Earth Sciences Centre for The Town of Bancroft
Final Master Plan Report
25 May 2016

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Executive Summary

The Earth Sciences Centre Study (RFP 2015-01) set out to assist the Town of Bancroft in defining an achievable path for the establishment of a new earth sciences based tourist destination in North Hastings building on the Town's status as "the Mineral Capital of Canada." The Phase One Report for this project, dated 12 January 2016, sought to "establish the parameters for an Earth Sciences Centre (ESC)"[1] defining its development context, its stakeholders, the education and tourism values of the Centre to the Community, and the potential impact of the Centre on the life and economy of Bancroft and North Hastings.

In considering the parameters for the Earth Sciences Centre many factors were researched and put forward in the Phase One Report for Client consideration and direction. The Phase One Report included a Background Scan (detailing background research consulted), Environmental Scan (a comparable analysis of like-minded institutions), Stakeholder Analysis (interviews with 25+[2] local and regional stakeholders), Community Partnership Analysis (review of community support) and a Site Analysis (identification of 12 possible sites). The Phase One Report permitted the Client Team to review, consider, and find agreement with the options put forward, allowing the Consulting Team to proceed with developing Programme Concepts and measured recommendations for the implementation of the ESC programme in Final Report.

After discussion with the Client, the Consulting Team was asked to recommend vision/mission/value statements, a mode of operations, a legal structure, a defined expectation for size and capital budget, and agreed thematic content for the visitor experience without reference to any physical site. As well, the Town emphasized the importance of the mineral story to the Algonquin peoples and encouraged the Team to ensure that the link between the geology and the First Peoples was present and respected in the experience. The Final Report addresses these directives.

The final dialogue and resolution of the discussions around this Draft Report allowed the Final Master Plan Report to address "a business development framework, for an Earth Sciences Centre...outlining the facility size, space, amenities, programming and academic component(s) and providing direction on ownership, governance and staffing."[3]

This Study could not have been undertaken without the active support of the community members who agreed to be interviewed, and the Town of Bancroft staff, who provided context, direction, and insight. We particularly recognize the assistance of Hazel Lambe and Robin Tait for their many contributions.

[1] Earth Sciences Centre for the Town of Bancroft, RFP 2015-01, 2. Throughout this document, the Bancroft Earth Sciences Centre is referred to as the ESC or the Centre.

[2] Interview with Christine Luckasavitch, Economic Development Officer, Algonquins of Ontario Consultation Office March 15, 2016.

[3] Earth Sciences Centre for the Town of Bancroft, RFP 2015-01, 2-3.

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1. Vision, Mission, and Value Statements

1.1 Institutional Context

The Town of Bancroft has a unique geological story to tell, one that involves violent upheavals, collisions driven by incalculable natural forces, and spectacular continental crashes! Over a billion years ago, land masses collided to become the continent of Laurentia, North America's primordial continent. Hundreds of millions of years later, Earth's continents collided again to form the single super continent Rodinia with a central mountain range to rival the Himalayas, the Grenville Mountains. These ancient continents and their descendants form the very ground upon which Bancroft stands today; and deep beneath the Town lie the rocks that document this fascinating story. There are many stories to be told rooted in the very beginnings of the formation of North America as we know it today; and these stories all have incredible potential to engage the hearts, minds, and wonder of all.

The landscape of the Town of Bancroft and its surrounding areas tells the fascinating story of planetary plate tectonics, of intense volcanic activity, and natural forces capable of raising mountains and then eroding them to sand. The landscape shows how frequent periods of glaciation have scoured the land, seen most dramatically in the shapes of the lakes and valleys around Bancroft which are the physical remnants of the last continental glaciers in the Bancroft area over 10,000 years ago. The above is all part of our Canadian geo-heritage.

Bancroft is ***nationally and internationally known*** for mineral exploration and geological discovery:

- With over 1600 different mineral species identified in the region, the area has been famous among collectors and museums since the late 1800s, producing world-class specimens of many different minerals. The quality, variety and accessibility of these minerals were the reason behind Bancroft's mining heyday in the 1950s and 60s.

- The Bancroft area offers a multitude of options for mineral exploration for exploring families, novice rock collectors, or professional geologists attracted by plentiful and accessible sites and special events in the region.

- The Town is well-known for hosting the annual Rockhound Gemboree®, Canada's largest gem and mineral show, which attracts thousands of domestic and international visitors.

- Bancroft is an important leisure and cultural centre for festivals and services during the high season periods -- making it a hub for a wide range of visitors.

- Bancroft is also a centre for hunting, hiking, camping, cottages and snowmobiling -- increasingly outside of the high season and into fall and winter seasons.

As the recognized "Mineral Capital of Canada," it just makes sense for Bancroft to be home to an Earth Sciences Centre. Simply put, Earth Sciences or Geosciences is an all-encompassing term that refers to the fields of science dealing with planet Earth. It is the branch of science dealing with the physical constitution of the Earth and its atmosphere, including various branches including, but not limited to, geology, oceanography, and meteorology. Aspects of the region's geology are touched upon elsewhere

in institutions such as the Ontario Science Centre or Dynamic Earth – The Big Nickel, but Bancroft sits upon the very rocks that are so geologically important to unfolding the story of the continent's very beginnings!

An Earth Sciences Centre in Bancroft has the potential to be about more than rocks – it has the potential to be multi-faceted. The region's geological story is peppered with diverse cultural references through the ages from First Nations geo-cultural heritage to pioneer settlement economies to present day mining and forestry. Such strongly-rooted cultural references weave and convey rich and varied stories which need to be told through traditional and non-traditional interpretive elements helping all visitors establish meaningful connections; and these stories need to be told through traditional and non-traditional interpretive elements helping all visitors establish meaningful connections. It will require considered, engaging, and thoughtful experiences that tie together and reveal the importance of this story to local residents, regional visitors, and tourists from around the world.

For this Report, our goal and objective was to develop a realistic and implementable foundation for the planning of an Earth Sciences Centre in Bancroft – one that was reasoned and self-sustaining. As with any new such facility, we must ensure that the planning and development process results in a vibrant and unique community asset while ensuring that all is safeguarded in a fiscally responsible and managerially accountable environment.

An Earth Sciences Centre in Bancroft cannot be isolated as a stand-alone facility. To improve the chances for success, it must be integrated into and aligned with town, regional, provincial and local business initiatives. Too often in the past in many communities, heritage and culture has been relegated to a segregated "specialist" activity largely disconnected with what is happening around them. In truth, alignment with other levels of government, non-governmental organizations and the private sector can leverage support and create a more positive environment necessary to support a successful not-for-profit initiative. It is imperative that the Earth Sciences Centre in Bancroft link directly and visibly into the local and regional cultural and business economy. An objective of the Earth Sciences Centre must be to generate opportunities for capital input into the local and regional economy, leveraging Bancroft's reputation as the Mineral Capital of Canada as a capital asset.

1.2 Institutional Fundamental Statements

Clearly defined Vision, Mission, and Value statements are critical to guiding what an organization does and how it conveys what it does to the public, its stakeholders, and its constituency.

Setting Vision, Mission, and Values allows an organization to test new opportunities and on-going programmes against a set of agreed upon institutional standards. These standards are the cornerstones for developing new programmes and are key to the institution's targeted success with its messaging efforts.

Succinct and clear Vision, Mission, and Value statements are particularly critical for Bancroft's Earth Sciences Centre because, as a new organization, it must establish itself as a vibrant, engaging, and unique community asset for Bancroft and Hastings County. Capturing the organization's essence within the Centre's Vision, Mission, and Values lays the strategic framework for significant success.

In the Phase One Report, three options were put forward for the ESC's potential Vision and Mission statements. Based upon discussions to date with the Client team, MPP is proposing the following fundamental statements for the ESC for the Client's final approval:

1.2.1 **Vision**: What we aspire to become.

In general, a Vision statement provides a word picture of what the organization aspires ultimately to become – which may be 5, 10, or 15 years in the future. The Vision statement describes the impact the Centre aspires to make in the world or in the community it is serving. It is a short, succinct, and inspiring statement all-inclusive, forward-thinking, and broad in its scope.

MPP is recommending the following Vision statement for the ESC:

Vision Statement: *To be the world leader showcasing Bancroft as the Mineral Capital of Canada, interpreting and communicating globally the region's internationally significant geological history.*

Considered, engaging, and thoughtful experiences that connect and reveal the importance of all aspects of the region's geological story will be key to attracting local residents, regional visitors, and tourists from around the world and cementing the ESC's reputation as an international leader in earth sciences interpretation.

1.2.2 **Mission**: Why we exist.

A Mission statement defines why the organization exists, its core purpose. It states concisely the objective or raison d'être of the Centre, the essential purpose(s) for which is exists. The Mission is never fully realized but is a beacon constantly pursued. A Mission statement must be simple and strong and it must be aspirational and it must be easily quotable by all who represent the institution -- staff, volunteers, and partners. Our recommended Mission statement is as follows:

Mission Statement: *To provide engaging, life-long educational, science-based experiences showcasing Bancroft's importance in communicating the Earth's geological history to a local and global audience.*

The Centre's Mission statement outlines the reason why the Centre exists. It describes what the organization will do, who they will do it for and why the organization does what it does.

1.2.3 **Values**: What we stand for.

Values define the traits or qualities that the organization considers core principles. They are the timeless principles that guide an organization, an open proclamation of how the organization expects staff and volunteers to carry out the Vision and Mission. Values are guiding beliefs about how things should be done. An institution's Value statements should be the traits or qualities considered to be core operating principles. Values represent the essence of an organization that do not change over time.

As a new organization, we recommend the following six core Values for the Bancroft Earth Sciences Centre:

Innovation: We deliver innovative programmes, activities, and events promoting long-life learning that attract and engage diverse audiences.

Responsiveness: We are responsive to the needs of our residents, communities and visitors in developing our programmes and offerings.

Partnership: We value partnerships with our community stakeholders and constituents.

Transparency: We are open and accountable for our actions and we uphold the principles of good governance in how we address the challenges and opportunities faced in achieving our Vision and Mission.

Financial and Social Sustainability: We operate within a balanced budget to secure the necessary operating and capital resources to achieve the Centre's mission and to ensure long-term financial sustainability. We will contribute to the appeal of Bancroft to visitors and the World as well as enhancing the quality of life of its residents.

Respect: We respect the belief systems and values of our visitors, staff, and volunteers and their cultures.

2. Visitor Profiles

Much work has been done in studies[4] and reports[5] identifying and analyzing the resident, seasonal, and tourist markets for Bancroft and its catchment area. Our goal for this Report is not to repeat this work but to apply key findings in our recommendations for identifying visitor profiles for the Bancroft Earth Sciences Centre. Who do we think will come to the Centre and why? Who would be our target audiences? What would their motivations be for coming and why would they return repeatedly? Once an institution understands who it wants its audience to be, only then can that institution begin to understand what channels most effectively reach that audience and how best to appeal to them on a variety of levels: intellectual, emotional, and behavioural. The outcome of such work will allow the ESC to provide an experience that does not just work for one audience, but can involve multiple audiences.

Audiences are central to achieving any museum's purpose. Museums have the mission to educate and inform; and to achieve this goal, they need audiences. As well, in order to be sustainable, museums need both the mission to educate and the resources to tell an engaging story with compelling displays which attract a diverse range of visitors. The bottom line is that attendance numbers matter and bear direct impact on an institution's funding, resources, its role in a community, and overall sustainability. But no museum can be everything to everybody; instead, a successful organization knows who it is serving and how to implement strategies to service those audiences to the best of its abilities. While each institution is unique, each institution also exists within the broader offering of educational and cultural leisure time activities offered in their area. Thus, each offering must be truly unique, neither repeating nor competing with existing or currently planned sister institutions. In heritage and cultural planning it is absolutely true that the whole is greater than its parts.

The ESC has to have an understanding of who it should be serving as its target audiences in order to:

- fulfill and achieve its Vision and Mission;
- create an appropriate environment that offers a range of appealing experiences targeted at the age and awareness of its audiences; and
- ensure effective, efficient, and responsible usage of its limited resources such as staff, space, and dollars.

Rather than having the attitude of 'If we build it, they will come!" the ESC cannot plan its exhibits and programmes for one and all, hoping that visitors will find something to their liking. To the contrary, the Centre should focus its resources to maximize the possibility of effectively serving those who by interest, education or awareness will find most value from its unique services. In the final analysis, the Centre must ensure the perceived value proposition for visiting the ESC, exceeds the value perceived in any other leisure time activity.

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[4] Lord Cultural Resources, Building Bancroft – Bancroft Heritage Centre, Draft Final Report, March 2010.

[5] EDA Collaborative Inc. and Sierra Planning and Management, Destination Bancroft! Tourism Development Strategy, Draft Final Report, May 2014.

Targeted planning for specific audiences is more effective than 'shotgun" planning for one large undifferentiated audience. Looking at target audiences means considering specific attributes and qualities that are salient to choosing involvement with the Centre's exhibits, programmes, and events as part of an individual's or family's leisure time activities.

2.1 Target Audiences

Bancroft and Hastings are already leveraging their geological assets as a primary tourism lure. As the country's Mineral Capital, Bancroft is already *the* destination for rockhounds; and it just makes sense to leverage the Town's current visitors and geo-enthusiasts as a core target audience for the Earth Sciences Centre.

While the ESC is not envisioned to be a strict science and technology centre like the Ontario Science Centre, the ESC will, nonetheless, have a distinctive scientific emphasis focused on the geosciences. Given what is known about the demographics of these visitors compared against the experiences that will be on offer at the ESC, we are recommending that we define the Centre's target audience groups as follows:

Tier	Target Audience Segments	Profile
Tier One	Rockhounds	These hobbyists are amateur geologists and mineralogists who enjoy honing their skills in the identification and classification of specimen rocks and minerals and preparing them for display. They are avid collectors.
	Geoscience Buffs	Geoscience Buffs have an appreciation of the diversity, complexity and significance of Earth's history with an emphasis on the importance of such knowledge to humanity.
	Dedicated Researchers	From both Canadian and American universities (and sometimes further) students and researchers come to the area to conduct fieldwork, usually at the graduate and post-graduate levels. This is a small but significant user group that will add to the intellectual authority and reputation of the ESC while potentially contributing new knowledge to its collections and programmes.

