APPENDIX "A"

Environmental Screening Documentation

FISHERIES AND OCEANS
CANADIAN ENVIRONMENTAL ASSESSMENT ACT (CEAA) 2012
PROJECT EFFECTS DETERMINATION REPORT

GENERAL INFORMATION

1. Project Title: Marginal Wharf Refurbishment, Happy Adventure, NL

2 Proponent: ☒ **DFO – SCH** ☐ **Other** _____ **(proponent's name)**

3. Other Contacts	**4. Role of each contact:**
Public Works and Government Services Canada (PWGSC)	OGD Consultant

5. Source of Project Information if project is a referral

Dion Upward, DFO / SCH Senior Project Engineer

6. Project Review Start Date: December 15, 2015

7. PATH No.:

8. DFO File No:

9. Other relevant file numbers: DFO/SCH Project No. 712617

BACKGROUND

10. Background about Proposed Development (including a description of the proposed development):
DFO SCH proposes to repair and refurbish the marginal wharf in Happy Adventure, NL. The wharf footprint will not change but the scope of work will include replacement of the concrete decking and repairs to the electrical. One corner of the structure will require installation of bagged concrete to fill a void under the decking.

PROJECT REVIEW

11. DFO's rationale for the project review:

Project is on federal land X and;

☒ DFO is the proponent
☐ DFO to issue *Fisheries Act* Authorization or *Species at Risk Act* Permit
☐ DFO to provide financial assistance to another party to enable the project to proceed
☐ DFO to issue licence or lease federal land to enable the project to proceed

12. Fisheries Act Section(s) (if applicable): N/A	**13. Species at Risk Act Section(s) (If applicable):** N/A
14. Primary Authority: DFO-SCH	**15. Primary Authority's rationale for involvement:** DFO-SCH is the proponent
16. Other Authorities involved in review: N/A	**17. Each Authority's rationale for involvement:** N/A

18. Other Jurisdictions involved in review: N/A

19. Other Expert Departments Providing Advice: N/A	**20. Areas of Interest of Other Expert Departments:** N/A

21. Other Contacts and Responses: N/A

22. Scope of Project (details of the project subject to review):

Refer to Section 10

23. Location of Project:

Happy Adventure, NL – 48 38' 07"N / 53 45' 19"W

24. Environment Description:

This project location is a commercial facility with operational requirements that necessitate the repair and refurbishment of the structure to remain a viable commercial fishing site in the future.

25. Scope of Effects Considered (section 5(1) and 5(2)):

N/A

26. Environmental Effects of Project:

N/A

27. Mitigation Measures for Project (including Habitat Compensation if applicable):

- Project activities should only be carried out during periods when wind, wave and tide conditions minimize the dispersion of silt and sediment from the work site. The proponent is advised to monitor turbidity plumes to ensure that the extent and duration of sedimentation are within acceptable limits.
- The in-water use of heavy equipment is not permitted. The operation of such equipment should be from dry/stable shoreline areas.
- All vehicles and equipment should be clean and in good repair, free of mud, fuel and oil or other harmful substances that could impair water quality.
- Any material entering a water body should be quickly removed and properly disposed of.
- Machinery must be checked for leakage of lubricants or fuel and must be in good working order. Refueling must be done at least 100m from any water body. Basic petroleum spill clean-up equipment should be on-site. All spills or leaks should be promptly contained, cleaned up and reported to the 24-hour environmental emergencies report system (1-800-563-9089).
- The contractor is responsible to adhere to the attached regulatory approvals and any other relevant provincial, federal, and municipal laws.

28. Description of any Significant Adverse Environmental Effects of the project (after applying mitigation):

N/A

29. Other Considerations (Public Consultation, Aboriginal Consultation, Follow-up)

N/A

30. Other Monitoring and Compliance Requirements (e.g. *Fisheries Act* or *Species at Risk Act* requirements)

N/A

CONCLUSION

31. Conclusion on Significance of Adverse Environmental Effects:

The Federal Authority has evaluated the project as required under Section 67 of *Canadian Environmental Assessment Act (CEAA), 2012*. On the basis of this evaluation, DFO-SCH has determined that the project is not likely to cause significant adverse environmental effects and the project can be carried out in accordance with current environmental standards, guidelines and objectives based. Project specific environmental protection measures are outlined in the attached tender specification.

