

SPECIFICATION

FORT AMHERST RETAINING WALLS RESTORATION AND REPAIR
ST. JOHN'S, NL

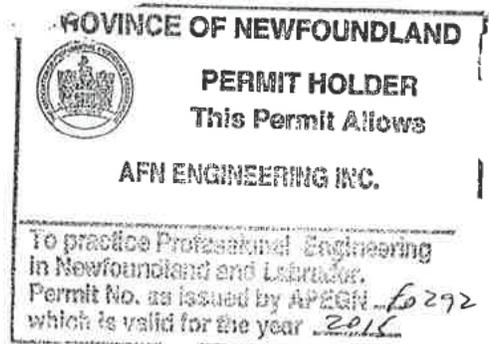
████████████████████
P/N: FP802-150279

PREPARED FOR

Fisheries and Oceans Canada

DATE

December 1, 2015
Revision 1



LIST OF DRAWINGS

Page 1

Fort Amherst Retaining Wall
Restoration and Repair
St. John's, NL
FP802-150279

2015-12-01

DRAWING NO

TITLE

01N1001D017A1	Key Plan/Restoration Notes and Photographs (A01)
01N1001D017A2	Key Plan/Restoration Notes and Photographs (A02)
01N1001D017A3	Key Plan/Restoration Notes and Photographs (A03)

Fort Amherst Retaining Wall
Restoration and Repair
St. John's, NL
FP802-150279

2015-12-01

<u>Section</u>	<u>Title</u>	<u>Pages</u>
01 10 10	GENERAL INSTRUCTIONS	11
01 33 00	SUBMITTAL PROCEDURES	5
01 35 24	SPECIAL PROCEDURES ON FIRE SAFETY REQUIREMENTS	5
01 35 25	SPECIAL PROCEDURES ON LOCKOUT REQUIREMENTS	7
01 35 29	HEALTH AND SAFETY REQUIREMENTS	12
01 35 43	ENVIRONMENTAL PROCEDURES	2
01 50 00	TEMPORARY FACILITIES	1
01 74 11	CLEANING	1
01 78 00	CLOSEOUT SUBMITTALS	1

Appendix A: Fort Amherst Light Reconstruction, 2015, Desk-
based Assessment - , 2015

Fort Amherst Retaining Wall
Restoration and Repair
St. John's, NL
FP802-150279

2015-12-01

1.1 SCOPE

- .1 The work consists of the furnishing of all plant, labour, equipment and material for retaining wall restoration and repair at Fort Amherst, St. John's, NL, in strict accordance with specifications and accompanying drawings and subject to all terms and conditions of the Contract.
- .2 DFO will schedule a mandatory site visit during the tender period. The site visit will occur over a one day period (Contractors wishing to visit site shall contact the Departmental Representative to obtain schedule). Contractor responsible for all costs associated with getting to/from the site. Note the following:
- If weather is poor on the scheduled site visit day, it will occur on the following day.
 - Time allocated on site will be a maximum of 1 hour.
 - 2 days advance notice is to be given to the Departmental Representative with respect to the company and individuals attending the visit.

The Site visit will occur within 8 calendars days after posting of the project. **Note that Canada will not entertain extra contract costs for the Contractor's failure to properly assess all work requirements at the pre-tender site visit.**

1.2 DESCRIPTION OF WORK

- .1 In general, work under this contract consists of, but will not necessarily be limited to, the following:
- .1 Removal and reinstatement of loose stones which have settled or been displaced. Reinstatement to match

Fort Amherst Retaining Wall
Restoration and Repair
St. John's, NL
FP802-150279

2015-12-01

existing coursing and pattern style.

.2 Repairs to the stone wall including addition of stones to replace missing/washed out stones, and reinstatement of bulged areas. All stone work must be carried out in natural stone to match the existing in both colour and texture. Additional stones to be obtained from the same quarry and bed as the originals (refer to Appendix A).

.3 Removal of loose/delaminated mortar on the stone wall and re-pointing of joints with a lime based mortar.

.4 Cleaning of entire face of stone wall, removing all residue, roots and plant growth.

.5 Reinstatement of the concrete cap above the stone wall, to match the existing. Concrete used in the work to be 35MPa compressive strength at 28 days (C1 exposure class).

.6 Reinstatement of the chain link fence at the top of the stone wall. Allow for miscellaneous replacement of select support posts and wire mesh in Bid price. Departmental Representative will provide specific details at the pre-tender site visit.

Do not proceed with any portion of the work until the Departmental Representative has approved the Contractor's written work plan. Note the following: (i) Maintain temperature of mortar above 5 degrees until new work becomes stable and protect work site from exposure to wind (keep all masonry works dry using waterproof,

Fort Amherst Retaining Wall
Restoration and Repair
St. John's, NL
FP802-150279

2015-12-01

nonstaining coverings that extend over walls and down sides sufficient to protect walls from wind driven rain, until completed); (ii) Temporary hoarding and heating will be required from onset of project to project completion; (iii) Stabilize the area around the existing stone walls prior to work. Stabilizing methods are at the Contractor's discretion to the approval of the Departmental Representative. All stabilizing works are to bear the stamp of a professional engineer licensed by PEG-NL.

1.3 GENERAL MASONRY
REQUIREMENTS

- .1 General Contractor to have skill and knowledge associated with historic building restoration. Refer to drawings for specific requirements related to the work. The following are considered minimum contract requirements:
- Manufacturer: minimum five (5) years experience in manufacturing components similar to or exceeding requirements of project.
 - Installer: specialized in installation of work similar to that required for this project.
 - Masons: company or person specializing in masonry installations with minimum five (5) years documented experience with masonry work similar to this project Masons employed on this project must demonstrate ability to reproduce mock-up standards. Mock-up, which can be incorporated in the work, to be produced at start of project. Mock-up to be approved by Departmental Representative before proceeding with subsequent work (Mock-up will be used to judge workmanship, substrate preparation, operation of equipment and material

Fort Amherst Retaining Wall
Restoration and Repair
St. John's, NL
FP802-150279

2015-12-01

application).

- 1.4 DATUM .1 If requested by the Contractor, the Departmental Representative will establish a benchmark prior to the start of work activities.
- 1.5 FAMILIARIZATION WITH SITE .1 Before submitting a bid, it is required that bidders visit the site and its surroundings to review and verify the form, nature and extent of the work, materials needed for the completion of the work, the means of access to the site, any accommodations they may require, and in general shall obtain all necessary information as to risks, contingencies and other circumstances which may influence or affect their bid or costs to do the work. No allowance shall be made subsequently in this connection on account of error or negligence to properly observe and determine the conditions that will apply.
- .2 Contractors, bidders or those they invite to site are to review specification Section 01 35 29 - Health and Safety Requirements before visiting site. Take all appropriate safety measures for any visit to site, either before or after acceptance of bid.
- .3 Obtain prior permission from the Departmental Representative before carrying out such site inspection.
- 1.6 CODES AND STANDARDS .1 Perform work in accordance with the latest edition of the National Building Code of Canada, and any other code of provincial or local application including all

Fort Amherst Retaining Wall
Restoration and Repair
St. John's, NL
FP802-150279

2015-12-01

amendments up to project bid closing date provided that in any case of conflict or discrepancy, the more stringent requirements shall apply. Note that the work will require the successful contractor be knowledgeable and skilled in historic building restoration, as conserving the heritage characteristics of the site is imperative (refer to Appendix A).

- .2 Materials and workmanship must meet or exceed requirements of specified standards, codes and referenced documents.

1.7 TERM ENGINEER

- .1 Unless specifically stated otherwise, the term Engineer where used in the Specifications and on the Drawings shall mean the Departmental Representative.

1.8 SETTING OUT WORK

- .1 Assume full responsibility for and execute complete layout of work to locations, lines and elevations indicated or as directed by Departmental Representative.
- .2 Provide devices needed to layout and construct work.
- .3 Supply such devices required to facilitate Departmental Representative's inspection of work.

1.9 COST BREAKDOWN

- .1 Before submitting first progress claim submit breakdown of Contract price in detail as directed by Departmental Representative and aggregating contract price.
- .2 Provide cost breakdown in same format as the numerical and subject title system used in this specification project manual

Fort Amherst Retaining Wall
Restoration and Repair
St. John's, NL
FP802-150279

2015-12-01

and thereafter sub-divided into major work components as directed by Departmental Representative.

- .3 Upon approval by Departmental Representative, cost breakdown will be used as basis for progress payment.
- .4 This will be a lump sum project. Individual work items will not be measured separately for payment.

1.10 WORK SCHEDULE

- .1 Submit within 7 work days of notification of acceptance of bid, a construction schedule showing commencement and completion of all work within the time stated on the Bid and Acceptance Form and the date stated in the bid acceptance letter.
- .2 Provide sufficient details in schedule to clearly illustrate entire implementation plan, depicting efficient coordination of tasks and resources, to achieve completion of work on time and permit effective monitoring of work progress in relation to established milestones.
- .3 As a minimum, work schedule to be prepared and submitted in the form of Bar (GANTT) Charts, indicating work activities, tasks and other project elements, their anticipated durations and planned dates for achieving key activities and major project milestones provided in sufficient details and supported by narratives to demonstrate a reasonable plan for completion of project within designated time. Generally Bar Charts derived from commercially available computerized project management system are preferred

Fort Amherst Retaining Wall
Restoration and Repair
St. John's, NL
FP802-150279

2015-12-01

but not mandatory.

- .4 Submit schedule updates on a minimum bi-weekly basis and more often, when requested by Departmental Representative, due to frequent changing project conditions. Provide a narrative explanation of necessary changes and schedule revisions at each update.
- .5 The schedule, including all updates, shall be to Departmental Representative's approval. Take necessary measures to complete work within approved time. Do not change schedule without Departmental Representative's approval.
- .6 All work on the project will be completed within the time indicated on the Bid and Acceptance Form.

1.11 ABBREVIATIONS

- .1 Where abbreviations and standards are used in this project, latest edition in effect on date of bid call will be considered applicable.

1.12 SITE OPERATIONS

- .1 Arrange for sufficient space adjacent to project site for conduct of operations, storage of materials and so on. Exercise care so as not to obstruct or damage public or private property in area. All arrangements for space and access will be made by Contractor.

1.13 PROJECT MEETINGS

- .1 Departmental Representative will arrange project meetings and assume responsibility for setting times and recording minutes.
- .2 Project meetings will take place on site of work unless so directed by the Departmental Representative.

Fort Amherst Retaining Wall
Restoration and Repair
St. John's, NL
FP802-150279

2015-12-01

- .3 Departmental Representative will assume responsibility for recording minutes of meetings and forwarding copies to all parties present at the meetings.
- .4 Have a responsible member of firm present at all project meetings.

1.14 PROTECTION

- .1 Store all materials and equipment to be incorporated into work to prevent damage by any means.
- .2 Repair or replace all materials damaged in transit or storage to the satisfaction of Departmental Representative and at no cost to Canada.

1.15 EXISTING SERVICES

- .1 Where work involves breaking into or connecting to existing services, carry out work at times directed by governing authorities, with minimum of disturbance to site operations, and tenant operations.
- .2 Before commencing work, establish location and extent of service lines in area of work and notify Departmental Representative of findings.

1.16 DOCUMENTS REQUIRED

- .1 Maintain at job site, one copy each of the following:
 - .1 Contract Drawings
 - .2 Specifications
 - .3 Addenda
 - .4 Contract and any resulting amendments signed by contracting authority.
 - .5 Test Reports
 - .6 Copy of Approved Work Schedule
 - .7 Site specific Health and Safety Plan and other safety related documents.

Fort Amherst Retaining Wall
Restoration and Repair
St. John's, NL
FP802-150279

2015-12-01

1.17 PERMITS

- .1 Obtain and pay for all permits, certificates and licenses as required by Municipal, Provincial, Federal and other Authorities.
- .2 Provide appropriate notifications of project to municipal and provincial inspection authorities.
- .3 Obtain compliance certificates as prescribed by legislative and regulatory provisions of municipal, provincial and federal authorities as applicable to the performance of work.
- .4 Submit to Departmental Representative, copy of application submissions and approval documents received for above referenced authorities.
- .5 Comply with all requirements, recommendations and advice by all regulatory authorities unless otherwise agreed in writing by Departmental Representative. Make requests for such deviations to these requirements sufficiently in advance of related work.

1.18 CUTTING,
FITTING AND
PATCHING

- .1 Execute cutting, including excavation, fitting and patching required to make work fit properly.

1.19 ACCEPTANCE

- .1 Prior to the issuance of the Certificate of Substantial Performance, in company with Departmental Representative, make a check of all work. Correct all discrepancies before final inspection and acceptance.

1.20 WORKS
COORDINATION

- .1 Responsible for coordinating the work of the various trades, where the work of such

Fort Amherst Retaining Wall
Restoration and Repair
St. John's, NL
FP802-150279

2015-12-01

trades interfaces with each other.

- .2 Convene meetings between trades whose work interfaces and ensure that they are fully aware of the areas and the extent of where interfacing is required. Provide each trade with the plans and specifications of the interfacing trade, as required, to assist them in planning and carrying out their respective work.
- .3 Canada will not be responsible for or held accountable for any extra costs incurred as a result of the failure to carry out coordination work. Disputes between the various trades as a result of their not being informed of the areas and extent of interface work shall be the sole responsibility of the General Contractor and shall be resolved at no extra cost to Canada.

1.21 CONTRACTOR'S
USE OF SITE

- .1 Responsible for arranging the storage of materials on or off site, and any materials stored at the site which interfere with any of the day to day activities at or near the site will be moved promptly at the Contractor's expense, upon request by Departmental Representative.
- .2 Exercise care so as not to obstruct or damage public or private property in the area.
- .3 At completion of work, restore area to its original condition. Damage to ground and property will be repaired by Contractor. Remove all construction materials, residue, excess, etc., and leave site in a condition acceptable to Departmental Representative.

Fort Amherst Retaining Wall
Restoration and Repair
St. John's, NL
FP802-150279

2015-12-01

1.22 WORK
COMMENCEMENT

- .1 Mobilization to project site is to commence immediately after acceptance of bid and submission of Site Specific Safety Plan and insurance and bonding documentation, unless otherwise agreed by Departmental Representative.
- .2 Project work on site is to commence as soon as possible, with a continuous reasonable work force, unless otherwise agreed by Departmental Representative.
- .3 Delivery challenges, sourcing stones of similar colour/texture, coordination with site users, and the location of the work site may require the use of longer working days and additional work force to complete the project within the specified completion time.
- .4 Make every effort to ensure that sufficient material and equipment is delivered to site at the earliest possible date after acceptance of bid and replenished as required.

1.23 ARCHEOLOGICAL
INSPECTOR

- .1 DFO will have an Archeological Inspector conduct periodic site inspections to confirm the work is proceeding in accordance with the drawings and specifications. Cooperate with the inspector during all site visits.

1.24 SNOW CLEARING

- .1 The Contractor will be responsible for snow clearing of the road leading into the site, if required to maintain access during his work activities. The total length of road leading up to the site, which is not plowed by the City, is in the range of 300m.

Fort Amherst Retaining Wall
Restoration and Repair
St. John's, NL
FP802-150279

2015-12-01

PART 1 - GENERAL1.1 SECTION
INCLUDES

- .1 Product data.
- .2 Samples.
- .3 Certificates.

