Appendix I

Preliminary Noise Analysis

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August 26, 2008

Mr. Scott Hossie
YELLOW FALLS POWER LIMITED PARTNERSHIP.
c/o Suite 500, 1324 - 17th Avenue SW
Calgary, Alberta, Canada T2T 5S8

RE: Preliminary Analysis for Yellow Falls Hydroelectric Project

Dear Mr. Hossie,

Aercoustics Engineering Ltd. ("AEL") was retained to review the potential noise effects associated with the proposed Yellow Falls Hydroelectric Project (the "Yellow Falls Project") to be constructed on the Mattagami River at Yellow Falls, located 19 km south of Smooth Rock Falls, ON. It is understood that an Environmental Review Report ("ERR") will be prepared for the Project. This report will provide a high level review of the potential noise effects from this Project in relation to the Ministry of the Environment ("MOE") Noise Guidelines.

1.0 INTRODUCTION

Yellow Falls Power Limited Partnership ("YFP") is proposing to commence construction of the Project during the winter of 2008/2009. Commercial operations are scheduled to commence in late 2010.

Given the variability in size of hydroelectric generating stations, AEL recommended conducting an acoustic survey of a similar facility in order to obtain a realistic idea of the potential noise emissions from the Yellow Falls site. YFP identified the Bearspaw Power Development, which is currently in operation near Calgary Alberta as a very similar facility that most accurately reflects the proposed Project at Yellow Falls. Local acoustic consultants, HFP Acoustical Consultants ("HFP"), were retained to conduct the acoustic survey of the Bearspaw facility, as instructed by AEL.

For the Yellow Falls Project, YFP has proposed two 8MW turbines (total 16 MW) to be located inside the powerhouse. An on-site Transformer Station has also been proposed. The transformer for the Project has not yet been specified, however, it is expected that a transformer capable of handling up to 25MVA will be required. Figure 3 outlines the site plan and receptor locations for the Yellow Falls Project.

The Bearspaw facility includes of a powerhouse containing a single 16MW turbine, and also a transformer substation located approximately 200m away from the powerhouse. The transformer substation consists of an 18MVA transformer. It should be noted that there are additional sources located near this facility such as a large landfill site located directly to the north, which may also affect some of the measurements taken. Figure 4 illustrates the Bearspaw site plan.

AEL developed an acoustic survey plan which involved both near-field and far-field measurements to best identify significant noise sources and also to determine what noise impact could be expected at receptors from the Yellow Falls Project. HFP personnel were on site at Bearspaw and conducted 1/3 octave band sound level measurements at specified distances from the facility. HFP personnel's observations were that the measurements were conducted on a generally calm day with little wind. Short duration spot check measurements were conducted to gain an idea of the character of the noise from the facility. Also, it should be noted that HFP personnel have also indicated that the Bearspaw facility was operating at close to full capacity while the measurements were conducted. Figure 5 illustrates the measurement locations around the Bearspaw facility.

2.0 RECEPTOR LOCATIONS

YFP provided a site plan for the Yellow Falls Project which also outlines receptor locations. Figure 3 outlines the site plan and the receptor locations. Additional site drawings are included in the Appendix of this report.

There are two locations which have been specifically identified as receptor locations. The first is a residential cottage site located approximately 1500m to the northeast of the Project site. The second receptor location is located approximately 2800m to the southwest of the project site. Figure 3 illustrates these two receptor locations.

3.0 PRELIMINARY ANALYSIS

3.1 SOUND LEVEL LIMITS

The general study area is comprised predominantly of undeveloped lands, and there are no expected man-made sounds in the vicinity. Therefore, it is expected that the Yellow Falls site area would be classified as a Class 3 (rural) area. As such the applicable sound level limits would be those that are outlined in the MOE NPC-205 guideline. This document states that for a Class 3 receptor the sound level limits shall be 45dBA during the daytime hours of 07:00-19:00, and a nighttime sound level limit of 40dBA from 19:00-07:00.

3.2 BEARSPAW MEASUREMENTS

Measurements were conducted by HFP personnel with a Larson Davis 2900A Real Time Analyzer. The instrumentation was calibrated before and after the measurements were taken. Measurements were short duration spot check measurements to capture the character of the noise from the steady sources.

As stated above measurements were conducted at several distances from the facility. Figure 5 outlines the measurement locations. The following table summarizes the locations and the levels which were measured at those locations.