32. Prepared by: Cathy Martin **33. Date:** January 15, 2016

34. Name: Cathy Martin

35. Title: Environmental Specialist, Public Works and Government Services Canada, NL

DECISION

36. Decision Taken

X The project is not likely to cause significant adverse environmental effects, and DFO may exercise its power, duty or function.

☐ The project is likely to cause significant adverse environmental effects, and DFO has decided not to exercise its power, duty or function.

☐ The project is likely to cause significant adverse environmental effects, and DFO will ask the Governor in Council to determine if the significant adverse environmental effects are justified in the circumstances

37. Approved by: _____ **38. Date:** _____

39. Name: Paul Curran

40. Title: Regional Engineer, DFO-SCH, NL

41. References: **N/A**

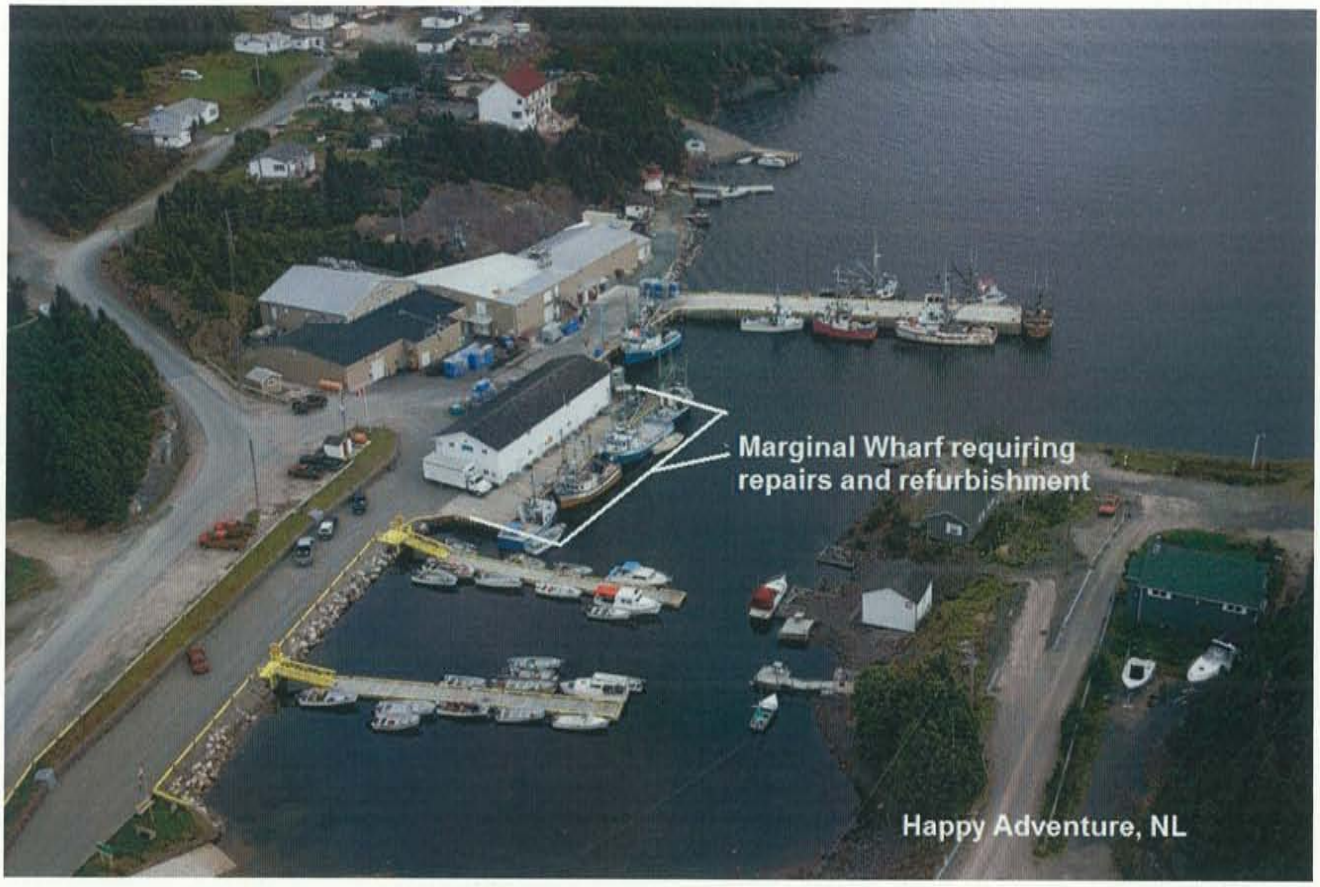
Attachments:

- Topographical Map
- Aerial Photograph
- Site Plan
- List of Mitigations
- List of Regulatory Approvals:

    Fisheries Protection Program Measure to Avoid Harm to Fish and Fish Habitat
    Section 48 Approval from the Province of NL

Description

Topographic map of Happy Adventure showing the proposed project site.



Aerial photograph of wharf in Happy Adventure requiring repairs and refurbishment.

List of Mitigations (to be forwarded to contractor)

- Project activities should only be carried out during periods when wind, wave and tide conditions minimize the dispersion of silt and sediment from the work site. The proponent is advised to monitor turbidity plumes to ensure that the extent and duration of sedimentation are within acceptable limits.

- The in-water use of heavy equipment is not permitted. The operation of such equipment should be from dry/stable shoreline areas.

- All vehicles and equipment should be clean and in good repair, free of mud, fuel and oil or other harmful substances that could impair water quality.

- Any material entering a water body should be quickly removed and properly disposed of.

- Machinery must be checked for leakage of lubricants or fuel and must be in good working order. Refuelling must be done at least 100m from any water body. Basic petroleum spill clean-up equipment should be on-site. All spills or leaks should be promptly contained, cleaned up and reported to the 24-hour environmental emergencies report system (1-800-563-9089).

- The contractor is responsible to adhere to the attached regulatory approvals and any other relevant provincial, federal, and municipal laws.

Regulatory Approvals / Permits

Government of Canada / Gouvernement du Canada

Canada

Fisheries and Oceans Canada

Measures to Avoid Causing Harm to Fish and Fish Habitat

If you are conducting a project near water, it is your responsibility to ensure you avoid causing **serious harm to fish** in compliance with the ***Fisheries Act***. The following advice will help you avoid causing harm and comply with the *Act*.

PLEASE NOTE: This advice applies to all project types and replaces all "Operational Statements" previously produced by DFO for different project types in all regions. Projects near water must also comply with the ***Species at Risk Act*** and the **pollution prevention provisions** of the *Fisheries Act*.

Measures

Expand all Collapse all

▼ **Project Planning**

▼ **Timing**

- Time work in water to respect **timing windows** to protect fish, including their eggs, juveniles, spawning adults and/or the organisms upon which they feed.
- Minimize duration of in-water work.
- Conduct instream work during periods of low flow, or at low tide, to further reduce the risk to fish and their habitat or to allow work in water to be isolated from flows.
- Schedule work to avoid wet, windy and rainy periods that may increase erosion and sedimentation.

▼ **Site Selection**

- Design and plan activities and works in waterbody such that loss or disturbance to aquatic habitat is minimized and sensitive spawning habitats are avoided.
- Design and construct approaches to the waterbody such that they are perpendicular to the watercourse to minimize loss or disturbance to riparian vegetation.
- Avoid building structures on meander bends, braided streams, alluvial fans, active floodplains or any other area that is inherently unstable and may result in erosion and scouring of the stream bed or the built structures.
- Undertake all instream activities in isolation of open or flowing water to maintain the natural flow of water downstream and avoid introducing sediment into the watercourse.

▼ **Contaminant and Spill Management**

- Plan activities near water such that materials such as paint, primers, blasting abrasives, rust solvents, degreasers, grout, poured concrete or other chemicals do not enter the watercourse.
- Develop a response plan that is to be implemented immediately in the event of a sediment release or spill of a deleterious substance and keep an emergency spill kit on site.
- Ensure that building material used in a watercourse has been handled and treated in a manner to prevent the release or leaching of substances into the water that may be deleterious to fish.