1.2 SUBMITTAL
GENERAL REQUIREMENTS

- .1 Submit to Departmental Representative for review submittals listed, including samples, certificates and other data, as specified in other sections of the Specifications. Note that any and all changes to the contract will have to be approved in writing by the Contracting Authority.
- .2 Submit with reasonable promptness and in orderly sequence so as to allow for Departmental Representative's review and not cause delay in Work. Failure to submit in ample time will not be considered sufficient reason for an extension of Contract time and no claim for extension by reason of such default will be allowed.
- .3 Do not proceed with work until relevant submissions are reviewed by Departmental Representative.
- .4 Present product data, samples and mock-ups in SI Metric units.
- .5 Where items or information is not produced in SI Metric units, provide soft converted values.
- .6 Review submittals prior to submission to Departmental Representative. Ensure during review that necessary requirements have been determined and verified, required field

Fort Amherst Retaining Wall
Restoration and Repair
St. John's, NL
FP802-150279

2015-12-01

measurements or data have been taken, and that each submittal has been checked and co-ordinated with requirements of Work and Contract Documents.

.1 Submittals not stamped, signed, dated and identified as to specific project will be returned unexamined by Departmental Representative and considered rejected.

.7 Notify Departmental Representative, in writing at time of submission, identifying deviations from requirements of Contract Documents stating reasons for deviations.

.8 Verify field measurements and affected adjacent work and coordinate.

.9 Contractor's responsibility for errors and omissions in submission is not relieved by Departmental Representative's review of submittals.

.10 Contractor's responsibility for deviations in submission from requirements of Contract Documents is not relieved by Departmental Representative's review.

.11 Submittal format: paper originals, or alternatively clear and fully legible photocopies of originals. Facsimiles are not acceptable, except in special circumstances pre-approved by Departmental Representative. Poorly printed non-legible photocopies or facsimiles will not be accepted and be returned for resubmission.

.12 Make changes or revision to submissions which Departmental Representative may require, consistent with Contract Documents and resubmit as directed by Departmental Representative. When resubmitting, notify

Fort Amherst Retaining Wall
Restoration and Repair
St. John's, NL
FP802-150279

2015-12-01

Departmental Representative in writing of any revisions other than those requested.

- .13 Keep one reviewed copy of each submittal document on site for duration of Work.

1.3 PRODUCT DATA

- .1 Product data includes drawings, diagrams, illustrations, schedules, performance charts, brochures and other data which are to be provided by Contractor to illustrate details of a portion of Work.
- .2 Submit sufficient copies of product data which are required by the General Contractor and sub-contractors plus 2 copies which will be retained by Departmental Representative. Ensure sufficient numbers are submitted to enable one complete set to be included in each of the maintenance manuals specified, if applicable.
- .3 Allow 10 calendar days for Departmental Representative's review of each submission.
- .4 Adjustments or corrections made on product data by Departmental Representative are not intended to change Contract Price. If adjustments affect value of Work, advise Departmental Representative in writing prior to proceeding with Work.
- .5 If upon review by Departmental Representative, no errors or omissions are discovered or if only minor corrections and comments are made, fabrication and installation may proceed upon receipt of shop drawings. If product data are rejected and noted to be Resubmitted, do not proceed with that portion of work until resubmission and review of corrected product data, through same submission procedures indicated above.

Fort Amherst Retaining Wall
Restoration and Repair
St. John's, NL
FP802-150279

2015-12-01

- .6 Accompany each submission with transmittal letter, containing:
 - .1 Date.
 - .2 Project title and project number.
 - .3 Contractor's name and address.
 - .4 Identification and quantity of each product data and sample.
 - .5 Other pertinent data.
- .7 Submissions shall include:
 - .1 Date and revision dates.
 - .2 Project title and project number.
 - .3 Name and address of:
 - .1 Subcontractor.
 - .2 Supplier.
 - .3 Manufacturer.
 - .4 Contractor's stamp, signed by Contractor's authorized representative certifying approval of submissions, verification of field measurements and compliance with Contract Documents.
 - .5 Cross references to particular details of contract drawings and specifications section number for which product data submission addresses.
 - .6 Details of appropriate portions of Work.
- .8 After Departmental Representative's review, distribute copies.
- .9 The review of samples and product data by the Departmental Representative or their delegated representative is for sole purpose of ascertaining conformance with general concept. This review shall not mean that the Departmental Representative approves the detail design inherent in the product data, responsibility for which shall remain with Contractor submitting same, and such review shall not relieve Contractor of responsibility for errors or omissions in product data or of responsibility for meeting

Fort Amherst Retaining Wall
Restoration and Repair
St. John's, NL
FP802-150279

2015-12-01

all requirements of the construction and Contract Documents. Without restricting generality of foregoing, Contractor is responsible for dimensions to be confirmed and correlated at job site, for information that pertains solely to fabrication processes or to techniques of construction and installation and for co-ordination of Work of all sub-trades.

1.4 SCHEDULES,
PERMITS AND
CERTIFICATES

- .1 Upon acceptance of bid, submit to Departmental Representative copy of Work Schedule and various other schedules, permits, certification documents and project management plans as specified in other sections of the Specifications.
- .2 Submit copy of permits, notices, compliance Certificates received by Regulatory Agencies having jurisdiction and as applicable to the Work.
- .3 Submission of above documents to be in accordance with Submittal General Requirements procedures specified in this section.

Fort Amherst Retaining Wall
Restoration and Repair
St. John's, NL
FP802-150279

2015-12-01

1.1 SECTION
INCLUDES

- .1 Fire Safety Requirements.
- .2 Hot Work Permit.

1.2 RELATED WORK

- .1 Section 01 35 29 - Health and Safety Requirements.

1.3 REFERENCES

- .1 Fire Protection Standards issued by Fire Protection Services of Human Resources Development Canada as follows:
 - .1 National Fire Code - Standard for Construction Operations - latest edition (http://www.hrsdc.gc.ca/eng/labour/fire_protection/policies_standards/commissioner/301/page00.shtml).
 - .2 National Fire Code - Standard for Welding and Cutting - latest edition (http://www.hrsdc.gc.ca/eng/labour/fire_protection/policies_standards/commissioner/302/page00.shtml).
 - .3 FCC standards, may also be viewed at the Regional Labour Canada Office located at Baine Johnson Centre, 10 Fort William Place, St. John's, NL, A1C 1K4; Telephone 1-800-641-4049; fax 1-709-772-5985.

1.4 DEFINITIONS

- .1 Hot Work defined as:
 - .1 Welding work.
 - .2 Cutting of materials by use of torch or other open flame devices.
 - .3 Grinding with equipment which produces sparks.

1.5 SUBMITTALS

- .1 Submit copy of Hot Work Procedures and sample of Hot Work permit to Departmental Representative for review, within five (5) calendar days after notification of acceptance of bid.

Fort Amherst Retaining Wall
Restoration and Repair
St. John's, NL
FP802-150279

2015-12-01

- .2 Submit in accordance with the Submittal General Requirements specified in Section 01 33 00.

1.6 FIRE SAFETY
REQUIREMENTS

- .1 Implement and follow fire safety measures during Work. Comply with following:
 - .1 National Fire Code, latest edition.
 - .2 Fire Protection Standards FCC 301 and FCC 302 - latest edition.
 - .3 Federal and Provincial Occupational Health and Safety Acts and Regulations as specified in Section 01 35 29 - Health and Safety Requirements.
- .2 In event of conflict between any provisions of above authorities the most stringent provision will apply. Should a dispute arise in determining the most stringent requirement, Departmental Representative will advise on the course of action to be followed.

1.7 HOT WORK
AUTHORIZATION

- .1 Obtain Departmental Representative's written "Authorization to Proceed" before conducting any form of Hot work on site.
- .2 To obtain authorization submit to Departmental Representative:
 - .1 Contractor's typewritten Hot Work Procedures to be followed on site as specified below.
 - .2 Description of the type and frequency of Hot Work required.
 - .3 Sample Hot Work Permit to be used.
- .3 Upon review and confirmation that effective fire safety measures will be implemented during performance of hot work, Departmental Representative will provide authorization to proceed as follows:

Fort Amherst Retaining Wall
Restoration and Repair
St. John's, NL
FP802-150279

2015-12-01

.1 Issue one written "Authorization to Proceed" covering the entire project for duration of work or;
.2 Separate work, or segregate certain parts of work, into individual entities. Each entity requiring a separately written "Authorization to Proceed" from Departmental Representative. Follow Departmental Representative's directives in this regard.

- .4 Requirement for individual authorization based on:
.1 Nature or phasing of work;
.2 Risk to Facility operations;
.3 Quantity of various trades needing to perform hot work on project or;
.4 Other situation deemed necessary by Departmental Representative to ensure fire safety on premises.
- .5 Do not perform any Hot Work until receipt of Departmental Representative's written "Authorization to Proceed" for that portion of work.

1.8 HOT WORK
PROCEDURES

- .1 Develop and implement safety procedures and work practices to be followed during the performance of Hot Work.
- .2 Procedures to include:
.1 Requirement to perform hazard assessment of site and immediate hot work area for each hot work event in accordance with Hazard Assessment and Safety Plan requirements of Section 01 35 29.
.2 Use of a Hot Work Permit system for each hot work event.
.3 The step by step process of how to prepare and issue permit.
.4 Permit shall be issued by Contractor's

Fort Amherst Retaining Wall
Restoration and Repair
St. John's, NL
FP802-150279

2015-12-01

site Superintendent, or other authorized person designated by Contractor, granting permission to worker or subcontractor to proceed with hot work.

.5 Provision of a designated person to carryout a Fire Safety Watch for a minimum of 60 minutes immediately upon completion of the hot work.

.6 Compliance with fire safety codes and standards specified herein and occupational health and safety regulations specified in Section 01 35 29.

.3 Generic procedures, if used, must be edited and supplemented with pertinent information tailored to reflect specific project conditions. Clearly label as being the Hot Work Procedures applicable to this contract.

.4 Hot Work Procedures shall clearly establish worker instructions and allocate responsibilities of:

.1 Worker(s),

.2 Authorized person issuing the Hot Work Permit,

.3 Fire Safety Watcher,

.4 Subcontractors and Contractor.

.5 Brief all workers and subcontractors on Hot Work Procedures and Permit system established for project. Stringently enforce compliance.

.1 Failure to comply with the established procedures may result in the issuance of a Non-Compliance Notification at Departmental Representative's discretion with possible disciplinary measures imposed as specified in Section 01 35 29.

1.9 HOT WORK
PERMIT

.1 Hot Work Permit to include, as a minimum, the following data:

Fort Amherst Retaining Wall
Restoration and Repair
St. John's, NL
FP802-150279

2015-12-01

- .1 Project name and project number.
 - .2 Building name, address and specific room or area where hot work will be performed.
 - .3 Date when permit issued.
 - .4 Description of hot work type to be performed.
 - .5 Special precautions required, including type of fire extinguisher needed.
 - .6 Name and signature of person authorized to issue the permit.
 - .7 Name of worker (clearly printed) to which the permit is being issued.
 - .8 Time Duration that permit is valid (not to exceed 8 hours). Indicate start time and date, and completion time and date.
 - .9 Worker signature with date and time upon hot work termination.
 - .10 Specified time period requiring safety watch.
 - .11 Name and signature of designated Fire Safety Watcher, complete with time and date when safety watch terminated, certifying that surrounding area was under continual surveillance and inspection during the full watch time period specified in Permit and commenced immediately upon completion of Hot Work.
- .2 Permit to be typewritten form. Industry Standard forms shall only be used if all data specified above is included on form.
 - .3 Each Hot Work Permit to be completed in full and signed as follows:
 - .1 Authorized person issuing Permit before hot work commences.
 - .2 Worker upon completion of Hot Work.
 - .3 Fire Safety Watcher upon termination of safety watch.
 - .4 Returned to Contractor's Site

Fort Amherst Retaining Wall
Restoration and Repair
St. John's, NL
FP802-150279

2015-12-01

Superintendent for safe keeping.

1.10 DOCUMENTS
ON SITE

- .1 Keep Hot Work Permits and Hazard assessment documentation on site for duration of Work.
- .2 Upon request, make available to Departmental Representative or to authorized safety representative for inspection.

Fort Amherst Retaining Wall
Restoration and Repair
St. John's, NL
FP802-150279

2015-12-01

- 1.1 SECTION INCLUDES .1 Procedures to isolate and lockout electrical facility or other equipment from energy source.
- 1.2 RELATED WORK .1 Section 01 35 24 - Fire Safety Requirements.
.2 Section 01 35 29 - Health and Safety Requirements.
- 1.3 REFERENCES .1 C22.1-06 - Canadian Electrical Code, Part 1, Safety Standard for Electrical Installations.
.2 CAN/CSA C22.3 No. 1-10 - Overhead Systems.
.3 COSH, Canada Occupational Health and Safety Regulations made under Part II of the Canada Labour Code.
- 1.4 DEFINITIONS .1 Electrical Facility: means any system, equipment, device, apparatus, wiring, conductor, assembly or part thereof that is used for the generation, transformation, transmission, distribution, storage, control, measurement or utilization of electrical energy, and that has an amperage and voltage that is dangerous to persons.
.2 Guarantee of Isolation: means a guarantee by a competent person in control or in charge that a particular facility or equipment is isolated.
.3 De-energize: in the electrical sense, that a piece of equipment is isolated and grounded, e.g. if the equipment is not grounded, it cannot be considered de-energized (DEAD).
.4 Guarded: means that an equipment or facility is covered, shielded, fenced, enclosed, inaccessible by location, or otherwise

Fort Amherst Retaining Wall
Restoration and Repair
St. John's, NL
FP802-150279

2015-12-01

protected in a manner that, to the extent that is reasonably practicable, will prevent or reduce danger to any person who might touch or go near such item.

- .5 Isolate: means that an electrical facility, mechanical equipment or machinery is separated or disconnected from every source of electrical, mechanical, hydraulic, pneumatic or other kind of energy that is capable of making it dangerous.
- .6 Live/alive: means that an electrical facility produces, contains, stores or is electrically connected to a source of alternating or direct current of an amperage and voltage that is dangerous or contains any hydraulic, pneumatic or other kind of energy that is capable of making the facility dangerous to persons.

1.5 COMPLIANCE
REQUIREMENTS

- .1 Perform lockouts in compliance with:
 - .1 Canadian Electrical Code.
 - .2 Federal and Provincial Occupational Health and Safety Acts and Regulations as specified in Section 01 35 29.
 - .3 Regulations and code of practice as applicable to mechanical equipment or other machinery being de-energized.
 - .4 Procedures specified herein.
- .2 In event of conflict between any provisions of above authorities the most stringent provision will apply. Should a dispute arise in determining the most stringent requirement, Departmental Representative will advise on the course of action to be followed.

1.6 SUBMITTALS

- .1 Submit copy of proposed Lockout Procedures and sample form of lockout permit or lockout tags for review.

Fort Amherst Retaining Wall
Restoration and Repair
St. John's, NL
FP802-150279

2015-12-01

- .2 Submit documentation within 7 calendar days of acceptance of bid. Do not proceed with work until submittal has been reviewed by Departmental Representative.
- .3 Submit above documents in accordance with the submittal requirements specified in Section 01 33 00.
- .4 Resubmit Lockout Procedures with noted revisions as may result from Departmental Representative's review.

