W, PARKSVILLE, BC

DRAWING TITLE:
ELECTRICAL DETAILS I

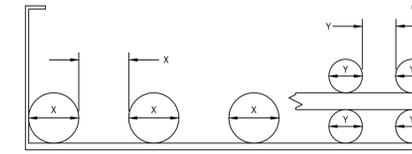
SCALE AT 200%:	DATE:	DRAWN/DESIGNED:	CHECKED:
AS NOTED	1/31/25	BK	BL
PROJECT NO:	DRAWING NO:	REVISION:	
24-281	E200	C	



1
E201 CONDUIT AROUND BEAMS OR COLUMNS DETAIL
SCALE: NTS

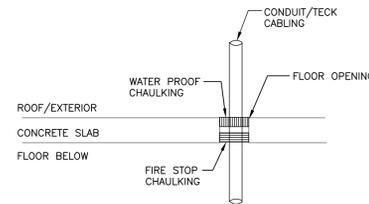


2
E201 CONDUIT SURFACE DETAIL
SCALE: NTS



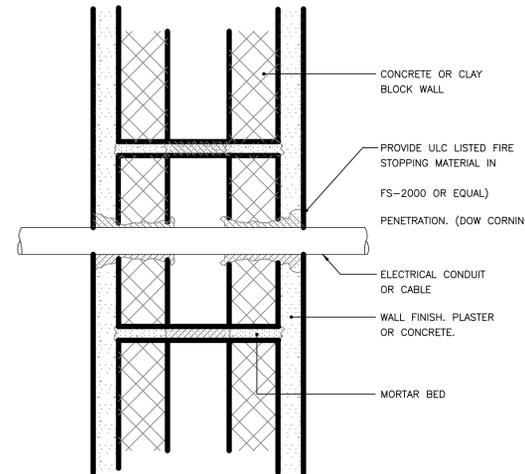
- NOTES:**
1. MAINTAIN MINIMUM 100% SPACING BETWEEN CABLE IN POWER CABLE TRAYS. WHERE CABLE IN THE CABLE TRAYS REQUIRE TO BE STACKED, MAINTAIN MINIMUM 100% SPACING OF THE LARGEST CABLE.
 2. IN GENERAL ALL FEEDERS SHALL BE TECK CABLE RUN IN TRAY. WHERE FEEDERS MUST LEAVE/ENTER THE BUILDING, PROVIDE ALUMINUM JUNCTION BOX AND/OR ALUMINUM SPLITTER BOX AND TRANSITION TO FIRE RATED CABLE WHERE NOTED ON DRAWINGS.

3
E201 TYPICAL POWER CABLE TRAY DETAIL
SCALE: NTS

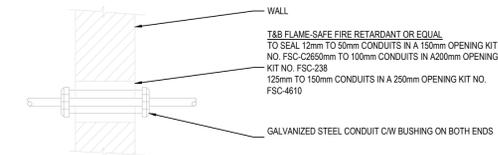


- NOTES:**
1. ALL INSTALLATION TO SUIT BASE BUILDING GUIDELINES.

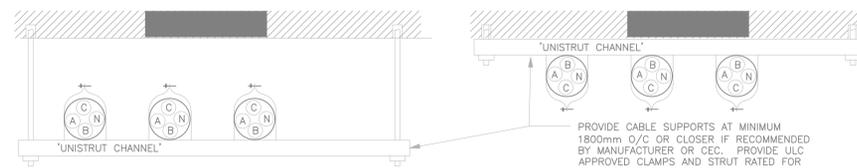
4
E201 TYPICAL FIRE STOPPING AND WATERPROOFING
SCALE: NTS



5
E201 HORIZONTAL PENETRATION FIRE STOP
SCALE: NTS

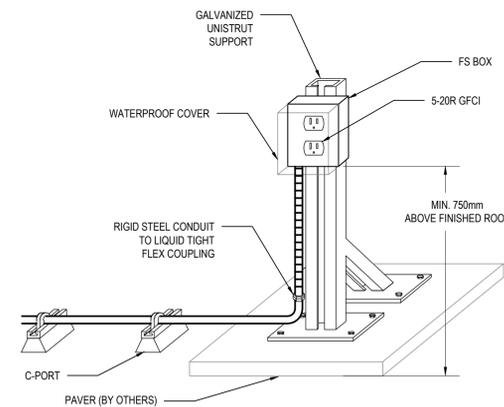


6
E201 CONDUIT SLEEVE THROUGH WALL OR FLOOR
SCALE: NTS



- PROVIDE CABLE SUPPORTS AT MINIMUM 1800mm O/C OR CLOSER IF RECOMMENDED BY MANUFACTURER OR CEC. PROVIDE ULC APPROVED CLAMPS AND STRUT RATED FOR 2-HOUR FIRE PROTECTION

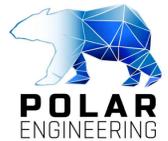
7
E201 TYPICAL CONDUIT INSTALLATION DETAIL
SCALE: NTS



8
E201 ROOFTOP MAINTENANCE RECEPTACLE DETAIL
SCALE: NTS

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NO.	SUBMISSIONS:	DATE: MM/DD/YYYY

CLIENT:
POLAR ENGINEERING
300 - 722 CORMORANT ST, VICTORIA, BC V8W 1P8

PROJECT NAME/ADDRESS:
**OCEANSIDE PLACE ARENA
NEW DEHUMIDIFIER**
830 W ISLAND HWY W, PARKSVILLE, BC

DRAWING TITLE:
ELECTRICAL DETAILS II

SCALE AT 2x/3x:	DATE:	DRAWN/DESIGNED:	CHECKED:
AS NOTED	1/31/25	BK	BL
PROJECT NO:	DRAWING NO:	REVISION:	
24-281	E201	C	

ELECTRICAL SPECIFICATIONS

1. GENERAL

1. GENERAL REQUIREMENTS, INSTRUCTIONS TO BIDDERS, THIS SPECIFICATION AND ANY ADDENDA HERETO FORM PART OF THE CONTRACT DOCUMENTS AND SHALL BE READ IN CONJUNCTION WITH THEM. WORK TO INCLUDE THE FURNISHING OF ALL LABOR AND MATERIALS, UNLESS SPECIFIED OTHERWISE, TO COMPLETE AND PUT INTO OPERATING CONDITION ALL ELECTRICAL SYSTEMS AS INDICATED ON THE DRAWINGS AND SPECIFIED HEREIN.

