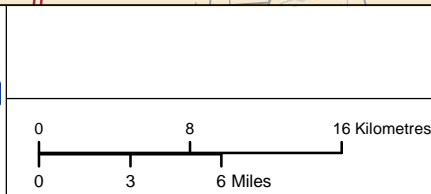
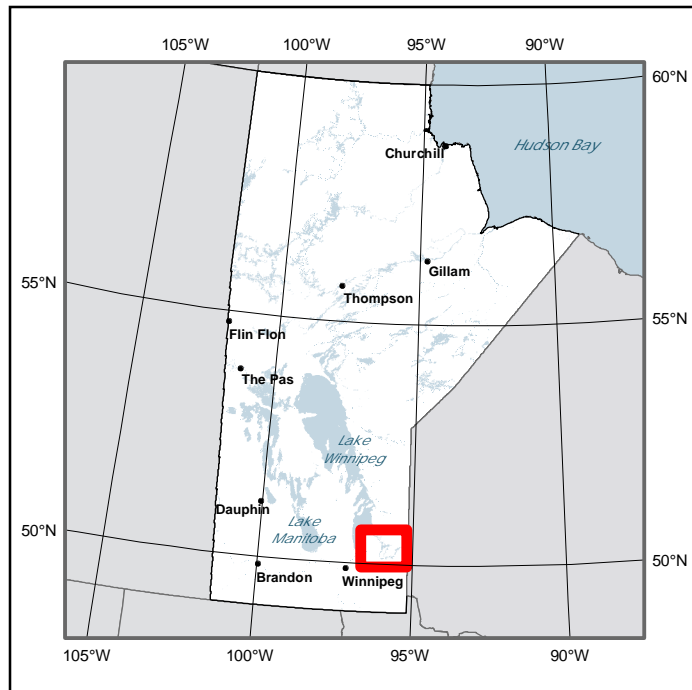


DATA SOURCE: Manitoba Hydro, KGS Acres		
DATE CREATED: 12 MAY 2011	CREATED BY: HPP - GIS & Special Studies	
REVISION NO: VERSION: 1.0	REVISION DATE: 25 MAY 2011	QA/QC: RHP, MWZ, BMP

**Pointe du Bois  
Spillway Replacement Project**  
Proposed and Existing General  
Arrangements

Figure:  
3.1





DATA SOURCE: Manitoba Hydro, Government of Canada, Province of Manitoba		
DATE CREATED: 02 FEB 2010	CREATED BY: HPP - GIS & Special Studies	
REVISION NO: VERSION: 1.0	REVISION DATE: 31 MAY 2011	QA/QC: RHP, MWZ

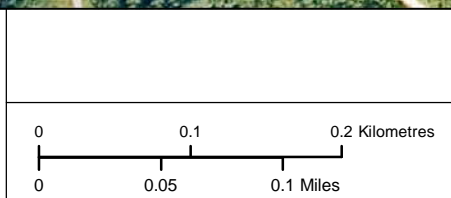
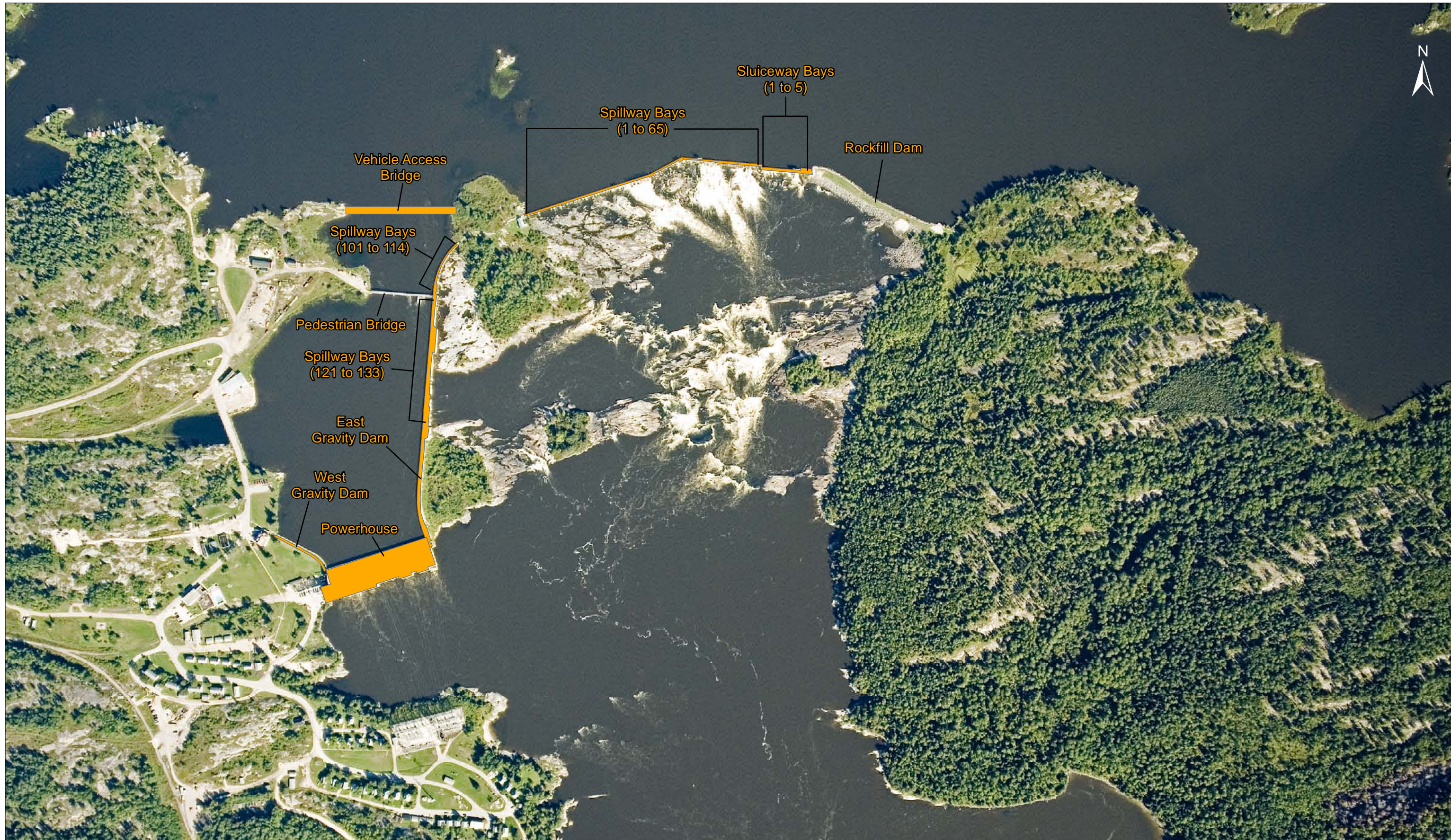
Legend	
ROAD - GENERAL	Pointe du Bois G.S.  Project Location
RAIL LINE	Provincial Parks
Generating Stations (G.S.)	Reserve Land

