



MR. KEVIN O'REILLY
MLA, FRAME LAKE

AUG 28 2017

Follow up to Oral Question 503-18(2) Northern Frontier Visitors Centre

Further to my earlier letter dated June 1, 2017 (attached), I am writing to follow up on a commitment that I made to you in the Legislative Assembly on February 3, 2017, regarding the Northern Frontier Visitors Centre (NFVC). During our exchange, I committed to provide you and Members of the Legislative Assembly with copies of the engineering firm and the business case reports, once received by the Department of Industry, Tourism and Investment (ITI).

I wish to inform you that ITI recently received the following two reports which are attached to this letter:

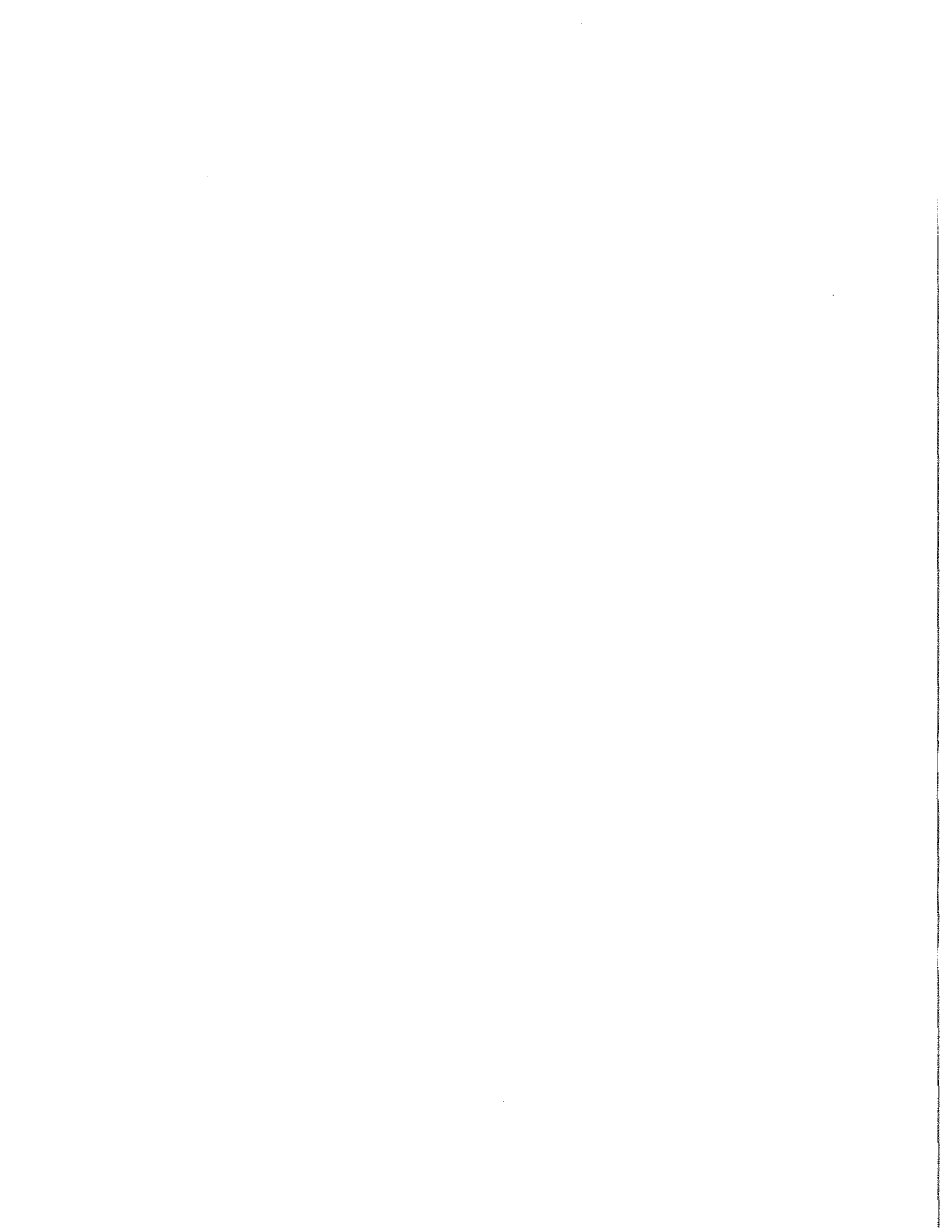
- Williams Engineering Canada Inc., the engineering firm, was retained by the Northern Frontier Visitors Association to carry out a structural assessment of the NFVC; and
- Outcrop Communications Ltd. was retained by the Northern Frontier Visitors Association to examine best practices and cost estimates for operating a Yellowknife Visitors Information Centre.

Thank you for your interest in this matter. I trust this information is satisfactory.

Wally Schumann
Minister
Industry, Tourism and Investment

Attachments

- c. List Attached



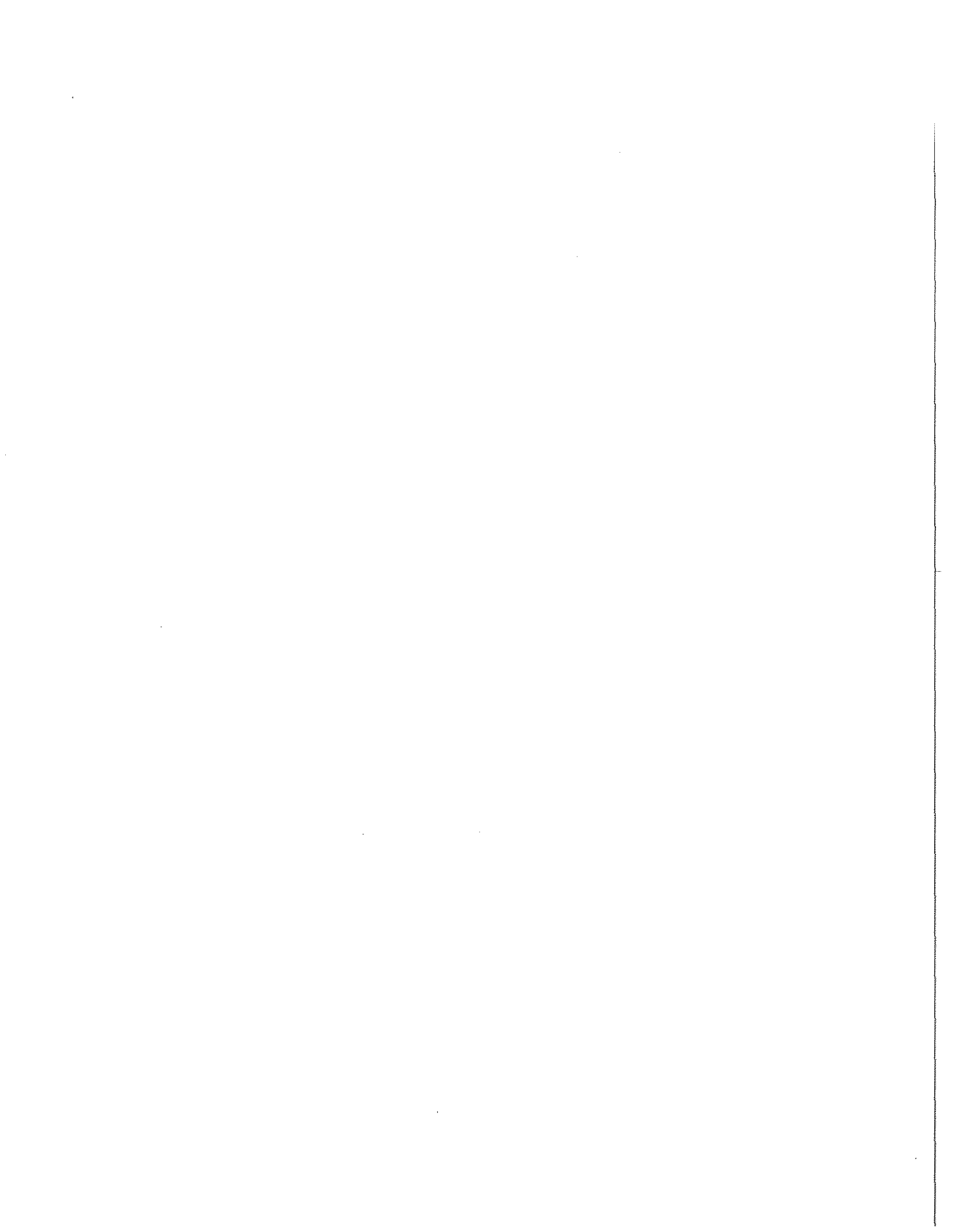
Members of the Legislative Assembly

Honourable Alfred Moses
Minister, ECE

Mr. Tom Jensen
Deputy Minister, ITI

Mr. Tim Mercer
Clerk of the Legislative Assembly

Mr. David Hastings
Legislative Coordinator





2017 - 1 2017

MR. KEVIN O'REILLY
MLA, FRAME LAKE

Oral Question 503-18(2) Northern Frontier Visitors Centre

This letter is further to my commitment made in the Legislative Assembly on February 3, 2017, regarding the Northern Frontier Visitors Centre (NFVC). During our discussion, I committed to double check to see if the Department of Industry, Tourism and Investment (ITI) has identified any funding in the 2017-18 Capital or Operations and Maintenance budget for additional assistance to support the NFVC. I also committed to keep the House apprised of the next steps to be taken with respect to how ITI can assist the NFVC, once the report came back from the engineering firm and once the business case was received from the communications agency.

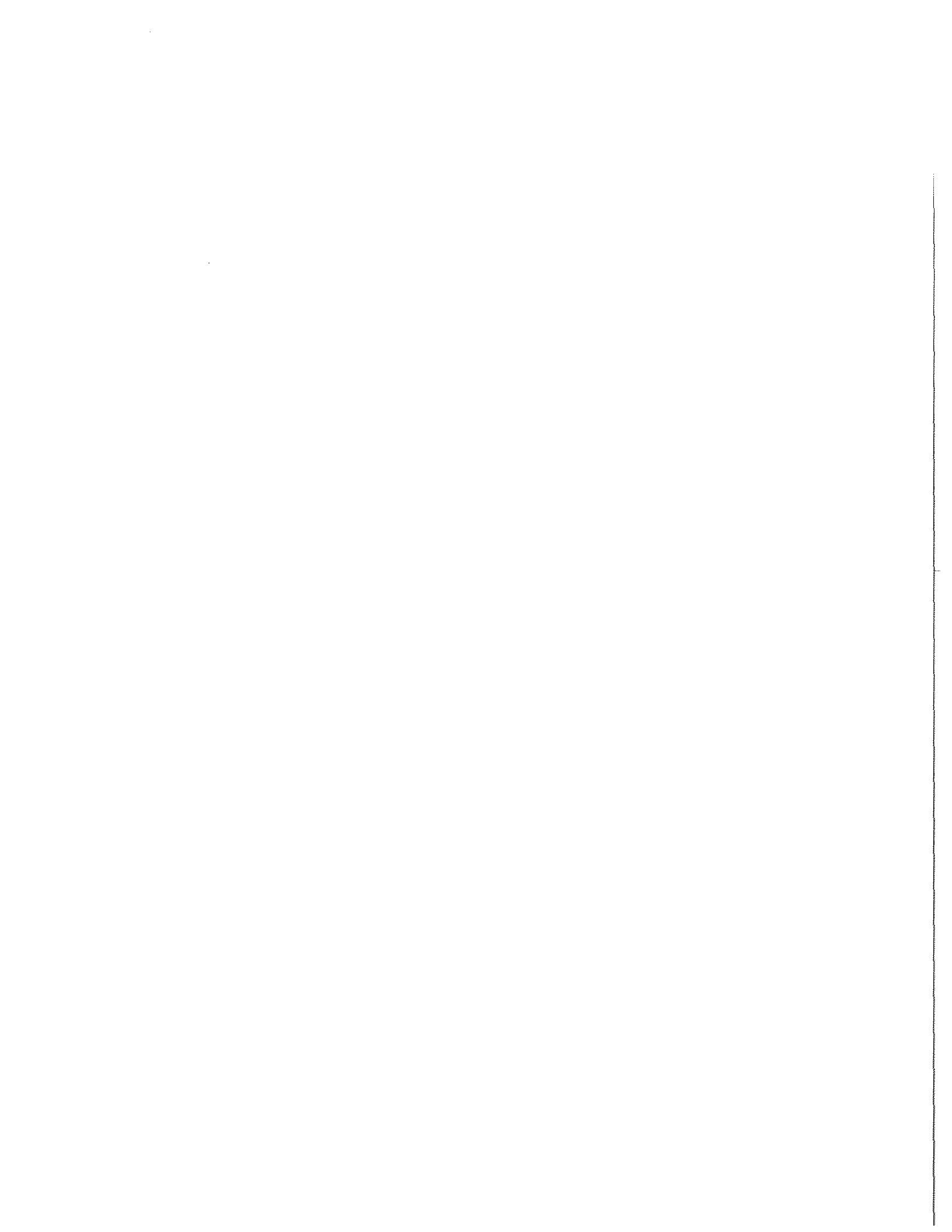
Furthermore, I committed to provide you with information on how ITI funds and operates other tourism centres in the Northwest Territories (NWT).

The Northern Frontier Visitor's Association (NFVA) receives \$161,000 from ITI and \$90,000 from the City of Yellowknife annually for operations and maintenance. More recently, ITI has supported the NFVA with additional resources to study and evaluate the visitor centre's foundation issues and to look at different business models as options for future operations. ITI's focus has been to ensure that any decisions made by the NFVA were based on solid and up-to-date findings.

Several business case options were presented by the NFVA to preserve the future of the NFVA and visitor-information services in Yellowknife as shown below:

- Dismantle the NFVA, remove existing building, and cease visitor services (\$50,000);
- Temporary fix to the existing building until a permanent solution can be put in place (\$300,000). This option may not be viable depending on current shifting of the building;

.../2



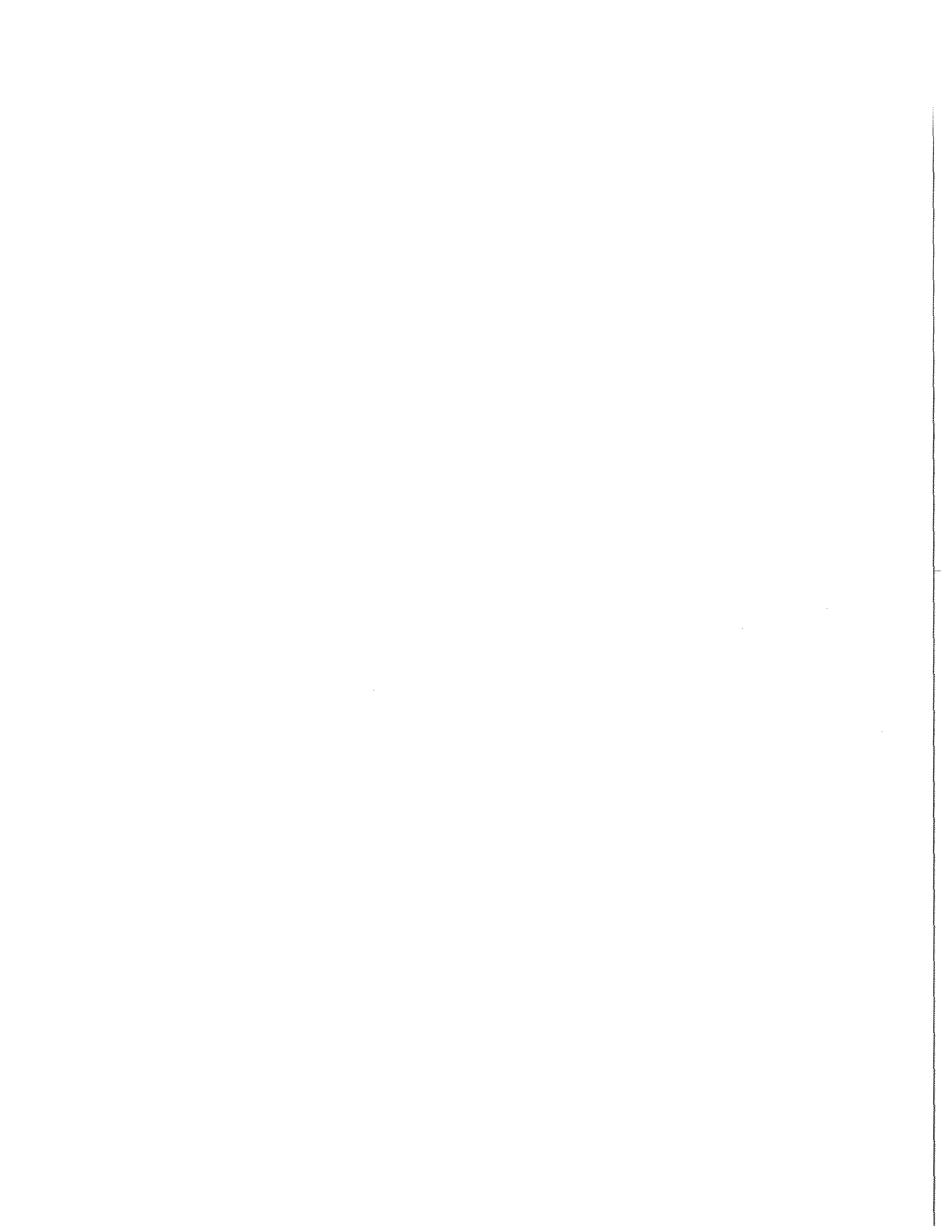
- Move the visitor centre to a temporary location downtown (with rent paid by City of Yellowknife);
- Build a new smaller visitors centre at the current site (\$2-3 million);
- Build a new visitor centre, larger than existing one (\$4.5 million); and
- Build a new much larger visitor centre (multi-purpose tourism centre) \$3.77 - 5.25 million.

In regards to keeping the House apprised of the next steps to be taken with respect to how ITI can assist the NFVC, the engineering assessment reports and the business case report are expected to be completed this summer, at which time I will share with the Members of the Legislative Assembly.

The Government of the Northwest Territories (GNWT) has been working in partnership with the City of Yellowknife and the NFVA to respond to the closure of the NFVC. The immediate priority has been to re-establish visitor services in an alternate location. A temporary location has now been identified at the Prince Of Wales Northern Heritage Centre and a Memorandum of Understanding has been provided by the Department of Education, Culture and Employment (ECE) to the NFVA for consideration. This space will allow for visitor information services to continue, while other options are considered. ITI will cover costs associated with NFVA's move to the new location and the interim storage of its assets. The City of Yellowknife has and will continue to be a key funding partner for the NFVA and we commend them for their contribution of additional resources.

Once immediate service delivery concerns are addressed, ITI and partners will turn our collective attention to finding a longer-term solution. The identification of a more permanent location and next steps will require the identification of a business model for visitor information services that can be effectively delivered and sustained.

Lastly, I committed to provide you with information on how ITI funds and operates other tourism centres in the NWT. I offer the following information:

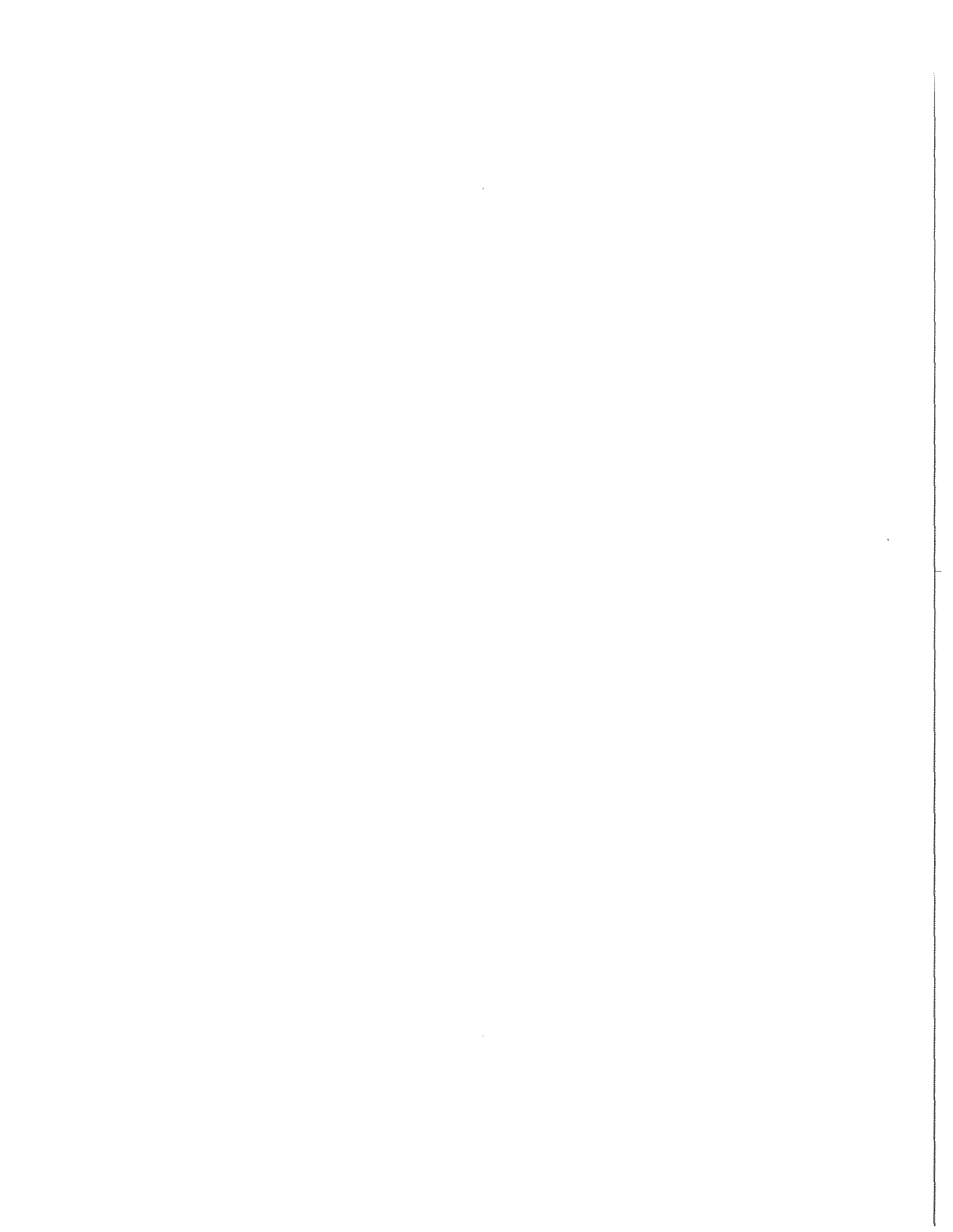


The table below outlines the funding provided by ITI in the area of visitor information services/centres in 2016-17 and 2017-18:

Region	Service/Centre	2016-17 ITI Funding	2017-18 ITI Funding
Beaufort Delta	Western Arctic Regional Visitors Centre, Inuvik	\$105,000	\$127,000
	Dempster Delta Visitors Centre, Dawson City, Yukon (YK)	\$115,000	\$102,000
Sahtu	Norman Wells Historical Centre, Norman Wells	\$20,000	TBD
North Slave	Northern Frontier Visitor Centre, Yellowknife	\$161,000	\$161,000
Dehcho	Fort Simpson Visitor Information Centre, Fort Simpson	\$50,000	\$50,000
South Slave	60 th Parallel Visitors Centre, NWT/Alberta (AB) border	\$104,000	\$99,000
	Hay River Visitor Centre Hay River	\$0	\$0

The table below outlines the annual operating costs, staff and operating season for visitor information services/centres in the NWT.

Region	Service/Centre	Operating Costs	Staff	Operating Season	Hours of Operation
Beaufort Delta	Western Arctic Regional Visitors Centre, Inuvik	\$105,000	4 Seasonal (S)	May to September	Mon-Fri 9:00 am - 7:00pm
	Dempster Delta Visitors Centre, Dawson City YK	\$115,000	3 S	May to September	Seven days a week: 9am - 7pm
Sahtu	Norman Wells Historical Centre, Norman Wells	\$191,000	2 Full-time (FT) 2 Part-time	Year round	Summer hours (June 1-Aug 31): Mon-Fri 10 am- 5:30 pm Sat 10 am- 4 pm, Sun 12 pm- 4 pm Winter hours (Sept 1-May 31): Mon-Fri 10 am- 5:30 pm Sat 10 am- 4 pm
North Slave	Northern Frontier Visitor Centre, Yellowknife	\$1,512,430	6 FT 8-10 S	Year round	n/a
Dehcho	Fort Simpson Visitor Information Centre, Fort Simpson	\$100,000	4 S	May to September	(May) Mon - Fri 8:30 am - 5 pm Sat - Sun 12 pm - 5pm (After June 1) Mon - Fri 8:30 am to 8 pm Sat - Sun 9 am to 5 pm
South Slave	60 th Parallel Visitors Centre, NWT/AB border	\$104,000	2 S	May to September	Seven days a week: 8:30 am - 8:30 pm

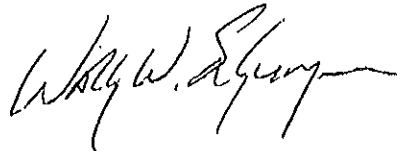


The table below indicates four operating models and building ownership for visitor information services/centres in the NWT.

Region	Service/Centre	Owner	Operator
Beaufort Delta	Western Arctic Regional Visitors Centre, Inuvik	GNWT - ITI	GNWT - ITI
	Dempster Delta Visitors Centre, Dawson City YK	Parks Canada	GNWT - ITI
South Slave	60 th Parallel Visitors Centre, NWT/AB border	GNWT - ITI	Contractor
Sahtu	Norman Wells Historical Centre, Norman Wells	Norman Wells Historical Centre	Norman Wells Historical Centre
North Slave	Northern Frontier Visitor Centre, Yellowknife	Northern Frontier Visitor Association	Northern Frontier Visitors Association
Dehcho	Fort Simpson Visitor Information Centre, Fort Simpson	Village of Fort Simpson	Village of Fort Simpson

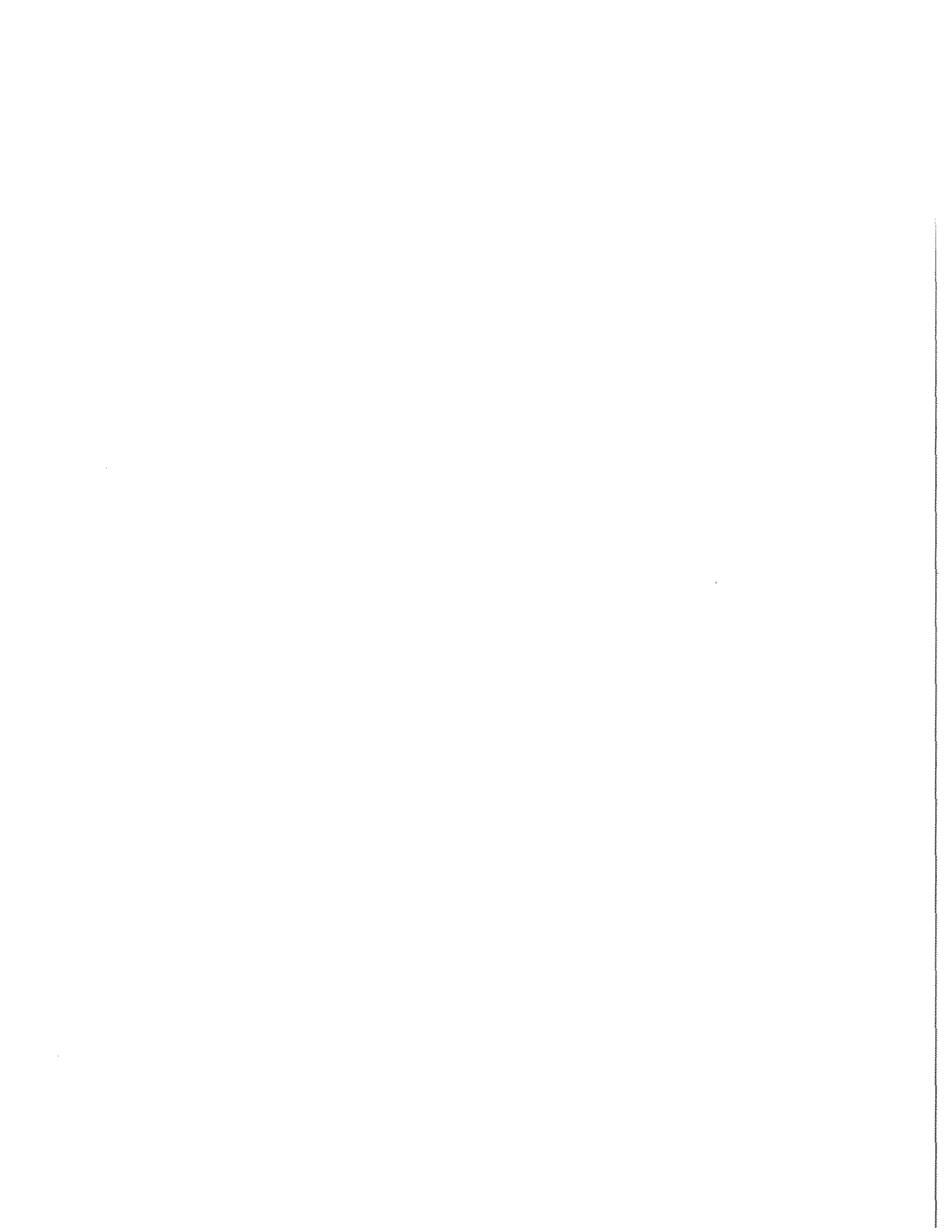
I assure you that the GNWT remains committed to supporting the NFVA.

Thank you for your questions and interest in this matter. I trust this response addresses your questions.



Wally Schumann
Minister
Industry, Tourism and Investment

c. List Attached



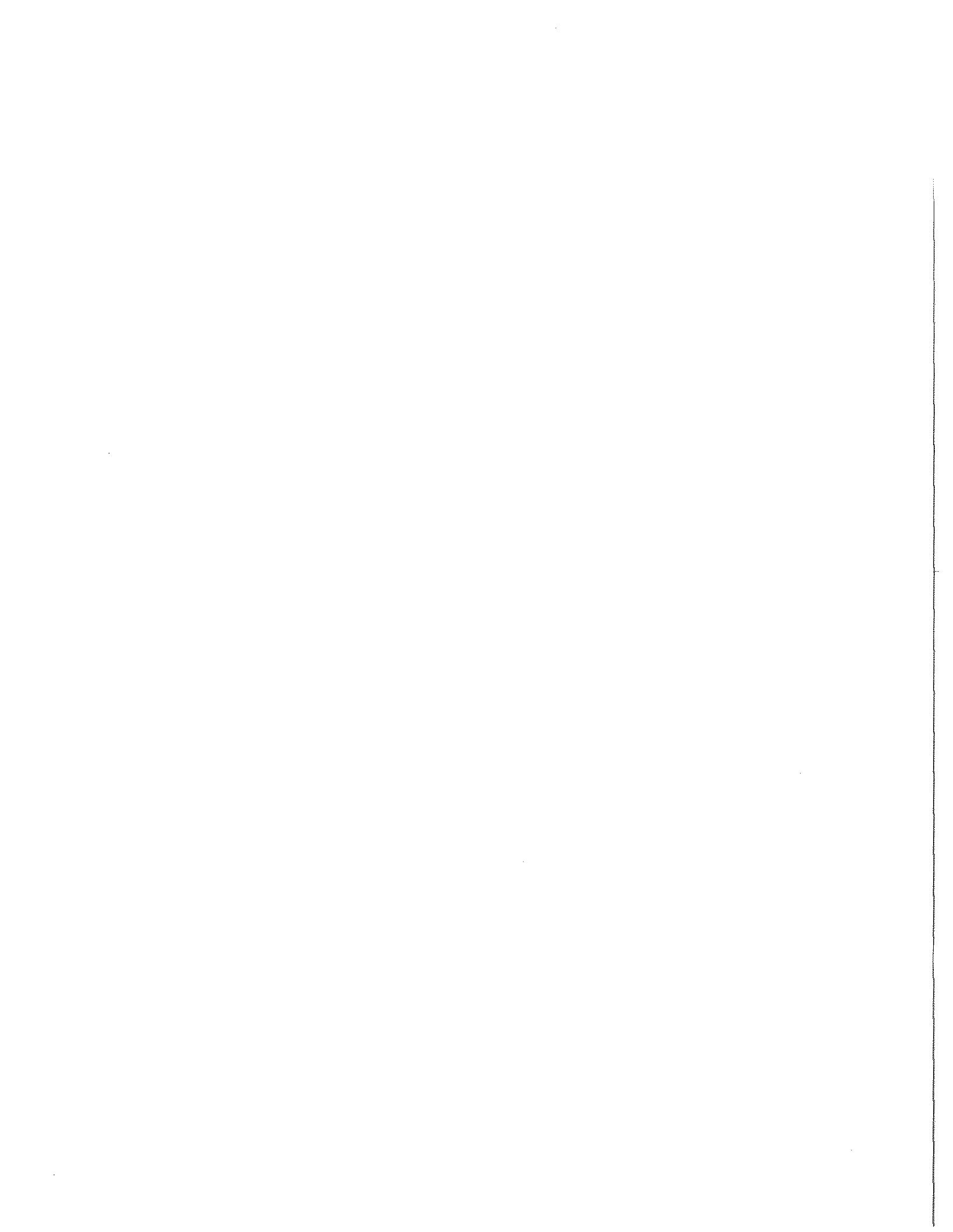
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Clerk of the Legislative Assembly

Mr. David Hastings
Legislative Coordinator



J.
Williams Engineering NFVC
Structural Assessment

File No. 35826.00

May 19, 2017

Northern Frontier Visitors Centre
#4, 4807 49 Street
Yellowknife, NT X1A 3T5

Via Email office@visityellowknife.com

Attention: Tracy Therrien
NFVA Executive Director

Subject: Northern Frontier Visitors Centre Structural Assessment
Structural
Yellowknife, NT

Introduction

Williams Engineering Canada Inc. (WEC) was retained by the Northern Frontier Visitors Association (NFVA), to carry out a structural assessment of the visitors centre building located at 4807 49 Street, Yellowknife, Northwest Territories.

The scope of work with respect reporting is as follows;

- Receive/Review all relevant background information pertaining to the building and associated with the Structural System, i.e. drawings, structural reports, geotechnical reports, information collected regarding movement...etc. It is assumed that this information will be provided by the client. WEC may also have some information to hand.
- Selective Structural Assessment of Structural Components of the building within the affected area (areas over the water body, gridlines 1 - 5). This assessment will be an intrusive investigation. WEC will conduct a walkthrough with a contractor and note areas to be investigated. The areas to be investigated will be strategically selected. It is not possible to open all areas at this time as some of the finishes and building components are under stress and could pose as a hazard.
- Non-destructive assessment of building between gridlines 4 – 8.
- Provide a DRAFT report for review by the client that discusses the following:
 - Whether there is a solution to repair/retrofit the existing foundation system and the structural framing and maintain a serviceable building structure.
 - Propose an alternative solution to supporting the problem area (between gridlines 1 - 5) of the building
 - Class D Cost Estimate for Engineering and Construction of both the repair/retrofit solution and the alternative solution, for comparison reasons. (GNWT can assist with in house quantity surveyor).
 - Upon review of the DRAFT report by the GNWT, WEC will incorporate comments and issue a final report.

The following information was available and was used during the preparation of this report.

- Visitors Information Centre, Yellowknife, NT, Preliminary Geotechnical Evaluation, by Thurber Consultants Ltd., dated January 1990.
- Letter: Yellowknife Visitors Centre, Summary of Field Drilling Investigation, From Thurber Consultants Ltd. Dated February 12, 1990.
- Visitors Information Centre, Yellowknife, NT, Detailed Geotechnical Investigation, by Thurber Consultants Ltd., dated February 1990.
- Structural Engineering Review – Foundation Movements, Visitors Centre, by A.D. Williams Engineering Inc. dated June 29, 1997. (ADWE 1997)

- Northern Frontier Visitors Centre, Yellowknife, Structural Assessment Report, by Williams Engineering Canada Inc., dated April 2, 2013.
- Desktop Study for Northern Frontier Visitor Centre, Yellowknife, by Maskwa Engineering Ltd., dated May 2013. (Maskwa 2013)
- Northern Frontier Visitor Centre Pile layout and scope of work drawings, revision 0 (2 drawings) by Structure-All Consulting Engineers Ltd., dated 28 February 2014.
- Deformation Survey of Northern Frontier Visitors Centre Exterior Survey Measurements, Yellowknife, NT. By Sub-Arctic Surveys Ltd. Dated 31 October 2014.
- Northern Frontier Visitor Centre Pile layout and scope of work drawing, revision 2 (1 drawing) by Structure-All Consulting Engineers Ltd., dated 31 October 2014.
- Northern Frontier Visitors Association (NFVA) Building Report, Yellowknife, NT. By Structure-All Consulting Engineers Ltd. Dated December 18, 2015.
- Technical Service Evaluation, Northern Frontiers Visitors Centre, Prepared by GNWT PWS Asset management division, dated, 3rd March 2016.
- Drawings:
 - Architectural Drawings A15 – A20, Prepared by Pin/Mathews Architects, Dated 24/09/1990.
 - Structural Drawings S1 – S9, Prepared by L.F. Dreger Engineering, Dated 24/09/1990.
 - Mechanical Drawings M1 – M6, Prepared by Ian M. Drinnan, P.Eng. Consulting Mechanical Engineer, dated 24/09/1990.
 - Electrical Drawings E1 – E10, Prepared By FSC Consulting Engineers & Architects, Dated September 1990.

Note: This report was prepared and is based upon information collected in February 2017. Conditions at this building have likely changed since preparing this report.

Building Overview

The Northern Frontier Visitor Centre (NFVC) building is located along highway four on the edge of downtown Yellowknife, Northwest Territories. The building has a footprint of approximately 450m² and was constructed in 1991. Building super-structure is comprised of a heavy glulam post and beam framing with infill panels. Reinforced concrete grade beams and steel piles form the foundation system.

The following is a summary of the history of recorded events based upon information to hand;

Date	Event
September 1990	Building design documents completed
1991	Construction Commences
Circa 1992	Heating loops added to piles. There is not documented information regarding the specifics of this system.
	Building has experienced small foundation movements since it was built (ADWE 1997)
1995	First significant movements of foundation when shaft of elevator required remedial work (ADWE 1997). Discovered that heat circulation system for piles had been turned off (ADWE 1997).
Spring 1997	The building had lifted in places by more than 15cm (S.A. Wolfe 1998).