1.7 ISOLATION OF
EXISTING SERVICES

- .1 Obtain Departmental Representative's written authorization prior to conducting work on an existing active, energized service or facility required as part of the work and before proceeding with lockout of such services or facility.
- .2 To obtain authorization, submit to Departmental Representative the following documentation:
 - .1 Written Request for Isolation of the service or facility and;
 - .2 Copy of Contractor's Lockout Procedures.
- .3 Make a Request for Isolation for each event, unless directed otherwise by Departmental Representative, and as follows:
 - .1 Fill-out standard forms in current use at the Facility when so directed by Departmental Representative or;
 - .2 Where no form exist at Facility, make request in writing identifying:
 - .1 Identification of system or equipment to be isolated, including it's location;
 - .2 Time duration, indicating Start time and date, and Completion time and date when isolation will be in effect;

Fort Amherst Retaining Wall
Restoration and Repair
St. John's, NL
FP802-150279

2015-12-01

- .3 Voltage of service feed to system or equipment being isolated;
- .4 Name of person making the request.
- .3 Document to be in typewritten format.
- .4 Do not proceed until receipt of written notification from Departmental Representative granting the Isolation Request and authorization to proceed with the isolation of designated equipment or facility. Departmental Representative may designate other individual at the Facility as the person authorized to grant the Isolation Request.
- .5 Conduct safe, orderly shut down of equipment or facilities, de-energize and isolate power and other sources of energy and lockout items in accordance with requirement of clause 1.8 below.
- .6 Plan and schedule shut down of existing services in consultation with the Departmental Representative and the Facility Manager. Minimize impact and downtime of facility operations.
- .7 Determine in advance, as much as possible, in cooperation with the Departmental Representative, the type and frequency of situations which will require a Request for Isolation. Follow Departmental Representative's directives in this regard.
- .8 Conduct hazard assessment as part of the planning process of isolating existing equipment and facilities. Hazard Assessments to conform with requirements of Health and Safety Section 01 35 29.

1.8 LOCKOUTS

- .1 Isolate and lockout electrical facilities, mechanical equipment and machinery from all potential energy sources prior to starting

Fort Amherst Retaining Wall
Restoration and Repair
St. John's, NL
FP802-150279

2015-12-01

work on such items.

- .2 Develop and implement lockout procedures to be followed on site as an integral part of the Work.
- .3 Use energy isolation lockout devices specifically designed and appropriate for type of facility or equipment being locked out.
- .4 Use industry standard lockout tags.
- .5 Provide appropriate safety grounding and guards as required.
- .6 Prepare Lockout Procedures in writing. Describe safe work practices, work functions and sequence of activities to be followed on site to safely isolate all potential energy sources and lockout/tagout facilities and equipment.
- .7 Include within procedures a system of worker request and issuance of individual lockout permit by a person, employed by Contractor, designated to be "in-charge" and being responsible for:
 - .1 Controlling issuance of permits or tags to workers.
 - .2 Determining permit duration.
 - .3 Maintaining record of permits and tags issued.
 - .4 Submitting a Request for Isolation to Departmental Representative when required in accordance with Clause 1.7 above.
 - .5 Designating a Safety Watcher, when one is required based on type of work.
 - .6 Ensuring equipment or facility has been properly isolated, providing a Guarantee of Isolation to worker(s) prior to proceeding with work.
 - .7 Collecting and safekeeping lockout

Fort Amherst Retaining Wall
Restoration and Repair
St. John's, NL
FP802-150279

2015-12-01

tags, returned by workers, as a record of the event.

- .8 Clearly establish, describe and allocate, within procedures, the responsibilities of:
 - .1 Workers.
 - .2 Designated person controlling issuance of lockout tags/permits.
 - .3 Safety Watcher.
 - .4 Subcontractors and General Contractor.
- .9 Procedures shall meet the requirements of Codes and Regulations specified in clause 1.5 above.
- .10 Generic procedures, if used, must be edited, supplemented with pertinent information and tailored to reflect specific project conditions. Clearly label as being the procedures applicable to this contract.
 - .1 Incorporate site specific rules and procedures established by Facility Manager and in force at site. Obtain such procedures through Departmental Representative.
- .11 Procedures to be in typewritten format.
- .12 Submit copy of Lockout Procedures to Departmental Representative, in accordance with submittal requirements of clause 1.6 herein, prior to commencement of work.

1.9 CONFORMANCE

- .1 Ensure that lockout procedures, as established for project on site, are stringently followed. Enforce use and compliance by all workers.
- .2 Brief all persons working on electrical facilities, mechanical and other equipment fed by an energy source on requirements of this section.

Fort Amherst Retaining Wall
Restoration and Repair
St. John's, NL
FP802-150279

2015-12-01

- .3 Failure to perform lockouts in accordance with regulatory requirements or follow procedures specified herein may result in the issuance of a Non-Compliance Notification at Departmental Representative's discretion with possible disciplinary measures imposed as specified in Section 01 35 29.

1.10 DOCUMENTS
ON SITE

- .1 Post Lockout Procedures on site in common location for viewing by workers.
- .2 Keep copies of Request for Isolation submitted to Departmental Representative and lockout permits or tags issued to workers during the course of work for full project duration.
- .3 Upon request, make such data available to Departmental Representative or to authorized safety representative for inspection.

Fort Amherst Retaining Wall
Restoration and Repair
St. John's, NL
FP802-150279

2015-12-01

-
- 1.1 RELATED WORK .1 Section 01 35 24 - Special Procedures on Fire Safety Requirements.
- 1.2 DEFINITIONS .1 COSH: Canada Occupational Health and Safety Regulations made under Part II of the Canada Labour Code.
- .2 Competent Person: means a person who is:
- .1 Qualified by virtue of personal knowledge, training and experience to perform assigned work in a manner that will ensure the health and safety of persons in the workplace, and;
- .2 Knowledgeable about the provisions of occupational health and safety statutes and regulations that apply to the Work and;
- .3 Knowledgeable about potential or actual danger to health or safety associated with the Work.
- .3 Medical Aid Injury: any minor injury for which medical treatment was provided and the cost of which is covered by Workers' Compensation Board of the province in which the injury was incurred.
- .4 PPE: personal protective equipment.
- .5 Work Site: where used in this section shall mean areas, located at the premises where Work is undertaken, used by Contractor to perform all of the activities associated with the performance of the Work.
- 1.3 SUBMITTALS .1 Make submittals in accordance with Section 01 33 00.
- .2 Submit to Departmental Representative,

Fort Amherst Retaining Wall
Restoration and Repair
St. John's, NL
FP802-150279

2015-12-01

copies of the following documents
including updates.

- .1 Site specific Health and Safety Plan.
 - .2 Building permit, compliance certification and other permits obtained.
 - .3 Reports or directives issued by Federal and Provincial Inspectors and other Authorities having jurisdiction.
 - .4 Accident or incident reports.
 - .5 WHMIS - MSDS data sheets.
 - .6 Name of Contractor's Representative designated to perform health and safety supervision in site.
 - .7 Certificate of clearance from Workplace Health Safety and Compensation Commission (Assessment Services Department) of Newfoundland and Labrador.
-
- .3 Submit within five (5) work days of notification of Bid Acceptance. Provide one (1) copy.
 - .4 Departmental Representative will review Health and Safety Plan and provide comments.
 - .5 The Contractor will revise the Plan as appropriate and resubmit within five (5) work days after receipt of comments.
 - .6 Departmental Representative's review and comments made of the Plan shall not be construed as an endorsement, approval or implied warranty of any kind by Canada and does not reduce Contractor's overall responsibility for Occupational Health and Safety of the Work.
 - .7 Submit revisions and updates made to

Fort Amherst Retaining Wall
Restoration and Repair
St. John's, NL
FP802-150279

2015-12-01

the Plan during the course of Work.

1.4 COMPLIANCE
REQUIREMENTS

- .1 Comply with the Occupational Health and Safety Act for the Province of Newfoundland and Labrador, and the Occupational Health and Safety Regulations made pursuant to the Act.
- .2 Comply with Canada Labour Code Part II, (entitled Occupational Health and Safety) and the Canada Occupational Health and Safety Regulations (COSH) as well as any other regulations made pursuant to the Act.
 - .1 The Canada Labour Code can be viewed at:
[www.http://laws.justice.gc.ca/en/L-2/](http://laws.justice.gc.ca/en/L-2/)
 - .2 COSH can be viewed at:
[www.http://laws.justice.gc.ca/eng/SOR-86-304/ne.html](http://laws.justice.gc.ca/eng/SOR-86-304/ne.html).
 - .3 A copy may be obtained at: Canadian Government Publishing Public Works & Government Services Canada Ottawa, Ontario, K1A 0S9 Tel: (819) 956-4800 (1-800-635-7943) Publication No. L31-85/2000 E or F).
- .3 Observe construction safety measures of:
 - .1 Part 8 of National Building Code.
 - .2 Municipal by-laws and ordinances.
- .4 In case of conflict or discrepancy between any specified requirements, the more stringent shall apply.
- .6 Maintain Workers Compensation Coverage in good standing for duration of Contract. Provide proof through submission of Certificate of Clearance from Workplace Health, Safety and Compensation Commission (Assessment Services Department) of

Fort Amherst Retaining Wall
Restoration and Repair
St. John's, NL
FP802-150279

2015-12-01

Newfoundland and Labrador.

- .7 Obtain and maintain worker medical surveillance documentation where prescribed by legislation or regulation.

1.5 RESPONSIBILITY

- .1 Be responsible for health and safety of persons on site, safety of property and for protection of persons and environment adjacent to the site to extent that they may be affected by conduct of Work.
- .2 Comply with and enforce compliance by all workers, sub-contractors and other persons granted access to work site with safety requirements of Contract Documents, applicable Federal, Provincial, and local by-laws, regulations, and ordinances, and with site specific Health and Safety Plan.

1.6 SITE CONTROL
AND ACCESS

- .1 Control the Work and entry points to Work Site. Approve and grant access only to workers and authorized persons. Immediately stop and remove non-authorized persons.
 - .1 Departmental Representative will provide names of those persons authorized by Departmental Representative to enter onto Work Site and will ensure that such authorized persons have the required knowledge and training on Health and Safety pertinent to their reason for being at the site, however, Contractor remains responsible for the health and safety of authorized persons while at the Work Site.
- .2 Isolate Work Site from other areas of the premises by use of appropriate means.
 - .1 Erect fences, hoarding, barricades and

Fort Amherst Retaining Wall
Restoration and Repair
St. John's, NL
FP802-150279

2015-12-01

temporary lighting as required to effectively delineate the Work Site, stop non-authorized entry, and to protect pedestrians and vehicular traffic around and adjacent to the Work and create a safe environment.

.2 Post signage at entry points and other strategic locations indicating restricted access and conditions for access.

.3 Provide safety orientation session to persons granted access to Work Site. Advise of hazards and safety rules to be observed while on site.

.4 Ensure persons granted site access wear appropriate PPE. Supply PPE to inspection authorities who require access to conduct tests or perform inspections.

.5 Secure Work Site against entry when inactive or unoccupied and to protect persons against harm. Provide security guard where adequate protection cannot be achieved by other means.

1.7 PROTECTION

.1 Give precedence to safety and health of persons and protection of environment over cost and schedule considerations for Work.

.2 Should unforeseen or peculiar safety related hazard or condition become evident during performance of Work, immediately take measures to rectify situation and prevent damage or harm. Advise Departmental Representative verbally and in writing.

Fort Amherst Retaining Wall
Restoration and Repair
St. John's, NL
FP802-150279

2015-12-01

-
- 1.8 FILING OF NOTICE .1 File Notice of Project with pertinent provincial health and safety authorities prior to beginning of Work.
- 1.9 PERMITS .1 Post permits, licenses and compliance Certificates at Work Site.
- .2 Where a particular permit or compliance certificate cannot be obtained, notify Departmental Representative in writing and obtain approval to proceed before carrying out applicable portion of work.
- 1.10 HAZARD ASSESSMENTS .1 Perform site specific health and safety hazard assessment of the Work and its site.
- .2 Carryout initial assessment prior to commencement of Work with further assessments as needed during progress of work, including when new trades and subcontractors arrive on site.
- .3 Record results and address in Health and Safety Plan.
- .4 Keep documentation on site for entire duration of the Work.
- 1.11 PROJECT/SITE CONDITIONS .1 The following are known or potential project related safety hazards at site:
- .1 Heavy lifting.
 - .2 Working at heights.
 - .3 Cutting tools and other construction power tools.
 - .4 Working arounds cliffs.
 - .5 Sharp objects (construction debris).

Fort Amherst Retaining Wall
Restoration and Repair
St. John's, NL
FP802-150279

2015-12-01

- .2 Above items shall not be construed as being complete and inclusive of potential health, and safety hazards encountered during work.
- .3 Include above items into hazard assessment process.

1.12 MEETINGS

- .1 Contractor to hold pre-construction health and safety meeting prior to commencement of Work. Ensure attendance of:
 - .1 Superintendent of Work.
 - .2 Contractor's designated Health & Safety Site Representative.
 - .3 Subcontractor's Health and Safety Site Representative.
 - .4 Health and Safety Site Coordinator.
- .2 Conduct regularly scheduled tool box and safety meetings during the Work in conformance with Occupational Health and Safety regulations.
- .3 Keep documents on site.

1.13 HEALTH AND SAFETY PLAN

- .1 Prior to commencement of Work, develop written Health and Safety Plan specific to the work. Implement, maintain, and enforce Plan for entire duration of Work and until final demobilization from site.
- .2 Health and Safety Plan shall include the following components:
 - .1 List of health risks and safety hazards identified by hazard assessment.
 - .2 Control measures used to mitigate risks and hazards identified.
 - .3 On-site Contingency and Emergency Response Plan as specified below.
 - .4 On-site Communication Plan as specified

Fort Amherst Retaining Wall
Restoration and Repair
St. John's, NL
FP802-150279

2015-12-01

below.

- .5 Name of Contractor's designated Health & Safety Site Representative and information showing proof of his/her competence and reporting relationship in Contractor's company.
- .6 Names, competence and reporting relationship of other supervisory personnel used in the Work for occupational health and safety purposes.
- .3 On-site Contingency and Emergency Response Plan shall include:
 - .1 Operational procedures, evacuation measures and communication process to be implemented in the event of an emergency.
 - .2 Evacuation Plan: site and floor plan layouts showing escape routes, marshaling areas. Details on alarm notification methods, fire drills, location of fire fighting equipment and other related data.
 - .3 Name, duties and responsibilities of persons designated as Emergency Warden(s) and deputies.
 - .4 Emergency Contacts: name and telephone number of officials from:
 - .1 General Contractor and subcontractors.
 - .2 Pertinent Federal and Provincial Departments and Authorities having jurisdiction.
 - .3 Local emergency resource organizations.
- .4 On-site Communication Plan:
 - .1 Procedures for sharing of work related safety information to workers and

Fort Amherst Retaining Wall
Restoration and Repair
St. John's, NL
FP802-150279

2015-12-01

subcontractors, including emergency
and evacuation measures.

- .5 Address all activities of the Work including those of subcontractors.
- .6 Review Health and Safety Plan regularly during the Work. Update as conditions warrant to address emerging risks and hazards, such as whenever new trade or subcontractor arrive at Work Site.
- .7 Departmental Representative will respond in writing, where deficiencies or concerns are noted and may request re-submission of the Plan with correction of deficiencies or concerns.
- .8 Post copy of the Plan, and updates, prominently on Work Site.

1.14 SAFETY
SUPERVISION

- .1 Employ Health & Safety Site Representative responsible for daily supervision of health and safety of the Work.
- .2 Health & Safety Site Representative may be the Superintendent of the Work or other person designated by Contractor and shall be assigned the responsibility and authority to:
 - .1 Implement, monitor and enforce daily compliance with health and safety requirements of the Work
 - .2 Monitor and enforce Contractor's site-specific Health and Safety Plan.
 - .3 Conduct site safety orientation session to persons granted access to Work Site.
 - .4 Ensure that persons allowed site access are knowledgeable and trained in health and safety pertinent to their activities at the site or are escorted by a competent

Fort Amherst Retaining Wall
Restoration and Repair
St. John's, NL
FP802-150279

2015-12-01

person while on the Work Site.
.5 Stop the Work as deemed necessary for reasons of health and safety.