**Pointe du Bois  
Spillway Replacement Project**

**Project Location Map**

Figure:  
3.2





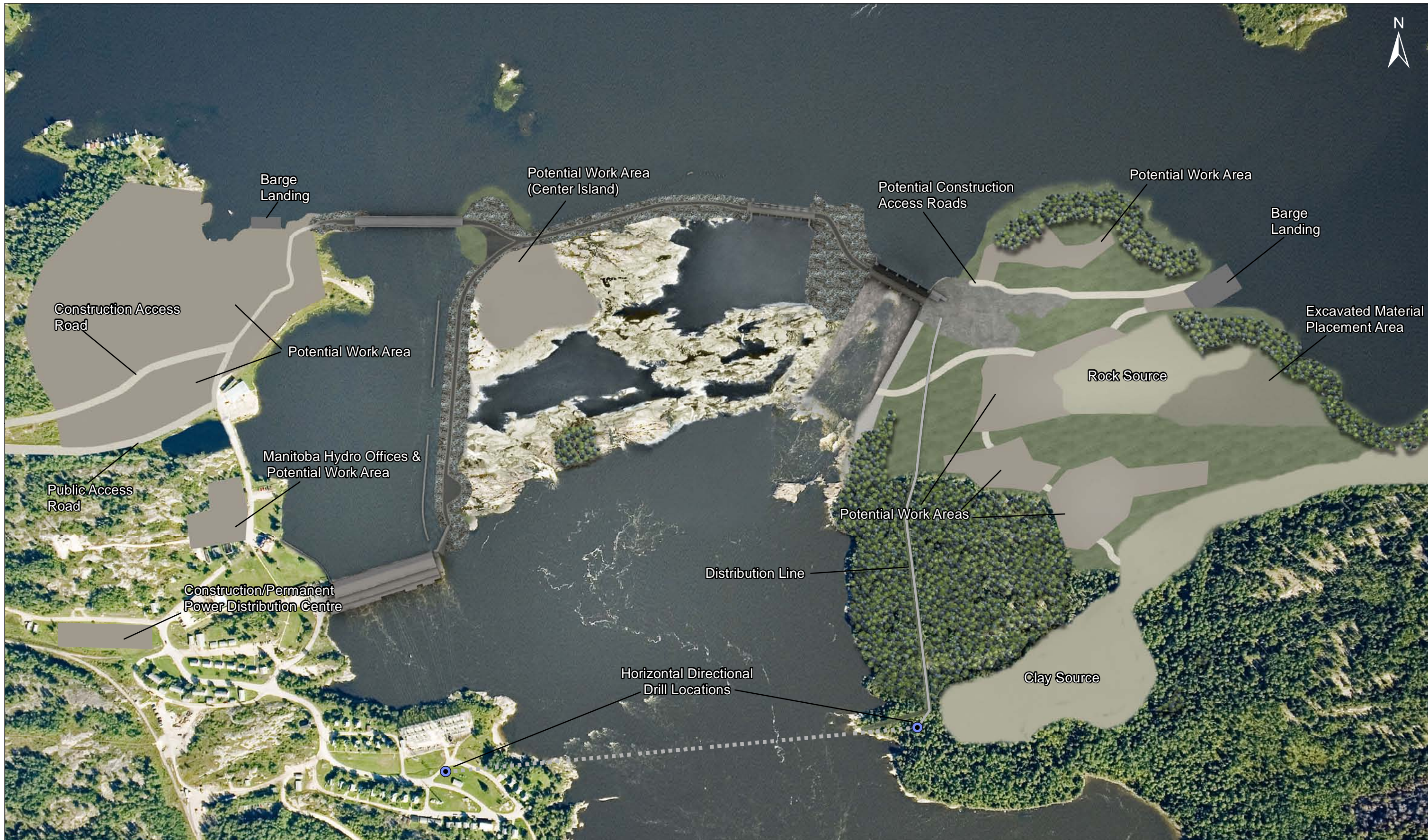
DATA SOURCE: Manitoba Hydro, KGS Acres		
DATE CREATED: 17 MAY 2011	CREATED BY: HPP - Pointe du Bois Planning	
REVISION NO: VERSION 1.0	REVISION DATE: 26 MAY 2011	QA/QC: RHP, MWZ, BMP

