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**To:** General Purposes Committee **Date:** January 14, 2002  
**From:** David Naysmith, P. Eng. **File:** -  
Manager, Facilities Planning & Construction  
Jane Fernyhough  
Manager, Cultural Services  
**Re:** **Britannia Heritage Shipyard Advisory Board Comments re: Front Dock Project**

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**Staff Recommendation**

That an increase to the Council approved capital project of the Britannia Heritage Shipyard front dock be approved to allow for dredging to a minimum depth of three point one (3.1) meters as outlined in Option 1 of the appended report.

David Naysmith, P. Eng.  
Manager, Facilities Planning & Construction

Jane Fernyhough  
Manager, Cultural Services

**FOR ORIGINATING DIVISION USE ONLY**

**CONCURRENCE OF GENERAL MANAGER**

## Staff Report

### Origin

At the General Purposes Committee meeting of January 7<sup>th</sup>, 2002 the following referral motion was adopted:

*That the report (dated December 4<sup>th</sup>, 2001, from the Managers, Cultural Services and Facility Planning & Construction respectively), regarding the Britannia Heritage Shipyard Front Dock, be referred to staff to obtain the comments of the Britannia Heritage Shipyard Advisory Board and report to the January 21<sup>st</sup>, 2002 meeting of the General Purposes Committee.*

The report dated December 4<sup>th</sup>, 2001 and attached to this report as Appendix A gives the background and details on the front dock project and recommended modifications to achieve the vision of berthing an historical fishing vessel collection as outlined in the Britannia Business Plan.

### Analysis

On Wednesday, January 9, 2002 staff met with the Britannia Heritage Shipyard Advisory Board and reviewed the front dock reconstruction project in detail, as well as the issues and concerns that had been raised by the structural and geotechnical consultants regarding the possible effects of future dredging. The Advisory Board members were in agreement that in order to achieve the vision laid out in the Business Plan the ability to dredge to allow a minimum depth of 3.1 meters at LLW (lowest low water) is necessary. After considerable discussion with Mr. David Naysmith, the Advisory Board members were strongly in favour of supporting Option 1: increase the capital project originally approved in the 2001 Capital Plan, at an additional cost of \$43,000. This will cover additional geotechnical studies and increased pile length to allow for dredging to ensure a minimum depth of 3.1 meters of water at LLW. The Advisory Board see the additional expense as necessary to achieving the implementation of the vision for the Britannia Heritage Shipyard as outlined in the Council approved Business Plan.

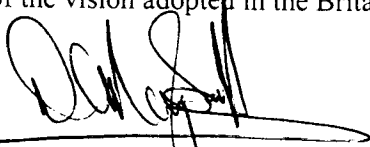
At the same meeting staff were requested to provide a breakdown of the budgeted cost of \$117,950 for design, permits and overheads. Appendix B gives the percentages used to budget what is known as "soft costs" – consultant design and geotechnical studies, dispersements, permits, overheads and GST.

### Financial Impact

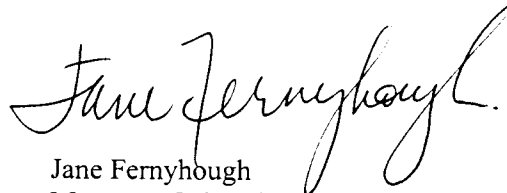
No financial impact of this referral report.

### Conclusion

Staff were requested to provide comments from the Britannia Heritage Shipyard Advisory Board regarding the front dock reconstruction project. The Britannia Advisory Board members are supportive of the recommendation to increase the scope of work originally approved in order to ensure achievement of the vision adopted in the Britannia Business Plan.



David Naysmith, P. Eng.  
Manager, Facilities Planning & Construction



Jane Fernyhough  
Manager, Cultural Services



City of Richmond

Report to Committee

**To:** General Purposes Committee **Date:** December 12, 2001  
**From:** Jane Fernyhough, Manager Cultural Services **File:** -  
 David Naysmith, P.Eng., Manager Facility  
 Planning & Construction  
**Re:** Britannia Heritage Shipyard Front Dock

**Staff Recommendation**

That an increase to the scope of work of the Britannia Heritage Shipyard front dock be approved to allow for dredging to a depth of three (3) meters as outlined in Option 1.

David Naysmith  
Manager, Facilities Planning & Construction

Jane Fernyhough  
Manager, Cultural Services

FOR ORIGINATING DIVISION USE ONLY
CONCURRENCE OF GENERAL MANAGER

## Staff Report

### Origin

At the Parks, Recreation and Cultural Services Committee meeting of November 27, 2001 the following resolution was passed:

*That options be brought forward to modify the scope of the repair of the Britannia Shipyard Dock to allow boats to moor at that location.*

This report gives the background and details on the project and modifications in order to achieve the berthing of fishing vessels and selected tall ships.