▼ **Erosion and Sediment Control**

- Develop and implement an Erosion and Sediment Control Plan for the site that minimizes risk of sedimentation of the waterbody during all phases of the project. Erosion and sediment control

measures should be maintained until all disturbed ground has been permanently stabilized, suspended sediment has resettled to the bed of the waterbody or settling basin and runoff water is clear. The plan should, where applicable, include:

- Installation of effective erosion and sediment control measures before starting work to prevent sediment from entering the water body.
- Measures for managing water flowing onto the site, as well as water being pumped/diverted from the site such that sediment is filtered out prior to the water entering a waterbody. For example, pumping/diversion of water to a vegetated area, construction of a settling basin or other filtration system.
- Site isolation measures (e.g., silt boom or silt curtain) for containing suspended sediment where in-water work is required (e.g., dredging, underwater cable installation).
- Measures for containing and stabilizing waste material (e.g., dredging spoils, construction waste and materials, commercial logging waste, uprooted or cut aquatic plants, accumulated debris) above the high water mark of nearby waterbodies to prevent re-entry.
- Regular inspection and maintenance of erosion and sediment control measures and structures during the course of construction.
- Repairs to erosion and sediment control measures and structures if damage occurs.
- Removal of non-biodegradable erosion and sediment control materials once site is stabilized.

▼ **Shoreline/Bank Re-vegetation and Stabilization**

- Clearing of riparian vegetation should be kept to a minimum: use existing trails, roads or cut lines wherever possible to avoid disturbance to the riparian vegetation and prevent soil compaction. When practicable, prune or top the vegetation instead of grubbing/uprooting.
- Minimize the removal of natural woody debris, rocks, sand or other materials from the banks, the shoreline or the bed of the waterbody below the ordinary high water mark. If material is removed from the waterbody, set it aside and return it to the original location once construction activities are completed.
- Immediately stabilize shoreline or banks disturbed by any activity associated with the project to prevent erosion and/or sedimentation, preferably through re-vegetation with native species suitable for the site.
- Restore bed and banks of the waterbody to their original contour and gradient; if the original gradient cannot be restored due to instability, a stable gradient that does not obstruct fish passage should be restored.
- If replacement rock reinforcement/armouring is required to stabilize eroding or exposed areas, then ensure that appropriately-sized, clean rock is used; and that rock is installed at a similar slope to maintain a uniform bank/shoreline and natural stream/shoreline alignment.
- Remove all construction materials from site upon project completion.

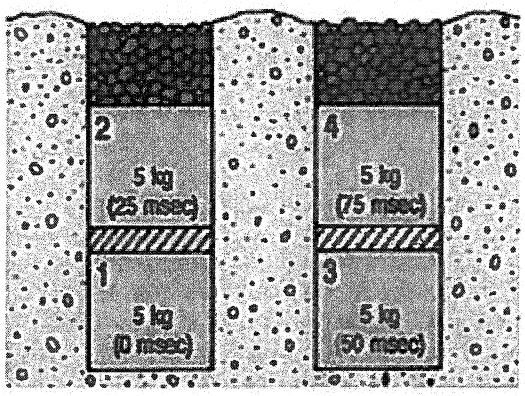
▼ **Fish Protection**

- Ensure that all in-water activities, or associated in-water structures, do not interfere with fish passage, constrict the channel width, or reduce flows.
- Retain a qualified environmental professional to ensure applicable permits for relocating fish are obtained and to capture any fish trapped within an isolated/enclosed area at the work site and safely relocate them to an appropriate location in the same waters. Fish may need to be relocated again, should flooding occur on the site.
- Screen any water intakes or outlet pipes to prevent entrainment or impingement of fish. Entrainment occurs when a fish is drawn into a water intake and cannot escape. Impingement occurs when an entrapped fish is held in contact with the intake screen and is unable to free itself.
    - In freshwater, follow these measures for design and installation of intake end of pipe fish screens to protect fish where water is extracted from fish-bearing waters:
        - Screens should be located in areas and depths of water with low concentrations of fish throughout the year.

