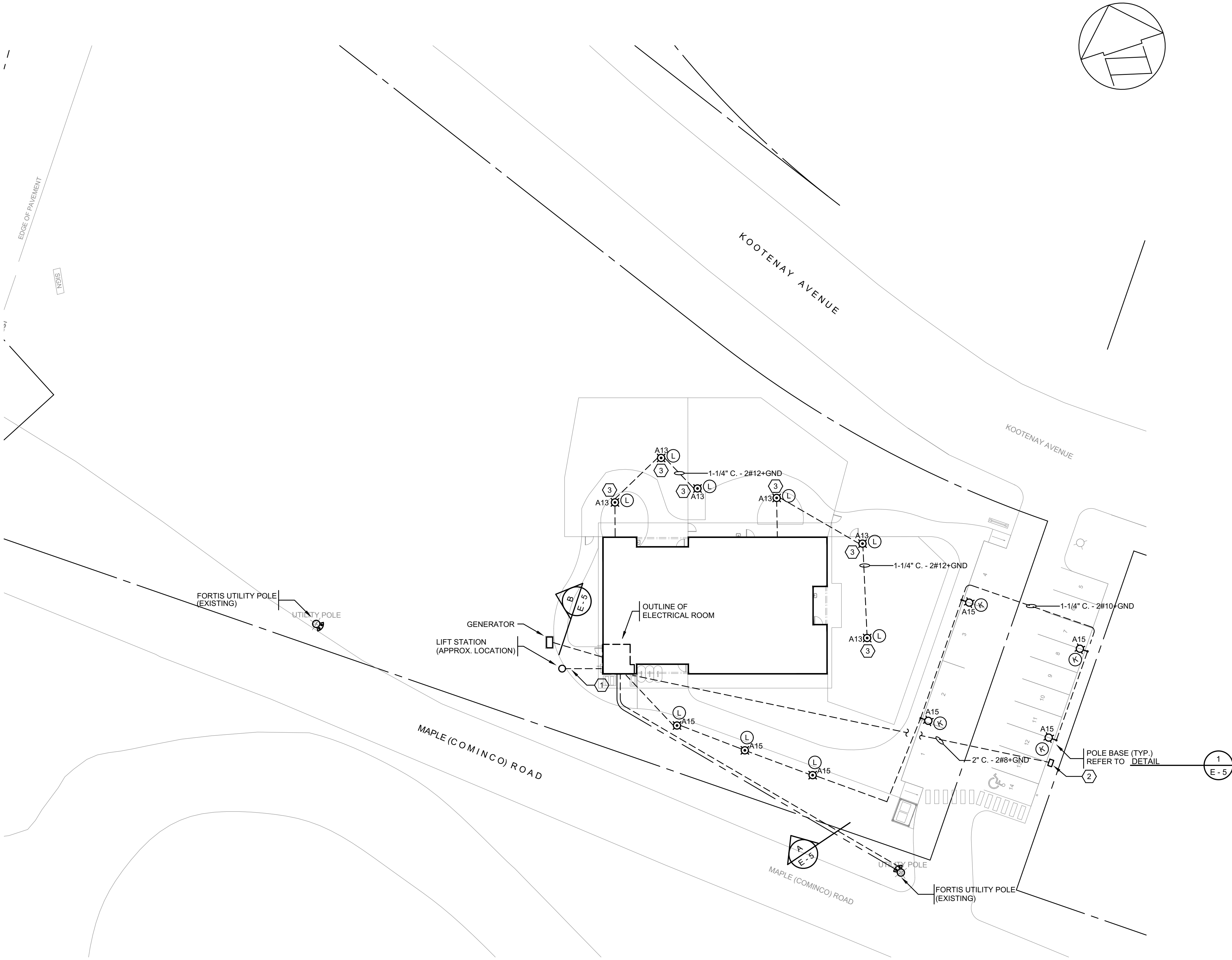




SITE PLAN
1 : 250

- REFERENCE NOTES
- 1 38MM CONDUIT FROM LIFT STATION TO LIFT CONTROL PANEL.
 - 2 PROVIDE CONDUIT, WIRING, AND PULLBOX AS SHOWN FOR FUTURE EV CHARGER.
 - 3 REFER TO LANDSCAPING DRAWINGS FOR EXACT BOLLARD LOCATION.

SYMBOL LEGEND		
SYMBOL	DESCRIPTION	MOUNTING
[Symbol]	SURFACE MOUNTED LUMINAIRE	CEILING
[Symbol]	SURFACE MOUNTED LUMINAIRE	WALL
[Symbol]	RECESSED LUMINAIRE	CEILING
[Symbol]	RECESSED LUMINAIRE	WALL
[Symbol]	RECESSED WALL WASHER LUMINAIRE	CEILING
[Symbol]	ROADWAY/AREA LUMINAIRE	POLE
[Symbol]	LOW LEVEL AREA LUMINAIRE	POST
[Symbol]	TRACK LIGHT	AS SHOWN
[Symbol]	SURFACE MOUNTED LUMINAIRE	CEILING
[Symbol]	RECESSED MOUNTED LUMINAIRE	CEILING
[Symbol]	LUMINAIRE TYPE 'A' CONNECTED TO EMERGENCY POWER	
[Symbol]	INDICATES LUMINAIRE TYPE 'S' - SEE LUMINAIRE SCHEDULE	
[Symbol]	RECESSED LUMINAIRE UPLIGHT	FLOOR/GROUND
[Symbol]	FLOODLIGHT	AS SHOWN
[Symbol]	EXIT LIGHT (SF= SINGLE FACE)	CEILING
[Symbol]	EXIT LIGHT	WALL
[Symbol]	INDICATES REFERENCE NOTE NO. 2	
[Symbol]	INDICATES CIRCUIT NO. 2 FROM PANEL 'C'	
[Symbol]	INDICATES WEATHERPROOF DEVICE	
[Symbol]	WG	
[Symbol]	EX	
[Symbol]	INDICATES EXPLOSION-PROOF DEVICE	
[Symbol]	SINGLE POLE TOGGLE SWITCH (3x3 WAY, 4x4 WAY, D-DIMMER)	+42"(1050)
[Symbol]	TOGGLE SW. (P-PLOT, L-LOCATOR, T-TIMER, S-SPEED, K-KEY OPERATED)	+42"(1050)
[Symbol]	OCCUPANCY SENSOR SWITCH (NUMBER INDICATES TYPE - REFER TO SPECIFICATION)	+42"(1050)
[Symbol]	LOW VOLTAGE LIGHT SWITCH (LETTER INDICATES CCT CONTROLLED)	+42"(1050)
[Symbol]	OCCUPANCY SENSOR (NUMBER INDICATES TYPE - REFER TO SPECIFICATION)	CEILING/WALL
[Symbol]	DAT/LIGHT SENSOR (NUMBER INDICATES TYPE - REFER TO SPECIFICATION)	CEILING/WALL
[Symbol]	PHOTOCELL	AS SHOWN
[Symbol]	OUTLET/JUNCTION BOX	
[Symbol]	USB RECEPTACLE	+18"(455)
[Symbol]	USB RECEPTACLE 15/20A	+18"(455)
[Symbol]	SINGLE CONVENIENCE RECEPTACLE	+18"(455)
[Symbol]	DUPLEX CONVENIENCE RECEPTACLE	+18"(455)
[Symbol]	DUPLEX CONVENIENCE RECEPTACLE 15/20A	+18"(455)
[Symbol]	FOUR PLX CONVENIENCE RECEPTACLE	+18"(455)
[Symbol]	DUPLEX CONVENIENCE RECEPTACLE FLUSH MOUNTED	FLOOR
[Symbol]	DUPLEX CONVENIENCE RECEPTACLE SPLIT WIRED	ABOVE COUNTER
[Symbol]	DUPLEX CONVENIENCE RECEPTACLE ISOLATED GROUND (I.G.)	+18"(455)
[Symbol]	DUPLEX CONVENIENCE RECEPTACLE SWITCH ONE SIDE	+18"(455)
[Symbol]	DUPLEX CONVENIENCE RECEPTACLE GROUND FAULT INTERRUPTING	
[Symbol]	DUPLEX CONVENIENCE RECEPTACLE GROUND FAULT INTERRUPTING - 15/20A	ABOVE COUNTER
[Symbol]	TWIST LOCK RECEPTACLE-RATING TO MATCH PROTECTIVE DEVICE	+18"(455)
[Symbol]	SINGLE RECEPTACLE 208/240V-1PH (AMPERAGE AS NOTED)	+18"(455)
[Symbol]	SINGLE RECEPTACLE 208/240V-3PH (AMPERAGE AS NOTED)	+18"(455)
[Symbol]	DROP CORD RECEPTACLE	
[Symbol]	CABLE TELEVISION OUTLET	+18"(455)
[Symbol]	COMMUNICATION OUTLET (P = NUMBER OF DATA DROPS)	+18"(455)
[Symbol]	DATA OUTLET FLUSH MOUNTED	FLOOR
[Symbol]	PUSHBUTTON	AS NOTED
[Symbol]	BUZZER	DN 12"(300)
[Symbol]	PANIC ALARM BUTTON	AS NOTED
[Symbol]	BOILER EMERGENCY PUSHBUTTON OFF SWITCH	AS NOTED
[Symbol]	CLOCK - 'D' DENOTES DOUBLE FACE	DN 12"(300)
[Symbol]	EMERGENCY LIGHTING BATTERY UNIT - WITH OR WITHOUT HEADS	DN 18"(450)
[Symbol]	COMBINATION EXIT SIGN / EMERGENCY LIGHTING FLOOD LIGHTS	WALL
[Symbol]	EMERGENCY LIGHTING FLOOD LIGHT - SINGLE OR DOUBLE	AS SHOWN
[Symbol]	RECESSED EMERGENCY LIGHT	
[Symbol]	UNFUSED DISCONNECT SWITCH	AS SHOWN
[Symbol]	FUSED DISCONNECT SWITCH	AS SHOWN
[Symbol]	MAGNETIC MOTOR STARTER	+60"(1500)
[Symbol]	COMBINATION DISCONNECT/MAGNETIC MOTOR STARTER	+60"(1500)
[Symbol]	MANUAL MOTOR STARTER	AS SHOWN
[Symbol]	FIXED WIRE EQUIPMENT CONNECTION	
[Symbol]	THERMOSTAT	+45"(1150)
[Symbol]	VARIABLE FREQUENCY DRIVE	
[Symbol]	ELECTRIC BASEBOARD HEATER UNLESS NOTED AS FOLLOWS: FT = FORCE FLOW, UH = UNIT HEATER, CH = CONVECTION HEATER KS = KICKSPACE HEATER, PDH = PATIO DOOR HEATER B.I. = BUILT-IN THERMOSTAT, C.R. = CONTROL RELAY	
[Symbol]	ELECTRICAL DISTRIBUTION PANELBOARD	SURFACE
[Symbol]	ELECTRICAL DISTRIBUTION PANELBOARD	FLUSH
[Symbol]	SPEAKER	CEILING
[Symbol]	SPEAKER	WALL
[Symbol]	MICROPHONE OUTLET	+18"(455)
[Symbol]	SOUND SYSTEM HANDSET	+60"(1500)
[Symbol]	INTERCOM COMMUNICATION HANDSET	+60"(1500)
[Symbol]	AUTOMATIC HEAT DETECTOR 135° R.O.R.	CEILING
[Symbol]	AUTOMATIC HEAT DETECTOR 180° FIXED TEMP.	CEILING
[Symbol]	SMOKE DETECTOR (D DENOTES DUCT DETECTOR)	CEILING
[Symbol]	SMOKE/CARBON MONOXIDE ALARM	CEILING
[Symbol]	FIRE ALARM PULL STATION	+42"(1050)
[Symbol]	FIRE ALARM BELL OR HORN & PULL STATION	DN 12"(300)
[Symbol]	FIRE ALARM BELL OR HORN	DN 12"(300)
[Symbol]	COMBINATION FIRE ALARM BELL/STROBE OR HORN/STROBE	DN 12"(300)
[Symbol]	FIRE ALARM BUZZER	+42"(1050)
[Symbol]	FIRE ALARM SPEAKER	CEILING
[Symbol]	COMBINATION FIRE ALARM SPEAKER/STROBE LIGHT	CEILING
[Symbol]	MAGNETIC DOOR HOLDER	FLOOR/WALL
[Symbol]	FIRE ALARM STROBE LIGHT	+78"(1980)
[Symbol]	SMOKE ALARM STROBE LIGHT	+78"(1980)
[Symbol]	MULTI SERVICE RECESSED FLOOR BOX WITH DEVICES AS NOTED	FLOOR
[Symbol]	FIXED WIRE CONNECTION TO PRE-WIRED FURNITURE SCREENS	
[Symbol]	INTRUDER ALARM MAGNETIC DOOR SWITCH	
[Symbol]	INTRUDER ALARM PASSIVE INFRARED DETECTOR	WALL
[Symbol]	INTRUDER ALARM PASSIVE INFRARED DETECTOR	CEILING
[Symbol]	SECURITY CAMERA	
[Symbol]	INTRUDER ALARM KEYPAD	
[Symbol]	CARD READER	
[Symbol]	ELECTRIC STRIKE	
[Symbol]	INTRUDER ALARM GLASS BREAK	
[Symbol]	CONNECTION TO DISHWASHER/RECEPTACLE	+6"(150)
[Symbol]	RECEPTACLE FOR RANGE CONNECTION (2P-40A BREAKER)	+6"(150)
[Symbol]	RECEPTACLE FOR CLOTHES DRYER (2P-30A BREAKER)	
[Symbol]	20A T-SLOT RECEPTACLE FOR MICROWAVE OVEN	+54"(1370)
[Symbol]	CONNECTION TO COOK TOP STOVE	
[Symbol]	CONNECTION TO WALL OVEN	
[Symbol]	INDICATES EXISTING DEVICE TO REMAIN	
[Symbol]	R	INDICATES EXISTING DEVICE TO BE REMOVED
[Symbol]	RE	REPLACE EXISTING IN SAME LOCATION
[Symbol]	NL	NIGHT LIGHT (ON CONTINUOUSLY)
[Symbol]	NOTE	ALL DIMENSIONS ARE TO CENTRE OF DEVICE BOX

