



**CONESTOGA-ROVERS
& ASSOCIATES**

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www.CRAworld.com

April 16, 2015

Reference No. 078410

Mr. Adedoyin Adenowo, Senior Wastewater Engineer
Ministry of Environment and Climate Change
2 St. Clair Avenue West, 12A
Toronto, Ontario
M4V 1L5

Dear Mr. Adenowo:

Re: Modifications to Works for Existing ECA Application
Dufferin Paris Pit, Paris, Ontario

On behalf of Dufferin Aggregates, a division of Holcim (Canada) Inc. (Dufferin), Conestoga-Rovers & Associates (CRA) requests modifications to the aggregate washing works that are subject of the existing ECA application for the Dufferin Paris Pit. As recently discussed amongst the Ministry of Environment and Climate Change (MOECC), Dufferin, and CRA, we believe the proposed modifications provide an even greater level of protection for groundwater quality than the extensive measures already incorporated into this application.

The proposed modifications include creating a separate "recirculation cell" in the settling pond to collect wash water from the "settling cell" of the settling pond and pump it back to the wash plant. In this configuration, the settling pond would not overflow back into the source water pond as was previously proposed. The re-circulation cell would be constructed on/above the pit floor and hence would be above the groundwater table.

The source water pond would remain below the pit floor, but would be used only as a source of water to add to the wash plant inflow or to fill the recirculation cell. It would not receive recirculation flow from the settling pond. Therefore, the proposed modifications do not affect the proposed water taking requirements.

The proposed modifications also allow for construction of the ponds on the pit floor (as previously proposed) as well as an option to construct the ponds at an intermediate depth below the existing grade but above the pit floor. This option allows more flexibility in pit development and would also provide greater vertical separation between the settling pond and the groundwater table. Under this option, the ponds would be developed by excavating below the interim grade, rather than rely solely on building berms above the pit floor.



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- 2 -

The proposed modifications are shown on the attached drawings. These drawings are proposed to replace those previously submitted in support of the Environmental Compliance Approval (ECA) application.

If you have any questions regarding the proposed modifications, please don't hesitate to contact Dufferin or CRA.

