Public Works and Government Services Canada

Travaux publics et Services gouvernementaux Canada

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LETTER OF INTEREST
LETTRE D'INTÉRÊT

Title - Sujet CRMIS INDUSTRY ENGAGEMENT	
Solicitation No. - N° de l'invitation 5P032-150035/B	**Date** 2015-10-08
Client Reference No. - N° de référence du client 5P032-150035	**GETS Ref. No. - N° de réf. de SEAG** PW-$PSD-003-25403
File No. - N° de dossier 003psd.5P032-150035	**CCC No./N° CCC - FMS No./N° VME**

Solicitation Closes - L'invitation prend fin
at - à   02:00 PM
on - le 2015-11-13

Time Zone
Fuseau horaire
Eastern Daylight Saving Time EDT

F.O.B. - F.A.B.

Plant-Usine: ☐   **Destination:** ☐   **Other-Autre:** ☐

Address Enquiries to: - Adresser toutes questions à: Henderson, Anthony	**Buyer Id - Id de l'acheteur** 003psd
Telephone No. - N° de téléphone (819) 956-0343 ( )	**FAX No. - N° de FAX** (819) 956-0400

Destination - of Goods, Services, and Construction:
Destination - des biens, services et construction:

PARKS CANADA
3RD FL, ROOM 4 PC-03-J
30 VICTORIA STREET
Gatineau
Quebec
J8X0B3
Canada

Comments - Commentaires

Instructions: See Herein

Instructions: Voir aux présentes

Vendor/Firm Name and Address
Raison sociale et adresse du fournisseur/de l'entrepreneur

Delivery Required - Livraison exigée See Herein	**Delivery Offered - Livraison proposée**

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Telephone No. - N°de téléphone
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Parks Canada is realigning its various and disparate cultural resource information systems into one standardized national system to be accessed by employees across the country. Furthermore, this is an opportunity to create an efficient and effective tool for reporting and decision making.

Parks Canada is looking for a Commercial Off-the-Shelf (COTS) product which is SPECTRUM compliant and specializes in cultural resource management. A major consideration for the success of the Cultural Resource Management Information System (CRMIS) is that it effectively supports functional areas in managing cultural resources. In so doing, CRMIS elements will constitute a single, authoritative information source for cultural resource management including:

- collections management (e.g. archaeological, historic, reproductions, and reference holdings);

- site information management (e.g. archaeological sites, cultural resource locations in national historic sites, national parks, and national marine conservation areas);
- curatorial and historical services (e.g. acquisition, documentation, disposal);
- conservation, conservation sciences and preventative conservation management (e.g. conservation assessment, treatment and preventative conservation of objects);
- digital and non-digital asset management as it pertains to cultural resource management; and, management decision making.

Parks Canada

Cultural Resource Management Information System (CRMIS)

BID SOLICITATION

Annex A

Statement of Work

Table of Contents

1   Introduction

1.1   Parks Canada Agency Mandate and Role

Parks Canada Mandate: "On behalf of the people of Canada, we protect and present nationally significant examples of Canada's natural and cultural heritage, and foster public understanding, appreciation and enjoyment in ways that ensure the ecological and commemorative integrity of these places for present and future generations."

Parks Canada plays a key role through its work to achieve the Government of Canada's sustainable development and heritage conservation goals. With an annual budget of approximately $600 million and 4,000 full-time employees, Parks Canada protects and presents Canada's natural and cultural heritage in every region of the country.

Parks Canada's charter and mandate clearly define the Agency's role as it pertains to the cultural resources under its jurisdiction (those coming from or contained within Parks Canada heritage areas). Parks Canada's cultural resources can be found in our national historic sites, national marine conservation areas, national parks and in our historic object and archaeological collections. There are over 700,000 historic objects and reproductions associated with Parks Canada's heritage areas. Parks Canada is also responsible for over 13,000 archaeological sites and close to 30 million archaeological artifacts across the country.

Cultural resources include both moveable (objects) and *in situ* resources (landscapes, human works or objects in their original locations).

1.2   Purpose and Objective

Parks Canada's cultural resource information is currently housed in many varied and disparate systems. The majority of the existing systems used to manage cultural resource information are located in and administered by Parks Canada offices across the country. There are 9 major systems currently in use that have redundant and often duplicate information and functionality. There are also reference and document repositories as well as systems to manage photo collections and Geographic Information Systems (GIS).

Parks Canada is combining its various and disparate cultural resource information systems into one standardized national system to be accessed by employees across the country. Furthermore, this is an opportunity to create an efficient and effective tool for reporting and decision making.

Parks Canada is looking for a Commercial Off-the-Shelf (COTS) product which is SPECTRUM compliant and specializes in cultural resource management. A major consideration for the success of the Cultural Resource Management Information System (CRMIS) is that it effectively supports program or functional areas in managing cultural resources. In so doing, CRMIS will constitute a single, authoritative information source for cultural resource management including:

- collections management (e.g. archaeological, historic, reproductions, and reference holdings);
- site information management (e.g. archaeological sites, cultural resource locations in national historic sites, national parks, and national marine conservation areas);
- curatorial and historical services (e.g. acquisition, documentation, disposal);
- conservation, conservation sciences and preventative conservation management (e.g. conservation assessment, treatment and preventative conservation of objects);
- digital and non-digital asset management as it pertains to cultural resource management; and,
- management decision making.

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CRMIS directly enhances and supports informed decision-making by providing access to integrated, comprehensive and accurate information about Parks Canada's cultural resources thereby supporting Parks Canada's mandate to protect, conserve and present Canada's treasured cultural heritage.

1.3 Statement of Work Structure

- The Vendor shall supply Parks Canada with the required and the necessary licenses for a Cultural Resource Management Information System.
- The Vendor shall configure and customize the system as required to ensure it meets all mandatory requirements as described in this Request for Proposal.
- The Vendor shall configure and customize the system as required to ensure it meets all rated and additional requirements as described in this Request for Proposal that the Vendor was allocated points for.
- The Vendor shall provide support, training and appropriate reference materials as defined in this Request for Proposal.
- The Vendor must fill out the associated Response Tables for each of the sections and submit them with their proposal.
- The Vendor shall submit all documentation identified in *2.1.1 Initiation Phase* as part of their proposal.

The Statement of Work is structured in the following format:

Overall System Capabilities and Services

Section 2. Overall System Capabilities and Services outlines the following:

a. Scope of Work for the contract and contract term;
b. Activities and Deliverables within the defined initiation phase;
c. Activities and Deliverables within the defined project phase;
d. Requirements;
e. Schedule of Deliverables;
f. Certifications; and,
g. Resulting Contract Clauses.

Mandatory Requirements

This section details all the mandatory requirements that the Bidder must provide, these sections include:

- 3. General Mandatory Requirements;
- 6. Security and Privacy Requirements;
- 10. Project Phase Deliverables; and
- All documentation identified in *2.1.1 Initiation Phase*

Rated Requirements

These sections detail all the requirements that the Bidder will be rated on. Please note, the Bidder must meet the minimum pass marks for all sections of the rated requirements with the exception of section *7 Additional Functionality* which has no minimum pass mark. The rated requirements can be found in the following sections:

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- 4. General Rated Requirements;
- 5. CRMIS Feature List;
- 7. Parks Canada Training Requirements; and
- 8. Additional Functionality.

CRMIS Feature List

Section 5 CRMIS Feature List details the features and functionality of the system in 6 main areas:

General System Requirements

The Cultural Resource Management Information System (CRMIS) is intended to manage the inputs (data collection) and outputs (reports, analysis, etc.) of cultural resource management practitioners including but not limited to:

1. Archaeological Artifact, Historic Object and Reproductions Collections Management;
2. Conservation, Conservation Sciences and Preventative Conservation Management;
3. Curatorial and Historical Services Management;
4. National Historic Site and Archaeological Site Information Management.

Archaeological Artifact, Historic Object and Reproductions Collections Management

The CRMIS is intended to be the system of record for information about the Parks Canada Collection which includes archaeological artifacts and historic objects as well as reproductions. Artifacts, historic objects and reproductions are recorded in the system by context (provenience/provenance), descriptive attributes and theme/function.

The system must allow for the addition of supporting information regarding the objects and object collections such as photographs and other documentation. The system must allow for the management of these digital and non-digital assets.

The system will be required to track the movement of the above mentioned objects allowing for the assignment of current, previous and temporary locations to the objects. This must include tracking object movement within the organization as well as external transactions.

The system must allow Parks Canada staff to report on and track the number of artifacts, objects and reproductions as well as their heritage value, condition and location over time.

Conservation, Conservation Sciences and Preventative Conservation Management

The CRMIS will be expected to manage Conservation information such as object and site assessments, treatments, treatment histories, recommendations, and preventative measures.

The system must allow for the addition of object and site assessment and treatment information such as photographs and other documentation. The system must allow for the management of digital and non-digital assets.

The system must allow Parks Canada Conservators to track and report on treatments as well as to monitor object and site condition.

Curatorial and Historical Services Management

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The CRMIS will be expected to manage the main curatorial functions within the system such as the acquisition and disposal of objects as well as grouping objects for purposes such as exhibits. The system must also allow for the management of object life cycles and exhibit (theme) development as well as monitoring and assessing the collection.

National Historic Site and Archaeological Site Information Management

Parks Canada's cultural resources are linked to sites, locations, people and events. The various types of sites include but are not limited to:

- National Historic Sites (approximately 170); and
- Archaeological sites (over 13k).

Basic information will be captured about National Historic Sites as it relates to the management of cultural resources, i.e. condition.

The system must capture detailed and extensive information about archaeological sites. Archaeological sites have associated stratigraphic information which includes but is not limited to operations, sub-operations, lots, sub-lots and features. The Parks Canada provenience number (and subsequently the archaeological artifact number) is based on this locational description. More detailed explanation of the Parks Canada provenience system is included in Annex C – Data Dictionary.

In addition to key site information, the system must support data related to site assessments and archaeological site visits. This information includes observations, actions taken and recommendations for the management of cultural resources and heritage areas.

The system must also allow for the referencing or attachment of supporting information regarding the site visits such as photographs, maps and other digital and non-digital assets for National Historic Sites and archaeological sites.

Administration

The system must allow for authorized Parks Canada personnel to manage user accounts and privileges. Administrators must be allowed to manage the controlled vocabularies and options in drop down lists.

Appendix 1 – Glossary of Terms
Appendix 1 – Glossary of Terms lists key terminology and acronyms used within this Statement of Work as well as the Parks Canada-specific definitions.

Appendix 2 – Parks Canada Technical Environment
Appendix 2 – Parks Canada Technical Environment describes the various Parks Canada technical environments for servers, network as well as the standard user desktop and tools.

Annex B – Basis of Payment
Annex B – Basis of Payment specifies the basis of payment for requirements specified in the Statement of Work.

Annex C – Data Dictionary
Annex C – Data Dictionary details the information that needs to be captured as well as the data

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relationships that need to be established in a Cultural Resource Management Information System. The intention is to guide the Vendor about the information required and not to dictate how it needs to be done.

Annex D - PC Archaeological Recording Manual
Annex D – PC Archaeological Recording Manual is for reference purposes. The manual gives an overview of Parks Canada archaeological procedures and details the Provenience system.

Annex E - Parks Canada Brand Guidelines
Annex E - Parks Canada Brand Guidelines is included for reference purposes.

Response Tables
Response tables are provided in order to ensure consistency and must be filled out appropriately for each section as indicated in the Statement of Work.

- Table 4.1 - Mandatory Requirements Response Table
- Table 4.2 - Corporate Experience Response Table
- Table 4.3 - Named Resources Response Table
- Table 4.4 - Rated Requirements Response Table
- Table 4.5 - CRMIS Feature List Response Table
- Table 4.6 - Product Demonstration Response Table

2   Overall System Capabilities and Services

The Vendor must deliver all requirements identified in this section at the dates specified in the Schedule of Deliverables.

   a. Scope of Work for the contract and contract term;
   b. Activities and Deliverables within the defined initiation and project phases;
   c. Mandatory requirements, rated requirements and additional functionality as identified in the Scope of Work;
   d. Certifications; and,
   e. Resulting Contract Clauses.

2.1   Scope of Work

The Vendor must provide a Cultural Resource Management Information System as detailed by the following:

   ➢ Overall System Capabilities and Services;
   ➢ Mandatory Requirements;
   ➢ Rated Requirements;
   ➢ CRMIS Feature List;
   ➢ Security and Privacy Requirements;
   ➢ Parks Canada training requirements;
   ➢ Additional Functionality;
   ➢ Project Phase Deliverables;
   ➢ Implementation and deployment plan; and
   ➢ Schedule of Deliverables.

The Bidder must meet all of the Mandatory requirements described in this Statement of Work, these include the following sections:

   • 3. General Mandatory Requirements;
   • 6. Security and Privacy Requirements;
   • 9. Project Phase Deliverables;
   • All documentation identified in *2.1.1 Initiation Phase; and*
   • Prepare and present a demonstration of the proposed system.

The Bidder is also required to receive a passing mark in each of the rated requirements sections which include:

   • 4. General Rated Requirements including the product demonstration;
   • 5. CRMIS Feature List; and
   • 7. Parks Canada Training Requirements.

Section *8. Additional Functionality*, allows the Bidder to gain additional points. These requirements will be treated as bonus marks.ie. Points will be lost for not meeting the requirement and no minimum pass mark will be assigned.

Project breakdown:

The project work will be broken down into 4 Phases:

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> ➢ 2.1.1   Initiation Phase;
> ➢ 2.1.2   Project Phase;
>> ➢ 2.1.2.1 Improvement Phase;
>> ➢ 2.1.2.2 Testing Phase; and,
> ➢ 2.1.3   Transition Services at End of Contract Period.

Parks Canada intends to monitor industry trends and user needs and may extend the proposed system's functionality in order to meet changing business and technology needs and to enhance the system if and when required.

2.1.1   Initiation Phase

The Initiation Phase will run from Contract Award until the start of the Project Phase. For the Initiation phase, the Vendor must provide the following documentation for Parks Canada approval. The plans listed below must be clear and concise.

Initiation Phase document drafts must accompany the initial bid. Documentation will be finalized with necessary input from Parks Canada team during the Initiation Phase. The initiation phase will be considered complete once all the documents have been approved.

Parks Canada will require 10 working days to review the proposed plans and return comments to the Vendor.

Note: The information or documents required for the Initiation Phase can be combined in one document, they are not required to be separate documents but all plans must be included. The plans do not need to be elaborate but they do need to be clear and concise.

Initiation phase details can be found in section *9.Initiation Phase Deliverables*.

2.1.2   Project Phase

The Project Phase will run from the close of the Initiation Phase until the Production Launch of the system (expected to be no later than March 31, 2017), and must include all activities required to prepare the proposed system to meet Parks Canada's Requirements.

Additional information on Specific Requirements relating to the Management of the Project Phase can be found in section *10. Project Phase Deliverables*.

2.1.2.1 Improvement Phase

The improvement phase is considered part of the Project Phase. Parks Canada expects the Vendor to use an iterative approach to pilot and launch the system. This approach will include testing, stabilization and review cycles as part of an improvement phase. There will be 2 review periods, a Preliminary Design Review (PDR) and Critical Design Review (CDR).

Improvement phase details can be found in section *10. Project Phase Deliverables*.

2.1.2.2 Testing Phase

The testing phase is considered part of the Project Phase. Parks Canada expects the Vendor to use a best practices approach to the testing cycle which should include:

- Unit testing;
- Integration testing; and
- Supplying test scripts for Parks Canada testing.

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Parks Canada will be responsible for functionality testing, System Acceptance Testing (SAT) and User Acceptance Testing.

Testing phase details can be found in section *10. Project Phase Deliverables*.

2.1.3   Transition Services after User Final System/Acceptance Testing (S/UAT)

Specific Requirements for the Transition period can be found in *11.4 Transition Services after User Acceptance Testing*.

During the Transition period, the Vendor must, in addition to continuing to perform support phase activities, assist Parks Canada with the smooth, efficient and complete transition to the new system and ensure all reference and training materials have been provided.

3   General Mandatory Requirements

- Bidders must meet all of the Mandatory Requirements below.
- Bidders must respond to the corresponding Mandatory Requirements by providing a description and demonstrating their capability or approach to meet the requirement using the using the evaluation criteria contained in Table 4.1 General Mandatory Requirements Response Table of this Bid Solicitation, Table 4.2- Corporate Experience Response Table and Table 4.3 – Named Resources Response Table.
- Bidders must use the unique number identified with each Mandatory Requirement and the associated title in responding to the Mandatory Requirements.
- Bidders' responses to the Mandatory Requirements shall be evaluated as "Met" or "Not Met". A "Not Met" shall result in the bid submission being deemed noncompliant.
- In addition to any other obligations contained in the resulting contract, the winning Bidder shall be contractually obliged to provide all services described in any of its responses to these Mandatory Requirements, in accordance with and at the prices contained in Annex B – Basis of Payment.
- Bidders must respond to the Mandatory Requirements using the Mandatory Requirements Response Table.

NUM	Mandatory Requirement

M1	**Corporate Experience**
	
	The Bidder must demonstrate its capability to provide the products and services required under this Bid Solicitation by providing corporate reference project profiles as follows:
	
	a) Two Collections Management Reference Projects where:
	
	    i) *One of the projects involved archaeological artifacts which were related to archaeological sites;*
	
	    ii) *One of the projects involved historic objects related to themes, people, events, etc.;*
	
	    iii) *Interdependent attributes were captured for archaeological artifacts and historic objects;*
	
	    iv) *The project was delivered by the same Bidding Team member proposed to deliver the cultural resource management information system (as described in the Statement of Work);*
	
	    v) *The system was in operation for a minimum of 12 consecutive months; and*
	
	    vi) *The project was completed in the last 5 years or the signed contract has been ongoing for a minimum of 12 months (as of Bid Solicitation issuance date).*
	
	b) One Archaeological Site Information Management Reference Project where:
	
	    i) *The project included an archaeological recording process similar to the Parks Canada provenience system (Hierarchical approach, meaning quadrants of units with interrelated horizontal and vertical locations);*

NUM	Mandatory Requirement
	ii) *The system allowed for the capture of site attributes;* *iii)* *The system aided in the management of on-going activities performed at archaeological sites, records the actions and impacts;* *iv)* *The system related artifacts to an archaeological site; and* *v)* *The project was completed in the last 5 years or the signed contract has been ongoing for a minimum of 12 months (as of Bid Solicitation issuance date).* c) One Conservation Management Reference Project Reference where: *i)* *On-site and object condition assessments were captured;* *ii)* *Treatment requests were included as part of the system;* *iii)* *Conservation treatment information was captured; and* *iv)* *The project was completed in the last 5 years or the signed contract has been ongoing for a minimum of 12 months (as of Bid Solicitation issuance date).*
M2	**Identification of Bidding Team** The Bidder must: a) Identify its Bidding Team by providing: i) The name of the Prime Contractor and a list of all major sub-contractors, or ii) The names of each member of the Joint Venture including the identification of the lead member of the Joint Venture (if applicable); b) Describe the proposed role and responsibility of each member of the Bidding Team with respect to fulfilling each of the requirement areas described in the Statement of Work; and c) Provide a brief corporate history for each Bidding Team member.
M3	**Proposed Project Team Resources** *The Bidder must propose a qualified resource to fulfill each of the following Project Team roles:* *i)* *Executive Authority* *ii)* *Project Manager; and* *iii)* *Solution Technical Lead.* *The Bidder must identify by name the individual proposed to fulfill each Project Management Team role and identify the portion of the individuals' time that will be dedicated to the CRMIS Project during the Project Phase as stipulated in the Statement of*

NUM	Mandatory Requirement
	Work.
M4	**Core Cultural Resource Management Information Product** The Bidder must identify the Core Cultural Resource Management Information Product (COTS) it proposes to meet the requirements of the proposed system and identify the Bidding Team member who owns the product or provide the name and contact information for the Software Publisher if not a Bidding Team member.
M5	**Project Documentation** The Bidder must provide a draft Project documentation as detailed in section *2.1.1 Initiation Phase* At minimum the Bidder must ensure that key work items, deliverables, and activities (including internal Bidder activities) described in the Statement of Work as well as associated dependencies are included in the documentation. The Bidder must ensure that the key milestone dates listed in the Statement of Work are part of the Project Plan. For purposes of preparing the draft project plan for evaluation only, the Bidder must use January 1, 2016 as the date for Milestone A – Project Formal Start.
M6	**Collections and Curatorial Processes** The Bidder must ensure that the proposed system enables Parks Canada personnel to manage the vast Parks Canada Collection including but not limited to object accession and deaccession, object movement tracking, object condition, object attributes and loans. This includes compliance to the following Collections Trust SPECTRUM 4.0 procedures which are: • Object Entry • Acquisition • Cataloguing • Location and movement control • Loans in • Loans out • Object exit • Retrospective documentation See Annex C - Data dictionary for field details.

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NUM	Mandatory Requirement
M7	**Conservation and Conservation Sciences** The Bidder must ensure that the proposed system enables Parks Canada Conservation specialists to manage the conservation process. This includes but is not limited to object and site assessments, condition assessments, treatments, treatment histories, tracking objects through the treatment processes, etc. This includes compliance to the following Collections Trust SPECTRUM 4.0 procedures which are: • Object Condition checking and technical assessment • Conservation and collections care See Annex C - Data dictionary for field details.
M8	**Archaeological Site Information Management** The Bidder must ensure that the proposed system enables Parks Canada to manage site information including the details of archaeological sites. Site information can include but is not limited to provenience, environmental, stratigraphic and geospatial/cartographic information. The system must enable users to record site visits, recommendations and site condition assessments. Provenience information is based on the Parks Canada provenience system. See Annex C - Data dictionary for field details and Annex D English - PC Archaeological Recording Manual
M9	**Scalability** The proposed system must be expandable and scalable to meet Parks Canada's operational, business and technical needs and possible growth.
M10	**Interface available in both Official Languages** A. The proposed system must be available in both official languages (English and French). B. The proposed system must prompt the user who has not signed into their existing account to select a Language of Preference when entering the system. The language selected must be maintained and all subsequent pages (screens) must be displayed in that selected language.

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NUM	Mandatory Requirement
	C. When a user signs into the proposed system the saved value stored in their Language Preference must be maintained unless manually over-ridden by the user themselves selecting the alternate language. D. The System must contain an ever-present toggle on every screen to allow the users the ability to switch their Language of Preference. When the toggle is clicked the present screen must refresh in the newly selected language and going forward all Screen Content, and Error Messaging must appear in the selected language until such time as the user clicks on the toggle to alter the language again or such time as they sign out. Upon subsequent sign-in, the Language of Preference selected from the user's account must be observed.
M11	**Functionality available in both Official Languages** The system and all its modules and sections must be fully functional in both official languages (French and English).

4   General Rated Requirements

To be considered responsive, Bidders must achieve a passing mark for each section as indicated in the table below.

Please note that some minimum passing marks have been adjusted to simplify calculations. For example, maximum points of 230 equals a 70% pass mark of 161, this number has been rounded down to 160.

Bidders must respond to the Rated Requirements using the Rated requirements Response Table.

The breakdown of points available by section is as follows:

Section		Points	Passing Mark
4.3.1	Corporate Experience	280	140
4.3.2	Project Understanding and Approach	970	475
R3.1	Named Resources	230	160
4.3.4	Features	8,980	6286
4.3.6	General Product Requirements	585	409
Total			7795

4.1   Requirement Identification

The rated requirements are uniquely numbered using an R to denote a rated requirement, a number to denote the sub-section as indicated in the table above followed by a decimal point (.) and a number to uniquely identify the requirement. For example, R1.2 would be the 2nd rated requirement under Overall Corporate Experience.

4.2   Rated Section Bidder Instructions

In order to obtain technical point(s), Bidders in preparing their bid submission must respond to the corresponding rated requirement by providing a description explaining, demonstrating, substantiating, or justifying their capability or approach to meet the requirement. Bidders' responses must be relevant, thorough but clear and concise. Bidders must limit their response for each rated requirement to an absolute maximum of 500 words unless otherwise specified. Bidders are required to use the unique number identified with each rated requirement and the associated title in responding to the rated requirements.

Bidders' responses to the rated requirements will be evaluated and scored in accordance with the evaluation grid. Only bids that obtain the minimum pass mark and other conditions indicated will be considered responsive and move to the next step in the evaluation process.

4.3   Rated requirements

A selection of the Rated Requirements will be evaluated using the following General Guide. The selected requirements will have "General Guide" indicated in the 'Evaluation Grid for Bidder's Response' column.

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The evaluator will rate the merits (strengths and weaknesses) of the Bidder's response based on the degree to which the evaluator considers that the response sufficiently addresses topics or issues that are applicable to the evaluation criteria in a manner that:

•   is clear, pertinent and unambiguous; and
•   fully supports or demonstrates that the objective specified in the evaluation criteria is achieved.

4.3.1   Corporate Experience

The Bidder's Corporate Experience will be evaluated out of a maximum of 280 points with a pass mark of 140 (50%).

4.3.1.1 Overall Corporate Experience

The Bidder's Overall Corporate Experience will be assessed using the evaluation criteria contained in Corporate Experience Response Tables of this Bid Solicitation as follows:

NUM	Rated Requirement	Evaluation Grid for Bidder's Response	Maximum Points
R1.1	**Bidder's demonstrated experience with Historic Object Collections Management solutions.** The Bidder must detail their experience with Collections Management centric solutions. The Bidder must identify and describe reference projects to substantiate this experience. (Max 500 words)	a) 5 or more years – 50 Points b) 3 years and less than 5 years – 35 Points c) 1 year and less than 3 years – 20 Points d) Less than 1 year – 0 Points	50
R1.2	**Bidder's demonstrated experience with Archaeological Artifact Collections Management solutions.** The Bidder must detail their experience with Archaeological Collections Management centric solutions. The Bidder must identify and describe reference projects to substantiate this experience. (Max 500 words)	a) 5 or more years – 50 Points b) 3 years and less than 5 years – 35 Points c) 1 year and less than 3 years – 20 Points d) Less than 1 year – 0 Points	50
R1.3	**Bidder's demonstrated experience with Conservation Management**	a) 5 or more years – 50 Points b) 3 years and less than 5 years – 35	50

NUM	Rated Requirement	Evaluation Grid for Bidder's Response	Maximum Points
	solutions. The Bidder must detail their experience with Conservation Management centric solutions. The Bidder must identify and describe reference projects to substantiate this experience. (Max 500 words)	Points c) 1 year and less than 3 years – 20 Points d) Less than 1 year – 0 Points	
R1.4	**Bidder's demonstrated experience with Archaeological Site Information Management solutions.** The Bidder must detail their experience with Archaeological Site Information Management centric solutions. The Bidder must identify and describe reference projects to substantiate this experience. (Max 500 words)	a) 5 or more years – 50 Points b) 3 years and less than 5 years – 35 Points c) 1 year and less than 3 years – 20 Points d) Less than 1 year – 0 Points	50
R1.5	**Bidder's demonstrated experience with Curatorial Management solutions.** The Bidder must detail their experience with Curatorial Management centric solutions. The Bidder must identify and describe reference projects to substantiate this experience. (Max 500 words)	a) 5 or more years – 50 Points b) 3 years and less than 5 years – 35 Points c) 1 year and less than 3 years – 20 Points d) Less than 1 year – 0 Points	50
R1.6	**Mapping Tool** The Bidder must detail their experience implementing mapping tools within systems. The Bidder must identify and describe reference projects to substantiate this experience. (Max 500 words)	a) 5 or more years – 10 Points b) 3 years and less than 5 years – 7 Points c) 1 year and less than 3 years – 5 Points d) Less than 1 year – 0 Points	10
R1.7	**Training Experience**	General Guide	20

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NUM	Rated Requirement	Evaluation Grid for Bidder's Response	Maximum Points
	The Bidder must provide a detailed explanation of the Bidder's current training offering and experience with providing end-user training. The explanation should include the following information: a) A description of Current Training Material; b) A description of Online Training offering including testing; c) A copy of a Current Training package's Table of Contents; d) A sample of a section of training material related to setting up a new user on the proposed system.	Based upon: i) Degree to which the response provides a comprehensive and logical description of the Bidder's current training offering and experience ii) Degree to which the sample training material provides a comprehensive and logical example of training material.	
		Maximum Points Available:	**280**

4.3.2   Project Understanding and Approach

The rated requirements associated with Project Understanding and Approach will be evaluated out of a maximum of 950 points and have a minimum pass mark of 655 (70%). For requirements in Section 1.4.2, limit responses to 500 words each unless otherwise stated.

The "General Guide" used in this section is specified in Section 1.4 above.

The requirements are as follows:

NUM	Rated Requirement	Evaluation Grid for Bidder's Response	Maximum Points
R2.1	**Project Understanding** The Bidder must provide a summary of its understanding of this project. The summary should include a brief overview of the key Parks Canada business requirements.(Max 1000	General Guide Based upon: Degree to which the response provides a comprehensive and logical description of the project's scope,	500

	words)	objectives and requirements and addresses the items identified.	
	The Bidder should, at a minimum:		
	a) Describe its understanding of the scope of the project, its objectives and Parks Canada key requirements. The Bidder must not simply reiterate information contained in the Statement of Work but should document its own understanding of these requirements.		
	b) Provide information on the following items:		
	i. The Test Strategy for the proposed system that addresses the requirements identified within the 1.8 Project Phase Deliverables.		
R2.2	**Contractor Governance Model** The Bidder must detail how it proposes to organize itself to manage and deliver the proposed system, including: a) A description of the Contractor Governance Model the Bidder proposes to use to integrate and manage the Work to be delivered under the Contract, including the Work performed by its sub-Contractors. The proposed model should address the escalation and resolution of issues and disputes. In addition, the proposed model should clearly identify the role and relationships of the proposed Project Team resources. b) A description of the approach the Bidder proposes to utilize	Responses will be evaluated and scored out of a maximum of 70 points based on: a) Thoroughness of the description of the Contractor Governance Model the Bidder proposes to use to integrate and manage the Work to be delivered under the Contract, including the Work performed by its sub-Contractors. – Up to 50 points; b) Thoroughness of the description of approach the Bidder proposes to use to manage and report monthly progress against the Work Plan and firm fixed-costs for the Project Definition Phase proposed in response to this Bid Solicitation - Up to 20 points.	70

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	to manage and report monthly progress against the Project Plan and firm fixed-costs for the Project Phase proposed in response to this Bid Solicitation.		

R2.3	**Evaluation of Project Plan**
	
	The Bidder must provide a draft project plan for the Project Phase as described in section *9. Project Phase Deliverables.*(Max 1500 words)
	
	At a minimum the Bidder must ensure that key work items, deliverables, and activities (including internal Bidder activities) described in section *9. Project Phase Deliverables* as well as associated dependencies are included in the plan.
	
	The Bidder must ensure that the key milestone dates listed in section *9. Project Phase Deliverables* are part of the Project Plan. For purposes of preparing the draft project plan for evaluation only, the Bidder must utilize January 1, 2016 as the date for Milestone A – Project Formal Start.
		General Guide
		
		Based upon:
		Degree to which the response meets the objective of:
		   i) providing a logical and comprehensive work break down structure to reflect all key work items, deliverables and other activities;
		   ii) specifying logical dependencies among those work items, deliverables and other activities; and,
		   iii) demonstrating that the Bidder has fully considered all activities necessary to complete the work.
			300

R2.4	**Solution and Technical Architectures** The Bidder must provide draft Solution and Technical Architectures for their proposed system that address the requirements identified within 1.8 Project Phase Deliverables.	General Guide Based upon: Degree to which the response provides comprehensive and logical description of Solution and Technical Architectures that address key requirements.	80
		Maximum Points Available:	**950**

4.3.3   Proposed Named Resources

R3.1   Named Resources

The Bidders' proposed Named Resources will be evaluated out of a maximum of 230 points with a passing mark of 191 (70%), using the evaluation criteria contained in the Named Resources Response Table of this Bid Solicitation, as follows:

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NUM	Named Resources Point Rated Criteria	Maximum Points	Passing Mark
R2.5	Executive Authority Years of experience dealing with government type of institutions a) 5 or more years – 10 Points b) 3 to 4 years – 7 Points c) 1 to 2 years – 5 Points d) Less than 1 year – 0 Points	60	25
R2.6	Project Manager Years of experience with these types of solutions a) 5 or more years – 10 Points b) 3 to 4 years – 7 Points c) 1 to 2 years – 5 Points d) Less than 1 year – 0 Points	70	49
R2.7	Solution Technical Lead Years of experience with the proposed system a) 5 or more years – 10 Points b) 3 to 4 years – 7 Points c) 1 to 2 years – 5 Points d) Less than 1 year – 0 Points	100	70
	Maximum Points Available:	230	160

4.3.4   Features

The rated requirements associated with the *Section 5 CRMIS Feature List* will be evaluated out of a maximum of 7070 points with a passing mark of 70%, using the evaluation criteria contained in the Feature List Response Table of this Bid Solicitation. The Bidder must also achieve a passing mark for each section as per the following:

R 4.1 Features

5 CRMIS Feature List	Max. Points	Passing Mark

5.1	General System Requirements	1390	975
5.2	Searching and reporting	1375	965
5.3	Technical Requirements	3660	2560
5.4	Application integration	300	210
	Total	6725	4710

R 4.2 Additional Functionality

Section *8 Additional Functionality* will be evaluated out of a maximum of 960 points.

Note: If the Vendor is awarded points for any of the Additional Functionality during the Bid Evaluation, upon Contract award the Contracting Authority will amend the Contractual Obligations of Contractor's Bid Response section to reflect that these features will now form part of the Contract and the Contractor will be required to provide these features in accordance with and at the prices contained in Annex B – Basis of Payment.

Bidders should respond to section *7 Additional Functionality* by completing the Additional Functionality Response Table.

Additional Functionality	Max. Points
1.5.5 Additional Functionality	960

4.3.5   Contractual Obligations -

In addition to any other obligations contained in the resulting contract, the successful Bidder will be contractually obliged to provide each of the Additional Functionalities for which it will be awarded technical points in Additional Functionality Response Table in accordance with and at the prices contained in Annex B – Basis of Payment. The Government of Canada will incorporate these Additional Functionalities to Contractual Obligations of Contractor's Bid Response.

4.3.6   General Product Requirements

The rated requirements associated with General Product Requirements will be evaluated out of a maximum of 345 points and have a minimum pass mark of 165.

The "General Guide" used in this section is specified in Section 4 General Rated Requirements above.

The requirements are as follows:

NUM	Rated Requirement	Evaluation Grid for Bidder's Response	Maximum Points
R3.1	**Product Information**	General Guide	50

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NUM	Rated Requirement	Evaluation Grid for Bidder's Response	Maximum Points
	The Bidder must submit information regarding the Core Product which they intend to use in the proposed system. The Bidder must provide the following information: a) Current and past names of the product; b) Year product was first introduced to the market; c) Total number of employees (within the company that owns the Core Product) focused on the proposed core product by Development Team; and by Post-production Support; d) Product History including prior product releases, dates of releases and details of enhancements for the last 3 years; e) Total number of current customers using the product; f) Total number of past customers that used the product; and g) Short description of the Core Functions of the Product.	Based upon: Degree to which the response provides a comprehensive and logical description of the Core Product and how it aligns with the requirements for the proposed system.	
R3.2	**SPECTRUM Compliance** The Bidder must detail how the proposed solution is compliant to the following SPECTRUM 4.0 processes: • Pre-entry (Curatorial/archaeological) • Deaccession and disposal • Inventory control • Insurance and indemnity • Valuation control	The bidder must provide substantive evidence that the proposed system is compliant with the listed SPECTRUM processes. Bidder will be awarded 20 points for each compliant process.	220

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NUM	Rated Requirement	Evaluation Grid for Bidder's Response	Maximum Points
	• Audit • Rights management • Use of collections • Transport • Risk management • Loss and damages		
R3.3	**Reporting Services Offering** The Bidder must describe their current Reporting Services offering. The description should include canned reports and ad-hoc reporting functionality. The description should indicate how their current offering meets the requirements as described in 1.5.2 Searching and reporting.	General Guide Based upon: i) Degree to which the response provides a comprehensive and logical description of the Bidder's reporting Services offering. ii) Degree to which the current offering meets the requirements described in 1.5.2 Searching and reporting.	50
R3.4	**Reports** The Bidder must list and describe the reports offered with their current Reporting Services offering	Complete list of included reports – 25 points No reports included – 0 points	25
		Maximum points for section	345

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5   CRMIS Feature List

Bidders must respond to the Rated Requirements using the Feature List Response Table.

5.1   General System Feature Requirements

NUM	Rated Requirement	Evaluation Grid for Bidder's Response	Maximum Points
R4.1	**User Permissions – Role-based assignment** The proposed system should allow the ability to assign specific permission to individuals based on functional roles.	The bidder must provide substantive evidence that the proposed system provides the ability to assign specific permission to individuals based on functional roles.	75
R4.2	**User Permissions – Task-based assignment** The proposed system should allow administrators to assign a specific task access to individuals instead of the range of accesses associated with a particular role.	The bidder must provide substantive evidence that the proposed system enables a user to assign a specific task access to individuals instead of the range of accesses associated with a particular role.	75
R4.3	**Discipline/Function based interface** The proposed system must have built-in modules or functions specific to discipline (e.g. separate module for collections, archaeology, conservation, curatorial, digital asset management).	The bidder must provide substantive evidence that the proposed system has built-in modules or functions specific to disciplines? a) The proposed system has a built-in module for Collections management? b) The proposed system has a built-in module for Archaeological site management? c) The proposed system has a built-in module for	75

NUM	Rated Requirement	Evaluation Grid for Bidder's Response	Maximum Points
		Conservation management? d) The proposed system has a built-in module for Curatorial process management? e) The proposed system has a built-in module for Digital Asset management?	
R4.4	**Digital assets related to objects** The proposed system must provide the ability to link or attach digital assets to objects/artifacts/reproductions.	The bidder must provide substantive evidence that the proposed system provides the ability to link or attach digital assets to objects/artifacts/reproductions.	50
R4.5	**Digital assets related to Collections** The proposed system must provide the ability to link or attach digital assets to Collections information.	The bidder must provide substantive evidence that the proposed system provides the ability to link or attach digital assets to Collections information.	50
R4.6	**Digital assets related to Conservation** The proposed system must provide the ability to link or attach digital assets to Conservation information.	The bidder must provide substantive evidence that the proposed system provides the ability to link or attach digital assets to Conservation information	50
R4.7	**Digital assets related to archaeological sites** The proposed system must provide the ability to link or attach digital assets to archaeological site information.	The bidder must provide substantive evidence that the proposed system provides the ability to link or attach digital assets to archaeological site	50

NUM	Rated Requirement	Evaluation Grid for Bidder's Response	Maximum Points
		information.	
R4.8	**Non-digital assets related to objects** The proposed system must provide the ability to reference non-digital assets to objects/artifacts/reproductions.	The bidder must provide substantive evidence that the proposed system provides the ability to reference non-digital assets to objects/ artifacts/ reproductions.	20
R4.9	**Non-digital assets related to Collections** The proposed must system provide the ability to reference non-digital assets to Collections information.	The bidder must provide substantive evidence that the proposed system provides the ability to reference non-digital assets to Collections information.	20
R4.10	**Non-digital assets related to Conservation** The proposed system must provide the ability to reference non-digital assets to Conservation information.	The bidder must provide substantive evidence that the proposed system provides the ability to reference non-digital assets to Conservation information.	20
R4.11	**Non-digital assets related to archaeological sites** The proposed system must provide the ability to reference non-digital assets to archaeological site information.	The bidder must provide substantive evidence that the proposed system provides the ability to reference non-digital assets to archaeological site information.	20
R4.12	**Unique Identifiers – Digital Assets** The proposed system must have the ability to generate unique identifiers for digital assets based on Parks Canada business rules. See Annex C – Data Dictionary and Annex D	The bidder must provide substantive evidence that the proposed system has the ability to generate unique identifiers for digital assets based on Parks Canada business rules.	100

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NUM	Rated Requirement	Evaluation Grid for Bidder's Response	Maximum Points
	– Archaeology Recording Manual		
R4.13	**Unique Identifiers – Non-digital Assets** The proposed system must have the ability to generate unique identifiers for non-digital assets based on Parks Canada business rules.	The bidder must provide substantive evidence that the proposed system has the ability to generate unique identifiers for non-digital assets based on Parks Canada business rules.	50
R4.14	**System links to Reference material by function** The proposed system must allow users to link to reference materials by function (General reference materials, etc.).	The bidder must provide substantive evidence that the proposed system allows users to link to reference materials by function (General reference materials, etc.).	25
R4.15	**Record duplication** The proposed system must allow data duplication to be performed automatically at the record level.	The bidder must provide substantive evidence that the proposed system allows data duplication to be performed automatically at the record level.	20
R4.16	**Default Values** The proposed system must allow any data field to be assigned a start-up default value that will be automatically entered for new entries (e.g. date).	The bidder must provide substantive evidence that the proposed system allows any data field to be assigned a start-up default value that will be automatically entered for new entries (e.g. date).	15
R4.17	**Mandatory fields** The proposed system must allow any number of fields to be flagged as mandatory.	The bidder must provide substantive evidence that the proposed system allows any number of fields to be flagged as mandatory.	20
R4.18	**Calculated fields** The proposed system must allow field	The bidder must provide substantive evidence that	20

NUM	Rated Requirement	Evaluation Grid for Bidder's Response	Maximum Points
	entries to be calculated from other field entries or constants. This includes entry field dependencies bases on previous selections (if a user selects a national historic site, then only the buildings on that site will be available in the location drop down; if a user selects a Field Unit, then only the parks and sites within that Field Unit will be displayed in the drop down).	the proposed system allows field entries to be calculated from other field entries or constants	
R4.19	**Cut, Copy and paste** The proposed system must allow cut, copy and paste operations (e.g. cut a field and paste it to another field).	The bidder must provide substantive evidence that the proposed system allows cut, copy and paste operations	10
R4.20	**Field copying** The proposed system must allow copying of fields selectively from one record to another.	The bidder must provide substantive evidence that the proposed system allows copying of fields selectively from one record to another.	10
R4.21	**Search and replace within record** The proposed system must offer a search and replace function within a single record during the data entry (e.g. identify a source name, search for the name within one record only, and replace with new text).	The bidder must provide substantive evidence that the proposed system offers a search and replace function within a single record during the data entry.	15
R4.22	**Search and replace between records** The proposed system must offer a search and replace function between records during the data entry (e.g. identify a source name, search for the name across the database, and replace with new text).	The bidder must provide substantive evidence that the proposed system offers a search and replace function between records during the data entry.	15
R4.23	**Field level controls** The proposed system must allow Parks Canada to set controls over mandatory/optional settings for each field to set the default value of a field and to	The bidder must provide substantive evidence that the proposed system allows Parks Canada to set controls over mandatory/optional	25

NUM	Rated Requirement	Evaluation Grid for Bidder's Response	Maximum Points
	apply input masks.	settings for each field to set the default value of a field and to apply input masks.	
R4.24	**Spell checker** The proposed system must include a spell checker.	The bidder must provide substantive evidence that the proposed system includes a spell checker.	5
R4.25	**Language of spell checker** The proposed system must include a spell checker that support Canadian English and Canadian French.	The bidder must provide substantive evidence that the proposed system includes a spell checker both English and French.	5
R4.26	**Date format** The proposed system must support date formats required by Parks Canada. This should include dates before present, before common era (BP, BCE, BC, and AD) including both calendar and absolute dates. See Annex C – Data Dictionary for detailed descriptions.	The bidder must provide substantive evidence that the proposed system supports date formats required by Parks Canada.	20
R4.27	**Radiocarbon Dates** The proposed system must support Radiocarbon dates, both conventional and calibrated.	The bidder must provide substantive evidence that the proposed system supports Radiocarbon dates, both conventional and calibrated.	20
R4.28	**Approximate dates** The proposed system must support approximate dates (e.g. prior to, later than, circa, BC, AD). See Annex C – Data Dictionary for detailed descriptions.	The bidder must provide substantive evidence that the proposed system supports approximate dates.	15
R4.29	**Language selection at login time** The proposed system must allow either English or French to be selected at login time.	The bidder must provide substantive evidence that the proposed system allows either English or French to	20

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NUM	Rated Requirement	Evaluation Grid for Bidder's Response	Maximum Points
		be selected at login time.	
R4.30	**English or French information** The proposed system must allow all information to be displayed in either official language (English or French).	The bidder must provide substantive evidence that the proposed system allows all information to be displayed in either official language.	50
R4.31	**Language selection on any screen** The proposed system must allow either English or French to be selected from any screen (English to French and French to English).	The bidder must provide substantive evidence that the proposed system allows either English or French to be selected from any screen	25
R4.32	**Other Languages – UTF-8** The proposed system must support the Unicode UTF-8 character-set standard. This is required for some aboriginal languages.	The bidder must provide substantive evidence that the proposed system supports the Unicode UTF-8 character-set standard. This is required for some aboriginal languages.	50
R4.33	**System allows for data pre-population** The proposed system must have the ability to pre-populate various forms with available information (e.g. Request for Conservation Services has basic object record information; pre-populate Author Name based on User Name, Creation Date based on current system date, etc.).	The bidder must provide substantive evidence that the proposed system has the ability to pre-populate various forms with available information	25
R4.34	**Concurrency control** The proposed system must allow only a single user to modify specific content at any one time in order to prevent system or operational conflict.	The bidder must provide substantive evidence that the proposed system allows only a single user to modify specific content at any one time in order to prevent system or operational	25

NUM	Rated Requirement	Evaluation Grid for Bidder's Response	Maximum Points
		conflict.	
R4.35	**System allows forms to be printed** All system input forms must be available in a printable format.	The bidder must provide substantive evidence that the proposed system provides all system input forms in a printable format.	15
R4.36	**Ability to print labels** The proposed system must allow the user to print a variety of labels with object attributes such as object numbers, descriptions, bar codes, locations, etc. See 5.2 Searching and reporting	The bidder must provide substantive evidence that the proposed system allows the user to print a variety of labels with object attributes such as object numbers, descriptions, bar codes, locations, etc.	10
R4.37	**Printer-friendly** The proposed system must provide a standard capability for users to render a "printer-friendly" version of every page.	The bidder must provide substantive evidence that the proposed system provides a standard capability for users to render a "printer-friendly" version of every page.	20
R4.38	**Enforceable workflows** The proposed system must provide functionality or well-defined processes to include automated workflow and publishing.	The bidder must provide substantive evidence that the proposed system provides functionality or well-defined processes to include automated workflow and publishing.	25
R4.39	**Workflow Management** Workflows are dynamic and at times change with varying organizational needs. Workflows within the proposed system must be able to be changed or modified to reflect these business needs.	The bidder must provide substantive evidence that the proposed system provides workflows that can be changed or modified to reflect Parks Canada business needs.	15

NUM	Rated Requirement	Evaluation Grid for Bidder's Response	Maximum Points
R4.40	**Approver Substitution** The proposed system must allow role/individual substitution or override in approval workflow processes.	The bidder must provide substantive evidence that the proposed system allows role/individual substitution or override in approval workflow processes.	10
R4.41	**Link to Training** The proposed system must include a link to the training materials.	The bidder must provide substantive evidence that the proposed system includes a link(s) to the training materials.	5
R4.42	**Training included with software** Training on all aspects of the proposed system must be included in the purchase price of the system.	The bidder must provide substantive evidence training on all aspects of the application will be included in the purchase price.	50
R4.43	**Customized training as part of purchase price** Customized training must be available as part of the purchase price.	The bidder must provide substantive evidence customized training will be included as part of the purchase price.	50
R4.44	**Train the trainer** The Vendor must provide advanced training for the trainers within Parks Canada.	The bidder must provide substantive evidence that the advanced training will be supplied for the trainers within Parks Canada.	50
R4.45	**Training manuals and training materials** The Vendor must supply necessary training manuals and training materials to Parks Canada.	The bidder must provide substantive evidence that necessary training manuals and training materials will be supplied to Parks Canada.	50
		Maximum points for section	1390

5.2 Searching and reporting

The Vendor must deliver all requirements identified in this section at the dates specified in the Schedule of Deliverables.

