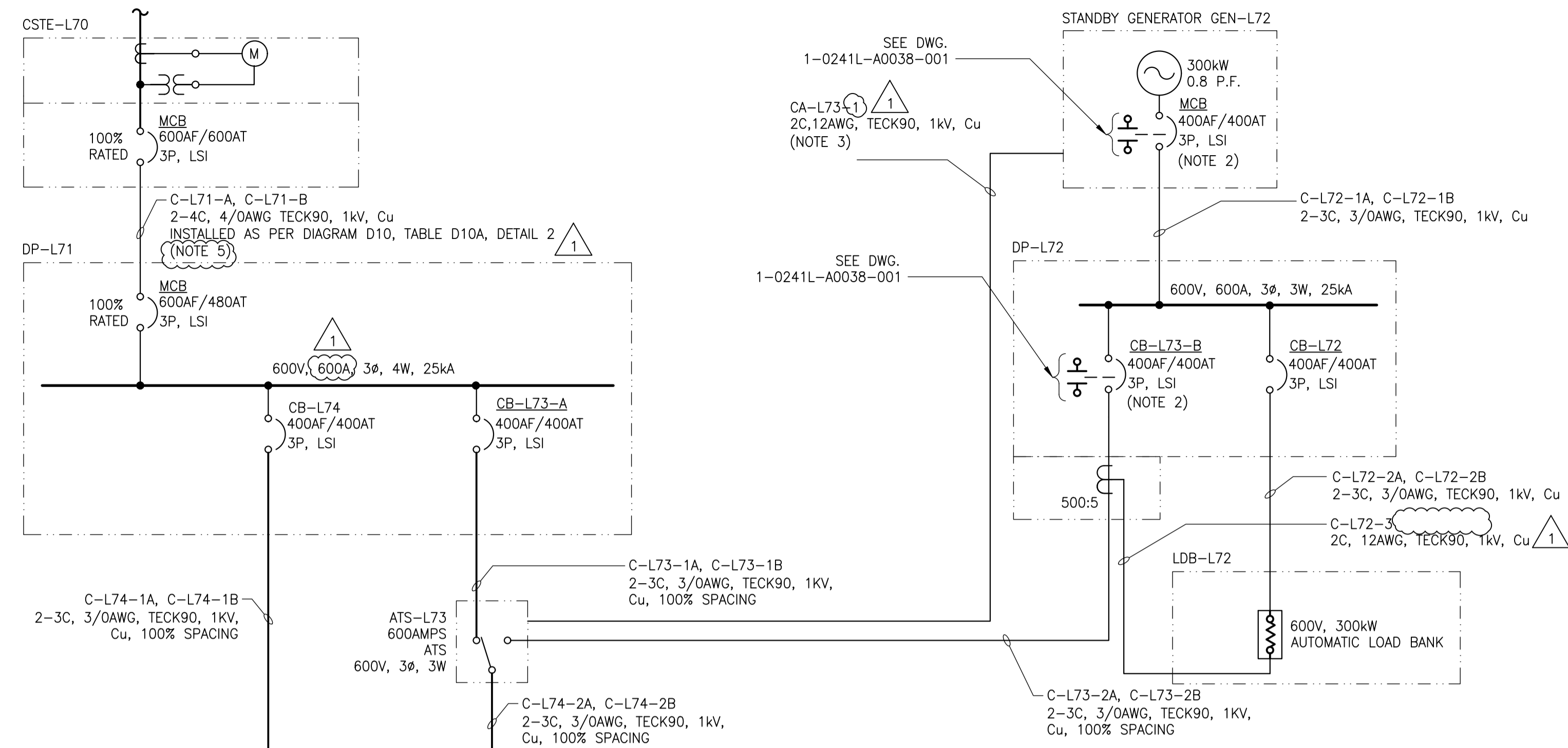


PAD-MOUNTED 300kVA TRANSFORMER  
SERVICE BY MANITOBA HYDRO



**BREAKER PROTECTION SETTINGS**

CIRCUIT BREAKER	MANUFACTURER	MODEL	TRIP UNIT	FRAME	SENSOR/TRIP UNIT	LTPU (tr)	LTD (tr)	STPU (tsd)	STD (tsd)	INST (ti)
CSTE-L70.MCB	SCHNEIDER ELECTRIC	POWERPACT P SERIES	MICROLOGIC 5.3A (AMMETER)	600A	600A					
DP-L71.MCB	SCHNEIDER ELECTRIC	POWERPACT P SERIES	MICROLOGIC 5.3A (AMMETER)	600A	480A					
DP-L71.CB-L74	SCHNEIDER ELECTRIC	POWERPACT L SERIES	MICROLOGIC 3.3S	400A	400A					
DP-L71.CB-L73-A	SCHNEIDER ELECTRIC	POWERPACT L SERIES	MICROLOGIC 3.3S	400A	400A					
MCC-L74.MCB-A	SCHNEIDER ELECTRIC	POWERPACT L SERIES	MICROLOGIC 5.3A (AMMETER)	400A	400A					
MCC-L74B.MCB-B	SCHNEIDER ELECTRIC	POWERPACT L SERIES	MICROLOGIC 5.3A (AMMETER)	400A	400A					
GEN-L72.MCB	(BY SUPPLIER)	(BY SUPPLIER)	(BY SUPPLIER)	400A	400A					
DP-L72.CB-L73-B	SCHNEIDER ELECTRIC	POWERPACT L SERIES	MICROLOGIC 3.3S	400A	400A					
DP-L72.CB-L72	SCHNEIDER ELECTRIC	POWERPACT L SERIES	MICROLOGIC 3.3S	400A	400A					