2. IT IS THE INTENT OF THE WORK TO PROVIDE COMPLETE, NEATLY FINISHED, AND OPERATIONAL SYSTEMS AND ANY LABOR, MATERIAL, PERMITS, LICENSES, APPROVALS AND INSPECTIONS REQUIRED FOR COMPLETION OF THE WORK, WHETHER SPECIFICALLY MENTIONED IN THE DRAWINGS OR SPECIFICATIONS OR NOT, ARE TO BE INCLUDED IN THE TENDERED PRICE.

3. RESPONSIBILITY AS TO WHICH TRADE PROVIDES REQUIRED ARTICLES OR MATERIALS RESTS SOLELY WITH THE GENERAL CONTRACTOR TRADE. EXTRAS WILL NOT BE CONSIDERED BASED ON GROUNDS OF DIFFERENCE OF INTERPRETATION OF SPECIFICATIONS AS TO WHICH TRADE INVOLVED SHALL PROVIDE CERTAIN SPECIALTIES OR MATERIALS.

4. THE DRAWINGS AND SPECIFICATIONS FOR THE COMPLETE WORKS, INCLUDING ALL OF THOSE RELATED TO OTHER TRADES ARE TO BE EXAMINED BEFORE SUBMITTING TENDERS. ALL ELECTRICAL AND COMMUNICATIONS REQUIREMENTS INDICATED ARE TO BE INCLUDED IN THE SCOPE OF THE WORK.

5. CLEAN UP AND REMOVE ALL UNUSED WIRING AND CONDUITS.

6. REMOVE AND REINSTALL EXISTING DEVICES TO FACILITATE CONSTRUCTION AS REQUIRED.

7. CONFIRM OUTLET LOCATIONS AND MOUNTING HEIGHT WITH PROJECT COORDINATOR ON SITE PRIOR TO INSTALLATION.

8. ALL PENETRATIONS MADE THROUGH FIRE RATED ASSEMBLIES SHALL BE FIRE STOPPED PER FIRE STOP SPECIFICATIONS SECTION.

9. COORDINATE WITH AND GET APPROVAL FROM LANDLORD FOR ALL DRILLING, CORING AND CUTTING OF BUILDING STRUCTURE. COORDINATE LOCATIONS ON SITE PRIOR TO CARRYING OUT THE WORK. ALLOW FOR ALL COSTS FOR X-RAYING/SCANNING CONTRACTOR MUST OBTAIN WRITTEN APPROVAL FROM THE LANDLORD STRUCTURAL ENGINEER PRIOR TO COMMENCEMENT OF THE WORK. ELECTRICAL CONTRACTOR SHALL ALLOW FOR THE SERVICES OF A STRUCTURAL ENGINEER TO REVIEW PROPOSED CORE HOLE LOCATIONS PRIOR TO CORING.

10. CONTRACTORS SHALL PROVIDE ALL NECESSARY TEMPORARY POWER AND LIGHTING AS REQUIRED.

11. WHERE TENANT SPACES ARE OCCUPIED BY THE CLIENT, ALL NOISY WORK SUCH AS (BUT NOT RESTRICTED TO) CORING, WIRING AND CABLING PULLING, INSTALLATION OF CONDUIT SHALL BE DONE AFTER HOURS. WIRING CONNECTIONS TO SYSTEMS FURNITURE SHALL BE COORDINATED WITH OWNER, INCLUDING CABLING TERMINATIONS.

12. FOR ALL ELECTRICAL DEVICES NOTED TO BE REMOVED AND REINSTALLED TO FACILITATE OTHER CONSTRUCTION WORKS, ELECTRICAL CONTRACTOR SHALL ALLOW FOR REMOVAL AND INSTALLATION OF CONDUIT AND WIRING FEEDING SUCH DEVICES AS REQUIRED, WHERE RELOCATION OF OUTLETS, DEVICES, ETC., IS CALLED FOR, OR REMOVAL OF DEVICE FROM THE MIDDLE OF A WIRING RUN, PROVIDE JUNCTION BOX TO SUIT AND EXTEND WIRING, IF WIRING IS FROM ABOVE, IF WIRING IS IN FLOOR SLAB OR IN WALL, PULL EXISTING WIRES OUT, CUT FLOOR OR WALL, EXTEND CONDUIT AND PROVIDE NEW WIRING WHERE DEVICES ARE REMOVED FROM THE MIDDLE OF A WIRING RUN, RE-WIRE AROUND IT/THEM AS APPROPRIATE TO RETAIN OTHER DEVICES ON THE SAME RUN IN OPERATION. WHERE DEVICES AREA REMOVED FROM THE END OF A WIRING RUN, WIRING SHALL BE PULLED BACK AND DEAD ENDED AT LAST ADJACENT LINE OUTLET.

13. CONTRACTOR IS TO RECOGNIZE THAT EXISTING CIRCUITING CAN AND DOES EXTEND INTO ADJACENT SPACES IN WHICH NO WORK IS BEING PERFORMED UNDER THIS CONTRACT AND THUS, THESE CIRCUITS ARE TO BE KEPT ENERGIZED. RE-FEED THE OUTLETS OUTSIDE OF THE WORK AREA AS NECESSARY.

