



6 April, 2015

Ms. Tracey Braun  
Environmental Assessment & Licensing Branch  
Conservation Department  
123 Main Street, Suite 160 Union Station  
Winnipeg, Manitoba  
R3C 1A5

Ms. Braun,

Re: Manitoba Operations  
Utilities: River Pump House VFD / e-House

At this time Vale Canada Ltd. is requesting the approval of the Director of Environmental Assessment and Licensing to consider the enclosed Notice of Alteration submission as a minor alteration. The alteration is to install a new e-House adjacent to the existing River Pump House to house two new variable frequency drives (VFDs) and other electrical switchgear. I've attached for your review the preliminary drawings for the e-House.

Please feel free to contact me for any clarification on this submission.

Regards,

A handwritten signature in cursive script that reads 'VBuda'.

Veronica Buda  
Senior Specialist Projects  
Vale Manitoba Operations  
PMO Office  
P.O. Box 5000  
Thompson, MB  
R8N1P3  
tel: (204) 778-2127  
e-mail: [veronica.buda@vale.com](mailto:veronica.buda@vale.com)

## **Project Description**

### **Context:**

The existing lineup equipment and switchgear at the River Pump House is old and unreliable and it does not have the capability for controlling the speed of the pumps motors. Without the ability to control the speed of the motors, the flow rate also cannot be adjusted based on water demand. Low flow rates cause high inefficiency in the system because the electrical consumption of the pumps motors will not change significantly even when the water demand decreases.

Currently the control and monitoring communication system of the existing River Pump House is not functional.

In order to improve the efficiency of the pumps motors, and to allow for lower flow rates, an e-House with flexible connection to the existing Pump House complete with new variable frequency drives (VFD's), programmable logical controllers (PLC's), Switchgear, etc. will be procured. The new e-house will be installed south of the existing River Pump House.

### **Project Summary:**

The scope of work of this project includes:

- Replacement of two existing across the line (ATL) pump starters with two Allen Bradley (AB) VFDs.
- Replacement of the other two remaining pump starters and switchgear with new equipment that will be installed in a new e-house.
- Procurement of a new e-House (electrical room) to house the VFDs and the rest of the new electrical equipment.
- Installation of a reliable control and communicating system to Utilities Substation. The new communication system will be able to provide remote monitoring status and control for the e-House / Pump House associated equipment.
- Testing / training and commissioning.
- Engineering / PMO services.

The installation and commissioning need to be completed during the August 2015 summer shutdown as the power outage, required for connecting the new e-House to the existing power system and the River Pump House, will affect the water supply. The switchover from the existing system to the new system will be performed in two stages: one pump leg (with one VFD controlled and one ACL pumps) at the time, to permit continuous water supply.



## **Project: T-1 Mine, Utilities: River Pump House VFD / e-House**

### **Health Effect:** Insignificant

All applicable Vale health and safety policies and procedures will apply to contract workers and anyone else working on site.

All work will be assigned to and completed by qualified personnel.

The working environment will be assessed on a day to day basis to monitor weather and surface conditions in order to plan work safely.

### **Environmental Effects:** Insignificant

#### **Terrestrial:**

Minimal surface leveling of the area adjacent to the existing pump house will occur in preparation for the installation of the pads for the new eHouse. The surface leveling will be confined to an existing restricted area surrounded by a chain link fence. There is very little vegetation present on site.

#### **Aquatic:**

The existing river pump house is between the river and the area to be leveled. No excavation material will enter the river as a result of the project.

#### **Atmospheric:**

No change in current atmospheric contributors' long term. During the leveling work there will be exhaust emissions from the heavy equipment. Leveling work will be done in July, 2015.

#### **Noise:**

No Change long term. During the leveling work there will an increase in noise levels from the heavy equipment. Leveling work will be done in July, 2015

#### **Community Impact:**

The City of Thompson will be informed of two separate time frames where the public will be requested to conserve water usage for a period of 4-6 hours, on each occasion, to allow the connection of the new facility to the existing infrastructure.

