

Project Brief:

# Sable Island National Park Reserve

Request for Fee Proposal

Architectural services for:

- 1) RS1 Programme of the Main Station
- 2) RS2 Schematic Design of the Weather office

Optional services:

- 3) OS1 Design Development of the Weather Office
- 4) OS2 Contract Documents
- 5) OS3 Tender services
- 6) OS4 Contract Administration
- 7) OS5 Post Construction Services



*Main station, Fall 2020, Parks Canada*

Visit <https://www.pc.gc.ca/en/pn-np/ns/sable>

## 1 Contents

2	Overview .....	2
2.1	A Green and Resilient Retrofit of Facilities .....	2
2.2	SINPR Management Plan .....	3

# Sable Island National Park Reserve

Programme for the Main Station & Schematic Design of the Weather Office Building

2.3	Objective of the Request for Fee Proposal.....	3
3	Sable Island National Park Reserve(SINPR) Infrastructure Master Plan (IMP).....	3
3.1	General Description.....	3
3.2	Operational Goals .....	4
3.3	A Hybrid Approach: Reuse rather than replace.....	4
4	Main Station and the Weather Office .....	6
4.1	Overview.....	6
4.2	Description of the Weather Office building .....	7
4.3	Building condition assessments.....	7
4.4	Coordination with other PCA projects on the island .....	7
5	Functional and Operational Requirements .....	8
5.1	Evaluating existing buildings .....	8
5.2	Proposed programme for the Weather Office .....	8
5.3	Operational requirements .....	9
5.4	Contextual Considerations .....	9
5.5	Coordination with the Power Generation System design project(PGSD) .....	10
5.6	Establishing a direction for Sustainability .....	10
5.7	Design project by Algonquin College Green Architecture program .....	11
6	REQUIRED SERVICES (RS)- Scope of Work and Deliverables .....	12
6.1	RS1 –Programme and Functional analysis for the Main Station.....	12
6.2	RS2 - Schematic Design of the Weather Office (WO).....	13
7	OPTIONAL SERVICES (OS) (subject to funding availability) .....	17
7.1	OS1 - Design Development Services (Optional).....	17
7.2	OS2 - Construction Document Services (Optional).....	20
7.3	OS3 - Tendering Services (Optional).....	22
7.4	OS4- Construction Administration Services (Optional).....	22
7.5	OS5 - Post-Construction Services (Optional).....	28
8	Schedule.....	30
9	Site visits to Sable Island NPR .....	31

## 2 Overview

### 2.1 A Green and Resilient Retrofit of Facilities

The Asset Investment plan for Sable Island National Park Reserve(SINPR) involves an approach to transition the island’s infrastructure to an energy efficient, sustainable and resilient building portfolio in accordance with Parks Canada Departmental Sustainability Development Strategy June 2020 – 2023 (DSDS) and Canada’s Greening Government Strategy. Phase 1, currently underway, involves repair work, assessments of buildings and systems, the concept design of an alternative power generation

## Sable Island National Park Reserve

Programme for the Main Station & Schematic Design of the Weather Office Building

system, the programme development for the Main Station (MS) and a pilot project retrofit of an existing building, the Weather Office (WO).

### 2.2 SINPR Management Plan

All work shall adhere to objectives established in Key Strategies listed in the SINPR Management Plan (<https://www.pc.gc.ca/en/pn-np/ns/sable/info.>) with particular reference to:

#### Key Strategy 3: Sustainability, innovation, and efficient operations

Sable Island's off-shore location and harsh weather conditions necessitate a safe base of operations for park staff and other island users. Operating in a remote environment is challenging and costly, and there are opportunities to evaluate needs, infrastructure, energy requirements and waste management to ensure sustainability into the future. This strategy aims to demonstrate SINPR's commitment to innovation and ingenuity in its use of green technology to ensure an efficient operation in a remote environment. A more sustainable and green operation will support safe, positive experiences for park users. Through reduced greenhouse gas emissions, removal of unused infrastructure and restoration of the land, this strategy will help to support Parks Canada's commitment to conservation and improvement of ecological integrity.

#### Objective 3.1

Increase efficiency and functionality of operational infrastructure for all park users, while reducing the overall fossil fuel and infrastructure footprint of Sable Island National Park Reserve's operations. Targets are:

- An infrastructure plan is designed to meet the needs of all park users, and is responsive to the island's unique and harsh environment;
- Within 5 years, achieve a 50% reduction in fossil fuels for operational activities at Main Station;
- Surplus assets decommissioned and all serviceable infrastructure rationalized to reduce the footprint and optimize operations;
- Greater efficiency achieved through infrastructure planning and consolidation of operational functions resulting in fewer redundancies and less waste;
- Opportunities to reduce waste that travels to and from the island are explored and implemented;
- A standardized fee schedule implemented to support improved sustainability of island operations.

### 2.3 Objective of the Request for Fee Proposal

This RFP is issued for the provision of required architectural services to develop:

- 1) RS1 A Programme for the Main Station; and
- 2) RS2 A schematic design of the existing Weather Office so as to verify the practical and financial viability of re-using existing buildings on the island. Information on the Infrastructure Master Plan is included to provide context for the design and deliverables described in the RFP.

Optional architectural services are:

- 3) OS1 Design Development of the Weather Office
- 4) OS2 Contract Documents
- 5) OS3 Tender services
- 6) OS4 Contract Administration
- 7) OS5-Post Construction services

## 3 Sable Island National Park Reserve (SINPR) Infrastructure Master Plan (IMP)

### 3.1 General Description

The SINPR IMP will guide the planning of the retrofit of priority infrastructure and new construction to address operational and visitor experience; according to the evolving island geomorphology and ecological habitats and to improve energy efficiency. The IMP shall serve as a guiding document for

## **Sable Island National Park Reserve**

Programme for the Main Station & Schematic Design of the Weather Office Building

infrastructure planning and prioritizing investment and shall be used to substantiate future capital funding over the next 20 years.

### **3.2 Operational Goals**

- 1) Reduce use of fossil fuels by at least 50%, increase energy efficiency of operations and decrease overall operating and maintenance costs of buildings;
- 2) Reduce unnecessary redundancy in infrastructure by:
  - Controlling the infrastructure footprint;
  - Maximizing use of existing space to meet programme; and
  - Removing redundant and derelict infrastructure.
- 3) Design infrastructure resilient to climate change and the marine environment; and
- 4) Plan for the operational ability to leave the island unmanned for extended periods.

### **3.3 A Hybrid Approach: Reuse rather than replace**

From workshops and research undertaken by Parks Canada Agency (PCA), a hybrid approach to re-use rather than replace existing buildings was decided by the project team, introducing new structures only if/as required.

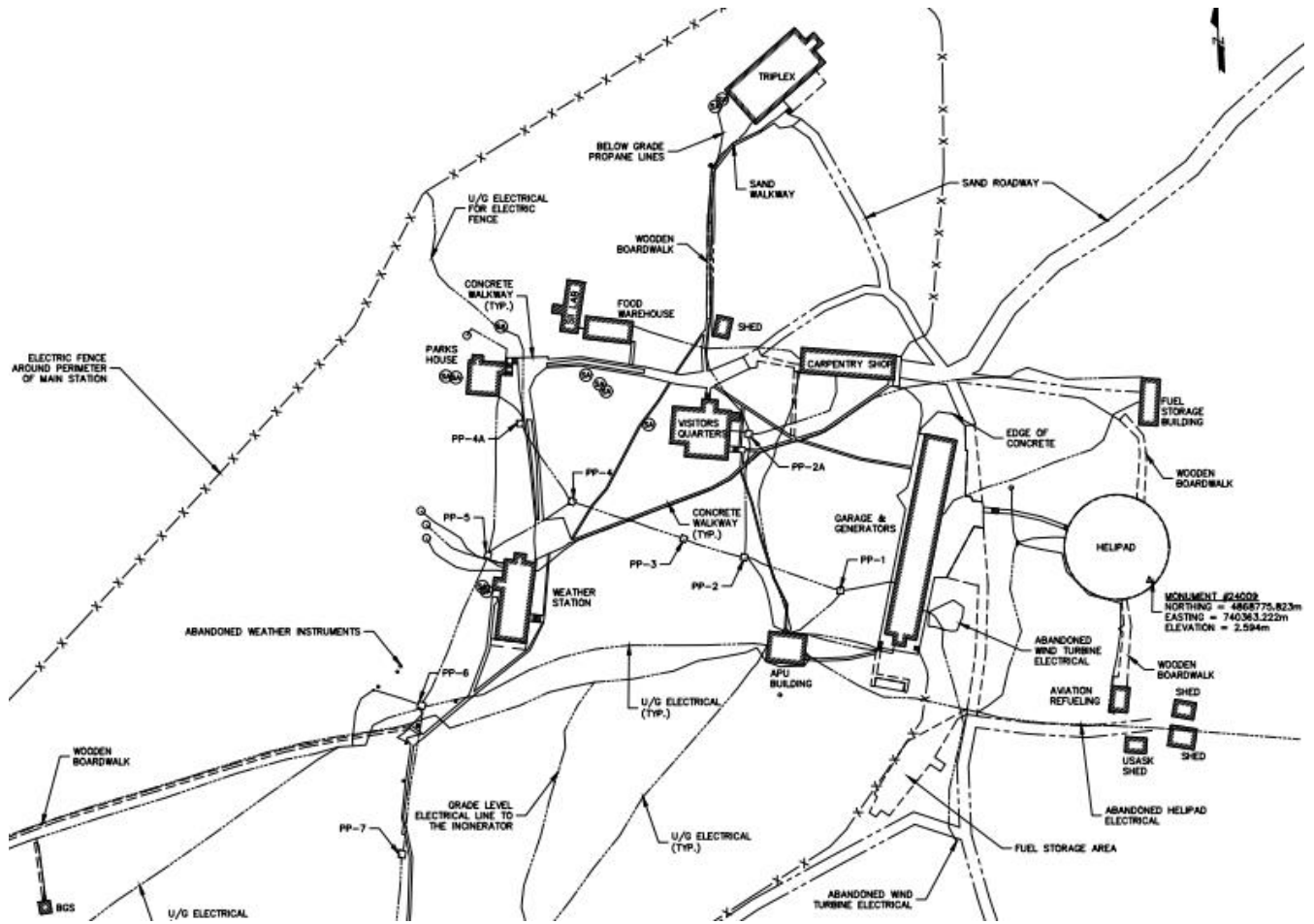
Harnessing the potential of the existing island infrastructure will maximize reuse of assets, minimize disruption to existing landscapes and ecosystems and reduce waste, with the intent to increase resilience to climate change and minimize the carbon footprint.