## Pointe du Bois Spillway Replacement Project

Existing Structures

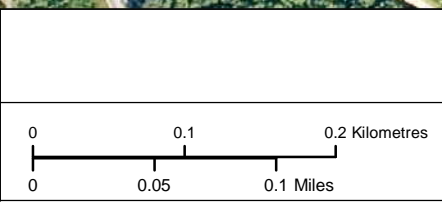
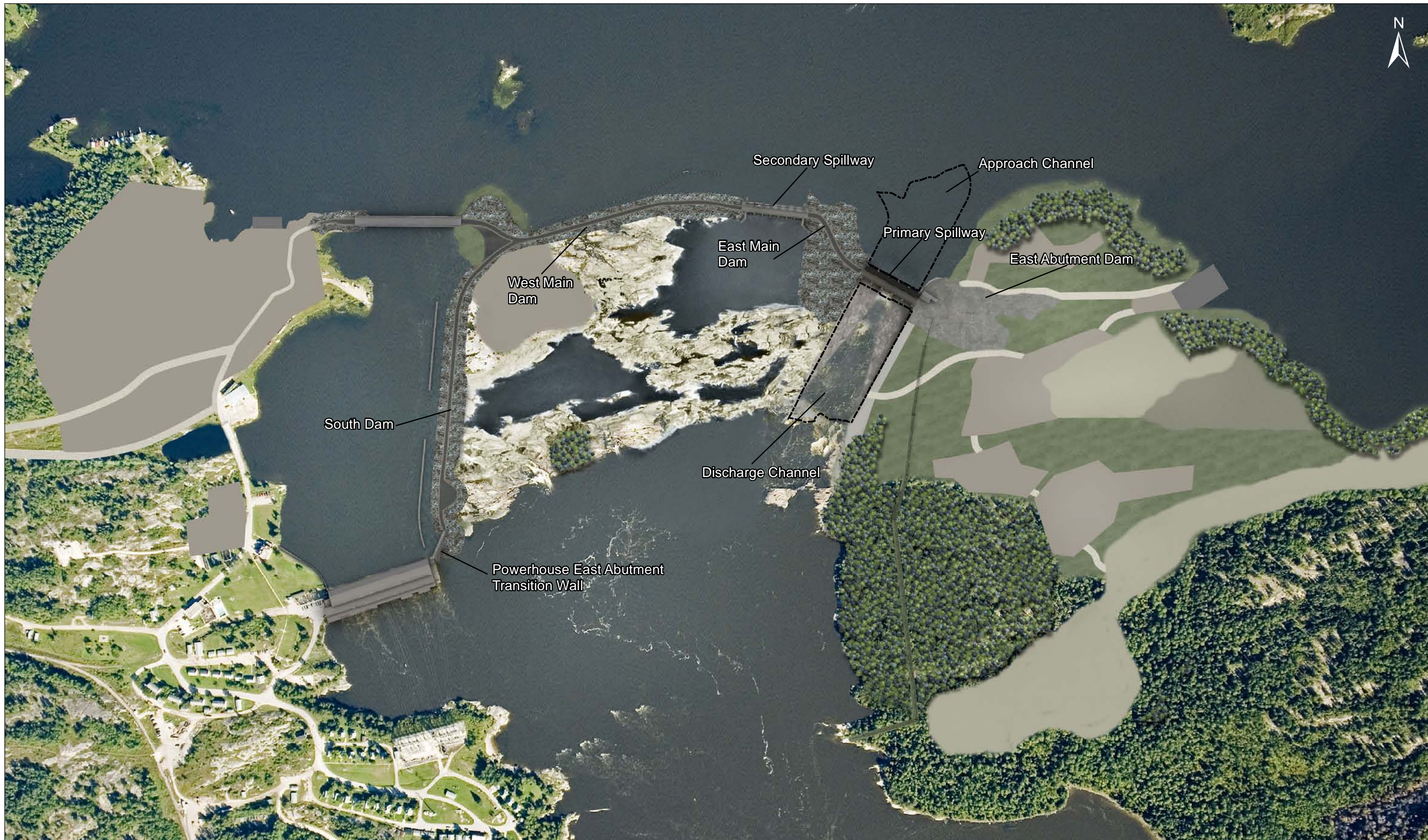
Figure:  
3.3





		DATA SOURCE: Manitoba Hydro, KGS Acres		<h2 style="text-align: center;">Pointe du Bois Spillway Replacement Project</h2>	<b>Figure:</b> 3.4
		DATE CREATED: 12 MAY 2011	CREATED BY: HPP - GIS & Special Studies		
		REVISION NO: VERSION: 1.0	REVISION DATE: 26 MAY 2011	QA/QC: RHP, MWZ, BMP	





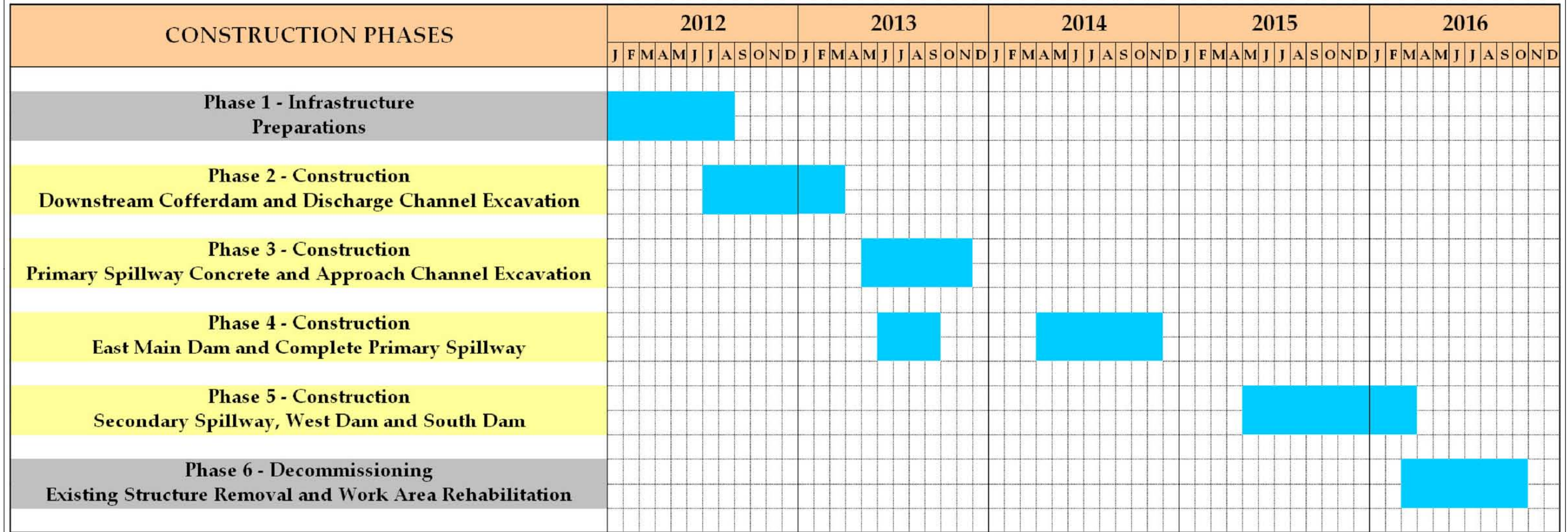
DATA SOURCE: Manitoba Hydro, KGS Acres		
DATE CREATED: 12 MAY 2011	CREATED BY: HPP - GIS & Special Studies	
REVISION NO: VERSION: 1.0	REVISION DATE: 31 MAY 2011	QA/QC: RHP, MWZ, BMP

