



FW: 8211FW: 3AM-IQA1626 2020 amendment application

Rustom, Alan <Alan.Rustom@colliersprojectleaders.com>

Mon, May 18, 2020 at 10:58 PM

To: "richard.dwyer@nwb-oen.ca" <richard.dwyer@nwb-oen.ca>

Cc: Amy Elgersma <a.elgersma@iqaluit.ca>, "derek.donald@nwb-oen.ca" <derek.donald@nwb-oen.ca>, "licensing@nwb-oen.ca" <licensing@nwb-oen.ca>, "Marko, Erik" <Erik.Marko@colliersprojectleaders.com>, "Rustom, Alan" <Alan.Rustom@colliersprojectleaders.com>

Hi Richard,

Please find attached response from Dillion Consulting to your enquires

Previously, we had sent EXP's response to your comments with the Geotech report.

Please let me know if you feel that all comments were adhered to or not and if I can assist any further

Regards,

Alan Rustom MCI Arb, BEng, MSc, Med

Senior Project Manager | Eastern Ontario BU

COLLIERS PROJECT LEADERS

Mobile 343.999.4503

700-150 Isabella Street | Ottawa ON K1S 1V7 | Canada

colliersprojectleaders.com

From: Barnes, Keith <kbarnes@dillon.ca>
Sent: Friday, May 15, 2020 12:02 PM
To: Rustom, Alan <Alan.Rustom@colliersprojectleaders.com>
Cc: Marko, Erik <Erik.Marko@colliersprojectleaders.com>; Kaur, Harminder <Harminder.Kaur@colliersprojectleaders.com>; Deronja, Josip <Josip.Deronja@colliersprojectleaders.com>
Subject: Re: 8211FW: 3AM-IQA1626 2020 amendment application

Hi Alan, attached are Dillon's responses for CIRNAC & NWB. Let me know if you have any questions or concerns.

thanks

Keith



Keith Barnes
Associate
Dillon Consulting Limited
334-11th Avenue SE Suite 200
Calgary, Alberta, T2G 0Y2
T - 403.215.8885 ext. 4310
F - 403.215.8889
M - 403.827.6299
KBarnes@dillon.ca
www.dillon.ca

Please consider the environment before printing this email

On Thu, May 7, 2020 at 12:05 PM Rustom, Alan <Alan.Rustom@colliersprojectleaders.com> wrote:

Hi Keith,

I will send the comments to EXP to provide their feedback related to the road

I am uncertain if there are any comments in regard to the design docs. Lets respond to these comments and I will ask the NWB upon our submission.

Regards,

[Alan Rustom](#) MCI Arb, BEng, MSc, Med

Senior Project Manager | Eastern Ontario BU

COLLIERS PROJECT LEADERS

Mobile 343.999.4503

700-150 Isabella Street | Ottawa ON K1S 1V7 | Canada

colliersprojectleaders.com

From: Barnes, Keith <kbarnes@dillon.ca>

Sent: Thursday, May 7, 2020 2:00 PM

To: Rustom, Alan <Alan.Rustom@colliersprojectleaders.com>

Cc: Marko, Erik <Erik.Marko@colliersprojectleaders.com>; Kaur, Harminder <Harminder.Kaur@colliersprojectleaders.com>; Deronja, Josip <Josip.Deronja@colliersprojectleaders.com>

Subject: Re: 8211FW: 3AM-IQA1626 2020 amendment application

Hi Alan, we will review the comments. At first glance there are several that reference the access road. These are an EXP design and not part of our current scope. Would you like us to address these comments (I don't know if we can, it would need a more indepth review) or will you be going back to EXP?

Also, will these be all the questions wrt the design documents or will there be more still coming.

thanks

Keith

Keith Barnes

Associate

Dillon Consulting Limited

334-11th Avenue SE Suite 200

Calgary, Alberta, T2G 0Y2

T - 403.215.8885 ext. 4310



F - 403.215.8889
M - 403.827.6299
KBarnes@dillon.ca
www.dillon.ca

Please consider the environment before printing this email

On Thu, May 7, 2020 at 11:08 AM Rustom, Alan <Alan.Rustom@colliersprojectleaders.com> wrote:

Good Afternoon Keith,

Please find attached comments from the NWB for your review and to have addressed before May 15th

Can you please provide me with your response to the comments as soon as possible and I will have them submitted to the NWB for them to complete their review

Also, can you please let me know how you are progressing on the 100% documents, and if you feel we will be ready for tender shortly?