Tier	Target Audience Segments	Profile
Tier Two	Museum Goers	These tourists enjoy authentic engagement with real specimens and artifacts related to the mineral and mining heritage in which they can immerse themselves in the culture, people, and settings of Bancroft.
	School Groups	Local school children and their Educators interested in field trips because the facility supports and enhances the Provincial curriculum. This is also the target for stewardship messages meant to recruit future generations in advocacy activities.
Tier Three	Local Ambassadors	Those visitors with a vested interest in the community. Our Ambassadors will be the ESC's champions and vocal supporters. They are our word of mouth, Facebook and twitter enablers.

Table 1. Target Audience Segments

1. **Rockhounds**: Rock and mineral enthusiasts are a ready-made support base for the ESC. These avid collectors and hobbyists are already visiting Bancroft to experience the Town's geological assets first-hand; they are attending the Gemboree as either vendors or events goers and they are participating in collecting field trips throughout the region.

2. **Geoscience Buffs**: This group will be drawn to the story told by the very rocks upon which Bancroft sits – the story of plate tectonics. They will be most interested in the didactic displays and exhibits and the opportunities for hands-on learning.

3. **Dedicated Researchers**: These may come from as close as Trent University or the University of Toronto but in the past, scientists have come from as far as the US eastern seaboard and southern States. These groups stay for brief but intense periods of time and need access to equipment and materials for collecting, analysis, and documentation.

4. **Museum Goers**: Tourism is a significant contributor to the Town and County and Bancroft is seeking to transform itself into a distinctive tourist destination by buildings on its core attractors, namely rocks and minerals. As such, the ESC must tap into this all-important market and position itself as a "must-see" destination for all tourists (adults, families, tour groups) in the area.

5. **School Groups**: As an educational resource, the ESC must service local and regional students spanning primary grades to post-secondary. The Centre, with its educational mission, must cater to all school groups with particular emphasis placed on those grades where the Provincial curriculum best correlates to the Centre's content. School groups include all students regardless of their abilities (i.e. special needs and gifted) and their Educators/Teachers. Of special interest in this group are the

potential universities; the ESC could be a base for their field training programmes, becoming a key audience for international marketing opportunities.

6. **Local Ambassadors**: Building a base of local supporters and advocates is critical to most institutions. This important constituency will help spread positive word-of-mouth, become ESC supporters and donors, provide repeat visitation through programme attendance, and provide a volunteer base. This group includes local adults, local families, seniors and elders, business and cultural groups. These are the people our guests to the region will interact with and these are the people who will advise them, "if you are in the area, you really must see the ESC". This group also includes Seasonal Residents who make up 41% of households in North Hastings and on average each have 10 visitors alone, each year.[6]

The key characteristics of these target audience segments are as follows:

Target Audiences	Rockhounds & Geoscience Buffs	Dedicated Researchers	Museum Goers	School Groups	Local Ambassadors
They are seeking…	learning opportunities	learning opportunities	authentic engagement	learning opportunities	community-based events
They value…	increased knowledge and understanding	dissemination of new knowledge	self-improvement	enhancement of school results	civic/provincial pride
They will pay for….	immersive experiences	research facilities	hands-on, tangible experiences	hands-on, tangible experiences	fun, social activities
They prefer…	independent discovery	access to information and tools	guided discovery	guided and independent discovery	group experiences, social activities
They will travel for…	90 + minutes	90 + minutes and beyond	90 + minutes	30 to 60 minutes	30 minutes
They will stay for…	1 hour to half-day for a programme	1 to 4 weeks	1 hour to half-day for a programme	60 to 90 minutes	1 hour to half-day for a programme
They will visit…	variable depending on distance from facility	repeatedly over several years	Once	three times in their educational career	repeatedly (2-3 times per year)

[6] Seasonal Residents Survey for North and South Hastings, Final Report Fall 2013.

Target Audiences	Rockhounds & Geoscience Buffs	Dedicated Researchers	Museum Goers	School Groups	Local Ambassadors
They will buy….	samples, collector pieces, books, high-end souvenirs	supplies and equipment, lab and room rentals	books, high-end souvenirs, proprietary products, cards, posters, small reproductions	toys, books, novelty items, activity kits	little as they have access to other sources

Table 2. Key Characteristics

Serving defined audiences are central to any museum's purpose. The bottom line is that attendance numbers matter and bear a direct impact on an institution's sustainability. But no museum can be everything to everybody; instead, the successful organization knows who it is designed to serve and how to implement strategies to service those audiences. No two audience groups are alike. They come with different motivations and expectations; they have different values and life experiences; they have different levels of education and they learn in different ways.

3. Legal Structure

In the Phase 1 Report, the Consulting Team considered four options for organizing the ESC:

1. As a department of the Town of Bancroft (as a part of the Town budget and recreational programme).

2. As a contracted out programme of the Town of Bancroft (contracted by the Town to a separate legal entity as operator).

3. As a standalone not-for-profit association which is not a charity but is organized and operated exclusively for social welfare, civic improvement, pleasure, recreation, or any other purpose except profit.

4. As a standalone association with a registered charitable public organization created and resident in Canada, with the charitable purpose of advancing education, through life-long learning, and to provide public programmes of benefit to the community.

Museum Planning Partners is recommending Option #2 with the specific recommendation that the contracted operator be a new **registered public charitable organization created to carry out specific programmes and activities for the ESC and its partners. The Earth Sciences Centre organization would seek to operate its own non-profit business in the Town of Bancroft and Hastings County, Ontario as a register charity**.

Step 1: Founding the Association

The process of establishing ESC as a legal entity is straight forward and it can be done by anyone, but we recommend the process be facilitated by an experienced lawyer.

We also recommend the process start with creating the ESC Association and the naming of the first Board members (see Section 4 for further detail on governance). These individual volunteers would then create the constitution (or articles of incorporation) and by-laws for the organization. There are numerous tools available on-line to help this process[7],[8],[9]. The Constitution for the Earth Sciences Centre would speak of the purposes of the organization as the objectives that it is created to achieve; in the Centre's case, that would be **the advancement of education** by operating a museum/science centre providing Ontario curriculum-based and enrichment classes for school children and life-long learning classes for adults and their families, and providing awareness programmes for all visitors to the natural environment and resources of Ontario.

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[7] By-Law Builder, http://www.ic.gc.ca/eic/site/cd-dgc.nsf/eng/h_cs04734.html.

[8] Not-For=Profit Incorporator's Handbook, Ministry of the Attorney General, Ontario, http://www.attorneygeneral.jus.gov.on.ca/english/family/pgy/nfpinc/Not_for_Profit_Incorporators_Handbook_EN.html.

[9] Terrance S. Carter and Ryan M. Prendergast, Duties and Liabilities of Directors and Officers of Charities and Non-Profit Organizations, http://www.carters.ca/pub/article/charity/2011/tsc0329.pdf.

Step 2: Not-For-Profit Incorporation

The Association Board, with its constitution (articles of incorporation) and by-laws agreed internally, would then seek to create a non-profit *corporation* (a business) as a legal entity separate from its members and directors, both to limit the liability of the individual directors and to be better able to operate as a business and not simply as an association of interested persons. This incorporation process begins with[10] completing the *Canada Not-for-profit Corporations Act* (NFP Act) *FORM 4001 ARTICLES OF INCORPORATION, and the FORM 4002 - INITIAL REGISTERD OFFICE ADDRESS AND FIRST BOARD OF DIRECTORS (*both forms available on the web[11]*), securing* a Nuans Name Search Report, and payment of the filling fee. Once approved, the corporate entity will be assigned a business number and be free to operate as a business taking in monies, borrowing monies, signing contracts and agreements, and making payments. This ability as a legal entity to sign contracts is essential to the operation of the Centre as a viable business.

Step 3: Charitable Registration

Once the new corporation has a business number and the requisite documentation, the non-profit corporation may then apply to register as a charity with the Canada Revenue Agency[12]. Once approved, the Earth Sciences Centre (the not-for-profit business and registered charity) would have the right to provide tax receipts for donations to the mission of the ESC.

Step 4: Operations

The Town of Bancroft, having secured funding for a new Earth Sciences Centre, may acquire the property, construct the building, and provide building services using its own expertise and then hire the separate legal entity (the ESC registered charity) to operate the facility. The ESC charity could be engaged to oversee the planning of the Centre's galleries and exhibits, develop the Centre's public programmes, hire staff, and operate the facility as a year-round attraction and education centre in the County of Hastings.

As with any start-up operation, the possibility exists, however remote, for failure of the endeavour. For this reason, Museum Planning Partners advises the public protection of the two key assets of the project -- the building and its property (created by public funds) and the collections (created by private donation). We, therefore, recommend that the building and property be leased from the Town of Bancroft to the ESC organization in perpetuity. The lease would be for the legal minimum annual consideration and be irrevocable as long as the ESC charitable organization fulfills its charitable purposes.

Further, it is recommended that should any organization choose to support the ESC with the irrevocable long-term loan or gift of collections, that should the endeavour fail, these collections would revert to the original organization(s) or individuals or their designated successor organization(s); if no designation was specified by the original owners at the time of the loan or gift, then the collections would revert to the

[10] How to Apply for Charitable Registration, http://www.cra-arc.gc.ca/chrts-gvng/chrts/pplyng/htply-eng.html.

[11] http://strategis.ic.gc.ca/eic/site/cd-dgc.nsf/eng/cs04970.html#link1.

[12] How to Apply for Charitable Registration, http://www.cra-arc.gc.ca/chrts-gvng/chrts/pplyng/htply-eng.html.

Town of Bancroft. This approach would prevent the collections being used as collateral for a loan, sold or donated by the ESC organization to any third party.

This approach would mean that the ESC charitable organization would not own the ESC building, lands or collections but would be required to maintain and manage these assets for the public good and to use them for the charitable purposes for which the organization was created.

This approach is assumed in the Study's recommendation for Governance, Management, Operations and Programming.

4. Governance

"The word government is from a Greek word, which means "to steer". The job of government is to steer and not to row the boat. Delivering services is rowing, and government is not very good at rowing. … Steering requires people who see the entire universe of issues and possibilities and can balance competing demands for resources. Rowing requires people who focus intently on one mission and perform it well." E.S Savas[13]

Good governance is both an obligation and an opportunity to ensure that a public institution serves its constituents in the most effective manner possible. Good governance is instrumental in ensuring operational stability, guaranteeing accountability and transparency, defining and clarifying roles and functions, and in developing and strengthening relationships with staff, volunteers, community, and stakeholders.

Good governance requires a strong Board of Trustees fulfilling their roles as organization leaders and strong management ensuring the strategic goals and policies of the Board are efficiently and effectively implemented. It is a partnership of respect, each group understanding their roles in the organization. It is easy to confuse these roles, particularly in start-up organizations and smaller communities where human resources are scarce and people are used to performing multiple tasks at the same time. Organizations that are associated with an active volunteer enthusiasts or grassroots support base can have similar challenges where commitment to, and involvement with, content can be confused with responsible oversight.

Such problems must be avoided if the professional staff of the organization are to perform to capacity and the volunteer Board is to provide effective strategic decision making. Trustees are not managers and where this happens, trouble always arises. This is not to say that a volunteer Trustee may not also be a volunteer for some programme or event, but such tasks must be kept operationally separate. No individual Trustee has the right to direct any action by management that is the Director's job.

Governance is not simply a management tool or a management monitoring system, effective governance (in a partnership of Board and Management) can:

- Reduce risk.
- Improve communications and responsiveness.
- Enhance efficiency, effectiveness, and innovation through participatory partnerships of Board, Management, Volunteer Corps and Community.

[13] van der Waldt, Gerrit. Managing Performance in the Public Sector: Concepts, Considerations and Challenges, Juta and Co. Ltd. 2004, pg 5.

4.1 The Role of a Board

> *"All board members are fiduciaries who have the museum's collections, property, premises and resources in their care as assets in trust for present and future generations. By law, the board of trustees is publicly accountable for the museum's resources and activities, for the care of the museum's collection to professional standards, and for ensuring public access within the constraints of its security and preservation. The board's role is to set policies in consultation with staff for the effective administration of the museum, and to monitor adherence to these policies. Implementation of policies and development of internal practices is the role of professional staff."*[14]

There are numerous lists and arrangements of Board responsibilities on the web and in literature. For the purposes of this Report, the Consultant Team outlines below twelve key responsibilities drawn from a cross-section of published literature, e-literature and particularly from the extensive work of BoardSource in the United States, the National Council for Voluntary Organizations in the United Kingdom, the Canadian Museums Association, and Museums Australia.

The twelve key responsibilities of not-for-profit boards are as follows:

1. **Determine the organization's mission and purpose**. It is the Board's responsibility to create and regularly review the organization's statements that articulates its goals, means, and primary constituents served.
2. **Select and support the chief executive (Director).** Boards must undertake a careful search to find the most qualified individual for the position and then reach consensus on the executive limitations the Board will place on the CEO's responsibilities. Having made a selection and agreeing with the CEO on the CEO limitations, the Board must give its full moral and material support to the Chief Executive or remove him/her.
3. **Provide proper financial oversight.** The Board must approve the annual budget (whether non-profit or not-for-profit) and ensure that proper financial controls are in place. The Board should commission regular audits and demand and review quarterly statements of progress against the approved budget, noting and clarifying all variances of significance.
4. **Ensure the provision of adequate resources**. The Board's foremost responsibility is to secure adequate resources for the organization to fulfill its mission; this means using all of its collective and individual resources to ensure that the organization receives the public and private support it needs.
5. **Ensure legal and ethical integrity and maintain accountability.** The Board is ultimately responsible for ensuring adherence to legal standards and ethical norms.
6. **Ensure effective strategic planning.** Boards must proactively establish clear and measurable strategic goals and actively participate with management in monitoring progress against the plan's goals.

