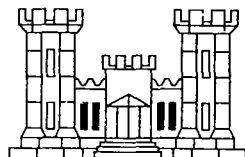


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**U.S. Army Corps of Engineers
Baltimore District**

**Phases I and II Interim Removal Action
Component 2 — Phases 1 and 2
Former Lake Ontario Ordnance Works
Lewiston and Porter
Niagara County, New York**

Final Long-Term Monitoring Plan

100% Design

Contract Number DACA31-96-D-0006
Delivery Order 0002

June 1998

Prepared for:

U.S. ARMY CORPS OF ENGINEERS
Baltimore District
10 South Howard Street
Baltimore, Maryland 21201

96P-1324

Prepared by:



Roy F. Weston, Inc.
1 Weston Way
West Chester, PA 19380-1499

**INTERIM REMOVAL ACTION
COMPONENT 2—PHASES 1 AND 2
FORMER LAKE ONTARIO ORDNANCE WORKS
LEWISTON AND PORTER
NIAGARA COUNTY, NEW YORK**

LONG-TERM MONITORING PLAN

100% DESIGN

Prepared for

**U.S. ARMY CORPS OF ENGINEERS
BALTIMORE DISTRICT
10 South Howard Street
Baltimore, Maryland 21201**

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TABLE OF CONTENTS

Section	Page
1. INTRODUCTION.....	1-1
1.1 PROJECT DESCRIPTION	1-1
1.2 OBJECTIVE AND SCOPE	1-2
1.3 GENERAL SITE BACKGROUND AND AREAS OF CONCERN.....	1-2
1.3.1 General Background	1-2
1.3.2 Areas of Concern	1-4
1.4 PROJECT SCHEDULE	1-7
1.5 DOCUMENT OUTLINE	1-7
2. POST-REMEDATION MONITORING PROCEDURES.....	2-1
2.1 BASIS FOR EVALUATION OF POTENTIAL MONITORING ACTIVITIES.....	2-1
2.2 POTENTIAL MONITORING ACTIVITIES.....	2-1
3. SITE SAFETY AND HEALTH PLAN	3-1

LIST OF FIGURES

Title	Page
Figure 1-1 LOOW Location Map	1-3
Figure 1-2 LOOW Study Area Location Map	1-5

LIST OF ACRONYMS

ACM	asbestos-containing material
AFP-68	Air Force Plant 68
CENAB	U.S. Army Corps of Engineers Baltimore District
Chem-Trol	Chem-Trol Pollution Services, Inc.
cm	centimeter
DAR	Design Analysis Report
DOD	U.S. Department of Defense
DOE	U.S. Department of Energy
EE/CA	Engineering Evaluation/Cost Analysis
LOOW	Lake Ontario Ordnance Works
LTM	Long-Term Monitoring
NYSDEC	New York State Department of Environmental Conservation
OSHA	Occupational Safety and Health Administration
PRAC	Preplaced Remedial Action Contract
PRDI	Preliminary Remedial Design Investigation
QA/QC	quality assurance/quality control
RCRA	Resource Conservation and Recovery Act
RI/FS	remedial investigation/feasibility study
SAP	Sampling and Analysis Plan
SCA	SCA Chemical Services, Inc.
SSHP	site safety and health plan
TCL	Target Compound List
TSD	treatment, storage, and disposal
USACE	U.S. Army Corps of Engineers
WESTON	Roy F. Weston, Inc.

1. INTRODUCTION

1.1 PROJECT DESCRIPTION

The U.S. Army Corps of Engineers Baltimore District (CENAB) has retained Roy F. Weston, Inc. (WESTON®) to develop the Remedial Design for Interim Removal Actions (IRAs) for Components 1, 2, and 3 (Chemical Waste Management [CWM] property, Somerset Group [Somerset] property, and Town of Lewiston property) at the former Lake Ontario Ordnance Works (LOOW) located in Niagara County, New York.

A meeting was held on 16 April 1998 to discuss the new phasing of IRA due to funding constraints, division of Remedial Design according to the new phasing, and project schedule. In attendance were representatives from CENAB and WESTON. At the meeting it was announced that, due to further funding constraints, the IRA is now planned to be completed in two components with five separate phases (i.e., Component 1 with three phases, and Component 2 with two phases).