In regards to the planning of individual buildings and as an overall approach to the IMP, a multi-purpose approach is the objective, with design that is adaptable, resilient and accessible to staff, researchers and visitors. The legacy and experience of an authentic research station will be conserved. Redundancy of assets reduced; new building materials will be specified to address the contextual climate, resilient and sustainable, with a 60-year minimum service life. Pre-fabricated construction may be considered to address the complex logistics of transportation to and from the island.

The design development of the Weather Office is a pilot project to verify the practical and financial viability of re-using existing buildings on the island rather than building new. Results will inform design guidelines for the rehabilitation and/or replacement of all other buildings at Main Station and the Infrastructure Master Plan.

# Sable Island National Park Reserve

## Programme for the Main Station & Schematic Design of the Weather Office Building



Partial plan of Main station, not to scale, Parks Canada Agency, 2021

# Sable Island National Park Reserve

Programme for the Main Station & Schematic Design of the Weather Office Building



Main station, Fall 2020, photo courtesy, Parks Canada Agency

## 4 Main Station and the Weather Office

### 4.1 Overview

The Main Station is an assembly of approximately 15 buildings centrally located on the island, serving as the operational hub of island activities and programs and the point of arrival after landing either by airplane or vessel. Restrooms and drinking water are available to visitors here. Main Station buildings remain the key infrastructure for accommodations, storage, communications, power generation and maintenance. The island is annually visited by researchers, visitors, other governmental agencies and PCA Staff. Island operations cannot currently be left unattended; staff are required to remain on the island at all times.

Some buildings are underutilised and some are surplus. The existing building portfolio does not meet current operational demands, is inefficient to operate and subject to extreme weather conditions. Recurring repairs and regular maintenance are required.

## Sable Island National Park Reserve

Programme for the Main Station & Schematic Design of the Weather Office Building

### 4.2 Description of the Weather Office building

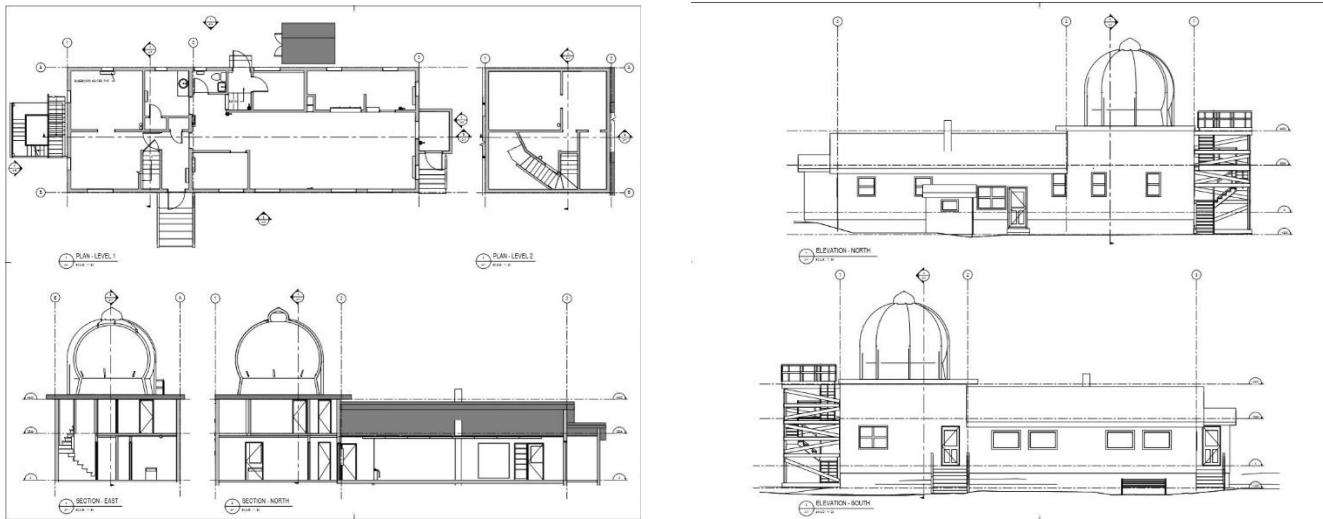
The Weather Office building was built in 1955 to house the services of the Meteorological Services of Canada; it is currently used as storage space.

The Weather Office a 2 storey structure with a crawlspace (concrete foundation) and an iconic dome structure annex. Rectangular in plan with an approximate area of 156 sq. meters, it is wood stud construction with interior partitions typically consisting of non-rated gypsum wall board on wood stud framing. Exterior cladding is vinyl with an asphalt-shingle roof finish. Floor assemblies are tongue and groove wood on wood joists, and walls are either exposed studs or finished with gypsum board.

### 4.3 Building condition assessments

The following documents will be made available to the successful proponent:

- 1) Preliminary building condition reviews of the Main Station buildings
- 2) A laser scan of the Weather Office (interior and exterior) with a Revit model (file) and a Point Cloud model file (LGS format);
- 3) Structural assessment (2021);
- 4) Designated substance reports (2015, 2020);
- 5) Fire code audit (2021); and
- 6) Report on existing island electrical systems (2021).



*Weather Office: plans, sections, elevations, not to scale*

### 4.4 Coordination with other PCA projects on the island

The schematic design of the Weather Office will need to be coordinated with and informed by the following PCA projects currently underway. The PCA Project Manager will coordinate this information with the successful proponent.

- Power Generation Systems Design(PGDS)
- Cultural Resources Value Statement (CRVS)
- Visitor Experience Strategy Plan(VESP)
- Accessibility Plan (AP)

## Sable Island National Park Reserve

Programme for the Main Station & Schematic Design of the Weather Office Building

# 5 Functional and Operational Requirements

## 5.1 Evaluating existing buildings



*Parks Canada Workshop December 2018*

Design workshops were held with the PCA team and invited stakeholders. Each building at Main Station was evaluated to assess long term viability and potential re-use of the building. A second workshop was organised with the objective to prioritize findings from the previous workshop and included review of the IMP programme, objectives and guiding principles. Minutes of the workshops will be made available to the successful proponent.

## 5.2 Proposed programme for the Weather Office

The following programme remains subject to revisions by PCA.

- 1) Offices
  - Open office spaces to accommodate 3 full time staff and an additional 2 seasonal staff
  - Auxiliary support spaces: kitchenette, storage, washroom
- 2) Residential
  - Staff suite with private bathroom and kitchenette, bedroom, living room
  - Staff bedroom with private bathroom
  - Support spaces
- 3) Storage, mechanical rooms
- 4) Dome structure
  - An exterior lookout for visitors and staff
  - Rehabilitation and/or replacement of the structure is required.



## Sable Island National Park Reserve

Programme for the Main Station & Schematic Design of the Weather Office Building

### 5.3 Operational requirements



Surveys of operational requirements of the Main Station will be provided to the successful proponent and include:

1. Fleet Management & Requirements;
2. Transportation systems;
3. Food Management Report and Freezer & Fridge survey;
4. Storage Facilities; and
5. Operations Waste.

### 5.4 Contextual Considerations

The most influential contextual elements to be considered in the IMP and the design of the WO are:

1. Dynamic geomorphology and climate change;
2. Ecological integrity;
3. Essence of Place /Cultural resources/Landscape;
4. Livability and well being of staff and visitors; and the
5. Functional and operational needs of users.

#### 5.4.1 Dynamic Geomorphology and Climate Change

Geomorphology and Climate Change were identified as the primary contextual considerations. Guiding principles identified include:

1. Embrace the dynamic nature of the landscape;
2. Adapt the infrastructure accordingly; and
3. Demonstrate leadership in climate change, resiliency and sustainability by minimizing impacts on the environment

To address these contextual considerations, design objectives shall consider:

1. Retrofit and/or build new infrastructure to adapt to sea level rise, storm surges, increased flooding risks mobile nature of sand and changes in dune size, vegetation and position and large scale changes in island shape and area
2. Minimize risks to infrastructure failure due to climate change
3. Ensure health and safety of island users; and
4. Minimize the effect of new or existing infrastructure on geomorphological processes

#### 5.4.2 Ecological Integrity

Preserving ecological integrity was identified as the second principal contextual consideration. All island planning must consider the critical wildlife habitats of the Sweat Bee, Tern colonies, Ipswich Sparrow, Grey seals and wild horse population and plan to ensure minimal impact.