Parks Canada users need to search and report on cultural resource management information such as quantity of artifacts and objects by location (e.g. National Park; Repository; Shelf number), condition of sites, etc.

The scope of this section includes:

a) Collections data;
b) National Historic Site data;
c) Archaeological Site data;
d) Conservation and Conservation Sciences data;
e) Curatorial and History data;
f) Cross functional information; and
g) System usage data.

5.2.1 Searching Requirements

NUM	Rated Requirement	Evaluation Grid for Bidder's Response	Maximum Points
R5.1	**Boolean search** The proposed system must allow users to combine keywords with operators such as AND, NOT and OR to produce more relevant results.	The bidder must provide substantive evidence that the proposed system allows users to combine keywords with operators such as AND, NOT and OR to produce more relevant results.	100
R5.2	**Search accommodates multilingual characters** The proposed system must allow users to search on multilingual characters.	The bidder must provide substantive evidence that the proposed system allows users to search on multilingual characters.	100
R5.3	**Query any field** The proposed system must allow users to run queries against any of the fields, including but not limited to: a) Objects by location b) Objects by attribute (colour, class, material, theme) c) Condition of objects by location	The bidder must provide substantive evidence that the proposed system allows users to run queries against any of the fields.	410

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NUM	Rated Requirement	Evaluation Grid for Bidder's Response	Maximum Points
	d) Site by condition e) Photos by site f) Digital assets by site g) Objects/sites by heritage value h) Conservation treatments by date i) Activity by investigator		
R5.4	**Sort results** Users must be able to sort query results by various fields (e.g. perform a query and display the results and sort by user preference).	The bidder must provide substantive evidence that the proposed system allows users to sort query results by various fields.	50
R5.5	**Multiple field sorting** The proposed system must allow users to sort search results by multiple fields.	The bidder must provide substantive evidence that the proposed system allows users to sort search results by multiple fields.	50
R5.6	**Saving search results** The proposed system must allow a modified sort table to be saved for future use.	The bidder must provide substantive evidence that the proposed system allows a modified sort table to be saved for future use.	20
R5.7	**Ability to search on groupings** The proposed system must allow users to search on groups.	The bidder must provide substantive evidence that the proposed system allows users to search on groups.	20
R5.8	**Search not dependent on character case** The proposed system must allow users to search regardless of upper or lowercase characters.	The bidder must provide substantive evidence that the proposed system allows users to search regardless of upper or lowercase characters.	20
R5.9	**Search in French and English** The proposed system must allow users to	The bidder must provide substantive evidence that the proposed system allows	100

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NUM	Rated Requirement	Evaluation Grid for Bidder's Response	Maximum Points
	search in both French and English depending on language selected by user.	users to search in both French and English.	
R5.10	**Multiple attributes** The proposed system must allow users to search results by multiple attributes. E.g. Recommendations for archaeological site mitigation measures by location or number of objects by name, condition and location.	The bidder must provide substantive evidence that the proposed system allows users to search results by multiple attributes.	50
R5.11	**Filter search results** The proposed system must allow users to filter their search results in order to refine those results.	The bidder must provide substantive evidence that the proposed system allows users to filter their search results in order to refine those results.	20
		Maximum points for section	940

5.2.2   Reporting requirements

NUM	Rated Requirement	Evaluation Grid for Bidder's Response	Maximum Points

R6.1	**Integration of Data Sources for Reporting**
	
	The proposed system's Reporting Service must include single window access and the ability to pull from multiple data sources, as defined in the list below, into a single report:
	
	    a) Collections data;
	    b) Site and Archaeological Site data;
	    c) Conservation and Conservation Sciences data;
	    d) Curatorial and History data;
	    e) System Usage data.
		The bidder must provide substantive evidence that the proposed system includes single window access and the ability to pull from multiple data sources.	100

R6.2	**Reporting Architecture**	The bidder must provide	50

NUM	Rated Requirement	Evaluation Grid for Bidder's Response	Maximum Points
	The Vendor must provide a diagram of the proposed system's reporting architecture and include descriptions of each component and its interactions with other components. The Reporting Architecture must be provided at Pilot/UA Testing Start and must be updated whenever the system is updated.	substantive evidence that the Vendor will provide a diagram of the proposed system's reporting architecture.	
R6.3	**Report Templates** The proposed system's Reporting Service must include functionality that allows users to create new reports, modify existing reports and save these reports as templates.	The bidder must provide substantive evidence that the proposed system	50
R6.4	**Report Scheduling** The proposed system's Reporting Service must include functionality that allows Parks Canada users to specify the schedule to generate reports from the service.	The bidder must provide substantive evidence that the proposed system's Reporting Service includes functionality that allows users to create new reports, modify existing reports and save these reports as templates.	10
R6.5	**Report Template Publishing and Sharing** The proposed system's Reporting Service must include functionality that allows Parks Canada users to create, publish and share new report templates.	The bidder must provide substantive evidence that the proposed system's Reporting Service includes functionality that allows Parks Canada users to create, publish and share new report templates.	100
R6.6	**Ad-hoc Reporting** The proposed system's Reporting Service must include ad-hoc reporting functionality for authorized Parks Canada users.	The bidder must provide substantive evidence that the proposed system's Reporting Service includes ad-hoc reporting functionality for authorized	100

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NUM	Rated Requirement	Evaluation Grid for Bidder's Response	Maximum Points
		Parks Canada users.	
R6.7	**Ad-hoc Reporting Interface** The ad-hoc reporting functionality must allow users to create specific, customized queries via a user-friendly GUI-based system without requiring in-depth programming knowledge.	The bidder must provide substantive evidence that the proposed system ad-hoc reporting functionality allows users to create specific, customized queries via a user-friendly GUI-based system without requiring in-depth programming knowledge.	100

R6.8	**Distribute and Export Reports**
	
	The proposed system's Reporting Service must include functionality for Parks Canada users to electronically distribute and export reports. At minimum, the report formats to be delivered must include:
	
	   A. MS Word;
	   B. Excel;
	   C. CSV;
	   D. XML; and
	   E. PDF.
		The bidder must provide substantive evidence that the proposed system's Reporting Service includes functionality for Parks Canada users to electronically distribute and export reports	100

R6.9	**Report Filtering**
	
	The proposed system's Reporting Service must include the functionality to filter report results based on multiple data elements. Functionality to be delivered includes but is not limited to:
	
	   A. Filter on any data element; and
	   B. Filter on multiple data elements
		The bidder must provide substantive evidence that the proposed system's Reporting Service includes the functionality to filter report results based on multiple data elements.	50

NUM	Rated Requirement	Evaluation Grid for Bidder's Response	Maximum Points
	simultaneously.		
R6.10	**Role-Based Reporting Access** The proposed system's Reporting Service must include role-based access to reporting at the global, park, site, and additional granular levels that at minimum match the access controls of the system.	The bidder must provide substantive evidence that the proposed system's Reporting Service includes role-based access to reporting at the global, park, site, and additional granular levels that at minimum match the access controls of the system.	20
R6.11	**Task-Based Reporting Access** The proposed system's Reporting Service must include task-based access to reporting at the global, park, site, and additional granular levels that at minimum match the access controls of the system.	The bidder must provide substantive evidence that the proposed system's Reporting Service includes task-based access to reporting at the global, park, site, and additional granular levels that at minimum match the access controls of the system.	20
R6.12	**Printable Reports** The proposed system's Reporting Service must include the functionality to print all reports on various sizes of paper and labels as required.	The bidder must provide substantive evidence that the proposed system's Reporting Service includes the functionality to print all reports on various sizes of paper and labels as required.	100
R6.13	**Printable Blank Reports and Forms** The proposed system's Reporting Service must include the functionality to print all reports and forms with no data so they can be populated in the field.	The bidder must provide substantive evidence that the proposed system's Reporting Service includes the functionality to print all reports and forms with no data so they can be populated in the field.	50

| NUM	Rated Requirement	Evaluation Grid for Bidder's Response	Maximum Points
		Maximum points for section	850

5.3 Technical Requirements

For information on the technical environment at Parks Canada see *Appendix 2 – Parks Canada Technical Environment*.

It is the Vendor's responsibility to deliver and support all software and technology components required for the proposed system to work as defined in the Statement of Work.

5.3.1 General

NUM	Rated Requirement	Evaluation Grid for Bidder's Response	Maximum Points
R7.1	**Environment** System should function in the Parks Canada technical environment. See Appendix 2 – Parks Canada Technical Environment	The bidder must provide substantive evidence that the proposed system will function in the Parks Canada technical environment.	100
R7.2	**Database** The proposed system should use one of the following databases: • Oracle 11g • Microsoft SQL Server 2008R2/2012 • proprietary self-contained database	The bidder must provide substantive evidence that the proposed system will use one of the databases described.	200
R7.3	**Database Query Tools** The proposed system database should be compatible with the Parks Canada standard Database query tools which are SQL Developer and SQL Server Management Studio.	The bidder must provide substantive evidence that the proposed system will be compatible with the Parks Canada standard Database query tools which are SQL Developer and SQL Server Management Studio.	200
R7.4	**Application Server** The proposed system should be compatible with	The bidder must provide substantive evidence that the proposed system will be	200

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NUM	Rated Requirement	Evaluation Grid for Bidder's Response	Maximum Points
	the Parks Canada standard Application server which is Microsoft Internet Information Server (IIS) or at least use a Windows compatible application server.	compatible with the Parks Canada standard Application server which is Microsoft Internet Information Server (IIS) or at least use a Windows compatible application server.	
R7.5	**Scripting Interface** The Vendor should supply an API or some other type of Scripting environment	The bidder must provide substantive evidence that the Vendor will supply an API or some other type of Scripting environment	200
R7.6	**Programming Language** Developers should be able to use C#, VB.Net or C++ to write to/from the API or Scripting environment.	The bidder must provide substantive evidence that developers will be able to use C#, VB.Net or C++ to write to/from the API or Scripting environment.	20
R7.7	**Graphical User Interface** The proposed system should take full advantage of the Windows Operating System, high resolution monitors and dual monitors. Application windows should be expandable application should work in full screen mode and navigation should be consistent.	The bidder must provide substantive evidence that the proposed system will take full advantage of the Windows Operating System, high resolution monitors and dual monitors. Application windows will be fully expandable, the application will work in full screen mode and navigation will be consistent	20
R7.8	**Web Interface** All system Web interfaces should be fully functional using the Parks Canada standard Web browser which is Microsoft Internet Explorer 9.	The bidder must provide substantive evidence that the proposed system will be fully functional using the Parks Canada standard Web browser which is Microsoft	10

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NUM	Rated Requirement	Evaluation Grid for Bidder's Response	Maximum Points
		Internet Explorer 9.	
R7.9	**User desktop** The proposed system should function using standard Parks Canada desktop/laptop builds. See A2.2 End user computing devices.	The bidder must provide substantive evidence that the proposed system will function using standard Parks Canada desktop/laptop builds.	50
R7.10	**Support Multiple Time Zones** Parks Canada operates in all 6 time zones across Canada representing a 5 1/2 hour time difference throughout the day. The proposed system should accommodate these time differences. Canada Time Zone Map Pacific Time Zone -8 YT · NT · NU Newfoundland Time Zone -3.5 NF BC · AB · SK · MB · ON · QC · PE NB NS Mountain Time Zone -7 · Central Time Zone -6 · Central Time Zone -6 · Eastern Time Zone -5 · Atlantic Time Zone -4 UTC/GMT Offsets represent standard time Note: the province of Saskatchewan does not participate in Daylight Savings Time. Therefore for half the year (Spring/Summer) it is aligned with Alberta, the other half of the year (Fall/Winter) it is aligned with Manitoba. To illustrate:		20
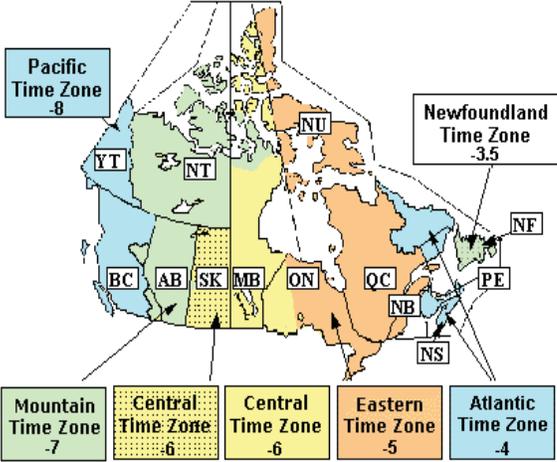
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NUM	Rated Requirement	Evaluation Grid for Bidder's Response	Maximum Points
	Refer to above	The bidder must provide substantive evidence that the proposed system will be able to accommodate the time zones Parks Canada operates in.	
R7.11	**Daylight Savings Time** The proposed system should automatically adjust for daylight savings time and standard time.	The bidder must provide substantive evidence that the proposed system will automatically adjust for daylight savings time and standard time.	20
R7.12	**Users** The proposed system should support a minimum of 60 users with varying roles. The largest number would be consumers of the information, these would be considered secondary users as opposed to the primary users who would work with the proposed system as part of their role.	The bidder must provide substantive evidence that the proposed system will support a minimum of 60 users with varying roles.	20
R7.13	**Concurrent Users** The proposed system should support at minimum 30 concurrent users.	The bidder must provide substantive evidence that the proposed system will support at minimum 30 concurrent users.	20
R7.14	**Inactive Users** The proposed system should allow Parks Canada to populate portions of the system with inactive users (for legacy purposes).	The bidder must provide substantive evidence that the proposed system will	10
		Maximum points for section	530

5.3.2 Help

NUM	Rated Requirement	Evaluation Grid for Bidder's Response	Maximum Points
R8.1	**Context-sensitive help** The Help information displayed should always relate to the process being executed.	The bidder must provide substantive evidence that the proposed system's help will be context-sensitive	100
R8.2	**Help at the field level** Help should be available to describe the proper content of a field during data entry or retrieval (tool tips).	The bidder must provide substantive evidence that the proposed system's help will be available to describe the proper content of a field during data entry or retrieval.	50
R8.3	**User-defined Help** The proposed system should allow authorized users to add to or edit the current Help information.	The bidder must provide substantive evidence that the proposed system will allow authorized users to add to or edit the current Help information.	20
R8.4	**Documentation availability** All documentation should be available within the application.	The bidder must provide substantive evidence that the proposed system will contain all documentation within the application.	20
R8.5	**Printable documentation** All documentation should be available in a printable format.	The bidder must provide substantive evidence that all documentation will be available in a printable format.	20
R8.6	**Support** The Vendor should fully describe Support options, costs and availability.	The bidder must fully describe support options, costs and availability.	20
		Maximum points for section	230

5.3.3 Data import/export

NUM	Rated Requirement	Evaluation Grid for Bidder's Response	Maximum Points
IMPORT			
R9.1	**Import Files** The proposed system should allow users to import data/files into the system.	The bidder must provide substantive evidence that the proposed system will allow users to import data/files into the system.	100
R9.2	**List of file types** The Vendor should provide a list of all file types that can be imported into the proposed system without customization.	The bidder will provide a list of all file types that can be imported into the proposed system without customization.	20
R9.3	**Field selection available** The proposed system should allow users to import ASCII files and load the information into specific fields (e.g. create a word processing file containing information for Object Number and Object Name).	The bidder must provide substantive evidence that the proposed system will allow users to import ASCII files and load the information into specific fields	100
R9.4	**Bulk Data Import Tool** The Vendor should provide a tool to perform bulk imports of data to the proposed system from other internal Parks Canada systems.	The bidder must provide substantive evidence that the Vendor will provide a tool to perform bulk imports of data to the proposed system from other internal Parks Canada systems.	100
R9.5	**Field validation** The proposed system should perform field validation when importing data.	The bidder must provide substantive evidence that the proposed system will perform field validation when importing data.	50

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NUM	Rated Requirement	Evaluation Grid for Bidder's Response	Maximum Points
R9.6	**Duplicate checking** When importing data, the proposed system should check for duplicate records.	The bidder must provide substantive evidence that the proposed system will check for duplicate records.	20
R9.7	**Bypass field validation** The proposed system should permit bypassing of field validation during imports and generate appropriate error reports.	The bidder must provide substantive evidence that the proposed system will allow permit bypassing of field validation during imports and generate appropriate error reports.	20
R9.8	**Long fields** The proposed system should provide a report if data has been rejected or truncated on import.	The bidder must provide substantive evidence that the proposed system will provide a report if data has been rejected or truncated on import.	10
R9.9	**Import XML** The proposed system should import in XML.	The bidder must provide substantive evidence that the proposed system will allow for importing from XML.	20
R9.10	**List XML import standards** The Vendor should list the XML import standards followed (e.g. Dublin Core or SPECTRUM).	The Vendor will list the XML import standards followed	20
R9.11	**Spreadsheet** The proposed system should allow data to be imported from spreadsheet software (MS Excel).	The bidder must provide substantive evidence that the proposed system will allow data to be imported from spreadsheet software	20

NUM	Rated Requirement	Evaluation Grid for Bidder's Response	Maximum Points
R9.12	**Specify import formats** The Vendor should list import formats available (e.g. Delimited ASCII, MARC, SGML, etc.).	The Vendor will list import formats available	20
EXPORT			
R9.13	**Export Files** The proposed system should allow the user to export data/files.	The bidder must provide substantive evidence that the proposed system will allow the user to export data/files.	50
R9.14	**List of file types** The Vendor should provide a list of all file types that can be exported from the proposed system without customization.	The Vendor will provide a list of all file types that can be exported from the proposed system without customization.	20
R9.15	**Bulk Data Export Tool** The Vendor should provide Parks Canada with a tool to perform bulk exports of data from the proposed system for use in other internal Parks Canada systems.	The Vendor will provide Parks Canada with a tool to perform bulk exports of data from the proposed system for use in other internal Parks Canada systems.	50
R9.16	**Multi User Data Exports** The proposed system should provide a data export tool that allows multiple data exports to be set up, used and saved by multiple Parks Canada users.	The bidder must provide substantive evidence that the proposed system will include a data export tool that allows multiple data exports to be set up, used and saved by multiple Parks Canada users.	50
R9.17	**Data Export Formats** At minimum, the data export tool should support exports in the following formats: a) XML	The bidder must provide substantive evidence that the data export tool will support exports in the following formats:	20

NUM	Rated Requirement	Evaluation Grid for Bidder's Response	Maximum Points
	b) CSV	a) XML b) CSV	
R9.18	**Field selection available** The export function should allow users to select fields to be exported (e.g. export the Object Number and Object Name data).	The bidder must provide substantive evidence that the export function will allow users to select fields to be exported	20
R9.19	**Dynamic Data Exchange** The proposed system should support DDE (Dynamic Data Exchange) or equivalent (e.g. link to a range of cells in a spreadsheet).	The bidder must provide substantive evidence that the proposed system will support DDE (Dynamic Data Exchange) or equivalent.	20
R9.20	**Specify export formats** The Vendor should list other export formats that are supported by the proposed system (e.g. Delimited ASCII, MARC, etc.)	The Vendor will list other export formats that are supported by the proposed system	20
R9.21	**Export XML** The proposed system should be able to export XML in a standard (e.g. Dublin Core or SPECTRUM) or customizable format.	The bidder must provide substantive evidence that the proposed system will be able to export XML in a standard or customizable format.	20
R9.22	**Spreadsheet** The proposed system should allow data to be exported to spreadsheet software (MS Excel).	The bidder must provide substantive evidence that the proposed system will allow data to be exported to spreadsheet software.	20
R9.23	**Interoperability** The proposed system should allow for the exchange of data with other systems based on interoperability standards (e.g. OAI, Dublin Core).	The bidder must provide substantive evidence that the proposed system will allow for the exchange of data with other systems based on	20

NUM	Rated Requirement	Evaluation Grid for Bidder's Response	Maximum Points
		interoperability standards.	
	Maximum points for section		810

5.3.4 Features

NUM	Rated Requirement	Evaluation Grid for Bidder's Response	Maximum Points
R10.1	**Customized sort table** The proposed system should allow sort tables to be customized to change the order (collating sequence) of the results (e.g. sort accession numbers in a logical order).	The bidder must provide substantive evidence that the proposed system will allow sort tables to be customized to change the order of the results.	25
R10.2	**Multi-tasking** The proposed system should allow the user to interrupt what they are doing to perform other tasks without losing their data.	The bidder must provide substantive evidence that the proposed system will allow the user to interrupt what they are doing to perform other tasks without losing their data.	20
R10.3	**Support barcodes** The proposed system should support barcode information.	The bidder must provide substantive evidence that the proposed system will support bar code information.	25
R10.4	**Barcode software** The proposed system should be barcode software compatible.	The bidder must provide substantive evidence that the proposed system will be bar code software compatible	20
R10.5	**Support peripherals for input** The proposed system should allow information scanned by a peripheral such as a barcode scanner to be uploaded into the system.	The bidder must provide substantive evidence that the proposed system will allow information scanned by a peripheral such as a	10

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NUM	Rated Requirement	Evaluation Grid for Bidder's Response	Maximum Points
		bar code scanner to be uploaded into the system.	
		Maximum points for section	100

5.3.5   Geographic information system

The combined efforts of Parks Canada and the Contractor should result in an application (combined CRMIS and GIS Application) that does the following:

- CRMIS users can view a map showing the geographic locations of CRMIS entities against a background of other Parks Canada map information. The CRMIS information should be presented as points at small scales (zoomed-out), but where appropriate, it will change to polygon data at larger scales. See Annex F - CRMIS Geographic Information Product Description for example maps and web-map functions. Note that Annex F is intended to help bidders understand the requirements of the combined efforts of Parks Canada and the Contractor. It should not be interpreted as a specification of contract requirements.

  - Most of the background map information will be fused onto one or more user-selectable map-caches, however, there is also a need for CRMIS users to dynamically turn on and off the following types of data:

    o   Vector data (points, lines and polygons) from other business applications. These will be provided through the Parks Canada Geomatics Infrastructure as SOA RESTful geo-services interfaces;

    o   Image data from a Parks Canada image service or external image service. This may include historic air-photos using RESTful interfaces.

    o   Georeferenced scanned images such as survey plans, archaeological drawings, or other spatial documents that have been georeferenced. Users should be able to adjust the transparency of these images, and show multiple images, or show images one at a time. (Users should be able to display one or more images at a time, with the ability to adjust the transparency of each images so that overlapping images can be viewed). An example of this type of document appears in Figure # 1.

  - While looking at a record or selection set in CRMIS, users click a "Show on Map" (or similar) button which triggers the map to open, zooms the map to the relevant record(s), and shows the record(s) in a highlighted colour. (Assuming the geospatial data exists for the CRMIS record in question).

  - The map system application includes a "Show in CRMIS" (or similar) tool. When this tool is active, clicking on a mapped CRMIS entity makes the CRMIS application present detailed information associated with that entity. (e.g. CRMIS may synchronize its active view to the entity or open a new form showing that entity).

  - The map system includes a "Show Summary CRMIS Info" (or similar) tool which, when active, allows users to click on a CRMIS entity and see a pop-up of summary information. (The user will not have to look in the CRMIS application). The pop-up will contain select CRMIS fields, possibly showing data from related CRMIS tables, domain values, or hyperlinks to one or more digital assets.

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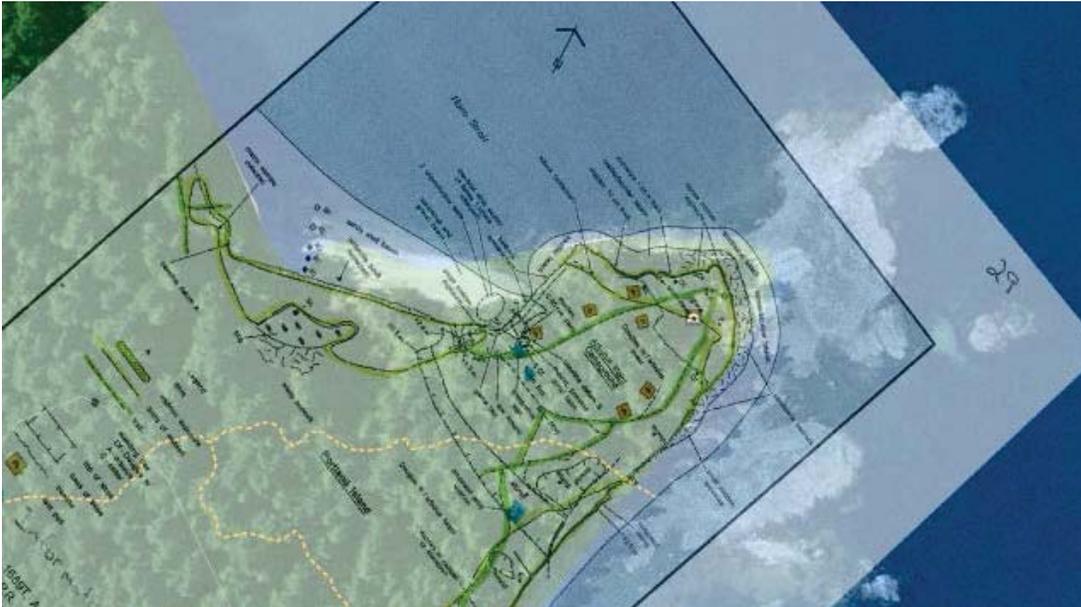
Figure 1: Example of a georeferenced scanned image. This is a site drawing of an archaeological site that has been rubber-sheeted. The user controls the transparency of the image.

- Shares CRMIS geospatial data with other enterprise Geomatics applications. The Parks Canada Geomatics Infrastructure uses a Services Oriented Architecture to facilitate the sharing of geospatial information between business applications. For an overview of the Parks Canada Geomatics Infrastructure, please see http://www.pc.gc.ca/eng/agen/SIG-GIS/~/media/agen/SIG-GIS/pdf/Geomatics-in-Parks-Canada0-vol-3.ashx

- Provide access to detailed CRMIS data for analyses by Parks Canada Geomatics Specialists. Specialists would require read-only access to certain CRMIS primary and related tables. Tables to be determined between the Contractor and Parks Canada following database design.

- Provide standardized data that allows the map system to plot the locations and "look-directions" of digital assets (such as digital photographs) on the map where georeferencing information exists. Provide a mechanism so that when a digital asset point is clicked-on in the map, the digital asset is presented to the user (e.g. a photo, scanned document, or a movie clip is presented to the user).

Figure 2 provides an overview of how GIS maps should integrate with CRMIS and with the rest of Parks Canada. The blue area enclosed by the dotted line indicates that the scope of the contract includes neither the storage and maintenance of CRMIS GIS data, nor the development or maintenance of the CRMIS map viewer. Places where arrows cross the dotted blue line indicate requirements for the contractor to develop data exchange interfaces, import/export queries, or to provide or consume SOA services.

The integration will require significant collaboration between Parks Canada and the Vendor to meet the requirements.
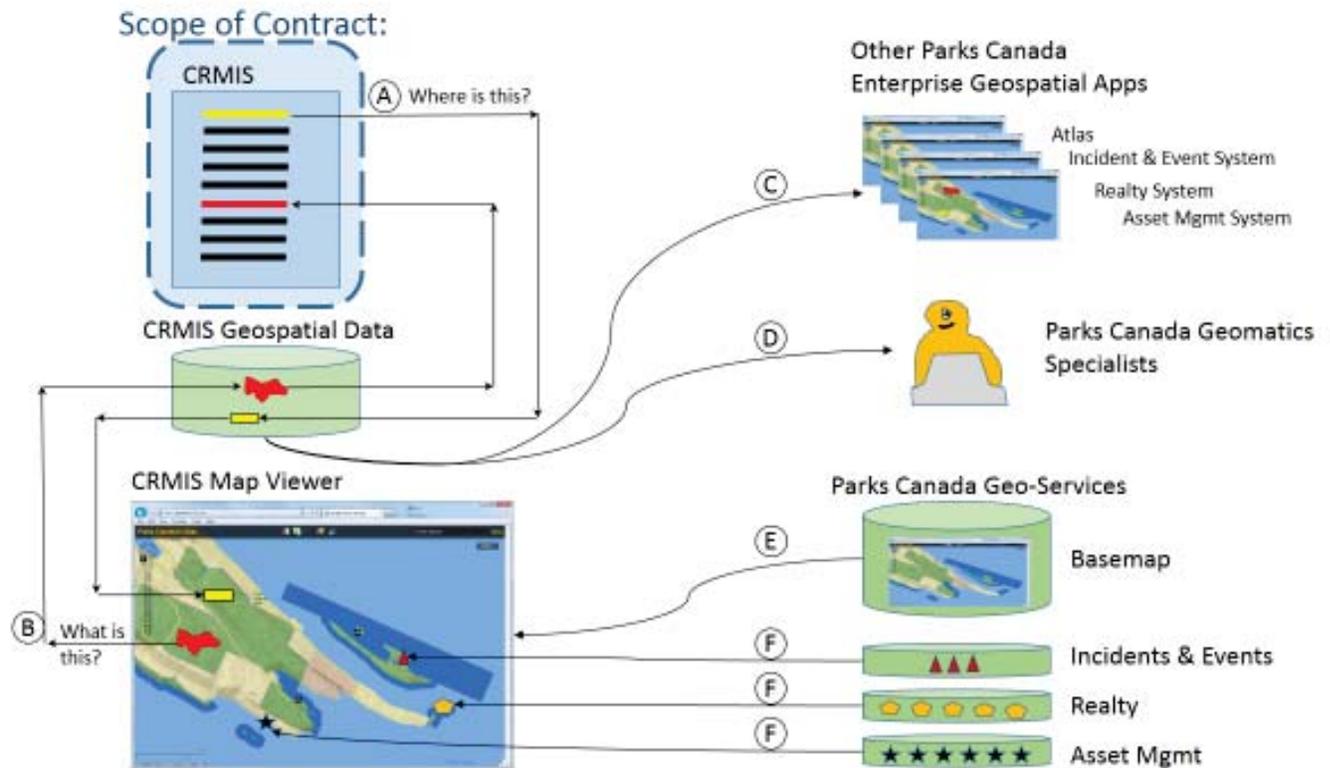
Figure 2: Schematic overview of Option # 2 where the contract is limited to the development of a non-geospatial product. Linkages between the Parks Canada GIS and CRMIS will be required by the contract

A: A "Show on Map" (or similar) button in CRMIS sends a call to the map system. The call includes identifiers required by the map to understand which GIS layer needs to be presented, and which entity in that layer needs to be highlighted. (See Requirement R11.1 for more information).

B: The CRMIS map viewer (developed by PCA) will have a "Show in CRMIS" tool that, when active, will allow the user to click on map entity. The map viewer will then pass identifying information to CRMIS, which will provide a view that shows detailed information about the entity. (See Requirement R11.2 for more information).

In addition to the above, the map user needs to have the option to quickly obtain summary data of CRMIS entities from the map. Because synchronizing CRMIS and the map will likely take several seconds several mouse clicks, this second requirement is required to provide a faster way for the user to understand several mapped entities within a few seconds.   (See Requirement R11.3 for more information).

A&B: Both of the above functions will require users to manage linkages between GIS entities and CRMIS. (See Requirement R11.4 for more information).

C: Other Parks Canada enterprise geospatial applications need to show summary CRMIS data. Most of this requirement will be handled by the Parks Canada Geomatics Infrastructure, however, there will be a

requirement for CRMIS to provide attribute data to these systems. (See requirement R11.5 for more information).

D: Parks Canada Geomatics Specialists will require read-only access to detailed CRMIS data (primary and related tables) to conduct detailed analyses as required. (See requirement R11.6 for more details).

E & F: Because this approach has Parks Canada managing the map system, the incorporation of Parks Canada geo-services is unlikely to result in additional requirements by the Contractor.

Detailed Requirements:

The following table describes the requirements of the core-approach to meeting the map requirements of CRMIS.

NUM	Rated Requirement	Evaluation Grid for Bidder's Response	Maximum Points

NUM	Rated Requirement	Evaluation Grid for Bidder's Response	Maximum Points
R11.1	A "Show on Map" (or similar) button in CRMIS sends a call to the map system. The call includes identifiers required by the map to understand which GIS layer needs to be presented, and which entity in that layer needs to be highlighted. - If the map system is not already open, the call from CRMIS should open the map system and pass the required information. - If the map system is already open, the call from CRMIS should not open a new map, but should trigger a change in the view on the active map so it shows the CRMIS record that was requested by the user. - If CRMIS includes functionality to create a selection set of entities, the "Show on Map" button should allow a set of identifiers to be passed to the mapping system. The identifiers should provide enough information so the map system can show the multiple entities in a highlighted colour. - The map should zoom out to the extent of the selected entities.	The bidder should provide substantive evidence that the proposed system will have a "Show on Map" (or similar) button that will send a call to the map system as detailed in R11.1	100
R11.2	CRMIS is able to receive a call from the map viewer. The call will contain the information (e.g. an ID number) necessary to find a record of interest to the map user. CRMIS should then display detailed information about the record of interest.	The bidder should provide substantive evidence that the proposed system will be able to receive a call from the map viewer then display detailed information about the record of interest as detailed in R11.2	50

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NUM	Rated Requirement	Evaluation Grid for Bidder's Response	Maximum Points
R11.3	CRMIS will supply summary information about map entities to the mapping system. This can be done by offering an SOA service, providing access to the database by Parks Canada's GIS, or by periodically exporting CRMIS data to the GIS database. The end-result should be that users can query click on an entity in the map, and within 2 seconds, see a pop-up showing several fields of CRMIS data that pertain to that entity. The fields my come from more than one related table, and may include hyperlinks to digital assets.	The bidder should provide substantive evidence that the proposed system will be able to supply summary information about map entities to the mapping system as detailed in R11.3	50
R11.4	The proposed system should provide a means to manage linkages between GIS entities and CRMIS. The system should do the following: - Allow CRMIS users to establish a link between a GIS entity on the map and a CRMIS record. Have that link stored in perpetuity until the link is intentionally deleted. One possible approach is to send an ID to the map system where the ID is saved to establish the link. - Work with Parks Canada to develop strategies find and deal with orphaned GIS entities (map entities with no links to CRMIS records). - Allow users Change or delete inaccurate links. - View CRMIS records that have no corresponding GIS entities.	The bidder should provide substantive evidence that the proposed system will provide a means to manage linkages between GIS entities and the proposed system as detailed in R11.4	20

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NUM	Rated Requirement	Evaluation Grid for Bidder's Response	Maximum Points
R11.5	The system should provide access to CRMIS attributes in linked and related tables so that Parks Canada can provide summary CRMIS GIS data to other enterprise applications. One possible approach is to provide periodic exports of CRMIS data for records that have linked GIS records.	The bidder should provide substantive evidence that the proposed system will provide access to attributes in linked and related tables so that Parks Canada can provide summary CRMIS GIS data to other enterprise applications.	20
R11.6	The system should provide read-only database access to CRMIS attributes in linked and related tables so that Parks Canada Geomatics Specialists can conduct detailed GIS analyses on cultural resources.	The bidder should provide substantive evidence that the proposed system will provide read-only database access to attributes in linked and related tables so that Parks Canada Geomatics Specialists can conduct detailed GIS analyses on cultural resources.	20

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NUM	Rated Requirement	Evaluation Grid for Bidder's Response	Maximum Points

R11.7	The system should standardize and export the georeference metadata of digital assets (See Section 1.7.7 for a more information about Digital Assets) so that it can be displayed as points or arrows on the map.
	
	- Source metadata may exist in a variety of formats (embedded geotags, accompanying xml documents, or separate data tables with coordinates).
	
	- The format of coordinates may vary (lat/long decimal degrees, decimal minutes, or projection coordinates)
	
	- The system should export a table of georeferenced digital media points with the following attributes:
	
	    o Original X Coordinate
	    o Original Y Coordinate
	    o Original Coordinate System [format or controlled list to be determined]
	    o Bearing
	    o Link Field (e.g. hyperlink) to the digital asset
	    o Standardized X Coordinate
	    o Standardized Y Coordinate
	    o Minimum Scale denominator below which the point should not appear on maps. (e.g. an oblique site-photo from an aircraft may not be appropriate to display at 1:250 scale.)
	    o Maximum Scale denominator above which the point should not appear on maps. (e.g. 50 photo points in a 500 m^2 are should not appear on the maps of Canada).
		The bidder should provide substantive evidence that the proposed system will standardize and export the georeference metadata of digital assets (See section 5.3.7 Digital assets) so that it can be displayed as points or arrows on the map.	20

- The fields Original X Coordinate, Original Y Coordinate, Original Coordinate System, and Bearing should be populated if that data is embedded in the digital asset file

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NUM	Rated Requirement	Evaluation Grid for Bidder's Response	Maximum Points

R11.8	The system should accept georeferencing coordinates from the map system and store that information in the Standardized X and Y Coordinate fields.
	
	1. User finds the digital asset in CRMIS
	2. User indicates he wants to set the geographic location of the photo.
	3. User is presented a choice between direct entry of coordinates, or using the map to establish the location.
	3.1 Direct Entry:
	   o User enters coordinates directly, and the system populates the Original X & Y Coordinates fields.
	   o Before saving, the user is required to choose a coordinate system from a controlled list.
	   o The user is given the option to enter a value in the Bearing field.
	
	3.2 Use Map:
	   o The map opens and a routine guides the user through the process of georeferencing the photo. (Process developed by Parks Canada).
	
	   o When the user is finished, the map system updates the digital asset georeferencing table (Standardized X & Y Coordinate fields) in CRMIS. (Method to be determined by Parks and the Contractor).
		The bidder should provide substantive evidence that the proposed system will accept georeferencing coordinates from the map system and store that information in the Standardized X and Y Coordinate fields.	20

NUM	Rated Requirement	Evaluation Grid for Bidder's Response	Maximum Points
R11.9	The system should accept changes or deletions to georeferencing coordinates from the map system. - 1. User sees a digital asset point (e.g. a directional photo point) on the map. After clicking on the link and seeing the photo, the user realizes that the point is improperly placed or the bearing is wrong. 2. The map system helps the user move the point to a new location. This functionality handled by Parks Canada. The map system may verify that the user wanted to move the point. 3. When the user commits the change, the map system needs to update the Standardized X and Y Coordinates in the CRMIS database. CRMIS should accept this change from the map system and update the coordinates. 4. The user may change the direction of the photo, (e.g. rotate the arrow). The map system will then need to update the Bearing field. CRMIS should accept this change and update the Bearing field. 5. Alternatively, the user may not be confident of the bearing, and would prefer to delete the bearing information. The map system will allow the user to delete the bearing information (handled by Parks Canada). CRMIS should accept the deletion and update the Bearing field accordingly.	The bidder should provide substantive evidence that the proposed system will accept changes or deletions to georeferencing coordinates from the map system.	20

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NUM	Rated Requirement	Evaluation Grid for Bidder's Response	Maximum Points
R11.10	CRMIS should provide access to the digital media by the map system. 1. The User sees an arrow or a dot on the map indicating that a digital asset pertains to that point. (Mapping of the points is handled by PCA) 2. The user clicks on the point and a pop-up displays the media (display handled by PCA) 3. CRMIS should provide access to the digital media so that Step 2 can happen.	The bidder should provide substantive evidence that the proposed system will provide access to the digital media by the map system.	20
		Maximum points for section	340

5.3.6 Security

NUM	Rated Requirement	Evaluation Grid for Bidder's Response	Maximum Points
R12.1	**Multi-level security** The proposed system should provide security for different levels of users (e.g. Administrator, Archaeologist, Curator, Historian, Field Unit CRM specialist, researcher, and student).	The bidder must provide substantive evidence that the proposed system will provide security for different levels of users.	100
R12.2	**Password administration** The proposed system should provide methods for initiating and changing user passwords.	The bidder must provide substantive evidence that the proposed system will provide methods for initiating and changing user passwords.	50
R12.3	**User function security** The proposed system should allow system administrators to define security at the function level (e.g. allow a user to access data entry functions only).	The bidder must provide substantive evidence that the proposed system will allow system administrators to define security at the function level.	20
R12.4	**File security**	The bidder must provide	50

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NUM	Rated Requirement	Evaluation Grid for Bidder's Response	Maximum Points
	The proposed system should allow system administrators to control access for different levels of users to one or more specific areas.	substantive evidence that the proposed system will allow system administrators to control access for different levels of users to one or more specific areas.	
R12.5	**Field(s) security** The proposed system should provide controls to limit access to one or more specific fields within the system (e.g. amending location information).	The bidder must provide substantive evidence that the proposed system will provide controls to limit access to one or more specific fields within the system.	50
R12.6	**Record(s) security** The proposed system should provide controls to limit access to a specific record or group of records within the system.	The bidder must provide substantive evidence that the proposed system will provide controls to limit access to a specific record or group of records within the system.	50
R12.7	**Security by business function** The proposed system should provide controls to limit access to one or more specific business functions within the system.	The bidder must provide substantive evidence that the proposed system will provide controls to limit access to one or more specific business functions within the system.	20
R12.8	**Record amendment security** When a record is being amended by a user, that record should be protected from being changed or deleted by other users.	The bidder must provide substantive evidence that the proposed system will protect records from being changed or deleted by other users when a record is being amended by a user.	20

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NUM	Rated Requirement	Evaluation Grid for Bidder's Response	Maximum Points
R12.9	**Record locked & available** When a record is being amended by a user, that record should be available to other users in read-only mode.	The bidder must provide substantive evidence that the proposed system will make records available to other users in read-only mode when a record is being amended by a user.	20
R12.10	**Record locked & not available** When a record is being amended by a user, that record should be unavailable to other users.	The bidder must provide substantive evidence that the proposed system will make records unavailable when a record is being amended by a user.	20
		Maximum points for section	400

5.3.7   Digital assets

NUM	Rated Requirement	Evaluation Grid for Bidder's Response	Maximum Points
R13.1	**Indexing** The proposed system should be able to index digital assets.	The bidder must provide substantive evidence that the proposed system will be able to index digital assets.	20
R13.2	**Digital Asset catalogue number** The proposed system should be able to assign catalogue numbers to the various digital asset types based on the information provided in Annex C - Data Dictionary (Digital Asset Cataloguing).	The bidder must provide substantive evidence that the proposed system will be able to assign catalogue numbers to the various digital asset types based on the information provided in Annex C - Data Dictionary (Digital Asset Cataloguing).	50
R13.3	**Digital asset support** The proposed system should be able to support at minimum the following media and file types:	The bidder must provide substantive evidence that the proposed system will be able to support at	20

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NUM	Rated Requirement	Evaluation Grid for Bidder's Response	Maximum Points
	A. Word Processing documents. (*.doc, *.docx, *.wpd) B. Adobe Portable Document Format (PDF) C. Image files (*.jpg, *.gif, *.tif, etc.) D. MS Excel spreadsheets. (*.xls, *.xlsx) E. Video files F. Audio files G. Streaming data H. Animation files I. 3-D imaging. (*.mov, *.dwg) J. CAD files. (*.dwg, *.mdx, AutoCAD DXF)	minimum the media and file types listed in R13.3	
R13.4	**Associated files** The proposed system should be able to associate all digital file types to an object, an artifact, a site/location, an archaeological feature, operation, sub-operation, lot, sub-lot, or groups, collections, surveys and activities.	The bidder must provide substantive evidence that the proposed system will be able to associate all digital file types to an object, an artifact, a site/location, an archaeological feature, operation, sub-operation, lot, sub-lot, or groups, collections, surveys and activities.	20
R13.5	**File viewing** The proposed system should allow files to be viewed from the application.	The bidder must provide substantive evidence that the proposed system will allow files to be viewed from the application.	50
R13.6	**View both images and text** The proposed system should allow images and text to be viewed together on the same screen (eg. Image with caption).	The bidder must provide substantive evidence that the proposed system will allow images and text to be viewed together on the	20

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NUM	Rated Requirement	Evaluation Grid for Bidder's Response	Maximum Points
		same screen.	
R13.7	**Image captions** The proposed system should be able to record a caption that is to be displayed with the image.	The bidder must provide substantive evidence that the proposed system will able to record a caption that is to be displayed with the image.	20
R13.8	**Multiple image association** The proposed system should be able to associate multiple images to an object, an artifact, a site/location, an archaeological feature, operation, sub-operation, lot, sub-lot, or groups, collections, surveys and activities.	The bidder must provide substantive evidence that the proposed system will be able to associate multiple images to an object, an artifact, a site/location, an archaeological feature, operation, sub-operation, lot, sub-lot, or groups, collections, surveys and activities.	20
R13.9	**Digital asset display** The proposed system should be able to display all associated digital assets as part of the core information for an object, an artifact, a site/location, an archaeological feature, operation, sub-operation, lot, sub-lot, or groups, collections, surveys and activities.	The bidder must provide substantive evidence that the proposed system will be able to display all associated digital assets as part of the core information for an object, an artifact, a site/location, an archaeological feature, operation, sub-operation, lot, sub-lot, or groups, collections, surveys and activities.	20
R13.10	**Digital asset restrictions** The proposed system should allow system administrators to limit the number of digital assets allowed per entity in the system.	The bidder must provide substantive evidence that the proposed system will allow system administrators to limit the	20

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NUM	Rated Requirement	Evaluation Grid for Bidder's Response	Maximum Points
		number of digital assets allowed per entity in the system.	
R13.11	**Reference to original images** The proposed system should allow users to document information about the original image (e.g. image reference number, classification, storage location).	The bidder must provide substantive evidence that the proposed system will allow users to document information about the original image.	20
R13.12	**Reference to original documents** The proposed system should allow users to document information about the original documents (e.g. field notes, classification, storage location).	The bidder must provide substantive evidence that the proposed system will allow users to document information about the original documents.	20
		Maximum points for section	300

5.3.8   Controlled vocabularies

NUM	Rated Requirement	Evaluation Grid for Bidder's Response	Maximum Points
For the purposes of this document, authority lists as described below are pre-populated dropdown lists such as province, location, colour, theme, etc. Note: some of these authority lists will be dependent on previous selections.			
R14.1	**Authority control with system** The proposed system should allow for authority control within the system.	The bidder must provide substantive evidence that the proposed system will allow for authority control within the system.	50
R14.2	**Update authority lists procedure** The proposed system should be able to provide a procedure to update an authority list.	The bidder must provide substantive evidence that the proposed system will be able to provide a procedure to update an authority list.	20

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NUM	Rated Requirement	Evaluation Grid for Bidder's Response	Maximum Points
R14.3	**Fields with authority control** The proposed system should allow the authorized user to choose the fields for authority control.	The bidder must provide substantive evidence that the proposed system will allow the authorized user to choose the fields for authority control.	50
R14.4	**Integrate pre-built authority lists** The proposed system should allow external pre-built authority lists to be integrated into the system at any time.	The bidder must provide substantive evidence that the proposed system will allow external pre-built authority lists to be integrated into the system at any time.	50
R14.5	**Authority lists for entry and validation** The proposed system should allow authority lists to be employed to assist users in the entry and validation of data (e.g. user can select from the authority list during data entry).	The bidder must provide substantive evidence that the proposed system will allow authority lists to be employed to assist users in the entry and validation of data.	20
R14.6	**Authority lists included in the proposed system** The Vendor should provide authority lists that are included in the proposed system.	The Vendor will provide authority lists that are included in the proposed system.	20
R14.7	**Authority lists for search** Users should be able to use authority lists to assist in the formulation of search criteria (e.g. user can select from the authority list to help select terms to enter as search criteria).	The bidder must provide substantive evidence that the proposed system will allow users to use authority lists to assist in the formulation of search criteria.	20
R14.8	**Authorization to alter authority lists** The proposed system should allow authorized users to control permissions to add, change, and delete terms in an authority list.	The bidder must provide substantive evidence that the proposed system will allow authorized users to control permissions to add,	20