- .3 Health & Safety Site Representative must:
- .1 Be qualified and competent person in occupational health and safety.
 - .2 Have site-related working experience specific to activities of the Work.
 - .3 Be on Work Site at all times during execution of the Work.
 - .4 All supervisory personnel assigned to the Work shall also be competent persons.
 - .5 Inspections:
 - .1 Conduct regularly scheduled safety inspections of the Work on a minimum daily basis. Record deficiencies and remedial action taken.
 - .2 Conduct Formal Inspections on a minimum monthly basis. Use standardized safety inspection forms. Distribute to subcontractors.
 - .3 Follow-up and ensure corrective measures are taken.
 - .6 Keep inspection reports and supervision related documentation on site.

1.15 TRAINING

- .1 Use only skilled workers on Work Site who are effectively trained in occupational health and safety procedures and practices pertinent to their assigned task.
- .2 Maintain employee records and evidence of training received. Make data available to Departmental Representative upon request.

Fort Amherst Retaining Wall
Restoration and Repair
St. John's, NL
FP802-150279

2015-12-01

- .3 When unforeseen or peculiar safety-related hazard, or condition occur during performance of Work, follow procedures in place for Employee's Right to Refuse Work in accordance with Acts and Regulations of Province having jurisdiction and advise Departmental Representative verbally and in writing.
- .4 All workers dealing with hazardous materials are required to provide evidence of training, in accordance with Provincial regulations.

1.16 MINIMUM
SITE SAFETY RULES

- .1 Notwithstanding requirement to abide by federal and provincial health and safety regulations; ensure the following minimum safety rules are obeyed by persons granted access to Work Site:
 - .1 Wear appropriate PPE pertinent to the Work or assigned task; minimum being hard hat, safety footwear, safety glasses and safety vest.
 - .2 Immediately report unsafe condition at site, near-miss accident, injury and damage.
 - .3 Maintain site and storage areas in a tidy condition free of hazards causing injury.
 - .4 Obey warning signs and safety tags.
- .2 Brief persons of disciplinary protocols to be taken for non compliance. Post rules on site.

1.17 CORRECTION OF
NON-COMPLIANCE

- .1 Immediately address health and safety non-compliance issues identified by authority having jurisdiction or by Departmental Representative.
- .2 Provide Departmental Representative with

Fort Amherst Retaining Wall
Restoration and Repair
St. John's, NL
FP802-150279

2015-12-01

written report of action taken to correct non-compliance of health and safety issues identified.

- .3 Departmental Representative will stop Work if non-compliance of health and safety regulations is not corrected in a timely manner.

1.18 INCIDENT REPORTING

- .1 Investigate and report the following incidents to Departmental Representative:
 - .1 Incidents requiring notification to Provincial Department of Occupational Safety and Health, Workers Compensation Board or to other regulatory Agency.
 - .2 Medical aid injuries.
 - .3 Property damage in excess of \$10,000.00.
- .2 Submit report in writing.

1.19 HAZARDOUS PRODUCTS

- .1 Comply with requirements of Workplace Hazardous Materials Information System (WHMIS).
- .2 Keep MSDS data sheets for all products delivered to site.
 - .1 Post on site.
 - .2 Submit copy to Departmental Representative.

1.20 SITE RECORDS

- .1 Maintain on Work Site copy of safety related documentation and reports stipulated to be produced in compliance with Acts and Regulations of authorities having jurisdiction and of those documents specified herein.
- .2 Upon request, make available to Departmental Representative or authorized

Fort Amherst Retaining Wall
Restoration and Repair
St. John's, NL
FP802-150279

2015-12-01

Safety Officer for inspection.

1.21 POSTING OF
DOCUMENTS

- .1 Ensure applicable items, articles, notices and orders are posted in conspicuous location on Work Site in accordance with Acts and Regulations of Province having jurisdiction.
- .2 Post other documents as specified herein, including:
 - .1 Site specific Health and Safety Plan.
 - .2 WHMIS data sheets.

Fort Amherst Retaining Wall
Restoration and Repair
St. John's, NL
FP802-150279

2015-12-01

1.1 DEFINITIONS

- .1 Hazardous Material: Product, substance, or organism that is used for its original purpose; and that is either dangerous goods or a material that may cause adverse impact to the environment or adversely affect health of persons, animals, or plant life when released into the environment.

1.2 DISPOSAL OF WASTES AND HAZARDOUS MATERIALS

- .1 Do not bury rubbish and waste materials on site.
- .2 Do not dispose of hazardous waste or volatile materials, such as mineral spirits, paints, thinners, oil or fuel into waterways, storm or sanitary sewers or waste landfill sites.
- .3 Store, handle and dispose of hazardous materials and hazardous waste in accordance with applicable federal and provincial laws, regulations, codes and guidelines.
- .4 Dispose of construction waste materials and demolition debris, resulting from work, at approved landfill sites only. Carryout such disposal in strict accordance with provincial and municipal rules and regulations. Separate out and prevent improper disposal of items banned from landfills.
- .5 Establish methods and undertake construction practices which will minimize waste and optimize use of construction materials. Separate at source all construction waste materials, demolition debris and product packaging and delivery containers into various waste categories in order to maximize recycling abilities of various materials and avoid disposal of debris at landfill site(s) in a "mixed state". Where recycling firms, specializing in recycling of specific materials exist, transport such materials to

Fort Amherst Retaining Wall
Restoration and Repair
St. John's, NL
FP802-150279

2015-12-01

the recycling facility and avoid disposal at landfill sites.

- .6 Communicate with landfill operator prior to commencement of work, to determine what specific construction, demolition and renovation waste materials have been banned from disposal at the landfill and at transfer stations.

1.3 POLLUTION CONTROL

- .1 Control emissions from equipment and plant to local authorities emission requirements.
- .3 Cover or wet down dry materials and rubbish to prevent blowing dust and debris.
- .4 Have emergency spill response equipment and rapid clean-up kit, appropriate to work, at site. Locate adjacent to work and where hazardous materials are stored. Provide personal protective equipment as required for clean-up.
- .5 Report, to Federal and Provincial Department of the Environment, spills of petroleum and other hazardous materials as well as accidents having potential of polluting the environment. Also notify Departmental Representative and submit a written spill report to Departmental Representative within 24 hours of occurrence.

Fort Amherst Retaining Wall
Restoration and Repair
St. John's, NL
FP802-150279

2015-12-01

-
- 1.1 SANITARY FACILITIES
- .1 Provide sanitary facilities for work force in accordance with governing regulations and ordinances.
 - .2 Post notices and take such precautions as required by local health authorities. Keep area and premises in sanitary condition.
- 1.2 WATER SUPPLY
- .1 Arrange, pay for and maintain temporary water supply in accordance with governing regulations and ordinances.
- 1.3 CONSTRUCTION SIGN AND NOTICES
- .1 Contractor or subcontractor advertisement signboards are not permitted on site.
 - .2 Only notices of safety or instructions are permitted on site.
 - .3 Maintenance and Disposal of Site Signs:
 - .1 Maintain approved signs and notices in good condition for duration of project and dispose of off site on completion of project or earlier if directed by Departmental Representative.
- 1.4 REMOVAL OF TEMPORARY FACILITIES
- .1 Remove temporary facilities from site when directed by Departmental Representative.
- 1.5 HOARDING
- .1 Provide and maintain hoarding as required to ensure appropriate heat is maintained during work, including curing processes. All hoarding, scaffolding and shoring to bear the seal of a professional engineer licensed to practice by PEG-NL.

Fort Amherst Retaining Wall
Restoration and Repair
St. John's, NL
FP802-150279

2015-12-01

PART 1 - GENERAL

1.1 GENERAL

- .1 Conduct cleaning and disposal operations to comply with local ordinances and anti-pollution laws.
- .2 Store volatile waste in covered metal containers, and remove from premises at end of each working day.
- .3 Prevent accumulation of wastes which create hazardous conditions.
- .4 Provide adequate ventilation during use of volatile or noxious substances.

1.2 CLEANING DURING CONSTRUCTION

- .1 Maintain project grounds and public properties in a tidy condition, free from accumulations of waste material and debris. Clean areas on a daily basis.
- .2 Provide on-site garbage containers for collection of waste materials and debris.
- .3 Remove waste materials and debris from site on a daily basis.

1.3 FINAL CLEANING

- .1 In preparation for acceptance of the Work perform final cleaning. Ensure all exterior surfaces are free of all construction related debris.

Fort Amherst Retaining Wall
Restoration and Repair
St. John's, NL
FP802-150279

2015-12-01

1.1 PROJECT RECORD
DOCUMENTS

- .1 Departmental Representative will provide two white print sets of contract drawings and two copies of Specifications.
- .2 Maintain at site one set of the contract drawings and specifications to record actual "As-Built" site conditions.
- .3 At project completion, submit full manual of products used in new work.

APPENDIX A

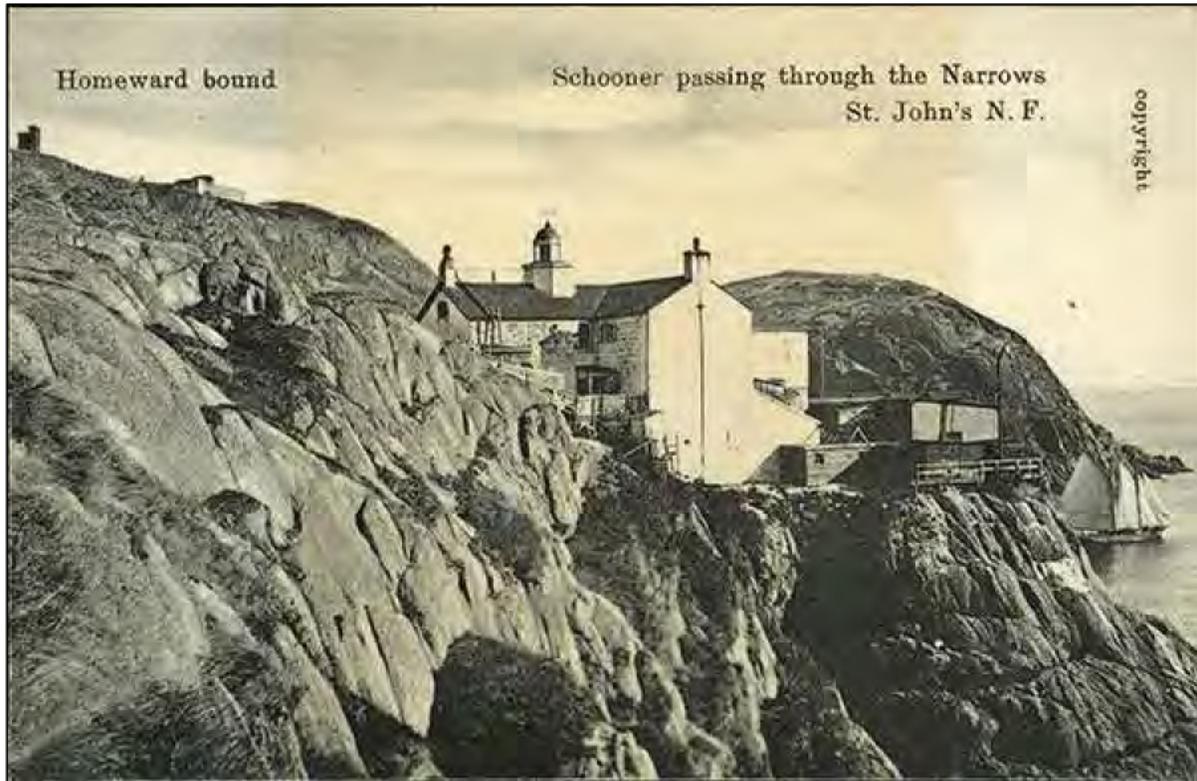
Fort Amherst Retaining Wall
Restoration and Repair
St. John's, NL
FP802-150279

2015-12-01

Appendix A:

Fort Amherst Light Reconstruction, 2015, Desk-based Assessment -


**Fort Amherst Light Reconstruction, 2015
Desk-based Assessment**



Postcard, attributed to c. 1912, but more likely after World War I (The Rooms Provincial Archives, VA 107-3.2).

Submitted to

[REDACTED]
[REDACTED]

Fisheries & Oceans Canada
P.O. Box 5667
St. John's, NL
A1C 5X1

Submitted by

[REDACTED]
[REDACTED]

4 August 2015



CONTENTS

Letter of Transmittal 3
Executive Summary 4
Participants..... 4

1. Introduction..... 5
2. Study Area/Natural Features 7
3. Previous Archaeological Investigations..... 8
4. Historic Context 11
5. Discussion/Recommendations 29
6. Sources 30

Appendix A: Additional Photographs..... 34



Letter of Transmittal



4 August 2015



Fisheries & Oceans Canada
P.O. Box 5667
St. John's, NL
A1C 5X1

Dear ,

Please find enclosed our report "Fort Amherst Light Reconstruction, 2015, Desk-based Assessment."

Sincerely,



President



Executive Summary

A semi-circular wall (field name “SC Wall”) around the base of the present Fort Amherst lighthouse is a remnant, or reconstruction, of a wall around the Barbette Battery and dates to c. 1810-13. Constructed of locally-quarried red conglomerate and the oldest above-ground identifiable feature of old Fort, it must be considered a “character-defining” element of the site and its reconstruction guided by preservation, applying the *Standards and Guidelines for the Conservation of Historic Places in Canada*. A second partial stone wall, on the Lower Battery, was likely the back wall of an assistant light keeper’s dwelling constructed c. 1867.

