



Natural Resources
Canada

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Canada

Green Construction through Wood (GCWood) Program

A Request for Expressions of Interest to Design
and Construct Timber Bridge Demonstration
Projects in Canada

APPLICANT'S GUIDE



Canada

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For additional information, contact the GCWood Program at nrcan.gcwood-cvbois.rncan@canada.ca or consult the GCWood website at www.nrcan.gc.ca/gcwood.
Program changes or notices will be made available on the website.

Preface

This Guide outlines the general intent of the Green Construction through Wood (GCWood) Program and the Expression of Interest (EOI) process. It explains how the Department of Natural Resources Canada (NRCan) will review information submitted in response to the Expression of Interest in a consistent, fair, and transparent manner.

Applicants are required to submit an Expression of Interest by:

MARCH 25, 2019 at 17:00 EST.

Submissions received after this deadline will not be eligible for funding consideration under this Expression of Interest.

Submission of an EOI does not guarantee you will receive funding under the GCWood Program. Any approvals under this process will be conditional upon the execution of a contribution agreement. Until both parties sign a written contribution agreement, no commitment or obligation exists on the part of NRCan to make a financial contribution to any project.

Proposals under the EOI process will be evaluated against the criteria outlined in this document.

For additional information, contact the GCWood Program at nrcan.gcwood-cvbois.nrcan@canada.ca or consult the GCWood website at www.nrcan.gc.ca/gcwood. Program changes or notices will be made available on the website.

1.1 Submission of Expressions of Interest

Submissions can be made in either English or French. E-mail submissions are preferred and can be submitted to nrcan.gcwood-cvbois.nrcan@canada.ca. Submissions may also be submitted via memory key, CD, or hard copy to the address below:

Green Construction through Wood
Natural Resources Canada, Canadian Forest Service
580 Booth St, 7-D5-4
Ottawa, ON
K1A 0E4

NRCan will confirm, by e-mail, receipt of each Expression of Interest package.

Regardless of the delivery mechanism, Expressions of Interest must be received by the department by the deadlines set out above. The department will not accept delayed submissions due to technological or logistical issues on behalf of the applicant.

Program Description

2.1 Overview

The Green Construction through Wood (GCWood) Program was created in 2017 to encourage greater use of wood in infrastructure construction projects in Canada and catalyze innovation. The four-year initiative offsets the cost of being the “first mover” in wood intensive projects, provides guidance and expertise to applicants, and increases the awareness of, and domestic capacity for, innovative wood solutions. The program encourages the replication of the demonstrated wood-based projects to reduce GHG emissions and stimulate economic growth.

GCWood provides non-repayable contributions of up to 100% of a project’s eligible Incremental Costs¹ for the demonstration of innovative non-traditional wood-based construction.

Expected outcomes of the Program include:

- Broader adoption and commercialization of wood-based products in the construction of bridges;
- Replication of demonstrated wood-based bridges; and
- Canada’s transition to a more wood-inclusive construction industry.

2.2 Program Duration

The GCWood Program will end on March 31, 2022. Completion of physical works on selected demonstration projects may extend until March 31, 2024 but all costs eligible for GCWood funding must be incurred prior to the Program’s end date.

2.3 Maximum Amount Payable and Stacking Provisions

The maximum amount payable by GCWood will be up to 100% of total eligible Incremental Costs **up to a maximum of \$1.5 million per project**. The total Canadian government assistance (federal, provincial/territorial and municipal) cannot exceed 100% of the total project costs.

Prior to signing contribution agreements, recipients will be required to disclose all expected sources of funding applicable to the proposed project, including contributions from other federal, provincial/territorial and municipal governments, as well as private sector sources.

¹ “Incremental Costs” are considered to be the eligible costs associated with the additional design (structural, durability and treatments, etc.), approval and construction activities required to construct the timber bridges with wood over traditional methods. If you have questions about eligible incremental costs, please contact the program.