Regards,

[Alan Rustom](#) MCI Arb, BEng, MSc, Med

Senior Project Manager | Eastern Ontario BU

[COLLIERS PROJECT LEADERS](#)

Mobile 343.999.4503

[700-150 Isabella Street | Ottawa ON K1S 1V7 | Canada](#)

From: Richard Dwyer <richard.dwyer@nwb-oen.ca>

Sent: Thursday, May 7, 2020 12:48 PM

To: Amy Elgersma <A.Elgersma@city.iqaluit.nu.ca>; Marko, Erik <Erik.Marko@colliersprojectleaders.com>

Cc: Derek Donald <derek.donald@nwb-oen.ca>; Licensing Department <licensing@nwb-oen.ca>

Subject: 3AM-IQA1626 2020 amendment application

Good morning,

The Nunavut Water Board requests response to information requests by May 15, 2020.

Regards,

Richard

[]

This message is directed in confidence solely to the person(s) named above and may contain privileged, confidential or private information which is not to be disclosed. If you are not the addressee or an authorized representative thereof, please contact the undersigned and then destroy this message.

Ce message est destiné uniquement aux personnes indiquées dans l'entête et peut contenir une information privilégiée, confidentielle ou privée et ne pouvant être divulguée. Si vous n'êtes pas le destinataire de ce message ou une personne autorisée à le recevoir, veuillez communiquer avec le soussigné et ensuite détruire ce message.

This message is directed in confidence solely to the person(s) named above and may contain privileged, confidential or private information which is not to be disclosed. If you are not the addressee or an authorized representative thereof, please contact the undersigned and then destroy this message.

Ce message est destiné uniquement aux personnes indiquées dans l'entête et peut contenir une information privilégiée, confidentielle ou privée et ne pouvant être divulguée. Si vous n'êtes pas le destinataire de ce message ou une personne autorisée à le recevoir, veuillez communiquer avec le soussigné et ensuite détruire ce message.

2 attachments



Iqaluit LF-WTS 90 % Review by CIRNAC and NWB .pdf
35K



Dillon Consulting Limited Mail - RE_ Iqaluit Liner Lowered by 2 and 4m.pdf
256K



Barnes, Keith <kbarnes@dillon.ca>

RE: Iqaluit Liner Lowered by 2 and 4m

1 message

Marko, Erik <Erik.Marko@colliersprojectleaders.com>

Wed, Nov 27, 2019 at 11:33 AM

To: "Barnes, Keith" <kbarnes@dillon.ca>

Cc: 199543 <199543@dillon.ca>, Chris Shortall <CShortall@dillon.ca>, Scott Kyle <SKyle@dillon.ca>, "Hamp, Matthew (City of Iqaluit)" <M.Hamp@city.iqaluit.nu.ca>, "Boz, Derin" <Derin.Boz@colliersprojectleaders.com>

Hi Keith,

I just received the attached email from EXP earlier today. Do you have any data to comment on the first point? Otherwise lower the landfill seems beneficial.

Based on our discussion last week, we determined it would be best to use the ponds as a holding area until the treatment method could be verified. We would also state what the output criteria it will meet is once the treatment system has been designed. As you mentioned, in the event of more leachate than anticipate, we could truck it to the west 40 landfill to be treated.

Is it typical for a WWTP to treat leachate? I am not sure if their process can support the treatment of leachate, what would you require to determine if this is a viable option?

Regards,

Erik Marko P.Eng., PMP

Project Manager

COLLIERS PROJECT LEADERS

Mobile 343-998-5502

Suite 700, 150 Isabella Street | Ottawa, ON K1S 1V7 | Canada

erik.marko@colliersprojectleaders.comVideo [Who We Are](#) | Video [Why Hire a PM?](#) | colliersprojectleaders.com

-

If you would like to stop receiving commercial electronic messages from Colliers Project Leaders, please [unsubscribe](#).

Please consider the environment before printing this e-mail.

From: Barnes, Keith <kbarnes@dillon.ca>**Sent:** Wednesday, November 27, 2019 1:18 PM**To:** Marko, Erik <Erik.Marko@colliersprojectleaders.com>**Cc:** 199543 <199543@dillon.ca>; Chris Shortall <CShortall@dillon.ca>; Scott Kyle <SKyle@dillon.ca>**Subject:** Re: Iqaluit Liner Lowered by 2 and 4m

Hi Erik, are we good to design to the 2 m drop in evaluation? Has EXP approved this? Also are we just designing the ponds for treatment? This would require trucking to the west 40 or the WWTP for the short term.