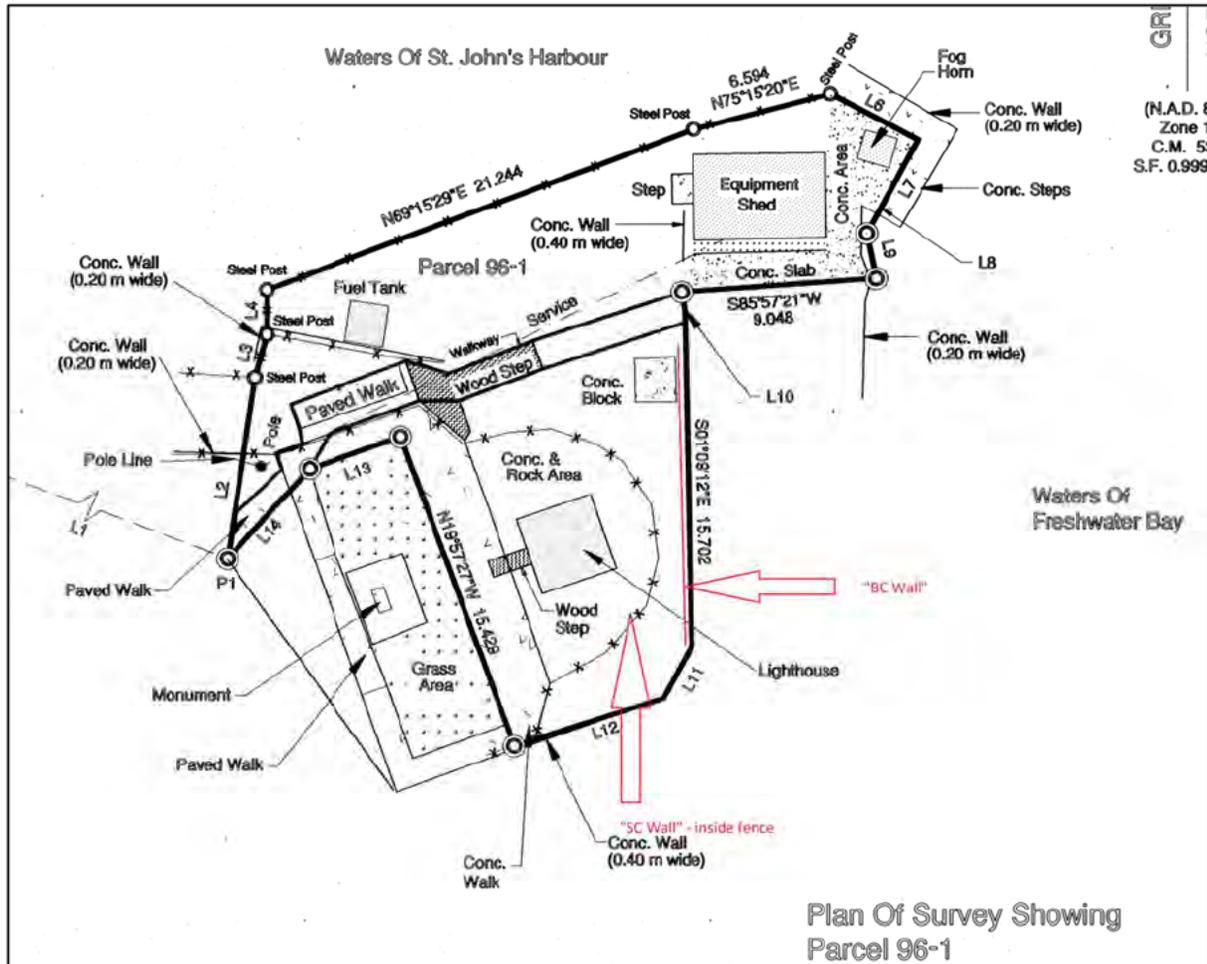
There are other walls in the study area, wholly or partially made of concrete, which are in positions similar to 19th century stone walls of military construction. Repairs to such walls, if required, should be alive to the possibility that these (dating from the 1940s and early 1950s) may either encapsulate historic stonework or contain rubble from the dismantling of such stonework during World War II and/or the dismantling of old Fort Amherst 1951-54.

Participants

- [REDACTED] project management; editorial direction
- [REDACTED] historical research; report preparation
- [REDACTED] clerical support
- [REDACTED] research; report preparation
- [REDACTED] assisted with field inquiries.

© [REDACTED]

Introduction



Federal properties at Fort Amherst (Public Works and Government Services Canada 1996, detail, with added labels in red).

The Department of Fisheries and Oceans wishes to rehabilitate the lighthouse at Fort Amherst, St. John's, built in 1951. Part of the project is to assess and reconstruct (if warranted) various stone and concrete walls on the federal property which surrounds the lighthouse, with a view to stabilizing the lighthouse base (the semi-circular area surround the lighthouse, above). In addition to structural rehabilitation the proposed reconstruction will be guided by safety of public access to the lighthouse and surrounding area, which is a popular scenic attraction, and of course by aesthetic considerations. As Fort Amherst is a recognized site of national historic importance, and is further a part of a "designated place" for the management of Signal Hill National Historic Park, the rehabilitation work will conform to the *Standards and Guidelines for the Conservation of Historic Places in Canada* (Parks Canada, 2003).

Two mortared stone walls of some antiquity are of particular concern. A semi-circular wall of local red conglomerate surrounds the lighthouse base (field name: “SC Wall”), while the lighthouse itself sits on a base incorporating cut-stone elements which are presumed to have been re-used from 19th century fortifications.



The red conglomerate lighthouse base. The SC Wall surrounding the base can be glimpsed behind the chain-link fence, at bottom, left (GPA image #FABT.6877).

A second stone wall (field name “BC Wall”) runs north and south to the east of and below the lighthouse. Composed of a variety of materials, including slate, and with white granite quoins, this wall was presumed to either be a part of a 19th century fortification, or a part of the original lighthouse. With respect, [REDACTED] has concluded that neither interpretation is correct, although the BC Wall remains an object of historic interest.



The “BC Wall” below the lighthouse (FA.6864).

Study Area/Natural Features

South Head, the southern headland of the entrance to St. John's Harbour, composed of the characteristic red conglomerate of the Signal Hill Group, is quite steep and rises in a series of ledges to approximately 30 m asl within 60 m of the high water mark.

The entrance to St. John's harbour, The Narrows, is a defining geographic feature of the city. Its dimensions have historically been given as roughly half a mile long east-to-west and 200 fathoms wide – it is approximately 900 m from South Head (where the Fort Amherst light is located) to Prossers Rock and approximately 200 m from Anchor Point and Pancake Rock (just east of the Prossers Rock boat basin) to Chain Rock Point. At this narrowest point, the navigable channel was less than 70 m wide.¹ The shores are steep-to, particularly on the north side, where there is no tenable landing east of Chain Rock. On the south side the slope is slightly less severe with more room to build. It is here that the neighbourhood known as Fort Amherst became established in the latter part of the 19th century.

Defence of The Narrows has been dictated by the fact that, for a vessel under sail, entrance is generally quite difficult and protracted, the result of prevailing westerlies, the funnel effect of the hills, and a lack of room to maneuver: “the wind... bedevilled sailing vessels in The Narrows, slowing them down or stopping them in their tracks, and theoretically making them sitting ducks for the port's defenders” (Candow 2011:117).

Archaeologically, most of the interest in this area lies in the extent to which defense of St. John's has concentrated on The Narrows, which has been fortified at various locations as far back as 1640, with a military presence continuing, with interruptions, through World War II. The former fortifications at South Head have been designated an archaeological site, CjAe-20.

¹ Between Ruby Rock (just off Chain Rock, since removed by blasting) and Pancake Shoal. Shoal water on the south side of the Narrows was dredged during construction of the Prossers Rock Small Boat Basin.

Previous Archaeological Investigations

The only previous archaeological investigations at Fort Amherst (CjAe-20) are those by [REDACTED] (hereafter [REDACTED]) in 1993. This fieldwork followed a period of archival research on Fort Amherst and its various military and civilian components. For this investigation, the site was separated into three Areas, the three primary terraces at South Head ([REDACTED] 1994:30-32).

The upper terrace was designated Area A, where most of the modern infrastructure and structures are located, included the lighthouse, and the keeper and assistant keeper's dwellings. Testing here occurred within the grassy area near the Historic Sites and Monuments Board plaque, west of the lighthouse, and identified a 1.5 m (possibly, deeper) mix of cut stone, brick, and other building rubble. The debris was posited to be associated with the destruction of a previous lighthouse in the 1950s. [REDACTED] also surmised that *in situ* 18th century deposits and/or foundations may be preserved more than 1.5 m below surface.



The grassy area, monument/plaque and walkway west of the present lighthouse in 2015. In 1993 the majority of artifacts recovered came from this area, [REDACTED]'s Area A (FA26M.1229).

These 1993 Area A finds were within the interior of what GPA refers to as the Barracks building, and possibly also within the footprint of the Keeper's building. ██████ concluded that significant portions of these structures may still remain below surface.

Area B was located on the next lower terrace, east of Area A, ██████'s Lower Battery. ██████'s testing determined that portions of surface-visible stonework may be part of the original battlements from 1777/78, while the remains of some gun platforms could date to c. 1800, based on the dates of artifacts recovered. Dating military sites through field investigation is always complicated by the frequent alteration and repair of stonework during use, often re-deploying stone from previous iterations.

██████'s Area C is the lowest terrace, which was used extensively during World War II. In 1993 it was concluded that modification and reconstruction in the early 1940s may have impacted older historic resources, if such indeed existed. For safety reasons, Area C was not tested in 1993, and does not form part of ██████'s area of interest in 2015.

Approximately 1300 artifacts² were recovered by ██████ during testing, and the remains of 19th century (and possible 18th century) military structures and gun platforms identified. The area has been extensively modified during the 20th century – including several WWII batteries, and the present lighthouse, erected in 1951.

² ██████ could not locate a final report to correspond with JWEL's 1994 "Interim Report." The Rooms was unable to locate any deposited artifacts for CjAe-30.



Memorial University Archaeology field school at Chain Rock Point, summer 2008.

Other sites within The Narrows have been the focus of archaeological investigation and provide context to the military usage of the area. West of Fort Amherst, [REDACTED] conducted two separate assessments at Anchor Point (CjAe-03), near the Prosser Rock boat basin. The remains of a stone defensive structure were exposed, likely those of the early 18th century South Castle (GPA 1989; 1995). Assessment at Frederick's Battery (CjAe-37) – approximately midway between Fort Amherst and Anchor Point – exposed stonework believed to be part of the original battery (Mills 2004). Excavations at Chain Rock – on the opposite side of The Narrows, east of the Battery – exposed evidence of extensive WW II related refurbishment and usage. While these 20th century occupations disturbed many locales known to have had much earlier military use, late-18th to mid-19th century components were recorded (Crompton 2009:21-22). Remains of a historic battery, also several times re-activated, have been recorded at Fort Waldegrave (CjAe-36; Mills 2001).

Historic Context

Fortifications at South Head to 1777. The earliest documented fortification of Newfoundland was by Sir David Kirke, who arrived in 1638 and by 1640 was maintaining 56 guns “mounted in several forts, as Ferryland, St. John’s, Bay Bulls &c, the forts fitted with small arms &c, and manned by inhabitants,” according to John Downing, who settled at St. John’s in about 1646. Though the exact location of this first fortification at St. John’s is unknown, logic dictates that it would have been somewhere in The Narrows.



The earliest detailed map of The Narrows (Southwood, 1675) indicates a fortification and fishing premises at either side. The present Prossers Rock boat basin is located at “Ring noon.” No fortification at South Head (label added).

In 1665 the Dutch admiral de Ruyter led a fleet in an attack on the Newfoundland fishery, finding St. John’s defended by a cable stretched across The Narrows and six eight-pound cannon mounted (but unmanned). Plymouth fishing captain, Christopher Martin, later stated that he landed guns from some of the fishing vessels in the harbour in 1665 and 1667 and had built small earthen forts. In 1667 it is recorded that Maggoty Cove by-boatkeeper Mark Bickford brought “30 men to Newfoundland to fortify St. John’s” assisted by some of the resident planters. It is unknown which locations were fortified at this time, but it is quite possible that that both the North and South Forts indicated in 1675 by Henry Southwood date from this era, with Bickford’s men and the inhabitants concentrating their efforts at Chain Rock Point (“No Fort,” above),

while Martin and the migratory fishermen built a south side fort (“So Fort”) farther out The Narrows, seemingly at what would later become Fort Frederick.

While Chain Rock Point was the one natural place to fortify the north side, over the years there were several locales fortified on the south side, the three major ones being (west to east) Anchor Point, Fort Frederick, and South Head.

The next documented effort to fortify the Narrows was in 1693, when a fleet en route to England from the West Indies put in at Bay Bulls was petitioned by residents of St. John’s for assistance in developing the town’s defenses. Christian Lilly was dispatched to assist. His map of the town as he found it included an “Old Fort” on the south side of the Narrows, at Fort Frederick (Southwood’s “So Fort”). Lilly recommended shifting the guns of the Old Fort to Chain Rock Point. It is likely this fort that defended the Narrows in December 1696, when St. John’s was taken by a French force under Pierre Le Moyne d’Iberville.³

In response, in the spring of 1697 a force was despatched from Britain to garrison St. John’s. Two maps of 1698 (Anon and Beckman) show forts on either side of The Narrows, the north side being at Chain Rock Point, but the south side fort had been moved farther west, to Anchor Point, perhaps in an attempt to guard both ends of a buoyed chain. Captain Michael Richards did extensive work on improving fortifications 1700-03 and rebuilding the south side fort in stone at Anchor Point above Pancake Rock, which became known as the South Castle. Richards’ journal also makes reference to an older battery at South Head, a fortification at Ring Noon and “Crawleys Battery” (seemingly between Anchor Point and the old South Fort [Fort Frederick]).

The South Castle at Anchor Point held out against the French in 1705, despite them bringing two cannon from an unmanned post on “the South point at the Mouth of the Harbour” [South Head] to play on the Castle ([REDACTED] 1999:5). In December 1708 the South Castle fell to a French attack and was destroyed. The fortifications erected on the south side of the Narrows by Richards, as

³ This raid was mounted overland from Bay Bulls. St. John’s harbour has never been taken by sea if The Narrows was defended.

well as some fortifications which may be older, are depicted on a 1709 map⁴ by Mombeton de Saint-Ovide, who led the French attack.



Saint-Ovide, 1709, depicting the South Castle ["D"] and H, an "Ancienne Batterie de 8 Pieces de l'entre" at South Head.

The Narrows were not fortified again until the 1740s, during the War of the Austrian Succession, when two fortifications were planned for the south side, depicted on Bramham & Hylton, 1751: four guns at Fort Frederick and a battery at Anchor Point (which may never have been completed).

There is further reference to an abandoned fortification at South Head by military engineer W. Green in 1752:

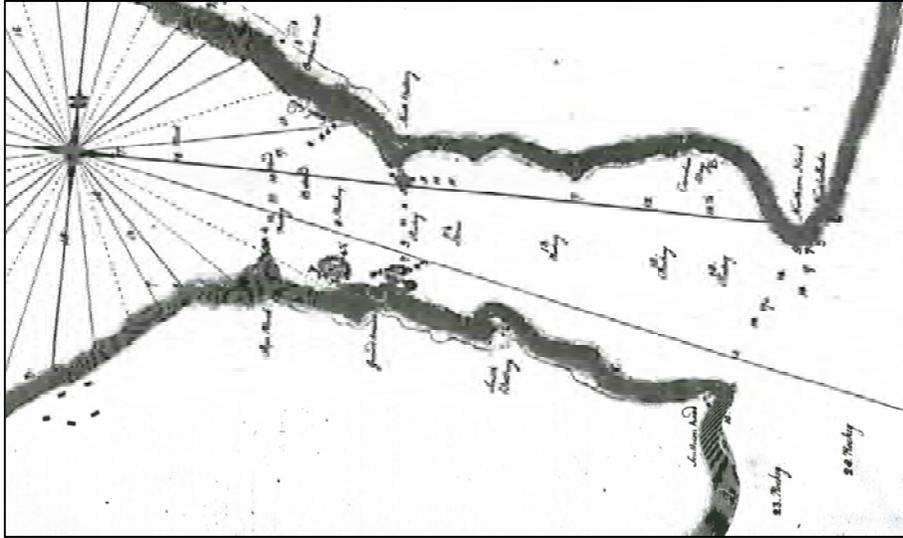
I have visited the small remains of the Merlons⁵ of a Four Gun Battery just at the Harbour Mouth on the South head which in my humble opinion would be no despicable post in time of War for the Enemy in Endeavouring to make the head of the Harbour in order to push in would be greatly Embarrassed in Coming in with their Ships in to such a Narrow Channel, and this Battery lies so high as not to be much exposed to the fire from the tops of the Ships; and I am confidently Informed that the French when in possession of this place

⁴ This map is sometimes dated to 1736, but this is seemingly the date when Saint-Ovide's original map was copied by the French admiralty.

⁵ The solid, upright section of a battlement. Merlons are either side of "embrasures," the gaps through which cannon are fired.

looked upon it in such a favourable light, that they made it a post for an Officers Garde in Time of War (██████████ 1999:5).