[14] Canadian Museum Association, Roles and Responsibilities of Museum Boards of Trustees, Canadian Art Directors Organization, Canadian Museum Association, Ottawa, 2005, pg 4-5.

7. **Recruit and orient new Board members and assess Board performance.** All boards have a responsibility to articulate prerequisites for candidates, orient new members about their role, and periodically and comprehensively evaluate their own collective and individual performance. A Board assesses itself in the sense that governance committee evaluates the performance of Board Trustees, usually on an annual basis.
8. **Enhance the organization's public standing.** The Board and its members should clearly express the organization's mission, accomplishments, and goals to the public and garner support from the community.
9. **Establish and monitor policies.** The Board must develop and approve organizational policies and, where policies are generated by management, ensure that such policies are consistent with Board policy. The Board should ensure all Trustees receive a copy of the organization's board policies as part of their orientation.
10. **Ensure accountability**. Beyond financial accountability, the Board is responsible to the community for all of the organization's actions and should regularly report first to the entire staff and volunteer corps and then to the community who may wish to attend a public meeting.
11. **Respect the role of management, staff, volunteers, and the community**. The Board must acknowledge the expertise and human dignity of its management, staff, volunteers, and the broader community, and they must be seen to be doing so.
12. **Organize their work to provide time and opportunity for discursive discussion**. The Board should organize its work such that there is sufficient time for the Board (or its committees) to adequately discuss and deliberate on the business brought to it by management or assigned to it by the Board Chair. The Board should seek to keep to a minimum the formality of Board meetings to ensure that the recommendations of the committees are fully presented and discussed, while respecting the need for structure in any board meeting if it is to be an effective use of members' time and talent.

4.2 Board Appointments

The average size of a North American not-for-profit board is eight members. The average American board meeting lasts 3.3 hours. All board members are equal in that all board decisions are collective decisions for which no individual member is more or less responsible regardless of their professional role in life or how a member joined the board.

Board members may be invited to join a board in three broad ways:

- **Appointed**: Most appointments by external agencies (like Town or County government) reflect an agency's responsibility to some form of oversight whereas board appointed members tend to reflect a need for a particular skill set on the board.
- **Ex-officio**: Members by reason of their role in another organization, frequently these positions reflect a legacy or an associated board, foundation or supporting organization alliance, like a founding organization.
- **Elected**: Some boards elect based upon recognition of the contribution of volunteers and elect members from that group; some boards elect directly from the community or segments of the community which the board feels have special skills to contribute to the discussions of the board.

There is no standard for the allocation of board positions by type of appointment and, in fact, these can change with the maturity of the board.

4.2.1 Attributes of a Successful Board Member

Bancroft and Hastings County have long standing traditions of volunteerism and members of communities serving successfully as board members and community stakeholders. The results of the stakeholder interviews revealed numerous informed and dedicated individuals who expressed an interest in serving with the ESC in a governance and/or support role.

In 1995, Lord Nolan (judge and first chairman of the United Kingdom's parliamentary committee on Standards in Public Life) examined the characteristics of those in public service and spoke eloquently of the attitudes which a public officer should have. These principles have been embraced by the not-for-profit sector for its board members.

- **Selflessness**: They should not act in order to gain financial or other benefits for themselves, their family, or their friends.
- **Integrity**: They should not place themselves under any financial or other obligation to outside individuals or organizations that might seek to influence them in the performance of their official duties.
- **Objectivity**: In carrying out public business, trustees should make choices on merit.
- **Accountability**: Trustees are accountable for their decisions and actions to the public and must submit themselves to whatever scrutiny is appropriate.
- **Openness**: Trustees should be as open as possible about all the decisions and actions they take. They should give reasons for their decisions and restrict information only when the wider public interest clearly demands.
- **Honesty**: Trustees have a duty to declare any private interests relating to their public duties and to take steps to resolve any conflicts arising in a way that protects the public interest.
- **Leadership**: Trustees should promote and support these principles by leadership and example.

4.3 Governance of the ESC

4.3.1 Board of Trustees

Given Museum Planning Partners' recommendation that the ESC be created as a registered charity (see Section 3) for the mission stated earlier (see Section 1.2.2), then it is MPP's recommendation that the ESC should have a Board of Trustees responsible for the twelve tasks identified in Section 4.1 above. A Board of Trustees is NOT a management board directing daily operations but a strategic, decision-making collective of persons passionate and committed to the success of the ESC.

The Board size and composition must reflect the Public and Operational Programmes adopted for the Earth Sciences Centre and its partner organizations.

We are proposing a Board of Trustees of seven (7) members composed as follows:

1. Chairperson: Elected by the Board for the term of their Board membership (collective leadership skills).
2. Appointed: Town of Bancroft (if the Town is a financial capital and sustaining partner).
3. Appointed: County of Hastings (if the County is a financial capital and sustaining partner).
4. Elected: By Bancroft Gem and Mineral Club (or its successor organization, in respect of their gift of collections). Should the BGM cease to participate, then the position should be appointed by the Board of Trustees seeking a person with subject expertise.
5. Three Appointed by the Board: Individual Community Members with demonstrated specific skills such as, but not limited to fundraising, government relations, business acumen or education.

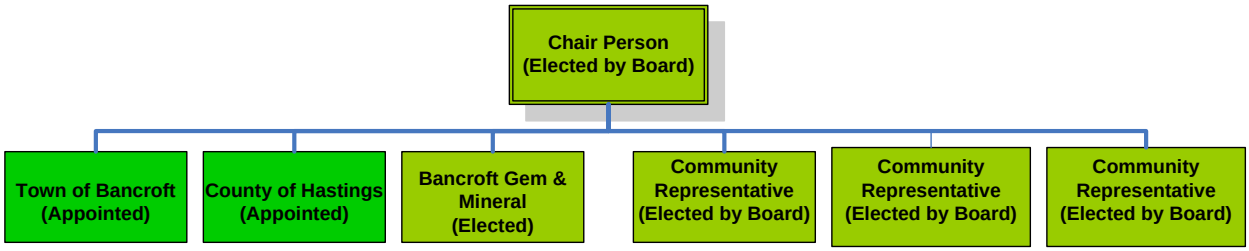


Chart 1. Board Structure

Board quorum for any official meeting will be a majority of Trustees (4 members).

All elected Trustees will serve a term of three years and will be eligible for two additional terms. Government appointed Trustees serve at the pleasure of their Town or County Council but should their appointee attend less than half the Board meetings in any given fiscal year, then the Board will have the right to recommend they consider another appointee. The appropriate Council will respectfully consider all such requests.

The Founding Board will be created by the appointment of the two Appointed Government Trustees plus the Elected Subject Expert, who will then recruit the Board Appointed Trustees. This group of four Trustees will then elect a Chair from among themselves. The last Trustees will then be appointed by the Founding Trustees themselves. Thereafter, the composition of the Board will be as recommended above.

Should a Trustee resign, or be unable to fulfill their duties for any reason, their position will be filled in the manner of the Trustee's membership (appointed or elected by the appropriate body), initially to complete the term of the Trustee. Such Trustees will, at the end of their initial partial term still be eligible to serve an additional two full terms as a Trustee.

The Board may, from time to time, establish committees to focus Board attention on specific issues but it will at all times have an Executive Committee, consisting of the Chair and two other Trustees appointed by the full Board, who will have authority to act on behalf of the full Board between quarterly meetings on matters which are time sensitive.

4.3.2 Management

The ESC management and staffing structure will be very flat with a single point of responsibility held by the CEO, which we will call the Director. The Director will have two full-time staff, the Curator and the Public Programmes Officer. Each of these full-time staff positions may have direct reports (staff) which are part-time and may be grant supported or programme specific.

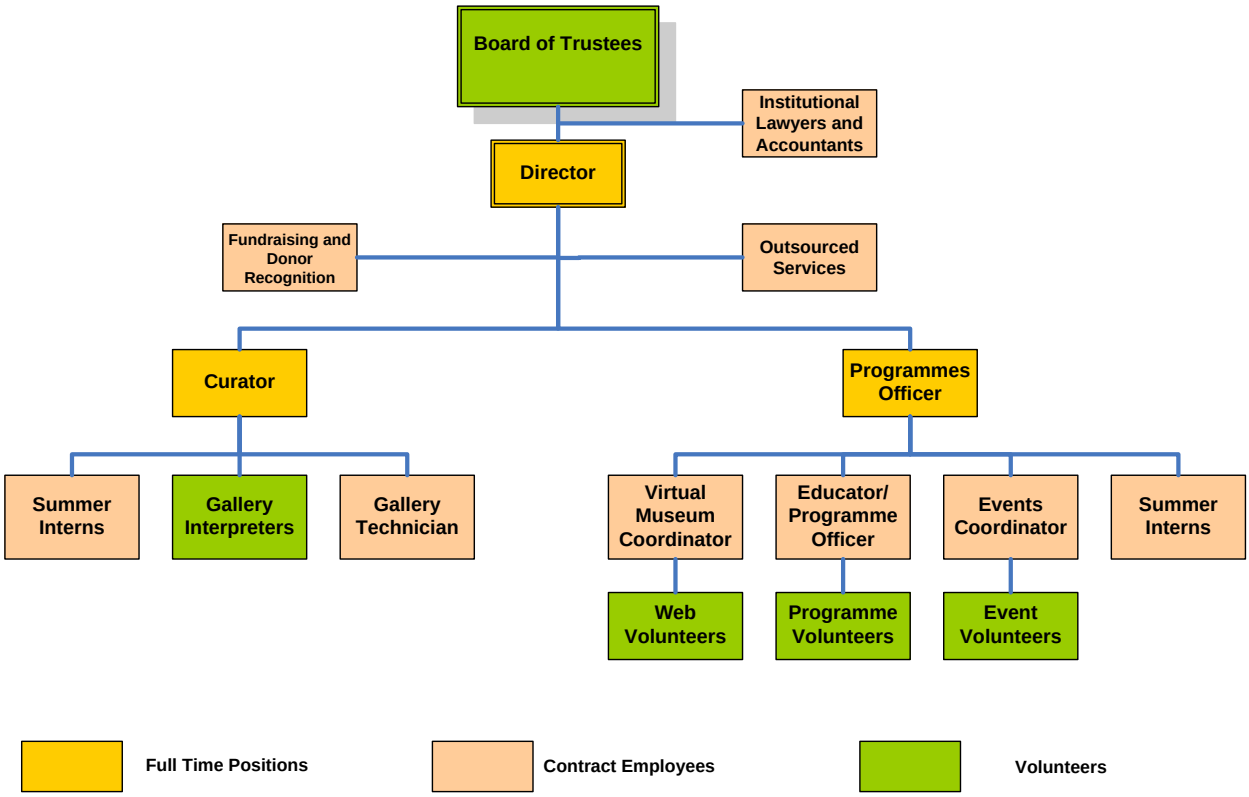


Chart 2. Management Structure

The Director will have full, day-to-day operational responsibility for all activities and decisions for the Earth Sciences Centre, operating within the policies and procedures approved by the Board of Trustees. The Director is the Board's sole representative and operates with the full support of the Board of Trustees. All full-time staff report to the Director and all part-time staff report to the Director through their Manager (Curator or Programmes Officer). The Director is a contract position with statutory benefits only, for a three year term renewable indefinitely, with six months' notice if not being renewed. The Director will have five years minimum management experience with human resources, basic book keeping, public relations and leadership. The Director may have Earth Sciences direct work experience but it is not a core requirement.

The Curator will have day-to-day responsibility for the galleries and the collections, operating within the policies of the ESC as tasked by the Director. This is a contract position with statutory benefits only, for a three year term, renewable indefinitely, with one month notice if not being renewed. The Curator will have

proven Earth Sciences experience and training usually earned with a minimum of an undergraduate degree with a focus on mineralogy and field experience or 10 year specific work experience with rocks, gems and minerals.

The Programmes Officer will have day-to-day responsibility for all public programmes including but not limited to educational programmes, field trips, public programmes, and events. The Programmes Officer will also direct the Web presence including website development and maintenance and any social media.

All other staff are grant dependent and hired on seasonal contracts as required, and work to job descriptions drafted by the appropriate management lead and approved by the Director before posting or hiring. All positions are hired by the appropriate Manager, subject to final approval of the Director.

The normal work week for museum staff should be 40 hours per week over the seven days of the week. As with most smaller museums with limited staff, the available staff tend to work longer summer hours (up to the 48 hours per week allow by law) then in the off season take these extended hours as time in lieu to ensure a consistent and regular salary cheque for all permanent employees throughout the year. (Think the traditional teacher's model of intensive winters and more open summers.)

If we assume the operational work day in summer may be 9:00 a.m. to 7:00 p.m., seven days a week, while in the off season the week is 10:00 a.m. to 4:00 p.m. with evening programmes, perhaps five days a week. How specifically this process works should be left to the Director to work out with their staff to all's mutual benefit. Fundamentally the ESC cannot pay overtime in the high season and have staff under employed in the off season but the ESC can offer tremendous flexibility in the off season to customize the work plan to respect and support individual employees life preferences (pickups at school, winter family vacations, hunting season, additional education, training or personal interest courses, etc.).

The key to this employment model is fairness to all parties; employees work longer summer hours and have greater paid leave in the off-peak season. These leave days are in addition to minimum vacation leave defined for Ontario workers.

All seasonal workers or grant based workers are hired subject solely in compliance with the labour laws of Ontario and the needs of the organization.

5. Programmes

While the exhibits and architecture of the Centre may attract new visitors, programmes will be central to the success of the ESC's mission, establishing its presence and ensuring that it has meaningful, long-term roles in the community.

Programmes are the vehicles by which the institution communicates and engages with its audiences providing ample offerings and services to meet (or even surpass) their needs, wants, and expectations. Programmes engage the visitor in discovery and exploration and these programmes will bring visitors, their families and friends back to the ESC for continued use and unique memory-making. Programmes touch the visitors directly and ensure that every visit is memorable, enjoyable, and highly satisfactory.

ESC programming will take many forms where audiences will participate in on-site, off-site and website programmes that educate and entertain them using a diversity of interpretive strategies appropriate to the various needs and interests of the participants.

