



engineering and constructing a better tomorrow

June 27, 2007

Mr. Robert Dorr
Adelaide Avenue Environmental Justice Coalition
60 Crescent Street
Providence, RI 02907

**Subject: Findings of Building N UST Research
Former Gorham Site
333 Adelaide Avenue
Providence, Rhode Island
MACTEC Project No. 3650-05-0041**

Dear Mr. Dorr:

We appreciate your interest in the Gorham Site and in particular the underground storage tanks (USTs) north of the former Building N at the former Gorham Site. Textron is committed to safeguarding the environment and remediating historical environmental issues at this Property. This letter summarizes a review of historical documentation dating from 1900 through 2006 conducted by MACTEC Engineering & Consulting, Inc. (MACTEC) on behalf of Textron, Inc. The historical records indicate that the two USTs north of the former Building N were used to store water drawn from Mashapaug Pond for fire suppression. The records also indicate that the two tanks were removed from the Site in 1998 during demolition activities conducted by the City of Providence and their contractors. These USTs would not be a potential source of petroleum to the soil or groundwater at the Site. The former Building N and former UST locations are currently located beneath the pavement and landscaped surface of the retail complex which would prevent anyone from contacting the remaining soils in this area. Further, the northern extent of these former USTs will be located beneath a two foot soil cover as part of the Park Parcel remediation work planned for this summer 2007. This will further restrict any potential contact by the public to this area and ensure their safe use of the developed Site.

SUMMARY OF REVIEWED RECORDS:

Textron has reviewed the following documentation to determine the chronology of the two USTs north of Building N:

Document Name

- 1900 Sanborn Map of the Site
- 1920 General Map, Gorham Manufacturing Co., Providence, RI
- 1922 Appraisal Summary of the Gorham Manufacturing Company
- 1950 and 1956 Sanborn Maps of Site
- 1982, July 23 RIDEM Inspection Report
- 1987, July 13 Phase I Report prepared by Buonicore-Cashman Associates, Inc. for Seaman Equity Group
- 1989, April 6th. Sampling Date for SS-1 adjacent to former USTs

- 1989, May 25th. Draft Soil and Groundwater Contamination Site Assessment. Prepared by Hunter, Inc. for Seaman Equity Group
- 1993, January 15. Site Investigation Report and Remedial Action Plan, Theodore F. Low & Associates
- 1995, March 27. Letter from ABB Environmental, Inc. (ABB now MACTEC) to City of Providence. Subject: Underground Storage Tanks
- 1995, May. Remedial Investigation Report by ABB (MACTEC)
- 1996, December 10th. Letter from ABB (MACTEC) to City of Providence. Subject: Former Gorham Manufacturing Site
- 1997, January 2nd. Fax from ABB (MACTEC) to City of Providence. Subject: Underground Storage Tank Removal
- 1997, April 3rd. Letter from City of Providence to ABB (MACTEC)
- 1997, April 10th. Letter to City of Providence from ABB (MACTEC). Subject: Building Demolition and UST Removal Bid Specifications
- 1998 Gorham Demolition Activities (photo documentation of UST removal)
- 2001, September 13th follow-up sampling at the SS-1 location (MACTEC, 2006)

A copy of this documentation is provided as an attachment to this letter.

SUMMARY OF FINDINGS

All of the documents reviewed by MACTEC provided several recurring items. The first item was that Building N was referred to as the "Pipe & Fire Pump Bldg". In 1995, the USTs adjacent to Building N were discovered to extend from under the building foundation north into the sloped area and being larger than initially known (6,500 gallons now 15,000 gallons), and contained water and not fuel oil. Photo-documentation from 1998 showed the removal of USTs after Building N had been demolished. These findings are detailed below.

Designation of Building N as Pipe & Fire Pump Building

The 1900 Sanborn Map indicates that Building N was both a print shop and a Fire Pump Building. However, from 1920 forward the designation of Building N was the "Pipe & Fire Pump Bldg". Sanborn Maps from 1950 and 1956 list 1,000-gallon and 150-gallon capacity pumps within the building. Two pipes labeled "Suction Pipe" run from Mashapaug Pond and into Building N. No evidence or naming of the building indicates its use as a fuel oil storage area or foundry that would require fuel oil, but instead was used to operate pumps that drew water from Mashapaug Pond for storage to support the fire suppression system. Another copy of the 1920 site drawing reviewed at the Brown University archives states that the 2" naphtha line was connected to Building N, however the phrase "not in use" is also included in the description of the pipeline on the drawing. Please note that naphtha is an old term used for petroleum derivatives.

Incorrect Designation of USTs Capacity and Contents

The size of these USTs was also an issue that prior to 1995 the two USTs north of Building N were listed as 6,500-gallon fuel oil tanks. In 1989 Hunter, Inc. performed test pitting adjacent to the USTs to confirm their presence, but did not encounter fuel impacted soils or petroleum odors. Instead coal cinders were found in the top three feet of soil at this test pit area. Oily stained soil was observed approximately 50 feet east and cross gradient of the USTs at the northeastern corner of Building N. Surface soil sample SS-1 was collected from this location and exceeded

the RIDEM UCL. Some petroleum compounds were also found in the groundwater from GZA-6 located downgradient of Building N. Hunter concluded that additional assessment was required to determine if there had been a release to the soil from the USTs.