14. CONDUITS AND WIRING IN WALLS AND IN ON CEILINGS TO BE DEMOLISHED SHALL BE RE-ROUTED SO THAT DEVICES REMAINING FED BY THIS WIRING ARE KEPT IN OPERATION. CONDUITS SHALL BE REMOVED IF DEVICES "DOWN STREAM" ARE REMOVED, TYPICAL.

2. DRAWINGS AND SPECIFICATIONS

1. DRAWINGS AND SPECIFICATIONS ARE COMPLEMENTARY TO EACH OTHER AND WHAT IS CALLED FOR BY ONE IS TO BE BINDING AS IF CALLED FOR BY BOTH.

2. SHOULD ANY DISCREPANCY APPEAR BETWEEN DRAWINGS AND SPECIFICATIONS THAT LEAVES THE ELECTRICAL TRADE IN DOUBT AS TO TRUE INTENT AND MEANING, OBTAIN RULING FROM THE ELECTRICAL CONSULTANT PRIOR TO SUBMITTING TENDER, OR ALLOW FOR THE MOST EXPENSIVE ALTERNATIVE.

3. EXAMINATION OF OTHER DRAWINGS

1. THE ELECTRICAL CONTRACTOR IS TO EXAMINE CAREFULLY STRUCTURAL, ARCHITECTURAL AND MECHANICAL DRAWINGS, AND THE WORK OF OTHER TRADES AND SATISFY HIMSELF THAT THE WORK UNDER THIS CONTRACT CAN BE SATISFACTORILY CARRIED OUT WITHOUT CHANGES TO THE BUILDING AS SHOWN ON THE PLANS. SHOULD ANY DIFFICULTY ARISE SHOWING CONFLICT WITH, OR REQUIRING ADDITIONAL WORK BEYOND THE WORK OF THESE DRAWINGS, BRING THIS MATTER TO THE ATTENTION OF THE ENGINEER BEFORE SUBMITTING TENDER.

4. UNIFORMITY OF EQUIPMENT

1. UNLESS OTHERWISE SPECIFIED, UNIFORMITY OF MANUFACTURE IS TO BE MAINTAINED FOR ANY PARTICULAR ITEM THROUGHOUT.

5. STANDARDS OF MATERIAL AND WORKMANSHIP

1. ALL MATERIALS ARE TO BE NEW AND OF THE QUALITY SPECIFIED AND SHALL BE APPROVED BY CSA OR EQUIVALENT AGENCY RECOGNIZED IN BRITISH COLUMBIA.

2. ALL WORK SHALL BE EXECUTED IN A NEAT AND WORKMANLIKE MANNER BY QUALIFIED TRADESMEN. THE ELECTRICAL CONTRACTOR SHALL KEEP A COMPETENT FOREMAN AND NECESSARY ASSISTANTS ON THE SITE DURING THE PROGRESS OF THE WORK.

3. ALL MATERIAL AND INSTALLATION SHALL MATCH BUILDING STANDARD UNLESS IT IS NOTED OTHERWISE ON THE DRAWINGS.

6. RECORD PLANS & MAINTENANCE MANUALS

1. THE ELECTRICAL CONSULTANT WILL FURNISH TO THE ELECTRICAL TRADE ONE SET OF DRAWINGS TO BE USED FOR AS-BUILT PURPOSES. THE ELECTRICAL TRADE IS TO ACCURATELY RECORD ON THESE PRINTS ALL REVISIONS TO THE ORIGINAL PLANS THAT ARE MADE ON SITE DURING CONSTRUCTION.

2. THE ELECTRICAL TRADE IS TO PRODUCE AT HIS OWN EXPENSE A SET OF RED LINE MARK-UP AS-BUILT DRAWINGS, INCLUDING ALL CHANGES TO THE ORIGINAL TENDER DRAWINGS COVERED BY ADDENDA, CHANGE ORDERS, FIELD CHANGES, AND JOB CONDITIONS, AND TURN THESE OVER TO THE ENGINEER IN HARD COPY FORM, COMPLETED AS-BUILT DRAWINGS ARE TO BE CLEARLY MARKED "CERTIFIED AS-BUILT DRAWINGS". REFER TO LINE ITEM 3.

3. O/M ENGINEERING SHALL PRODUCE THE RECORD DRAWINGS IN AUTOCAD FORMAT BASED ON THE CERTIFIED AS-BUILT DRAWINGS RECEIVED FROM THE CONTRACTOR. CONTRACTOR SHALL ASSIST O/M ENGINEERING IN INTERPRETING ILLEGIBLE OR INDECIPHERABLE RED LINE MARK-UPS.

4. THIS CONTRACTOR SHALL PROVIDE 3 THREE-RING BINDERS FOR MAINTENANCE MANUALS. MANUALS SHALL CONTAIN ALL WARRANTIES, SHOP DRAWINGS, INSPECTION LETTERS, PANEL SCHEDULES, ETC. IN ADDITION TO THE HARD COPY, THE CONTRACTOR SHALL SUBMIT A SOFTCOPY OF THE MAINTENANCE MANUAL VIA USB DRIVE OR BY THE MEANS OF ELECTRONIC FILE TRANSFER.

7. SHOP DRAWINGS

1. THE ELECTRICAL CONTRACTOR IS TO SUBMIT TO THE ELECTRICAL CONSULTANT, FOR REVIEW, SHOP DRAWINGS OF MAJOR ELECTRICAL EQUIPMENT. SUCH EQUIPMENT SHALL INCLUDE, BUT NOT BE LIMITED TO SWITCHGEAR, PANELBOARDS, SERIES-RATED BREAKER COMBINATIONS, FIXTURES AND FITTINGS NOT PROVIDED BY THE OWNER.