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6	JUL 31 / 26	ISSUED FOR 90% CD
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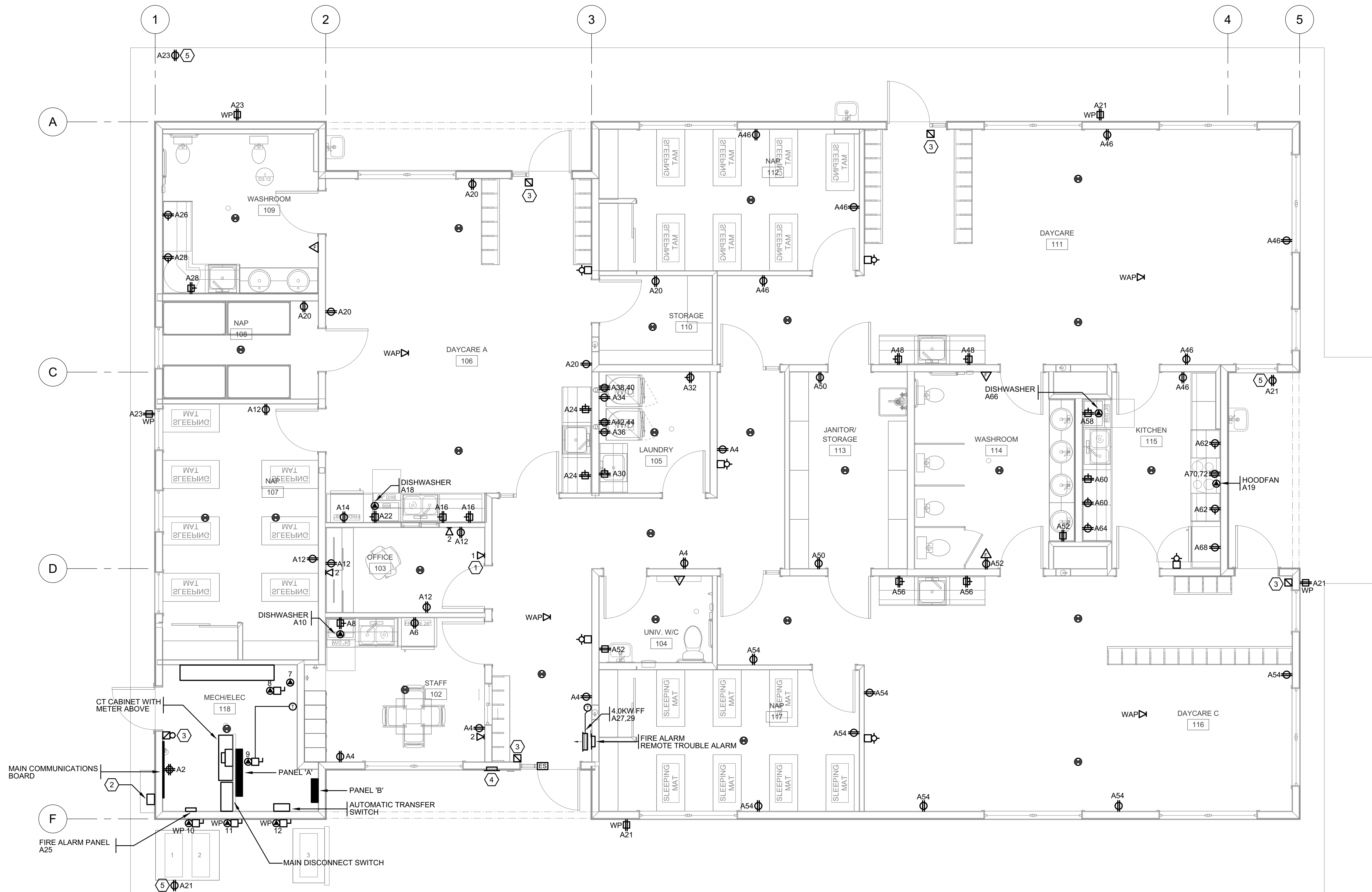
PROJECT:
UNICORN DAYCARE
MAPLE ROAD
TRAIL, B.C.

TITLE:
SITE PLAN,
SYMBOL LEGEND

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SCALE: AS NOTED	E - 1
JOB N°: 25148.000	
DATE: AUG • 26	REV. N°:



PROJECT MANAGER
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GROUND FLOOR PLAN - POWER & AUXILIARIES
1/4" = 1'-0"

- REFERENCE NOTES
- 1. 2N INDOOR VIEW VIDEO INTERCOM STATION. MOUNT AT 1524MM ABOVE FINISHED FLOOR.
 - 2. LIFT STATION CONTROL PANEL (BY LIFT STATION SUPPLIER). PROVIDE POWER CCT: B1.3. PROVIDE 38MM CONDUIT FROM CONTROL PANEL TO TANK RISER. WIRING TO LIFT STATION BY OTHERS. REFER TO DETAIL
 - 3. SIGNAGE SHALL BE PROVIDED INDICATING THAT FIRE DEPARTMENT MUST BE NOTIFIED IN THE EVENT OF A FIRE EMERGENCY. INCLUDE EMERGENCY TELEPHONE NUMBER FOR THE MUNICIPALITY OR THE FIRE DEPARTMENT.
 - 4. 2N IP STYLE VIDEO INTERCOM CALL STATION. MOUNT AT 1524MM ABOVE FINISHED FLOOR. PROVIDE CONNECTION TO ELECTRIC STRIKE UNIT REQUIRES ONE CAT-6 DATA DROP, POWERED OVER ETHERNET.
 - 5. INSTALL IN SOFFIT FOR SEASONAL LIGHTING.