Table 1: Summary of Sound Level Measurements

Location	Description	Sound Level (dBA)
1	50m from Powerhouse	66
2	100m from Powerhouse	59
3	200m from Powerhouse	56
4	50m from Transformer Station	50
5	100m from Transformer Station	50
6	200m from Transformer Station	48

In order to also provide the frequency content of the noise emissions from this facility, this data has also been plotted in 1/3 Octave band format as follows:

Figure 1: Sound Level Measurements from Powerhouse

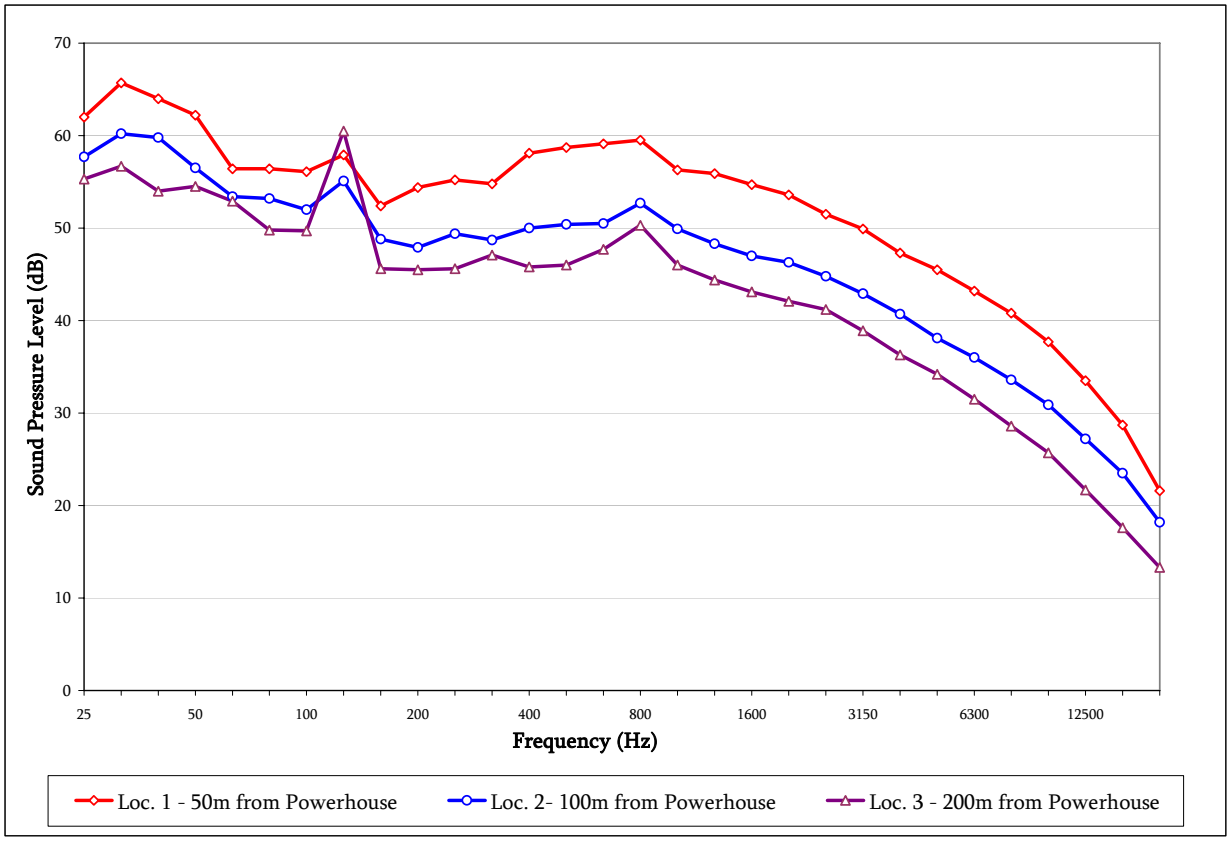
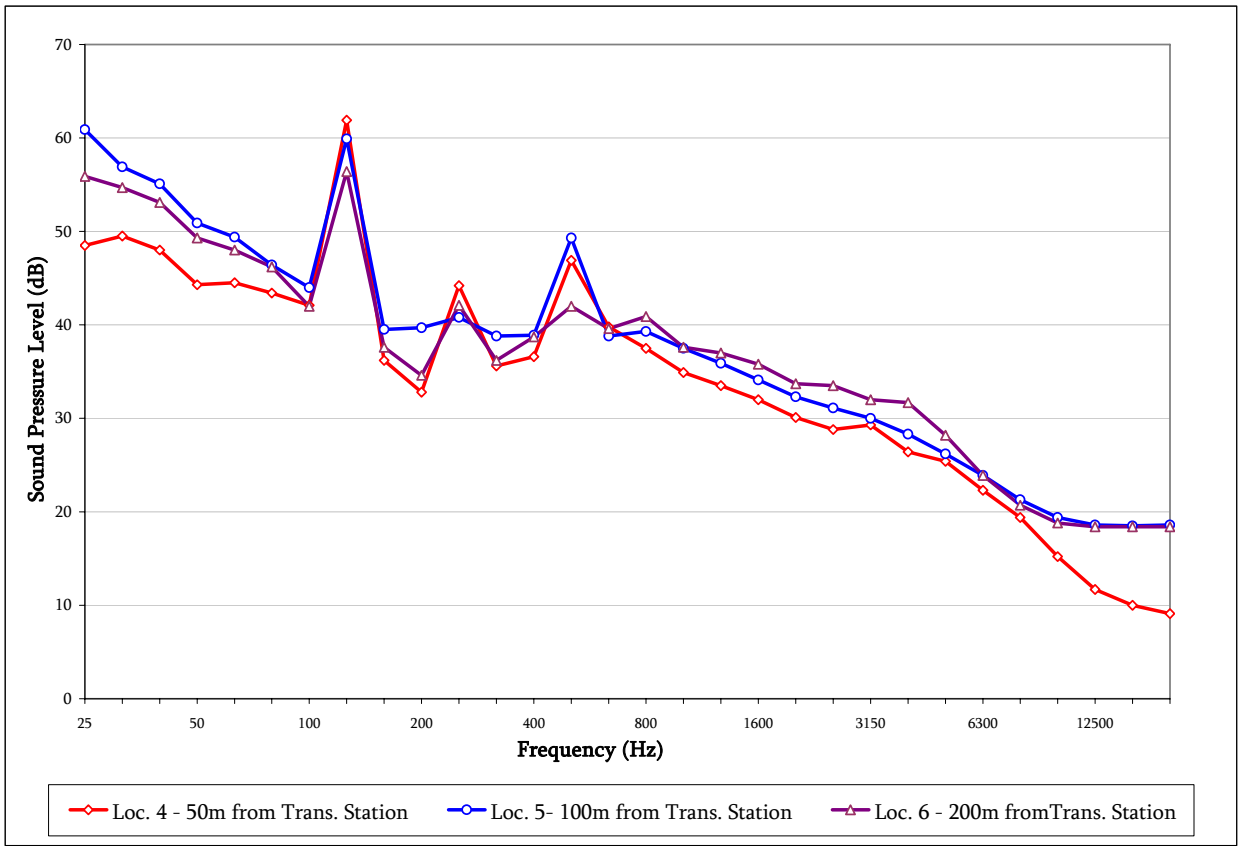