2.4 Eligible Recipients

Eligible recipients are legal entities validly incorporated or registered in Canada (including for profit and not for profit organizations, Indigenous organizations and groups, and Canadian academic institutions), as well as provincial, territorial, regional and municipal governments and their departments and agencies where applicable.

2.5 Eligible Activities

Funds will support selected activities in the following design and construction areas:

Design development, permitting and detailed engineering and construction plans, including:

- Incremental costs associated with the design (structural, durability and wood treatment, fire safety, etc.);
- Highway code analysis and the preparation and detailing of the design concept, including feasibility, environmental, engineering and scientific studies;
- Costs associated with the validation of the design concept, engineering calculations and analysis, product, connections and system testing, and other demonstrations that may be required to support the approval of the project by Authorities Having Jurisdiction (AHJ); and
- Technical research associated with the use of wood: structural, durability, connections, etc.

Construction and post construction related activities, including:

- Additional project construction fees associated with wood construction that would not otherwise be required²;
- Monitoring costs, to assure the bridge and users safety, for critical bridge timber superstructure components or assemblies; and
- Extraordinary course of construction insurance premiums.
- In-situ testing and instrumentation to study and monitor the performance of the demonstration bridge during and post construction phase.

Other activities not noted above but directly attributable to the innovative design, approval process, specific choice and use of materials, construction of the bridge wood-based superstructure, and additional educational, training and communications required for such projects may likewise be considered Eligible Activities.

2.6 Eligible Costs

Eligible costs (as listed below) can only be incurred after the date on which the contribution agreement is executed by both parties. Costs are considered “incurred” as they become payable to the good/service provider. Until a contribution agreement is signed by both parties, no

² Note: The cost of wood products used to construct the bridge cannot be claimed and will not constitute an eligible expenditure

commitment or obligation exists on the part of NRCan to make a financial contribution to any proposed project.

Eligible costs include the following:

- Incremental costs associated with the wood solution such as building materials³, construction documentation, engineering and testing costs, and other related expenditures;
- Professional/consulting/technical services;
- Salaries and benefits;
- Shipping/storage costs;
- Data acquisition and technical equipment/materials, software, and licenses;
- Publicity, design, publishing fees, promotional and printing services;
- Travel expenses, including accommodation, meals, and allowances (based on National Joint Council rates); and
- Overhead expenditures, to a maximum of 10% of eligible expenditures, provided that they are related to the project and can be attributed to it.

See Section 4.8 for definitions of eligible costs above.

Any costs associated with the production or export of softwood lumber products are not eligible under this program.

2.7 Basis and Timing of Payments

The Government of Canada's fiscal year is the period beginning on April 1 of any year and ending on March 31 in the next year. Details will be provided within each contribution agreement regarding the documentation that is required when submitting a claim for payment. The contribution agreement will also stipulate the start date and end date of eligible costs for each project.

Payments will be made based on receipt and approval of financial reports signed by the recipients' Chief Financial Officer (or duly authorized officer) outlining actual eligible costs incurred for the project. Payments will be made based on measurable, pre-defined project milestones, as well as upon receipt of the documentation as defined in the contribution agreements.

Advance payments may be permitted when requested by the applicant, and based on an assessment of their financial need, level of risk and cash-flow requirements.

³ *Building materials* in this context relate to the incremental materials that may be required for a wood solution compared to a similar concrete or steel bridge as part of the alternative solution design approval. For example, authorities may require a different type of connector to provide added structural safety. The *extra* cost of this connector (compared to a connector that would be required for a concrete or steel bridge) would be eligible, as this is specific to the wood solution design.

Final payment will not be made until all agreed-upon project activities have been completed by a recipient and are deemed acceptable by NRCan. In order to ensure appropriate project oversight, a reasonable holdback may be applied and released once all conditions of the contribution agreement have been met.