## Sable Island National Park Reserve

Programme for the Main Station & Schematic Design of the Weather Office Building

### 5.5 Coordination with the Power Generation System design project(PGSD)

The PGSD involves the conceptual design of alternative power supply systems for the island. Coordination with the PGSD project team will be required to inform the programme and design of the Main Station and the Weather office.

### 5.6 Establishing a direction for Sustainability

Cursory surveys of the Main Station buildings were carried out in 2018 and working sessions facilitated with stakeholders on the potential of the existing buildings, future life on the island and infrastructure needs. In 2020, three Main Station buildings were studied by Algonquin College's Green Architecture student teams to validate the adaptive reuse potential and the energy retrofit feasibility to meet the Greening Government Strategy Real Property Guidance energy performance metrics (using EnerPHit simulation tools and methodology). From this work, the following proposed sustainability direction for SINPR buildings was developed:

Enable a transition to a sustainable and resilient building portfolio in line with Parks Canada DSDS (Departmental Sustainability Development Strategy June 2020 – 2023) and Canada's Greening Government Strategy by minimizing disruption to existing landscapes and ecosystems, maximizing potential of existing infrastructure, reducing waste, and increasing resilience to climate change (with the objective to minimize carbon footprint) and meet user needs.

Interventions shall follow the above direction and the following directives:

- 1) Make best use of existing buildings to meet future programme needs and reduce redundancy
- 2) Divest of surplus assets and/or re-develop on existing footprint or restore to natural landscape
- 3) Improve occupant comfort, experience and productivity;
- 4) Increase energy efficiency and reduce operational and embodied carbon emissions. Meet or exceed GGS (Greening Government Strategy) Real Property Guidance policy;
- 5) Select materials with low environmental impact, low maintenance and practical life cycle costs; specify building materials for long term resiliency to the extreme weather and isolated context;
- 6) Remote operations of building and island systems to be investigated; and
- 7) Fuel switch to renewable resources (PGSD mandate).



# Sable Island National Park Reserve

Programme for the Main Station & Schematic Design of the Weather Office Building

## 5.7 Design project by Algonquin College Green Architecture program

In 2020, under the direction of Parks Canada Agency and based on an assumed programme, a group of students from the Algonquin College Green Architecture program prepared a conceptual design for the Weather Office.

The design challenge was to develop a suitable retrofit for the Weather Office while conserving the existing building footprint with modifications limited to internal layout changes and envelope upgrades. The work included research on suitable envelope materials and construction systems suitable to the climatic conditions, based on the following criteria:

1. Minimum 60-year durability with the possibility to deconstruct and re-use;
2. Maximize operational sustainability (low maintenance);
3. Address demolition and construction waste management (plan for cradle to cradle);
4. Specify materials with low embodied energy and carbon;
5. Consider resiliency to the environment including salt corrosion, high winds, wind-blown-sand, shifting sand dunes, severe storms, climate change and fire.

### SABLE ISLAND

**UPGRADING MSC BUILDING AND PCA HOUSE WITH OUTDOOR PAVILION**

**AIMS:** To provide a suitable retrofit design option for Meteorological Service of Canada office and Parks Canada House and an outdoor pavilion for visitors.

**OBJECTIVES:** To study and understand the challenges and problems in the existing structures and provide efficient retrofit solution for the two buildings; MSC building and PCA house.

**SITE CONTEXT**

Harsh marine environment  
Multiple user groups  
Remote location  
Dynamic environment

The island is 42km long and 1.3 km across its widest point because of wind, waves and storms. It is about 175 km southeast of the closest point of mainland Nova Scotia in the Atlantic Ocean. It is protected and managed by Parks Canada.

**OUTDOOR PAVILION**

- Stacking the shipping containers for maximum light and perfect view of the ocean
- Ground Floor is open to the surrounding Landscapes
- The structure of the shipping container is used as it is
- No insulation or other layers is required because it is an outside structure with airflow throughout
- Gathering and Fire Place at the First Floor

**ALUMINUM BODYPANELS**  
CHARRED WOOD SIDING  
CHARRED WOOD SIDING  
CHARRED WOOD SIDING

**PCA HOUSE PLANNING EVOLUTION**

**MSC BUILDING FURNITURE LAYOUT**

Ground Floor  
First Floor  
Floor Plan  
South Elevation

**CLIENT REQUIREMENT**

- Accommodates new open offices
- Attached viewing deck with an outdoor access
- Retaining the dome as a land mark in while renovating the indoor spaces under the dome
- Keeping the foot print of existing building while retrofitting the envelop and indoor spaces

**CLIENT REQUIREMENTS**

- Convert upper floor to two private staff suites with private bathroom
- Add WC on the ground floor
- Explore possibility of 1 additional transient staff room on the ground floor

**ENVELOPE RETROFIT STRATEGIES**

**Envelope Retrofit**

- INTERIOR FINISH: ALUMINUM FINISHED WITH OIL
- INSULATION: 100MM POLYURETHANE INSULATION
- WALL ASSEMBLY: 1. ALUMINUM FINISHED WITH OIL, 2. 100MM POLYURETHANE INSULATION, 3. 100MM POLYURETHANE INSULATION, 4. 100MM POLYURETHANE INSULATION, 5. 100MM POLYURETHANE INSULATION, 6. 100MM POLYURETHANE INSULATION, 7. ALUMINUM FINISHED WITH OIL, 8. 100MM POLYURETHANE INSULATION, 9. 100MM POLYURETHANE INSULATION, 10. 100MM POLYURETHANE INSULATION

**Roofing Retrofit (External)**

- ROOFING RETROFIT (EXTERNAL)
- ROOFING RETROFIT (EXTERNAL)
- ROOFING RETROFIT (EXTERNAL)

**Roofing TRetrofit (Internal)**

- ROOFING RETROFIT (INTERNAL)
- ROOFING RETROFIT (INTERNAL)
- ROOFING RETROFIT (INTERNAL)

**WATER EFFICIENCY**

- Using Low Flush Toilets
- Using Water efficient Showerheads
- Installing Water Saving Faucets

**WATER SAVING FEATURE**

- Recycling Grey water
- Providing Rainwater Collection tanks

**ENERGY EFFICIENCY**

- Providing ample sunlight and daylighting
- Using energy efficient or solar light fixtures.

**INTERIOR COMFORT**

- Using Compressed Straw Board for interior walls
- Using Wooden or Linoleum Flooring
- Providing Wooden ceiling

**SUSTAINABLE STRATEGIES**

**SITE STRATEGY**

- Providing vegetation suitable to the area.
- Providing Permeable Pavement as a Stormwater Harvesting

**WATER EFFICIENT SHOWER HEAD**

**PERMEABLE PAVEMENT**

**COMPRESSED STRAW BOARD**

Canada

MONTAGE

ALGONQUIN COLLEGE

Submitted by : Group 2 (MONTAGE)  
Anis Reji Mahnaz Ziaee Prachi Tikone Razina Kapadia Tanvi Dave

The information from this study will be made available to the successful proponent.

## **Sable Island National Park Reserve**

Programme for the Main Station & Schematic Design of the Weather Office Building

### **6 REQUIRED SERVICES (RS)- Scope of Work and Deliverables**

The required language for this project is English.

#### **6.1 RS1 –Programme and Functional analysis for the Main Station**

##### 6.1.1 Services

The Programme Report shall be designed and compiled to be used as a benchmark reference document for the Infrastructure Master Plan. Architectural services shall include:

- 1) Review of supplied documentation from PCA;
- 2) Compile and document existing functions and current occupancy use for each building at Main Station; Verify gross building areas and summary of all operational, accommodation and storage areas required and proposed.
- 3) Facilitate sessions (allow for 2 sessions) to review the existing programme of each building with the PCA team;
- 4) Facilitate sessions (allow for 2 sessions) to discuss and establish the future programme for each building at the Main Station with the PCA team;
- 5) Once completed tasks 1-4, undertake a functional analysis and develop the overall programmatic requirements for the entire Main Station. Undertake an analysis of which buildings “best fit” required programmatic requirements. Include recommendations on which buildings may be re-used and/or replaced.
- 6) In consideration of project objectives listed in Sections 1 through 5 of this RFP, prepare an overall programme that will fulfill programmatic requirements of the Main Station.
- 7) Present the programme to the PCA team.

After the PCA review, the Departmental Representative will provide direction to the Consultant on the items to be revised and finalized before proceeding to the next design stage.

##### 6.1.2 Deliverables

The Report shall include but is not limited to the following:

- 1) Executive Summary;
- 2) Site Analysis;
- 3) Description and existing programme of each building at Main Station;
- 4) Tabulated programmatic requirements for each building at Main Station;
- 5) Functional analysis of which buildings “best fit” required programmatic requirements; and
- 6) Final Main Station programme, including incorporation of PCA comments.

The final Programme report shall be submitted in the following format:

- 1) Two (2) color bound copies of the final programme; and
- 2) One (1) matching electronic copy (PDF format).

## **Sable Island National Park Reserve**

Programme for the Main Station & Schematic Design of the Weather Office Building

### **6.2 RS2 - Schematic Design of the Weather Office (WO)**

The objective of the Schematic design phase is to first develop multiple schemes, to allow comparison and analysis against project requirements for the selection of a design approach.

