

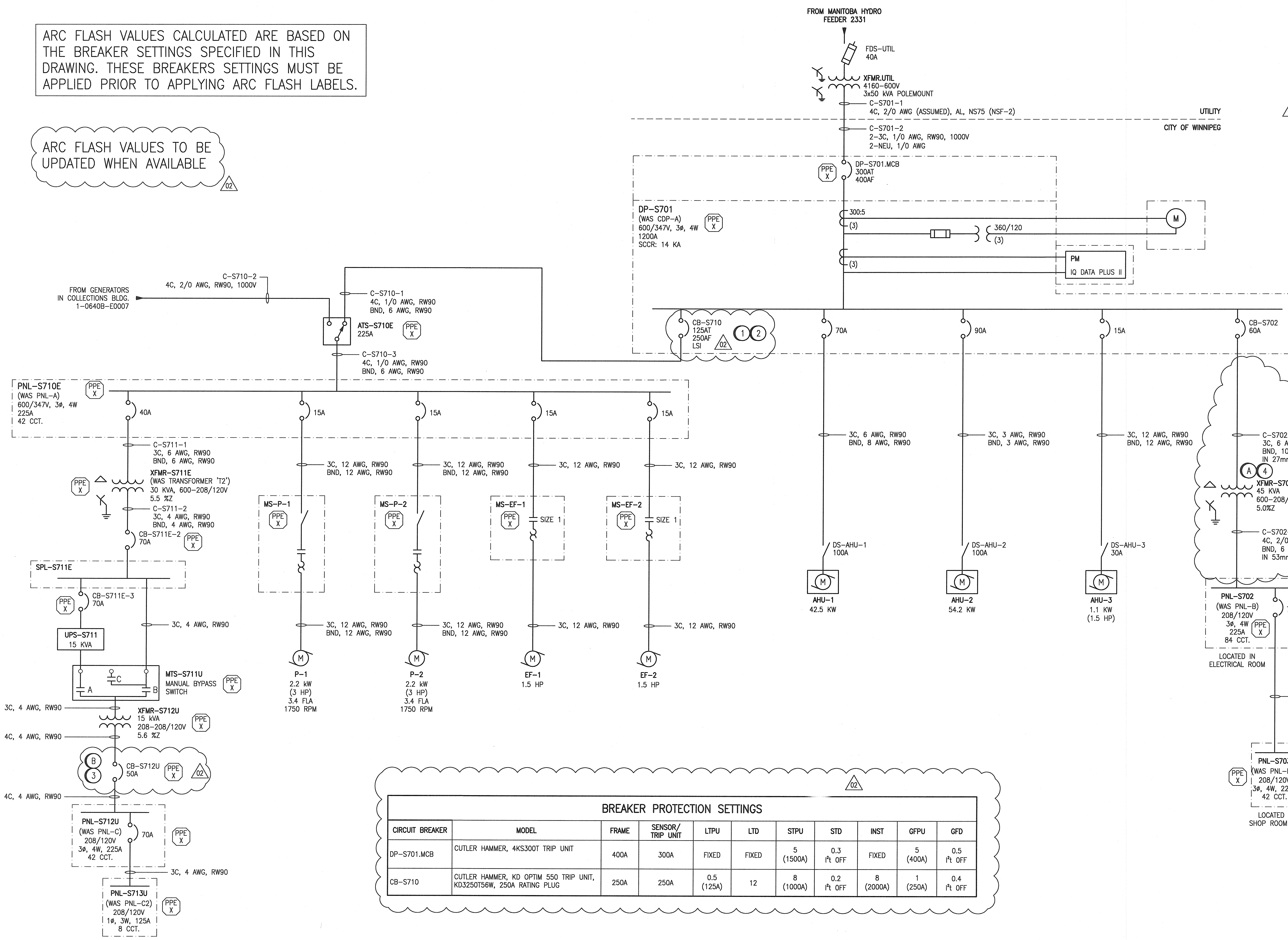
ARC FLASH VALUES CALCULATED ARE BASED ON THE BREAKER SETTINGS SPECIFIED IN THIS DRAWING. THESE BREAKERS SETTINGS MUST BE APPLIED PRIOR TO APPLYING ARC FLASH LABELS.