Figure 2: Sound Level Measurements from Transformer Station



A representation of the character of the noise from the Powerhouse can be seen in Figure 1. It should be noted that the noise from the Powerhouse appears to have a broadband noise spectra because of the water flow noise also associated with the operation. In addition to this there may also be some contribution to the overall noise levels at Locations 1-3 from the sound of the river flowing. This is seen in the frequency range of 500Hz to 4000Hz when comparing the levels from Figure 1 and Figure 2.

Also interesting to note is the peak which is apparent in the 125Hz 1/3 octave band of Loc 3 (200m from Powerhouse). This concentration in sound energy maybe due to noise emission from the Transformer Station as opposed to the Powerhouse, as the sound energy in the 125Hz frequency range is not apparent in the data at Loc.1 or Loc. 2. It should be noted that Loc. 1 and Loc. 2 are shielded from the Transformer Station by intermediate structures. Measurement Location 3 is not shielded from the Transformer Station and is actually located approximately 180m from the Transformer Station.

In Figure 2, the harmonics of the transformer sound spectra are evident. There are clear peaks in the signal at 125Hz, 250Hz, and 500Hz. It should be noted that the further measurement locations at 100m and 200m may also have contribution from activity at the landfill located directly to the north of these measurement locations. It is expected that with increasing distance the 2nd and 3rd harmonics, i.e. 250Hz and 500Hz, will become less prominent.

From Figure 1, it is expected that Loc. 2 (100m from Powerhouse) is likely the most representative and reliable of the noise from the Powerhouse at a given distance. Hence the data collected at the 100m location is considered to be an appropriate plant reference. The data from Loc. 4 is most representative of the noise from the Transformer Station as the measurements at this location include the harmonics of the transformer, i.e. peaks seen in Figure 2 at 125Hz, 250Hz, and 500Hz. This location, therefore typifies a conservative representation of the noise; as the 2nd and 3rd harmonics, i.e. the 250Hz and 500Hz tones will likely become less prominent over further distances.

3.3 SOUND LEVEL AT YELLOW FALLS

Based on the data collected at the Bearspaw site, the sound level at the receptors for the Yellow Falls Project has been estimated. The following table outlines the overall sound level as well as the contribution from each source at each receptor location.