## Pointe du Bois Spillway Replacement Project

### Principal Structures

Figure:  
3.5



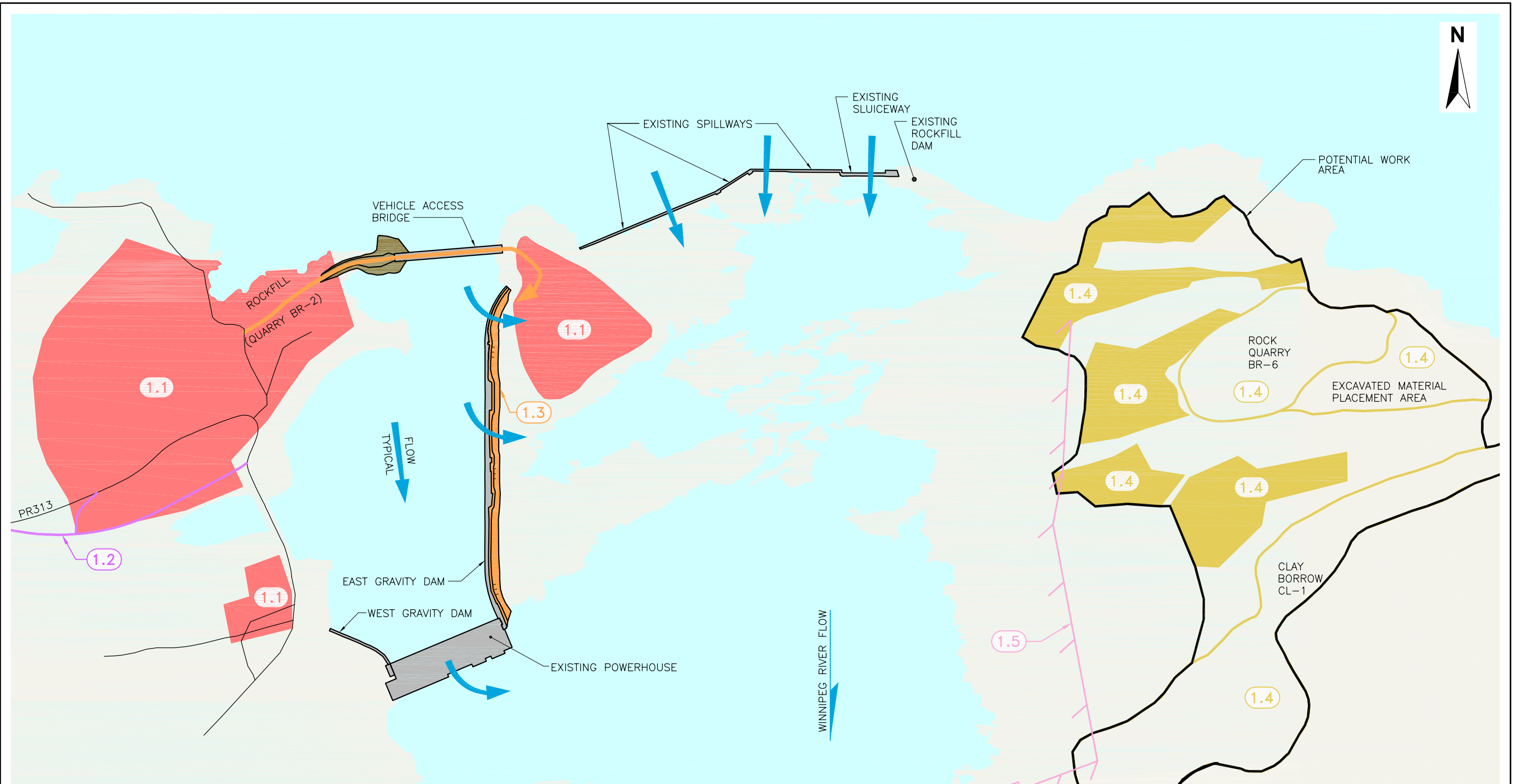


DATA SOURCE: Manitoba Hydro, KGS Acres		
DATE CREATED: 17 MAY 2011	CREATED BY: HPP - Pointe du Bois Planning	
REVISION NO: VERSION 1.0	REVISION DATE: 25 MAY 2011	QA/QC: RHP, MWZ, BHP

**Pointe du Bois  
Spillway Replacement Project**

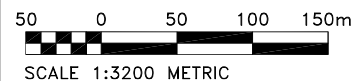
**Project Construction Phases**

Figure:  
3.6



**PHASE I**

- |   |   |
|---|---|
| 1.1 DEVELOP WEST SIDE WORK AREAS                | 1.4 DEVELOP EAST SIDE WORK AREAS INCLUDING BORROW SOURCES |
| 1.2 CONSTRUCT NEW LOCAL ACCESS ROAD             | 1.5 CONSTRUCTION POWER                                    |
| 1.3 CONSTRUCT EAST GRAVITY DAM ROCKFILL SUPPORT |   |