Due to current funding constraints, it was decided at the 16 April meeting that the design submittal Component 1 (Phases 1, 2, and 3) will be completed as a Supplement to the 60% Design level because the Component 1 phases will be performed under a PRAC time and materials contract. The remediation to be performed for Component 1 of the IRA under PRAC will include the TNT pipeline, chemical waste sewer, Area A, and Area B. It was also decided at the meeting that Component 2 Design would be submitted as 90% and 100% Designs.

This submittal of the Long-Term Monitoring (LTM) Plan, therefore, is part of the 90% Design and addresses the comments received from CENAB on the supplement to the 60% Design and the issues discussed at the 16 April 1998 meeting.

This submittal of the LTM Plan includes the areas under Component 2.

- Phase 1—Asbestos removal inside of Buildings 6-01, 6-02, 6-03, and 30A (includes debris outside of 30A); asbestos removal from Building 6-01 courtyard (Area A-1) and surrounding soils (approximately 5-6 ft around the courtyard); asbestos panel

removal, cleaning of concrete pads, and asbestos/soil removal surrounding T-1 and T-2 foundations; asbestos insulation removal at pipe bridge and removal of surrounding asbestos/soils; and removal/disposal of miscellaneous chemicals.

- Phase 2—Removal of asbestos/soils and outdoor debris at Areas A-2, B, C, D, E, F.

1.2 OBJECTIVE AND SCOPE

The purpose of the LTM Plan is to ensure that there are no long-term adverse effects to the environment following the implementation of the remedial action.

The scope of the LTM Plan consists of evaluation of the results of the post-IRA samples to determine if LTM may be necessary.

1.3 GENERAL SITE BACKGROUND AND AREAS OF CONCERN

1.3.1 General Background

The former LOOW site is located within the Town of Lewiston and the Town of Porter in Niagara County, New York (Figure 1-1). The site is located approximately 10 miles north of the City of Niagara Falls, New York.

The original site encompassed approximately 7,500 acres with actual U.S. Department of Defense (DOD) site activities having occurred on 2,500 acres. During the early 1940s, the LOOW site was used as a manufacturing plant producing TNT for use in World War II. Once completed, the complex contained a power plant, hospital, fire department, a water supply system adequate for a population of 100,000, and water supply and wastewater treatment system of underground water, sewage, acid, and TNT pipelines.

Wastewater from the TNT manufacturing operation, as well as stormwater and sanitary sewage, was transferred through an underground sewer network to a wastewater treatment plant located in the western portion of the TNT plant. The TNT pipelines ran as one pair of east-west trending lines across the TNT production area before being routed south to the wastewater treatment plant at the west end of the production line. Following the decommissioning of the TNT plant in July 1943, the majority of the LOOW facility was sold to private citizens with the government