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NUM	Rated Requirement	Evaluation Grid for Bidder's Response	Maximum Points
		change, and delete terms in an authority list.	
R14.9	**Print authority lists** The Vendor should ensure that all authority lists can be printed.	The bidder must provide substantive evidence that the proposed system will allow all authority lists to be printed.	20
R14.10	**Several authority lists used within one field** The proposed system should allow for different authority lists to be used within a single field (e.g. Object Name field has separate term list for Curatorial, Archaeology).	The bidder must provide substantive evidence that the proposed system will allow for different authority lists to be used within a single field	20
R14.11	**Deletion/change of terms - implications for records** The proposed system should be able to handle the change or deletion of an authority term if the term is currently used in the records.	The bidder must provide substantive evidence that the proposed system will be able to handle the change or deletion of an authority term if the term is currently used in the records.	20
For the purposes of this document, "thesaurus" is a list of terms showing hierarchical and other relationships. Thesaural controls are used for classification purposes.			
R14.12	**Thesaural control with system** Thesaural control should be available within the proposed system.	The bidder must provide substantive evidence that Thesaural control will be available within the proposed system will	50
R14.13	**Update thesaurus files procedure** The proposed system should provide a procedure to update thesauri files.	The bidder must provide substantive evidence that the proposed system will provide a procedure to update thesauri files.	50
R14.14	**Fields with thesaural control**	The bidder must provide	50

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NUM	Rated Requirement	Evaluation Grid for Bidder's Response	Maximum Points
	The proposed system should allow authorized users to choose the fields for thesaural control.	substantive evidence that the proposed system will allow authorized users to choose the fields for thesaural control.	
R14.15	**Integrate pre-built thesaural files** The proposed system should allow external pre-built thesauri (e.g. Thesaurus of Geographic Names, or a locally-built thesaurus that are already in use by PCA) to be imported and integrated within the system.	The bidder must provide substantive evidence that the proposed system will allow external pre-built thesauri to be imported and integrated within the system.	50
R14.16	**Thesauri for entry and validation** The proposed system should allow thesauri to be used to assist in the entry and validation of data (e.g user can browse and select from the thesaurus during data entry).	The bidder must provide substantive evidence that the proposed system will allow thesauri to be used to assist in the entry and validation of data.	20
R14.17	**Thesauri for search** The proposed system should allow for thesauri to be used to assist in the formulation of search criteria (e.g. user can browse and select from the thesaurus to help select terms to enter as search criteria).	The bidder must provide substantive evidence that the proposed system will allow for thesauri to be used to assist in the formulation of search criteria.	20
R14.18	**Authorization to alter thesaurus** The proposed system should provide control over who can add, change, and delete terms in thesauri files.	The bidder must provide substantive evidence that the proposed system will provide control over who can add, change, and delete terms in thesauri files.	20
R14.19	**Thesaurus viewed hierarchically** Users should be able to view and browse the terms in the thesaurus hierarchically.	The bidder must provide substantive evidence that the proposed system will allow users to view and	20

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NUM	Rated Requirement	Evaluation Grid for Bidder's Response	Maximum Points
		browse the terms in the thesaurus hierarchically.	
R14.20	**Print thesauri files** The proposed system should allow all thesaurus files to be printed.	The bidder must provide substantive evidence that the proposed system will allow all thesaurus files to be printed.	20
R14.21	**Display all thesaurus information** The proposed system should be able to display all information associated with thesauri terms (e.g. relationships, definition, scope notes, etc.).	The bidder must provide substantive evidence that the proposed system will able to display all information associated with thesauri terms.	20
R14.22	**Monolingual and multilingual thesaurus, ISO standard** The proposed system should support ISO 25964-1:2011 - Information and documentation -- Thesauri and interoperability with other vocabularies -- Part 1: Thesauri for information retrieval.	The bidder must provide substantive evidence that the proposed system will support ISO 25964-1:2011 - Information and documentation -- Thesauri and interoperability with other vocabularies -- Part 1: Thesauri for information retrieval.	20
R14.23	**Change of terms - implications for records** The proposed system should be able to handle the change of thesauri terms if the terms are currently used in the records.	The bidder must provide substantive evidence that the proposed system will be able to handle the change of thesauri terms if the terms are currently used in the records.	20
R14.24	**Change of terms - implications for narrower terms** The proposed system should be able handle the change of thesauri terms which have narrower terms linked to them.	The bidder must provide substantive evidence that the proposed system will be able handle the change of thesauri terms which have narrower terms	20

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NUM	Rated Requirement	Evaluation Grid for Bidder's Response	Maximum Points
		linked to them.	
R14.25	**Deletion of terms - implications for records** The proposed system should be able to handle the deletion of thesauri terms if the terms are currently used in the records.	The bidder must provide substantive evidence that the proposed system will be able to handle the deletion of thesauri terms if the terms are currently used in the records.	20
R14.26	**Prevent deletion of terms which have narrower terms** The proposed system should prevent the user from deleting thesauri terms which have narrower terms linked to them.	The bidder must provide substantive evidence that the proposed system will prevent the user from deleting thesauri terms which have narrower terms linked to them.	20
		Maximum points for section	730

5.3.9   Indexes

NUM	Rated Requirement	Evaluation Grid for Bidder's Response	Maximum Points
R15.1	**Restructuring of affected indexes** The proposed system should be usable while indexes are being rebuilt.	The bidder must provide substantive evidence that the proposed system will be usable while indexes are being rebuilt.	20
		Maximum points for section	20

5.3.10 Backups

NUM	Rated Requirement	Evaluation Grid for Bidder's Response	Maximum Points
R16.1	**Database Backup** The proposed system database should be compatible with the Commvault DB back up	The bidder must provide substantive evidence that the proposed system	20

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	tool used by Shared Services Canada. See http://www.commvault.com for product details	database will be compatible with the Commvault DB back up tool used by Shared Services Canada.	
R16.2	**Backup and recovery processes** The proposed system should have built in backup and recovery processes.	The bidder must provide substantive evidence that the proposed system will have built in backup and recovery processes.	10
R16.3	**Back-end database back-up and recovery** The standard functionality of the back-end database should completely back-up and recover the proposed system. This includes data, settings, transactions, users, interface, etc.	The standard functionality of the back-end database will completely back-up and recover the proposed system.	10
R16.4	**Backup processes** The proposed system should have built-in backup processes or use the standard functionality of the back-end database for backups.	The bidder must provide substantive evidence that the proposed system will have built-in backup processes or use the standard functionality of the back-end database for backups.	20
R16.5	**Recovery processes** The proposed system should have built-in recovery processes or use the standard functionality of the back-end database for recovery.	The bidder must provide substantive evidence that the proposed system will have built-in recovery processes or use the standard functionality of the back-end database for recovery.	20
R16.6	**Automated backups** The backup process should be automated.	The bidder must provide substantive evidence that the proposed system will have automated backup	10

NUM	Rated Requirement	Evaluation Grid for Bidder's Response	Maximum Points
		processes.	
R16.7	**Automated recovery** The recovery process should be automated.	The bidder must provide substantive evidence that the proposed system will have automated recovery processes.	20
		Maximum points for section	110

5.3.11 Audit reports

NUM	Rated Requirement	Evaluation Grid for Bidder's Response	Maximum Points
R17.1	**Reporting** The proposed system data should be compatible with SQL Server Reporting Services (SSRS).	The bidder must provide substantive evidence that the proposed system data will be compatible with SQL Server Reporting Services (SSRS).	20
R17.2	**Deleted records** For deleted records, the proposed system should provide a report containing all deleted content.	The bidder must provide substantive evidence that the proposed system will provide a report containing all deleted content.	20
R17.3	**User access profiles** The proposed system should provide a report of all user access profiles.	The bidder must provide substantive evidence that the proposed system will provide a report of all user access profiles.	10
R17.4	**Audit report on module activity** The proposed system should provide a report of functional usage by user ID of system activity over a specific period (e.g. list the number of times each type of system activity (report, query, accession) was accessed on a certain day by a user.	The bidder must provide substantive evidence that the proposed system will provide a report of functional usage by user ID of system activity over a specific period.	10

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NUM	Rated Requirement	Evaluation Grid for Bidder's Response	Maximum Points
R17.5	**Audit module usage** The proposed system should provide a report by system activity on user access over a specific period.	The bidder must provide substantive evidence that the proposed system will provide a report by system activity on user access over a specific period.	10
R17.6	**Query report** The proposed system should provide a report of the queries performed by users.	The bidder must provide substantive evidence that the proposed system will provide a report of the queries performed by users.	20
		Maximum points for section	90

5.3.12 Product demonstration rated requirements

NUM	Rated Requirement	Evaluation Grid for Bidder's Response	Maximum Points
R18.1	**Collections and Curatorial Processes** Compliance to the following Collections Trust SPECTRUM 4.0 procedures: • Object Entry • Acquisition • Cataloguing • Location and movement control • Loans in • Loans out • Object exit • Retrospective documentation	The bidder should demonstrate how the product complies with the SPECTRUM processes identified in R18.1.	160
R18.2	**Conservation and Conservation Sciences** Compliance to the following Collections Trust	The bidder should demonstrate how the product complies with the	40

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NUM	Rated Requirement	Evaluation Grid for Bidder's Response	Maximum Points
	SPECTRUM 4.0 procedures: • Object Condition checking and technical assessment • Conservation and collections care	SPECTRUM processes identified in R18.2.	
R18.3	Archaeological sites and their related artifacts.	The Bidder should demonstrate how the proposed system would manage archaeological sites and their related artifacts.	100
R18.4	Digital assets linked or attached to objects and sites.	The Bidder should demonstrate how digital assets are linked or attached to objects and sites.	100
R18.5	Images for objects and sites.	The Bidder should demonstrate how the proposed system would handle images for objects and sites.	50
		Maximum points for section	450

5.4   Application integration requirements

The Vendor should provide necessary tools and methods of connecting to the various components of the proposed system such as an application programming interface (API), scripting environment or software development kit (SDK) to ease integration with other systems within PCA. The Vendor should also provide integrated development environment (IDE) recommendations.

For example:

-        Communications protocols

-        Web services, SOAP, XML, etc.

NUM	Rated Requirement	Evaluation Grid for Bidder's Response	Maximum Points
R19.1	Web Services The proposed system should be able to consume data from Web services as well as output data as a Web service.	The bidder must provide substantive evidence that the proposed system supports Web services input/output.	50
R19.2	The Vendor should provide necessary tools and methods of connecting to the various components of the proposed system such as an application programming interface (API)	The bidder will provide an application programming interface (API)	100
R19.3	The Vendor should provide the necessary scripting environment or software development kit (SDK) to ease integration with other systems within PCA	The bidder will provide a software development kit (SDK).	100
R19.4	The Vendor should provide integrated development environment (IDE) recommendations.	The bidder will recommend an integrated development environment (IDE).	50
		Maximum points for section	300

6   Security and Privacy Requirements

The Vendor must deliver all requirements identified in this section at the dates specified in the Schedule of Deliverables.

Bidders must respond to the Rated Requirements using the Security and Privacy Response Table.

This section details the minimum security and privacy requirements that the Vendor must meet to ensure that the security and privacy measures specified in this document are implemented and maintained throughout the Contract. These requirements have been developed based on a combination of Government of Canada (GC) security policies and industry best practices. The key objective is to develop a risk managed security and privacy solution that provides an adequate level of protection at an acceptable level of risk.

It is accepted and understood that technology evolves at a pace that exceeds the abilities of large bureaucracies to adapt to change. This includes security technologies and technologies that support electronic transactions across the Internet. Over the duration of the contract, security technology may very well evolve and change. The Vendor's management of the solution must account for these technological changes that will occur during the life of the system and allow for the adoption of new or updated security or privacy features on an as and when needed basis. For this reason, the Government of Canada has adopted a proactive and integrated security and privacy managed risk approach that must be implemented by the Vendor and kept active throughout the life cycle of the CRMIS. This is based on the following:

Vendor personnel who require access to PROTECTED information, assets or sensitive work sites shall EACH hold a valid ENHANCED RELIABILITY screening, granted or approved by CIISD.

The Vendor SHALL NOT remove any PROTECTED information or assets from the identified work site(s), and the Vendor shall ensure that its personnel are made aware of and comply with this restriction.

6.1   CRMIS Data Profile
The data in the system will be designated as approximately 80% unclassified/undesignated and 20% Protected A (PA). The security requirements for Protected A data can be found in "Security Requirements Checklist and Conceptual CRMIS Data Profile" and in the PWGSC Industrial Security Manual (ISM) at the following link (http://ssi-iss.tpsgc-pwgsc.gc.ca/msi-ism/index-eng.html).

6.2   Scope of the CRMIS Security and Privacy Requirements
The organizations that are included within the scope of the security and privacy requirements identified in this annex are those that will provide the core services to government and any organization involved with Business Continuity and/or Disaster Recovery for these core service organizations.

6.3   Facility and Personnel Security

6.3.1   SA-1 – Security Validation Requirements
The Vendor must:

a) Validate that the listed security and privacy requirements were incorporated into the design and subsequently implemented;
b) Submit the required deliverables to the Government of Canada for review; and
c) Implement design changes requested as a result of Government of Canada review to ensure that the service design adequately satisfies all of the service's security requirements.

Description of the Security Validation Activity

The purpose of security validation is to establish, through design specifications, a correspondence between an information system's security requirements and the security safeguards that implement those security requirements. Validation establishes assurance that the information system's design fully satisfies its security requirements. At a minimum, the Vendor must establish this correspondence between the security requirements and the security safeguards that implement them.

Security Validation Deliverables

The deliverables from the security validation activity are as follows:

a) A Security Requirements Traceability Matrix (SRTM) that contains, at a minimum, the following information:
b) The security requirements marked for security validation in this document; and
c) For each security requirement, the reference within the service design specifications documents where the security safeguard or safeguards that implement the security requirements are described.
d) Service documentation referenced in the SRTM that:
e) Describe the security safeguards in sufficient details to allow the Government of Canada to confirm that they satisfy the security requirements; and
   i) Reflect the approved changes implemented as a result of the Government of Canada's review.
   ii) Security Validation Acceptance Criteria

The Government of Canada will accept the deliverables and sign-off on the security validation activity if the following conditions are met:

a) The deliverables are submitted to the Government of Canada and they satisfy the requirements specified above; and
b) The Vendor has implemented the changes requested by the Government of Canada as witnessed in revised versions of the SRTM and the service documentation.

6.3.2   SA-2 – Security Verification Requirements
The Vendor must:

a) Verify the security safeguards associated with the security requirements marked for security verification in this annex against the production version of the CRMIS; and
b) Submit the required deliverables to the Government of Canada for review.

Description of the Security Verification Activity

The purpose of security verification is to confirm that the security safeguards have been implemented correctly within the implemented CRMIS and that they meet the applicable standards as specified in the service design specifications. The Vendor will develop and execute the security verification procedures while the Government of Canada representatives will witness the execution of the security verification procedures.

Security Verification Deliverables

The deliverables from the security verification activity are as follows:

a) A security verification report that contains, at a minimum, the following information:

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    i.   For each of the security safeguards that satisfy one of more of the security requirements marked for security verification in this document, a security verification procedures that describes what the Vendor must execute in order to confirm that the security safeguard has been implemented correctly and that it satisfies applicable standards as specified in the service design specifications and the expected result;

    ii.   For each security verification procedure, the actual result that the Vendor obtained or observed;

    iii.   Any deviations from the expected results;

    iv.   For each deviation that could be corrected at the time of verification, a description of the corrective measure or measures that were implemented in the production version of the CRMIS; and

    v.   For each deviation that could not be corrected at the time of verification (e.g. due to more significant changes) a change management record number.

b)   The SRTM revised to include the tracing between security requirements and the security verification procedures; and

c)   Service documentation referenced in the SRTM that reflects the approved changes implemented as a result of the Government of Canada's review.

Security Verification Acceptance Criteria

The Government of Canada will accept the deliverables and sign-off on the security verification activity if the following conditions are met:

a)   The deliverables are submitted to the Government of Canada and they satisfy the requirements above; and

The Vendor either has implemented or will implement the changes requested by the Government of Canada as witnessed in revised versions of the SRTM and the service design specification

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7   Parks Canada Training Requirements

Bidders should respond to the Rated Requirements using the Training Requirements Response Table.

7.1   Pre-User Acceptance Testing System Demonstration

The Vendor should conduct a webinar/videoconference with the Parks Canada User Acceptance Test Team (approximately 8 to 12 persons at various locations) where the Vendor will walk through the system and the Parks Canada-specific functionality in preparation for the Parks Canada UAT phase. This demonstration should include all functionality described within this SoW or as agreed upon between Parks Canada and the Vendor.

This pre-UAT System Demonstration should be conducted 1-3 business days before the start of the scheduled UA Test period.   Parks Canada will be responsible for booking the webinar for the participants. The Vendor will be responsible for conducting the System Demonstration and answering participants' questions pertaining to the system.

7.2   "Train-the-Trainer"

The Vendor should conduct a webinar(s) with the Parks Canada System Administrators where the Vendor will walk through the management aspects of the system and the Parks Canada-specific functionality to enable the Parks Canada Administrators to train their internal team. This demonstration should include all functionality described within the Administration section of the CRMIS Feature List.

7.3   Training Logistics

The "Train-the-Trainer" sessions should be conducted at selected Parks Canada locations. For costing purposes assume that the locations are Quebec, Ottawa and Winnipeg. The "Canada West" session will be conducted in English only. The "Canada East" training should be conducted consecutively with one session conducted in English and a second session conducted in French.

The Vendor will be responsible for their travel costs, shipping of any training materials and related costs for on-site training delivery. All training material should be available in both English and French. Parks Canada expects that the "Train-the-Trainer" sessions are to be no longer than three days in length. Parks Canada will be responsible for providing the venue and the equipment to conduct the training.

The Vendor should provide on-line accessible training manuals for Parks Canada, covering all aspects of the System. These on-line training manuals should be:

    A. available in both English and French;
    B. be accessible and available throughout the contract term;
    C. printable by all pages, specific Chapter, or specific page range; and
    D. accessible from the Production and Training environments.

At the end of the training sessions, there will be a participant feedback form to verify that the session had the desired results in the education of the group. The results from this audience feedback will be used to decide if the performance objectives have been met for each session.

This training should take place a minimum of two weeks prior to the System's Implementation.

7.4   Training Plan Deliverable

During the Project life cycle, the Vendor should provide the following Training Plan for the initial system "Train-the-Trainer" session.

The Vendor's Training Plan should include the following information:

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- Proposed training schedule (Day 1, Day 2, Day 3);
- Core modules:
- Outline of the sections;
- Audience for the module (Specialists vs. Supervisors and Managers);
- Length of time to present the module;
- Hands-on practice or exercises to be completed by the attendees;
- Electronic teaching materials and aids; and
- Number of participants in each session.

Parks Canada will assign a Project Training Coordinator to work with the Vendor's Training Team to aid in understanding the Parks Canada work environment, participants, etc. to help in developing the Training Plan and Materials. The Parks Canada Project Training Coordinator will conduct a final quality check on the training materials and all documentation. All materials should be approved by the Parks Canada Project Training Coordinator before they are delivered to the Parks Canada audiences.

7.5   Post-Launch User Documentation

The Vendor should provide Parks Canada "print ready" electronic versions of user manuals in French and English.

The Vendor is responsible for updating the manuals when they introduce or implement new functionality.

Parks Canada retains the right to reproduce any training materials for internal training, refresher courses or for sessions for new staff following implementation.

8   Additional Functionality

Note: If the Vendor is awarded points for any of the Additional Functionality during the Bid Evaluation, upon Contract award the Contracting Authority will amend the Contractual Obligations of Contractor's Bid Response section to reflect that these features will now form part of the Contract and the Contractor will be required to provide these features in accordance with and at the prices contained in Annex B – Basis of Payment.

Bidders should respond to the Additional Functionality Requirements using the Additional Functionality Response Table.

NUM	Rated Requirement	Evaluation Grid for Bidder's Response	Maximum Points
General			
A1.1	**Repeatable field** The proposed system should allow a field entry to be flagged as being repeatable for subsequent entries until the flag is removed.	The bidder must provide substantive evidence that the proposed system will allow a field entry to be flagged as being repeatable for subsequent entries until the flag is removed.	10
A1.2	**Repeatable multiple entries** The proposed system should allow multiple entries to be flagged as being repeatable for subsequent entries until the flag is removed.	The bidder must provide substantive evidence that the proposed system will allow multiple entries to be flagged as being repeatable for subsequent entries until the flag is removed.	10
A1.3	**Data formatting** The proposed system should support text formatting standards (italic, bold, underline, etc.).	The bidder must provide substantive evidence that the proposed system will support text formatting standards.	10
A1.4	**Add terms to spell checker** Users should be able to add terms to the spell checker.	The bidder must provide substantive evidence that the proposed system will allow users to add terms to the spell checker.	10
A1.5	**Date entry** The proposed system should have date pickers and pop-up calendars available	The bidder must provide substantive evidence that the proposed system will	10

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NUM	Rated Requirement	Evaluation Grid for Bidder's Response	Maximum Points
	to users where applicable and ensure the ISO date standard is followed (YYYY-MM-DD).	have date pickers and pop-up calendars available to users where applicable and ensure the ISO date standard is followed	
A1.6	**Date searching** The proposed system should allow a user to specify the date format for searching.	The bidder must provide substantive evidence that the proposed system will allow a user to specify the date format for searching.	10
A1.7	**Date display** The proposed system should allow the user to specify the date format for display.	The bidder must provide substantive evidence that the proposed system will allow the user to specify the date format for display.	10
A1.8	**Date output** The proposed system should allow the user to specify the date format for output (e.g. reports).	The bidder must provide substantive evidence that the proposed system will allow the user to specify the date format for output.	10
A1.9	**Date conversion** The proposed system should have the ability to convert dates to a standard format (e.g. when entering dates different formats (050596, 05 MA 96, 05 May 1996, 19960505, 960505) can be entered and the proposed system will convert to a standard format).	The bidder must provide substantive evidence that the proposed system will have the ability to convert dates to a standard format.	20
A1.10	**On-site training** The Vendor should provide on-site training.	The Vendor will provide on-site training.	50
A1.11	**Overwrite pre-populated fields** The proposed system should provide the author or administrator the ability to overwrite designated pre-populated	The bidder must provide substantive evidence that the proposed system will provide the author or	10

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NUM	Rated Requirement	Evaluation Grid for Bidder's Response	Maximum Points
	metadata only where permissible. This should not apply to all pre-populated fields, see Annex C – Data Dictionary for field details and exceptions.	administrator the ability to overwrite designated pre-populated metadata only where permissible.	
A1.12	**Multi-tasking** The proposed system should let the user interrupt what they are doing to perform other tasks without losing information.	The bidder must provide substantive evidence that the proposed system will allow the user interrupt what they are doing to perform other tasks without losing information.	10
Searching and Reporting			
A2.1	**Similar term search** While executing a search, the proposed system should allow users to search for similar terms For example, a 'smart search' which considers the context of terms. While searching 'vase' it suggests 'urn', etc.	The bidder must provide substantive evidence that the proposed system will allow users to search for similar terms	10
Technical Requirements			
A3.1	**Data model** The proposed system should have an Open data model.	The bidder must provide substantive evidence that the proposed system will have an Open data model.	20
A3.2	**Active Directories** The proposed system should be compatible with MS Active Directories.	The bidder must provide substantive evidence that the proposed system will be compatible with MS Active Directories.	10
A3.3	**Web Publishing** The proposed system should provide a method or well defined process for	The bidder must provide substantive evidence that the proposed system will provide a method or well	50

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NUM	Rated Requirement	Evaluation Grid for Bidder's Response	Maximum Points
	publishing content to the Intranet/Internet.	defined process for publishing content to the Intranet/Internet.	
A3.4	**Filtered external source publishing** The proposed system should provide a method of filtering the information that is published to external sources such as the Intranet/Internet as well as to other systems.	The bidder must provide substantive evidence that the proposed system will provide a method of filtering the information that is published to external sources such as the Intranet/Internet as well as to other systems.	50
A3.5	**Ability to use Single Sign On** Parks Canada employs active directories; the proposed system should leverage these directories so users do not have to sign in separately to access the proposed system.	The bidder must provide substantive evidence that the proposed system will leverage MS active directories so users do not have to sign in separately to access the proposed system.	20
Help			
A4.1	**Self-explanatory Help** The on-line Help should be self-explanatory (should not consist only of codes that require the operator to consult a manual).	The bidder must provide substantive evidence that the proposed system will have on-line help which is self-explanatory.	10
A4.2	**User-built Help file** The proposed system should allow users to build their own Help files (e.g. adding Help for a field which currently does not have Help).	The bidder must provide substantive evidence that the proposed system will allow users to build their own Help files.	10
A4.3	**Error messages** The proposed system should allow authorized users to customize error messages (e.g. generate an error	The bidder must provide substantive evidence that the proposed system will allow users to customize	10

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NUM	Rated Requirement	Evaluation Grid for Bidder's Response	Maximum Points
	message, change the wording in the error message, invoke new error message).	error messages.	
A4.4	**System documentation** The Vendor should fully describe the components of the proposed system, including base software.	The Vendor will fully describe the components of the proposed system, including base software.	20
A4.5	**Product Development Roadmap** The Vendor should provide a Product Development Roadmap which will include a list of planned features along with anticipated deliverable dates.	The Vendor will provide a Product Development Roadmap which will include a list of planned features along with anticipated deliverable dates.	10
A4.6	**Summary report** The proposed system should generate a summary report for the import function listing such things as number of records read, rejected, accepted, etc.	The bidder must provide substantive evidence that the proposed system will generate a summary report for the import function listing such things as number of records read, rejected, accepted, etc.	20
Import/Export			
A5.1	**Duplicate checking defined by Database Administrator** When importing records, the proposed system should check for duplicate records based on a key defined by the database administrator.	The bidder must provide substantive evidence that the proposed system will check for duplicate records based on a key defined by the database administrator.	20
A5.2	**Hold for verification** For records that have failed data validation during import, the proposed system should produce an error report or hold these records for user verification (e.g. import data with an	The bidder must provide substantive evidence that the proposed system will produce an error report or hold these records for user	10

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NUM	Rated Requirement	Evaluation Grid for Bidder's Response	Maximum Points
	invalid term to an authority-controlled field).	verification	
A5.3	**Data Export Scheduling** The data export tool should allow for the scheduling of automatic exports on periodic bases (e.g. weekly, monthly).	The bidder must provide substantive evidence that the proposed system will allow for the scheduling of automatic exports on periodic bases.	10
A5.4	**Fixed length records** The proposed system should be able to export files having fixed length records.	The bidder must provide substantive evidence that the proposed system will be able to export files having fixed length records.	10
A5.5	**Variable length records** The proposed system should be able to export files having variable length records.	The bidder must provide substantive evidence that the proposed system will be able to export files having variable length records.	20
A5.6	**Summary report** The proposed system should be able to generate a summary report for the export function listing such things as number of records read, number of records exported, etc.	The bidder must provide substantive evidence that the proposed system will able to generate a summary report for the export function listing such things as number of records read, number of records exported, etc.	10
A5.7	**Flag data records** The proposed system should be able to flag the record(s) that have been exported.	The bidder must provide substantive evidence that the proposed system will able to flag the record(s) that have been exported.	20
A5.8	**Flag data fields** The proposed system should be able to	The bidder must provide substantive evidence that the proposed system will	10

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NUM	Rated Requirement	Evaluation Grid for Bidder's Response	Maximum Points
	flag the fields that have been exported.	able to flag the fields that have been exported.	
A5.9	**Word processor** The proposed system should allow data to be imported from and exported to word processing software.	The bidder must provide substantive evidence that the proposed system will allow data to be imported from and exported to word processing software.	10
A5.10	**ODBC Compliant** The proposed system should be ODBC compliant.	The bidder must provide substantive evidence that the proposed system will be ODBC compliant.	20
Features			
A6.1	**Saving sort table** The proposed system should allow a modified sort table to be saved for further use.	The bidder must provide substantive evidence that the proposed system will allow a modified sort table to be saved for further use.	20
A6.2	**Reminder function** The proposed system should notify a user of other necessary tasks.	The bidder must provide substantive evidence that the proposed system will notify a user of other necessary tasks.	20
A6.3	**Measurement conversion** The proposed system should automatically convert and display imperial and metric measurements.	The bidder must provide substantive evidence that the proposed system will automatically convert and display imperial and metric measurements.	10
A6.4	**Converts measurements on reports** The proposed system should automatically convert imperial and metric measurements for reports.	The bidder must provide substantive evidence that the proposed system will automatically convert imperial and metric measurements for reports.	10

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A6.5	**Selection of measurements** The proposed system should allow users to select preferred measurement units for data entry, display, reports, etc.	The bidder must provide substantive evidence that the proposed system will allow users to select preferred measurement units for data entry, display, reports, etc.	10
A6.6	**Overrides converted measurements** The proposed system should change the values of the converted measurements (e.g. change converted measurements while in data entry mode).	The bidder must provide substantive evidence that the proposed system will change the values of the converted measurements	10
A6.7	**Barcode labels** The proposed system should produce barcode labels.	The bidder must provide substantive evidence that the proposed system will produce bar code labels.	20
A6.8	**Supports OCR** The proposed system should support Optical Character Recognition (OCR).	The bidder must provide substantive evidence that the proposed system will support Optical Character Recognition (OCR).	10
Security			
A7.1	**Password security** The proposed system should require all users to enter a password for access to the proposed system.	The bidder must provide substantive evidence that the proposed system will require all users to enter a password for access to the proposed system.	20
Digital Assets			
A8.1	**Other files** Other digital asset formats should be supported, including any file format currently in use by the Parks Canada. The Vendor should list other supported digital asset formats.	The bidder must provide substantive evidence that the proposed system will support other digital asset formats, including any file format currently in use by	10

NUM	Rated Requirement	Evaluation Grid for Bidder's Response	Maximum Points
		the Parks Canada. The Vendor is to list other supported digital asset formats.	
A8.2	**Automatic production of multiple image resolutions** The proposed system should automatically produce images into multiple resolutions for display within the proposed system, for reports generated by the proposed system or for export. E.g. Thumbnail views, hi-res images.	The bidder must provide substantive evidence that the proposed system will produce images into multiple resolutions for display within the proposed system, for reports generated by the proposed system or for export.	20
A8.3	**Options for display of images** Users should have access to non-destructive editing features, such as dynamic rotate or resizing, that only change the way the image is displayed.	The bidder must provide substantive evidence that the proposed system will allow users to access non-destructive editing features, such as dynamic rotate or resizing, that only change the way the image is displayed.	40
A8.4	**Maximum images** The Vendor should provide Parks Canada with information about the maximum number of images that can be associated with an object, an object group, a site, an archaeological feature, operation, sub-operation, lot or sub-lot.	The Vendor is to provide Parks Canada with information about the maximum number of images that can be associated with an object, an object group, a site, an archaeological feature, operation, sub-operation, lot or sub-lot.	10
A8.5	**Tiling of images** The proposed system should tile multiple images on the screen.	The bidder must provide substantive evidence that the proposed system will	20

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NUM	Rated Requirement	Evaluation Grid for Bidder's Response	Maximum Points
		tile multiple images on the screen.	
A8.6	**Images stored in solution** The proposed system should be capable of containing image files.	The bidder must provide substantive evidence that the proposed system will be capable of containing image files.	20
A8.7	**Convert images** The proposed system should allow images to be converted to multiple image file formats and resolutions.	The bidder must provide substantive evidence that the proposed system will allow images to be converted to multiple image file formats and resolutions.	20
A8.8	**Image editing** The proposed system should provide functionality for editing digital images (e.g. colour correct, rotate, resize, resample).	The bidder must provide substantive evidence that the proposed system will provide functionality for editing digital images.	10
Controlled Vocabularies			
A9.1	**List pre-built thesauri files** The Vendor should list the pre-built thesauri files that are included in the proposed system.	The Vendor is to list the pre-built thesauri files that are included in the proposed system.	50
A9.2	**Thesauri for term expansion during retrieval** Thesauri should be used during the retrieval process to expand a user's search to include synonyms and narrower terms (e.g. if a user searches for "Painting", the proposed system invokes the thesaurus to include narrower terms like "Watercolour").	The bidder must provide substantive evidence that the proposed system will allow the thesauri to be used during the retrieval process to expand a user's search to include synonyms and narrower terms	50
A9.3	**Homonyms within thesaurus** The proposed system should handle	The bidder must provide substantive evidence that	20

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NUM	Rated Requirement	Evaluation Grid for Bidder's Response	Maximum Points
	homonyms within the thesaurus and prompt users towards options (e.g. "drum" as a percussion instrument or as a container).	the proposed system will handle homonyms within the thesaurus and prompt users towards options	
Database Indexes			
A10.1	**Change of index** The proposed system should allow database administrators to change the index of any field.	The bidder must provide substantive evidence that the proposed system will allow database administrators to change the index of any field.	10
		Maximum points for section	960

9 Initiation Phase Deliverables

The Initiation Phase will run from Contract Award until the start of the Project Phase. For the Initiation phase, the Vendor must provide the following documentation for Parks Canada approval. The plans listed below must be clear and concise.

Initiation Phase document drafts must accompany the initial bid. Documentation will be finalized with necessary input from Parks Canada team during the Initiation Phase. The initiation phase will be considered complete once all the documents have been approved.

Parks Canada will require 10 working days to review the proposed plans and return comments to the Vendor.

Note: The information or documents required for the Initiation Phase can be combined in one document, they are not required to be separate documents but all plans must be included. The plans do not need to be elaborate but they do need to be clear and concise.

#	Milestone/Deliverable	Description/Reference
2.1.1.1	Initiation Phase start	At contract award
2.1.1.2	Project kick off meeting	TBD
2.1.1.3	Project Management Plan	Document describing how the project will be managed from the Vendor's perspective. See *9.1 Core System Provider Project Management Plan*.

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2.1.1.4	Project Plan (WBS)	The project plan should be at a high level, it does need to include milestones and timelines but does not need to include resource allocation. See *9.2 Project Plan.*
2.1.1.5	Communication Plan	The Vendor must agree to the Communication Plan put forward in this document but may make recommendation based on their experience. See *9.4 Communication Plan.*
2.1.1.6	Risk Management Plan	The Vendor must identify the risks to the project and recommend mitigation actions. See *9.8 Risk Management Plan.*

10   Project Phase Deliverables

This section describes the key requirements and deliverables for the Vendor during the Project Phase of the Contract.

The requirements and deliverables described in this section are key items that the Vendor must complete regardless of the project management approach used. It is expected that there will be additional deliverables during the project phase that will be mutually agreed upon between the Parks Canada Project Authority and the Vendor at the onset of the Project Phase.

The Project Phase must include all tasks that the Vendor must complete to ensure that the proposed system meets all requirements described in all sections of the SoW, its annexes and appendices and launches into Production successfully.   The Vendor must deliver all requirements at the dates specified in the Schedule of Deliverables.

For each of the items that are required to be submitted to the Parks Canada Project Authority for approval, a minimum of 14 business days must be allocated between submission of a document and its approval. Parks Canada reserves the right to extend this time frame if multiple documents are delivered within a short period of time.

Acceptance of deliverables is at the discretion of the Parks Canada Project Authority. Generally, deliverables will be accepted if the deliverable:

- A. Is complete and meets all acceptance criteria;
- B. Addresses all requirements for that deliverable identified in this SoW;
- C. Enables Parks Canada to have a sufficient understanding of the subject matter; and
- D. Provides Parks Canada the ability to make informed decisions based on the supplied information.

The Government of Canada acknowledges that the Vendor will require information from Parks Canada to enable them to complete their work during the Project Phase in a timely manner. Parks Canada will provide responses to the Vendor's questions or requests for information within 5 business days of being requested, or will provide a definitive answer as to when the desired information can be expected.

The key milestones within the Project Phase are indicated in the following table:

#	Milestone/Deliverable	
1	Project Phase Start	Dependent on close of Initiation Phase
2	Project baseline	To be supplied by Vendor within 30 days of Project Phase Start.
3	Parks Canada specific configuration	Date to be supplied by Vendor.
4	Custom development	Date to be supplied by Vendor.
5	Unit and Integration Testing as required	Date to be supplied by Vendor.
6	Training for UAT	Date to be supplied by Vendor.
7	Preliminary Design Review (PDR)	Date to be supplied by Vendor.
8	System Acceptance Testing	Date to be supplied by Vendor.
9	Preliminary User Testing Start	Date to be supplied by Vendor.
10	Pilot	Date to be supplied by Vendor.
11	User Acceptance Testing	Date to be supplied by Vendor.
12	Improvement Phase	Date to be supplied by Vendor.
13	Critical Design Review (CDR)	Date to be supplied by Vendor.
14	Final System Acceptance Testing	Date to be supplied by Vendor.
15	Final User Acceptance Testing	Date to be supplied by Vendor.
16	Documentation - Reference and training materials.	Date to be supplied by Vendor.
17	User training delivered	Date to be supplied by Vendor.
18	Stabilization	Date to be supplied by Vendor.
19	Production launch	Latest possible date: March 15, 2017.
20	Transition	March 15, 2017 to March 30, 2017.
21	Implementation complete	Latest possible date: March 31, 2017.

10.1   Core System Provider Project Management Plan

The Vendor must submit and maintain a Project Management Plan that identifies the working relationships between the Core System providers involved in the Contract.

A preliminary Project Management Plan must be delivered with the Vendor's Proposal. A final Project Management Plan should be delivered to the Parks Canada Project Authority within 30 calendar days of Contract Award.

The Project Management Plan must be kept current and approved and dated by Parks Canada. The Parks Canada Project Authority must approve any changes.

10.2   Project Plan

The Vendor's Project Manager must be responsible for creating and updating the Project Plan throughout the entire life cycle of the project from its Planning Phase to its Final Implementation.

A preliminary Project Plan including Work Breakdown Structure (WBS) must be delivered with the Vendor's Proposal. A final Project Plan should be delivered to the Parks Canada Project Authority within 30 calendar days of Contract Award. The Project Plan must clearly identify activities and milestones and must adhere to industry best practices. The Vendor may use whatever electronic tools their organization regularly works with such as Microsoft Project, OpenProj, or any equivalent. However, Parks Canada must approve the electronic tool chosen for compatibility reasons.

The Vendor must ensure that all key work items, deliverables, and activities (including internal Vendor activities) as well as associated dependencies are included in the Project Plan.

The Project Plan must detail and explain the Work Products, the Task Items and Milestones that make up the Project Schedule. This must include but is not limited to a list of Parks Canada Deliverables and their Planned Completion Date.

A project baseline must be established and modifications to the Project Plan and Project Schedule must be made as needed. The Vendor's Project Manager must inform Parks Canada of the reasons for the changes. Changes to the plan or schedule are subject to approval by PCA's Project Authority.

10.3   Named Project Resources and Resource Plan

The Vendor's Project Manager must create a Resource Plan based on the Project Methodology being used ex. agile or waterfall approach or a blended hybrid of them. Note: all Vendor personnel who will have access to the Parks Canada network will require a valid Government of Canada Security Clearance at the Reliability Level or above depending on role.

10.3.1 Vendor Named Project Resources

The Vendor must provide the following key project team members from the project onset. This section identifies these key personnel who must be assigned to the project.

Executive Authority (EA)

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The Vendor must designate and provide an Executive Authority (EA) who is the person to whom Parks Canada can escalate any project issues and concerns should the Vendor Project Manager be unable to resolve them.   The EA may hold the pen to any contractual agreements and issues.   The EA must be in continuous contact with the Parks Canada Project Authority throughout the Project Phase to ensure overall satisfaction.

The EA must be able to fluently read, write and speak in English.

The EA assigned must be Parks Canada's main point of contact throughout the life of the Contract period.

Vendor Project Manager (PM)

The Vendor must designate and provide a Project Manager (PM) who has overall responsibility to PCA. The PM is responsible for the day-to-day communications with Parks Canada such as coordinating the activities of the development, testing, installation and implementation team as well as accomplishing the scope of work within the contract budget and project schedule. He/she is responsible for providing weekly status reports, risk mitigation and problem resolution.

The PM must have demonstrable experience administering project management services for the Product; or at least 5 years' of demonstrable experience administering project management services with an I.T. focused system of a similar product.

The PM must be able to fluently read, write and speak in English.

The PM must be available to meet with Parks Canada Core Project Team weekly during all stages of the project. The PM must also be available for face to face meetings when and as required.

The PM must be assigned to this project during the Production Launch including 30 calendar days Post Implementation to assure Parks Canada that a resource with full project history will remain available to assist in problem solving, if needed.

Vendor Technical Lead (Tech Lead)

The Vendor must designate and provide a Technical Lead (Tech Lead) who has overall responsibility to advise the Vendor's Project Team and Parks Canada Team on key technical issues and considerations such as but not limited to 3rd party or external System integration with the Vendor's System. The Tech Lead is responsible for providing recommendations on industry technical trends and best practices; and must have a thorough technical knowledge of the Vendor's product(s) to ensure that the best technical System with the most flexibility for future enhancement is obtained.

The Technical Lead must have at least 2 years of demonstrated experience with the Core Cultural Resource Management Product.

The Technical Lead must have demonstrated experience with Systems development.

The Technical Lead must be able to fluently read, write and speak in English.

The Technical Lead must be available to meet with Parks Canada Core Project Team weekly during all stages of the project. The Technical Lead must also be available for face to face meetings when and as required.

The Tech Lead must be assigned during the Production Launch including 30 calendar days Post Implementation to assure Parks Canada that a resource with full project history will remain available to assist in problem solving, if needed.

10.3.2 Additional Project Resources

The Vendor must provide per diem costs for each of the categories below. These categories and costs will be used for task authorization based work if required.

All position which may interact with Parks Canada personnel must be able to fluently read, write and speak in English.

Category	Description/Criteria
Project Manager	See **Vendor Project Manager (PM)** above for details and qualifications
Senior Database Administrator	7+ years' experience **Responsibilities could include but are not limited to:** • Customize database conversion routines. • Finalize Conversion Strategy. • Generate new database with the client. • Maintain data dictionaries. • Develop and implement procedures that will ensure the accuracy, completeness, and timeliness of data stored in the database. • Develop and implement security procedures for the database, including access and user account management. • Advise programmers, analysts, and users about the efficient use of data. • Maintain configuration control of the database. • Perform and/or coordinate updates to the database design. • Control and coordinate changes to the database, including the deletion of records, changes to the existing records, and additions to the database. • Develop and coordinate back-up, disaster recovery and virus protection procedures.
Intermediate Database Administrator	3+ years' experience Responsibilities could include but are not limited to: **Responsibilities could include but are not limited to:**

Category	Description/Criteria
	• Customize database conversion routines. • Finalize Conversion Strategy. • Generate new database with the client. • Maintain data dictionaries. • Develop and implement procedures that will ensure the accuracy, completeness, and timeliness of data stored in the database. • Develop and implement security procedures for the database, including access and user account management. • Advise programmers, analysts, and users about the efficient use of data. • Maintain configuration control of the database. • Perform and/or coordinate updates to the database design. • Control and coordinate changes to the database, including the deletion of records, changes to the existing records, and additions to the database. • Develop and coordinate back-up, disaster recovery and virus protection procedures.
Senior Developer	7+ years' experience **Responsibilities could include but are not limited to:** • Develop and prepare diagrammatic plans for solution of business, scientific and technical problems by means of computer systems of significant size and complexity. • Analyze the problems outlined by the systems analysts/designers in terms of such factors as style and extent of information to be transferred to and from storage units, variety of items to be processed, extent of sorting, and format of final printed results. • Select and incorporate available software programs. • Design detailed programs, flow charts, and diagrams indicating mathematical computation and sequence of machine operations necessary to copy and process data and print the results. • Translate detailed flow charts into coded machine instructions and confer with technical personnel in planning programs. • Verify accuracy and completeness of programs by preparing sample data, and testing them by means of system acceptance test runs made by operating personnel. • Correct program errors by revising instructions or altering the sequence of operations. • Test instructions, and assemble specifications, flow charts, diagrams,

Category	Description/Criteria
	layouts, programming and operating instructions to document applications for later modification or reference.
Intermediate Developer	3+ years' experience **Responsibilities could include but are not limited to:** • Develop and prepare diagrammatic plans for solution of business, scientific and technical problems by means of computer systems of significant size and complexity. • Analyze the problems outlined by the systems analysts/designers in terms of such factors as style and extent of information to be transferred to and from storage units, variety of items to be processed, extent of sorting, and format of final printed results. • Select and incorporate available software programs. • Design detailed programs, flow charts, and diagrams indicating mathematical computation and sequence of machine operations necessary to copy and process data and print the results. • Translate detailed flow charts into coded machine instructions and confer with technical personnel in planning programs. • Verify accuracy and completeness of programs by preparing sample data, and testing them by means of system acceptance test runs made by operating personnel. • Correct program errors by revising instructions or altering the sequence of operations. • Test instructions, and assemble specifications, flow charts, diagrams, layouts, programming and operating instructions to document applications for later modification or reference.
Senior Data Conversion Specialist	7+ years' experience as a Data Conversion Specialist **Responsibilities could include but are not limited to:** • Customize database conversion routines. • Finalize Conversion Strategy. • Generate new database with the client. • Maintain data dictionaries. • Develop and implement procedures that will ensure the accuracy, completeness, and timeliness of data stored in the database. • Develop and implement security procedures for the database, including access and user account management. • Advise programmers, analysts, and users about the efficient use of data.

Category	Description/Criteria
	• Maintain configuration control of the database. • Perform and/or coordinate updates to the database design. • Control and coordinate changes to the database, including the deletion of records, changes to the existing records, and additions to the database. • Develop and coordinate back-up, disaster recovery and virus protection procedures
Intermediate Data Conversion Specialist	3+ years' experience as a Data Conversion Specialist **Responsibilities could include but are not limited to:** • Customize database conversion routines. • Finalize Conversion Strategy. • Generate new database with the client. • Maintain data dictionaries. • Develop and implement procedures that will ensure the accuracy, completeness, and timeliness of data stored in the database. • Develop and implement security procedures for the database, including access and user account management. • Advise programmers, analysts, and users about the efficient use of data. • Maintain configuration control of the database. • Perform and/or coordinate updates to the database design. • Control and coordinate changes to the database, including the deletion of records, changes to the existing records, and additions to the database. • Develop and coordinate back-up, disaster recovery and virus protection procedures
Business Analyst	5+ years' experience as an IT Business Analyst **Responsibilities could include but are not limited to:** • Develop and document statements of requirements for considered alternatives. • Perform business analyses of functional requirements to identify information, procedures, and decision flows. • Evaluate existing procedures and methods, identify and document items such as database content, structure, application subsystems. • Define and document interfaces of manual to automated operations within application subsystems, to external systems, and between

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Category	Description/Criteria
	- new and existing systems. - Establish acceptance test criteria with client. - Support and use the selected departmental methodologies.
Technical Writer	3+ years' experience as an Technical Writer **Responsibilities could include but are not limited to:** - Document help text, user manuals, technical documentation, web page content, etc. - Review documentation standards and the existing project documentation. - Determine documentation requirements and makes plans for meeting them. - Gather information concerning the features and functions provided by the developers. - Assess the audience for the documents/manuals which are required and prepare a statement of purpose and scope for each. - Develop a table of content for each document/manual and write or edit the required content. - Investigate the accuracy of the information collected by making direct use of the material being documented. - Prepare or coordinate the preparation of any required illustrations and diagrams. - Design the layout of the documents/manuals. - Use word-processing, desk-top publishing and graphics software packages to produce final camera-ready copy.
Trainer/Instructor	3+ years' experience as an IT Trainer for the Vendor's proposed solution Responsibilities could include but are not limited to: - Assess the relevant characteristics of a target audience. - Prepare end-users for implementation of courseware materials. - Conduct training courses. - Communicate effectively by visual, oral, and written form with individuals, small groups, and in front of large audiences.

10.4   Communication Plan

The Vendor's Project Manager must create a Communication Plan which must be followed. Parks Canada has outlined the following Status items which must be part of the Vendor's Communication Plan:

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A. Weekly Project Status Reports ;
B. Status Meetings ; and,
C. Other Areas of Communication

The Communication Plan must be provided in electronic format to the Parks Canada Project Authority within 30 calendar days of Contract Award.

A. Weekly Project Status Reports

The Vendor must provide weekly Project Status Reports which must be e-mailed to PCA's Core Project Team by end of day on the 1st working day of each week during the project's life cycle.

The weekly status reports must contain:

- Completed tasks since the previous Status Report;
- Upcoming tasks or sub-tasks awaiting information from Parks Canada such as but not limited to specific requirements, business direction, data or decisions ;
- Any tasks that are falling behind schedule, the reason(s) why, and the steps being taken to bring that task back on schedule;
- Any Vendor project team resource unavailability due to vacation, training or departure.   Parks Canada will provide the same information for its Core Project Team members;
- All pending issues or new risks as well as the source of the problem and its impact on the Project; and
- Risk Summary

B. Status Meetings

The Project Manager must take part in status meetings as required during the project's life cycle. The anticipated attendees for this meeting include the Core Parks Canada Project Team members and the Core Vendor Project Team members. It is expected that most of these meetings will occur via teleconference.