Programmes to be on offer at the ESC may include:

- Exhibitions which can include temporary and traveling exhibitions, as well as permanent gallery displays.
- Education programmes which can extend from pre-kindergarten to post-graduate levels.
- Public programmes for families and the general public.
- Outreach to take the ESC experience and mission to other places in Hastings County and Ontario.
- Web which extends the presence and expertise of the Centre throughout Canada and the World.

Consultation with community stakeholders revealed a strong interest in the role programmes and services at the ESC could play in enhancing the quality of life in Bancroft and Hastings County and contributing to the region's long-term economic development. By offering programmes which cater to audiences who have varying levels of pre-existing knowledge of Earth Sciences and different learning styles, the Centre will be better able to attract audiences from diverse backgrounds and still fulfill their every expectation.

All programmes should be tailored to one or more of the Centre's target audiences and should support the Centre's Vision and Mission statements. A range of visitor programmes which might be on offer at the ESC are defined and outlined below while others may evolve from discussion with the Client or evolve from the development of the Interpretive Plan and the Exhibit Design.

5.1 Exhibition Programme

Exhibits, along with the site and building, tend to be the public programme expression that establishes the image and identity of a museum or science centre. Community stakeholders almost universally agreed that the ESC's exhibits must be comparable to those found at science and discovery centres in any major city. Through exhibitions of the highest aesthetic and cultural merit, the ESC will employ innovative methods of display and interpretation of Earth Sciences and the importance of Bancroft in the unfolding story of the Earth's very beginnings.

Unlike traditional museums, the ESC will not seek to amass large collections to put into storage with a small percentage of these collections actually being put on display; rather, the ESC will be more dynamic and flexible, showcasing exhibitions that include consumable artifacts; exhibits that are highly innovative; and exhibits that are aligned with mission-driven themes and international standards of best practice.

The exhibition programme at the ESC should include:

- **Permanent exhibitions**: exhibits featuring the Centre's collections and research with a lifespan of 7 to 12 years maximum.
- **Temporary exhibitions**: exhibits that are open for a limited period of time (6 months to 3 years) and may be ESC produced, incoming touring shows or a hybrid where incoming shows are produced elsewhere but supplemented with Centre content. It is recommended that the ESC should have one major (summer) and one modest (winter) temporary exhibits per year.
- **Rotating exhibitions**: some galleries or spaces within galleries may be designed specifically to accommodate periodic changes in theme and the corresponding rotation of objects (on an 8 to 18 months cycle). This will be an opportunity for ESC to highlight new research, debates in the scientific community, and topics of special concern to the region, i.e. disaster planning as it relates to local flood plains.

The ESC should have in place an exhibition planning process, overseen by senior staff. Approved exhibitions should be included in the Centre's rotating three-year business plan. The exhibition programme should seek to offer an overall net neutral financial position on an annual basis. Smaller exhibits that do not generate direct revenue or result in a net cost to the operating budget should be offset financially by external funding and sponsorship. As a result, the programme must take into account financial implications for the organization's three-year plan, in addition to content and audience appeal.

5.2 Education Programmes

To ensure relevancy, the Centre should incorporate specific connections between its content and the provincial curriculum for all students ranging from Elementary to High School to College/University in order to capitalize on all possible learning opportunities and connections. The ESC should offer comprehensive educational programmes for students of all ages including life-long learners.

The goal is to offer programmes that support, enhance, and augment the provincial school system by:

- Offering a wide variety of programmes that appeal to a wide spectrum of learning styles.
- Providing a positive, fun, non-judgmental learning environment.
- Presenting opportunities for social and collaborative experimentation.
- Offering contextual learning experiences.

Because the Earth Sciences Centre will offer experiential opportunities, it will be the ideal setting to bring school lessons to life by allowing students to engage in fun, hands-on activities. By offering active participatory programmes, the ESC will be able to create a rich, meaningful, and deeply engaging visit for all students. Currently, the Ministry recognizes and acknowledges the importance of community partners such as museums and science centres as learning resources. The Elementary curriculum notes "…school boards can collaborate with leaders of existing community science and technology programs for students, including programs offered in community centres, libraries, and local museums and science centres."[15]

The ESC will also be the ideal setting to support the Ontario Ministry of Education's initiative to expand "experiential learning" for students from Kindergarten to Grade 12.[16] The Ministry is embarking on a series of public consultations (January to May 2016) to develop a broader range of learning opportunities that are "connected to the community." Recognizing that learning takes places both inside and outside of the classroom, the Ministry is seeking to work with community partners to expand the very notion of learning through active, hands-on participatory experiences; and the ESC will be offering such experiences through its palette of educational programmes. Interviews with educators and administrators of regional schools indicated that there is funding to support field trips and make a visit to the ESC a regular part of the student experience.

There are many potential links between the ESC's future programmes with on-going curriculum and school group visits in the elementary, middle school and high school levels. There is also a unique connection to Earth Sciences courses and advanced research at colleges and universities, not only in Southern Ontario but throughout Canada and the World.

[15] Ontario Ministry of Education, The Ontario Curriculum Grades 1-8, Science and Technology, Revised, 2007, p.9.

[16] Ontario Ministry of Education, Experiential Learning: Learning beyond the classroom, http://www.edu.gov.on.ca/eng/general/elemsec/job/passport/index.html.

5.2.1 Elementary to Secondary Programmes

The ESC should offer programmes specifically designed for students spanning the Province's schooling system from Elementary (Kindergarten to Grade 8) through to Secondary (Grade 9 to 12). These programmes should be supportive of the provincial curriculum by linking content to the core and elective subjects for each school tier. The Provincial curriculum includes many streams related directly to the field of Earth Sciences and in the table below, these core topics are highlighted. [17]

Elementary Science & Technology Curriculum Overview				
	Understanding Life Systems	Understanding Structures and Mechanisms	Understanding Matter and Energy	Understanding Earth and Space Systems
Grade 1	Needs and Characteristics of Living Things	Materials, Objects, and Everyday Structures	Energy in Our Lives	Daily and Seasonal Changes
Grade 2	Growth and Changes in Animals	Movement	Properties of Liquids and Solids	Air and Water in the Environment
Grade 3	Growth and Changes in Plants	Strong and Stable Structures	Forces Causing Movement	Soils in the Environment
Grade 4	Habitats and Communities	Pulleys and Gears	Light and Sound	Rocks and Minerals
Grade 5	Human Organ Systems	Forces Acting on Structures and Mechanisms	Properties of and Changes in Matter	Conservation of Energy and Resources
Grade 6	Biodiversity	Flight	Electricity and Electrical Devices	Space
Grade 7	Interactions in the Environment	Form and Function	Pure Substances and Mixtures	Heat in the Environment
Grade 8	Cells	Systems in Action	Fluids	Water Systems

[17] Ontario Ministry of Education, The Ontario Curriculum Grades 1-8, Science and Technology, Revised, 2007, p.19.

Grade 9 and 10 Science Curriculum Overview				
	Biology	Physics	Chemistry	Earth and Space Sciences
Grade 9 Academic	Sustainable Ecosystems	Characteristics of Electricity	Atoms, Elements, and Compounds	The Study of the Universe
Grade 9 Applied	Sustainable Ecosystems and Human Activity	Electrical Applications	Exploring Matter	Space Exploration
Grade 10 Academic	Tissues, Organs, and Systems of Living Things	Light and Geometric Optics	Chemical Reactions	Climate Change
Grade 10 Applied	Human Tissues, Organs, and Systems	Light and Applications of Optics	Chemical Reactions and Their Practical Applications	Earth's Dynamic Climate

Table 3. Ontario Ministry of Education's Curriculum for Science and Technology

An education programme to the ESC for these schools groups may consist of:

- Classroom visit: This is a Teacher-guided programme where students engage in a hands-on exploration of a particular topic/theme, remote from the Galleries or Labs.
- Gallery/Lab visit: Groups of students will visit various exhibit components in the main Galleries and/or Labs. Visits may involve working as a team and they may have to interact with exhibits, carry out experiments, speak to staff, consult with other student groups, and have discussions amongst themselves to draw conclusions. These visits can be guided or unguided by an ESC Educator.
- Combined visits (classroom and gallery): A combined programme entailing a shorter classroom visit supplement by a Gallery or Lab visit.
- Internships and leadership development: Opportunities where students are involved with programme delivery and related services either as work for course credit or as part of the fulfillment of volunteer hours required for high school students.

Either before or after a visit, material should be made available to school teachers. This material could include lesson plans, in-class activities, experiments, and a wealth of other support materials. By providing a resource kit either before or after a visit, teachers and their class can conduct related activities in the classroom that are directly related to their ESC visit.

5.2.2 Specific Needs Programmes

Again, because students of all ages have varying abilities, the ESC should make arrangements to develop and deliver programmes for:

- **Special Needs Students**: Students with learning or cognitive disabilities, physical disabilities, and other challenges are sometimes marginalized by traditional schooling and may require additional support and assistance. The Ministry of Education defines Special Needs as those students with "behavioural, communicational, intellectual, physical or multiple exceptionalities." Special education programmes and services primarily consist of instruction and assessments that are different from those provided to the general student population. These may take the form of accommodations (such as specific teaching strategies, preferential seating, and assistive technology) and/or an educational programme that is modified from the age-appropriate grade level expectations in a particular course or subject.

  Special Needs Programmes could potentially include touch/tactile programmes, sign language tours, and verbal imaging programmes. Such programmes should offer a higher ratio of individualized attention from trained ESC staff, smaller class sizes, and incorporate the use of assisted technologies, where applicable. The vast majority of museums and discovery centres around the world now offer a full range of programmes tailored to the needs and wants of challenged visitors.

5.2.3 Post-Secondary Programmes

Given the educational nature of the ESC, the Centre will appeal to Colleges and Universities for programmes related to specific courses of study within the Earth Sciences and related academic areas. Programmes targeting post-secondary students could assist these students in better understanding more about the industries they may want to pursue in the future or getting exposed to career options in geo-sciences industries they may not have known about or even considered. In addition, this educational category will also include Advocacy groups (i.e. the Land Between and Ducks Unlimited) and Industry and Professional Associations (regional mining and forestry industries, professional groups such as the Canadian Mineralogy and Geology Associations). Such groups are tasked with providing public information resources and be interested in developing joint programming opportunities, building on natural synergies.

In the past, Bancroft has been the site for several university level research field trips who have come to examine specimens and formations unique to the area. These groups originate from research institutions throughout Ontario, Canada, the United States and even as far as Japan. These expeditions could potentially become a summer field camp programme, targeting post-secondary students and researchers. Such programmes will be high-profile with the potential for publicity and significant short-term economic activity. The Centre could also host (possibly in conjunction with regional universities and colleges) important geological and environmental conferences and symposia. ESC programmes should be designed to facilitate and support such advanced scientific investigations and discourse.

5.2.4 Teacher Training Programmes

The Earth Sciences Centre could provide regular training programmes for teachers wishing to use the institution as an educational resource and for teachers wishing to use the various teaching aids and educational resources made available by the Centre. ESC is well positioned to provide truly unique out-classroom and in-the-field training opportunities.

Teacher training could incorporate the following:

- A programme could be developed with Universities where student teachers receive training modules at the EDC. These modules could be practical workshops given by Centre staff on topics such as education and communication, while providing student teachers with the skills necessary for teaching subjects covered by the ESC.

- Opportunities should be created to instruct educators how to best use the educational resources at the ESC. Such opportunities could include learning how to formulate guiding questions, facilitating student observations and note taking, and coaching students to develop rich projects, related to the subject areas covered by the Centre.

- The Centre could provide professional development programmes for educators at all levels. These programmes could be evening/weekend or holiday workshops and/or seminars giving educators the opportunity to share ideas, classroom activities, and hands-on investigations.

5.3 Public Programmes

Public programmes are geared towards the general public at large and may include courses, workshops, lectures, special events, as well, as films and dance and music performances. Public programmes usually cover a wide range of ages from children to teens to adults to families. Public programmes should be inclusive of group activities and as well as cater to interested individuals, local services groups (i.e. the Lions, Rotarians) or youth organizations like cadets, scouts, boys and girls clubs, Youth in Action, etc.

Public programmes should relate to the ESC's exhibitions and content. The Centre must be conscious of the need to maintain a balance between scholarly interpretations and discourse requiring prior knowledge and a less formal yet accurate approach that is accessible and engaging to all visitors.

To better meet the needs of the Centre's public, staff should collaborate with advisory consultants (academics, community leaders, rock collectors, etc.) when developing programmes. This will lead to the creation of a wide range of programmes and interpretive materials that speak with clarity and sensitivity to audiences of various ethnicities, educational knowledge, cultural backgrounds, and age groups. Geared to a diverse cross-section of Ontario's pluralistic population, the Centre's programmes should aim to provide visitors with vital understanding of their own lives and environment as well as those of people with different cultural concerns.

Public programmes could include:

- **Family Programming**: Programming should aim at providing quality experiences for multi-generational and extended families. Wishing to support the strength of the family unit by developing suitable programmes, these programmes may include a wide range of workshops and activities that are educational, relevant, and fun.

- **Adult Learning**: The ESC should develop adult learning programmes that build on the life experiences and interests of the adult population. These programmes could include lecture series, film programmes, hands-on courses, and the like.

- **Teen/Youth Programming**: The Centre should consider the development of after-school and holiday programming for young people. This will help the Centre to establish its strength as an educational institution, as a partner to schools and communities, and as a youth-serving organization. Youth Programmes at the Centre could focus on working with small groups of young people to foster leadership with creative skills and to offer relevant programming to a teen audience.

- **Children's Programming**: Programming could include children's interests and gear some programmes specifically to their needs. Children's programming could include summer or vacation programmes and multi-session or single arts, culture, science (and many others) programmes offered throughout the year. Not all programmes will require the services of the Centre's Educators; part-time staff could be hired to lead these programmes. For example, if the ESC chooses to offer a summer club programme for children aged 4 to 7, the Centre could hire University students on a part-time basis as programme leaders for the duration of the programme.

