NEW YORK STATE
DEPARTMENT OF

ENVIRONMENTAL
CONSERVATION

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Nassau Uniform Service
Town of Hempstead,
Nassau County
Site Number 1-30-063
Interim Remedial Measure
Fact Sheet - October 2003

An interim remedial measure (IRM) has been implemented at the Nassau Uniform Service Inactive Hazardous Waste Disposal Site to treat contaminated soils beneath the building. The final design work plan for soil vapor extraction system, which provides details on the soil IRM, is available at the document repositories listed at the end of this fact sheet. The scope of work for this IRM, the results of previous investigations, and the plans for future remediation will be discussed in this fact sheet. This fact sheet is also being distributed to solicit public comments on the IRM.

Site Description and Background:

The Nassau Uniform Service (NUS) site is a 0.5 acre site located at 525 Ray Street in Freeport. It is bounded on the west by a man-made tidal canal, on the north by industrial properties, and on the east and south by residential properties. The short canal adjacent to the site flows into Milburn Creek. Enclosed figure 1 illustrates the location of the site.

NUS is a uniform supply company. In the past, uniforms were dry cleaned in two large dry cleaning/degreasing machines using tetrachloroethene (PCE), the most common solvent used for dry cleaning. However, within the last two years, all dry cleaning has been terminated and all cleaning is now done with washing machines using detergents. The wash water is discharged to the community sewer system.

On April 27, 1990, an indoor 2,000 gallon waste oil/PCE tank, which was partially buried in the ground, was removed. Soil and groundwater contamination by PCE was discovered in closure samples.

In 1994, a limited investigation was performed to further investigate this spill. Subsequently, NUS entered into a consent order with the New York State Department of Environmental Conservation (NYSDEC) to perform a focused remedial investigation and an interim remedial measure.

Focused Remedial Investigation:

A focused remedial investigation (FRI) was done in two phases to determine the extent of the on-site contamination. After the FRI, some additional sampling was done to evaluate potential contamination in the adjacent canal and to determine air quality at adjacent properties. Enclosed figure 2 illustrates the

FRI sampling locations and key features at this site.

The results of the FRI and subsequent sampling indicate the following:

- The primary contaminants in the subsurface soil and groundwater are tetrachloroethene and related breakdown products including trichloroethene, cis 1,2-dichloroethene, and vinyl chloride. The presence of breakdown products suggests that some natural biodegradation of the contaminants is occurring. However, biodegradation, by itself, will not be sufficient to remediate the site.
- As expected, the soils and groundwater under the former waste oil/PCE storage tank is the most contaminated area of the site. The groundwater contamination in this area has moved vertical downward due to some sinking of the contaminants. However, the contamination is limited to the upper 40' of the aquifer.
- Other contaminated areas were also found. The soils under the compressor room floor, under the two former dry cleaning machines, and the soils in an unpaved area along the northern side of the building are contaminated with PCE and related breakdown products. The soils in the western portion of this area were also contaminated with heavy metals.
- The groundwater beneath the western portion of the site is affected by the tidal action in the adjacent canal. The groundwater flow direction varies somewhat based on the tides. However, the preferential path of groundwater flow is westward toward the adjacent creek. Essentially, all the contaminated groundwater is flowing directly toward the creek. Based on the available data, almost no groundwater contamination is flowing southward toward the adjacent residential properties.
- After the FRI, samples of the water and sediments in the adjacent canal and from various locations in Milburn Creek have detected some limited contamination of the sediments immediately adjacent to the site by cis 1,2-dichloroethene and vinyl chloride.
- After the FRI, a soil gas survey was performed to evaluate whether volatile organic vapors were migrating through the pore spaces in the soils to adjacent properties. No migration was detected. Additionally, the New York State Department of Health recently collected indoor and outdoor air samples at adjacent properties. All sample results were at or near normal background levels.

Interim Remedial Measures for Soils:

1) **Soil Excavation:** Some soil was excavated from the northwest corner of the site to remove surface soils contaminated with tetrachloroethene and heavy metals. These soils were disposed of at an approved off-site disposal facility.