Table 2: Estimated Sound Level at Receptor Locations

	Receptor R01	**Receptor R02**
Distance to Receptor (m)	1500	2800
SPL from Powerhouse (dBA)	35	30
SPL from Transformer (dBA)	25*	20*
Overall Sound Level (dBA)	**36**	**30**

*NOTE: Transformer noise emissions include a 5dB tonal penalty.

It should be noted that this calculation of estimated sound level is based only on geometric spreading. Based on the information provided by YFP, the area surrounding the Project site is forested and comprised on acoustically soft ground. The estimated sound level is expected to be conservative as no attenuation factors such as atmospheric absorption, shielding from foliage, or ground effect have been modelled. In addition to this, a 5dB tonal penalty has also been included in the sound level contribution from the transformer as mandated by NPC-104.

4.0 CONCLUSION

From Table 2, it can be seen that with the facility in operation and accounting for the tonal nature of the transformer, the sound level limits are expected to be satisfied at the identified receptor locations for the Yellow Falls Hydro Electric Project. It should be noted that the calculations presented in this report have been based on in-field measurements of a similar facility which is currently in operation. The estimated levels may vary with differing weather conditions and other atmospheric effects. However, as the calculation presented in this report is only based on geometric spreading, the estimated sound levels that are predicted at the nearest sensitive receptors are expected to be conservative. Given the use of a similar facility for comparison, and the conservative assumptions included in the analysis, it is expected that this report addresses the MOE requirements regarding the potential noise emissions for this proposed project.

