TUMBLER RIDGE MUSEUM FOUNDATION

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November 13, 2024

Dear Chair Hiebert, and Electoral Area and Municipal Directors,

The Tumbler Ridge Museum Foundation (TRMF) is applying to Digital Museums Canada (DMC) for a grant to develop a digital exhibition to be used as an educational and tourism related resource. We will be utilizing our impressive fossil collection, spanning 500 million years of geological time, and the expertise of our and the Tumbler Ridge UNESCO Geopark staff, and volunteers, to enrich classroom experiences, encourage curiosity, and to provide an accessible way for people to engage with and better understand the landscapes we love.

By means of a generous donation from a private family foundation, we were fortunate to engage Red Rock Creative and Substrate Studios to create a development plan, project budget, and schedule in anticipation of applying to DMC. Collectively they have over 40 years of experience in museum exhibit design, interpretation, and web design and development. The plan, for your interest, is attached as a supplement to this letter.

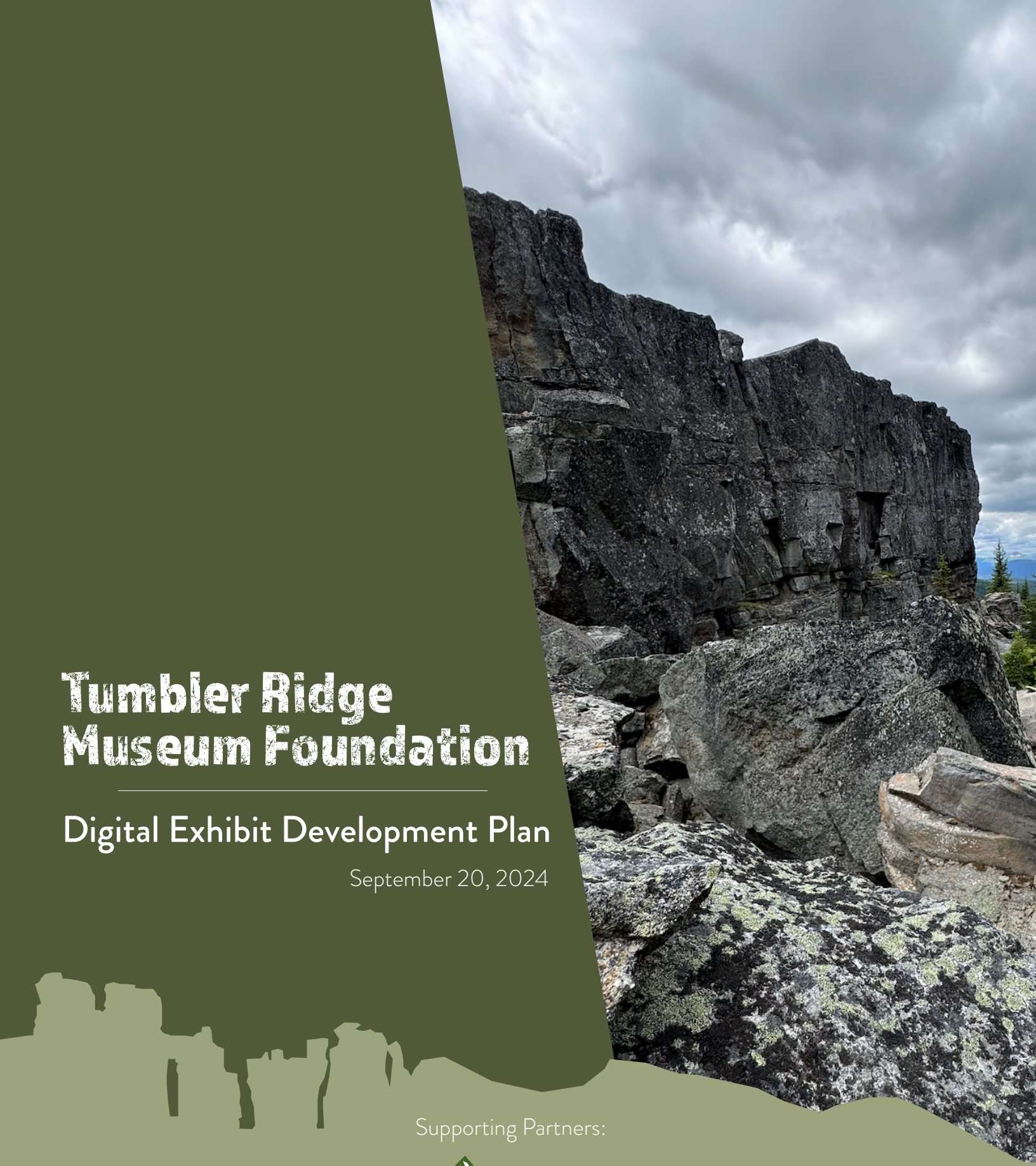
This is a major project with a budget of $365,900 which includes cash and in-kind contributions. The DMC contribution is set at a maximum of $250,000 of eligible expenses. If successful, work will begin in June of 2025 with an official exhibition launch toward the end of 2027. The board of the TRMF has approved a financial (matching) contribution of $70,000 over the lifetime of the project to cover the remaining cash requirements.

Thank you in advance for your consideration. With the DMC application closing date looming, we request your letter of support by November 26th, 2024.

Sincerely,

[redacted]

Zena Conlin
Executive Director
Tumbler Ridge Museum Foundation
250-242-3466



Tumbler Ridge Museum Foundation

Digital Exhibit Development Plan

September 20, 2024

Supporting Partners:

TUMBLER RIDGE MUSEUM

TUMBLER RIDGE GLOBAL GEOPARK

Table of Contents

#1 Introduction

This development plan is for the purpose of applying to Digital Museums Canada (DMC) for funding to develop and implement a digital exhibit that shares the story of the paleontology, geology, biodiversity and anthropology of Tumbler Ridge. Development began in June 2024, with the grant application deadline on December 1, 2024. This plan outlines many of the aspects required to complete the grant application, while also creating a foundation on which to build budget and schedule and to begin exhibit development should funding be successfully awarded.

Development Process

Red Rock Creative and Substrate Studios (collectively the consulting team) worked in collaboration with the Tumbler Ridge Museum Foundation (TRMF) and the Tumbler Ridge Geopark (TRG) to identify the audience and narrative for the exhibit, along with the budget and schedule required for the application. VentureWeb Design collaborated with the consulting team to develop the user experience and consult on accessibility and technical requirements.

The consulting team conducted brainstorming meetings with the Tumbler Ridge team and visited the area in July 2024 to better appreciate the sense of place as well as see the museum collections. From the information gathered, the consulting team digested the information gathered and developed proposed ideas for the TRMF to review, along with input from the TRG and VentureWeb Design. This plan is the result of that work. Though the original goal was to share paleontology, geology, biodiversity and anthropology, the Indigenous component remains undetermined owing to the TRG not being able to engage their Indigenous Advisory Group during the development process. However, should this happen before or during successful funding, Indigenous narratives could be integrated then.

#2 Goals

The following goals were identified for the website.

- Make Tumbler Ridge more accessible to those who cannot visit its rural/remote location
- Provide accessible learning opportunities for geology and paleontology, as well as encourage responsible/respectful visitation and fossil etiquette
- Promote appreciation, understanding and protection of the site
- Highlight the research sites to help protect them to promote geological conservation
- Build greater awareness about Tumbler Ridge as a place to visit to further lifelong learning and attract ideal visitors

There is a desire to put Tumbler Ridge and its paleontology in the context of a larger geological story.

More specifically, it aims to improve understanding of where the region fits into the wider geochronology and paleogeography of western Canada, including how geological timelines and the strata of sites contribute to the greater understanding of a sense of place and significance in Earth's history.

The website will achieve these goals by providing good science and trustworthy tools and resources and by becoming a hub of accurate information, which is backed by scientific evidence and academic research (in turn combatting misinformation or misunderstandings about geology/paleontology). Through achieving these goals, the website can position the TRMF and TRG as an authority on credible, reliable sources of information and demonstrate the role that museums have in advancing science. In addition to enhancing understanding of the science, there is a significant desire to encourage people to be responsible and respectful when out on the land, both as recreationists and citizen scientists. This also speaks to and leads to wider societal impacts and goals such as climate change, human impacts and the United Nations' Sustainable Development Goals (SDGs). This message can also be enhanced by weaving together the threads of past and present, e.g. leaving footprints through time as a personal way to contribute to the future.