Yours truly,

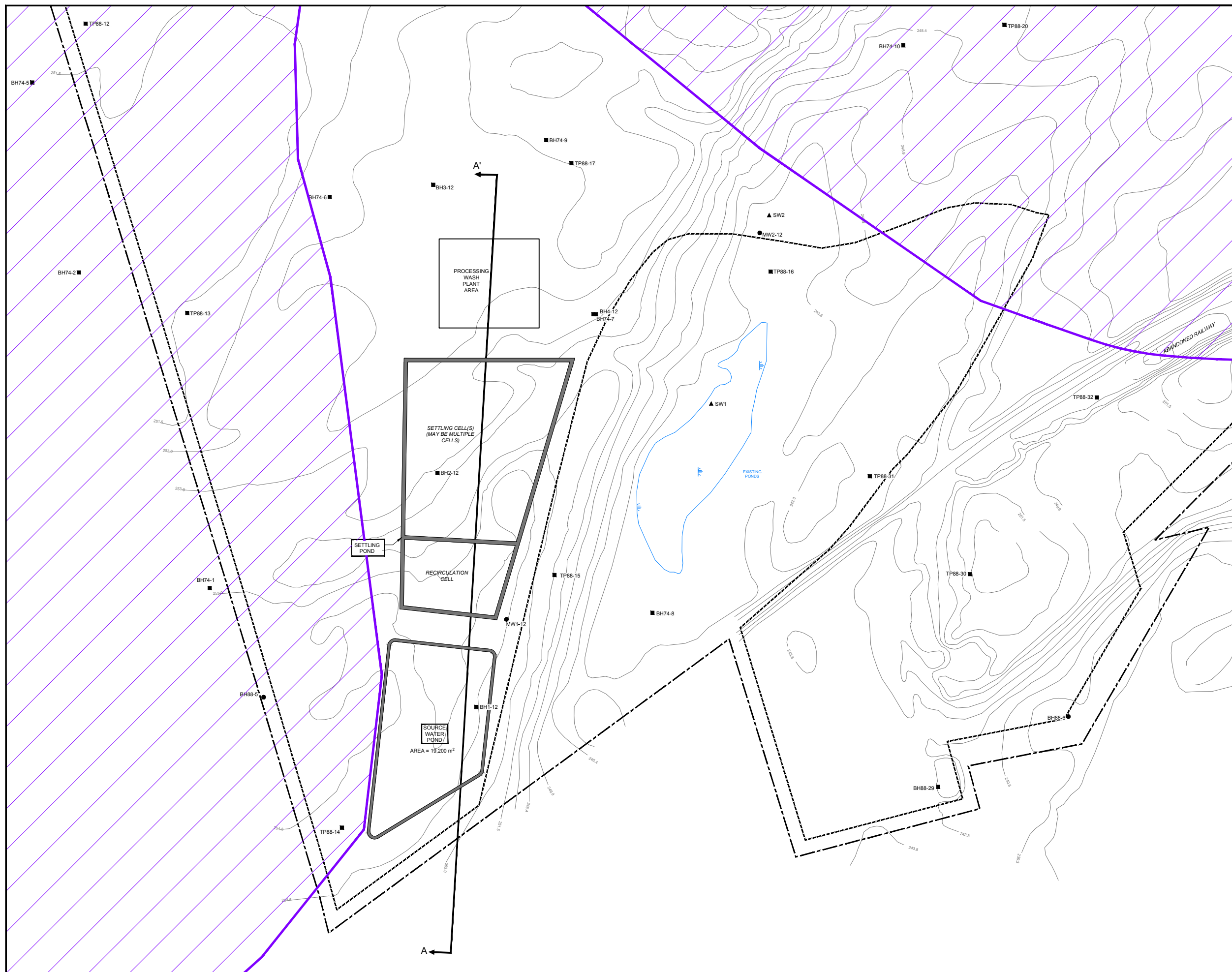
CONESTOGA-ROVERS & ASSOCIATES

Michael Tomka, P. Eng.


JRM/kf/1

Encl.

cc: Vincent Bulman, MOECC
Alex Davidson, County of Brant
Martin Keller, GRCA
Kevin Mitchell/ Nicole Bellissimo, Dufferin Aggregates
Gary Lagos/Richard Murphy, CRA




NO	Revision	Date	Initial


 0 20 40 60m

LEGEND

- 251.6 — CONTOUR ELEVATION
- - - LICENSED BOUNDARY
- - - LIMIT OF EXTRACTION
- MW2-12 MONITORING WELL (CRA, JULY 2012)
- BH11-12 BOREHOLE (CRA, JULY 2012)
- TP88-11 TEST PIT (JAGGER HIMS LTD., 1988) (APPROXIMATE LOCATION)
- BH88-5 MONITORING WELL (JAGGER HIMS LTD., 1988)
- BH88-9 BOREHOLE (JAGGER HIMS LTD., 1988)
- BH74-10 BOREHOLE (FARVOLDEN, 1974) (APPROXIMATE LOCATION)
- ▲ SW1 SURFACE WATER MONITORING LOCATION
- A — CROSS-SECTION LOCATION
- ZONE BOUNDARY WELLFIELD WHPA-D (25 YEARS) (FUTURE PUMPING RATES) (FIGURE 4-1, WMMC, 2010)