We are getting a little worried about being able to get the drawings out before Christmas, may have to be shortly afterwards.

thanks

Keith

Keith Barnes
Associate
Dillon Consulting Limited
334-11th Avenue SE Suite 200
Calgary, Alberta, T2G 0Y2
T - 403.215.8885 ext. 4310
F - 403.215.8889
M - 403.827.6299
KBarnes@dillon.ca
www.dillon.ca

Please consider the environment before printing this email

On Tue, Nov 19, 2019 at 8:50 AM Barnes, Keith <kbarnes@dillon.ca> wrote:

Hi Erik, we have done a quick evaluation on costs of dropping the landfill by 2 m and 4 m. A 2 m drop seems to be the most cost efficient. Can you get EXP to confirm from a geotechnical perspective that dropping the landfill by 2 m is ok. As a side note, if we drop if further, there would be more blast rock available to the City for future projects. Something to consider? thanks Keith

Item	Estimated Rock Cut	Assumed Unit Price	Estimated Budget	Estimated Common Fill	Assumed Unit Price	Estimated Budget	Proposed Cut/Fill Budget
	m ³	\$/m ³		m ³	\$/m ³		
50% Design	3,900	\$71	\$276,900	895,000	\$30	\$26,850,000	\$27,126,900
Suggested dropping the base of the landfill by 2.0m	42,500	\$71	\$3,017,500	472,000	\$30	\$14,160,000	\$17,177,500
Suggested dropping the base of the landfill by 4.0 m	202,000	\$71	\$14,342,000	171,000	\$30	\$5,130,000	\$19,472,000

Keith Barnes
Associate
Dillon Consulting Limited
334-11th Avenue SE Suite 200
Calgary, Alberta, T2G 0Y2
T - 403.215.8885 ext. 4310
F - 403.215.8889
M - 403.827.6299
KBarnes@dillon.ca
www.dillon.ca

Please consider the environment before printing this email

On Mon, Nov 18, 2019 at 7:11 AM Marko, Erik <Erik.Marko@colliersprojectleaders.com> wrote:

Hi Keith,

Please see three tender submissions for building a road in Iqaluit (in the City). These are from May 2018. The rock excavation price ranges from \$66.5/m3 to \$76/m3 for disposal on site (item 25).

Regards,

[Erik Marko](#) P.Eng., PMP

Project Manager

[COLLIERS PROJECT LEADERS](#)

Mobile 343-998-5502

Suite 700, [150 Isabella Street](#) | [Ottawa, ON K1S 1V7](#) | [Canada](#)

erik.marko@colliersprojectleaders.com

Video [Who We Are](#) | Video [Why Hire a PM?](#) | colliersprojectleaders.com

If you would like to stop receiving commercial electronic messages from Colliers Project Leaders, please [unsubscribe](#).

Please consider the environment before printing this e-mail.

From: Barnes, Keith <kbarnes@dillon.ca>
Sent: Friday, November 15, 2019 5:48 PM
To: Marko, Erik <Erik.Marko@colliersprojectleaders.com>
Cc: 199543 <199543@dillon.ca>; Chris Shortall <CShortall@dillon.ca>; Scott Kyle <SKyle@dillon.ca>
Subject: Fwd: Iqaluit Liner Lowered by 2 and 4m

Hi Erik, here are some cut and fill volumes. If you have costs for recent blasting we can update out estimates.

Also, as EXP did the geotechnical investigation for the site, it would be good for them to review our options and comment on the stability if we are lowering the base into the PF.

thanks

Keith

Keith Barnes
Associate
Dillon Consulting Limited
334-11th Avenue SE Suite 200
Calgary, Alberta, T2G 0Y2
T - 403.215.8885 ext. 4310
F - 403.215.8889
M - 403.827.6299
KBarnes@dillon.ca
www.dillon.ca

Please consider the environment before printing this email

----- Forwarded message -----

From: Shortall, Christopher <CShortall@dillon.ca>
Date: Fri, Nov 15, 2019 at 9:40 AM
Subject: Fwd: Iqaluit Liner Lowered by 2 and 4m
To: Barnes, Keith <kbarnes@dillon.ca>, Scott Kyle <SKyle@dillon.ca>

Keith,

Here is the landfill cut/fill dropped by 2 and 4 m.

Chris

Christopher Shortall, P. Eng., FEC
Associate
Dillon Consulting Limited
137 Chain Lake Drive Suite 100
Halifax, Nova Scotia, B3S 1B3
T - 902.450.5015 ext. 5032
F - 902.450.2008
M - 902.430.2602
CShortall@dillon.ca
www.dillon.ca

Please consider the environment before printing this email

----- Forwarded message -----

From: Curnew, Douglas <DCurnew@dillon.ca>
Date: Fri, Nov 15, 2019 at 7:52 AM
Subject: Iqaluit Liner Lowered by 2 and 4m
To: Shortall, Christopher <CShortall@dillon.ca>

Pdf attached for the 75 year, I'll do the same for Cell 1 only and send that in an hour.

