

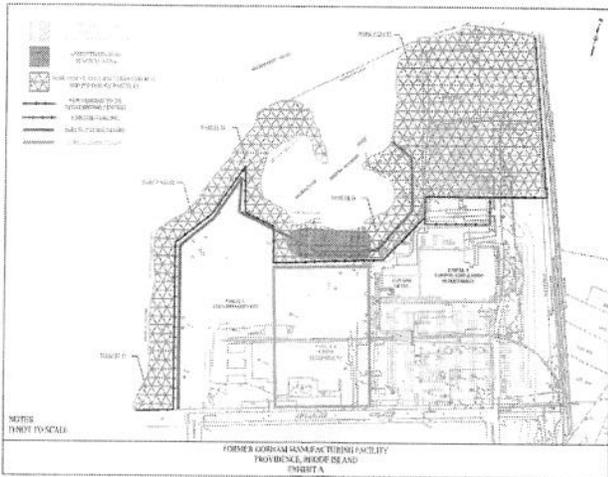
# Remediation Project Information Sheet – July 2006

## Supplemental Investigation of Parcels C & D and Mashapaug Cove

### Former Gorham Manufacturing Facility

#### Introduction

This information sheet provides a summary of the recent additional environmental studies undertaken by Textron for Mashapaug Cove and the upland areas adjacent to the cove. The information contained herein is fully documented in the report titled "Supplemental Site Investigation Report (SIR)" which was submitted to the Rhode Island Department of Environmental Management (RIDEM) on July 31, 2006. A copy of this report is also available to the public at the Knight Memorial Library located at 275 Elmwood Avenue.



#### Background

Between 1890 and 1985, the Gorham Manufacturing Company operated on the 37-acre parcel located at 333 Adelaide Avenue in Providence, Rhode Island. Gorham primarily produced silver flatware. Textron purchased Gorham Manufacturing in 1967 and continued operations at the Adelaide Avenue location until 1985. Textron sold this property in 1986 to a developer and the City of Providence eventually obtained ownership of the property in 1990 through tax foreclosure. To facilitate the City's reuse of the parcel, Textron and the City entered into an agreement in 1994 whereby Textron agreed to clean up the property to comply with RIDEM standards for industrial/commercial reuse. The property is now occupied by the Mashapaug Commons shopping area; construction of a high school is ongoing and a YMCA is proposed for the remainder of the property.

Site investigations conducted by Textron and others since the late 1980's identified environmental impacts attributable to Gorham's historic site operations including: 1) groundwater contaminated with cleaning solvents; 2) soil and groundwater in the central portion of the site contaminated with fuel oil, and 3) areas of soil that contain metals, such as lead, and polycyclic aromatic hydrocarbons (PAH) above industrial/commercial standards. PAHs are products of incomplete combustion, and are often associated with ash.

A 2001 cleanup plan, developed by Textron, was approved by RIDEM. Required remediation of fuel oil contaminated soil was completed in 2002 while treatment of cleaning solvents in groundwater is ongoing. In July 2006, slag materials located

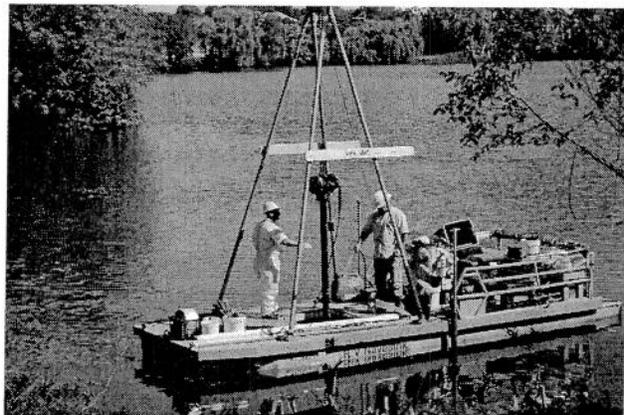
near the Cove were removed and disposed off-site. Slag is a rock-like material generated as by product of metal melting operations. The remaining metals and PAH soil contamination were to be capped. Remediation will be conducted once these investigations have been completed. A perimeter fence, restricting access to Parcel D, portions of Parcel C and Mashapaug Cove was put in place in 2006 as part of an agreement between RIDEM and the City of Providence under a court approved Consent Order. Signs have been placed on the perimeter fence indicating that remediation is on-going and people should not enter. An existing RIDEM/Rhode Island Department of Health advisory recommends that people not wade, swim, or drink water from Mashapaug Pond because bacteria from storm water and toxins from blue-green algae may be harmful, which are conditions not associated with the Gorham site.