- Screens should be located away from natural or artificial structures that may attract fish that are migrating, spawning, or in rearing habitat.
- The screen face should be oriented in the same direction as the flow.
- Ensure openings in the guides and seals are less than the opening criteria to make "fish tight".
- Screens should be located a minimum of 300 mm (12 in.) above the bottom of the watercourse to prevent entrainment of sediment and aquatic organisms associated with the bottom area.
- Structural support should be provided to the screen panels to prevent sagging and collapse of the screen.
- Large cylindrical and box-type screens should have a manifold installed in them to ensure even water velocity distribution across the screen surface. The ends of the structure should be made out of solid materials and the end of the manifold capped.
- Heavier cages or trash racks can be fabricated out of bar or grating to protect the finer fish screen, especially where there is debris loading (woody material, leaves, algae mats, etc.). A 150 mm (6 in.) spacing between bars is typical.
- Provision should be made for the removal, inspection, and cleaning of screens.
- Ensure regular maintenance and repair of cleaning apparatus, seals, and screens is carried out to prevent debris-fouling and impingement of fish.
- Pumps should be shut down when fish screens are removed for inspection and cleaning.

- Avoid using explosives in or near water. Use of explosives in or near water produces shock waves that can damage a fish swim bladder and rupture internal organs. Blasting vibrations may also kill or damage fish eggs or larvae.
  - If explosives are required as part of a project (e.g., removal of structures such as piers, pilings, footings; removal of obstructions such as beaver dams; or preparation of a river or lake bottom for installation of a structure such as a dam or water intake), the potential for impacts to fish and fish habitat should be minimized by implementing the following measures:
    - Time in-water work requiring the use of explosives to prevent disruption of vulnerable fish life stages, including eggs and larvae, by adhering to appropriate fisheries **timing windows**.
    - Isolate the work site to exclude fish from within the blast area by using bubble/air curtains (i.e., a column of bubbled water extending from the substrate to the water surface as generated by forcing large volumes of air through a perforated pipe/hose), cofferdams or aquadams.
    - Remove any fish trapped within the isolated area and release unharmed beyond the blast area prior to initiating blasting
    - Minimize blast charge weights used and subdivide each charge into a series of smaller charges in blast holes (i.e., decking) with a minimum 25 millisecond (1/1000 seconds) delay between charge detonations (see Figure 1).
    - Back-fill blast holes (stemmed) with sand or gravel to grade or to streambed/water interface to confine the blast.
    - Place blasting mats over top of holes to minimize scattering of blast debris around the area.
    - Do not use ammonium nitrate based explosives in or near water due to the production of toxic by-products.
    - Remove all blasting debris and other associated equipment/products from the blast area.

Figure 1: Sample Blasting Arrangement



Per Fig. 1: 20 kg total weight of charge; 25 msecs delay between charges and blast holes; and decking of charges within holes.

▼ Operation of Machinery

- Ensure that machinery arrives on site in a clean condition and is maintained free of fluid leaks, invasive species and noxious weeds.
- Whenever possible, operate machinery on land above the high water mark, on ice, or from a floating barge in a manner that minimizes disturbance to the banks and bed of the waterbody.
- Limit machinery fording of the watercourse to a one-time event (i.e., over and back), and only if no alternative crossing method is available. If repeated crossings of the watercourse are required, construct a temporary crossing structure.
- Use temporary crossing structures or other practices to cross streams or waterbodies with steep and highly erodible (e.g., dominated by organic materials and silts) banks and beds. For fording equipment without a temporary crossing structure, use stream bank and bed protection methods (e.g., swamp mats, pads) if minor rutting is likely to occur during fording.
- Wash, refuel and service machinery and store fuel and other materials for the machinery in such a way as to prevent any deleterious substances from entering the water.

Date modified: 2013-11-25

Newfoundland Labrador

Government of Newfoundland and Labrador
Department of Environment and Conservation
Water Resources Management Division

File Reference #

December 15, 2010

Paul Curran, P. Eng.
Regional Engineer
Small Crafts Harbours
St. John's NL A1C 5X1

Dear Mr. Curran:

Re: Section 48 Permitting Requirements under the Water Resources Act – Wharves, Breakwaters, Slipways and Boathouses

This letter is to inform you that as of January 1, 2011 permits will no longer be required under Section 48 of the *Water Resources Act* for the construction and maintenance of wharves, breakwaters, slipways and boathouses. Therefore blanket permit ALT5055 is canceled effective January 1, 2011. Water Resources Management Division is currently preparing guidelines on environmental controls which should be followed during the construction and maintenance of wharves, breakwaters, slipways and boathouses. These guidelines will be posted on the department's website once they are completed. In the interim, we have attached a list of terms and conditions which we recommend be followed when completing these types of projects.