C. Other Areas of Communication

In addition, the Vendor PM may also be called upon to provide input into Parks Canada's internal communication that may be developed for internal business units.   For these communications, the Vendor PM will serve as a subject matter expert providing information with no deliverables based on these conversations.

10.5   Change Management Process

Parks Canada understands that in a project of this nature changes to the defined scope might be requested by either party during the project life cycle.   Parks Canada wants to ensure that change requests are managed effectively by setting up a defined Change/Configuration Management Process.

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The Parks Canada Project Authority may, by giving notice to the Vendor, at any time, request changes in the Work described in the Contract or in any approved Task Authorization(s). Conversely, the Vendor may wish to propose a change to the Work described in the Contract or changes to any approved Task Authorization(s).

Where Parks Canada requests a change or modification, Parks Canada will provide a written Change Proposal to the Vendor. Where the Vendor wishes to propose a change or a modification, the Vendor will submit a written Change Proposal to the Project Authority for consideration.

Within 5 working days of receipt of the request or in a time frame as agreed in writing with the Project Authority, the Vendor must either:

a) give notice to the Project Authority that the proposed modification is not sufficiently defined; or
b) submit to the Project Authority a completed Change Proposal which must contain the following:
   i) a description of the change(s);
   ii) the decrease or increase, if any, which the proposed change will cause to the Contract or Task Authorization price;
   iii) change(s) in delivery dates, if any, for any part of the Work affected by the directed or proposed changes;
   iv) the anticipated effect of the change(s) on the performance of the Work;
   v) the plan or plans to minimize the effect of the change(s) on the performance of the Work;
   vi) recommended plan or plans for the completion of the Work;
   vii) the work effort by role to accomplish the change(s)
   viii) any other change in the provisions of the Task Authorization or this Contract; and
   ix) additional information as may be reasonably required by the Project Authority.

Within 5 working days of receipt of the request or in a time frame as agreed in writing with the Project Authority, Parks Canada must either:

a) Give Notice to the Project Authority that the proposed modification is not sufficiently defined; or
b) submit to the Project Authority a completed Change Proposal which must contain the following:
   i) a description of the change(s);
   ii) the anticipated effect of the change(s) on the performance of the Work;
   iii) any other change in the provisions of the Task Authorization or this Contract; and
   iv) additional information as may be reasonably required by the Project Authority.

The Parks Canada Core Project Team will facilitate the Change Management Process by providing a forum for the joint review of selected changes proposals. Changes will be reviewed by, at a minimum, the Parks Canada Core Project Team and the Vendor's chosen representative.

10.6   System and Technical Architectures
The Vendor must develop and provide the System and Technical Architectures for the proposed system.

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The System and Technical Architectures must be provided in electronic format to the Parks Canada Project Authority within 60 calendar days of Contract Award.

The System and Technical Architectures must clearly indicate how all of the Security and Privacy Requirements and the Technical Requirements will be met.

The System Architecture must include the following information:

     i. A diagram showing how all of the software products, technology and interfaces relate and interact;
     ii. A list of all middleware and application layer software that makes up the system. For each piece of software on the list, the following information must be provided: Name, brief description of functionality, manufacturer/supplier, and version. Ensure that the 'Core Product' is clearly identified;
     iii. A list of ports and protocols required with justification; and,
     iv. A list of all interfaces available to enable integration with 3rd party software and services. For each interface on the list, the following information must be provided: Name, brief description, applicable standards, and version.

10.7   Data Conversion Plan

The Vendor must utilize its data conversion tools and methodology to perform data conversions for a limited sub-set of Parks Canada's existing data for testing.

Parks Canada will provide a data migration specialist to work with the Vendor in order to supply the sample data for testing.

The Vendor must provide all tables and field mapping, conversion, and import routines to the Parks Canada Project Team for verification and validation review. The Vendor is responsible for data conversion of the agreed-to sample.

10.8   Risk Management Plan

The Vendor's assigned Project Manager (PM) must create the Risk Management Plan and update it throughout the entire life cycle of the Project from the Planning Phase to the final full Implementation of the system. The PM must lead the combined Project Team to identify, manage, and address issues that arise throughout the course of the system's Implementation. The PM must identify and provide immediate notice of all issues that may threaten the Implementation, Operation or Performance of the system.

The Risk Management Plan must include risk assessment, project and organizational impact and mitigating actions. A Risk Summary must be included within the weekly written Status Report.

The Risk Management Plan must be provided in electronic format to the Parks Canada Project Authority within 30 calendar days of Contract Award.

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10.9   Test Strategy Document

The Vendor must develop and provide a Test Strategy Document to Parks Canada. The Test Strategy Document must include the following information:

A.   A description of how the Vendor tracks Bugs or Defects ;
B.   A list of Testing tools utilized;
C.   A description of how the Vendor performs their unit and integration testing before the system is given to the Parks Canada Project Team to perform User Acceptance Testing;
D.   Information on the method used to execute the test cases including information on the use of any automated tools;
E.   A description of how the Vendor handles volume or performance testing to ensure the system can handle the anticipated number of concurrent users;
F.   A description of the Quality Assurance Procedures that will be in place throughout the project to ensure that the system complies with the specifications and requirements described in this SoW.

In addition the Test Strategy Document must include a description of the Vendor's approach towards supporting Parks Canada during the UAT, Pilot and Improvement processes. This must include but is not limited to:

A.   Review the Parks Canada produced User Acceptance Test Plan and Test Cases and providing input to maximize overall success;
B.   Ensure the system contains the necessary Test Data;
C.   Sample Test Scripts, if available;
D.   Plan for maintaining Test Data; and
E.   Train the Parks Core Project Team on the Vendor's defect tracking system to log defects, assign a severity, assign to the Vendor, and close an item on completion.

The Test Strategy Document must be provided in electronic format to the Parks Canada Project Authority within 90 calendar days of Contract Award.

10.10   Test Plan

The Vendor must develop, provide and execute a Test Plan approved by Parks Canada. The Test Plan must describe the proposed approach taken with each stage of the test, the processes involved, the testing result, and the plan to address issues encountered.

The Vendor's Test Plan must be available to Parks Canada for review and to use as a basis to define the Parks Canada Test Plan.

The Test Plan should be provided in electronic format to the Parks Canada Project Authority within 90 calendar days of Contract Award and approved by Parks Canada.

10.11   Test Cases

The Test Cases used by the Vendor must be updated to include the Parks Canada-specific System requirements including any customized features and functionality.

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The Test Cases must be available to Parks Canada for review and to use as a basis to define the Parks Canada S/UA Test Cases.

The Test Cases should be provided in electronic format to the Parks Canada Project Authority at least 30 calendar days prior to SAT Start.

10.12 Parks Canada System and User Acceptance Testing (S/UAT)

Parks Canada has a defined approach it will undertake during the System Acceptance Testing and User Acceptance Testing Phases.

The full system should be delivered for end to end S/UAT no later than 120 days prior to Production Launch.

Parks Canada will name a S/UAT Coordinator from the core Project Team to organize and oversee all aspects of the SAT and UAT. Specific users will be selected to participate in the System Acceptance Testing and the User Acceptance testing along with key Project Team members very familiar with the Business Requirements and System Deliverables. The selected Parks Canada Users will represent the range of disciplines.

The staff will execute test cases developed from the Business Requirements, as well as routine transactions and challenging scenarios they regularly face or that have proved problematic to the current cultural resource management systems. Core Project Team members will supplement this testing with the back-office or administration features outlined in the Feature List.

The S/UAT Team will run through their test cases and if they deem something to be a bug/issue, they will log it with the Parks Canada S/UAT Coordinator. The Parks Canada S/UAT Coordinator will review each item and determine if the item logged is a defect.

The Core Parks Canada Team will review all bugs and issues reported to determine how it should be handled:

   A. System functionality that does not meet requirements as outlined in the SoW will be logged by the Parks Canada S/UAT Coordinator as a defect.
   B. A misunderstanding on the part of the Pilot testers when an item is working as defined within the SoW will be communicated back to the testing team by the Parks Canada S/UAT Coordinator and the item will be closed.

Within the S/UA testing phase, the Vendor must establish a "triage" team consisting of representatives from the Vendor's Project Team; as well as the Parks Canada Core Project Team.

During the S/UAT phases, this Triage Team must meet as required to review and discuss the new defects and collectively assign a Severity level detailed below which will act as a method of prioritizing the defect work to be completed.

The Severity levels are outlined as follows:

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SEVERITY CLASSIFICATION	DEFINITION	PRIORITY / EXPECT RESYSTEM TIMEFRAME
Critical	System does not work or a transaction cannot be completed due to a System crash or the like, preventing further testing to be completed.	Priority 1 – Must be corrected immediately. Will not "Go Live".
High	System does allow for a transaction to be completed but the result is incorrect; or a specific sub-component of the system is not available for testing.	Priority 1 – Must be corrected prior to "Go Live".
Medium	System does allow for a transaction to be completed but the result is incorrect.	Priority 2 – Must be corrected prior to "Go Live".
Low	A minor issue with the system such as a wrong coloured graphic or misaligned textbox on an input screen.	Priority 3 – may or may not be corrected before "Go Live" based on mutual agreement between Parks Canada Project Team and the Vendor.

All Critical, High and Medium bugs must be resolved before Parks Canada will sign off on release of the system to Production.

Defects classified as Low will be discussed with the Vendor and each defect will be assessed for its impact and a determination will be made as to whether the defect needs to be corrected before the system can be released to Production.

10.13 Post-UAT List of Defects and Issues

A plan for addressing all remaining defects must be developed by the Vendor and approved by the Parks Canada Project Authority. The Vendor must create a Post-UAT List and provide it to the Parks Canada Project Authority within 14 calendar days of completion of the Parks Canada User Acceptance Testing phase. Within this document the Vendor must list the remaining defects and issues and the Vendor's expected implementation date and approach to resolve every item on the list.

Parks Canada may sign off on UAT to allow the system to be released to Production with the condition that all outstanding defects must be addressed as per the agreed upon plan. Parks Canada's act of signing off on UAT is only intended to indicate that the current state of the system is of high enough

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quality to proceed into a Production environment and does not absolve the Vendor of the responsibility of correcting the remaining defects and issues.

10.14 Acceptance Criteria

Parks Canada has a defined approach it will undertake during the User Acceptance Testing Phase.

Item	Name	Description
	Stabilization launch	Application in production to limited users and stable
	Documentation	All documentation complete and delivered
	Training	All training complete and delivered
	System Acceptance Testing	SAT complete and acceptable
	User Acceptance Testing	UAT complete and acceptable
	Issues	All issues resolved to acceptable level
	Risks	All risks sufficiently mitigated

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11   Implementation and Deployment Plan

Parks Canada requires that the Vendor develop and provide an Implementation and Deployment Plan as a supplement to the overall Project Plan. The Implementation and Deployment Plan must outline the required tasks, estimated hours, responsibility, major deliverables and timing to fully implement the proposed system into Production. At a minimum, the Implementation and Deployment Plan must cover the following areas:

A.   Implementation approach;
B.   Vendor's Methodology including Site Preparation, Roll-out Strategy, System Phasing and other related System Deployment Requirements;
C.   Backup and Recovery Strategy; and
D.   Pre and Post "Go live" Support. The Vendor is responsible for all Pre "Go live" issues discovered during the Final Acceptance Testing on the Vendor's Production Environment, Conversion, Post "Go live" Issues and Communications during the weeks leading up to and weeks and months Post "Go live". The Vendor must describe the resources approach, and plans that will be used to assist Parks Canada during this critical time in the Project.

11.1   Data Models and Data Structures

The Vendor must provide documentation on the System's data structures and/or data models that include Parks Canada-specific data elements. The documentation must include any data models and associated data dictionaries that describe all data structures used in the System.

A draft version must be provided in electronic format prior to User Acceptance Testing. The final version must be provided in electronic format prior to Production launch.

11.2   Project Phase Lessons Learned

The Vendor must provide input on Lessons Learned to the Parks Canada Project Authority. The Lessons Learned document is a Parks Canada deliverable but the Vendor must also provide requested feedback on their team's interactions during the project phase that would help Parks Canada improve the process for subsequent similar projects.

The Lessons Learned Input must be provided in electronic format to the Parks Canada Project Authority within 30 calendar days of Production launch.

11.3   Acceptance Criteria

Parks Canada has a defined approach it will undertake during the User Acceptance Testing Phase.

Item	Name	Description
	Issues	All issues resolved to acceptable level
	Risks	All risks sufficiently mitigated
	Lessons learned	Lessons learned received from Vendor
	Production launch	Application in production and stable
	Transition complete	No outstanding issues

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11.4   Transition Services after User Acceptance Testing

The period for transition services will start 90 days prior to the end of the contract and continue for 60 days after the end of the Contract.

11.4.1 Transition Plan

The Vendor must provide the first version of the Transition plan to the Project Authority 60 days before the completion of the contract.

The Transition Plan must incorporate appropriate items captured in the Project Phase Lessons Learned Report. The plan must list all activities, deliverables, dependencies, milestone dates, and level of effort, assumptions and the identification of critical dependencies.

The Transition Plan must address, at a minimum, but not limited to the following:

> a.   Transition-out strategy;
> b.   Project Management;
> c.   Business change management support;
> d.   Data models.

The Transition Plan is considered part of the Improvement Phase deliverables as indicated in Schedule of Deliverables and must be delivered as part of the Improvement Phase as per Annex B – Basis of Payment.

11.5   Contacts

11.5.1 Vendor

The Vendor must provide Parks Canada with the names, titles, office phone, cell phone and e-mail addresses for at least 2 people to whom critical issues can be raised at any time.

11.5.2 Parks Canada

Parks Canada will provide the Vendor with the list of approved Parks Canada Staff who may communicate issues to the Vendor. This list will be updated as required and provided to the Vendor.

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12   Optional Services

12.1   Task Authorization

Additional work to the proposed system may be undertaken during the course of the Contract period. Parks Canada will create a Task Authorization form and provide the task scope to the Vendor who will supply the amount of work per resource category to be completed at the rates outlined within Annex B – Basis of Payment.   Based on the returned project estimate, Parks Canada will decide whether to proceed with the work described within the Task Authorization.

The Vendor may be required to perform additional work within the scope of this contract on an "as and when" required basis through Task Authorizations.   There is no guaranteed additional work for the Vendor other than what is stipulated within the Fixed Price Project Phase and the Improvement Phase Transaction fees.

13   Schedule of Deliverables

This document provides a summary of the deliverables for reference by the Vendor and the Parks Canada Project Authority. The Table below indicates which deliverables are associated with the milestones listed in Annex B – Basis of Payment.

Notes:

1. All days are calendar days.
2. Due Dates are for final documents. The Vendor should plan delivery of draft documents accordingly.
3. The Parks Canada Project Authority may at their discretion add, remove or change any of these deliverables. The final list of deliverables will be provided to the Bidder within 30 days of Contract Award.

Name	Reference	Due Date	Associated Milestone
Project initiation draft document(s)	As described within section 2.1.1 Initiation Phase	To accompany bid	1
Project initiation document(s) ready for approval	As described within section 2.1.1 Initiation Phase	Within 30 days of contract award	1
Documentation approved by Parks Canada	As described within section 2.1.1 Initiation Phase	Within 10 days of document received from Vendor	1

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Name	Reference	Due Date	Associated Milestone
System and Technical Architectures	As described within section 9.6 System and Technical Architectures	No later than 60 days after Contract Award.	2
Test Strategy document	As described within section 9.9 Test Strategy Document	No later than 90 days after Contract Award.	2
Test Plan	As described within section 9.10 Test Plan	No later than 90 days after Contract Award.	2
Final Test Cases Updated versions that will be used to enable Parks Canada to develop UAT Plan.	As described within section 9.11 Test Cases	No later than 30 days prior to Pilot/UA Testing Start	3
Implementation and Deployment Plan	As described within section 10 Implementation and deployment plan	No later than 120 days prior to Production Launch	3
Training Plan for Initial Launch	As described within section 7 Parks Canada Training Requirements	No later than 120 days prior to Production Launch	3
Preliminary Training Material	As described within section 7 Parks Canada Training Requirements	No later than 120 days prior to Production Launch	3
Data Model and Data Structure Documentation	As described in section 10.1 Data Models and Data Structures	Prior to scheduled commencement of UA testing	3
Configuration complete	All configurable items in Statement of Work Completed	Prior to scheduled commencement of UA testing	4

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Name	Reference	Due Date	Associated Milestone
Customization complete	All authorized customization completed.	Prior to scheduled commencement of UA testing	4
Full system delivered for end to end UAT and Pre UAT Solution Demonstration Completed	As described within section 9.12 Parks Canada System and User Acceptance Testing (S/UAT)	No later than September 2016	4
PCA conducted UAT Testing and sign off on identified Functionality and established a post-UAT list of remaining work/items	As described within section 9.12 Parks Canada System and User Acceptance Testing (S/UAT)	No later than January 2017	4
Post-UAT List of Outstanding Defects/Issues.	As described within section 9.13 Post-UAT List of Defects and Issues	No later than 14 days after UA Testing is completed.	4
Production Launch	As described within the project deliverables	No later than February 2017	5
Vendor's Input to Lessons Learned Report	As described within the 10.2 Project Phase Lessons Learned	TBD	5
Final Data Model and Data Structure Documentation	As described in section 10.1 Data Models and Data Structures	TBD	5
Train-the-Trainer training sessions conducted	As described within section 7.2 "Train-the-Trainer"	No later than March 2017	6
Successful Completion of Launch Period	As described within section 9. Project Phase Deliverables	No later than March 31, 2017	7
Initial Transition Out Plan	As described within section 10.3.1	TBD	8

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Name	Reference	Due Date	Associated Milestone
	Transition Plan		
Revised Transition Out Plan	As described within section 10.3.1 Transition Plan	TBD	9
Project Close	As described within section 10.3 Acceptance criteria	TBD	10

13.1   Contractual Obligations of Bidder's Response

In addition to any other obligations contained in the resulting contract, upon Contract Award the Government of Canada will incorporate the Additional Functionalities or Features for which the successful Bidder was awarded technical points in the Feature List Response Table and the Product Demo Bid Response Form to this Appendix to Annex A.

Appendix 1 – Glossary of Terms

TERM	DEFINITION
Accession	The procedure of recording the addition of a historical or archaeological object into the Parks Canada Collection.
Acquisition	The procurement of a historic object or reproduction by Parks Canada through purchase, donation, bequest, transfer, commission, or manufacture. This term also applies to archaeological artifacts obtained from Parks Canada lands and to reproductions manufactured in-house by Parks Canada.
Authority Table	List of single distinct name for each item (i.e. in drop down list); unique nomenclature as part of classification system.
Bug	A software bug is an error, flaw, mistake, failure, or fault in a computer program or system that produces an incorrect or unexpected result, or causes it to behave in unintended ways.
Change Management	The Process responsible for controlling the Lifecycle of all Changes. The primary objective of Change Management is to enable beneficial Changes to be made, with minimum disruption and impact. Change Management also controls and manages the implementation of those changes that are subsequently given approval.
Classification System	The process of grouping together historic objects or reproductions by major category, and classification terms according to their original function as defined in *Canadian Parks Service: Classification System for Historical Collections.*
Configuration	Configuration refers to the way a solution (hardware or software) is set up. Any solution will require some level of configuration to deploy, that means putting operating systems and databases on it, determining different types of drop-down menus, and so on. But the underlying platform is pre-integrated with most of the capabilities needed to get started. What changes is the specific deployment configuration.
Configured component of the Solution	Requires no programming or code changes; it involves either setting a value or turning a feature on/off.
Conservation Sciences and Preventative Conservation	Conservation Sciences and Preventative Conservation provides specialized scientific analysis in support of object and artifact conservation; and provides advice and assistance regarding the long-term preventative conservation of objects and artifacts at sites and parks, including conservation surveys, monitoring and maintenance strategies.
Controlled Vocabulary	Form of knowledge organization systems. A controlled vocabulary, also called an authority list, is an authoritative list of terms to be used in data entry. Controlled vocabularies are used to ensure consistent data. Controlled vocabularies are often used for name authorities and locations.
Core Product	Refers to the core system provided as part of the Contract.
CRMIS	Cultural Resource Management Information System

Cultural Resource	A human work, an object, or a place that is determined, on the basis of its heritage value, to be directly associated with an important aspect or aspects of human history and culture. Cultural resources associated with Parks Canada protected heritage places are divided into two categories: cultural resources of national historic significance and cultural resources of other heritage value.
Cultural Resource Management (CRM)	Cultural resource management includes accommodating changes to places and cultural resources, as the needs of protected heritage places evolve over time.
Customization	Customization refers to any added functionality to a product that is not included in the out-of-the-box installation of that product. It usually involves change to existing code or creation of new code.
Data Dictionary	A data dictionary is a collection of descriptions of the data objects or items in a data model for the benefit of programmers and others who need to refer to them.
Deaccession	The procedure of recording the removal of an accessioned historic object or archaeological artifact from the Parks Canada Collection. The legal, permanent removal of an object, document, specimen, or collection from a repository. Requires full documentation of the process.
Defect	A defect is a deviation from the requirements
Digital asset	A digital asset is anything that is stored in a binary format. Digital assets are classified as images, multimedia and textual content files.
Disposal	The physical removal of a historical or archaeological object or reproduction from Parks Canada's ownership.
ESRI	aka Environmental Systems Research Institute, GIS Mapping Software
Field Unit	A Field Unit is a Parks Canada organizational unit responsible for the national parks, national historic sites and national Marine conservation areas within its boundaries.
Heritage Areas and Other Areas Administered by PCA (combine with Heritage Area)	Heritage Area: Federal Land administered by the Parks Canada Agency, that is: National Parks of Canada (including National Park Reserves of Canada); National Historic Sites of Canada administered by PCA (including historic canals); National Marine Conservation Areas of Canada (including Saguenay-St. Lawrence Marine Park); Any other federal lands administered by PCA (including Pingo Canadian Landmark, and submerged lands)
Issue	An issue is a unit of work to accomplish an improvement in a system. An issue could be a bug, a requested feature, task, missing documentation, and so forth. The word "issue" should not be misunderstood as just a synonym for "problem".
Lot (acquisition group/artifact assemblage)	For archaeological artifacts, *lot* refers to a group of artifacts identified by provenience, material, and/or object name. Provenience should be as specific as is recorded by the archeologist. Material may not be mixed, such as glass and ceramics. Object name may be used to separate out different types of objects of the same material from the same provenience (e.g., flakes, projectile points). For historic objects, *lot* refers to the entire group acquired at the same time. Object type may vary.

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National Historic Site	Place of national historic significance designated by the Government of Canada on the advice of the Historic Sites and Monuments Board of Canada (HSMBC). A national historic site is a place that has been designated by the Minister of the Environment on behalf of the federal government as being a place of national historic significance. The Historic Sites and Monuments Board of Canada (HSMBC) is appointed by the federal government to provide advice to the Minister concerning designation of sites. National Historic Site has both a formal and an applied meaning. The formal meaning refers to "historic place" as defined in the Historic Sites and Monuments Act or a place set aside as a national historic site under Section 42 of the Canada National Parks Act. The name is commonly used to refer to the area administered by Parks Canada, or another owners, as a national historic site.
National Marine Conservation Area	A designated marine area set aside in accordance with the National Marine Conservation Area Policy.
National Park	An area which has been identified as a natural area of Canadian significance, which has been acquired by Canada and designated by Parliament as a national park, and over which Parks Canada has been given administration and control under the authority of the National Parks Act. It is managed for the benefit, education and enjoyment of Canadians so as to leave it unimpaired for future generations.
Non-digital asset	A non-digital asset in essence is anything that is stored in a physical format. Non-digital assets are classified as physical images, maps and textual content documents such a printed reports and other printed reference materials
Parks Canada Archaeological Provenience System	National in scope, the Parks Canada Archaeological Provenience System is used to establish connections between archaeological specimens and records. It is an alpha numeric code used by all Parks archaeologists to represent the location in an excavation or surface collection from which a specimen was recovered or an observation was recorded. The resulting alpha numeric code is the **Parks Canada archaeological provenience number** which is applied to sites, artifacts, documentation, digital assets, features etc. connected to that particular location.
Parks Canada Collection	The collection of historic and archaeological objects that have been acquired by Parks Canada to support its mandate as outlined in the Parks Canada Scope of Collection Statement and that been accessioned into the collection.
Project Management Plan (PMP)	The PMP details how the project will be managed. It defines roles and responsibilities and usually incudes Organizational Breakdown Structure (OBS), Communications Plan, Change Management/Issue Management processes, etc.
Project Plan	Often referred to as the Work Breakdown Structure (WBS) and schedule. Includes deliverable definitions and dates, task items and milestones.

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Proposed System	Refers to the bundled Products/Systems combined together by a Vendor to meet the business needs of Parks Canada as outlined within this RFP. This would include the Vendor's core Cultural Resource management product along with other supporting systems owned by a particular Vendor or a partner. Term could be used inter-changeably with Solution Offering.
Provenance	The substantiated origin or history of ownership of a historic object. The background and history of ownership for an object or records. Generally used for works of art, historic objects, and archival records.
Provenience	For archaeological artifacts, provenience refers to the location where the artifact was recovered. For archaeological sites, provenience is the specific geographic or spatial location (either in two-dimensional or three-dimensional space) where cultural deposits including artifacts and features were noted or recovered. Site provenience includes the vertical and horizontal assignments of, Operation, Sub-Operation, Lot and Sub-lot.
Reference/Type Collection	A collection of items that represents a certain class of objects, usually demonstrating the typical or the range of variation. It may be compiled for the purpose of comparison in order to advance scholarly research.
Site information Management	Site information can include but is not limited to provenience, environmental, stratigraphic and geospatial/cartographic information. The proposed system must enable users to record site visits, recommendations and site condition assessments. Provenience information is based on the Parks Canada provenience system.
SPECTRUM	SPECTRUM is a UK-based guide to good practice for museum documentation, established in partnership with the museum community. It contains procedures for documenting objects and the processes they undergo, as well as identifying and describing the information which needs to be recorded to support the procedures.
Thesauri - Classification System	A thesaurus, as used in information science and literature retrieval, is a controlled vocabulary following a standard structure, where all terms in the thesaurus have relationships to each other. These relationships are typically of three kinds: hierarchical (broader term/narrower term), associative (see also), and equivalent (use/used from or see/seen from).

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Appendix 2 – Parks Canada Technical Environment

Parks Canada is an organization with offices and service delivery locations from coast to coast to coast. We operate in many remote areas. Although we continually strive to ensure that all of our staff is well connected, this is not always possible. The Vendor is requested to carefully review the information in this section to ensure they understand the environment in which the proposed system must operate.

The proposed system shall be accessed from a variety of End User Computing Devices. This includes standard desktops and laptops.

A2.1   General
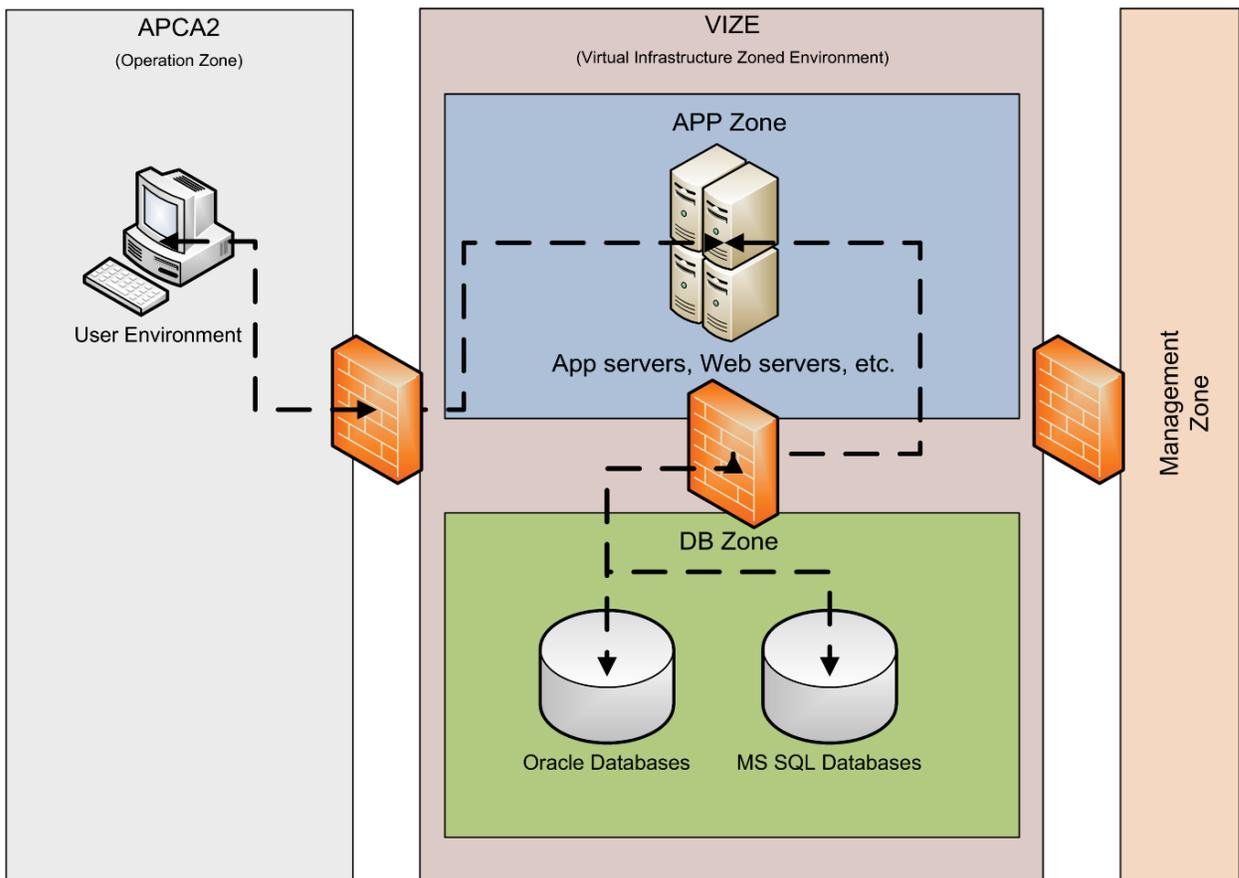
Only the Application layer is accessible to the users and the DB layer is only accessible to the Application layer. With this environment configuration Client-Server applications will not work because a user/client pc cannot directly access any databases on the database servers.

The Parks Canada information systems environment consists of the following:

Server OS: Windows 2008r2

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Web Server: IIS 7.5

Authentication: AD authentication to authenticate all of our users and provide single sign on.

Database: Database: Oracle 11g, Microsoft SQL Server 2008R2/2012

Programming languages/tools: ASP.Net, C#, C++, VB.Net, Visual Studio, PeopleSoft Version 8.9

A2.2   End user computing devices

Hardware:

Desktops or Laptops with a minimum of:

- 1 Physical Processor, with 2+ Multi Core processors (virtual), >1GHz processor speeds
- 4+ GB RAM
- 120+ GB HDD

Standard Installed Software:

- OS: Windows 7 Enterprise SP1 x64
- McAfee Virus Scan 8.8
- McAfee Host Intrusion Protection 8.0
- Internet Explorer 9.0
- Microsoft Office Professional 2013
- Lotus Notes Client 8.5.2 FP4 (Moving to MS Exchange and Outlook 2013)
- Adobe Reader XI (currently @ v11.0.07)
- Adobe Flash Player ActiveX & Plugin (currently @ v14.0.0.145)
- BlackBerry Device Manager (currently @ v6.1.0.35)
- Citrix Online Plug-in (currently @ v12.3.0.8)
- Eminent Ware WMI Provider (v1.71.210.1)
- Entrust Entelligence Security Provider (currently @ v9.2)
- Dameware Mini Remote Control Agent (currently @ v10)
- Java (currently @ v7u51)
- Microsoft Silverlight (currently @ v5.1.20513.0)
- Quicklime (currently @ v7.71.80.42)
- Webex Client Agent (currently @ v2.32.1202.17045)
- Winzip (currently @ v17.0)

Current Standard – Parks Canada specialty peripherals TBD

For example:

a) bar code scanner
b) Label printer (eg. Thermal)

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A2.3   Network overview

Parks Canada's national network consists of over 200 LANs connected to a Wide Area Network via link speeds ranging from 56kps to T3, utilizing a single Windows 2003 Active Directory Domain.

There are approximately 4,500 workstations and laptops running Windows 7. In addition, there are approximately 200 multi-vendor Intel LAN servers spread across the country that provide local file, print and messaging services. Parks Canada also operates a national data centre and is in the process of moving applications to this location. All edge-of-network services are currently located in the data centre. The data centre is utilizing IBM hardware for servers, storage and backup. A variety of backup sub-systems are used with VERITAS BackupExec, Commvault and Netbackup as the backup software of choice. For its managed wide area network, Parks Canada uses Cisco routers as interconnecting network devices. The LANs consist of a variety of multi-vendor hubs and switches, including a limited number of 100Mb layer 3 switches, which at the moment account for about 30% of the devices.

Access to the Internet or external networks is through a firewall with stringent security configuration and all SMTP mail is scanned for viruses and unacceptable file attachments.

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Cultural Resource Management Information System (CRMIS)

BID SOLICITATION

Annex C –Data Dictionary

(v 0.1)

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1 Introduction

The Data Dictionary lists and describes the fields representing the data to be captured by the Cultural Resource Management Information System. This document contains a sampling of the required fields for the purpose of the Request for Information (RFI). A complete Data Dictionary will be supplied with the final Request for Proposal (RFP). The fields detailed in the Data Dictionary are intended as a guide to the Vendor. It is not the intention of Parks Canada to tell the Vendor how this should be done.

2 Field Definitions – Objects and Digital Assets

The following tables list and describe the core user, object, artifact and unique identifier data sets to be captured by the Cultural Resource Management Information System. The tables are for example only for the purpose of the Request for Information (RFI).

2.1 Unique Identifier – Objects and Artifacts

Unique Identifier – Objects and Artifacts	Description	Sample Data
archaeological artifact number	Unique identifiers (artifact number) assigned to archaeological artifacts based on the provenience number, specifically the site number, site code, operation, sub-operation and lot they come from. At times this goes down to the sub-lot level. See *Error! Reference source not found.* for details	Archaeological artifact numbers are assigned based on provenience number. Ex. 9K47A1a-1 Site # Site code Operation Sub-operation Lot Sub-lot Artifact number 9K47A1a-1

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Unique Identifier – Objects and Artifacts	Description	Sample Data
archaeological artifact reproduction number	Unique identifiers assigned to archaeological artifact reproductions based on the artifact unique identifier. This number would be archaeological provenience based with an autogenerated artifact number followed by R for reproduction.	Ex. 9K47A1a-1R Site # Site code Operation Sub-operation Lot Sub-lot Artifact number Repro 9K47A1a-1R The above is a reproduction of artifact 9K47A1a-1.
historic object number	Unique identifiers (object number) assigned to historic objects based on intake location, the year and the acquisition.	Historic objects are assigned numbers based on location, year, accession number, accessioned object and part. Ex.: XX.2014.6.20 An object with 3 parts would be: XX.2014.6.21.a XX.2014.6.21.b XX.2014.6.21.c Site Year Acquisition Object number Part (optional) XX.2014.6.21.a The above is part a of the 21st object in the 6th acquisition in 2014 at the National office (XX).
historic object reproduction number	Unique identifiers assigned to historic objects based on intake location, R to denote a reproduction and the acquisition.	Reproductions do not follow the calendar year. The numbering of reproductions is consecutive. Ex. HX.R.99.1 Site Reproduction Acquisition Object number HX.R.99.1 The above is the1st Reproduction(R) in the 99th acquisition at the Winnipeg National office (HX).

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Unique Identifier – Objects and Artifacts	Description	Sample Data
Object unique identifiers – Temporary or borrowed objects	Temporary unique identifiers assigned to temporary or borrowed objects.	Ex. PRO.346.1 The proposed system must have the ability to assign unique identifiers to temporary or borrowed objects based on intake location (prefix code), Accession Number and Object number. Prefix Code Accession Number Object Number PRO.346.1
Unique identifiers - Lab numbers	Conservation lab numbers assigned to objects in Conservation based on Lab, year, project	W2014-0016

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2.2 Unique Identifier – Digital Assets

Unique Identifier - Digital Assets	Media type	Media type suffix	Description
Archaeological site images	drawings of sites	S	Provenience based, auto generated based on site number, next available number for the site with "Media type" suffix appended to the end if required.
	Video captures/stills	V	
	Electronic Image	**E**	
	Magnetometer Data	MAG	
	Gradiometer Data	GRA	
	Mosaics	MOS	
	Multi Beam Data	MBS	
	Target Contacts	CON	
	Navigational Data (eg: .GPS, .RAW)	NAV	
	Side Scan Sonar Data	SID	
	Sector Scanning Sonar Data	SEC	
	Sub Bottom Profiler	SUB	
	Radiographs (xrays)	R	

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Unique Identifier - Digital Assets	Media type	Media type suffix	Description
Archaeological artifact images	drawings of catalogued specimens (not photos)	S	Provenience based, auto generated based on site number, next available number for the artifact with "Media type" suffix appended to the end if required.
	Video captures/stills	V	
	Electronic Image	**E**	
	Magnetometer Data	MAG	
	Mosaics	MOS	
	Target Contacts	CON	
	Radiographs (xrays)	R	
Archaeological artifact Reproduction images	drawings of catalogued specimens (not photos)	S	Object number followed by a mandatory view description (12 characters) for additional images.

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Unique Identifier - Digital Assets	Media type	Media type suffix	Description
	Video captures/stills	V	
	Electronic Image	**E**	
	Magnetometer Data	MAG	
	Mosaics	MOS	
	Target Contacts	CON	
	Radiographs (xrays)	R	
Historic objects, historic object reproductions and temporary object images			Object number followed by a mandatory view description (12 characters) for additional images.
Conservation treatment images	Before treatment After treatment During treatment	BT AT DT	Lab number (Lab, year, project), auto generated sequential number based on lab and then suffix
Conservation site/Curatorial images			Year, survey name/group name, sequential number

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Unique Identifier - Digital Assets	Media type	Media type suffix	Description
Archaeological maps and drawings	Drawings	D	Maps and drawings catalogue numbers are based on site number, year created, investigator field number, the media suffix and the next available drawing number for the site
	Oversized transparencies (ie. Red Bay watercolour)	H	
Archaeological field notes			Site, year, field number

2.3 Object Acquisition

Object Acquisition - Object Type	Field Name	Description	Field type
All	Object name/Object term	Mandatory	varchar
All	Acquisition method*	Mandatory. Administrator/Power user managed data. Items can be added, hidden but not deleted.	Lookup – Acquisition methods. Drop down list.

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Object Acquisition - Object Type	Field Name	Description	Field type
All	Type	Mandatory. Administrator/Power user managed user data. Items can be added, hidden but not deleted.	Lookup
All	Heritage Area Type	Administrator managed data.	Lookup
All	Heritage Area Name	Administrator managed data. Heritage area dependent.	Lookup
-Archaeological Artifact -Archaeological Sample -Archaeological Reproduction	Province/Territory (Site code)	Mandatory. Administrator managed data. See *Error! Reference source not found.* for details	Lookup

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Object Acquisition - Object Type	Field Name	Description	Field type
-Archaeological Artifact -Archaeological Sample -Archaeological Reproduction	Archaeological site name	Mandatory field. Administrator managed data.	Lookup – Site tables
-Archaeological Artifact -Archaeological Sample -Archaeological Reproduction	Site number	Mandatory field. Administrator managed data. Site list is based on site code and expands as new sites are added.	Lookup – Site tables
-Archaeological Artifact -Archaeological Sample -Archaeological Reproduction	Operation	Mandatory field. Administrator managed data. Site number dependent.	Lookup – Site tables
-Archaeological Artifact -Archaeological Sample -Archaeological Reproduction	Sub-operation	Mandatory field. Administrator managed data. Operation dependent.	Lookup – Site tables

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Object Acquisition - Object Type	Field Name	Description	Field type
-Archaeological Artifact -Archaeological Sample -Archaeological Reproduction	Lot	Mandatory field. Administrator managed data. Sub-operation dependent.	Lookup – Site tables
-Archaeological Artifact -Archaeological Sample -Archaeological Reproduction	Sub-lot	Mandatory field. Administrator managed data. Lot dependent.	Lookup – Site tables
-Historic Object -Natural Specimen -Original/ Commissioned Artwork -Reproduction -Undetermined	Site name (origin of Object – for extant historic objects)	Administrator managed data.	Lookup – Site tables
All	Object/Artifact/Reproduction Number		auto generated

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Object Acquisition - Object Type	Field Name	Description	Field type
All	Acquisition Authorization	Mandatory field. Administrator managed data.	Lookup – Authority table. Drop down list.
All	Acquisition Authorization date	Mandatory field	Date field
All	Attach Acquisition authorization	Upload or link	TBD
All	Transfer of ownership agreement with authorization	Upload or link	TBD
All	Field Unit	Mandatory field. Administrator managed data.	Lookup
All	Acquired by	Mandatory field. Administrator/Power user managed data. User based list, active user as default	Lookup – User table
All	Reason for Acquisition	Mandatory field. Administrator managed data.	Lookup
All	Comments on reason for acquisition	Mandatory field.	text

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Object Acquisition - Object Type	Field Name	Description	Field type
Historic Objects and Reproductions	Registration type	Mandatory field. Administrator managed data.	Lookup
Historic Objects and Reproductions	Quantity Register		checkbox
All	Acquisition date	Mandatory field.	Date field
All	Authorized by	Mandatory field. Administrator managed data.	Lookup – Authority table
All	Accessioned (Collection or Non –Collection)	Mandatory	Radio button
Historic object	Appraised value		varchar
Historic object	Valuation Date		Date field
Historic object	Evaluated by	Mandatory field. Administrator/Power user managed data. User based list, active user as default	Lookup – User table
Historic object	Appraiser's report	Upload/Link	TBD
Historic object	Donor Name		varchar
Historic object	Reference (link to object)		Comment/text area

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Object Acquisition - Object Type	Field Name	Description	Field type
Historic object	Other? Contact		varchar

2.4 Core Object Information

Core Object Information by Object Type	Field Name	Description	Field type
All	Object/Artifact/Reproduction Number	Mandatory - Displayed from Acquisition	auto generated
All	Object names (other)	Mandatory	varchar
-Historic Object -Natural Specimen Original/ Commissioned Artwork -Historic Object reproduction -Undetermined	Object Attributes (formerly brief description)	Mandatory	Comment/text area
All	Object description	Mandatory	Comment/text area

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Core Object Information by Object Type	Field Name	Description	Field type
-Historic Object -Natural Specimen -Original/ Commissioned Artwork -Historic object reproductions -Undetermined	Category/Type	Mandatory. Administrator/Power user managed data. Based on revised nomenclature.	Lookup
-Historic Object -Natural Specimen Original/ - Commissioned Artwork -Historic object reproductions -Undetermined	Class	Mandatory. Administrator/Power user managed data. Based on revised nomenclature.	Lookup
-Archaeological Artifact -Archaeological Sample -Archaeological Reproduction	Material (Generic)	Mandatory. Administrator/Power user managed data.	Lookup

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Core Object Information by Object Type	Field Name	Description	Field type
-Historic Object -Natural Specimen -Original/ Commissioned Artwork -Historic object reproductions -Undetermined	Term	Mandatory. Administrator/Power user managed data. Based on revised nomenclature.	Lookup
-Archaeological Artifact -Archaeological Sample -Archaeological reproduction	Class/Type	Mandatory. Administrator/Power user managed data.	Lookup
-Archaeological Artifact -Archaeological Sample -Archaeological Reproduction	Material Description	Mandatory. Based on Class/Type	Lookup
All	Quantity (# complete objects)	Mandatory.	Int

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Core Object Information by Object Type	Field Name	Description	Field type
-Archaeological Artifact -Archaeological Sample -Archaeological reproduction	Minimum number of items	Mandatory.	Int
All	Quantity (# pieces)	Mandatory.	Int
-Historic Object -Natural Specimen -Original/ Commissioned Artwork -Historic object reproductions -Undetermined	For Display only (not for handling)		Checkbox
-Historic Object -Natural Specimen -Original/ Commissioned Artwork -Historic object reproductions -Undetermined	Suitable for Interpretation Use /Animation		Checkbox

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Core Object Information by Object Type	Field Name	Description	Field type
All	Previous #/Alternate #		varchar
All	Special Considerations	Administrator/Power user managed data.	Multi select
All	Special Consideration comments		text area
All	Time Period	Administrator/Power user managed data.	Lookup
All	Object Date	Must allow for BC/BCE/BP dates as well as AD/CE dates and C14 dates	Integer
-Archaeological Artifact -Archaeological Sample	Excavation date		Date field
-Historic object reproduction - Artifact reproduction	Prototype		checkbox

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Core Object Information by Object Type	Field Name	Description	Field type
-Historic object reproduction - Artifact reproduction	Original	Link to original	TBD
All	Photo reference (s)	To reference non-digital photos	varchar
All	Photo location	Location of non-digital photos	Lookup
All	Other location	text field	varchar(200)
All	Photo (s)	Upload or link digital content	TBD
All	Documentation reference (s)	To reference non-digital documentation	varchar
All	Documentation location	Location of non-digital assets	Lookup
All	Other location	text field	varchar(200)
All	Documentation	Upload or link digital documentation	TBD
All	Condition	Administrator/Power user managed data.	Lookup

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Core Object Information by Object Type	Field Name	Description	Field type
All	Threat/State	Administrator/Power user managed data.	Lookup
All	Assessed by	Mandatory field. Administrator/Power user managed data. User based list, active user as default	Lookup – User table
-Archaeological Artifact -Archaeological Sample	Field treatment/Environment		Comment/text area
All	Assessment Year		Date
All	Heritage Value	Mandatory Field. Administrator/Power user managed data.	Lookup
All	Heritage Value rationale		Comment/text

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Core Object Information by Object Type	Field Name	Description	Field type
			area
All	Heritage Value Assessment report/form	Attachment/link	TBD
All	Notebook		Comment field/text area

3   Fields and Definitions – Archaeological Sites

The following tables list and describe the archaeological site information to be captured by the Cultural Resource Management Information System. This includes components of the Parks Canada archaeological provenience system. The tables are for example only for the purpose of the Request for Information (RFI).