In response to the findings by Hunter, on February 24, 1995 ABB (MACTEC) contracted with Franklin Environmental to excavate the surface of the USTs for soil sampling and sampling of the UST contents. No petroleum odor was detected in the surrounding soils during this assessment. No access to the USTs was found outside Building N. Access to one of the USTs was found within Building N, the contents of the northwest UST were sampled for volatile organic compounds (VOCs) and were found to be non-detect. Head space measurements also taken from within the UST did not indicate the presence of fuel oil and no sheen was observed on the water surface. We could not gain access to the second UST through Building N. Based on the soil sampling around the USTs, analysis of the water within one of the USTs and the lack of head space and a sheen on the surface, it was determined that these USTs contained water for the fire suppression system and not fuel oil as previously reported. Therefore these USTs would not be the source of petroleum to the site soils or groundwater in GZA-6.

On March 27, 1995, ABB (MACTEC) submitted a letter to RIDEM stating that the previous designation of the two Building N USTs was incorrect based on our field and analytical data provided within this 1995 letter. The USTs were also found to be 15,000-gallons in size (each) and not the previously noted 6,500-gallon each. Analytical results of this water indicated that VOCs were below laboratory detection limits. As the USTs did not contain fuel oil their removal would not require RIDEM documentation. The tanks were found to extend beneath the foundation of Building N. In order to avoid compromising the existing building N structure, the removal was postponed to a later date. These results were summarized in the May 1995 Remedial Investigation Report prepared by ABB (MACTEC) for the former Gorham Site.

UST Removal Support to the City of Providence

As these USTs were no longer regulated by RIDEM, their removal was the responsibility of the City as part of their demolition activities. Correspondence between ABB (MACTEC) and the City of Providence regarding the removal of these USTs dates between December 1996 and April 1997. ABB requested the schedule for the UST removal by the City in order to provide additional oversight of these two USTs at Building N. Beginning in January 1998, the City of Providence and their contractors initiated the building demolition of the former manufacturing facilities.

Photo Documentation of Removal

Following the removal of Building N, the USTs were removed for off site disposal in 1998. Photo documentation from these removal activities at the former Building N shows the process of excavation and removal of the two 15,000-gallon tanks north of the former Building N. The photos show two empty tanks fully exposed in place, matching the orientation and size of the March 1995 figure. No visibly stained soils were observed within these series of photos.

Soil Analytical Data east of the former USTs

On April 6, 1989, soil sample SS-1 was collected by Hunter and exhibited TPH concentration exceeding UCLs. Follow-up soil sampling performed by MACTEC (after the City's 1998 removal of the USTs) in 2001 in the same SS-1 location exhibited significantly lower concentrations (537/563 mg/kg) that were well below the UCL of 10,000 mg/kg. Additional sampling was performed to the north, south, east and west of SS-1 and these samples also

exhibited concentrations of TPH below UCLs (258 to 1430 mg/kg). These 2001 data were provided to RIDEM in the July 2006 Supplemental Site Investigation Report for the Park Parcel (MACTEC, 2006) and concluded that no soil removal was required from this area as the UCL exceedance could not be located, but the soil surface would be covered to restrict access to the surface soil by the public.

Existing and Future Site Conditions

The former UST locations are beneath the existing pavement and landscaped areas immediately north of the retail complex. Based on the construction of the cap on the retail complex, this area is already adequately covered preventing potential contact with the soil surrounding the former USTs (water for fire suppression) and surrounding soil. In addition, Textron is planning to construct a two foot soil cap in the area immediately north of these former USTs to further restrict access to this area and ensure public safety.

CONCLUSIONS:

The two USTs under Building N were removed in 1998. The tanks were 15,000-gallon in capacity and used to store water for fire suppression. Evidence of fuel oil storage was not noted in the documentation reviewed. Analytical data from within the UST confirmed their contents to be water and not fuel oil. 1989 analytical data of soil 50 feet east of the former USTs exhibited TPH exceeding the RIDEM UCL; however, follow-up sampling in the same area of SS-1 and immediately surrounding this location in 2001 found no evidence of TPH UCLs remaining in this area. This area encompassing the former Building N and the USTs is already capped by the existing pavement and landscaped surface of the retail complex. These former USTs that potentially extended into the Park Parcel will also be capped with two feet of soil and landscaping. Textron concludes that this record review and summary demonstrates that the Building N USTs have been fully characterized, were removed in 1998, and the water from within these former USTs did not impact adjacent soils or groundwater at GZA-6. Textron is committed to the cleanup of the Gorham Site and plans to complete the capping of this area this summer 2007. This will further restrict any potential contact by the public with the soil in this area and ensure their safe use of the developed Site.

Please contact either Greg Simpson, Textron Project Manager, at (401) 457-2635 or me at (781) 245-6606 if you have any further questions regarding the former Building N USTs and their disposition.

Sincerely,
MACTEC Engineering & Consulting, Inc.



David. Heislein
Project Manager



Michael Murphy
Principal Scientist

Enclosures: UST Removal Photo Documentation

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cc: J. Martella, RIDEM
K. Owens, RIDEM
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G. Simpson, Textron Inc.
MACTEC Project File [Building N UST Letter 062707.doc]

UST Removal Photo Documentation