#### **6.2.1 Codes and Standards**

All work shall conform to applicable Acts, Regulations, Codes and Standards, including but not limited to the following:

National Building Code of Canada, 2015

National Fire Code of Canada, 2015

Canada Labour Code, 1985

Canada Occupational Health and safety Regulations, 2007

#### **6.2.2 Submission at 33 %**

- 1) The Consultant is to prepare and present two (2) distinctly different Schematic Designs at the 33 % stage, identifying which is the Consultant's recommendation, and why. Each option shall include:
  - Site analysis;
  - An analysis of the functional considerations / issues raised by the option;
  - A set of schematic building floor plans, elevations and cross-sections, sketch perspectives and, as required, massing studies; showing space usage, elements 'to be removed' versus 'to be conserved';
  - A statement on the architectural design approach including greening and sustainability design approach to meet objectives listed in Sections 1-5 of the RFP;
  - A magnitude of cost estimate for each option.

2) Presentation of the schemes to PCA; compile notes and distribute minutes from the review.

3) Provide 1 electronic copy (PDF format) of all documents.

After the PCA review, the Departmental Representative will provide direction to the Consultant on the single preferred option to be revised and finalized, including any sub-options to be studied further, before proceeding to the next design stage.

#### **6.2.3 Submission at 66 %**

- 1) Preparation of plans, sections, elevations, 3D modelling, and/or sketch perspectives and, as required, massing studies, sufficient to provide a clear indication of the selected option.
- 2) Incorporate PCA comments from the 33% review; and
- 3) Preparation of a Schematic Design report.

Include:

- 4) Site Analysis: Develop and present a site plan and analysis, including:
  - Site features and restrictions, based on recent survey drawings;
  - Influences and existing structures;
  - Historical site and building features;
  - Archaeological features; and
  - Environmental features including applicable sustainable design strategies
- 5) Architectural design approach to meet and address objectives and directions listed in Sections 1-5 of the RFP. Demonstrate how the greening and sustainability design approaches meet the Parks Canada DSDS (departmental Sustainability Development Strategy June 2020 – 2023) and Canada's Greening Government Strategy;
- 6) Building envelope assembly design and options including:

## Sable Island National Park Reserve

Programme for the Main Station & Schematic Design of the Weather Office Building

- Comparative analysis of suitable materials and methods in regards to energy efficiency, resiliency and life-cycle performance in the contextual environmental conditions and other performance metrics, such as maintenance and cleaning requirements; include recommendations;
  - Analyse and report on how sustainable materials, technology and approaches might reasonably be integrated into the project
  - Energy modelling of building envelope options;
- 7) An updated class D estimate of the selected scheme. Include transportation costs associated with building on the island as a separate line item. Coordinate with PCA to inform the transportation cost estimates;
  - 8) A magnitude of costs estimate (including demolition of the existing structure, transportation to and from the island of construction waste and new construction materials) for the new construction of a building equivalent in floor area, occupancy, number of storeys, and envelope design to the retrofit proposal. Pre-fabricated construction as an alternative approach may be considered to address the complex logistics of transportation to and from the island; and
  - 9) Facilitate a session to present the scheme to PCA; compile notes and distribute minutes from the meeting.
  - 10) Provide 1 electronic copy (PDF format) of all documents.

After PCA review, the Departmental Representative will provide comments and direction to the Consultant on adjustments and/or modifications to the proposed scheme, including any sub-options to be studied further, before proceeding to the next stage.

### 6.2.4 Submission at 99 %

- 1) Preparation of plans, sections, elevations, 3D modelling and/or sketch perspectives and, as required, massing studies, sufficient to provide a clear indication of the proposed scheme. Incorporate PCA comments from the 66% review; and
- 2) Updated Schematic Design report.

Include:

- 3) Site plan updated;
- 4) Design approach and objectives to meet and address objectives and directions listed in Sections 1-5 of the RFP. Demonstrate how the greening and sustainability design approaches meet the Parks Canada DSDS (departmental Sustainability Development Strategy June 2020 – 2023) and Canada's Greening Government Strategy;
- 5) Coordination with other ongoing PCA planning including the Power Generation System Design (PGDS), Visitor experience plan, Accessibility plan, and Cultural Resource Strategy.
- 6) Final recommendations on building envelope design to include:
  - A comparison of suitable materials and methods to meet contextual environmental conditions and to meet energy efficiency performance metrics with final recommendations; and
  - Final Energy modelling on the envelope.
- 7) An updated Class D estimate, prepared by a qualified cost estimator. Include costs associated with building on the island as a separate line item. Coordinate with the PCA SINPR team to compare transportation costs;
- 8) An updated magnitude of costs (including demolition of the existing structure, transportation of construction waste and new construction materials) for the new construction of a building equivalent in floor area, occupancy, number of storeys, and envelope design to the retrofit proposal. Pre-fabricated construction as an alternative approach may be considered to address the complex logistics of transportation to and from the island;
- 9) Preliminary Code Analysis

## **Sable Island National Park Reserve**

Programme for the Main Station & Schematic Design of the Weather Office Building

- 10) Facilitate a session to present the scheme to PCA; presentation to include the schematic design, envelope assembly design, how the proposal meet the objectives outlined in Sections 1-5 of this RFP and a review of the comparative cost estimates; and
- 11) Compile notes and distribute minutes from the meeting.
- 12) Submit:
  - Two (2) bound color copies
  - One (1) matching electronic copy (PDF format)

After PCA review, the Departmental Representative will provide comments and direction to the Consultant on adjustments and/or modifications to the scheme.

### 6.2.5 Final submission

- 1) Integrate comments from the 99 % submission;
- 2) Submit to PCA for final review; and
- 3) Once approved, compile all design documents in the following format:
  - Two (2) bound color copies
  - One (1) matching electronic copy (PDF format)

### 6.2.6 Schematic Design Report

Prepare the Schematic Design Report for review (allow 2 review cycles) including:

- 1) Executive Summary;
- 2) Design approach and objectives;
- 3) Preliminary Code Analysis;
- 4) Site Analysis;
- 5) Programme;
- 6) Accessibility considerations;
- 7) Sustainability objectives and innovations;
- 8) Structural systems schematic design;
- 9) Mechanical and electrical systems schematic narratives, coordinated with the PGDS design;
- 10) Building envelope schematic design including:
  - Comparative analysis of suitable materials and methods to meet contextual environmental conditions and performance metrics; and
  - Energy modelling of building envelope options; and
  - Final recommendations for materials and envelope to meet project objectives, energy efficiency directives and contextual conditions
- 11) Construction cost estimates;
- 12) Minutes from all meetings and presentations;
- 13) Once approved, compile the schematic design report in the following format:
  - Two (2) bound color copies
  - One (1) matching electronic copy (PDF format)

### 6.2.7 Sub Consultant Services

To undertake an Integrated design approach, the project team will consist of the Prime Consultant and other consultants. Sub- consultant services may include:

- 1) Structural engineering services;
- 2) Sustainability /Green Building consultants;
- 3) Certified Passive House consultant;
- 4) Energy modelling services;
- 5) Mechanical and electrical engineering services;
- 6) Cost estimation services; and

## **Sable Island National Park Reserve**

Programme for the Main Station & Schematic Design of the Weather Office Building

7) Other consultants.

### 6.2.8 Provision of other architectural services

Provision of other architectural services to support the work to include:

- 1) Prime Consultant to Sub-Consultant design management and quality control;
- 2) Arranging and co-ordinating project meetings, including preparation of agendas and minutes;
- 3) Liaison with PCA staff and stakeholders;
- 4) Organizing schedules and time estimates;
- 5) Organizing quality review of Sub-Consultant work including cost estimates
- 6) Manage and provide information and advice during the Schematic Design Phase, including any Integrated Design Process workshops; and
- 7) Address quality issues raised by PCA.

### 6.2.9 Role of PCA

- 1) Coordinate between PCA functional units / staff and the Consultant, and, as required facilitate meetings;
- 2) Review and comment on Consultant submissions, deliverables and revisions;
- 3) Review and respond to the Consultant's rebuttal to the PCA comments;
- 4) Review and comment on the work breakdown structure for the project;
- 5) Review and comment on the final Schematic Design Report; and
- 6) Authorize Consultant to proceed to stages of design.

### 6.2.10 Site visit to Sable Island NPR

The site visits to the island will be arranged pending weather, operations and flight schedules. It is the responsibility of the proponent to decide on the requisite staff to carry out work on the island. A work plan while visiting the island will be requested from the successful proponent.

To inform phases RS1 and RS2, the fee proposal shall include the work hours to undertake one site visit (Day 1-travel + work, Day 2,3 - work, Day 4 travel + work) for the selected key personnel from the project team who will visit the island.

All corresponding costs shall be included in the fee proposal.

Refer to the description of requirements involved (Section 9) when visiting the island.



## **Sable Island National Park Reserve**

Programme for the Main Station & Schematic Design of the Weather Office Building

### **7 OPTIONAL SERVICES (OS)** (subject to funding availability)

#### **7.1 OS1 - Design Development Services (Optional)**

##### 7.1.1 General Requirements

- 1) The objective of the Design Development stage is to further refine and develop the design option selected at the Schematic Design stage.
- 2) The Consultant must obtain written authorization from the Project Authority before proceeding with Design Development.