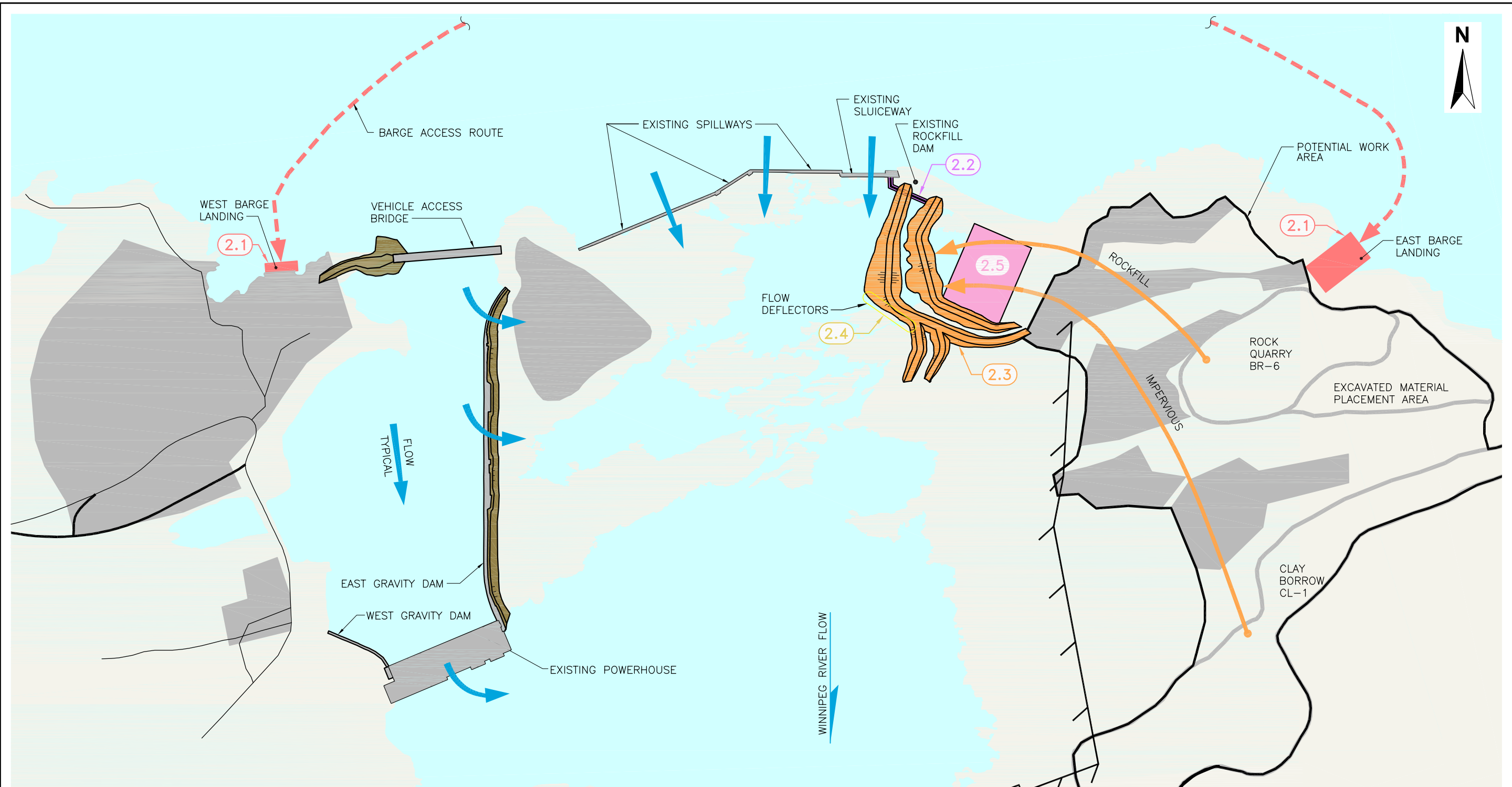
DATA SOURCE: Manitoba Hydro, KGS Acres		
DATE CREATED: 13 MAY 2011	CREATED BY: KGSA	
REVISION No. VERSION 1.0	REVISION DATE: 17 MAY 2011	QA/QC: RHP, MWZ, BMP

**Pointe du Bois  
Spillway Replacement Project**

**Phase 1  
Infrastructure Preparation**

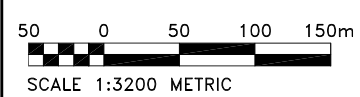
Figure:  
3.7A





**PHASE 2**

- 2.1 CONSTRUCT BARGE LANDINGS
- 2.2 CONSTRUCT SLUICEWAY TIE-IN WALL
- 2.3 CONSTRUCT DOWNSTREAM COFFERDAM
- 2.4 INCORPORATE EROSION PROTECTION/FLOW DEFLECTORS INTO DOWNSTREAM COFFERDAM
- 2.5 START DISCHARGE CHANNEL EXCAVATION