GCWood Application and Evaluation Process

3.1 Overview

Applicants are required to complete the GCWood Application Form. No modifications to submitted applications or additional supporting information will be accepted after the closing date and time, unless specifically requested by the GCWood program. Instructions and further information are included in the application form (available at www.nrcan.gc.ca/gcwood).

The Program must receive Expressions of Interest by
MARCH 25, 2019 at 17:00 EST.

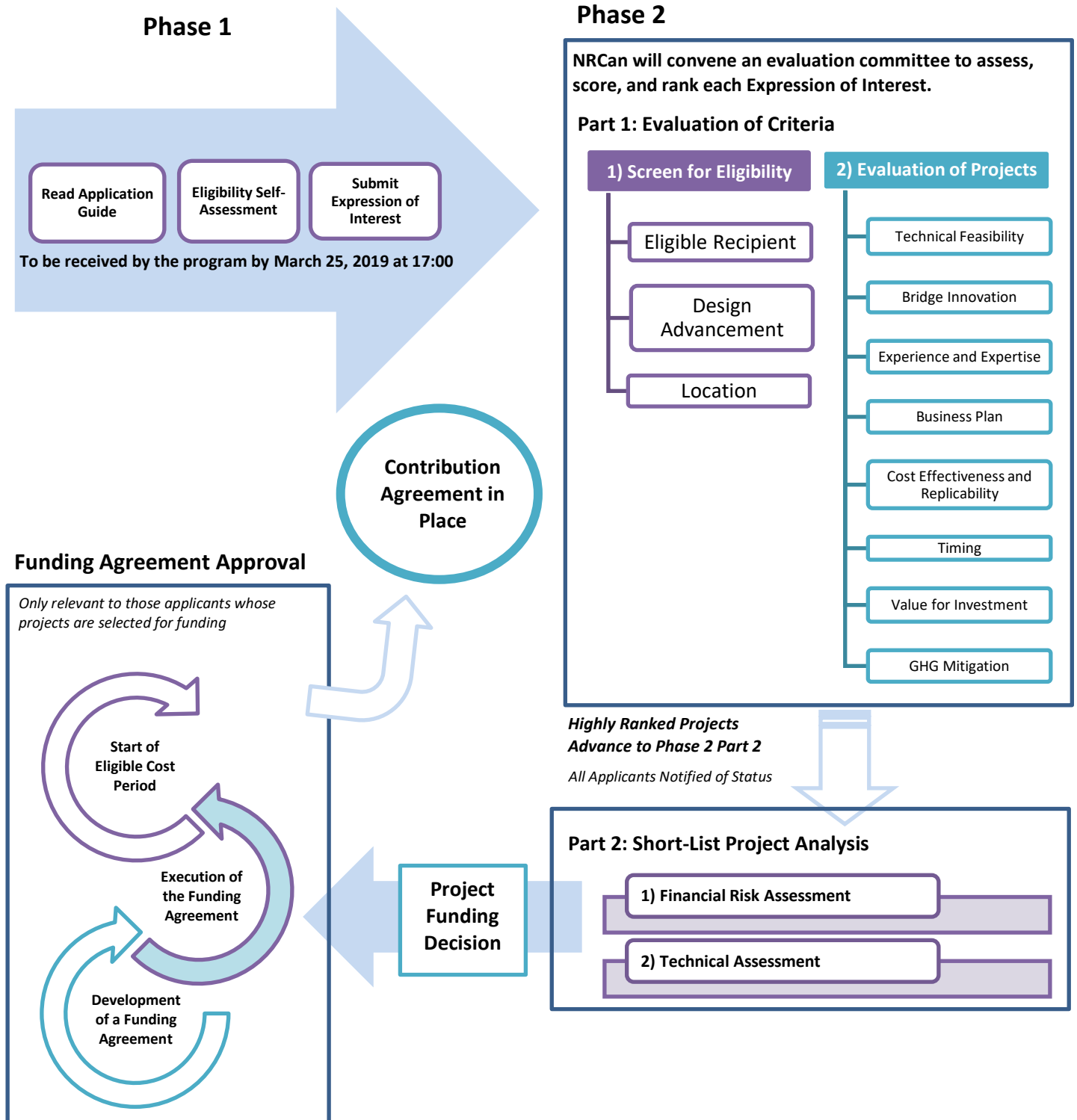
3.2 Expression of Interest Evaluation Process