##### 7.1.2 Role of PCA

- 1) Review and comment on preliminary Consultant submissions.
- 2) Review and provide a quality assurance report on the Consultant's Design Development Report.
- 3) Review revisions and Consultant response to the PCA quality assurance report.
- 4) Review and accept the final Design Development Report;
- 5) Liaise on all functional areas with PCA staff.
- 6) Authorize Consultant to proceed to Construction Documents.

##### 7.1.3 Responsibilities of the Consultant

The Consultant scope and activities shall include but are not limited to the following:

###### 7.1.3.1 Regulatory

Refine and prepare a code analysis and regulations analysis.

###### 7.1.3.2 Architectural

Based on the selected option from the RS2 phase, the Consultant is responsible for all design activities including but not limited to:

- 1) Site plan:
  - Site features and restrictions (i.e. topographical features, climatic influences, etc.)
  - Subsurface features and above grade infrastructure/services, including type, capacities and limitations (i.e., fire protection, domestic water, sewer, power, telecommunications etc.).
  - Archaeological and Historical site features (information may be provided by PCA).
  - Environmental site features
- 2) Floor Plans showing all accommodation required with room names and areas, including all circulation areas, stairs, and ancillary spaces anticipated for service use. Indicate building grids, modules, etc., and key dimensions.
- 3) Roof Plan showing slope, drainage, roof top equipment.
- 4) Cross-sections indicating floor levels, room heights, grade elevations, exterior elevations.
- 5) Wall Sections of walls, building-envelope sections or other special design features requiring illustration and explanation at this stage
- 6) Reflected ceiling plans, finish schedules, door/window schedules.
- 7) Elevations showing proportion/massing, material type and size, color, texture, finishes, height, floor level, exterior grade.
- 8) Refinement of the design approach and objectives to meet and address objectives and directions listed in Sections 1-5 of the RFP.
- 9) Detailed summary and refinement of the greening and sustainability design approaches to meet the Parks Canada DSDS (departmental Sustainability Development Strategy June 2020 – 2023) and Canada's Greening Government Strategy;

## **Sable Island National Park Reserve**

Programme for the Main Station & Schematic Design of the Weather Office Building

- 10) Coordination with other ongoing PCA planning including the Power Generation System Design(PGDS), Visitor experience plan, Accessibility plan, and Cultural Resource Strategy.
- 11) Final recommendations on building envelope design to including recommendations of the suitable materials and methods to meet contextual environmental conditions and to meet established energy efficiency, durability and resiliency performance metrics;
- 12) Final Energy modelling on the envelope.
- 13) Provide draft NMS specifications

### 7.1.3.3 Structural

- 1) Drawings indicating proposed structural systems, structural materials, significant or unusual details proposed. Provide separate structural drawings. Include a copy of the structural load/data analysis on which the design is based;
- 2) Update seismic and loading analysis based on site-specific soil conditions and climatic conditions.

### 7.1.3.4 Mechanical

- 1) Site Plan showing service entrances for water supply and sanitary connections to utility services, including key invert elevations.
- 2) Drawings showing preliminary sizing of ventilation; mechanical systems showing locations and all major equipment layouts in mechanical rooms.
- 3) Drawings of plumbing system, showing routing and sizing of major lines and location of pumping and other equipment where required.
- 4) Drawings of the fire protection systems showing major components.
- 5) Produce preliminary designs based on the approved schematic design. Update the energy modelling analysis established at the schematic design stage.
- 6) Provide information of all internal and external energy loads in sufficient detail to determine the compatibility of the proposal with island services.
- 7) Describe the mechanical systems and the components of each system. Describe the operation of the mechanical systems.
- 8) Explain what operating staff will be needed to operate the building systems and the expected functions of the operation staff.

### 7.1.3.5 Electrical

- 1) Provide drawings showing all systems.
- 2) Provide the following data: Total connected load/Maximum demand and diversity factors/Sizing of standby load/ Short-circuit requirements showing the ratings of equipment used; demonstrate compatibility with island services.
- 3) Electrical drawings with:
  - 1) Floor elevations and room identification.
  - 2) Legend of all symbols used.
  - 3) Single line diagram of the power circuits with their metering and protection
  - 4) Circuit numbers at outlets and control switching identified.
  - 5) All conduit and wire sizes
  - 6) A panel schedule with loadings for each panel.
  - 7) Riser diagrams for lighting, power, telecommunication cable systems, fire alarm, security and other systems.
  - 8) Elementary control diagrams for each system.
  - 9) Schedule for motor and controls.

## Sable Island National Park Reserve

Programme for the Main Station & Schematic Design of the Weather Office Building

10) Complete lighting layout and fixture schedule clearly indicating methods of circuiting, switching and fixture mounting.

### 7.1.3.6 Commissioning

1) Prepare a brief describing major commissioning activities for mechanical, electrical and integrated system testing.

### 7.1.3.7 Budget, Schedule and Risk Analysis

- 1) Class C cost estimate
- 2) Project schedule, including allowances for reviews and approvals
- 3) Risk implications and mitigation strategies.

## 7.1.4 Deliverables

### 7.1.4.1 Design Development Report:

- 1) Present key outcomes of the design development report to the PCA staff.
- 2) The Report will update the Schematic Design Report and will continue to be utilized as the benchmark project-control document to monitor progress of the project.
- 3) The Design Development Report shall include but is not limited to the following:
  - 1) Executive Summary
  - 2) Update of architectural design approach and philosophy.
  - 3) Codes and Regulatory Analysis
  - 4) Architectural, structural, mechanical and electrical building systems descriptions.
  - 5) Update of Design approach and objectives to meet and address objectives and directions listed in Sections 1-5 of the RFP.
  - 6) Detailed summary of how the greening and sustainability design approaches meet the Parks Canada DSDS (departmental Sustainability Development Strategy June 2020 – 2023) and Canada's Greening Government Strategy;
  - 7) Outline specifications.
  - 8) Architectural Site plans/Floor plans/Elevations/Building Sections
  - 9) Other Illustrative sketches, BIM model and renderings to convey the intent of the design. Models may be prepared using a software of the Consultant's choice but all files must be saved in a manner such that models may be viewed using Autodesk software suit and saved as an AutoCAD ver. 2010 file (\*.DWG). Models will need to be rendered (overlaid) with semi-realistic tones, colours and textures to enable viewers to understand the different volumes, materials and treatments inherent in the existing condition and option(s) during screenshots and walk-through modes.
  - 10) Updated Schedule and Class C cost estimate.
  - 11) Sub-consultant key drawings, as deemed applicable

### 7.1.5 Site Visit to the island

Include one (1) site visit to the island during this phase for the selected key personnel. It is the responsibility of the proponent to decide on the requisite staff to carry out the work on the island. A work plan while visiting the island will be requested from the successful proponent.

All associated costs shall be included in the fee proposal.

The fee proposal shall include the work hours to undertake a 3-day site visit (Day 1-travel + work, Day 2, - work, Day 3 travel + work) for the selected key personnel from the project team.

Refer to the description of requirements involved when visiting the island (Section 9)

## **Sable Island National Park Reserve**

Programme for the Main Station & Schematic Design of the Weather Office Building

### **7.2 OS2 - Construction Document Services (Optional)**

#### 7.2.1 General Requirements

- 1) The objective of the Construction Document stage is to prepare tender-ready construction drawings and specifications, along with a Class B, then a Class A cost estimate.
- 2) The Consultant must obtain written authorization from the Project Authority before proceeding with Construction Documents.

#### 7.2.2 Role of PCA

- 1) Organize Review Sessions at 33%, 66%, 99%, stages through the construction documentation stage, as required.
- 2) Review and comment on each Consultant submission.
- 3) Respond to questions from the Consultant as required.
- 4) Review revisions and Consultant response to the PCA quality assurance report.
- 5) Review /accept the final the Construction Document progress at 33%, 66%, 99% and 100%.
- 6) Formally accept documents ready for Tender and Construction.
- 7) Liaise on all functional areas with PCA staff.

#### 7.2.3 Responsibilities of the Consultant

The Consultant Scope and activities shall include but are not limited to the following:

##### 7.2.3.1 Regulatory

- 1) Update code analysis by using newly released National Codes 2021 edition.
- 2) Provide a narrative indicating the design complies with all the code requirements (National and Nova Scotia Building Codes, National and Nova Scotia Fire Codes, National and Nova Scotia Plumbing Codes, National and Nova Scotia Energy Codes, Canadian Electrical Code and all other related safety/construction codes).

##### 7.2.3.2 Scope and Activities

- 1) Submit drawings and specifications at 33%, 66%, 99% and 100% stages.
- 2) Obtain acceptance for each submission at 33%, 66%, 99% and 100% stages.
- 3) Provide written response to all comments and incorporate them into Construction Documents.
- 4) Confirm format of drawings and specifications (National Master Specification).
- 5) Submit updated cost estimates as the project develops.
- 6) Update the project schedule.
- 7) Prepare a Class B estimate at the 66% complete design stage and a Class A estimate at the 99% complete design stage.
- 8) Review and approve materials, construction processes and specifications to meet sustainable development and energy efficiency objectives.

##### 7.2.3.3 Technical and Production Meetings

- 1) Production of construction documents will be reviewed during meetings arranged by the Project Manager and the Consultant.
- 2) Consultant shall ensure that their staff and any sub-consultant representatives attend the technical and production meetings.