This letter does not affect other activities, such as dredging, which will continue to require permits under Section 48 of the Act. As such existing blanket permit ALT5054 remains valid.

This letter does not release Small Crafts Harbours from the obligation to obtain permits and approvals from other concerned provincial, federal and municipal agencies for wharves, breakwaters, slipways and boathouses.

Please do not hesitate to contact this office at **729-5713** if you have any questions.

Yours truly,

Clyde McLean, P.Eng
Manager Water Investigations

cc. Shawn Kean
Haseen Khan

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SCH Wharves Breakwaters Permitting Dec 15 2010.doc

Environmental Terms and Conditions

General Alterations

1. All work must take place within the legal boundaries of the proponent or with the approved of the land owner. The constructed works must comply with all other terms and conditions provided in the Crown Lands grant, lease or license for occupancy.

2. Any work that must be performed below the high water mark must be carried out during a period of low water levels.

3. Any flowing or standing water must be diverted around work sites so that work is carried out in the dry.

4. Water pumped from excavations for work areas, or any runoff or effluent directed out of work sites, must have silt and turbidity removed by settling ponds, filtration, or other suitable treatment before discharging to a body of water. Effluent discharged into receiving waters must comply with the *Environmental Control Water and Sewage Regulations, 2003*.

5. All operations must be carried out in a manner that prevents damage to land, vegetation, and watercourses, and which prevents pollution of bodies of water.

6. The use of heavy equipment in streams or bodies of water is not permitted. The operation of heavy equipment must be confined to dry stable areas.

7. All vehicles and equipment must be clean and in good repair, free of mud and oil, or other harmful substances that could impair water quality.

8. During the construction of concrete components, formwork must be properly constructed to prevent any fresh concrete from entering a body of water. Dumping of concrete or washing of tools and equipment in any body of water is prohibited.

9. Wood preservatives such as penta, CCA or other such chemicals must not be applied to timber near a body of water. All treated wood or timber must be thoroughly dry before being brought to any work site and installed.

10. The use of creosote treated wood is strictly prohibited within 15 metres of all bodies of fresh water in the province.

11. Any areas adversely affected by this project must be restored to a state that resembles local natural conditions. Further remedial measures to mitigate environmental impacts on water resources can and will be specified, if considered necessary in the opinion of the Department of Environment and Conservation.

12. All waste materials resulting from this project must be disposed of at a site approved by the regional Government Service Center of the Department of Government Services. The Department of Government Services may require samples to be submitted for testing and analysis.

13. Periodic maintenance such as painting, resurfacing, clearing of debris, or minor repairs, must be carried out without causing any physical disruption of any watercourse. Care must be taken to prevent spillage of pollutants into the water.

14. The owners of structures are responsible for any environmental damage resulting from dislodgement caused by the wind, wave, ice action, or structural failure.

15. Sediment and erosion control measures must be installed before starting work. All control measures must be inspected regularly and any necessary repairs made if damage is discovered.

16. Fill or ballast material must be of good quality, free of fines or other substances including metals, organics or chemicals that may be harmful to the receiving waters.

17. Armour stone must be placed around cribbing, where required, to prevent erosion.

18. Suitable booms must be deployed around construction sites to contain any floating debris that might otherwise be carried away. All booms must be properly maintained and remain in place until all work is completed.

19. The proponent must consult with the Department of Fisheries and Oceans should the total combined footprint of the dock exceed 15 metres squared ($15m^2$) and/or it is made of concrete or steel sheeting or any other skirting that isolates the inside of the crib from the rest of the water.

20. This work must not interfere with the operation of any sanitary or storm sewer outfalls in the area. If it is determined that your work adversely impacts any outfalls, you will be responsible for any repairs, modifications or associated costs to correct the problem.

21. Before commencing work on this project, approval must first be obtained from any municipality in which the work is planned.