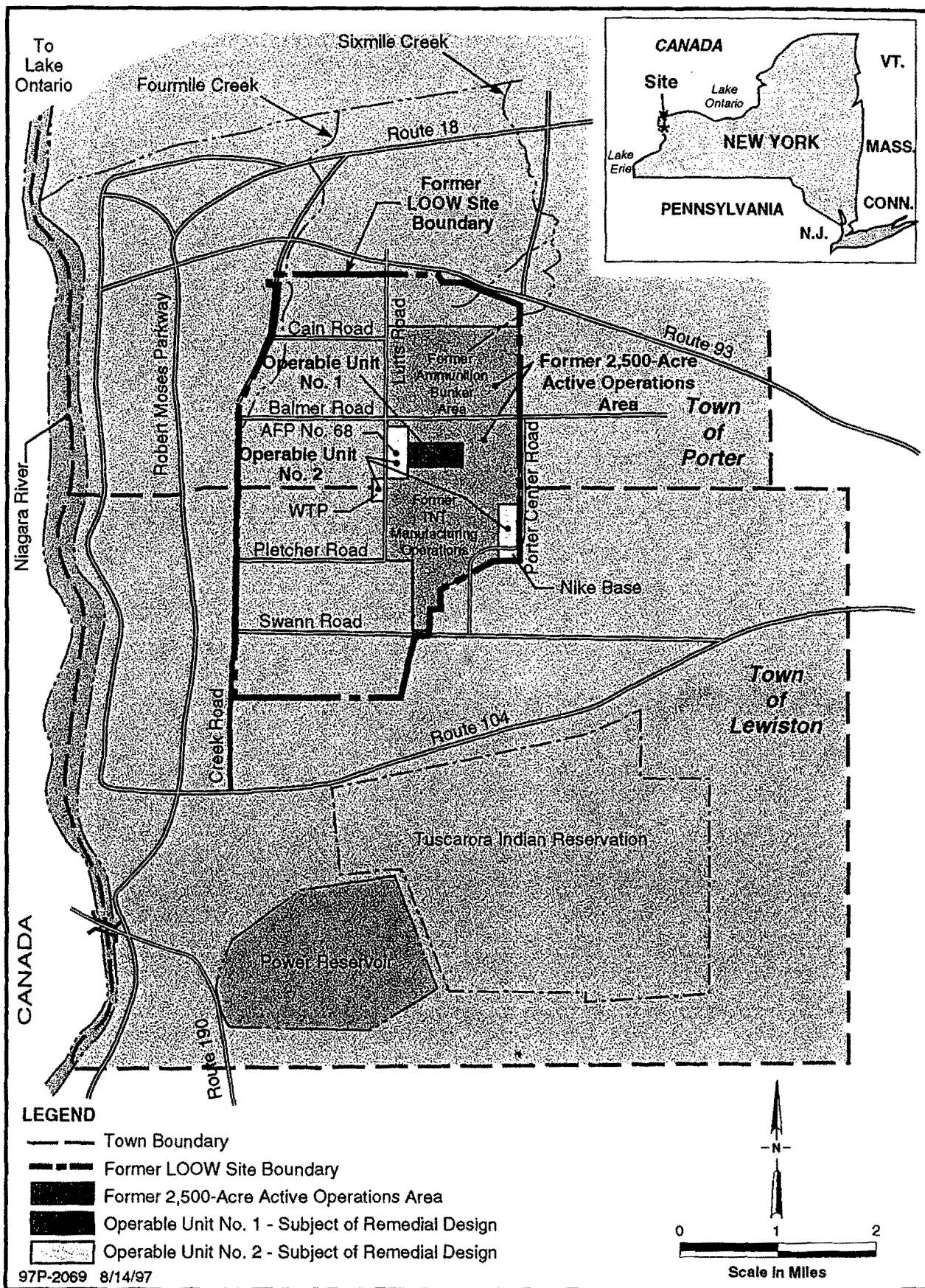


FIGURE 1-1 LOOW LOCATION MAP

retaining the former active 2,500-acre portion of the site.

Portions of the LOOW site have since been used by several branches of DOD and the U.S. Department of Energy (DOE) for various manufacturing and storage activities, including the pilot production of high-energy fuels. In 1955, the Navy and Air Force acquired 360 and 200 acres, respectively, of the former TNT plant.