#3 Audience

Audience Considerations

In developing a project that aligns with the Digital Museums Canada grant, as well as a project that meets the wider needs of the TRMF and TRG, certain factors were taken into consideration.

Canadian Focus – Though the geology and paleontology of the region are internationally significant, the Canadian Museums Association, as funders of the DMC, can be anticipated to favour Canadian over international audiences. If funding is successful, international audiences can be taken into account as website development proceeds. However, for the grant application, the focus should be on Canadian audiences.

Local and Non-local – Locals are an important target audience as they are the people out on the land who may find new fossils. However, to be more appealing to the grant adjudicators, the website should have more reach and be of relevance to a wider audience, i.e. include information transferrable to other places, e.g. what to do if finding fossils.

Target Audience

For the application, the following questions must be answered:

1. Who is the target audience for the online project? How will they benefit?

2. Why is the target audience interested or invested in the subject? Define specific outcomes or benefits.

Who is the Target Audience?

The primary audience are those who are inspired by the natural world and are keen to learn more about the world around them. They are motivated by wanting to contribute to a better world, whether through sharing knowledge with friends or family, treating the land with respect, benefitting from connecting to nature or participating in citizen science. They may or may not have a science background, but are curious and open-minded, enjoy learning/lifelong learning, and are critical thinkers.

Demographically, these people will include youth (under 30), citizen scientists/hobbyists, lifelong learners, educators, museum-goers, naturalists and hikers or other outdoor enthusiasts etc. This audience may be local to Tumbler Ridge, visitors/potential visitors, or even those who are unable to visit. The secondary audience are those beyond the primary audience who are seeking reliable and trusted sources of information. They may be parents/caregivers, academics/researchers or local tour guides as examples.

How will they benefit?
The audience will benefit by accessing a reliable and credible resource, which will take interesting, but often difficult-to-comprehend scientific information, and make it accessible to the layperson.

Through video, animations, interactivity, high-quality photos and content designed specifically to interpret the science, it will both provide a sense of place for Tumbler Ridge (a place many in BC have heard of but know little about other perhaps than its connection to dinosaurs), as well as opening up an understanding of geological time, ancient life and connections to our own futures. For those with a particular interest in geology or paleontology, the site will give the chance to "nerd out" to some fascinating and cool science.

For those interested in paleontological citizen science, regardless of their location, the website will also give them the resources to take their fossil hunting from bashing rocks with a hammer to thoughtful data collection, which can be of use to researchers.

Why is the target audience interested or invested in the subject? Define specific outcomes or benefits.
For its population size, Tumbler Ridge is a community that is more well known than many other similarly-sized towns in Canada. It gets media coverage for its paleontological findings, is an outdoor recreation draw, is a key part of Northern BC's regional tourism strategy, and is known internationally in the geological/ paleontological communities. In other words, there are many people who know about Tumbler Ridge, and are intrigued, but who lack a solid foundation of its sense of place. This website will help build that foundation using one of its key assets, the museum's fossil collection.

As individuals will come to the website with different backgrounds, skills, values and motivations, the Inspiring Learning for All framework (developed in the early 2000s by the UK's Museums, Libraries and Archives organization) was chosen for defining "specific outcomes or benefits" as it places no one benefit over another, e.g. knowledge is as important as skills etc. This will help ensure a website is developed where users can pick the elements relevant and meaningful to them.

☑ **Knowledge & Understanding:**

- An understanding of the geological significance of the Tumbler Ridge region.
- An understanding of the scale of geological time and how/where specific eras of life/biodiversity fit in that scale.
- An understanding of the interconnectedness between ecosystems and changing environments in the geological record (e.g. fossil formation, climate change, mountain building).
- An understanding of our impact and what our current actions may leave behind for future generations to discover.

☑ **Skills:**

- New or enhanced critical thinking skills by making connections between the features observed in a fossil or rock and modern equivalents that can give clues to events in the past.
- New or enhanced ability to recognize and/or identify fossil material through developing observation and classification skills.
- Knowing how to collect useful data for interpretation and identification by museum staff.

☑ **Behaviour & Progression:**

- A commitment to sustainable practices (e.g. leave no trace).
- The development of a citizen scientist mindset (recording and reporting).
- A commitment to report discoveries to the museum.

☑ **Enjoyment, Inspiration & Creativity:**

- A new or enhanced sense of curiosity and wonder about the planet's history.
- An increase in citizen science activity locally and with individuals excited at the possibility of making a discovery.
- A new or enhanced sense of place for those living regionally.
- Inspired to visit the Geopark and its sites (as a tourist or local).

☑ **Attitudes & Values:**

- A deeper, personal connection to the land.
- Enhanced respect for the land.
- Valuing the desire to contribute to global sustainability goals through regional contributions.

#4 Thematic Approach

Overall Theme & Main Topics

For the application, the following question must be answered:

1. What is the online project about?

Individual actions are what shape and share the immensity of our planet's past, present and future.

This website will share the relationship between a community museum, citizen scientists and the ancient life, including dinosaurs, for which BC's northern town of Tumbler Ridge is/was home. These individuals, whether ancient animal or person today, leave their mark on Earth. Ancient life left traces of their journeys and body parts in fossils. Humans today also leave traces but with far wider-reaching impacts. Humans also help uncover and piece together the immense puzzle of Earth's history, solved incrementally over time with new discoveries.

The TRMF punches above its weight in academia, challenging internationally accepted views on ancient life and owes many significant findings to citizen scientists. This website will make the immensity of our planet's story more digestible through the impressive museum collections and will inspire individuals to think critically about how everyday activities can have long-lasting impacts on the planet, including anthropogenically, and how anyone has the potential to contribute to our understanding of the Earth, our home.

The website will cover four main topics outlined below. See Appendix A for a proposed content matrix with an outline of key messages.

This is a mock-up of the homepage. Each quadrant will have a unique illustrative element that represents its topic.

Discover Fossils – Using the museum's fossil collection, with a focus on plants, fish (coelacanth, shark teeth), trackways/bones (dinosaurs, marine reptiles including crocodilian) and other trace fossils (burrows), Holocene fossils (bison, horse, mammoth) to show the diversity of ancient life, including the huge, tiny, surprising and significant. Also, this page is intended to share what fossils can tell us about how the Earth's environments may change in the future.

Fossil Timeline – Tumbler Ridge has a unique claim to fame of having rocks from a span of over 500 million years, and through the time when most evolution occurred in life on Earth. Using the fossils as touchpoints to tell this story, this topic will tell the story of how ancient life, landscapes and climates in the region changed through time. In addition, the section will touch on the traces we all leave behind in our lives and in turn contribute to the lasting legacy of humans on Earth.

Tumbler Ridge Map – To support locals and visitors, an interactive map and supporting media will let visitors explore key sites of interest, with an appreciation and understanding of how they (landscape, flora, fauna) help tell the geological/ paleontological story.

Get Involved – To encourage effective and active citizen science in paleontology, and to support fossil hunters in any location, this section will share stories of how individuals have unearthed fossils in the Tumbler Ridge region, including internationally significant specimens.

Tools and resources will also be provided to encourage the responsible collection of fossils or data to avoid provenance or scientific information being lost before it reaches a museum or researcher.

Two secondary sections on the website will include the following.

Tumbler Ridge Research – providing access to a repository of research-quality information for those looking for a deeper dive into the science along with content that reflects the value of museums to scientific research.

Glossary – providing a resource for users who do not know the technical terms, but who are interested in learning more. Note that this should not be an excuse to employ jargon in the website body copy, but to use it for words like species names.

This is a mock-up of the Discover Fossils Page. Further design refinement will be required, based on the evolution of the User Experience design process.

Relevancy

The relevancy of the website is a critical piece to define. When consuming information, a reader/user/viewer will only make meaning from the content and engage more fully if they feel it is relevant to them. When seeking a change in attitude or behaviour (e.g. respect on the land or citizen science participation), it is even more important to engage the person as much as possible.

For the application, the following question must be answered:
1. Why is the online project subject important?

