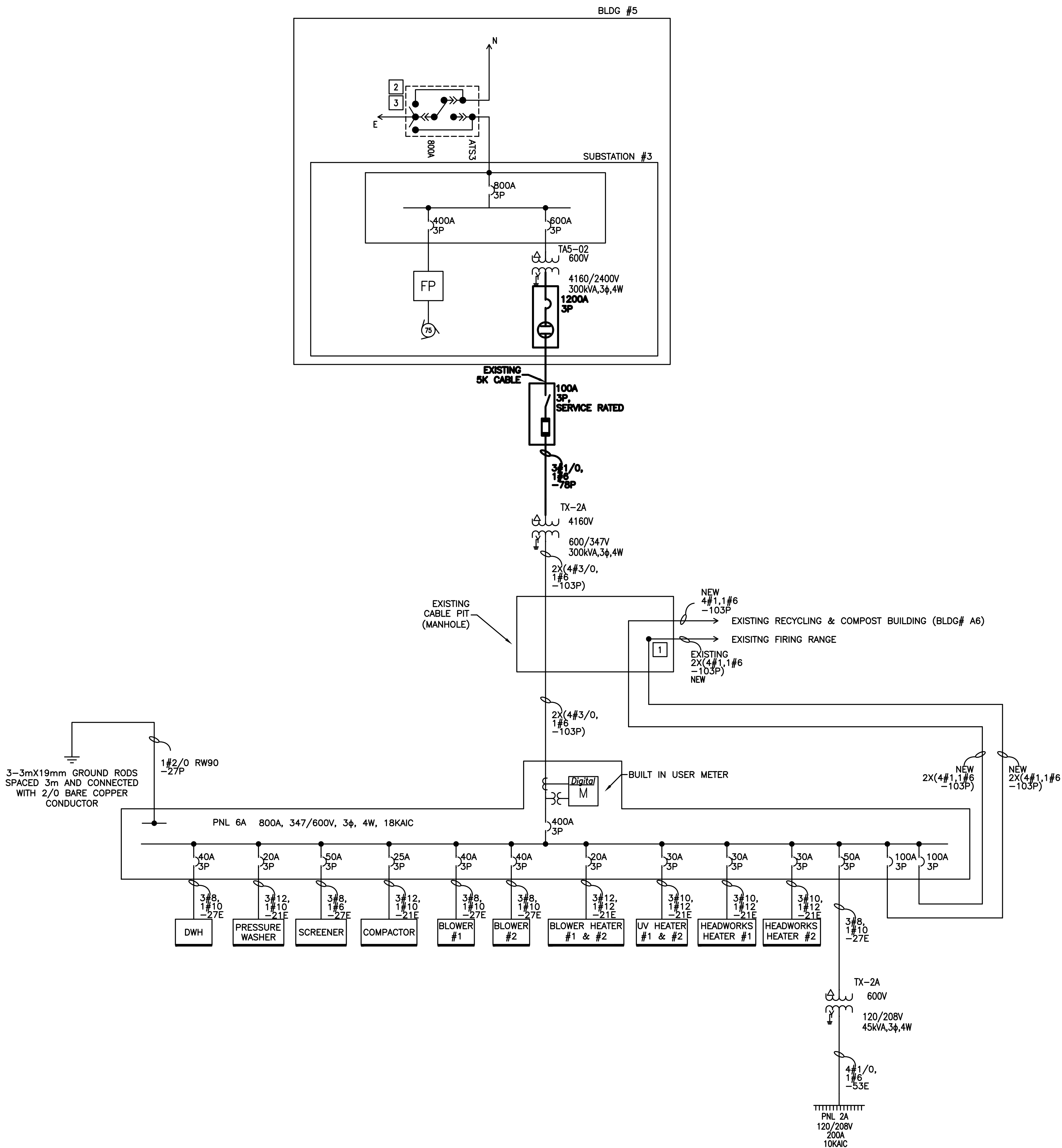


SINGLE LINE DIAGRAM – NEW WORK



REFERENCE NOTES:

- 1 SPLICE EXISTING CABLES WITH NEW CABLES COMING FROM NEW HEADWORKS/UV/BLOWER BUILDING INSIDE CABLE PIT.
- 2 CONTRACTOR TO SUPPLY AND INSTALL A REMOTE I/O AS PER PROCESS LOAD SHEDDING MONITORING DETAIL ON E12.
- 3 ATS-3 IS C/W SCHNEIDER POWERLOGIC ION7550 POWER METER.