June 1997	<p><u>ADWE Structural Engineering Review report</u></p> <ul style="list-style-type: none"> -Pile heating system has been operated since 1995 but foundation movements have continued. -Largest Movements recorded near the east exit (20 to 25mm) and at the south west corner of the building (170mm). -Circulation system modified to supply more heat and the piles near the west exit dropped significantly. -Geotechnical study recommended.
1998	<p>"the piles are now heated in winter to prevent the soil from freezing to the piles and lifting them" (S.A. Wolfe 1998).</p>
April 2013	<p>WEC Structural Assessment Report</p> <ul style="list-style-type: none"> - Addition of steel beam sections that bypass pile at Grid C3 was noted. - stress fracture in glulam beam at second floor over elevator was noted - Remedial work to stabilise piles recommended.
May 2013	<p>Maskwa Desktop Study (attachment to Structure All Report) Report presented two options for remediation of the foundation</p> <ul style="list-style-type: none"> - Option 1: Install rock socketed piles to replace all problematic piles. - Option 2: insulate and backfill space beneath south end of building, to mitigate frost penetration.
February 2014	<p>Structure All Drawings Showing Scope of work for releveling work at piles P6 & P16. And addition of bracing along grid 1.</p>
March 2014	<p>Structure all drawings showing revised scope of work for releveling work at piles P6, P9 & P16.</p>
December 2015	<p>Structure All Report</p> <ul style="list-style-type: none"> - Records work done as per the drawings from 2014. - Reports failed glulam beam under ramp and at second floor over elevator. - Reports installation of steel beams under failed glulam beam under ramp. - Reports installation of bracing along grid line 1. - Reports plan to install adjustment mechanism for the intermediate pile supporting the ramp. - Recommends monitoring, adjustments and remedial maintenance.
November 2016	<p>WEC consulted regarding large deformations observed in the building structure.</p>
January 2017	<p>WEC retained to compile this report.</p>

Structural Investigation

Method

This section of the report is based upon observations and measurements taken during a site visits made by Paul Clyne P.Eng., Structural Engineer with WEC. Part of this section pertains to the structural condition assessment that was done by destructive investigation methods. Paul visited the building on the morning of the 26th January 2017, and was accompanied by the contractor, TJ McGillivray from Arctic Canada Construction. This initial visit was to review and locate areas of structure that were to be investigated by destructive methods.

Paul visited the building again on the evening of the 26th January to review structural components. Openings had been cut in finishes to reveal building structure. Our observations will be discussed later in this report.

The other part of the structural assessment was conducted by doing a walkthrough of the building structure. This part of the assessment was non-destructive in nature. Sampling was done through taking measurements and photographs. Observations were made and are discussed later in this report. The structural building review identifies conditions that are indicators of structural distress and/or movement within the building.

Examples of indicators of interior and/or exterior distress are:

- Cracking, spalling, or deflection of concrete elements.
- Surface cracking of the structure or finishes on walls, ceilings, and flooring.
- Cracking of window glazing.
- Differential movement of structural components, exterior elements, sidewalks, etc.
- Binding of doors.
- Signs of water marking and staining of surfaces.

Although a number of these indicators are of a cosmetic and/or architectural nature, they do provide insight into the condition of the structure, which may be hidden behind finishes or cladding.

Observations

Site Description

At the time of our site visit there was snow on the ground and the pond next to the building was frozen. The building is located between highway four and a small body of water. The site is predominantly paved as a parking lot with an access road for the visitor centre. The highway is elevated higher than the parking lot which is fairly level and flat. Grading from the parking is sloped down away from the building and the highway. The building footprint is situated with the southern half over the pond and the northern half on grade at/near the level of the parking lot.

Note: For descriptive purposes in this report we will refer to the building entrance elevation as being north, and the end over the pond as being south.

Photos 1 to 6 show the building exterior and the building setting. A satellite image is also attached in Appendix A.







Foundation / Crawlspace

Description

The building is founded on driven steel pipe piles. The original geotechnical investigation by Thurber Consultants Ltd., recommended rock socketed steel pipe piles but later revised the recommendation to large diameter steel piles with special points driven to bedrock. Yellow polyethylene jackets were applied to the top section of pile to reduce ad-freeze stresses from ice bonding to the surface of the pile. Some of the piles are located in Frame Pond. These piles had large rocks placed around them to protect them from ice movement. It is reported that some of the piles were fitted with a heating loop that is connected to the building heating system. The heating loop extends into the top two meters of pile below grade.

The piled foundation consists of piles that exist in two distinct conditions. The northern half of the building has a heated crawlspace formed by the deep reinforced concrete grade beams that span the perimeter piles. The grade beam has exterior insulation. The southern half of the building extends over the pond and has a clear air space beneath it. This portion of the foundation space is not heated.

The following photos should be read in conjunction with the marked up building plans included in Appendix A.

Conditions / Recommendations	
Foundation	
<p>Condition: Photo 7 shows the perimeter concrete grade beam with a steel pile beneath. The white material is voidform placed on the underside of the beam.</p> <p>Not all grade beams were exposed to view during our assessment. Grade beams that were observed were in fair condition.</p> <p>Steel piles were observed to have surficial rust.</p> <p>Recommendations: For information.</p>	 <p>Photo 7</p>
<p>Condition: Photo 8 shows the pipe that forms the pile heating loop. The pipe has been cut to take the heating loop out of service.</p> <p>Location pile 5D. Other examples of this were observed along GL 5.</p> <p>Recommendations: For information.</p>	 <p>Photo 8</p>

Condition:
Heating unit in the crawlspace.
Crawlspace was arm so it is assumed
that the heating units are operational.

Recommendations:
For information.



Photo 9

Condition:
Main floor beams that were observed
from the crawlspace were all level.
The beam in the picture reads 0.1°.

Some horizontal cracks were
observed in beams. Cracks were not
considered to be stress related, but
are probably due to drying out of the
wood.

Recommendations:
For information.

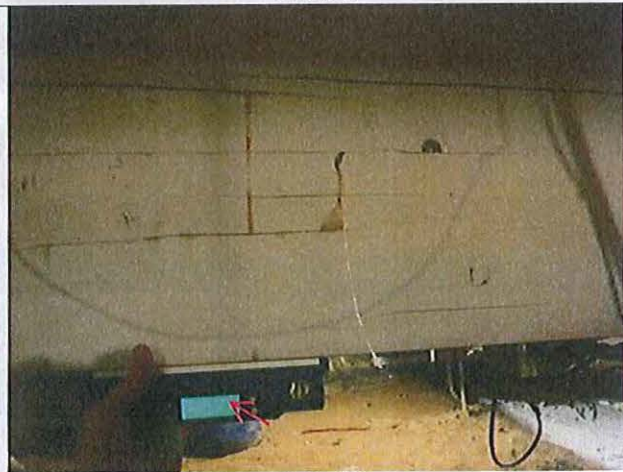


Photo 10

Condition:
We observed an abandoned pile located directly adjacent to pile located near Grid intersection 6B.

Recommendations:
For information.



Photo 11

Condition:
We observed sandbags and draped poly around the crawlspace perimeter. It appears that the grade beneath the grade beams has settled away from the soffit of the voidform. This leaves a gap to the exterior in some locations. Sandbags and draped poly have been used to restrict airflow from the exterior.

Recommendations:
For information.



Photo 12

Condition:
 Pile at grid A8. You can also see the gap to the underside of the voidform.

Steel piles were observed to have surficial rust.

Recommendations:
 For information.



Photo 13

Condition:
 The beams highlighted in photo 14 were originally installed level back in 2015. At that time the beams were installed to help support a glulam beam that had experienced failures. The glulam beam is currently undergoing similar deformation to that reported in 2015.

Location: under south east corner.

Recommendations:
 We recommend that **immediate action** is taken to relevel the piles beneath the southern portion of the building.



Photo 14

Condition:
Bracing that was reported to have been installed as part of the 2015 work.

Location Grid 1

Recommendations:
For information.



Photo 15

Condition:
Bracing that was reported to have been installed as part of the 2015 work.

Location Grid line 1

Recommendations:
For information.



Photo 16

Condition:
 2 x W610 steel beam sections that were installed in an earlier foundation retrofit. These beams were installed to isolate the central pile that we have highlighted with the arrow. The isolated pile has frost jacked against the underside of the top flange. See photo 18.

Also, note that this beam was originally installed level. There has been considerable vertical movement of pile at grid intersection B3.

Recommendations:
 We recommend that **immediate action** is taken to relevel the piles beneath the southern portion of the building. Also, the central pile needs to be cut away.



Photo 17

Condition:
 Photo 18 shows a close up of where the building framing bears onto the top flange of the beam. The detail has the framing supported on a series of plates that span the two beams. The isolated pile has jacked against the top flange of the beam and caused some local buckling.

Recommendations:
 Beam requires a repair detail to be designed by a structural engineer.



Photo 18

Condition:
 The pile at grid 1B has frost jacked causing deformations of the building framing along grid 1. The sagging support rod observed is due to this deformation.

The connection highlighted with the red circle can be seen in more detail in photo 20.

Recommendations:
 We recommend that **immediate action** is taken to relevel the piles beneath the southern portion of the building.



Photo 19

Condition:
 This connection is of concern. Currently the beam is bearing onto a steel plate that forms part of the connection. However the beam end has reduced bearing due to the rotation of the connection.

Recommendations:
 We recommend that **immediate action** is taken to relevel the piles beneath the southern portion of the building. As part of this work, this connection is to be assessed and repaired if necessary.



Photo 20

Condition:

The pile at grid intersection 2D has frost jacked which has resulted in deformations in the framing along the southern portion of grid line D. The roof line was originally constructed level, see photo 21.

Recommendations:

We recommend that immediate action is taken to relevel the piles beneath the southern portion of the building.



Photo 21

Superstructure – Main Floor, Mezzanine & Roof

Description

The building superstructure is comprised of heavy glulam post and beam construction. Floor and roof decks are mainly comprised of two systems;

1. Tongue and Groove commercial wood deck spanning secondary glulam framing members, or,
2. Plywood deck supported on wood I-Joists that are supported by the primary glulam framing members.

Wall framing is comprised of the post and beam framing with stud wall infill panels and large panels of glazing.

From review of the structural drawings it is not immediately apparent what was intended to act as the lateral force resisting system. The structural drawings show a chevron style hanger rod system between grids 2 & 3 and along grid A. This may provide some lateral restraint. Other methods of providing stability may have been the solid wood frame infill panels.


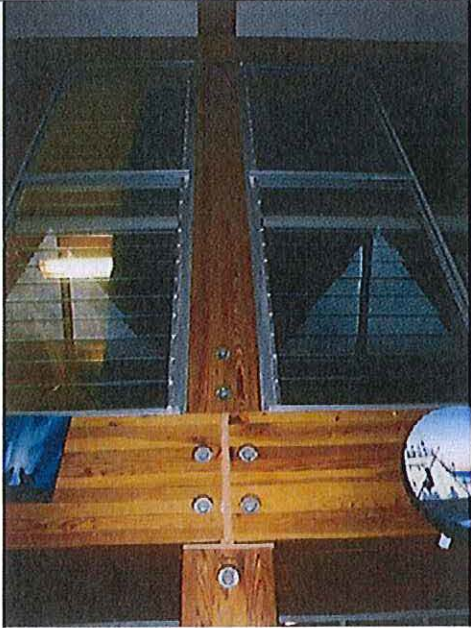
Condition

Generally the southern portion of the building is in very poor structural condition. Some of the glulam framing members have failed, and others are showing signs of stress which may lead to more failures. This is most likely due to the recent signs of (i.e. in the past year, since the 2015 releveling) frost jacking and differential movement of the piled foundation. Movement at this end of the building has occurred throughout the buildings life.

The northern portion of the building is in fair condition for a wood frame building of this age. This end of the building has had some stress induced due to the movement at the southern end; hence the condition improves as you move farther toward the north.

Note: Since our involvement in this project we have advised the NFVA that the southern half of the building not be occupied. As a result access to this part of the building has been restricted. The NFVA have moved their exhibits out of this part of the building and have tendered work to have some releveling work done on piles. We recommend that this part of the building remain unoccupied until releveling work has been completed and an ongoing foundation maintenance remedial and monitoring plan has been put in place.

The following table describes some of the conditions that we observed during our site visits. This should be reviewed in conjunction with the marked up floor plans that accompany this report in Appendix A.

Condition and Recommendations	
Superstructure	
<p>Condition: This photo was taken between grids 3 & 4 in the interior of the main floor level. It is near the transition area from heated crawlspace to the area over the pond. In the photo you can get an idea of how sloped the floor has become. It was originally constructed level.</p> <p>Recommendations: For Information.</p>	 <p style="text-align: center;">Photo 22</p>
<p>Condition: Photo 23 gives an idea of the condition of the exposed post and beam framing in the northern portion of the building. Connections still appear tight, and framing is plumb. Operable louvered glazing is still fully functional.</p> <p>Recommendations: For Information.</p>	 <p style="text-align: center;">Photo 23</p>

Condition:
 Photo 24 is a typical example of the condition of framing in the southern portion of the building. Drywall finishes cracking. Connections rotating. Stress fractures appearing in beams.

Recommendations:
 We would recommend not repairing finishes until leveling work has been completed on the foundation. At this stage beams and connections should be assessed and repaired. Repair design shall be done by a structural engineer.

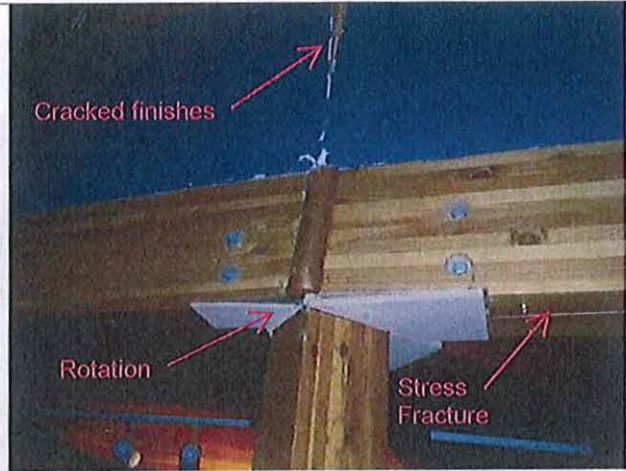


Photo 24

Condition:
 Typical example of cracks in finishes around racked door framing in southern portion of building.

Recommendations:
 We would recommend not repairing finishes until leveling work has been completed on the foundation. Please note that the building will continue to move even after releveilling work is completed. Finishes will crack again when the building moves.



Photo 25

Condition:
Serious cracking in drywall finishes and racking of window framing at second floor level on the west of the building between grids 3 and 4.

Recommendations:
We would recommend not repairing finishes until leveling work has been completed on the foundation. Please note that the building will continue to move even after releveilling work is completed. Finishes will crack again when the building moves.



Photo 26

Condition:
Photo 27 was taken on the north side of the partition wall and photo 26 was taken on the south side.

On the north side some racking was noted in window framing, but drywall only exhibits minor cracks.

Grid 4 seems to be near the northern extent of where we observe indicators of structural distress.

Recommendations:
For information.



Photo 27

Condition:

Another example of a severely racked door frame. During our December visit this door could open and close. In February this door no longer closes.

Recommendations:

For information.



Photo 28

Condition:

Severe uplift of beams at roof level around the elevator. This is most likely predominantly caused by frost jacking of the pile at grid 3B.

This upward force is inducing large structural distress in framing that is constrained by other adjacent framing. Photo 30 is an example of this.

Recommendations:

We recommend that **immediate action** is taken to relevel the piles beneath the southern portion of the building. Relevelling will relieve stresses on superstructure framing members.



Photo 29

Condition:
 Large stress fracture observed in secondary beam at roof level at the elevator. This fracture is located in the middle two thirds of the beam. Two beam connections frame into the face of the beam at the locations of the fracture start and end. The fractures start and end at the through bolt locations.

This failure is most likely caused by the jacking forces exerted by pile at grid 3B.

Recommendations:
 We recommend that **immediate action** is taken to relevel the piles beneath the southern portion of the building. Releveling will relieve stresses on superstructure framing members.



Photo 30

Condition:
 Portions of the walls between grids 2 and 3 at main and second floor were opened to check for the chevron hanger rod bracing detail. We did not observe this detail at these locations. However, upon opening the wall panel it appeared that there was another infill panel beyond the interior panel. The bracing may have been concealed by this panel.

Recommendations:
 For information.



Photo 31

Condition:
Sections of the floor and walls were opened to daylight structure for review.

Recommendations:
For information.



Photo 32



Condition:
In all locations that we opened up floor structure, the joists and hangers were in fair condition and performing as per their original design intent.



Photo 33 shows typical interior glulam beam supporting wood I-Joist floor.

Recommendations:
For information.



Photo 33

<p>Condition: Typical exterior beam supporting wood I-Joist floor.</p> <p>Recommendations: For information.</p>	 <p style="text-align: center;">Photo 34</p>
<p>Condition: It appears that there was a misalignment of framing at this location, during the original construction. The glulam beam has been roughly notched and bears onto a mass of timber stud members. The beam off cut seems to have been used as a filler piece. This is not acting as per its original design intent.</p> <p>See photo 36 below for close up.</p> <p>Recommendations: Once the piles have been relevelled, connections should be assessed and repaired. Repair design shall be done by a structural engineer.</p>	 <p style="text-align: center;">Photo 35</p>

<p>Condition: Close up of notched beam bearing surface.</p> <p>Recommendations: The timber code allows a maximum notch depth of 25% of the member depth. This should be checked against this requirement.</p>	 <p style="text-align: center;">Photo 36</p>
<p>Condition: Photo 37 shows the early stages of a stress fracture in a mezzanine framing primary beam located at the bottom of the ramp. This fracture is a result of the upward frost jacking forces exerted by the pile at grid 3B. The upward force effectively causes a load reversal on the beam resulting in a fracture at through bolt penetrations.</p> <p>Recommendations: Beam to be repaired after relevening work has been completed. Repair design is to be done by a structural engineer.</p>	 <p style="text-align: center;">Photo 37</p>

Conclusions

Foundation Discussion

This building has experienced foundation problems since the early days of its life. The foundation has been relevelled at two to three known instances;

- In 1997 it was reported that the building had moved differentially up to 170mm. It was not reported how the building was relevelled, but it did mention that additional heat in the pile heating loops resulted in some settlement of the piles.
- The building was relevelled when the two W610 beams were added to the foundation framing. There is no record of this install.
- In 2015 the foundation was relevelled and additional structure was added to the foundation framing.

Survey data prepared by Sub-Arctic Surveys Ltd. records up to 112mm of upward vertical pile movement between March 2015 and April 2016. We believe that the piles have continued to move since then. At this stage the building is overdue on having the piles relevelled. Releveling should be done immediately.

The deficient foundation is isolated to the southern portion of the building. A dividing line can effectively be drawn across the building somewhere between grids 4 & 5, splitting the building into the southern portion with pile movement and the northern portion. This is also around the division between the two different foundation conditions, discussed earlier in this report. Frost jacking of piles is most likely the root cause of the structural distress observed in the building. The root cause of the frost jacking is the presence of water and freezing and thawing conditions, hence the largest differential movements in the building being located over the pond.

In the past two possible options for the foundation remediation have been discussed. They were as follows;

- Option 1. Replace frost jacking piles with rock-socketed steel piles.
- Option 2. Backfill beneath southern portion of the building with clean sand and bury vertical and horizontal insulation around the perimeter at the south end of the building.

While both of these options are good sound proposals for remediation we believe that there is a degree of risk involved in both. For both options this is mainly presented by the waterlogged nature of the site.

For option 1 we have calculated a frost jacking force of about 556kN based on ad-freeze bonds between pure ice and steel for a depth of 2.4m. The rock socket required to resist this force would be in the region of 5.0m to 6.0m deep. Bedrock at this site is in the region of 20m to 30m below grade, and the profile of the bedrock is expected to be a steep rock face similar to the face visible at the Explorer Hotel. Considering these potential conditions we believe that installation of rock socketed piles would be a high risk installation.

We would consider that option 2 carries less risk than option 1. The risk of this option is that the building could continue to move and does not stabilise. If movement was to continue it would likely be less than what is currently experienced at the building.

Considering the site conditions and the history of foundation problems we believe that it would be a high risk exercise to invest in a permanent fix to stabilize the existing foundation. However, the frost jacking piles can be controlled on a regular scheduled maintenance basis. We believe that there is less risk involved by going down this route, as we know that the piles will continue to frost jack on an annual basis. There are some down falls of this solution;

- 1. It is not a permanent one off fix.
- 2. The associated costs continue for the remainder of the building life.
- 3. The maintenance cost could increase. Initially we would recommend that the building be relevelled bi-annually, but the period could be reduced if the magnitude of movement increases.
- 4. Shortened life span of building.
- 5. If regular remedial maintenance does not occur the building may become unusable.

Superstructure Discussion

The southern portion of the building superstructure has been directly affected by the movements of the piled foundation. Indicators of structural distress are apparent throughout the southern half of the building. The wood framing has been quite resilient when we consider the magnitude of movement observed. However the building is at a point where failures are beginning to show in the main structural elements and their connections. We have marked up two drawings which are attached in appendix A. The drawings indicate failed members that we observed during our visits. Members highlighted in orange indicate beams that have early indicators of stress fracturing and will require repairs. Members highlighted in red

indicate beams that have advanced indicators of stress fracturing and will require replacement or other structural retrofit.

Recommendations

The following is a summary of our recommendations;

Short Term

Structural components are showing indicators of failure and some members have failed. **Action must be taken immediately** to carry out temporary remediation of the foundation and repair failed structural members. The following is a summary of the main items;

1. Level survey of the foundation is to be carried out by a surveying company. (Note: Sub-Arctic Surveys Ltd. has surveyed this foundation in the past and will have data on file that they can compare to current measurements.)
2. A contractor that is experienced with large building releveling is to be engaged to relevel the piles and reinstate connections to the superstructure. Releveling work will be a delicate process so as to not overstress structural members already in a high degree of stress.
3. The building is not to be occupied during releveling works.
4. The pile located at grid 3C is to be cut away as low to grade as possible.
5. Repair top flange of W610 beam beneath building.
6. Contractor is to work with a structural engineer to repair/replace all failed structural members.

Long Term

We believe that there are three long term structural solutions for the NFVC Building as follows;

- Option 1. Continued Long Term Foundation Remedial Maintenance
This option would involve carrying out the repairs as discussed in the short term recommendations. One modification would be to add vertical adjustability to the pile cap detail. To start, piles should be relevelled twice a year, as scheduled ongoing remedial maintenance. As part of monitoring a survey of pile elevations shall be done before and after each releveling exercise. Once structural repairs have been completed, architectural deficiencies can be repaired or replaced. With this option releveling is scheduled and is done without fail. The building will continue to move but with the regular releveling it will be in a more controlled manor. As a result finishes will require repair and touch-up on an ongoing basis. It may be worth considering finishes that are more elastic and less susceptible to cracking.
- Option 2. Abandon and Demolish the Southern half of the building
This option would involve abandoning the structure between grids 1 to 4. Building framing would be demolished in a controlled manor so as not to affect the remaining structure. The stability of the remaining structure would be assessed by a structural engineering consultant and retrofits installed as recommended. If additional space was required, an addition could be planned on the north, east or west sides of the remaining building framing. Geotechnical investigation is recommended ahead of planning the addition.
- Option 3. New Build
For this option the existing building would be abandoned, demolished, and a new building constructed somewhere else on the site. A geotechnical investigation would be required to determine the new location and foundation type.

Opinion of Probable Costs

The following Class D opinions of probable costs are based upon the recommendations provided in the previous section.

Option 1. Continued Long Term Foundation Remedial Maintenance

The following was included in our estimate;

- o Initial pile relevening with addition of adjustability to pile caps.
- o Engineering Consultant and Surveyor services
- o Repairs/Replacement of structural components
- o Repairs to finishes, replacement of windows, cladding, painting. These were based on the costing provided in the GNWT Technical Service Evaluation.
- o 20 years of ongoing relevening and repairs

Estimated Cost: \$2,800,000.00

Option 2. Abandon and Demolish the Southern half of the building

The following was considered in our estimate;

- o Selective demolition between Grids 1-4.
- o Does not include hazmat abatement (if required).
- o Does not include removal of piles.
- o Dump fees
- o Infill framing along grid 4, half glazing, half wood framing.
- o Repairs to finishes, replacement of windows, cladding, painting. These were based on the costing provided in the GNWT Technical Service Evaluation.
- o Addition with 425m² usable floor space. Equivalent to floor space demolished.
- o Consultants
- o Does not include geotechnical investigation and site layout design.

Estimated Cost: \$2,700,000.00

Option 3. New Build

The following was considered in our estimate;

- o Demolition of existing building
- o Does not include hazmat abatement (if required).
- o Does not include removal of piles.
- o Dump Fees
- o New build will be a similar usable floor space to original building at 850m².
- o Consultants
- o Does not include geotechnical investigation and site layout design.

Estimated Cost: \$4,600,000.00

Closure

This report has been prepared based upon the information referenced herein. It has been prepared in a manner consistent with good engineering judgement. Should new information come to light, Williams Engineering Canada Inc. requests the opportunity to review this information and our conclusions contained in this report. This report has been prepared for the exclusive use of Northern Frontier Visitors Association, and there are no representations made by Williams Engineering Canada Inc. to any other party. Any use that a third party makes of this report, or any reliance on or decisions made based on it, are the responsibility of such third parties.

Yours truly,

Williams Engineering Canada Inc.



19 May 2017

PAUL CLYNE, P.Eng.
Structural

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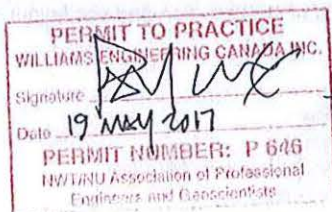
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References:

Living with Frozen Ground, A field guide to permafrost in Yellowknife, Northwest Territories, Edited By Stephen A. Wolfe, 1998

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Appendix A

Location and Drawings

Northern Frontier Visitor Centre



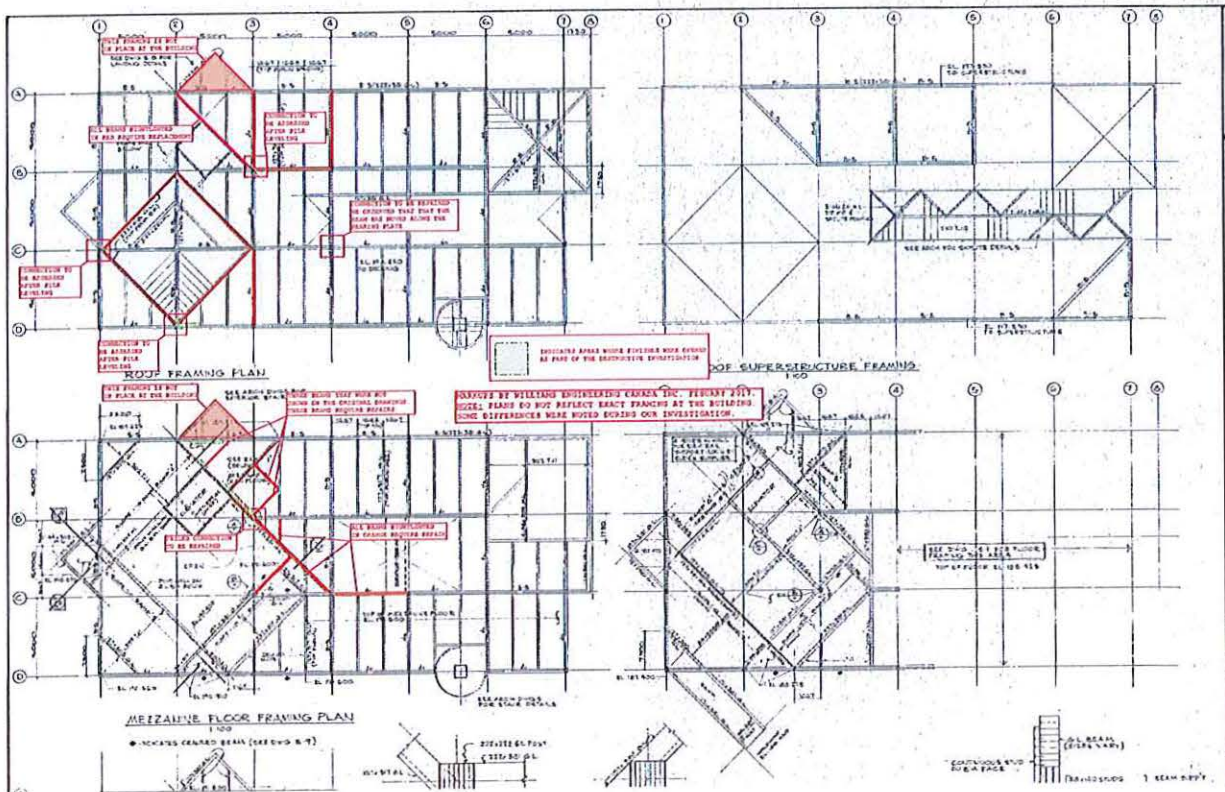
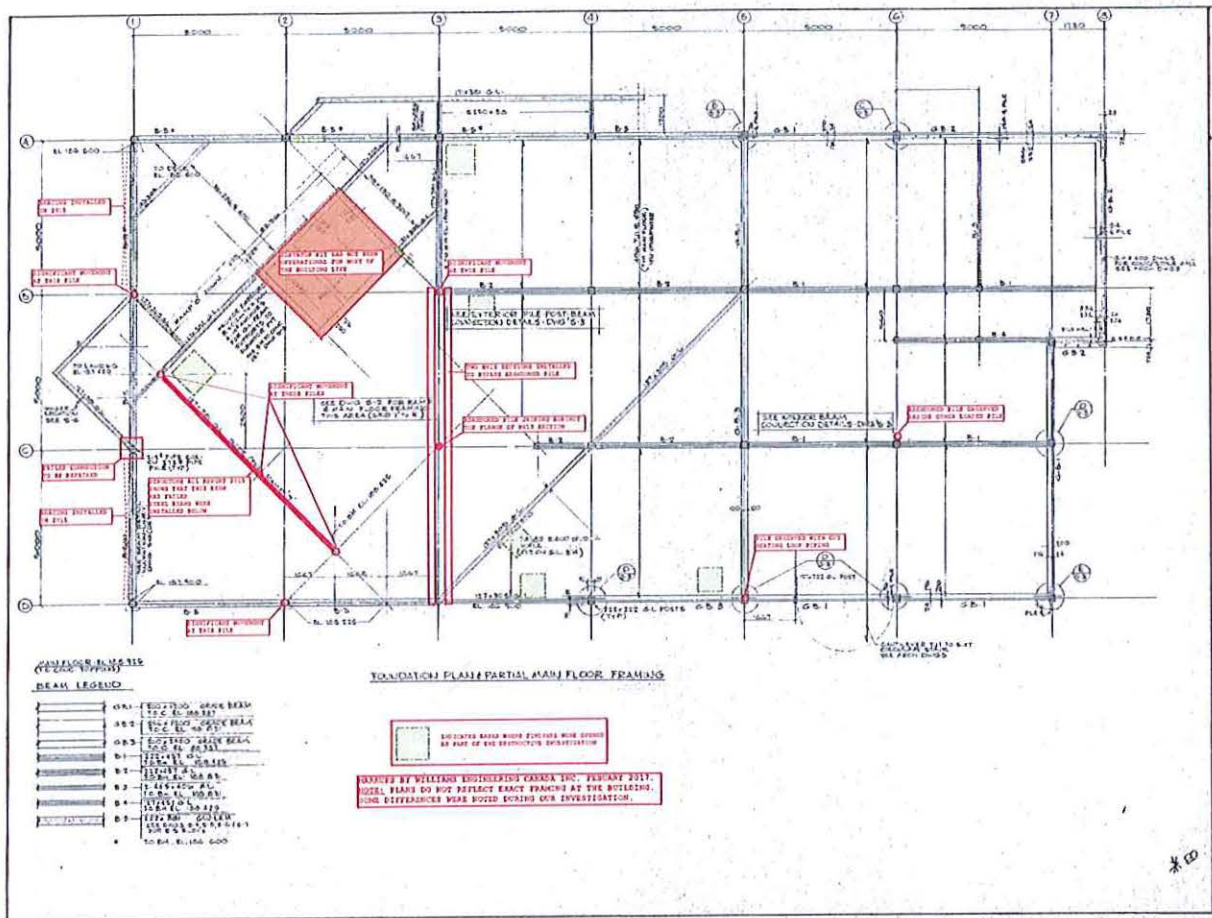
Legend

- Trails
- Streets
 - Road
 - Private Lane/way
- Parks
- Municipal Boundary

Notes

0 0 0.02 0.0 Kilometers
NAD_1983_UTM_Zone_11N
© City of Yellowknife

This map is a user generated static output from an Internet mapping site and is for reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable.
THIS MAP IS NOT TO BE USED FOR NAVIGATION



K. Stantec Options For New Centre On Same Property

Northern Frontier Visitors Centre - Site Planning Options

Developed for:

Outcrop Communications
4920 - 52nd Street
Yellowknife, NT
X1A 3T1

Prepared by:

Stantec Architecture Ltd.
4910 - 53rd Street
Yellowknife, NT
X1A 2P4

Project No. 144902429
March 31, 2017

The site planning options herein were prepared for Outcrop Communications to explore the potential for the construction of a new Visitors Centre on the same site as the existing Northern Frontier Visitors Centre at 4807- 49th Street, Yellowknife, NT.

Each option took into consideration the following factors:

- maintaining the existing parking lot
- maintaining views towards the wellands
- maintaining vehicular access routes from 48th and 49th Street
- allowing for the existing Northern Frontier Visitors Centre to remain open during construction and demolishing once the new Visitors Centre has opened

Order of Magnitude of Construction Cost

An Order of Magnitude of Construction Cost has been prepared for each option included within and is based on the costing data contained in the Altus Canadian Cost Guide 2017:

Option	Gross Construction Area		Cost/ft ²	Order of Magnitude of Construction Cost
	m ²	ft ²		
A	800	8611	\$350 - \$525	\$3.02M - \$4.52M
B	1000	10764	\$350 - \$525	\$3.77M - \$5.25M
C	500	5382	\$350 - \$525	\$1.89M - \$2.83M

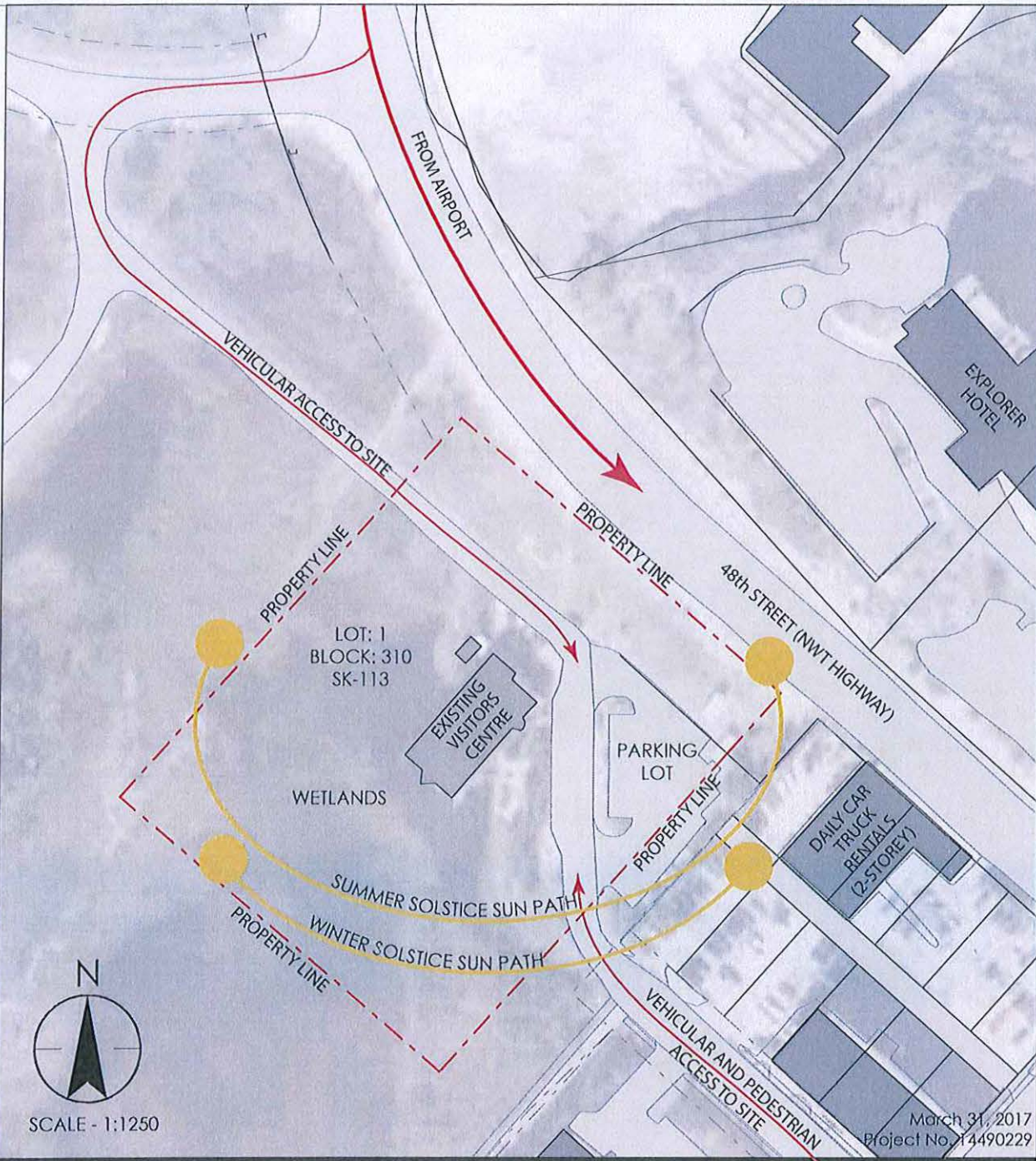
Notes:

- 1) All costs are in Q1 2017 dollars.
- 2) Unit costs cover hard costs only – All development or "soft" costs are excluded.
- 3) Rates are based on typical standards and should only serve as basic guidelines.