After the French took St. John's by overland attack again in 1762 they made use of the battery at Fort Frederick, fortified Chain Rock Point and also began to build a battery on South Head. Christianson (1762), Debbieg (1762), Cook (1762, "Batterys unfinished") and Cinque-Mars (1763) all depict a French battery at South Head.



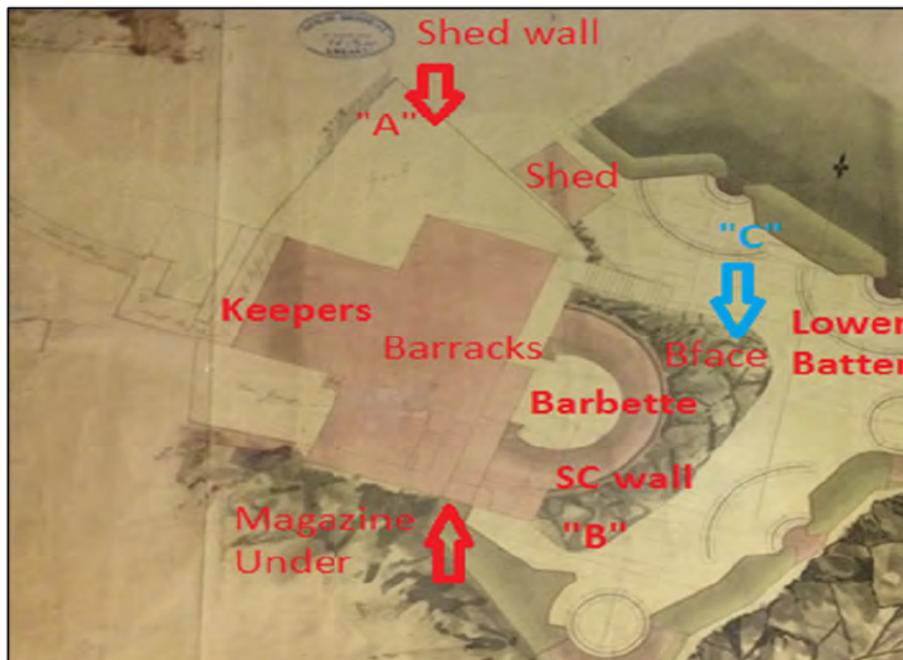
Christianson, 1762, detail, showing a road to South Head and a small fortification there.

After the Seven Years War (of which the taking of St. John's in 1762, also known as the Battle of Signal Hill, was the last engagement), Captain Hugh Debbieg of the Royal Engineers was charged with assessing the military potential and existing armament of the major harbours in North America. His proposals for St. John's, submitted in January 1766, included a recommendation for a "strong stonework battery with 8 cannon supported by a masonry tower... on South Head" (██████████ 1993:5). Some preliminary work began later that year, as observed by naturalist Joseph Banks, who was (rightly) sceptical about the British government approving the nearly £7000 estimate for the circular "Pallissers Tower," he did observe "levelling for a fortification on the south head [elsewhere described by him as a "small work"].

After some delay a new Chief Engineer, Captain Robert Pringle, produced a modified plan for a rectangular fort (now dubbed "Amherst's Tower") and battery at South Head. The first four

cannon were mounted near the tower on the “Barbet⁶ Battery” late in 1776 and the work was reported completed in 1777. The fort was several times rebuilt, including in 1808-13 at which time the rectangular tower was removed, after which the name Fort Amherst was generally used for the fortification, rather than Amherst’s Tower.

Field Names. Discussion of the various components and structures of the South Head fort 1777-1953 may be assisted by introducing [REDACTED]’s assigned “field names” for natural and cultural features.



[REDACTED]’s field names, illustrated on a plan of Fort Amherst (Murray, 1863b). The red arrow labelled “Magazine Under” is in the approximate location of the Gulch.

There are two rock faces near the present lighthouse. Just east of the light is a small cliff which we will refer to below as the Barbette-face or “B-face” with the platform/fortification level atop the B-face referred to as the “Barbette.”

⁶ A platform over which a cannon is fired – in contrast to a parapet, where cannon are typically fired through embrasures.



B-face, looking SW to towards point "B" and showing the "BC wall." The Lower Battery platform is at left and the L-face is below the outside chain-link fence (FA.6864).

Seaward from the base of the B-face is another platform/fortification, which we refer to as the Lower Battery, with the L-face to its east sloping steeply towards the water. We also refer to two other natural features: the "Gulch," a crevice in the L-face to the SW of the lighthouse, and point "A," an outcrop to the north.

The principle buildings referred to are the rectangular "Barracks," which was the largest and oldest building at Fort Amherst (c. 1810-1953), a "Keepers" residence, attached to the Barracks (c. 1851-1952), and a "Magazine" under the south end of the Barracks and Barbette. There was also a small "Shed" to the north of the Barracks.

We have also assigned field names to three extant walls:

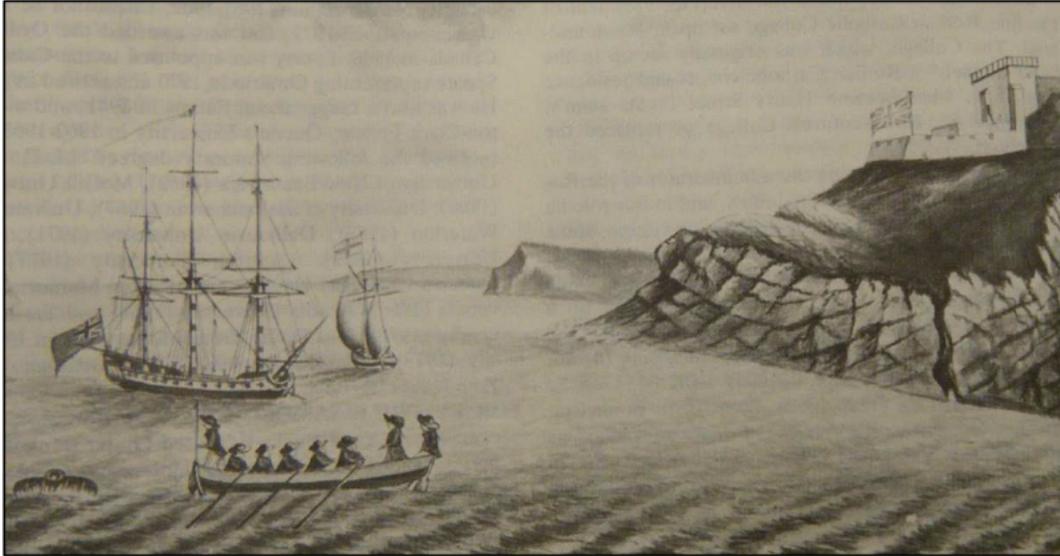
- The "Shed Wall" which stretched from the NE end of the Barracks to a cliff which is presently of concrete;
- The "SC [semi-circular] Wall" of red conglomerate which formed the battlement of the Barbette; and
- The "BC Wall" which stretches across the B-face, is made of a variety of materials including slate, sandstone and has white granite quoins on its north end.



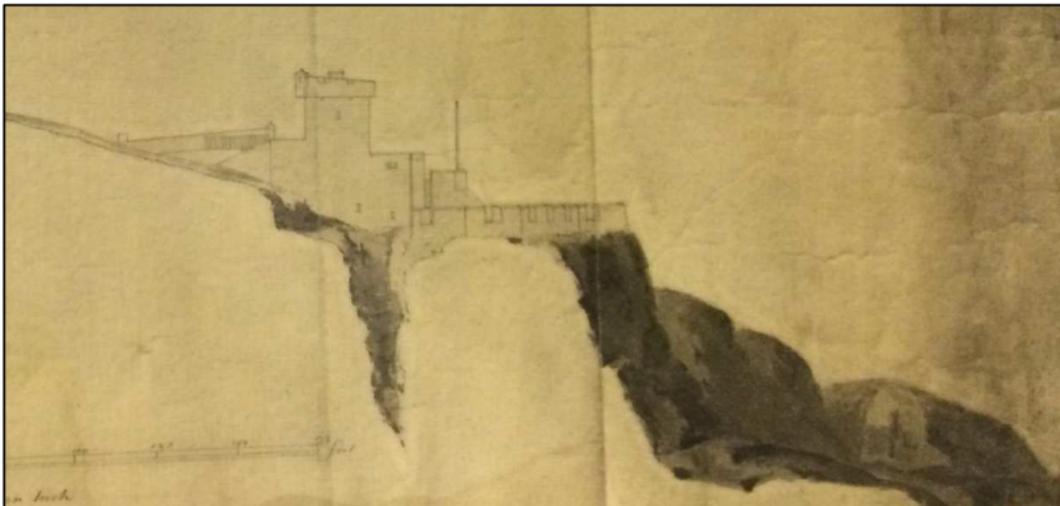
Two walls below the lighthouse which are the principle focus of the proposed rehabilitation. Note the loose stones below the diaphone, just right of the label "SC Wall." The white granite quoins of the BC Wall are on the corner at right (FABT.3492).



The "Shed Wall" at left. Mr. Temple's right foot rests on the corner of the stone base of the shed. To the left of his head is a smaller, concrete platform for a fuel tank (FA26M.1223).



South Head and Amherst's Tower, as drawn in 1786 (from the Encyclopaedia of Newfoundland and Labrador, Volume Two). Note the outcrop right of the Tower, which may be [REDACTED]'s point "A."

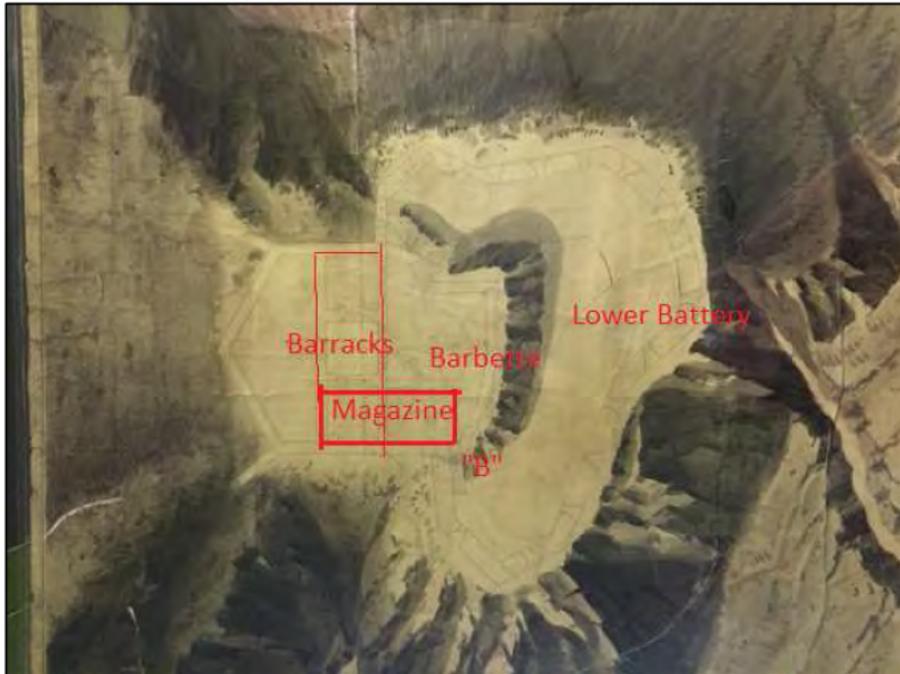


A section of Amherst's Tower from the south, as drawn in 1809 (PRL 912.718 AR2 No. 4).

Amherst's Tower (1777-1810). The fortification designed by Engineer Robert Pringle was substantially completed in 1777, consisting of a rectangular Barracks building with an irregularly-shaped Barbette atop the "B-face" to its east (with a Magazine under) and a Lower Battery.

Although all the features above have their counterparts in Fort Amherst as rebuilt 1808-11, comparison of plans and illustrations suggest the Fort Amherst Barracks was not rebuilt directly

in the footprint of Amherst's Tower, but slightly to the east.

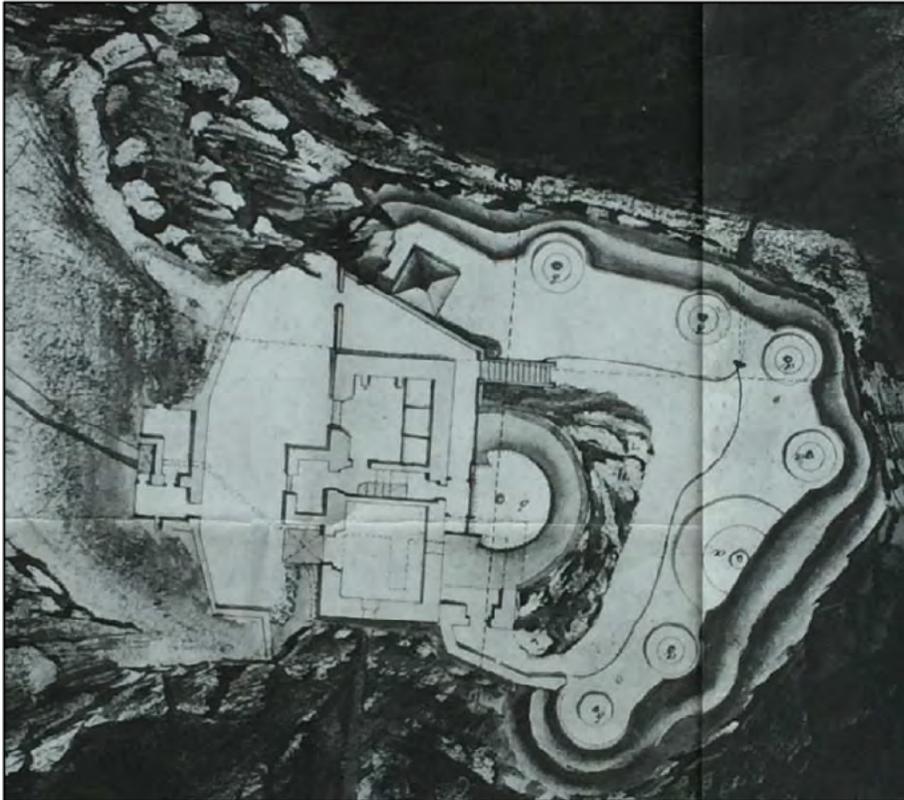


Amherst's Tower, Pringle 177-. Note the "L" made by the Barracks and Magazine footprints (PRL 912.71 AR No. 8, detail).



For comparison purposes, Fort Amherst in 1863.

Fort Amherst (1810-1851). In 1801, at which time the British were at war with France,⁷ Amherst Tower was reported to be a “very decayed state” and it was still “falling into decay” in 1806 ([REDACTED] 1994:13). The following year work began on rebuilding the batteries and by 1809 the Royal Engineers were “excavating for a barracks of stone fronting the narrows” ([REDACTED] 1994:14).



Durnford, 1814 “Amherst Battery in its improved state” (detail of NPM 1157, The Rooms).

GPA suggests that it is most likely that Amherst’s Tower Barracks building was dismantled along with the Tower in about 1808-09. The new Barracks for Fort Amherst may well have reused stone from the earlier building, especially in the foundation and/or Magazine. In 1994 Roy Skanes concluded that “the original tower may have been taken down to make room for a new barracks with an excavated base” ([REDACTED] 1994:14). Two other new works are especially worthy of note: the Barbette and the addition of a navigational light atop the Barracks.

