



# City of Richmond

## Report to Committee

**To:** General Purposes Committee

**Date:** May 5, 2014

**From:** Mike Redpath  
Senior Manager Parks

**File:** 11-7140-20-  
BSH11/2014-Vol 01

**Re:** Blacksmith Shop and Foundry at Britannia Shipyards

### Staff Recommendation

That a functioning blacksmith shop and foundry as detailed in the report "Blacksmith Shop and Foundry at Britannia Shipyards" dated May 5, 2014 from the Senior Manager, Parks be received for information.

Mike Redpath  
Senior Manager Parks  
(604-247-4942)

REPORT CONCURRENCE		
<b>ROUTED TO:</b>  Arts, Culture & Heritage	<b>CONCURRENCE</b>  <input checked="" type="checkbox"/>	<b>CONCURRENCE OF GENERAL MANAGER</b>  
<b>REVIEWED BY STAFF REPORT / AGENDA REVIEW SUBCOMMITTEE</b>	<b>INITIALS:</b>  DW	<b>APPROVED BY CAO</b>  

## Staff Report

### Origin

The Parks, Recreation and Cultural Services Committee passed the following referral motion at their meeting on February 25, 2014:

*That staff examine the feasibility of incorporating a blacksmith shop that could showcase a traditional foundry at Britannia Heritage Shipyard and report back.*

The purpose of this report is in response to the above referral by exploring the programming opportunities, infrastructure requirements, human resources, and materials that would be required to implement a working blacksmith shop and/or foundry at Britannia Shipyards.

This report supports the following 2011-2014 Council Term Goal 9.5:

*Promote existing cultural resources and activities to increase public awareness, enhance quality of place and engage citizens across generations.*

### Background

A blacksmith creates objects from wrought iron or steel by shaping and cutting heated metal with tools into the desired shape. Heating is accomplished using a forge (a fireplace or furnace used specifically for heating metal) fuelled by propane, natural gas or charcoal. Some modern blacksmiths use a blowtorch or induction heating methods.

The blacksmith shop was an important part of any shipbuilding community. Blacksmiths created and repaired tools and metal parts for boat building and repair. Britannia currently has a blacksmith shop exhibit, including a coal-fired forge, on display in the machine shop in the main shipyard. This exhibit is situated in the historically accurate location of the blacksmith shop at Britannia.



The Blacksmith Shop Exhibit at Britannia Shipyards

A foundry is a factory that produces metal castings. Metal is melted into a liquid and poured into a mould to produce the desired shape. In boat building and repair, foundries are commonly used to produce metal parts including ships' wheel hardware, struts, toggles, swivel pins, knobs and plaques.

### Programming Opportunities

Blacksmith shops are popular attractions at many national historic sites and museums. In Metro Vancouver, both Burnaby Village Museum and Fort Langley National Historic Site have active blacksmith shops. Mystic Seaport, the world's largest maritime museum, is also home to a shipsmith shop (a blacksmith who specializes in metal work for boats and ships).

Programs at these sites include hourly or on-going demonstrations for the public and school groups. Burnaby Village Museum and Mystic Seaport both offer courses in blacksmithing to the public. Burnaby Village Museum offers several half-day courses including Basic Blacksmithing, Forge Welding, Tool Making, Tong Making and Ornamental Hook Making. Mystic Seaport offers private and small group lessons for three to six people.

While there are several stand alone foundry museums around the world, staff are not aware of any examples of demonstration foundries located in historic sites or museums in North America.

Amos Pewter is a privately owned and operated pewter shop in Mahone Bay, Nova Scotia. Artisans produce pewter jewelry and decor items using traditional techniques. Hot, free-flowing molten pewter is poured from a melting pot into a wax mould. Once removed from the form, objects are hand-finished.

Amos Pewter is the first artisan shop in Nova Scotia to become a member of the international ÉCONOMUSÉE network. The mission of ÉCONOMUSÉE is to showcase traditional trades and skills in a for-profit, living museum environment. Visitors are invited to learn about the history of a trade or craft, watch artisans work, and purchase items in a boutique.