## **Sable Island National Park Reserve**

Programme for the Main Station & Schematic Design of the Weather Office Building

- 3) Consultant shall ensure all documents are coordinated with all sub-consultants and disciplines as applicable.
- 4) Consultant shall prepare minutes of the meetings and distribute copies to all participants.
- 5) Prepare and submit a written response to all comments provided by PCA.

### 7.2.4 Deliverables

#### 7.2.4.1 General

- 1) Deliverables are similar at all three – 33%, 66% and 99% stages, though the level of detail presented is meant to increase as the project progresses through the stages while the level of uncertainty and items outstanding to decrease.
- 2) Deliverables at 100% stage are to be tender ready and issued for construction.

#### 7.2.4.2 33%, 66%, 99% Submission Deliverables

- 1) Completeness of the work should reflect the stage of each submission at 33%, 66% and 99%.
- 2) Aspects to be included are identified below and are the same for each submission stage.
- 3) For submission at each stage:
  - 1) Submit written response to the review comments made at previous submission.
  - 2) Submit a report on the application of Sustainable and Green Building principles and strategies to the current stage.
  - 3) Submit one copy of updated Cost Plan, Class B cost estimate at 66% completion.
  - 4) Submit one copy of updated Cost Plan, Class A cost estimate at 99% completion.
  - 5) Submit one copy of updated Project Schedule.
  - 6) Provide final code analysis.
  - 7) Drawings and Specifications:
    - 1) Complete set of coordinated construction drawings and specifications, including all details, suitable for final review.
    - 2) Written contributions specific to the tender form and Invitation to Tender, as may be required.

#### 7.2.4.3 100% Submission Deliverables

- 1) Written response to the Project Authority review comments made at 99% stage.
- 2) All original reproducible drawings, tender documents and specifications for tendering purposes, 100% reviewed and coordinated, incorporating all PCA comments made at the 99% stage.
- 3) All specification sections and an index of specifications.
- 4) Updated project schedule.
- 5) Class A cost estimate.
- 6) Plans and specifications will be reviewed and approved in a report format by the code and life safety consulting engineer (and or equivalent) before tender call. The approval report indicates the design complies with all the code requirements (National and Nova Scotia Building Codes, National and Nova Scotia Fire Codes and all other related safety codes).

### 7.2.5 Site Visit to the island

Include one (1) site visit to the island during this phase for the selected key personnel. It is the responsibility of the proponent to decide on the requisite staff to carry out the work on the island. A work plan while visiting the island will be requested from the successful proponent. All associated costs shall be included in the fee proposal. Refer to the description of requirements when visiting the island.

## **Sable Island National Park Reserve**

Programme for the Main Station & Schematic Design of the Weather Office Building

### **7.3 OS3 - Tendering Services (Optional)**

#### 7.3.1 General

- 1) The Consultant's original Construction Documents (signed and sealed) are used to issue to the Government Electronic Tendering System (GETS) (Buyandsell.gc.ca).

#### 7.3.2 Responsibilities of the Consultant

- 1) Attend bidders' conference.
- 2) Provide the Project Authority with all information required by bidders to fully interpret the Construction Documents, including sample boards, colour boards and other special reports.
- 3) Respond to and address questions raised by bidders during the bid period.
- 4) Prepare Addenda to Tender Documents as required and submit to the Project Authority for review and issue by the Contracting Authority.
- 5) Pending notification from the Project Authority, be prepared to revise and amend the construction documents to bring the cost of the work within the stipulated limits of the Class A budget.
- 6) If PCA decides to re-tender the project, provide advice and assistance to the Project Authority.
- 7) Provide revised Construction Documents if the tender costs were too high (more than 15% over the accepted Class A budget). Consultant is not entitled to additional fee.

### **7.4 OS4- Construction Administration Services (Optional)**

#### 7.4.1 General

- 1) Monitor the progress of the Contractor's work, compliance with all drawings and specifications, time schedules, quality standards and prepare progress reports, through site reviews during the construction period.
- 2) Review of all submittal documents required of the contractor as per the specifications.
- 3) Review reports on Health and Safety strategies for construction stage of work.
- 4) Notify the Project Authority immediately if Human Remains, Archaeological Remains and Items of Historical or Scientific Interest are discovered on the site and obtain further information on action to be taken.
- 5) Review and process shop drawings
- 6) Prepare and provide to the Project Authority, detailed drawings, clarification advice, Site Instructions, Contemplated Change Orders and Change Orders and other related Consultant input documents.
- 7) Reply to Requests for Information from the Contractor via the Project Authority.
- 8) Observe quality assurance testing, review and accept test reports.
- 9) Report on Contractors maintaining specified quality and schedules, ensuring that Contractors are monitoring delivery of critical materials and equipment.
- 10) Review and make recommendations on progress claims.
- 11) Issue interim and final deficiency reports.
- 12) Finalize project documentation and accounts.
- 13) Ensure compliance with Commissioning Plan.
- 14) Recommend the release of holdback upon satisfactory completion.
- 15) Issue interim and final certifications.
- 16) Review and accept Operation and Maintenance Manuals, including review with PCA operations staff.

## **Sable Island National Park Reserve**

Programme for the Main Station & Schematic Design of the Weather Office Building

- 17) Facilitate on-site training on building systems and components with key staff.
- 18) Follow-up on any problems identified during the warranty period.
- 19) Prepare record drawings, and submit both digitized original and PDF formats. Also include full size hard copy in paper O&M Manual, and digital copy in digital O&M Manual.

### 7.4.2 Construction Safety

- 1) All construction projects that are occupied by Federal employees during construction are subject to the Canada Occupational Health and Safety Act and Regulations and all non-Federal employees are subject to the Provincial/Territorial Occupational Health and Safety Act and Regulations – when there is a conflict, whichever is more restrictive will govern.
- 2) Ensure the Contractor is mandated to provide all required coordination, isolation, protection and reinstatement of the fire protection and suppression systems throughout construction.

### 7.4.3 Project Meetings

- 1) The Project Authority will arrange meetings every two weeks or as deemed suitable, throughout the entire construction period, for representatives from:
  - PCA staff
  - Prime Consultant
  - Prime Consultant's Sub-Consultants and Specialist Consultants, as applicable as determined by the Project Authority
  - Contractor and their Consultants and Sub-Contractors, as applicable
- 2) The Consultant shall record the issues and decisions and prepare and distribute minutes to all attendees within two (2) working days of the meeting.
- 3) The Prime Consultant and any proposed Sub/Specialist Consultants should be personally available to attend all construction meetings and respond to enquiries within two (2) working day of the Project Authority's request, in the locality of the place of the work, from the date of the award of the Consultant agreement, until final inspection and turnover.
- 4) Review and comment on meeting minutes prepared by the General Contractor for errors in fact, omissions or other discrepancies and report to the Project Authority.

### 7.4.4 Project Schedule

- 1) Immediately upon receipt of the Project Schedule from the Contractor following the Contract award, review and verify whether the schedule is reasonable and has all detailed components of work shown separately.
- 2) Provide review comments and advice to the Project Authority prior to the Consultant approving the Project Schedule.
- 3) Use the Project Schedule as the basis for monitoring and evaluating the progress of the work.
- 4) Assist the Contractor to avoid delays by providing timely reports and advice.
- 5) Keep accurate records of delay causes.
- 6) Record all discrepancies and recommend remedial measures to the Project Authority.
- 7) Any request for Time Extensions shall be submitted to the Project Authority who will forward to the Contracting Authority. Only the Contracting Authority may approve any request for Time Extensions.

### 7.4.5 Budget/Forecast/Cash Flow

- 1) Review the value of progress of work against the approved cost breakdown.

## **Sable Island National Park Reserve**

Programme for the Main Station & Schematic Design of the Weather Office Building

- 2) Record all discrepancies and agreed-upon remedial measures.
- 3) Provide project financial planning/advice to the Project Authority, including funding commitment for the project according to government fiscal year (April 1 to March 31).

### 7.4.6 Shop Drawings

- 1) Review and process shop drawings in a timely manner.
- 2) Monitor and record the progress of shop drawing review. Record parties designated for action and follow up.
- 3) Shop drawings shall be stamped: “Checked and Certified Correct for Construction” by the Contractor and stamped “reviewed” by the Consultant before return to the Contractor.
- 4) On completion of the building, include final shop drawings in the Operating and Maintenance Manuals. Provide one package. Verify that shop drawings are recorded in sequence

### 7.4.7 Clarifications During Construction

- 1) The Consultant must provide clarifications on Drawings and Specifications or site conditions, as required in order that the project not be delayed.
- 2) Receive and respond to Requests for Information (RFIs)
- 3) Prepare and issue Supplemental Instructions as required for clarification of the requirements of the Construction Documents
- 4) Record Contractor's acknowledgment of receipt of all clarifications.
- 5) Verify and record any impact on construction cost or schedule and advise the Project Authority.
- 6) Provide to the Project Authority any additional detailed drawings, as and when required, to properly clarify or interpret the Contract documents, in a timely manner.