Why is the online project subject important?
Given that every user will come to the website with their own perspective on what is relevant, finding common ground is rarely easy when defining themes. Using universal concepts that we can all relate to (e.g. community, love, struggle, perseverance) is a recommended tactic in interpretive planning. However, when dealing with geological or paleontological concepts, this is harder to do as the places, times and lifeforms are hard to visualize or conceptualize, making it harder to build empathy or connection. The common ground in the theme has therefore been selected as "you", the user. The main tangible element is fossils, much-loved or appreciated by many in the population. By weaving the user into the narrative, it can encourage engagement by helping them see themselves in the exhibit.

This will be done both on an individual and societal scale. With climate change and biodiversity loss as the two biggest natural threats to life on Earth today, the time is now to support regional, national and international efforts to encourage more informed citizens who also reflect on their own actions and their wider place in the world.

Understanding how Earth has changed in the past as well as how individual animals left behind traces that we find millions of years later can help us put our own 'geological blink of an eye' into a wider perspective. Tumbler Ridge, with its 500 million years of history, offers a unique opportunity to share the ebb and flow of life, climate and topography and encourage users to reflect on both the permanence of what we leave behind in our daily lives, but also the ultimate impermanence of the nature of things over hundreds of millions and even billions of years. The website will also encourage community participation. The museum and Geopark are two important organizations (e.g. economic/tourism drivers, employers, collaborators) in Tumbler Ridge, and the community is proud of its status as the 'Dinosaur Capital of BC'. However, as both the community and organizations lack many decades of relationship (all being relatively new), there is room to promote a better understanding or appreciation of why the organizations and science are internationally significant and what locals can do to support and enjoy that scientific importance and its advancement.

As fossil collection can be done a right way and a wrong way, and as much of the region remains paleontologically unexplored, the website will become a resource for locals (or visitors) who may find fossils. By knowing how to properly record their finding and report it to the museum (or any museum if they are fossil hunting elsewhere), the science can be preserved, the research can be done, and the finder can have their name associated with the find in perpetuity, potentially even becoming one of the new stories of significant finds. The website also supports the message about the importance of museums. As museums today can struggle for relevancy in a time of internet-consumed media, soundbytes and decreased funding, this story highlights the value and worth of this small, community museum that advances science and even challenges long-held beliefs on ancient life.

Evaluation

For the application, the following question must be answered:

1. What aspects of the project will be evaluated with the target audience(s), and how?

What aspects of the project will be evaluated with the target audience(s), and how?
To ensure that website development will keep on track, a range of evaluations will be conducted through the project phases. These are anticipated to be as follows.

- ☑ **Phase 1** – No formal evaluation anticipated, unless Treat 8 Nations have by then expressed interest in participating. However, any informal feedback on the development plan can be integrated into the revised concept that the DMC require at this time.

- ☑ **Phase 2** – This would be a key time for evaluation. A focus group would be established, including citizen scientists, community members, educators, scientific advisors, Board members, accessibility specialists and any other interested parties. The aim would be to work through the proposed UX design, visual design and key messages to gather feedback. Wireframe and visual ID components along with sample texts would be presented via in-person meetings.

GeoPark and Wolverine Nordic Mountain Society would be consulted on the final list of sites for the map, what features to highlight and what assets are available/needed. Regional tourism organizations could also be approached to solicit feedback on any gaps, which may support tourism strategies if filled.

- **Phase 3** – During the second part of this phase (DMC identify parts 1 and 2), the existing focus group would engage in user testing. They would review the test preview site as individuals, with feedback solicited via survey and virtual meeting(s). Subsequent testing would be repeated as required as enhancements are made. Though not target audience evaluation, the translator/editor and curator/scientific advisors will also be engaged at this time to ensure content is accurate and has clarity, and to resolve any anticipated challenges when translating to French.

- **Phase 4** – Before final content is uploaded to the site, a content review will be conducted with the museum, Geopark and other stakeholders as necessary. Though 'editing by committee' is not advantageous for content development, it will be beneficial to recruit 1-2 focus group members with a layperson's knowledge of the content to provide a 'temperature check' on whether content is meeting needs on intellectual accessibility and clarity. This feedback will be sought via Word documents and will include video scripts.

  After the content is uploaded to the site, the preview site can then be distributed to the focus group for further review for clarity and interest. There is also scope to bring in the user testing experience of VentureWeb at this stage. Before the final content is complete, a wider user testing audience will be engaged, e.g. high school students, teachers, Tumbler Ridge visitor centre staff, accessibility specialists, and other citizen scientists etc.

- **Phase 5** – Before the final version is complete, user testers will be asked to do a final review. Insights will be used to revise the communications plan to help promote the exhibit. This would be done by providing a feedback form for them to complete.

- **Post-launch** – At this time, digital measurement platform Google Analytics and digital marketing platforms such as Meta will be used to determine aspects such as referral sources, time on site or most visited pages. This information can be used to determine any future tweaks or enhancements to the site, e.g. addition of new sites on the map, or new fossils to add. Teachers can also be engaged to discuss opportunities for educator resources that would support their needs by using the website.

#5 Assets Assessment

The grant application requires a description of the media assets and/or collections used in the project and an explanation of how these items support the storyline.
The following is therefore an assessment of the assets available or to be acquired.

Archives

Though the TRMF holds archival material, it is not expected to be significant for the website. However, assuming web development occurs, a review by the Collections Manager and Content Developer should be done in case any prove to be pertinent to supporting the narrative.

Images & Video

Circumstances at the museum mean that the image and video collection can essentially be considered minimal. The following categories of photos would be required for the exhibit.

- High-quality photos of specimens, including large and small-scale
- Photos/videos of sites, both paleo sites and points of interest (for map)
- Photos/videos of research and/or specimen preparation
- Photos/videos of fieldwork/specimen recovery
- Photos/video of citizen scientists, either in the field or with specimens in the museum

Collections Assessment

The impressive fossil collection at the TRMF will be the feature of the exhibit. This is also expected to align with the funder's focus and therefore improve the evaluation score.
The following outlines an assessment of the collections.

Highlights

- Dinosaur and marine reptile trackways and fossils with 2D photogrammetry images of key specimens
- Type specimens, including ceolocanth
- Unique specimens, including lobster and turtle
- Surprising specimens, including giant clams and large plant fronds/leaves
- Holocene fossils
- Fish and plant fossils

Limitations

- Many trackways are replicas, which can lessen the appeal for those with an interest in objects more than narrative.
- Many fish fossils are incomplete, e.g. missing heads, which may limit engagement for those without a keen interest in fossils and who may have seen complete specimens elsewhere, e.g. gift shops, national museums, documentaries.
- When photographed, some fossils are harder to identify; care will need to be taken to use best lighting when photographing specimens for the website.
- The larger specimens will also be difficult to photograph effectively and will need planning to execute well so that they can act as 'hero' photos for the website
- Some smaller specimens are best observed in macro mode and may need a microscopic camera setup to bring out the best in them.
- Some specimens, particularly the hadrosaur fossil, have not yet been prepared
- There are no petrology specimens that can be used to support the landscape/climatic story; consider options for acquiring specimens (e.g. for teaching collection, if not to be acquisitioned) to support this narrative, otherwise, photos will have to be taken of rocks in-situ.

For a breakdown of suitable/engaging fossils that may be used, see Appendix B.

Sites

The scale of the interactive points of interest map will most likely be determined by budget given that there are many potential sites. Though they help to tell the narrative and can be considered assets, from the grant perspective, they will not be as key as the collections.

The existence of existing, good-quality photographs from the TRG can support this component of the site, to keep costs down. However, existing photos may not show desired features and may not be optimized for the digital experience (such as for small screens). To avoid duplication of the TRG Geosites content, this section should include sites that can be tied to collections, e.g. contemporary connections such as birds at Bullmoose Marsh and bird fossils, or plant fossils compared with vegetation at The Stone Corral. Otherwise, highlighting species from the sites/time periods can further the story shared on the TRG site.

Potential sites for inclusion are as follows (list not exhaustive).

- Flatbed Cabin Pool Dinosaur Tracks
- Bullmoose Marsh bird reserve; can be tied to bird fossils
- Windfall Lake; tropical marine fossils at high elevation
- The Stone Corral; possible tie to plant fossils
- Bergeron Cliffs; various, including pine forest and pine fossils
- Teepee Falls; giant inoceramid fossils
- Bootski Lake; marine fossils at high elevation and excellent folding

#6 Visual ID & Materials

Visual ID

Information on the visual look and feel of the exhibit is not required for the grant application, however, can be used in conjunction with the plan to help gain support from stakeholders for fiinancial/in-kind support or letters of support, i.e. it helps bring the plan to life.