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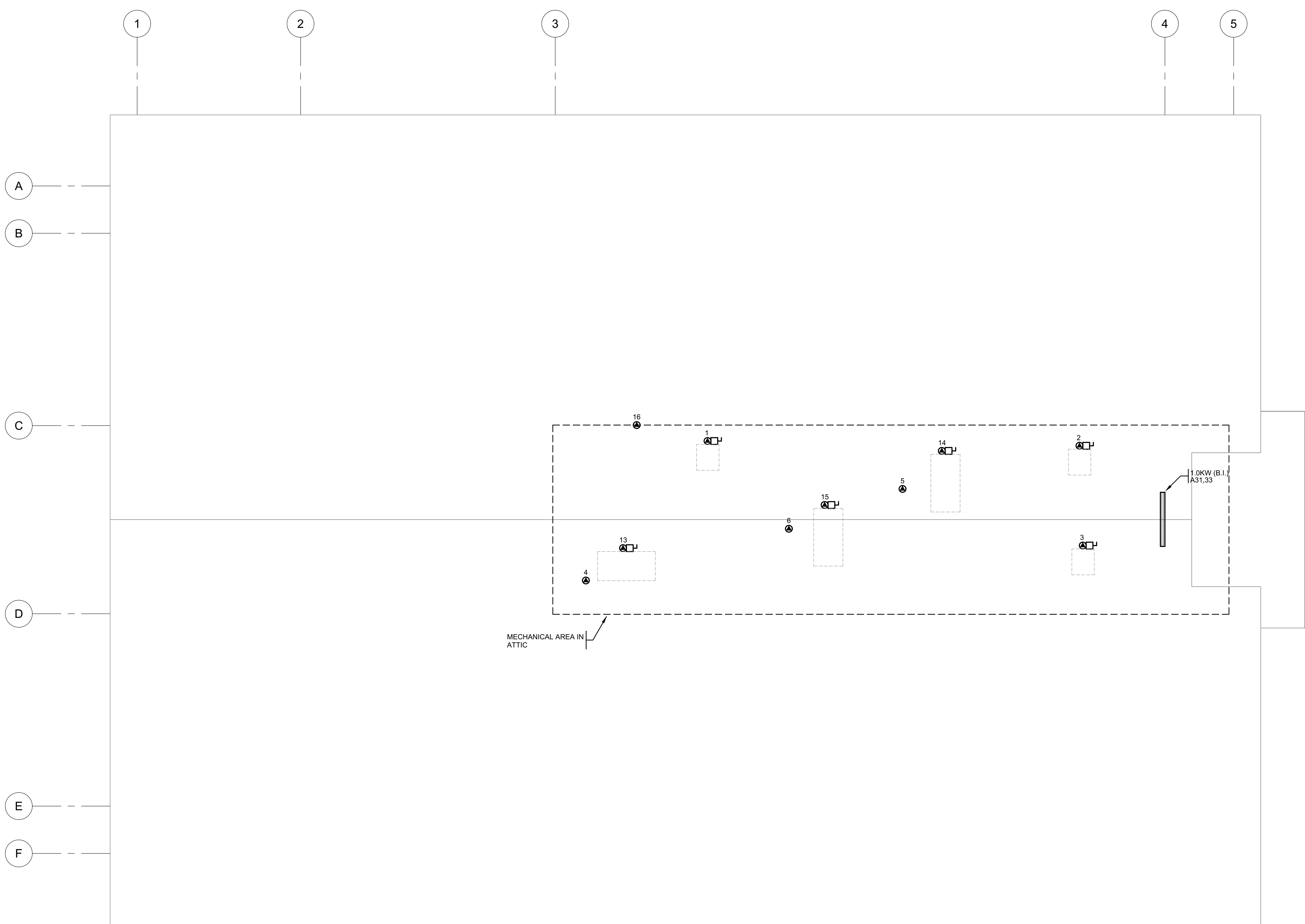
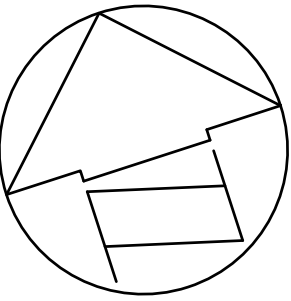
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MAPLE ROAD
TRAIL, B.C.

TITLE:
GROUND FLOOR PLAN -
POWER & AUXILIARIES

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SCALE: AS NOTED	E - 3
JOB N°: 25148.000	
DATE: AUG • 26	





ROOF PLAN
1/4" = 1'-0"

GENERAL NOTES
1. ALL EQUIPMENT SHOWN IS LOCATED WITHIN BUILDING
IN MECHANICAL SERVICE SPACE.

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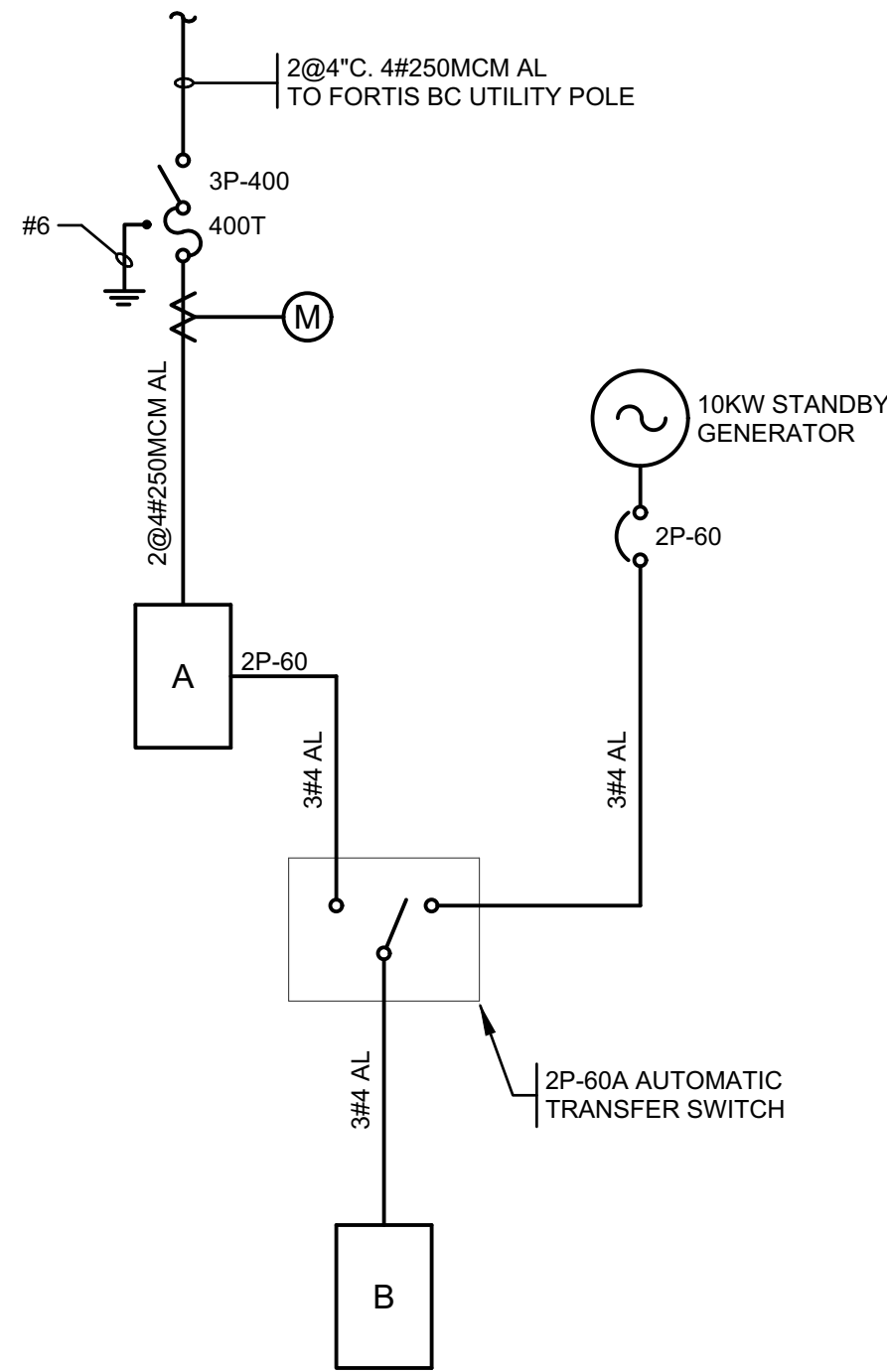
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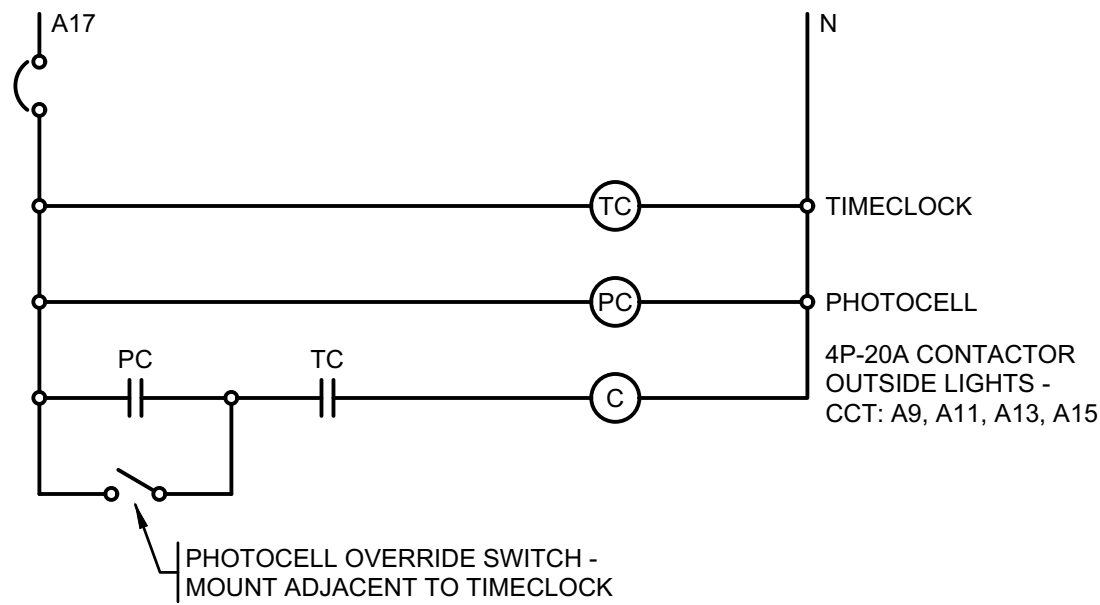
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ROOF PLAN