NRCan will use a two-part selection process to identify projects for funding consideration. In Part 1, projects meeting the mandatory criteria will be assessed by an evaluation committee against the program's rated criteria, as outlined in section 3.4.2 below. Following this process, a recommended short-list of highly ranked projects will advance to Part 2. NRCan will notify all applicants of their status in the selection process after Part 1 is completed.

Applicants whose projects advance to Part 2 (project selection and short-list) will be asked to submit additional information in order to remain under consideration for funding. Additional due diligence analyses may be required of projects depending on the project parameters. NRCan will contact short-listed applicants once the final funding decisions have been made.

Program officials will then work with the selected recipients to develop contribution agreements. Recipients should note that while contribution agreements may be drafted, no payments will be made prior to the successful execution of the contribution agreement and any other applicable contractual conditions.

Figure 1: EXPRESSION OF INTEREST APPLICATION PROCESS



3.3 Part 1: Evaluation of Criteria

3.3.1 *Mandatory Criteria*

To be eligible for funding under GCWood, projects must meet all mandatory criteria. The responsibility lies with the applicant to demonstrate, in the Application Form, that the proposed project clearly meets each mandatory criterion. Failure to clearly demonstrate that the project meets each mandatory criterion will result in the project being eliminated from consideration for funding.

1. **Eligible Recipients:** Eligible recipients are legal entities validly incorporated or registered in Canada (including for profit and not for profit organizations, Indigenous organizations and groups, and Canadian academic institutions), as well as provincial, territorial, regional and municipal governments and their departments and agencies where applicable.
2. **Location:** Project site is located in Canada and ownership of, or long-term access to, the land is clearly demonstrated.
3. **Bridge Design and Construction Advancement:** The proposed project must constitute an advancement of the design and construction of timber bridges in Canada.

The proposed project must:

- a) Fit under one of the two following bridge type/categories:
 - i) **Traffic** – vehicular bridges, including roadway bridges over rivers or train tracks, highway bridges, or
 - ii) **Pedestrian** – bridges connecting buildings in urban areas, over roadways, highways, rivers or train tracks
- b) Demonstrate the **novel use** of engineered wood-based products and/or systems and advanced construction technologies, especially those designs that promote longevity and durability by design.
- c) **Have spans of at least 20 meters.** Bridges could be a single span or have multiple spans. Spans could vary depending on the project specifics and use.
- d) Be **predominantly wood.** The proposed project could be all wood or hybrid wood/non-wood, including use of composite technologies such as carbon and glass fibre reinforced polymers (FRP), advanced treatments and high-performance concrete and epoxies.

The proposed project must not:

- a) Be a duplication or near-duplication of an existing bridge.
- b) Be a temporary installment (designed or intending to be moved to a different location after a number of years).
- c) Be a natural resource extraction bridge (e.g. logging, mining).

3.3.2 *Rated Criteria*

Projects that clearly meet each of the mandatory criteria will then be evaluated against the program's rated criteria, as outlined below.

1. **TECHNICAL FEASIBILITY:** Degree to which the project is expected to be technically feasible and generate the desired outcomes.

Applicants must demonstrate a clear and complete timber bridge project description, sound superstructure design solution, and detailed work plan. Preference will be given to projects that can likewise provide a robust design and engineering package, existence of risk mitigation strategies, and a solid understanding of the research and testing that may be required to proceed to the detailed design, approval and construction stages. Preference will be given to bridge designs that demonstrate:

- Practical, cost-effective and realistic bridge design concept/solution including structural and durability design aspects;
- Speed of construction and use of prefabrication;
- Overall advantages of using a wood-based superstructure, including lighter foundations;
- A higher degree of visibility; and
- Aesthetics.