ARC FLASH VALUES TO BE UPDATED WHEN AVAILABLE

LEGEND:  
 HAZARD/RISK CATEGORY

- CONSTRUCTION NOTES:**
- REMOVE EXISTING 100A K-FRAME BREAKER. REUSE EXISTING CONNECTOR KIT AND INSTALL 250A FRAME KD OPTIM 550 BREAKER CB-S710 WITH 250A RATING PLUG.
  - REPLACE EXISTING COVERPLATE TO ACCOMMODATE TRIP UNIT.
  - PROVIDE 50A WALL-MOUNTED BREAKER CB-S712U TO MEET CEC CODE REQUIREMENTS. MODEL: SQUARE D, HDL36050. MODIFY EXISTING CABLING TO TERMINATE AT BREAKER LINE AND LOAD SIDE TERMINALS.
  - PROVIDE NEW 45KVA TRANSFORMER XFMR-S702. LOCATE TRANSFORMER IN SUITABLE LOCATION IN CONTROL CENTRE BUILDING ELECTRICAL ROOM. PROVIDE NEW CABLING AND CONDUIT TO AND FROM TRANSFORMER. PROVIDE ALL NECESSARY MOUNTING ACCESSORIES.

- DEMOLITION NOTES:**
- DEMOLISH EXISTING 45 KVA TRANSFORMER LOCATED IN PLENUM ALONG WITH ALL ASSOCIATED CABLING AND CONDUIT.
  - DEMOLISH EXISTING 70A BREAKER. EXISTING LINE AND LOAD SIDE CABLES TO REMAIN.



**BREAKER PROTECTION SETTINGS**

CIRCUIT BREAKER	MODEL	FRAME	SENSOR/TRIP UNIT	LTPU	LTD	STPU	STD	INST	GFPU	GFD
DP-S701.MCB	CUTLER HAMMER, 4KS300T TRIP UNIT	400A	300A	FIXED	FIXED	5 (1500A)	0.3 ft OFF	FIXED	5 (400A)	0.5 ft OFF
CB-S710	CUTLER HAMMER, KD OPTIM 550 TRIP UNIT, KD3250T56W, 250A RATING PLUG	250A	250A		0.5 (125A)	8 (1000A)	0.2 ft OFF	8 (2000A)	1 (250A)	0.4 ft OFF

- NOTES:**
- THIS DRAWING SUPERCEDES DRAWING MCP-259.
  - THIS DRAWING IS BASED UPON AN EXISTING INSTALLATION.
  - PNL-S712U FEEDS CRITICAL LOADS. ANY OUTAGE OF UPS PANEL MUST BE LESS THAN 30 MINUTES IN DURATION AND COORDINATED WITH THE CITY TO DETERMINE OPTIMAL TIME FOR OUTAGE.
  - CLOUDED PORTIONS OF THIS DRAWING INDICATE WORK TO BE COMPLETED. EITHER REMOVALS OF ADDITION AS INDICATED. REFER TO DEMOLITION AND CONSTRUCTION NOTES.



NO.	REVISIONS	DATE	DESIGN	CHECK
02	ISSUED FOR TENDER AND CONSTRUCTION	2019/10/18	VE	KS
01	REPLACED CB-S710, INSTALLED CB-S712U	2013/09/13	VE	CJR
00	ISSUED FOR CITY USE	2013/08/08	VE	CJR

**SNC-LAVALIN INC.**  
 148 Nature Park Way  
 Winnipeg, MB, Canada R3P 0X7  
 204-786-8080

DESIGNED BY: V. ELIMBAN  
 DRAWN BY: M.J. PERSSON  
 SCALE: NTS  
 DATE: 2013/05/29  
 CONSULTANT NO.: 113292-0017-47DD-0001

CHECKED BY: C. REIMER  
 APPROVED BY: C. REIMER  
 RELEASED FOR CONSTRUCTION BY: A. WEISS  
 DATE: 2019/10/18

ENGINEER'S SEAL  

 V. ELIMBAN  
 Member 34636  
 REGISTERED PROFESSIONAL ENGINEER  
 01.18/2019 Rev.2

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

MCPHILLIPS CONTROL CENTRE

SINGLE LINE DIAGRAM

CITY DRAWING NUMBER: 1-0640S-E0001  
 SHEET: 001  
 REV: 02  
 SIZE: A1

1-0640B-E0007  
 1-0640S-E0002

SINGLE LINE, 600V GENERATORS AND SWITCHGEAR  
 PANEL SCHEDULES

DRAWING NUMBER: 1-0640S-E0002  
 REFERENCE DRAWINGS