River  
Pumphouse

Thompson, MB

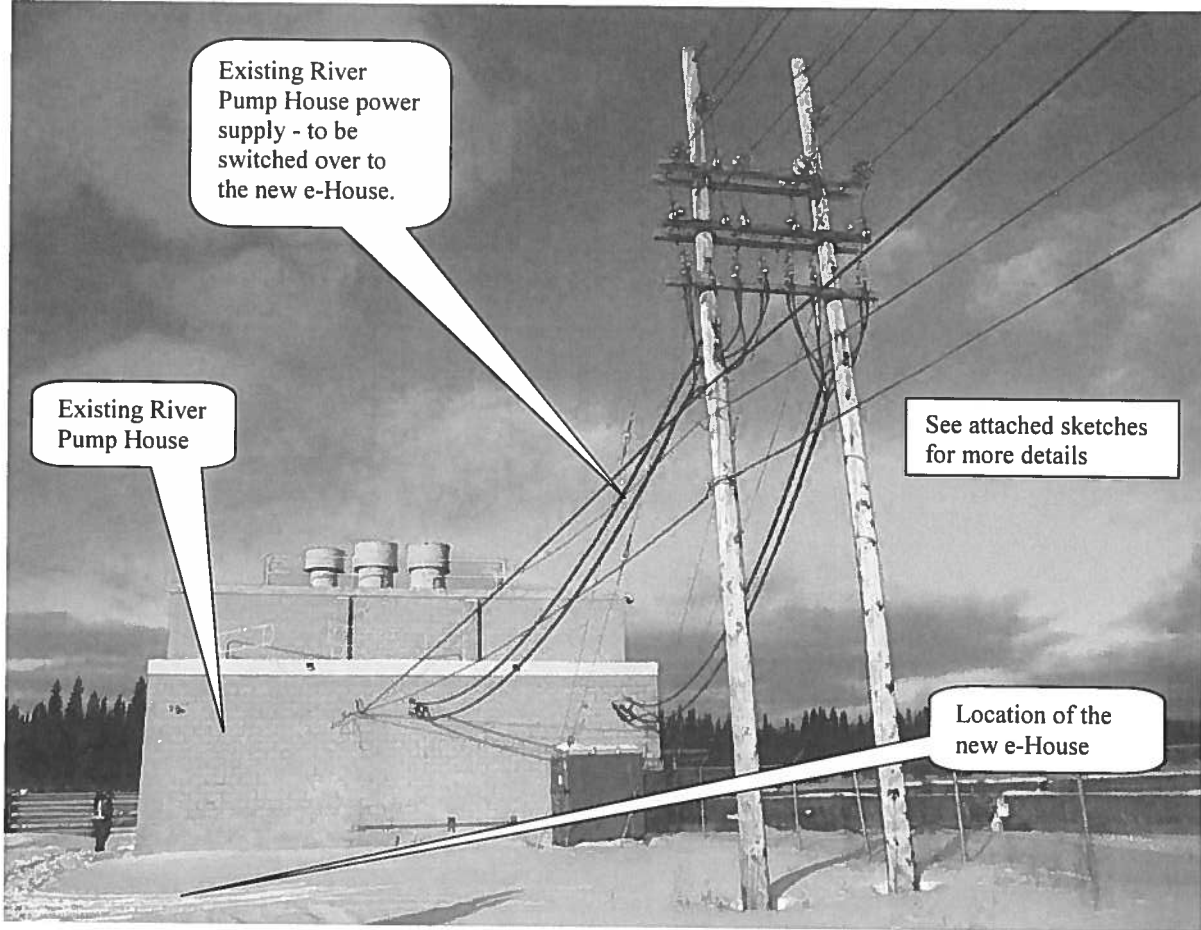
Image © 2015 DigitalGlobe

Imagery Date: 4/28/2014 55°43'43.51" N 97°51'52.10" W 4

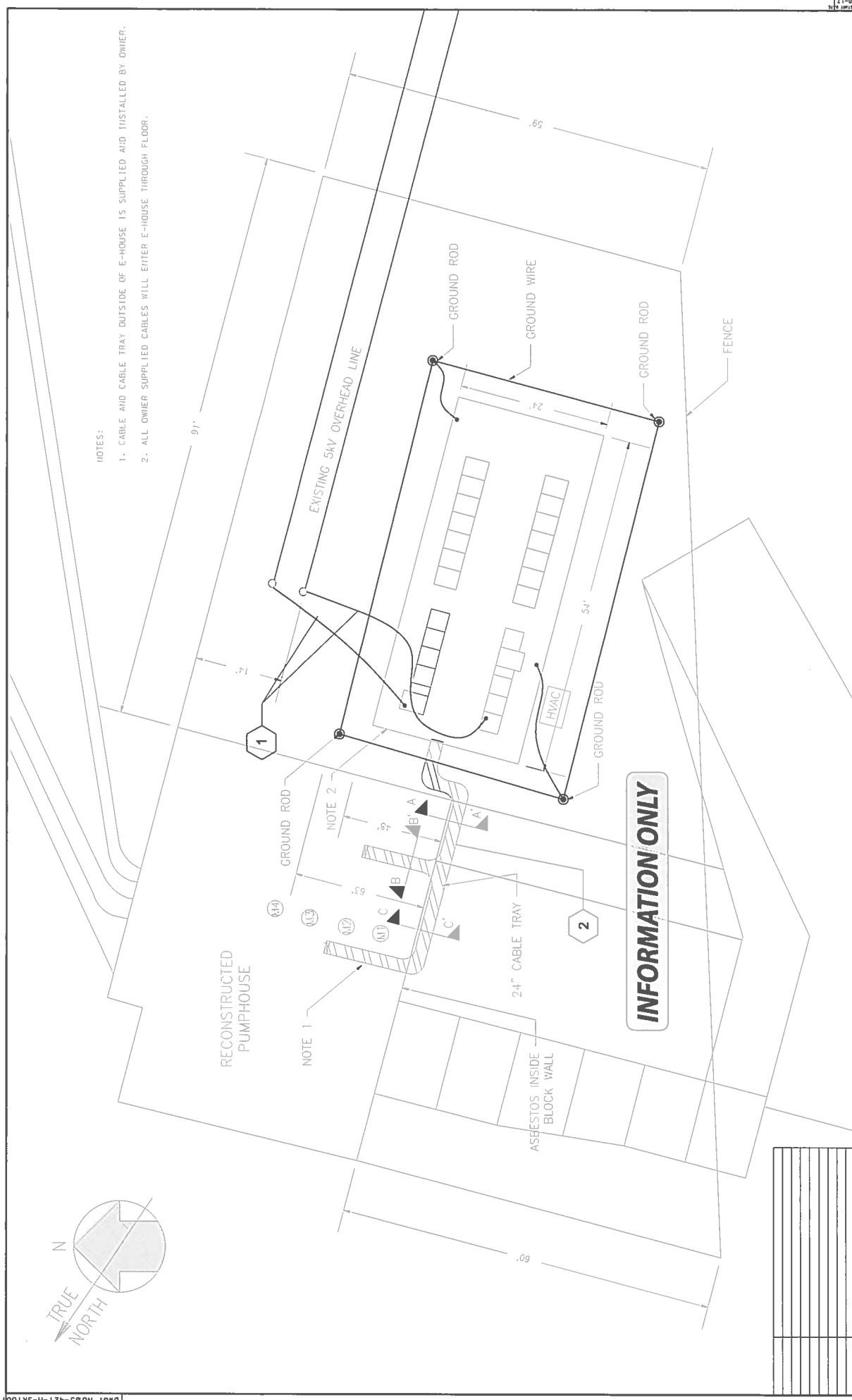
River  
Pumphouse

Image © 2016 DigitalGlobe

Image Date: 4/28/2014 55°44'22.68" N 97°53'03.42" W



**Proposed Construction Dates: 25 July – 30 Aug 2015**



**NOTES:**

1. CABLE AND CABLE TRAY OUTSIDE OF E-HOUSE IS SUPPLIED AND INSTALLED BY OWNER.
2. ALL OTHER SUPPLIED CABLES WILL ENTER E-HOUSE THROUGH FLOOR.