--

Douglas Curnew
Dillon Consulting Limited
137 Chain Lake Drive Suite 100
Halifax, Nova Scotia, B3S 1B3
T - 902.450.5015 ext. 5008
F - 902.450.2008
DCurnew@dillon.ca
www.dillon.ca

Please consider the environment before printing this email

This message is directed in confidence solely to the person(s) named above and may contain privileged, confidential or private information which is not to be disclosed. If you are not the addressee or an authorized representative thereof, please contact the undersigned and then destroy this message.

Ce message est destiné uniquement aux personnes indiquées dans l'entête et peut contenir une information privilégiée, confidentielle ou privée et ne pouvant être divulguée. Si vous n'êtes pas le destinataire de ce message ou une personne autorisée à le recevoir, veuillez communiquer avec le soussigné et ensuite détruire ce message.

Attached:

Rock Excavation 1.pdf
Rock Excavation 2.pdf
Rock Excavation 3.pdf

This message is directed in confidence solely to the person(s) named above and may contain privileged, confidential or private information which is not to be disclosed. If you are not the addressee or an authorized representative thereof, please contact the undersigned and then destroy this message.

Ce message est destiné uniquement aux personnes indiquées dans l'entête et peut contenir une information privilégiée, confidentielle ou privée et ne pouvant être divulguée. Si vous n'êtes pas le destinataire de ce message ou une personne autorisée à le recevoir, veuillez communiquer avec le soussigné et ensuite détruire ce message.

Attached:

RE: Iqaluit Liner Lowered by 2 and 4m

----- Forwarded message -----

From: Surinder Aggarwal <Surinder.Aggarwal@exp.com>
To: "Marko, Erik" <Erik.Marko@colliersprojectleaders.com>
Cc: Ismail Taki <ismail.taki@exp.com>
Bcc:
Date: Wed, 27 Nov 2019 16:42:46 +0000
Subject: RE: Iqaluit Liner Lowered by 2 and 4m

Hi Erik,

We understand that it is proposed to lower the base of the refuse cells by 2m.

We have now completed a reviewed of the geotechnical report to assess the impact of this proposal from a geotechnical perspective. Our comments are as follows:

1. As noted in the geotechnical investigation report, the guidelines recommend that the base of the landfill cell and leachate holding ponds should be set at a depth of 1m below existing grade or 1.5m above high groundwater table or permafrost depth. Information regarding seasonal high groundwater table and the permafrost level is currently not available. Consequently, we are unable to comment on how these factors would impact the revised design. However, It would be reasonable to assume that lowering the base of the cells may present difficulty in satisfying these conditions.

2. The impact of lowering the base of the cells would likely be positive as far as the settlement of the cells and the berms are concerned since the thickness of overburden will be reduced.

3. Berm slopes may have to be flattened depending on the position of the groundwater table relative to the cell bases.

4. There will be no change in the requirement of the geosynthetic liners.

5. Dewatering of the site may be more onerous depending on the time of the year construction is undertaken.

It is noted that if the above approach is adopted, revision to the geotechnical investigation report would be required.

Should you have any questions, please contact this office.

Surinder

Surinder Aggarwal, M.Sc., P.Eng

Senior Geotechnical Engineer.

EXP Services Inc.,

t : +1.613.688.1899 | m : +1.613.558.2951 | e : Surinder.Aggarwal@exp.com

exp.com | legal disclaimer

keep it green, read from the screen

From: Ismail Taki

Sent: Tuesday, November 19, 2019 1:21 PM

To: Surinder Aggarwal <Surinder.Aggarwal@exp.com>

Subject: Fwd: Iqaluit Liner Lowered by 2 and 4m

Sur

Get [Outlook for Android](#)

From: Ismail Taki <ismail.taki@exp.com>
Sent: Tuesday, November 19, 2019 1:20:47 PM
To: Marko, Erik <Erik.Marko@colliersprojectleaders.com>
Subject: Re: Iqaluit Liner Lowered by 2 and 4m

I will get back to you tomorrow as I am out of the office today.

Thanks

Ismail

Get [Outlook for Android](#)

From: Marko, Erik <Erik.Marko@colliersprojectleaders.com>
Sent: Tuesday, November 19, 2019 1:15:25 PM
To: Ismail Taki <ismail.taki@exp.com>
Subject: FW: Iqaluit Liner Lowered by 2 and 4m

Hi Ismail,

I just left you a voicemail, would you be able to comment on any concerns for lowering the landfill base by 2m with regards to ground and permafrost stability. Do you see any issues with this?