2. **BRIDGE INNOVATION:** Degree of superstructure innovation and novelty, as demonstrated by the use of new innovative engineered wood products, connections, systems, designs and construction methods.

The timber bridge projects must demonstrate a high level of innovation in new wood-based designs or superstructure solutions. Preference will be given to projects that demonstrate:

- Advanced composite technologies and treatments such as: carbon and glass fibre reinforced polymers (FRP), high performance concrete and epoxies, and design concepts such pre-stressing and cambering,
- Design concepts with well-developed details that target protection and ensure a longevity with minimized risk of deterioration needing intensive maintenance (e.g., good detailing with gaps, use of cladding and metal flashing to protect the main structural girders, etc.),
- Use of environmentally friendly treatments, and
- Designs and construction technologies that adopt prefabrication and offsite construction, which offer an opportunity for fast deployment and minimal disruption to traffic.

Timber bridge projects demonstrating a higher level of Canadian innovation (where the intellectual property or intelligence of the technology originates in Canada) will also be given greater consideration.

3. **EXPERIENCE AND EXPERTISE:** Degree to which the project clearly demonstrates the design and construction teams' experience and capability of delivering an innovative timber bridge as well as access to, and/or support from, key stakeholders and partners (i.e. jurisdiction authorities, consultants, suppliers, etc.).
4. **BUSINESS PLAN:** Degree to which the project clearly demonstrates strong financial analysis, sound budgeting, and a credible and complete business plan.

Applicants must demonstrate a complete, viable, and credible business plan including **all** of the following: financial budget, funding sources, permitting timelines, ability to mitigate risk, knowledge of construction conditions, clear performance measures and tracking, and the project team's experience in completing projects on budget and schedule.

5. **COST EFFECTIVENESS AND REPLICABILITY:** Degree to which the project clearly demonstrates a cost-effective and replicable project design and implementation plan.

Applicants must clearly demonstrate:

- i) How cost-effective the project is and how it could be used as a basis for a generic design concept/construction methodology for other timber bridges in the future.
 - ii) How the incremental costs of using wood for the bridge construction were quantified and how the areas of design, approval, and construction activities were identified. **A class "D" cost estimate must be submitted with the application.**
 - iii) How cost-effective the incremental costs are, given the complexity of the project, and how realistic they are in relation to the funding request.
6. **TIMING:** Preference will be given to applicants who propose the most credible and defensible project schedule information. Preference will also be given to projects that will be completed before March 31st, 2022.
 7. **VALUE FOR INVESTMENT:** Preference will be given to projects where requested GCWood funding is well leveraged and/or in-kind contributions are demonstrated.
 8. **GHG MITIGATION:** Projects must demonstrate how the timber bridge solution will reduce or mitigate GHG emissions compared to a similar bridge constructed with traditional materials and systems. Projects must also provide an initial estimate of carbon dioxide equivalent (CO_{2e}) and how the GHG mitigation estimate was calculated. Preference will be given to timber bridges projects which can demonstrate additional "green" performance measures.

In addition to the above criteria, applicants are also requested to provide information on the project's environmental, social, and economic benefits to Canada. Likewise, the GCWood program will give greater consideration to project submissions that demonstrate the use of (or intent to use) forest products that come from sustainably managed forests in the construction of the proposed timber bridge.

3.4 Part 2: Short-List Project Analysis

The highly-ranked projects emerging from the Part 1 evaluation will move to the Program's "short-list". These applicants will be requested to provide additional information to support the final funding decisions. Short-listed project applicants may be asked to provide key documentation, which may include, but is not limited to:

- Financial information that will be used to support a project financial risk assessment;
- Summary of permits/approvals required in relation to the project;
- Detailed work plan, communications plan, and key milestones;
- Risk mitigation plans and/or strategies; and
- Additional supporting materials to demonstrate the applicant's commitment to the project.