⁷ The French Revolutionary and Napoleonic wars (1792-1815) pitted the French and British against each other for a long period, with only brief periods of peace between. From 1812 to 1814 the British were also at war with the United States (the War of 1812).

The Barbette, described in 1810 as “the intermediate elevated space between the [Barracks] building & [Lower] battery,” had a semi-circular foundation for a gun position, completed by 1811. We conclude that this foundation is likely the same feature (since repaired or rebuilt) of which the “SC Wall” is remnant. This is borne out by a note that, upon the dismantling for Fort Amherst being contemplated in 1953, a “six-foot thick and shoulder high stone wall of a circular shaped gun battery at Fort Amherst, which for nearly 200 years has withstood the ravages of time, with very little impairment, is to serve as the foundation for the new lighthouse.”

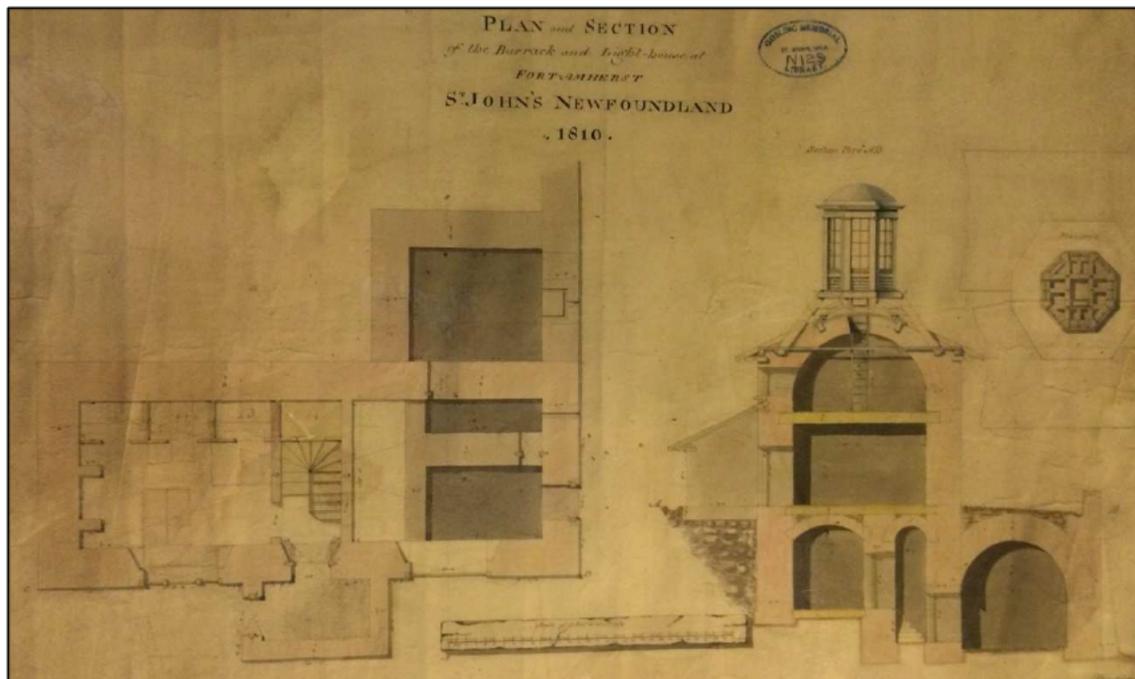


The “SC Wall” of red sandstone/conglomerate on which the present lighthouse base rests. While this stone was likely quarried on the south side of The Narrows, the “BC Wall” below employs lighter stone (FA.6874).

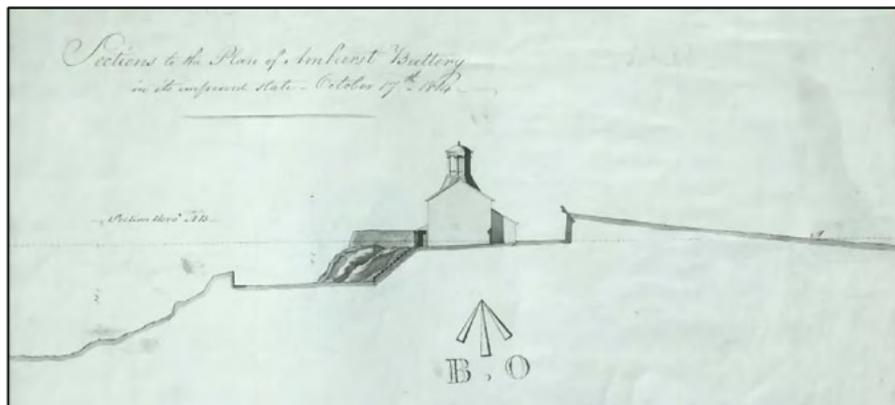
It should also be noted that plans for Fort Amherst indicate two large chambers on the main floor (where the Amherst’s Tower Barracks had three), the more southerly chamber being described as “a store room, under this store rooms is an arched shifting room,⁸ and Passage of Communication to the Magazine” (Engineer E.W. Durnford, 1810, cited in [REDACTED] 1994:15). The Magazine continued to be partially under the Barracks and partially under the Barbette, presumably achieved by excavating into an outcrop of which the B-face is remnant.

A Light House was first reported to be part of the Fort Amherst complex in 1810, and was described the following year as “an octagonal small figure, 3 feet each side and is situated on the Top of the Barracks or Guard House, the Merchants pay all expenses attending the Lighting” (Durnford, cited in [REDACTED] 1994:14-15).

⁸ A chamber used for transferring powder between containers. Soldiers working with powder had to change into special clothing (with no metal buttons etc.), also called a shift, in order to work with gunpowder.



In the drawing at left, surveyor T.G.W. Eaststaff, 1810 has east (seaward) at top. On the right, the shifting room and passage are below a chamber of the Barracks building, with the Magazine under the Barbette.



Fort Amherst "in its improved state, October 17th 1814" (detail).

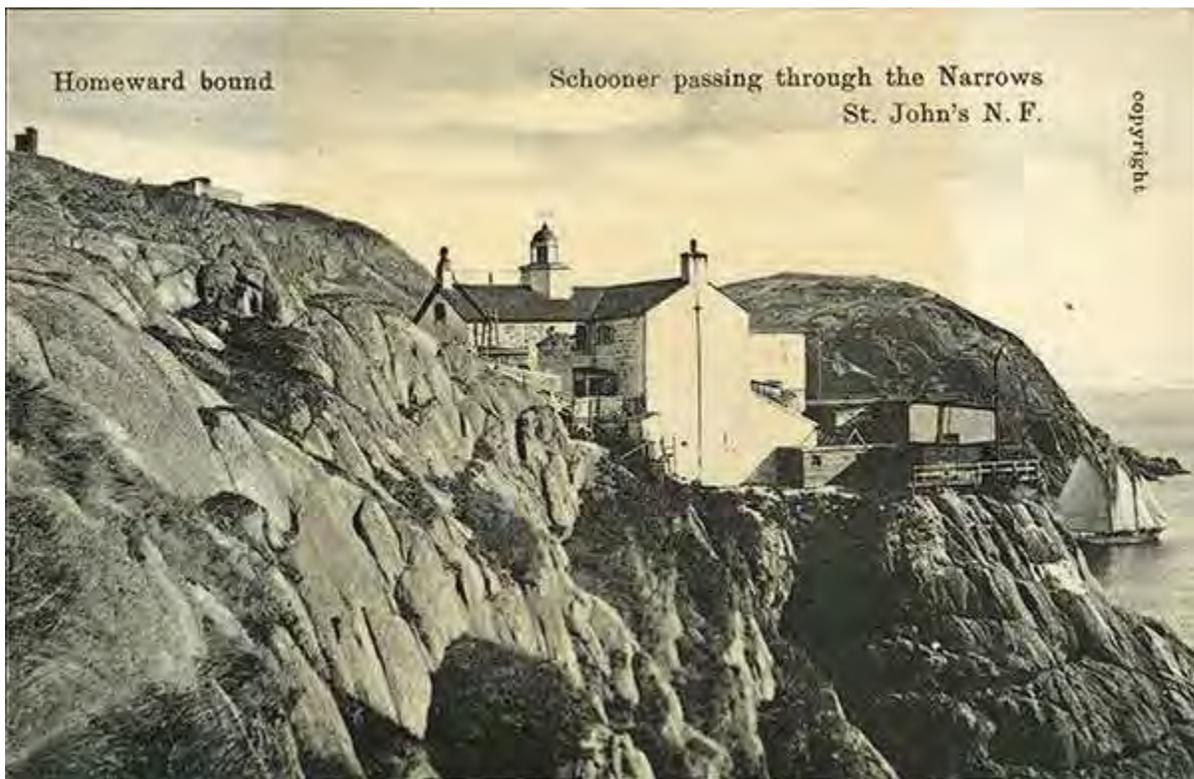
Civilian use (1851-61). As early as 1786 it was noted that artillerymen stationed at Amherst's Tower fired a gun as a warning to shipping in foggy weather. Like the navigation light installed c. 1811, there are scattered references to merchants or civilian authorities bearing the cost of this service.

The harbour light atop the Barracks building was the first such in Newfoundland. In 1834 the government began to reimburse the military for the cost associated with operating the Fort Amherst light and fog signal and appointed Commissioners of Lighthouses to report annually on

their state and associated expenditures (Cape Spear lighthouse became operational in 1835). By 1840 a lighthouse keeper's building was reported to be "shaken and too small," presumably of wooden construction. By 1851 the Colony decided to build a stone Keeper's residence attached to the Barracks.

After a series of applications which have been frequently alluded to in these reports, the Board have at length succeeded in inducing the Board of Ordnance to relinquish its control over the establishment at Fort Amherst, on condition that the place shall be handed over to them again if required for purposes of defence. The Board accordingly at once entered upon the erection of a new building for the Light-house keeper, which is now nearly completed, and will be ready for occupation early in the spring (Stabb 1852:A143).

The "new building" of stone, was not free-standing, but rather "a new House adjoining the Barrack Building." Meanwhile, the light was removed from the roof the Barracks and a new, more visible light mounted on the Keeper's.



Postcard showing the light positioned on the east end of the Keeper's residence (The Rooms, VA 107-3.2). Note that by this juncture [c. 1920] there were roofed structures over both the Barbette and the Lower Battery.

Renewed Military Use (1862-70 and beyond). “Over the years, the fort, as a position of defence, was neglected and, on an 1862 plan, was described as dismantled and in ruins” (██████ 1999:28). The American Civil War, particularly the *Trent* affair in November of 1861, left the British government fearing an invasion of British North America by the North. Consequently, in 1863, Fort Amherst was re-acquired from the Colony and “outfitted with five gargantuan 68-pounder guns, each with a range of 2000 meters. This was a local manifestation of the global trend toward heavier guns to counter ironclad steamers” (Candow 2011:119). It is this configuration of the fort that is illustrated by Murray (1863), used above as the base map to illustrate field names. One of the double tracks for these guns can still be discerned on the Lower Battery.

Fort Amherst was returned to the colony in 1870, when the British garrison withdrew, and continued as a lighthouse and fog gun station. Its gun emplacements and batteries were reactivated in World War I, but there is very little known about changes to structures or fortifications. However, it is presumed that guns were mounted on the Lower Battery.



Postcard, showing the fog gun and battlements c. 1900. The guardrail at right was erected in 1899 and the gun replaced by a diaphonic alarm in 1910.



Detail from a postcard c. 1900. The fog gun and guard rail can be seen at bottom, right (The Rooms, VA 33-8).

Photographs taken between the wars indicate the extent to which the station was expanding through construction of numerous outbuildings surrounding the lighthouse, including the “Narrows Tea Room,” built on the Lower Battery in the 1920s.



Fort Amherst in 1929, tearoom (at left) on the Lower Battery platform – see also cover image. Note also the tramway or funicular at bottom, right (The Rooms, VA 41-19).

During World War II Fort Amherst was again reactivated:

In November 1940 the hastily authorized Q Battery, Royal Canadian Artillery (RCA), manned a temporary Examination Battery equipped with two 75 mm field guns at Fort Amherst, on the south side of the Narrows. In the spring of 1941 these were replaced by two quick-firing 4.7” guns. The 100 men of the Battery were housed in ten buildings

crowded around the lighthouse, the camp defended by a single Bofors anti-aircraft gun and a searchlight detachment. The 75 mm field guns were moved to permanent mountings at Fort Chain Rock on the opposite side of the Narrows. They were supported by two 60 inch, 800 million candlepower searchlights, manufactured by Canadian General Electric Company in Peterborough, Ontario. The Fort also included a barracks block, officer's quarters, and an administration building (Shape and Shawyer 2010:1).



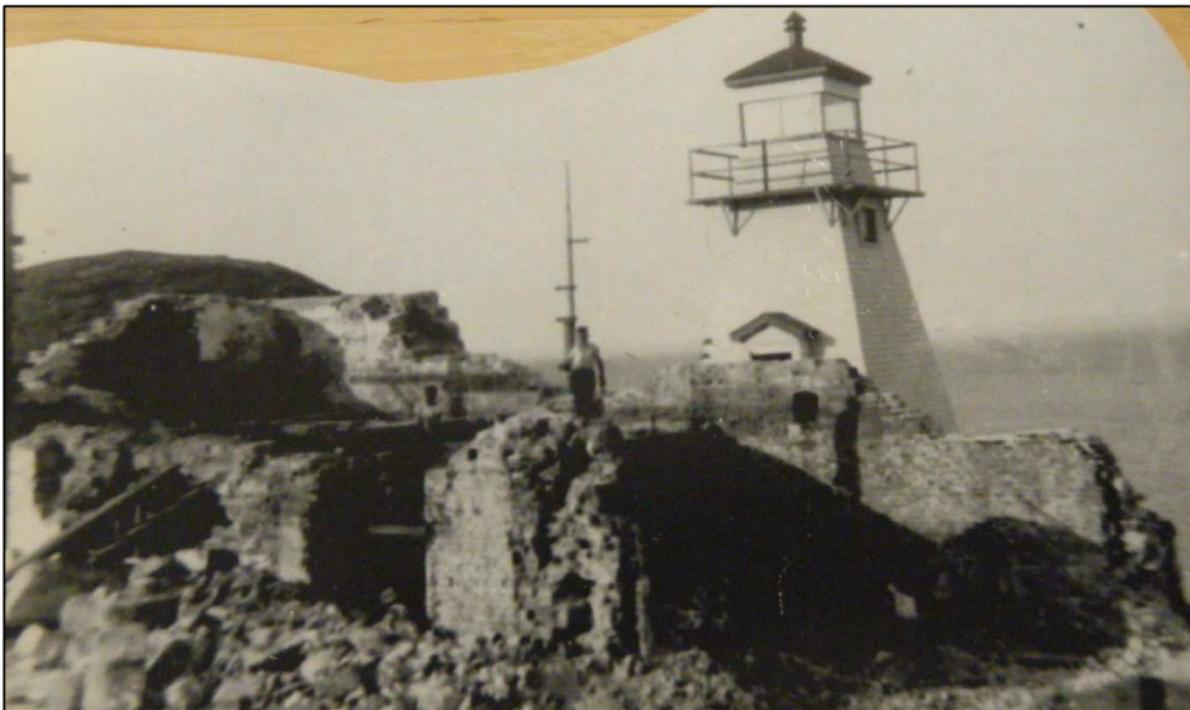
Fort Amherst from Signal Hill, 1945 (collection).

While all this activity resulted in numerous new buildings at South Head, it does not appear that there was any new construction on the Lower Battery, as the new guns positions were all below the historic fortifications, and the new barracks on the hill above.