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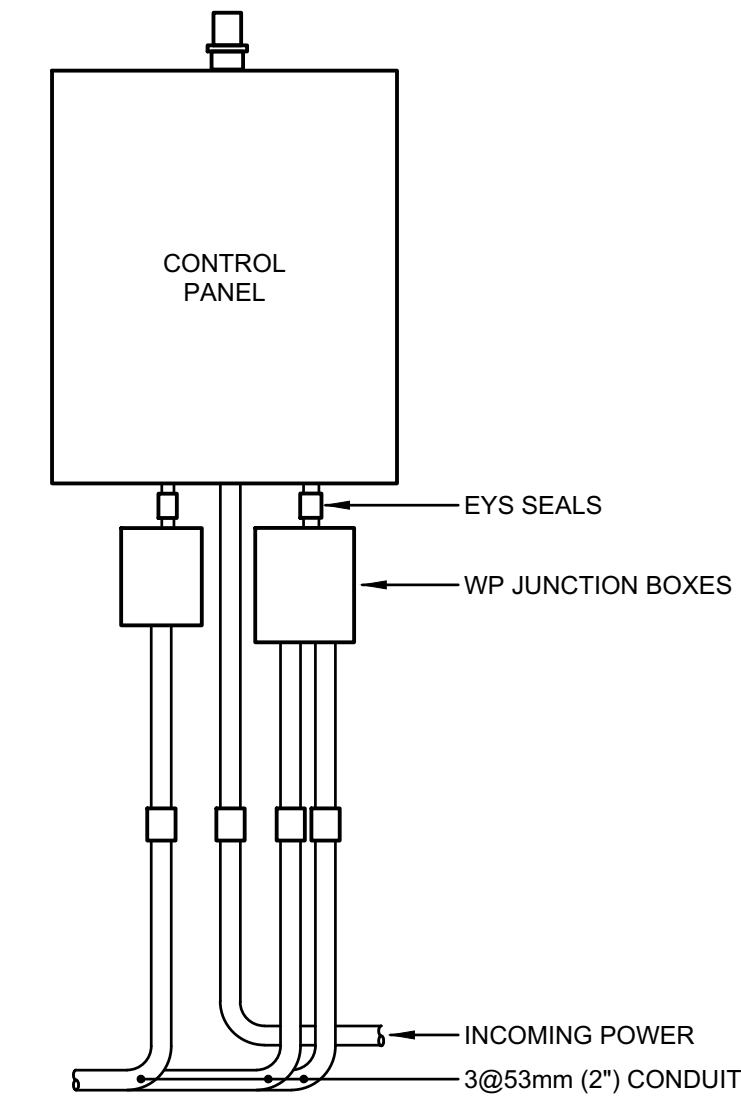




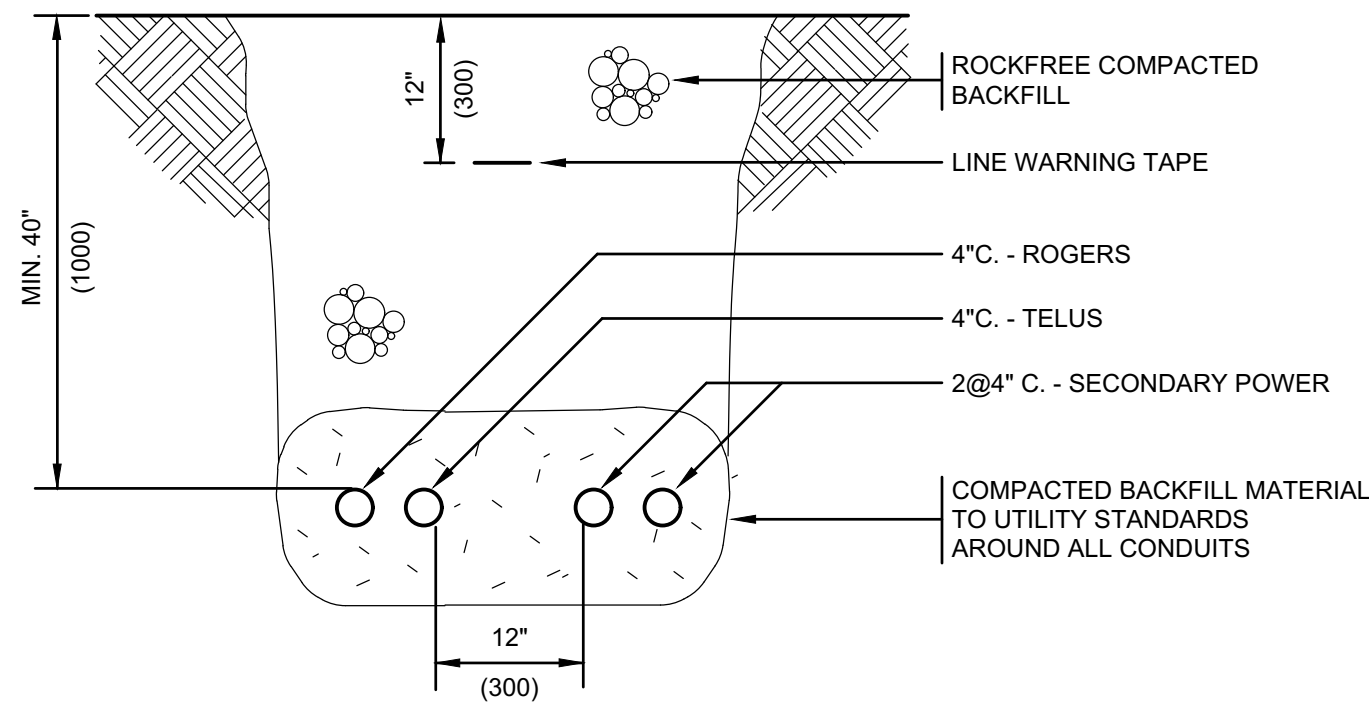
SINGLE LINE DIAGRAM
N T S



EXTERIOR LIGHTING CONTROL SCHEMATIC
N T S

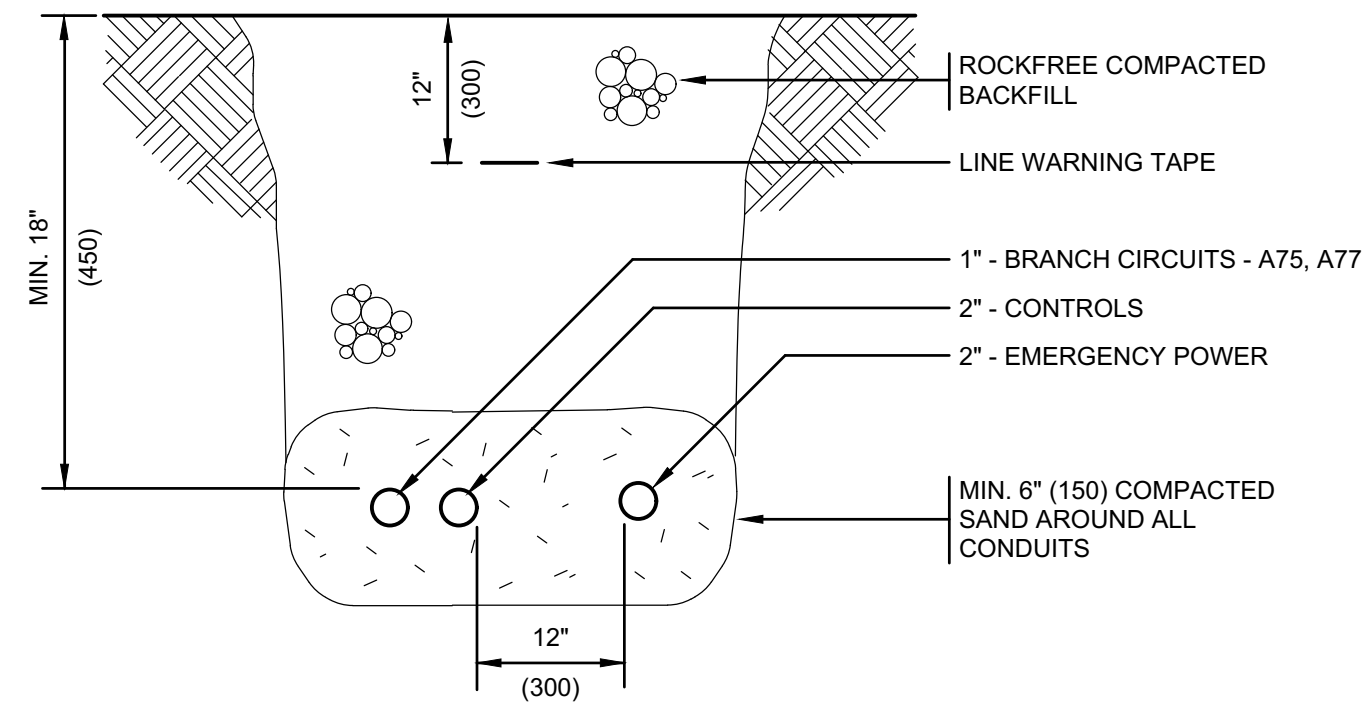


LIFT STATION CONTROL PANEL DETAIL
N T S



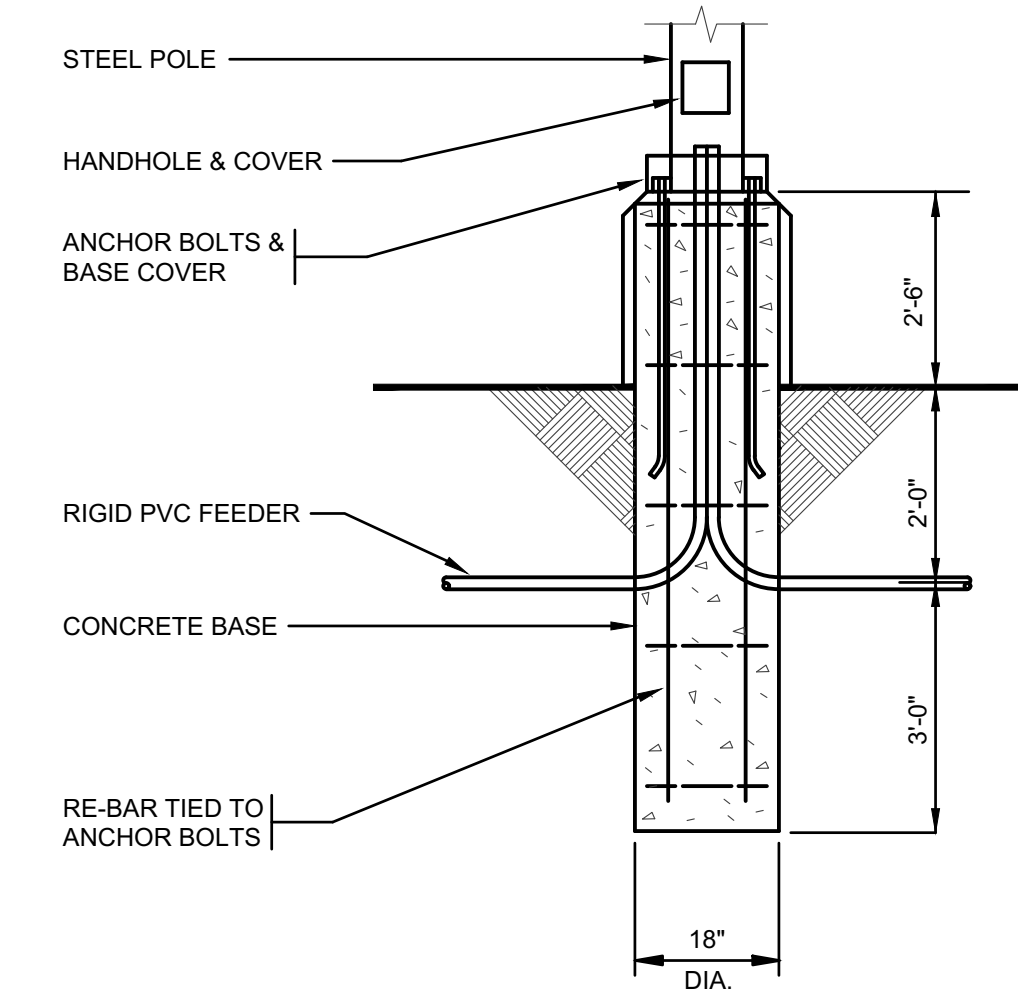
TRENCH SECTION
N T S

A
E - 1



TRENCH SECTION
N T S

B
E - 1



POLE BASE DETAIL
N T S

1
E - 1

- NOTES
1. PROVIDE ADDITIONAL 1" CONDUIT FOR POLES WITH SECURITY CAMERAS.