### 7.4.8 Inspections and Site Review

- 1) Provide construction inspection services by qualified personnel to verify compliance with Contract documents. These personnel must be fully knowledgeable of the project's technical and administrative requirements.
- 2) It is required that fully qualified, experienced Inspection and site review personnel play a major role in the inspection and monitoring of the Work in detail.
- 3) Establish a written understanding with Contractors as to what stages or aspects of the work are to be inspected prior to being covered up.
- 4) Immediately after the Construction contract is awarded and before Work begins onsite, the Consultant shall attend, prepare an agenda, lead and take minutes of the pre-construction meeting.
- 5) Assess quality of work and identify in writing to the Project Authority, all defects and deficiencies observed at time of inspections.
- 6) Inspect materials and prefabricated assemblies and components at their source or assembly plant as necessary for the progress of the project.
- 7) Any recommendations, clarifications or deficiency lists shall be issued in writing to the Project Authority with a copy to the Contractor.
- 8) Keep the Project Authority informed of the progress and quality of the work and report any defects or deficiencies in the work observed during the course of the site reviews.
- 9) The Consultant is responsible for updating the drawing and specification files and to provide electronic versions (original and PDF format) of the as-built Drawings and Specifications Include paper copies in the paper O&M Manual and digital copies in the digital O&M Manual.



## **Sable Island National Park Reserve**

Programme for the Main Station & Schematic Design of the Weather Office Building

- 10) In the case of emergency where safety of persons or property is concerned or Work is endangered by the actions of the Contractor or the elements, the Consultant shall safeguard the interests of PCA. The Consultant shall give immediate written notice to the Project Authority and to the Contractor of the possible hazard. The Consultant shall, if necessary, stop the work to protect the safety of the public, the workers or Crown property or give orders for remedial work and contact the Project Authority immediately for further instruction.
- 11) The Consultant shall not authorize deviations from the Contract documents; enter into the area of the responsibility of the Contractor's Field Superintendent; stop the work unless convinced that an emergency exists as noted above.

### **7.4.9 Construction Changes**

- 1) The Consultant does not have authority to change the scope of work or the price of the Contract.
- 2) Approved Change Orders must be issued to cover all changes, including those not affecting the cost of the project, such as schedule, substitutions, etc.
- 3) The Consultant must prepare Contemplated Change Notices (CCNs) with the required drawings and specifications and review quotations associated with Change Orders (COs).
- 4) The Consultant shall monitor and record the progress of CCNs and COs.
- 5) Where work must proceed pending issue of a Change Order, the Consultant must prepare a Change Directive (CD) and record time and materials expended.
- 6) Proposed changes that affect cost or design or otherwise alter the terms of the Contract must be accepted and approved by the Project Authority. Upon approval from the Project Authority, quotations must be obtained from the Contractor in detail. Prices are then reviewed by the Consultant and recommendations forwarded to the Project Authority. The Project Authority will then forward the CCN to the Contracting Authority to issue the COs to the Contractor, with a copy to Consultant.

### **7.4.10 Contractor's Progress Payments**

- 1) Each month, the Contractor will submit a progress claim for work and materials delivered to site as required in the Contract. The claims are made by completing the following forms where applicable:
  - Request for Construction Payment with supporting invoices/documents in government format
  - Cost Breakdown for Fixed Price Contract
  - Statutory Declaration: Progress Claim
  - Workers' Compensation Board clearance letter
- 2) The Consultant must determine the amounts owing to the Contractor based on the progress of the work and certify payments to the Contractor.
- 3) The consultant must provide General Review of major components produced at off-site prefabrication or manufacturing facilities.
- 4) The Consultant must review and sign designated government forms and promptly forward claims to the Project Authority for processing. Obtain the following information from the Contractor and submit with each progress claim; an updated schedule of the work.

### **7.4.11 Payment for Materials On Site**

- 1) The Contractor may claim for payment of material onsite, but not yet incorporated in the work.
- 2) Material must be stored in a secure place and protected from weather as designated by the Project Authority.

## **Sable Island National Park Reserve**

Programme for the Main Station & Schematic Design of the Weather Office Building

- 3) A detailed list, checked and verified by the Consultant, of materials with supplier's invoice showing price of each item must accompany each claim.
- 4) Items must be listed separately on the Detail Sheet showing the breakdown and total.

### 7.4.12 Testing

- 1) Prior to tender the Consultant must provide the Project Authority with a recommended list of tests to be undertaken, including onsite and factory testing. Specify all items to be tested and included in the specifications and provide a detailed breakdown of the types of testing and amount.
- 2) The Consultant must provide assistance related to the inspection and testing of mock-ups, including witnessing testing of Project elements and systems.
- 3) The Consultant must review all test reports and take necessary action with the Contractor when work fails to comply with contract requirements. The Project Authority must be immediately notified when tests fail to meet project requirements and when corrective work will affect the schedule.
- 4) At the completion of construction coordinate with the Contractor, and if applicable, Sub-Consultants to conduct systems demonstrations for PCA operations personnel.

### 7.4.13 Prototypes, Mock-ups and Sample Installations

- 1) Specify explicitly the need for prototypes, mock-ups and sample installations to gain installation knowledge for specialized testing of technically advanced assemblies.
- 2) Ensure that specifications are very clear on full requirements for such prototype work including:
  - 1) Specifying timeframes and weather conditions under which this work will be carried out.
  - 2) Noting area on site plan where this is to be done.
  - 3) Bringing this item to the attention of the Contractor at construction start meeting and approve their methodologies and time frames for such work.
  - 4) Involving all necessary consulting disciplines, trades, suppliers, product manufacturers, testing agencies, Authorities, for a comprehensive review of the requirements and scheduled installation.
  - 5) Noting where necessary all requirements for submitting shop drawings, product information and samples well in advance, so as not to disrupt project work schedule.
  - 6) Ensure sufficient observation reports, photos or videos of work undertaken are available to avoid misunderstandings at a later stage.

### 7.4.14 Substantial Completion

- 1) The Contractor shall propose the site review when the project is at Substantial completion stage and provide a list of deficiencies prior to the site review. Commissioning must be completed and the Commissioning Report reviewed and accepted by the Consultant and Project Authority.
- 2) The Contractor shall arrange for an substantial Site Review with the Project Authority, PCA representatives, stakeholders, Consultants and major sub-Contractors for the site review.
- 3) Consultants will prepare a substantial Completion report and a list of deficiencies. Upon reviewing the report, confirm that the work complies with Contract requirements and confirm the value of remaining work. Consultants will recommend the acceptance of Interim Completion by signing the Interim Certificate.
- 4) When PCA is also satisfied that the construction work is substantially complete and the project is fit for use as intended, the Project Authority will also co-sign and issue the substantial Certificate of Completion to the Contractor, provided that the work remaining to be done under

## Sable Island National Park Reserve

Programme for the Main Station & Schematic Design of the Weather Office Building

the contract is, in the opinion of the Project Authority, possible to complete or correct at a cost of not more than:

- a. 3% of the first \$500,000, and
- b. 2% of the next \$500,000, and
- c. 1% of the balance of the value of the contract at the time this cost is calculated.

- 5) Payment to Contractor requires that all concerned parties complete and sign the following documents:
  - a. Interim Certificate of Completion (Government form)
  - b. Interim Site Review report and Acceptance
  - c. Progress Claim including holdback amount to be released
  - d. Cost Breakdown for the Fixed Price Contract and the cost for the remaining work
  - e. Cost Breakdown for Unit and/or Combined Price Contract, if applicable
- 6) Project Schedule for the remaining work
- 7) Statutory Declaration for Interim Certificate of Completion
- 8) Workers' Compensation Board Clearance Certificate
- 9) The Consultant must verify that all items are correctly stated and ensure that completed documents and any supporting invoices/documents are given to the Project Authority for processing.

### 7.4.15 Final Completion

- 1) The Contractor shall inform the Project Authority when satisfied that all work under the Contract has been completed, including all deficiency items listed during the Interim Inspection.
- 2) The Contractor shall arrange for the Final Site Review with the Project Authority, PCA Representatives, stakeholders, Consultants and major sub-Contractors.
- 3) If the Work complies with Contract requirements and is satisfactory, upon recommendation from the Consultant, PCA will accept completion of the project.
- 4) Final payment to Contractor requires that all concerned parties complete and sign the following documents:
  - Final Certificate of Completion (Government form)
  - Final Site Review report and Acceptance
  - Progress Claim including holdback amount to be released
  - Cost Breakdown for Fixed Price Contract
  - Cost Breakdown for Unit and/or Combined Price Contract
  - Statutory Declaration for Final Certificate of Completion
  - Worker's Compensation Clearance Certificate
  - Trades' Certificates as appropriate
- 5) The Consultant must verify that all items are correctly stated and ensure that completed documents and any supporting invoices/documents are given to the Project Authority for processing.
- 6) The Consultant shall continue to monitor the situation and communicate with the Project Authority to ensure that they are aware of any deficiency work being delayed beyond reasonable timeframes.
- 7) The Consultant shall submit the required documents and obtain the LEED certificate, when applicable.

## **Sable Island National Park Reserve**

Programme for the Main Station & Schematic Design of the Weather Office Building

### 7.4.16 Record (As-Built) Drawings and Specifications

- 1) The Consultant must produce for all parts of the construction as-built drawings of areas that show deviations in construction from the original Contract drawings, including as-built information (marked up prints) and other data submitted by the contractor, changes shown on Post-Contract Drawings, changes resulting from Change Orders or from onsite instructions.
- 2) Include final survey drawing.
- 3) Check and verify all as-built records for completeness and accuracy prior to submission to PCA
- 4) Submit Record Drawings and Specifications within 4 (four) weeks of Final Completion acceptance. Electronic versions of the Drawings and Specifications to be submitted in original editable formats and PDF formats.