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Client/Project

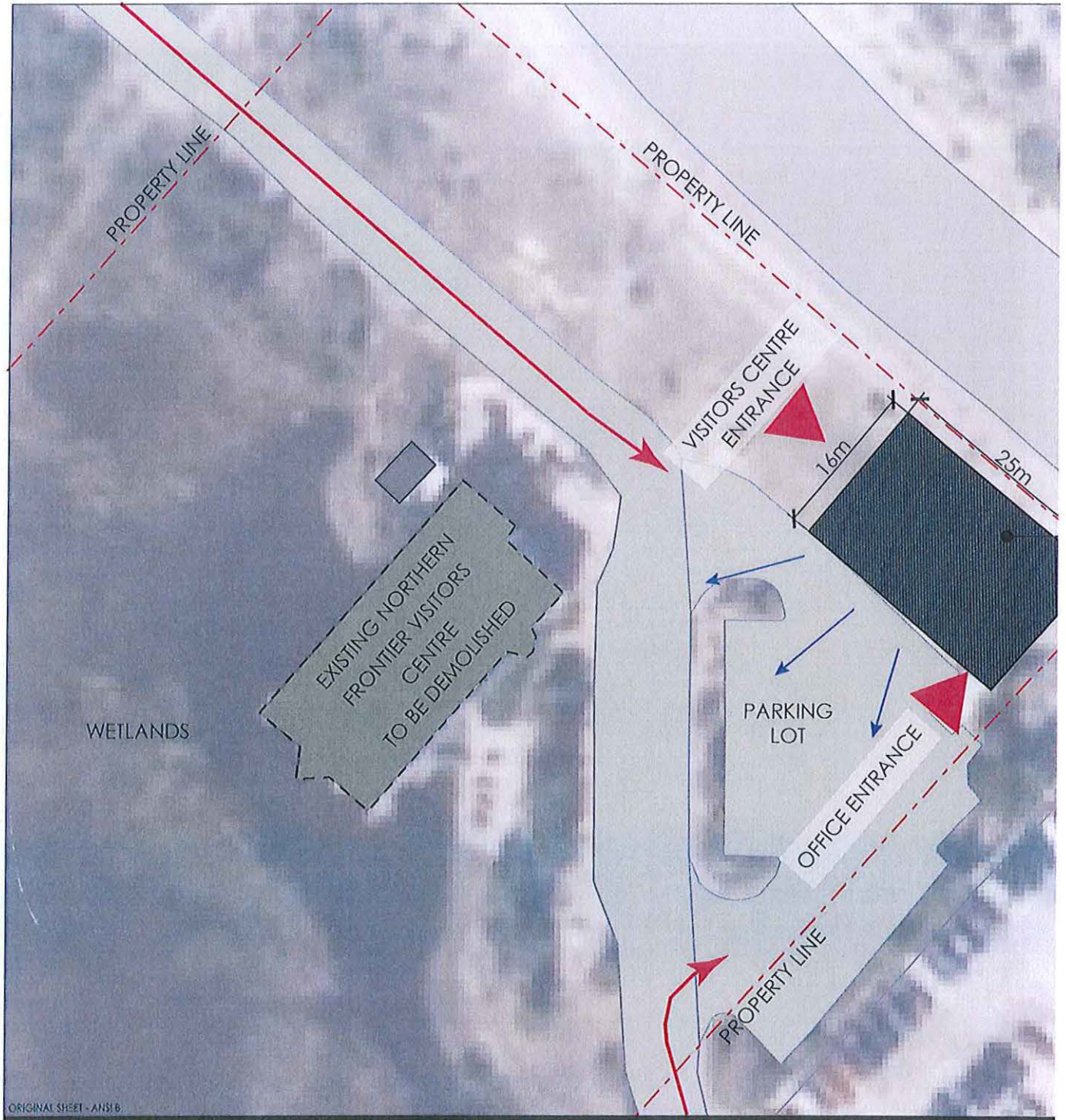
OUTCROP COMMUNICATIONS

NEW NORTHERN FRONTIERS VISITORS CENTRE

SITE PLANNING OPTIONS

Title

KEYPLAN & ORDER OF MAGNITUDE OF CONSTRUCTION COST




ORIGINAL SHEET - ANSB



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LEGEND

-  VEHICULAR AND PEDESTRIAN ACCESS
-  VIEW TOWARDS WETLANDS



SCALE - 1:500



**CONCEPTUAL SITE PLAN
 NOT FOR CONSTRUCTION**

Client/Project
 OUTCROP COMMUNICATIONS
 NEW NORTHERN FRONTIERS VISITORS CENTRE
 SITE PLANNING OPTIONS
 Title
 OPTION A



ORIGINAL SHEET - ANS1.B



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LEGEND

-  VEHICULAR AND PEDESTRIAN ACCESS
-  VIEW TOWARDS WETLANDS



SCALE - 1:500



Client/Project

OUTCROP COMMUNICATIONS

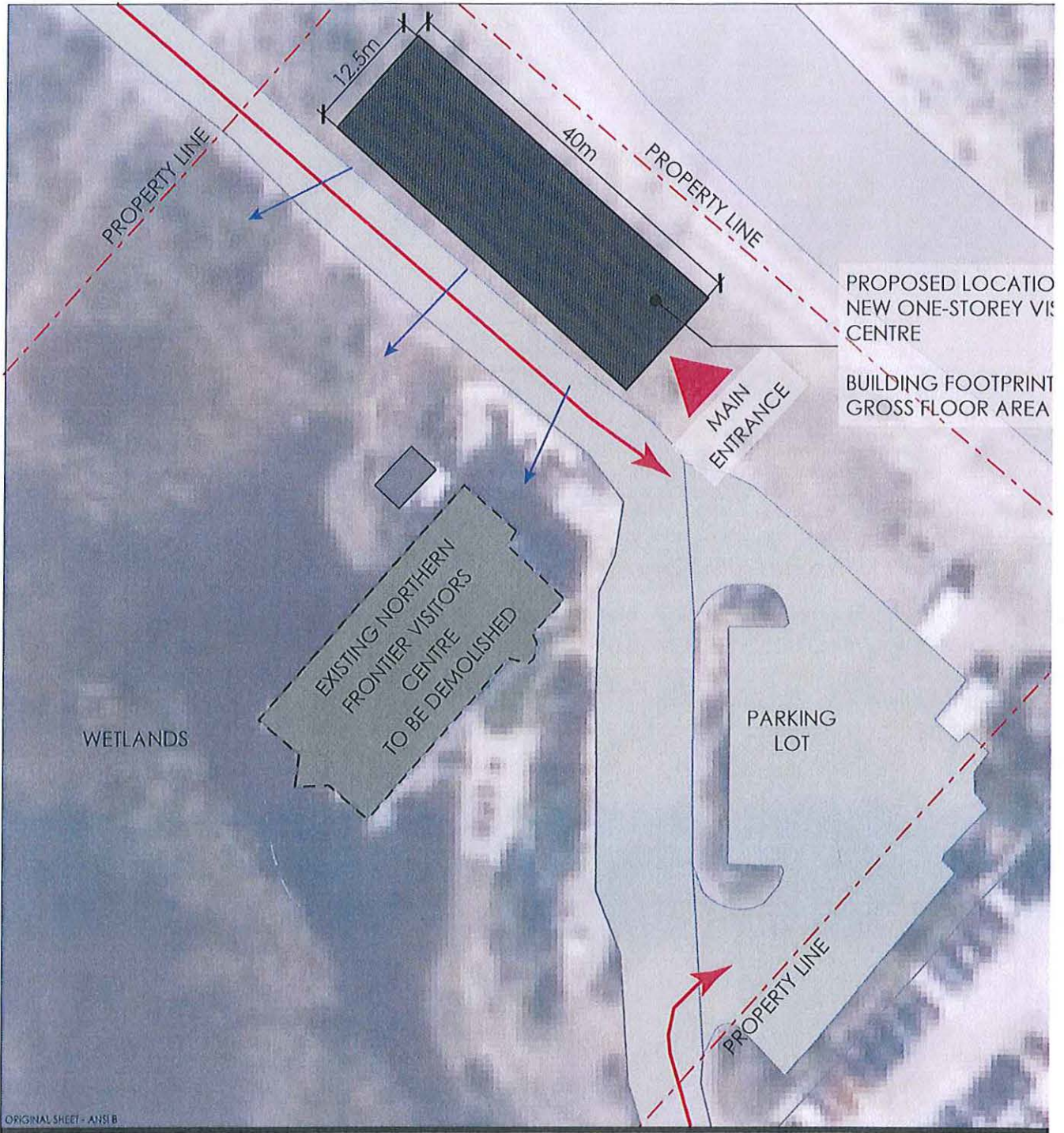
NEW NORTHERN FRONTIERS VISITORS CENTRE

SITE PLANNING OPTIONS

Title

OPTION B

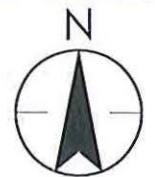
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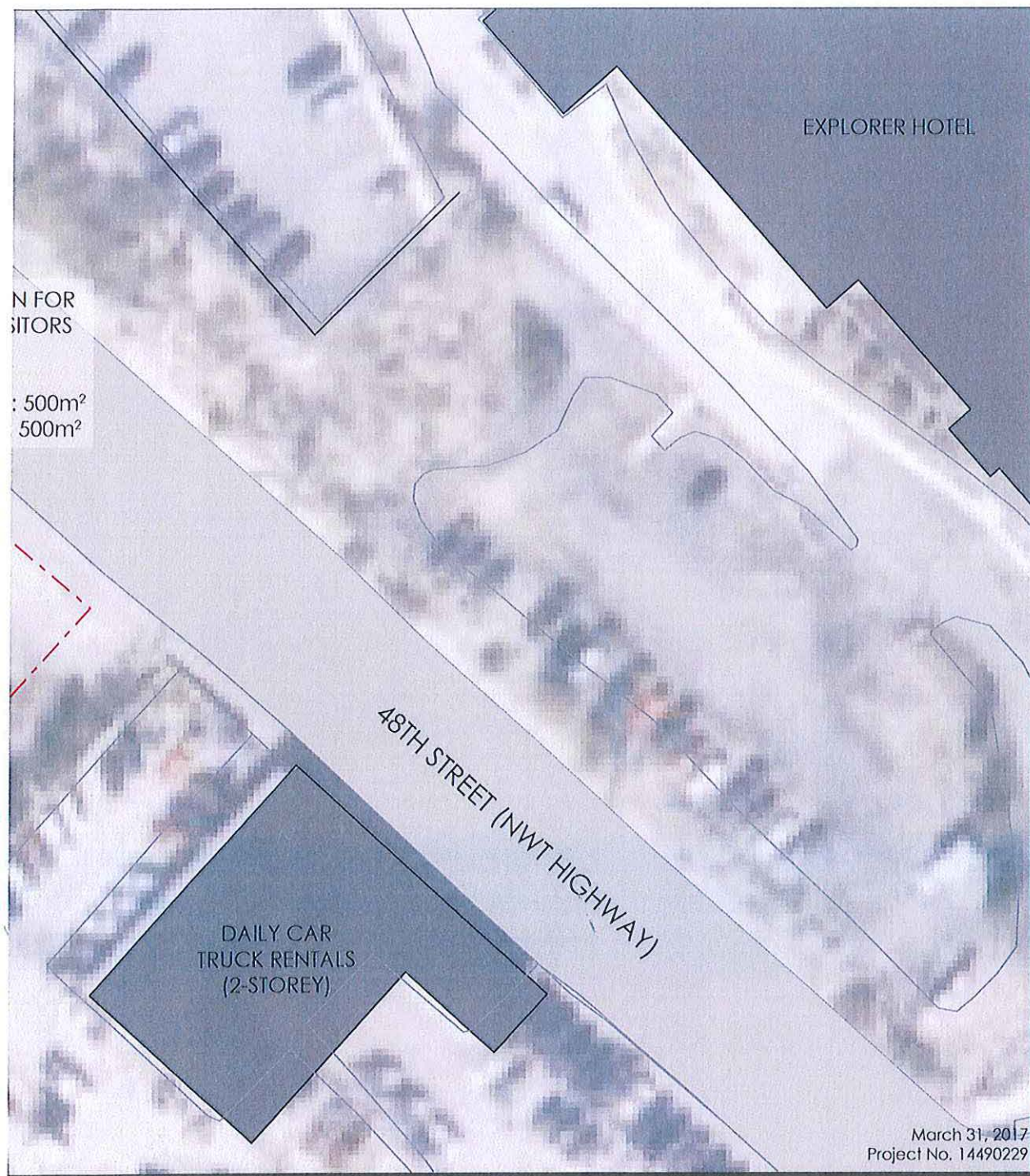
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LEGEND

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-  VIEW TOWARDS WETLANDS



SCALE - 1:500



**CONCEPTUAL SITE PLAN
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Client/Project

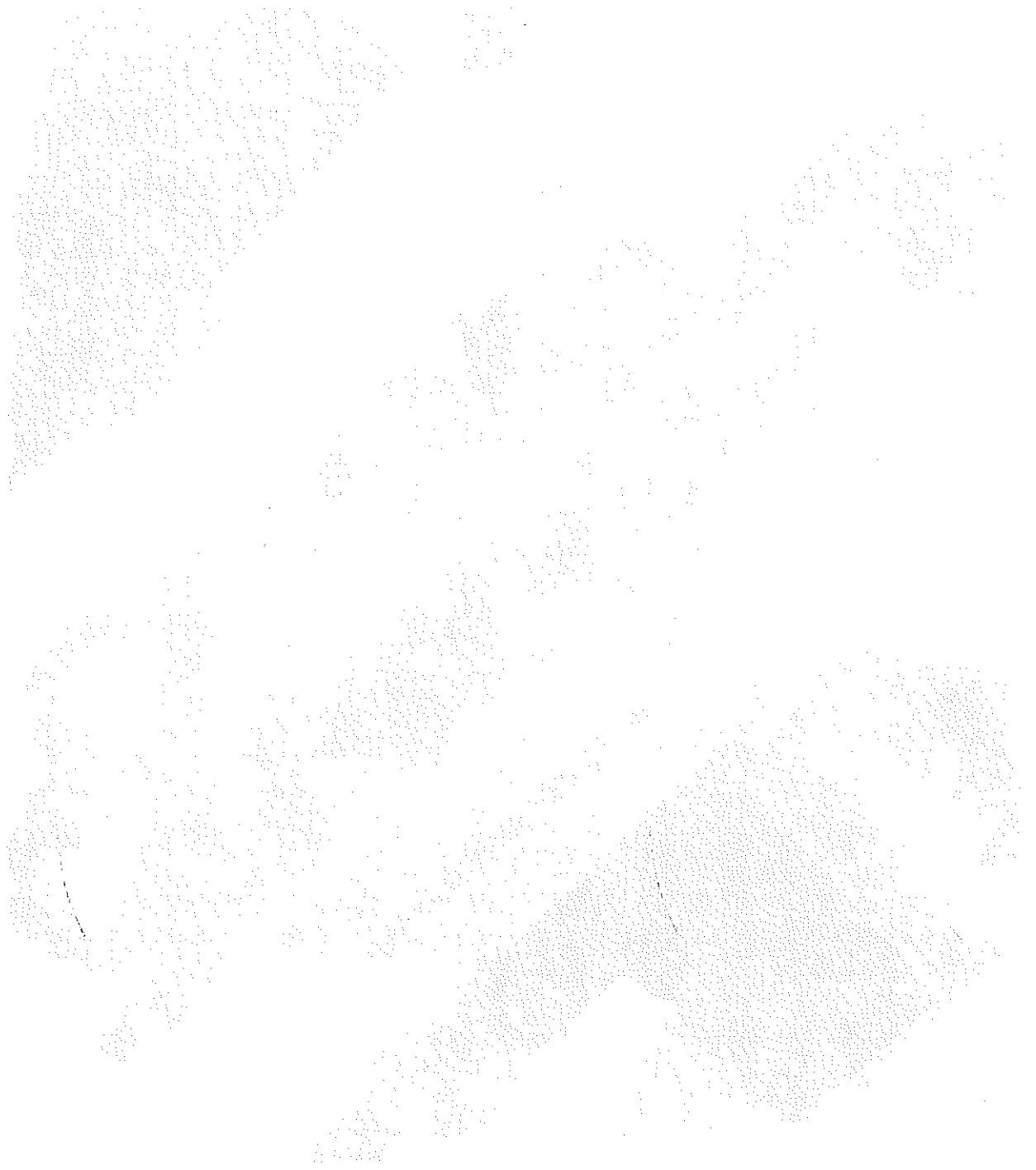
OUTCROP COMMUNICATIONS

NEW NORTHERN FRONTIERS VISITORS CENTRE

SITE PLANNING OPTIONS

Title

OPTION C



L. Status Presentation



NORTHERN FRONTIER VISITORS ASSOCIATION **VISITOR CENTRE**

Wednesday, April 26, 2017

WHY HAVE A VISITOR CENTRE?

WHY HAVE A VISITOR CENTRE?

Provide visitors with insights into the region and distribute information about tourism products and services.

Visitors look for:

- Knowledgeable, professional staff trained in customer service
- Unbiased and authoritative information
- Regional displays and stories

A survey of visitors (259 completed in early February) showed that 86.9% of visitors did more things in Yellowknife because of information received at the visitors centre and 85% would like to visit Yellowknife again.

WHY HAVE A VISITOR CENTRE?

Increase expenditures of visitors.

VC studies verify that a visitor centre can increase visitor expenditures in a city or region by at least 10%.

- In Yellowknife this could mean up to an additional \$9 million annually into the economy (conservative estimate is \$5 million annually)
- 71% of operators responding to a survey (90 responses) believe the visitor centre has increased the time/money visitors expend in Yellowknife

WHY HAVE A VISITOR CENTRE?

Generate pride in community.

Residents bring visiting family and friends to the centre. They use it for meetings, special gatherings and weddings. They attend special events staged by the NFVA, such as the Shore Lunch event.

ABOUT THE NORTHERN FRONTIER VISITOR CENTRE?

ABOUT THE NORTHERN FRONTIER VISITOR CENTRE

- Owned by the Northern Frontier Visitors Association
- Land lease under the Commissioner's Land Act expires in 2021
- Ideally situated near museum, Legislative Assembly, Frame Lake Trail, larger hotels, etc.
- Has ample parking for buses and RVs
- Actual building is 25 years old

ABOUT THE NORTHERN FRONTIER VISITOR CENTRE

- Only visitor centre in the NWT that is open year round. Operates 360 days per year. Is open 10 hours weekdays, 8 hours on weekends and holidays.
- Majority of operational funding (59%) is self generated by NFVA. Balance is from the territorial government and the City of Yellowknife. (Visitor centres contacted across Canada are mainly government supported)
- 2016 operating budget, including airport store, was \$865,400

ABOUT THE NORTHERN FRONTIER VISITOR CENTRE

- Traffic thru the centre has increased by 400% in the past 10 years: 11,940 visitors in 2007 and 50,233 visitors in 2016
- Supports numerous indigenous and other artists, craftspeople and small manufacturers with sales of their products
- Assists local tourism operators with referrals
- Promotes the entire NWT as well as Yellowknife

THE SITUATION TODAY

THE SITUATION TODAY

- The building is rapidly deteriorating. GNWT funded engineering reports show that required repairs would be costly and temporary.
- Inspectors from PWS and the Fire Marshall's Office have identified numerous fire and safety issues and have threatened to close the building.
- Due to the state of the building, can no longer rent office or boardroom space, eliminating a revenue stream
- Difficult to service increased number of visitors in diminishing useable space, especially at busy times of the year.

**ACTION
REQUIRED**

ACTION REQUIRED

TEMPORARY

- Move the visitor centre to a temporary location. Proceed with the demolition of the existing building and remediation of the site per the land lease.

PERMANENT

- Construct a new visitor centre, preferably at the same location, but on more secure ground, or at an appropriate location, where it continues to be a mini-destination within Yellowknife.
- Government ownership of a new centre, with operating contract to NFVA

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PERMANENT

- Construct a new visitor centre, preferably at the same location, but on more secure ground, or at an appropriate location, where it continues to be a mini-destination within Yellowknife.
- Government ownership of a new centre, with operating contract to NFVA

ACTION REQUIRED

TEMPORARY

1. Secure appropriate location for temporary centre. Could be private rental space or excess space of City or territorial government. (NFVA have sourced one possibility)
2. Commit required public funding to the operation of the centre.
3. Funding requirement options:
 - Public Funds: From \$565,000 to \$690,000 annually depending on option selected
 - NFVA generated funds: From \$60,000 to \$296,000 annually depending on option selectedTemporary Space Options:
 - Smaller centre with smaller merchandise sales area, but maintain airport store.
 - Smaller centre with no merchandise sales, but maintain airport store
 - Smaller centre with no merchandise sales, and close airport store.

ACTION REQUIRED

TEMPORARY

4. Time is of the essence, since the current building is becoming increasingly unsafe for any type of occupancy, especially through spring thaw.

Must be vacated within the next two weeks.

ACTION REQUIRED

PERMANENT

Why a new building:

- Improves visitor experience
- Increases visitor expenditures
- Addresses projected growth in tourism numbers (25% increase by 2020)
- Allows room for interpretive exhibits
- Assists with word-of-mouth advertising for the City and the NWT
- Allows for staging of special events and activities for visitors and for residents
- Rentals cover part of the operational costs of the building.

ACTION REQUIRED

PERMANENT

Next steps (in 2017)

- Determine government appetite for a new visitor centre
- Determine ownership of a new centre
- Determine location for a new centre. If same area, investigate land lease.
- Review size and occupancy options
- Review cost estimates
- Determine who would operate the centre
- Establish a committee to investigate all aspects of a new centre, including funding to construct.

ACTION REQUIRED

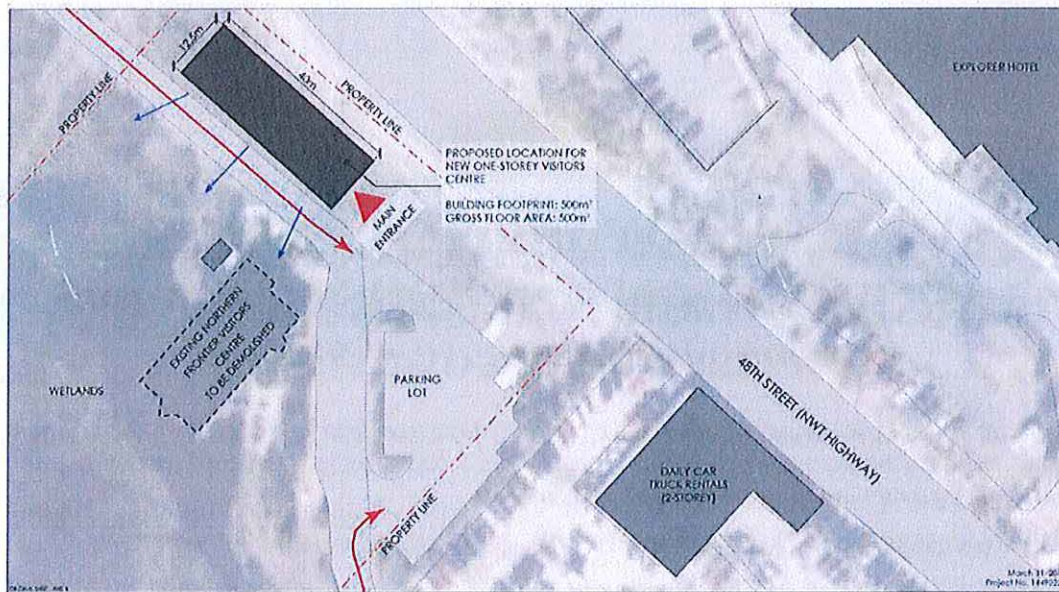
SOME OPTIONS FOR CONSIDERATION

- Smaller – 500 square metres (currently approx.. 644 square metres)
- Somewhat larger: 800 square metres
- Larger building – 1000 square metres

OPTION 1

BUILD NEW, SMALLER VISITOR CENTRE AT CURRENT LOCATION (RE-SITED)

- This centre to be government owned.
- Reduce overall space from 640 square metres (current on two floors) to 500 square metres on one floor
- Estimated construction cost between \$2 and \$3 million
- Mainly visitor reception/information, interpretive displays
- No rental offices, but possibly board room rental
- No merchandise sales, but continue at airport
- Space for proposed DMO (Initial years)



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LEGEND
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CONCEPTUAL SITE PLAN
NOT FOR CONSTRUCTION

OUTSIDE OF COMMUNICATIONS
NEW NORTHERN FRONTIER VISITOR CENTRE
SITE LASSING OPTIONS
OPTION C

OPTION 1 – PROS

- Construction and operating costs would be lower
- Visitor services would continue from existing, prime location
- Staff would be more focused on visitors, and less focused on generating income
- All existing parking area could be maintained
- Would be large enough to accommodate a new Yellowknife DMO office as well as the visitor centre

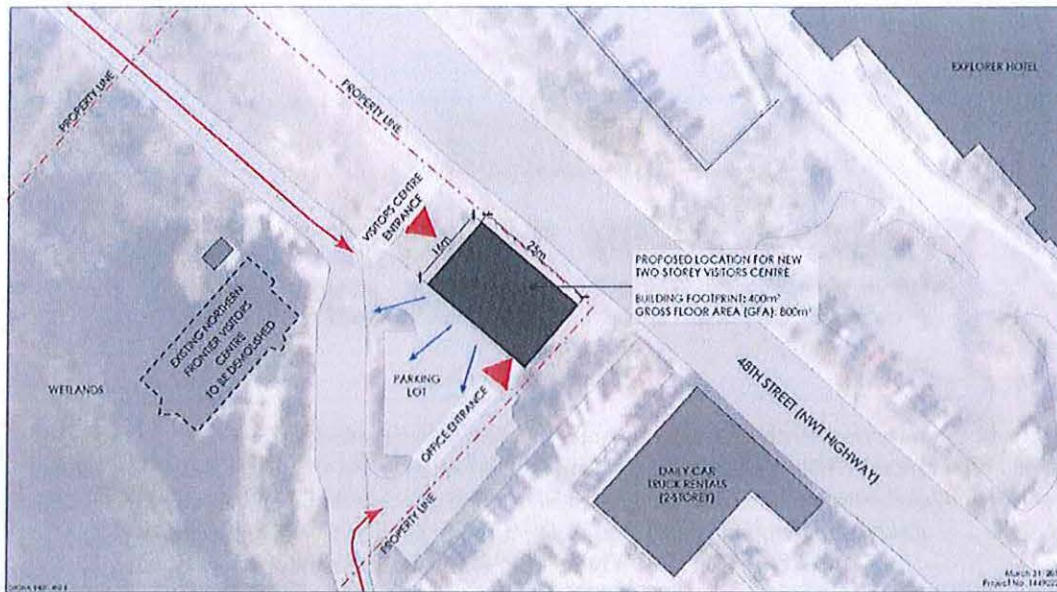
OPTION 1 – CONS

- One or several levels of government would have to provide the capital requirements.
- One or several levels of government would have to pay the annual O&M requirements.
- There would be limited rental income from this building (possibly boardroom)
- Would require improved road access from the Legislative Assembly turn off, or other

OPTION 2

BUILD A NEW VISITOR CENTRE, LARGER THAN THE EXISTING ONE AT 800 SQUARE METRES (TWO STORIES)

- The main floor of 400 square metres would be approximately the same space as the main floor of the existing centre, including the closed off portions.
- This centre would be government owned.
- The main floor would house the visitor centre including reception, interpretive displays, etc
- Cost for this option would be in the \$3 million to \$4.5 million range



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LEGEND

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CONCEPTUAL SITE PLAN
 NOT FOR CONSTRUCTION

Client: CANTON COMMUNICATIONS
 NEW NORTHERN FRONTIERS VISITORS CENTRE
 SITE PLANNING OPTIONS
 OPTION A

OPTION 2 - PROS

- Allows for a complete second floor which would be office rentals for use by the GNWT or City. (Ideally tourism related operations)
- Rental income could contribute to the ongoing O&M costs for the building.

OPTION 2 - CONS

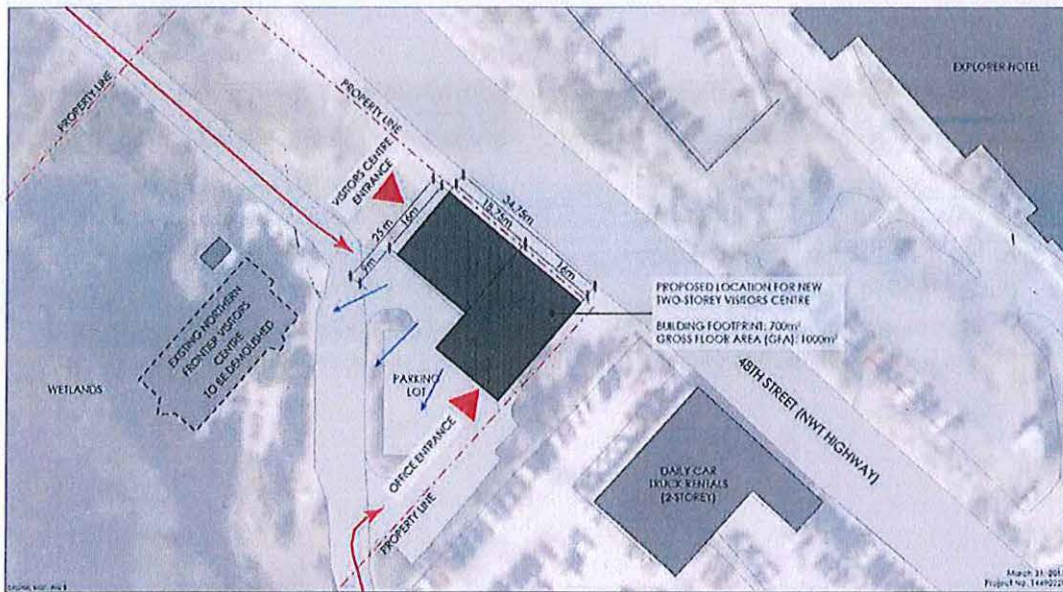
- Since same size as existing first floor of visitor centre, may have to reduce merchandise sales area as visitor numbers increase
- Would require improved road access from the Legislative Assembly turn off, or other

OPTION 3

BUILD A NEW, MUCH LARGER VISITOR/TOURISM CENTRE

At 1,000 square metres this is the largest option, with 700 sq metres on the main floor, which could accommodate both the visitor centre and the proposed Yellowknife Destination Marketing Organization, a boardroom and merchandise sales. Second floor would be offices, and ideally would accommodate other organizations/government staff involved in tourism.

Cost for this option would be \$3.77 to \$5.25 million



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LEGEND

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CONCEPTUAL SITE PLAN
NOT FOR CONSTRUCTION

DATE: 2017
OUTSIDE OF COMMUNICATIONS
NEW NORTHERN FRONTIER VISITORS CENTRE
SITING PLAN OF FRONT
OPTION B

OPTION 3 - PROS

- In longer term have all tourism organizations and services together in one "Tourism" building
- Offers some rental potential to help cover O&M costs
- Allows for an expanded visitor centre to meet projected increase in visitor numbers
- Allows space for demonstrations or other "in centre" activities including merchandise sales.
- Encourages synergies within tourism sector

OPTION 3 - CONS

- Higher capital costs
- Would require improved road access
- May require changes to land lease

ACTION REQUIRED

GOAL

- To have a new centre up and operating by the fall of 2019, in time for winter aurora season.

IMMEDIATE ASK

IMMEDIATE ASK

Can you assist with requirements to move the visitor centre to a new temporary location, demolish the existing building and remediate the site?

Funding requirement: Between \$600,000 and \$700,000 in Year 1 and \$500,000 to \$600,000 in Year 2.

LONGER TERM ASK

LONGER TERM ASK

Are you interested in developing a new visitor centre for the expected increase in the number of visitors to Yellowknife?

FINAL OPTION

FINAL OPTION

Disband NFVA. Close the existing centre. Negotiate with the government to demolish the building and remediate the land.

This could have negative impacts on the tourism sector for years to come, but NFVA no longer has the financial capacity to continue operating a visitor centre due to instability of the building, increased visitor traffic and current level of government support.

CRUCIAL DATES

CRUCIAL DATES

MAY 4 - Annual General Meeting of NFVA to discuss future of Centre and Association

MAY 15 - Closure of Centre for safety reasons

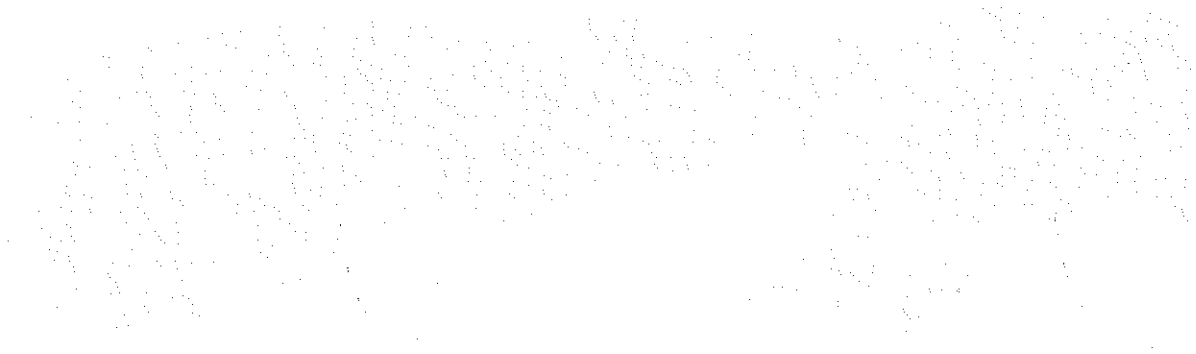
PRO FORMA INCOME/EXPENSE STATEMENTS

PRO FORMA INCOME/EXPENSE STATEMENTS

- with merchandise sales – centre and airport
- with merchandise sales – airport only
- no merchandise sales

OPTION 1 - MOVE TEMPORARILY TO NEW LOCATION					
	Actual 2016	Option 1A With Merch	Option 1B Merchandise sales at Airport only	Option 1B No Merch	
Revenue					
Merchandise sales - airport	\$500,000	\$500,000	Maintain same volume	\$500,000	Same volume at airport
Merchandise sales - visitor centre	\$535,763	\$300,000	Reduced sales at smaller location	\$0	Discontinued at Centre
QVWT/Contributions	\$199,710	\$300,000	Previous base from QVWT, \$181,000	\$315,000	\$145,000
Resident and tourism and/or fees (city)	\$45,221	\$265,000	Allocation for this year now \$30,200	\$315,000	\$315,000
Rentals, offices, board rooms	\$58,221	\$0	No rental space available	\$0	\$0
Memberships, other services	\$58,821	\$40,000	Includes in-centre advertising	\$40,000	Member fees, in-centre advertising
Donations and other	\$40,808	\$10,000	No shore lunch this year	\$10,000	Use, fundraising
	\$1,481,661	\$1,415,000		\$1,180,000	\$750,000
Expenses					
Advertising and promotion	\$12,411	\$12,500	Approximately same	\$10,000	Approximately same
Bad debts	\$0	\$0		\$0	
Bookkeeping	\$18,864	\$42,000	A bit more re move	\$40,000	Estimate
Communications	\$16,372	\$17,000	Telephone and internet	\$17,000	Telephone and internet
Cost of Merchandise Sold	\$645,999	\$504,000	Average of 37% mark up	\$315,000	Average of 37% mark up
Equipment Rental	\$7,820	\$8,000		\$8,000	Same
Freight, Postage and courier	\$4,097	\$4,000		\$4,000	Same
Fundraising	\$16,831	\$0	Shore lunch event cancelled	\$0	Shore lunch event cancelled
Insurance	\$17,785	\$17,000	Estimate only. Smaller, lease space	\$17,000	Estimate only. Smaller, lease space
Interest and bank charges	\$30,067	\$15,000		\$15,000	Less merchandise to carry
Meals and Entertainment	\$20,431	\$10,000		\$10,000	Same
Miscellaneous	\$11,848	\$8,000		\$8,000	Same
Office	\$17,709	\$18,000		\$18,000	Same
Janitorial	\$0	\$18,000		\$18,000	Same
Professional Fees	\$7,500	\$7,500		\$7,500	Same
Property Taxes	\$16,357	\$0	Included in rent	\$0	Included in rent
Rent Airport	\$19,077	\$19,077	Same	\$19,077	Same
Rent Visitor Centre	\$0	\$44,000	Approx. \$71 per month including parking	\$44,000	Approx. \$71 per month including parking
Repairs and Maintenance	\$54,705	\$10,000	Equipment, etc.	\$10,000	Equipment, etc.
Supplies	\$12,475	\$15,000		\$15,000	Same
Utilities	\$41,227	\$10,000	Mainly paid. Overages	\$10,000	Same
Wages and benefits	\$488,751	\$0		\$0	
Wages and benefits visitor centre	\$0	\$400,000	5 full time, 2 part time	\$360,000	4 full time, 2 part time
Wages and benefits - airport	\$0	\$15,000	1 fulltime, 1 part time	\$15,000	1 fulltime, 1 part time
Relocation and set up new office	\$0	\$15,000	Move, improvements to new space	\$15,000	Same
Building demolition, land reclamation	\$0	\$75,000	Estimate only	\$75,000	Estimate only
	\$1,512,430	\$1,414,077		\$1,178,377	\$747,900
Excess of Revenue over expenses	-\$1,369	\$921		\$1,423	\$2,500

Thank
You!