Regards,

AERCOUSTICS Engineering Limited

Steven Titus, B.A.Sc

Vince Gambino, B.A.Sc, P.Eng

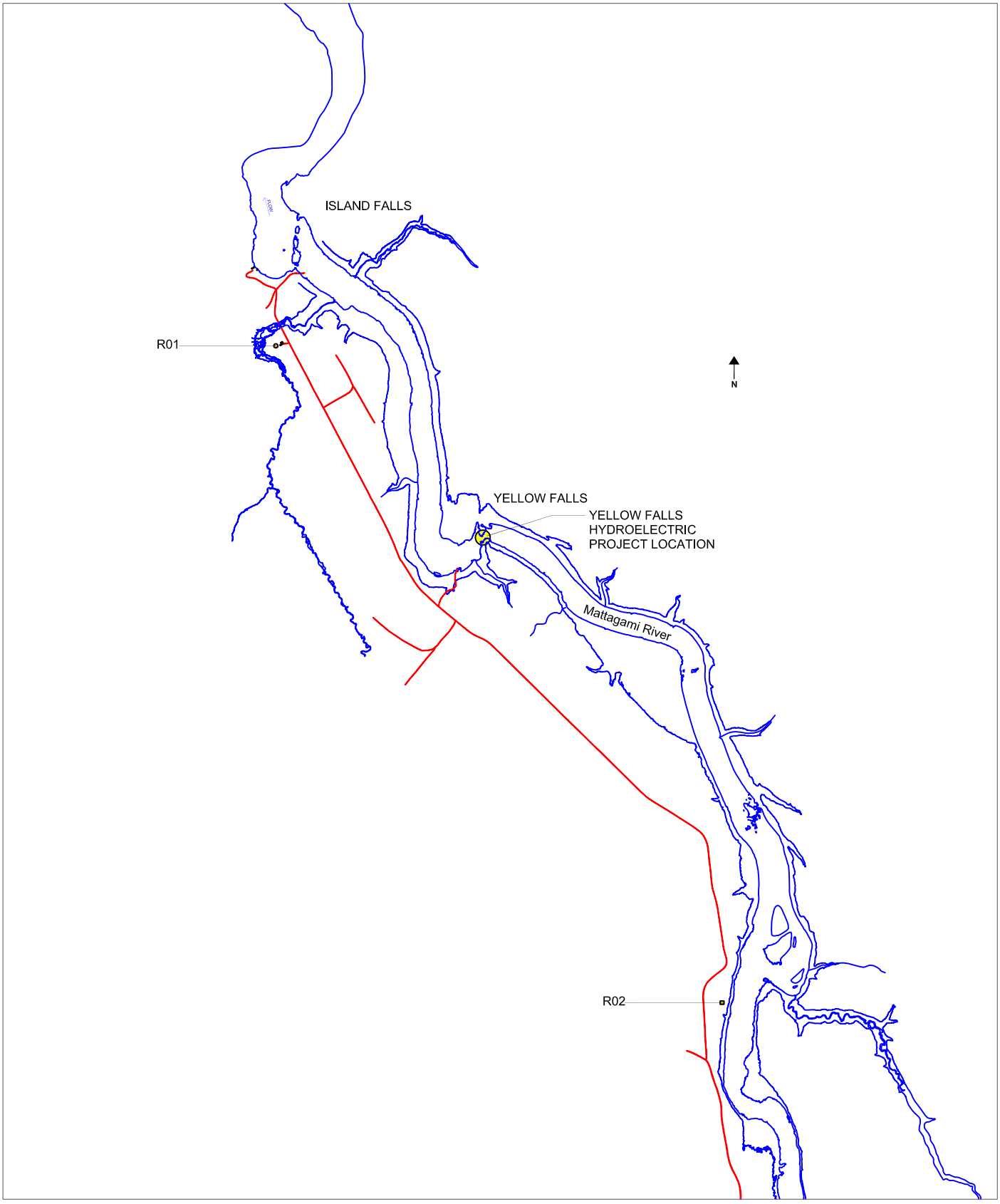


FIGURE 3

NOISE RECEPTOR LOCATIONS

NOTE: Schematic only - precise locations of receptors have not been verified.

AERCOUSTICS ENGINEERING LIMITED	50 Ronson Drive Suite 165 Toronto Canada M9W 1B3 (416)249-3361	Figure 4: Yellow Falls Hydro Electric Project Bearspaw Hydro Electric Project Site Plan	Drawn ST	Eng. VG	Drawing Bearspaw Site Plan
			The scope of the work outlined in this document is limited to the acoustic noise & vibration control aspects of the design. Contractor to verify all dimensions.		Scale NTS / Figure 4

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Figure 5: Yellow Falls Hydro Electric Project

Bearspaw Measurement Locations

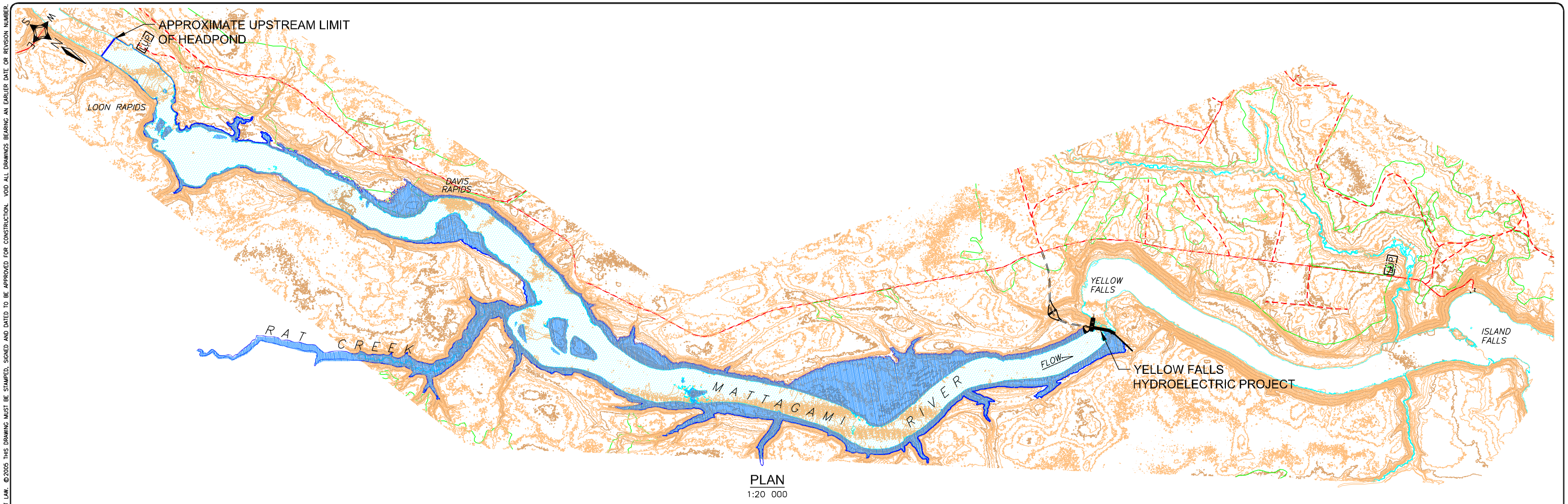
Drawn	Eng.	Drawing
ST	VG	Measurement Locations

The scope of the work outlined in this document is limited to the acoustic noise & vibration control aspects of the design. Contractor to verify all dimensions.