Dufferin Aggregates


Approved


 M. R. TOMKA
 4/16/15
 PROVINCE OF ONTARIO

DRAWING STATUS

Status	Date	Initial
REVISED FOR AGENCY APPROVAL	APR 16, 2015	MRT

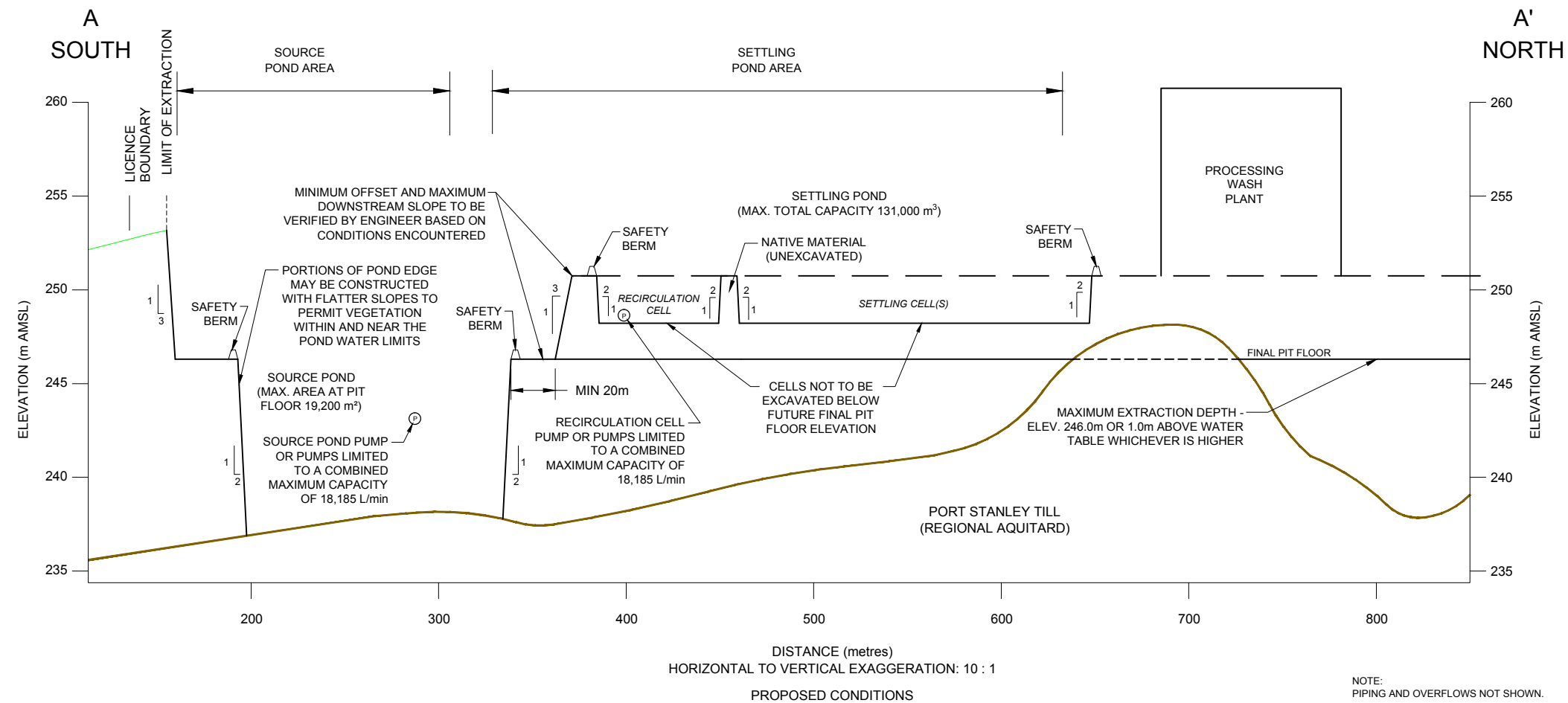
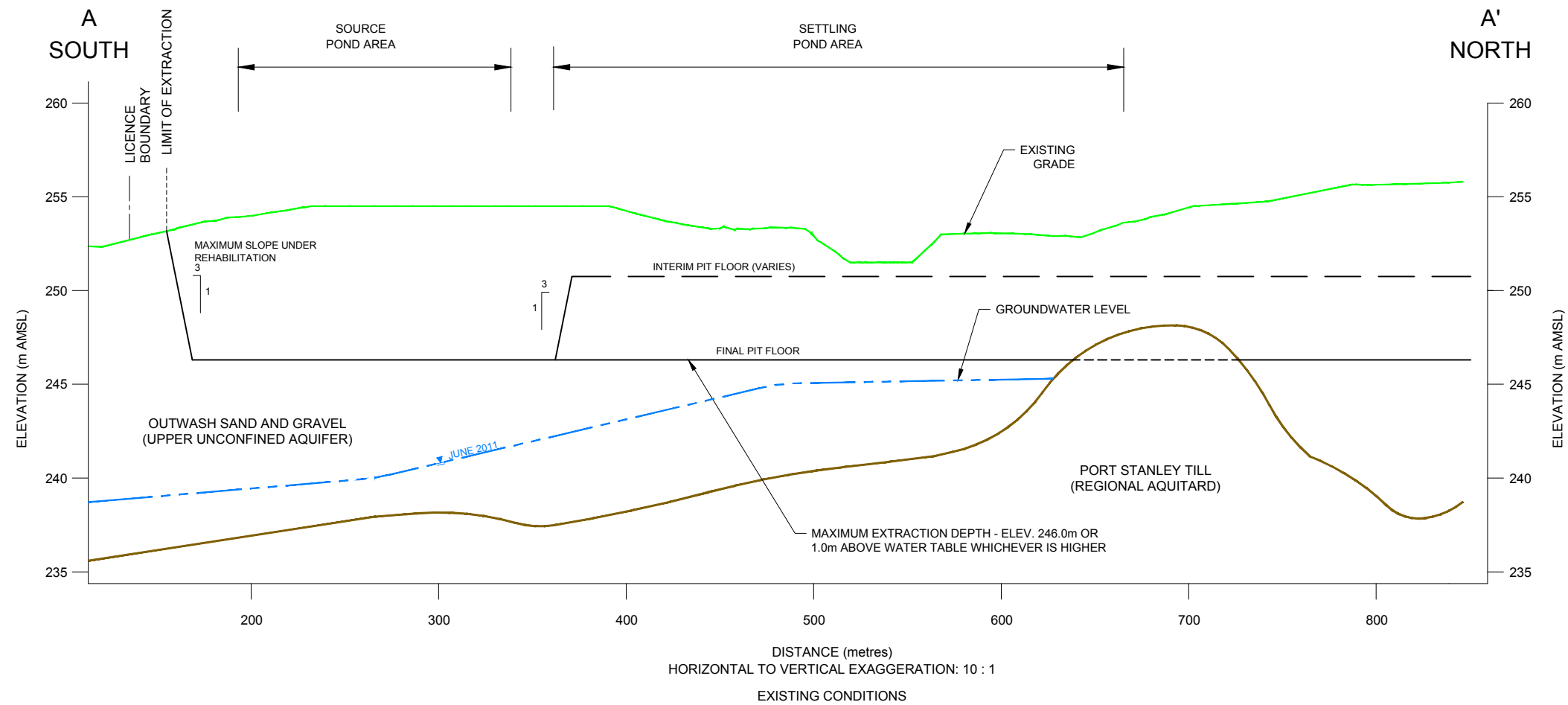
DUFFERIN PARIS PIT
COUNTY OF BRANT, ONTARIO
 ECA APPLICATION AND SUPPORTING INFORMATION
AGGREGATE WASHING AREA


CONESTOGA-ROVERS & ASSOCIATES

Source Reference: J.H. COCHON ENGINEERING LIMITED, JOB 9738, EXISTING FEATURES, 2 of 5.