M. Projected Costs

Projected Costs to Operate A Yellowknife Visitor Information Centre

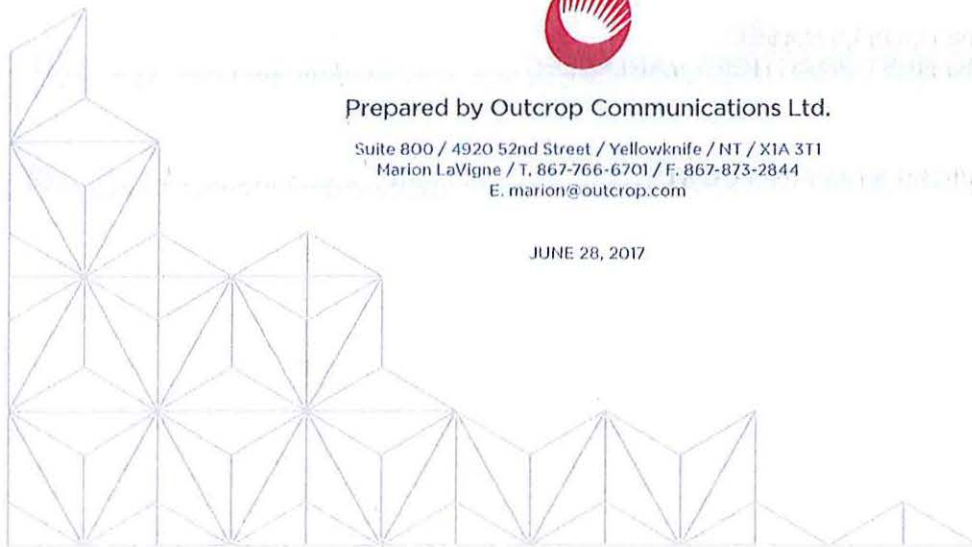
Offering only Visitor Services



Prepared by Outcrop Communications Ltd.

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JUNE 28, 2017



Contents

Overview	2
Look at Best Practices	3
Chart 1 NFVA SUSTAINABILITY STUDY	5
Costs to Adhere to Best Practices	8
Chart 2 VIC OPERATING COSTS BASED ON ACHIEVING BEST PRACTICES VARIABLES	11
Chart 3 VISITOR SERVICES STAFFING COSTS	12

Overview

At a recent meeting with our client (NFVA) and the Sustainability Project funders (CanNor and ITI) Outcrop was asked to develop costs to operate a Yellowknife Visitor Information Centre that offered **only** visitor information services.

To do this, we had to examine a number of major variables that would impact operating costs and assess each variable against Visitor Information Centre best practices.

For example location and accessibility of the visitor centre is one best practice. If it is not in an ideal location, and is not accessible to buses, RVs and walk in traffic, then the number of visitors could decline. In turn, with fewer visitors, the number of staff required to operate the centre could decrease accordingly.

To offer a range of costs, we have itemized a range of best practices, and have set three levels of adherence to best practices based on location, number of visitors, hours of operation, services offered, etc. *High* means the best practices could be achieved. *Average* means that more than half could be achieved. And low indicates difficulty in achieving even half of the specified best practices.

In our calculations, we have also considered that Visitor Information Centre staff will continue to handle telephone inquiries, fill requests for information packages and maintain monthly visitation data.

Based on these calculations and including GST where applicable, operation of a year-round Yellowknife Visitor Information Centre housed in rental space, could range from \$538,000 to \$739,000 annually, depending on:

- a. Number of visitors to the Centre
- b. Hours of operation
- c. Privately or publicly operated (NFVA or GNWT)
- d. Adherence to a range of best practices.

A Look at Best Practices

Earlier this year, as part of this assignment, we researched and prepared a listing of Visitor Information Centre best practices. These best practices were based on more than a dozen visitor centres in Canada and around the world.

From this listing we have assessed requirements and costs for a Yellowknife Visitor Information Centre to adhere to best practices. Following are the Best Practices we used to develop a range of costs for the visitor centre operation.

Location

- Is the visitor centre considered a mini destination and a stop for every visitor?
- Is it accessible for a range of travel modes? For example can RVs readily access it? Can it accommodate buses? Is it easy to access from most Yellowknife hotels?
- Can it accommodate local events?

Facilities

- Is the centre an open area with kiosks, rather than one large reception counter?
- Is there ample space to accommodate larger bus tour groups, or conference groups?
- Does it offer visitors public washrooms?
- Does it offer free Wifi to visitors?
- Does it have a dog walking area for road visitors who travel with pets?
- Does it offer basic services, such as allowing visitors to refill water containers?

Marketing

- Is the visitor centre well branded, with appropriate directional and location signage?
- Is there adequate space to display operator products and services, and to have "specials" boards and other advertising displays?
- Will staff have time to assist with booking trips? (contacting operators, arranging times, etc. could take up to an hour per visitor.)
- Social Media presence. Is it up to date with current info for visitors?

Services

- Are staff informed and well trained? A YK visitor centre can meet this if existing staff are retained, but it may take some time to get new staff well trained.
- Is there adequate interior display space to present tourism products and services? This will depend on the size of the next visitor centre.
- Is there external space for display, services (ie. Free bicycles)?

Economic Benefits

- Will a new visitor centre be able to refer the same number of people to products and services around the city and beyond? If not will this impact the economy? A visitor centre can add 10% plus to overall visitor expenditures.

Revenue Generation

Many visitor centres generate part of the funds needed for operations. Generally this is in the 10 to 15% range of total operating costs. For the costing examples presented, we have eliminated all merchandise sales (and related staffing requirements) and are suggesting only small revenue generators such as vending machines, where space is available and membership fees, if the centre continues to be operated by NFVA.

Governance

A major variable is governance of the visitor centres. Will they continue to be operated by an NGO, or as in the case of other VICs across the NWT, will they be operated by the GNWT? If operated by the GNWT, the salary requirements will increase in line with government permanent and contract staffing policies and union requirements.

Community Involvement

Support and involvement of the community increases the reach and effectiveness of a visitor centre. Residents ensure their visitors stop there, and some have even used it as a wedding location. Ongoing community involvement will depend on location, staffing and budgets.

Data Collection

Previously NFVA VIC staff collected and presented monthly visitation statistics. Continuing to provide this service may require additional staff resources.

In addition to adherence to best practices, there are a number of other variables to be considered:

Hours of Operation

Will the centre be open seven days per week, with longer hours on weekdays?

Number of visitors

Visitation is projected to increase by 25% by 2021. How quickly will these numbers increase? As the number increases, will a proportional number stop at the visitor centre? (note: already seeing a decline in numbers at the museum location)

Level of Service

This could range from simply letting visitors browse information racks, to actively engaging with each visitor that comes into the centre.

Chart 1 shows best practice requirements, and what a Yellowknife visitor centre would achieve in the three scenarios mentioned above:

Chart 1

NFVA SUSTAINABILITY STUDY

Variables to be Considered when Assessing Visitor Centre Services Costs

RATINGS:	high: meets most best practices	average: meets more than half of best practices	low: meets less than half of best practices
Best Practices	High	Average	Low
LOCATION	Similar to current location	Storefront in high traffic area such as log cabin location or other at City Hall near Park, trail	Storefront in low traffic area. Possibilities such as the Bromley building or other on main street.
Mini Destination	Similar to current. Ties to other facilities	Could work if by City hall (where log cabin is)	May be hard to find. Not a destination
Accommodates local events	Similar to current with space surrounding	Access to space, as in Sambaa Ke plaza	Not possible
Accessible for range of travel modes	Similar to current. Near hotels for air travellers. Has facilities for road travellers	In City Hall area could work for air and ground travellers Would need directional signage.	Better for air travellers. Would need directional signage
Parking for RVs, buses	Similar to current	Possible with existing parking options. Better if some reserved only for visitors and tour buses.	Not possible. Only option would be parking lots some distance away, or give up parking meters on side streets
FACILITIES			
Open area with info kiosks	Would need at least 4,000 square ft mainly open area	Could manage with 3,000 sq feet,	2,000 square feet would mean using a reception desk approach, similar to previous visitor centre
Ample space for larger groups	Would work with large groups	Could manage, but would be quite tight	Not adequate for large groups
Public washrooms	Available. Male and Female	Available, male and female	Could be limited to one washroom only
Free Wifi	Available.	Available.	Available.
Dog Walking area	Yes	Yes	No
Provide water jug refills	Yes	Yes	No
MARKETING			
Strong brand, readily evident (signage)	Yes	Could build a brand in this type of location	Harder work to make location known
Promote operator products	Yes. With boards, and ample staff assistance	Yes. With boards, and ample staff assistance	Limited room for boards. Staff could assist as time.
Assist with booking trips	Yes. Part of role of staff	Yes. As staff time available.	Limited, because lower number of staff, and can't spend too much time on each visitor

RATINGS:	high: meets most best practices	average: meets more than half of best practices	low: meets less than half of best practices
Best Practices	High	Average	Low
SERVICES			
Informed, trained staff	Yes	Maybe, if current staff stay	If new staff, would require training
Rack space for brochures	Yes	Yes	Yes. But possibly smaller space
Display boards for current offerings	Yes.	Yes.	Maybe, but smaller, depending on space availability
Website	Yes. Additional work for staff to update	Yes. Time allocated to website would be limited	Fewer staff, not likely time or expertise to handle
Interpretive displays inside	Yes. Use existing displays. Some new ones needed	Yes. Existing displays as possible	Limited to what might fit in the space
Interpretive displays, outside	Yes. If in similar location	Yes. But limited due to space restrictions	No
Extras (free bicycles)	Yes. Require overnight storage space	Yes. If city can provide overnight lockup	No
Hours of operation	Open most days of year. Hours coincide with visitor needs	Open all weekdays and weekends Closed for 10 stat holidays	Open 7 days a week - high season. Five days a week low season. 10 Stat holidays
ECONOMIC CONTRIBUTION			
Visitors spend more, stay longer via referrals to operators, services, attractions, events	Yes, per operation of previous visitor centre	Yes, once centre is established and easily located	Yes. But likely less, since number of visitors will be lower Closure on weekends could impact referrals to operators
REVENUE GENERATIONS			
Vending machines for soft drinks	Small amount for vending machines, set up for convenience. Possibly continue visitor/ community events such as the fish fry	Could have vending machines. Possibly fundraising events such as fish fry, but smaller scale	Limited space for vending machines. No space for events

RATINGS:	high: meets most best practices	average: meets more than half of best practices	low: meets less than half of best practices
Best Practices	High	Average	Low
GOVERNANCE			
	Operated by NFVA or other NGO	Operated by NGO, which could be the proposed DMO for Yellowknife. Many DMOs are responsible for visitor services as well as marketing.	Operated by GNWT, similar to other visitor centres.
COMMUNITY INVOLVEMENT			
Data Collection	To continue as currently doing	To continue as currently doing	Unable to continue due to reduced staff
<i>Above dictates the following:</i>			
Number of anticipated visitors at centre in first full year of operation	55,000 visitors	40,000 visitors	30,000 visitors
Hours of operation - annual	Weekdays: 10 hours daily. Weekends 8 hours daily closed maximum of 4 days per year Total hours open per year: Approximately 3400 Total hours open per week: 66 hours	Open 7 days a week - 8 hours per day year round Closed on all stat holidays Total hours open per year: Approximately 2800 Total hours open per week: 56 hours	Open 7 days a week , for 8 months per year. Open five days per week, April, May, October, November Open for 7.5 hours per day Total hours open per year: Approximately 2450 Total hours per week, high season: 52.5 hours Total hours per week, low season: 37.5 hours
Staff needed per week	Minimum of five full time staff. This would allow for three people at busy times, and at least two people always on duty. Casual or part time staff would be needed to cover for sick time, holidays, or extremely busy periods. Possibly two to three part timers	Minimum of four full time staff, plus at least two part time staff to cover for vacation, sick, etc. This would ensure there was always two people on duty	Four full time staff and limited part time. With fewer hours should be able to always have two people on duty with three at busier times

Costs to Adhere to Best Practices

Chart 2 at the end of this section shows best estimate of costs to attain high, average or low adherence to Visitor Information Centre best practices.

To assess costs, we started with costs /categories presented in the 2016 NFVA annual statements, and adjusted based on revised needs.

We have not included any revenue since we assume that the Visitor Centre would generate very little revenue (maximum of 5% to 10% of costs). Without revenue, most costs would have to be covered under service contracts or via the GNWT assuming full operation of the Visitor Centre in Yellowknife.

Advertising and Promotion

Estimate that this cost will not change much with any of the options presented. It includes social media and web hosting/maintenance requirements

Bookkeeping

Without merchandise sales, and with fewer staff this cost will drop. Fewer staff and services will lower bookkeeping costs. If GNWT assumes operation of the centre, this cost would be absorbed into regular government operations.

Communications

This is mainly for internet, telephone, including free Wifi for visitors. Estimate is for approximately the same as 2016

Equipment Rental

The main cost is rental of a photocopying machine for preparing in-centre notices, handout sheets etc. This cost will continue, but possibly a bit lower.

Freight, Postage and Courier

Estimate that this will stay approximately the same, assuming the Centre continues to fulfill requests.

Insurance

Mainly property and liability insurance. This cost will decrease with the size of the space and the number of visitors to the centre.

Interest and Bank Charges

Bank charges and interest should reduce substantially, without merchandise sales. Expect there could be some bridge financing costs while awaiting contract payments.

Meals and Entertainment

This would also be reduced from previous years. This could cover everything from luncheon costs for qualified travel writers, to coffee at special community meetings, etc.

Misc.

This amount has been reduced slightly from 2016 but covers the many unknown requirements

Office

These costs are expected to remain the same if visitor volumes continue. However they will decrease with a reduction of visitors. These costs include a range of requirements to best service visitors.

Janitorial

Space rental costs below do not include janitorial. This task could be handled by staff or a contractor. We have included an estimate for a contractor.

Professional Fees

Estimated approximately the same annual fee from the firm that prepares the NFVA annual financial statements. (engagement only) Apart from accounting fees, no other professional fees are anticipated. If the VIC is operated by GNWT, no professional fees required.

Property Taxes

This would not apply, assuming that the Visitor Centre will be in leased space, where the lease payments cover property taxes.

Airport Rent

This cost will be eliminated as soon as the lease expires

Repairs and Maintenance

This amount will drop significantly. Costs in 2016 were mainly for building repairs. Current uses will be for equipment repairs, and small items, like lock repairs and replacement, and ongoing servicing of other items not under contract.

Supplies

This may go up with higher adherence to best practices, since many new supplies will be needed. For smaller spaces the amount decreases. Supplies would range from paper, whiteboards and markers, to regular office supplies such as stapler, notepads, etc.

Rent

For purposes of this costing, we have assessed rent at \$30 per square foot (including all utilities - heating, power, water but not telephones or internet) which was the amount quoted for the main floor of the Bromley Building. To meet best practices, the centre would require more room for displays, kiosks, etc. For the high option (top adherence to best practices), we are suggesting approximately 4,000 square feet. Other options are assessed at 3,000 square feet (average) and 2,000 square feet (low). We are also assuming that the first option will be in a priority location, while other options may be more removed from main activity areas.

Utilities

All utilities would be included in the rent

Parking

Previous statements do not include a cost for parking, since it was included with the building.

To obtain separate parking stalls at the Bromley Building there would be a cost of \$100 per stall plus GST. To accommodate visitors at least 6 parking stalls would be needed.

Staffing (see Chart 3)

Staffing requirements are based on the hours a centre is open and the number of visitors that they can expect in one year.

In the best practices chart, previous NFVC hours per year are ranked as high, with decreases in the number of hours open for average and low. We have also adjusted the potential number of visitors to the centre. Based on number of visitors and hours open, following are the suggested staff requirements.

	High	Average	Low
Anticipated Visitors:	55,000	40,000	30,000
Hours of Operation:	3,400	2,800	2,450
Avg visitors per hr:	16	14	12
Full time staff:	5	4	4
Part time hours:	1315	1315	132

Hours open for each option:

High: 10 hours per day for all weekdays. 8 hours per day for all weekends. Less 4 stat holidays

Average: 8 hours per day, seven days a week year round. Less 10 stat holidays

Low: Open seven days a week for 8 months per year, open 5 days per week, April, May, October, November. Closed for 10 stat holidays. Open 7.5 hours per day. Total hours per week open in high season 52.5, in low season 37.5

Chart 2
VIC Operating Costs based on
Achieving best practices variables

EXPENSES	Actual 2016 Without Merchandise	High Meeting most Best Practices	Medium Meeting some Best Practices	Low Meeting few Best Practices
Advertising and promotion	\$12,416	\$12,000	\$12,000	\$12,000
Bookkeeping	\$39,864	\$30,000	\$24,000	\$0
Communications	\$16,572	\$16,500	\$16,500	\$16,500
Equipment Rental	\$7,820	\$7,200	\$7,200	\$7,200
Freight, Postage and courier	\$4,092	\$4,000	\$4,000	\$4,000
Insurance	\$27,785	\$24,000	\$18,000	\$12,000
Interest and bank charges	\$30,067	\$18,000	\$12,000	\$8,000
Meals and Entertainment	\$20,438	\$15,000	\$12,000	\$10,000
Miscellaneous	\$11,846	\$10,000	\$8,000	\$6,000
Office	\$17,709	\$18,000	\$14,000	\$10,000
Janitorial	\$0	\$12,000	\$12,000	\$12,000
Professional Fees	\$7,500	\$7,500	\$7,500	\$0
Property Taxes	\$36,252	\$0	\$0	\$0
Rent Airport	\$19,077	\$0	\$0	\$0
Repairs and Maintenance	\$54,705	\$8,000	\$6,000	\$4,000
Supplies	\$12,475	\$15,000	\$12,000	\$10,000
Rent, including utilities	\$0	\$120,000	\$90,000	\$60,000
Parking	\$0	\$0	\$7,200	\$7,200
Utilities	\$41,227	\$0	\$0	\$0
Sub Total	\$359,845	\$317,800	\$255,800	\$179,800
GST at 5%	\$17,992	\$15,290	\$12,190	\$0
TOTAL ALL NON WAGE EXPENSES	\$377,837	\$333,090	\$267,990	\$179,800
Wages and benefits (See Chart 3)	\$488,755	\$406,800	\$350,400	\$359,280
	\$866,592	\$739,290	\$624,990	\$538,180

Chart 3
Visitor Services Staffing Costs

	Current					Projected		
	Current*	Type	O/T	Hrs/Yr	Annual Inc.	High	Average	Below
Executive Director/General Manager	\$85,000	Salary	No	1950	\$85,000	\$90,000	\$88,000	\$98,000
Assistant Mgr/ Senior Counsellor	\$32	Hourly	Yes	1950	\$62,400	\$66,000	\$66,000	\$72,150
Comms Mgr/ Senior Counsellor	\$31	Hourly	Yes	1950	\$60,450	\$63,000	\$63,000	\$68,250
Traveller Counsellor (intermediate)	\$25	Hourly	Yes	1950	\$48,750	\$50,000	\$50,000	\$58,500
Travel Counsellor	\$22	Hourly	Yes	1950	\$42,900	\$45,000	\$0	\$0
Part time counsellors - 4 at 500 hrs per yr	\$19	Hourly	Yes	2000	\$38,000	\$25,000	\$25,000	\$25,000
On call part time staff (3 at 10 hrs/month)	\$18	Hourly	Yes	400	\$7,200	\$0	\$0	\$0
Sub total Visitor info staff					\$344,700	\$339,000	\$292,000	\$299,400
Benefits and overtime at 20%					\$68,796	\$67,800	\$58,400	\$59,880
TOTAL VISITOR INFO STAFF					\$413,496	\$406,800	\$350,400	\$359,280
Airport Manager	\$25	Hourly	Yes	1950	\$48,750	\$0	\$0	\$0
Airport part time (2 at 1 day each per week)		Hourly	Yes	832	\$18,304	\$0	\$0	\$0
Sub Total - Airport Staff					\$67,054	\$0	\$0	\$0
Commission at 2%					9,000	\$0	\$0	\$0
TOTAL AIRPORT STAFF					\$76,054	\$0	\$0	\$0
TOTAL PAYROLL					\$489,550	\$406,800	\$406,800	\$259,280

N. Schedule of Reporting Requirements

BETWEEN:

Schedule of Reporting Requirements

The Recipient is required to submit the following reports for acceptance and approval by CanNor, on or before the dates indicated.

Fiscal Year 2016-2017

Report	Period	Due
1. Interim Financial Report An interim schedule of revenue and expenditures.	December 1, 2016 to March 31, 2017	May 31, 2017
2. Final Activity / Evaluation Report The Recipient will provide a Final Activity Report which will include: <ul style="list-style-type: none"> a. Detailed report of the project activities and how the project achieved the objective(s) identified in the Project Description as well as assessment of how it contributed to the expected results of the project. At the minimum, the report will answer the following questions: <ul style="list-style-type: none"> i. Were the activities detailed in the project work plan found in the Contribution Agreement carried out as specified? If the project work plan was modified, then explain the modifications and the rationale for making them. ii. Were all the project objectives achieved and to what degree were they achieved? If some of the objectives were not achieved then explain why? iii. What are or will be the direct benefits and/or outcomes that have resulted from the project? iv. Estimate of jobs created as a result of the project (expressed in full-time equivalents). b. The Recipient will also collect, and include in the final report, performance measurement data associated with this project, including: <ul style="list-style-type: none"> ➤ A copy of the study that was completed; ➤ The planned investment as a result of this study; and, ➤ The value and as % of funding leveraged from other organizations or sources. 	December 1, 2016 to March 31, 2017	May 31, 2017
Unaudited Schedule of Revenues and Expenditures per APPENDIX A to this schedule.	December 1, 2016 to March 31, 2017	July 29, 2017

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Schedule of Reporting Requirements

Final Activity/Evaluation Report

a. Detailed report of the project activities and how the project achieved the objective(s) identified in the Project Description as well as assessment of how it contributed to the expected results of the project. At the minimum the report will answer the following:

- i) Were the activities detailed in this work plan found in the Contribution Agreement carried out as specified? If the project work plan was modified, then explain the modifications and the rationale for making them.

The activities were carried out as far as possible. The engineering report on the structural state of the centre, which was expected in late December, did not arrive until late February. This report outlined needed structural repairs which were beyond the financial capacity of NFVA. Further to that the visitor centre was advised that it could be closed momentarily for safety issues. At this point, all of the parameters of the study changed. The sustainability of the visitor centre was no longer the issue. Rather, at the direction of the board, we concentrated on the sustainability of visitor services in Yellowknife, developing multiple cost estimates for potential funders.

- ii) Were all the project objective achieved and to what degree were they achieved? If some of the objectives were not achieved then explain why?
Due to the reported state of the building, and the lack of appetite by governments to fund even a temporary relocation, it was impossible to do a sustainability plan for a non-existent centre.

- iii) What are, or will be the direct benefits and/or outcomes that have resulted from the project?
The major outcome was identifying an ongoing need for visitor services in Yellowknife, the cost for these services, and the benefit visitor services brings to the city and region.

- iv) Estimate of jobs created as a result of the project(expressed in full time equivalents)
No jobs were created at this time. In fact some jobs were lost when NFVA was unable to get financial support for a new location, and for providing visitor services without the benefit of additional income from merchandise sales.

b. The Recipient will also collect and include in the final report , performance measurement data associated with this project including:

- A copy of the study that was completed
A copy of interim work completed is attached. It was not possible to complete a final report due to circumstances beyond our control
- The planned investment as a result of this study
The various reports showed potential capital investment required for a new centre, and funds required for ongoing operation.
- The value and as % of funding leveraged from other organization or sources.
This report did not investigate other funding sources, although we volunteered to look at possibilities.

Unaudited schedule of Revenues and Expenditures

See appendix xx

O.
Monthly Expenditures
to date re this Assignment

NFVA OVERVIEW OF EXPENDITURES
Budget, including GST: \$75,000

	FEES/EXP	GST	TOTAL
Budget	\$71,429	\$3,571	\$75,000
December	\$6,025.00	\$301.25	\$6,326.25
January	\$6,697.50	\$334.88	\$7,032.38
February	\$6,630.00	\$331.50	\$6,961.50
March	\$20,383.75	\$1,019.19	\$21,402.94
April	\$6,977.50	\$348.88	\$7,326.38
May	\$1,197.50	\$59.88	\$1,257.38
June	\$3,137.25	\$156.86	\$3,294.11
July	\$440.00	\$22.00	\$462.00
Aug Proj	\$3,000.00	\$150.00	\$3,150.00
TOTAL	\$54,488.50	\$2,724.44	\$57,212.94
BALANCE	\$16,948.50	\$1,175.89	\$17,787.06



Business Case for the Sustainability Of the Northern Frontier Visitors Centre

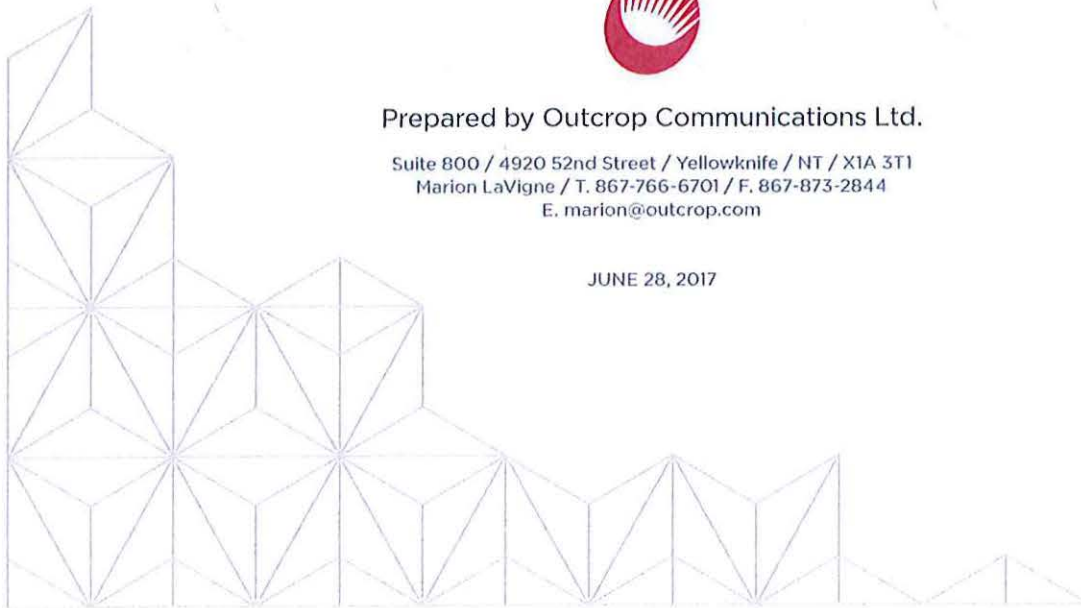
FINAL REPORT July 31, 2017

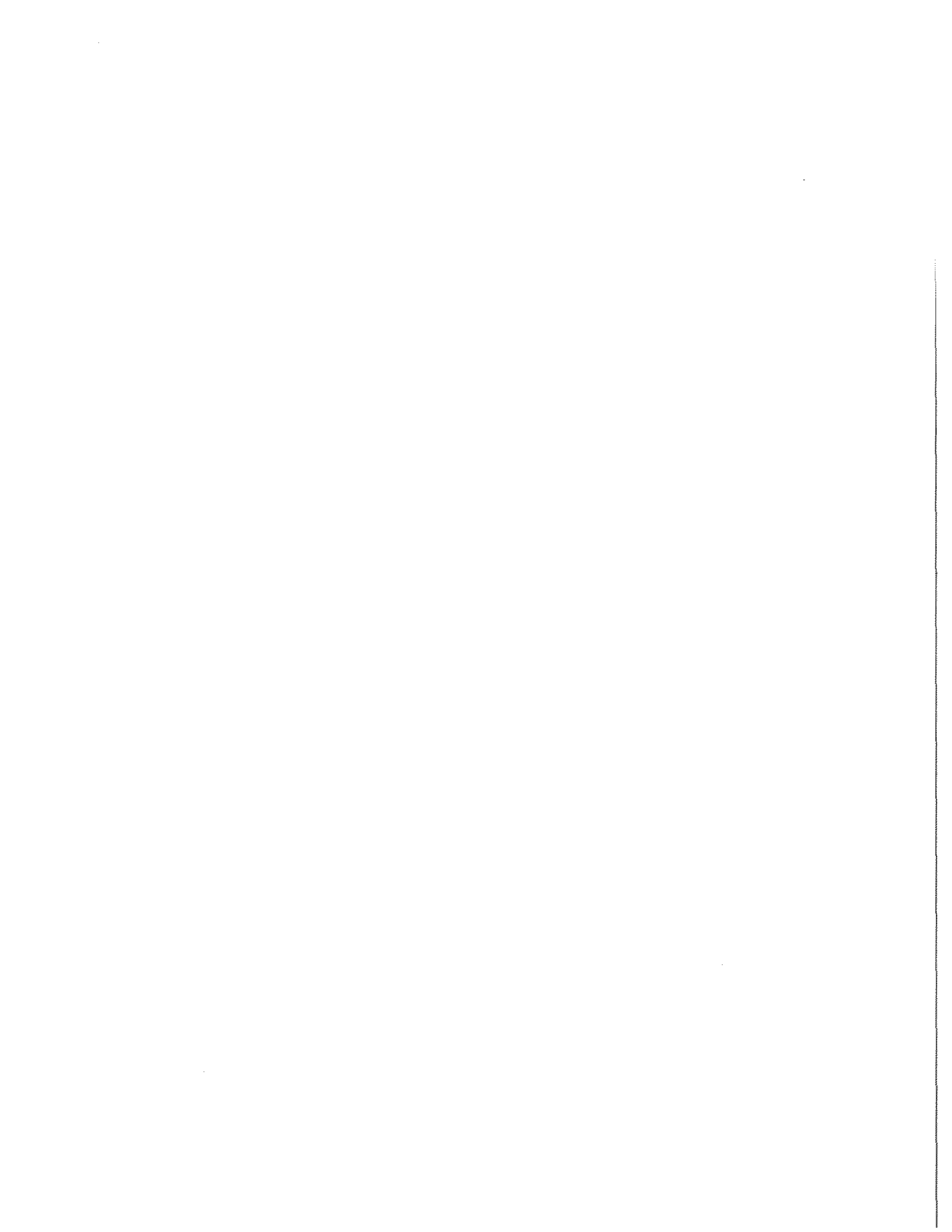


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JUNE 28, 2017





Contents

1. Status Report	4
2. Interim Reports, Presentations, etc.	9
A. Phase 1 Report Review of Visitor Centre Best and Promising Practices, Services and Facilities	
B. Comparison of NFVC and Best Practices at two Yellowknife locations	
C. NFVA salary/wages chart	
D. Financial Viability of four different options	
E. Tourism Visitor Centre Locations and Service Models	
F. Visitor Survey card and tabulations	
G. Stakeholder online survey and results	
H. Stakeholder one-on-one interview notes	
I. GNWT Technical Evaluation of Visitor Centre	
J. Williams Engineering NFVC Structural Assessment	
K. Stantec options for new centre on same property	
L. Status Presentation to GNWT/City and to stakeholders at NFVA annual general meeting	
M. Projected Costs to Operate a Yellowknife Visitor Centre that offered only visitors services (as requested by board/funders)	
N. Schedule of Reporting Requirements	
O. Monthly Expenditures to date re this Assignment	

Status Report

In December, 2016 Outcrop Communications was selected to complete a business case for the sustainability of the Northern Frontier Visitors Centre. The work plan included six sections as follows:

1. Context
2. Operational Analysis
3. Future Considerations
4. Branding Options
5. Future Considerations
6. Sustainability Plan and Pro forma statements

Each section was divided into a number of subsections and the entire plan was dependent on the recommendations of an engineering report which was scheduled for completion at the end of December. The report was not received until late February, and the recommendations outlined in that report indicated that the Centre could only continue to operate if substantial, immediate repairs were made the building.

The cost of the repairs was beyond the financial capacity of NFVA and the NFVA board concluded that continuing to pour money into a damaged building was futile. They decided that a new building, or a new location for the centre should be considered, and they also recognized that current GNWT and City contracts to provide visitor services, would not cover the costs of servicing the increasing number of visitors to Yellowknife. They also recognized that as a not for profit organization with a volunteer board, they should not attempt to own a new building.

Since visitor centres in other NWT locations are either owned or leased by the GNWT or a municipality, the board presented their case for a new visitors centre or a temporary location to these two levels of government – GNWT and City of Yellowknife. The governments came back with a temporary solution for visitor services. The NFVA would be given a rent free space at the Prince of Wales Heritage Centre from June until the end of September. When this temporary arrangement expires, NFVA will cease offering visitor services, and in fact may dissolve the association. Also, NFVA was directed to discontinue merchandise sales, an activity that had sustained the visitor centre operations as rental income declined when parts of the Centre had to be vacated, eliminating tenant income.

Without a visitor centre and possibly without an association, we deemed it impossible to develop a sustainability plan for the centre. We requested and attended a meeting with the NFVA executive and the funders to determine any further requirements from us. We offered the following options:

1. Investigate financing options for a new building based on one of the models suggested. This could be a public/private partnership with a Visitor Centre a tenant in a new building. A few people have casually inquired about this possibility.
2. Investigate new models for providing visitor services, either with or without NFVA involvement.
3. Prepare a plan for providing visitor services after the arrangement with the museum terminates.
4. Stop all activity now, and return any unused monies to the funders.
No decisions were reached at this meeting. Instead, we were asked to develop another outline of costs to provide only visitor services, in line with best practices presented in an earlier stage of our work. This report was completed in June. We have not received any feedback on that report.

GENERAL CONCLUSIONS

1. If the Northern Frontier Visitor Centre continued to operate from the same location, it would never be sustainable. Building deterioration resulted in the loss of all VC tenants, retailers complained that NFVA was disrupting the local market with merchandise sales, and the estimated repair costs to fix the building were unaffordable for a not for profit organization stripped of its income streams.
2. NFVA should not attempt to own a new visitor centre
3. Visitor services in Yellowknife should be a government responsibility (GNWT and/or City). Government should own or lease the premises and enter into a contract for the supply of visitor services.
4. With the increasing importance and number of visitors to Yellowknife, a new centre should be operational asap. The contract for services should be adequate to ensure the centre is open seven days a week, and has the facilities to both service visitors and support local tourism operators/facilities/events.
5. The GNWT/City should investigate the potential for a public private partnership to build a new "tourism" building, with the Visitors Centre as the core tenant.
6. All efforts should be made to locate the centre in a prime area that can service visitors who arrive on foot, via buses and RVs. Engineering drawings show potential for building a new centre on the site of the existing centre.
7. The existing centre should be removed from the property as soon as possible. Initial estimates to temporarily fix the structure, complete repairs caused by the sinking, and fix itemized safety hazards will far exceed \$1 million. The NFVA concluded that this expense, even if funds were available, would be a temporary fix at best.
8. Both the GNWT and the City should be encouraged to act quickly re the establishment of a new visitor centre, to ensure the increasing number of visitors to Yellowknife are well received.

Note: In the course of our work, we have prepared estimates of required funding to sustain different levels of operation. These are included in the listing of documents.

Work completed to date:

CONTEXT

Requirement: For both the NFVC and other national and international centres, examine and compare principal requirements of visitor centres. To examine facilities, services, governance models, markets served, funding arrangements, own-fund generation, partner involvement, socio-economic contributions, data collection and metrics and financial viability.

This information was presented to the board in a phase 1 report in January 2017. See Document A. We also prepared and included a chart to show the Northern Frontier Visitors Centre alignment with overall visitor centre best practices at different locations. Document B

OPERATIONAL ANALYSIS

Requirement: This section examined and analyzed operating and financing components. We examined cost of current services, analyzed the funding model, determined requirements for own-income generation See Documents C, D and E

We also surveyed both visitors and stakeholders to determine the effectiveness of NFVA visitor services. Visitors were asked to fill in a small survey card and return it to NFVA . Since the card distribution was in the height of Aurora season, cards were available in English, Chinese, Japanese and Korean, See Documents F1 and F2

Via e-mail stakeholders were invited to fill in a survey and we also conducted telephone interviews with some Yellowknife Operators. Documents G1 and G2 and H

The research showed that the visitor centre offers an important service for both visitors and stakeholders. With a properly functioning building and the revenue it generated, and with merchandise sales, the centre could have survived. However, with a deteriorating building the NFVA could not afford the ongoing building repair costs. See Documents I and J

FUTURE CONSIDERATIONS

Requirements: Determine the number of visitors to be serviced in the future, the facility required to meet the needs, operating models and financial models.

Visitor numbers were based on the five-year projection of the GNWT. These projections anticipate a 25% increase in visitors by 2020-21. Based on current visitor numbers, this could increase the number of visitors to the centre from 50,000 in 2016 to 62,500 in 2021. This increase would mean more staff would be needed to service the growing number of VC visitors, and could mean a larger centre to house additional visitors.

Part of our work involved working with an engineering company to determine if a new centre could be build on the same property (different location on property) and at what cost. The report of the engineers is included in Appendix x. Since the current location was deemed to be the best location for a visitor centre (with a few access changes) outline plans were drawn up to position and cost three Visitor Centre sizes: smaller than current centre; same size as current centre; larger than current centre. See Document K

The information gathered for this phase of the work was first presented to the NFVA board who determined that the building had to be vacated. An expanded presentation was then made to a special meeting with the Minister of Industry, Tourism and Investment and the Mayor of Yellowknife to determine their appetite for a new centre. And finally the information was presented to stakeholders at the annual general meeting of the Northern Frontier Visitors Association. See Document L. At that meeting the board also advised members that they had set a tentative closure date for the existing centre.

Since there appeared to be little interest in funding a location for a new centre, or increasing the amount of the service contracts (GNWT and City) the NFVA officially announced its closing. At this point the GNWT offered a temporary solution by providing NFVA with a small visitor service space at the Museum, open 10 to four daily. This space is available only until Oct. 1

At this writing, plans, if any, for continuing visitor services have not been made public, and the Northern Frontier Visitors Association is considering closing the organization.

This could leave a large gap in the local tourism market. At this point it is not certain who will assume the responsibility for visitor services, who will fund visitor services, and who will own or lease premises for a visitor centre.

VISITOR CENTRE OPERATING MODELS

In the course of our work we planned to examine the following models:

Independent Organization led by the Tourism Industry

It is very difficult for a not-for-profit organization, with limited income potential, to own a visitor facility. At NFVA executive and board meetings, the directors strongly indicated that the association should not consider the purchase of a new building

As part of proposed DMO for the City

Some DMOs (Destination Marketing Organizations) also provide visitor services. Since the establishment of a Yellowknife DMO relies on the implementation of an accommodation levy to fund the organization, and that levy is still in the "proposed" stage, it was difficult to outline a role for the DMO in the provision of visitor services. It should be noted, though, that most accommodation levies are used to market a city or region and not to provide visitor services. If the city decided that the DMO should also provide visitor services, then it would likely have to fund this activity apart from the accommodation levy.

Public Private Partnership

If a level of government was willing to enter into a long term lease for visitor centre space, it could be possible to develop a public private partnership. We have received a couple of casual inquiries about this (one via a lawyer, one from a foreign investor) so there is interest. However, at this point, neither the city or the GNWT has decided their future responsibility or input into visitor services.