SYMBOL	LEGEND
	WOOD UTILITY POLE C/W POLE NUMBER AS INDICATED
	1 ϕ POLE MOUNTED TRANSFORMER
	GROUNDING – CADWELDED TO METAL WELL CASING GROUND BAR
	GROUND RODS AT 3m SPACING
	METERING CURRENT TRANSFORMERS (CTS)
	METERING POTENTIAL TRANSFORMERS (PTS)
	UTILITY METER; '914425' – NB POWER METER #
	DIGITAL UTILITY METER
	DISTRIBUTION PANELBOARD; PANEL NAME AS INDICATED
	CIRCUIT BREAKER
	TRANSFORMER DELTA-WYE GROUNDED
	CONTACTOR; 'C'–COIL
	DISCONNECT SWITCH
	FUSE
	MAGNETIC MOTOR STARTER; '0' – NEMA STARTER SIZE
	GENERATOR
	GENERATOR CONNECTION – RECEPTACLE AND PLUG
	DIRECT CONNECTION
	3 ϕ MOTOR; '5' – INDICATES HP RATING
	1 ϕ MOTOR; '1/3' – INDICATES HP RATING
	MOTOR STARTER
	EQUIPMENT & LOAD
	ELECTRICAL ENCLOSURE
	BRANCH CIRCUIT PANELBOARD
	AUTOMATIC TRANSFER SWITCH C/W ISOLATION BYPASS
	MANUAL TRANSFER SWITCH; 'A'–AUTOMATIC, 'E'–EMERGENCY, 'L'–LOAD, 'N'–NORMAL
	COMMUNICATIONS ENTRANCE BOARD
	UNDERGROUND WIRING & CONDUIT
	SURFACE WIRING & CONDUIT
	TRANSIENT VOLTAGE SURGE SUPPRESSOR
	SPLITTER
	RECEPTACLE FOR GENERATOR CONNECTION
	PHOTOCELL
	BUILDING EXTERIOR WALL
	RECEPTACLE
	SINGLE POLE SWITCH
	MAST AND WEATHERHEAD
	ANTENNA

ELECTRICAL ENTRANCE LOAD CALCULATION
WWTP Building
C22.1-18 (24TH EDITION)

Step 1(8-210 a): Basic Load (Breakdown your building in different occupancies, if applicable)

Occupancy Names	Occupancy Types	Watts per m2	Demand factor, % (Feeder)	Area (m2)	Watts (kW)
WWTP Building	Industrial and commercial	25	100	378	9,450
Total					9,450

Step 2 (8-210 b): Special Loads (Add all special loads as electric space-heating, air-conditioning, motor loads, show window lighting, etc and use demand factors permitted by CEC)

Loads	Connected Load (kW)	Demand Factor	Quantity	Demand Load (kW)
DWH	27.00	0.75	1	20.25
Pressure Washer	9.34	1	1	9.34
Screener	22.84	1	1	22.84
Screw Compactor	11.42	1	1	11.42
Mechanical Loads	4.61	1	1	4.61
Fire Range (Ex Bldg)	20.00	1	1	20.00
Recyc. & Compost.	50.00	1	1	50.00
Bldg (Ex Bldg #A6)	22.84	1	2	45.67
Aeration Blower	78.00	0.75	1	58.50
Heating				
Total				242.63

Step 3: Electrical Entrance Ampacity Calculation	
Total Load (kW)	252.08 kW
Voltage	347/600, 3 ϕ Volts
Ampacity	242.56 Amps
Ampacity w/ correction factor (80% rating)	303.20 Amps
Electrical Entrance Ampacity Size	400 Amps

ELECTRICAL ENTRANCE LOAD CALCULATION
TA5-02 Transformer
C22.1-18 (24TH EDITION)

Demand Table	
Approximated Gym Max Load	93.40 kW
New WWTP Building Load	252.10 kW
Total Load (kW)	345.50 kW

DEMAND TABLES – NEW WORK



3	ISSUED FOR TENDER	06/17/2022
2	ISSUED FOR RS4 99% SUBMISSION	10/30/2020
1	ISSUED FOR RS4 66% SUBMISSION	02-28/2020
0	ISSUED FOR RS3 SUBMISSION	08-17/2018
revisions		date
project		project

SEWAGE TREATMENT
UPGRADES
SPRINGHILL INSTITUTION

drawing dessin

ELECTRICAL
SINGLE LINE
DIAGRAM

designed	EH	conçu
date	2022-06-17	
drawn	GS	dessiné
date	2022-06-17	
approved	DD	approuvé
date	2022-06-17	
Tender		Soumission
PWGSC Project Manager	Administrateur de projets TPSGC	
project number		no. du projet
R.061876.001		
drawing no.		no. du dessin