2. ALL DRAWINGS ARE TO BE SUBMITTED IN PDF FORMAT VIA ELECTRONIC FILE TRANSFER.

3. THE ELECTRICAL CONSULTANT'S REVIEW OF SHOP DRAWINGS IS TO BE FOR GENERAL DESIGN ONLY AND WILL NOT RELIEVE THE ELECTRICAL CONTRACTOR OR SUPPLIERS FROM RESPONSIBILITY FOR ERRORS, PROPER FITTING, CONSTRUCTION OF WORK, AND FURNISHING OF MATERIALS. REVIEW WILL NOT BE CONSTRUED AS APPROVING DEPARTURES FROM CONTRACT DOCUMENT REQUIREMENTS IF SUCH DEPARTURES ARE NOT SPECIFICALLY NOTED. THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL DIMENSIONS.

8. GUARANTEE WARRANTY

1. THE ELECTRICAL CONTRACTOR SHALL FURNISH A WRITTEN GUARANTEE WARRANTY, SIGNED BY AUTHORIZED PERSONNEL, STATING:

1. THAT ALL WORK EXECUTED UNDER THIS CONTRACT WILL BE FREE FROM DEFECTS OF MATERIAL AND WORKMANSHIP FOR A PERIOD OF 1 YEAR FROM DATE OF SUBSTANTIAL COMPLETION.

2. THE ABOVE PARTIES FURTHER AGREE TO, AT THEIR OWN EXPENSE, REPAIR AND REPLACE ALL SUCH DEFECTIVE WORK, AND OTHER WORK DAMAGED THEREBY, WHICH FALLS OR BECOMES DEFECTIVE DURING THE TERM OF THE GUARANTEE WARRANTY PROVIDED THAT SUCH FAILURE IS NOT DUE TO IMPROPER USAGE.

3. THE PERIOD OF THE GUARANTEE SPECIFIED WILL IN NO WAY SUPPLANT ANY OTHER GUARANTEE OF A LONGER PERIOD BUT BE BINDING ON WORK NOT OTHERWISE COVERED.

9. SETTING OUT OF THE WORK

1. THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR CORRECTING ALL WORK COMED CONTRARY TO THE INTENT OF DRAWINGS AND SPECIFICATIONS AND SHALL BEAR ALL COSTS INVOLVED IN MAKING THE CORRECTIONS, WHERE INTENT OF DRAWINGS AND SPECIFICATIONS IS NOT CLEAR, OBTAIN CLARIFICATION FROM THE ELECTRICAL CONSULTANT BEFORE PROCEEDING WITH WORK.

2. THE ELECTRICAL CONTRACTOR IS TO GIVE WORK HIS PERSONAL SUPERVISION, LAY OUT HIS OWN WORK, DO ALL NECESSARY LEVELING AND MEASURING OR EMPLOY A COMPETENT ENGINEER TO DO SO. FIGURES, FULL SIZE AND DETAIL DRAWINGS TO TAKE PRECEDENCE OVER SCALE MEASUREMENTS.

3. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE CAUSED TO THE OWNER OR ANY OTHER TRADE BY IMPROPER LOCATION OR CARRYING OUT OF HIS WORK.

4. THE ELECTRICAL CONTRACTOR, IN THE SETTING OUT OF HIS WORK, IS TO MAKE REFERENCE TO ARCHITECTURAL, STRUCTURAL, AND MECHANICAL DRAWINGS. HE SHALL CONSULT WITH ALL RELEVANT TRADES IN SETTING OUT LOCATIONS FOR CONDUIT RUNS, LIGHTING FIXTURES, PANEL ASSEMBLIES, AND ALL OTHER ELECTRICAL EQUIPMENT, SO THAT CONFLICTS ARE AVOIDED AND SYMMETRICAL SPACING IS MAINTAINED.

5. THE ELECTRICAL CONTRACTOR SHALL CONFIRM OUTLET LOCATIONS AND MOUNTING HEIGHTS WITH THE PROJECT COORDINATOR ON SITE PRIOR TO INSTALLATION.

6. WHERE RECEPTACLES ARE MOUNTED ABOVE COUNTERS, BENCHES, SPLASHBACKS, OR OTHER FIXTURES, THEIR LOCATIONS AND MOUNTING HEIGHTS ARE TO BE

COORDINATED WITH THE BUILT-IN UNITS. REFER TO ARCHITECTURAL DETAILS, WHERE RECEPTACLES OCCUR IN OUTSIDE WALLS WHERE HEATING UNITS ALSO OCCUR. RECEPTACLE HEIGHT IS TO BE ADJUSTED TO COORDINATE WITH THE HEATING UNITS.

7. SWITCH MOUNTING HEIGHTS ARE TO BE COORDINATED WITH ARCHITECTURAL DETAILS AND SHALL BE ADJUSTED, IF REQUIRED, TO COORDINATE WITH PANELING, DADOS, MASONRY COURSE LINES, OR OTHER RELEVANT BUILDING FEATURES.

8. WHERE OUTLET BOXES OCCUR IN EXTERIOR WALLS, THE ELECTRICAL CONTRACTOR IS TO ENSURE THAT THERE IS INSULATION BEHIND THE OUTLET BOXES TO PREVENT CONDENSATION THROUGH THE BOXES.

9. ALLOW FOR WORK AFTER HOURS AS REQUIRED AND COORDINATE WITH OWNER/TENANTS IF APPLICABLE.

10. CONTRACTOR TO COORDINATE ANY INTERRUPTIONS TO ADJOINING TENANTS IN ORDER TO AVOID ANY INCONVENIENCES TO SAID TENANT. IF NECESSARY CONTRACTOR TO DO ANY REQUIRED CONNECTIONS ON OFF HOURS.

11. ELECTRICAL TRADE SHALL INSTALL G15 PLYBOARD ON ALL WALL OF THE ELECTRICAL AND COMMUNICATIONS ROOMS FOR MOUNTING OF ELECTRICAL PANELS PRIOR TO START OF ANY ELECTRICAL WORKS. PLYBOARD SHALL BE PAINTED WHITE.