Scale	Figure
NTS	5

APPENDIX A

Additional Site Drawings



PLAN
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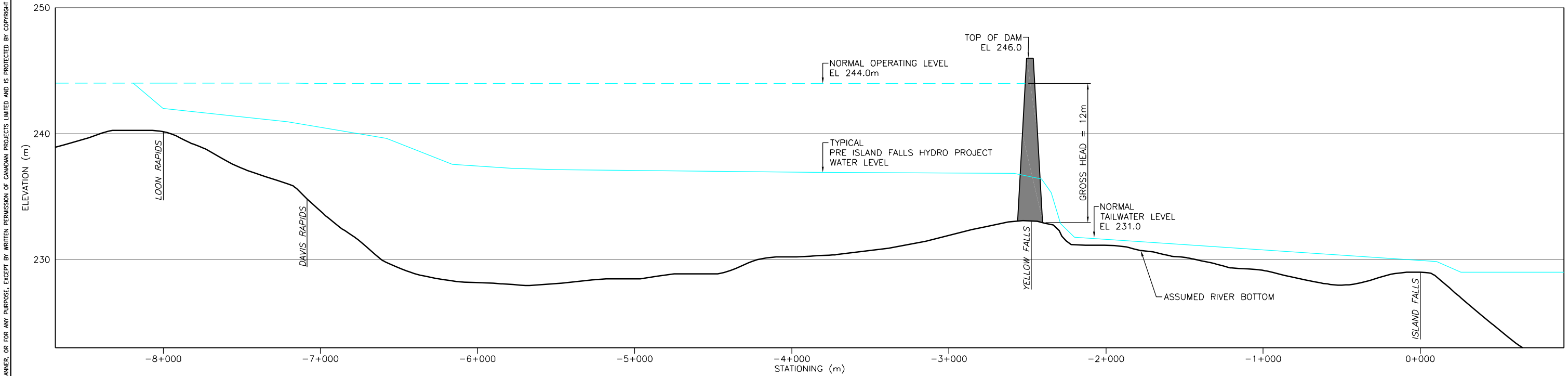


PROFILE
HOR 1:25 000
VER 1:312.5

NOTES

1. BASE CONTOURS FROM LiDAR SURVEY FLOWN JUNE 2005 BY TERRAPOINT CANADA INC.
2. ELEVATIONS ARE CANADIAN GEODETIC DATUM.
3. MINIMUM RIVER INVERT PROFILE ESTIMATED.
4. WATER SURFACE PROFILES ESTIMATED FROM HEC−RAS MODELLING.
5. TOP OF ISLAND FALLS DAM BASED ON 2m FREEBOARD FOR 1 IN 100 YEAR WIND INDUCED WAVES ON 2km FETCH.

LEGEND

INUNDATED AREA − WATER LEVEL (244.0m)

0 250 500 750 1000 1:25 000
0 200 400 600 800 1:20 000
METRES

REV	Y	M	D	REVISION DESCRIPTION	DES	DRN	CHK
A	08	02	12	FOR REVIEW	RJS	TFP	RJS

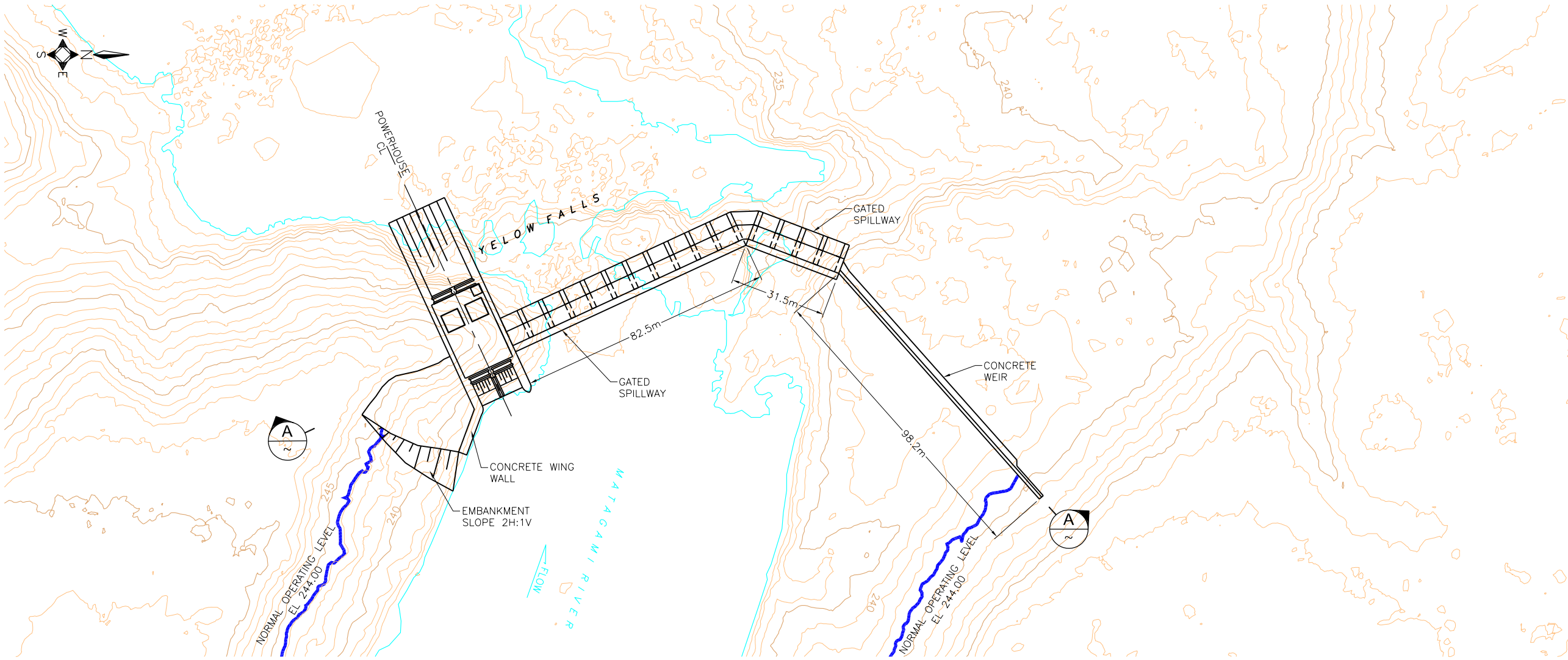
Canadian Projects Limited
CALGARY, ALBERTA