The GCWood Program will contact applicants advancing to Part 2 to provide specific instructions relating to the financial risk assessment, risk mitigation plan, permits/approvals, and work plan.

Failure to submit any information supporting the short-list project analysis in a timely fashion may result in elimination from the Application Process.

3.4.1 Additional Information Requirements for Short-Listed Projects

Short-listed projects will be required to provide additional information to the program, including the following:

Financial Risk Assessment

The financial risk assessment will support the assessment of the overall financial viability of the project, the applicant and any partners throughout the implementation of the project. Financial risk assessments may be conducted by an independent third party on behalf of NRCan, at the expense of NRCan.

Permits and Approvals

Details on the regulatory framework for the project including a summary of the permits/approvals required in relation to the bridge, a status and timeline for obtaining these,

engagement of respective building authorities, and the impact any delays in obtaining these may have on the overall project execution.

Work Plan

The proposed Work Plan must fully describe how the Applicant will achieve the project objectives. If selected for funding, the Work Plan will form the basis for funding negotiations, during which revisions or updates may be required to establish the Statement of Work included in a funding agreement.

A clear description of all activities to be conducted over the duration of the project must be provided. The Work Plan will contain as a minimum:

- Project milestones demonstrating performance, progress, and completion.
- Project tasks, including:
 - Description of how the tasks will be completed to meet project objectives,
 - General approach used to execute each task (e.g. in-house, contractor, supplier),
 - Specific activities required to complete each task, and
 - Timelines for the above.
- The general approach utilized to execute each project Task (e.g. in-house, contractors, or suppliers).

Project-wide go/no-go decision points should be included at appropriate points in the Work Plan. The Applicant should provide the specific criteria to be used to make the go/no-go decision.

Risk Mitigation Plan

Applicants will be required to submit a Risk Mitigation Plan that outlines key project risk areas, including but not limited to:

- The technical, design, construction, and financial risks associated with the project.
- Approaches for overcoming or mitigating risks including prior experience managing similar risks.

At this stage of the process, additional supporting materials may be requested to demonstrate the Proponent's commitment to the construction of the project and provide NRCAN with a more thorough understanding of the project objectives and work plan.

Additional Information for Applicants

This section contains information, which will be relevant only to successful applicants and their design and construction team(s) whose projects are selected for funding through GCWood by NRCan (i.e., short-listed projects under Part 2).

4.1 Intellectual Properties

The innovative wood systems, applications, technologies and research funded through the GCWood program are intended for universal use and development and therefore will be subject to ‘**Creative Commons**’ copyright conditions.

Likewise, all intellectual properties that have evolved directly or indirectly from the use of funds provided by the GCWood and other funding partners to support a project will be made available for free to the design and construction industries across Canada and beyond to encourage the promotion of wood products in bridge construction applications.

Partial contribution to the cost of the development of the engineering and architectural design plans and research and testing by NRCan means that the entire plans must be made available by the applicant to be shared widely with the engineering and design communities in Canada.

4.2 Environmental Assessment Considerations

The *Canadian Environmental Assessment Act, 2012* (CEAA 2012) and its regulations establish the legislative basis for the federal practice of environmental assessment (EA). EA is a planning tool that is regarded as an integral component of sound decision-making. One of the main purposes of CEAA 2012 is to ensure that designated projects are considered in a careful and precautionary manner to avoid significant adverse environmental effects.

CEAA 2012 applies to projects described in the *Regulations Designating Physical Activities* and those designated by the Minister of the Environment as requiring an EA, CEAA 2012 also applies to projects on Federal lands or outside of Canada that are carried out or financially supported by a Federal Authority.

Applicants are not required to submit any additional information regarding Environmental Assessments at the application stage. In cases where CEAA 2012 might apply to a proposed project, the GCWood program will work with project applicants to assess the requirements specific to their project.