Tumbler Ridge is a vast and wild place that is rich with geodiversity and biodiversity. From dense forests to rugged rock formations to layers upon layers of strata containing fossilized organic matter and other traces of life, every element found in the lands and waters tells a fascinating evolutionary story that spans more than 500 million years. The lands are filled with colour, texture, and patterns unique to the area and we want to bring this to life through design.

The team at Substrate Studios has developed a Visual ID for the Tumbler Ridge Digital Exhibit that is grounded in a sense of place and inspired by the visually stunning landscapes that exist within the Tumbler Ridge area. The look and feel of the exhibit features a wordmark and vector graphic elements that have an organic and earthy feel while maintaining a contemporary look for relevancy and accessibility. Below is a rough overview of the various components of the design:

Wordmark – The working exhibit name, Deep Time Discoveries, has been turned into a wordmark that is emphasized using a contemporary typeface. It is customized with a distressed treatment and offset letters to create visual interest.

Colour Ways – A pallet of primary and secondary earth tone colours has been developed, inspired by real-life colours that can be found in the array of flora, fauna, and natural features in Tumbler Ridge.

Graphic Elements – A selection of textured background patterns and custom icons adds dimension and visual interest to the user's journey through the website. We have also created a silhouette boilerplate element, inspired by the Shipyard Titanic rock formations to rest at the bottom of the website and other collateral.

View the Visual ID Presentation

DEEP TIME DISCOVERIES

Fossil Puzzles for the Past, Present and Future

DEEP TIME DISCOVERIES

Fossil Puzzles for the Past, Present and Future

DEEP TIME DISCOVERIES

Fossil Puzzles for the Past, Present and Future

DEEP TIME DISCOVERIES

Fossil Puzzles for the Past, Present and Future

Materials

The grant application requires a full description of the media assets and/or collections used in the project and an explanation of how these items support the storyline. For a breakdown of anticipated materials, which can be used for budgeting purposes, see Appendix C.

Based on our assets assessment, we have identified a variety of new materials that will help us shape the storytelling for our digital exhibit in compelling and accessible ways for the online audience. These include:

Photography – In addition to sourced imagery from TRG and Destination BC's digital asset library, we will require new assets. We recommend commissioning photography specifically linked with the Tumbler Ridge Museum collection, to complement the few images that do exist. This includes photos of the sites where specimens were collected, photogrammetry image captures of certain fossils, enabling close-up views that will render best in a digital format, and photos of the people behind the research (such as active sites that are currently being researched or museum staff engaged in specimen preparation or collections management). The specific number of photos required is dependent on the final selection of sites and fossils that will be included.

Video – Video is a powerful storytelling tool for visual learners and can help break down complex information into snackable tidbits. Video will be developed using b-roll, new footage, interviews and animations and should ensure a Tumbler Ridge focus or lens to avoid comments by the grant adjudicators that videos like this already exist in many places. Any video with audio will be accompanied by transcriptions in English and French. Although the specific number of videos is not fully finalized, the break-down of topics includes:

Title	Teaser Video: An Introduction to the Exhibit
Section:	Home, or for communications plan - TBD
Length:	45 seconds or less
Description:	A teaser video that introduces the general theme for the exhibit and introduces the user to the relationship between a community museum, citizen scientists and the ancient life, including dinosaurs

Title	Timelapse
Section:	Tumbler Ridge Map
Length:	30 seconds or less
Description:	A timelapse video that depicts well-documented species found fossilized in Tumber Ridge and how our understanding of their physical appearance and behaviour has shifted through the evolution of new scientific discoveries made at the museum.

Title	The Journey of a Fossil
Section:	Discover Fossils
Length:	1 minute or less
Description:	A piece that describes the ways in which a dinosaur or reptile from the Triassic Period left behind traces of its life as fossils with later discovery of the fossil by citizen scientists and research on the animal's life.

Title	The Present and Future
Section:	Timeline
Length:	1 minute or less
Description:	A piece that brings viewers to the present relating current actions to future outcomes

Title	Citizen Scientists
Section:	Get Involved
Length:	30 seconds or less
Description:	A piece that inspires citizen science through real examples

Paleoenvironmental Reconstruction – This form of illustration brings the past to life through realistic art renderings that help us breathe life into ancient species and habitats that no longer exist. This would be key to visualizing how the lands (and, at times, the sea) around Tumbler Ridge have evolved over 500+ million years and what species were supported by these changing environments over time. Examples of this type of work include:

Physical appearance - Renderings of species that existed during the Cretaceous Period in the Tumbler Ridge area, such as the hadrosaur. This brings the fossils that we have in the collection to life. This might also include new physical features of the hadrosaur that scientists have recently discovered, which is unique to Tumbler Ridge.

Behavioural traits - Showcasing how scientific discoveries made in Tumbler Ridge have led to new understandings about how certain species behaved. For example: once thought to be lone hunters, Tyrannosaurs may instead have hunted in pairs or packs, thanks to new trackway discoveries made near Tumbler Ridge.

Collections
The collections will be the highlight of the exhibit and the key focus for the adjudicators. For an assessment of the collections, see the Assets Assessment section.

#7 Accessibility

For the application, the following question must be answered:

1. Which digital tools and technologies will be used to create the user experience?

Which digital tools and technologies will be used to create the user experience?

The approach of VentureWeb, the web development agency engaged for this development process, would prioritize inclusivity and accessibility, adhering to WCAG AA standards and the Inclusive & Accessible Design Guidelines provided by the Museum of Human Rights. They are committed to ensuring that the website is accessible to all users, regardless of their abilities, device, or internet bandwidth. More specifically, they would govern the project according to the following guidelines.

Adherence to WCAG AA Standards – The design and development process will strictly follow WCAG AA guidelines, ensuring that the site is perceivable, operable, understandable, and robust. This includes:

- **Text Alternatives** – Providing text descriptions for non-text content like images, videos, and interactive elements, ensuring that users with visual impairments can access the information.
- **Keyboard Navigation** – Designing the website to be fully navigable using a keyboard, accommodating users with mobility impairments who may not use a mouse.
- **Colour Contrast and Text Size** – Ensuring sufficient colour contrast between text and background and providing options to adjust text size for users with visual impairments.

Device Responsiveness – The website will employ a responsive design approach, adapting seamlessly to various screen sizes and devices, including desktops, tablets, and smartphones. This ensures that users have a consistent and functional experience regardless of the device they are using.

Optimized for Low Bandwidth – To accommodate users with varying internet speeds, they will:

- **Optimize Media** – Compress images and videos to reduce load times without compromising quality. Implementing adaptive streaming for video content will ensure smoother playback.
- **Efficient Code** – Use clean, efficient coding practices to minimize data usage and improve page load times.

Inclusive Design Principles – In addition to technical compliance, they will apply inclusive design principles that align with the Human Rights exhibition design standards. This includes:

- **Clear Navigation** – Designing intuitive and easy-to-navigate interfaces that support users with cognitive and learning disabilities.
- **Flexible Interaction** – Offering multiple ways to interact with content, such as text-based alternatives for video and audio, and ensuring that interactive elements are easily accessible.

Web Content Accessibility – We will also ensure that any video content and animations will be developed with mobile handsets (small screens) in mind. All video with voiceovers will be accompanied by transcriptions. Any video with text overlay will be developed according to accessibility best practices. All images embedded on the site will have the appropriate alt tags to ensure screen readers can utilize this information effectively.

By integrating these strategies, we aim to create a website that is welcoming and functional for everyone, ensuring equal access to the museum's rich resources and content.

#8 User Experience

For the application, the following question must be answered:

1. How will the online project be organized?

2. What experiences will the users of the project have?

Through workshops with the TRMF and the TRG team, we established the following framework to guide our User Experience journey planning:

How will the online project be organized?

User Story

We must take an audience-centric approach to our website and never lose sight of their desires, motivations, and needs. We have developed a user story to use as a North Star in this process:

- **Type of User** – As a curious critical thinker who wants to learn about geology and paleontology, connect with the land, and contribute to a better future.
- **Action** – I want to visit a trusted virtual space to delve into fascinating ancient history while gaining clues to present day.
- **Benefit** – So that I can gain a greater understanding of a place that inspires me to make a difference in the world and share my new knowledge about Tumbler Ridge and citizen science with my friends and family.