- **Special Interests/Enthusiasts**: The Centre should encourage use of its facilities by special interest groups whose purpose and mission support the goals and objectives of the ESC. By advancing groups with similar synergies, the Centre will be establishing important ties with the local community, thereby increasing its base of potential future supporters. Special interest or enthusiast groups may include programmes for rock hounds, amateur mineral collectors, local history buffs, etc. As noted in the Partnership section of this Report (see Section X), established groups of enthusiasts are major forces supporting, governing, and leading Bancroft's existing museums and festivals. We anticipate that the ESC will cooperate with the Bancroft Gemboree and build on these existing audiences and their committed and knowledgeable members. Mutually supportive relationships between and among these individuals and groups and the ESC will be a critical factor in the long-term operations of the Centre as well as the other organizations.

5.4 Outreach

Outreach can be defined as any programme that takes the ESC's mission outside the walls of the Centre. It includes any programme that takes place outside of the confines of the Centre and reaches out into the community/region/province to engage those audiences who are unable to physically visit the ESC for any number of reasons (i.e. geography, mobility challenges, expense, etc.). In general, Outreach programmes represent a proactive opportunity to reach audiences beyond the walls of the institution, allowing the Centre to better engage with local and regional communities.

Examples of Outreach programmes that may be suitable for the ESC include:

- **School Cases and Resource Boxes**: These are hands-on educational kits that can be sent to schools located outside of the immediate vicinity of Bancroft. They should come in a variety of topics based on the provincial curriculum and themed to the Centre's content. These self-contained cases contain teacher's notes, student activity cards, resource material and reference material. They provide lesson plans and student activities suitable for full class participation. They are also a good way of establishing the ESC's brand name and extending its reach. Situated in Canada's Mineral Capital, the ESC will be an authoritative resource for schools across the province and country.

- **Travelling Exhibitions**: Small, portable exhibits could be sent throughout the region dealing with Earth Sciences themes of interest to the general public or geared towards specific groups. For example, small themed exhibits could be circulated to community organizations, nursing homes, and hospitals, etc. Additionally, local and regional schools, libraries and commercial enterprises (i.e. Chambers of Commerce) may have a vested interest in hosting small exhibits or displays from the ESC. These organizations are keenly interested in growing and promoting local economic activity and community cultures and may be potential programming partners, willing to promote and host ESC products while growing their own audiences along with our target audiences.

It should be noted that consideration should be given to commencing Outreach programmes once the ESC's education mandate is established firmly and is the ESC is operating successfully. It is recommended that the ESC look to expand its offerings and reach a wider audience by offering Outreach Programmes in about Year 3 post-opening. This will permit ample time for the Centre to test and evolve its offerings in-house before reaching out into the community and region.

5.5 Web Programmes

The Web could be the ESC's fourth dimension, a way for the Centre to cross the normal restrictions of space and time to connect with people. The ESC's Website will be the vehicle for communicating the Centre's mission throughout Canada and around the world. The Centre's website should be more than a static site featuring updates and FAQs; instead, it should aim to be a portal to the Centre's public face. It will be a programme that utilises all the assets of the ESC to deliver other programmes of the Centre to individuals, schools, groups, and organizations throughout Ontario, the country, and around the world. The work of the Centre, its galleries, special exhibitions, and programmes must be communicated to virtual visitors of all ages, cultures and formal education backgrounds around the world in a manner that serves their needs and the mission of the Centre. Further, if the Centre hosts important conferences and symposia or is supporting a scientific expedition in the area, the website can provide live or archived on-line footage of these events.

The Earth Sciences Centre's website may include everything from practical visiting information (i.e. opening hours, contact information, directions, ticket prices, etc.) to a member-only portal for those participating in distance learning modules. To facilitate greater and efficient use, it would be ideal with users could upload as well download content, both to explore the Centre and its themes from a distance and to enhance the experience of exhibits and programmes while on site.

5.6 Target Audience Programme Mix

Having looked at the ESC's proposed target audiences earlier in this Report (see Section 2) and having outlined assumptions for all programmes to be on offer, we can make educated estimations about which programmes will be most appealing to what particular audience segment.

Programmes		Target Audiences					
		Rock-hounds	Geo-science Buffs	Researchers	Museum Goers	School Groups	Locals
Exhibitions	Permanent	×	×	×	×	×	
	Temporary	×	×	×	×	×	×
	Rotating	×	×	×	×	×	×
Education	Elementary to Secondary					×	
	Specific Needs					×	
	Teacher Training					×	
	Post-Secondary			×		×	
Public	Family				×		×
	Adult				×		×
	Teen/Youth				×		×
	Children				×		×
	Special Interests	×	×	×			×
Outreach	School Cases					×	
	Distance Learning	×	×			×	
	Travelling Exhibits	×	×	×	×		
Web	Website	×	×	×	×	×	
	Distance Learning	×	×	×	×	×	

Table 4. Target Audience Programme Mix

6. Experience Concept

Exhibits and media shows, along with significant architecture, tend to form the core of an attraction's public image which, in turn, serve as the foundation for marketing (both formal and informal) and the perception of roles the facility may serve in its community.

The research and consultation work conducted in Phase One and extended in Phase Two clearly revealed the requirements and shared expectations for a visitor experience that is comparable to that found at national and international level science centres and science based museums. This expectation is appropriate because of the scale and significance of Bancroft's geoscience story but also because the Earth Sciences Centre will exist in an increasingly competitive marketplace with different activities and attractions -- some with Hollywood production standards -- all vying for the public's attention and leisure dollars.

The use of contemporary exhibit and show media requires special consideration at the master planning stage because:

- There may be important space and functional requirements, e.g. theatre sizes, electrical and HVAC, etc. that must be incorporated into the spatial planning and layout of the site and building.

- There can be specific production needs such as time, technologies, and budgets that must be factored into the overall project development such as seasonal filming for destination shows, budgets for special effects and multimedia software and securing voice and activing talent.

- The nature of the visitor experience also informs the content research and procurement of images and materials for the exhibits, programmes and show components. For example, whether or not exhibits will make extensive use of AV or existing artifacts will have major implications for the tasks, timeframes and budgets needed to realize the visitor experience.

The following proposed experience concept for the Earth Sciences Centre is an outline description of the main messages, highlight experiences and means of expression which can be employed at the attraction. The Experience Concept is the first stage of an Interpretive Plan which serves and the creative and content foundation for the research, design and operational planning for the next phases of development. In other words, an interpretive plan describes what the ESC is going to say, how it will say it, who is going to say it to, and what resources are needed to allow this communication process to happen.

The Experience Concept is organized as follows:

1. **Principles and Approach**: that governs how the Earth Sciences Centre will communicate and deliver experiences to the public and the reasons governing the recommended approach.

2. **Recommended Model**: the type of institution/attraction that the Earth Sciences Centre should be to best meet the community's needs and aspirations.

3. **Thematic Structure**: an overview of how the content and storyline in the galleries, show components and programme areas will work.

4. **Exhibit and Experience Options**: preliminary descriptions of the messages, media and materials proposed for the Centre's public spaces and galleries.

6.1 Principles and Approach

The facilities, space allocations and adjacencies described in this Master Plan are based on a specific proposed visitor experience model for the Earth Sciences Centre in Bancroft. This model is a strategic response to the needs, expectations and aspirations identified in the Phase One research and community consultation process.

The presentation within each gallery is based on a central main media show or presentation that communicates the main messages using powerful and bespoke multimedia that cannot be experienced at any other attraction. This presentation will generate widespread appeal and ensure that ESC's vision and mandate are shared with the largest percentage of the visitor population. From our research in the community work, the consulting team learned that the Earth Sciences Centre must be:

- **Transformative**: the Centre must signal that something new and important has happened in the community. The ESC must enhance the image of Bancroft and announce to residents and visitors that something has changed and opportunities improved.

- **Appealing and High-Impact**: the public experience at the ESC must be comparable (if not superior to) the media and content found at national and international institutions and attractions. This criterion sets the communications and entertainment standards quite high; however, smaller scale museums and science centres are becoming increasingly adept at successfully competing with commercial cinema, theme parks and even internet streaming. Impact is not achieved by considering the dollars spent, but rather by the calculated the return on investment (enhanced visitor experience).

- **Sustainable and Beneficial**: at both environmental and economic levels. The design and content of the ESC will meet and surpass green standards while interpreting the links between the planet's geology and its living ecosystems (Hugh Unclear what living ecosystems you want to explore?). At the economic level, the ESC must plan to be in Bancroft for the long-term and not

become an unsustainable due drain on community resources. No museum or science centre in Canada operates without some significant level of government subsidy, but it is expected that the presence and programmes at the Centre will generate significant commercial and social benefits to the region on a year-round basis to justify such public support.

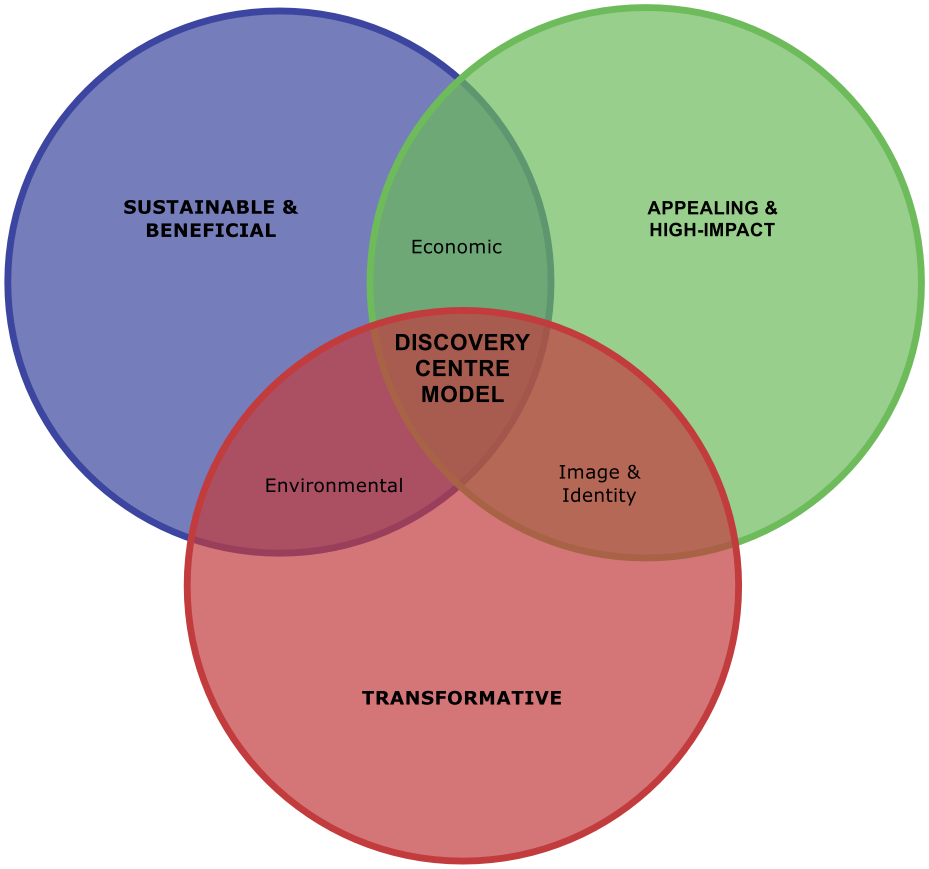


Figure 1. Discovery Centre Model

6.2 Recommended Model

We suggest a Discovery Centre model as the optimum means of meeting the needs and vision for the Earth Sciences Centre. In the context of this study, a discovery centre entails:

- The collections and specimens that are the foundation of **museums and research facilities**. This allows the ESC to serve as an important intellectual authority on geosciences, minerology and recreational geology. The ESC will hold modest reserve collections primarily for educational purposes. It will be a research facilitator rather than a repository for scientific specimens. Because minerals and gems have artistic and aesthetic aspects to the collections, the ESC will also have some of the features of an **art gallery**. The beauty of the individual specimens in the collections will be a primary feature of the public galleries. The individual specimens, as in an art gallery will be contextualized through graphics, media, and textual support.

- The interactive and media-based programmes used to explore ideas and relationships found at contemporary **science centres**. At the ESC, visitors will discover concepts and facts on their own and actively participate in their own science quests and journeys of inquiry.

- Programme and event-based content that combine indoor and outdoor activities such as geotours, demonstrations, lectures and eco-caching that are part of the activity schedules at **parks, historic sites and visitors centres**. The ESC can offer these as either live or on-line events.

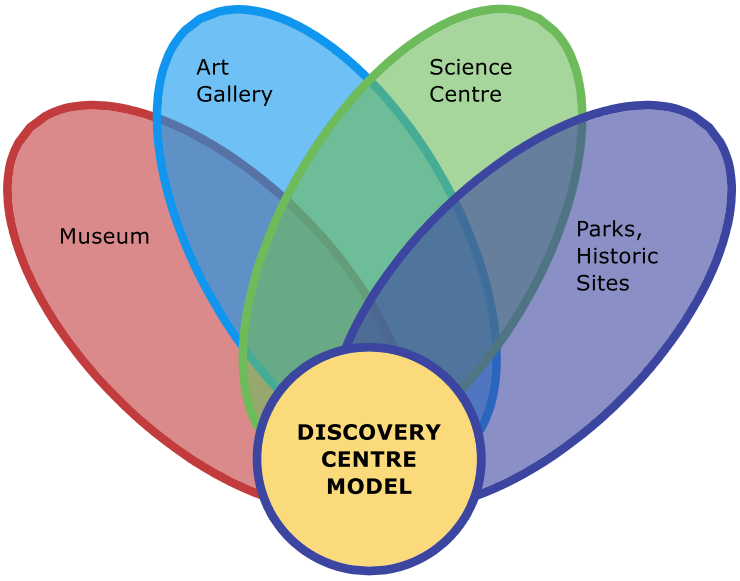


Figure 2. Recommended Model

6.3 Thematic Structure

Based on the proposed discovery centre model, the thematic structure which is the foundation for all the messages and media at the ESC would be based on the overall Experience Concept:

LIVE: An experience that is focused on an actual, physical place in the world. The ESC will definitely have an on-line presence that reaches across the World but to truly enjoy the "real thing" you will have to venture to Bancroft -- the geology epicentre of the Continent and the Mineral Capital of Canada.