Project Manager: JRM	Reviewed By: MRT	Date: APRIL 2015
Scale: AS SHOWN	Project N ^o : 78410-00	Report N ^o : 003
		Drawing N ^o : C-01

78410-00(003)CI-WA001 APR 16/2015



NO	Revision	Date	Initial

LEGEND
 GROUND SURFACE
 GROUNDWATER LEVEL
 STRATIGRAPHIC CONTACT

NOTE:
 OPTION 1 INCLUDES CREATING A SETTLING POND IN AGGREGATE DEPOSIT. WILL NOT REQUIRE BERMS (WATER LEVEL WILL BE BELOW GRADE OF INTERIM PIT FLOOR IN AREA).



Approved

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Status	Date	Initial
REVISED FOR AGENCY APPROVAL	APRIL 16, 2015	MRT

DUFFERIN PARIS PIT
 COUNTY OF BRANT, ONTARIO

ECA APPLICATION AND SUPPORTING INFORMATION

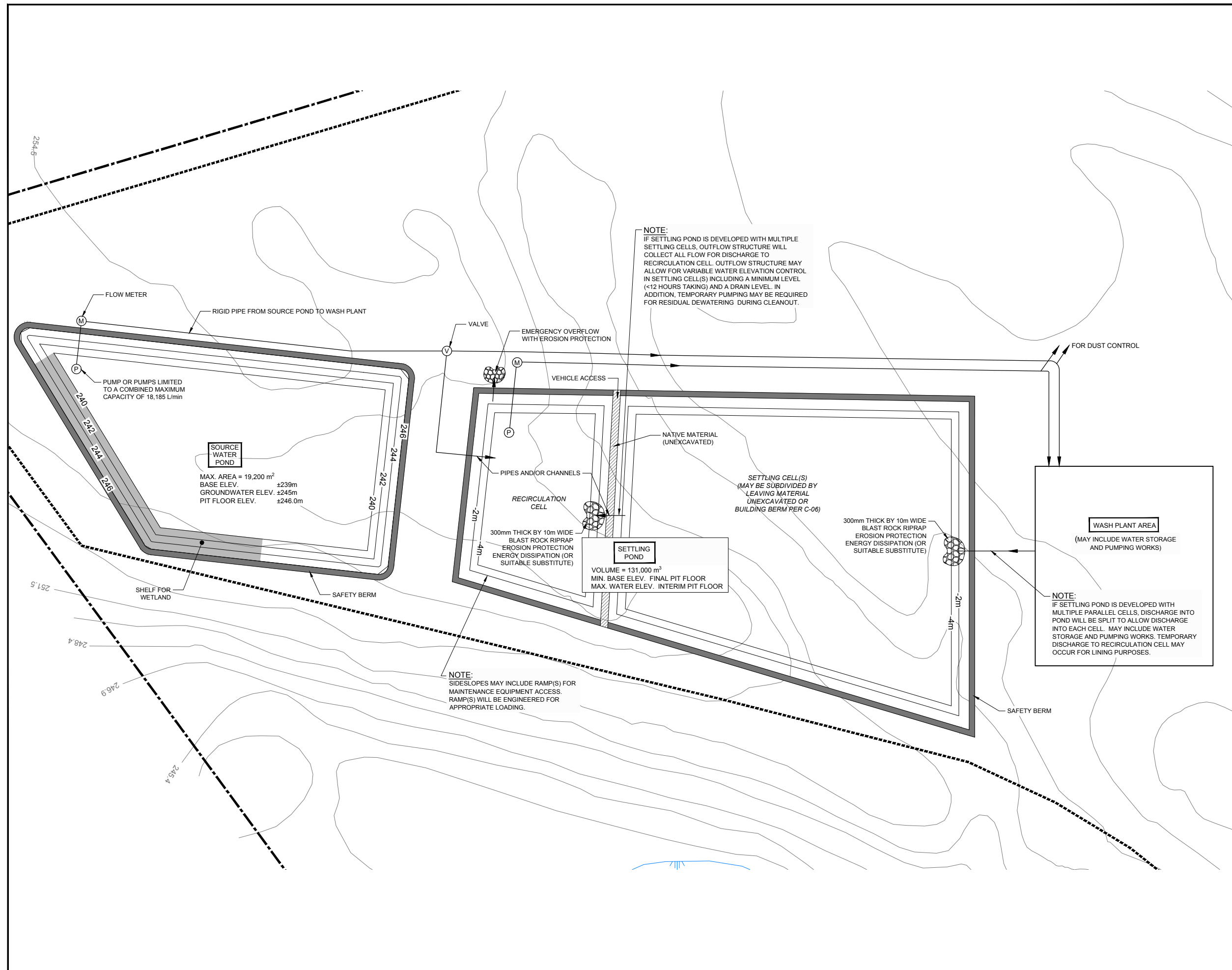
AGGREGATE WASHING AREA -
CROSS-SECTION - OPTION 1



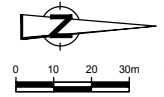
Source Reference:

Project Manager: JRM	Reviewed By: MRT	Date: MARCH 2015
Scale: 1:1500 1:150	Project No: 78410-00	Report No: 003 Drawing No: C-02

NOTE:
 PIPING AND OVERFLOWS NOT SHOWN.