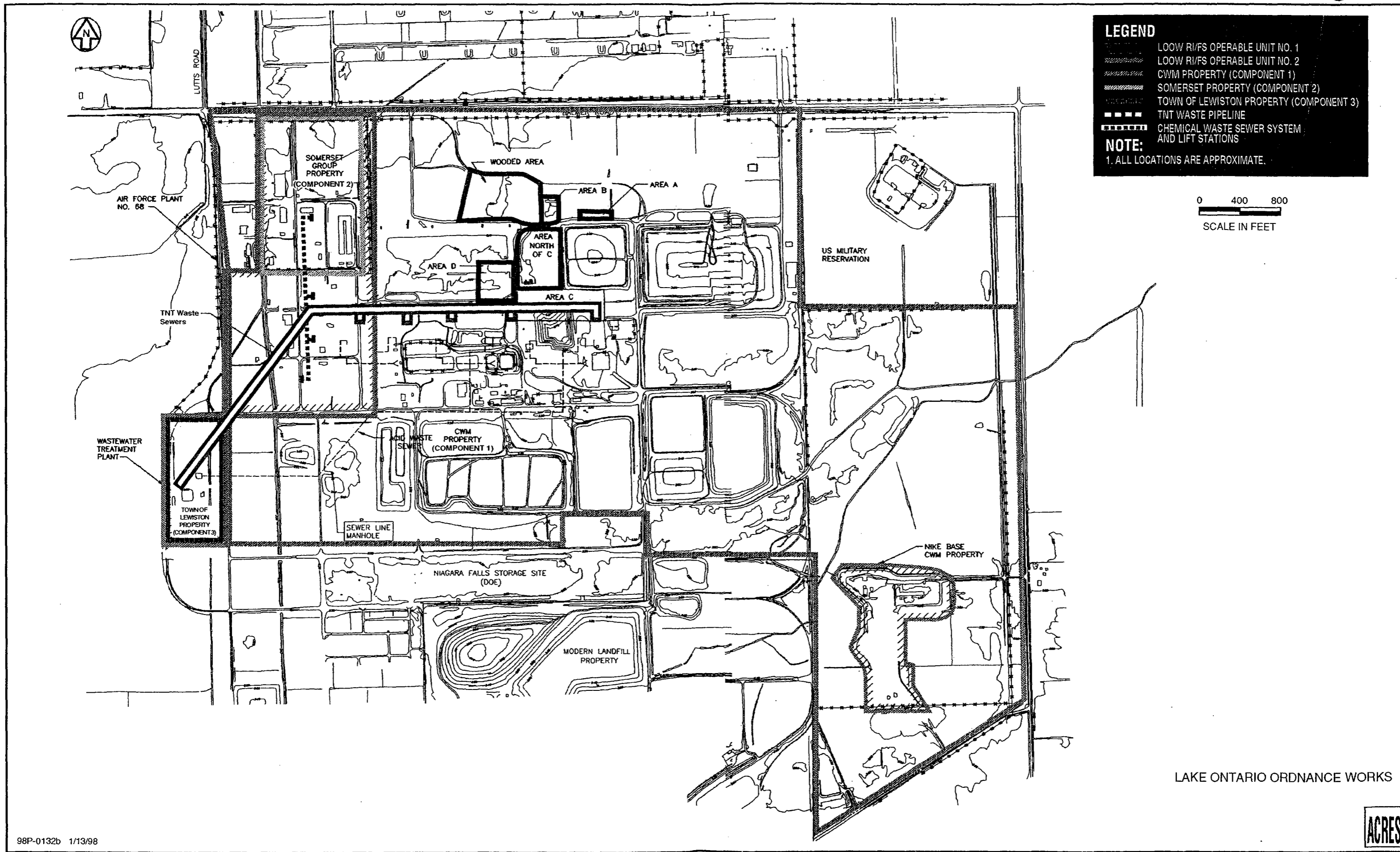
In 1972, Chem-Trol Pollution Services, Inc. (Chem-Trol) acquired portions of LOOW for the development of a hazardous waste treatment, storage, and disposal (TSD) facility. Chem-Trol was acquired by SCA Chemical Services, Inc. (SCA) in 1973, and was subsequently acquired by CWM in the early 1980s. In 1969, Somerset obtained an approximate 100-acre section of the former LOOW property that contained Air Force Plant 68 (AFP-68). Around 1979, the southern half of the former AFP-68 (about 50 acres) was sold to SCA. This section is currently owned by CWM. The portions of the former TNT and AFP-68 site specifically addressed by the PRDI are situated on property currently owned by CWM and the Town of Lewiston. CWM operates the site as a Resource Conservation and Recovery Act (RCRA) TSD facility. The portion of the site owned by the Town of Lewiston is currently unused.

The focus of the Preliminary Remedial Design Investigation (PRDI) was the sampling of the TNT pipelines (Figure 1-2) and two chemical lift stations (Area 22 and Area 24) of the former chemical waste sewer line, which are all located within the CWM property. A portion of the former chemical waste sewer line and one lift station are located on the Somerset property. A portion of the TNT pipelines located within the former wastewater treatment plant is owned by the Town of Lewiston.

An investigation of asbestos containing materials was conducted at the northern portion of the former AFP-68 in January 1998.

1.3.2 Areas of Concern

The remedial investigation/feasibility study (RI/FS), engineering evaluation/cost analysis (EE/CA), PRDI Report, and Preliminary Design Analysis Report (DAR) for the LOOW site identified areas



LAKE ONTARIO ORDNANCE WORKS



for non-time-critical removal actions for Component 2, Phases 1 and 2 (Figures 1-1 and 1-2). The areas to be included are listed below:

- Component 2 (Somerset Property)
 - Loose asbestos-containing material (ACM).
 - Miscellaneous containers of liquids and oils.
 - Surface soil where there is loose ACM.