For Profit Venture

In our research, we have not seen a visitor centre as a “for profit venture” but this is an option that could be investigated with developers. Years ago, a Yellowknife organization, called the Yellowknife Exhibition Association earned operating funds by staging a major lottery based on the annual dog derby – modelled after the Irish Sweepstakes.

Financial Models

Various financial models were developed and tested. All require government support or transitioning NFVA into a “for-profit” organization. The level of support depends on how closely the VC wants to align with best practices, as well as the growth in the number of visitors to Yellowknife in the short and long term, days/hours a visitor centre is open, etc.

BRANDING OPTIONS

Due to the complete change in visitor services in Yellowknife, we did not do any work on branding. The main consideration was to determine if the NFVA visitor centre should continue to be mainly a Yellowknife centre, or if it should be changed to a territorial visitor centre, servicing both Yellowknife and the entire territory. This decision will depend on future funders, if indeed visitors services continue in Yellowknife.

REPORTING AND FINAL OPTIONS

Our various findings (see various documents) were summarized in a presentation to stakeholders at the NFVA AGM followed by discussion. No decision items came from this meeting, although there was a motion requesting government support.

FINAL REPORT

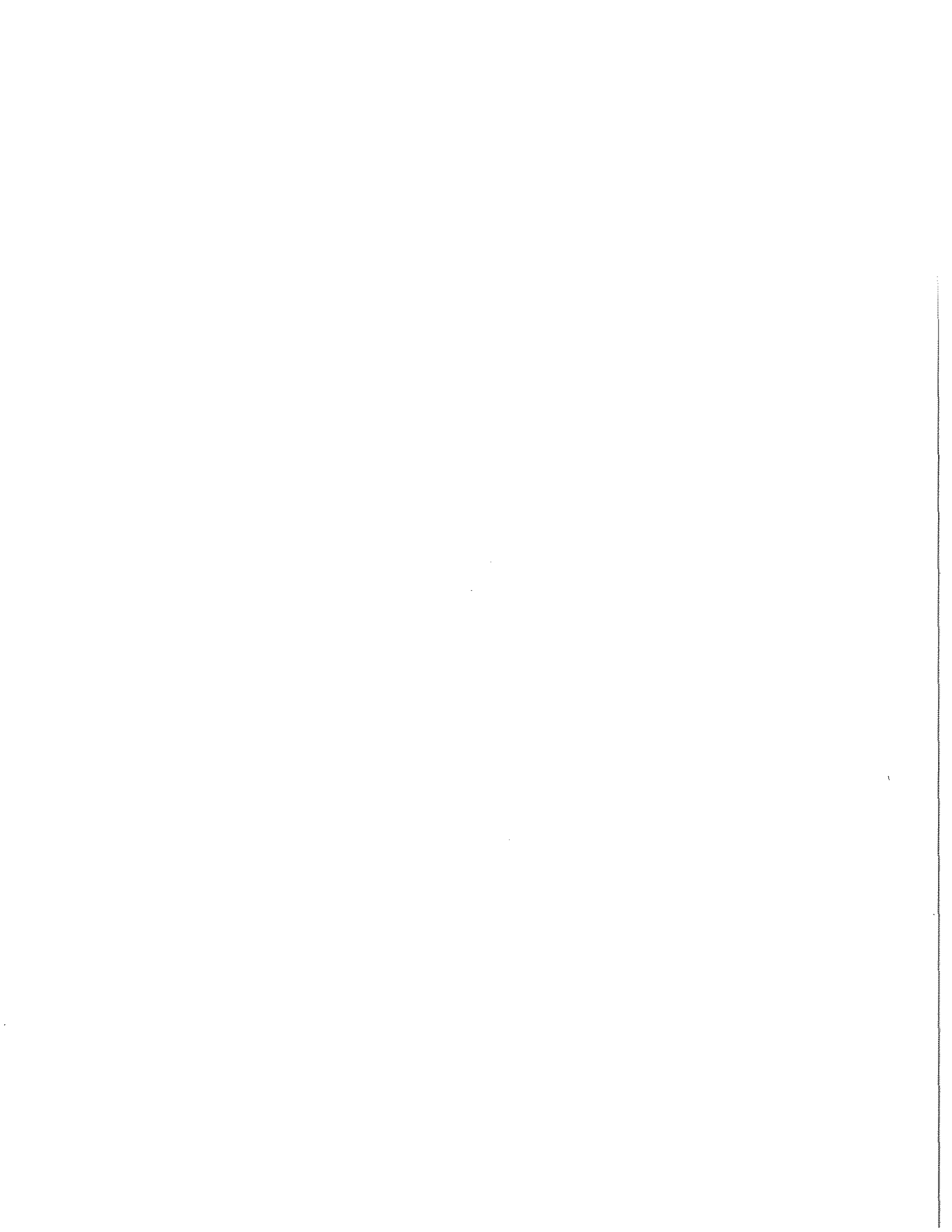
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1. Investigate financing options for a new building based on one of the models suggested. This could be a public/private partnership with a Visitor Centre a tenant in a new building. A few people have casually asked about this possibility.
2. Investigate new models for providing visitor services, either with or without NFVA involvement.
3. Prepare a plan for providing visitor services after the arrangement with the museum terminates.
4. Stop all activity now, and return any unused monies to the funders. (Currently this is approximately \$18,000)

Document M, N, O

At this final meeting with NFVA in June, we were asked to prepare a document outlining the cost to provide visitor services only. This document was completed in late June, and there has been no response from NFVA.

Interim Reports, Presentations, etc



A.
Phase 1 Report

BUSINESS CASE STUDY

FOR THE SUSTAINABILITY OF THE NORTHERN FRONTIER VISITORS CENTRE (NFVC) 2017

PHASE 1.0 REPORT

- Review of Visitor Centre Best and Promising Practices, Services and Facilities
- Promising Practices Comparisons and Ratings of NFVC Services and Facilities

Review of Visitor Centre Best and Promising Practices, Services and Facilities

Worldwide there is considerable consistency in the roles, services and practices associated with successful Visitor Information Centres (VICs). Where variances occur they are primarily attributable to geographic focus, seasonal activity opportunities and individual centre budgets.

Visitor Information Centres are physical locations where travelers go to get information about a destination and about the local tourism opportunities, accommodation, shopping, businesses and services that are available. This portion of our report will examine ways that VICs and associated tourism organization are addressing the expectations of both visitors and sponsoring organizations.

VIC locations are primarily driven by the mode of travel of their primary target audience. In large urban areas VICs are often located in leased space in the city centre. These VICs cater to an audience that is usually travelling by air, train or bus and staying in centrally located hotels. Visitor centres located on the periphery of large urban centres cater primarily to independent travelers who reach their destination by car or recreational vehicle.

VICs that are operated by provincial, territorial or state governments are often located outside larger city boundaries, on major highways, at points of entry by road and sometimes in transportation hubs like airports.

In mid-sized to smaller cities and towns VICs may be located at the point where a major travel route enters the city or in the heart of the downtown. In either case, adequate and easily accessible short term parking for cars, RVs and tour buses is essential.

Depending on budget, staff and interior building space the activities associated with a VIC may range from counseling, printed information and essential services like washrooms to a full range of amenities including video theatres, interactive displays, a gift store, picnic areas, pet walking areas and opportunities to purchase local arts and crafts, snacks and beverages.

The Defined Purpose and Role of Visitor Centres

The purpose and role of community/regional visitor centres has been examined from the perspective of both the users of the visitors and the operators/sponsors of the centres.

From the perspective of most visitors, a centre's primary role is simply to "provide visitors with insights into the region and distribute information about tourist products."¹

The three top things that visitors look for in a visitor centre are:

1. Knowledgeable, professional staff, skilled in customer service;
2. Unbiased and authoritative information; and
3. Regional displays and stories.

Tour and accommodation bookings may be features that visitors look for but most studies report are not as important as the top three².

From the tourism industry perspective, the purpose of a visitor centre is to be "a destination information center in a physical location where travelers can go to acquire information about the destination." In past, destination information centers played the key role as the middleman linking tourists and suppliers to one another. However, with advances in technology and consumer/local demands, destination information centers have evolved. Today, not only do they provide information, they also generate revenue, collect data on travelers, market the destination, and engage the local community. This evolved approach to destination information centers makes them more sustainable and valuable to both the local community and the incoming tourists."³

But there is a variance in the priority that each stakeholder group (visitors and centre operators) assigns to specific roles. From a visitor information centre operator perspective (at least in Western Australia) information services (100%) and bookings (51%) are the primary visitor centre roles. From the visitor perspective knowledgeable staff (100%) and regional displays and stories (69%) were the top expectations. Booking services (31%) and public internet (29%) rated lower⁴.

VICs can have major impacts on the benefits the local area gains from visitors. In another study researchers found that visitor centres are a financially impactful engagement channel with travelers. For example, the average spending by Australian travelers who used visitor centres was Au\$1,766 compared with Au\$774 spent by non-visitor centre users⁵.

¹Tourism Research Australia, *Destination Visitor Survey - South Australia*, July 2012

²Haerberlin Consulting, *The Future of Visitor Centres in Western Australia*. Final Report. 2014

³Solinar International. *5 Roles of a Good Destination Information Centre*. 2014

⁴Haerberlin Consulting, *The Future of Visitor Centres in Western Australia*. Final Report. 2014

⁵Tourism Research Australia, *National Visitor Surveys*, June 2012 and June 2013

Visitor Centre Services and Usage

Here are some of the expectations that visitors are likely to have of essential VIC services.

- Personal welcome and showcasing of the community/area
- Sourcing of and provision of up-to-date accommodation, community and tourism information
- Assistance in identification of activities that align with the visitor's personal and tourism interests
- Provision of a local city and area guide, maps including parks and playgrounds, information on local attractions and directions to specific tourist attractions.
- Provision of information on public toilets locations, local transport, ATMs/banks, local Wi-Fi opportunities, currency exchanges, shopping and dining information
- Online presence with a competitive website and strong social media presence

Studies of actual usage of services are helpful in prioritizing which services are most needed in specific situations. Use of specific services will vary depending on location of the VIC in relation to tourism attractions and most common visitor demographics.

A study of users of South Carolina VICs provides an example of the framework for collecting usage data.⁶ It divides its research into the appeal of VICs based on two segments – Information Segment and an Amenities Segment. This has particular relevance when one is looking at the possibility of promoting services or amenities.

Those that see VICs as “information providers” listed their top five reasons as:

- Use of restroom (98%)
- Maps, brochures and printed information (79%)
- Discount coupon books (hotels/attractions) (44%)
- Directions and travel advice (19%)
- Vending machines (15%)

Those that see VICs as “providers of amenities” listed their top five reasons as:

- Use restroom (89%)
- Vending machines (32%)
- Take pet for a walk (25%)
- Maps, brochures and printed information (23%)
- Wi-Fi to check email (17%)

Those who use welcome centres frequently in South Carolina report that their top five reasons are:

- Restrooms (93%)
- Maps, brochure, printed information (52%)
- To collect coupon or discount booklets (29%)
- Use vending machines (24%)
- Take pet for a walk (18%)

Since information development and dissemination is near the top of everyone's list of expectations of visitor centres, the development of an information dissemination plan is important, even at the VIC level. For the “big picture” view of best practices in information dissemination local VICs will benefit from a review of the Australian Cooperative Research Centre's sustainable tourism studies.⁷

Common Visitor Centre Facilities and Services

- At a minimum, studies report that VICs should have trained visitor advisors, maps and information on local attractions, washrooms and parking for cars and recreational vehicles.
- Facilities should be accessible to those with physical mobility issues.
- Depending on typical visitor profiles, the centre may provide access to translators for non-English speaking visitors.
- Depending on space and budget, facilities may also include gift shop space, exhibits, orientation videos, free Wi-Fi, children's play area, picnic areas and dog walking area.
- Loaner bicycles, fishing rods and other tools to make greater use of local opportunities may be featured.
- Dissemination of information about emergency services can be valuable

In the last few years there has been an increasing move away from counter-based approaches to engaging visitors and providing information. Greater use of kiosk-style information modules is increasing. Modules are often combined with displays, hand held tablets for staff and touch screen kiosks for self-service. Increases in natural and artificial light, large monitors that live stream weather and information on current attractions and events are more common.

There is also increased attention paid to the demographics of typical local VIC visitors. A study by the State of Missouri⁸ reported on VIC impacts during current trip, impacts on future trips and identification of dominant VIC niche demographics. In Missouri's case the users of visitor centers tended to be significantly older than the average Missouri visitor who is not a visitor centre user. More than 76% of Missouri adult welcome centre visitors are 55+ years old. And they are travelling primarily as adult couples. Welcome centre visitors in Missouri also report higher education levels and higher incomes than the average Missouri traveler. The study also emphasizes the importance of VIC staff. Friendliness and knowledge of VIC staff were rated as 4.9 and 4.85 out of a possible 5.0. Visitors also reported that center staff was the biggest source of inspiration on new places to visit. All of these factors have helped Missouri to tailor its VIC services to make sure it does a great job of meeting the expectations of its larger visitors' category.

Partner/Industry Involvement/Support

Social media is also changing how VIC partners and the tourism industry already engage with many travelers. Since the launch of Facebook on February 4, 2014, Twitter on July 15, 2006 and Instagram October 6, 2010, there have been significant shifts in how tourism is marketed.

This is particularly true when it comes to visitors who “self-direct” their own travel and vacation planning. Even those that use travel agents for their basic travel and accommodation arrangements often have narrowed their tourism activity choices before they arrive at a regional visitor information centre.

Studies suggest that the most impactful VICs integrate their efforts to align with a broader visitor information plan that reflects the aims and objectives of the destination’s visitor services strategy and increase their use of digital technology.⁹

Visitor Centre Location, Branding and Long Term Planning

A study by "My Travel Research" recently (2016) identified five building blocks for overall VIC success.¹⁰ The study reviewed 1,200+ pages qualitative and quantitative research reports and consulted with experts from retail, aviation, government and financial services sectors in developing their report. The five critical factors identified were:

- Location
- Stakeholder Mix
- Experience
- Branding
- Integration

Location is probably the number one factor to be sure to get right. To do this the VIC needs to be featured as a destination in its own right. The location should consider the expectations of visitors and their mode of travel. Rather than trying to attract visitors to a location that doesn't make sense to the visitor, it should allow the VIC to "fish where the fish are."

VIC branding also deserves serious attention. A VIC needs to be clear about developing and promoting a strong brand that becomes the focus of all VIC activity. The brand needs to be warm and welcoming and go beyond jurisdictions, focusing on the needs and expectations of the visitor. The brand expressions need to go beyond expectations and make the VIC itself a key part of the visitor's experience. The visitor needs to come first.

Brand development will produce even greater rewards if the VICs online presence uses an imaginative mix of online information resources and encouragement of the online visitor to make the VIC one of their first stops on visiting the area.

The study (noted above) also identified the need to promote services that would attract specific demographics that are being drawn to the area in which the VIC is located. The promotion of services like rentals and trail maps for younger visitors and VIP vouchers for local produce, coffee, gifts, attractions and restaurants for all visitors can help to reinforce a brand message.

Long term planning is also a critical factor in creating sustainable success for an individual visitor centre or a network of visitor centres. For example, the Northern Ireland Tourist Board created a three year action plan in 2010 which has lessons that can be applied to a single VIC or a network of VICs.¹¹ In the case studied, the local VIC plays are part of the larger Tourism strategy for Northern Ireland to 2020 (led by the Department of Enterprise, Trade and Investment). Their vision is simple and highly focused. "Create the new Northern Ireland experience and get it on everyone's destination wish list."

¹⁰Best Practice in Visitor Information Centres (VICs). Carolyn Childs of My Travel Research. 2016

¹¹Northern Ireland Visitor Information Plan 2010-2013. Developed by TEAM Tourism Consulting for the Northern Ireland Tourist Board. 2012

Contributions/Impact on Tourism Sector

Here are some of the tourism sector's highest priorities for a successful VIC.

- Promotion/marketing of local individual and group tours and activities (grow the yield).
- Information for operators on types of visitor information requests and activity queries.
- Booking of individual and group tours and activities.
- Rack space for promotional information cards for accommodation, tours and local activities.
- Training programs.
- Online (website and social media) advertising and promotional opportunities.

The tourism industry and VIC funders want to know if VICs have an impact on the behavior and choices of visitors. The results of a study by Tourism Research Australia (a division of the Australian Government's Department of Resources, Energy and Tourism) published in September 2011 suggests there can be significant positive benefits.¹² The study was to establish a benchmark so no comparisons are available at this time.

Key findings of the South Australia VIC impact study were the following:

- Half of the VIC patrons were from other states in Australia or overseas. Half were local - from Adelaide and the surrounding region.
- 71% were looking for general information and things to see and do.
- 25% were looking for potentially bookable products.
- Of those that enquired about a booking, 5% booked a product at the VIC for an average value of Au\$65.
- The most booked product was transport (e.g. bus tickets - 41%). Next was accommodation (24%)
- 88% sourced some information at the VIC. Maps 80%; regional guides 40%; product brochures 33%; and event flyers 31%.
- Impact of the VICs - 59% stated that their visit to the VIC had added to their time in the area and increased their expenditures in the area. Unplanned expenditures after the VIC visit was AU\$181 per adult.

VIC impacts over a two week period in April 2011 were primarily in additional nights of accommodation and value of planned activities. Based on 5,540 persons surveyed during the in two week period, the study reported an additional AU\$597,800 of value could be attributed to the information provided by the VICs. A significant portion of the bookings were for product located in the local area.

¹²Destination Visitor Survey: Strategic Regional Research - South Australia. Conducted by Tourism Research Australia, April 2011. Report completed September 2011

The research also included questions about the use of touch screens to get information compared with speaking to VIC staff. In almost all instances respondents reported that they would prefer to a staff member rather than use a touch screen information portal.

Earlier studies in other Australian States are similar to the findings of the South Australia studies. In the State of Victoria (Victoria) 76% of visitors surveyed indicated that their plans had been influenced by visiting a VIC and 90% of those surveyed indicated they would be more likely to return to Victoria as a result of their visit to a VIC.¹³

In the U.K., studies with a similar focus confirm the positive impact of VICs on the tourism sector.¹⁴ Key findings include:

- The provision of VICs resulted in a 20% increase on offsite expenditures by visitors to the VICs
- As a consequence of visiting one of the region's VICs and additional 2.3 million
- British Pounds worth of visitor expenditures was generated within the community.

VICs are also the "window on" or the "face" of the local tourism industry. VICs play a vital role in connecting the visitor to local attractions, businesses/organizations, services, accommodations and events.

¹³ "The Value of Visitor Information Centres to the Victorian Tourism Industry and the Local Economy". Study sponsored by the State-Wide Visitor Information Centre Reference Group. August 2010

¹⁴ "A Regional Study of the Impact of Tourist Information Centres", study conducted in for Tourism South West, UK by TSE Research Services. 2007

Contributions to Local Economy

VICs can make significant contributions to local economies. The results of a benchmark VIC study in South Australia in 2011 suggest that VICs were responsible for 9,500 additional nights and an additional expenditure of Au\$597,800 by visitors.¹⁵

To quantify impacts, respondents to a follow-up online survey of visitors to a South Australia VIC were asked whether their visit to the VIC had/or would result in them participating in additional activities, or spending additional time in the local area or elsewhere in South Australia than would have occurred otherwise.

Their responses report that:

- 83% had participated in additional activities
- 72% had increased the duration of their stay
- 22% spent additional nights in the local area (visitors who extended their stay overnight stayed an additional 2.9 nights in the local area and 6.1 nights elsewhere in South Australia)
- 59% of respondents stated that the additional activities and time resulted from their visit to the VIC.¹⁶

Visitor Information Centres are also an important community resource. While the VICs are there primarily to serve visitors to the community they are also used by local residents who may be looking for new activities. They may also need maps, and community information to share with their own visitors or to provide to attendees at conferences and conventions being

Revenue Generation/Financial Viability

- To offset operating costs a visitor centre may generate revenue in a number of ways.
 - Booking commissions
 - Sale of maps, posters, guidebooks and other publications
 - Sale of local arts and crafts
 - Sale of visitor survey data
 - Provision of local guiding services
 - Ticketing
 - Event Management
 - Advertising
 - Sale of beverages and foods

Senior levels of government are playing an increasing role in assisting visitor centres to generate more revenue to pay for the costs of professional staff and visitor centre operations. To assist visitor information centres in generating additional funds the Province of Alberta has a retail products and sales support program that offers pins, posters and maps to visitor centres at discounted prices.

In the United Kingdom (UK) the National Tourism Board commissioned the consulting firm Tourism Engineers to research best practices and write a self-help guide to income generation for visitor centres. As a follow up, Tourism Engineers was asked to develop an income generation "toolkit" which is available at www.tourismengineers.com.¹⁷

In some Canadian provinces, the provincial government operates the VICs in collaboration with private sector-led tourism organizations. In Nova Scotia the province takes responsibility for funding six large information centres strategically located across the province.¹⁸

Most VICs, in Canada and elsewhere, have to generate some of their operating revenue. Because VICs deliver free information services and programs to visitors they don't have the option of charging for their core services.

However there may be opportunities for individual VICs to provide survey data that is collected at the VIC and sold to governments and large providers of tourism services.

¹⁷TIC Income Generation Toolkit. Pdf of toolkit available at <http://tourismengineers.com/topic.asp?pid=2>

¹⁸"Province decides to maintain information centres." News story in the Amherst News Citizen-Record, February 25, 2016

Visitor Metrics/Data Collection

- A visitor information centre can collect, analyze and provide tourism data to Destination Marketing Organizations (DMOs), tourism operators and governments.
- Information collected can include reason for visiting, length of stay; mode of travel, places and attractions the tourists plan to visit; activities they want to include in their visit; anticipated local expenditures during visit.

The VICs we studied used a combination of staff gathered information as well as independently collected data that helped to validate and confirm staff reporting.

Governance Models

Governance models reflect the funding sources and breadth of focus of each VIC. So far as we can determine VICs funded exclusively by senior levels of government had very little flexibility in planning which was a function of sponsoring department activity.

Centres which we sponsored by a municipality also had some of the same limitations. They were directed by a department within the city government and aligned their work and planning with that of the city government.

In some cases Chambers of Commerce took the lead in planning and directing the activities of the VIC and raised funds from municipal and senior government levels.

Finally broad based tourism organizations sometimes took the lead in directing and fund raising for a regional VIC.

There is very little that is publicly available about governance models for VICs and the relative effectiveness of one model over another.

Promising Practices Comparisons and NFVC Ratings

NFVC "Comparison Ratings" are based on subjective and qualitative judgments with a rating of "1" being poor and a rating of "5" being excellent

Subject/Category	Promising/Best Practices	NFVC Rating
Visitor Centre Location	<ul style="list-style-type: none"> • In central or on urban perimeter • Visitor friendly – can accommodate variety of visitor travel modes • Free parking for cars, SUVs and RVs • Variety of sources – primarily different government levels 	Centrally located to accommodate group air travelers; well located on YK entrance route for road travelers; close to prime attractions; adequate free parking
Visitor Centre Funding		5
Visitor Centre Staffing	<ul style="list-style-type: none"> • Professionally trained and credentialed 	Not primarily direct government funding; mainly self-generated
Centre - Defined Purpose	<ul style="list-style-type: none"> • Provide visitors with local/regional insights, local directions, tourism information and access to booking and/or reservation opportunities. • Encourage longer stays and increase tourism spending in local economy. 	Ongoing local training. No credentialed programs available locally.
Centre - Attractions	<ul style="list-style-type: none"> • Tourism related exhibits • Promotional and/or orientation videos • Gift Shop • Food Services area 	Knowledgeable staff is aligned with management goals and promote local attractions. No current electronic bookings capacity. Provide referrals for attraction and accommodations. Liaise with seasonal tour operators.
		3
		5
		4

Centre - Service Model	<ul style="list-style-type: none"> • Open area with kiosks • Low key, friendly, no pressure 	<p>Limited space for large groups of visitors groups. Counter barrier between counsellors and guests. Friendly, welcoming staff.</p>	3
Visitor Services Expectations	<ul style="list-style-type: none"> • Maps and brochures • Directions and travel advice • Activity suggestions • Discount coupons 	<p>Full range of most desired visitor services except discount coupons or coupon books.</p>	4
Visitor Facility Expectations	<ul style="list-style-type: none"> • Public washrooms and drinking water • Easy parking • Vending machines • Pet walking areas • Free Wi-Fi 	<p>Meets most facility visitor expectations; no beverage or food vending machines. Pet walking area could be specifically designated.</p>	4
Centre Usage by Visitors	<ul style="list-style-type: none"> • Primarily dependent on public signage and community and tourism sector awareness of the Centre its location, services, facilities and attractions 	<p>Additional public signage should be considered on major highway City limit access. Community awareness has grown in recent years and is believed to have increased NFVC traffic.</p>	4
Industry Involvement/ Support	<p>This varies depending primarily on what organizations are the lead sponsors of the centre.</p>	<p>A comprehensive annual plan to increase operator involvement should be considered. Significant initiatives are already in place.</p>	3
Visitor Centre Branding	<p>A strong brand helps both the tourism sector and the community to have confidence in the value of the tourism centre to both visitors and the community and support the role of the centre in the community</p>	<p>Brand assessment and awareness evaluation should be considered. "Northern Frontier" branding in name may not be ideal in relation to target markets.</p>	2
Centre Long Term Planning	<p>Long term planning will help the centre to engage the public in ways that best meet expectations - particularly in ways that make effective use of new technologies.</p>	<p>Capacity to do long term planning and add new technologies is limited by facility considerations and funding that also limits available staff time.</p>	2

Tourism Economy Impact	Can vary considerably depending on scale of operations, scope of activities, seasonal considerations and extent of cooperation between the centre and the tourism industry.	Centre has excellent potential to increase tourism spending through encouraging adding days in market area and increasing demand for popular tour and activity packages.	4
Local Economy Impact	Can vary considerably depending on scale of operations, scope of activities, seasonal considerations and extent of cooperation between the Centre and the local community's civic and business sectors.	Centre has excellent potential to increase tourism spending through encouraging additional days in market area and increasing demand for popular tour and activity packages.	4
	Centres generate most of their operating funds from local, provincial/ state and national/federal governments.	Centre is not sufficiently financially supported by civic and senior government levels.	3
	Capital programs require special campaigns and are largely funded by governments.	Serious building structural issues threaten ongoing building use and viability of in-building exhibits and group activities and orientations.	1
Centre Revenue Generation	Many centres operate gift shops which serve the dual purpose of being revenue generators and promoters of local and regional artists and artisans.	Gift shop net value to operating revenues needs a further study.	3
	A few centres have food services areas or food and beverage machine vending services.	Economic benefit of food and beverage services needs to be studied. Food/beverage should be initiated only if economic benefit is significant and does not negatively impact primary centre purpose.	1

B.
Comparison of NFVC and
Best Practices at
two Yellowknife locations

COMPARISON OF VC BEST PRACTICES - AT TWO LOCATIONS

Item	Best Practice	New Building, Current Site	Rental Space, Downtown Area
LOCATION			
	Featured as its own destination. Considered a main requirement of a visitor centre	Will continue to be a featured destination in the city	Not as likely to be a featured destination, since missing the outside attractions of the current site
	Suitable for local events	Ample room. Examples are fish fry, noon hour concerts, picnic luncheons	Not suitable for staging events
	Can accommodate variety of visitor travel modes	Space for buses, RVs, guest parking	Would have to arrange bus and RV parking Possibly easement so they could park on the street Or find a place with bus turnaround space
	Free parking for cars, RVs, SUVs	Ample space for visitor parking, including RVs	Limited parking. Likely some distance from centre
	Access	New access road from highway needed so visitors don't have to circle behind YK motors	Accessible on foot. Not so when driving
	Close to local attractions	Main attractions at doorstep	No attractions in downtown area
FACILITIES			
	Open areas with kiosks. Low key, friendly	Could be designed into new building	Could be designed into storefront building
	Ample space for larger groups	To be worked into new building.	To be considered when selected rental space
	Public Washrooms	Available	Would be a condition of space rental
	Free Wi-Fi	Available	Would be a condition of space rental
	Dog walking area	Available	Not likely in downtown core
MARKETING			
Vending machines for soft drinks	Strong brand, readily evident	Can see visitor centre and signage when driving in to Yellowknife	Would not have immediate introduction to the visitor centre
	Liaise with operators to promote their products	Will continue in a new centre	Will continue in a new centre
	Actually booking some trips with operators to encourage longer stays	Will continue in a new centre	Will continue in a new centre

COMPARISON OF VC BEST PRACTICES - AT TWO LOCATIONS

Item	Best Practice	New Building, Current Site	Rental Space, Downtown Area
SERVICES			
	Informed, trained staff to provide information and insights re the destination	Available	Available
	Rack space for brochures, etc.	Available	Available
	Webster	Available	Available
	Interpretive displays, orientation videos	Available	Depends on size of space
	Bicycle rentals	Available, including evening lockup	Not available
REVENUE GENERATION			
	Sales of local arts and crafts, books, maps	Available	Depends on size of rental space
	Food, drink vending machines	Available	Available
DATA COLLECTION			
	Collected and provided to various levels of government	Ongoing	Ongoing
ECONOMY			
	Since nearly three quarters of all visitors use the centre, there is ample opportunity to advise on other products or services they might buy while they are here.	Would continue to attract majority of visitors	May not attract as many visitors, since people wont know it is there
GOVERNANCE			
	Government run or not-for profit.	If new building, likely GNWT as main owner since it is on their property. NFVA should not own a building. Government could contract NFVA to operate the visitor centre	Could continue to be an NFVA operation, if local government agrees to pick up lease and O&M costs.
COMMUNITY			
	Helps develop pride in community	The building, location and reputation help instill pride in Yellowknifers. More residents visiting Centre. A meeting place	More difficult to use as a way to instill pride in community, but possible

C. NFVA Salary/Wages Chart

SALARY AND WAGES, NFVC				
POSITION		HRLY RATE	HRS PER YEAR	AMOUNT
Executive Director salaried	1		1950	\$85,000
Asst. Mgr	1	\$32	1950	\$62,400
Comms Dir.	1	\$31	1950	\$60,450
Counsellor 1	1	\$25	1950	\$48,750
Counsellor 2	1	\$22	1950	\$42,900
Counsellors Regular part timers (avg 10 hours per week)	4	\$19	2080	\$39,520
On call part timers Avg of 10 hours per month	3	\$18	360	\$6,480
			\$12190	\$345,500
Airport Store Manager	1	\$25	1950	\$48,750
Airport - part time 2 at 1 day per week each	2	\$22	780	\$17,160
			2730	\$75,910
TOTAL BASE PAYROLL				\$421,410

D. Financial Viability of Four Different Options

NFVA INCOME/EXPENSE OPTIONS

Option 1: assumes a perfectly functional building, and no merchandise sales

Option 2: assumes a functional building, plus airport only merchandise sales

Option 3: assumes a functional building plus centre and airport merchandise sales

Option 4: assumes a functional building, plus two sales centres, plus 20% visitor increase

Revenues	Actual 2015	Option 1	Option 2	Option 3	Option 4
Merchandise Sales	\$906,019	0	453,000	906,019	906,019
Government Contributions	\$192,452	192,452	192,452	192,452	192,452
Resident and tourism service fees	\$83,388	83,388	83,388	83,388	83,388
Rentals	\$79,728	79,728	79,728	79,728	79,728
Membership and other Fees	\$58,244	58,244	58,244	58,244	58,244
Donations and other	\$25,936	25,936	25,936	25,936	25,936
	\$1,345,767	\$439,748	\$892,748	\$1,345,767	\$1,345,767
Expenses					
Advertising and promotion	\$8,663	\$8,663	\$8,663	\$8,663	\$8,663
Bad debts	\$0	\$0	\$0	\$0	\$0
Bookkeeping	\$41,822	\$41,822	\$41,822	\$41,822	\$41,822
Communications	\$17,437	\$17,437	\$17,437	\$17,437	\$17,437
Cost of Merchandise Sold	\$533,982	\$0	\$271,800	\$533,982	\$533,982
Equipment Rental	\$8,853	\$8,853	\$8,853	\$8,853	\$8,853
Freight, Postage and courier	\$2,282	\$2,282	\$2,282	\$2,282	\$2,282
Fundraising	\$14,131	\$14,131	\$14,131	\$14,131	\$14,131
Insurance	\$29,034	\$29,034	\$29,034	\$29,034	\$29,034
Interest and bank charges	\$22,984	\$22,984	\$22,984	\$22,984	\$22,984
Meals and Entertainment	\$18,749	\$18,749	\$18,749	\$18,749	\$18,749
Miscellaneous	\$8,010	\$8,010	\$8,010	\$8,010	\$8,010
Office	\$31,554	\$31,554	\$31,554	\$31,554	\$31,554
Professional Fees	\$7,500	\$7,500	\$7,500	\$7,500	\$7,500
Property Taxes	\$36,265	\$36,265	\$36,265	\$36,265	\$36,265
Rent	\$19,077	\$0	\$19,077	\$19,077	\$19,077
Repairs and Maintenance	\$48,666	\$8,666	\$8,666	\$8,666	\$8,666
Supplies	\$21,854	\$21,854	\$21,854	\$21,854	\$21,854
Utilities	\$38,204	\$38,204	\$38,204	\$38,204	\$38,204
Wages and benefits	\$445,464	\$330,464	\$400,000	\$445,464	\$535,000
	\$1,354,531	\$646,472	\$1,006,885	\$1,314,531	\$1,404,067
Excess of Revenue over expenses	(\$8,764)	(\$206,724)	(\$114,137)	\$31,236	(\$58,300)
New Initiatives, updates, etc.	-\$40,000	-\$40,000	-\$40,000	-\$40,000	-\$40,000
Probable Status	(\$48,764)	(\$246,724)	(\$154,137)	(\$8,764)	(\$98,300)

Conclusion: At current level of income, cannot operate without two sales centres.

Problem: Since funds are tied up in inventory, lots of cash flow problems

As long as they are dependent on merchandize sales, will have cash flow problems, even when profitable.

E.
Tourism Visitor Centre
Locations and Service Models

Tourism Visitor Centre Locations and Services Models

Worldwide there is considerable consistency in the roles, services and practices associated with successful Visitor Information Centres (VICs). Where variances occur they are primarily attributable to geographic focus, seasonal activity opportunities and individual centre budgets.

Visitor Information Centres are physical locations where travelers go to get information about a destination and about the local tourism opportunities, accommodation, shopping, businesses and services that are available. This portion of our report will examine ways that VICs and associated tourism organization are addressing the expectations of both visitors and sponsoring organizations.

VIC locations are primarily driven by the mode of travel of their primary target audience. In large urban areas VICs are often located in leased space in the city centre. These VICs cater to an audience that is usually travelling by air, train or bus and staying in centrally located hotels. Visitor centres located on the periphery of large urban centres cater primarily to independent travelers who reach their destination by car or recreational vehicle.

VICs that are operated by provincial, territorial or state governments are often located outside larger city boundaries, on major highways, at points of entry by road and sometimes in transportation hubs like airports.

In mid-sized to smaller cities and towns VICs may be located at the point where a major travel route enters the city or in the heart of the downtown. In either case, adequate and easily accessible short term parking for cars, RVs and tour buses is essential.

Depending on budget, staff and interior building space the activities associated with a VIC may range from counseling, printed information and essential services like washrooms to a full range of amenities including video theatres, interactive displays, a gift store, picnic areas, pet walking areas and opportunities to purchase local arts and crafts, snacks and beverages.

The Defined Purpose and Role of Visitor Centres

The purpose and role of community/regional visitor centres has been examined from the perspective of both the users of the visitors and the operators/sponsors of the centres. From the perspective of most visitors, a centre's primary role is simply to "provide visitors with insights into the region and distribute information about tourist products."¹

The three top things that visitors look for in a visitor centre are:

1. Knowledgeable, professional staff, skilled in customer service;
2. Unbiased and authoritative information; and
3. Regional displays and stories.

Tour and accommodation bookings may be features that visitors look for but most studies report are not as important as the top three.²

From the tourism industry perspective, the purpose of a visitor centre is to be "a destination information center in a physical location where travelers can go to acquire information about the destination." In past, destination information centers played the key role as the middleman linking tourists and suppliers to one another. However, with advances in technology and consumer/local demands, destination information centers have evolved. Today, not only do they provide information, they also generate revenue, collect data on travelers, market the destination, and engage the local community. This evolved approach to destination information centers makes them more sustainable and valuable to both the local community and the incoming tourists."³

But there is a variance in the priority that each stakeholder group (visitors and centre operators) assigns to specific roles. From a visitor information centre operator perspective (at least in Western Australia) information services (100%) and bookings (51%) are the primary visitor centre roles. From the visitor perspective knowledgeable staff (100%) and regional displays and stories (69%) were the top expectations. Booking services (31%) and public internet (29%) rated lower.⁴

VICs can have major impacts on the benefits the local area gains from visitors. In another study researchers found that visitor centres are a financially impactful engagement channel with travelers.

For example, the average spending by Australian travelers who used visitor centres was Au\$1,766 compared with Au\$774 spent by non-visitor centre users.⁵

¹Tourism Research Australia, *Destination Visitor Survey – South Australia*, July 2012

²Haeberlin Consulting, *The Future of Visitor Centres in Western Australia*. Final Report. 2014

³Solinar International. *5 Roles of a Good Destination Information Centre*. 2014

⁴Haeberlin Consulting, *The Future of Visitor Centres in Western Australia*. Final Report. 2014

⁵Tourism Research Australia, *National Visitor Surveys*, June 2012 and June 2013

Visitor Centre Services and Usage

Here are some of the expectations that visitors are likely to have of essential VIC services.

- Personal welcome and showcasing of the community/area
- Sourcing of and provision of up-to-date accommodation, community and tourism information
- Assistance in identification of activities that align with the visitor's personal and tourism interests
- Provision of a local city and area guide, maps including parks and playgrounds, information on local attractions and directions to specific tourist attractions.
- Provision of information on public toilets locations, local transport, ATMs/banks, local Wi-Fi opportunities, currency exchanges, shopping and dining information
- Online presence with a competitive website and strong social media presence

Studies of actual usage of services are helpful in prioritizing which services are most needed in specific situations. Use of specific services will vary depending on location of the VIC in relation to tourism attractions and most common visitor demographics.