LEARNING: The ESC will be a world authority on Ontario geoscience with the collections and research to provide substance for all its exhibits, programmes and services. Time spent at the ESC will always be incredibly entertaining but there will always be an essential "nugget" of truth and scientific insight contained in every message.

ADVENTURE: Like a geological expedition, a trip to the ESC will be the opportunity for your own journey of exploration and discovery. Part of the adventure at the ESC will be the encounters with interactive and immersive exhibits and media shows. The adventure also happens when the ESC serves as an orientation and gateway to trails, rock gardens, and sites beyond the Centre and throughout Hastings County.

Figure 3. Thematic Structure

6.4 Exhibit and Experience Options

Because the Earth Sciences Centre is envisioned as a Live Learning Adventure and not a more conventional museum, it is more accurate and insightful to describe each of its main experience components as "Big Ideas" over-arching activities and messages rather than as systems or objects.

- **"You Are Here":** This is the arrival and orientation to the Earth Science Centre -- setting the stage for an exciting and informative encounter with Bancroft's mineral wealth and diversity.
- **Journey and Experience:** Where the destination show vividly interprets the massive and dynamic forces of continental drift and the planet-shaping forces
- **Survey and Prospect:** Signifies the discovery-learning that will take place in the Bancroft Minerals Gallery and Geosciences Gallery which will combine gem and mineral displays with hands-on exhibits.
- **People and Minerals:** Which will talk about the human stories associated with minerals and gemstones -- from First Nations technology through to exploitable resources to artistic expression?
- **Explore and Adventure:** Linking the interior exhibits and programmes with outdoor activities and installations such as the Rock Garden and future interpretive trails.

Each of these programme areas and galleries are governed by a "Big Idea" that underlays its purpose and why it belongs at Bancroft's Earth Sciences Centre.

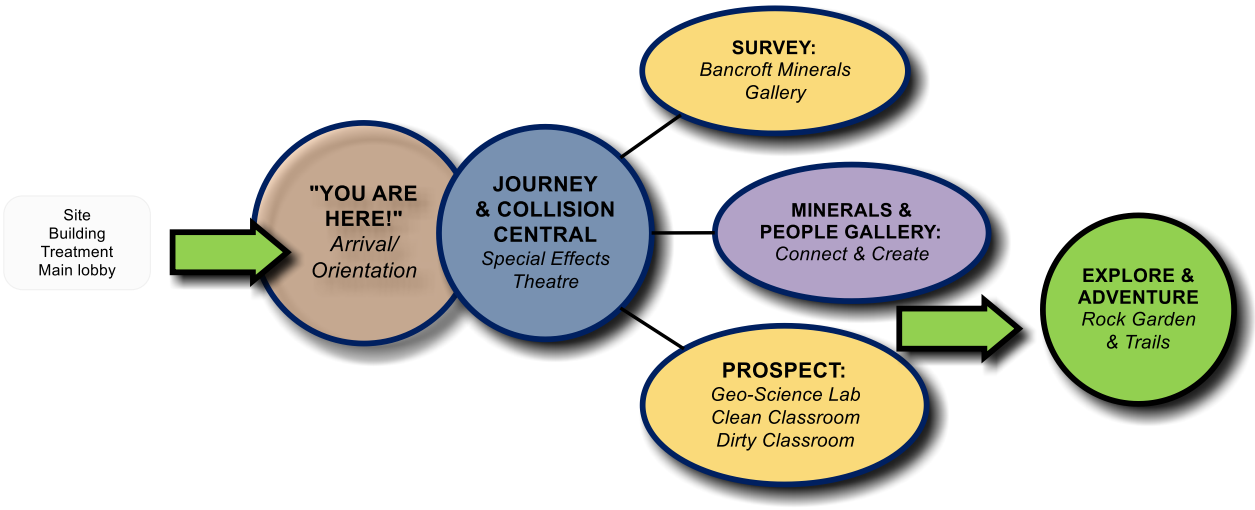


Figure 4. Experience Options

"YOU ARE HERE!" ARRIVAL/ORIENTATION
BIG IDEA": The Intellectual and Emotional Toolkit for Your Time at the Earth Science Centre.

Exterior site and building treatment, entrance threshold and main lobby. The route leading into the Earth Sciences Centre should preview the experience, signaling to visitors that they are approaching their destination and they are about to embark on a great geoscience adventure. The signage and exterior architecture should evoke the Earth Sciences theme and passage through the main entrance should add an element of entertainment to the admissions and orientation process. Visitors should feel that they are passing through a threshold from the "everyday" to a special place dedicated to discovery and exploration.

The main lobby should be themed with installations such as a, a large kinetic sculpture representing the movement of the tectonic plates or a super-sized representation of a different local gemstones -- all set within a "time spiral" surround wall treatment that uses a progressive time marker to take the Bancroft region backwards in time from the 21st Century through the geological epochs to the very formation of the Planet.

The main lobby will also provide programme times and admission rates as well as information about other Bancroft attractions -- particularly those with connections to ESC content and mandate such as the Gem and Mineral Museum, the Hastings County Historical Society's collections as well as the Algonquin Park Visitor Centre and the future Algonquin First Nation's cultural attraction.

JOURNEY (TO THE CENTRE OF THE EARTH)/CONTINENTS IN COLLISION
BIG IDEAS: "CRASH, BASH AND MASH!"/"COLLISION CENTRAL". A vivid and visceral re-creation of the forces behind continental drift and tectonic plate movements.

While not a direct dramatization of the classic Jules Verne story, the main media presentation will use a high definition special effects media show to generate the feeling that you are descending down into the Earth's molten core which is the source of the movement of plate tectonics.

The show will also work like a vast time machine offering billion and million-year overviews of plate movements and the formation of the continents from eons past to the present. Powerful sound and light effects will portray the enormous forces and cataclysmic events involved when land masses collide.

The climax of the show will be to highlight why Bancroft is so important in our understanding of plate tectonics and the nature of the Earth: It is in Bancroft where tectonic plates collided -- many, many, many times resulting in enormous clusters of kinetic energy, heat with the melting and re-melting of rocks and creation of myriads of chemicals and chemical compounds coming together under immense pressures and temperatures to create the unique suite of minerals found only around Bancroft.

Projected 3D images (3D) will close the show with the results of these local geological events: the incredible range of gems and hard rock specimens that make Bancroft the "Mineral Capital of Canada".

The technology of computer imaging as 3D and 4D projection are well suited to telling Bancroft's sometimes complex geological story in direct, powerful and accessible terms. Further, the costs of Special Effects Theatres -- as evidenced at attractions at Niagara Falls and the object theatre shows at Science North -- are becoming increasingly affordable.

SURVEY: BANCROFT MINERALS GALLERY
BIG IDEA: Explore and examine Bancroft's vast legacy of hard rocks and gem stones.

This refers to the learning and fun that will happen at the ESC's interactive Minerals Gallery Conceptually this gallery can be seen as a rich deposit of rocks and minerals -- created by tectonic forces -- waiting for the visitor to discover and examine.

Outstanding gemstones, minerals and hard rock specimens will be at the centre of a series mechanically and digitally-based hands-on exhibits that will illustrate such as the structures and origins of the mineral as well as their unique properties.

The media strategy at ESC will ensure broad appeal to a wide audience of special interest to families and school groups. It will also establish the ESC as a major authority and discovery centre.

PROSPECT: GEOSCIENCE LAB AND CLASSROOMS
BIG IDEA: Learn how to learn from rocks and minerals, in the same way that the different types of geologists and rock-hounds do.

This is also where you get to try out the methods used by geologists and rock hounds to locate record and analyze the hard rock and mineral specimens found in the environment.

- **The Geo-lab** will provide hands on experiences, orientation and basic training for visitors who want to learn more about rock collecting. The lab will prepare visitors taking the geo-tours on how to identify the common minerals and what tests they can carry out in the field to help them become mineral collectors. From strike plates, and acid bottles, to rock hammers and safety glasses, the geo-lab will be a discovery centre within a discovery centre.
- **The Clean Classroom** will provide programme spaces for in-depth study projects, lectures and workshops as well as generating content for distribution on the internet. It could also provide mineral reference resource library and rock-collectors life history archives will also be available for serious enthusiasts
- **The Dirty Classroom** will be where you see demonstrations working with consumable collections and specimens for rock-cutting, polishing and viewing exercises (lapidary with local artists) -- some limited directed and hands-one use of equipment under staff or expert volunteer supervision. There could also be a Rock Hounds' Corner where enthusiast visitors can exchange finds and facts with the Centre's curator and volunteer experts.

MINERALS AND PEOPLE GALLERY
BIG IDEA: Learn about the different ways people have made use of the region's vast mineral resources.

Here exhibitions explore how people extract, exploit, invent and create using Bancroft's minerals and gemstones and could include:

- How minerals such as quartz contributed to the Algonquin's technology and economy.
- Ways the geology and mineral resources continued to different waves of settlement and industry. Advances in 19th and 20th century technologies generated new ways to make access possible to an even wider range of minerals.
- How the aftermath of mineral resource depletion and industrial by-products pose challenges to environments and communities.
- This area could also serve as a preview exhibition space for displays in advance of a permanent Algonquin First Nations Gallery.

EXPLORE AND ADVENTURE: ROCK AND MINERALS GARDEN
BIG IDEA: Apply what you learned at the Centre and explore the geological world around you.

The ESC will combine exhibits and programmes inside the building with installations and activities in the surrounding outside environments. Further, materials in the main lobby and other areas in the Centre will orient and direct visitors to exterior elements such as the Rock and Mineral Garden and future Geoscience Exploration Trails throughout the site and community.

7. Design Concept

The Consulting Team was not engaged to provide an architectural recommendation for the construction of an Earth Sciences Centre but rather to outline the parameters an Architect and Exhibit Designer would require in order to provide specific recommendations on the physical construction of the facility and its content. The Consulting Team began this with the development of an adjacency diagram to define the functional areas which would be required to successfully operate the Centre as a public "museum" type institution.

Thereafter, the Consulting Team, using their experience and knowledge of museum operations, assigned minimum space allocations to the functional areas defined in the functional adjacencies. This allowed the Team to create a massing study to graphically define how the connection between area and spatial relationship might be recognized. It is important to understand that a Massing Study is not a physical design but rather a tool for understanding how the adjacencies recommended by the Adjacency Study and the allocation of space for each function defined by the Functional Study may be achieved. This Study used a standard hexagon as a modular element to suggest how the relationship of function and space might be approached in any future physical design. Its graphic representation should not be read as a recommendation that the Architect should create a hexagonal building. To be more precise, the modules shown are in increments of 50 sq.m and 100 sq.m respectively and could be “connected” to generate larger modules that can be repeated as needed - as could be the case with the Minerals and Peoples Gallery or the introduction of a Theatre element.

Having created such a successful understanding to the potential of the massing study, the Team then used this information to create a gross capital plan defining functional areas, relationship of public and non-public space within the facility, and a generic cost for such a facility.

Based on all this work, a Designer can then create a straw model of the facility which is a concept of how the Architect may choose to design the ESC. It helps the Client to define design parameters which ensures the Architect understands what the Client is seeking to achieve with the design; for example, it should be a single storey in order to provide best physical accessibility without the need for elevators or escalators, or it should feature local materials such as nature rocks, timber or other construction elements rather than imported concrete or building materials, etc. Such decisions ensure the Architect understands the vision of the Client when creating their recommended design.

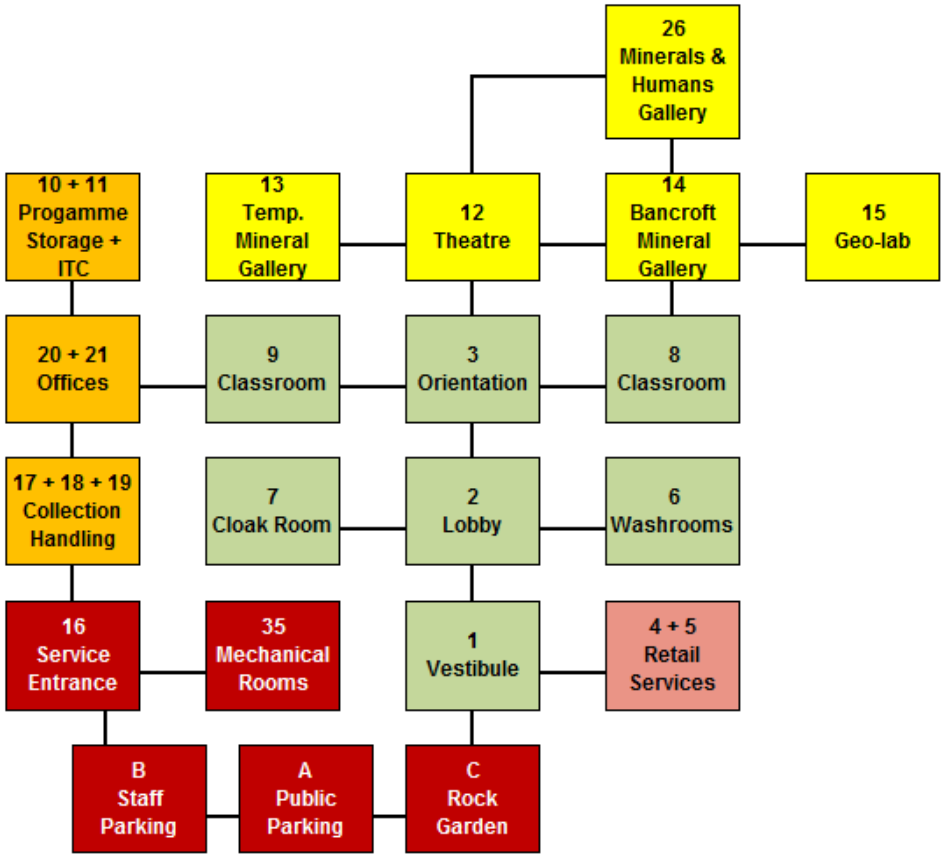
As well, such work helps the Exhibit Designer plan within the parameters of space and the sequence of experiences along the visitor path, when the Exhibit Designer is designing the gallery experiences. This again ensures the messages of the Client are clear before the Exhibit Designer begins their work. The partnership between the Client, Architect, Exhibit Designer and Building contractors are key and the responsibilities of each are informed by the clear direction of one to the other.