3.1   Site Information

Site Information by Site Type	Field Name	Description	Field type	Values
All	Heritage Area Type	Mandatory	varchar(100) - Lookup	National Park
National Historic Site
National Marine Conservation Area
National Park Reserve

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Site Information by Site Type	Field Name	Description	Field type	Values
All	Heritage Area Name	Mandatory	varchar(100) - Lookup	Alpha, conditional to type
All	Field Unit	Mandatory	Lookup - Field Unit Table	Alpha See field Unit table
All	Park/Site Type	Mandatory	varchar(100) - Can be auto populate from Park/Site name	National Historic Site Archaeological Site
All	Park/Site Name	Mandatory	varchar(100) - Lookup	Alpha, conditional to type
	Heritage Region			
Archaeological Site	Parks Canada Site (Provenience) Number	Mandatory for Archaeological sites. This is the official Parks Canada site identification (provenience) number.	varchar(10)	Numeric
Archaeological Site	Parks Canada Site (Provenience)	Mandatory for Archaeological sites. This is	varchar(1)	Alpha

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Site Information by Site Type	Field Name	Description	Field type	Values
	Code	the official Parks Canada site identification (provenience) number.		
Archaeological Site	Previous site number		varchar(200)	Alpha-numeric
Archaeological Site	Archaeological Site Name		Lookup	Alpha-numeric
All	Other site names		varchar(1000)	Alpha-numeric
Archaeological Site	Borden Number		varchar(20)	Alpha-numeric
All	Data Point:			

Universal Transverse Mercator (UTM)

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Site Information by Site Type	Field Name	Description	Field type	Values
All	Easting		varchar(20)	Alpha-numeric
All	Northing		varchar(20)	Alpha-numeric
All	Datum (Geodetic)		varchar(40) - Lookup	Geo WGS84 (Default) UTM - NAD 83 UTM - NAD27
Latitude (X)				
All	Dec. degrees			Dec. Degrees:___
Longitude (Y)	Dec. degrees	Mandatory	Decimal(10)	
All	Dec. degrees			Dec. Degrees:___
Elevation/Depth (Z)*	Dec. degrees		Decimal(10)	
				__mASL __mBSL __mBHD FROM:__ TO:__
All	From:		Int(4)	

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Site Information by Site Type	Field Name	Description	Field type	Values
All			Lookup	mASL mBSL mBHD
All	To:		Int(4)	
All			Lookup	mASL mBSL mBHD
All	Datum (Geodetic)*		varchar(40) - Lookup	WGS84 NAD83 (Default) NAD27
	Point description		text	
	Add new point:			
All	Plan View Sketch		Link/attachment	TBD
All	Description*		text	
All	Location*		varchar(200)	
All	Access*		text(200)	

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Site Information by Site Type	Field Name	Description	Field type	Values
All	Map Reference Number		varchar(20)	
All	Nautical Chart Reference Number		varchar(20)	
Archaeological sites	Minor Drainage*	Mandatory	text(200)	
Archaeological sites	Major Drainage*	Mandatory	text(200)	

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Site Information by Site Type	Field Name	Description	Field type	Values
Archaeological sites	Cultural Region – Broad		Lookup	Sub-arctic Arctic Interior Plains Canadian Shield Atlantic & Gulf Region Great Lakes - St. Lawrence Lowlands Northwest coast Western Cordillera Plateau
All	Aspect		varchar(4)	
Archaeological sites	Environmental Setting*		varchar(200)	

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Site Information by Site Type	Field Name	Description	Field type	Values
Archaeological sites	Soil Type	Limited character comment (synopsis) field	text	
All	Site/Resource Management	Mandatory	Lookup	PCA Managed (Default) Co-operatively Managed Other
All	Other	If "other", please specify.	text	
All	Jurisdiction	Mandatory	Lookup	Federal (Default) Provincial Municipal First Nation/Aboriginal Other (Please specify)
All	Other	If "other", please specify.	text	
All	Legal Description		text	

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Site Information by Site Type	Field Name	Description	Field type	Values
Archaeological sites	Project Name		text	Kluane Alsek River Survey
Archaeological sites	Activity Type		Multiselect - Lookup	Survey Excavation Etc.
Archaeological sites	Date Visited*	Mandatory	Date	yyyy-mm
Archaeological sites	Principal investigator*	Mandatory	Lookup or Autopopulated based on archaeological field number	
Archaeological sites	Archaeological Field Number		varchar	
Archaeological sites	Permit Number*	Mandatory	varchar	
Archaeological	Done under		Checkbox	

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Site Information by Site Type	Field Name	Description	Field type	Values
sites	contract			
Archaeological sites	Consulting Company Name or Consultant Field number	Mandatory if done under contract	text	
Archaeological sites	Observations		text	
All	Condition (General)	Mandatory	Lookup	Good___ (60-100% intact) Fair___ (20-59% intact) Poor___ (0-19% intact) Not determined
All	Threatened Site?*		Lookup	Threatened Not Threatened Unknown Threat
All	Threat type*	Mandatory if threatened	Lookup	Human activity Natural Animal

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Site Information by Site Type	Field Name	Description	Field type	Values
All	Disturbances*		Checkboxes	Not evaluated CULTURAL NATURAL
All	Future Threat Assessment		Lookup	High__(%) Medium__ Low__
All	Future Threat Assessment Rationale		text	
All	Condition Comments		text	
All	Action required		Radio button	Yes No
All	Date assessed	In respect to action required	Date	YYYY-MM
All	Mitigation required	Mandatory if action required	text	
Archaeological sites	Site Dimensions			

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Site Information by Site Type	Field Name	Description	Field type	Values
	Length__(m)		Int	
	Direction __/		varchar	
	Width__(m)		Int	
	Direction __		varchar	
	Size_(m2)		Int	
	Undetermined		checkbox	
Archaeological sites	Site Characteristics (General)	Mandatory	Checkboxes (Multi)	Surface Subsurface Underwater Isolated find Undetermined Artifact Scatter Single Feature Multiple Features Stratified
Archaeological sites	Site Description Comment		text	

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Site Information by Site Type	Field Name	Description	Field type	Values
Archaeological sites	Site Type: Function*		Lookup/Multi-select	administrative centre battlefield campsite (hunting, caribou, spring) campsite ? ceremonial/religious (cemetery, grave, mortuary pole, spirit house, platform, sweat lodge) commercial cultural depression (menstrual lodge, sweat lodge, plank house, cache pit) transportation (trail) undetermined wharf workshop (lithic) etc
Archaeological sites	Site type comment		text	
Archaeological sites	Cultural Period		Checkboxes - multiselect	Pre-contact Aboriginal Historic Historic Contemporary Natural undetermined
Archaeological sites	Region		Lookup	Arctic Pacific coast

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Site Information by Site Type	Field Name	Description	Field type	Values
				etc.
Archaeological sites	Primary Cultural affiliation	List conditional on region	Lookup	17th Century French 18th Century British 19th Century British Pre-White River Ash Besant McKean Pelican Lake Oxbow Etc.
Archaeological sites	Secondary Cultural affiliation	List conditional on region	Lookup - multiselect	17th Century French 18th Century British 19th Century British Pre-White River Ash Besant McKean Pelican Lake Oxbow Etc.
Archaeological sites	Date minimum		Date	
Archaeological	Date maximum		Date	

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Site Information by Site Type	Field Name	Description	Field type	Values
sites				
Archaeological sites	Other dating methods		text	
Archaeological sites	Scientific Dates/ Radiocarbon year		text	
			Int	
			text	+/-
			Int	
			Lookup	BP BP (Cal.)
Archaeological sites	Link to radiocarbon report		TBD	

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Site Information by Site Type	Field Name	Description	Field type	Values
Archaeological sites	Calendar years (calibrated date range)			Range
	calibrated date from		Int	
	-		text	
	calibrated date to		Int	
			Lookup	
Archaeological sites	Link to radiocarbon report		TBD	
All	Heritage Value (CRM Level)*		Lookup	- Cultural resources of national historic significance - Cultural resources of other heritage value - Not a Cultural resource - Not evaluated
All	Rationale		text	
Archaeological sites	Field Notebook Reference	Upload or link	TBD	

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Site Information by Site Type	Field Name	Description	Field type	Values
Archaeological sites	Field Notebook Reference comment	Mandatory	text	
Archaeological sites	Drawing references	Upload or link	TBD	
Archaeological sites	Drawing references comments		text	
All	Photo references	Upload or link	TBD	
All	Photo references comments		text	
All	Video references	Upload or link	TBD	
All	Video references comments		text	

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3.2 Operation Information

Operation Field Name	Description	Field type	Values	Sample Data
NATURE OF OPERATION				
Feature	Feature	checkbox		
	Removed	checkbox		
	Extant	checkbox		
In situ artifact	In situ artifact	checkbox		
Heritage Value	Mandatory if Feature or In Situ artifact	Lookup	I II Not of Heritage value Not assessed Not applicable	
Condition	Mandatory if Feature or In Situ artifact	Lookup	Good Fair Poor Not assessed Non applicable	
Operation name		text		

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Operation Field Name	Description	Field type	Values	Sample Data
Operation Number	Provenience – next operation number based on site	Autopopulated based on PCA provenience	varchar(10)	
Description		text		
Date assigned		Date		
Principal Investigator	Mandatory	Lookup or Autopopulated based on archaeological field number		
Archaeological Field number		varchar		
Cultural affiliation	List conditional on region	Lookup	17th Century French 18th Century British 19th Century British Pre-White River Ash Besant McKean Pelican Lake Oxbow Etc.	

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CCC No./N° CCC - FMS No./N° VME

Operation Field Name	Description	Field type	Values	Sample Data
Reference other:	Indicate type	text		
References	Mandatory - List references	text		
Digital assets	Link/Upload	TBD		
Non-digital assets	Link/Upload	TBD		
Operation Dimensions				
	Length__	Int		
	(__)	Lookup	m cm	
	Direction __ /	varchar		
	Width__(m)	Int		
	(__)	Lookup	m cm	
	Direction __	varchar		

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CCC No./N° CCC - FMS No./N° VME

Operation Field Name	Description	Field type	Values	Sample Data
	Size	Int		
	(_2)	Lookup	m cm	
	undetermined	checkbox		
Data Point:				
Universal Transverse Mercator (UTM)				
	Easting	varchar(20)	Alpha-numeric	444099.3m E
	Northing	varchar(20)	Alpha-numeric	5030820m N

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CCC No./N° CCC - FMS No./N° VME

Operation Field Name	Description	Field type	Values	Sample Data
UTM Zone		Int(2) - Lookup	Numeric 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22	Winnipeg - 12 Ottawa - **18** Quebec - 19
Datum (Geodetic)		varchar(40) - Lookup	Geo WGS84 (Default) UTM - NAD 83 UTM - NAD27	UTM - NAD 83
Latitude (X)	Mandatory		Dec. Degrees:_____	45° 25' 43.2" N

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CCC No./N° CCC - FMS No./N° VME

Operation Field Name	Description	Field type	Values	Sample Data
				45.4286666666665
	Dec. degrees		Decimal(10)	
Longitude (Y)	Mandatory		Dec. Degrees:_____	75° 42' 52.6" W
				-75.714611111111
	Dec. degrees		Decimal(10)	

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Operation Field Name	Description	Field type	Values	Sample Data
Elevation/Depth (Z)*			__mASL __mBSL __mBHD FROM:__ TO:__	30 mASL 30 mBSL 10 mBHD FROM: 28 (mASL) TO: 30 (mASL)
	From:	Int(4)		
		Lookup	mASL mBSL mBHD	
	To:	Int(4)		
		Lookup	mASL mBSL mBHD	

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CCC No./N° CCC - FMS No./N° VME

Operation Field Name	Description	Field type	Values	Sample Data
	Datum (Geodetic)*	varchar(40) - Lookup	WGS84 NAD83 (Default) NAD27	
	Point description	text		
	Add new point:	Add new point section		

3.3 Sub-Lot Information

Sub-Lot Field Name	Description	Field type	Values	Sample Data
Basic Sub-Lot Data				
Feature	Feature	checkbox		
	Removed	checkbox		
	Extant	checkbox		
In situ artifact	In situ artifact	checkbox		

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Sub-Lot Field Name	Description	Field type	Values	Sample Data
Heritage Value	Mandatory if Feature or In Situ artifact	Lookup	I II Not of Heritage value Not assessed Not applicable	
Condition	Mandatory if Feature or In Situ artifact	Lookup	Good Fair Poor Not assessed Non applicable	
Sub-lot Number	Provenience – next sub-lot number based on lot	Autopopulated based on PCA provenience		
Sub-lot name		text		
Description		text		
Date assigned		Date		
Primary Investigator	Mandatory	Lookup or Autopopulated based on archaeological		

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CCC No./N° CCC - FMS No./N° VME

Sub-Lot Field Name	Description	Field type	Values	Sample Data
		field number		
Field number	Mandatory	varchar Auto-generated based on Archaeology Number Suffix and next available		
Reference other:	Indicate type	text		
References	Mandatory - List references	text		
Digital assets	Upload or link	TBD		
Non-digital assets				
Sub-lot Dimensions				
	Length___	Int		
(_)		Lookup	m cm	

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CCC No./N° CCC - FMS No./N° VME

Sub-Lot Field Name	Description	Field type	Values	Sample Data
	Direction ___ /	varchar		
	Width__	Int		
( )		Lookup	m cm	
	Direction ___	varchar		
	Size_	Int		
( )		Lookup	m cm	
Undetermined		checkbox		
	Data Point:			

Universal Transverse Mercator (UTM)

	Easting	varchar(20)	Alpha-numeric	444099.3m E
	Northing	varchar(20)	Alpha-numeric	5030820m N

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CCC No./N° CCC - FMS No./N° VME

Sub-Lot Field Name	Description	Field type	Values	Sample Data
UTM Zone		Int(2) - Lookup	Numeric 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22	Winnipeg - 12 Ottawa - **18** Quebec - 19
Datum (Geodetic)		varchar(40) - Lookup	Geo WGS84 (Default) UTM - NAD 83 UTM - NAD27	UTM - NAD 83
Latitude (X)	Mandatory		Dec. Degrees:_____	45.4286666666666665 45° 25' 43.2" N

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CCC No./N° CCC - FMS No./N° VME

Sub-Lot Field Name	Description	Field type	Values	Sample Data
	Dec. degrees		Decimal(10)	
Longitude (Y)	Mandatory		Dec. Degrees:____	75° 42' 52.6" W
				-75.71461111111111
	Dec. degrees		Decimal(10)	
Elevation/Depth (Z)*			_ BD _ BHD	30 cmBD 10 mBHD
			FROM:___ TO:___	FROM: 28 (cmBD) TO: 38 (cmBD)
	Depth	Int(4)		
	(__)	Lookup	m cm	
		Lookup	BD BHD	
	From:	Int(4)		
	(__)	Lookup	m cm	

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File No. - N° du dossier
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CCC No./N° CCC - FMS No./N° VME

Sub-Lot Field Name	Description	Field type	Values	Sample Data
		Lookup	BD BHD	
	To:	Int(4)		
(_)		Lookup	m cm	
		Lookup	BD BHD	
Datum (Geodetic)*		varchar(40) - Lookup	WGS84 NAD83 (Default) NAD27	
Point description		text		
Add new point:	Add new point section			

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1.0 PREFACE

This Manual outlines the Parks Canada Agency (hereafter called "Parks Canada") recording system for archaeological excavations and surveys as well as the principles, best practices and procedures to be followed by anyone conducting an archaeological investigation on properties administered by Parks Canada or under a Parks Canada permit (Parks Canada 2005a). This includes archaeologists employed by Parks Canada, as well as contractors or any other person engaged in land or underwater archaeological research. The current Manual replaces the 1978 manual (Parks Canada 1978), and is to be used hereafter for all Parks Canada archaeological projects.

Note that in areas where final comprehensive land claim agreements have been signed, the latter are legally binding and override Parks Canada policies and directives, and may override the procedures outlined in the current Manual. Parks Canada must adhere to sections and clauses in the agreements pertaining to archaeology and archaeological resources on federal Crown lands and lands under water under its administration and control (Parks Canada 2005b).

This is the latest version of a manual with a long history. J.H. Rick prepared the first manual for Parks Canada archaeologists in 1963, followed by a 1973 Archaeological Excavation Manual (Parks Canada 1973) edited by J. D. Swannack. Both of these documents focussed on excavation procedures, and included rudimentary records standards. With the advent of computer systems and the decentralisation of archaeological research in the late 1970s, it was recognised that a new manual was required that would permit a certain level of standardisation of recording. Standardisation was considered necessary for an integrated electronic database system, and to facilitate the efficient exchange of information among regional and program headquarters. As a result, in 1977, A. E. Wilson and J. R. Henderson, under the direction of J. D. Swannack, produced the "Parks Canada Archaeology Manual Volume 1: Excavation Records System" (Parks Canada 1977). That manual was reprinted in 1978 with minor changes to one of the form examples (Parks Canada 1978). A second volume pertaining to Collections Management procedures was originally planned (Parks Canada 1978), but was never realised.

An attempt to revise the manual in the early 1990s regrettably never reached fruition. The current Manual is dedicated to the memory of Dr. Pierre Nadon who, in the early 1990s, coordinated consultation sessions with Parks Canada archaeologists across the country and drafted preliminary revisions of the Manual. Prior to his passing in 2003, Dr. Nadon provided valuable background information on the previous consultations, and copies of previous manual drafts from the 1990s that were instrumental in revising the current document.

This revised version (Version1.0) is the result of consultation with Parks Canada archaeologists and archaeological collections specialists over a period of many years. At the core of this revision is the input and direction of the Archaeological Recording Manual Working Group, comprising Gary Adams, Charles Burke, Monique Élie, Daryl Fedje, Brian Ross, and Jim Ringer, as well as Jennifer Hamilton and Robert Gauvin. Colleagues from the Archaeological Services Branch also provided valuable input and advice: Daniel LaRoche, Dan Pagé, Thomas (TJ) Hammer, Jim Molnar, Virginia Myles, Helen Dunlop, and Christophe Rivet. I am also grateful for the contributions, guidance, and support of Ellen Lee, Robert Harrold, and Lyle Henderson. Countless discussions were held with, and input provided by, numerous archaeologists, collections managers, conservators, policy

To obtain printed copies, suggest additional Manual topics or improvements, please contact:

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2.0 INTRODUCTION

Since the release of the last version of the manual (Parks Canada 1978), the field of archaeology has undergone considerable change, particularly in the domain of computer technology. The Parks Canada Agency, as an organization, has also evolved from a regionally based entity to an organization currently comprising Service Centres and Field Units located across the country. With decentralisation in the 1970s and the introduction of personal computers in the 1980s, the archaeological units or functions in each of the Service Centres have adapted and modified elements of the Parks Canada records system outlined in the 1978 manual. As a result, many of the formerly essential elements of the archaeological records system are now outdated or obsolete.

In the early years of Parks Canada archaeology, the focus was primarily on large-scale archaeological excavation projects involving primarily historic Euro-Canadian occupations such as forts and fortifications. Parks Canada now places much greater emphasis on pre-contact and Aboriginal archaeology, and conducts both large- and small-scale archaeological surveys, excavations, impact assessments, monitoring, and mitigation projects throughout the Parks Canada system.

The present Manual must necessarily keep pace with the profoundly evolving world of technology and archaeological advancements, particularly in the context of Parks Canada's current archaeological focus. As a result, the Manual is designed to be dynamic and flexible, while ensuring that practitioners of archaeology for sites administered by Parks Canada record essential archaeological data as consistently and efficiently as possible. The current Manual encompasses new developments since the 1978 version, some elements of the previous versions (e.g., Parks Canada 1973), and recent advancements in the international archaeological communities.

One of the greatest challenges is to preserve the integrity of the provenience system as well as existing database systems, which are intricately linked with millions of archaeological objects, records, and digital data representing over 30 years of work across the country. This legacy of data must be managed in the context of the mandate of Parks Canada's Cultural Resource Management Policy (Parks Canada 1994). At the same time, it must keep pace with technological advances in the discipline and in Cultural Resource Management (CRM), international standards of the archaeological community, and current Parks Canada initiatives on digital multimedia asset management, metadata standards, collection management, and long-term conservation of archaeological resources.

At the heart of the Parks Canada approach to excavation and surveys is the Parks Canada provenience system. Since the introduction of the system, much has evolved in archaeological practice, but the provenience system has endured as a flexible and integrating recording method for Parks Canada archaeologists. Though not without its problems and critics, its utility has been proven countless times. In addition, Parks Canada archaeologists are ethically obliged to implement the principles and practices outlined in Parks Canada's CRM Policy (see Parks Canada 1994). We actively work with *all* our heritage assets in the context of the policy, which is one of the most compelling reasons for a uniform system of recording, rooted in a nationally consistent provenience system. Following is a brief history of the provenience system.

Since the early 1960s, Parks Canada has used an archaeological provenience system that is an adaptation of one developed by the University of Pennsylvania Museum for excavations at Tikal, Guatemala. Our method was largely based on archaeological practices that Parks Canada employed over the first two decades of Parks Canada archaeology, which focused primarily on

excavations of Euro-Canadian military and urban sites. Similar to those of Tikal, these sites: 1) were, and are, characterised by complex stratigraphy; 2) require attention to topographical features; 3) yield an abundance of archaeological objects; and 4) encompass large areas excavated by a changing staff over a period of years. The provenience system, by nature of its inherent flexibility (and in concert with some of the modifications outlined in this manual), is able to accommodate more recent shifts in emphasis, encompassing pre-contact and Aboriginal excavations and surveys, both terrestrial and underwater.

Our adaptation of the Tikal system provides a standard provenience nomenclature for all persons excavating or surveying on lands, including lands under water, administered by Parks Canada. The provenience system is hierarchical in nature, integrating Site Number and information pertaining to excavation or survey units into a single alphanumeric code. Though the order and format of the Provenience Number elements are fixed, the archaeologist determines the meaning ascribed to them. The flexibility of the system gives the archaeologist latitude and discretion to use provenience designations that are best suited to the size and nature of the site, and to use preferred excavation and survey techniques and methods.

3.0 WORK INSTRUMENTS AND GENERAL REQUIREMENTS

The items listed in Table 1 comprise the essential elements for archaeological recording at Parks Canada. These elements are described in detail in the sections that follow. Consult the Table of Contents for specific section references.

Table 1. List of Work Instruments and General Requirements.

Work Instrument or Requirement	Obligation	Comments
Parks Canada Provenience System	Mandatory	
Borden System of Site Identification	Mandatory	
Cataloguing Systems for Images, Drawings, and Media	Mandatory where applicable	
Type Codes for Images and Media	Mandatory	
Archaeological Site Inventory Form	Recommended	Contains mandatory elements and form guide
Image Catalogue Form	Recommended	Contains mandatory elements and form guide
Media Catalogue Form	Recommended	Contains mandatory elements and form guide
Suboperation Summary Form	Recommended	Contains mandatory elements
Lot Summary Form	Recommended	Contains mandatory elements and form guide
Stratigraphy Summary Form	Optional	Includes a form guide
Field Notebook	Recommended	
Staff Field Number	Recommended	
Data Standards	Mandatory where specified	
Metadata Standards	Mandatory where specified	
ISO 8601 All-numeric Date Standard (yyyy-mm-dd)	Recommended	Government of Canada standard
Coordination between Field Archaeologist, Collections Manager, and/or Archaeological Database Administrator	Mandatory where specified	
Key Directives, Guidelines, Policies, and Legislation	Mandatory where specified	Provides general guidance and context for conducting archaeological investigations at Parks Canada

4.0 PROVENIENCE SYSTEM

4.1 PROVENIENCE: AN OVERVIEW

A dictionary meaning of Provenience is "place of origin". In the Parks Canada provenience system, it means the place of origin of an archaeological object, of a cluster of archaeological objects, of a feature or features, of a sample of soil, mortar, charcoal or other material. It can also mean the place of origin of some quantity of information, which could include the absence of cultural remains in some volume of excavation or surveyed area.

The parameters of provenience will include such things as point locations in three-dimensional space defined by a coordinate system, the volume of a stratum of deposition that can be found in an excavation unit, the interior, or part of an interior, of a structure, an entire activity area such as a wintering camp, and a cultural context in terms of time period and social activity.

The recorded description of a provenience includes location data (such as geographic and plan coordinates, elevations, maps, and plans to scale), and a varying amount of written information which includes both hard data and the archaeologist's interpretations, inferences, and conclusions.

4.1.1 Provenience: Components

The provenience, or "Provenience Number", comprises ***SITE NUMBER + OPERATION + SUBOPERATION + LOT***, as depicted in the example below from Fort Beausejour National Historic Site of Canada (NHSC), New Brunswick. Each element of the provenience is indicated in bold followed by its description, with the last item (2E1B7) representing a complete Provenience Number.

2E	Site Number (Numeric Character + Alpha Character)
2E**1**	Operation
2E1**B**	Suboperation
2E1B**7**	Lot

The core elements of provenience: Site Number, Operation, Suboperation, and Lot, are described in detail in the following sections. Object Catalogue Numbers, though not part of the provenience, strictly speaking, may also be used to record point locations of archaeological objects in the field within a Lot (Section 4.6). This procedure is also detailed. Each section below includes a subsection outlining the definition, application, principles, values, and assignment methods and rules for that element. Examples or "cases" of the application of each element of provenience are provided near the end of this section.

Though the provenience system is national in scope, its products are managed through a network of regional and local databases and repositories. To ensure that all researchers have equal access to the entire data system, each element of provenience has associated data standards designed to facilitate exchange of electronic or digital data and information between Parks Canada Archaeological Databases. These standards are described in Section 4.12.

4.1.2 General Principles of Provenience Application

1. The Field Notebook(s), information, drawings, images, archaeological objects and samples (all the records from an archaeological investigation) are catalogued, indexed, referenced, and filed alphanumerically by Provenience Number.
2. To file and facilitate retrieval of archaeological records, it is crucial to assign Provenience Numbers in a logical and consistent manner. It is also essential to establish a rational relationship between the hierarchy of Provenience Numbers and the hierarchy of structures, features, strata, activity areas, and cultural context in a given site.
3. A Provenience Number may be assigned to all sites or areas where archaeological work has been conducted, even where testing does not produce evidence of cultural materials (e.g., negative test units).
4. At the Principal Investigator's discretion, a Provenience Number may also be ascribed to a site or area where no archaeological intervention has taken place. Assigning Provenience Numbers in such circumstances ensures a record is created for future reference, research, and potential archaeological work.
5. Each element of a provenience should be assigned spatial coordinates. All archaeological sites (under Site Number), Operations, Suboperations, and Lots, must, at a minimum, have associated two-dimensional spatial coordinates although three-dimensional coordinates represent the ideal situation.
6. A flexible attitude and approach to the application and definition of proveniences should be maintained.

4.1.3 The Provenience System and Archaeological Resource Evaluation

The practice of Cultural Resource Management (CRM), as defined in the Parks Canada CRM Policy (Parks Canada 1994:106-8) requires that four elements be in place in all decision-making that affects cultural resources, including archaeological resources. Of the four elements, the evaluation of resources to determine their historic value has become one of the more useful and widespread management tools. Evaluation enables Parks Canada to determine which resources are considered cultural resources under the policy, and what constitutes their historic value. An understanding of the historic character of the resource helps focus the program's efforts on protection, presentation and appropriate use.

Under the Parks Canada CRM Policy, resources may be evaluated using a system of "CRM Levels" (Table 2). See the Parks Canada CRM Policy (Parks Canada 1994:106-8) for a more complete understanding of the meaning of each of these levels.

Table 2. Descriptions of Cultural Resource Management (CRM) levels, based on Parks Canada (1994:107-8)

CRM Level	Description
Level I	A resource of national historic value related to the reason for designation of a National Historic Site
Level II	A resource with historic value that is not of national historic significance
Other	A resource evaluated and deemed not to meet the criteria for Levels I and II. These resources are exempted from the policy and are managed under other appropriate processes and policies (e.g., grave markers are managed under Management Directive 2.3.1)

The assignment of CRM levels offers Parks Canada an opportunity to manage archaeological resources on a national scale, using standard evaluation criteria as defined in the CRM Policy. As a result, wherever feasible, the Principal Investigator should ascribe a CRM level to a cultural resource, based on the suite of available field data. Parameters for recording these data can be found in Section 4.12 Data and Metadata Standards for Provenience, and the Parks Canada Archaeological Site Inventory Form Guide (Appendix A).

4.2 SITE NUMBER

The Site Number is the key element in the archaeological site records management system for Parks Canada. For research and management, it follows that criteria and parameters on what constitutes an archaeological site in the context of Parks Canada archaeology are required. This, in turn, must have some utility to external researchers. As a result, the following definitions and criteria are offered.

4.2.1 Site Number: Definition

The archaeological site is the largest unit of the provenience system, and is identified by a Site Number. It is an area in which physical evidence of human activity is, or was, located, and in which archaeological investigations are conducted.

4.2.1.1 Archaeological Site: Definition

For the purpose of this document, an archaeological site means a place or area where tangible evidence of past human activity is, or was, located *in situ* on, below or above the ground, or lands under water, the identification, recovery and understanding of which can be achieved using archaeological research methods.

The above definition serves as the conceptual framework for the identification of an archaeological site for Parks Canada archaeologists. The specific parameters for archaeological site recording are outlined in Section 4.12 Data and Metadata Standards for Provenience, and are further refined using the data fields on the Parks Canada Archaeological Site Inventory Form and Form Guide (Appendix A).

4.2.2 Site Number: Components

A Site Number comprises two parts: a *numeric character* and an *alpha character*. The alpha character follows the numeric character, as shown in the example below:

2E   Fort Beausejour, the second site identified in New Brunswick (E) under the Parks Canada provenience system.

The alpha characters represent the provinces and territories (Table 3), with a couple of exceptions (Tables 4 and 5), as follows:

Table 3. List of alpha characters and corresponding province or territory.

Character	Province or Territory
A	Newfoundland and Labrador
B	Nova Scotia
E	New Brunswick
F	Prince Edward Island
G	Quebec
H	Ontario
K	Manitoba
N	Saskatchewan
R	Alberta
T	British Columbia
X	Northwest Territories and Nunavut
Y	Yukon Territory

The following alpha characters have special meanings (Table 4):

Table 4. List of alpha characters that have special meanings.

Character	Description	Comments
L	Fortress of Louisbourg	
M	Underwater Sites	
U	Items from outside sources	The 'U' category has been subdivided (e.g., 1U to 10U). For details, please contact the Collections Manager for the appropriate Parks Canada Service Centre, and see Table 5 below for responsibility areas.
V	Sites excavated by the Ontario Government	

Today, administrative responsibility for Parks Canada's archaeological objects and records is largely vested in the Service Centres located across the country. These responsibility areas are noted in Table 5.

Table 5. Parks Canada Service Centre responsibility areas with their corresponding characters.

Parks Canada Service Centre	Characters
Atlantic Service Centre	A, B, E, F, L, 2U
Québec Service Centre	G, 3U
Ontario Service Centre (Cornwall)	H, 4U
Ontario Service Centre (Ottawa)	M, 1U, 8U, 9U, 10U
Western Canada Service Centre (Winnipeg)	K, N, X, Y, 5U, T (Chilkoot Trail NHSC), R (Wood Buffalo NPC)
Western Canada Service Centre (Calgary)	R, T, 6U

4.2.3 Site Number: Application
Principles
1. Each archaeological site has a unique Site Number that is assigned by the Principal

Investigator, using appropriate Site Numbers approved by the regulating jurisdiction (usually a Service Centre).
2. The Principal Investigator determines the dimensions of an archaeological site based on a combination of available evidence, the parameters and definitions noted above, and professional judgement.
3. Each archaeological site has a descriptive name, where possible, associated with the unique Site Number (e.g., 2E Fort Beausejour).

Values
1. The Site Number is the key element in the site records management system.

4.2.4 Site Number: Assignment

Method
1. Site Numbers are assigned, by province or territory, by the Principal Investigator, in communication with the Collections Manager, or with the person charged with the administration of Site Numbers, as specified by the responsible CRM Manager of the appropriate Service Centre.
2. Mandatory (core) site data are entered in Archaeological Databases, as prescribed in Section 4.12 Data and Metadata Standards for Provenience, and the Archaeological Site Inventory Form Guide (Appendix A). Optional data fields are also provided.
3. Administration of Site Numbers is the responsibility of the CRM Manager of the office with jurisdiction over that area. The CRM Manager may delegate administrative authority to whomever he or she deems appropriate.
4. Application for Borden Site Numbers (see below) is the obligation and responsibility of the Principal Investigator, who may delegate the task to others as required.

Rules
1. Mandatory archaeological site data, as outlined in Section 4.12, and Appendix A, must be entered in the Archaeological Database(s) of the appropriate Service Centre at the earliest practicable time.
2. Mandatory archaeological data must be recorded for all archaeological sites, both surveyed or excavated.
3. Site Number assignment requires a Field Notebook entry.
4. All archaeological sites must have associated two-dimensional geographic coordinates (see Section 4.12).
5. The relevant site area(s) must be mapped (e.g., sketch map, AutoCAD).
6. All qualifying Parks Canada archaeological sites will receive Borden Site Numbers (see Section 4.2.6) at the earliest practicable time. *Note: Agreements between some Aboriginal groups and Parks Canada may preclude the application of this rule*.
7. For informant-reported sites, any available site data, at a minimum, must be entered into the Archaeological Database of the appropriate Service Centre, as soon as practicable.
8. Previously assigned Site Numbers must not be changed unless authorised by the Principal Investigator in consultation with Collections Management and/or the Archaeological Database Administrator.

4.2.5 Archaeological Surveys
In previous versions of the Manual, the recommended practice had been to assign a Site Number to the area of survey (in the Site Number field), and Operation Numbers to the archaeological sites located therein (in the Operation field). This practice, however, was irregularly and inconsistently applied with the result that Banff NPC, for example, has a unique Site Number for each site (in the Site Number Field), Kluane NPC has separate Site Numbers for each river valley (in the Operation field), and Quttinirpaaq NPC has only one Site Number for the park (in the Site Number field), with each archaeological site recorded as an Operation, in the Operation field.

Best Practice
It is now recommended, as a best practice, to assign a unique Site Number to each site. That is, to record the Site Number strictly under the Site Number field rather than the Operation Number field. This will ensure that each newly recorded site will: 1) have only one unique Site Number; 2) allow for more available Operations, Suboperations, and Lots per site; and 3) streamline the record keeping process.

Although assignment of Site Numbers using the Operation field (e.g., for area surveys) is not recommended, its use is allowed at the discretion of the Principal Investigator.

4.2.6 Borden System of Site Identification
The Borden system of archaeological site identification provides a unique identifier for each archaeological site reported in Canada. Sites are assigned a geographic code based on their latitude and longitude. This code, or "Borden (Site) Number", is not related to the provenience system of Parks Canada, but it is nationally recognised and represents the only acceptable code for sharing site information with others outside of Parks Canada. *As a result, all Parks Canada archaeological sites that meet provincial or territorial criteria will receive Borden Site Numbers*. The onus is on the Principal Investigator to apply for Borden Site Numbers at the earliest practicable time and to ensure that the Borden Site Number is cited in all subsequent reports and external correspondence relating to a given site.

The provincial or territorial authority, or the Archaeological Survey of Canada at the Canadian Museum of Civilization ascribes Borden Site Numbers according to the jurisdiction. The Principal Investigator or delegate must apply for Borden Site Numbers from the applicable authority.

4.3 OPERATION NUMBER

4.3.1 Operation: Definition
The Operation is a subdivision of a site and is identified by an Operation Number. It consists of a cardinal number preceded by the Site Number, as shown in the example below:

2E**1**   The first Operation of site 2E.

4.3.2 Operation Number: Application
Principle
1. Whenever possible, Operation Numbers should be defined by culturally significant areas within a site.

Values
1. Identification of culturally significant areas may change over time (e.g., with new data). As a result, new Operations may be added or old ones redefined at the discretion of the Principal Investigator.
2. The relationship between Operation Numbers and analytical units of the site is crucial to the efficient and effective subsequent use of the data.
3. Maintain a flexible attitude and approach to the application and definition of Operations.

4.3.3 Operation Number: Assignment
Method
1. Operation Numbers are assigned sequentially, as required, at the discretion of the Principal Investigator.

Rules
1. The relevant areas must be mapped, with a map reference (Sects. 6.0 and 8.0) indicated in the Field Notebook.

2. The procedure requires a Field Notebook entry (Sect. 6.0) to define the purpose of the Operation Number assignment.

4.4 THE SUBOPERATION

4.4.1 Suboperation: Definition
The Suboperation, or "Suboperation Letter", is a subdivision of an Operation. It is identified by a letter preceded by the Operation Number:

2E1**B**   The second Suboperation (B) of the first Operation in site 2E.

4.4.2 Suboperation: Application
Principle
1. The simplest but not always satisfactory strategy in excavating consists of a subdivision of the analytical units of the site, the Operations, into manageable horizontal areas, the Suboperations, that are excavated stratigraphically.

Values
1. The "manageable" criterion noted above relates to the supervision of labour or of archaeological assistants, the need for more or less finely detailed stratigraphic recording, and the excavation techniques used.

2. In practice, Suboperations generally apply to the smallest horizontal control units of the excavation at a site.
3. The point made above regarding the need for flexibility in applying the provenience system applies equally to the establishment of Suboperations. The archaeologist should be prepared to extend or re-define Suboperations for the sake of good records management, and as excavation progress reveals configuration and function.

4.4.3 Suboperation: Assignment
Method
1. Suboperation Letters are assigned in alphabetic sequence (I, O, and Z excluded), at the Principal Investigator's discretion.
2. Where feasible, Suboperations are treated as analytical units. This approach enormously facilitates subsequent use of the archaeological records.

Rules
1. The letters I, O, and Z must not be used (because of almost certain confusion with 1, 0, and 2).
2. The 23 available Suboperations (I, O, and Z excluded) will be assigned consecutively as a single letter series from A to Y.
3. Double letter Suboperations, or any other variation thereof, are not allowed.
4. The procedure requires a Field Notebook or form entry, describing assignment rationale.
5. The relevant Suboperation area(s) must be mapped.
6. Archaeological items, both *in situ* and removed, must be noted or described.
7. Map or plan references must be indicated in the Field Notebook.
8. Layer/event, if applicable, must be described.
9. A summary of Suboperations must be recorded either in the Field Notebook, a Suboperation Summary Form (optional; see Appendix D), or any other media approved by the CRM Manager for the relevant Service Centre.

4.5 THE LOT

4.5.1 Lot: Definition
The Lot is a subdivision of a Suboperation. The Lot Number consists of a cardinal number preceded by the Suboperation Letter:

2E1B**7** The seventh Lot in Suboperation B of the first Operation of site 2E.

The Lot, strictly speaking, is the smallest unit in the provenience system. As a result, it is normally the most precise level of location or contextual information as defined by the archaeologist (Note: Object Catalogue Numbers may now be assigned three-dimensional spatial coordinates (see Section 4.6)). The Lot provides precise locational measurements for an excavation or survey.

4.5.2 Lot Number: Application
Principles
1. All excavated items are assigned Lot Numbers, based on the professional judgement of the archaeologist.
2. Lots are ideally assigned three-dimensional spatial coordinates but two-dimensional coordinates, at a minimum, may be assigned.
3. A Lot is correlated with a stratigraphic layer or level wherever practicable.
4. The crux of the definition of Lot is grounded in those archaeological items found *in situ* that require precise measurements, as well as the principles, values, and assignment requirements.

Values
1. Lot numbers are the minimum units of vertical excavation, and should not be confused with Suboperations, which are the minimum units of horizontal excavation.
2. Lot Numbers may be applied to:
   $ the spatial volume of a layer of deposition or of a structural element within a Suboperation;
   $ an arbitrary volume or level of excavation within a Suboperation;
   $ the interface between two deposits, where the interface represents a unique event in the stratification sequence (e.g., the surface of a pit feature corresponding to the event of its original construction);
   $ significant clusters of archaeological objects;
   $ individual archaeological objects;
   $ a sample of soil, mortar, charcoal or other material;
   $ backhoe trench walls;
   $ borehole tests (core samples).

These are described in detail in Section 4.11.4.

4.5.3 Lot Number: Assignment
Method
1. Lot Numbers are assigned sequentially, at the Principal Investigator's discretion.

Rules
1. All Lots should ideally be assigned three-dimensional spatial coordinates. Where this is not feasible, two-dimensional spatial coordinates may be assigned.
2. The relevant areas must be mapped.
3. Archaeological items, both *in situ* and removed, must be noted or described.
4. The procedure requires a Field Notebook entry to define the purpose of the Lot Number assignment.

Best Practice
Other numbers or auxiliary numbering systems (used as suffixes to Lot Numbers) should not be used.

4.6 CATALOGUING OBJECTS IN THE FIELD

An archaeological object may be assigned an Object Catalogue Number with associated three-dimensional spatial coordinates in the field, at the discretion of the Principal Investigator. Object Catalogue Numbers can add another more refined level of precision for selected point locations of archaeological objects within a Lot.

4.6.1 Object Catalogue Number: Definition

The Object Catalogue Number is the numeric character assigned to an archaeological object. The numeric character follows a complete provenience, and is separated from the Provenience Number by a hyphen. It marks an individual archaeological object so that it can be identified separately from all other archaeological objects from the same Lot.

Example

2E1B7**-1**   The first catalogued object from the seventh Lot in Suboperation B of the first Operation of site 2E.

4.6.2 Object Catalogue Number: Application

Principles

1. Archaeological objects within a Lot may, on occasion, need to be catalogued and assigned three-dimensional spatial coordinate data in field situations.
2. Archaeological objects are assigned Object Catalogue Numbers in the field, at the discretion of the Principal Investigator.

Values

1. Object Catalogue Numbers for archaeological objects, when assigned three-dimensional spatial coordinates in the field, are the minimum units to which coordinate data is ascribed.

4.6.3 Object Catalogue Number: Assignment

Method

1. Object Catalogue Numbers are assigned sequentially to selected archaeological objects, at the Principal Investigator's discretion.
2. An archaeological object that is not ascribed a catalogue number in the field may later be assigned an Object Catalogue Number (e.g., in the laboratory), using the Lot as the minimum level to which coordinate data is ascribed.

Best Practices

1. An Object Catalogue Number should only be assigned to a single archaeological object, such as a projectile point or fragments from a single ceramic vessel.
2. Prior to commencing the field project, the Principal Investigator should coordinate number assignment with the Collections Manager or Archaeological Database Administrator (as applicable) to determine the next available Object Catalogue Number(s).
3. Three-dimensional spatial coordinate data should be ascribed to all archaeological objects that are assigned Object Catalogue Numbers in the field.
4. An Object Catalogue Number should only be ascribed to an archaeological object that is contained within a Lot.

5. The catalogued object must be mapped if three-dimensional spatial coordinate data is ascribed.

4.7 GRID SYSTEMS OF EXCAVATION

When relatively large areas containing no visible structural remains must be excavated, it may be convenient to lay out excavation units as grid squares. Labelling the grid squares can be done with reasonable efficiency by assigning Operation Numbers to 23-square rows and Suboperation Letters to the individual squares (Fig. 1). A nice variation on this procedure is to use only 20 Suboperation Letters in each Operation (i.e., 20-square rows) so as to have "round-figure" areas.
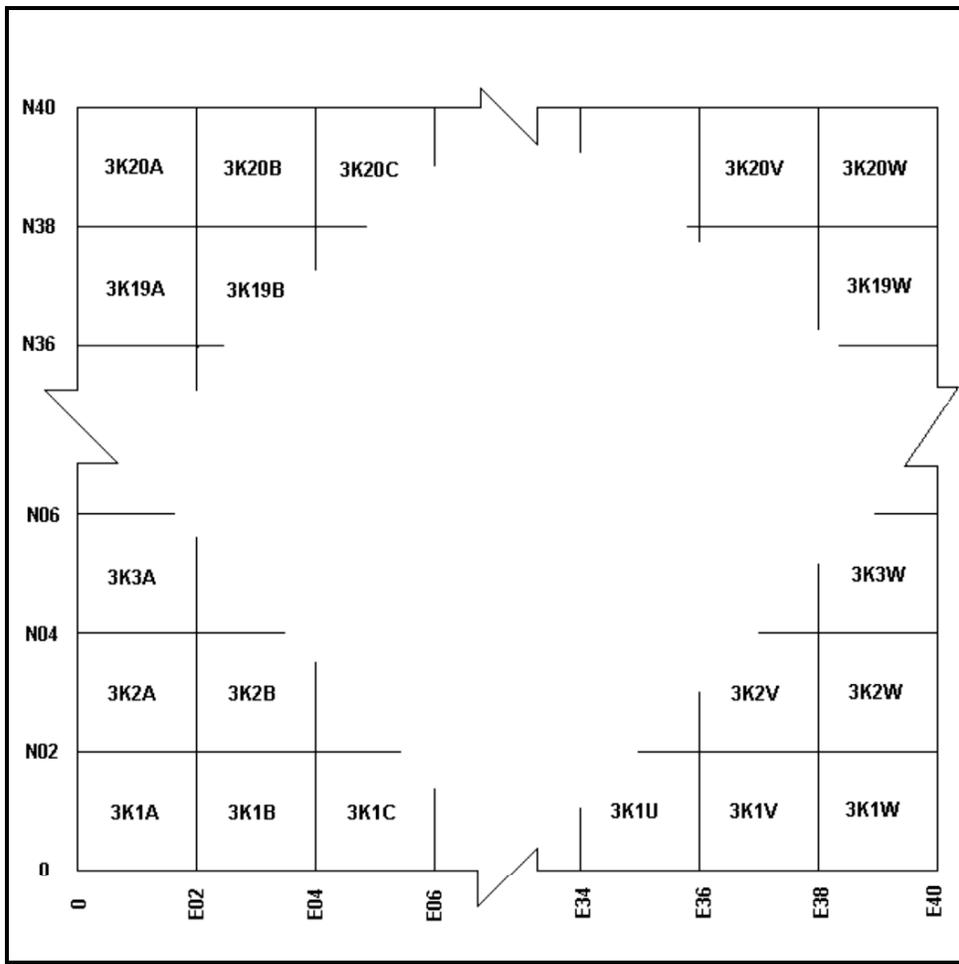
Figure 1. Example of Suboperation Letters applied to a two-metre grid. Redrawn by S. Savauge, from Parks Canada (1978). Note that large portions of the diagram have been omitted for the purpose of illustration.

This procedure must not be confused, as it often is, with the application of a Cartesian coordinate system that is used to locate units of excavation.

It is best to establish excavation units in a pattern related to the structural or cultural pattern of the site or, failing adequate information to permit that approach, to lay out test excavations in a progression derived from the evidence they reveal. In these cases the grid system of coordinates is a means for mapping the excavations, not for defining the excavation pattern.

There are cases where it is useful to define the pattern of excavations by a grid. Systematic random sampling of an area by excavation of one-unit square in a hundred, for example, is one such case. Exhaustive or "large area" excavation of the area of interest in which the entire area is first de-turfed and then carried down to overall stratigraphic units, is another. Such approaches to excavating have been rare at historic sites archaeology (in Parks Canada), and their application, while methodologically correct at a specific site, may have significant disadvantages for the subsequent user of the information unless the recording procedures are carefully worked out prior to excavation.

4.7.1 Shipwrecks

For shipwreck excavations, an arbitrary grid system of 2x2 m units is normally employed. First, a grid line is established longitudinally down the centreline of the vessel, or as close as possible, based on surface indications. This becomes the dividing line between Suboperations M and N. Two metre wide Operations are established at right angles to the datum line and extending across the hull of the ship usually starting from the stern. Two metre units are chosen most often as this makes it possible to use even Operation numbers (e.g., 2,4,6,8, etc.), Suboperation Letters A to M would cover the port side, while N to Y would extend out to the starboard side. In most cases, as most shipwreck sites tend to be relatively small, all of the Suboperation Letters need not be used. Each provenience down to the Suboperation level designates a particular 2X2 m grid unit. Lot Numbers may be used in the conventional manner to identify and locate strata, archaeological objects, features, etc. Though arbitrary, this system allows archaeologists to look at a Provenience Number and fairly accurately determine to which area of the vessel it refers.

4.8 BALKS

Balks are unexcavated "walls" which may be left between excavation units to provide stratigraphic control. Scale drawings of the faces or profiles of balks are records of the stratification. After these drawings have been made, and the recording completed, the balks, in turn, are normally excavated. Following are some excavation approaches used by Parks Canada archaeologists.

Stratigraphic Control without Balks

The easiest solution to the problem is not to use balks to maintain stratigraphic control. Instead excavate alternate Suboperations using the intervening unexcavated Suboperations as if they were balks. This approach, commonly called the "checkerboard pattern", requires the ability to lay out Suboperations rationally before excavation begins.

Balks as Separate Suboperations

This solution leaves narrow balks between larger excavation units. After the stratification has been recorded from the balks, they are excavated as different Suboperations, normally with one Lot

Number assigned to each layer. This approach will increase the number of Suboperations, which need to be recorded and defined (Fig. 2).
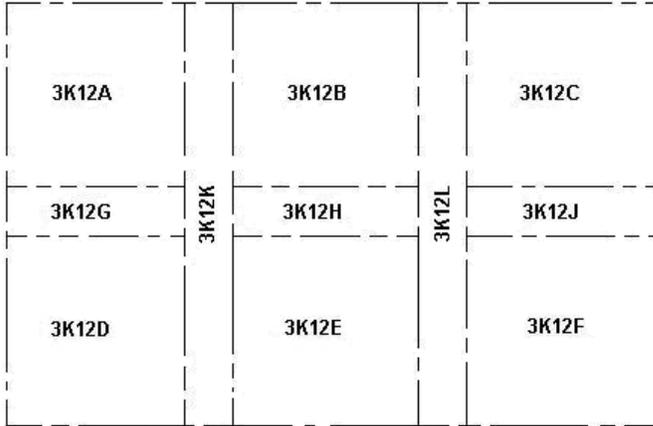
Figure 2. Example of balks as separate Suboperations. Redrawn by S. Savauge, from Parks Canada (1978).