HOLD PENDING ARC FLASH STUDY

**NOTES:**

- VENDOR SUPPLIED DOMESTIC WATER PUMP SKID, NOT ALL PARTS ARE SHOWN.
- PROVIDE AUXILIARY CONTACT FOR MONITORING BREAKER STATUS.
- CONTROL CABLE PROVIDED FROM ATS TO GENERATOR FOR GENERATOR START SIGNAL. SEE DRAWING 1-0241L-A0038-001.
- DISCONNECT TO BE RATED FOR SUITABLE USE IN A ZONE 2, GROUP IIB, CATEGORY 1 HAZARDOUS ENVIRONMENT SEE DWG. 1-0241L-E0006-001.
- AMOUNT OF CABLE ABOVE GROUND SHALL NOT EXCEED 10% OF THE CIRCUIT LENGTH OR 3 METERS, WHICHEVER IS LESS AS PER CSA C22.1 RULE 4-004 16 & 17. INFORM CONTRACT ADMINISTRATOR IF CABLE LENGTH ABOVE GROUND WILL BE EXCEEDED.

**FAULT CURRENT CALCULATION**

300kVA TRANSFORMER:	Z = 2%
600V SYSTEM SHORT CIRCUIT AMPACITY	$\frac{1}{\sqrt{3} \left( \frac{2\%}{300kVA} \right)} 600 = 14.43kA$
	PROVIDE 25kA MINIMUM

- \* THIS IMPEDANCE VALUE IS BASED ON THE VALUE PROVIDED UNDER THE MANITOBA HYDRO ELECTRICAL CODE, 10TH EDITION.
- \* CONTRACTOR AND MANUFACTURER TO ENSURE ALL FUSES AND BREAKERS ARE AN APPROVED CSA SERIES TESTED COMBINATION.

**LOAD CALCULATION**

PROCESS LOADS	339.9
HVAC LOADS	80.5
BASIC LIGHTING AND POWER LOADS	9.8
TOTAL DEMAND LOAD (kVA)	430.2

**1 SINGLE LINE DIAGRAM**  
SCALE: N.T.S.

**GENERAL NOTE:**

- CONTRACTOR SHALL COORDINATE WITH MB HYDRO FOR ELECTRICAL SERVICE INSTALLATION.
- ALL BREAKER PROTECTION SETTINGS SHALL BE ADJUSTED BY THE CONTRACTOR TO MATCH THE SETTING SHOWN.

**FOR TENDER ONLY**  
NOT TO BE USED FOR CONSTRUCTION

**ENGINEERS GEOSCIENTISTS MANITOBA**  
Certificate of Authorization  
KGS Group  
No. 245

B.M. ELEV.	
CONSTRUCTION COMPLETION DATE: YYYY MM DD	
DESIGNED BY	C. ROBINSON
CHECKED BY	J. BOUCHARD
DRAWN BY	F. AHMED
APPROVED BY	J. BOUCHARD
SCALE:	AS SHOWN
RELEASED FOR CONSTRUCTION	
DATE	2023/12/01
DATE	2024 07 12
NO.	1
ISSUED FOR ADDENDUM 2	DDW
NO.	0
ISSUED FOR TENDER	JAB
NO.	
REVISIONS	
DATE	
BY	

**KGS GROUP**

DESIGNED BY: C. ROBINSON  
CHECKED BY: J. BOUCHARD  
DRAWN BY: F. AHMED  
APPROVED BY: J. BOUCHARD  
SCALE: AS SHOWN  
RELEASED FOR CONSTRUCTION  
DATE: 2023/12/01  
DATE: 2024 07 12

ENGINEER'S SEAL  
CONSULTANT DRAWING NUMBER  
23-0107-009\_E1.1

**THE CITY OF WINNIPEG**  
WATER AND WASTE DEPARTMENT  
ENGINEERING DIVISION

CONSTRUCTION OF A NEW WASTEWATER LIFT STATION - CENTREPORT SOUTH  
REGIONAL WATER AND WASTEWATER SERVICING PHASE 1A (CONTRACT 1A)  
ELECTRICAL  
SINGLE LINE DIAGRAM

CITY DRAWING NUMBER: 1-0241L-E0001-001  
SHEET 1 OF 1

NO.	DRAWING NUMBER	REFERENCE DRAWING TITLE
10		
9		
8		
7		
6		
5		
4		
3		
2		
1		