4.3 Indigenous Consultation

The Supreme Court of Canada has ruled that the Crown has a legal duty to consult, and where appropriate to accommodate, when the Crown has real or constructive knowledge of the potential existence of Indigenous rights or title, and the Crown contemplates conduct that might adversely affect those rights, whether those rights have been established (proven in court or agreed to in

treaties) or whether there is potential for rights to exist. In these instances, consultation should occur prior to the federal government taking any action.

For each project proposal that advances to Part 2 of the evaluation, GCWood Program officers will review applications to determine if the proposed project is likely to result in an adverse impact on an established or claimed Indigenous or treaty right. Where appropriate, a consultation process commensurate with the potential impact will be undertaken.

Consultation with Indigenous groups by applicants is not required under the GCWood Program (for those Applicants advancing to Part 2). However, applicants are encouraged to report if they have already conducted consultation or engagement in relation to the project proposal, or as part of the applicant's ongoing operations/corporate commitments.

4.4 Confidentiality and Security of Information

The *Access to Information Act*, (the "Act") governs the protection and disclosure of information, confidential or otherwise, supplied to a federal government institution.

Paragraph 20(1) (b) of the Act states that:

"A government institution [such as NRCan] shall refuse to disclose any record requested under the Act that contains financial, commercial, scientific or technical information that is confidential information supplied to a government institution by a third party and is treated consistently in a confidential manner by the third party."

Paragraph 20(1) (b) of the Act sets out two mandatory criteria in order to protect Applicant's confidential information supplied to NRCan from disclosure. First, the Applicant's documents supplied to NRCan must contain financial, commercial, scientific or technical information. Second, the Applicant must consistently treat such information in a confidential manner. In other words, NRCan will protect the Applicant's confidential information in its possession as much as the Applicant protects said confidential information in its own establishment.

For more information on this subject, a careful reading of the entire Section 20 of the *Access to Information Act* is greatly encouraged (<http://laws.justice.gc.ca/en/A-1/index.html>).

4.5 Tax Treatment

The CRA bulletin IT-273R2 Government Assistance – General Comments (<http://www.cra-arc.gc.ca/E/pub/tp/it273r2/273r2-e.pdf>) may be of interest to taxpayers participating in the program. It discusses the income tax treatment of government assistance received by a taxpayer in the course of earning income from business or property and when this assistance is taxable and when it is not. It explains the rules which allow a taxpayer to reduce the cost of a property when such assistance is received in respect of the acquisition of capital property.

All questions concerning the tax treatment of funds received under GCWood should be directed to the Canada Revenue Agency (www.cra-arc.gc.ca).

4.6 Audit Rights

The Applicant must:

- keep proper accounts and records regarding the project(s), for at least five years after the project completion date;
- permit Government of Canada representatives to audit, inspect and make copies of those accounts and records at all reasonable times, up to five years after the project completion date;
- grant the Government of Canada's authorized representatives access to audit and inspect the qualifying project and related facilities;
- furnish the Government of Canada's authorized representatives with such information as they may from time to time reasonably require with reference to the documents referred to herein; and
- promptly refund to NRCan any overpayments of the contribution disclosed by an audit.

4.7 Reporting Requirements

Specific reporting requirements will be defined in the contribution agreement, but will likely include the information as laid out below. Regular communication between NRCan and the recipients will be maintained to monitor progress.

Quarterly reporting requirements for recipients include:

- i) a financial report signed by the Chief Financial Officer or Duly Authorized Officer of the organization which outlines Eligible Costs Incurred by task;
- ii) an updated project quarterly cash flow statement and budget; and,
- iii) a description of activities undertaken during the quarter (including results obtained and description of performance measures where applicable), and identification of any concerns that NRCan should be made aware of, and if so, details and mitigation plans regarding these issues.

Annual reporting requirements for recipients will include:

- i) a report depicting how the activities and outputs of the project have been contributing to the overall objectives of the Program and Project; and,
- ii) an assessment of key performance indicators for the project as identified in the Contribution Agreement document.