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JOB N°: 25148.000	
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400A-120/208V-3PH-4W									
PANEL 'A'									
LOAD	TRIP AMP	BR. NO.	BUS A B C	BR. NO.	TRIP AMP	LOAD			
EXIT LIGHTS	15	1	⬤	2	15	COMMUNICATIONS BOARD			
LIGHTING	15	3	⬤	4	15	RECEPTACLES			
LIGHTING	15	5	⬤	6	15	STAFF REFRIGERATOR			
LIGHTING	15	7	⬤	8	20	STAFF COUNTER RECEPTACLE			
EXTERIOR LIGHTING	15	9	⬤	10	15	DISHWASHER			
EXTERIOR LIGHTING	15	11	⬤	12	15	OFFICE RECEPTACLES			
LANDSCAPE LIGHTING	15	13	⬤	14	15	REFRIGERATOR			
SITE LIGHTING	15	15	⬤	16	20	COUNTER RECEPTACLE			
EXTERIOR LIGHTING CONTROL	15	17	⬤	18	15	DISHWASHER			
HOODFAN	15	19	⬤	20	15	RECEPTACLES			
EXTERIOR RECEPTACLES	15	21	⬤	22	20	COUNTER RECEPTACLE			
EXTERIOR RECEPTACLES	15	23	⬤	24	20	COUNTER RECEPTACLE			
FIRE ALARM PANEL	15	25	⬤	26	20	WASHROOM RECEPTACLES			
ELECTRIC HEAT	2P	27	⬤	28	20	WASHROOM RECEPTACLES			
	30	29	⬤	30	20	LAUNDRY RECEPTACLES			
ELECTRIC HEAT	2P	31	⬤	32	20	LAUNDRY RECEPTACLES			
	15	33	⬤	34	15	WASHER			
ERV-1	15	35	⬤	36	15	WASHER			
ERV-2, ERV-3	15	37	⬤	38	2P	}	DRYER		
	3P	39	⬤	40	30				
DH-1	40	41	⬤	42	2P	}	DRYER		
	A	43	⬤	44	30				
DH-2	3P	45	⬤	46	15	}	RECEPTACLES		
	40	47	⬤	48	20		COUNTER RECEPTACLE		
DH-3	A	49	⬤	50	15	}	JANITOR RECEPTACLES		
	3P	51	⬤	52	15		WASHROOM RECEPTACLES		
	40	53	⬤	54	15		RECEPTACLES		
HWRP-1	A	55	⬤	56	20	}	COUNTER RECEPTACLE		
	15	57	⬤	58	20		COUNTER RECEPTACLE		
EF-1	15	59	⬤	60	20	}	COUNTER RECEPTACLE		
HP-1	2P	61	⬤	62	20		COUNTER RECEPTACLE		
	30	63	⬤	64	20	}	MICROWAVE		
HP-2	2P	65	⬤	66	15		DISHWASHER		
	30	67	⬤	68	15	}	REFRIGERATOR		
HP-3	2P	69	⬤	70	2P		RANGE		
	30	71	⬤	72	40	}			
RF-1	15	73	⬤	74	2P		TRANSFER SWITCH/PANEL 'B'		
GENERATOR BATTERY CHARGER	20	75	⬤	76	60	}			
GENERATOR BLOCK HEATER	20	77	⬤	78					
LIGHTING	15	79	⬤	80		}			
HWT-1	2P	81	⬤	82					
	100	83	⬤	84		}			
		85	⬤	86					
		87	⬤	88		}			
		89	⬤	90					
		91	⬤	92		}			
		93	⬤	94					
		95	⬤	96		}			
		97	⬤	98					
		99	⬤	100		}			
		101	⬤	102					
		103	⬤	104		}			
		105	⬤	106					
		107	⬤	108		}			
		109	⬤	110					
		111	⬤	112		}			
		113	⬤	114					
		115	⬤	116		}			
		117	⬤	118					
		119	⬤	120		}			

100A-120/240V-1PH-3W									
PANEL 'B'									
LOAD	TRIP AMP	BR. NO.	BUS A N B	BR. NO.	TRIP AMP	LOAD			
LIFT STATION	2P	1	⬤	2					
	20	3	⬤	4					
		5	⬤	6					
		7	⬤	8					
		9	⬤	10					
		11	⬤	12					

EQUIPMENT SCHEDULE									
NO.	MECH. REF.	DESCRIPTION	LOAD	VOLT	Ø	CCT. NO.	BKR. SIZE	FEEDER	NOTE
1	ERV-1	ENERGY RECOVERY VENT.	FHP	120	1	A35	1P-15	2#12	1
2	ERV-2	ENERGY RECOVERY VENT.	FHP	120	1	A37	1P-15	2#12	1
3	ERV-3	ENERGY RECOVERY VENT.	FHP	120	1	A37	1P-15	2#12	1
4	DH-1	DUCT HEATER	11KW	208	3	A39,41,43	3P-40	3#8	
5	DH-2	DUCT HEATER	10KW	208	3	A45,47,49	3P-40	3#8	
6	DH-3	DUCT HEATER	9KW	208	3	A51,53,55	3P-40	3#8	
7	HWT-1	DOMESTIC HOT WATER	15KW	208	1	A81,83	2P-100	2#3	
8	HWRP-1	RECIRC PUMP	FHP	120	1	A57	1P-15	2#12	
9	EF-1	EXHAUST FAN	FHP	120	1	A59	1P-15	2#12	2
10	HP-1	HEAT PUMP	27.6MCA	208	1	A61,63	2P-30	2#10	3
11	HP-2	HEAT PUMP	27.6MCA	208	1	A65,67	2P-30	2#10	3
12	HP-3	HEAT PUMP	27.6MCA	208	1	A69,71	2P-30	2#10	3
13	FC-1	FAN COIL		208	1			3#12	4
14	FC-2	FAN COIL		208	1			3#12	4
15	FC-3	FAN COIL		208	1			3#12	4
16	RF-1	RADON FAN	FHP	120	1	A73	1P-15	2#12	5
17		LIFT STATION PUMP	3/4HP	208	1	B1,3	2P-20	2#12	6
18									
19									
20									

- NOTES
- UNIT TO RUN CONTINUOUSLY DURING OCCUPIED HOURS, CONTROL DEVICE TO BE SUPPLIED BY MECHANICAL CONTRACTOR AND INSTALLED BY ELECTRICAL.
 - PROVIDE REVERSE ACTING THERMOSTAT.
 - PROVIDE LIQUID TIGHT CONNECTION TO UNIT.
 - UNIT RECEIVES POWER FROM HEAT PUMP.
 - ROUGH-IN ONLY. TERMINATE WIRE IN BOX NEAR RADON PIPE.
 - PROVIDE CONNECTION TO THE LIFT STATION CONTROLLER AND PROVIDE CONDUITS FROM THE CONTROL PANEL TO THE SUMP PUMP. REFER TO DETAIL

2
E - 5

LUMINAIRE SCHEDULE								
TYPE	LUMINAIRE			VOLT	LAMP (LED)			SEE NOTE
	MANUFACTURER	CATALOGUE NO.			LUMENS	POWER(W)	COLOUR(K)	
A	ABOVE ALL	MAG-12-38-SW-1-10D-SM-D-FDL		120	3200	30	3500	
B		NOT USED						
C	WAC LIGHTING	WS-240824		120	1700	24	3500	
D	ABOVE ALL	SSTR-12-D-SP1-SW-8		120	4320	32	3500	
E	ABOVE ALL	UNDERCAB LIGHTING		120	3200	30	3500	
F	ABOVE ALL	FR-D-18/42-35-80-SMK/FR		120	4000	42	3500	
G	COOPER	4RBG6-SL1-L8SCT3		120	4800	40	3500	1
H	ABOVE ALL	NOVA-A-20SP-SW-8		120	1170	15	3500	
J	ABOVE ALL	DSWP-40SP-SW-8-SD		120	3200	25	3500	4
K	COOPER	GLAN-SA-1-A-830-U-T3-BK		120	4589	33	3000	5
L	COOPER	BOLR42-25S		120	1375	15	3000	
M								
N								
P								

- NOTES
- COMPLETE WITH 4RBSURF6 SURFACE MOUNTING KIT.
 - NOT USED.
 - NOT USED.
 - MOUNT AT 6'-8" ABOVE FINISHED GRADE.
 - PROVIDE 4" SQUARE 14'-0" STEEL POLE WITH EPA RATING TO SUIT LUMINAIRE MOUNTING ARRANGEMENT AND POWDER COAT PAINT FINISH TO MATCH LUMINAIRE HOUSING.