This recommendation and assumption in this Report advises the Client, the Architect, and the Exhibit Designer on such parameters as size and sequence of experiences in the facility, the cost limitation of the elements, and the nature of the operations to achieve success. The Final Report is a road map for advancing the project to a successful opening and beyond.

7.1 Functional Adjacencies

The purpose of the Functional Adjacencies diagram is to graphically represent how the various functional spaces should ideally physically relate to each other. Such relationships may not always be possible in some architectural solutions (designs) but the relationships remain the vision of the Client in directing the work of the Architect.

The Functional Adjacencies are independent of size or architectural design. Design may well dictate a greater or less allocation of space to one function or another as driven by the nature of the space available in the design but the relationship of the Lobby and the Orientation areas, for example, remain space and design independent.



Note:

Numbers above Space Identification refers to Capital Budget Projection Interior Spaces,

Letters above Space Identification refer to Capital Budget Projection Exterior Spaces

Chart 3. Functional Adjacencies

7.2 Massing

A Massing Study is not a physical design but rather a tool for understanding how the adjacencies recommended by the Adjacency Study and the allocation of space for each function defined by the Functional Study may be achieved. The Designer in this Study used a standard hexagon as a modular element to suggest how the relationship of function and space might be approached in any future physical design. Its graphic representation should not be read as a recommendation that the Architect should create a hexagonal building.

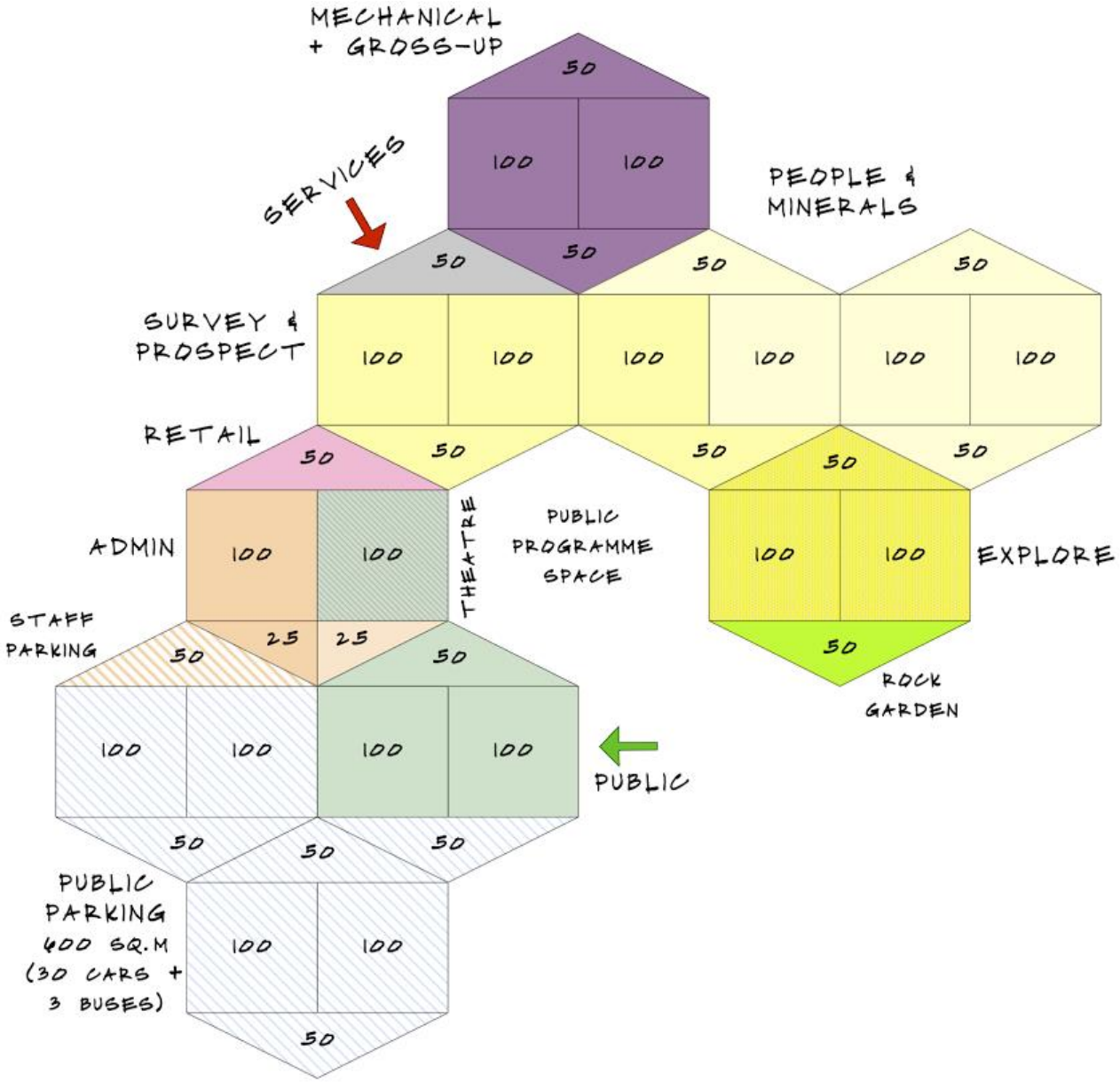


Figure 5. Space Massing

7.3 Design Assumptions

The massing of the proposed building complex services three visible sides and maintains the mechanical side at the rear. It is envisioned to provide an accessible presence on the site which engages with the surroundings by mixing the visitor parking area, staff parking, outdoor programme spaces, and the Rock Garden into a woven fabric of landscape in which the building is just another component.

The building itself presents a solid yet permeable membrane where visitors can percolate into an expanded welcoming area (during days of good weather) comprised of a Café, Gift Shop, and Orientation space accessible from the main Lobby - or constrained through a Vestibule (during inclement weather or after-hours). The Galleries are then accessed on the same level (or possibly via ramps as if descending into the Earth) whilst the Theatre and the Classrooms have independent access points with secondary egress to the outside.

The back-of-house and Staff areas mirror the public entrance facade, but provide a more secluded access-point into the building for services, deliveries, and business operations. This arrangement of Visitor access on one side and Staff access on the other, flanked by the Classrooms and Theatre, and the Mechanical Services at the rear, wraps the Gallery spaces into a naturally-insulated membrane of architectural spaces to provide controlled environmental conditions to the collections, and a very stable museum environment.

The architecture of the building is envisioned to be part of the surrounding landscape: built mainly out of local materials and partly-embedded into the site, the proposed building complex should provide a well-insulated membrane housing the functions within a single-storey structure that is at once iconic (eloquently speaking of the functions and content of the building) and understated (by seamlessly blending the building's architectonic qualities into the landscape of the site). This embodiment will provide a building complex that is consistent with all accessibility requirements both from the visitor standpoint as well as from services on site.

Figure 6. Building Idea Imagery

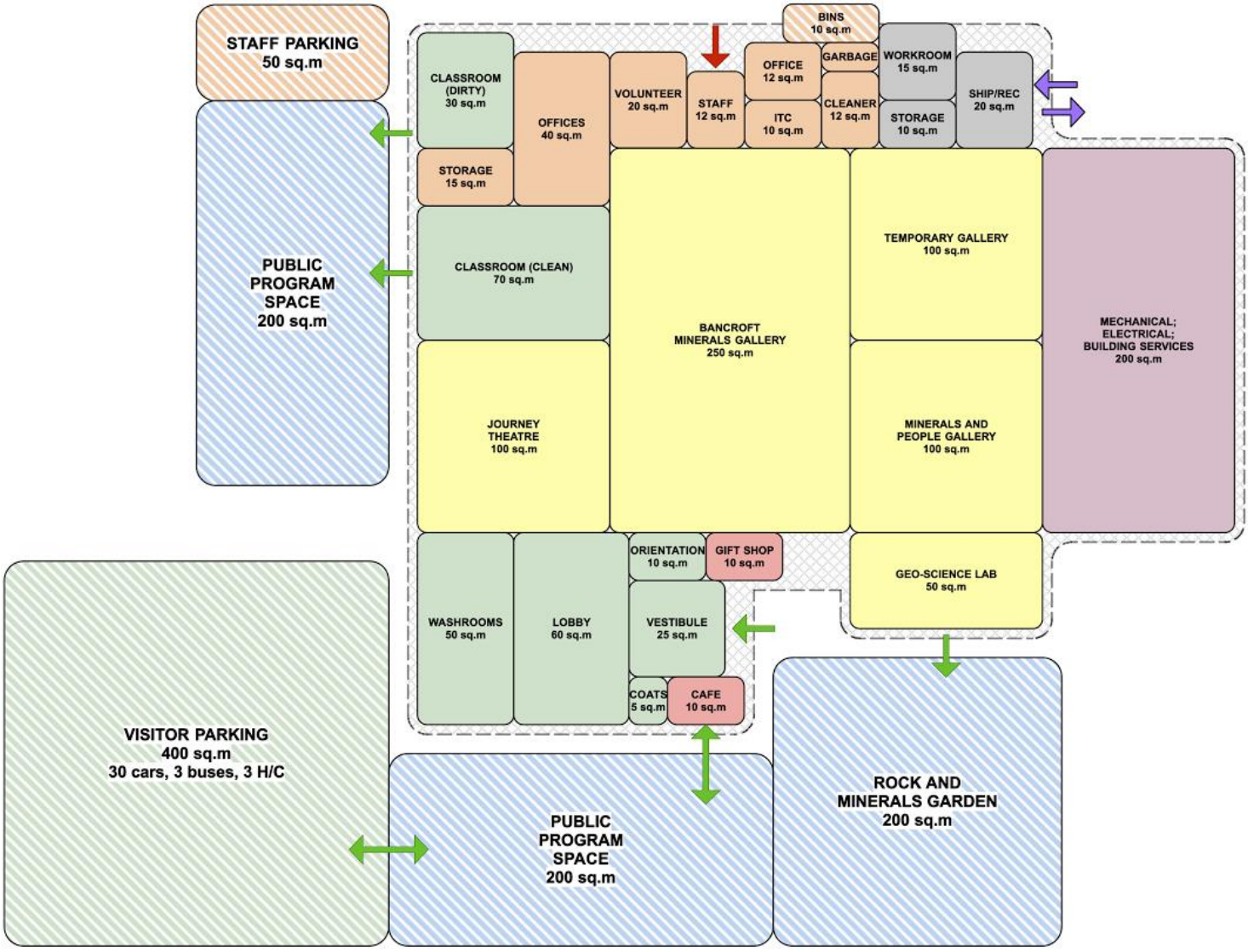


Figure 7. Floor Layout

8. The Functional Plan and Capital Budget

The Functional Plan is based upon the Visitor Experience Concept, the adjacency of functional spaces and the Massing Study of the facility. It assumes a modest, if creative, architectural design using locally resourced materials and labour.

Flowing from the spatial assumptions of the Functional Plan, the Capital Budget is stated in 2016 Canadian Dollars with no inflation assumptions. The Capital Budget does not include the cost of any capital fundraising campaign, the purchase of any specific site or the improvement of any selected site to reflect institutional needs for utilities or services.

The Capital Budget uses generic values to calculate built costs ($450/sf), and exhibit costs ($400/sf) as no design is agreed and no master plan for exhibits has been developed. The design concept provided in this Report, once agreed to, will be used to provide a more detailed cost estimate of the projected costs of building the facility. However, as this is a concept design to allow Class D costing of the vision and not an architectural design, the greater number assumed in generic costing of the Capital Budget should be used in future planning and the Building Cost projection of the concept design understood as supporting documentation.

The Capital Budget assumes that, once approved, planning and construction will move forward uninterrupted from commissioning of final designs for facilities and exhibits to opening. The Capital Budget assumes a 20% contingency as there is no site, no financial commitment and "miles to go" before opening. There is a 28% assumption (~$2.79m) for planning fees which includes not just the architectural and museological consultants fees but project management by the Town, support for one year pre-opening operations to recruit and train staff, develop programmes, and test them before opening. There is also an allowance ($700,000) for fit-out of the facility from ticketing computers and software, to food service and retail space fit out to office equipment and supplies.

There is no budget for collections acquisition or collection care in the Capital Budget. Very significant savings can be realized if the collection and equipment (cases) of the current Gem and Mineral Museum can be utilized by the ESC. The expertise of the Gem and Mineral Club will be critical to the success of the ESC project.