A study of users of South Carolina VICs provides an example of the framework for collecting usage data.⁶ It divides its research into the appeal of VICs based on two segments - Information Segment and an Amenities Segment. This has particular relevance when one is looking at the possibility of promoting services or amenities.

Those that see VICs as "information providers" listed their top five reasons as:

- Use of restroom (98%)
- Maps, brochures and printed information (79%)
- Discount coupon books (hotels/attractions) (44%)
- Directions and travel advice (19%)
- Vending machines (15%)

Those that see VICs as "providers of amenities" listed their top five reasons as:

- Use restroom (89%)
- Vending machines (32%)
- Take pet for a walk (25%)
- Maps, brochures and printed information (23%)
- Wi-Fi to check email (17%)

Those who use welcome centres frequently in South Carolina report that their top five reasons are:

- Restrooms (93%)
- Maps, brochure, printed information (52%)
- To collect coupon or discount booklets (29%)
- Use vending machines (24%)
- Take pet for a walk (18%)

Since information development and dissemination is near the top of everyone's list of expectations of visitor centres, the development of an information dissemination plan is important, even at the VIC level. For the "big picture" view of best practices in information dissemination local VICs will benefit from a review of the Australian Cooperative Research Centre's sustainable tourism studies.⁷

⁶Research on the Mission of South Carolina Research Centres. 2012

⁷"Visitor information centres: best practices in information dissemination". Research and report by CRC for Sustainable Tourism. 2007.

Common Visitor Centre Facilities and Services

- At a minimum, studies report that VICs should have trained visitor advisors, maps and information on local attractions, washrooms and parking for cars and recreational vehicles.
- Facilities should be accessible to those with physical mobility issues.
- Depending on typical visitor profiles, the centre may provide access to translators for non-English speaking visitors.
- Depending on space and budget, facilities may also include gift shop space, exhibits, orientation videos, free Wi-Fi, children's play area, picnic areas and dog walking area.
- Loaner bicycles, fishing rods and other tools to make greater use of local opportunities may be featured.
- Dissemination of information about emergency services can be valuable

In the last few years there has been an increasing move away from counter-based approaches to engaging visitors and providing information. Greater use of kiosk-style information modules is increasing. Modules are often combined with displays, hand held tablets for staff and touch screen kiosks for self-service. Increases in natural and artificial light, large monitors that live stream weather and information on current attractions and events are more common.

There is also increased attention paid to the demographics of typical local VIC visitors. A study by the State of Missouri ⁸ reported on VIC impacts during current trip, impacts on future trips and identification of dominant VIC niche demographics. In Missouri's case the users of visitor centers tended to be significantly older than the average Missouri visitor who is not a visitor centre user. More than 76% of Missouri adult welcome centre visitors are 55+ years old. And they are travelling primarily as adult couples. Welcome centre visitors in Missouri also report higher education levels and higher incomes than the average Missouri traveler. The study also emphasizes the importance of VIC staff. Friendliness and knowledge of VIC staff were rated as 4.9 and 4.85 out of a possible 5.0. Visitors also reported that center staff were the biggest source of inspiration on new places to visit. All of these factors have helped Missouri to tailor its VIC services to make sure it does a great job of meeting the expectations of its larger

⁸"Missouri Tourism: The Impact of Welcome Centers" Study and report by Dee Ann McKinney, Research Director, MO Division of Tourism in association with the Missouri Travel and Tourism Association. June 2016

Partner/Industry Involvement/Support

Social media is also changing how VIC partners and the tourism industry already engage with many travelers. Since the launch of Facebook on February 4, 2014, Twitter on July 15, 2006 and Instagram October 6, 2010, there have been significant shifts in how tourism is marketed.

This is particularly true when it comes to visitors who "self-direct" their own travel and vacation planning. Even those that use travel agents for their basic travel and accommodation arrangements often have narrowed their tourism activity choices before they arrive at a regional visitor information centre.

Studies suggest that the most impactful VICs integrate their efforts to align with a broader visitor information plan that reflects the aims and objectives of the destination's visitor services strategy and increase their use of digital technology.⁹

⁹Manolis Psarros. Tourist Information Centres as a vital component for providing quality visitor services. The Cases of Manchester (UK), Cape Town (SA) and Athens (GR).

Visitor Centre Location, Branding and Long Term Planning

A study by "My Travel Research" recently (2016) identified five building blocks for overall VIC success.¹⁰ The study reviewed 1,200+ pages qualitative and quantitative research reports and consulted with experts from retail, aviation, government and financial services sectors in developing their report. The five critical factors identified were:

- Location
- Stakeholder Mix
- Experience
- Branding
- Integration

Location is probably the number one factor to be sure to get right. To do this the VIC needs to be featured as a destination in its own right. The location should consider the expectations of visitors and their mode of travel. Rather than trying to attract visitors to a location that doesn't make sense to the visitor, it should allow the VIC to "fish where the fish are."

VIC branding also deserves serious attention. A VIC needs to be clear about developing and promoting a strong brand that becomes the focus of all VIC activity. The brand needs to be warm and welcoming and go beyond jurisdictions, focusing on the needs and expectations of the visitor. The brand expressions need to go beyond expectations and make the VIC itself a key part of the visitor's experience. The visitor needs to come first.

Brand development will produce even greater rewards if the VICs online presence uses an imaginative mix of online information resources and encouragement of the online visitor to make the VIC one of their first stops on visiting the area.

The study (noted above) also identified the need to promote services that would attract specific demographics that are being drawn to the area in which the VIC is located. The promotion of services like rentals and trail maps for younger visitors and VIP vouchers for local produce, coffee, gifts, attractions and restaurants for all visitors can help to reinforce a brand message.

Long term planning is also a critical factor in creating sustainable success for an individual visitor centre or a network of visitor centres. For example, the Northern Ireland Tourist Board created a three year action plan in 2010 which has lessons that can be applied to a single VIC or a network of VICs.¹¹ In the case studied, the local VIC plays are part of the larger Tourism strategy for Northern Ireland to 2020 (led by the Department of Enterprise, Trade and Investment). Their vision is simple and highly focused. "Create the new Northern Ireland experience and get it on everyone's destination wish list."

¹⁰Best Practice in Visitor Information Centres (VICs). Carolyn Childs of My Travel Research, 2016

¹¹Northern Ireland Visitor Information Plan 2010-2013. Developed by TEAM Tourism Consulting for the Northern Ireland Tourist Board, 2012

Contributions/Impact on Tourism Sector

Here are some of the tourism sector's highest priorities for a successful VIC.

- Promotion/marketing of local individual and group tours and activities (grow the yield).
- Information for operators on types of visitor information requests and activity queries.
- Booking of individual and group tours and activities.
- Rack space for promotional information cards for accommodation, tours and local activities.
- Training programs.
- Online (website and social media) advertising and promotional opportunities.

The tourism industry and VIC funders want to know if VICs have an impact on the behavior and choices of visitors. The results of a study by Tourism Research Australia (a division of the Australian Government's Department of Resources, Energy and Tourism) published in September 2011 suggests there can be significant positive benefits.¹² The study was to establish a benchmark so no comparisons are available at this time.

Key findings of the South Australia VIC impact study were the following:

- Half of the VIC patrons were from other states in Australia or overseas. Half were local - from Adelaide and the surrounding region.
- 71% were looking for general information and things to see and do.
- 25% were looking for potentially bookable products.
- Of those that enquired about a booking, 5% booked a product at the VIC for an average value of Au\$65.
- The most booked product was transport (e.g. bus tickets - 41%). Next was accommodation (24%)
- 88% sourced some information at the VIC. Maps 80%; regional guides 40%; product brochures 33%; and event flyers 31%.
- Impact of the VICs - 59% stated that their visit to the VIC had added to their time in the area and increased their expenditures in the area. Unplanned expenditures after the VIC visit was AU\$181 per adult.

¹²Destination Visitor Survey: Strategic Regional Research - South Australia. Conducted by Tourism Research Australia, April 2011. Report completed September 2011

VIC impacts over a two week period in April 2011 were primarily in additional nights of accommodation and value of planned activities. Based on 5,540 persons surveyed during the in two week period, the study reported an additional AU\$597,800 of value could be attributed to the information provided by the VICs. A significant portion of the bookings were for product located in the local area.

The research also included questions about the use of touch screens to get information compared with speaking to VIC staff. In almost all instances respondents reported that they would prefer to a staff member rather than use a touch screen information portal.

Earlier studies in other Australian States are similar to the findings of the South Australia studies. In the State of Victoria (Victoria) 76% of visitors surveyed indicated that their plans had been influenced by visiting a VIC and 90% of those surveyed indicated they would be more likely to return to Victoria as a result of their visit t a VIC.¹³

In the U.K., studies with a similar focus confirm the positive impact of VICs on the tourism sector.¹⁴ Key findings include:

- The provision of VICs resulted in a 20% increase on offsite expenditures by visitors to the VICs
- As a consequence of visiting one of the region's VICs and additional 2.3 million British Pounds worth of visitor expenditures was generated within the community.

VICs are also the “window on” or the “face” of the local tourism industry. VICs play a vital role in connecting the visitor to local attractions, businesses/organizations, services, accommodations and events.

¹³“The Value of Visitor Information Centres to the Victorian Tourism Industry and the Local Economy”. Study sponsored by the State-Wide Visitor Information Centre Reference Group. August 2010

¹⁴“A Regional Study of the Impact of Tourist Information Centres”, study conducted in for Tourism South West, UK by TSE Research Services. 2007

Contributions to Local Economy

VICs can make significant contributions to local economies. The results of a benchmark VIC study in South Australia in 2011 suggest that VICs were responsible for 9,500 additional nights and an additional expenditure of Au\$597,800 by visitors.¹⁵

To quantify impacts, respondents to a follow-up online survey of visitors to a South Australia VIC were asked whether their visit to the VIC had/or would result in them participating in additional activities, or spending additional time in the local area or elsewhere in South Australia than would have occurred otherwise.

Their responses report that:

- 83% had participated in additional activities
- 72% had increased the duration of their stay
- 22% spent additional nights in the local area (visitors who extended their stay overnight stayed an additional 2.9 nights in the local area and 6.1 nights elsewhere in South Australia)
- 59% of respondents stated that the additional activities and time resulted from their visit to the VIC.¹⁶
-

Visitor Information Centres are also an important community resource. While the VICs are there primarily to serve visitors to the community they are also used by local residents who may be looking for new activities. They may also need maps, and community information to share with their own visitors or to provide to attendees at conferences and conventions being held in the community.

¹⁵Destination Visitor Survey - South Australia. Tourism Research Australia. 2011

¹⁶Ibid

Revenue Generation/Financial Viability

- To offset operating costs a visitor centre may generate revenue in a number of ways.
 - Booking commissions
 - Sale of maps, posters, guidebooks and other publications
 - Sale of local arts and crafts
 - Sale of visitor survey data
 - Provision of local guiding services
 - Ticketing
 - Event Management
 - Advertising
 - Sale of beverages and foods

Senior levels of government are playing an increasing role in assisting visitor centres to generate more revenue to pay for the costs of professional staff and visitor centre operations. To assist visitor information centres in generating additional funds the Province of Alberta has a retail products and sales support program that offers pins, posters and maps to visitor centres at discounted prices.

In the United Kingdom (UK) the National Tourism Board commissioned the consulting firm Tourism Engineers to research best practices and write a self-help guide to income generation for visitor centres. As a follow up, Tourism Engineers was asked to develop an income generation "toolkit" which is available at www.tourismengineers.com¹⁷.

In some Canadian provinces, the provincial government operates the VICs in collaboration with private sector-led tourism organizations. In Nova Scotia the province takes responsibility for funding six large information centres strategically located across the province.¹⁸

Most VICs, in Canada and elsewhere, have to generate some of their operating revenue. Because VICs deliver free information services and programs to visitors they don't have the option of charging for their core services.

However there may be opportunities for individual VICs to provide survey data that is collected at the VIC and sold to governments and large providers of tourism services.

¹⁷TIC Income Generation Toolkit. Pdf of toolkit available at <http://tourismengineers.com/topic.asp?pid=2>

¹⁸"Province decides to maintain information centres." News story in the Amherst News Citizen-Record, February 25, 2016

Visitor Metrics/Data Collection

- A visitor information centre can collect, analyze and provide tourism data to Destination Marketing Organizations (DMOs), tourism operators and governments.
- Information collected can include reason for visiting, length of stay; mode of travel, places and attractions the tourists plan to visit; activities they want to include in their visit; anticipated local expenditures during visit.

The VICs we studied used a combination of staff gathered information as well as independently collected data that helped to validate and confirm staff reporting.

Governance Models

Governance models reflect the funding sources and breadth of focus of each VIC. So far as we can determine VICs funded exclusively by senior levels of government had very little flexibility in planning which was a function of sponsoring department activity.

Centres which are sponsored by a municipality also had some of the same limitations. They were directed by a department within the city government and aligned their work and planning with that of the city government.

In some cases Chambers of Commerce took the lead in planning and directing the activities of the VIC and raised funds from municipal and senior government levels.

Finally broad based tourism organizations sometimes took the lead in directing and fund raising for a regional VIC.

There is very little that is publicly available about governance models for VICs and the relative effectiveness of one model over another.

F.

Visitor Survey Card And Tabulations



THANKS FOR VISITING THE NORTHERN FRONTIER VISITORS CENTRE. YOU ARE THE REASON WE'RE HERE.

1. What is your own home province or country?

2. Did our Northern Frontier Visitors Centre staff make you feel welcome to Yellowknife?
Yes No

3. Did our visitor's centre staff give you information that was useful to you during your visit to Yellowknife?
Yes No Not Sure

4. Did you get to do more things during your visit because of information you got at our Northern Frontier Visitors Centre?
Yes No Not Sure

5. Would you like to visit Yellowknife again?
Yes No Not Sure

Comments *(Use back of card for more comments):*

If you are leaving Yellowknife from the Yellowknife Airport please drop this card off at our gift shop in the airport and we'll give you a special post card. Or, you can leave the card with your hotel or B&B when you check out. Thanks very much.

NFVC Visitor Survey Card Tabulations

Between February 1 and February 23 survey cards were given to visitors to the NFVC and respondents were asked to complete the cards and leave them with the centre or return them to the NFVC collection box at the airport. Cards were available in English and four other languages that are common among Aurora visitors - Japanese, Standard Chinese, Traditional Chinese and Korean. The opportunity to return cards closed on February 24, 2017. The geographic distribution below in the "English" section applies only to survey cards that were completed in English. A total of 259 cards were returned.

ENGLISH LANGUAGE

Q1 *What is your home province or country?*

China	10
Hong Kong	9
Taiwan	3
Korea	1
Japan	1
Philippines	4
Newfoundland	1
PEI	1
NWT	10
Quebec	2
Ontario	13
Manitoba	3
Alberta	14
British Columbia	17
USA	5 (TX, NY, IL, GA, OH)
Australia	5
France	1
Italy	1
Canada	1 (Province not specified)
Country unmarked	1
Total	103

Q2 *Did our Northern Frontier Visitors Centre staff make you feel welcome in Yellowknife?*

Yes - 101 No - 1 (Didn't talk with staff - 1)

Q3 *Did our visitor's centre staff give you information that was useful during your visit to Yellowknife?*

Yes - 96 No - 2 Not Sure - 5

Q4 *Did you get to do more things during your visit because of information you got at our Northern Frontier Visitors Centre?*

Yes - 91 No - 10 Not Sure - 2

Q5 *Would you like to visit Yellowknife again?*

Yes - 98 No - 3 Not Sure - 2

ENGLISH LANGUAGE "ADDITIONAL RESPONSES"

- Helpful staff
- Jessica was very helpful and gave us some useful tips.
- Jessica was super helpful and we learned a lot from her.
- Great customer service!
- Great service.
- Very Informative, Thanks.
- Great staff at your visitor's centre! Thank you.
- Would be nice to have newer building
- Wonderful place. Hospital (sic) staff
- Great!
- Great information and service by the staff. Worked at a visitor centre myself & thought experience was great.
- Very friendly and helpful staff
- Very welcoming - impressed at the many languages staff speak. Thank you for the info!
- Awesome. Love it.
- Amazing trip. We were lucky to see the aurora, Definitely coming back.
- Very expensive. There's not enough info online (i.e. Aurora).
- Great little exhibits, building needs improvement
- Nice city to visit but probably best to come here during summer!
- Beautiful city. Wonderful center.
- It was very nice and pretty
- Parking Pass
- Great staff
- Great introduction to industry and arts in the area.
- Tres bien, Merci !!
- Awesome!
- Very nice place, very nice people!
- It's a great place!
- Very good staff
- Love it here. My wife doesn't share that unfortunately.
- It was a good exp. If you provide more info about tour company, it will be great. Thanks.
- A few years ago you had the wrong tartan displayed for the NWT.
- The maps you give out with the locations marked area great help.
- Very cold but beautiful place.
- We stayed in Centre too short; too rush.
- Should have been attached to the museum. Visitor parking was at the far end of the lot.
- No Auroras
- Great people in Yellowknife and thanks for let (sic) us store luggages (sic).
- <http://www.calgaryalliedartsfoundation.ca/sarah-van-sloten/>Great community. Perhaps more proactive contact?
- We would have liked more of a museum than a gift shop. We didn't ask any questions.
- Had an awesome time with you guys! See you soon hopefully!
- Nice place but cold.
- Nice place. Nice people.
- Very special experience. Pretty.
- I prefer to visit the town in summer.
- If I have vacation and time is suitable for viewing the Aurora.
- Out stay was definitely enjoyable. Will definitely come back again.
- Loving this place so much <3
- Everything was good
- Staff in Visitor Centre are very friendly and nice.
- Continue the warm welcome you are giving to tourists. Kudos and God Bless.
- Awesome place to visit! Great people! Very welcoming <3 <3 <3

STANDARD CHINESE

(37 Completed)

Q2 Did our Northern Frontier Visitors Centre staff make you feel welcome in Yellowknife?

Yes - 37 No - 0

Q3 Did our visitor's centre staff give you information that was useful during your visit to Yellowknife?

Yes - 35 No - 1 Not Sure - 1

Q4 Did you get to do more things during your visit because of information you got at our Northern Frontier Visitors Centre?

Yes - 29 No - 2 Not Sure - 6

Q5 Would you like to visit Yellowknife again?

Yes - 23 No - 1 Not Sure - 13

- Too cold here

TRADITIONAL CHINESE

(36 Completed) Includes 5 - Toronto and 1 - Vancouver

Q2 Did our Northern Frontier Visitors Centre staff make you feel welcome in Yellowknife?

Yes - 36 No - 0

Q3 Did our visitor's centre staff give you information that was useful during your visit to Yellowknife?

Yes - 35 No - 0 Not Sure - 1

Q4 Did you get to do more things during your visit because of information you got at our Northern Frontier Visitors Centre?

Yes - 33 No - 0 Not Sure - 3

Q5 Would you like to visit Yellowknife again?

Yes - 25 No - 0 Not Sure - 11

- Jordon at the visitor centre is amazing.

KOREAN

(16 Completed)

Q2 Did our Northern Frontier Visitors Centre staff make you feel welcome in Yellowknife?

Yes - 16 No - 0

Q3 Did our visitor's centre staff give you information that was useful during your visit to Yellowknife?

Yes - 16 No - 0 Not Sure - 0

Q4 Did you get to do more things during your visit because of information you got at our Northern Frontier Visitors Centre?

Yes - 12 No - 2 Not Sure - 2

Q5 Would you like to visit Yellowknife again?

Yes - 14 No - 0 Not Sure - 2

- Friendly <3
- Especially the ice cave
- Fishing

JAPANESE

(67 Completed)

Q2 Did our Northern Frontier Visitors Centre staff make you feel welcome in Yellowknife?

Yes - 67 No - 0

Q3 Did our visitor's centre staff give you information that was useful during your visit to Yellowknife?

Yes - 67 No - 0 Not Sure - 0

Q4 Did you get to do more things during your visit because of information you got at our Northern Frontier Visitors Centre?

Yes - 60 No - 2 Not Sure - 1 No Answer -- 4

Q5 Would you like to visit Yellowknife again?

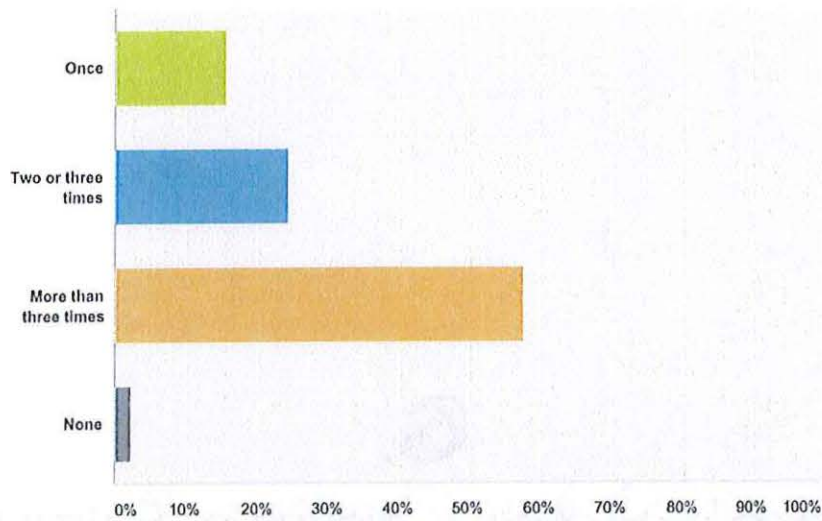
Yes - 60 No - 1 Not Sure - 6

- No Comments

G. Stakeholder Online Survey And Results

Q1 How often have you been in the Northern Frontier Visitors building in the last 12 months?

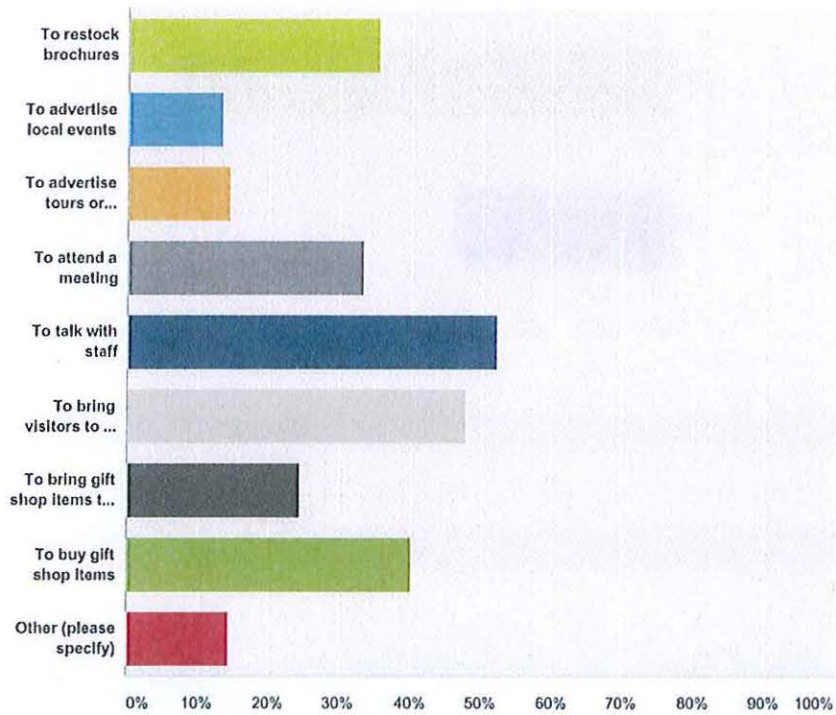
Answered: 90 Skipped: 0



Answer Choices	Responses	Count
Once	15.56%	14
Two or three times	24.44%	22
More than three times	57.78%	52
None	2.22%	2
Total		90

Q2 Why did you visit the Northern Frontier Visitors Centre (NFVC)? Check all that apply.

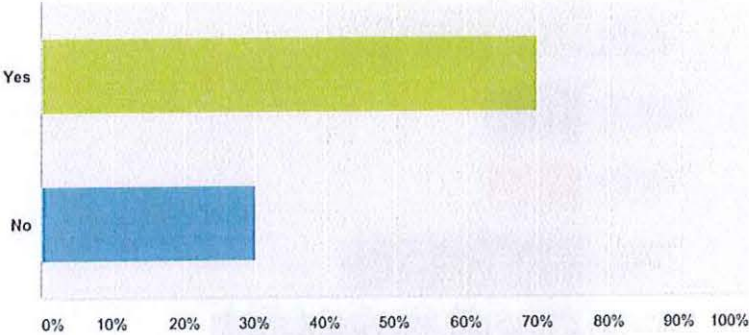
Answered: 90 Skipped: 0



Answer Choices	Responses
To restock brochures	35.56% 32
To advertise local events	13.33% 12
To advertise tours or guiding services	14.44% 13
To attend a meeting	33.33% 30
To talk with staff	52.22% 47
To bring visitors to the centre	47.78% 43
To bring gift shop items to the centre for sale	24.44% 22
To buy gift shop items	40.00% 36
Other (please specify)	14.44% 13
Total Respondents: 90	

Q3 Do you offer tourism products and/or services for sale in the Yellowknife area? If you don't please skip to Question #5

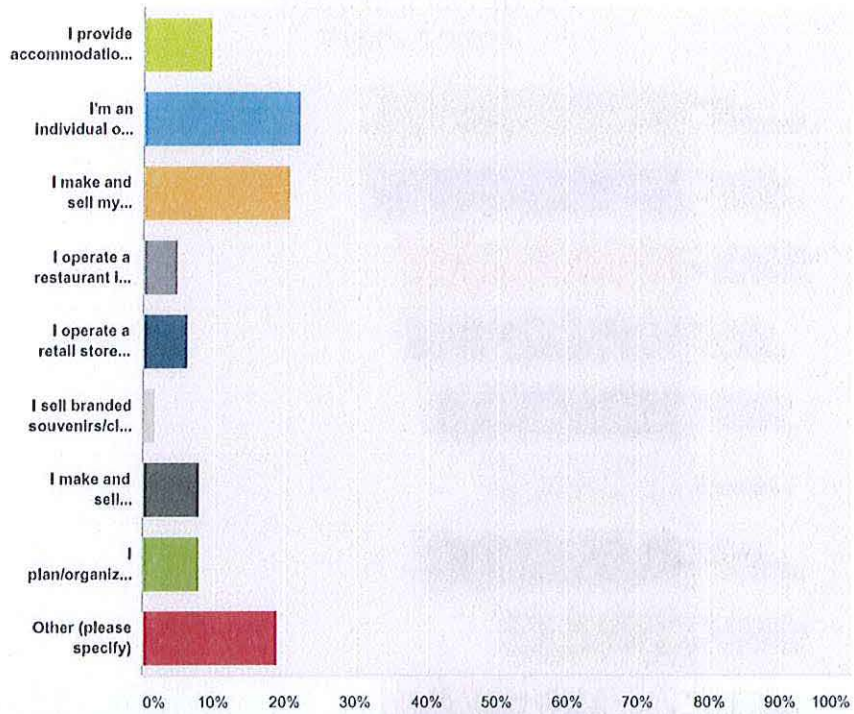
Answered: 90 Skipped: 0



Answer Choices	Responses	
Yes	70.00%	63
No	30.00%	27
Total		90

Q4 What tourism products and/or services do you offer?

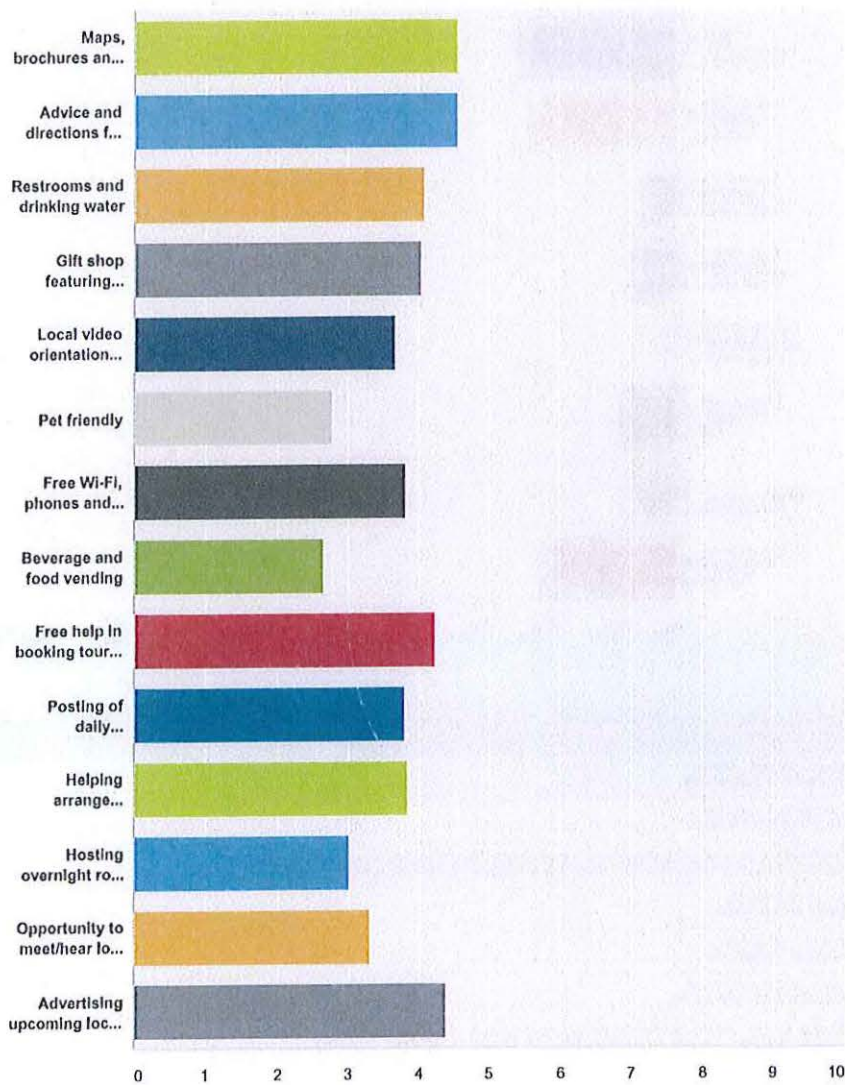
Answered: 63 Skipped: 27



Answer Choices	Responses
I provide accommodation in Yellowknife	9.52% 6
I'm an individual or group tour operator	22.22% 14
I make and sell my paintings, my music CDs, my videos, my photography, my books, jewelry, soaps, syrups etc.	20.63% 13
I operate a restaurant in Yellowknife	4.76% 3
I operate a retail store in Yellowknife	6.35% 4
I sell branded souvenirs/clothing/signs etc.	1.59% 1
I make and sell traditional Indigenous arts and crafts (likes furs, beadwork, carvings, baskets)	7.94% 5
I plan/organize conferences	7.94% 5
Other (please specify)	19.05% 12
Total	63

Q5 How important do you think the following are at a visitor centre? Please rate each one with 1 being least important and 5 being most important.

Answered: 90 Skipped: 0



	1	2	3	4	5	Total	Weighted Average
Maps, brochures and printed information	5.62%	0.00%	4.49%	10.11%	79.78%	89	4.58
	5	0	4	9	71		

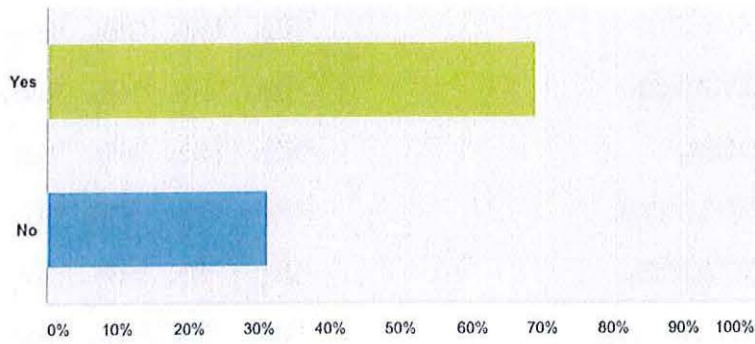
Northern Frontier Visitor Centre Stakeholder Survey

SurveyMonkey

Advice and directions from knowledgeable tourism centre staff	6.74%	1.12%	2.25%	7.87%	82.02%	89	4.57
	6	1	2	7	73		
Restrooms and drinking water	3.37%	6.99%	16.85%	16.85%	53.93%	89	4.09
	3	8	15	15	48		
Gift shop featuring northern artists	6.74%	6.74%	12.36%	22.47%	51.69%	89	4.06
	6	6	11	20	46		
Local video orientation presentation	4.44%	13.33%	25.56%	23.33%	33.33%	90	3.68
	4	12	23	21	30		
Pet friendly	22.73%	19.32%	31.82%	10.23%	15.91%	88	2.77
	20	17	28	9	14		
Free Wi-Fi, phones and computers	8.99%	10.11%	15.73%	19.10%	46.07%	89	3.83
	8	9	14	17	41		
Beverage and food vending	23.26%	26.74%	24.42%	11.63%	13.95%	86	2.66
	20	23	21	10	12		
Free help in booking tours and guides	6.67%	2.22%	8.89%	24.44%	57.78%	90	4.24
	6	2	8	22	52		
Posting of daily last-minute specials	10.11%	7.87%	15.73%	24.72%	41.57%	89	3.80
	9	7	14	22	37		
Helping arrange personalized group visits	5.62%	6.74%	22.47%	28.09%	37.08%	89	3.84
	5	6	20	25	33		
Hosting overnight road travellers on NFVC property	27.59%	9.20%	21.84%	17.24%	24.14%	87	3.01
	24	8	19	15	21		
Opportunity to meet/hear local artists and musicians in the artists corner and stage	12.22%	17.78%	26.67%	15.56%	27.78%	90	3.29
	11	16	24	14	25		
Advertising upcoming local events	4.49%	2.25%	7.87%	20.22%	65.17%	89	4.39
	4	2	7	18	58		

Q6 Do you personally (or does your business) have tourism products or services that are promoted through the NFVC?

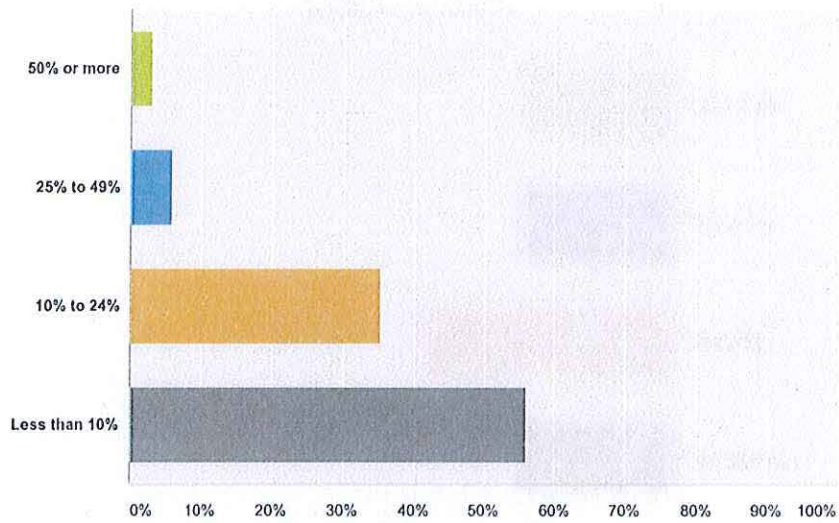
Answered: 90 Skipped: 0



Answer Choices	Responses	
Yes	68.89%	62
No	31.11%	28
Total		90

Q7 If you are a tour operator, what percentage of people who purchase your services came to you because of information or suggestions they got at the NFVC? If you are not a tour operator please skip this question.

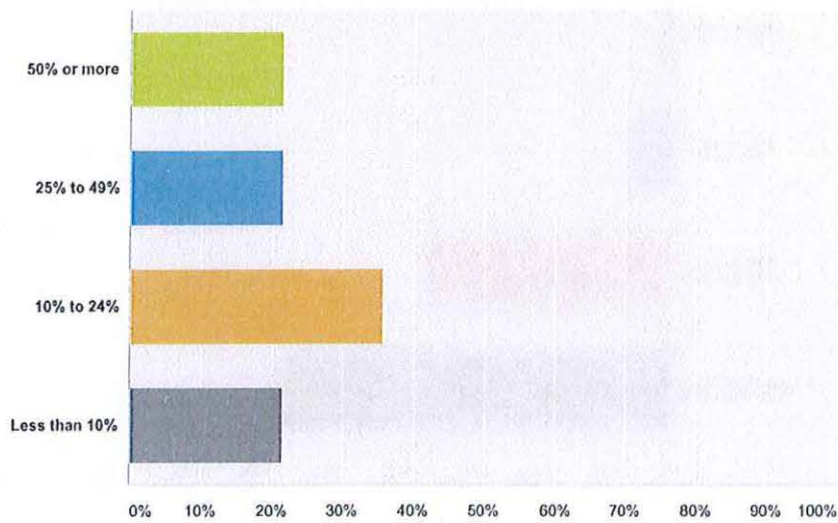
Answered: 34 Skipped: 56



Answer Choices	Responses
50% or more	2.94% 1
25% to 49%	5.88% 2
10% to 24%	35.29% 12
Less than 10%	55.88% 19
Total	34

Q8 If you are an artist, musician, craftsperson, photographer, etc (or have other gift items sold through the NFVC shop), what percentage of your sales come from selling your work at the NFVC? If you do not have products sold through NFVC please do not answer this question.

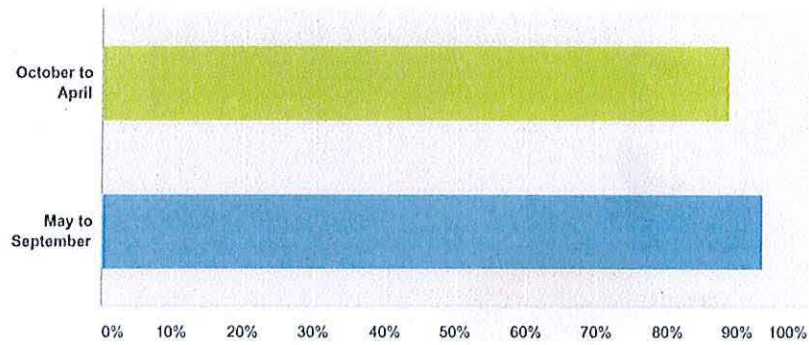
Answered: 28 Skipped: 62



Answer Choices	Responses
50% or more	21.43% 6
25% to 49%	21.43% 6
10% to 24%	35.71% 10
Less than 10%	21.43% 6
Total	28

Q9 During which months of the year are your tourism products and services or gifts available for sale? Check all that apply.