FIRE ALARM SYSTEM			
SINGLE-STAGE, ZONED, NON-CODED			
ALARM ZONE	DESCRIPTION	TROUBLE ZONE	DESCRIPTION
1	MAIN FLOOR	1	
2		2	
3		3	
4		4	
5		5	

NO.	DATE	ISSUED
1	DEC 19 / 25	ISSUED FOR REVIEW
2	JAN 08 / 26	ISSUED TO UTILITIES
3	FEB 27 / 26	ISSUED FOR 100% DD
4	JUN 19 / 26	ISSUED FOR 50% CD
5	JUL 20 / 26	ISSUED FOR BUILDING PERMIT
6	JUL 31 / 26	ISSUED FOR 90% CD
7	AUG 28 / 26	ISSUED FOR TENDER

NO.	DATE	SEPARATE REVISIONS

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DIMENSIONS:
THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, AND IMMEDIATELY REPORT ANY ERRORS AND/OR OMISSIONS. DO NOT SCALE DRAWINGS.



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PROJECT:

UNICORN DAYCARE
MAPLE ROAD
TRAIL, B.C.

TITLE:

SCHEDULES

DRAWN:

SCALE:

AS NOTED

JOB N°:

25148.000

DATE:

AUG • 26

DRAWING N°:

E - 6

REV. N°:

SPECIFICATION

1. GENERAL
1. Supply all labour, equipment, and materials necessary to install complete and operational, the electrical systems described herein and shown on the Drawings. The requirements of this Section are in addition to those contained in the General Conditions and other portions of the Contract Documents.
2. Refer to General Requirements in the Architectural Specification.
3. Where the term "Provide" is used it shall be understood to include labour, materials and services necessary to supply and install items or work referred to.
4. Change Notice / Change Order pricing shall be broken down to indicate labour and material pricing for each item covered by the Change.
2. DRAWINGS AND SPECIFICATIONS
1. It is the intent of these Drawings and Specifications to provide for an electrical installation complete and in operating condition. The responsibility for supplying and installing all material necessary to accomplish this, except where specifically noted that such work or materials is not included, shall be part of this Section.
3. CODES, PERMITS AND FEES
1. The complete installation shall be in accordance with the current edition of the Canadian Electrical Code (as amended by the Authority Having Jurisdiction), and the bylaws of the city or municipal electrical energy inspection department whose authority covers the area in which the work is being done.
2. Obtain and pay for all permits and licenses required to execute the work.
4. SUBSTITUTIONS
1. Where materials, equipment and apparatus or other products are specified by the manufacturer's name, other manufacturers may be substituted upon written approval of the Engineer three days prior to opening of bids. Submit list of proposed equivalent products to the Engineer via email in PDF format.
2. Where materials, equipment and apparatus or other products are noted as being "equal to" the specified manufacturer, products of equal or superior quality by other manufacturers may be substituted without approval of the Engineer.
3. Ensure that space requirements are met if using service and distribution equipment by alternate manufacturers.
4. Service and distribution equipment by alternate manufacturers that requires redesign of electrical room(s) will not be accepted. Engineer's costs caused by failure to comply with this will be charged to the Electrical Contractor.
5. MATERIALS
1. All materials supplied shall be new and of the quality indicated in the Specifications and shall conform to the standards of the CSA and the ULC and approved by these agencies where applicable.
2. In the event that a material specified does not bear CSA and ULC approval, obtain the approval of the local inspection authority, pay all charges levied by the inspection authority and make any modifications required, at no additional expense to the Owner.
3. Ensure that service entrance equipment bears evidence of "suitable for service entrance".
6. EQUIPMENT LOCATIONS
1. Consult with the Owner and all other subtrades involved to confirm the locations of the various outlets and equipment and cooperate fully to ensure that no conflict arises during the installation.
2. Particular care shall be taken that equipment, outlets, junction boxes or pullboxes will not be obstructed by other structure, equipment, pipes or ducts installed under this general contract by other trades.
3. No extra charge for materials and labour shall be added to the Contract for outlets moved within 10 feet from the location shown on the plans prior to rough-in.
7. GUARANTEES
1. Guarantee all work for one year, following final acceptance. This guarantee shall include all problems caused by improper installation or equipment failure.
8. SITE EXAMINATION
1. Examine the work site and become familiar with all features and characteristics affecting this work.
2. No additional compensation will be given for extra work due to existing conditions, which such examination should have disclosed.
3. Report to the Engineer any unsatisfactory conditions, which may adversely affect the proper completion of this work.
9. SHOP DRAWINGS
1. Prior to delivery of any materials to the job site and sufficiently in advance to allow ample time for checking, submit Shop Drawings in PDF format for review of requirements as specified in Division 1 and as further called for in this Division.
2. Show details, dimensions, construction, size, arrangement, operating clearances, performance characteristics and capacities of products and parts of the work.
3. Manufacture of products shall conform to reviewed Shop Drawings.
4. Where applicable include wiring, single line and schematic diagrams.
5. Include wiring drawings or diagrams showing interconnection with work of other Sections.
6. Keep one complete set of Electrical Shop Drawings at the job site during construction.
7. Review the shop drawings for all other disciplines requiring electrical coordination or connections prior to rough-in and advise the engineer of any discrepancies relating to the electrical design.
11. MAINTENANCE MANUALS
1. Before requesting final certificate, submit PDF format copies of the maintenance manual as specified in Division 1 and as further called for in this Division.
2. Include in the manual's information based on the following requirements:
1. Operation and maintenance instructions to be sufficiently detailed with respect to design elements, construction features, component function, operation procedures/sequences and maintenance requirements to permit effective operation, maintenance, repair, modification, extension and expansion of any portion or feature of the installation.
2. Technical data to be in form of approved Shop Drawings, supplemented by bulletins, technical descriptions of items, and parts lists. Advertising or sales literature will not be acceptable.
3. Provide wiring and schematic diagrams and performance curves where necessary.
4. Include names and addresses of nearest supplier for all items included in the maintenance manuals.
5. Include copies of published literature, certified performance data, shop and "as-built" drawings and parts lists.
6. Provide manual and seminar with Owner's forces to ensure proper operation of building prior to Substantial Performance.
12. ELECTRICAL SERVICE
1. Provide conduit to the power utility point of connection. The power utility shall install primary cables and make primary and secondary terminations at the pad mounted transformer. Electrical Contractor shall provide conduit and wiring from the pad mounted transformer to the main switch.
2. Primary and secondary service conduits shall be DB2.
3. General Contractor shall provide trenching, sand bed for conduit, and backfill.
4. Provide plaster at service pole in accordance with utility standards. Adequately support pole during installation as required by the power utility.
5. Provide an adequate drainage system for the service entrance conduits in accordance with code and utility standards.
6. Confirm exact responsibilities and division of work with the power utility.
7. Utility company charges will be paid by the Owner directly.
13. DISTRIBUTION
1. 120/208V panels shall be equal to Schneider Type NQ complete with breakers to meet series rating and locking doors. Provide typewritten circuit directories, protected by a clear plastic cover. Identify all circuits with actual usage, including locations for all loads. Ensure that double-bus panels are factory approved for the application.
2. Short Circuit Ratings:
1. All equipment must be either fully rated or integrated equipment (series) rated with the upstream protective device.
2. Labelling of circuit breakers forming part of an approved series rated combination where necessary to confirm protection of downstream breaker shall be as specified per CEC 14-014 to indicate:
1. Tested IER KA Rating
2. Specific upstream protective device
3. Permissible branch devices
4. Panelboard designation
5. Voltage
3. Available fault current at main breaker for application of series rating analysis shall be as noted on one-line diagram. Where fault current is unknown at time of tender and not indicated, contact the engineer prior to submitting tender. Breaker type and interrupting capacities shall be selected to provide approved series rated combinations based on the calculated fault current at each device in the system.
3. Fused switches shall be equal to Schneider type General Duty or Heavy Duty.
4. Provide 1.5" (38mm) conduit from CT cabinet(s)/section(s) to respective transformer-type meter socket(s). Transformer-type meter socket shall be in accordance with utility standards.
5. Provide locks on breakers controlling exit and emergency lighting circuits and fire alarm panel circuit.
14. FUSES
1. Main and feeder fuses rated 70A through 800A at 208V protecting circuit breakers shall be Bussman HRC-T Type JIN (208V). The fuses and breakers shall be a CSA approved series tested combination. Labelling of the equipment must be applied as per the local electrical code.
2. Fuses protecting motors rated 15A through 600A shall be Bussman HRC-J time delay Type LPJ-SP, unless otherwise noted.
3. Fuses rated 15A through 60A protecting circuit breakers and fuses rated 15A through 600A not otherwise specified above shall be Bussman HRC-J Type JKS.
4. Provide three spare fuses of each size and type used on the project, stored in a suitable wall mounted steel cabinet located in the electrical room.
5. Approved alternate manufacturer is Ferraz-Shawmut. A fault current study must be submitted if using fuses by an alternate manufacturer, including list of CSA approved series tested combinations as applicable.
15. GROUNDING AND BONDING
1. Provide an approved grounding electrode and install grounding conductors from the main service entrance assembly as indicated on the Drawings.
2. Provide bonding to all metal equipment, metallic waste and potable water systems, gas piping and building structure as required by Code.
3. Ground conductor ratings for step-down transformer primary feeders shall be based on the secondary ampacity and sized in accordance with the local electrical code.
16. BACK-UP GENERATOR
1. Provide and install a complete diesel fired generator as specified herein, complete with engine, alternator, starting battery, start-up circuitry, muffler, output circuit breaker and control panel to make the system fully operational.
2. Generator shall be Generac SD10 series or approved equal, rated at 10KW standby at 0.8 PF single phase, connected for operation at 120/208 Volts 3 phase, 4 wire, complete with the following options and accessories:
1. Water jacket heater
2. Residential silencing muffler
3. Weather-proof protective housing.
4. PMG excitation.
5. Electronic governor.