Goal Statement

Our digital exhibit will let users discover fascinating stories of people, science, and place spanning 500+ million years, which will affect curious, critical thinkers who want to learn, connect with the land, and become informed and respectful global citizens by learning from trusted resources that distill complex information, connect deep time with present day, and inspire stewardship. We will measure effectiveness by website visitation and site engagement.

The User Experience Journey

The user experience will be divided into four specific areas that allow users to learn about fossils, explore the geological timeline of Tumbler Ridge, gain a greater sense of place, and get involved as a citizen scientist. These experiences will be accented by mixed media modules, such as video (with transcript), photos, animations, and interactive timelines.

What experiences will the users of the project have?

Visitors to the website will begin their journey on the homepage, which will contain four main navigational options, allowing them to "choose your own adventure" in a category that most interests them:

Discover Fossils – Getting up-close and personal with the Tumbler Ridge Museum collection of fossilized animals, trackways and other specimens.

Explore the Fossil Timeline – A journey through deep time with stops along the way at key eras relevant to Tumbler Ridge's paleontological and geological history.

Tumbler Ridge Map – Interactive journey through the Tumbler Ridge area that orients the user with iconic landmarks and locations of scientific importance.

Get Involved – Inspiration about the importance of everyday citizens when it comes to citizen scientists, and tips for how to become one yourself, while doing it mindfully and respectfully.

A secondary menu will link to the following options:

- TRMF Research – a more in-depth look at the academic research of the TRMF
- Glossary

Describe how the project will engage online users.

Users are presented with content in different media formats to keep them engaged. The content contains audio, interactive galleries, videos, expandable text blocks and interactive maps and timeline. The content will be atomized, or broken down into smaller sections with options to dive deeper, so each user can choose their own path.

Do certain aspects of this experience take advantage of the digital environment to present elements that cannot be realized in the physical world?

The website is designed to offer an experience that does not exist in the physical world. In the digital space, users can not only zoom in on fossils of interest (which they cannot do so easily in real life, either because of the preservation needs of the museum specimens or because they are fossils in situ in inaccessible sites), they can find supporting stories, facts, and information that is not available in the physical exhibit.

Additional enhancements in the digital realm include:

- **Wayfinding and navigation** – Users can explore content in the order they prefer based on their key topics of interest. For example, users who have a keen interest in the fossils themselves can begin there, while those interested in understanding the history of the planet and its species can explore that information.
- **Level of detail and customization** – Users can decide if they want to see more or fewer details for certain topics, which in a physical location is not possible.
- **Variety of senses** – Content can be accessed in different formats (reading, listening, visual format) which makes this complex information accessible to people with many different learning styles.
- **Interactions** – Users can select elements to learn more and are in control of what they access and how they get to it.

What is the anticipated organizational structure of the online project? Why will it be organized this way?

We have opted to develop the site structure using several organizational components. The content will be organized thematically with an atomized substructure (detailed content can be presented around specific places, objects, and people).

Describe the anticipated user journey and how the target audience will interact with the online product, including any preliminary ideas on design, navigation and flow. Describe what they will see, hear, do, think, feel, etc. as they engage with the online project.

The user will first be greeted with a visually enticing and simplified design option with beautiful illustrations that depict each of the four journey options. Each selection will take them to a different multi-media experience:

Discover Fossils – A portal into the exciting collections of the Tumbler Ridge Museum, including interactive elements to zoom in on and interact with the specimens, learn interesting facts and stats about them and even test their own knowledge by answering simple quiz questions. Users will be able to sort fossils based on various species, including dinosaurs, reptiles, fish, plants and shells.

Explore the Fossil Timeline – An interactive module where visitors can use their mouse to navigate more than 500 million years of geological time that is broken down into a digestible visual format. This experience will emphasize important moments in time as they relate to Tumbler Ridge, such as geological periods when species lived, as well as extinction events and major geological or climatic events. These elements will also be clickable, linking users to different parts of the website for more information.

Tumbler Ridge Map – This will be an interactive map of Tumbler Ridge, with a stratified cross-section that shows the very unique landscape and geographic features of the area. It will shine a spotlight on locations of significance, such as where dinosaur trackways were discovered or where important areas, like the Shipyard Titanic rock formations, are located in the area.

Get Involved – This page will contain stories about citizen scientists, their discoveries, as well as tools and resources for how to get started with your own fossil finding mission.

What storytelling elements will be utilized?

We have identified the following storytelling modules or elements to be incorporated into the website:

Gallery/carousel – These elements will be utilized for Discover Fossils, as well as for storytelling vignette on the Get Involved page.

Audio – This will be used to bring information to life in various sections of the site, including the Get Involved, Discover Fossils, and the Explore the Fossil Timeline.

Video – Video has been identified as a useful tool to distill complex information and tell human stories about fossil discoveries. Video will appear on the following pages: Tumbler Ridge Map, Discover Fossils, Explore the Fossil Timeline, and Get Involved.

Animations – We will use animations on the above pages to help demonstrate how scientific discoveries have led to greater understandings of both physical and behavioural attributes of species.

Interactive maps – Maps with hot spots and overlays will be used for the Tumbler Ridge Map page to bring various points of interest to life.

Interactive timeline – This feature will contain a zoom feature or filter and has been identified to help bring the Explore the Fossil Timeline page to life.

Quiz or games – These engaging elements will be used as a supporting tool on the Discover Fossils page to test user knowledge and continue to engage them during their journey.

#9 Technology

Selecting the right digital tools and technologies is crucial for delivering an outstanding user experience, and VentureWeb takes this responsibility very seriously. Although this project is still in its preliminary stages and lacks final budget and wireframe details, they have outlined the typical technology stack they employ based on similar projects and their expertise.

UX and Design Phase: Figma

For the user experience (UX) and design phase, they will use Figma. Figma is a powerful, cloud-based design tool that facilitates real-time collaboration among team members. Its versatility allows for seamless transitions between design and development. They selected Figma for several reasons:

Real-time Collaboration – Figma enables multiple stakeholders to work on the design simultaneously, providing instant feedback and fostering a collaborative environment.

Design Precision – With Figma, they can ensure that designs are pixel-perfect, as it allows developers to inspect design elements and access detailed specifications directly.

Component Management – The ability to create reusable components and design systems in Figma ensures consistency across the website and accelerates the design process.

Prototyping Capabilities – Figma's prototyping features allow them to create interactive mockups that can be tested and refined based on user feedback before development begins.

Development Phase: ProcessWire CMS

For the development phase, they will utilize the ProcessWire content management system (CMS). ProcessWire is an open-source CMS that has proven its reliability and efficiency in numerous VentureWeb projects, including Tourism Tofino, Tourism Kamloops, Mountain Bike BC, the Wickaninnish Inn, and Sonora Resort. They chose ProcessWire for the following reasons:

Ease of Development – ProcessWire's flexible and intuitive API makes it easy for their developers to build and customize functionalities according to project needs. Its architecture supports rapid development without compromising on quality.

User-Friendly Management – The backend interface of ProcessWire is straightforward and easy to use, allowing content managers to efficiently handle website content without requiring technical expertise.

Security and Stability – As a stable and secure CMS, ProcessWire ensures that the website will have robust protection against vulnerabilities. This is critical for safeguarding user data and maintaining the integrity of the website.

Extensibility – ProcessWire's modular architecture allows for easy integration of additional features and functionalities. Whether it is video galleries, interactive maps, or advanced search capabilities, ProcessWire supports extensive customization.

Content Translation – For museums that often cater to diverse audiences, ProcessWire's built-in content translation features facilitate the creation of multilingual websites, ensuring accessibility for international visitors.

Interactive Elements: Custom Solutions and Integrations

When it comes to specific interactive elements such as interactive maps or media galleries, they will use a combination of custom solutions and third-party integrations based on the project's requirements:

Interactive Maps – To develop interactive maps, they typically employ JavaScript libraries like React.js or Google Maps API. These tools were chosen due to their extensive documentation, ease of use, and ability to integrate various data layers and interactive features seamlessly.