### 7.4.17 Operation and Maintenance Manuals

- 1) Review and submit Operation and Maintenance Manuals for the construction to the Project Authority for review and acceptance prior to substantial Completion.
- 2) The Contractor shall submit four (4) duplicate hard copies and two (2) duplicate digital copies of the Operation and Maintenance Manuals to the Project Authority within three (3) weeks of Final Completion acceptance. The Operation and Maintenance Manuals shall be presented as follows:
  - 1) project name, number, location, Contractor's name and contact information on all pages.
  - 2) Organize by 3-ring binders and separate by color dividers by specification sections.
  - 3) Include a complete set of as-built Drawings (full size) and Specifications.
  - 4) Include a copy of Commissioning Report.
  - 5) Include a copy of all products, materials, equipment and fixtures - product information (name and contact information of sub-trade, supplier and manufacturer, etc.), test/approval information, operating instructions and maintenance information/schedule, spare parts, certificates, warranty and final shop drawings etc.

### 7.4.18 Site Visits to the island

Include seven (7) site visits to the island during this phase for the selected key personnel. It is the responsibility of the proponent to decide on the requisite staff to carry out the work on the island. A work plan while visiting the island will be requested from the successful proponent. All associated costs shall be included in the fee proposal.

Refer to the description of requirements involved when visiting the island.

## **7.5 OS5 - Post-Construction Services (Optional)**

### 7.5.1 General

- 1) All work under the Construction Contract carries a standard twelve (12) month warranty commencing on the effective date of the issuing of Substantial Certificate of Completion. Certain parts of the work, such as roofing, structure, joints and bearings, window and exterior door(s), building envelope and distribution systems may have extended warranties as specified.
- 2) Roofing warranty is minimum 30 years and extended to the same warranty period as the specified roofing product being used.
- 3) Window and exterior door warranties are minimum 10 years and extended to the same warranty period as the specified product being used.
- 4) Building structure, joints and bearings warranties are minimum 10 years.

## **Sable Island National Park Reserve**

Programme for the Main Station & Schematic Design of the Weather Office Building

- 5) Other than roofing, window and exterior door(s) as specified, remaining building envelope components warranties are minimum 10 years.
- 6) Distribution systems (mechanical and electrical systems) warranties are minimum 2 years.
- 7) New buildings shall meet and exceed all the requirements to satisfy the warranty program and coverage.
- 8) The Contractor is responsible for correcting and/or replacing all defects in the work during the warranty period, except for damage caused by misuse, abuse or neglect by others.
- 9) The Project Authority will promptly notify the Consultant in the event that defects or alleged defects appear in the work of the Contractor.
- 10) The Consultant shall investigate all defects and alleged defects in the work promptly and issue appropriate information and advice to the Project Authority.
- 11) The Consultant shall arrange a lesson-learned meeting with the Contractor, Project Authority and stakeholders within four (4) weeks of Final Completion. Consultant shall provide information, advice, improvement, suggestions, constructive inputs and lessons learned for the benefit of future projects.

### **7.5.2 Ten-Month Warranty Inspection**

Nine months after Interim Completion acceptance, the Consultant shall:

- 1) Arrange a ten-month warranty site review with the Project Authority, sub-Consultants, Contractor, sub-Contractors, and PCA maintenance staff.
- 2) Prepare deficiency list prior to the site review
- 3) Inform the Project Authority in writing when all items listed on the ten-month Warranty Inspection report have been completed satisfactorily.

### **7.5.3 Site visit**

Include one (1) site visit to the island during this phase for the selected key personnel. It is the responsibility of the proponent to decide on the requisite staff to carry out the work on the island. All associated costs shall be included in the fee proposal.

The fee proposal shall include the work hours to undertake one site visit (Day 1-travel + work, Day 2,3 - work, Day 4 travel + work) for the selected key personnel from the project team who will visit the island.

Refer to the description of requirements involved when visiting the island(Section 9).

## Sable Island National Park Reserve

Programme for the Main Station & Schematic Design of the Weather Office Building

### 8 Schedule

Task	Days	Completed
Request for Fee Proposal tender Period		
Award		
Work plan and schedule submission	10	
<b>RS1 - Programme for Main Station</b>		
Start up meeting		
Compile Programmatic requirements for Main Station		
Meeting with PCA : review of existing MS programme		
PCA Review		
Prepare Overall MS programme		
Meeting with PCA : Present MS programme		
PCA Review		
Submit Final programme		<b>06-2021</b>
<b>RS2 - Schematic Design of Weather Office</b>		
Date of Site visit to be confirmed		<b>06-2021</b>
33 % submission		
Presentation by Consultant		
PCA Review		
66 % submission		
Presentation by Consultant		
PCA review		
99 % submission		
Presentation by Consultant		
PCA Review		
RS2 - 100 % Schematic Design Submission to PCA		<b>10 -2021</b>
OS1 Design Development Services		<b>03- 2022</b>
OS2 Contract Documents		<b>09- 2022</b>
OS3 Tender Services		<b>10- 2022</b>
OS4 Contract Administration		<b>06-2023</b>
OS5 Post Construction Services		<b>08-2023</b>

The successful proponent will be required to provide a schedule including milestones and allowances for reviews and approvals for each phase.

## **Sable Island National Park Reserve**

Programme for the Main Station & Schematic Design of the Weather Office Building

### **9 Site visits to Sable Island NPR**

The site visits to the island will be arranged pending weather, operations and flight schedules.

The fee proposal shall include the work hours for the site visits for the selected key personnel who will visit the island. It is the responsibility of the proponent to decide on the requisite staff to carry out work on the island. All corresponding costs must be included in the fee proposal.

Per phase of work, the suggested site visits are:

- RS1 and RS2 : 1
- OS1 : 1
- OS2 : 1
- OS3 : none
- OS4 : 7
- OS5 : 1

#### Site

Sable Island National Park Reserve is a remote island located approximately 300 km Southeast of Halifax Airport in the Atlantic Ocean. Access to the site is accomplished either by vessel and landing craft, by various types of charter fixed wing aircraft, or by helicopter. The project sites are delineated into 4 work areas: Main Station, Mines Camp, West Light and the Old Helipad.

#### Transportation

Parks Canada will provide transportation to and from Halifax airport to Sable island via fixed wing aircraft. Consultants shall be responsible for all travel costs to/from the Halifax airport and all other travel, accommodation and disbursement costs.

#### Health and Safety

Health and Safety is of the utmost importance for Parks Canada. When working on any project, health and safety must be considered for each task, however, Sable Island has its own unique challenges. Should an injury or medical emergency occur that requires expertise not available on the island, medical personnel must be flown in by fixed wing or helicopter and that expertise could be many hours, or days away.

All of the Consultants personnel, including sub-consultants, must attend an island orientation upon arrival. Parks Canada reserves the right to stop all work at no expense to Parks Canada if health and safety concerns are noted.

#### Accommodations

Accommodations for consultants will be provided by Parks Canada at no cost to the Consultant team. Accommodations will be in available housing with common kitchen, washroom, and lounge areas and private or semi-private bedrooms.

#### Personal provisions

All Consultants are required to supply their own bedding, including pillows, towels and toiletries. There are laundry facilities on site and soap is provided.

Consultants must supply their own food. Kitchen facilities and potable water are provided. Glass bottles are discouraged; visitors are requested to transport goods in recyclable plastic containers or cans where possible. Basic dishes, utensils, appliances, cleaning supplies, etc. are provided. Consultants shall leave the facilities clean and are required to do their share of cleaning in a busy environment.

Composting facilities are provided by Parks Canada for food waste. Garbage and recycling are picked up by Parks Canada staff. Consultants shall remove their excess food when they leave the island.

#### Communication

## **Sable Island National Park Reserve**

Programme for the Main Station & Schematic Design of the Weather Office Building

Access to phone and internet on the island is subject to significant restrictions. Use of these systems will be outlined by Parks Canada Operations Coordinator. Streaming, gaming, heavy down/up loading, etc. is not permitted. There is Satellite TV in the common area of the Visitors Quarters.

Handheld radios may be provided to the Consultant team to permit easy means to communicate with Parks Canada staff. Should damage occur to the radio due to careless behavior, the cost to repair or replace may be the responsibility of the Consultant, subject to the discretion of Parks Canada.

Wildlife Consultants must maintain a 20 metre buffer between personnel and wildlife.

### Delays due to Weather

Sable Island has a unique weather environment that can be difficult to predict and change quickly. The Consultant must be prepared to experience delays getting to and from the island and anticipate downtime when work is interrupted due to extreme weather conditions such as high winds, lightning storm, heavy rain, fog, etc. The Consultant team must consider the high likelihood of weather delays when planning food supplies, medical prescriptions and other supplies for the duration on the island and should not rely on planned re-supply flights to arrive on scheduled date(s). Should any member of the Consultant's team require essential medication, it is required that double the supply necessary for the length of stay be purchased. Should the Contractor run out of food due to extended delays in resupply or getting off the island, food can be supplied from Parks Canada at a cost to the Consultant.

Delays due to weather are common when attempting to travel to and from the island. The Consultant cannot submit an invoice for common delays while waiting for travel to and from the island.

Consultants are responsible for all costs associated with the site visit except exclusions noted above. All costs are to be included in the fee proposal.

**END OF DOCUMENT**