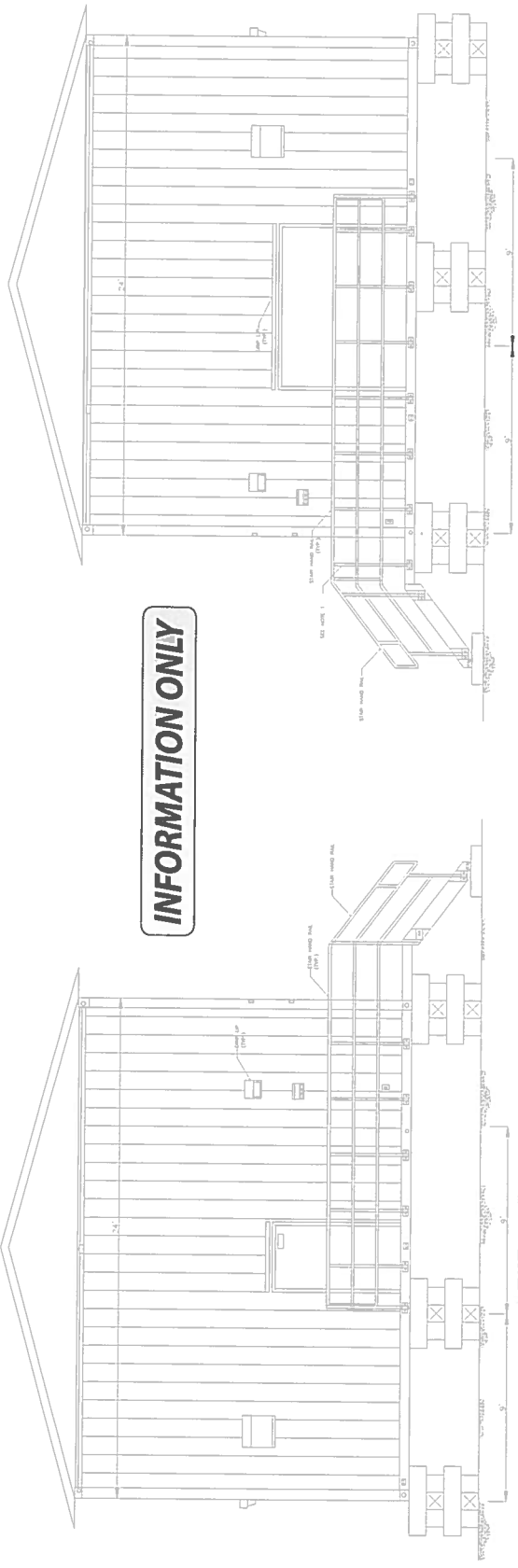
**INFORMATION ONLY**

REV.	DATE	DESCRIPTION	DATE	BY	APPROVED DESIGN	REVIEWED DESIGN	DIVISIONAL	SCALE	REV.
A	2014-10-13	ISSUED FOR REVIEW	2014-10-13	R. CRUZAT	C.G. ASAMUNDSON	C.G. ASAMUNDSON	421	1/8" = 1'-0"	ER12913
B	2014-10-13	ISSUED FOR PROPOSAL	2014-10-13	R. CRUZAT	C.G. ASAMUNDSON	C.G. ASAMUNDSON	421	1/8" = 1'-0"	ER12913
C	2014-10-13	ISSUED FOR REVIEW & PH	2014-10-13	R. CRUZAT	C.G. ASAMUNDSON	C.G. ASAMUNDSON	421	1/8" = 1'-0"	ER12913
B	2014-10-13	ISSUED FOR PROPOSAL	2014-10-13	R. CRUZAT	C.G. ASAMUNDSON	C.G. ASAMUNDSON	421	1/8" = 1'-0"	ER12913