NO	Revision	Date	Initial



LEGEND

- 253.0 --- CONTOUR ELEVATION
- - - - - LICENSED BOUNDARY
- 246 --- LIMIT OF EXTRACTION
- 246 --- PROPOSED CONTOUR
- (V) VALVE
- (M) FLOW METER
- (P) PUMP

- NOTES:**
1. LOCATIONS/ALIGNMENTS OF PUMPS, PIPING, BERMS ARE APPROXIMATE AND MAY VARY CONSISTENT WITH OVERALL DESIGN AND APPROVALS TO SUIT OPERATING REQUIREMENTS.
 2. SETTLING POND RECIRCULATION CELL TO BE 'SELF-LINED' WITH SETTLED POND FINES OR SYNTHETIC (e.g. HDPE) LINER AS NECESSARY TO SUIT OPERATIONAL NEEDS.



DRAWING STATUS		

**DUFFERIN PARIS PIT
COUNTY OF BRANT, ONTARIO**

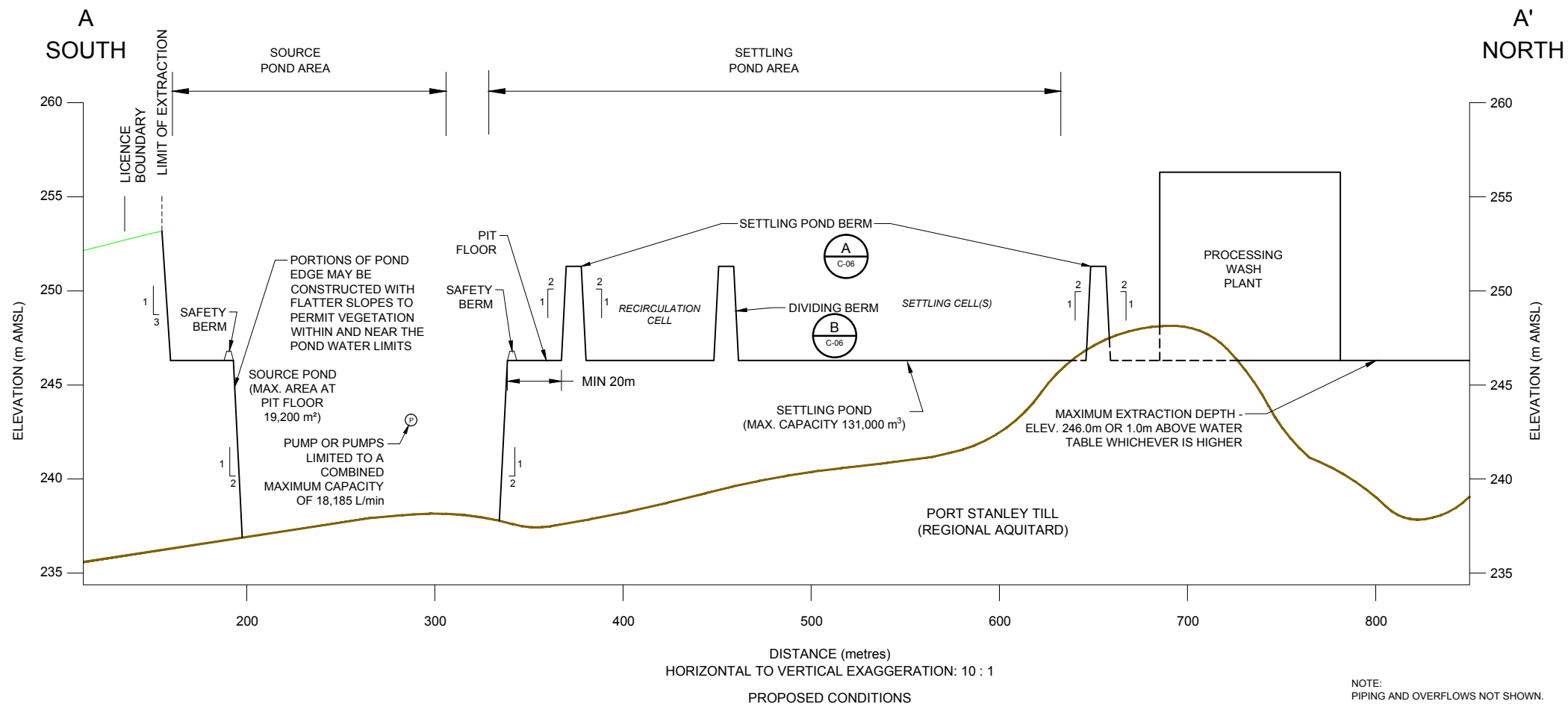
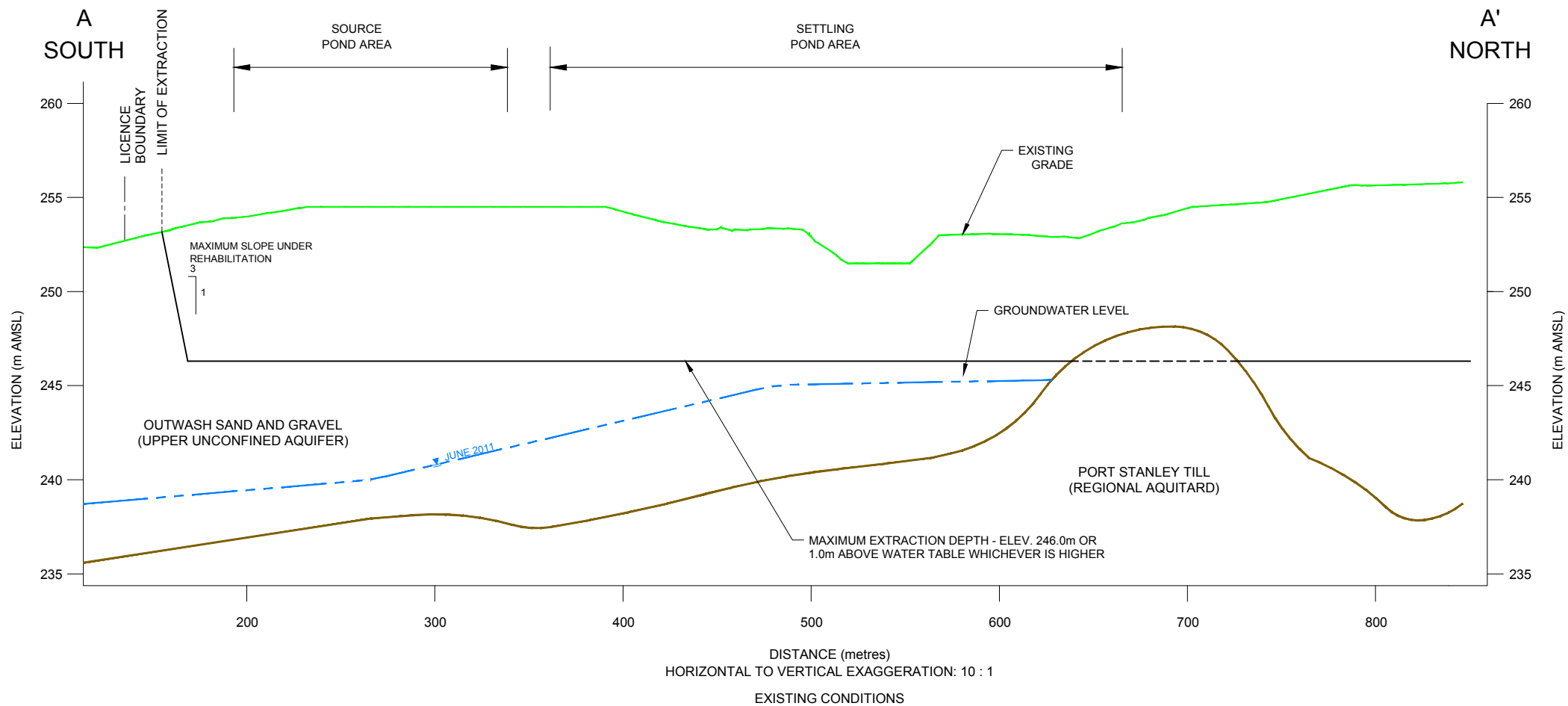
ECA APPLICATION AND SUPPORTING INFORMATION