Excavating the Suboperation Twice
This solution requires that only part of a Suboperation be excavated initially and that the remainder of the Suboperation be excavated after recording the stratification. As an example, imagine a Suboperation that measures 1.25 m by 1.25 m. Along the north and west sides of the Suboperation are balks 0.25 m wide that will be excavated after the stratigraphy has been recorded (Fig. 3).
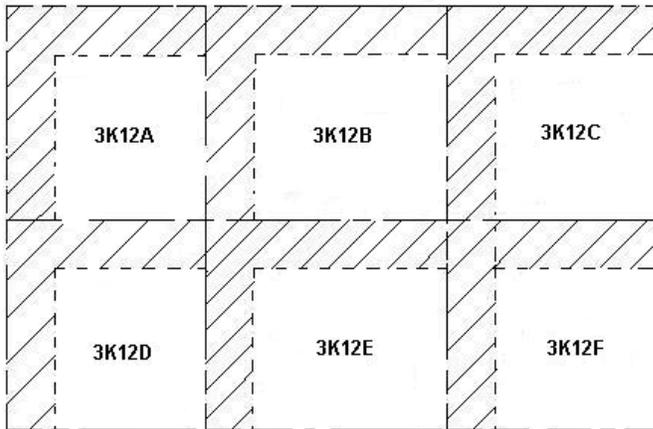
Figure 3. Example of balks by excavating Suboperations twice. Redrawn by S. Savauge, from Parks Canada (1978).

When excavating the balk, new Lot Numbers must be used. This avoids confusion for field laboratory staff and removes the burden of consolidating archaeological object assemblages and field records after the field project. The Lots or events can later be correlated using a database.

4.9 ADDITIONAL DEFINITIONS

4.9.1 Isolated Archaeological Find
Isolated Archaeological Finds, often called "isolated finds", or "findspots", are commonly encountered during archaeological surveys. The intent of this section is to provide parameters for the identification, recording and reporting of such finds. Consistency in recording will enable more accurate reporting of quantities of archaeological sites and/or isolated archaeological finds under Parks Canada's administration.

4.9.1.1 Isolated Archaeological Find: Definition
A single archaeological object that is, or was, located *in situ* on, below or above the ground, or lands under water, such as a single projectile point, or fragments from a single ceramic vessel. Other criteria may be applied to the definition at the discretion of the archaeologist, provided a rationale is included.

Rules
1. All Isolated Archaeological Finds must be *recorded,* and must be assigned a Provenience Number.
2. Isolated Archaeological Finds may be *reported* as an archaeological site at the discretion of the Principal Investigator.
3. A reference must be made in the Field Notebook describing the rationale for assignment as either an Archaeological Site or an Isolated Archaeological Find.
4. In an Archaeological Database, an Isolated Archaeological Find must be identified as such in a unique field. There is a corresponding field in the Parks Canada Archaeological Site Inventory Form and Form Guide for "Isolated Find" (see Appendix A), to allow for extraction of that data element from a given database.

4.10 ARCHAEOLOGICAL RESOURCE
Archaeological resource is a generic term that is often used to describe components of an archaeological site to which a Provenience Number is normally ascribed, such as archaeological objects, features, or structures. The term "archaeological resource" is synonymous with "archaeological material", or "archaeological item."

4.10.1 Archaeological Resource: Definition
Any tangible evidence of past human activity of historical, cultural or scientific interest, such as a feature, structure or archaeological object, located at, or recovered from, an archaeological site or recorded as an isolated archaeological find.

4.11 EXAMPLES OF PROVENIENCE APPLICATION
Following are examples of common applications of the provenience system, including Site Number, Operation, Suboperation, and Lot.

4.11.1 Site Number: Examples of Application

Case A: Typical Examples of Site Numbers
A Site Number may be assigned to a National Historic Site of Canada.

Examples
5A   Cape Spear NHSC, St. John's, Newfoundland
8B   Grand Pré NHSC, Grand Pré, Nova Scotia
20H   St. Louis Mission NHSC, Victoria Harbour, Ontario

A Site Number may also be assigned to an element or an area of a National Historic Site, or to an element of a National Park.

Examples
24G   Fort No. 1, Lévis Fort NHSC, Québec
1035G   Gîte Wabenaki, La Mauricie NPC, Québec

Case B: Archaeological Excavations
There are numerous cases where the historical or cultural identity of the area of archaeological activity is well-defined. These can include forts, for example, 1E Fort Gaspereau, 2H Fort Wellington, 3T Fort Langley; villages, for example 1F Roma Settlement, 7B Beaubassin; single structures, for example, 1G La Vielle maison des Jésuites, 4E La Coup Drydock, 17H Colonel John By's House; and the locations of battles, such as 25H Battle of the Windmill.

Evidence for structures or activity areas often cannot be identified until after a certain amount of excavation has been undertaken. An example of this is the Richardson Island Site (1127T) in Gwaii Hanaas National Park Reserve/Haida Heritage Site, BC. In 1994, the raised beach component of the site was identified on the basis of a few lithic flakes eroding out of a 2 m high gravel bank. Deeply stratified archaeological deposits dating from 9,300 to 8,300 BP were retrieved in subsequent 1 square metre subsurface tests in 1995 and 1997. However, it wasn't until a joint University of Victoria – Parks Canada project opened up a larger area in 2001 and 2002 that a number of activity areas were identified (including hearths, chipping stations, structural remains). These were buried under 3 to 4m of regosolic gravels.

Another example is Red Bay NHSC (24M), Labrador, where two to three weeks of underwater test excavations were required to reveal enough structural evidence and archaeological objects to positively identify the remains of a 16th century Basque whaling vessel.

Case C: Exceptional Examples
At the Fortress of Louisbourg, because of the size of the archaeological project, the "site" is divided into a large number of manageable areas in which the individual Site Numbers, 1L, 2L, 3L, etc. correspond to 18th century French town blocks: Block 1, Block 2, etc. At the site of Restigouche, Site Numbers are applied to individual remains of the engagement: 1M Bienfaisant, 2M Machault, etc.

At Fort Walsh, Site Number 7N is applied to the N.W.M.P post itself, and the closely associated but culturally and socially distinct 6N Farewell's and Solomon's Posts and 8N Fort Walsh Townsite have separate numbers.

Case D: Archaeological Surveys
In British Columbia national parks, all archaeological sites are assigned individual Site Numbers. In Gwaii Haanas NPRC/HHS, for example, over 600 sites have been recorded. These range from large village sites to shell middens and small lithic scatters.

Examples
766T   Arrow Creek, an 8,000 year old lithic site
1007T   a 300 year old fish trap (unnamed)

4.11.2 Operation: Examples of Application

Case A: Typical Examples of Operation Numbers
24G1 is the first Operation of site 24G, Lévis Forts, NHSC, Fort No. 1, Québec
1H13   is the thirteenth Operation of site 1H, Fort St. Joseph NHSC, Joseph's Island, Ontario
21N97 is the ninety-seventh Operation of site 21N, Batoche NHSC, Saskatchewan

Case B: Defining Culturally Meaningful Units
Experience with this provenience system has led to the development of a fairly standard methodology for excavation layout by Parks Canada archaeologists: where possible, culturally significant areas within a site are labelled as individual Operations.

As an example, imagine a hypothetical site consisting of two separate buildings and three distinct areas (Fig. 4). The main building, a house, consists of four rooms and a shed attached. The other building is a shed with internal divisions. Between the two buildings is a shed with internal divisions. Between the two buildings is a yard. Behind the house is a garden and in front of the house is a road. Each room of the house, plus its shed, receives a different Operation Number; the shed is the sixth Operation, and the yard, garden and road are called Operations seven, eight and nine respectively. Distinct but unidentified areas (e.g., beside the house behind the shed) or buildings each receive new Operation Numbers.
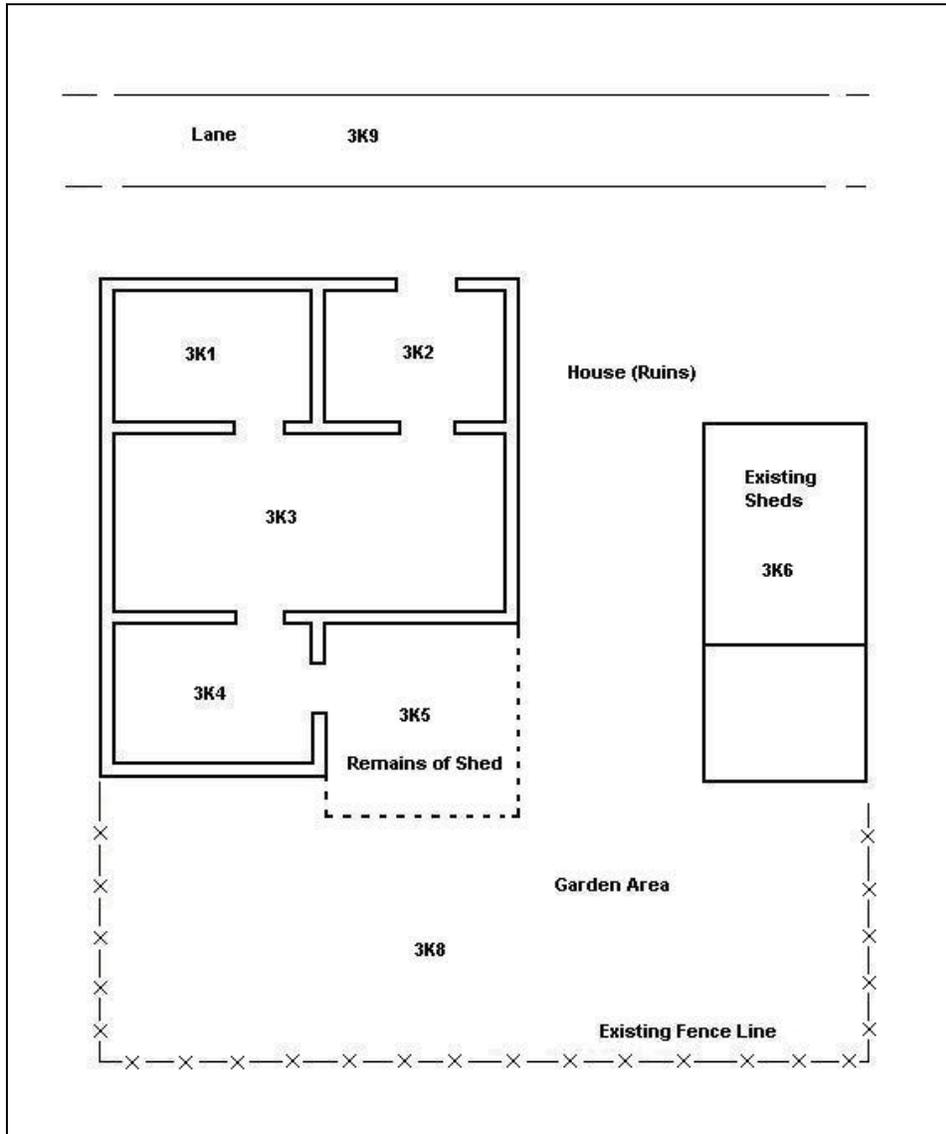
Figure 4. Example of Operation Number application to structures and activity areas. Redrawn by S. Savauge, from Parks Canada (1978).

This approach is easiest to use when the historic documentation for a site can inform the archaeologist of the layout of the structures being investigated or if there is sufficient evidence of structures on the site to suggest a meaningful layout of Operations before excavation begins. In fact, more often than not, either or both situations are true of the sites excavated by Parks Canada.

However, the approach can be used in the absence of clear evidence for structural layout before excavation, when extensive test trenching may be necessary, if the archaeologist is prepared to assign new Operation Numbers or re-define previously assigned Operation Numbers as evidence of

structures or distinct activity areas emerges from the excavation.

Case C: Guidelines for Using and Ascribing Operations
The key to successfully using the Parks Canada system lies in the proper application of the Operation Number. If the Operation Number is applied to culturally significant units on a site, such as structures or activity areas, then it will provide an easy method of indexing source records from the site and communicating excavation strategy to others. If Operations are consistently applied in an arbitrary and artificial manner without regard for structures, features, or activity areas, they become a meaningless extra step in the provenience system, a unit which must be dealt with, but which adds nothing to one's comprehension of the excavation.

For example, it is much easier to compare the archaeological objects from inside a structure with those from outside if one can search for all archaeological objects from Operation one to compare with archaeological objects from Operation two. The same convenience and efficiency can be realised when searching the file of images, drawings, notebook pages or any other source file. To search for similar information from a site which has been excavated using meaningless arbitrary Operations involves a careful examination of the site plan of excavation units to determine what Provenience Numbers refer to the areas in question, followed by a search through the entire file of source materials, archaeological objects or records to locate those sources which refer to the required proveniences.

This application of Operation Numbers to analytical units of the site is crucial to the efficient and effective subsequent use of the data by archaeologists and by the collections researchers who must work with it. It is essential to keep this factor in mind when planning excavation strategy, and to maintain a flexible attitude to the application and definition of proveniences.

4.11.3 Suboperation: Examples of Application

Case A: Typical Examples of Suboperation Letter
8R1B   The second Suboperation (B) of the first Operation of site 8R, Nottingham House, Lake Athabaska, Alberta.
4H9C   The third Suboperation (C) of the ninth Operation of site 4H, Fort Malden, Amherstburg, Ontario.

Case B: Suboperations as Analytical Units
It is highly desirable, where feasible, that the Suboperations be treated as analytical units, as this will enormously facilitate subsequent use of the records. For example, a small structure excavated in one Operation could be divided into Suboperations on the basis of its structural or functional divisions (Fig. 5), rather than into arbitrary albeit manageable areas.
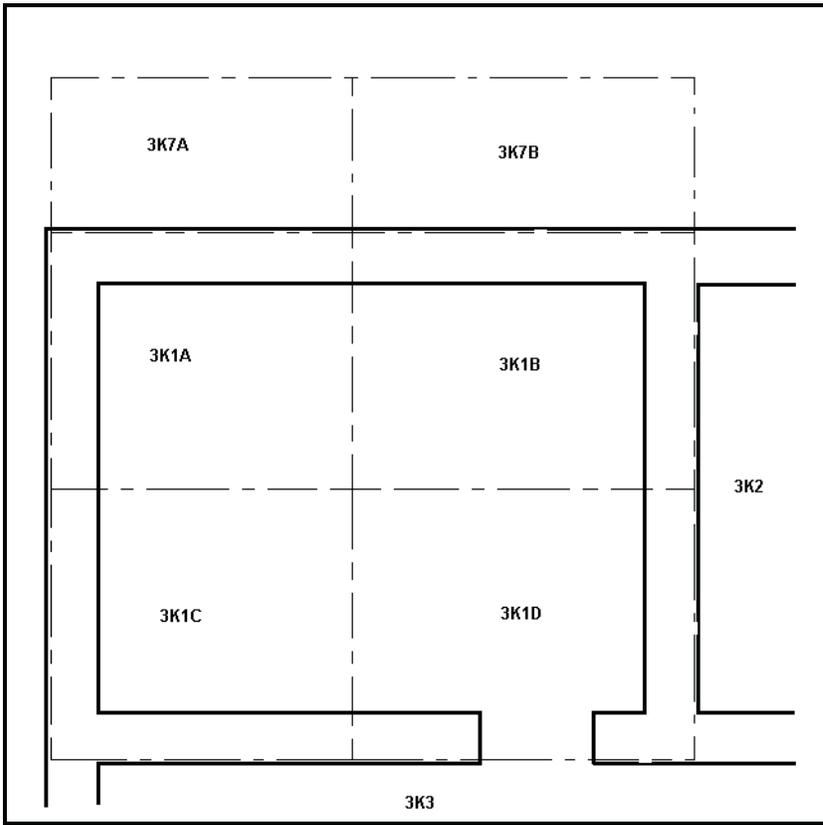
Figure 5. Example of layout of Suboperation excavations, based on Operations shown in Figure 4. This example
includes the addition of two Suboperations (3K7A and 3K7B) beyond 3K1. Redrawn by S. Savauge, from Parks
Canada (1978).

4.11.4 Lot Number: Examples of Application

Case A: Typical Examples of Lot Number

1G1A1   The first Lot of the first Suboperation (A) of the first Operation of site 1G, La Vieille
maison des Jésuites, Sillery, Québec.

3X15N7   The seventh Lot of the thirteenth Suboperation (N) of the fifteenth Operation of site
3X, Quartzite Island, Rankin Inlet, Northwest Territories.

1127T12H10 The tenth Lot of the eighth Suboperation (H) of the twelfth Operation of site 1127T,
Richardson Island Site, Gwaii Hanaas NPRC/HHS, British Columbia.

Case B: Specific Examples of Lot Number Application
Following are scenarios frequently encountered in the field, and recommended approaches for field
recording.

Layer of Deposition
When the archaeologist wishes to label and record a layer of soil in a Suboperation, it may be assigned a separate Lot Number. For stratified sites, the Lot may be used to define a stratigraphic unit (normally a natural or arbitrary layer), or a feature.

In this case, a Lot Number labels a three-dimensional provenience and, by extension, all of the archaeological objects contained in that volume. Normally, a Lot Number is assigned to each soil layer occurring in a Suboperation, whether or not it contains archaeological objects.

This application of Lot Numbers to layers has been the most common usage of Lot Numbers on sites excavated by Parks Canada.

Structural Element
When the archaeologist wishes to excavate, record, or remove an element of a structure, that element may be assigned a Lot Number within the Suboperation.

Archaeological objects found within the volume of an excavated structural element can be part of the Lot or can be assigned additional Lot Numbers either as individual archaeological objects or significant clusters of archaeological objects, as required.

Arbitrary Level
When the archaeologist wishes to excavate in arbitrarily defined levels, each level may be assigned a unique Lot Number.

For example, in excavating a well where there are no discernible layers in the contents, arbitrary levels are used to maintain vertical control. Each arbitrary level may be assigned a Lot Number whether or not it contains archaeological objects.

Stratification Interface
When the archaeologist wishes to record the provenience of a feature that is represented by an interface between strata, that interface may be assigned a Lot Number.

For example, excavation may reveal the cut of a level road through a hill. The line of the cut can be assigned a Lot Number to differentiate it from the material through which the cut was made and the material that subsequently accumulated above the cut line. Such a provenience will be a surface rather than a volume, signifying a specific event.

Archaeological Objects and Samples
A number of approaches have been used for recording archaeological objects and samples for excavations and surveys. These approaches are contingent on the research needs and the discretion of the Principal Investigator.

1. *Archaeological Objects in a Volume of Excavation:* Archaeological objects are commonly assigned the Lot Number of a given volume of excavation in which they were found. All of the archaeological objects contained in that volume (e.g., a natural or arbitrary layer, or a feature) may be assigned the same Lot Number/provenience. As soon as practicable, the archaeological objects are catalogued or inventoried sequentially by provenience.

2. *Individual Archaeological Objects:* When the archaeologist excavates or surveys an archaeological object whose precise location he or she wishes to record, that archaeological object may be assigned a separate Lot Number. It should be noted that though this practice has been used at many sites over the past years, the assignment of Object Catalogue Numbers with associated three-dimensional spatial coordinates recorded in the field is now encouraged, where practical (see Section 4.6).

In some cases, this latter practice may even be preferred. For example, while excavating the remains of a building, each piece of building hardware (locks, latches, hinges, etc.) can be located precisely in terms of coordinates and assigned a unique Lot Number. Separate Lot Numbers may also be assigned, for example, to diagnostic archaeological objects distributed over a large expanse at a pre-contact site. This procedure ensures that the record of the precise location of an archaeological object does not become "lost" from the archaeological object itself.

3. *Significant Clusters of Archaeological Objects:* When the archaeologist excavates or surveys a cluster of archaeological objects whose location he or she wishes to record, that cluster may be assigned a separate Lot Number.

For example, during a building's excavation, the archaeologist may wish to record the precise location of window glass concentrations. As a result, any cluster of window glass may be ascribed a Lot Number and coordinates may be recorded for the cluster.

Similarly, a surveyed site may contain a cluster of lithic debitage whose precise location the archaeologist may wish to record. The archaeologist may assign a Lot Number, associated two- or three-dimensional coordinates, and other criteria (see Section 4.12) to this cluster.

Another recurrent situation is the excavation of a broken object, most of which is recovered from a small area. The fragments may be given a separate Lot Number, whose records will preserve the identity and location of the object.

4. *Sample:* When the archaeologist takes a sample of soil, mortar, charcoal or other material from an excavation, the sample may be assigned a separate Lot Number, with record of location, exactly as in the case of an individual archaeological object.

Backhoe Trench Wall
A Lot Number may be assigned to the strata of a specific portion of a trench wall, such as may be encountered in a backhoe excavation.

Borehole Tests/Core Samples
Each borehole or core sample may be assigned a Suboperation Letter, and each stratum or layer assigned a Lot Number. If the lowest layer from a core is the same as the layer at the top of the following core, it may be assigned the same Lot Number.

4.12 DATA and METADATA STANDARDS for PROVENIENCE

Over the past years, the use of computer applications to process, track and analyse archaeological data and information has expanded exponentially. The responsibility for archaeological data maintenance has been dispersed across the country, primarily to the Parks Canada Service Centres, but the data must still be formulated within Parks Canada's provenience system and recording standards framework. Essential elements of those standards are to ensure that archaeological proveniences carry required or core information for Parks Canada's archaeological resources, and that the associated data and metadata are available for long term use. In addition, these standards must keep pace with emerging computer applications and technologies, and enable the efficient exchange of electronic data within, and between, databases for national initiatives and jurisdictional changes over time.

To accommodate these requirements, archaeological provenience data and metadata standards are provided here. The following standards are required for all Parks Canada Archaeological Databases to facilitate the output, retrieval and exchange of archaeological data, both internally and externally. While the database *per se* does not need to integrate all the data standards in its internal design and data structure, it must be able to output all information in accordance with the following standards. These standards will be used in any transfer of information, including printed reports, data files to other units and organizations, and possibly web access to the database. It is also recommended, as a best practice, that each Archaeological Database incorporate these standards into its actual design and data structure.

4.12.1 Site Number
Format
1. The Site Number is a combination of two separate fields or entities: a numeric field (numeric characters) followed by an alpha field (upper case alpha character) for the province or territory code (see Table 2). It must be possible to separate a Site Number into two components (fields) for the purpose of data transfer.

Mandatory Associated Data and Metadata
1. All mandatory (and optional) data pertaining to Parks Canada archaeological sites are outlined in the "Parks Canada Archaeological Site Inventory Form" and the associated Form Guide (Appendix A).

4.12.2 Operation
Format
1. Must be displayed as a numeric field.
2. The Operation Number must be unique for the site.

Mandatory Associated Data and Metadata
1. Must indicate date of assignment (from field notes; in format yyyy-mm-dd).
2. Must contain Field Notebook reference or text definition and rationale for the Operation.
3. Must indicate full name or Staff Field Number of archaeologist who assigned the Operation Number.
4. Must indicate Operation name, if applicable.
5. Must indicate Site Number associated with the Operation.

6.   If the Operation is a "Survey Site Number", include all of the information required for the Site field.

4.12.3 Suboperation

Format
1.   Must be displayed as a separate, alpha (text) field in upper case.
2.   Must be unique to the Operation it represents.

Mandatory Associated Data and Metadata
1.   Must indicate date of assignment (from field notes; in format yyyy-mm-dd).
2.   Must indicate associated Site and Operation Numbers.
3.   Must contain Field Notebook reference or text definition and rationale for the Suboperation.
4.   Must indicate full name or Staff Field Number of archaeologist who assigned the Suboperation.
5.   Must indicate the dimensions of the Suboperation.

4.12.4 Lot

Format
1.   Must be displayed as a separate field in numeric format.
2.   Must be unique to the Suboperation it represents.
3.   Must not be subdivided into smaller units.

Mandatory Associated Data and Metadata
1.   Must indicate date of assignment (from field notes; in format yyyy-mm-dd).
2.   Must indicate CRM level.
3.   Must contain Field Notebook reference or text definition and rationale of the Lot.
4.   Must contain identification of the Lot (i.e., spatial volume, sample, archaeological object, structural member, etc.).
5.   Must indicate archaeologist (Field Staff Number or full name) who assigned the Lot Number.
6.   Must indicate its associated Site, Operation, and Suboperation Letters.
7.   Must provide the two- or three-dimensional spatial coordinates of the Lot including:
   - The datum used for that Lot (if measured distances are used);
   - The North American Datum if a GPS is used (NAD 83 or NAD 27. NAD 83 is recommended);
   - The method of spatial data acquisition (e.g., transit, GPS, tape) and an assessment of its accuracy;
   - Direction of measurement (from north east corner) for measured distances;
   - Unit(s) of measurement (metric units are recommended).

4.12.5 Object Catalogue Number

These standards apply only to an archaeological object that is assigned both a catalogue number *and* coordinate data in a field situation.
Format
1.   Must be displayed as a separate field in numeric format.

2. Must be unique to the Lot in which it is contained.
3. Must not be subdivided into smaller units.

Mandatory Associated Data and Metadata
1. Must indicate date of assignment (from field notes; in format yyyy-mm-dd).
2. Must contain Field Notebook reference or text definition and rationale for assigning a catalogue number to the archaeological object.
3. Must indicate the name of the archaeological object (format: object name, descriptor; a controlled vocabulary is recommended), material type and description, and condition assessment according to latest Collections Management standards, or based on archaeological object name authority list for a given Service Centre.
4. Must indicate the archaeologist (Staff Field Number or full name) who assigned the Object Catalogue Number(s).
5. Must indicate its associated Lot Number.
6. Must provide the spatial coordinates of the catalogued object in two- or three-dimensions, including:
   • The datum used for that Lot in which the object is contained (if measured distances are used); in addition, where possible:
   • The North American Datum (NAD 83 or NAD 27. NAD 83 is recommended);
   • The method of spatial data acquisition (transit, GPS, tape measure) and an assessment of its accuracy;
   • Direction of measurement (from northeast corner) for measured distances;
   • Unit(s) of measurement (metric units are recommended).

4.12.6 Notes
1. The mandatory associated data fields are established as the minimum set required so that the information can be evaluated and used by whoever works with the output. Other associated fields may be added to suit the purpose of the data set.

2. Additional metadata fields may later need to be incorporated to meet the National Metadata Standard adopted by Parks Canada (see Parks Canada 2001) for the recording of cultural heritage information.

3. If information is missing from the database for a mandatory data field, the header should still be included with an explanatory note, indicating that the information is not in the database and how the user can obtain it.

4. It is not necessary to repeat identical information with each record as long as the information is there and its associations are clear. For example, in a report of all Lots for 1K, Lower Fort Garry NHSC, the mandatory site information needs to appear once and the Operation information needs to appear once for each Operation. Likewise, if all the Lots have spatial coordinate data that were gathered using the same datum and measuring system, then that system needs only to be described once.

5. Mandatory associated data may appear as fields within the product or as notes to the product (it can be attached as "properties" to a word processing document, for example) but it must be integrally linked to the information.

5.0 ORGANIZING FIELD PROJECTS

This section offers some basic principles, guidelines, requirements, and recommended references for organizing archaeological field projects. Different working environments and available resources will dictate various approaches. There is, however, a set of functions that should be taken into consideration to improve the success of any archaeological field project. These are outlined below.

5.1 BASIC GUIDELINES, REQUIREMENTS, and PRINCIPLES for CONDUCTING FIELD PROJECTS

5.1.1 Archaeological Research Permits
Ensure that all required archaeological research permits have been approved and signed; and take signed copies with you in the field. The requirements are outlined in *Management Bulletin 2.3.2. Archaeological Research Permitting* (Parks Canada 2005a). If applicable, ensure that provincial or territorial archaeological research permits are acquired and approved in addition to the Parks Canada permit (e.g., in a non-gazetted National Park of Canada).

5.1.2 Occupational Health and Safety Requirements
Parks Canada and its employees are subject to the *Canada Labour Code - Part II, Occupational Health and Safety*. In addition, they must also comply with the Parks Canada Occupational Heath and Safety Policy (see: http://intranet/content/has-sst/documents-eng/poli.asp on the Parks Canada Intranet.) The policy states: "each employee is responsible for applying this policy in their work activities and to all persons granted access to our workplaces." 'Persons' include contractors, students, volunteers, the general public and others." For detailed information and guidance on the legal obligations consult the Canada Labour Code website, or the Parks Canada Intranet. The latter provides comprehensive information and tools for employers and employees.

5.1.3 Key Parks Canada Documents
Key references to Parks Canada policies, guidelines, directives, legislation, and regulations, which provide context for the conduct of archaeological investigations in Parks Canada, are found in Sections 12.8, 12.9, and 12.10 of this manual. All crewmembers should be familiar with the documents pertinent to their field project.

For general guidance, consult the *Parks Canada Guidelines for the Management of Archaeological Resources* (Parks Canada 2005b), which outlines the manner in which all of these documents apply to given situations. Also consult the *Parks Canada Guiding Principles and Operational Policies* (1994), which contains Parks Canada's CRM Policy, as noted earlier.

When planning interventions at a NHSC or a FHBRO building, refer to the recently released *Standards and Guidelines for the Conservation of Historic Places in Canada* (Parks Canada 2003d). The Standards and Guidelines were designed in the spirit of the Parks Canada CRM Policy, and will soon offer a more elaborate section pertaining to archaeology.

5.1.4 Human Remains, Cemeteries, and Burial Grounds

Cemeteries, burial grounds, human remains, funerary objects, and grave markers found on federal Crown lands, lands under water, and in waters under the administration and control of Parks Canada are managed in accordance with *Management Directive 2.3.1: Human Remains, Cemeteries and Burial Grounds* (Parks Canada 2000). The directive applies to all human remains, and their associated sites and material culture, Aboriginal and non-Aboriginal alike. A brief summary of the contents of MD 2.3.1 is provided in Appendix G.

5.1.5 Functional Coordination

As required, consult with the Collections Manager, Archaeological Database Administrator, and Conservator at the appropriate Parks Canada Service Centre to coordinate requirements for data recording, field conservation, and processing, packing and shipping of archaeological items. For example, the Principal Investigator should contact the appropriate Parks Canada staff to determine which proveniences have already been assigned, as well as the next available proveniences.

5.1.6 Final Agreements and Consultation with Aboriginal Groups

A number of final comprehensive land claim agreements have been signed. These agreements are legally binding documents that outline treaty rights that are constitutionally protected. Some agreements include provisions relating to culture, heritage and archaeology. As these agreements bind the federal Crown, Parks Canada must adhere to sections and clauses in the agreements pertaining to archaeology and archaeological resources on federal Crown lands and lands under water under its administration and control.

Also, as stated in Parks Canada (2005b), it is good practice - and may be a legal requirement - to inform all interested parties, including affected Aboriginal groups, when an archaeological activity may impact upon their cultural heritage.

Key elements pertaining to final agreements and consultation are outlined in *Parks Canada Guidelines for the Management of Archaeological Resources* (Parks Canada 2005b) and *Management Bulletin 2.3.2. Archaeological Research Permitting* (Parks Canada 2005a).

5.2 BASIC PRINCIPLES FOR PLANNING FIELD CAMPS

- If feasible, a sheltered area on, or near, the site should be reserved for use as a "field office" and/or lab, where all completed records (notebooks, forms, maps, etc.) are stored and filed, and where archaeological objects can be cleaned and processed and prepared for shipment, if required.
- Effort should be made to ensure that each assistant has some separate space in the field office or field camp for completing his or her field recording duties and maintenance of equipment, and that each person has some free time during the day to work on these records and equipment.
- The Principal Investigator should delegate responsibilities among field assistants so that there is no confusion as to what each person is expected to do. For example, it may be feasible or desirable to make one assistant responsible for all photography and another for all mapping and instrument surveying.

- Where possible, the Principal Investigator should designate an individual in each field crew whose main duties are those of the Field Records Clerk. This person reports directly to the Principal Investigator and coordinates the recording activities of the field assistants, and must be thoroughly familiar with the procedures laid out by the Principal Investigator. The clerk is responsible for the security, integrity, accuracy, and completeness of files and records.

5.3 BASIC PRINCIPLES for ORGANIZING FIELD RECORDS

The following, in brief, are essential principles in the organization of records for archaeological excavations and surveys:

- Know the requirements of the recording system, and anticipate difficulties in meeting the requirements in order to marshal the necessary strategies to overcome them;
- Plan the recording procedures before the excavation or survey begins;
- Make explicit the procedures and the flow of records, files, archaeological objects, and the duties of each individual assistant in a given field project;
- Provide adequate time and facilities for record keeping, meeting the necessary standards of correctness and completeness;
- Wherever feasible, the clerical tasks of record keeping should be assigned to a specific person (such as a Field Records Clerk, described in Section 5.2 above), not distributed among the assistants;
- Records with multiple copies (paper or digital) that need to go to different individuals, stored securely, or be sent back to the Parks Canada Service Centre should be clearly marked as each copy is completed;
- For larger projects, plan the layout of the records area in such a way that the flow of records is simple and obvious to each person working there;
- Clearly mark where things are to go during processing and where they are to be stored when completed as it is important that all the records should be readily accessible to all individuals responsible for recording;
- Be aware of, and prepared to deal with, errors in recording.

5.4 RECOMMENDED REFERENCES FOR FIELD PROJECTS

The following references provide detailed directions for conducting excavations and surveys, most with an emphasis on Canadian archaeology. These are recommended for all archaeological excavation or survey projects conducted by Parks Canada archaeologists. If used, their application must be adapted to conform to the recording requirements outlined in the present Manual, and take into account recent developments in technology. To provide broader context, Section 11.0 Recommended Reading lists a number of other current standard references that are used internationally. For information regarding current Collections Management standards and procedures, please contact the Collections Manager for the appropriate Parks Canada Service Centre. Also, for information regarding underwater archaeology at Parks Canada, contact Underwater Archaeological Services at the Ontario Service Centre, and see the Bibliography.

5.4.1 Basic Archaeological Field Procedures

- Fladmark, Knut R. (1978) *A Guide to Basic Archaeological Field Procedures*. Publication No. 4, Department of Archaeology, Simon Fraser University, Burnaby, British Columbia.

Fladmark's guide provides detailed information on basic excavation and survey procedures, as well as suggestions for proper care and handling of field equipment, a glossary containing common technical terms, and numerous other helpful aids for the conduct of field projects. Though it was intended as a basic guide to archaeological fieldwork (and parts of the guide are outdated) it arguably remains the most comprehensive and practical field manual used by Canadian archaeologists. As a result, it is recommended as the default field manual reference for Parks Canada archaeologists, where a more current manual in unavailable.

5.4.2 Archaeological Surveys/Inventories

- *British Columbia Archaeological Inventory Guidelines* (2000) Version 1, Ministry of Small Business, Tourism and Culture, Archaeology Branch, British Columbia.

This document is currently available on the Government of British Columbia website, under the Archaeology section. Though specific to British Columbia, it is an excellent guide to the conduct of archaeological surveys or inventories, with general application to Canadian archaeology. It addresses the need to rigorously define research or resource management goals and objectives, and to outline the past and present physical and cultural landscape of the study areas. In addition, it includes recommendations for using a combination of judgmental surveying and statistically valid sampling techniques, basic mapping standards, and a suggested reporting format for archaeological inventories, which can all be adapted for Parks Canada use.

5.4.3 Field Conservation

- Parks Canada (1985) *Management Directive 2.1.22: Collection Management System: Conservation Services.* Appendices modified in 1991. Parks Canada, Ottawa.

Parks Canada archaeological conservators recommend Management Directive 2.1.22 for direction on general conservation of archaeological items in the field, supplemented by any pertinent manual as situations warrant. The references below represent two such manuals.

- Bergeron, André et France Rémillard (2000) *L'Archéologue et la conservation*. Vade-mecum québécois. 2e édition. Centre de conservation du Québec, Québec.

This is the standard archaeological field conservation manual for Québec archaeologists. It describes and illustrates practical procedures for conserving archaeological items in field situations. An English version is currently unavailable.

- Sease, Catherine (1994) *A Conservation Manual for the Field Archaeologist*. Third edition. UCLA Institute of Archaeology, Archaeological Research Tools, Vol. 4. Los Angeles, CA.

This has been a standard reference for many years, and still holds much relevance to practical field situations, though it is an American publication.

6.0 FIELD NOTES AND FORMS

The Field Notebook is normally the primary record of an excavation or survey and is often used in conjunction with a variety of forms and other media, such as remote sensing data, drawings and images. The Field Notebook comprises all the details and interpretations pertaining to an archaeological investigation, and provides a summary and reference of the key records generated in an archaeological investigation as a whole (forms, data files, drawings, images, notebook entries made by assistants, etc.)

Field notes must be recorded in a Field Notebook, and may be supplemented with forms, data and other media as required, examples of which are described in this section and elsewhere in the Manual. All notebook formats are acceptable (paper or electronic), though a paper copy, on neutral pH ("acid-free") paper, *must* be generated on completion, according to jurisdictional Collections Management standards.

6.1 PRINCIPLES
1. Entries in the Field Notebook and/or Forms are made every working day.
2. If other types of recording are used (e.g., forms) in addition to the Field Notebook, the latter will normally be the principal source of information.
3. It will be possible, as needed, to reconstruct all other records of the excavation or survey (e.g., forms, digital data files) from the Field Notebook entries.

6.2 BEST PRACTICES
- All paper notebooks containing original field data should be of the highest archival quality neutral pH paper, or at a minimum, copied onto neutral pH paper. For original handwriting, printing or copying, stable inks or pencil are highly recommended. For paper format, standard 8.5 x 11 inch (or metric equivalent size) grid paper is recommended.
- As soon as practicable, original field notes (paper or digital) should be sent to the appropriate repository, normally the Parks Canada Service Centre that has jurisdiction over the project area. Copies must be sent to the appropriate provincial or territorial site administration office (e.g., Prince of Wales Northern Heritage Centre) if stipulated as a condition under archaeological permit (e.g., for non-gazetted National Parks of Canada).
- All hand-written field notes and freehand drawings must be legible and fully comprehensible to others.
- Besides legible handwriting, the most useful practice in using the Field Notebook is to include and isolate relevant headings and subheadings. A readable, well-organized Field Notebook will make all subsequent recording more efficient.
- A table of contents should be included at the front of the Field Notebook (see Fig. 6). Ideally, an index should also be included for larger excavations or surveys.
- Where possible, manual transcription of field notes and other data should be avoided. Rather, direct data transfer is recommended to ensure integrity of the data and eliminate transcription error.
- All critical digital files should be backed up and stored in a secure location as soon as

- practicable.
- An extra copy of completed records, especially digital field data files, should be stored off site where possible.
- A cross-reference should be made of all records generated during an archaeological investigation, particularly when numerous digital data files and forms are used.
- A Staff Field Number (Sect. 6.3) should be assigned to every project worker and a master list of code numbers and descriptions administered by an individual in each Service Centre designated by the CRM Manager.

6.3 STAFF FIELD NUMBER

Each person making records in the field or field lab should be assigned an identifying number from a Parks Canada Service Centre master list (e.g., 137Q = Jane Doe). This Staff Field Number is a unique reference that readily identifies the staff person, year and regional area where that person worked, and can be attached to any field record in addition to field notes. Using the Staff Field Number reduces the amount of required writing compared with a name written in full, and facilitates records management. It is also a key element in the catalogue number systems for drawings and other media.

6.3.1 Staff Field Number: Components

The Staff Field Number normally contains three parts. The first part is the year (four characters, yyyy) followed by a hyphen; the second part is a number from 1 to infinity; and finally the Worker Area Code letter (Table 6), which is combined with the Staff Field Number of the individual as assigned. As situations warrant, the year prefix may be omitted.

For example, the person from the Quebec Service Centre staff that was assigned number 137 in 2004 would use 2004-137Q as the identifying Staff Field Number on her notes and records. The master list at the Quebec Service Centre would indicate that 137Q is Jane Doe.

Note that, in previous years, the Staff Field Number was normally discarded and reassigned after each field season, and had to be a number between 1 and 99 (a master list was maintained for each field season). This is no longer mandatory. Rather, it is recommended to assign a permanent Staff Field Number to an individual (e.g., 137Q), and maintain a permanent record at a given Service Centre. The year prefix can be added to this number as required and as described below.

Parks Canada Service Centres have developed several Staff Field Number systems that vary somewhat from the system described in Parks Canada (1978). Though Service Centres may continue to use their respective systems, the following, based on the Parks Canada 1978 model, is recommended as a best practice.

6.3.1.1 Worker Area Code Letter

Worker Area Code letters are used to identify individuals from a master list maintained by the Service Centre that administers the archaeological projects for a given province or territory, as shown in Table 6.

Table 6. Worker Area Code letters, with corresponding areas of the country.

Code	Regional Area of Canada	Province or Territory
W	Western	Includes AB, BC
P	Prairies and Northern	Includes MB, SK, NT, NU, YK
H	Ontario	
Q	Quebec	
A	Atlantic	Includes NS, NB, PE, NL

As some lists may change from year to year, the four digits of the year (yyyy) are sometimes prefixed to the Worker Area Code letter/Staff Field Number when it is used.

Examples
35H
7P
2003-137Q
2004-137Q

6.3.2 Assignment
Staff Field Numbers are assigned by the person(s) charged with their administration at a given Parks Canada Service Centre, prior to the commencement of the field project. Before the project begins, ensure that all persons making records at the site know their assigned numbers.

Temporary field assistants (e.g., volunteers), who are not on staff or contract, may use the Staff Field Number of the Principal Investigator, or their full name, at the Principal Investigator's discretion. In either situation, reference must be made in the Field Notebook describing the assignment of names and/or Staff Field Numbers.

6.4 FIELD NOTEBOOK
There is no specific format for Field Notebook entries; formats for these notes are entirely at the discretion of the Principal Investigator. However, the following guidelines and procedures are recommended as a best practice.

6.4.1 Field Notebook: Guidelines
- The Field Notebook begins by laying out the organizational elements of the project by outlining and making explicit the duties of each individual participant and recording their full names and/or Staff Field Numbers; identifying the person responsible for records maintenance (if applicable); listing the forms and types of records being used on the project; and identifying whether duplicate records are being kept and how they are being handled (e.g., quantity of copies, disposition, etc.).
- The Field Notebook function provides a day-to-day record of the progress of an archaeological investigation. Each day's notes should begin with the names or Staff Field Numbers of the daily team and the proveniences or areas in which they are working. Every time a new Provenience Number is assigned, it should be recorded, and when crewmembers are moved from one job to another, it should be noted.

- They must make explicit the procedures and the flow of records and archaeological objects in the field office or camp, and should be completed by the Principal Investigator or delegate. All written and digital file data for the project should be referenced in the Field Notebook.
- The excavation or survey strategy employed by the archaeologist must be included, as should notes describing the progress of work. Changing interpretive hypotheses and their rationale should be recorded.
- The Field Notebook should be used to record any externally generated record that serves as an integral part of the archaeological record (e.g., digital plan and GIS files, digital or analog video, multibeam bathymetry data).
- The Field Notebook is the source for all checking and error-correcting processes, though everything referenced in this notebook need not be directly recorded there (e.g., Ground Penetrating Radar files, GPS data files, finished drawings can all be resident outside the Field Notebook).
- The Field Notebook may also serve as a daily journal for the person who is maintaining it. For example, the Principal Investigator or delegate may combine all notes and references for the Field Notebook with daily journal entries.
- A "master list" of all records, data files, Staff Field Numbers, etc. made during a given archaeological project should be incorporated into the Field Notebook. A single, designated individual should enter the data pertaining to the assemblage of records on the master list, which can be incorporated as a separate section of the Field Notebook. Normally the Principal Investigator will perform this function, but the latter may delegate another individual based on project requirements.

6.4.2 Page

At the top of every page in the Field Notebook are entered the page number and the date on which the entries on that page are made.

The page number is normally entered on the top right corner of the page, and comprises the Staff Field Number, including the year prefix, a hyphen, and the page number in sequence.

Example
The thirty-third page of notes written by Staff Field Staff number 137Q (Jane Doe) from the Quebec Service Centre, Quebec in 2004 is "2004-137Q-33."

6.4.3 Date

The complete date is entered numerically in the upper left-hand corner of each page, in the following format yyyy-mm-dd. The number should be complete (no abbreviations). This facilitates identifying at a glance each notebook page.

Example
The thirty-first day of May, 2004 is written 2004-05-31.

6.4.4 Cross Reference to Other Staff Field Notebooks

Each day, the active page number(s) of each crewmember's Field Notebook will be referenced in the Principal Investigator's (or delegate's) Field Notebook.

6.4.5 Provenience

Whenever a new Site Number is assigned, information must be entered in the Field Notebook or on a form referenced to the notebook that complies with jurisdictional standards for site recording. Whenever a new Operation Number is assigned, an entry is made in the Field Notebook to define it and provide the rationale for its assignment (see Section 4.0). When a new Suboperation or Lot is opened, an entry to that effect is made in the Field Notebook that includes a reference to any forms, cards, or other medium being created. All provenience records must be associated with the minimum data standards established in Section 4.12 of this Manual. Any notes on provenience must be comprehensive, regardless of medium (paper, digital, etc.)

6.4.6 Images

Whenever a still image (print, slide, or digital image) is taken, either a complete entry is made on the Image Catalogue Form and/or in the Field Notebook. Data standards and requirements for image recording, as well image cataloguing procedures are described in Section 7.0.

6.4.7 Drawings, Maps and Other Media

Drawings to illustrate any topic made in the Field Notebook will be found throughout the field notes. Each sketch must include a scale (e.g., 1:15) or the notation that the drawing is not to scale, a north arrow (indicating grid, true, or magnetic north) or some other indication of cardinal direction, and a legend to the symbols used in the drawing.

Whenever a field drawing (map, plan or section) is made outside the Field Notebook, an entry to that effect is made in the Field Notebook. The field drawing must, at a minimum, be labelled with the essential data elements described in Section 8.0.

Data standards and requirements for drawings, maps and other media, as well as drawing and other media cataloguing procedures, are described in Section 8.0. Additional requirements are outlined in the Parks Canada Archaeological Site Inventory Form Guide (Appendix A).

Some electronic tools (remote sensing devices, digital video cameras, etc.) carry their own, internal data recording formats. An entry must be made in the Field Notebook when such instruments are used. Any identification numbers assigned through that device should be identified in the Field Notebook and any digital files generated should be recorded. Metadata for the digital devices should be kept in the Field Notebook or on forms that are referenced in the Field Notebook.

6.4.8 Forms

Whenever a form is used outside the Field Notebook, it should be referenced therein according to the procedures outlined in Section 8.0. Form examples with associated Form Guides are provided in Appendices A to F and include the following:

- Parks Canada Archaeological Site Inventory Form and Form Guide (Appendix A);
- Image Catalogue Form and Form Guide (Appendix B);
- Media Catalogue Form and Form Guide (Appendix C);
- Suboperation Summary Form (Appendix D);
- Lot Summary Form and Form Guide (Appendix E);
- Stratigraphy Summary Form and Form Guide (Appendix F).

6.4.9 Samples

If a sample of soil, charcoal, building material or any other substance is removed, it is recorded in the Field Notebook.

6.4.10 Digital File Naming Conventions

File naming conventions are highly recommended for all digital files generated as a result of a field project, such as digital drawings, or even field notes. Such a procedure will facilitate searching and accessing of digital files, and improve records management and archiving.

Wherever possible, the catalogue numbers for media, drawings, or archaeological objects should be used. The three-letter filename extension will then complete the record and facilitate file retrieval and management (e.g., through filtering).

Example
5H-2004-101H-D1.tiff

The same approach should be applied to electronic folders. Select a meaningful folder label or title that can be easily understood by others. Consult the appropriate Parks Canada Service Centre to determine whether local file and folder naming conventions have been adopted.