10. EXAMINATION OF THE SITE

1. PRIOR TO SUBMITTING TENDER, THE ELECTRICAL CONTRACTOR SHALL CAREFULLY EXAMINE THE SITE AND ASCERTAIN ALL CONDITIONS WHICH MAY AFFECT HIS TRADE. NO ADDITIONAL MONEY WILL BE ALLOWED FOR WORK RESULTING FROM CONDITIONS THAT SHOULD HAVE BEEN NOTICED AND ACCOUNTED FOR DURING A THOROUGH EXAMINATION OF THE SITE.

11. CUTTING AND PATCHING

1. THE GENERAL TRADE WILL BE RESPONSIBLE FOR ALL CUTTING AND PATCHING REQUIRED FOR ELECTRICAL INSTALLATION. STRUCTURAL MEMBERS MUST NOT BE CUT WITHOUT CONSENT OF THE STRUCTURAL ENGINEER.

2. WHERE WORK DONE BY THE ELECTRICAL TRADE DAMAGES THE WORK OF OTHER TRADES, THE ELECTRICAL TRADE SHALL REPAIR AND MAKE GOOD SUCH DAMAGE TO THE SATISFACTION OF EACH TRADE CONCERNED AND THE ENGINEER.

12. CLEANUP

1. THE ELECTRICAL CONTRACTOR AND HIS SUB-TRADES ARE TO KEEP THE SITE FREE DURING CONSTRUCTION OF DEBRIS, BOXES, PACKING, AND OTHER MATERIALS ASSOCIATED WITH THE WORK OF THIS TRADE. ALL WASTE MATERIAL IS TO BE DISPOSED OF IN A SAFE AND ENVIRONMENTALLY RESPONSIBLE MANNER.

2. UPON COMPLETION OF WORK, THE ELECTRICAL INSTALLATION SHALL BE LEFT IN A CLEAN AND FINISHED CONDITION TO THE SATISFACTION OF THE ELECTRICAL CONSULTANT.

13. ACCESS DOORS

1. THE ELECTRICAL CONTRACTOR IS TO SUPPLY AND INSTALL ACCESS DOORS AS REQUIRED FOR SERVICING OF ALL ELECTRICAL WORK. ACCESS DOORS SHALL BE COMPLETE WITH NECESSARY FRAMES AND HINGED DOORS HELD CLOSED WITH CAPTIVE STUDS. ACCESS PANEL TO BE OF NOT LESS THAN 14 GAUGE STEEL, PRIME COAT FINISHED AND PAINTED ON THE JOB TO MATCH THE WALL OR CEILING FINISH.

2. THE NUMBER OF ACCESS DOORS SHALL BE KEPT TO A MINIMUM.

3. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ACCESS PANELS IN THE DRYWALL CEILINGS FOR ALL ELECTRICAL JUNCTION BOXES AND EQUIPMENT IN ACCORDANCE WITH APPLICABLE CODES.

4. PROVIDE FIRE RATED ACCESS HATCHES FOR ALL OPENINGS IN RATED SHAFTS OR WALL ASSEMBLIES. RATING OF ACCESS HATCH SHALL MATCH FIRE RESISTANCE RATING OF SHAFT OR WALL ASSEMBLY.

14. CODES, PERMITS AND INSPECTION

1. THE ENTIRE INSTALLATION, INCLUSIVE OF MATERIAL AND LABOR, IS TO COMPLY WITH ALL THE REQUIREMENTS OF ALL APPLICABLE BUILDING CODES AND AUTHORITIES HAVING JURISDICTION, THE CANADIAN ELECTRICAL CODE, AND REGULATIONS OF THE LOCAL INSPECTION DEPARTMENT.

2. THE ELECTRICAL CONTRACTOR IS TO OBTAIN ALL PERMITS REQUIRED FOR EACH STAGE OF WORK, AND AFTER COMPLETION OF THE ENTIRE INSTALLATION FURNISH TO THE ELECTRICAL CONSULTANT A CERTIFICATE OF FINAL INSPECTION AND APPROVAL FROM THE ELECTRICAL INSPECTION DEPARTMENT OF THE AUTHORITY HAVING JURISDICTION.

15. MECHANICAL EQUIPMENT

1. UNLESS SPECIFIED OTHERWISE, THE ELECTRICAL CONTRACTOR IS TO SUPPLY AND INSTALL ALL REQUIRED CONDUIT, WIRING, ELECTRICAL FITTINGS AND CONNECTIONS FOR ALL MOTORS AND OTHER ELECTRICAL EQUIPMENT, EVEN THOUGH SUCH MOTORS AND OTHER ELECTRICAL EQUIPMENT MAY BE SUPPLIED BY OTHERS, WHERE REQUIRED BY THE DRAWINGS OR APPLICABLE REGULATIONS. DISCONNECT SWITCHES, STARTERS, OVERLOAD RELAYS AND OTHER NECESSARY PROTECTIVE DEVICES ARE TO BE SUPPLIED AND INSTALLED BY THE ELECTRICAL CONTRACTOR. MOTORS AND CONTROLS SHALL BE FURNISHED BY THE SUPPLIER OF THE DRIVEN EQUIPMENT. THE ELECTRICAL CONTRACTOR SHALL INCLUDE ALL WORK AND CONNECTIONS REQUIRED TO MAKE THE SYSTEM COMPLETE AND OPERATIONAL.

2. THE ELECTRICAL EQUIPMENT MAY INCLUDE BUT NOT BE LIMITED TO SUCH ITEMS AS GRILLE MOTORS AND INTERLOCKS, STOREFRONT AND INTERIOR SIGNAGE,

STARTING DEVICES, MOTOR CONTROLLERS, FLOAT SWITCHES, ALARM DEVICES OR SYSTEMS, PUSH BUTTONS, EXHAUST FANS, DATA SYSTEMS, INTERCOMS AND STEREO SYSTEMS.