Regards,

[Erik Marko](#) P.Eng., PMP
Project Manager
[COLLIERS PROJECT LEADERS](#)
Mobile 343-998-5502
Suite 700, [150 Isabella Street](#) | Ottawa, ON K1S 1V7 | Canada
erik.marko@colliersprojectleaders.com

Video [Who We Are](#) | Video [Why Hire a PM?](#) | colliersprojectleaders.com

If you would like to stop receiving commercial electronic messages from Colliers Project Leaders, please [unsubscribe](#).

Please consider the environment before printing this e-mail.

From: Barnes, Keith <kbarnes@dillon.ca>
Sent: Tuesday, November 19, 2019 10:50 AM
To: Marko, Erik <Erik.Marko@colliersprojectleaders.com>
Cc: 199543 <199543@dillon.ca>; Chris Shortall <CShortall@dillon.ca>; Scott Kyle <SKyle@dillon.ca>
Subject: Re: Iqaluit Liner Lowered by 2 and 4m

Hi Erik, we have done a quick evaluation on costs of dropping the landfill by 2 m and 4 m. A 2 m drop seems to be the most cost efficient. Can you get EXP to confirm from a geotechnical perspective that dropping the landfill by 2 m is ok. As a side note, if we drop if further, there would be more blast rock available to the City for future projects. Something to consider? thanks Keith

Item	Estimated Rock Cut	Assumed Unit Price	Estimated Budget		Estimated Common Fill	Assumed Unit Price	Estimated Budget	Proposed Cut/Fill Budget
	m ³	\$/m ³			m ³	\$/m ³		

50% Design	3,900	\$71	\$276,900	895,000	\$30	\$26,850,000	\$27,126,900
Suggested dropping the base of the landfill by 2.0m	42,500	\$71	\$3,017,500	472,000	\$30	\$14,160,000	\$17,177,500
Suggested dropping the base of the landfill by 4.0 m	202,000	\$71	\$14,342,000	171,000	\$30	\$5,130,000	\$19,472,000

Keith Barnes
Associate
Dillon Consulting Limited
334-11th Avenue SE Suite 200
Calgary, Alberta, T2G 0Y2
T - 403.215.8885 ext. 4310
F - 403.215.8889
M - 403.827.6299
KBarnes@dillon.ca
www.dillon.ca

Please consider the environment before printing this email

On Mon, Nov 18, 2019 at 7:11 AM Marko, Erik <Erik.Marko@colliersprojectleaders.com> wrote:

Hi Keith,

Please see three tender submissions for building a road in Iqaluit (in the City). These are from May 2018. The rock excavation price ranges from \$66.5/m3 to \$76/m3 for disposal on site (item 25).

Regards,

Erik Marko P.Eng., PMP

Project Manager

COLLIERS PROJECT LEADERS

Mobile 343-998-5502

Suite 700, 150 Isabella Street | Ottawa, ON K1S 1V7 | Canada

erik.marko@colliersprojectleaders.com

Video [Who We Are](#) | Video [Why Hire a PM?](#) | colliersprojectleaders.com

If you would like to stop receiving commercial electronic messages from Colliers Project Leaders, please [unsubscribe](#).

Please consider the environment before printing this e-mail.

From: Barnes, Keith <kbarnes@dillon.ca>

Sent: Friday, November 15, 2019 5:48 PM

To: Marko, Erik <Erik.Marko@colliersprojectleaders.com>

Cc: 199543 <199543@dillon.ca>; Chris Shortall <CShortall@dillon.ca>; Scott Kyle <SKyle@dillon.ca>

Subject: Fwd: Iqaluit Liner Lowered by 2 and 4m

Hi Erik, here are some cut and fill volumes. If you have costs for recent blasting we can update out estimates.

Also, as EXP did the geotechnical investigation for the site, it would be good for them to review our options and comment on the stability if we are lowering the base into the PF.

thanks

Keith

Keith Barnes
Associate
Dillon Consulting Limited
334-11th Avenue SE Suite 200
Calgary, Alberta, T2G 0Y2
T - 403.215.8885 ext. 4310
F - 403.215.8889
M - 403.827.6299
KBarnes@dillon.ca
www.dillon.ca

Please consider the environment before printing this email

----- Forwarded message -----

From: **Shortall, Christopher** <CShortall@dillon.ca>
Date: Fri, Nov 15, 2019 at 9:40 AM
Subject: Fwd: Iqaluit Liner Lowered by 2 and 4m
To: Barnes, Keith <kbarnes@dillon.ca>, Scott Kyle <SKyle@dillon.ca>

Keith,

Here is the landfill cut/fill dropped by 2 and 4 m.