6.5 SUMMARIES

Unless summary forms are used, whenever a discrete part of the excavation or survey has been completed, a summary of the results should be recorded in the Field Notebook, drawing together and interpreting all the relevant data. Summaries of Lots, Suboperations and Operations, as well as structures, areas, stratigraphic layers and lot-stratigraphy correlations should also appear in the Field Notebook. General requirements for summaries are provided below. Details on mandatory provenience data and metadata elements are outlined in Section 4.12 Data and Metadata Standards for Provenience.

6.5.1 Operation Summary

Record the rationale for assigning the Operation Number, the extent and location of the area so defined in terms of coordinates, and the number of Suboperations assigned within it.

6.5.2 Suboperation Summary

Record the rationale for assigning the Suboperation Letter, the extent and location of the area so defined in terms of coordinates, the elevation of the original ground level in each of the corners and at the base of excavation, and the number of Lots assigned within it. A Suboperation Summary Form example is provided in Appendix D as an alternative to, or to supplement, the field notes.

6.5.3 Lot Summary

Record the rationale for assigning the Lot Number, and the depth below the surface and/or the elevation in each of the corners and/or centre. A Lot Summary Form example is provided in Appendix E as an alternative to, or to supplement, the field notes.

6.5.4 Structure/Area Summary
Record the identification both of the structure/activity area, the shape and dimensions overall, and of any subdivisions therein. Also, describe all of the constituent structural elements or features to include relevant dimensions, materials and methods of construction, relationships of the structure to others in the site, and include any other interpretive statements that are possible at the completion of the excavation or survey.

6.5.5 Stratigraphy (Layer/Event) Summary
Record the identification of the stratigraphic element, including a detailed description of the soil (e.g., soil type, texture, colour, and inclusions). Also describe the extent of the stratum and its relationship to other strata and to structures. A Stratigraphy Summary Form example is provided in Appendix F as an alternative to, or to supplement, the field notes.

6.6 TABLE OF CONTENTS
Once the Field Notebook has been completely filled, a Table of Contents should be created. The table should be organized by Provenience Number first and by subject second (e.g., feature, structure, area, layer, etc.), accompanied by the appropriate page number (Fig. 6). The Table of Contents should be inserted at the beginning of the Field Notebook, but does not need to be paginated. If an electronic notebook format is used (e.g., a word processor), a Table of Contents can be automatically generated. Another simple method is to create a table, as shown in Fig. 6. This allows one to space or cursor from one cell to another within the table. A similar table or approach can be adapted for hand-written entries in a paper notebook.

3K Table of Contents [Example]		**2004-7P-1**
SUBJECT	**DESCRIPTION**	**PAGE**
3K12	Layout of Suboperations	2004-7P-3
3K12A1		4
3K12A2		5
3K12B1		6
3K12C1		7
3K12D1		8
3K12A3		9
3K12B2		10
3K12B3		11
3K12A	Stratigraphy notes	12, 13
3K12	Elevation notes and coordinate data	14, 15
Well		16, 17
"		18, 19
"		20, 21
3K12C2		21 to 26
3K12B	Stratigraphy notes	27, 28
Latrine		29, 30
"		30, 31
3K12D	Stratigraphy notes	33, 34

3K Table of Contents [Example]		2004-7P-1
SUBJECT	**DESCRIPTION**	**PAGE**
3K13	Layout of Suboperations	35
3KA1		36
3K13B1		37
3K13C1		38 to 40
3K12C	Stratigraphy notes	41, 42
3K13A2		43
3K13B2		44
3K13B3		45
3K13A3		46
3K12	Photography notes	47, 48
3K13C	Stratigraphy notes	49

Figure 6. Example of Field Notebook Table of Contents.

7.0 IMAGES

This section describes recording and cataloguing procedures for "still" images, in both traditional film and digital formats. As Parks Canada is currently in a period of rapid transition between traditional and digital formats for image recording (and the development of standards to manage them), this section will require periodic amendment to keep pace with innovations and developments. For the purpose of this manual, "still images" refers to single-frame images, in either digital or film format (e.g., individual exposures recorded using a film or digital camera, and including single-frame video image captures). "Moving images", refers to images created by video cameras, film cameras etc. in either digital or analog tape format. Moving images are treated differently, as "media", in section 8.0.

7.1 PRINCIPLES AND GUIDELINES
1. All image records are prepared in such a manner that Collections Management staff or data entry clerks from the appropriate Parks Canada Service Centre can assure their efficient and complete entry into the archaeological records/database system.
2. An archival quality paper record of the image catalogue is produced for Collections Management for long-term records management and preservation.
3. All image data is input into the appropriate Parks Canada Archaeological Database.
4. A link is assured between the exposure or record number and the Image Catalogue Number after processing.
5. Where possible, manual transcription of data is avoided. Rather, data is transferred or input directly into the appropriate Parks Canada Service Centre Archaeological Database to ensure data integrity and reduce transcription error.
6. Where possible, unwanted digital images are deleted shortly after the recording event.
7. Digital records are organized daily to ensure integrity, completeness, and efficiency of data transfer.
8. Copies or digital data backups are made for all original images, according to the Collections Management standards of the appropriate Parks Canada Service Centre.
9. Core metadata pertaining to each file is recorded for each digital record to ensure the long-term preservation or integrity of the record and associated data. Every effort is made to keep current with latest Parks Canada initiatives on Digital Multimedia Asset Management and Metadata Standards.
10. As for all field records, the maximum possible legibility is essential for all entries pertaining to images, whether on forms or in field notes or other media.

7.2 IMAGE CATALOGUING SYSTEM
The image cataloguing system used for archaeological site photography (still images) in Parks Canada requires the assignment of an *exposure or record number* to each image at the time it is taken, and the assignment of an *Image Catalogue Number* to each image that is accessioned as a necessary part of the records of the excavation or survey. Both traditional film as well as digital photography can be catalogued using the same procedure, with slight variations according to the medium, and integrated into the same Image Catalogue Form example (see Section 7.4 below, and Appendix B).

Image Catalogue Numbers are assigned *after* the unwanted images have been culled by reason of technical quality or redundancy. In the case of traditional film photography, the Image Catalogue Numbers are assigned after the film has been processed and unnecessary exposures have been culled. For digital images, image cataloguing may be possible shortly after the recording event, as images can be quickly reviewed and culled as required.

7.2.1 Image Type Code

A single letter of the alphabet codes the type of image or film being used. It is recommended that no more than one type of image appear on each Image Catalogue Form. Note that most of these image codes are no longer used, but are listed here as they form an essential part of the legacy of data generated to date. However, traditional film types such as slide (T) and 35 mm colour (W) or black and white negative (M) are still in use. These must necessarily be coded in a manner consistent with previous work. The Image Type Codes are noted in Table 7. Three new codes are introduced in this version of the manual: "E" for digital images, "R" for radiograms, and "V" for digital video "still images" or "captures" ("moving images" are catalogued differently, under "Other Media". See Section 8.0).

Table 7. Valid Image Type Codes

Code	Description
A	4 x 5 colour slides (transparencies)
B	4 x 5 black-and-white negatives
C	4 x 5 colour negatives
D	35 mm black-and-white slide (transparencies)
E	Electronic (digital) images
L	Black-and-white negatives other than 120, 4 x 5, 35 mm
M	35 mm black-and-white negatives
N	120 colour negatives
P	120 colour slides (transparencies)
R	Radiograms
T	35 mm colour slides (transparencies)
V	Video ("still images" or "captures" only)
W	35 mm colour negatives
X	120 black-and-white negatives
Y	Colour negatives other than 120, 4 x 5, 35 mm

7.2.2 Exposure/Record Number

This number is assigned at the time that the picture is taken. For convenience, the procedures for traditional film photography and digital photography are described separately.

7.2.2.1 Film Photography

For traditional film photography, the results of the exposure are unknown and therefore it is impossible to anticipate that a particular exposure will receive a permanent Image Catalogue Number. Exposure numbers are assigned sequentially for each roll of film by type. *The exposure*

number signifies the advance of the film in the camera, not the frame number printed on the film by the manufacturer.

In Field Notebooks and other field records, the exposure number is used to reference the photographs, since the permanent catalogue will not normally be available at the time of the recording event. The exposure number consists of three groups separated by hyphens: the first group is the year (yyyy, e.g., 2004), followed by R (for "roll") followed by the roll number (in sequence for the type of film); the second group is the Image Type Code (Section 7.2.1); the third group is the number of the exposure made on the roll.

Example
2004R1-M-7 is the seventh exposure made on the first roll of 35 mm black-and-white film used in 2004.

7.2.2.2 Digital Photography
For digital images, the automatic numbering system of the camera may be used. It is recommended that the image number sequence for each camera be set to zero for each new project. If more than one digital camera is used in a given project, there is potential for duplicate or overlapping image record numbers. There are a number of solutions to this problem.

- Download the images as soon after the recording event as possible, and place the images in a folder appropriately labelled so as to distinguish them from images taken by other digital cameras.
- Use multiple data storage media/memory cards (e.g., four CompactFlash Cards) for each digital camera, and physically apply a label to each completed storage medium, in such a manner as to distinguish it from those used by other cameras for the same project. If this approach is used, it is recommended that the recorder's Staff Field Number or full name, and the date (yyyy-mm-dd) be included along with the storage medium sequence number. Acronyms describing the particular storage medium can be used, and should be identified in the field notes (e.g., "Flash Card" = "FC")
- At the end of each day, cull, download and assign Image Catalogue Numbers to all images generated by all cameras in a given day. This procedure would require compiling and coordinating all image files, folders and associated forms, and is best suited for one designated individual (e.g., a Field Records Clerk, or the Principal Investigator).

Examples
P000050.tiff   is the fiftieth image record number automatically generated by the digital camera, in ".tiff" format
FC01-200P (2004-06-11)   is the first Flash Card (image data storage medium/memory card) used by Staff Field Number 200P (Jane Smith) in 2004

As shown above, digital images will have an associated file name extension when downloaded, which usually comprises three or four characters (e.g., .tiff, .jpg). The photographer determines the image file type during the initial digital camera set-up. The file name extension is a critical element in digital file management and data filtering. As a result, its original format at the time of the recording event should always be retained as part of the image archive.

7.3 IMAGE CATALOGUE NUMBER

The Image Catalogue Number is assigned to the photograph at the time that it is entered into the permanent image catalogue. It consists of two groups separated by a hyphen: the first group is the Site Number; the second consists of the Image Type Code preceded by a number which is assigned in sequence for that image type and site as the photograph is catalogued, regardless of year or season.

Example

1H-430M   is the four hundred and thirtieth catalogued 35 mm black-and-white photograph from Fort St. Joseph NHSC, Ontario.

Image labelling procedures (i.e., writing/printing key data onto a slide/transparency, negative, or print) vary slightly for each Parks Canada Service Centre. For current protocols, consult the Collections Manager at the appropriate Service Centre. Several best practices are generic enough to be widely applied.

1.   The Image Catalogue Number is written with archival quality ink on stable data storage media.
2.   A link between the physical or digital record(s) and the associated Image Catalogue Number must always be assured.
3.   Legibility must always be assured.

7.4 IMAGE CATALOGUE FORM: EXPLAINED

An example of an Image Catalogue Form, as well as a Form Guide, is provided in Appendix B. Though the use of the Image Catalogue Form is optional, the data fields shown in the form and explained in the Form Guide are mandatory, and represent minimum data standards for Parks Canada image recording. As a result, the use of the Image Catalogue Form is recommended as a best practice.

The Image Catalogue Form organizes data for each still image as it is taken, correlates this record with the permanent Image Catalogue Number and prepares each of these records for data entry into an Archaeological Database. Relational databases can merge, cross-reference and output image data in a variety of ways to suit the needs of a given project or Service Centre's archaeological records management system.

There are two areas for data entries on the Image Catalogue Form. The entries at the top serve to index the form itself. The entries in the columns serve to index the individual images. Each roll of film (or memory card/image data storage medium) used requires the completion of a separate form, or a series of paginated forms if all the data cannot be entered on one form. Every exposure, by which is meant every full advance of film or record, requires an entry on at least one separate line of the form. A sequence of three bracketing exposures, for example, requires three separate entries on the form. Where data of an exposure or record is duplicated in the following exposure, ditto marks can be used.

7.4.1 Image Selection Process

Not all exposures or records need to be catalogued, and it would normally be highly redundant to catalogue every exposure/record. The selection for cataloguing will be based on information content, anticipated research, management, publication and presentation requirements or, in the case of bracketed exposures, the best exposure.

7.4.2 Duplicate Images

It is sometimes required to take two or more image records of the same subject to generate duplicate original images (e.g., for "bracketing" exposures). In this case, exposures/records would be separate items on the Image Catalogue Form, but could either be assigned the same Image Catalogue Number, with the extra image(s) labelled "duplicate", or be catalogued separately and ascribed a unique Image Catalogue Number. The Principal Investigator should consult with the Collections Manager of the appropriate Parks Canada Service Centre to determine the latest standard.

7.4.3 Studio Images of Catalogued Archaeological Objects

The Image Catalogue Form can be used to catalogue studio images of catalogued archaeological objects. Fill in all the data fields normally, ignoring the "Direction" field. In the subject field, list on a separate line the following information for each archaeological object in the image:

- the archaeological Object Catalogue Number;
- the name of the person that requested the image (after the final archaeological object entry for each image).

7.5 DATA STANDARDS FOR DIGITAL IMAGES

Format
1. Specific field formats are outlined in the Image Catalogue Form (Appendix B).

Mandatory Data
1. Specific data field requirements for images are outlined in the Image Catalogue Form (Appendix B). In the Form Guide, mandatory fields are indicated with an asterisk (*).

Image Preservation Standards
Recommendations for long-term preservation of digital images are provided in Appendix H, which summarises key recommendations from a current Parks Canada Digital Multimedia Asset Management initiative. The standards, both in Canada and abroad, are constantly evolving. Despite these rapid changes, the image standards outlined in Appendix H should be considered as a best practice. The standards will be updated periodically as required.

Image Metadata
Metadata is very important for the search and retrieval of multimedia content across an organization. Given the regional disposition of the Parks Canada Agency, metadata of the digital assets will be extremely important in order to search and retrieve content located in various content repositories across the country (Parks Canada 2003a.) Every effort should be made to keep current with latest Parks Canada metadata requirements.

8.0 DRAWINGS, MAPS, and OTHER MEDIA

The following procedures allow field records such as drawings and maps, as well as "media" such as magnetometer and sonar data generated during a field project, to be documented in a standard manner. The procedures also ensure that core data is associated with the original record, and facilitate the efficient transfer of data to an archaeological database or a paper-based record system. Central to the effective management of field drawings, maps, and other media are the Drawing and Media Catalogue Number systems, in tandem with the recording of key metadata for each type of record.

For the purpose of this Manual, "media" refers to the means by which something is communicated, such as instrument-derived data, audio, video ("moving images"), and forms, in either paper or digital format. "Moving images" refers to images created by video cameras, film cameras, etc. in either digital or analog tape format. The cataloguing procedure for media is a new introduction with this Manual, and is an adaptation of the drawing cataloguing procedure employed in previous years.

8.1 PRINCIPLES

1. Records are prepared in such a manner that Collections Management staff from the appropriate Parks Canada Service Centre can assure their efficient and complete entry into the records/database system.
2. Copies, or digital data backups (as applicable) are made for all original drawings, maps, and other media according to the Collections Management standards of the appropriate Parks Canada Service Centre.
3. Core metadata pertaining to each record is recorded, and to ensure the long-term preservation or integrity of the record and associated data. Every effort should be made to keep current with latest Parks Canada initiatives on Digital Multimedia Asset Management and Metadata Standards.
4. Metadata for digital files are included with each digital file. If not resident in the file itself, the essential metadata are recorded in the field notes.

8.2 DATA STANDARDS for DRAWINGS, MAPS and OTHER MEDIA

Field drawings, plans, and maps must, at a minimum, provide the information under the following headings:
- Drawing Catalogue Number (see Section 8.2.2);
- Provenience;
- Description;
- Scale (e.g., 1:15; 1:50,000);
- Date (in format: yyyy-mm-dd);
- Staff Field Number (or full name of archaeologist);
- References (Field Notebook page reference); and
- Include a north arrow (if applicable; depicting true, magnetic, or grid north).

As a best practice, the following should be included, if the data is applicable or available:
- Coordinates;
- Elevation.

These elements are described below. As a best practice, all drawings should be done in the metric system.

An example of a drawing record format (or card) for entering drawing data is shown in Figure 7. This is a variation of the Drawing Stamp and Card system used in previous versions of the Manual (see Parks Canada 1978:57). The format may also be adapted for maps (e.g., NTS topographic maps).

PROVENIENCE	DRAWING NUMBER	AREA	
DESCRIPTION			
SCALE	SHEET of	ELEVATION	COORDINATES
REFERENCES		NAME/STAFF FIELD No.	DATE

Figure 7. Example of a drawing record format (or card) for entering drawing data. Redrawn by S. Savauge, from Parks Canada (1978).

8.2.1 Provenience
Enter the most inclusive Provenience Number. Depending on the content of the record, this may be a Site, Operation, Suboperation, or Lot Number. The complete Provenience Number must be used, e.g., 2E43 or 2E43Q or 2E43Q48 would be correct, but 43Q48 or Q48 or other variations of partial provenience numbers are not acceptable.

8.2.2 Drawing Catalogue Number
The Drawing Catalogue Number or "Drawing Number" should be used to catalogue all key drawings, plans, and maps used or generated during the course of a field project. The Drawing Catalogue Number comprises the Site Number, Date (yyyy-mm-dd), Staff Field Number, and Drawing Number, separated by hyphens, as shown in the examples below and Table 8.

The Drawing Number denotes the drawings made by an individual, not the total of drawings for a project. The Drawing Numbers begin sequentially from number "1". For computer input, the drawing number groups are justified to the right, e.g., 009K-2004-7P-D005.

Examples
5H-2004-101H-D1
18H-2004-101H-D2
134H-2004-101H-D3
134H-2004-101H-D4

From the hypothetical examples above, one can determine at a glance that Staff Field Number 101H ("John Smith") generated four separate field drawings at three different sites (5H, 18H, and 134H) in the year 2004.

Table 8. Drawing Catalogue Number Components.

Site Number	Year (yyyy)	Staff Field Number	Drawing Number
5H	2004	101H	D1

8.2.3 Area
Identify the structure, part of a structure or activity area of which the record was made, e.g., "Latrine."

8.2.4 Description
Identify the drawing as a plan, section (profile), or elevation, and provide a statement of the drawing content and purpose (if applicable).

Examples
"Plan of casemate floor showing location of *in situ* archaeological objects"
"Plan of tent ring showing hearth, sleeping platform and cold trap"
"Elevation of north face (exterior) of doorway"
"Map of Operation 2E19 showing locations of Suboperations and limits of excavation"
"Elevation showing soil profiles of north-east face of suboperation 15H21D"

To specify content, additional Provenience Numbers should be added where applicable. For example, a plan of Suboperations 2E13Q and 2E13R would have the Operation Number 2E13 entered in the "Provenience" field (Section 8.2.1) and the specific Suboperation Letters listed in this "Description" field.

8.2.5 Scale
Enter the scale to which the drawing was made.

Example
"1cm = 1m" or A1:100"

8.2.6 Date
Enter the date on which the drawing was made, in numerical format: yyyy-mm-dd.

Example
The first day of July, 2005 would be entered as 2005-07-01.

8.2.7 References

Enter the Drawing Catalogue Numbers of the related drawings, including those of other sheets in the case of a composite drawing or mosaic. Also enter related field note pages or forms.

8.2.8 Coordinates and Elevations

Where possible, enter the spatial or geographic coordinate data pertinent to the drawing (See the Parks Canada Archaeological Site Inventory Form Guide, Appendix A, for examples and descriptions).

8.3 MAPS

A vast array of Topographic (e.g., NTS maps) and other maps (e.g., forestry maps, hydrographic charts, orthographic maps, Geographic Information System (GIS) maps) of various scales are often used to plot the locations of archaeological sites, or indicate vegetation, landforms, and other information for predictive modelling, etc. These maps or representations may be in either paper or digital format, or sometimes both, and may be acquired externally (e.g., from Geomatics Canada) or generated internally (e.g., from a Service Centre GIS database).

When original field data is recorded on such maps, and where the information does not appear elsewhere (e.g., on a master map), the map should be assigned a Drawing Catalogue Number as described above, which should be cross-referenced to the field notes.

On return from the field, the map will be catalogued into the Collections Management System according to jurisdictional Service Centre Collections Management procedures.

8.4 OTHER MEDIA

This section outlines best practices for cataloguing such media records as remote sensing data, digital and analog video and audio files and tapes, as well as geographic and navigational data, and forms.

The Media Catalogue Number is the cataloguing method for media in either digital or analog format, which is a variation of the Drawing Catalogue Number described above. As is the case for the Drawing Catalogue Number, the Media Catalogue Number comes with a requirement to record associated metadata for each record.

8.4.1 Media Catalogue Number

The Media Catalogue Number comprises the Site Number, Year, Staff Field Number, and Media Number, separated by hyphens. The Media Catalogue Numbers begin sequentially from number "1", and denote the records made by an individual, not the total of drawings for a project.

Example

9K-2004-137P-R1 is the first Remote Sensing Data record (R1) generated in 2004 at York Factory NHSC (9K), Manitoba by Staff Field Number 137P (Jim Doe)

Additional Examples
5H-2004-101H-A1; 5H-2004-101H-R1;18H-2004-101H-R2;134H-2004-101H-G1;134H-2004-101H-G2
From the hypothetical examples immediately above, one can determine at a glance that Staff Field Number 101 H ("John Smith") generated five separate media records (one audio record, two remote sensing records, and two geographic data records) at three different sites (5H, 18H, and 134H) in the year 2004.

8.4.2 Codes for Media Records
As a best practice, the following codes (Table 9) are applied to media records, which include digital files and outputs (e.g., magnetometer output/printout), and analog tapes (e.g., video, audio tapes).

Table 9. Valid Codes for Media Records, with Descriptions and Examples.

Code	Description	Examples
A	Audio	Digital audio files, analog tape formats (with no video component)
F	Forms	Suboperation Summary Form, Lot Summary Form
G	Geographic Data	Global Positioning System Data, Geographic Information System Data, Boat Navigation Data
R	Remote Sensing Data	Gradiometer Data, Magnetometer Data, Ground Penetrating Radar Data, Electrical Resistivity/Electromagnetic Conductivity Data, Sonar Data (such as Side Scan; Sector Beam; Multi-Beam; Sub Bottom Profiler), Satellite Remote Sensing, Aerial Photography Data (such as thermal imagery, Infrared)
S	Instrument Survey Data	Total Station, Transit, Theodolite, Level Data
V	Video	Digital video files, analog tape formats (may include associated audio components)

8.5 MEDIA SELECTION PROCESS
As specified in the case of digital images (described above), not all records need to be catalogued; the selection for cataloguing will be based on information content, anticipated research, management requirements, as well as publication and presentation requirements. Only those files identified by the Principal Investigator or delegate to be curated into the records system and referenced in the field notes should be assigned a Media Catalogue Number.

8.6 MEDIA CATALOGUE FORM: EXPLAINED
An example of Media Catalogue Form, as well as a Form Guide, is provided in Appendix C. Though the use of the Media Catalogue Form is optional, the data fields shown in the form and explained in the Form Guide are mandatory and represent minimum data standards for Parks Canada media records. As a result, the use of the Media Catalogue Form is recommended as a best practice. The Media Catalogue Form organizes data for each type of media as it is recorded, correlates this record with the permanent Media Catalogue Number and prepares each of these records for data entry or transfer into an Archaeological Database.
Relational databases can merge, cross-reference and output media data in a variety of ways to suit the needs of a given project or Service Centre's archaeological records management system.

9.0 ARCHAEOLOGICAL OBJECTS: TRACEABILITY FROM FIELD TO LAB

9.1 PRINCIPLES

1. It is critical to ensure the integrity of archaeological items, their grouping by provenience, and all associated data from the moment the archaeological items are recovered from the field to their reception at the Parks Canada Service Centre laboratory.
2. All items removed from the field as a result of an archaeological investigation are traceable to the archaeologist's Field Notebook or forms.
3. To ensure the above principle, it is essential to adhere to local Parks Canada Service Centre Collections Management procedures, directives, and guidelines.

9.2 ESSENTIAL DATA

Archaeologists should take every necessary precaution to ensure provenience control between the time that an archaeological item is excavated, or surface collected in the field, and the time that it has been received in the laboratory. The essential data, described below, must accompany archaeological items, at all times, between their recovery and their reception at the laboratory.

Archaeological items (e.g., archaeological objects, samples, feature components) must be brought or shipped to the Parks Canada Service Centre laboratory with the following information attached:

- Complete Provenience Number;
- Date of recovery (yyyy-mm-dd);
- Full name of archaeologist/collector (and/or Staff Field Number);
- Additional remarks (when necessary).

An archaeological object bag card example is provided in Figure 8. Its format may be adapted to suit the needs of a given Parks Canada Service Centre, provided the essential data noted above are included with the archaeological items removed from the field, and that labelling procedures for bags or cards are in accordance with the Collections Management standards of the appropriate Parks Canada Service Centre. The same approach may be used for other labels ascribed to larger archaeological items (e.g., structural members) removed from the field, as required.

PROVENIENCE	DATE (YYYY-MM-DD)
FULL NAME or STAFF FIELD NUMBER	
REMARKS	

Figure 8. Archaeological Object Bag Card Example. Redrawn by S. Savauge, from Parks Canada (1978).

In the "Remarks" field, for example, one could include object name, material type, or
note any special conservation requirements for the items, such as "Keep wet", "Fragile", "Do not
Wash", etc. Where there are multiple bags for a Lot, the bags could be numbered sequentially and,
if possible, the total number of bags from the Lot indicated, e.g., "Bag 1 of 3" or "Bag 27 of 32."

Best Practices
- Any recorded data should be legibly written or printed with stable, indelible ink on a resistant material (whether it is a bag, a card, a tag or a box) and accompany archaeological objects at all times.
- All collected archaeological items should be packed in containers (e.g., bags, boxes) that are sufficiently resilient to ensure that objects are not lost or mixed with others from a different provenience at any time after their recovery, and especially during their transport to the Parks Canada Service Centre laboratory.
- For the latest object cataloguing procedures and standards, consult the Collections Manager and Archaeological Conservators at the appropriate Parks Canada Service Centre.

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11.0 RECOMMENDED READING

11.1 ARCHAEOLOGY FIELD MANUALS (GENERAL)

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Historic Canals Regulations.
Historic Sites and Monuments Act.
National Historic Parks General Regulations.
National Parks General Regulations.
Parks Canada Agency Act.
Privacy Act.
Saguenay-St. Lawrence Marine Park Act.
Species at Risk Act.

12.0 ABBREVIATIONS

AB	The code used by Canada Post for the province of Alberta. The other province or territory codes are: AB, BC, SK, MB, NB, NL, NS, NU, NT, ON, PE, QC, and YT
ARM	Archaeological Resource Management
ASMIS	Archaeological Sites Management Information System (United States National Parks Service)
ASL	Above Sea Level (e.g., mASL = "metres above sea level")
BHD	Below Hydrographic Datum (e.g., mBHD = "metres below hydrographic datum")
BP	Before Present
BSL	Below Sea Level (e.g., mBSL = "metres below sea level")
CIDOC	Comité international pour la documentation, conseil international des musées (International Documentation Committee, International Council of Museums)
CRM	Cultural Resource Management. (Note: In this document, "CRM Manager" means an individual charged with and accountable for the overall program and management of the Parks Canada Service Centre archaeological field and collections services functions)
CMC	Canadian Museum of Civilization
DBD	Depth Below Datum
DBS	Depth Below Surface
DGPS	Differential Global Positioning System
FGDC	Federal Geographic Data Committee (based in United States of America)
FHBRO	Federal Heritage Building Review Office
GIS	Geographic Information System
GPS	Global Positioning System
HHS	Haida Heritage Site
ICOMOS	International Council on Monuments and Sites
JPG	Joint Photographic Experts Group (i.e., ".jpg" digital image file)
MGRS	Military Grid Reference System
MPEG	Moving Pictures Experts Group
NAD 27	North American Datum 1927
NAD 83	North American Datum 1983
NHSC	National Historic Site of Canada
NMCAC	National Marine Conservation Area of Canada
NPC	National Park of Canada
NPRC	National Park Reserve of Canada
NTS	National Topographic System
PCA	Parks Canada Agency
PDF	Portable Document Format (i.e., ".pdf" digital image file)
PDOP	Position Dilution of Precision (i.e., for GPS units)
PHA	Protected Heritage Area
TIFF	Tagged Image File Format (i.e., ".tiff" digital image file)
UTM	Universal Transverse Mercator
WGS 84	World Geodetic System 1984

APPENDIX A: Parks Canada Archaeological Site Inventory Form and Form Guide

PARKS CANADA ARCHAEOLOGICAL SITE INVENTORY FORM

Guide Ref.	Field Name	Form Check Boxes	Data/ Comments
A	*SITE IDENTIFICATION*		
A01	Parks Canada Site (Provenience) Number*		
A02	Site Name		
A03	Project Name		
A04	Recorder's Site Number*		
A05	Borden Number*		
A06	Permit Number*		
A07	Researcher*		
A08	Park or Site Code		
A09	Contract Number*		
B	*LOCATION*		
B01	UTM Coordinates*	UTM Zone ____ Easting ____ Northing ____	
B02	Latitude*	d___ m___ s N; d___ m___ s W	
B03	Longitude*	d___ m___ s N; d___ m___ s W	
B04	Elevation*	mASL___ mBSL___ mBHD; FROM:___ TO:___	
B05	Datum (Geodetic)	NAD83___ NAD27___ WGS84___ Other (please specify)___	
B06	Determination Method (Coordinates)*	GPS___ Differential GPS___ Total Station___ Estimate from Map___ Estimate from Aerial Photo___ Estimate from Description___ Other (please specify)___ Estimated Error ___	
B07	Location*		
B08	Access*		
B09	Map Reference Number *		
B10	Map Scale*	1:250,000___ 1:50,000___ 1:20,000___ Other (please specify)___	
B11	Other Map*		

PARKS CANADA ARCHAEOLOGICAL SITE INVENTORY FORM

Guide Ref.	Field Name	Form Check Boxes	Data/Comments
B12	Minor Drainage*		
B13	Major Drainage*		
B14	Aerial Photo Reference Number*		
B15	Province/Territory*		
B16	District/County*		
B17	Township*		
B18	Nearest Named Place		
B19	Cultural Region		
B20	Aspect		
B21	Site/ Sketch Map*		
C	*ENVIRONMENT*		
C01	Environmental Setting		
C02	Soil Type		
D	*TENURE*		
D01	Owner*		
D02	Political Jurisdiction*	Federal___ Provincial___ Municipal___ First Nation/Aboriginal___ Other (please specify)___	
D03	Legal Description*		
E	*VISIT HISTORY*		
E01	Date Visited (From/To)*	FROM: yyyy-mm-dd TO: yyyy-mm-dd	
E02	Nature of Work Done (Visit Activity)*	Surface Collecting___ Surface Recording___ Site Revisit___ Subsurface Testing___ Extensive Excavation___ Monitoring___ Surveillance___ Established Datum___ Alteration___ Unknown___ Other (please specify)___ Comments___	
E03	Change Since Last Visit*	Last Visit: (yyyy-mm-dd)	
E04	Informant Name*		

PARKS CANADA ARCHAEOLOGICAL SITE INVENTORY FORM

Guide Ref.	Field Name	Form Check Boxes	Data/ Comments
E05	Images/Recordings	Digital Image (still)__ Digital Image (moving)__ Video__ Air Photo__ Photograph__ Slide__ Cast__ Rubbing__ Sketch__ Audio (digital)__ Audio (analog)__ Side Scan Sonar__ Ground Penetrating Radar__ Satellite Imagery__ Metal Detector__ Other (please specify)__	
F	*CONDITION*		
F01	Condition Assessment (General)*	Good__ Fair__ Poor__ Destroyed__ Comments__	
F02	Disturbances (Impact Agents)*	CULTURAL: Borrow Pit__ Cultivation__ Development (Please specify)__ Dredging__ Environmental Testing__ Fire__ Grazing__ Landing Strip/Area__ Landscaping__ Logging__ Looting/Vandalism__ Military Activity__ Mining__ Previous Archaeological Investigation__ Railway__ Recreational Use__ Refuse Dumping__ Road__ Seismic Line__ Sewer/Septic__ Transmission Line__ Unauthorized Collecting__ Utility Trenching__ NATURAL: Bioturbation__ Decay__ Erosion (please specify)__ Ground Crack/Fissure__ Insect Infestation__ Rodent Burrowing__ Other Animal Activity (please specify)__ Vegetation Growth__ Other (please specify)__	
F03	Threatened Site?*	Threatened (T)__ Not Threatened (NT)__ Unknown Threat (UT)__ ; Justification__ ; Recommendations__ ; Future Threat Assessment: High__ Medium__ Low__ Rationale__	
F04	Estimated % Disturbed/Impacted*	Destroyed (100%)__ Very Disturbed (50-90%)__ Disturbed (25-50%)__ Slightly Disturbed (5-25%)__ Intact (no observable disturbance)__	
G	*DESCRIPTION*		
G01	Site Dimensions*	Length__ (m) Direction__ / Width__ (m) Direction__	
G02	Site Dimensions (Comments)	Estimated__ Exact__ Partial__ Whole__	
G03	Site Description (General)*	Surface__ Subsurface__ Underwater__ Undetermined__ Object Scatter__ Single Feature__ Multiple Features__	
G04	Features*		
G05	Isolated Find*	Yes__ Reported as an Archaeological Site? Rationale__	
G06	Site Type/Function*		
G07	Slope Angle	Degree__ / Percent__ %	
H	*CULTURE*		
H01	Site Type Class*	Pre-contact__ Indigenous Historic__ Historic__ Contemporary__ Natural__ Undetermined__	
H02	Cultural Period*		
H03	Scientific Dates/ Radiocarbon Data*		
H04	Culture		
H05	Cultural Strata		
I	*MANAGEMENT*		

PARKS CANADA ARCHAEOLOGICAL SITE INVENTORY FORM

Guide Ref.	Field Name	Form Check Boxes	Data/ Comments
I01	CRM Level*	Level I __ Level II __ "Other" __ Rationale __	
I02	Objects/ Samples (Collected)*	Stone Flakes __ Stone Tools __ Bone __ Ceramics __ Historic Objects __ Other (please specify) __ Repository __	
I03	Objects/ Samples (Not Collected)*	Stone flakes __ Stone Tools __ Bone __ Ceramics __ Historic Objects __ Other (please specify) __ No Archaeological Objects Observed __	
J	COMMENTS		
J01	Remarks		
J02	Recommendations*		
K	REFERENCE		
K01	Type of Documentation/ Archive*	Maps/Plans __ Still Photos __ Audio Recordings __ Video Footage __ Drawings __ Archival Information __ Field Notes __ Forms __ Archaeological Objects __ Articles __ Contacts __ Other (please specify) __	
K02	Field Notebook Reference*		
K03	Bibliographic References		

Parks Canada
Archaeological Site Inventory Form Guide

This Guide is to be used in tandem with the "Parks Canada Archaeological Site Inventory Form"

Mandatory Data Fields (if applicable/available) are indicated with an asterisk (*)

CONTENTS

INTRODUCTION

Parks Canada's archaeological resources must be accurately recorded to ensure their consideration in Cultural Resource Management (CRM) decisions, and to establish a national database for research, public education, conservation, and other uses.

The Parks Canada Archaeological Site Inventory Form is used to record and report all newly discovered archaeological sites, and update the record of previously recorded or reported ones. Maintenance of the archaeological inventory is the responsibility of each of the Parks Canada Service Centres and special units located across Canada. The contents of the Parks Canada Archaeological Site Inventory Form and this Form Guide are based on an analysis of all provincial and territorial archaeological site inventory forms and guides (see bibliography), balanced with recording requirements specific to Parks Canada archaeological recording systems, as well as international archaeological data standards (see CIDOC 1998). These records, and the topographic or GIS maps on which most site locations are plotted, form the main components of Parks Canada's inventory of archaeological sites.

Though the fields in the Archaeological Site Inventory Form reflect the Borden System requirements for all the provinces and territories, it is recommended that the appropriate institution charged with administering Borden Site Numbers be consulted to assure all current requirements are met.

One of the greatest challenges faced in such a national inventory is to accommodate the vast array of archaeological recording requirements across Canada, while incorporating, to the greatest extent possible, the reporting requirements of provincial and territorial institutions charged with administering Borden Site Number assignment. In addition, as Canada is an active participant on the CIDOC committee for the International Council of Museums (ICOM), there is a need to meet international standards for the exchange of archaeological data (see CIDOC 1998).

How to Use this Guide

Specific instructions for each data field are provided in this Guide. These correspond with the left hand column of the "Parks Canada Archaeological Site Inventory Form." **An asterisk (*) indicates mandatory fields (where applicable, or where data is available).** The data fields and the form itself may be custom-tailored to meet the needs of the Service Centre responsible for recording and reporting of archaeological sites in their jurisdiction, but the fields indicated as mandatory must be filled out as accurately as possible when information is available, or if the field is applicable for the site in question.

This Guide and the associated Form are organized into generic categories that can be re-sorted and filtered, and custom-tailored as required for internal data management or recording purposes. Additional parameters for archaeological recording are outlined in the parent document "Parks Canada Archaeological Recording Manual: Excavations and Surveys" (2005). An archaeological site, regardless of its type or affiliation, should always be recorded in as much detail (and as accurately) as possible to ensure the Parks Canada inventory of archaeological sites is of maximum use for archaeological resource management, research, and conservation planning.

For assistance or clarification, please contact: Manager, Archaeological Resource Management, Archaeological Services Branch, National Historic Sites Directorate, Parks Canada Agency, 25 Eddy Street, 5th Floor (25-5-Y), Gatineau, Québec, K1A 0M5.

A. SITE IDENTIFICATION

A01   Parks Canada Site (Provenience) Number*

This is the official Parks Canada site identification (provenience) number (e.g., 130X1). It is determined by the Project Archaeologist, and must be entered if known.   The   parameters   of "Provenience" are outlined in detail in the parent document "Parks Canada Archaeological Recording Manual: Excavations and Surveys" (2005).

Examples
5A
8B
1035G
1007T
130X1
300X100

A02   Site Name

Indicate all known sites names. Separate multiple entries by a semicolon. A site can be known by a number of names, including a local traditional (Aboriginal) name, a name attributed by a researcher, a name commonly used by people in the area, as well as the standard geographic place name noted on an NTS or other map. This field may also be used for shipwrecks.

Examples
Kittigazuit
Kittegazuit
Old Kitty
Kittygaryuit
Tsiigeh tshik
Button Point
Sannirut

A03   Project Name

Enter the name of the archaeological project. Separate multiple entries by a semicolon.

Example
Lower Fort Garry NHSC Boat Access Facilities Project
Wapusk NPC Archaeological Inventory Project

A04   Recorder's Site Number*

Indicate any temporary site number or name assigned by the researcher in the field. In the absence of an available Provenience/ Site Number, a suggested format to identify each site is to use the recorder's full name or initials, the year, and the sequential number of the site.

Examples
TR East-1
Jane Doe-2004-1
Jane Doe-2004-2
JD-2004-1
JD-2004-2

A05   Borden Number*

Leave blank for new sites. Indicate Borden (Site) Number if known (in the case of a revisit, for example). As soon as practicable, the Project Archaeologist must apply for a Borden Number from the appropriate provincial or territorial institution. Note that some archaeological sites recorded by Parks Canada may not meet provincial or territorial Borden Site criteria (e.g., due to date restrictions) and may not qualify for a Borden Number. They will remain as archaeological sites recorded under the Parks Canada provenience system (without a Borden Number). Borden Numbers are entered using the following format (additional information available online from the Canadian Museum of Civilization): first alpha character upper case, second alpha character lower case, third upper case, forth lower case, followed by a hyphen and numeric. If the Borden block is known but a sequential has not been assigned, enter a zero for sequential number. If only the upper Borden is known, enter "z" for the lowercase characters (KzNz-0). If the Borden block is unknown, enter "Y" for upper and "y" for lower (YyYy-0). Separate extra characters after sequence number with a space (KeNi-1 A).

Examples
KeNi-1
KeNi-1 A
KeNI-1 -1
KeNi-0
KzNz-0
YyYy-0

A06   Permit Number*

Indicate the number of the Parks Canada, provincial or territorial archaeological research permit held by the researcher.

Examples
NWT 96-829
NWT 2001-987
94-6ASR

NUNAVUT 2001-018A
Parks Canada Permit No. 97-00004

A07   Researcher*

List the Principal Investigators/Project Archaeologists/permit holders who have been at the site. Enter in the following format: surname, given name, initials. Names of co-investigators should be separated by a semicolon.

Example

Adams, Gary F.; Burke, Charles A.

A08   Park or Site Code

This code establishes a grouping or relationship between archaeological sites (which may be numerous) within a single geographic entity, such as a National Park of Canada or National Historic Site of Canada. If applicable, consult the authority list at the appropriate Parks Canada Service Centre for a list of valid codes for protected heritage areas administered by Parks Canada. It is used primarily for data sorting and filtering in a Parks Canada Archaeological Database. The examples below are from the Western Canada Service Centre database in Winnipeg.

Examples

H51 (York Factory NHSC)
P37 (Aulavik NPC)

A09   Contract Number*

If applicable, enter the number of the contract held by the permit holder to conduct archaeological research. Separate multiple entries by a semicolon.

Examples

1630-79-67; 1630-82-25

B. LOCATION

Point Data (General Information)

When reporting spatial/geographic coordinate data for an archaeological site (or component of an archaeological site), include at least one of the following:

- Civilian UTM coordinates (See "UTM Coordinates" Field (Section B01));
- Geographic coordinates (See "Latitude" and "Longitude" fields (Sections B02 and B03)).

Both sets of readings are encouraged and accepted. The preferred standard is NAD 83 Civilian

UTM coordinates, as this is the most widely accepted in North America at the present time. Conversion programs for NADs other than 83 are readily available on the Internet (such as the Geomatics Canada website). Decimal degrees are often requested for use in GIS databases.

Where NAD 83 Civilian UTM coordinates are not available, the following point data will be accepted:

- NAD 27 MGRS coordinates;
- NAD 83 MGRS coordinates;
- NAD 27 latitude and longitude coordinates in either degrees:minutes:seconds or decimal degrees;
- WGS 84 latitude and longitude coordinates in either degrees:minutes:seconds or decimal degrees;
- an NTS field map showing site locations.

In all cases, NTS maps showing site locations as points are required and mandatory. NTS maps at the 1:50,000 scale (or photocopy of portion thereof, to scale) are acceptable in paper or electronic format (i.e., .jpg). It is preferable that site forms be provided in Excel, Access or tab-delimited text files.

Guidelines for the Use of GPS

Detailed guidelines for the use of GPS are offered online in the document *"Guidelines for Recording Archaeological Site Coordinates with Global Positioning System (GPS)"*, which is available through the Prince of Wales Northern Heritage Centre (PWNHC) website (PWNHC n.d., accessed online June 2005, at http://pwnhc.learnnet.nt.ca/programs/downloads/20Jun05NWTGPSStandards.pdf). The guidelines are recommended as a standard for Parks Canada archaeological sites. In addition, the guidelines are a requirement for all Northwest Territories archaeology permits.

Based on the Guidelines noted above, the following information, at a minimum, should be recorded, preferably in the Field Notebook (parameters and/or examples are provided for each item):

- Site identification number (Provenience Number highly recommended);
- The GPS model and type (e.g., Garmin 12 XL);
- The date the coordinates were taken (yyyy-mm-dd);
- Units (metric highly recommended);
- The datum used (e.g., NAD 83);
- Coordinate system used (UTM or Decimal Degrees highly recommended. See above.);
- Geographic coordinates (for small archaeological sites less than 100 square metres, a single coordinate reading will suffice. For large sites, five readings are recommended. These should be taken at the site centre, and at the furthest extents of each of the cardinal directions. Multiple readings for large sites are of particular use in GIS applications);
- Antenna height (use the top of your backpack or a tripod and enter this height. Note that low level vegetation may effect readings);
- The PDOP value for each coordinate reading (should be no greater than 6);
- 3-D Manual Mode (minimum of four satellites);
- Signal strength (minimum level of 6);

- Satellite elevation (minimum 15 degree angle of unobstructed visibility above the horizon is required);
- Weather conditions (e.g., overcast).

Site Map (General Information)

The site map is essential for accurate plotting of the site's location and will become a critical permanent record of the site area. Two types of maps are required for the Parks Canada Archaeological Site Inventory Form: a 1:50,000 NTS map with the site accurately plotted and a detailed site map ("Site/Sketch Map", Section B21). A 1:20,000 scale map may be included if further site location information is needed to accurately locate or plot the site. A detailed site map is: 1) essential for monitoring changes occurring at the site over time; 2) helpful in assessing the site's significance compared to other sites in the area; and 3) useful in responding accurately and quickly to various institutions without requiring another field check to determine boundaries of sites in close proximity. Please see B20 in the Form Guide for specific site mapping requirements.

B01 UTM Coordinates*

Enter the Civilian UTM Zone, the six-digit Easting and the seven-digit Northing. These coordinates should be obtained using a GPS unit. If obtained by other means (e.g., digital maps, reading from an NTS map), please note in the "Determination Method" field (Section B05), or the "Remarks" field (Section J01). Locational notations or grid overlays regarding the UTM Grid system appear on most NTS maps, and the basic method for calculating UTM coordinates is explained on the border of most gridded maps. On gridded NTS maps, the distance between each grid line is 2 cm (1000 m in the field), therefore a metric ruler can be used to calculate an Easting and Northing to the nearest hundred metres. Civilian UTMs should be used as a best practice, though the Military Grid Reference System (MGRS) may be also used if required.

Examples

UTM Zone: 10; Easting: 621700; Northing 7557350 [Civilian]
12WEF E1234 N5678 [MGRS]

B02 Latitude*

Calculate site latitude to the nearest second. Provide in degrees, minutes and seconds, or in decimal degrees format if required (e.g., for a GIS database). In the "Remarks" field (Section J01), indicate whether the coordinates were acquired using a GPS unit or calculated from an NTS map.

Examples

56d 45m 20s N
45.12345

B03 Longitude*

Calculate site longitude to the nearest second. Provide in degrees, minutes and seconds, or in decimal degrees format if required. In the " "Remarks" field, indicate whether the coordinates were acquired using a GPS unit or calculated from an NTS map.

Examples

90d 40m 30s W
124d 32m 23s W
75.12345

B04 Elevation*

Record both the elevation above sea level (ASL) and the local elevation of the site above the adjacent terrain or water. Reporting elevation in metres is preferred (to convert feet to metres multiply by 0.3048). Underwater sites should be recorded in metres above or below hydrographic datum. Enter elevation as a single number followed by BSL (Below Sea Level) or ASL. If an accurate range of elevations is available, indicate elevation "FROM" and "TO" as in the example.

Examples

30 mASL
30 mBHD
FROM: 30 (mASL) TO: 30 (mASL)

B05 Datum (Geodetic)

Indicate the geodetic datum used.

Examples

NAD 83
NAD 27
WGS 84

B06 Determination Method (Coordinates)*

Check the appropriate boxes and/or enter the method(s) and/or the instrument(s) used in calculating the coordinates of the site (including elevation), and the estimated error of each calculation. Any additional notes may be included in the "Remarks" field (section J01). Please specify to which coordinates the determination method is referring.

Examples

Derived from GPS (differential)
Wallace and Tierman surveying altimeter
Estimated from NTS map
AutoCAD Digitizing System
Hand-held GPS

B07 Location*

The purpose of the information in this entry is to make it possible for anyone to accurately plot the site on the appropriate 1:50,000 scale NTS map. Describe the site in a logical manner from general to specific, starting with a fairly general area description. Describe the site location in relation to

geographic features or permanent landmarks noted on a NTS 1:50,000 map. Site location may be determined by compass triangulation (specify true, grid or magnetic north) and calculation of distances from features appearing on the NTS map (e.g., hilltop, mountain peak, river or creek mouth, esker, headland). Unmapped features, such as trees or buildings, should not be used as datum points. Distances must be measured accurately, using a tape measure, vehicle odometer, pace chart or other precise measure.