At the end of the project, recipients will provide:

- i) a financial report that demonstrates how the contribution was spent, with a declaration as to the total amount of contributions or payments received from other sources in respect of the Project;

- ii) a final narrative report to describe how project activities have contributed to the achievement of the objectives of the Project and Program and a final assessment of performance indicators for the project as identified in the Contribution Agreement document to report on short term, intermediate term, and long term outcomes of the Project; and,
- iii) a report outlining any unfinished components of the project, along with a declaration that the firm intends to complete the project within a specified time period.

4.8 Definitions of Eligible Costs

For the purposes of helping applicants clearly determine eligible project amounts, the following eligible cost definitions have been provided. Not all eligible costs have been defined below, so applicants can contact GCWood with any questions.

Incremental Costs: Includes costs incurred from additional design approvals or construction activities required to construct the bridge with wood-based products and systems instead of traditional building materials. In order to be eligible, such items must be identified in the project cost estimate, and approved by NRCan.

Professional and Consulting Services: The nature of goods or services to be acquired shall be set out in the proposal estimates. The amount eligible for a sub-contractor or a consultant shall be the actual contract amount.

Salaries and Benefits: Benefits are defined as a reasonable prorated share of expenses associated with the direct labour cost such as the employer's portion of Canada Pension Plan, Quebec Pension Plan and Employment Insurance, employee benefits such as health plan and insurance, Worker's Compensation, sick leave and vacation plus any other employer paid payroll related expenses. Those items which have no relationship to the project or which have been charged on an indirect basis are not eligible. The determination of the fringe benefits amount shall be in accordance with generally accepted accounting principles. In general, the fringe benefits rate provided in the project estimate shall be computed once during the life of the project and agreed on prior to the signing of the Agreement. If retroactive adjustments are made, these must be indicated on claims for progress payments for NRCan approval.

Travel, Accommodation, and Meals Costs: Unless stated otherwise in the contribution agreement between NRCan and the Applicant, National Joint Council rates (www.njc-cnm.gc.ca/s3/d117/en) that are in effect at the time of signing the contribution agreement shall be used in reimbursing such costs.

4.9 Available Resources for Timber Bridges

- Canadian Standards Association. (2014a). CAN/CSA-S6-14 Canadian Highway Bridge Design Code. Mississauga: Canadian Standards Association.

- Canadian Standards Association. (2014b). S6.1-14 Commentary on CAN/CSA-S6-06, Canadian Highway Bridge Design Code. Mississauga: Canadian Standards Association
- Canadian Wood Council. (2012). Opportunities for Timber Bridges in North America. Marshall Leslie and Jasmine Wang. http://www.woodcenter.org/docs/ICTB2013/technical/presentations/6_1_ID107_Wang_Opportunities%20for%20Timber%20Bridges%20in%20North%20America.pdf
- Durability of Wood Bridges. (2015). Paul Morris for FPInnovations. <http://cwc.ca/wp-content/uploads/2015/06/Web-Durability-of-Wood-Bridges.pdf>
- Ontario Ministry of Transportation. (2002). Revision Information Sheet for Geometric Design Standards for Ontario Highways. North York: Surveys and Design Office.
- Ontario Wood Bridge Reference Guide. (2017). Moses Structural Engineers and Brown & Co. Engineering Ltd. for the Canadian Wood Council and the Ontario Ministry of Natural Resources and Forestry. <http://wood-works.ca/now-available-ontario-wood-bridge-reference-guide/>
- Ritter, M.A. (1992). Timber Bridges – Design, Construction, Inspection, and Maintenance. Washington, D.C.: United States Department of Agriculture, Forest Service, Engineering Staff.
- Wacker, J.P. and Smith, M.S. (2001). Standard Plans for Timber Bridge Superstructures. General Technical Report FPL-GTR-125. Madison, WI: United States Department of Agriculture, Forest Service, Forest Products Laboratory.