Chris

Christopher Shortall, P. Eng., FEC
Associate
Dillon Consulting Limited
137 Chain Lake Drive Suite 100
Halifax, Nova Scotia, B3S 1B3
T - 902.450.5015 ext. 5032
F - 902.450.2008
M - 902.430.2602
CShortall@dillon.ca
www.dillon.ca

Please consider the environment before printing this email

----- Forwarded message -----

From: **Curnew, Douglas** <DCurnew@dillon.ca>
Date: Fri, Nov 15, 2019 at 7:52 AM
Subject: Iqaluit Liner Lowered by 2 and 4m
To: Shortall, Christopher <CShortall@dillon.ca>

Pdf attached for the 75 year, I'll do the same for Cell 1 only and send that in an hour.

--

Douglas Curnew
Dillon Consulting Limited
137 Chain Lake Drive Suite 100
Halifax, Nova Scotia, B3S 1B3
T - 902.450.5015 ext. 5008
F - 902.450.2008
DCurnew@dillon.ca
www.dillon.ca

Please consider the environment before printing this email

This message is directed in confidence solely to the person(s) named above and may contain privileged, confidential or private information which is not to be disclosed. If you are not the addressee or an authorized representative thereof, please contact the undersigned and then destroy this message.

Ce message est destiné uniquement aux personnes indiquées dans l'entête et peut contenir une information privilégiée, confidentielle ou privée et ne pouvant être divulguée. Si vous n'êtes pas le destinataire de ce message ou une personne autorisée à le recevoir, veuillez communiquer avec le soussigné et ensuite détruire ce message.

Attached:

Rock Excavation 1.pdf
Rock Excavation 2.pdf
Rock Excavation 3.pdf

This message is directed in confidence solely to the person(s) named above and may contain privileged, confidential or private information which is not to be disclosed. If you are not the addressee or an authorized representative thereof, please contact the undersigned and then destroy this message.

Ce message est destiné uniquement aux personnes indiquées dans l'entête et peut contenir une information privilégiée, confidentielle ou privée et ne pouvant être divulguée. Si vous n'êtes pas le destinataire de ce message ou une personne autorisée à le recevoir, veuillez communiquer avec le soussigné et ensuite détruire ce message.