**CLOSED-LOOP AGGREGATE
WASHING PLAN - OPTION 1**



Source Reference: J.H. COHDON ENGINEERING LIMITED, JOB 9738, EXISTING FEATURES, 2 of 5.

Project Manager: JRM	Reviewed By: MRT	Date: MARCH 2015
Scale: AS SHOWN	Project No: 78410-00	Report No: 003
		Drawing No: C-03



NOTE:
PIPING AND OVERFLOWS NOT SHOWN.

NO	Revision	Date	Initial

LEGEND
 — GROUND SURFACE
 - - - GROUNDWATER LEVEL
 — STRATIGRAPHIC CONTACT



DRAWING STATUS		

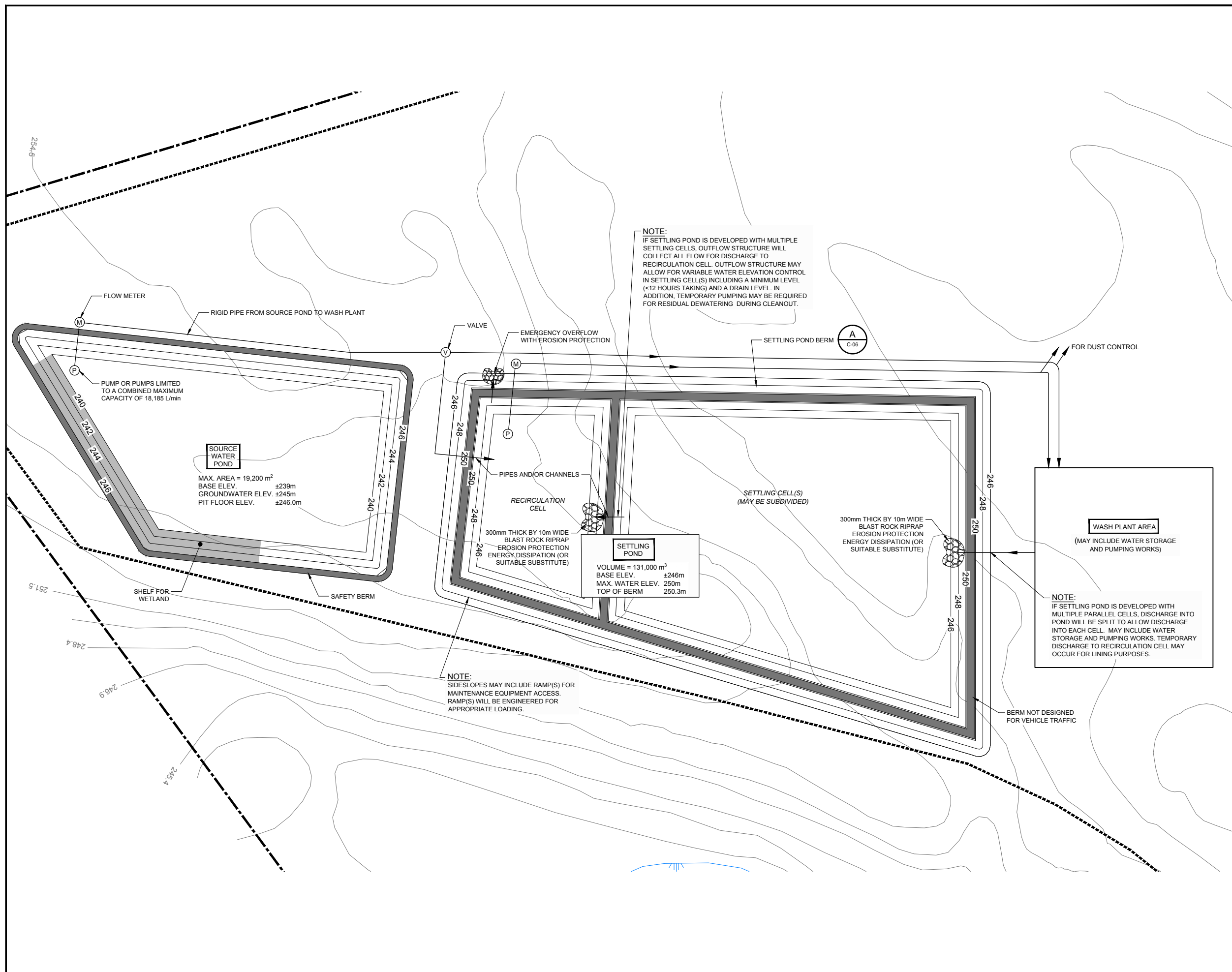
DUFFERIN PARIS PIT
 COUNTY OF BRANT, ONTARIO
 ECA APPLICATION AND SUPPORTING INFORMATION
 AGGREGATE WASHING AREA -
 CROSS-SECTION - OPTION 2

CRA CONESTOGA-ROVERS & ASSOCIATES

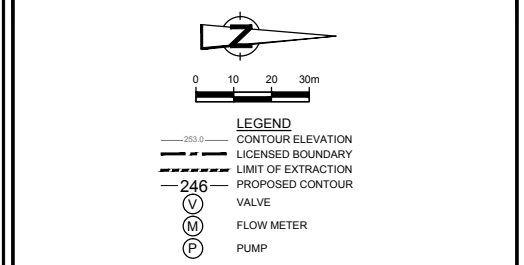
Source Reference:

Project Manager: JRM	Reviewed By: MRT	Date: APRIL 2013
Scale: 1:1500 1:150	Project No: 78410-00	Report No: 003 Drawing No: C-04

78410-00(03)CI-WA002 APR 16/2015



NO	Revision	Date	Initial



- NOTES:**
1. LOCATIONS/ALIGNMENTS OF PUMPS, PIPING, BERMS ARE APPROXIMATE AND MAY VARY CONSISTENT WITH OVERALL DESIGN AND APPROVALS TO SUIT OPERATING REQUIREMENTS.
 2. SETTLING POND RECIRCULATION CELL TO BE 'SELF-LINED' WITH SETTLED POND FINES OR SYNTHETIC (e.g. HDPE) LINER AS NECESSARY TO SUIT OPERATIONAL NEEDS.