Media Galleries – For dynamic image and video galleries, they use plugins or custom-built solutions that ensure smooth performance and a rich user experience. Technologies such as React or Vue.js may be employed to create responsive and interactive galleries.

Testing and Optimization: Various Tools

Throughout the development process, they will use a variety of testing and optimization tools to ensure the website performs optimally across different devices and browsers. Tools such as Google Lighthouse, BrowserStack, and GTmetrix will help them analyze performance, accessibility, and cross-browser compatibility.

In summary, the selected tools and technologies have been chosen to ensure a high-quality user experience, effective collaboration, and robust development. As the project evolves and specific needs become clearer, they are prepared to adapt their approach and incorporate the most suitable technologies to meet the project's goals.

#10 Project Team

The grant requires that there is an identification of roles, assigned person/group, and credentials. The team should align with schedule and budget development.

Role	Person or Group Name, job title and place of work	Relevant expertise/experience
Co-Project manager (DMC liaison, budget management, decision-maker) *	Zena Conlin (Executive Director, Tumbler Ridge Museum Foundation)	7 years in the museum sector, 5 in a senior leadership position. 15 years experience in business and marketing for small business.
Co-Project manager (co-ordination of tasks, schedule, budget collaboration)	Amber Turnau (Substrate Studios)	17 Years of Marketing Communications and Project Management experience, with experience managing website, graphic design, communications, and content projects for a variety of sectors.
Interpretive planner, writer/editor	Diane Mitchell (Red Rock Creative)	26 years in museum sector (including 20 years developing exhibits and programming content, largely for geoscience-related topics). Current role: 3 years as freelance full time interpretive planner and writer; and content developer/editor for non-profits. Also, BSc in geology.
Curator/researcher	Eamon Drysdale	Master's of Science in Dinosaur Palaeontology from the University of Calgary, with several papers and awards to his name. Early career museum professional.
Web development agency, UX designer and accessibility consultants	VentureWeb	Full service web agency with 17 years experience; worked with Canada's leading attractions, resort towns and tourist spots. In-house UX design and website engineering.
Professional translator	Louise Saint-André	Editor and proofreader since 2001, specializing in bilingual interpretive text, with her trusted team of language professionals. Works closely with museums and heritage organizations including Canadian Museum of Nature, Ingenium and Canadian Heritage.
Graphic design, content development and motion graphics agency (including animation and illustration and photographer/ videographer liaison)	Substrate Studios	10 years of graphic design experience with a focus on corporate branding and production design. Substrate Studios also has nearly two decades of content development experience with a specialty in coordinating video and photo projects.
Photography	Brandon Broderick	Tumbler Ridge-based nature photographer. 2023 Canadian Geographic Photographer of the Year with over 25 years of photography experience

Videography	MacWood Productions	Dawson Creek-based Videography/ Music Production Company with award-winning owners and offering services including studio photography, on-set filming, aerial property photos, and more.
Scientific illustrator/paleoartist	Danielle Dufault	In-house paleontological illustrator with the Royal Ontario Museum, using both traditional and digital resources. Work published in many scientific journals, including illustration of newly named dinosaur genera and species.
Stakeholder engagement lead/co-decision maker	Zena Conlin (Executive Director, Tumbler Ridge Museum Foundation)	7 years in the museum sector, 5 in a senior leadership position. 15 years experience in business and marketing for small business.
Stakeholder engagement lead/co-decision maker	Manda Maggs (Executive Director, Tumbler Ridge Geopark	12 years in the museum sector and 4 years at Geopark. Archival Management accreditation from Archives Association of BC.
Marketing/communications specialist	Amber Turnau (Substrate Studios)	A Journalism Diploma with experience working in the media. Plus, an additional 17 years of marketing communications experience with a specialty in digital mediums.
Scientific advisor	Dr. Charles Helm	Semi-retired family physician, with a Ph.D. in ichnology (trace fossils) from Nelson Mandela University, South Africa. Founding member of the Tumbler Ridge Museum and 20+ years volunteer Research Associate.
Scientific advisor	Dr. Roy Rule	Science coordinator and research geologist at Tumbler Ridge Global Geopark. Ph.D. from University of Saskatchewan on sedimentology and geomicrobiology of the Precambrian of the Rocky Mountains in Waterton and Glacier National Parks; Masters thesis on the sedimentology of the Permo-Triassic of southwest England.
Test audience 1 (if budget allows)	VentureWeb Design user-testers	
Test audience 2 - students	Local high school students	We will recruit students with interest in topics
Test audience 3 - EDI	TBD	We will recruit accessiblity mentors or advisors from regional or museum sector
Test audience 4 - focus group	Evaluation focus group	Individuals TBD but will recruit people from a spectrum of interests and experiences

* The DMC states that their main point of contact will only be with someone from the lead organization. Given the TRMF's lack of capacity to manage or contribute to this project in-house, a co-project management model is proposed.

Communications Plan

A communications plan is not required for the grant application but was requested as a deliverable for this development phase. It will also help identify budget, though no promotional costs are eligible for the DMC portion of the grant.

Given the potential for external resources to augment the DMC funding, we have identified a communications road map to help drive visitation to the digital exhibit. In this plan, we have considered marketing and communications channels, potential partners, promotional budget, measurement approaches, and human resources required to implement the plan based on anticipated TRMF organizational needs.

Please refer to Appendix D for the communications plan.

#11 Next Steps

This plan outlines the components of the proposed project and provides much of the information required to apply for the DMC grant. The following steps are required to complete the information required for the grant.

Budget

A fulsome budget is required with as many quotes or details as possible, i.e. not estimates. Quotes should be itemized where possible and can be uploaded along with the letters of support. DMC has provided a set of cost categories and sub-categories to help budget development. The following outlines eligible and non-eligible categories.

Eligible – content development, equipment rental, project management, travel, media production, text editing/translation, and web development.

Ineligible – equipment purchase, evaluations, indirect costs (e.g. insurance, taxes), post-launch (e.g. maintenance), and promotion.

The maximum awarded is $250,000 from the DMC. This is not a matched grant, however in-kind or financial contributions from lead or support organizations are recommended, i.e. to cover the ineligible expenses. DMC states that they do not look on lower valued projects more favourably.

The budget must be completed using their budget template.

Schedule

The schedule presented for the grant must include the following:

- A start date no earlier than mid-June 2025
- A launch date no later than June 30, 2029
- All steps involved from kick-off to launch
- Itemized detail of all steps involved, including which team member is responsible and duration
- Indication of which tasks are dependent on others or can take place concurrently
- Consideration of DMC review periods (phase 1 =10 business days; phase 2 = 20 business days with at least 2 review cycles plus revision time, however DMC may request “multiple rounds” of review cycles)

DMC expect five phases:

Phase 1 - production plan

Phase 2 - user experience approach (content, design, technical)

Phase 3 - preliminary version

Phase 4 - final version first language

Phase 5 - final version all languages

DMC deliverables to consider for schedule development

Phase 1 - Revised budget, project team, schedule and concept

Phase 2 - Interpretive plan, information architecture, list of enhancements, written accessibility approach, sample texts and design approach

Phase 3 - Final design with accessibility accommodations, user testing report, and fully functional preliminary version in first language

Phase 4 - Final version in one language and translation sample

Phase 5 - Final version in English and French, DMC launch form with promotional images and report of expenditures

The schedule can be built using any format of your choosing.