3. THE ELECTRICAL CONTRACTOR IS TO CONFIRM MOTOR (OR OTHER EQUIPMENT) LOCATION AND SIZES WITH THE TRADE SUPPLYING THE MOTOR (OR OTHER EQUIPMENT) BEFORE COMMENCING ANY ASSOCIATED ELECTRICAL WORK.

4. WHERE A VARIABLE FREQUENCY DRIVE (VFD) IS PROVIDED BY OTHERS, THE ELECTRICAL CONTRACTOR SHALL PROVIDE WIRING BETWEEN THE OVER-CURRENT DEVICE AND VFD, AND BETWEEN THE VFD AND MOTOR.

16. TESTS

1. ALL PORTIONS OF ELECTRICAL WORK ARE TO BE TESTED FOR SATISFACTORY OPERATION.

2. BEFORE ENERGIZING ANY PORTION OF THE ELECTRICAL SYSTEM, THE ELECTRICAL CONTRACTOR SHALL PERFORM MEGGER TESTS ON ALL FEEDERS OVER 60A. ANY PROBLEMS DISCOVERED BY SUCH TESTING ARE TO BE CORRECTED BY THE ELECTRICAL CONTRACTOR AND THE CIRCUITS IN QUESTION RE-TESTED. THE RESULTS OF ALL FINAL TESTING SHALL BE PROVIDED TO THE ELECTRICAL CONSULTANT IN REPORT FORM.

3. UPON PROJECT COMPLETION, AND IMMEDIATELY PRIOR TO FINAL INSPECTION AND TAKEOVER, THE ELECTRICAL CONTRACTOR SHALL CHECK THE LOAD BALANCE ON ALL FEEDERS AND AT DISTRIBUTION CENTRES, LOAD CENTRES, AND PANELS. THESE CHECKS ARE TO BE CARRIED OUT BY TURNING ON ALL LOADS AND CHECKING LOAD CURRENT BALANCE. IF LOAD UNBALANCE EXCEEDS 15 %, THE CIRCUITS ARE TO BE RECONFIGURED AS NECESSARY TO BALANCE THE LOADS.

17. PAINTING AND FINISHES

1. ALL ELECTRICAL FITTINGS, SUPPORTS, HANGER RODS, PULLBOXES, CHANNEL FRAMES, CONDUIT RACKS, OUTLET BOXES, BRACKETS, AND CLAMPS ARE TO HAVE A GALVANIZED FINISH OR A PAINT FINISH OVER CORROSION-RESISTANT PRIMER.

2. ALL PANELS ARE TO BE FACTORY-FINISHED WITH SPRAY-ON AIR DRY ENAMEL. ALL ENAMEL TO BE APPLIED OVER CORROSION-RESISTANT PRIMER. MATTE OR FLAT TYPE FINISH PAINT WILL NOT BE ACCEPTED. ALL PANELS OR SIMILAR FACTORY-FINISHED UNITS THAT ARE SCRATCHED OR MARKED DURING INSTALLATION ARE TO BE TOUCHED UP WITH MATCHING SPRAY-ON AIR DRY LACQUER AND, IF REQUIRED TO PROVIDE A SATISFACTORY JOB, TO BE COMPLETELY REFINISHED.

3. ALL PANELBOARDS, PULLBOXES, AND OTHER ELECTRICAL CABINETS AND BOXES ARE TO BE FINISHED IN GRAY ENAMEL.

18. PATHWAYS

1. WHERE REQUIRED BY THE CANADIAN ELECTRICAL CODE, ALL WIRE AND CABLE IS TO BE INSTALLED IN EMT CONDUIT. PROVIDE PAINTIGHT FITTINGS FOR ANY EMT INSTALLED ON EXTERIOR OF BUILDING OR AREAS WHERE MOISTURE OR WATER MAY BE PRESENT.

2. UNLESS OTHERWISE NOTED, EMT CONDUIT ARE TO BE CONCEALED IN ALL FINISHED AREAS, IN SERVICE AREAS, CONDUIT AND EMT SHALL BE RUN ON SURFACE UNLESS INDICATED OTHERWISE.

3. SURFACE MOUNTED EMT CONDUIT ARE TO BE INSTALLED PARALLEL TO STRUCTURAL LINES, AND, WHERE DENIES OCCUR IN PARALLEL RUNS, THEY SHALL BE CONCENTRIC.

4. RACEWAYS ARE TO BE INSTALLED FREE FROM DENTS AND BRUISES AND SHALL HAVE THEIR ENDS CAPPED, PLUGGED, OR SEALED AS NECESSARY TO PREVENT ENTRANCE OF DIRT OR MOISTURE.

5. IN ALL AREAS SUBJECT TO MOISTURE, WATERTIGHT FITTINGS MUST BE USED.

6. ALL RACEWAY, EXCEPT WHERE OTHERWISE INDICATED, SHALL BE SIZED IN ACCORDANCE WITH THE CANADIAN ELECTRICAL CODE.

7. TECK90 OR SEAL TIGHT FLEXIBLE CONDUIT IS TO BE UTILIZED FOR CONNECTIONS TO MOTORS AND MOTOR CONTROLLERS.

8. ALL UNDERGROUND CONDUIT SYSTEMS ARE TO BE OF APPROVED RPVC SCHEDULE 40 CONDUIT, COMPLETE WITH INSTALLED BONDING CONDUCTOR, AND INSTALLED AT OR BELOW THE DEPTH REQUIRED BY CODE. PROVIDE 150mm CLEAN SAND BEDDING ABOVE AND 75mm BELOW CONDUITS AND CONTINUOUS MARKING TAPE 300mm BELOW GRADE. PROVIDE SUITABLE BACKFILL AND COMPACTION.