#### Purpose & Scope

The Supplemental SI included the collection of 31 surface soil, 48 sediment from the Cove and Pond, and 15 surface water samples from Mashapaug Cove to further study environmental impacts and to assess human health and risks to plant and animal species in the Cove/Pond habitat (ecological risks). Geophysical surveys, which are surveys that use radar to detect whether there are solid objects underwater in the Cove, were also conducted to determine if drums or other metal objects are present in the cove. The findings of the study have been used to determine the best method of cleanup. The cleanup goal is to make these areas of the site safe for the future commercial or industrial use under the 1994 agreement and Consent Order. This work is separate from the work being done on parcels being used for the school or the YMCA.

#### Results

The extensive Site soil data determined the nature and extent of contamination. Use of RIDEM Industrial/Commercial criteria identified metals, PAHs and dioxin requiring remediation. The remedial alternative recommended for the Site soils is the placement of a protective fabric over the Site soil which will then be covered with a 15-inch soil cap. One area of soil with high levels of copper (exceeding special RIDEM regulatory standards) will also be removed for off-site disposal.



The geophysical survey of Mashapaug Cove identified some metal debris along the shallow shore of the cove but did not identify any larger objects such as metal drums.

The Mashapaug Cove sediments contain metals, VOCs, PAHs, and dioxins and furans. The levels of these substances are higher in the Inner Cove than in the Outer Cove. Dioxins and furans are unintentional by-products of the burning of certain materials and/or industrial processes.

The Mashapaug Cove contaminant levels for surface water and sediment satisfy the RIDEM clean up standards for industrial/commercial use, which is the future use identified in the Consent Order, meaning these levels are safe for the proposed future industrial/commercial use. However, in order to be cautious we also considered the health of someone who trespasses on the property to wade or swim in the cove, even though fencing is around the site and signs prohibiting trespassing are posted. A trespasser could contact surface water and sediment while wading or swimming.

While the surface water quality meet RIDEM clean up criteria for a potential Trespasser exposure scenario, risks for an extreme, very long-term (23 years) potential Trespasser scenario (wading and swimming) are above RIDEM clean up criteria.

This is a very long term hypothetical risk; there is no indication of any actual or immediate health threats associated with short-term Trespasser scenarios. In the Inner Cove, the risks are associated with metals, solvents, PAHs, and dioxins and furans in sediments. Arsenic is the only compound of concern in the Outer Cove sediments and may be consistent with background conditions throughout Mashapaug Pond; in other words, unrelated to the Gorham site.

A preliminary analysis of potential contaminant impacts to plants and animals within Mashapaug Cove concluded that further evaluation is needed.

#### **What Do The Findings Mean In Terms Of Risk, Use Of The Pond And Other Precautions**

- Measures have been taken to prevent any potential contact with impacted soils, sediment and surface water. People should respect the perimeter fence and warning signs as long as they remain in place.
- People should continue to follow the RIDEM/Department of Health advisory against wading, swimming, and drinking water from the Pond and consuming fish caught from the Pond.
- The installation of a soil cap will restore the land to a condition acceptable for Industrial/Commercial use.
- The investigation does not evaluate the urban storm water runoff-related bacteria and blue-green algae toxins that are unrelated to the Gorham site and are the reason for the current health advisory that discourages wading, swimming, and drinking the water of Mashapaug Pond. Separate efforts by governmental agencies are addressing those issues that are not related to the site.

- Future studies will determine what needs to be done to clean up Mashapaug Cove.

#### **Relationship / Impacts On School Project**

- The City of Providence is currently implementing the RIDEM-approved remediation for the school construction project.
- During and after construction the perimeter fence and signs will be maintained to restrict site access to Mashapaug Cove.
- Investigation/cleanup actions for Mashapaug Cove and adjacent land area are not expected to affect construction or occupancy of school. Health and safety measures will be part of all activities.

#### **Upcoming Activities**

The Supplemental Investigation Report recommends additional studies of the Cove. Future activities will likely include the following activities. These activities will be conducted in accordance with RIDEM approvals.

- Further testing of cove sediments.
- Ecological risk assessment specifically addressing sediments of the Inner Cove.
- Preparation of a further Investigation Work Plan based on RIDEM's review of the Supplemental Investigation Report.
- Identification of the proper steps to clean up the Cove.
- Submittal to RIDEM of an amended Supplemental Site Investigation Report.
- RIDEM issuance of a Program Letter, which is a letter that approves the Supplemental Investigation Report.
- A public meeting will be held to summarize and discuss the Supplemental Site Investigation Report, including the proposed remedial actions, and to answer questions.
- An additional public meeting will be held to receive public comments on the technical adequacy of the Site Investigation and the technical feasibility of the recommended remedial actions.
- Preparation of a Remedial Action Work Plan and, upon RIDEM approval, implementation of the remedy, which is recommended to be a soil cap, and other actions as necessary.

#### **Information Resources**

Environmental documents pertaining to the Gorham site are available at RIDEM and the Knight Memorial Library located at 275 Elmwood Avenue. For additional site information please contact:

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