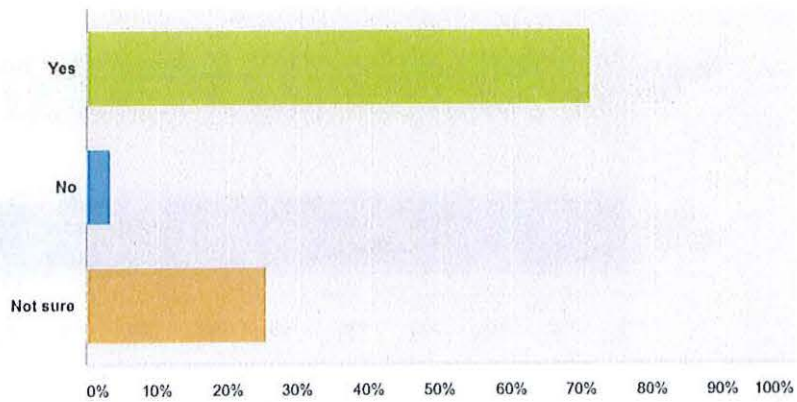
Answered: 62 Skipped: 28



Answer Choices	Responses
October to April	88.71% 55
May to September	93.55% 58
Total Respondents: 62	

Q10 Do you believe the NFVC has increased the time and/or money that visitors spend in our community?

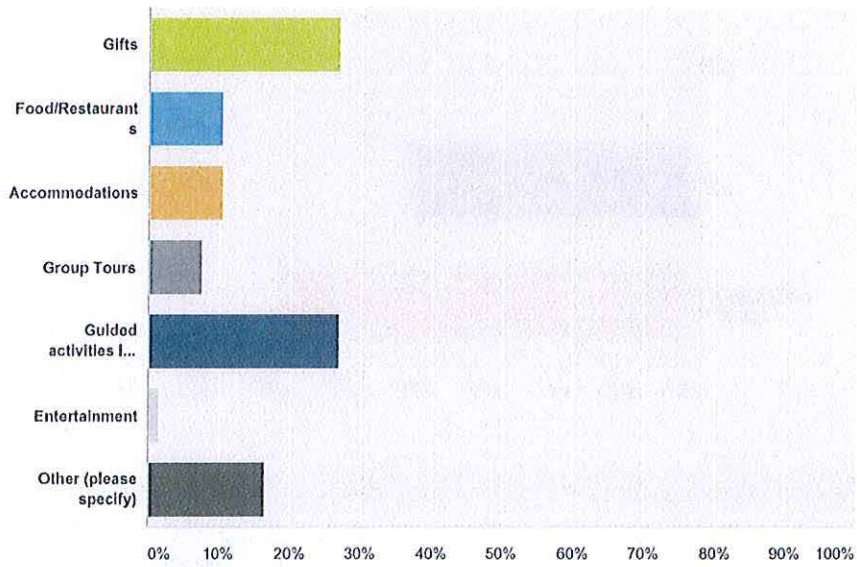
Answered: 90 Skipped: 0



Answer Choices	Responses	
Yes	71.11%	64
No	3.33%	3
Not sure	25.56%	23
Total		90

Q11 If you answered yes to Question 10, what are the most common things visitors spend extra money on?

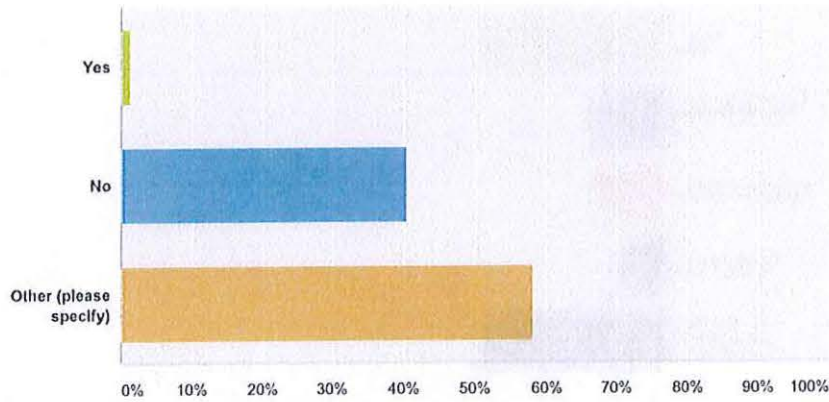
Answered: 67 Skipped: 23



Answer Choices	Responses
Gifts	26.87% 18
Food/Restaurants	10.45% 7
Accommodations	10.45% 7
Group Tours	7.46% 5
Guided activities like fishing	26.87% 18
Entertainment	1.49% 1
Other (please specify)	16.42% 11
Total	67

Q12 Do you have suggestions to enhance the services that NFVC provides? If so, please comment in the box below.

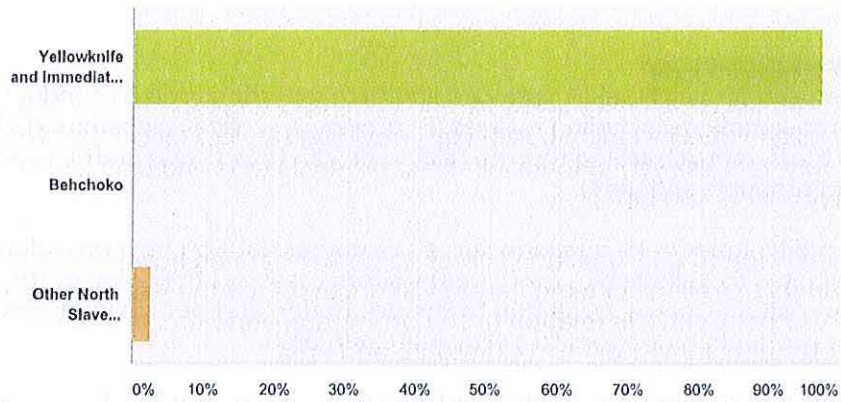
Answered: 74 Skipped: 16



Answer Choices	Responses	
Yes	1.35%	1
No	40.54%	30
Other (please specify)	58.11%	43
Total		74

Q13 My permanent residence is

Answered: 79 Skipped: 11



Answer Choices	Responses	Count
Yellowknife and Immediate area	97.47%	77
Behchoko	0.00%	0
Other North Slave Communities	2.53%	2
Total		79

Northern Frontier Visitors Centre Study

Community-of-Interest Online Survey

SURVEY METHODOLOGY

Outcrop used Survey Monkey software and data reporting tools to conduct a survey of tourism stakeholders including businesses providing services (accommodation, meals, guided tours, rentals), selling tourism related products (arts and crafts, souvenirs, locally branded products and gifts).

Outcrop developed a 13-question survey to gather data on how providers of services and products to Yellowknife (and area) visitors assessed the value of the Northern Frontier Visitors Centre in relation to the promotion and purchase of services and tourism products by visitors to Yellowknife and area.

We wanted to find out if providers of tourism products and services were making use of the NFVC, if they felt the Visitors Centre contributed to their business success and if the NFVC had increased the time and money that visitors spend in Yellowknife and area.

To invite responses to the survey Outcrop emailed 236 email addresses collected from NFVC files and lists developed by Outcrop that included hotels/motels/B&Bs, tour operators, guiding services, gift stores, artists and craftspersons, restaurants and other providers of tourism related services. The lists also included persons interested in tourism but who did not directly supply services and tourism related products to visitors.

The first email to invite responses was sent to the full list on January 27, 2017. It included a short message and a link to the survey. A follow up email invitation was sent to the same list on February 7, 2017. A total of 90 respondents (38%) completed the survey which would be considered a significant response level for an emailed survey. The survey was closed on February 15, 2017.

SURVEY RESULTS HIGHLIGHTS

- 71.11% of respondents believe that NFVC has increased the time and/or money that visitors spend in Yellowknife and area. Only 3.33% believe that it did not and 25.56% weren't sure.
- Of those that believe NFVC increased the time and money visitors spent to the Yellowknife area the two most important add-ons mentioned were "guided activities like fishing" (28.67%) and "gifts" (28.7%).
- Survey respondents have high expectations of the range of services to be provided by a visitors centre. The overwhelming majority of ratings of needed services scored more than 60%.
- Using a range of 5.0 as "most important" and 1.0 "least important" the top five services expectations are:
 - Maps, brochures and printed information (4.58)

- Advice and directions from knowledgeable staff (4.57)
- Advertising upcoming local events (4.39)
- Free help in booking tours and guides (4.24)
- Restrooms and drinking water (4.09)

The least important were:

- Beverage and food vending (2.66), Pet friendly (2.77) and hosting overnight travelers on NFVC property (3.01)
- In the middle were:
 - Gift shop featuring northern artists (4.06)
 - Helping arrange personalized visits (3.84)
 - Free Wi-Fi, phones and computers (3.83)
 - Daily last-minute specials (3.80)
 - Local video orientations (3.68)
 - Artist's corner performances (3.29)
- Most (97.47%) of respondents identified their permanent address as in Yellowknife and the immediate area.
- 70.0% of respondents reported that they offer tourism products or services in the Yellowknife area. The most common services were as a tour operator (22.22%), artist, craftsperson etc (20.63%) and other products and services (19.05%).
- 68.89% of respondents reported that they personally had their tourism products or services promoted through the NFVC.
- 82.22% of respondents reported that they had visited the NFVC two or more times in the past year. This supports a high level of confidence about awareness of centre services and activities. The three most common reasons for visits were to talk to staff (52.22%), to bring visitors to the centre (47.78%) and to buy gift shop items (40.00%)
- 44.11% of respondents reported that 10-50% of their sales came to them as a result of suggestions they got at the NFVC.
- For those who were artists, craftspersons or suppliers of other gift items, 21.43% reported that more than 50% of their sales came through the NFVC. An additional 21.43% reported that 25% to 49% of their sales came through NFVC.

SUGGESTIONS TO ENHANCE OR CHANGE NFVC SERVICES

43 respondents provided additional comments. The full unedited list of these comments is attached. There were many comments praising the NFVC staff and their work and positive service attitude. There also suggestions to increase local and regional knowledge of staff.

- Several comment themes emerged. They included:
- The urgent need for repairs to or replacement of the current NFVC building - most mentioned single comment.
- The need for a larger space for visitors inside the centre
- Need for more parking space and turnaround space for trailers and larger RVs
- The suggestion that the GNWT should provide more financial support to the NFVC
- Need more support from the City of Yellowknife
- Better/more signage and welcome signage at the city entrance
- There was disagreement on the gift shop aspect of the NFVC. Some respondents suggested that the centre should not include a gift shop and others suggested expanding it and/or adding food sales or a cafe.

COMPLETE SURVEY RESPONSE RECORDS AVAILABLE

Outcrop has retained the completed individual surveys (without identifying information). It is 192 pages long and can provide context for responses if needed.

H. Stakeholder One-On-One Interview Notes

NFVA Study Supplementary Interviews

The goal of the supplementary interviews is to probe views about the value of the Northern Frontier Visitors Centre to business sectors that serve visitors to the City of Yellowknife.

These sectors include:

- Tours and Visitor Activity Operators
- Restaurants
- Gift Stores/Retailers
- Hotel/Motels/B&Bs

SUPPLEMENTARY RESEARCH GOAL

Interviews will be conducted by telephone and will be brief. The central focus of the interviews will be to gather information on two themes:

- Do Yellowknife tourism related business sectors believe they benefit from referrals by NFVA to their businesses? If so what is the impact?
- Do Yellowknife businesses refer clients/guests to NFVA for information about other Yellowknife tourism services? If so how often?

INTERVIEW SCRIPT

I my name is_ and I'm calling on behalf of the Northern Frontier Visitors Association. We are doing a study to assess the value of the Visitors Centre to Yellowknife businesses. I have five short questions that I'd like to ask you.

1. Do you think Yellowknife businesses like yours benefit from information that visitors to Yellowknife can get at the Visitors Centre?
2. Have any of your customers ever mentioned that they found out about you at the Visitors Centre? If do, what did they say?
3. In general, how important would you say that visitors to Yellowknife are to your business?
4. If they are important to your business, what percentage of your business comes from visitors to our city?
5. Do you have promotional "rack cards" or other marketing materials displayed at the Visitors Centre?

Thanks for your help.

INTERVIEW LIST

Tours and Visitor Activity Operators

- B. Dene Adventures 444-0451
- Beck's Kennels 873-5603
- Bluefish Services 445-8553
- Aurora Ninja 688-8884
- Borealis Bike Tours 447-0037
- Great Slave Lake Safaris 445-3625
- Great Slave Lake Tours 445-3625
- My Backyard Tours 920-4654
- Nanook Aurora Tours 446-6800

- Narwal Northern Adventures 873-6443
- North Star Adventures 446-2900
- True North Safaris 688-1009
- Yellowknife Outdoor Adventures 444-8320
- Yellowknife Tours 973-4600

RESTAURANTS

- Bullock's Bistro
- Museum Café
- The Woodyard Brewhouse and Eatery
- Dancing Moose Café
- Traders Grill
- Black Night Pub
- Fat Fox Cafe
- Thornton's Wife and Tapas Room
- A Taste of Saigon
- Elke's Table
- Coyote's Bistro
- Sushi Café
- Diamante Restaurant
- Red Apple Restaurant
- Boston Pizza

GIFT/SPECIALTY SHOPS

- Old Town Glassworks
- Gallery of the Midnight Sun
- Northern Souvenirs and Gifts
- Northern Images
- Ragged Ass Road Shop
- Erasmus Apparel
- Weaver and Devore
- Just Furs

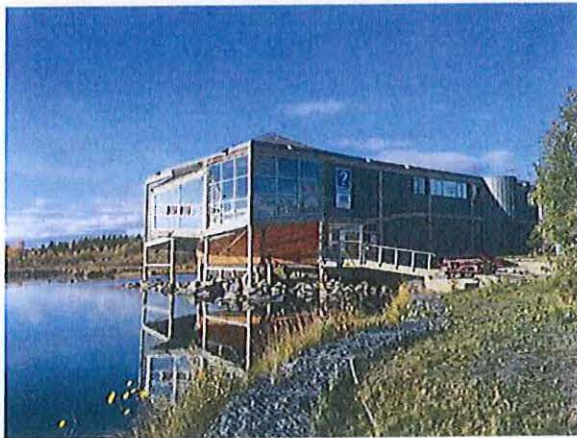
HOTELS/MOTELS/B&BS

- Quality Inn
- Nova Hotel
- Yellowknife Inn
- Explorer Hotel
- Super 8
- Mo's Houseboat B&B
- The Arden
- Embleton House

I. GNWT Technical Evaluation of Visitor Centre



TECHNICAL SERVICE EVALUATION



Northern Frontiers Visitors Centre

Prepared For:

Industry Tourism & Investment
Kris Johnson
Regional Superintendent

Prepared By:

Public Works & Services
Asset Management Division
Technical Services & Support Division

Date:

03 March 2016

Version:

Final

Table of Contents

1	Introduction	1
1.1	General.....	1
1.2	Building Description	1
1.3	Opinion of Probable Costs	1
1.4	Definitions.....	2
1.4.1	Remaining Service Life	2
1.4.2	Recommended Action Priority.....	2
1.5	Report Distribution	3
1.6	Evaluation Staff.....	3
2	Architectural/Structural.....	4
2.1	Summary	4
2.1.1	Building Size, Occupancy and Code Summary:	4
2.1.2	Roof System	4
2.1.3	Exterior Wall Assembly	5
2.1.4	Main Floor Assembly and Crawlspace	5
2.1.5	Crawlspace	5
2.1.6	Exterior Doors and Windows	5
2.1.7	Interior Finishes	6
2.2	Deficiencies	6
2.3	Probable Costs	6
3	Mechanical.....	7
3.1	Summary	7
3.1.1	Heating.....	7
3.1.2	Ventilation.....	9
3.1.3	Plumbing/Sanitary.....	9
3.1.4	Fire Protection.....	9
3.1.5	Energy Supply.....	9
3.1.6	Control System.....	10
3.2	Deficiencies/Issue	10

3.3	Probable Costs	11
4	Electrical.....	11
4.1	Summary.....	11
4.2	Deficiencies	13
4.3	Probable Costs	13
5	Maintenance	13
5.1	General.....	13
5.2	Deficiencies	14
5.3	Probable Costs	14
6	Pictures and Images	15

Appendix A: Conceptual Drawings of the Exterior

Appendix B: Updated Structural Report

Appendix C: Recommended Maintenance Program

Appendix D: Cost Estimate

1 Introduction

1.1 General

The Technical Support Section, Asset Management Division, Public Works and Services were requested to carry out a Technical Status Evaluation on the Northern Frontier Visitor's Centre (NFVC), located in Yellowknife. The on-site evaluation was performed on September 30th, 2015.

The evaluation of the building considered a number of issues including remaining service life of the systems and components, suitability for continued use, compliance with current codes and operating and maintenance concerns.

This report is intended to provide the ITI and NFVC with the general condition and evaluation of the Building apparent at the time of the review. Calculations to confirm the adequacy of elements for continued use have not been performed unless specifically indicated hereinafter.

The Evaluation undertaken was generally visual only in nature. Except where noted otherwise, no testing or dismantling of any covering was performed. The evaluation was completed with respect to the scope indicated herein with no attempt to review or inspect every element or portion of the building's systems. The scope of the evaluation did not ascertain in detail aspects of the building's systems relative to meeting all current codes, standards and building practices.

Environmental audits, or the identification or treatment of asbestos, PCB (polychlorinated biphenyl), mould, fungus, mildew, radioactive materials, or any other contaminants are excluded from this report.

1.2 Building Description

The Northern Frontier Visitor Centre was constructed around 1990 and is a two story wood framed structure on a steel pile foundation system. Approximately half of the steel pile foundation is located in a body of water where the saturated ground conditions and seasonal freeze thaw cycle has caused pile movement and some deformation of the building structure. The other half of the foundation system is a combination of steel piles and concrete grade beam which does not appear to have foundation movement issues. The floor and roof systems are constructed of I-joists on a glulam and heavy timber frame. The roof system is a torch applied granular membrane consists of both flat and pitched portions.

The building occupancy classification as defined by the 2010 NBC is Group A2 "Assembly Occupancy". The building has a footprint of approximately 471 sq.m with the main floor is roughly 440 sq.m in area with an interconnected second floor mezzanine of about 200 sq.m.

1.3 Opinion of Probable Costs

The costing prepared for this report is for budgetary purposes only. Probable costs completed during the evaluation have been based on preliminary information that may not include all necessary information and may also include factors over which PWS has no control.

Unless otherwise noted, costing information does not include GST or engineering and testing fees. Costs are based on 2015 Dollars and assume the work is completed in one phase. The estimates do not include allowances for loss of revenue, or related “soft costs” to the building Owner or tenants as a result of the work.

The estimates are based upon the present extent of the work deemed recommendable, using unit prices obtained during recent construction seasons from other local and national projects of a similar size and scope. Budget ranges are provided to reflect potential seasonal variations in pricing due to Contractor’s workloads and the local economic climate at time of bidding. See Appendix D for Cost Estimate.

1.4 Definitions

1.4.1 Remaining Service Life

Remaining service life refers to the remaining cost-effective service life of the system or component being considered. Seven remaining service life ratings are used in this report:

- .1 Over 15 Years - means that, under normal operating conditions and receiving proper maintenance, the system or component is expected to remain economically in service exceeding 15 years. Often the system or component is in new or in like new condition.
- .2 10 to 15 Years - means that, under normal operating conditions and receiving proper maintenance, the system or component is expected to remain in service for 10 to 15 years.
- .3 5 to 10 Years - means that, under normal operating conditions and receiving proper maintenance, the system or component is expected to remain in service for 5 to 10 years.
- .4 0 to 5 Years - means the end of the effective economic service life of this system or component has been reached. Plans to replace or renovate the system or component should proceed.
- .5 Zero Years - means the system or component is still in service; however, the end of its effective economic service life has been reached and it could fail at any time.
- .6 Not Operational - means the system or component is not in service as intended. One or more systems or components may have failed as a result of reaching the end of its expected service life, or due to maintenance or operational circumstances.
- .7 Not Determined - means that sufficient information could not be gathered on the system or component to assign a remaining service life.

1.4.2 Recommended Action Priority

Recommended action priority refers to the urgency of the recommended action. The urgency reflects the importance of the recommended action to the safety, cost-efficient operation or the conservation of the element’s service life. Code-related items are identified in the course of examining building technology, but should not be considered an exhaustive analysis of current code compliance. Seven levels of action are used in the report:

- .1 Mandatory - means an action that is a legal obligation arising from the requirement of a code, regulation or referenced standard, and involves life safety concerns. This action must be addressed immediately.
- .2 High Priority - means an action that is a legal obligation arising from the requirement of a code or regulation, and must be addressed at the first available opportunity. There may not be a life safety concern.
- .3 Code Upgrade - means a building system or component that does not meet current code requirements, regulations or standards and is, therefore, a legal obligation. It must be addressed as part of any contemplated building additions and/or renovations.
- .4 Desirable - means an action that would improve substantially the safety, cost efficient operation or extend the service life of the building system or component.
- .5 Suggestion - means an action that will have some benefit to the operation or longevity of the building system or component and are a discretionary item.
- .6 None - means there is no recommended action.

1.5 Report Distribution

This report has been distributed to:

- .1 Regional Superintendent, ITI- North Slave Region
- .2 Regional Superintendent PW&S - North Slave Region
- .3 Technical Support - Asset Management Division
- .4 Library - Asset Management Division
- .5 Northern Frontier Visitor's Centre

Additional copies of this report may be obtained from the original report, which is filed in the PW&S Library, 3rd floor, Stuart M. Hodgson Building, Yellowknife (867) 920-6451.

1.6 Evaluation Staff

The following Personnel have been involved in site review and preparation of this report:

- | | | |
|----|----------------------|--|
| .1 | Vince Barter, NWTAA | Sr. Technical Officer – Architectural/Structural |
| .2 | Randy Jacobs | Sr. Technical Officer – Architectural/Structural |
| .3 | Arnel Vendiola | DTS CAD Technician |
| .4 | Jaehoon Lee, P.Eng | Sr. Technical Officer – Electrical |
| .5 | Mark Peer, P.Eng | Sr. Technical Officer –Mechanical |
| .6 | Geoffrey Bragg | Sr. Maintenance Advisor |
| .7 | Matt Kennelly, P.Eng | Energy Management Specialist |

2 Architectural/Structural

2.1 Summary

2.1.1 Building Size, Occupancy and Code Summary:

- .1 Occupancy: Group A2 "Assembly Occupancy"
- .2 Two Stories
- .3 Combustible Construction
- .4 Sprinklered c/w Fire Alarm System
- .5 Area: Main Floor: 440 sq.m, Second Floor: 200 sq.m.
- .6 Building falls within the parameters of 2010 NBC 3.2.2.27.
- .7 Egress: Two exits are required from the main floor (NBC 3.4.2.). Present configuration does not provide a second means of egress for the main floor due to the closure of the exit door on the south end of the building. The 2 exit doors that are currently provided on the main floor do not have sufficient distance between them to be considered as 2 separate exits as per NBC 3.4.2.3. At the time of the inspection, the door on the main floor to the exit stairwell was blocked open. This door is required to remain closed in order to provide integrity of the exit for the second floor.

2.1.2 Roof System

Roof system consists of both pitched and flat portions. Water shedding membrane is torch applied granular MBM top sheet over plywood deck. There is a fair amount of granule loss, some blistering and a wrinkle was noted on the south facing side of the pitched portion located over the main reception area. Ponding water was noted in several locations. Some of the ponding may be due to the differential steel pile foundation system movement. At this point in time, these items are mainly cosmetic but could eventually cause membrane failure. Occupants advise that no leaks have been noted in present roof system. Estimated remaining life of roof membrane is 5 to 10 years. Roof membrane should be monitored by conducting a visual inspection once a year.

Flat portions appear to be insulated with two layers of 100mm thick rigid insulation with z girts. Top layer of rigid insulation is sloped 1 to 50 to provide for water shedding to which reduces some of the thermal capacity of the top layer. Thermal bridging was evident (presumably from Z-girts) at 1200mm oc. Environmental barriers are structurally supported by 64mm deep T & G deck on Glulam joists and beams.

Pitched portions consist of torch applied granular MBM over plywood deck on engineered I-joists. I-joist cavity is filled with batt insulation (RSI 7 assumed). Drawings show a 6 mil polyethylene vapour barrier on the underside of I-joists with strapping and 12.7 mm GWB. This roof system is unvented and was often used in the mid 80s to early 90s. Roofs constructed in this manner sometime suffer early degradation due to humidity and condensation which may form and accumulate in roof assembly near the peak. Several spots were checked. For the most part no degradation was encountered except for one spot near the top of one of the peaks where the underlying decking was soft and showing some

signs of possible rot. This should be monitored but is not an immediate concern. It could be investigated when it is decided to replace the cap sheet.

A number of skylights have been installed in pitched portions of the roof assembly. The aluminum frame skylights appear to be in fair condition but a number (at least three) of the seals are gone. There is a crack in one sealed units located over the second floor meeting room located in the north corner of the building.

2.1.3 Exterior Wall Assembly

Exterior wall system consists of a post and beam structure with 38 x 89 wood stud with strapping infill panels insulated with batt insulation having an estimated thermal barrier of approximately RSI 3.5 (R20) (as per original drawings). Thermal resistance of exterior wall is less than desirable but energy modeling should be completed on the building prior to proceeding with upgrades to determine feasibility.

Exterior finish is exposed post and beam structure with vertical standing seam zinc/metal siding on infill panels. Zinc siding is holding up well, but post and beam structure requires re-staining. Overall exterior finish is good.

Part of the exterior finish system has been removed on the south end of the building adjacent to south exit door (bare plywood on wall).

2.1.4 Main Floor Assembly and Crawlspace

Main floor is constructed using I-joists with either plywood on strapping or concrete on plywood deck. In floor heating tubes were incorporated to provide space heating. Floor structure is over crawlspace is not insulated. Floor system outside of crawlspace perimeter appears to be insulated with batts to a speculated thermal resistance of RSI 7 (R40).

2.1.5 Crawlspace

The concrete perimeter grade beam is only moderately insulated with approximately RSI 1.7 (R10) extruded polystyrene sheets. Ground settlement has caused gaps under the bottom of the grade beam where daylight can be seen. There is no thermal barrier (insulation) at these locations. The interior poly vapour/moisture barrier installed on the concrete grade beam has drooped in some locations which needs to be repaired.

2.1.6 Exterior Doors and Windows

Main doors are metal with metal frame and are still in good condition. Exit door located off of round exit stair requires adjustment and a landing. This door currently swings over a ramp which is a tripping hazard and does not conform to the NBC. Full arc of the door is required to be over a landing conforming to the requirements for exits as detailed in the NBC. Exit door on south side of building is blocked off creating an exit hazard. This door is required to be operational in order to provide the exiting required for this building.

Windows are aluminum frame dual pane sealed units. Windows are 25 years old and are nearing the end of their useful lifespan. A large percentage of the windows located in the glazed facades located on the south end of the building are broken due to seasonal movement of the structural foundation system. See Appendix B for an Updated Structural Report.

Conceptual Drawings of the Exterior have been prepared as an option for the building owners to consider. The basic concept is to reduce the amount of glazing facing the water which has been problematic due to movement of the foundation system. See Appendix A.

2.1.7 Interior Finishes

Building movement has caused significant damage to building interior finish. Approximately half of the interior finishes, particularly on the south end of the building require replacement and/or repair. The options are to replace/repair drywall or to encapsulate with a different product – as long as flame spread rating requirements are maintained/met.

2.2 Deficiencies

Item	Issue	Image	Service Life	Action Priority
A1.	Insufficient distance between exits on main floor (NBC 3.4.2.) South main floor exit is blocked.		Not Applicable	Mandatory
A2.	Provide landing for exit door from stairwell	A2.1	Not Applicable	Mandatory
A3.	Provide guards conforming to NBC for south exit landing and ramp.	A3.1 – A3.2	Not Operational	Mandatory
A4.	Apply new top sheet over existing granular roofing membrane.	A4.1 - A4.2	5 to 10 Years	Desirable
A5.	Replace 4 sealed units in skylights	A5.1 – A5.3	0 to 5 Years	Desirable
A6.	Replace all exterior windows	A6.1 - A6.2	Zero Years	High
A7.	Provide cladding for lower south wall adjacent to south exit	A7.1 – A7.2	Not Applicable	High
A8.	Stain/paint exterior heavy timber members	A8.1 – A8.2	0 to 5 Years	Desirable
A9.	Upgrade crawlspace thermal barriers to not less than RSI 3.5	A9.1	Not Applicable	Desirable
A10.	Repair/upgrade vapour barrier in crawlspace	A10.1	Zero Years	High
A11.	Insulate floor above crawlspace	A11.1 – A11.2	Not Applicable	Desirable
A12.	Adjust exterior door from exit stairwell	A12.1	Not Applicable	Moderate
A13.	Repair and/or upgrade interior finishes	A13.1 – A13.2	Not Operational	High
A14.	Structural Upgrades: supply + install of hydraulic jacks Includes Engineering + Project Management Services		Not Applicable	High

2.3 Probable Costs (Also see Appendix D)

Item	Description	Cost
A1.		\$ 3,500
A2.		\$ 1,750
A3.		\$ 3,250
A4.		\$ 157,500
A5.		\$ 22,500
A6.		\$ 190,000
A7.		\$ 32,000
A8.		\$ 8,500
A9.		\$ 16,000

A10.		\$ 4,000
A11.		\$ 40,000
A12.		\$ 3,000
A13.		\$ 25,000
A14.		\$ 87,500
Total		\$ 600,500

3 Mechanical

3.1 Summary

The mechanical systems installed in the NFVC includes a hydronic heating system, a small ventilation system, fire protection (in the form of fire extinguishers, wet pipe sprinkler system and fire caulking and fire dampers), plumbing fixtures (supplied from a combined fire/domestic service main connected to the municipal system), and gravity drainage connected the municipal main:

3.1.1 Heating

The heating System is a low temperature hydronic system comprising a single cast iron Weil McLain BL-876WF Producing 141 kW (480 MBH) and a single WoodMaster Flex Fuel Biomass Boiler producing 60 kW (204 MBH). The original Biomass installation had two (2) biomass boilers, but one has been removed and the connections capped. The Biomass Boiler installation is an open/atmospheric boiler and isolated from the main hydronic system through a storage tank and heat exchanger system. The main hydronic system is arranged in a primary circuit configuration, all of the flow is routed through the Fuel Oil Boiler. The biomass boiler connects to the main heating system in an injection configuration just before the heating water return (HWR) enters the fuel oil boiler.

The heating distribution in the building is arranged in four separate circuits, two in-floor circuits, one perimeter radiation and terminal unit circuit and one circuit feeding the main air handling unit. All of the heating circuits with the exception of the AHU are configured with a circulation pump and a 3-way valve to reset the circuit supply temperature. The reset temperature for the in-floor and radiation loops is currently set at 60° C (140° F).

The biomass boiler is situated in its own small building to the side of the NFVC. As mentioned the two systems, building and biomass, are separated by a heat exchanger. Within the biomass system there is a circulation pump for the heat exchanger and a circulation pump on the biomass boiler. These flows are separated/de-coupled by a storage tank. The storage tank acts as a buffer and allows the biomass boiler to operate at full load until the storage tank is up to capacity or in a sense charged. The system can now draw heat from the storage tank independent of the biomass boiler's output. The biomass boiler side of the heat exchanger is configured with a 3-way diverting valve on the inlet to the heat exchanger. In discussions with the biomass boiler installer, the 3-way is intended to limit the heat sent to the building in response to the HWR temperature and at the same time build up the heat in the storage tank. Though this arrangement can work there are better methods in which to accomplish this. Currently none of the pumps in the biomass boiler system are equipped with flow balancing stations. Utilizing a

flow balancing valve/station enables the system to be in a sense, tuned and match the flows across each of the decoupled loops and heat exchanger ensuring the efficient transfer of heat.

The heating terminal units within the building are a mixture of in-floor heating on the main floor, perimeter convection cabinet (architectural wood construction), cabinet unit heaters in the vestibules and unit heaters in the service spaces and crawlspace.

A majority of the wood architectural convector cabinet have damage to the top wood grilles. The top of these cabinets should be modified or replaced with a new wood top complete with aluminum linear bar grilles to eliminate the possibility of damage and extend the service life of the cabinets.

The in-floor heat tubing was installed in the concrete pour of the main floor. The tubing utilized was Entran II manufactured by Goodyear between 1989 and 1994. The hose, made from nitrile rubber, over time and through use, turns a deep brownish red and becomes brittle leading to multiple failures. All of the exposed tubing at the NFVC exhibit deterioration and failures. Several loops in the in-floor system have had to be abandon due to failure. To make up the heat a cabinet unit heater has been installed centrally on the main floor. The in-floor system is no longer maintainable and needs to be abandoned and replaced with alternate heating terminal units.

Some of the current steel heating distribution piping feeding the in-floor manifolds could be re-used to feed new perimeter cabinet and radiant panels on the main floor, but it may be easier to provide a new distribution system designed for the new system. The existing header could also be re-used, but it is recommended to reconfigure the boiler s into a primary secondary system. This will allow de-coupling the boiler's flow from distribution to the terminal units. This will increase system efficiency slightly, but will allow better control over the biomass boiler. If the distribution system is configured as a primary/secondary system consideration should be given to providing variable flow pumping on the secondary circuit. This will provide some energy savings and increase the efficiency of the boiler system.

The oxygen diffusion barrier characteristics of the Entran tubing used in the in-floor is unknown. Without a proper oxygen diffuser barrier as the oxygen in the heating water is depleted oxygen permeates into the system through the plastic/rubber tubing. The presence of oxygen in the system results in corrosion of the ferrous (steel/iron) parts of the system. This includes the cast iron boiler. Though with lower fluid temperatures the ingress of oxygen is slowed. As the in-floor system operates at a lower temperature than the main heating water system the potential for oxygen migration is lower. If there is oxygen permeating into the system this will reduce the service life of the cast iron boiler due to corrosion. Currently the existing fuel oil boiler is in the area of 25 years old. The expected median service life of a cast iron boiler is in the area of 30 years. The condition of the cast iron boiler should be determined though inspection during regular maintenance. One method to monitor the condition of the heating system is through regular testing of the heating fluid. Testing can determine the PH level, oxygen content and presence of ferrous oxides (an indication of corrosion).

3.1.2 Ventilation

The main ventilation system for the building consists of a two fan unit mounted on the roof. This unit provides ventilation to the main open areas of the visitor centre's main floor. At the time of the site visit this unit was not operational. It was disabled at the main disconnect in the mechanical room and at the disconnects at each fan. The original drawings also indicate a heat recovery ventilator (HRV) for the second floor board room. The grilles in the board room are visible, as well as the ductwork coming into the mechanical room. This duct work is capped and there is no HRV installed as was indicated on the drawings. As the air handler is 25 years old it is approaching the end of its service life and consideration should be given to refurbishing the existing unit or replacing it with a new one. Any replacement/refurbished air handling system should ensure that the entire building is ventilated to the requirements of ASHRAE 62 "*Ventilation for Acceptable Indoor Air Quality*". This may require new distribution duct work routed to enclosed offices on the first and second floor. The washrooms all have local exhaust though PWS maintenance advisor determined that the main floor male washroom exhaust has been installed backwards and not properly exhausting the space.

3.1.3 Plumbing/Sanitary

The water service to the building is a 100mm (4") diameter combined fire water/domestic water service and a 25mm (1") diameter domestic water recirculation line. The building service is a 19mm (3/4") branch from the 100mm main at the building entrance and routed to the mechanical room. The plumbing and sanitation for the building appears to be adequate. There is only one washroom group in the corner of the building, one floor mounted mop sink, one stainless steel single bowl sink on the second floor and one small washroom on the second floor. The fixtures are mainly vitreous china with single lever faucets. The domestic hot water (DHW) is generated through an electric DHWH. The age of the DHWH is not known. Due to the aggressively soft water in Yellowknife, glass lined DHWH last between 5 and 10 years before failing. If the DHWH is due for replacement consideration should be given to a combination electric indirect stainless steel DHWH. This would allow the use of fuel oil or biomass to generate DHW during the heating season and utilize electricity during the summer months.

3.1.4 Fire Protection

The building is protected through a wet pipe sprinkler system. The system has been inspected recently and a few deficiencies were noted. The report detailed that the sprinkler heads in the crawlspace have been painted, which is contrary to NFPA 13 "*Installation of sprinkler systems*". Also two corroded sprinkler heads were noted. It is not known if these have been replaced. The incoming water service to the sprinkler tree currently does not have proper back flow prevention which is a code requirement to protect the buildings DW system and the municipal system from the standing water in the sprinkler system.

3.1.5 Energy Supply

The fuel system at the building has recently been upgraded, replacing the existing fuel oil tanks in the crawlspace with a secondary contained fuel oil tank at the exterior of the building. The fuel oil is routed

from the exterior tanks to each of the fuel fired appliances. Each boiler is equipped with a tiger loop (fuel oil de-aerator).

3.1.6 Control System

The control system installed in the building is minimal. All space temperature control is through wall mounted local 24V thermostats. Heating water reset is through individual temperature controllers, currently set at 60° C. The boiler is controlled through a limit controller with the high limit set at 71° C (160° C) and the low limit set at 60° C (140° F). In addition the boiler has a manual reset high limit temperature controller set at 104° C (210° C) and a low water cutoff. The ventilation unit has individual temperature controllers to control supply air temperature through a 3-way valve at the unit's heating coil. The overall enabling/disabling of the unit was not determined.

If the existing unit is refurbished it is highly recommended that a programmable time clock be provided to enable scheduling of the unit over the course of the day/week. If a new unit is to be provided it should be complete with an onboard control system and remote control panel.

There is a control panel that lists 4 alarms: low temperature for the heating water, low temperature for the crawlspace, no flow in the heating systems and low fuel oil level. The low fuel oil level was showing an alarm, but the level/floats may not have been relocated to the new exterior tank when the old crawlspace tanks were removed/replaced.

Though a full direct digital control system would be desirable it comes with a price. The use of local microprocessor controls are an affordable alternative. A microprocessor controller such as a TEKMAR Boiler Controller can provide outside air reset on the heating water, stage boilers/pumps, control the production of DHW through an indirect DHWH and provide alarms on heating water temperature. The use of a Boiler Control would help integrate the biomass boiler by provide constant control for the fuel oil boiler. Microprocessor reset controllers can be utilized for the reset heating distribution loops if they are to be retained. The use of programmable thermostats would give the ability to provide night set back on all of the spaces.