9. PROVIDE "GOOSENECK" TYPE METALLIC ROOF FLASHING COMPLETE WITH CABLE HEAD FOR ALL CONDUIT/CABLE ROOF PENETRATIONS. GOOSENECK CONDUIT SHALL BE MINIMUM 2" DIAMETER. GOOSENECK OPENINGS SHALL BE TIGHTLY PACKED WITH MINERAL WOOL AFTER INSTALLATION.

10. PROVIDE RUBBERIZED CONDUIT SUPPORT BLOCKS FOR MOUNTING OF CONDUITS ON ROOF TOPS. SUPPORT BLOCKS SHALL BE UV RESISTANT AND COMPLETE WITH STRUT. CONDUIT SUPPORTS SHALL BE SECURED TO STRUCTURE EVERY 20R WITHOUT COMPROMISING THE WATERPROOFING PROPERTIES OF THE ROOF. NO ROOF PENETRATIONS ALLOWED. ELECTRICAL CONTRACTOR SHALL CONFIRM ANCHORAGE AND SEISMIC RESTRAINT REQUIREMENTS WITH SEISMIC ENGINEER.

19. EXPANSION JOINTS

1. WHERE CONDUITS ARE INSTALLED IN CONCRETE SLABS OR CROSS STRUCTURAL EXPANSION JOINTS, AN APPROVED EXPANSION FITTING SHALL BE INSTALLED.

20. WIRE AND CABLE

1. ALL BUILDING WIRING IS TO BE RW90, 600V, COPPER, EXCEPT WHERE NOTED OTHERWISE. ALL WIRING SHALL BE STRANDED.

2. A MINIMUM CONDUCTOR SIZE OF #12 AWG COPPER IS TO BE USED, EXCEPT WHERE NOTED OTHERWISE.

3. ALL CONDUCTORS ARE TO BE COLOR CODED PER THE CANADIAN ELECTRICAL CODE.

4. ALL WIRING AND CABLING IN EXPOSED OR OPEN CEILING AREAS IS TO BE INSTALLED IN EMT CONDUIT.

5. ALL WIRING AND CABLING IN EXTERIOR INSTALLATIONS SHALL BE INSTALLED IN GALVANIZED RIGID STEEL.

6. ARMoured CABLE MAY ONLY BE UTILIZED FOR THE FOLLOWING:

- A) DROPS TO INDIVIDUAL LUMINAIRES AND SHALL HAVE A MAXIMUM LENGTH OF 1.5m. DAISY-CHAINING OF LUMINAIRES IS NOT PERMITTED.
- B) FINAL CONNECTION TO MOTORS, TRANSFORMERS OR VIBRATING EQUIPMENT.

SUCH INSTALLATIONS ARE TO BE INSTALLED PARALLEL TO STRUCTURAL LINES IN A NEAT AND TIDY MANNER.

7. ALL FEEDER RUNS SHOWN ON DRAWING AND MECHANICAL SCHEDULE ARE BASED ON 100 FEET OF RW90 COPPER CONDUCTORS. ELECTRICAL CONTRACTOR SHALL DERATE CABLING FOR VOLTAGE DROP AS REQUIRED FOR LONGER RUNS.

21. WIRING DEVICES & BOXES

1. ALIGN ALL DEVICES AND PLATES PLUMB AND LEVEL WITH BUILDING STRUCTURAL LINES.

2. ALL OUTLET BOXES ARE TO BE FLUSH MOUNTED EXCEPT WHERE SPECIFIED OTHERWISE.

3. ALL JUNCTION BOXES ARE TO HAVE VISIBLE P-TOUCH POSITIONS INDICATING THE CIRCUIT NUMBERS UTILIZED, PEN OR FELT IS NOT ACCEPTABLE.

4. SUPPLY AND INSTALL BLANK COVER PLATES FOR ALL UNUSED JUNCTION BOXES, INCLUDING EXISTING.

5. OUTLET BOXES SHALL NOT BE LOCATED BACK TO BACK ON FIRE RATED WALLS SEPARATING TWO OCCUPANCIES. OUTLET BOXES SHALL BE MINIMUM OF 600mm APART.

6. PROVIDE NON-COMBUSTIBLE OUTLET BOXES IN FIRE RATED WALLS.

22. LOCATION OF OUTLETS

1. THE ENGINEER RESERVES THE RIGHT TO CHANGE THE LOCATION OF OUTLETS TO WITHIN 3 M OF POINTS INDICATED ON PLANS WITHOUT EXTRA CHARGE. PROVIDED THE ELECTRICAL CONTRACTOR IS ADVISED BEFORE INSTALLATION IS MADE.

2. ELECTRICAL TRADE TO REFER TO ARCHITECTURAL ROOM ELEVATIONS FOR POSITIONS, AND MOUNTING HEIGHTS OF ALL OUTLETS, SWITCHES, INTERCOMMUNICATION, TELEPHONES, SPEAKERS, CLOCKS, ETC. POSITIONS SHOWN ON ARCHITECTURAL PLANS TO TAKE PRECEDENCE OVER POSITIONS OR MOUNTING HEIGHTS SHOWN ON ELECTRICAL PLANS.

23. PULL BOXES

1. THE ELECTRICAL TRADE SHALL SUPPLY AND INSTALL PULLBOXES AS REQUIRED TO SUIT JOB CONDITIONS. PULLBOXES SHALL CONFORM TO CANADIAN ELECTRICAL CODE REQUIREMENTS. PULLBOXES TO BE FINISHED IN ENAMEL OVER CORROSION-RESISTANT PRIMER WITH SCREW-ON OR HINGED COVER. IN REMOVABLE CEILING AREAS, PULLBOXES ARE TO BE INSTALLED ABOVE THE CEILING.

24. SWITCHES AND RECEPTACLES

1. ALL SWITCHES AND RECEPTACLES SHALL BE COMMERCIAL GRADE. MATCH EXISTING STANDARD WHERE STANDARD IS PRESENT. WHERE NO STANDARD IS PRESENT, PROVIDE WHITE DECORA SWITCHES AND RECEPTACLES AND WHITE DECORA FACEPLATES.