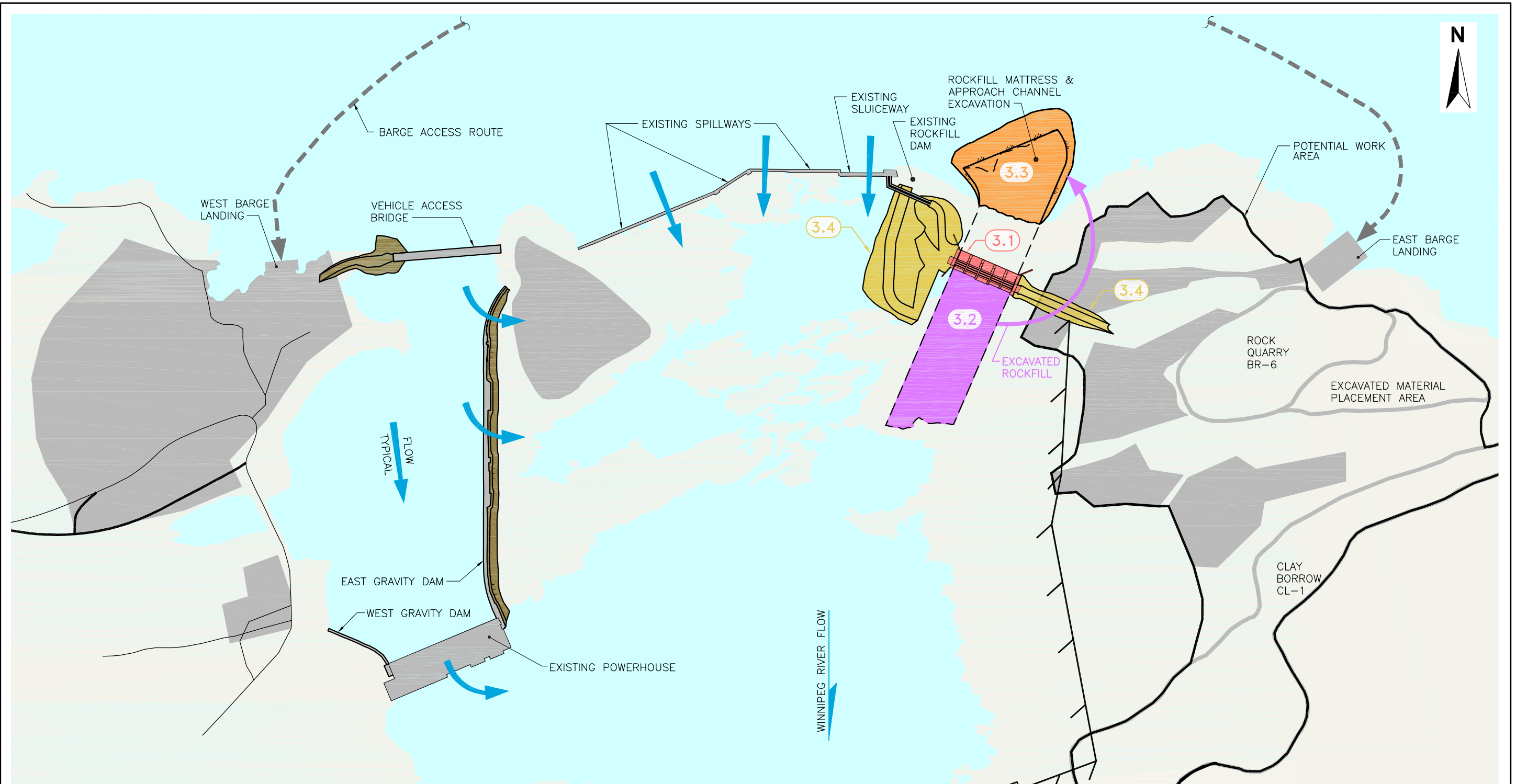
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DATE CREATED: 13 MAY 2011	CREATED BY: KGSA	
REVISION No. VERSION 1.0	REVISION DATE: 17 MAY 2011	QA/QC: RHP, MWZ, BMP

**Pointe du Bois  
Spillway Replacement Project**

**Phase 2  
Construction  
Downstream Cofferdam**

Figure:  
3.7B

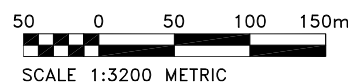




**PHASE 3**

- 3.1 CONSTRUCT PRIMARY SPILLWAY
- 3.2 COMPLETE DISCHARGE CHANNEL EXCAVATION
- 3.3 CONSTRUCT ROCKFILL MATTRESS OR ALTERNATIVE AND START APPROACH CHANNEL EXCAVATION

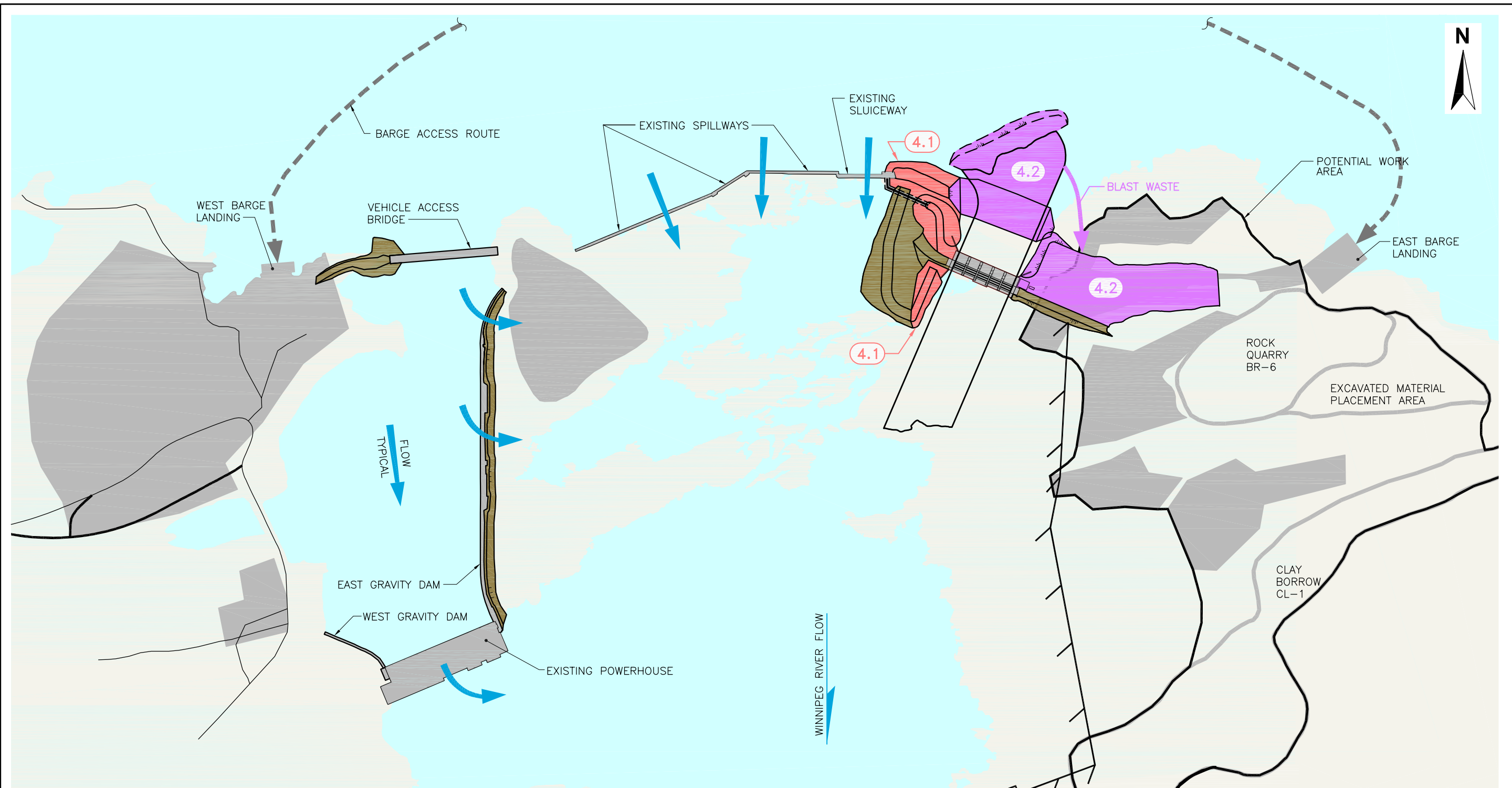
- 3.4 RAISE HEIGHT OF COFFERDAM AND PORTIONS OF EAST MAIN DAM AND EAST ABUTMENT DAM