Yellow Falls Power LP

YELLOW FALLS POWER LIMITED PARTNERSHIP

ISLAND FALLS HYDROELECTRIC PROJECT
GENERAL
HEADPOND
PLAN AND PROFILE

PROJECT NUMBER 1032-002
CADD NUMBER 4.3.094
DRAWING NUMBER 403



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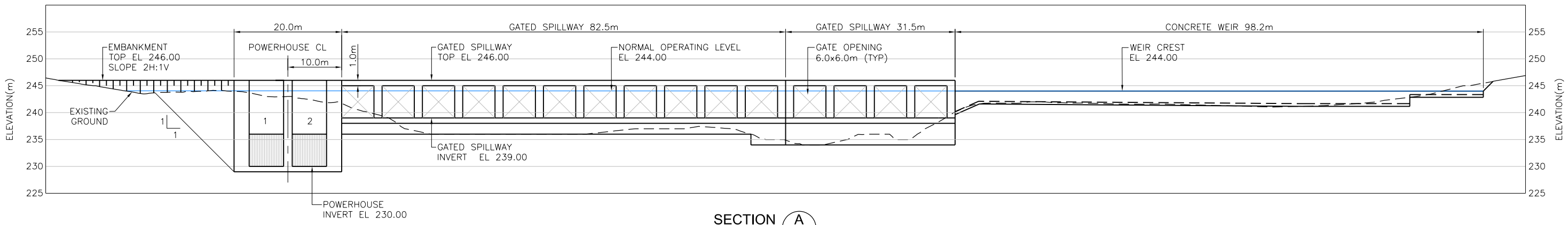

SECTION A
1:750

NOTES

1. ALL DIMENSIONS AND ELEVATIONS ARE IN METRES, UNLESS NOTED OTHERWISE.
2. BASE CONTOURS FROM LiDAR SURVEY FLOWN JUNE 2006 BY TERRAPOINT CANADA INC.

0 15 30 45 60 1:1500
0 7.5 15 22.5 30 1:750
METRES

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A	08	01	24	FIRST ISSUE	RJS	VAM	RJS