 **RE: Iqaluit Liner Lowered by 2 and 4m.eml**
85K

CIRNAC		Comment	Question	Assigned to	Status
1	Source of Gravel and Clay Materials	The source of gravel and clay to be used in the new landfill has not yet been shared with the public, as indicated in Question 8 of the Consultation Record. An understanding of the source of building materials is helpful for reviewers to assess full impact of the construction of infrastructure, and for understanding topographical specifications at the quarry site which relate to surface water quality and flow management.	(IR-01) CIRNAC requests that the source of the gravel and clay be communicated with CIRNAC as soon as a location is chosen by the City of Iqaluit.	Colliers/City	It is understood that the City/Colliers/EXP have granular sources identified for the landfill and access road and will respond to this comment
2	Erosion and Sediment Control Plan	The Erosion and Sediment Control Plan describes control measures to be implemented by the City of Iqaluit to reduce the risk of sediment transport off site and into nearby water bodies. The Erosion and Sediment Control Plan covers all phases of the project for the Waste Transfer Station and for the Landfill, but does not describe measures to be undertaken regarding the access road.	(IR-02) CIRNAC recommends that the City of Iqaluit include a section in the Erosion and Sediment Control Plan to indicate the risks and mitigation measures for sedimentation and erosion along the access road.	EXP	
3	Inclusion of Landfill in City Management Plans Previously Submitted	The City of Iqaluit is currently working with Nunami Stantec on a Master Drainage Plan for the City of Iqaluit. The new landfill will require water services from the City and surface water management for precipitation and overland flow events. CIRNAC recommends that the landfill and associated infrastructure be included in the Master Drainage Plan. Further, CIRNAC recommends that landfill operations, including contact water, sediment water, fuels, leachate, and hazardous wastes, be included and/or updated in the Spill Contingency Plan.	(IR-03) CIRNAC requests that the City of Iqaluit indicate if, when, and how the Master Drainage Plan and the Spill Contingency Plan will be updated to include measures pertaining to the new landfill, the waste transfer station, and the landfill access road.	EXP / Dillon	Spill Contingency Plan will be updated in the 100% submission to include measures pertaining to the new landfill, the waste transfer station, and the landfill access road.
4	Geotechnical Study for the Access Road	The Statement of Construction Report indicated completed studies which have not yet been made available for intervener review. These studies were the Geothermal Modelling and Geotechnical Recommendations Transfer Station and Landfill in Iqaluit, Nunavut May 2019, the City of Iqaluit Geotechnical Investigation Proposed Waste Transfer Station Lots 3586 228/17/18/20 and 3480 220 1, Iqaluit, Nunavut, October, 2018, and a Quality Control Program. The Statement of Construction Report also indicated planned programs, such as regular safety audits. One important study which was not indicated was a geotechnical study for the proposed access road. CIRNAC would find it beneficial to know whether a geotechnical study for the access road has been completed or if one is planned.	(IR-04) CIRNAC requests that the City of Iqaluit clarify whether a geotechnical study has been completed, or is planned for the access road, and that all the indicated studies and programs be made available during the technical review phase.	EXP	
5	National Building Code of Canada (NBCC 2015)	The National Building Code of Canada (National Research Council Canada, 2015) outlines technical provisions for the design and construction of new buildings, and for the alteration, change of use, and demolition of existing buildings. Different editions of this code exist for different jurisdictions.	(IR-05) CIRNAC recommends that the City of Iqaluit clarify and confirm whether all the structural reinforcement details such as concrete wall details, concrete mat foundation, and so on, meet the minimum requirements of the National Building Code of Canada (National Research Council Canada, 2015), or the minimum requirements of the territorial edition of the code which apply to buildings in Nunavut.	Dillon	The design of the structure is in conformance with the NBC 2015. The design of concrete structure is in conformance with the CSA A23.3. Nunavut adopts the NBC 2015. Thermosyphon design is in accordance with CSA S500.
6	Method Statement of Construction Report	The Method Statement of Construction Report describes the construction methodology to be used for the proposed new Iqaluit Landfill and Waste Transfer Station. CIRNAC recommends that the report be updated with additional information regarding grading, drainage, and erosion of the access road to provide full details of construction so that intervener can conduct adequate technical reviews of the methods and impacts.	(IR-06) CIRNAC requests that the City of Iqaluit consider adding the following sections to the Method Statement of Construction Report:		
			i. An erosion and sediment control section under the Landfill Access Road construction section (Section 6.0); and	EXP	
			ii. Additional information regarding the grading and drainage components of the new access road, such as ditching and culvert installation, under the Scope of Work (Section 6.2.3).	EXP	
7	Closure and Decommissioning Plan	The Closure and Decommissioning Plan, associated with Block 9 of the Application Form - Description of Undertaking, provide plans for the closure of the Landfill infrastructure. Upon review CIRNAC developed a number of questions. These are indicated in the information request.	(IR-07) CIRNAC recommends that the City of Iqaluit provide the following information in the Closure and Decommissioning Plan:		

			i. Information on if and how the leachate retention ponds will be de-commissioned at the end of the 75 year cycle;	Dillon	There is a strong possibility that even after the landfill's 75 year life, leachate will continue to be generated for several years or decades post-closure. Once the holding ponds are no longer required, the liner material will be removed and disposed of at an approved location. The ponds will either then need to be filled in with clean fill material, or the berms deconstructed and disposed of, depending on land use requirements.
			ii. Information on if and how the leachate ponds will be covered by protected shield;	Dillon	There is no protective covering proposed for the leachate holding ponds. Such a cover would be difficult to maintain and likely require frequent replacement/repair. Similar to the West 40 site, the lagoon will be fenced in.
			iii. Information on if and how wildlife, including birds will be prevented from entering the leachate retention ponds during normal operation of the landfill;	Dillon	It is Dillon's understanding that during the previous landfill siting project, consideration was given to Transport Canada's siting requirements for solidwaste and liquid waste disposal sites in regards to airports. For operational purposes, some wildlife will be kept out via fence, while other vectors (such as birds) may require deterrence through audio means (i.e. noise bangers, drones).
			iv. Information on if and how wildlife, including birds, be prevented from entering the leachate retention ponds at closure and decommissioning; and,	Dillon	Post-closure, the lagoons will be pumped out, cleaned (with leachate-bearing materials disposed of in accordance with regulatory requirements) and filled in.
			v. Given a certain level of anticipated settlement in the final grading of the site, whether a survey of the site will be completed, and if so at what frequency.	Dillon	A survey of the LF base should be conducted at the time of contruction followed by subsequent annual surveys of the landfill cap to ensure water is being directed away from the deposit?
8	Design Drawing Details	The design drawing packages WTS – 90 Percent Drawings and Landfill – 90 Percent Drawings, are associated with Block 9 of the Application Form - Description of Undertaking. These packages provide plans for the construction of the Waste Transfer Station and Landfill infrastructure. The Engineering Drawings provided are preliminary and not intended for construction. Upon CIRNAC review, a number of items are noted which are recommended to be added to the drawings for construction purposes. These are indicated in the information requests.	(IR-08) CIRNAC recommends that the City of Iqaluit indicate the following items on the Waste Transfer Station Drawings:		
			i. The party responsible for the development of the required specifications on the Design Drawings (ex. materials and performance ratings);	Dillon	Where appropriate, drawings will be stamped by the party responsible
			ii. The maintenance routine in order to address any defects of the planned shallow trench around the perimeter of the baling unit;	Dillon	Will be addressed in the 100% report submission
			iii. The material and method of construction of the indicated trench;	Dillon	Will be addressed in the 100% report submission
			iv. Details of the Weigh Scale House including location, heating, and ventilation systems;	Dillon	Details to be provided in 100% drawing and spec submission
			v. Details about the emergency generator, including location of storage tank, day tank and piping;	Dillon	Only one tank provided and it will under the generator in the enclosure. Generator Specification to be added to 100% submission
			vi. Emergency generator on equipment schedule;	Dillon	No equipment schedule for the generator. Generator specification to be added