DATA SOURCE: Manitoba Hydro, KGS Acres		
DATE CREATED: 13 MAY 2011	CREATED BY: KGSA	
REVISION No. VERSION 1.0	REVISION DATE: 17 MAY 2011	QA/QC: RHP, MWZ, BMP

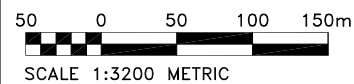
<b>Pointe du Bois Spillway Replacement Project</b>	
<b>Phase 3 Construction - Primary Spillway Concrete and Channel Excavation</b>	Figure: 3.7C





**PHASE 4**

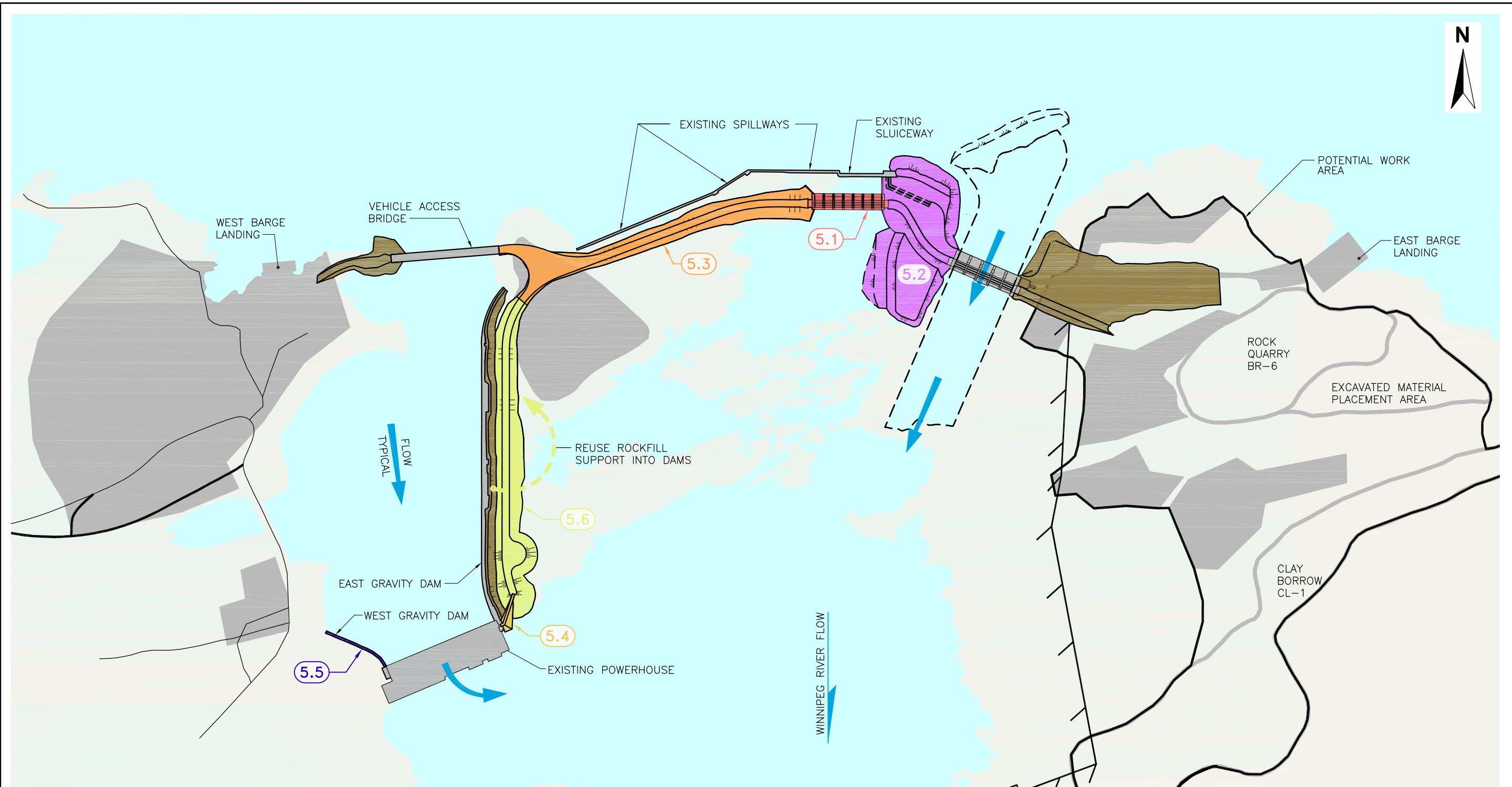
- 4.1 COMPLETE PRIMARY SPILLWAY. INTERIM DAM PORTION OF EAST MAIN DAM AND CUTOFF DYKE
- 4.2 EXCAVATE INTAKE CHANNEL AND UPSTREAM ROCKFILL WORKING PLATFORM USING BLAST WASTE TO COMPLETE EAST ABUTMENT DAM



DATA SOURCE: Manitoba Hydro, KGS Acres		
DATE CREATED: 13 MAY 2011	CREATED BY: KGSA	
REVISION No. VERSION 1.0	REVISION DATE: 17 MAY 2011	QA/QC: RHP, MWZ, BMP