2) **Soil Vapor Extraction System:** A soil vapor extraction (SVE) system that essentially vacuums out contaminants above the water table has recently been installed and is currently operating at the site. Additional extraction wells will be added to the system soon. Most of the extracted vapors are adsorbed by activated carbon. The rest of the contaminants in the air stream are then oxidized using canisters containing potassium permanganate. The canisters are replenished as necessary. The treated air is then exhausted to a stack on top of the building. Periodic sampling is being performed to ensure that the treated air meets applicable standards. A copy of the Final Design Work Plan for Soil Vapor Extraction System dated January 6, 2003 is available at the public repositories listed at the end of this fact sheet.

Proposed Interim Remedial Measure for Groundwater:

A proposal to treat the contaminated on-site groundwater beneath the building is currently being evaluated. A pilot test will be implemented to determine the suitability of the proposed remedy. Preliminary details on design of the proposed system are contained in the Conceptual Design for Groundwater Pump and Treat System dated August 21, 2003. A copy has been placed in the public repositories listed at the end of this fact sheet.

The proposed remedy would consist of at least three pumping wells installed to capture the contaminated groundwater. A potential fourth well location is also being evaluated. Air is driven through extracted water to volatilize the contaminants in the water. This air will then be treated with activated carbon and potassium permanganate canisters to remove the contaminants from the air stream. The treated air would then be discharged to a stack on the top of the building. If permission is granted by the Nassau County Department of Public Works, the treated water would be discharged to the community sewer system. Monitoring of the treated air and groundwater would be performed to ensure that these discharges are within applicable regulations and established limits for this project.

If the New York State Departments of Environmental Conservation (NYSDEC) and Health (NYSDOH) agree that this proposed remedy is suitable for this site, it may be selected as the proposed remedy. In that case, a Proposed Remedial Action Plan (PRAP) would be prepared by the NYSDEC. The PRAP would be presented to the public in a public meeting to receive public comments on the remedy. It is anticipated that this public meeting will be held in the Spring of 2004 if the pilot test for the remedy has favorable results.

Evaluation of Potential Off-site Impacts:

The sediment contamination in the adjacent canal is limited to the sediments immediately adjacent to the site. These sediments are currently causing no adverse impacts. This contamination should naturally attenuate after the on-site source areas in soil and groundwater have been remediated. Disturbing the sediments by dredging could potentially release some of the contaminants to the canal water or open up a pathway for impacted groundwater beneath the site to discharge to the water body. These potential negative impacts suggest that active remediation by dredging should be avoided, if possible.

Based on the available data, essentially no contaminated groundwater is flowing toward any of the adjacent residential or commercial properties. Additionally, there are no known users of the underlying groundwater near to the site. Regardless, due to the natural saltwater content in the groundwater near the site, this water would not be usable for drinking water purposes. Consequently, the potential for the consumption of contaminated groundwater at this site does not exist.

Tetrachloroethene and its breakdown products have the potential to impact indoor air quality. Migration to nearby properties of these volatile organic compounds through the pore spaces in the soils has been evaluated. Soil gas testing has not detected any migration of soil gases from the site. Additionally, indoor air sampling conducted at selected properties near the site either did not detect contaminate or detected contaminant similar to background levels found in indoor air where there are no known sources of chemicals of chemical spills. This soil gas testing and indoor air sampling were performed before the implementation of the SVE system. The operation of this system will further prevent potential migration of contaminated vapors in the soil.