Approved

DRAWING STATUS

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**DUFFERIN PARIS PIT
COUNTY OF BRANT, ONTARIO**

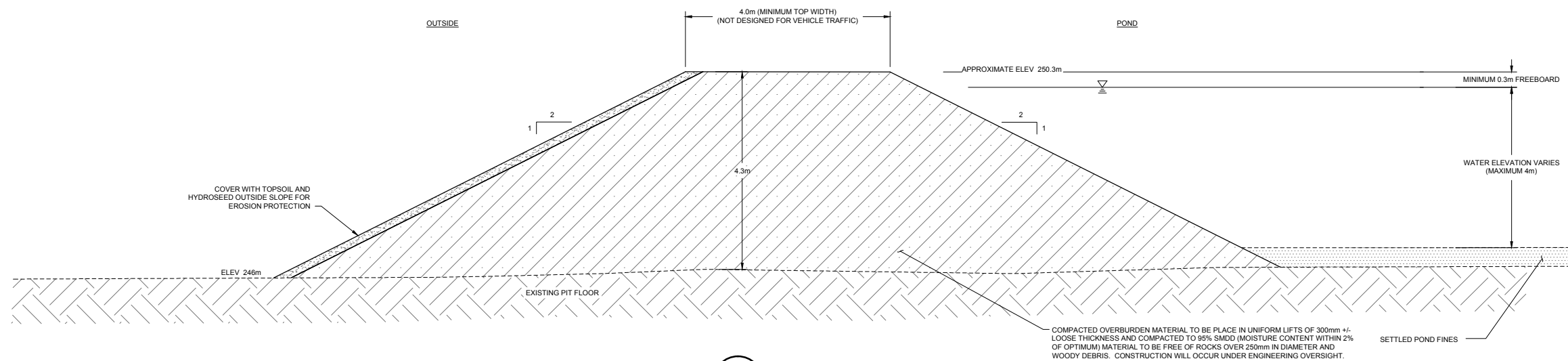
ECA APPLICATION AND SUPPORTING INFORMATION

**CLOSED-LOOP AGGREGATE
WASHING PLAN - OPTION 2**

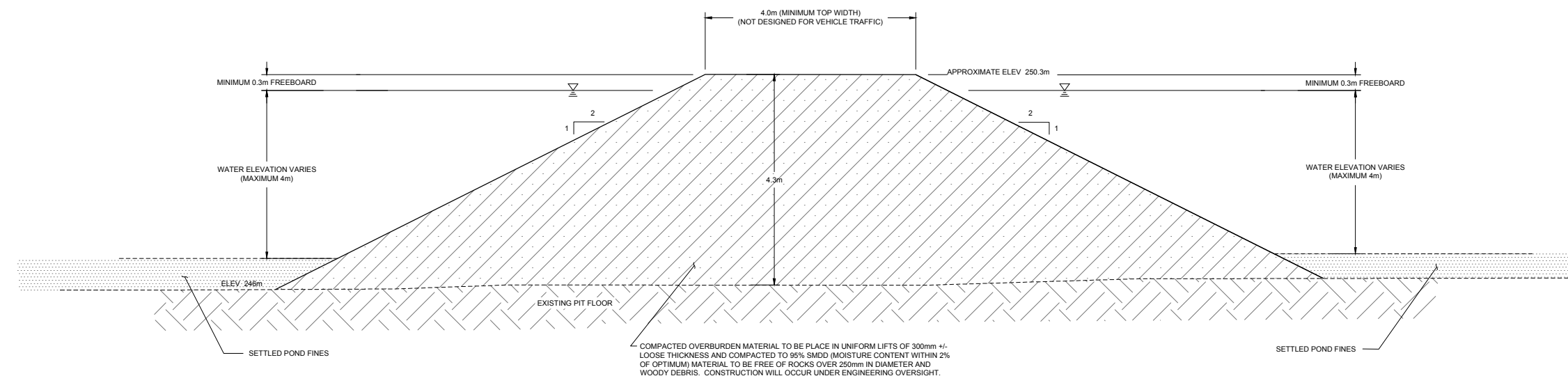


Source Reference: J.H. COCHON ENGINEERING LIMITED, JOB 9738, EXISTING FEATURES, 2 of 5.

Project Manager: JRM	Reviewed By: MRT	Date: APRIL 2015
Scale: AS SHOWN	Project No: 78410-00	Report No: 003
		Drawing No: C-05



SECTION A SETTLING POND BERM
1:50



SECTION B DIVIDING BERM
1:50

NO	Revision	Date	Initial

NOTE:
BERM DESIGN PERTAINS ONLY TO WATER-RETAINING BERMS AND NOT SAFETY BERMS AROUND WATER AREAS OR UNEXCAVATED MATERIAL DIVIDERS AS SHOWN ON DRAWING C-02 AND C-04. BERM DESIGN MAY BE ADAPTED FOR VEHICLE TRAFFIC SUBJECT TO ENGINEERING SPECIFICATION.



DRAWING STATUS		

DUFFERIN PARIS PIT
COUNTY OF BRANT, ONTARIO
ECA APPLICATION AND SUPPORTING INFORMATION
SETTLING POND BERM
DETAILS - OPTION 2



Source Reference:			
Project Manager:	Reviewed By:	Date:	
JRM	MRT	APRIL 2013	
Scale:	Project No.:	Report No.:	Drawing No.:
AS SHOWN	78410-00	003	C-06