3. Transfer Switch:
1. Provide CSA approved automatic transfer switch rated as per the single line diagram.
2. Transfer switch shall be complete with the following:
1. Heavy duty industrial switch, double throw action, motor operated, electrically and mechanically interlocked to prevent simultaneous closing.
2. Open transition style.
3. Manual operating handles and controls, accessible only by opening the cabinet doors.
4. EEMAC 3R enclosure with key-locking front door.
5. Adjustable time delay to start standby engine, 0-20 seconds.
6. Adjustable time delay neutral position, 0-60 seconds, (for motor loads).
7. Adjustable time delay for re-transfer from emergency to normal after restoration of normal power, 5-180 seconds.
8. Adjustable pre-transfer time delay, 0-60 seconds, with dry contact (for elevators).
9. Test switch for test, normal and retransfer conditions.
10. Control mode indicator status LED's.
11. Running time meter.
12. Two sets of N.O. and N.C. auxiliary contacts.
13. Single side bypass isolation feature.
3. Transfer switch shall be Generac 301 series or approved equal.
4. Factory Test Procedures:
1. Provide factory tests, including a four-hour 100% full load test, utilizing a resistive bank.
2. During test, the following parameters shall be recorded at fifteen-minute intervals:
1. Speed and frequency
2. Voltage and current per phase
3. Load
4. Coolant temperature
5. Lubricating oil pressure
6. Alternator casing temperature
7. Ambient temperature
8. Engine water temperature
3. Additionally, record the following data:
1. Cranking time required to start engine from ambient temperature.
2. Time required to start the engine after the starting contact is made.
3. Time from initiation of start to full load application, with voltage and frequency settled.
4. Time required to stop the engine after the stop contact is opened.
5. Time required for the alternator to deliver the full voltage frequency after full load is switched 'On'.
6. Record battery voltage drop during cranking.
4. Report on torsional vibration of the generator set.
5. Six copies of certified test results shall be submitted upon completion of factory test procedure.
5. On Site Test Procedure:
1. After the installation is complete, including the work of others, obtain the manufacturer's certification that the work is satisfactory, and the unit is ready for the on-site test. Conduct an on-site test in conjunction with the manufacturer. Advise Engineer at least three working days in advance of the test. Provide sufficient time to test the unit as required.
2. From a "cold start" condition, emergency load shall be as per the worst-case load conditions. Continue this test for one hour and observe and record the following:
1. Time delay on start
2. Cranking time until engine starts and runs
3. Time required to reach operating speed
4. Time required to achieve a steady state condition with emergency load on line
5. Voltage, frequency and amps at start up and at any observed changes in load, i.e. start and stop the largest motor three times during this test
6. Engine oil pressure, water temperature and battery charge rate at 5-minute intervals for first 15 minutes and at 15 minute intervals thereafter
7. Time delay on retransfer to normal power
8. Time delay on engine cooldown and shutdown
3. Following the one-hour test as outlined in Item 2 above, the generator shall be subjected to a four hour 100% load test. Record data required in Item 2 above at start up and every 15 minutes thereafter until completion of this test period.
4. Provide manufacturer's certification that the unit has been manufactured, installed and tested in complete conformance with the drawings and specifications and the testing has indicated satisfactory operation.
6. Demonstration:
1. Provide a demonstration of the automatic starting system and of the safety features for the owner prior to substantial completion of the project.
2. Demonstration shall include the use of maintenance tools, etc. as supplied with generator.
17. DISCONNECT SWITCHES
1. Supply and install disconnect switches as indicated and as required by Code. Disconnect switches shall be equal to Schneider Type General Duty or Heavy Duty (weatherproof) where noted. Bryant 30000/40000/60000 series motor starters without overload protection may be used for loads rated 30/40/60A or less.
2. Provide auxiliary contacts in elevator drive unit disconnect switch for safety interlock by elevator installer.
18. WIRING METHODS
1. All wiring shall be copper unless indicated otherwise on the drawings.
2. Feeder conductors from service equipment to panel boards to be sized for maximum voltage drop of 2%.
3. Branch circuit wiring shall be min. #12 AWG 90C rated in EMT or PVC/DB2 below grade. AC-90 and NMD-90 may be used for concealed wiring where permitted by Code. EMT may be used for wiring in poured concrete where permitted by code. Where wire size is not indicated, anticipate must match or exceed that of protective device.
4. Feeders shall be 90C rated wire in EMT or PVC/DB2 below grade. Tack 90, ACWU 90, AC-90 and NMD-90 cables may be used for concealed wiring where permitted by Code, unless specifically noted otherwise.
5. Branch circuit wire sizes indicated on any equipment schedules shall be used at 90C. Where equipment is marked with a maximum conductor termination temperature then wire size to be revised as per 4-006 of CEC.
6. Provide ground wire in all conduits in concrete slabs and in all buried conduits as required by Code.
19. FIRE STOPPING
1. Fire stopping of electrical raceways, cables, wires and outlet boxes is to be included by the electrical contractor unless transfer of this responsibility to a separate trade contractor is approved in writing by the architect or engineer.
2. The electrical contractor shall utilize qualified personnel who have been trained by the manufacturer of the fire stopping materials in their use, handling and installation.
3. Submit shop drawings for all fire stopping assemblies required to be used on the project for approval by the engineer prior to installation.
4. Advise the engineer of the schedule for fire stopping installations with sufficient time for the engineer to perform required field reviews.
5. Install firestop materials in accordance with ULC Fire Resistance Directory or UL Products Certified for Canada (cUL) Directory.
6. Comply with manufacturer's instructions for installation of through-penetration materials.
7. Seal all holes or voids made by penetrations to ensure an air and water-resistant seal.
8. Protect materials from damage on surfaces subjected to traffic.
9. Raceways or cables penetrating any horizontal or vertical assembly required to have a fire-resistance rating shall be in accordance with the local building code. Steel raceways shall be cast in place and fire stopped where necessary to maintain fire rating and other raceways and cables shall be fire stopped to maintain the fire rating, as follows:
1. For penetrations through a Fire Separation or membrane required to have a Fire Resistance rating, provide a firestop system with an "F" Rating as determined by ULC or cUL not less than the fire protection rating required for Closures in the fire separation.
2. For penetrations through a Fire Wall, a horizontal Fire Separation for a Storage Garage considered as a separate building, or a Horizontal Service Space, provide a firestop system with an "F" Rating as determined by ULC or cUL not less than the fire protection rating required for the fire separation.
10. Non-Combustible outlet boxes (metallic), or 2 hour rated combustible boxes with an approved fire stop putty pad, may be installed in assemblies required to have a fire resistance rating provided the opening into the box does not exceed 0.016m² (25sq.in.) and conformance with BC Building Code is maintained (aggregate opening are less than 0.065m² (100.75 sq in.) in any 9.3m 2 (100.10 sq ft) of surface area). Where these dimensions cannot be maintained submit fire stopping details specific to the application as noted above.
11. Combustible outlet boxes may be installed in assemblies not required to have a fire resistance rating.
12. Outlet boxes on opposite sides of a vertical fire separation required to have a fire resistance rating shall be separated by 24" (600mm) horizontally, by a Fire Block as defined in the Building Code, or by firestopping with an FT rating not less than the rating of the assembly fire separation, applied to each box.
20. BASIC METHODS
1. Install wiring continuously within raceways or cables; splices will be permitted only at outlets and junction boxes. Sufficient slack shall be left at these points to permit proper connection of luminaires, devices, equipment, etc.
2. All wiring shall be run concealed in ceiling, walls or floor wherever possible. Any exposed conduits or cables shall be run parallel to or at right angles to building lines and in a neat manner.
3. Install pull boxes in the locations shown on the Drawings and as further required by the Canadian Electrical Code. Pull boxes shall be located in inconspicuous, accessible spaces.
4. Provide conduit markers flush with grade or floor slab indicating the routing and depth of underground primary service conduits and cables.
5. Where devices are shown above floor/mid wall, mount outlets 6" (150mm) above counter or backsplash. Coordinate with millwork installer and ensure that outlets do not conflict with backsplash.
21. WIRING DEVICES
1. Light switches shall be commercial grade, 15A (decorator style). Provide 20A switches where indicated. All switches shall be white, unless otherwise noted.
2. Receptacles shall be commercial grade, 15A, decorator style. Provide 20A receptacles where indicated. All receptacles shall be white, unless otherwise noted.
3. Wiring devices and coverplates shall be of one manufacturer: Bryant, Legrand, Hubbell or Leviton.
4. All cover plates shall be thermostet in finished areas, with colour to match devices. Provide stamped metal cover plates in other areas. Provide extra duty weatherproof while in-use covers for exterior receptacles.
5. Ground fault circuit interrupting (GFI) duplex receptacles shall be commercial grade complete with LED indicator light.
6. Dimmer switches shall be equal to [Lutron Diva series][Leviton Decora Digital] sized as shown on the Drawings. Provide white finish. Do not gang with standard toggle switches. Dimmer switches are to be compatible with the controlled luminaire drivers.
22. LIGHTING
1. Except as noted, provide all luminaires and lamps as indicated on the Luminaire Schedule, and all supports and wiring as required to make operational the lighting system as indicated on the Drawings.
23. LIGHTING CONTROLS
1. Photocell shall be equal to Intermatic K4121. Mount high on exterior wall, facing north.
2. Timedock shall be equal to Intermatic ET1125 dual channel programmable.
3. Timer switches for lighting control shall be equal to Intermatic E1200 series complete with selectable timing range to a maximum of 4 hours. Colour to match wiring devices.
4. Lighting controllers shall be equal to Eaton Type A202J[Allen-Bradley Type 500L, complete with hand-off-auto selector switches and pilot lights as indicated on the Drawings.
5. Lighting control system shall be as detailed on drawings.
6. Lighting control devices shall be equal to Wattstopper. Approved alternate manufacturers are Acuity, Leviton, Greengate, Lutron.
1. Line Voltage Sensors:
1. OS1: DWS-301 ON/OFF Dual technology wall switch occupancy sensor.