2. PROVIDE P-TOUCH LABELS FOR ALL RECEPTACLE LABELS.

3. FOR ALL RECEPTACLES OTHER THAN STANDARD 15A DUPLEX RECEPTACLES, PROVIDE LAMACOID NAMETAGS GIVING AMP RATING, PHASE AND VOLTAGE.

4. GROUND FAULT CIRCUIT INTERRUPTING (GFI) DUPLEX RECEPTACLES SHALL BE COMMERCIAL GRADE.

5. ISOLATED GROUND (IG) RECEPTACLES SHALL BE COMMERCIAL GRADE.

6. ALL RECEPTACLES OF CSA CONFIGURATION 5-15R AND 5-20R SHALL BE TAMPER RESISTANT TYPE INSTALLED IN THE FOLLOWING LOCATIONS/FACILITIES:

- A) CHILD CARE FACILITIES
- B) GUEST ROOMS AND SUITS OF HOTELS AND MOTELS
- C) PRESCHOOL AND ELEMENTARY EDUCATION FACILITIES
- D) DWELLING UNITS
- 7. PROVIDE STAINLESS STEEL COVER PLATES FOR RECEPTACLES AND SWITCHES IN HEALTH CARE FACILITIES.

25. SUPPORTS

1. ALL CONDUIT, RACEWAYS, AND OTHER ELECTRICAL EQUIPMENT SHALL BE SECURELY AND ADEQUATELY SUPPORTED IN ACCORDANCE WITH THE CANADIAN ELECTRICAL CODE.

2. WHERE INSERTS ARE REQUIRED IN CONCRETE, EXPANSION INSERTS, LEAD INSERTS OR PLASTIC INSERTS ARE TO BE USED IN DRILLED HOLES. SHOT DRIVEN PINS MAY BE USED IN STRUCTURAL CONCRETE ONLY WITH THE PERMISSION OF THE ELECTRICAL CONSULTANT.

26. GROUNDING AND BONDING

1. A COMPLETE GROUNDING AND BONDING SYSTEM SHALL BE SUPPLIED AND INSTALLED IN ACCORDANCE WITH THE CANADIAN ELECTRICAL CODE AND THE ELECTRICAL INSPECTION DEPARTMENT.

2. ALL METAL PARTS NOT CARRYING CURRENT, INCLUDING BUT NOT LIMITED TO, SECONDARY FEEDER CIRCUITS, EQUIPMENT AND PANELBOARD ENCLOSURES, METAL RACEWAYS, PULL AND JUNCTION BOXES, SHALL BE

PROPERLY BONDED. METAL RACEWAYS SHALL UTILIZE DOUBLE LOCKNUTS AND OTHER FITTINGS WHERE NECESSARY TO PROVIDE BOND CONTINUITY.

3. A SEPARATE BOND CONDUCTOR SHALL BE INSTALLED IN ALL RACEWAY FEEDER RUNS, FLEXIBLE CONDUIT, AND IN CONDUIT INSTALLED IN SLAB OR UNDERGROUND.

4. THIS CONTRACTOR IS RESPONSIBLE FOR THE BOND OF ALL THE EQUIPMENT RACKS IN THE SERVER ROOM, THE CABLE TRAY, ELECTRICAL EQUIPMENT AND ANY CONDUIT. ALL GROUNDING OF SERVER RACKS MUST BE IN ACCORDANCE TO MANUFACTURERS GUIDELINES AND RECOMMENDATIONS.

27. PANELS

1. PROVIDE COMPLETE PANELBOARDS, UNLESS OTHERWISE INDICATED. PANELBOARDS ARE TO BE 120/208V, 3PH, 4W OR 347/600V, 3Ø, 4W SOLID NEUTRAL DESIGN WITH SEQUENCE STYLE BUSSING AND FULL CAPACITY NEUTRAL WITH BOLT-ON CIRCUIT BREAKERS. WHERE DOUBLE NEUTRALS ARE INDICATED ON THE SINGLE LINE DIAGRAM, PROVIDE 200% RATED NEUTRAL PANELBOARDS.

2. PROVIDE ALL CIRCUIT BREAKERS INDICATED PLUS A MINIMUM OF 2x15A 1P SPARES IN EACH PANEL CIRCUIT BREAKERS TO BE RATED MINIMUM 25KA 1C, UNLESS OTHERWISE INDICATED AND BE SERIES RATED.

3. PANELS ARE TO BE FLUSH MOUNTED IN PUBLIC AREAS AND SURFACE MOUNTED IN SERVICE ROOMS, ALL COMPLETE WITH ALL TRIM, LOCKABLE DOORS AND INSTALLATION HARDWARE. PROVIDE DRIP SHIELDS IN AREAS WITH SPRINKLERS.

4. UPDATED TYPEWRITTEN PANEL DIRECTORIES SHALL BE PROVIDED FOR ALL PANELS.

5. UTILIZE EXISTING PANELBOARDS AS INDICATED ON THE DRAWING, REUSE EXISTING BREAKERS WHERE POSSIBLE. PROVIDE NEW BREAKERS AS REQUIRED.

6. BALANCE PANEL LOAD FOR EACH PHASE A, B, & C. ALLOW FOR RELOCATING CIRCUITS WITHIN PANEL BOARD TO BALANCE THE LOAD.

28. LIGHTING LUMINAIRES AND LIGHTING CONTROLS (N/A)

29. LIGHTING CONTROLS COMMISSIONING REQUIREMENTS (N/A)

30. EXIT SIGN AND EMERGENCY LIGHTING (N/A)

31. FIRE ALARM SYSTEM (N/A)

32. SEISMIC PROTECTION

1. THE ELECTRICAL TRADE SHALL PROVIDE SEISMIC RESTRAINT AND ANCHORAGE FOR ALL EQUIPMENT AND SERVICES IN ACCORDANCE