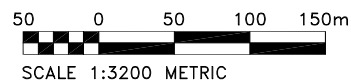
<b>Pointe du Bois Spillway Replacement Project</b>	
<b>Phase 4 Construction - East Main Dam and Complete Primary Spillway</b>	Figure: 3.7D





**PHASE 5**

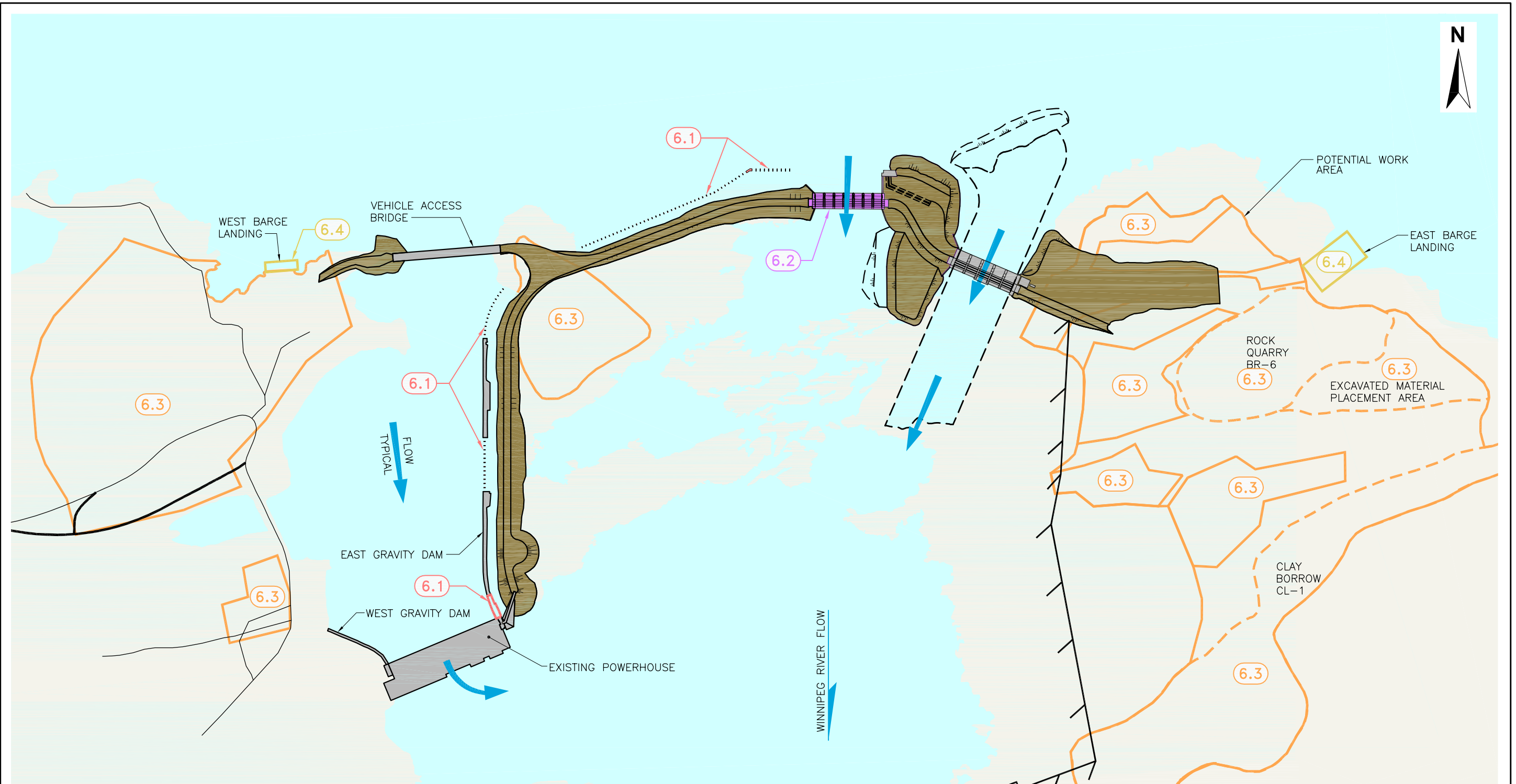
- 5.1 CONSTRUCT SECONDARY SPILLWAY
- 5.2 COMPLETE EAST MAIN DAM
- 5.3 CONSTRUCT WEST MAIN DAM
- 5.4 CONSTRUCT POWERHOUSE EAST ABUTMENT TRANSITION
- 5.5 STABILIZE EXISTING WEST GRAVITY DAM
- 5.6 CONSTRUCT SOUTH DAM



DATA SOURCE: Manitoba Hydro, KGS Acres		
DATE CREATED: 13 MAY 2011	CREATED BY: KGSA	
REVISION No. VERSION 1.0	REVISION DATE: 17 MAY 2011	QA/QC: RHP, MWZ, BMP

<b>Pointe du Bois Spillway Replacement Project</b>	
<b>Phase 5 Construction - Secondary Spillway, Main Dam, and South Dam</b>	Figure: 3.7E

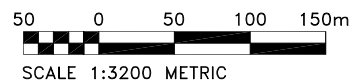




**PHASE 6**

- 6.1 DECOMMISSION AND PARTIALLY DEMOLISH EXISTING SPILLWAY AND SLUICeway STRUCTURES AND REMOVE PORTION OF EAST GRAVITY DAM
- 6.2 COMMISSION SECONDARY SPILLWAY
- 6.3 REHABILITATE WORK AREAS AND BORROW SOURCES

6.4 REHABILITATE AND RESTORE BARGE LANDINGS



DATA SOURCE: Manitoba Hydro, KGS Acres		
DATE CREATED: 13 MAY 2011	CREATED BY: KGSA	
REVISION No. VERSION 1.0	REVISION DATE: 17 MAY 2011	QA/QC: RHP, MWZ, BMP

<b>Pointe du Bois Spillway Replacement Project</b>	
<b>Phase 6 Decommission - Existing Structure Removal and Work Area Rehabilitation</b>	
Figure: 3.7F	