Appendix A – Proposed Content Matrix

Section	Overall Narrative	Assets - Existing or New	Messages
Discover Fossils	Using the collections to show the diversity of ancient life, including the huge, tiny, surprising and significant. Also, sharing what fossils can tell us about how Earth's environments may change in the future.	Fossil collection, with a focus on plants, fish (coelacanth, shark teeth), trackways/ bones (dinosaurs, marine reptiles including crocodilian) and other trace fossils (burrows), Holocene fossils (bison, horse, mammoth)	Individual lifeforms often leave behind traces of their daily lives and impacts, which can become a permanent part of our planet's history. The fossils found at Tumbler Ridge span from the Cambrian to the Pleistocene. Discovering ancient evidence of our planet's history can help predict how Earth's environments may change in the future. Some fossils can be surprising, either in scale, morphology or the behaviour of an animal. We often need to use our observation skills, imagination or critical thinking skills to work out what ancient life was like.
Explore the Fossil Timeline	Using the diversity of ancient life and Tumbler's 500 Ma span to share how Earth, life and the region have changed. Also encouraging a reflection on what we leave behind in our lives.	Fossil collection. Scope for adding rocks to show climatic or landscape conditions, e.g. rippled sandstone. Animations/video options.	The Tumbler Ridge region has a unique assemblage of fossils and rocks dating back over 500 million years that help tell the story of the formation of Western Canada's landscape and the species that lived there. We are all part of this giant puzzle as we leave behind the traces of our own lives and the environments we impact.
Tumbler Ridge Map	Sharing points of interest.	Interactive map. High-quality photos of sites, fossils, flora or fauna. Video options.	TBD based on sites selected, but will aim to tie present life/landscapes to past, e.g. birds at Bullmoose Marshes to bird fossils. Possible Treaty 8 content, e.g. interpreting ancient events has appeared in Indigenous stories and is now understood to relate to real events. (if engagement occurs)
Get Involved	Encouraging active and effective citizen science.	Stories of citizen science successes. Video options.	Anyone can discover fossils and contribute to new science by sharing findings with a local museum in the way that preserves the information. Many significant findings from Tumbler Ridge were found by citizen scientists.
Tumbler Ridge Research	Museums add value to new understandings of our planet's history through the research they do. The TRMF is reaching international academic audiences for its research.	Type specimens and other academically interesting specimens. Peer-reviewed papers and other resources.	The Triassic and Cretaceous fossils of Tumbler Ridge are unique and challenge some accepted views in academia (some type specimens also in collections). TRMF adds value to new understandings of the Triassic/Cretaceous life through the research they do on the objects they study.

Appendix B – Potential Fossils to Use

Time	Fossil Specimens	Petrology Potential	Notes (e.g. comments on size or condition)
Holocene	Mammoth Tusk Fabrik pit, near east brine bridge		Currently wrapped up in prep lab. Not sure how good the locality would be for photography
Holocene	Mammoth Tooth from a gravel bank- no further information given		Nearly complete tooth
Holocene	Bison Skull- Rolla Pub donation Peace river area- no further info available		Nearly complete bison skull, missing the lower jaw. Was adonation from the Rolla pub, so we have no reliable locality information
Holocene		TBD	
Cretaceous	Coal Fern Block Unknown currently		Large fern specimens found within a block of coal. Currently the locality of this specimen is unknown
Cretaceous	Trend mine plant site specimens Gates Formation (trend mine plant site)		Specimens contain a variety of plant material, mainly ferns etc. Many of the plant fossils are an orangy red colour in dark rock
Cretaceous	Tyrannosaur trackway Red willow creek		Cast of tyrannosaur trackway
Cretaceous	Ankylosaur trackway Basal Kaskapau (wolverine/ babcock sites)		We have various nice looking ankylosaur trackways, lots to choose from
Cretaceous	Large inoceramid bivalves specimens Currently unknown		Large bivalve specimens
Cretaceous	Pterosaur hand track Basal kaskapau (babcock creek)		Large pterosaur track, relatively rare specimen
Cretaceous		TBD	
Cretaceous	Lobster specimen		
Jurassic			
Triassic	Nautiloid block Sulphur Mountain (Cirque B)		Well defined nautiloid specimen in gallery
Triassic	Thalattosaur premaxilla Sulphur Mountain (Mt. Palsson)		One of the most distinctive specimens of marine reptiles we have
Triassic	Bobastrania fish Sulphur Mountain		One of our more complete fish specimens

Appendix B continued

Time	Fossil Specimens	Petrology Potential	Notes (e.g. comments on size or condition)
Triassic	Rebelletrix specimen Sulphur Mountain		Partial specimen of a coelacanth, one of the specimens unique to Tumbler Ridge)
Triassic		TBD	
Permian			
Carboniferous	Crushing shark tooth Petitiot river Quarry		Isolated shark tooth, large and rounded - could also do tiny shark tooth if that interests people
Carboniferous	Trilobites Rundle Formation		Specimen with multiple preserved trilobites in gallery
Carboniferous	Colonial Tabulate Coral Stone Corral		Large block containing colonial coral
Carboniferous	Gastropod block Rundle Group (Windfall lake)		Block with imprints of several gastropod specimens
Carboniferous		TBD	
Devonian	Crinoid blocks Unknown		Blocks of Crinoid Ossicles, could compare to modern versions
Devonian	Bryozoan specimen Unknown		Bryozoan specimen showing their distinctive net like structure- could compare to modern versions
Devonian	Coral blocks Unknown		Colonial coral showing nice honeycomb like structure
Devonian		TBD	
Silurian			
Ordovician	TRMF 2020.02.001 (cave gastropod block) Cave (Skoki Formation		Block from Cave locality located in Gallery. Is currently the only Ordovician specimen we have recorded in our collections
Ordovician		TBD	
Cambrian	TRMF 2023.08.005 (stromatolite) Bulley Glacier (Lynx Group)		This is the only Cambrian-aged specimen we have in collections currently
Cambrian		TBD	
Neoproterozoic		TBD	I don't have as much information on what PreCambrian material is in the area, if any. This would be a Roy or Kevin question

Appendix C – Anticipated Materials

Material Type	Description	Quantity Est	Source(s)	Pre-existing	To Be Created	Notes
Photo	Fossil photos - large specimens		TRMF	No	Yes	
Photo	Fossil/rock photos - small/medium specimens		TRMF	No	Yes	
Photo	Fossil specimens - macro		TRMF	No	Yes	
Photo or video	Fossils or rocks in-situ		TRMF	No	Yes	
Photo or video	Geo sites or points of interest		TRG and Destination BC	Yes	Yes	
Photo or video	Research or specimen preparation		TRMF	No	Yes	
Photo or video	Citizen scientists in the field or in museum		TRMF	No	Yes	
Video	Teaser video	1	Video production company	No	Yes	
Video/animation	Discoveries lead to new science	1	Video production company	No	Yes	
Animation	From fossilization to discovery and research	1	Animation/ video production company	No	Yes	
Video or video/ animation	What we leave behind	1	Animation/ video production company	No	Yes	
Video	Citizen scientists, interviews and/or summaries of their finds/stories	1	Video production company	No	Yes	
Photogrammetry	2D photogrammetry images of trackways		TRMF	Yes		
Photogrammetry	3D photogrammetry images of trackways			No		
Paleo-reconstructions	Illustrations of key species			No	Yes	
Digital scan	Archives					
B-roll	General footage of museum, Geopark, Tumbler Ridge area, hikers, fossil hunters, research/ preparation etc					

Appendix D – Communications Plan

Overview

While Digital Museums Canada does not provide funding to promote the digital exhibit, it is important to understand the long-term implications of resources required to drive online traffic to the site. We have outlined a brief roadmap of activities aimed at fuelling digital activities in a two-phased approach. This includes identifying desired outcomes from a communications standpoint, as well as the specific tactics and resources required to achieve them.

Background

Challenges

For a small organization with limited staff and no in-house communications personnel, the task of launching and sustaining a communications campaign can be overwhelming. Without dedicated resources, the organization faces the challenge of effectively translating its scientific expertise into accessible, engaging content for a broad audience; which can, in turn, be utilized to promote the exhibit. Relying solely on external vendors for communications also presents a challenge in maintaining consistency and coherence in messaging, especially when these vendors may lack an intimate understanding of the organization's mission and scientific background. Additionally, limited budgets make it difficult to compete with larger organizations, which have more robust marketing resources, potentially reducing the reach and impact of the campaign.

Opportunities

Despite the above-mentioned challenges, the organization has significant opportunities to leverage its strengths and partnerships to amplify its communications efforts. Its scientific expertise and collection provide a rich foundation for creating compelling content, particularly in educational and scientific communities. Partnerships within the Tumbler Ridge community, the Peace Region, and the UNESCO Global Geopark network offer valuable platforms for collaboration, co-promotion, and resource sharing, which can extend the reach of communications. By tapping into Canada's network of science-based museums and utilizing existing relationships, the organization can create meaningful connections that resonate with audiences passionate about science, education, and nature, even with limited internal resources.

The best solution to address challenges is to leverage a combination of in-house and external resources. External resources would support predominantly in Phase 1 of the plan, with maintenance-level support in Phase 2. The TRM team would need to take on some of the sustained engagement (such as partner outreach and social media posts) in the ongoing communications for the museum site.