Document Repository: The public is encouraged to review the final design work plan for SVE system, the conceptual design for groundwater pump and treat system and other site related documents. These documents are available at the following locations:

NYSDEC Region 1 Headquarters
Division of Environmental Remediation
SUNY Campus, Building 40
Stony Brook, New York 11790
(631) 444-0240
Mon - Fri 8:30 am – 4:45 pm

Freeport Memorial Library
144 West Merrick Road (by South Ocean Avenue)
Freeport, New York 11520
(516) 379-3274
Mon, Tue, Thurs, Fri 9 am - 9 pm, Wed 10 am - 9 pm,
Sat 9 am - 5 pm, and Sun 1:00 pm - 5:00 pm

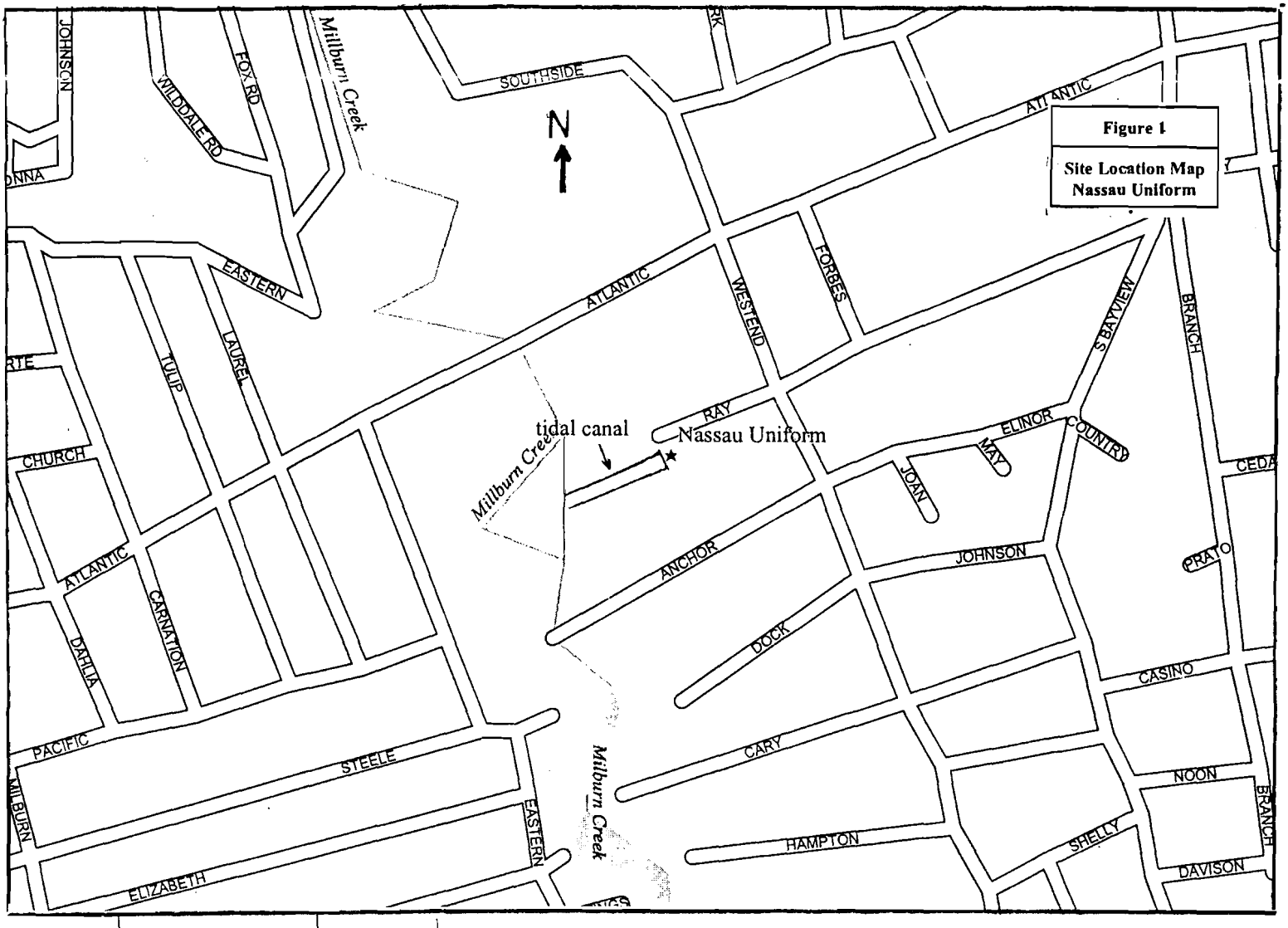

Figure 1

Site Location Map
Nassau Uniform

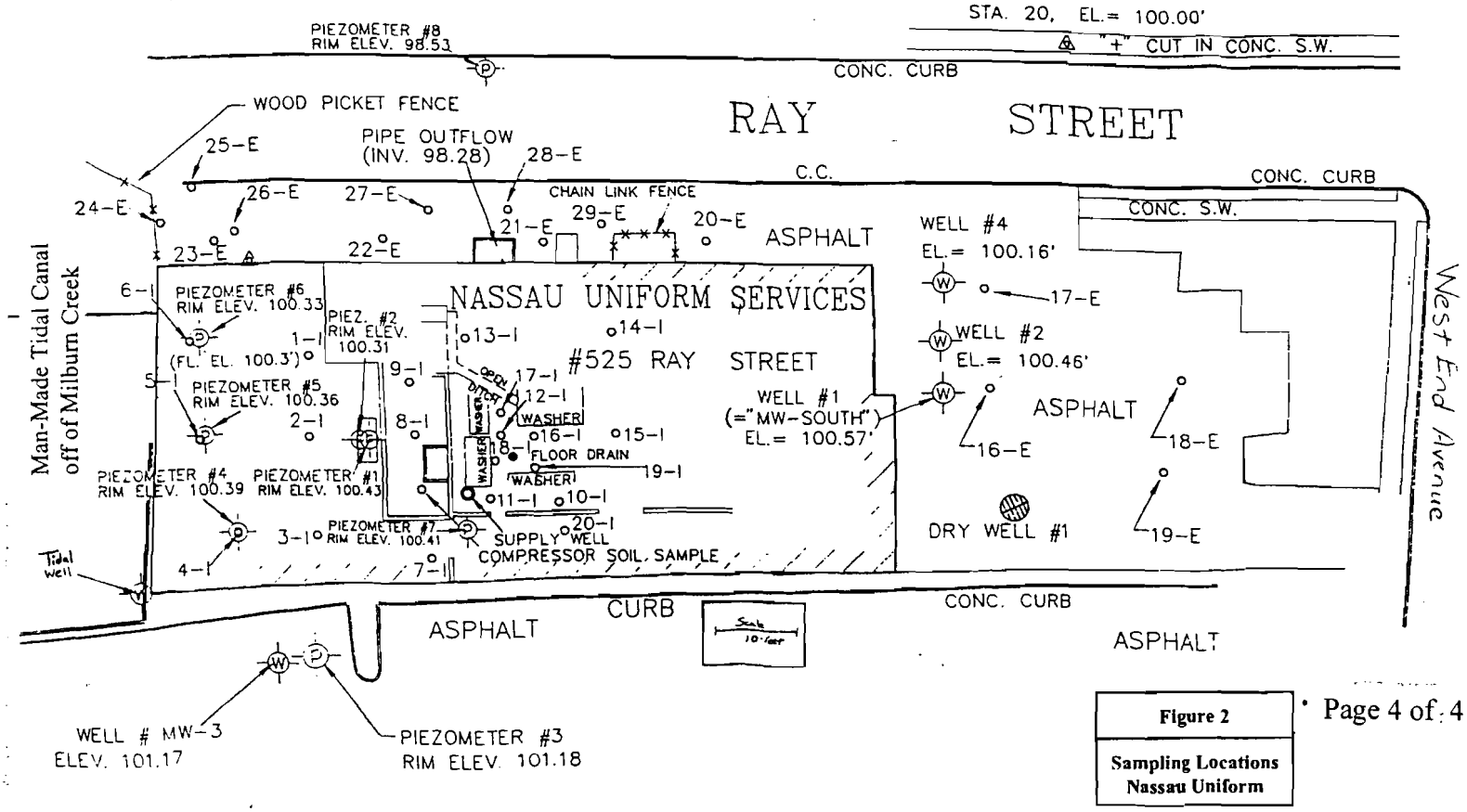

Figure 2

Sampling Locations
Nassau Uniform