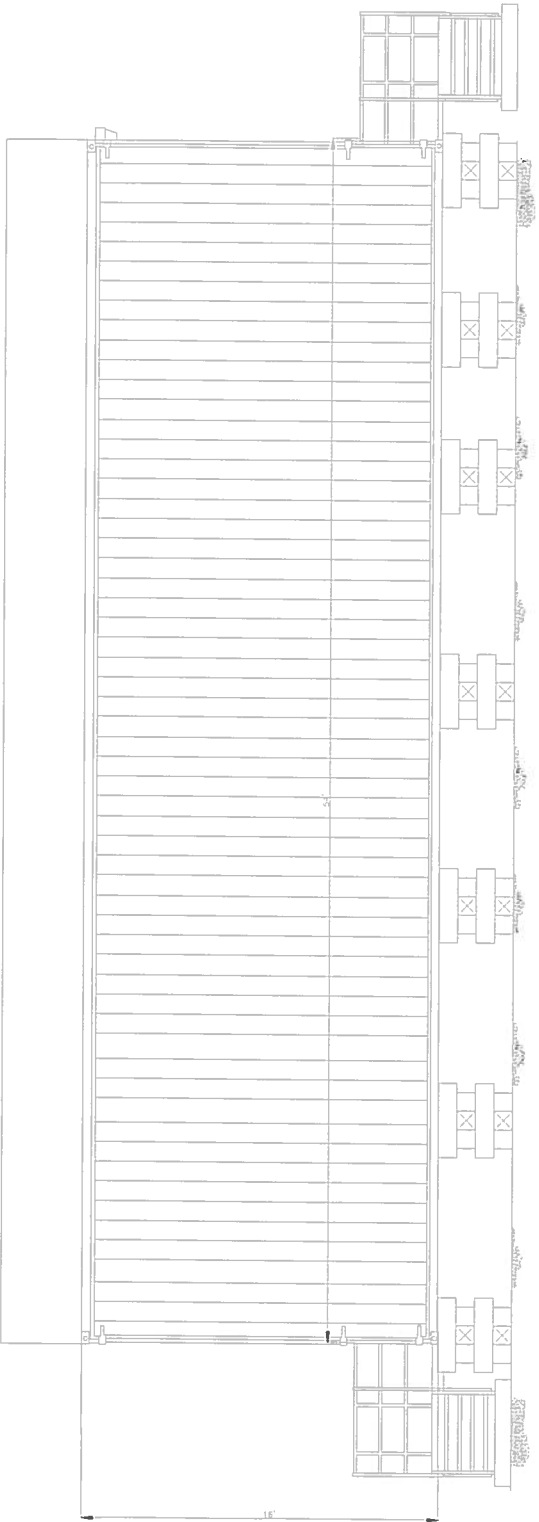
DWG. NO.	85-421-H-SK100
PROJECT	NEW E-HOUSE PLAN
DRAWING NO.	85-421-H-SK1007 D
SCALE	1/8" = 1'-0"
DATE	2014-10-13
DESIGNED BY	R. CRUZAT
CHECKED BY	C.G. ASAMUNDSON
APPROVED BY	C.G. ASAMUNDSON
DIVISIONAL	MANITOBA OPERATIONS
SUBSTATION	RIVER PUMPHOUSE
TITLE	POWER DISTRIBUTION

**INFORMATION ONLY**



LEFT VIEW  
SCALE: NTS

RIGHT VIEW  
SCALE: NTS



ELEVATION  
SCALE: NTS

- NOTES:
1. THE COMPLETE LIFTING NEEDS TO BE DESIGNED SO IT IS REMOVABLE TO ALLOW ACCESS TO THE DOUBLE DOOR WITH A FORKLIFT FOR REMOVING EQUIPMENT.

REV.	DATE	BY	DESCRIPTION
A	2014-11-18	C. ENGEL	ISSUED FOR REVIEW
B	2014-12-18	C. ENGEL	ISSUED FOR PROPOSAL
C	2014-12-18	C. ENGEL	ISSUED FOR TFR REVIEW & PHR
D	2014-12-18	C. ENGEL	ISSUED FOR PROPOSAL

DATE	APPROVED DESIGN	REVIEWED DESIGN
2014-11-18	C.G. ASHBRIDGE	C.G. ASHBRIDGE
2014-12-18	C.G. ASHBRIDGE	C.G. ASHBRIDGE
2014-12-18	C.G. ASHBRIDGE	C.G. ASHBRIDGE
2014-12-18	C.G. ASHBRIDGE	C.G. ASHBRIDGE

SCALE	DIVISIONAL	EMPLOYER	PROJECT
NTS	421	421	POWER DISTRIBUTION

DWG. NO.	PROJECT	DRAWING NO.	REV.
85-421-H-SKT05	MANITOBA OPERATIONS	85-421-H-SKT05	D

**VALE**  
MANITOBA OPERATIONS

RIVER PUMPHOUSE  
E-HOUSE ELEVATION