### Background

#### Britannia Business Plan:

At the City Council meeting of January 22<sup>nd</sup>, 2001 Council approved the Britannia Business Plan as presented by the Britannia Business Plan Steering Committee to guide the decisions, operations and development of the Britannia site including priorities for capital development. The plan identified that the number one priority for capital development after the structural stabilization of the shipyard building was the upgrade of the front dock. The Business Plan Steering Committee indicated that gaining public access to the water side was of paramount importance in ensuring the site was a desirable destination. Public access to the dock is also critical to the stated goal of having a collection of historically significant wooden hulled fishing boats accessible to the public.

Currently there is approximately 1.1 meters of water at LLW (lowest low water). In order to achieve the vision laid out in the business plan with the moorage of an historical wooden hulled fish boat collection; a draft of three (3) meters is needed at LLW.

With the dredging to 3 meters at LLW there is also an opportunity to host such class A tall ships as the *Lady Washington* from the U.S. or the Japanese ship the *Kaisei* at most times of the year. There is also an opportunity to moor a larger tall ship in the deeper water closer to the main channel using the gang plank as a bridge and log booms to keep the bow and stern stable.

While upgrading the dock to gain public access to the water was a priority for achieving the vision for the Britannia site it also became an integral part of the upgrade of the shipyard building. In order to meet current building code for life safety, it was agreed by the Building Approvals Department that the second egress from the shipyard could be via the front dock and floats combined with the walkway on the west side of the net loft. This removed the requirement to build another exit at the west end of the shipyard building and a walkway back to shore.

## Capital Budget

At the City Council meeting on May 14, 2001, the Capital Budget for 2001 was adopted which included the upgrade of the front dock at Britannia as follows:

Upgrade the dock (replace piles; stringers; decking) \$192,000  
 (The original estimate for the upgrade of the dock was \$291,000. There was a verbal commitment from HRDC staff that labour funding through an HRDC grant would save approximately \$99,000).

Sprinklers underdeck	80,000
Substructure Repairs due to Powder Post Beetle	65,000
Design, Permits, Overheads	<u>117,950</u>
<b>Total Approved</b>	<b>454,950</b>

Upon finalization of the geo-technical review the structural and design consultants identified that to gain a minimum of three (3) meters of water at LLW longer piles are necessary.

The consultants also identified that dredging beyond an additional two (2) meters in order to accommodate large tall ships will undoubtedly undermine the Shipyard structure and marine ways and would require additional funding to protect and stabilize them from future collapse.

## Analysis

To accommodate future dredging of the river bed in front of the Britannia Heritage Shipyard, it is necessary to revise the current design to consider the impact of a two- (2) meter dredge.

The consultants are of the opinion that a two (2) meter dredge could be undertaken without placing the entire structure at risk by increasing the length of the dock piles from the proposed 65 feet. The estimated additional cost is \$43,000 including further geo-technical studies.

The current project is designed for permitting and tendering during January 2002. A permit for dredging is required which takes a minimum of 90 days. Since there is a DFO imposed moratorium on "in water" work between March 1st and July 15<sup>th</sup>, the dock could be completed by June 2002, providing HRDC monies are approved, and dredging would then be carried out after July 15<sup>th</sup> 2002.

December 4, 2001

- 4 -

**Options**

Staff have reviewed the following options:

1. Increase the scope of work to allow for dredging to a minimum of three (3) meters at an estimated additional cost of \$43,000 (recommended).

Pros:

- The goals of the Britannia Business Plan will be achieved;
- Public access to the front dock can be ready for public access during the summer of 2002 and Tall Ships 2002 event;
- Increased depths will allow for moorage of historically significant fishing vessels and select Class A tall ships.

Cons:

- Requires more geo-technical research and increased costs for longer piles.

2. Proceed with the design as it is proposed.

Pros:

- Project can proceed immediately and will be ready for public access by summer 2002 and Tall Ships 2002 thereby promoting Britannia as a destination site;
- Fulfils the building code requirement of the second egress from the shipyard building.

Cons:

- Dredging at a later date will cause possible destabilization of the dock and shipyard building;
- With no dredging possible, there will be difficulty meeting the stated goal of having an historical wooden fishing vessel collection moored at the floats;
- No opportunity to berth tall ships at Britannia.