			vii. Location of fuel storage tanks for fuelling of vehicles;	Dillon	No vehicle fueling on the project
			viii. Details of the glycol loop; and	Dillon	Assume CIRNAC is referencing the thermosyphon piping as there is no glycol loops, additional thermosyphon design will be provided in 100% drawing set. Thermosyphone design is as per CSA S500. Supplier will provide sealed construction drawings.
			ix. The location of the glycol pump on the pump schedule.	Dillon	Thermosyphone does not require pump. It requires radiators which are at the manifold pads as per drawings.
			(IR-09) CIRNAC also recommends that the City of Iqaluit indicate the following items on the Landfill Drawings:		
			i. Details of the leachate pumping station, which is indicated in the Method Statement of Construction Report.	Dillon	Will be addressed in the 100% report submission
9	Operation and Maintenance Manual	The Operations and Maintenance Manual (O&M Manual) describes the details and procedures for staff to follow to maintain the facility in safe and efficient state so that operations run smoothly and equipment functions to the best of its ability. CIRNAC has reviewed the O&M Manual and did not find a schedule for reviews of certain project components. To maintain peak performance, CIRNAC recommends including periodic reviews of the condition of the access road to ensure that there are no major depressions and that the grading allows for a proper drainage management. Further, given that permanent erosion and sediment control measures are to be put in place, CIRNAC recommends including a periodic review of these components in the O&M manual.	(IR-10) CIRNAC recommends that a schedule or trigger for periodic reviews be written into the O&M Manual for the condition of the access road and for the erosion and sediment control measures put in place.	Dillon	Will be addressed in the 100% report submission

Nunavut Water Board

1	Leachate treatment options evaluation memo	As described in the Method Statement of Construction report, leachate will be collected via the landfill's liner system and then pumped to the leachate collection facility. Section 5.2.12 of this report indicates that on August 30, 2019, Dillon Consulting submitted a leachate treatment options evaluation memo to the City of Iqaluit. This memo apparently presented several options for leachate treatment at the new landfill. This memo does not appear to be included in the water licence amendment application. Submission of this memo is important to support an understanding of leachate treatment options.	ECCC requests that the leachate treatment options evaluation memo that was submitted by Dillon Consulting to the City of Iqaluit on August 30, 2019 be provided for review.	Dillon	Please see attached memo. The results of the investigation recommended three different approaches, essentially based on the reuse (or partial reuse) of existing equipment. After discussion with the City and their representatives, due to capital cost requirements and the uncertainty in leachate quality, Dillon was directed to design the holding ponds to store leachate for approximately two years until the landfill is established.
2	Monitoring and Inspection	Both of the Environmental Protection Plans (i.e., EPP - Construction Phase; and EPP - Operations, Closure and Post-Closure Phases) lack sufficient information on monitoring and inspection activities. Section 5.0 (Monitoring and Inspection) of both plans is a single short paragraph which concludes "There may be a need to revise specific monitoring and inspection activities outlined below...". However, neither document outlines monitoring and inspection activities.	ECCC recommends that the proponent update Section 5.0 (Monitoring and Inspection) of both Environmental Protection Plans (i.e., EPP - Construction Phase; and EPP - Operations, Closure and Post-Closure Phases) to specify the monitoring and inspection activities that will be conducted.	Dillon	Reports will be updated for the final 100% submission