### Infrastructure Requirements

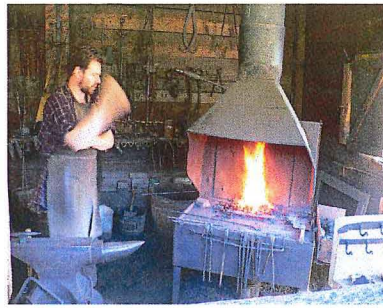
The incorporation of a functioning blacksmith shop or a foundry at Britannia Shipyard would require:

- A purpose built structure located on-site. Using a forge or foundry in the existing buildings would not be feasible due to the risk of fire. Concrete floors, fireproof walls, proper venting, and fire suppression equipment would all be considerations;
- An assessment and review of building code, safety, and risk management issues;
- The construction or installation of a forge or foundry. The size and type would be dependent on its use. For example, if it was to be used for demonstration purposes only, a small forge would be adequate. If courses and hands on programs were considered, a larger double forge would be preferable; and
- A review and estimate of the equipment that would be required and associated costs.





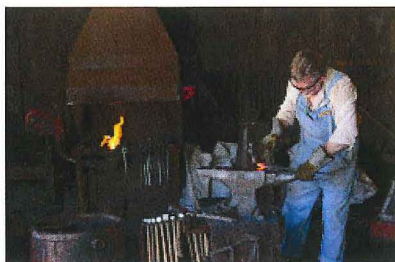
The Blacksmith Shop at Fort Langley



The old forge at Fort Langley



The new brick forge at Fort Langley



Blacksmith Shop, Burnaby Village Museum



Shipsmith Shop, Mystic Seaport



Shipsmith Shop, Mystic Seaport



Amos Pewter, Mahone Bay, NS



Amos Pewter, Mahone Bay, NS

### Operating Costs

In order to safely operate a forge or foundry, specialized training would be required. As a benchmark, Burnaby Village Museum pays their blacksmith \$30 per hour. Fort Langley National Historic Site is currently reviewing their staffing in this area. They are moving away from training interpreters to deliver the blacksmith programs and are looking to recruit a full-time professional blacksmith. The salary is currently under review.

Based on daily demonstrations in the summer months (May to September), the estimated annual material cost at the Burnaby Village Museum is \$8,000 to \$10,000.

Additionally, a full-time programmer position at Britannia Shipyards would be recommended. A staff person to oversee the activation of a blacksmith shop or foundry, along with other

programming at Britannia, would be essential to ensure that it could be used effectively for demonstration and program purposes. The development of a detailed business case in support of a future blacksmith or foundry operation would be required.

### **Financial Impact**

There is no financial impact to this report.

### **Conclusion**

While the blacksmith shop was historically an important part of Britannia Shipyards, the incorporation of a functioning blacksmith shop or foundry is not recommended at this time. The Britannia Shipyards Strategic Plan 2014-2018, endorsed by Council on April 14, 2014, identified the following as capital development priorities for the next four years:

- Create capital development and interpretation plan for the Japanese Duplex and First Nations Bunkhouse;
- Examine the feasibility of making the Shipyard ways and winch operational, and explore options for their future use; and
- Complete the existing capital projects including wayfinding, Shipyard ways stabilization, Richmond Boat Builders ways, boardwalk replacement and Seine Net Loft Dock.

The strategic plan allows for the exploration of an active blacksmith shop and/or foundry as part of the implementation of the plan under the following action:

- Update capital development plan for Britannia Shipyards to identify priorities and future opportunities and prioritize within the five year plan.

The feasibility of a functioning blacksmith shop and foundry will be considered as part of this capital development plan. Consideration will be given to operating it as either a program or following the ÉCONOMUSÉE model.



Marie Fenwick  
Britannia Site Supervisor  
(604-718-8044)