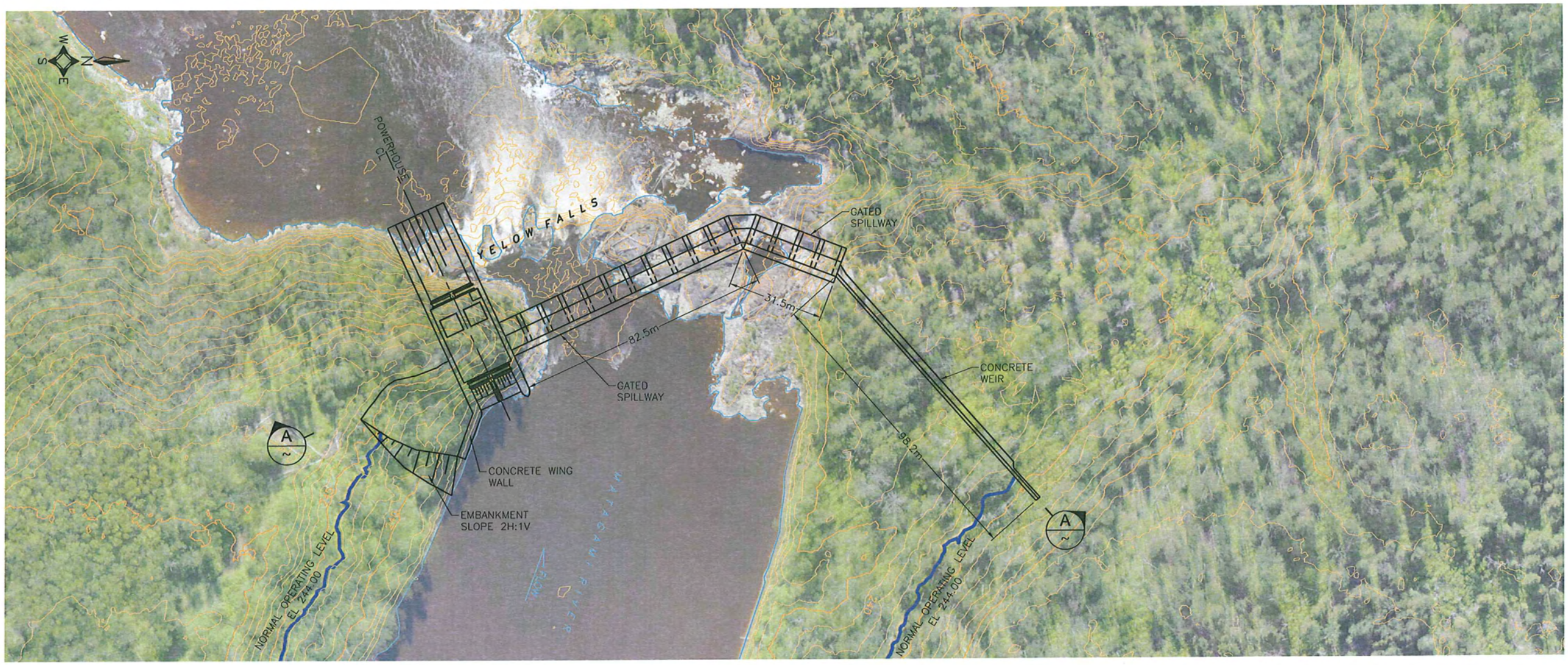
Canadian Projects Limited
CALGARY, ALBERTA

Yellow Falls Power LP

YELLOW FALLS POWER LIMITED PARTNERSHIP

ISLAND FALLS HYDROELECTRIC PROJECT
PROJECT-GENERAL
GATED SPILLWAY
PLAN

PROJECT NUMBER 1032-002
CADD NUMBER 4.3.092
DRAWING NUMBER



PLAN
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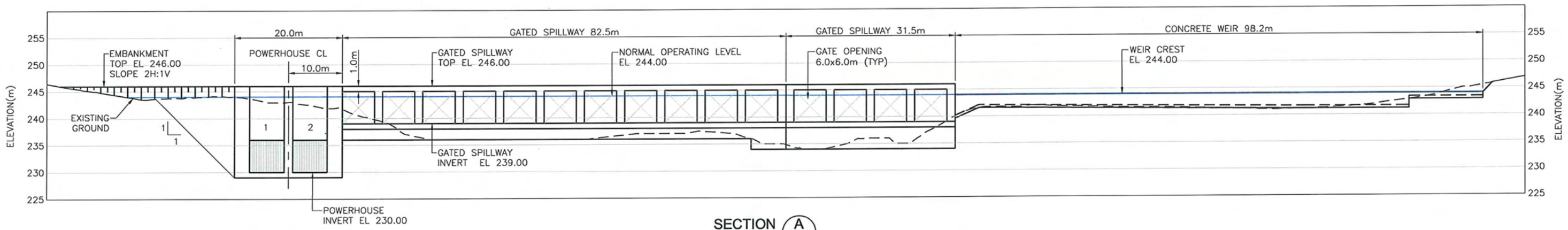

SECTION A
1:750

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0 15 30 45 60 1:1500
0 7.5 15 22.5 30 1:750
METRES

REV	Y	M	D	REVISION DESCRIPTION	DES	DRN	CHK
A	08	01	24	FIRST ISSUE	RJS	VAM	RJS

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ISLAND FALLS HYDROELECTRIC PROJECT
PROJECT-GENERAL
GATED SPILLWAY
PLAN

PROJECT NUMBER 1032-002
CADD NUMBER 4.3.092
DRAWING NUMBER 400