8.1. Functional Plan and Capital Budget

Zone	Function Number	Functional Area	Area m^2	Area f^2	Technical Comment	Critical Adjacencies
Public Service	1	Vestibules (2 public)	25	269	Barrier Free Access, Alarmed and Secured Doors	Lobby
	2	Lobby	60	646	Ticketing, Reception	Main Entrance
	3	Orientation	10	108		Ticketing
	4	Gift Shop	10	108		Exit
	5	Café	10	108		Ticketing
	6	Public Washroom (M,W,C)	50	538		Ticketing
	7	Cloak Room	5	54		Ticketing
	8	Classroom (Dirty)	30	323		Exhibits
	9	Classroom (Clean)	70	753		Exhibits
Service Spaces	10	Program Storage	15	161	Paper, Costumes, Visitor Tools	
	11	ITC (IT & Utilities)	10	108	Servers	
Exhibitions: Earth Sciences	12	Theatre	100	1010	Film Projection and Lecture only	
	13	Temporary Gallery	100	1076		Mineral Gallery
	14	Mineral Gallery	250	2691		Lobby
	15	Geo-Lab	50	538		Secondary Exit
	26	Minerals & Humans	100	1076		

Zone	Function Number	Functional Area	Area m^2	Area f^2	Technical Comment	Critical Adjacencies
Collection Spaces	16	Shipping/Receiving, Staging and Crate Storage	20	215	Large Object Moving Equipment, Exhibit Crate Storage	Rear Roadway + Exhibits
	17	Isolation Room	0	0		Receiving
	18	Collection Work Room	15	161		Collection Storage
	19	Collection Storage	10	108		Offices
Administration	20	Open Offices	40	431		Collection Storage, Exhibitions
	21	Office	12	129		Open Offices
	22	Volunteer's Room	20	215		Exhibitions
	23	Staff Room	12	129	Kitchen, tables, lockers	
Service Space	24	Cleaner's Room	12	129		Washrooms
	25	Garbage & Recycling Bins	4	43	Interior Temporary Holdings	
	Interior Functional Total		**1040**	**11128**		

Gross Interior			1040	11128	Building ($450/sf)	$ 6,509,696
Gross Up	35	30%	312	3338	Exhibit ($400/sf)	$ 2,526,400
	Interior Gross Total		**1352**	**14466**		

Zone	Function Number	Functional Area	Area m^2	Area f^2	Technical Comment	Critical Adjacencies
Exterior Spaces		Visitor Parking 30 cars / 3 buses (including Challenged Visitor Parking)	400			
		Staff Parking (5 cars)	50			
		Rock Garden	200			
		Public Programme Space	500			
		Maintained Lawns	Site Specific			Not Estimated
		Maintenance Sched	Site Specific		Equipment Storage	Not Estimated
		Roadways	Site Specific			Not Estimated
		Garbage & Recycling Bins	10			
					Exterior Allowance	$ 1,500,000
		Fit Out (Allowance)				$ 700,000
		Planning Costs (28%)	Architects, Fees, etc., Includes 1.5 year Pre-Opening Operating Costs[1]			$ 2,726,107
					Total Projected Building Budget	$ 13,962,202
					Contingency 20%	$ 2,792,440
					Total Projected Project Cost	$ 16,754,643

1 Excludes all site specific costs, as no site chosen

Table 5. Projected Capital Budget

9. Annual Operating Budget

It has been agreed that it is critical to right size the Earth Sciences Centre's facilities and programmes to provide an effective balance between the scale necessary to attract significant visitors and the financial sustainability of the ESC within the economies of Hastings and Bancroft.

The Operating Budget assumes that the ESC is an economic magnet for Bancroft and the region but not an economic engine. While there will be only three full-time jobs created at the Centre, there will be significant seasonal and outsourced employment as a result of the project. The goal is to attract visitors to our Town's restaurants, accommodations, and shops. "One more night" is our goal -- to keep families and visitors one more night in the region as they transit to Ottawa, Algonquin Park or Toronto. That one additional night will have significant impact on the local economy. Our budget and our operating structure offers limited retail or food options on site with the aim of encouraging visitors to visit the businesses of Bancroft and environ.

The operating budget assumes a year-round operation focused on revenue generation in the high (summer) tourist season, and local services to the residents of the County and the Town in the off season. Operating hours will be longer in the high season and lower in the off season to reflect these differences in audiences and users. As well, the off season will be used not just to maintain the facility and programmes at the level of national and international best museum practice but to market our offerings internationally to universities, colleges and tour groups while providing services to the education community and service clubs in the region. We cannot afford any hiatus in our efforts in building audiences and we cannot afford any significant annual capital investment in national or international marketing. Our virtual presences and the quality and diversity of our programme offers must be our principle tools in reaching beyond our region to new global markets.

The Operating Budget should be read with it attached assumptions. Our estimates are conservative both on revenue generation and expenditures. The budget is modest for a regional museum ($375,000) but is in line with the estimates of earlier studies. The operating budget is focused on providing significant value for money to our visitors. Every museum in Ontario receives some level of government support the ESC will be no different. The success of the ESC will require an annual commitment from all levels of government to support specific programmes at the Centre. The budget also assumes that permanent staff will aggressively seek and successfully compete for programme grants.

As no site has been selected for the ESC, we are unable to estimate any site related costs. We encourage the Client to seek a site as close as possible to the business centre of Bancroft and to integrate the facility into all Town planning, social, economic and long-term development thinking.

9.1 Preliminary Annualized Operating Budget Projection

		Historical Projections (2010)			Projected				Notes
		Year 1	Year 2	Year 3	[1]Year -1 Pre-Opening	Year 1	Year 2	Year 3	
Revenues									2
1	**Direct Revenues** (on attendance of …)	22,000	18,000	20,000		25,000	20,000	22,000	3
	Admissions	$70,076	$58,172	$63,240	$3,000	$79,500	$60,500	$68,250	4
	Other	-	-	-					
2	**Temporary Revenues**								
	Student Grant Service Canada	-	-	-	$8,000	$8,000	$8,000	$8,000	5
	Fundraising	$20,000	$20,000	$30,000	$4,000	$4,500	$4,000	$4,000	6
	Sponsorships	-	-	-	$2,500	$5,000	$6,000	$7,500	7
	Donations	-	-	-	$3,000	$5,000	$5,000	$3,000	8
3	**Earned Revenues**								
	Shop Sales	$49,500	$40,500	$50,000	-	$10,000	$8,000	$8,000	9
	Rentals	$6,250	$6,563	$6,891	-	$1,000	$2,500	$2,500	10
	Program Revenues (Combined in 2010)	$10,000	$10,500	$10,500	$1,500	$3,500	$5,000	$8,000	
	Education Revenues (Combined in 2010)	-	-	-	-	$1,000	$1,200	$1,500	11
	Food Services	$2,500	$2,550	$2,601	-	$4,000	$4,000	$6,000	12
	Other	$2,500	$2,500	$2,500	-	-	-	-	13
4	**Government Sustaining Grants (combined in 2010)**								
	Town of Bancroft				$50,000	$75,000	$75,000	$75,000	14
	County of Hasting	$177,181	$235,048	$235,754	$100,000	$125,000	$125,000	$125,000	15
	Province of Ontario				-	$30,000	$30,000	$30,000	16
	Foundation and Program Grants				-	$30,000	$30,000	$30,000	17
Total Revenues		$338,007	$375,833	$401,486	$172,000	$381,500	$364,200	$376,750	

Table 6. Projected Annual Revenues

Expenses	Historical Projections (2010) Year 1	Year 2	Year 3	Projected [1]Year -1 Pre-Opening	Year 1	Year 2	Year 3	Notes
5 Salaries and Benefits (Combined in 2010)								
Salaries (FTE)	$194,550	$204,278	$214,491	$160,000	$164,800	$169,744	$174,836	18
Benefits	-	-	-	$6,400	$6,592	$6,790	$6,993	19
Casual	-	-	-	-	$15,000	$13,000	$15,000	20
Benefits	-	-	-	-	-	-	-	21
Seasonal	-	-	-	$5,000	$8,000	$8,000	$8,000	22
6 Goods and Services								
Shop Inventory	$24,750	$20,250	$25,000	-	$8,000	$8,000	$8,000	23
Office Supplies				$5,000	$1,000	$1,000	$1,000	24
Marketing/Advertising	$11,000	$9,000	$15,000	$25,000	$9,000	$9,000	$9,000	25
Insurances	-	-	-	$2,500	$2,500	$2,500	$2,500	26
General Fees (Licenses)	-	-	-	-	-	-	-	27
Professional Fees	-	-	-	$5,000	$1,500	$1,000	$1,000	28
Fundraising Costs	$6,000	$6,000	$9,000	$2,500	$2,500	$2,500	$2,500	29
7 Programmes								
Collections Care	$2,500	$2,500	$2,500	$5,000	$3,000	$3,000	$3,000	30
Temporary Exhibitions	$0	$35,000	$35,000	-	$20,000	$20,000	$20,000	31
Education Programmes	$0	$0		-	$4,000	$4,000	$4,000	32
Public Programmes	$12,500	$13,750	$13,125	-	$15,000	$16,000	$18,000	33
Human Resources	-	-	-	-	$500	$500	$500	34
Web Programmes	-	-	-	-	$1,200	$1,200	$1,200	35
Contracted Services	-	-	-	-	$10,000	$10,000	$10,000	36
Outreach	-	-	-	-	-	-	$5,000	37
Training/ Travel	-	-	-	$2,000	$2,500	$2,500	$2,500	38
8 Ancillary Costs								
Exhibition Maintenance	-	-	-	-	$5,000	$5,000	$5,000	39
Landscaping	-	-	-	-	$3,000	$3,000	$3,000	40
Utilities (Power, Water, etc.)	$63,360	$64,627	$65,920	-	$65,000	$65,000	$65,000	41
Communications	-	-	-	-	$1,000	$1,000	$1,000	42
Building Maintenance	-	-	-	-	$1,000	$3,000	$3,000	43
Oper. Assets (Equipment)	-	-	-	-	-	$3,000	$5,000	44
Misc. Expenses (General Administrative)	$23,346	$20,428	$21,449	$2,500	$2,500	$2,500	$2,500	45
Total Expenses	$338,006	$375,833	$401,485	$220,900	$352,592	$361,234	$377,530	46
Variance	$1	$0	$1	-$48,900	$28,908	$2,966	-$780	47

Superscript Note 1: Variance in Pre-opening Annual Budget is part of the Capital Budget Programme

Table 7. Projected Expenses

Notes

1. 2010 projections based on summer operations only/ Current projections based on 12 month operations.
2. Current projections include 1 year pre-opening to ensure operators have direct experience with building audience, fundraising & facility.
3. Attendance based on 10 week high season, 8 weeks shoulder season, and 34 weeks off season.
4. High & Shoulder Season Rates: Adults $4.50, Seniors (65+) $3.50, Children (1-12) $3.00, School Programmes $1.00, Tours $3.00. Off Season Rates $3:00 per Adult, Children $1.00, Rate Payers in Hastings receiving 1 free family pass a year excluding programme fees.
5. Assumes the Government of Canada continues this programme.
6. Assumes 1 or 2 local annual fundraising events. Unlikely larger companies will give on annual basis after a major Capital Fundraising Campaign.
7. Assumes local sponsorship of Public Programmes and perhaps the temporary exhibitions.
8. Assumes local individuals and companies will make donations, some in-kind.
9. Assumes modest volunteer run shop, perhaps associated with ticket taking (cash management).
10. Assumes local associations, company meetings, etc. take advantage of the class room spaces off hours. (Modest rental fees)
11. Assumes strong local education interest in curriculum based school programmes.
12 Assumes "IKEA" Café (stove top -no fryer or grills) hot dogs and game meatballs, with oven fries & popcorn).
13. To be determined as operations begin.
14. Assumes local grants for services and maintenance.
15. Assumes county grants for education and programme support.
16. Assumes provincial grants for temporary exhibition and collections care.
17. Assumes operational and educational programmes will qualify for special grants each year. Assumes each permanent position writes at least one successful grant application per year related to their area of responsibility.
18. Assumes three full time staff (Director, Curator, Programmes Officer).
19. Assumes statutory benefits only, no other benefits.

20. Assumes allowance for contract teachers, programme leads.
21. Assumes casual and seasonal get no benefits.
22. Assumes Gov't of Canada Summer Students .
23. Assumes very modest shop.
24. Assumes capital budget will provide basic office supplies as part of its fit-out budget and this represents replacement costs.
25. Assumes inclusion in County and Town Marketing Gratis, cost to be in provincial and local media outlets.
26. Assumes insurance held by Town as property owner, general liability held by operator.
27. No licenses currently noted in any programme, fund line retained for future use.
28. Assumes operating legal services and financial audits.
29. Assumes Local Annual Costs Only (not included in major Capital Fundraising Campaign).
30. Assumes material costs related to reserve collection including computer database and appropriate storage supplies.
31. Assumes one summer exhibition linked to mission, one winter exhibition of local interest (perhaps the arts) linked to societal service.
32. Assumes overhead costs of serving 1000 students a year.
33. Assumes overhead costs of proving 20 programmes a year.
34. Assumes cost of casual and summer recruitment.
35. Assume web hosting costs only.
36. Assumes outsourcing of extra security as required, advisory services, and Board related costs.
37. Assumes no outreach in first two years and then development of a school assistance programme to serve Hastings County.
38. Assumes attendance at provincial and some national museum related conferences, and training programmes.
39. Assumes regular gallery updating.
40. Assumes exterior grounds maintenance is out sourced including snow removal.

41. As building not designed and usage not measurable, this is an allowance.

42. Assumes two phone lines with extensions.

43. Assumes regular maintenance of building.

44. Assumes capital equipment replacement.

45. Assumes that unexpected expenses will happen.

46. Assumes the desire to maintain a balanced budget year to year with surpluses retain to deal with any short-term deficits.

47. Difference between Revenues and Expenses (surpluses are retained and not budgeted for going forward).

10. Next Steps

To date, much work has been completed to develop and progress the master planning process -- background materials, previous plans, and associated materials were reviewed and digested; over 25 stakeholders were interviewed and consulted; 12 potential sites were assessed; and many discussions were held and emails shared with the various members of the Client Team.

Based upon feedback and discussions with the Client, MPP built on the findings and recommendations from the Phase One Report and discussion of the Draft Final Report. This resulting Final Master Plan Report recommends the following steps for the consideration of the Client.

1. **There is no need for further feasibility studies.** The work of multiple research studies (1990, 2010, 2014, 2016) have been summarized and contextualized in this latest Report which accurately outlines the scope and projected costs of an Earth Sciences Centre in Bancroft.
2. **The Client should encourage local stakeholders to establish a new registered charity** that is willing and capable of operating the Earth Sciences Centre.
3. Once the Client has agreed with, or amended, the basic findings of the Final Master Plan Report, **the Client should agree on a projected capital budget and not more than two potential sites.**
4. **The Client should engage an architectural team to provide a Concept Design** for the agreed facility and its interior and exterior exhibits on each of the two sites. The Concept Design should also include projected costs for the proposed designs.
5. Based on the agreed architectural context and their projected budget**, the Client should seek financial support for the project.**

11. Appendix

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