The following is a high-level summary of proposed activities, which can be fine-tuned upon receiving guaranteed funding.

Communications Goals for the Digital Exhibit

- Drive awareness about the digital exhibit with the desired target audience
- Inspire web users to visit and explore the digital museum
- Sustain and grow website engagement over time

Phase 1 – Launching the Digital Exhibit

This is our first opportunity to introduce the digital exhibit to the world and we want to take advantage of the newsworthiness. In this phase, TRM can bring in outside expertise to support the launch of the exhibit across all channels.

Objective: Create excitement and awareness around the digital exhibit launch

Tactics

Public Relations – Media relations is a powerful tool to make a splash in a short amount of time. This is especially true when it comes to major accomplishments.

- **Press release** – Announce the exhibit's launch in national and regional media, especially those focused on science, education, and outdoor/nature publications. Tailor the story to highlight the uniqueness of Tumbler Ridge's connection to dinosaurs, geology, deep time, and the vital role of citizen scientists in understanding the world around us.
- **Media outreach and interviews** – Target local and niche science/nature reporters, bloggers, and podcasts for interviews with curators, researchers, or citizen scientists involved in the project.
- **Press kit** – Provide communications teams for key partners, including DMC, Northern BC Tourism Association, Destination BC, and Destination Canada, with a press kit containing information about the exhibit to add to their media outreach initiatives.

Digital Campaign

- **Teasers** – Share behind-the-scenes snippets leading up to the launch, like previews of fossils or video clips of Tumbler Ridge's landscape. Use Instagram, Facebook, and TikTok for visual storytelling.
- **Creator collaboration** – Partner with a small handful of Northern BC nature bloggers, outdoor enthusiasts, and science communicators to generate buzz by sharing their own experiences or knowledge related to fossils, geology, and ancient history.
- **Launch day social event** – Host a virtual event (e.g., Instagram Live or YouTube livestream) with an expert panel discussing the significance of the exhibit. Offer interactive Q&A opportunities to engage the audience.
- **Launch video** – As mentioned in the plan, we will be developing a captivating video that tells the story of Tumbler Ridge's ancient past and its connection to the present through citizen science. This video will not only be on the website, but it can also launch across digital platforms YouTube, Instagram, and Facebook, directing users to the exhibit landing page.

Outdoor and Print Advertising

- **Print ads** – Purchase a series of print ads in select major community papers across Canada from one of the larger media companies (such as Black Press)
- **Onsite communications** – Although they are not the primary audience, it is important to promote the exhibit directly to visitors at the physical museum and Tumbler Ridge Global Geopark with posters, brochures, or QR codes leading to the digital exhibit. Include exhibit information in tour guide scripts and Geopark educational talks.
- **Geotargeted campaign** – While this is a platform for all Canadians, ambassadorship and endorsement starts at home. Use posters, banners, or digital screens in key areas around Tumbler Ridge, regional tourism centers, visitor centres, and popular hiking trails near key sites featured on the exhibit to encourage physical and digital engagement with the exhibit.

Partner & Stakeholder Engagement to Amplify the Message

- **Partner tool kit package** – As an extension of the above-mentioned press kit, create a tool kit for partners and stakeholders to use to share the message about the exhibit. This includes key messaging, social media posts and graphics, as well any other information relevant to this project.
- **Stakeholder and partner outreach** – Coordinate with museums, academic institutions, travel industry, naturalist organizations, and other partners and for cross-promotion.
- **Outreach to schools and educators** – Develop an information package about the digital exhibit targeted to our secondary audience, which is parents/caregivers, academics/ researchers
- **Engage tourism sector** – Partner with local and regional tourism boards to amplify the message through their channels, particularly to attract those planning trips to Tumbler Ridge.

Phase 2 – Sustaining Engagement Over Time

In this phase of the project, it is about maintaining a steady stream of visitors to the website for the long-term. From a communications standpoint, it is about maintaining and optimizing existing systems and approaches. If resources allow, TRM can take on more of an ongoing role, with external support for digital ads management, which takes a specialty approach.

Objective – Maintain momentum and deepen engagement with the audience, fostering ongoing interest and interaction with the digital museum.

Tactics

Web & Search Engine Optimization

- **Existing web property integration** – Ensure the digital exhibit is promoted heavily onto TRM and TRG websites to gain traction on well-established sites
- **Search Engine Optimization** – This is also part of the general strategy for web development, but special attention can be paid to ensure that SEO keywords are integrated into digital exhibit copy and also into all promotional content (including through social media) to ensure the digital exhibit is ranking to the best of its ability.
- **Referrals** – Increase third party referral links from trusted partners, which can be a fruitful source of web traffic.

Ongoing Social Media Content

- **Regular content series** – Create a regular content series on TRM and TRG social media channels that profiles the digital exhibit. This can be short Instagram Reels that share educational, bite-sized, fascinating facts about fossils, discoveries in Tumbler Ridge, and the role of citizen science. Use engaging visuals and interactive formats like polls or quizzes to encourage participation. The call to action can drive back to the digital exhibit.
- **Seasonal/thematic content** – Align content with key times in the year (e.g., Earth Day, World Science Day) to reintroduce the exhibit in fresh ways.
- **User-generated content** – Encourage visitors to share their experiences with the exhibit or post their own nature observations, tagging the museum for a chance to be featured on social media.

Email Marketing

- **Newsletter integration** – Feature exhibit highlights in regular newsletters, encouraging subscribers to revisit the digital museum for new content or updates. This includes both the TRM newsletters, as well as those of partners, such as Travel Industry Association of Canada (TIAC), Destination BC and other broader stakeholders.

Stakeholder Engagement

- **Engage educational communities** – Partner with schools, universities, and learning institutions for ongoing virtual field trips and lessons. Provide educators with resources or curriculum guides based on the exhibit content.
- **Leverage citizen science networks** – Work with citizen science platforms and outdoor groups to share updates on new discoveries or opportunities for hands-on learning related to the exhibit, using the digital exhibit as a call to action

Digital Advertising Campaign on Meta and Google

- **Google Ad Grants** – Leverage Google's grant program for non-profit organizations to generate fixed media funds that can augment annual advertising budgets.
- **Evergreen campaign** – Create a collection of ad assets that can be utilized for the long-term without major refreshes needed. This includes:
- **Video ads** – Repurposing website content on video ad platforms to generate awareness and garner greater ROI of content development.
- **Static display ads** – Generating awareness while users are browsing relevant websites
- **Search ads** – Capturing user intent while they are already searching for relevant keywords and serving up the digital exhibit.
- **Retargeting Ads** – Utilize platform retargeting capabilities to reach users who have already visited the site but didn't explore deeply or return. Show them personalized ads encouraging further engagement.

Key Performance Indicators

Indicator	Goal	Metric	Measurement Tool
Awareness	Drive awareness about the digital exhibit with the desired target audience Inspire web users to visit and explore the digital museum	Media Mentions	Phase 1 media report
		Website Sessions	Google Analytics
		Reach & Impressions	Meta and Google Ad Platforms
		Click Through Rate	Meta and Google Ad Platforms
		Cost Per View	Meta and Google Ad Platforms
Engagement	Sustain and grow website engagement over time	Social Media Engagement Rate	Meta Social Media Platform
		Average Session Duration	Google Analytics
		Scroll Depth	Google Analytics
		Bounce Rate	Google Analytics
		New Vs Returning Visitors	Google Analytics

Budget

The following budget serves as a sample budget for both launch and post-launch. This is also included in the project budget provided for this plan.

Item	Activities	Budget
Phase 1 (One-Time Fees)		
PR services	Press release writing, media outreach, pitching, wrap report, press kit development	$5,000
Marketing Support	Digital ads set-up, social media campaign content development and execution.	$10,000
Promotional Materials Development	Print ads, posters, signage, digital ads, that can be used as evergreen, marketing tool kit development	$10,000
Creator Collaboration	Paying for content distribution and licensing.	$5,000
Traditional media spend	Print and out of home.	$15,000
Digital advertising (fixed)	Media spend	$15,000
TOTAL		**$60,000**
Phase 2 (For Each Fiscal Year)		
Digital marketing services	Digital ads management	$15,360
Digital advertising (fixed)	Media spend	$30,000
TOTAL		**$45,360**