The removal actions related to the loose ACM and miscellaneous containers of hazardous liquids and oils do not require LTM activities since the materials of concern will be permanently removed from LOOW, and there are no activities that require post-remediation inspection (i.e., the ground will not be disturbed, etc.); therefore, this LTM Plan applies only to areas where soil containing asbestos is to be removed.

1.4 PROJECT SCHEDULE

Following issuance of the IRA report and completion of the removal activities, the site conditions will be evaluated to determine the need for LTM activities. CENAB will determine if LTM activities are necessary. If performed, LTM activities will be conducted on a biannual basis (i.e., two times per year). A summary report of activities conducted, which will include data and other findings, will be submitted to CENAB one time per year, no later than 3 months after the second monitoring event for that year.

1.5 DOCUMENT OUTLINE

This document has been organized as follows:

- Section 1—Introduction
- Section 2—Post-Remediation Monitoring Procedures
- Section 3—Site Safety and Health Plan

2. POST-REMEDATION MONITORING PROCEDURES

2.1 BASIS FOR EVALUATION OF POTENTIAL MONITORING ACTIVITIES

This subsection presents a brief summary of the removal actions to be performed at LOOW to provide a basis for evaluating the need for LTM activities.

As part of Phases 1 and 2, surface soil that contains asbestos will be removed from designated areas.

The excavated soil/asbestos areas will be filled with clean fill that will be graded (if necessary) to match adjacent topography and prevent ponding of surface water. An appropriate seed and mulch will be placed over the disturbed area. Upon germination and establishment of the vegetation, site erosion controls will be removed. The Contractor will ensure that areas are restored in accordance with the specifications; therefore, LTM is not required for these areas.

2.2 POTENTIAL MONITORING ACTIVITIES

Potential post-remediation monitoring activities are:

- Inspections and maintenance of soil removal areas.

A site safety and health plan (SSHP) must be prepared prior to implementation of such LTM activities.

Post-remediation inspections will be conducted for the purpose of monitoring site conditions and determining the need for maintenance activities at the site. A site inspection report will be completed after each inspection and will be maintained on file. The report will note the condition of the site and will identify areas of the site that may require additional maintenance work.

Post-remediation inspections will include, at a minimum, the following:

- Note condition of new vegetation in the remediated areas (damaged, stressed, sparse areas, intact, etc.).

3. SITE SAFETY AND HEALTH PLAN

If LTM activities are determined to be necessary, they will be conducted in accordance with the procedures and protocols in the SSHP. The SSHP will be prepared by the Contractor who will be performing the LTM and will be submitted to CENAB for approval. The SSHP must comply with the following: *Safety and Occupational Health Document Requirements for Hazardous Toxic and Radioactive Waste Activities*, USACE, Department of the Army, ER 385-1-92, 18 March 1994 (or most current edition) and EM 385-1-1, 3 September 1996, USACE *Safety and Health Requirements Manual*, and applicable federal, state, and local safety and occupational health laws and regulations (including, but not limited to, Occupational Safety and Health Administration [OSHA] Standards, 29 CFR 1910, especially Section .120, *Hazardous Waste Site Operations and Emergency Response* and 29 CFR 1926, especially Section .65, *Hazardous Waste Site Operations and Emergency Response*).

The SSHP will cover on-site work to be performed by the Contractor and all subcontractors. The Contractor's Safety and Health Manager will be responsible for the development, implementation, and oversight of the SSHP. The SSHP will establish, in detail, the protocols necessary for the anticipation, recognition, evaluation, and control of hazards associated with each task performed as part of the LTM activities. The SSHP will address site-specific safety and health requirements and procedures based on site-specific conditions. The level of detail provided in the SSHP will be tailored to the type of work, complexity of operations to be performed, and hazards anticipated.

The following document may be used as a reference where appropriate: *Preliminary Remedial Design Investigation Former Lake Ontario Ordnance Works, Lewiston and Porter, Niagara County, New York, Site Safety and Health Plan*, prepared by WESTON for CENAB, October 1996.