3. Reduce the size of the front dock

Pros:

- Smaller dock size requires less materials so costs may be lower;

Cons:

- Compromises the historical integrity of the shipyard and site which may result in future loss of federal grant dollars;
- Requires more geo-technical research and a redesign of the dock;
- Small dock may require railings in order to protect public safety, similar to the front of the net loft;
- Reduces the revenue generating potential of the shipyard, as the boat lift will be eliminated.

4. Delay the Project to a Future Year and Divert the Funds.

Pros:

- Funding of \$367,200 can be used to build floats and docks for temporary moorage of tall ships;

Cons:

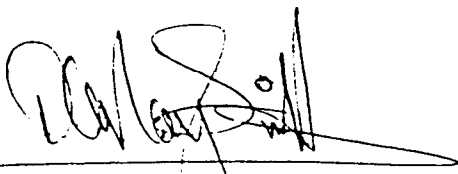
- The highest priority identified in the Britannia Business Plan as recommended by the Britannia Business Plan Steering Committee and adopted by Council will be delayed;
- Restricts public access to the Shipyard building since the second egress is in a deteriorated condition;
- An opportunity for establishing Britannia as an important visitor destination, during Tall Ships 2002, will be lost.

**Financial Impact**

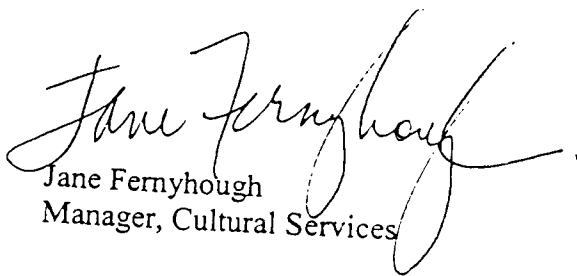
An additional \$43,000 over the current project is required to increase the scope of work to accommodate a two (2) meter dredge. Funding is currently included in the proposed 2002 capital plan.

**Conclusion**

Recent geo-technical investigation has identified a need for longer piles and therefore a change in the scope of the approved project is required. It is recommended that the budget be increased in order to accommodate the dredging to allow for moorage of the historical wooden fish boat collection and selected visiting tall ships.



David Naysmith  
Manager, Facilities Planning & Construction



Jane Fernyhough  
Manager, Cultural Services

# City of Richmond - Facility Management. Project Development Budget

Project Title : Britannia Front Dock  
Project #

Appendix B

Project Component list

Hard Costs	Description	Unit Cost	Sq.Ft.	Total
	Substructure			\$ 192,000
	Structure			
	Exterior Enclosure			\$ 65,000
	Partitions & Doors			\$ -
	Interior Finishes			\$ -
	Fittings & Equipment			\$ -
	Mechanical, HVAC, Plumbing			\$ 80,000
	Sprinkler System			\$ -
	Electrical, Fire Protection			\$ -
	On Site development			\$ -
	Landscaping			\$ -
	<b>Sub Total</b>			<b>\$ 337,000</b>
	G.C. Mgmt Fee	0%		\$ -
	Div 1 General Conditions	0%		\$ -
	<b>Construction Total</b>			<b>\$ 337,000</b>

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Soft Costs	Description	%	Total
	Consultant Design Team	12.0%	40,440.00
	Disbursements	1.0%	\$ 3,370
	Design Construction Contingency	10%	\$ 33,700
	Furnishing & Equipment	5%	-
	Off Site Development	5%	-
	Permits & Licenses	2.0%	\$ 6,740
	Richmond DCC	\$2.36	0 \$
	GVRD DCC	\$ 0.505	0 \$
	<b>Soft Cost Total</b>		<b>\$ 84,250</b>
	<b>Combined Total</b>		<b>\$ 421,250</b>
	Project Manager - Civic Buildings	0%	\$ -
	General Overhead Rate	5%	\$ 21,063
	Federal G.S.T @ 3%	3.0%	\$ 12,638
	<b>Tax Total</b>		<b>\$ 33,700</b>
	<b>Grand Total</b>		<b>\$ 454,950</b>

→ \$117,950

Description	Area SF.	Rev'ns

Consultant Fee Calculations from Construction Budget Total			
Discipline	Est % fee	Estimated Budget	Proposal Agreed
Architect	5% - 15%		
Interior Designer	3%		
Structural Engineer	10%	\$ 33,700	
Mechanical Engineer	10%		
Electrical Engineer	10%		
Landscape Architect	1%		
Quantity Surveyor	1%		
Geotech Engineer	1%	\$ 3,370	
Building Code Eng.	1%		
Environmental Eng.	1%	\$ 3,370	
<b>Total</b>		<b>\$ 40,440</b>	<b>\$ -</b>