Canadian soldiers pose on an outcrop above Fort Amherst, c. 1943.

Dismantling old Fort Amherst (1953-54). In 1952 demolition of the 1813 Barracks and 1851 Keeper's building commenced, as well as construction of the two wooden keeper's dwellings and a wooden lighthouse, all three of which survive and are functional in 2015. The demolition by Canada's Department of Transport aroused much local comment, seemingly one of the first times that the demise of a historic building in St. John's became an object of controversy. The Historic Sites and Monuments Board of Canada recognized that Fort Amherst was of national historic importance in May 1951, but concurred with completing the Fort's demolition in 1952, while recommending that "a portion of masonry wall be preserved" (HSMBC 2009:1).



A photograph (said to date from 1954) of the Barracks being dismantled, in front of the newly-installed lighthouse (courtesy [redacted]).

Newspaper stories at the time give some indication that there was a local effort to preserve some part of the heritage associations of Fort Amherst, spearheaded by *Evening Telegram* editor C.E.A. Jeffery and the Newfoundland Historical Society. According to a letter received by HSMBC from Jeffery, once he and the NHS had been convinced that the building was "in dangerous condition" and "could serve no useful purpose" one option discussed was:

demolishing the building, apart from a section of the wall in which is inset the date⁹ of the building of the fort, having that wall put into a state of repair and using it as the base upon which a commemoration approved by the Board could be placed. Mr. Harvey [Superintendent of Lighthouses] was taken with the idea and said it would fit in with the lighthouse plans as well (HSMBC 2009:11).

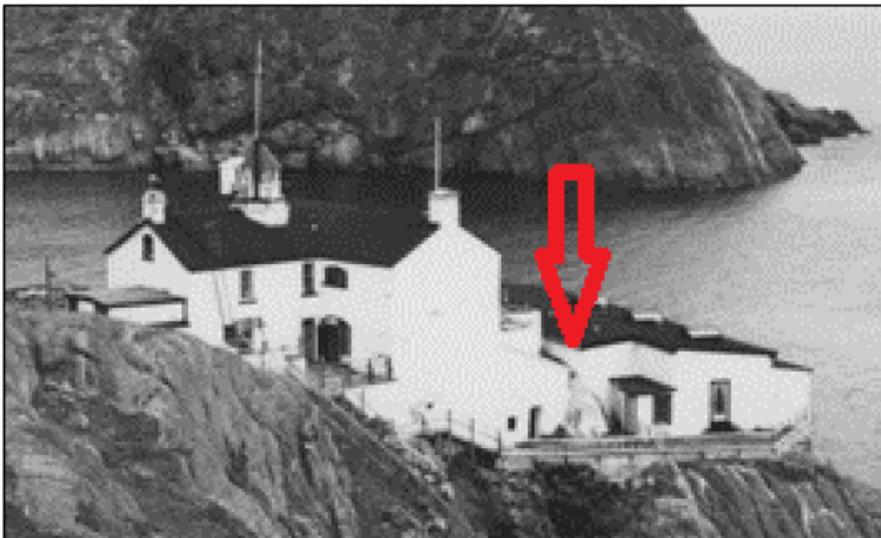
In the event, although it was recommended that a portion of the masonry wall be preserved for a plaque in 1953, the Board did not install the current plaque until 1970. Presumably, a decision was taken that instead of providing the base of a commemorative monument, the “six-foot thick and shoulder high stone wall of a circular shaped gun battery at Fort Amherst, which for nearly 200 years has withstood the ravages of time, with very little impairment, is to serve as the foundation for the new lighthouse” as Jeffery wrote in the *Evening Telegram* in May 1953.

⁹ [REDACTED] was unable to find any further reference to this section inset with a date. It may be worthy of note that Jeffery proposed text for a commemorative inscription which contained several errors, including that Fort Amherst was “built in 1762.”

Discussion/Recommendations

The SC Wall. The SC wall is either a remnant or reconstruction of the semi-circular wall constructed on the Barbette 1809-11. It mounted one 18-pounder in 1814. As an early military work constructed of local stone, it should be considered a “character-defining element” of the Fort Amherst National Historic Site.

The BC Wall. We consider it unlikely that that the partial mortared-stone wall which stretches across the B-face is an *in situ* remnant of a 19th century fortification, or a “foundation wall from the original lighthouse” (Grand Concourse Authority 2002:7). Rather it appears to be the back wall of a post-1863 structure, perhaps related to the construction of an assistant keeper’s dwelling in 1867. Alternatively, it may have been the back wall of the tearoom, built in the 1920s, although in such case it may have either re-used a late-19th century wall, or was constructed of stone left on site from an earlier structure.



“Schooner entering the Narrows,” c. 1939. Red arrow points to the back wall of the tearoom – note its position relative to point “B” on the B-face (detail of *The Rooms* VA 14-22).

Sources

[REDACTED]
2011 *The Lookout: A history of Signal Hill*. Creative Publishers, St. John's.

[Christian, David]

1762 "A Plan of the Harbour of St. Johns in Newfoundland." ([REDACTED] Collection / Original: Admiralty Hydrographic Department (Taunton) B990 shelf Ah4).

City Engineer's Office

1917 "Plan of South Side Hills Park." City of St. John's Archives, E 021.

[REDACTED]
2009 "Signal Hill National Historic Site: Memorial University's Archaeology Field School and Parks Canada." In *Provincial Archaeology Office 2008 Archaeology Review*, Vol. 7, edited by Stephen Hull and Delphina Mercer. Government of Newfoundland and Labrador, Department of Tourism, Culture & Recreation, St. John's.

[REDACTED]
1998 "James Cook's 1762 survey of St. John's harbour and adjacent parts of Newfoundland," *Terrae incognitae*. Wayne State University Press.

2000 "Further light on James Cook's survey of Newfoundland," *International Hydrographic Review*.

Durnford, E.W.

1814 "Plan and Sections of Amherst Battery in its improved state, mounting 4-42 Pdr (a) and 4-18 Pdr (b)" (MG 14 #223-238/ PANL NPM 1157).

Durnford, Mary (ed.)

1863 *Family Recollections of Lieut. General Elias Walker Durnford, a Colonel Commandant of the Corps of Royal Engineers*. Montreal.

Eaststaff, T.G.W.

1810a "Plan and Section of the Barrack and Light-house at Fort-Amherst, St. John's, Newfoundland, 1810. Planview of Tower and Barrack and Section of Barrack and Magazine with Light on Roof, (Section through ab). Plan view of cd (base of Octagonal Light). T.G.W. Eaststaff, Office Plan, June 2, 1810." (PRRL 912.718 AR2 No.5).

1810b "Section on the line AB. Amherst Tower South Side St. John's, Newfoundland, June 20, 1810. T.G.W. Eaststaff, Office Plan." (PRRL 912.718 AR2 NO.3).

1810c "Amherst Tower and Battery, Section Through DEFG showing an Elevation of the South Side of the Tower." (PRRL 912.718.AR2 NO.4).

1814 "Sections to the Plan of Amherst Battery in its improved state – October 17th 1814." (MG 14 #223-238 PANL/NPM 1153).

- [REDACTED])
1993 "Interim Report: An Archival and Archaeological Investigation of Fort Amherst, South Side, St. John's Harbour." On file, Historic Resources Division, St. John's.
1999 "Fort Amherst Archival Study." On file, Historic Resources Division, St. John's.

- [REDACTED]
1989 "Historic Resources Impact Assessment, Prosser Rock Boat Basin, St. John's. Anchor Point 1 (CjAe-3) Site, St. John's. Stage 2: Detailed Impact Assessment, Prosser Rock Boat Basin. Unpublished report submitted to Public Works Canada, Atlantic Region, Halifax.
1995 South Castle Delineation Project – 1993. Report on Excavations at Anchor Point (CjAe-3). On file, Historic Resources Division, St. John's.
2012 "The Narrows Project: a review of existing studies." The Narrows Group, St. John's.

- [REDACTED]
2010 "ye strength of ye place: Defence Works in the St. John's Narrows, 1638-1780," *Newfoundland and Labrador Studies*, vol. 25 #2.

Grand Concourse Authority

- 2002 "Fort Amherst Feasibility Analysis and Site Development Plan." St. John's East Rotary Club, St. John's.

Historic Sites and Monuments Board of Canada

- 1962 "Fort Amherst, St. John's, Nfld." (Agenda paper 1962-27).

- [REDACTED]
2001 Stage 2 Archaeological Assessment of Waldegrave Battery (CjAe-36), St. John's, Newfoundland. On file, Historic Resources Division, St. John's.
2004 Stage 1 HRA of Frederick's Battery (CjAe-37), St. John's, Newfoundland and Labrador. On file, Historic Resources Division, St. John's.

Murray, T.A.L.

- n.d. "This drawing was made as a working drawing to be used on the spot, for rebuilding Fort Amherst. The dotted lines show the outline of the interior crest of the old work. An alteration was made in setting out the work. The first gun was moved 5ft nearer to the second to clear the wooden coal shed" (PRRL 912.718 AR2 NO.1).
1861 "Newfoundland, St. John's, Plan of Lands belonging to the War Dept. on the south side of the Harbour, T.A.L. Murray, Capt. A C.R.E., 4 June 1861." (CSJA A.009.8).
1862a "St. John's Newfoundland. Plan of the War Department Property on Signal Hill, from an original survey by T.A.L. Murray, Capt. & C.R.R., 2nd January 1862." (CSJA A.009.9).
1863a "Fort Amherst Plan of the Soldier's Barrack and Light House Keeper's Quarters taken from actual measurement by T.A.L. Murray, Capt. & R.E. September 1863" (PRRL 912.718 AR2 No.7)
1863b "Plan of Fort Amherst as altered and rebuilt in 1862, to receive a new Armament of 5 68 pdrs. of 95 feet?, Surveyed and Drawn by TAL. Murray, Capt & R.E., May 1863." (PRRL 912.718 AR2 NO.6).

1863c "Fort Amherst Plan of the Soldier's Barrack and Light House Keeper's Quarters taken from actual measurement by T.A.L. Murray, Capt.&c R.E. September 1863." (PRRL 912.718 AR2 NO.7).

National Historic Sites Directorate (with [REDACTED], consultant).

2009 "To Confirm the Designated Place of Fort Amherst National Historic Site." Historic Sites and Monuments Board of Canada, report #2009-CED-SDC-11).

[REDACTED]
1975 *The Oldest City*. Press Porcepic, Don Mills.

2003 *The Oldest City*. Boulder Publications, Portugal Cove-St. Philip's.

Parks Canada

2003 *Standards and Guidelines for the Conservation of Historic Places in Canada*. Delta Printing, Ottawa.

2007 *Signal Hill National Historic Site of Canada Management Plan*. Parks Canada, Ottawa.

[REDACTED]
2015 "Inspection Report: Fort Amherst, St. John's, Newfoundland Retaining Wall and Tower Masonry Support Structure." PWGSC, St. John's.

[REDACTED]
177-a "Plan of the Entrance of St John's Harbour Newfoundland Shewing the additional Work's erecting for its defence." ([REDACTED] collection/British Museum, Additional MS 33231 II.5).

177-b "Plan of the South Head of the Entrance into the Harbour of St Johns Newfoundland Shewing the batteries to be Erected thereon for its Defence." ([REDACTED] Collection).

[REDACTED]
1995 *Fort Amherst*. Jespersion Press, St. John's.

1997 *The Families of Fort Amherst*. The author, St. John's.

2000 *A Narrow Passage: shipwrecks and tragedies in the St. John's Narrows*. J. Blackwood & Associates, Mount Pearl.

Public Works and Government Services Canada

1996 "Plan Of Survey Showing Parcel 96-1 Lands to be leased by H.M. in Right of Canada at Fort Amherst City of St. John's, Newfoundland & Labrador." On file at [REDACTED].

1998 "Transfer Documents." On file at [REDACTED]

St-Ovide

1736 *Plan du port et du fort de Saint Jean en l'Isle de Terreneuve. Viue de fort de St Jean par M. de Saint Ovide de Brouillan en 1709*. Original: Bibliotheque de la section technique de genie, France. Copy: CNS 168.

[REDACTED]
2010 “North America’s First Line of Defence: Building a Wartime Landscape.” In *Occupied St. John’s: a social history of a city at war, 1939-1945*. Johnson Family Foundation, St. John’s.

Stabb, Nicholas

1852 “Report of the Commissioners of Light Houses.” *JHA* 1853.

Appendix A: Additional Photographs



Point "A" in 2015 (FA23Jul.1419).



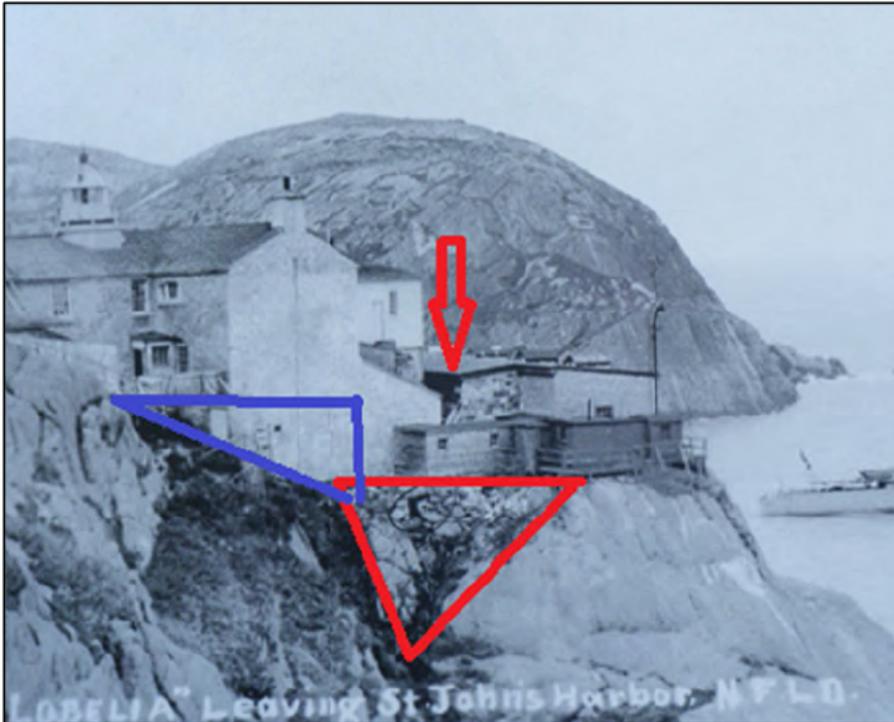
Point "A" c. 1920.



Point "B" in 2015. At the south end of the BC Wall can be seen remnants of a corner and a wall which extended to the east (FA.6862).



A winch, mounted on an excavation into the Point "A" outcrop. Possibly this rock cut was made to fit in the NW corner of the original Amherst Tower Barracks (FA23Jul.1418).



For comparison purposes, 1922 and 2015 photographs, taken from a similar vantage point south of the lighthouse. The blue triangle above indicates the above-ground portion of the Magazine. The blue triangle below indicates that the modern concrete retaining wall and pathway takes the place of (or possibly encapsulates) part of the former south wall of the Magazine. The red triangle outlines a stone feature or nogging in the Gulch, around a drain.





Poured-concrete structure behind the north end of the BC Wall, at point “C”, likely dating to World War II (FABT.3503).



A model of Amherst's Tower, formerly in the Newfoundland Military Museum (courtesy [redacted]).



A rare rear-view of the lighthouse, c. 1910. Unwhitewashed, some of the stonework can be clearly seen (courtesy [redacted]).