2. OS2: DW-311 0-10V Dimming dual technology wall switch occupancy sensor.
3. OS3: DT-355 Dual technology ceiling mount occupancy sensor.
7. On Site Functional Testing:
1. Upon completion of the installation of all lighting control devices and lighting control systems, including the work of Others, the Electrical Contractor is to provide certification that all devices installed are properly placed within the space and that performance adjustments have been made to the devices such that they are properly calibrated and perform as per drawing requirements.
2. The certification provided by the contractor is to include confirmation that the individual responsible for testing the devices and systems has not been directly involved in the design or construction of the project.
3. Required testing procedures shall include but not be limited to the following:
1. Occupancy Sensors: Confirm that occupancy sensors are properly placed in the space and adjustments have been made to ensure that the lights within the space only turn OFF upon vacancy and only turn ON when the space becomes occupied.
2. Timeclocks and programmable controls: liaise with the Building Tenant to confirm the time of day programming requirements and confirm that the schedules comply with the Tenant's requirements.
3. Photocontrols: Confirm that the location of photocontrols are properly situated to suitably control the lighting within the space and that the lighting reacts appropriately when daylight provides sufficient illumination within the space.
24. EXIT AND EMERGENCY LIGHTING
1. Provide an exit and emergency lighting system consisting of individual solid state battery units, remote heads and exit lights in accordance with the local Building Code and local requirements and/or bylaws.
2. Battery units shall be equal to Ready-Lite LDX12 series complete with long life lead batteries and Type RM-2-LD7 12V integral heads as indicated. Provide white finish unless noted otherwise. Capacities shall be as indicated on the Drawings.
3. Remote heads shall be equal to Ready-Lite RM-2 complete with 4W 12V LED lamps. Provide white finish unless noted otherwise.
4. Exit lights shall be equal to Ready-Lite (PICTOGRAM) RP-W-SP (self-powered) (Plastic) complete with LED lamps for 120/347V AC operation. Provide white finish unless noted otherwise.
5. Wiring to remote heads and exit light DC sockets shall be sized to prevent voltage drop in excess of 5%. Connect to battery units as indicated. Provide separate circuits for all exit lighting using separate raceways from non-emergency wiring.
6. Following completion of the exit and emergency lighting installation, conduct tests of each system component. Upon completion of the tests, issue to the Engineer a copy of the test report listing location of each component and confirmation that it will remain operational for 30 minutes.
7. Approved alternate manufacturers are Dual-Lite, Emergi-Lite, Lithonia, Lumalux, AmLite, Stango and Belco.
25. MECHANICAL AND OTHER EQUIPMENT
1. Provide wiring, connections, starters, disconnects and controls for mechanical equipment and for other equipment supplied and installed by others. All wiring to mechanical equipment shall be copper.
2. Provide flexible connections to mechanical equipment for vibration isolation. NMD-90 may be used for connections to ceiling mounted exhaust fans where permitted by Code. Connections to equipment roof mounted or in other damp or wet locations shall be liquid-tight.
3. In general, all control wiring will be by the Contractor responsible for the equipment being installed unless otherwise noted. Where 120 volt power is required for this equipment, wiring to the equipment terminals is the work of the Electrical Contractor. Electrical contractor to coordinate with General contractor for all electrically powered equipment not provided by Electrical contractor.
4. Refer to the Mechanical Drawings and Specifications to confirm electric characteristics and controls for all mechanical equipment and systems.
5. Receptacles for maintenance of equipment located on roof shall be protected by GFCI, supplied by a circuit dedicated to these outlets. CSA 5-20R configuration, located within 7.5m of equipment, located not less than 750mm above finished roof and protected from mechanical damage as per local electric code.
26. ELECTRIC HEAT
1. Baseboard heaters shall be equal to Ouellet OFM series 208 volt 1 phase complete with F-TB1 built-in thermostats as noted.
2. Force flow heaters shall be equal to Ouellet CAR series 208 volt 1 phase complete with built-in thermostats as noted.
3. Remote line voltage thermostats shall be equal to Ouellet OTL21SPST (mechanical) rated 22A at 120/208/240V.
4. Electric heaters shall have white finish, unless otherwise noted.
27. COMMUNICATIONS CABLE SYSTEM
1. Provide a conduit system for the Telephone and Data Companies to install cables in accordance with their standards. Arrange for prewiring as required.
2. Terminal boards shall be 3/4" (19mm), good one side, (fire resistant treated) painted, and shall be 4"0" x 8"0" (1.2m x 2.4m) unless otherwise noted.
3. Provide a cable management system consisting of single gang plastic ring at each outlet location (except milkwork outlets). Stub a minimum 3/4" (19mm) conduit from each outlet up into the accessible ceiling space, (and extend conduit to telephone board) unless indicated otherwise.
4. Provide CAT6 cable from the terminal board to each data outlet. Terminate in a CAT6 RJ45 modular jacks, colour to be white. Data jack coverplates shall match wiring device coverplates.
5. Data jacks shall be combined where possible to minimize number of faceplates used.
6. Feeders and other large data conduits shall be as shown on the Drawings.
7. All data conduits shall contain a nylon pull string.
28. FIRE ALARM SYSTEM
1. Install a complete non-coded single stage, addressable fire alarm system as shown on the Drawings. All components shall be UL and CSA listed, and as manufactured by Notifier or approved equal, and shall be installed in conformance with CANULC-SS24.
2. The control panel shall be Notifier NFS series complete with 24V DC power supply, system supervisory circuit, alarm initiating circuit(s) and alarm indicating circuit(s) as indicated, trouble circuit and auxiliary alarm and trouble relays. Panels shall have individual LED zone initiation indicators where utilized as the building annunciator.
3. Alarm horns shall be Notifier Spectralet series HMLA White.
4. Provide fault isolation modules when entering/exiting each fire alarm zone as required by CANULC-SS24.
5. Provide remote fire alarm booster power supplies where needed for the notification appliance power and signal circuits required by the drawings and specifications. Locate in service rooms/closets and include 120V power supplies. Note locations and circuits used on project record drawings.
6. Pull stations shall be Notifier NBS-12L-X, dual action.
7. Smoke detectors shall be Notifier FSP-951A.
8. Duct type smoke detectors shall be Notifier FSD-951-RA mounted in DNRA enclosure complete with mounting base, and sampling tube. Position a minimum of six duct wires from any upstream bend, obstructions or duct geometry changes. Provide 120V-15A circuit for auxiliary housing heater if required.
9. Intelligent input modules for connections of sprinkler system normally open contact devices shall be Notifier FMM-1A or FMM-101A.
10. Provide outlet boxes complete with blank cover plates at every fire alarm strobe light outlet location. Provide a lamacoid nameplate on every cover plate identifying the outlet as "Fire - Strobe light connection only." Connect the strobe light outlet to separate alarm indicating circuits with wiring sized to allow for installation of strobe lights in 20% of the suites.
11. Provide outlet boxes complete with blank cover plates at every smoke alarm strobe light location. Provide a lamacoid nameplate on every cover plate identifying the location as "Smoke - Strobe light connection only." Provide 120V wiring from smoke alarm(s) in suites for future installation of strobe lights.
12. Fire alarm strobe lights shall be Notifier Spectralet series.
13. Wiring shall minimum 300V insulated, RW90 copper in EMT, rigid PVC (where permitted by code) or Electrical Non-metallic tubing (ENT) where embedded in 2" (50mm) of concrete. AC-90 cable may be used where permitted by code. NMD-90 and FAS105 fire alarm cable with 105°C flame retardant PVC red jacket may be used where permitted by Code but shall not be used in non-combustible buildings. Wiring sizes shall be in accordance with manufacturer's recommendations.
14. Following completion of the fire alarm installation, arrange with the manufacturer's representative for inspection and operational tests of each system component. On completion of the inspection the manufacturer shall issue to the Owner and to the Engineer:
1. A copy of the inspecting technician's report.
2. A "Certificate of Verification".
3. Proof of liability insurance for the inspection.
4. Include all costs for inspection and testing.
15. Approved alternate manufacturers are Edwards, Simplex and Mircom.
16. All devices shall be white unless noted otherwise.
29. NAMEPLATES
1. Provide and install laminated plastic nameplates with engraved letters to identify the following:
1. Main switch
2. Meter
3. Panels
4. Disconnect Switches
5. Lighting Controls
- Nameplates/labels shall give either the designated name of the equipment (Panel A) or its function (Starter for Fan Coil Unit FC-1, Lighting Control, Exhaust Fan Switch, etc.).
2. Provide digitally printed adhesive labels to identify the following:
1. Receptacle circuit numbers.
2. Voice/data jack identification.
30. FIELD REVIEWS
1. Call the Engineer for field reviews as required by the local Building Code at the following stages of construction:
1. Rough-in.
2. Substantial completion.
3. Completion of deficiencies (if applicable).
4. Certificate of Acceptance from Electrical Inspection Department must be submitted.
5. Project Record Drawings must be submitted to Engineer for review and updating.
3. Failure to inform the Engineer of construction progress as described above may result in the Engineer being unable to issue an Assurance of Professional Field Review and Compliance (Schedule 'C') to the Building Authority, which is required prior to occupancy.
31. SEISMIC RESTRAINT
1. Provide a complete system of structural supports and bracing to all electrical equipment to comply with Part 4, Structural Design, of the local building code.
2. Where drilling of the structure is required for anchorage requirements, the drilling shall be subject to the approval of the Structural Engineer.
3. Provide all required seismic bracing, supports, bolts, washers, nuts, etc. for conduits and conduit supports, cable tray and cable tray supports, Tack cable, etc.
4. Provide a system to secure all recessed luminaires independently from the suspended ceiling system. Luminaires shall be supported directly and laterally from the building structure above, using No. 12 gauge wire minimum.
32. SUBSTANTIAL COMPLETION
1. Prior to requesting substantial completion inspection, the following items must be complete:
1. Fire alarm verification certificate and technician's test report must be submitted.
2. Emergency lighting system must be operational and tested by Electrical Contractor and demonstrated to the engineer (if requested).
3. All exit lights must be installed and operational.
4. Certificate of Acceptance from Electrical Inspection Department must be submitted.
5. Project Record Drawings must be submitted to Engineer for review and updating.
6. Maintenance manuals must be submitted to Engineer for review.
7. All outlets must have coverplates installed.
8. All electrical equipment not located in service rooms must have covers and/or doors installed complete.
9. Any devices not installed must have the wiring made safe and terminated in an outlet box complete with cover.
10. All hallway and stairwell lighting must be fully operational.
11. Continuity of fire separations at electrical penetrations must be complete.
12. All seismic restraint requirements must be complete.
13. The generator set must be tested and commissioned as per Specification and the manufacturer's certificate must be provided indicating satisfactory operation.
2. If any of the above items have not been completed at the time of substantial completion inspection, and the letter of "Assurance of Professional Field Review and Compliance" cannot be issued, any costs for subsequent inspections will be charged to the Electrical Contractor.

NO.	DATE	ISSUED
1	DEC 19 / 25	ISSUED FOR REVIEW
2	JAN 08 / 26	ISSUED TO UTILITIES
3	FEB 27 / 26	ISSUED FOR 100% DD
4	JUN 19 / 26	ISSUED FOR 50% CD
5	JUL 20 / 26	ISSUED FOR BUILDING PERMIT
6	JUL 31 / 26	ISSUED FOR 90% CD
7	AUG 28 / 26	ISSUED FOR TENDER

NO.	DATE	SEPARATE REVISIONS

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DIMENSIONS: THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, AND IMMEDIATELY REPORT ANY ERRORS AND/OR OMISSIONS. DO NOT SCALE DRAWINGS.



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PROJECT:	UNICORN DAYCARE
MAPLE ROAD TRAIL, B.C.	
TITLE:	SPECIFICATION
DRAWN:	DRAWING N°:
SCALE:	AS NOTED
JOB N°:	25148.000
DATE:	AUG • 26
REV. N°:	E - 7