Example
Located between Campbellford and Meyersburg, west of Highway 50, on the west bank of the Trent River, 300 m west of its confluence with the Crowe River.

B08 Access*
Explain precisely how to access the site and whether the site can be reached by foot or by vehicle (motorised or other). The purpose of the information in this entry is to make it possible for anyone to readily re-locate the site in the field (or underwater) by indicating the method of travel required to access the site. Access information should complement the locational data by referring to features not necessarily found on the NTS map (e.g., local geographic features, human or animal trails) and by indicating the method of travel required. Be attentive to all details and use cardinal directions (N, S, E, W, NW, etc.) and not "left" or "right" unless accompanied by the cardinal direction.

Example
Located approximately 2 km SW of the Green Cabin, W of site 130X120, on a high bluff 300 m W of the Thomsen River. Five tundra ponds and an expansive rock outcrop are visible below site to the NE. Access by helicopter, canoe or on foot.

B09 Map Reference Number *
Indicate the reference number for the appropriate 1:50,000 (or other scale, such as 1:250,000) scale National Topographic Series (NTS) map. Non-standard maps should be recorded in the "Other Map" field.

Examples
97A (Erly Lake)
25K
25K/3W
103P/10

B10 Map Scale*
Enter the scale of the map (NTS or other) on which the site is plotted.

B11 Other Map*
Enter the name and/or number of any other (non-NTS) map(s) relevant to the site, as well as the

map or issuing agency, and the scale. Please do not enter detailed site plans/sketch maps in this field (those are entered in "Sketch Map/Site Plan" field. Historic maps such as archival maps, traplines, etc. should be noted, along with scale, if available. This may include Hydrographic Chart Number(s) for underwater sites.

Example
082F Stuie, 1:250,000

B12 Minor Drainage*
The name of the body of water with which site is most closely associated. For shipwrecks: enter the name of the minor water body (harbour, body, cove, bay, etc.) within the major body containing the site of the shipwreck. Enter the smaller, immediate fresh water drainage or lake if the site is on an interior waterway.

Examples
Muskox Creek
unnamed creek
Peggy's Cove (for Coastal Shipwrecks/underwater sites)
Lake Ontario (for Interior Shipwrecks/underwater sites)

B13 Major Drainage*
The major drainage system into which the local drainage on which the site is located flows. For shipwrecks: enter the name or description of the major water body such as a strait, inlet, channel, etc. that contains the site of the shipwreck. Enter the major drainage if the site is on an interior waterway.

Examples
Thomsen River
unnamed river
Labrador Sea (for Coastal Shipwrecks/underwater sites)
Hudson Bay (for Interior Shipwrecks/underwater sites)

B14 Aerial Photo Reference Number*
Enter the aerial (air) photo reference number. Separate multiple entries by a semicolon.

Examples
A-16098-7
A-17242
Q287-45

B15 Province/ Territory*

This field indicates the province or territory in which the site is located. Enter, in abbreviated format, the name of the province or territory. Use the Canada Post Province/Territory codes. Entry must be made in upper case. Note that the code "NL" includes Labrador.

Examples

AB, BC, MB, ON, PE, QC, NS, NL, NU, NT, SK, YT

B16 District/County*

Enter the name of the district, county or shire (if applicable) in which the site is located. It may also apply to regional districts, counties or townships within the provinces.

Examples

Keewatin [District]
Simcoe [County]

B17 Township*

Enter the name of the township in which the site is located, if applicable.

Examples

Fitzroy
Nottawasaga

B18 Nearest Named Place

Enter the nearest named place(s).

Examples

Aklavik
Campbellford
Sydney

B19 Cultural Region

List the name(s) of the cultural region(s) or ethnographic area(s) in which the site is located.

Examples

Champagne-Aishihik First Nations
Kwanlin Dun First Nation
White River First Nation

B20 Aspect

Indicate the principal direction that the site faces. Use standard or cardinal indicators of direction (N, E, S, W, NNW).

B21 Site/ Sketch Map*

The British Columbia Archaeological Site Inventory Form Guide (revised 2003, available online) offers excellent minimum detailed mapping standards, which are highly recommended for Parks Canada archaeologists.

The Guide to the Saskatchewan Archaeological Resource Record (1992, available online) offers basic guidelines. Plot the boundaries of the site and the surface features or activity areas in relation to: 1) major topographic landforms and/or vegetation, such as streams, hills, meadows, etc.; 2) existing permanent landmarks such as roads, buildings, fences, geodetic markers, etc.; and 3) where appropriate, areas of erosion, proposed land use, development, etc. which could adversely impact the site. As well, indicate where authorised archaeological investigations were conducted or where objects were collected, and any areas that have been adversely impacted. Include a north arrow (north is normally toward the top of the page) along one of the map margins indicating whether this is a grid, magnetic, or true north. In addition, include feature and structure distributions, datum points, compass bearings, map scale (in metric), and map symbols in a legend. Where possible, relate the feature locations in the Site Plan/Map with features noted in the NTS Map(s) and Site Access and Location Fields.

Standard Symbols for Drawings and Maps

A basic list of standard symbols for drawings and maps is offered in Table 1. These symbols are recommended as a best practice, and represent some of the more common symbols found in archaeology guides and manuals across Canada, many of which can be found in Fry (c. 1975).

Table 1. Recommended Standard Symbols for Maps and Drawings.

Description	Top View	Side View
Archaeological Site Boundary		
Bridge		
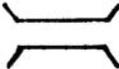
Description	Top View	Side View
Crest of Slope		
Depression (small)		
Mound/Hill (small)		
Stones		
Upright Stones		
Datum		
Transit/Theodolite Station		
Fence		
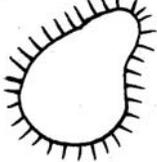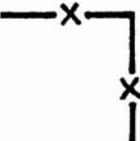
Description	Top View	Side View
Marsh/Swamp		
Railway		
Road		
Shovel Test *(Negative, positive)*		
Soil Probe Test *(Negative, positive)*		
Trail (animal or human)		
Tree		
Vegetation Extent		
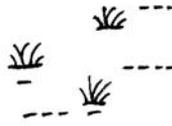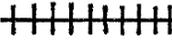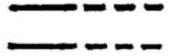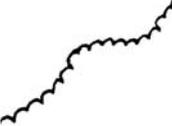
Description	Top View	Side View
Watercourse (River, Creek)		
Lake/Pond		
Tent Ring/Stone Circle		

C. ENVIRONMENT

C01 Environmental Setting

Describe the natural setting of the site: drainage, vegetation, and landforms. If applicable, report the ecoregion in which the site is located. Useful guidelines for recording site landforms are provided in Appendix 3 of the Guide to the Saskatchewan Archaeological Resource Record (1992), available online. Habitat descriptions are also available online on the Maritime Archaeological Resource Inventory (2004) form. For vegetation, a suggested guideline is that found in the Yukon Archaeological Site Inventory Form (2004, available online): Enter the names of the dominant flora at the site. A suggested guideline is to classify the vegetation under the following headings: Trees, Shrubs, Ground Vegetation. Use either common or scientific names; list in order of most to least abundant. Indicate degree of forest cover (e.g., closed, open, parkland, secondary regrowth.) For underwater sites, include information on shorelines, exposure, wave action, visibility factors, proximity to shipping lanes, etc.

C02 Soil Type

Provide a general description of the soil matrix and soil strata, including a description of the colour, texture, depth and composition of each stratum. Use natural soil horizon terminology, with arbitrary level designations within a horizon, if required.

One of the most widely used particle size classification systems used in North America is the logarithmic "Wentworth Grade Scale", which is shown in Table 2 below. It provides a conventional particle size classification system for soils, with a scale ranging from "boulder" (greater than 256 mm) to "clay" (less than 0.0039 mm), and intermediate ranges defining cobbles, pebbles, sand and

silt. Sieves with specific mesh sizes are available so that the proportions of these various particles can be readily calculated. Common mesh and sieve sizes are described in Fladmark (1978).

Table 2. The Wentworth Grade Scale – a conventional particle size classification system, from Fladmark (1978).

Class Terms	Millimetres (mm)	Comments
Boulder	Anything over 256	
Cobble	64 – 256	
Pebble	4 – 64	
Granule	2 – 4	Granule is not a commonly encountered size or term
Very Coarse Sand	1 – 2	
Coarse Sand	0.5 – 1.0	
Medium Sand	0.25 - 0.5	
Fine Sand	0.125 – 0.25	
Very Fine Sand	0.062 – 0.125	
Silt	0.0039 – 0.062	
Clay	Under 0.0039	

For comparison, note that the Province of Saskatchewan (1992) provides a simplified list of soil terms shown in Table 3 below:

Table 3. Simplified particle size classification, from Province of Saskatchewan (1992).

Class Terms	Millimetres (mm)
Boulder	Anything over 256
Cobble	64 – 256
Gravel	2 - 64
Sand	0.05 - 2
Silt	0.002 - 0.05
Clay	0.0002 – 0.002

D. TENURE

D01 Owner*
Enter the name of the legal owner of the property, as opposed to political jurisdiction, on which the site is located. See also the "Political Jurisdiction" field (D02).

Examples
Parks Canada
John Doe
Kluane First Nation

D02 Political Jurisdiction*

Indicate whether the site is under federal, provincial, municipal, or Aboriginal (First Nation/ Inuvialuit/ Inuit) political jurisdiction. If "other", please specify.

Examples
Federal
Provincial
Inuvialuit

D03 Legal Description*

Enter the coded reference to the area in which a site occurs as surveyed for Land Title Registration (Archaeology). Units and practices vary by province and territory. This field indicates the legal description of the site referenced in the Borden Number field. Legal descriptions result from surveys required for Land Title Registration purposes. For instructions on reading and reporting legal descriptions, consult the Guide to the Saskatchewan Archaeological Resource Record (1992), and the British Columbia Archaeological Site Inventory Form Guide (2003), which are both available online.

Example
1/4 NW. 1/4 of Section T-16N. R21E. W. of Meridian.

E. VISIT HISTORY

E01 Date Visited (From/To)*

Enter the date(s) you (or the informant) visited or worked at the site. Indicate complete date of last visit if known (yyyy-mm-dd). For unknown date elements, enter zeros (0000-00-00) for each missing element as required. Enter any comments in the "remarks" field.

Examples
FROM: 2004-05-31 TO: 2004-06-04
FROM: 2004-05-00 TO: 2004-05-00

E02 Nature of Work Done (Visit Activity)*

Check off as many items on the Archaeological Site Inventory Form as appropriate and/or describe the range of work done at the site in the "Remarks" (J01) field.

E03 Change Since Last Visit*

For previously documented sites, have disturbances/impacts increased or decreased? Conduct a qualitative or, where possible, quantitative assessment. Use the guidelines in the "Estimated % Disturbed/Impacted" field (F04), if applicable. Describe any observed changes based on available

data. Indicate complete date of last visit, if known (yyyy-mm-dd). For unknown date elements, enter zeros (0000-00-00) for each missing element as required.

E04   Informant Name*
Record the full name(s) and address(es) of any persons having special knowledge about the site (e.g., informant-reported sites).

E05   Images/ Recordings*
Indicate the type(s) of image(s) generated during the current site visit, and any digital or analog recording instruments from which records were generated. Check off as many items on the Archaeological Site Inventory Form as applicable.

F. CONDITION

F01   Condition Assessment (General)*
Indicate one of the three categories. These may be applied to the site as a whole, or to site components, as required (please specify). Any recommendations for the management or protection of the site may also be indicated here, or in the Recommendations (J02) field.

Good = Stable. No appreciable damage to or deterioration of known archaeological resources. No work other than regular maintenance and monitoring is required to ensure integrity of archaeological resources.

Fair = Minor damage to or deterioration of known archaeological resources, resulting in minor or potential loss of integrity. May require preservation, enhanced monitoring, mitigation, or other measures.

Poor = Major damage to or deterioration of known archaeological resources. Requires urgent preservation or mitigation (e.g., salvage) or other measures to prevent further loss of integrity or to capture information before it is lost.

Destroyed = The site is destroyed or so severely damaged that the data potential/scientific research value is deemed insufficient to warrant further archaeological monitoring or investigation.

Add any comments as required for clarification/rationale for assessment. Also note if a condition assessment has not been done.

Note: These are suggested guidelines based on the general criteria used in the *State of the Parks 1997 Report* (Parks Canada 1998) and Parks Canada's May 2005 draft rating guide for Commemorative Integrity Statements. Additional discussion will be required to finalise official criteria. The "Destroyed" category was borrowed from the US National Parks Service (2003) "Guidance on Determining Archaeological Site Condition for ASMIS" (National Parks Service

2003).

F02 Disturbances (Impact Agents)*

Check off as many cultural and/or natural disturbance factors as appropriate on the Archaeological Site Inventory Form and provide a brief description, if required (or possible).

Examples

eroding (slumping)
disturbed by pothunters/looters
threatened by road construction
disturbed by ATV traffic
destroyed by unauthorised collection

F03 Threatened Site? *

Select one of three categories (Threatened, Not Threatened, or Unknown Threat). "Unknown Threat" may be used when it is not possible to determine or assess potential threats to the integrity of cultural resources.

Justification: Indicate the basis/rationale of your assessment.

Recommendations: Provide suggestions for action to alleviate impacts on cultural resources based on field inspection.

Comments: general or specific information, interpretations, etc. not previously noted.

Future Threats: Estimate future threats (disturbances/impacts) according to the following scale: High, Medium, or Low.

Rationale: Indicate the basis/rationale for your assessment, and record any potential disturbances to the site and when these disturbances are likely to occur.

F04 Estimated % Disturbed/Impacted*

This section provides more detail than the general condition of the site (see Condition Assessment field, F01). With reference to the horizontal and vertical site extent, estimate the percentage of site disturbed/impacted.

The recommended guidelines, based on the Yukon Archaeological Site Inventory Form Guide (Government of Yukon 2004) are:

- Destroyed (100%);
- Very Disturbed (50-90%);
- Disturbed (25-50%);
- Slightly Disturbed (5-25%);

- Intact (no observable disturbance).

Indicate the source of impact in the "Disturbances (Impact Agents)" field (F02). If a site has been destroyed, indicate the source of the destruction where possible.

G. DESCRIPTION

G01 Site Dimensions*
The following guidelines for recording site dimensions are based on those outlined in Province of British Columbia (2003).

Length: Enter the length of the site in metres followed by the cardinal direction (example NNW, ENE, N, S, E, W). Length represents the longest dimension regardless of direction. However, for a site with an irregular shape where the length varies, provide the maximum length and direction.

Width: Enter the width of the site in metres followed by the cardinal direction. Width represents the maximum direction perpendicular to length. However, for a site with an irregular shape where the width varies, provide the maximum width and direction.

Include any comments (such as previously recorded dimensions, reasons for changes, etc.) in the "Site Dimensions (Comments)" field (G02) or in the "Remarks" field (J01).

Examples
Length 200 m E/W.
Width 50 m N/S.

G02 Site Dimensions (Comments)
Discuss any previous dimensions recorded for the site and, if applicable, reasons for the amendments, as well as any other pertinent details. Indicate whether the measurements are estimates based on observation, or exact, in that the site boundaries have been determined through subsurface testing. Note whether the measurements apply to the whole site or only part of the site. Site dimensions must reflect the site boundary illustrated on the site map when using the bar scale.

Example
"In 1978, site dimensions were recorded as 100 m N/S by 25 m E/W, but in 2004 riverbank erosion had decreased site width. Site width varies from 20-25 m."

G03 Site Description (General)*
Check off as many items as appropriate on the Archaeological Site Inventory Form to describe the site and its components.

Categories include: Surface, Subsurface, Underwater, Undetermined, Object Scatter, Single

Feature, Multiple Features.

Note that "Isolated Archaeological Finds" ("Isolated Finds") are treated in the "Isolated Find" field (G05).

G04 Features*
These are non-moveable elements of a site. Indicate the kind and number of features observed. Use a controlled vocabulary if possible (e.g., internally consistent with the appropriate Parks Canada Service Centre, or provincial/territorial heritage institutions, or the Canadian Heritage Information Network (CHIN)). Separate multiple entries by a semicolon.

Examples
cache (descriptor)
grave
hearth
inuksuk
medicine wheel
midden (descriptor)
rock alignment (descriptor - e.g., drive lane, caribou)
structure (descriptor - e.g., cellar, dam, furnace, rampart, well)
tent ring
hunting blind

G05 Isolated Find*
Check "Yes" if this is an Isolated Archaeological Find ("Isolated Find"), and provide a rationale if it is to be reported as an "Archaeological Site". The Parks Canada definition of "Isolated Archaeological Find" (Isolated Find) is: "A single archaeological object that is or was located *in situ* on, below or above the ground, or lands under water, such as a single projectile point, or fragments from a single ceramic vessel. Other criteria may be applied to the definition at the discretion of the archaeologist, provided a rationale is included." All Isolated Finds must be recorded, and must be assigned a Provenience Number. Isolated Finds may be reported as an archaeological site at the discretion of the Project Archaeologist, provided a rationale is included.

G06 Site Type/ Function*
Enter the site type as determined by the researcher. Use the examples provided here as a general guideline, or use the site type appropriate to your jurisdiction. Use of the criteria or authority lists, if available, adopted by the institution assigning Borden Numbers for a given province or territory, is recommended. For the site type "campsite", it is recommended to enter "campsite (purpose, type, season)". "Season" is listed in the following order: spring, summer, fall, winter. Indicate tentative assignations with a space and a "?" after the term. An excellent example of site classes, types, and functions can be found in Appendix 3 of the British Columbia Archaeological Site Inventory Form Guide (2003, available online).

Examples
administrative centre
battlefield
campsite (hunting, caribou, spring)
campsite ?
ceremonial/religious (cemetery, grave, mortuary pole, spirit house, platform, sweat lodge)
commercial
cultural depression (menstrual lodge, sweat lodge, plank house, cache pit)
defensive
earthwork (trench embankment, mound, fortification)
food harvesting (killsite, corral, drive lane, trap, deadfall)
fort
habitation (platform, cave, rock shelter, refuge)
irrigation farming
landmark (NHSC plaque)
material harvesting (oil refinery, mining)
mission
port
subsistence (fishing, hunting, fowl)
trading post
transportation (trail)
undetermined
wharf
workshop (lithic)

G07   Slope Angle
Estimate the angle (degree) or percent of the slope on which the site or resource rests. A clinometer, found on most compasses (e.g., Brunton), can be used to estimate the angle.

H. CULTURE

H01   Site Type Class*
This field indicates a first level classification of the site type based on its broadly defined associated period of occupation and/or function. Use the site type class appropriate to your jurisdiction. Use of the criteria or authority lists, if available, adopted by the institution assigning Borden Numbers for a given province or territory, is recommended. As a general guideline, it is recommended to use the Canadian Museum of Civilization criteria: choose one or combination of: pre-contact; indigenous historic; historic; contemporary; natural, undetermined. Tentative assignations are identified by the entry of a space and a "?" after the term. Separate multiple entries by a semicolon.

Examples
Pre-contact
Pre-contact ?
historic

indigenous historic
contemporary
natural
undetermined

H02   Cultural Period*

Indicate the period of occupation of the site as determined by non-laboratory means, by the Project Archaeologist/Principal Investigator. Indicate relative dates, if known.

Examples

pre-White River Ash
15th century ?
17th-18th century
4000-2000 B.P.

H03   Scientific Dates/ Radiocarbon Data*

Indicate absolute dates acquired from the site or site components, if available. Enter each date, the error margin and the lab number. If a technique other than radiocarbon dates is used, enter the technique in parenthesis after the lab number. Specify the material, context and associations of the date, and the investigator acceptance/rejection of the date with rationale.

Examples

1690 +/- 50 (Beta-99129)
1380 +/- 105 (S-466) (NMC-302)
1930 +/- 200 (RIDDL-325)

H04   Culture

The Canadian Museum of Civilization's approach is suggested as a guideline. Enter the archaeological culture(s) thought to be represented at the site. Use of the criteria (or authority lists), if available, adopted by the institution assigning Borden Numbers for a given province or territory, is recommended. Tentative assignations are identified by the entry of a space and a "?" after the term. Modifiers may be appended in parenthesis after the term. Separate multiple entries by a semicolon.

Examples

Dene
Pre-Dorset ?
Eurocanadian
French-Canadian
Métis
Innu

H05   Cultural Strata
Provide a concise description of the general classes of cultural materials found in each soil horizon. Include a description of the colour, texture and composition of the soil matrix and a short summary of shovel tests, soil probes or test units. For the Yukon, if White River ash is present in the site deposits, indicate depth of cultural materials below ash.

Examples
Fine grain yellowish brown sandy loam (Munsell: 10 YR 5/4, Particle Size 0.25-0.5 mm) charcoal

I. MANAGEMENT

I01   CRM Level*
List the site's overall Cultural Resource Management (CRM) level, or the CRM level of site elements if required (please specify), based on Parks Canada's CRM Policy criteria (Parks Canada 1994:106-8). Also indicate rationale for your evaluation.

I02   Objects/Samples (Collected)*
Indicate the general range of archaeological objects/samples that were collected; check off as many as appropriate on the Archaeological Site Inventory Form. Also note the repository where they will be housed (see example). Add any comments in the "Remarks" field (J01).

Examples
PARKS CANADA (WCSC Calgary)
PWNHC
CMC

I03   Objects/Samples (Not Collected)*
If present, indicate the general range of archaeological objects or samples observed at the site but not collected (check as many as appropriate). Also indicate whether archaeological objects are present (observed) or absent.

J. COMMENTS

J01   Remarks
Enter general and descriptive information on the site features, research activities, factors that might have affected GPS use and/or coordinate readings (i.e., topography, readings acquired while hovering in helicopter, operational error, etc.). Enter any recommendations in the "Recommendations" field (J02).

Examples

"Unable to plot accurately due to dense forest cover."

"Original GPS coordinates submitted as (NAD not specified): 643068N 1381457W."

"Sites 130X213 (PiPw-20) and 130X214 (PiPw-21) reported by Webster in 1995 might, in fact, be an extension of the same site."

"The main area of the site comprises 3 circular tent rings (Features 1 to 3). Feature 1 has a clearly defined central line of small flat rocks. Surface lithics and bone (all apparently culturally modified) were observed at Features 1 and 2."

J02   Recommendations*

Enter any recommendations pertaining to site or site components, including monitoring, surveillance, and additional research.

Example

"Annual monitoring is recommended as the site is highly visible and is located in a high visitor traffic area during the warmest months of the year."

K. REFERENCE

K01   Type of Documentation/ Archive*

Check off as many items as applicable on the Archaeological Site Inventory Form. This field indicates the type of documentation or archive associated with the site (e.g., still or moving images, field notes).

K02   Field Notebook Reference*

Indicate the page(s) of the Field Notebook where the site is referenced.   2004-7P-1 to 4

K03   Bibliographic References

Enter the unpublished and published references specifically related to the site. The Canadian Museum of Civilization's format, noted below, is recommended.

For unpublished references:
MS000123
ASC ARCHIVES Ms. 2980

For published references:
1955 Collins, H. B. "Dorset Dwellings" SCIENCE Volume 122, No. 3175, Nov. 4

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APPENDIX B: Image Catalogue Form and Form Guide

IMAGE CATALOGUE FORM

PHA: _____

Site/Project Name: _____

Roll No. _____

Image Type: _____

Page ___ of ___

Image Cat. No.	Site No.	Code	Op	Subop	Lot	Exp./Rec. No.	Subject	Date	Recorder	Direction

IMAGE CATALOGUE FORM (FORM GUIDE)

Field Name	Description/Instructions	Examples
Image Cat. No.*	Image Catalogue Number. The catalogue numbers assigned to the selected exposures are entered in these columns on the left-hand side of the form. To conserve space, the Site Number and hyphen may be entered once at the top of the columns, and the remaining portions of the catalogue numbers may be entered opposite the selected exposures. It will be convenient to enter the Site Number at the top of these columns when the form is initiated; the entries in the columns themselves, however, are the last step in completing the form for input.	1H-0043T
Provenience*	"Provenience" includes the following fields: Site Number (Site No.), Province or Territory Alpha Character/Code (Code), Operation (Op), Suboperation (Subop), and Lot. The smallest inclusive provenience of the subject of the exposure is entered in these fields.	134H12A11 for a Lot; 134H17B for a Suboperation, 134H10 for an Operation and (rarely)134H for an image of an entire site or of some element of a site that has not been assigned an Operation Number.
Site No.*	Enter the Site Number (Part of Provenience).	9
Code*	Enter the Province or Territory Alpha Character Code.	K
Op*	Operation (Numeric).	1
Subop*	Suboperation (Upper Case Alpha Character).	A
Lot*	Lot Number (Numeric).	1
Exp./Rec. No.*	Exposure or Record Number. For traditional film photography, enter the exposure numbers in sequence. These numbers should be entered as the exposures are made, not in advance, since the amount of vertical space required for the subject description cannot generally be predicted (unless an electronic version is used). For digital images, enter the automatically generated number.	01 (film); P0000223 (digital)
Subject*	In this column, enter the identity of the subject of the photograph, always putting the name of the structure or area first, followed by an identification of the details. The terminology used to identify the subject of an excavation or survey photograph should be the same as that which appears on any other form that is used which records the description of the subject of the image. Use consistent terminology in all recording documents.	"New Bakehouse, oven foundation"; "Thule dwelling, before excavation"
Date*	Indicate the date on which the picture was taken, in *yyyy-mm-dd* format (numeric).	2004-06-31
Recorder*	Enter the Staff Field Number or the full name of the person taking the picture/image.	7P, Gary Adams

IMAGE CATALOGUE FORM (FORM GUIDE)

Field Name	Description/Instructions	Examples
Direction*	In this column, record the cardinal direction the camera is facing when the photograph is taken, using N for north, E for east, S for south, W for West, D for down, U for up, etc.	N, E, S, W, NNW, D, U
Page	Enter the number of forms required to record the roll of film and the number of the form.	Page 1 of 2
Site	Enter the Site Name.	Nasogaluak
Roll No. *	Film Roll Number. To conserve space, the roll number portion of the exposure number is entered once at the top of the form. The roll number for the thirty-second roll of 35 mm colour slide (transparencies) film used in 2004 would be written as in the example to the right.	2004-R32 -T
Card No.*	Memory Card Number. Enter a Memory Card Number in numerical sequence, if applicable (e.g., assigned to a CompactFlash Card, if the card is to be used as a storage medium.) The numbering system used is at the discretion of the Project Archaeologist. Memory card technology is rapidly changing. Some current (2004) examples include: CompactFlash, SmartMedia, Multimedia Card (MMC), Secure Digital (SD), Memory Sticks, microdrives.	FC01 ("Flash Card 01")
Site/Project Name	Enter the name of the project.	York Factory Icehouse Mitigation
PHA	Protected Heritage Area: Enter the name of the NPC, NHSC, or NMCA.	Aulavik National Park
ImageType*	Enter the Image Type Code (use Image Type Code List in Section 7.2.1.)	T (Colour Slide), M (Black and White Negative), E (Electronic/ Digital), etc.

Note: An asterisk (*) indicates a mandatory data field, if applicable/available.

APPENDIX C: Media Catalogue Form and Form Guide

MEDIA CATALOGUE FORM

Site(s): _____

Project Name: _____

Media Type: _____

Page: _____ *of* _____

Media Cat. No.	Format	Timer	Provenience(s)	Reel No.	Subject	Date(s)	Recorder(s)	Direction

MEDIA CATALOGUE FORM (FORM GUIDE)

Field Name	Description/Instructions	Examples
Site(s)*	Enter the Site Name.	Nasogaluak
Project Name*	Enter the name of the project.	York Factory Icehouse Mitigation
MediaType*	Enter the Media Type Code (use the Media Type Code List in Section 8.4.2.)	A (Audio), F (Forms), G (Geographic Data), R (Remote Sensing Data), S (Instrument Survey Data), V (Video), etc.
Page	Enter the number of forms required to record the roll of film and the number of the form.	Page 1 of 2
Media Cat. No.*	Media Catalogue Number. Enter the Media Catalogue Number. Physically label the memory storage medium (e.g., Flash Card, Beta Video) with the appropriate catalogue number, according to current Collections Management practices.	5H-2004-101H-A1; 134H-2004-101H-G2
Format*	Indicate whether the record is in digital or analog format.	Digital (D), Analog (A)
Timer*	Enter the timer data (from/to), if applicable.	
Provenience(s)*	Enter the provenience(s) included in the media record. The smallest inclusive provenience of the subject of the exposure is entered in these fields.	134H12A11 for a Lot; 134H17B for a Suboperation, 134H10 for an Operation and (rarely) 134H for a record of an entire site or of some element of a site that has not been assigned an Operation Number.
Reel No.	Enter the number of the reel.	5
Subject*	In this column, enter the identity of the subject of the photograph, always putting the name of the structure or area first, followed by an identification of the details. The terminology used to identify the subject of an excavation or survey should be the same as that which appears on any other form that is used which records the description of the subject. Use terminology consistently in all recording documents.	"New Bakehouse, oven foundation"; "Thule dwelling, before excavation"
Date(s)*	Indicate the date(s) on which the record was taken, in yyyy-mm-dd format (numeric).	2004-06-31
Recorder*	Enter the Staff Field Number or the full name of the person recording the media.	7H (Jane Smith)

MEDIA CATALOGUE FORM (FORM GUIDE)

Field Name	Description/Instructions	Examples
Direction	If applicable, record the cardinal direction the camera is facing when a video is taken, using N for north, E for east, S for south, W for West, D for down, U for up, etc.	N, E, S, W, NNW, D, U

APPENDIX D: Suboperation Summary Form

SUBOPERATION SUMMARY FORM

Pg _____ of _____

Suboperation: **Recorder:**   **Date Started:**   **Date Completed:**

Rationale for Suboperation:

Spatial Characteristics:

        Dimensions – Shape:

        Coordinates:

Relationship to Period Features/Structures:

Features Exposed:

Significance of Suboperation:

Suboperation Completion Checklist:

☐ Excavation Completed   ☐ Excavated to Sterile

Plan Views: ☐ Drawn   ☐ Photographed

Profiles: Drawn-   ☐ North   ☐ South   ☐ East   ☐ West

            Photo'd-   ☐ North   ☐ South   ☐ East   ☐ West

☐ Lot Summaries Completed   ☐ Lot/Layer Summaries Completed

☐ Structure Summaries Completed   ☐ Matrix Chart Completed

Comments:

2

APPENDIX E: Lot Summary Form and Form Guide

LOT SUMMARY FORM

Section	FIELD NAME	FORM CHECK BOXES	DATA/COMMENTS
A	*BASIC LOT DATA*		
A01	Date Started (yyyy-mm-dd)*		
A02	Date Completed (yyyy-mm-dd)*		
A03	Excavation Method*	Trowel___ Shovel___ Scrape___ Screen (dry)___ Screen (wet)___ Floatation___ Mechanical Excavation (please specify)___ Other (please specify)___	
A04	Lot Number*		
A05	Staff Name(s)/Staff Field Number(s)*		
B	*COMMENTS*		
B01	Archaeological Objects	Ceramics___ Glass___ Metal___ Lithics___ Other (please specify)___	
B02	Exposed Features		
B03	Special Finds		
B04	Field Discards		
C	*INTERPRETATION*		
C01	Interpretation (preliminary)*		
C02	Rationale for Lot		
C03	Significance of Lot		
D	*LOCATION*		
D01	Coordinates*		
D02	Coordinates (Determination Method)*	GPS___ Differential GPS___ Total Station___ NAD 27___ NAD83___ Other (please specify)___	
D03	Elevation*	Elevation (top)___ Elevation (bottom)___	
D04	Elevation (Determination Method)*		
D05	Location/Elevation Plan		
D06	Plan View Sketch*		
D07	Spatial Characteristics	Dimensions___ Thickness___ Volume___ Shape/Boundary Contour___ Stratigraphy___	

LOT SUMMARY FORM

Section	FIELD NAME	FORM CHECK BOXES	DATA/COMMENTS
E	*NATURE OF LOT*		
E01	Cultural Period	Pre-contact___ Historic___ Indigenous Historic___ Contemporary___ Geologic___ Undetermined___ Other (please specify)___	
E02	Type of Lot*	Sample___ Interface___ Object Cluster___ Occupation Level___ Fill___ Rubble___ Feature (please describe)___ Natural Stratum (please describe)___ Undetermined___	
F	*CROSS-REFERENCES*		
F01	Event		
F02	Lot Correlations*		
F03	References*	Field Notebook Page(s)___ Image Catalogue Number(s)___ Drawings___ Level Book___ Other (please specify)___	
G	*SOIL/SUBSTRATE*		
G01	Deposition	Natural___ Primary___ Secondary___ Undetermined___	
G02	Inclusions/Materials*	Roots___ Wood___ Charcoal___ Ash___ Brick___ Mortar___ Plaster___ Cement___ Concrete___ Brick___ Chalk___ Sandstone___ Schist___ Other (please specify)___	
G03	Soil Type*		
G04	Lot Context*	Sealed___ Unsealed___ Disturbed___ Intrusive (please specify)___	
G05	Soil Consistency*	Very Loose___ Loose___ Medium___ Hard___ Very Hard___ Dry___ Damp___ Wet___ Other (please specify)___	
G06	Soil Colour (Munsell)*		

LOT SUMMARY FORM (FORM GUIDE)

Section	Field Name	Description/Instructions	Examples
A	BASIC LOT DATA		
A02	Date Started (yyyy-mm-dd)		2004-06-11
A02	Date Completed (yyyy-mm-dd)		2004-06-12
A03	Excavation Method*	Check off as many items as applicable.	Other (please specify): Dental pick and horsehair brush
A04	Lot Number*	Enter the complete provenience	9K24A1
A05	Staff Name(s)/Staff Field Number(s)*	Enter the full name and/or Staff Field Number of the crewmember who excavated or recorded the Lot. If necessary, the name of the person who completed the form could also be entered.	Gary Adams (7P)
B	COMMENTS		
B01	Archaeological Objects	Check off as many items as applicable.	Other (please specify): fossil, unidentified
B02	Exposed Features	Indicate or list features exposed in Lot	NW corner of hearth; SE edge of dwelling (tent ring)
B03	Special Finds		Projectile Point,
B04	Field Discards	Describe any archaeological objects discarded/not collected during excavation, and provide a rationale for not collecting. Indicate specific quantities where possible.	bolt, machine; modern (Quantity n=1); Rationale: From recent foundation repair activities.
C	INTERPRETATION		
C01	Interpretation (preliminary)*		
C02	Rationale for Lot		
C03	Significance of Lot		
D	LOCATION		
D01	Coordinates*	Indicate two- or -three-dimensional spatial coordinates	
D02	Coordinates (Determination Method)*	Check off as many items as applicable.	

LOT SUMMARY FORM (FORM GUIDE)

Code	Field	Description
D03	Elevation*	Enter the elevation for top and bottom (centre point) of Lot (e.g., using DBD or DBS.) Metric units are recommended.	Elevation (top) 45.6 cm DBD, Elevation (bottom) 57.4 cm DBD;
D04	Elevation (Determination Method)*	GPS __ Differential GPS __ Total Station __ NAD 27 __ NAD83 __ Other (please specify)__
D05	Location/Elevation Plan	
D06	Plan View Sketch*	Include cardinal direction.
D07	Spatial Characteristics	
E	NATURE OF LOT	
E01	Cultural Period	
E02	Type of Lot*	
F	CROSS-REFERENCES	
F01	Event	
F02	Lot Correlations*	Indicate unit, lot, layer or stratum correlations
F03	References*	
G	SOIL/SUBSTRATE	
G01	Deposition	
G02	Inclusions/Materials*	Indicate Size, Frequency, and Sample Number, if applicable
G03	Soil Type*	Indicate the soil composition, degree of compaction, and gradient. For soil gradient, the soil classification table(s) in Appendix A (under "Soil Type") are recommended.
G04	Lot Context*	
G05	Soil Consistency*	
G06	Soil Colour (Munsell)*	Developed by Munsell and the United States Department of Agriculture (USDA) Soil Conservation Service, the Munsell Color System is the field and laboratory standard for classifying soil colour, rocks, and archaeological objects and samples. It contains 322 colour chips.

APPENDIX F: Stratigraphy Summary Form and Form Guide

STRATIGRAPHY SUMMARY FORM

Site/Project Name:

Page: ____ of ____

Layer/Event	Site No.	Code	Op.	Subop.	Lot	Structure/Area	Description	Date & Source of Deposit	Drawings	Staff Field No.	Date

Parks Canada Archaeological Recording Manual: Excavations and Surveys v. 1.0

STRATIGRAPHY SUMMARY FORM (FORM GUIDE)

Field Name	Description/Instructions	Examples
Site/Project Name		Fort Henry Survey
Layer/Event	Enter the code/description (if applicable/assigned)	III/Loam
Site No.	Enter the Site Number	9
Code	Province or Territory (alpha character)	K
Op	Operation (Numeric)	1
Subop	Suboperation (upper case alpha character)	A
Lot	Lot code (Numeric)	1
Structure/Area	Enter brief data regarding structures, features and activity areas	
Description	Enter a concise description of stratigraphic layer/level	
Date and Source of Deposit	Enter if known; indicate era (e.g., AD, BC, BP, etc.)	post-1850 AD
Drawings	Enter the Drawing Catalogue Number references	2004-7P-D18
Field No.	Indicate Staff Field Number, or full name of recorder	7P
Date	Indicate date (numeric) as yyyy-mm-dd	2004-06-31

APPENDIX G: Human Remains, Cemeteries, and Burial Grounds

Cemeteries, burial grounds, human remains, funerary objects, and grave markers found on federal Crown lands, lands under water, and in waters under the administration and control of Parks Canada are managed in accordance with *Management Directive 2.3.1: Human Remains, Cemeteries and Burial Grounds* (Parks Canada 2000). Management Directive 2.3.1 applies to all human remains, and their associated sites and material culture, Aboriginal and non-Aboriginal alike.

It provides direction and guidance:
- To Parks Canada Agency personnel or other agencies, organizations, groups and individuals undertaking activities involving a NPC, NPRC, NMCAC, NHSC, historic canals, and other lands and waters administered and controlled by Parks Canada;
- Concerning where the responsibility and authority lies for decision-making concerning any activity relating to burials, burial grounds, cemeteries, human remains and funerary objects;
- When a burial site, burial, human remains or funerary objects are discovered accidentally during the course of an archaeological field project or other activities;
- When human remains are discovered in association with a shipwreck;
- When human remains and funerary objects are found in collections;
- For investigation, identification, and consultation;
- For the repatriation and/or disposition of human remains and associated funerary objects;
- For the management and maintenance of cemeteries, burial grounds, and grave markers; and
- For the management and use of documentation, images, or replicas.

The directive stresses the requirement to follow provincial and territorial laws in that the coroner and/or the police must be notified when human remains are discovered. If the site is deemed to be of forensic significance, the coroner and/or the police will lead the investigation. Where human remains are associated with a shipwreck, the Canadian Coast Guard, Department of Transport must be notified.

The directive emphasises that all human remains, funerary objects, cemeteries and burial grounds, shall be treated with respect and dignity. Moreover, any activity related to them must be undertaken, where applicable, in consultation and cooperation with the appropriate group, next of kin, the RCMP, or Veterans Affairs Canada.

APPENDIX H: Digital Multimedia – Recommendations for Preservation

The following recommendations are based on Parks Canada (2003a) "Report to Parks Canada: Digital Multimedia Asset Management (DMAM) System Policy Requirements Version 2.0." Digital preservation is still in its infancy. As a result, it is difficult to determine which format is the best for long term preservation of digital assets. Despite these obstacles, Parks Canada (2003a) currently recommends the following guidelines. Due to the dynamic nature of digital media, please consult the appropriate specialists to determine latest trends and standards adopted by the Parks Canada Agency.

Preservation Formats for Images, Audio, and Video (General)

For preservation formats, Parks Canada generally recommends:

- *Images* - high resolution TIFF 8 x10 at 600dpi;
- *Audio* - WAV format or MPEG 2 format;
- *Video* - MPEG 2, 4:2:2 compression standard. The MPEG 2 format that has been an ISO standard since 1996.

Image Formats for Storage/Preservation

As noted in Parks Canada (2003a), the Image Quality Working Group of ArchivesCom (associated with Columbia University) recommends the following image formats for preservation storage purposes:

- TIFF w/CCITT Fax 4 Compression - ideally suited for black and white text documents, this format provides a high level of detail (600 dpi), combined with a small file size (less than 100 kilobytes for 5"x8" text page);
- PhotoCD - well suited for 35 mm slide and 35 mm negatives, PhotoCD provides up to 6 resolutions (up to 4096x6144), colour management, and a storage medium that works on all major computer platforms;
- TIFF w/LZW Compression - A 24-bit, lossless (no information lost) compression format. This TIFF format may be used to store colour images, and may be used as preservation file format. With lossless compression, the picture quality of the compressed file is exactly the same as the original, uncompressed file.

Different original media types will require different digital conversion techniques as well as different file storage formats. This is an area that is evolving, as both conversion techniques improve (better scanners and digital cameras) and new file formats develop.

Multimedia File Format Recommendations

Table 1, copied verbatim from Parks Canada (2003a), represents a set of recommendations for a variety of media, derived from the United States National Digital Library.

Table 1. *Parks Canada recommendations for digital multimedia.*

Media Type	Conversion Method	Resolution	Archive File Format	Screen Presentation Format	Print Presentation Format
Black & White Text Document	Flatbed Scanner or Digital Camera	1-bit, 600 dpi	TIFF w/CCITT Fax 4 Compression	GIF, 4-bit, 120 to 200 dpi	Acrobat (PDF), 1-bit, 300 or 600 dpi
Illustrations, Maps, Manuscripts, etc.	Flatbed Scanner or Digital Camera	8-bit greyscale or 24-bit color, 200 to 300 dpi	TIFF	Multiple JPEG, 24-bit, 512x768, 1024x1536, 2048x3072, Quality Level 50	JPEG, 24-bit, 2048x3072, Quality Level 50-100
3-dimensional objects to be represented in two-dimensions	Digital Camera	24-bit colour, 200 to 300 dpi	TIFF	Multiple JPEG, 24-bit, 512x768, 1024x1536, 2048x3072, Quality Level 50	JPEG, 24-bit, 2048x3072, Quality Level 50-100
35 mm Black & White & Colour slide or negative	PhotoCD or Slide Scanner	24-bit, 2048x3072	PhotoCD or TIFF	Multiple JPEG, 24-bit, 512x768, 1024x1536, 2048x3072, Quality Level 50	JPEG, 24-bit, 2048x3072, Quality Level 50-100
Medium to Large Format photograph, slide, negative, transparency or colour microfiche	ProPhotoCD or Drum Scanner	24-bit, 4096x6144	PhotoCD or TIFF	Multiple JPEG, 24-bit, Quality Level 50	JPEG, 24-bit, 4096x6144, Quality Level 50-100
Black & White Microfilm	Microfilm Scanner	1-bit 600 dpi	TIFF w/ Fax 4	GIF, 4-bit, 120 to 200 dpi	PDF, 1-bit, 300 or 600 dpi
		8-bit, 300 dpi	TIFF	GIF, 8-bit 120 to 200 dpi	PDF, 8-bit, 300 or 600 dpi

APPENDIX I: Provenience Application – Additional Examples

Atlantic Service Centre (Halifax)
By Charles Burke

The archaeological survey of the Fortress of Louisbourg NHS led to the discovery of hundreds of surface remains of features constructed during the 18th century sieges. In general, the features correspond to "works" identified on period maps and plans. For example, 16 unique structural features (stone foundations that can be seen as a single analytical unit) were clustered in the location identified on siege plans as the site of Lt. Gen. Lascelle's 47th Regiment Camp. This area is within Archaeological Site Number 61L. At the time of recording, the next available Operation Number was 13 and we assigned consecutive Suboperation Letters to each feature. Consequently, all known features associated with Lascelle's Camp are identified, recorded, and catalogued as 61L13A -13R. This approach was consistently applied to the discovery of more than 800 features.

A second example involves archaeological testing of a new road corridor through the historic park. The corridor was 2.60 km long with 22,000 square metres to test. The tests were .50 m square units at 7.0 m. intervals on each survey transect. Since the corridor intersected three archaeological site areas (54L, 59L, 60L), we assigned three Operation Numbers (54L52, 59L13, and 60L2) to the test. Within each operation, a single Suboperation was designated to geographic zones. In 59L, for example, tests in the corridor south of Route 22 were designated 59L13A and those on the north side as 59L13B. Each shovel probe was excavated as a single lot. When we encountered "sites" that required additional excavation, we reverted to the provenience system's standard usage.

Ontario Service Centre (Cornwall)
By Brian Ross

Following is a brief description of how I have applied the system to my work. The key element of my interpretation of the system is the application of a rigid geographic hierarchy to my provenience numbering. As my numbers are read from left to right, one hones in, closer and closer, to a specific location. As applied to excavations, any artefact or record can be pinpointed, through the provenience number alone, to a 5 cm deposition and 1x1 m distribution. For example:

Site Number: As the largest unit of the provenience system, Site Numbers have been assigned to each of the National Parks or National Historic Sites (e.g., 11H = Point Pelee National Park).

Operation: As a subdivision of the site, this number is used to designate specific areas within the parks and sites (e.g., 11H15 = the Marsh Boardwalk Day Use Area at Point Pelee).

Suboperation: In excavations, each unit is assigned a Suboperation Letter. Generally speaking, I try to always dig in 2X2 m units. In surveys, Suboperations are used to subdivide the operation into smaller, more manageable or more descriptive areas (e.g., 11H15D = the main parking lot at the Marsh Boardwalk, 11H15E = the back dune area, etc.)

Lot Number: In pace-and-shovel surveys, Lot Numbers are assigned to productive test pits and in walkover surveys, they can be used to designate surface finds (e.g., 11H15E1-124). In excavations, the Lot Number depicts the specific vertical sequence for each Suboperation or to discrete cultural features. It has been my use of Lot Numbers in excavations that distinguishes my provenience system most from the true Parks Canada system. Each number within the three-digit field conveys specific information:

The first character (1_ _, 2 _ _, 3 _ _, etc.) indicates the vertical sequence of natural soil stratigraphy.

The second character (_1_, _2_, _3_, etc.) indicates the sequence of arbitrary 5-cm levels within natural strata that are more than 5-cm thick. For shallow strata that do not exceed 5 cm in thickness, then only the designation "1" (for a single level) need be assigned.

The last character identifies the specific quadrant within the Suboperation where the strata occur. Quadrants are identified in a clockwise direction from the north west as follows: _ _ 1 = NW quad, _ _ 2 = NE quad, _ _ 3 = SE quad and _ _ 4 = SW quad.

Features are dealt with, in sequence, as any other stratum.

Ontario Service Centre (Ottawa), Underwater Archaeology Unit
By Jim Ringer

Here is an example of a somewhat artificial system used during the survey of shipwrecks at Fathom Five National Marine Conservation Area. A Site Number (38M) was used to designate the park. Operation and Suboperation 1A were purely artificial and referred to nothing in particular. Each shipwreck was given an individual Lot Number so that, for example, 38M1A17 refers to the Arabia. This system was adopted as no excavation was carried out and our work only entailed assessment and documentation of the visible remains. The provenience system functioned mainly as a device to control the records generated by the project.

Western Canada Service Centre (West Coast)
By Daryl Fedje

We use the provenience system in a somewhat different manner than is the case in other regions. In large part, this is a result of our work focussing on First Nations archaeology rather than military or fur trade historic archaeology.

Each archaeological site, whether an isolated find or a large village, is identified by a unique site number. We use the Operation Number to identify an excavation block or a single test if not contiguous with others.

The Suboperation is used (beyond the default Suboperation 'A') when there is a need for systematic division of an Operation. Most commonly these are 1.0, 0.5 or 0.25 m squares. The reason for using a quadrant or grid division is that the prehistoric sites we normally excavate have no superficial

evidence of structural/activity elements and these often are only derived from 3-D mapping or statistical analysis (i.e., nearest neighbour, etc. of grid-provenience artefact assemblages).

The Lot is primarily used to define a stratigraphic unit, whether a natural or arbitrary layer. Features are also given Lot Numbers but not consecutive with those assigned to layers (e.g., a hearth feature, posthole or artefact cluster, may be designated Lot 101, 102, etc.)