3.2 Deficiencies/Issue

Item	Description	Image	Service Life	Action Priority
M1.	In-floor distribution tubing failing. Require entire in-floor heating system to be abandon and replaced with alternate heating terminal units	M1.1, M1.2	Zero Years	High Priority
M2.	Heating system distribution reconfigured to Primary/Secondary to increase efficiency.	M2.1	10 to 15 Years	Desirable
M3.	Provide variable flow pumping to secondary circuit	M3.1, M3.2	10 to 15 Years	Desirable
M4.	Replace fuel oil heating water boiler.		10 to 15 Years	None
M5.	Provide flow balancing stations on Biomass Heating System	M5.1	5 to 10 Years	Desirable
M6.	Remove 3-way Diverting valve on HWS to Biomass Heat Exchanger	M6.1	5 to 10 Years	Desirable
M7.	Refurbish existing architectural convector cabinets with new top and linear bar grilles.	M7.1, M7.2	0 to 5 Years	Desirable

M8.	Provide annual heating fluid testing		Not Determined	Desirable
M9.	Replace/refurbish ventilation unit complete with new distribution system	M9.1, M9.2	Zero Years	High Priority
M10.	Provide ventilation to board room	M10.1, M10.2	Zero Years	High Priority
M11.	Replace painted sprinkler heads in crawlspace	M11.1	10 to 15 Years	Mandatory
M12.	Replace corroded sprinkler head		10 to 15 Years	Mandatory
M13.	Provide proper backflow prevention on sprinkler system	M13.1, M13.2	10 to 15 Years	High Priority
M14.	Replace existing DHWH with electric/indirect combination.		5 to 10 Years	Desirable
M15.	Provide new microprocessor boiler controller	M15.1, M15.2	10 to 15 Years	Desirable
M16.	Provide programmable thermostats	M16.1	5 to 10 Years	Desirable
M17.			Service Life	Priority.

3.3 Probable Costs (Also see Appendix D)

Item	Description	Cost
M1.		\$ 33,750
M2.		\$ 10,625
M3.		\$ 3,750
M4.		\$ 18,750
M5.		\$ 8,000
M6.		\$ 3,750
M7.		\$ 12,000
M8.		\$ 2,000
M9.		\$ 68,750
M10.		\$ 12,750
M11.		\$ 2,500
M12.		\$ 2,500
M13.		\$ 12,750
M14.		\$ 55,000
M15.		\$ 8,125
M16.		\$ 5,000
M17.		\$ 0
Total		\$ 260,000

4 Electrical

Generally speaking the YK Northern Frontiers Visitors Centre electrical systems are in fair to poor condition, with some repairs required to meet life safety needs and life cycle renewal. Detailed information provided below.

4.1 Summary

Electrical Service and Distribution: Building power is provided via a three-phase, 120/208 V, 400 amp service fed underground from pole mounted transformers. Main service electrical conduits run to the boiler room. Panels and disconnect switches are Federal Pioneer and were in good condition.

Counter receptacles located within 1.5 m from sinks were not protected by GFCI (Ground Fault Circuit Interrupter).

Lighting: T8 linear fluorescent light fixtures are installed at the administration areas and offices. The lighting in the exhibition areas and sale areas are track light with incandescent bulbs. It is recommended to be replaced with LED light fixtures that have more efficiency.

The building has LED exterior light fixtures with a photocell control on the outside wall.

Exit and Emergency Lighting: An emergency lighting that is strategically located throughout the building was a number of wall mounted remote heads fed from a central battery/charger located at storage and two stand-alone packages located in two washrooms.

The central battery/charger was tested and passed 30 minutes operations but two stand-alone packages were not operated and shall be replaced with proper ones.

Most remote heads were double-heads but some were single-head that shall be replaced with double-heads as per CEC (Canadian Electrical Code) Section 46-106.

Most of exit signs were internally illuminated sign powered by electrical circuit and were located above doors or on walls. One was photoluminescent type located on the push bar of a door.

Most of exit signs powered by electrical circuit were operated only during emergency power and some of them were even not operated during normal power. They will be repaired to be illuminated during both emergency power and normal power.

One located on the push bar of a door will be placed above the door.

Fire alarm system: The building is equipped with a Simplex 4002 traditional fire alarm panel comes with annunciator located in the main vestibule. An Arctic Alarm Auto-dialler located in the storage is monitoring the condition of fire alarm system and informing alarms/trouble signals to fire department.

Initiating devices such as detectors and pull stations, and evacuation devices such as bells are located throughout the building.

There are signs above manual pull stations say "Local Alarm Only in case of Fire phone 873-2222". These signs will be removed due to an Arctic Alarm Auto-dialler.

Communications: Telephone service is fed underground to a telephone box in the storage. It appears adequate communications capacity is providing to the building.

Security Systems: DSC security controller located in the main vestibule and connected to Arctic Alarm Auto-dialler to monitor intrusion to the building. Occupancy sensors are placed throughout the building to detect alarm.

Mechanical Connections: Mechanical equipment was fed through disconnect switch and some of them were controlled by Auto-Starters. Red colored emergency disconnect switches for boilers are located next to the boiler room door.

4.2 Deficiencies

Item	Issue	Image	Service Life	Action Priority
E1.	GFCI receptacles located within 1.5 m from sinks		Over 15 Years	Code Upgrade
E2.	Replacing track light fixtures with incandescent bulbs with LED in exhibition and sale areas		10 to 15 Years	Desirable
E3.	Replacing two stand-alone emergency lighting packages		5 to 10 Years	Mandatory
E4.	Replacing remote single-head with double-heads		Over 15 Years	Code Upgrade
E5.	Repairing exit signs to be operated during both emergency power and normal power		5 to 10 Years	Mandatory
E6.	Relocating a photo luminescent exit sign above the door		Not Determined	Mandatory
E7.	Removing signs above manual pull stations		Not Operational	Desirable

4.3 Probable Costs (Also see Appendix D)

Item	Description	Cost
E1.		\$ 1,000
E2.		\$ 10,000
E3.		\$ 2,750
E4.		\$ 6,750
E5.		\$ 8,750
E6.		\$ 1,000
E7.		\$ 500
Total		\$ 30,750

5 Maintenance

5.1 General

The importance of an effective maintenance program cannot be overlooked because it plays an important role in the continuing operation of the installed building systems. The main purpose of regular maintenance is to ensure that all equipment required for the running of the installed systems are operating at 100% efficiency at all times. Through short scheduled inspections, cleaning, testing and making minor adjustments, minor problems can be detected and corrected before they become major problems that can cause the failure of building systems.

Preventive maintenance is planned maintenance of building systems and equipment that is designed to improve equipment life and avoid any unplanned maintenance activity. The key to a successful maintenance program is schedule and execution. A preventive maintenance program contains elements of the following:

- .1 Non-destructive testing;
- .2 Periodic inspections;

- .3 Preplanned maintenance activities; and
- .4 Maintenance to correct deficiencies found through testing and inspections.

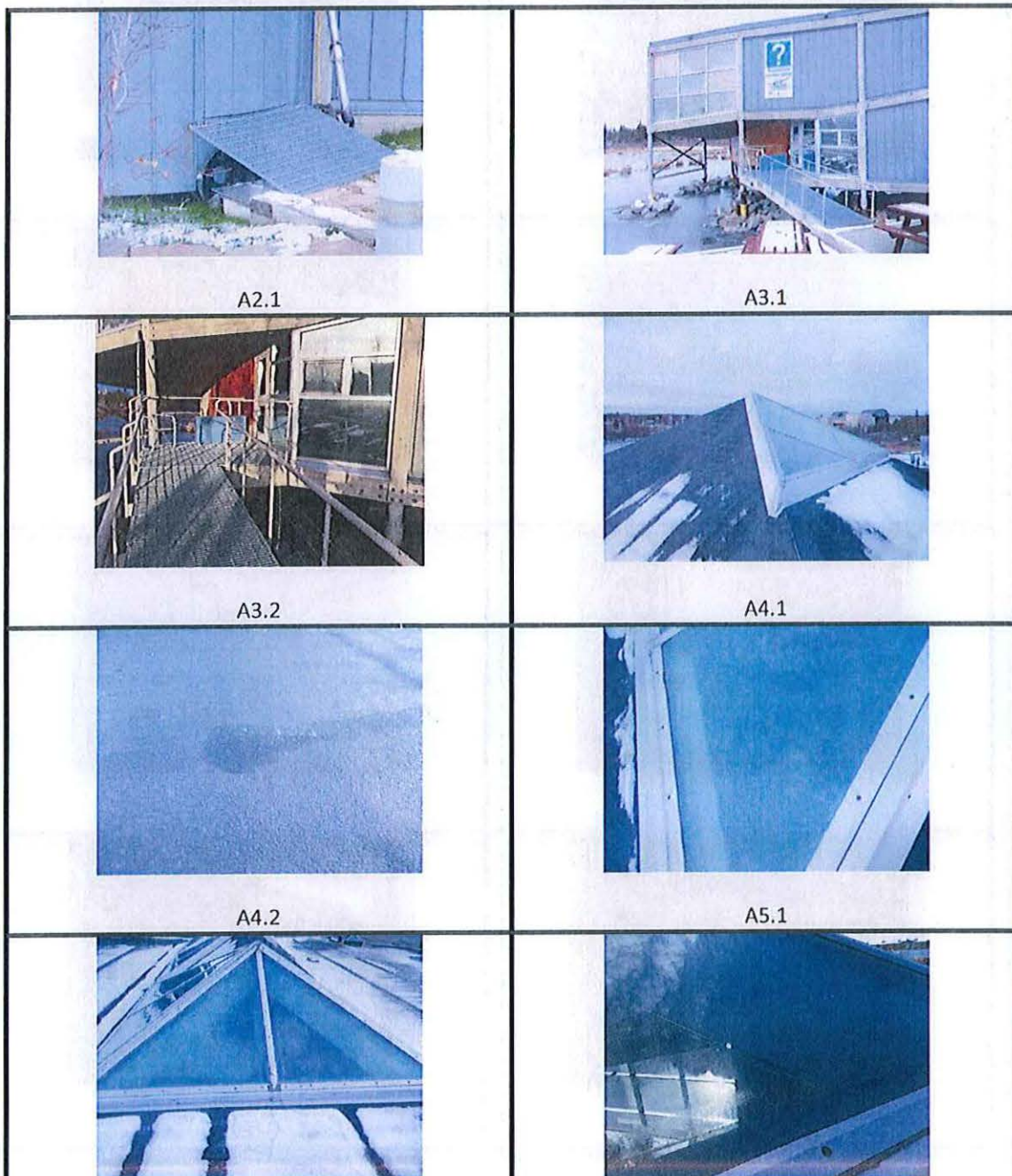
5.2 Deficiencies









Item	Issue	Image	Service Life	Action Priority
N1.	Puddle in walkway going to front entrance of building. Puddle is not desirable during summer (warmer) conditions. However a slipping hazard during winter (freezing) conditions. Site Grading/Drainage required.	N1.1, N1.2	N/A	Desirable
N2.	Crawl Space Door hatch in mechanical room. When door is opened there is a potential fall hazard to unknowing persons walking into Mechanical room. Warning Signage necessary.	N2.1	N/A	Desirable
N3.	Monthly Fire extinguisher checks not being completed as per NFC 2010N/NFPA 10-07 7.2.4.4 Records for manual inspections shall be kept on a tag or label attached to the fire extinguisher.	N3.1	N/A	Mandatory
N4.	Exit Signage not illuminated as bulbs are burnt out. Replace	N/A	N/A	Mandatory
N5.	Roof Top supply/return air system not in operation. Service disconnects "off" and main disconnects in mechanical room isolated "off". Air system unit shall be working and maintained. Investigate the reason why the unit is off. Repair as necessary.	N/A	N/A	Mandatory
N6.	Remove all door holdback devices on doors in fire separations. If hold back devices are required, magnetic devices can be installed that are integrated into the fire panel and that will release when the fire alarm is activated.	N6.1	N/A	Mandatory
N7.	Various Deck boards rotten around Facility boardwalk. All rotten boards should be repaired as soon as possible.	N7.1	N/A	
N8.	Storage around heating fuel oil tank should be relocated. Falling/slipping stored material into fuel lines can cause system leaking/failure.	N8.1	N/A	Desirable
N9.	Battery backup lights in downstairs bathrooms not working. Repair as necessary.	N/A	N/A	Mandatory
N10.	Exhaust Fan in Male washroom (1 st floor) has air flow in wrong direction. Fan orientation or motor direction will need to be checked. Repair as necessary	N/A	N/A	Mandatory






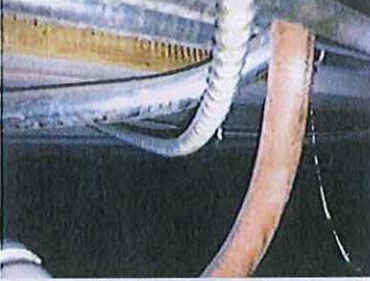


5.3 Probable Costs (Also see Appendix D)






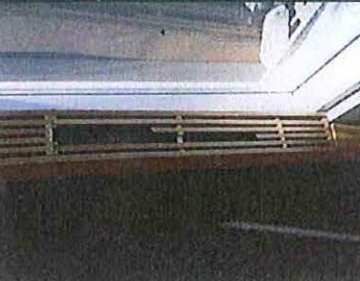
Item	Description	Cost
N1.		\$ 5,750
N2.		\$ 1,800
N3.		\$ 1,000
N4.		\$ 3,750
N5.		\$ 12,200
N6.		\$ 16,500
Total		\$ 41,000

6 Pictures and Images



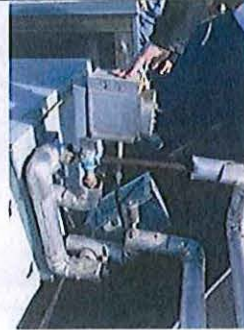
<p>A5.2</p> 	<p>A5.3</p> 
<p>A6.1</p> 	<p>A6.2</p> 
<p>A7.1</p> 	<p>A7.2</p> 
<p>A9.1</p> 	<p>A10.1</p> 

 <p>A11.1</p>	 <p>A11.2</p>
 <p>A12.1</p>	 <p>A13.1</p>
 <p>A13.2</p>	 <p>Entrainment tubing utilized in the In-Floor Heating System</p> <p>M1.1</p>
 <p>3-way valve used to reset the fluid temperature for the in-floor heating system</p> <p>M1.2</p>	 <p>Header for the Primary Heating Circuit</p> <p>M2.1</p>

 <p>Primary heating circuit pumps</p> <p>M3.1</p>	 <p>Injection point for the Biomass Boiler into the primary heating circuit prior to the oil fired boilers</p> <p>M3.2</p>
 <p>Heat exchanger on the Biomass Boiler system</p> <p>M5.1</p>	 <p>3-Way diverting valve on biomass system prior to the heat exchanger</p> <p>M6.1</p>
 <p>Perimeter convector cabinets</p> <p>M7.1</p>	 <p>Perimeter convector cabinets</p> <p>M7.2</p>



Rooftop Air Handling Unit
M9.1



Heating coil on the roof top AHU
M9.2



Ventilation grilles in the second floor board room
M10.1



Capped ductwork from the second floor ventilation grilles
M10.2



Painted sprinkler head
M11.1











Water service entrance
M13.1



Water service entrance
M13.2



High temperature controller and operating controller for the oil fired boiler
M15.1

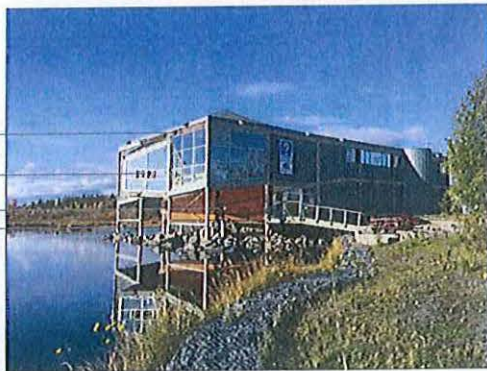
 <p>Low temperature alarm on the Heating water retron piping</p> <p>M15.2</p>	 <p>Local space temperature controller (thermostat)</p> <p>M16.1</p>
 <p>Puddle at front entrance</p> <p>N1.1</p>	 <p>Puddle at front entrance</p> <p>N1.2</p>
 <p>Crawls space access hatch</p> <p>N2.1</p>	 <p>Fire extinguisher checks</p> <p>N3.1</p>
 <p>Door hold back devices</p> <p>N6.1</p>	 <p>Rotten deck timbers</p> <p>N7.1</p>



Storage in and around fuel oil tank
N8.1

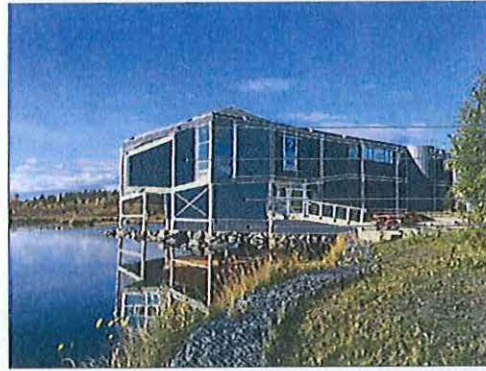
Appendix A

Conceptual Views of the Exterior



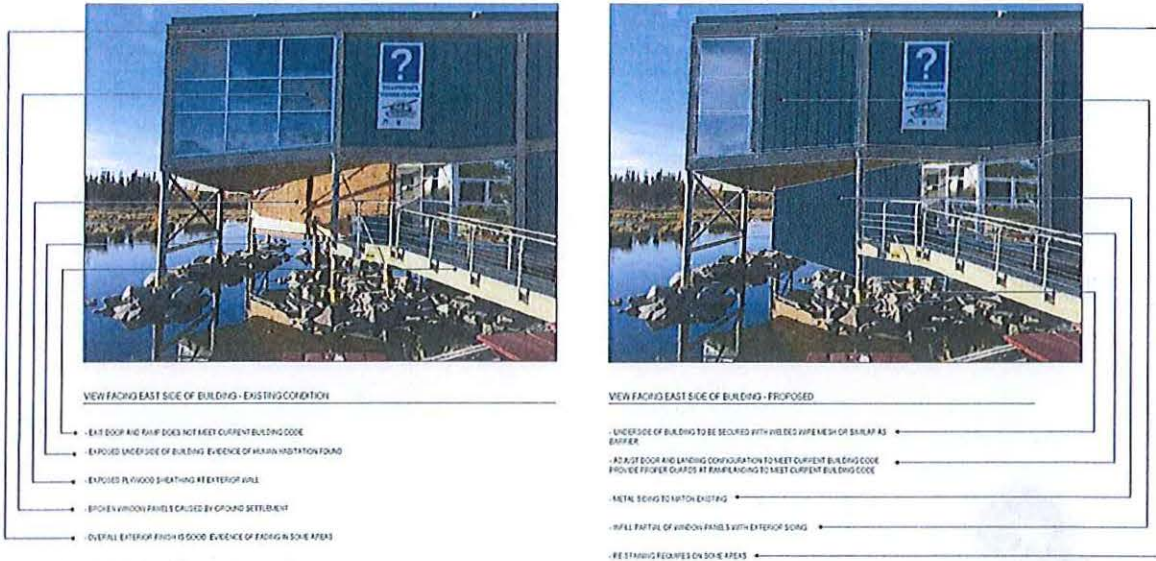
VIEW FACING SOUTH SIDE OF BUILDING - EXISTING CONDITION

- EXPOSED UNDERSIDE OF BUILDING. EVIDENCE OF MOAN HOISTATION FOUND
- EXPOSED PL WOOD SHEATHING AT EXTERIOR WALL
- BROKEN WINDOW PANELS CAUSED BY GROUND SETTLEMENT
- OVERALL EXTERIOR FINISH IS GOOD. EVIDENCE OF FINISH IN SOME AREAS



VIEW FACING SOUTH SIDE OF BUILDING - PROPOSED

- UNDERSIDE OF BUILDING TO BE SECURED WITH WELDED WIRE MESH OR SIMILAR AS BARRIER
- METN, SONG TO MATCH EXISTING
- REPAIR PARTIAL OF WINDOW PANELS WITH EXTERIOR SONGS
- RE STAINING REQUIRED ON SOME AREAS

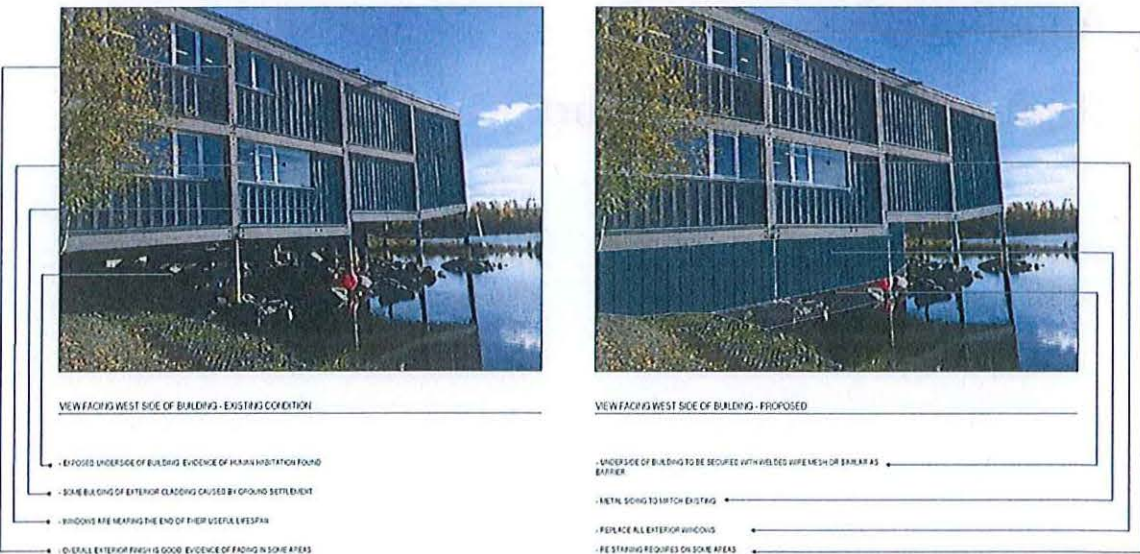


VIEW FACING EAST SIDE OF BUILDING - EXISTING CONDITION

- EAST DOOR AND RAMP DOES NOT MEET CURRENT BUILDING CODE
- EXPOSED UNDERSIDE OF BUILDING - EVIDENCE OF HUMAN NESTING FOUND
- EXPOSED PLYWOOD SHEATHING RE EXTERIOR WALL
- BROKEN WINDOW PANELS CAUSED BY GROUND SETTLEMENT
- OVERALL EXTERIOR FINISH IS GOOD - EVIDENCE OF FACING IN SOME AREAS

VIEW FACING EAST SIDE OF BUILDING - PROPOSED

- UNDERSIDE OF BUILDING TO BE SECURED WITH WILDED WIRE MESH OR BARRIAR AS BARRIER
- ADJUST DOOR AND LANDING CONFIGURATION TO MEET CURRENT BUILDING CODE - PROVIDE PROPER GUARDS AT RAMP/LANDING TO MEET CURRENT BUILDING CODE
- METAL SCISSOR TO MATCH EXISTING
- REPLACE PARTIAL OF WINDOW PANELS WITH EXTERIOR SCISSOR
- RE-STAKING REQUIRES ON SOME AREAS



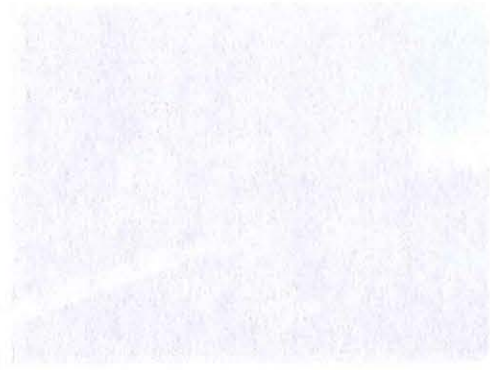
VIEW FACING WEST SIDE OF BUILDING - EXISTING CONDITION

- EXPOSED UNDERSIDE OF BUILDING - EVIDENCE OF HUMAN NESTING FOUND
- SOME BUCKLING OF EXTERIOR GLAZING CAUSED BY GROUND SETTLEMENT
- WINDOWS ARE NEARING THE END OF THEIR USEFUL LIVESPAN
- OVERALL EXTERIOR FINISH IS GOOD - EVIDENCE OF FACING IN SOME AREAS

VIEW FACING WEST SIDE OF BUILDING - PROPOSED

- UNDERSIDE OF BUILDING TO BE SECURED WITH WILDED WIRE MESH OR BARRIAR AS BARRIER
- METAL SCISSOR TO MATCH EXISTING
- REPLACE ALL EXTERIOR WINDOWS
- RE-STAKING REQUIRES ON SOME AREAS

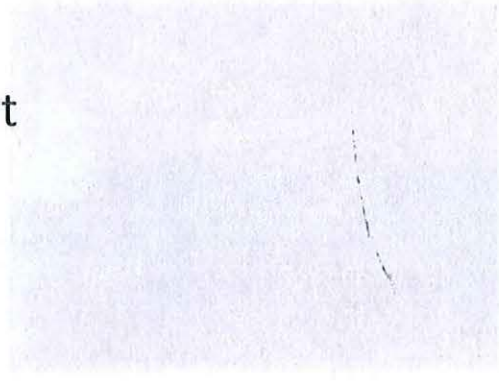
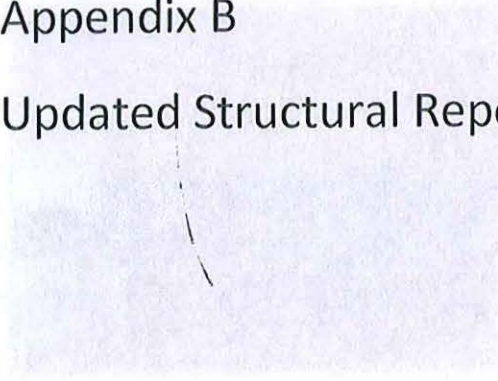




Northwest Territories Public Works and Services

Technical Service Evaluation

Appendix B Updated Structural Report



December 18, 2015

Our File: 2013-9050-0110

Mr. Vince Barter, Senior Architectural/Structural Technical Officer
Facility Management Section
Asset Management Division
Public Works and Services
Government of the NWT
PO Box 1320
Yellowknife, NT
X1A 2P1

Dear Mr. Barter,

**Northern Frontier Visitors Association (NFVA) Building
Yellowknife, NT**

The purpose of this report is to summarize a brief history of our involvement in this project and outline a recommended course of action for ongoing anticipated maintenance.

We were approached by the Board of the NFVA in October 2013 to provide a proposal for an engineering evaluation and report to address concerns of the building users regarding distortion and movement of the building.

We were provided with plans from the original construction as well as other reports from other consultants (Williams Engineering Canada Inc., Maskwa Engineering Ltd.)

The building was constructed circa 1990. The foundation consists of cast in place concrete walls and pilasters anchored to bedrock for the north half of the building while the south half (partially within water) is supported on steel pipe piles.

Page 1 of 3

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Phone: 867-669-6793
Fax: 866-246-1636
e-mail: info@structureall.com
Internet: www.structureall.com

The problems within the building can be attributed to jacking of the steel pipe piles. A mechanical heating loop system was installed as part of the original construction. This system looped heating lines in and out of a number of steel pipe piles. To our knowledge, this system has been ineffective. There were no records available of the pile installation from the original construction.

Over a course of 23 years of occupancy, forces acting on the surface area of embedded steel pipe piles have resulted in considerable damage to the wood framing.

We initiated a site investigation and exposed areas of the wood framing we could see have been affected. This was particularly obvious along the ramp leading from the main floor to the second floor. We estimated the midpoint of the ramp to have jacked 6-8". When we exposed the face of the underlying framing, we discovered the glulam beam had failed.



Figure 1: Failed Glulam Beam supporting ramp, installation of substitute wide flange steel beam at lower elevation. This scheme permitted us to remove sections of the original steel pipe pile. Having removed approximately 7" of the intermediate pile, the gap between the broken glulam beam and the steel beam was filled in with a load bearing wall assembly. The surface was sheeted with plywood and covered with galvanized cladding consistent with the original design.

Some parts of the glulam framing around the elevator shaft were also found to have failed. The elevator has been out of service for several years.

At some time following the original construction, one of the steel pipe piles was abandoned and replaced with a twin wide flange steel transfer beam to adjacent piles. There were no records of this remedial repair.

We initiated a series of minor adjustments over a period of time which allowed us to sequentially remove portions of the original steel pipe piles. This process was repeated around parts of the building.

Copies of relevant plans and reports are attached to this report for your information.

We installed a steel beam under the broken glulam beam supporting the ramp. We added some angle bracing along the elevation facing the water.

This winter, we plan to be back on site to install an adjustment mechanism for the intermediate pile supporting the ramp leading to the second floor.

Continued monitoring, adjustments and remedial maintenance activity is expected. We recommend an annual budget allowance of \$15,000 be identified for pile level surveys, materials, equipment, labor and project management services to permit ongoing adjustments to pile heads.

Should you have any questions or require clarification on any aspect of this report, please call or contact us at your convenience.

Respectfully submitted,

Philip D. Nolan, P. Eng.
Structural Engineer

Attachments

Appendix C

Recommended Maintenance Program

Appendix D

Cost Estimate

Revision: 1.
 Date: 03 March 2016
 Prepared by: Keith O'Neill

NFVC: Northern Frontier Visitor Centre.
 Based on the Technical Service Evaluation, Dated 03 March 2016.

1.1 Opinion of Probable Costs

The costing prepared for this report is for budgetary purposes only. Probable costs completed during the evaluation have been based on preliminary information that may not include all necessary information and may also include factors over which PWS has no control.

Unless otherwise noted, costing information does not include GST, engineering fees, and testing & commissioning fees. Costs are based on 2015 Dollars and assume all the work elements are completed in one phase while the NFVC is closed. The estimates do not include allowances for loss of revenue, or related "soft costs" to the building Owner or tenants as a result of the work.

The estimates are based upon the present extent of the work deemed recommendable, using unit prices obtained during recent construction seasons from other local and national projects of a similar size and scope. Budget ranges are provided to reflect potential seasonal variations in pricing due to Contractor's workloads and the local economic climate at time of bidding.

NOTE: No allowance for costs associated with Hazmat testing or Remediation!

Architectural Total	\$600,500.00
Mechanical Total	\$260,000.00
Electrical Total	\$30,750.00
Maintenance Total	\$41,000.00
TOTAL	\$932,250.00

1 Architectural/Structural

1.1 Deficiencies

Item	Issue	Image	Service Life	Action Priority
A1.	Insufficient distance between exits on main floor (NBC 3.4.2.) South main floor exit is blocked.		Not Applicable	Mandatory
A2.	Provide landing for exit door from stairwell	A2.1	Not Applicable	Mandatory
A3.	Provide guards conforming to NBC for south exit landing and ramp.	A3.1 – A3.2	Not Operational	Mandatory
A4.	Apply new top sheet over existing granular roofing membrane.	A4.1 - A4.2	5 to 10 Years	Desirable
A5.	Replace 4 sealed units in skylights	A5.1 – A5.3	0 to 5 Years	Desirable
A6.	Replace all exterior windows	A6.1 - A6.2	Zero Years	High
A7.	Provide cladding for lower south wall adjacent to south exit	A7.1 – A7.2	Not Applicable	High
A8.	Stain/paint exterior heavy timber members	A8.1 – A8.2	0 to 5 Years	Desirable
A9.	Upgrade crawlspace thermal barriers to not less than RSI 3.5	A9.1	Not Applicable	Desirable
A10.	Repair/upgrade vapour barrier in crawlspace	A10.1	Zero Years	High
A11.	Insulate floor above crawlspace	A11.1 – A11.2	Not Applicable	Desirable
A12.	Adjust exterior door from exit stairwell	A12.1	Not Applicable	Moderate
A13.	Repair and/or upgrade interior finishes	A13.1 – A13.2	Not Operational	High
A14.	Structural Upgrades: supply + install of hydraulic jacks Includes Engineering + Project Management Services		Not Applicable	High

1.2 Probable Costs

Item	Description	Cost
A1.		\$9,500.00
A2.		\$1,750.00
A3.		\$3,250.00
A4.		\$157,500.00
A5.		\$22,500.00
A6.		\$190,000.00
A7.		\$32,000.00
A8.		\$8,500.00
A9.		\$16,000.00
A10.		\$4,000.00
A11.		\$40,000.00
A12.		\$3,000.00
A13.		\$25,000.00
A14.		\$87,500.00
	Architectural Total	\$600,500.00

2 Mechanical

2.2 Deficiencies/Issue

Item	Description	Image	Service Life	Action Priority
M1.	In-floor distribution tubing failing. Require entire in-floor heating system to be abandon and replaced with alternate heating terminal units	M1.1, M1.2	Zero Years	High Priority
M2.	Heating system distribution reconfigured to Primary/Secondary to increase efficiency.	M2.1	10 to 15 Years	Desirable
M3.	Provide variable flow pumping to secondary circuit	M3.1, M3.2	10 to 15 Years	Desirable
M4.	Replace fuel oil heating water boiler.		10 to 15 Years	None
M5.	Provide flow balancing stations on Biomass Heating System	M5.1	5 to 10 Years	Desirable
M6.	Remove 3-way Diverting valve on HWS to Biomass Heat Exchanger	M6.1	5 to 10 Years	Desirable
M7.	Refurbish existing architectural convector cabinets with new top and linear bar grilles.	M7.1, M7.2	0 to 5 Years	Desirable
M8.	Provide annual heating fluid testing		Not Determined	Desirable
M9.	Replace/refurbish ventilation unit complete with new distribution system	M9.1, M9.2	Zero Years	High Priority
M10.	Provide ventilation to board room	M10.1, M10.2	Zero Years	High Priority
M11.	Replace painted sprinkler heads in crawlspace	M11.1	10 to 15 Years	Mandatory
M12.	Replace corroded sprinkler head		10 to 15 Years	Mandatory
M13.	Provide proper backflow prevention on sprinkler system	M13.1, M13.2	10 to 15 Years	High Priority
M14.	Replace existing DHWH with electric/indirect combination.		5 to 10 Years	Desirable
M15.	Provide new microprocessor boiler controller	M15.1, M15.2	10 to 15 Years	Desirable
M16.	Provide programmable thermostats	M16.1	5 to 10 Years	Desirable
M17.			Service Life	Priority.

2.3 Probable Costs

Item	Description	Cost
M1.		\$33,750.00
M2.		\$10,625.00
M3.		\$3,750.00
M4.		\$18,750.00
M5.		\$8,000.00
M6.		\$3,750.00
M7.	L/S	\$12,000.00
M8.		\$2,000.00
M9.	new AHU, 2800 L/S	\$68,750.00
M10.		\$12,750.00
M11.		\$2,500.00
M12.		\$2,500.00
M13.		\$12,750.00
M14.	Domestic, 600kw peak	\$55,000.00
M15.		\$8,125.00
M16.		\$5,000.00
M17.	N/A	\$0.00
Mechanical Total		\$260,000.00

3 Electrical

3.1 Deficiencies

Item	Issue	Image	Service Life	Action Priority
E1.	GFCI receptacles located within 1.5 m from sinks		Over 15 Years	Code Upgrade
E2.	Replacing track light fixtures with incandescent bulbs with LED in exhibition and sale areas		10 to 15 Years	Desirable
E3.	Replacing two stand-alone emergency lighting packages		5 to 10 Years	Mandatory
E4.	Replacing remote single-head with double-heads		Over 15 Years	Code Upgrade
E5.	Repairing exit signs to be operated during both emergency power and normal power		5 to 10 Years	Mandatory
E6.	Relocating a photoluminescent exit sign above the door		Not Determined	Mandatory
E7.	Removing signs above manual pull stations		Not Operational	Desirable

3.2 Probable Costs

Item	Description	Cost
E1.	L/S	\$1,000.00
E2.	6 No. fixtures	\$10,000.00
E3.	2 No.	\$2,750.00
E4.	5 No.	\$6,750.00
E5.	4 No.	\$8,750.00
E6.	1 No.	\$1,000.00
E7.	L/S	\$500.00
Electrical Total		\$30,750.00

4 Maintenance

4.1 Deficiencies

Item	Issue	Image	Service Life	Action Priority
N1.	Puddle in walkway going to front entrance of building. Puddle is not desirable during summer (warmer) conditions. However a slipping hazard during winter (freezing) conditions. Site Grading/Drainage required.	N1.1, N1.2	N/A	Desirable
N2.	Crawl Space Door hatch in mechanical room. When door is opened there is a potential fall hazard to unknowing persons walking into Mechanical room. Warning Signage necessary.	N2.1	N/A	Desirable
N3.	Monthly Fire extinguisher checks not being completed as per NFC 2010N/NFPA 10-07 7.2.4.4 Records for manual inspections shall be kept on a tag or label attached to the fire extinguisher.	N3.1	N/A	Mandatory
N4.	Exit Signage not illuminated as bulbs are burnt out. Replace	N/A	N/A	Mandatory
N5.	Roof Top supply/return air system not in operation. Service disconnects "off" and main disconnects in mechanical room isolated "off". Air system unit shall be working and maintained. Investigate the reason why the unit is off. Repair as necessary.	N/A	N/A	Mandatory
N6.	Remove all door holdback devices on doors in fire separations. If hold back devices are required, magnetic devices can be installed that are integrated into the fire panel and that will release when the fire alarm is activated.	N6.1	N/A	Mandatory
N7.	Various Deck boards rotten around Facility boardwalk. All rotten boards should be repaired as soon as possible.	N7.1	N/A	
N8.	Storage around heating fuel oil tank should be relocated. Falling/slipping stored material into fuel lines can cause system leaking/failure.	N8.1	N/A	Desirable
N9.	Battery backup lights in downstairs bathrooms not working. Repair as necessary.	N/A	N/A	Mandatory
N10.	Exhaust Fan in Male washroom (1st floor) has air flow in wrong direction. Fan orientation or motor direction will need to be checked. Repair as necessary	N/A	N/A	Mandatory

