Environmental Work Plan
Bausch & Lomb World Headquarters Building Site
Rochester, New York

Prepared For:

LeChase Construction
Rochester, New York

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1.0 INTRODUCTION

This work plan provides a systematic approach to environmental issues encountered during construction of the Bausch & Lomb World Headquarters Building Site. It incorporates and elaborates on a work plan (Appendix A) that was developed in the field on December 10, 1993 and utilized during all subsequent excavation work. This work plan has been divided into the following chapters:

2.0 Regulatory Requirements
3.0 Breathing Zone Air Monitoring
4.0 Excavation and Segregation of Soil
5.0 Soil and Water Sampling
6.0 Dewatering
7.0 Underground Storage Tanks
8.0 Off-Site Transportation and Disposal
9.0 Safety Issues

Appendix B, C and D provide examples of recordkeeping forms to be used on the site.

1.1 Background

The future site of the Bausch & Lomb World Headquarters Building Site has been in proximity to dry cleaning operations and retail petroleum storage facilities since the late 1800's. During construction excavation, discolored soils with an odor of organic solvents were encountered in limited areas at a depth of approximately 15 feet below the ground level. Several aromatic hydrocarbons were also noted at concentrations between 3.5 and 147.4 ppm. The source of the aromatic hydrocarbons is consistent with either a Stoddard solvent, a weathered gasoline or a fuel oil. The initial soil test results were completed by Paradigm Environmental Services, Inc.

1.2 Objective

The objective of this work plan is to define a systematic approach for completion of construction activities in areas of the work site where contaminated soils, contaminated water and underground storage tanks are encountered. The following actions will be completed to attain the project objective.

- Conduct air monitoring in the exclusion zone;
- Excavate and segregate contaminated soil;
- Test water and soil for disposal purposes;
- Dewater excavations;
- Clean and dispose of underground storage tanks;
- Manage waste materials in a safe fashion in compliance with all applicable regulations.

All activities described herein will be undertaken by personnel in accordance with the Health and Safety Plan developed by MARCOR of New York, Inc. specifically for this project.

2.0 REGULATORY REQUIREMENTS

Regulations applicable to the project may include but not necessarily be limited to the following regulations promulgated by the Resource Conservation and Recovery Act (RCRA), Clean Water Act (CWA), Occupational Safety and Health Act (OSHA), Department of Transportation (DOT) and the NYS DEC.

2.1 On-Site Work

Regulations applicable to on-site activities may include but not necessarily be limited to the following:

1. RCRA Standards Applicable to Generators of Hazardous Waste (40 CFR Part 262).
2. RCRA Hazardous Waste Management (40 CFR Part 264).
3. OSHA Standards for Hazardous Waste Site Operations (29 CFR 1910).
4. NYS DEC Petroleum Bulk Storage (6 NYCRR Parts 612-614).

2.2 Transportation

Hazardous Waste/Material transportation regulations may include but not necessarily be limited to the following:

1. DOT Hazardous Materials Program Procedures (49 CFR Part 107).
2. DOT Hazardous Materials Regulations (49 CFR Parts 171 - 170).
3. RCRA Subpart E Manifest System, Recordkeeping and Reporting (40 CFR Parts 264.70 - 264.77).
4. NYS DEC NYCRR Part 364 Waste Transporter Permits.
5. NYS DEC NYCRR Part 372 Hazardous Waste Manifest System and Related Standards for Generators, Transporters and Facilities.

2.3 Off-Site Treatment/Disposal

Regulations applicable to off-site treatment and disposal of hazardous wastes may include but not necessarily be limited to the following:

1. RCRA Hazardous Waste Management (40 CFR Part 264).
2. RCRA Land Disposal Restrictions (40 CFR Part 268).

3.0 BREATHING ZONE AIR MONITORING

Air monitoring will be conducted at the site to provide worker and community safety. Continuous air monitoring will be conducted within the established exclusion zone. Periodic air monitoring will be conducted outside the exclusion zone.

3.1 Method

A Foxboro Century 128 organic vapor analyzer (OVA) equipped with a flame ionization detector will be used for all air monitoring. This instrument has at least a 100% Relative Response Factor for the organic compounds of concern. This instrument has a 0.2 ppm detection limit.

The breathing zone of equipment operators and the perimeter of the exclusion zone will be monitored continuously.

The perimeter of the work site and areas downwind of the exclusion zone will be monitored on a periodic basis during operations in the exclusion zone.

3.2 Action Level

A breathing zone level action of 1 ppm total volatile organics above background sustained for 10 seconds will initiate vapor engineering controls or a respiratory protection upgrade for affected workers.

3.3 Recordkeeping

An air monitoring log book will be used to record breathing zone concentrations. An example of the Air Monitoring Log is included in Appendix B.

4.0 EXCAVATION AND SEGREGATION OF SOILS

During excavation activities at the site, contaminated soils will be segregated from clean soils. The contaminated soil will be staged on-site pending sample results and disposal arrangements. All personnel shall comply with requirements of the HASP and must have any protective equipment required by the Health and Safety Plan for on-site work.

4.1 Excavation of Soil

The area of soil excavation will be restricted to authorized personnel by caution or flagging tape. This area will be designated the Exclusion Zone. Personnel within the Exclusion Zone must perform work in accordance with the HASP. Personnel within the Exclusion Zone must be recorded on an Exclusion Zone Log kept on-site. Appendix C contains an example of the Exclusion Zone Log.

4.2 Segregation of Soil

Soils will be segregated based on visible discoloration and/or an OVA value greater than 10 ppm.

Each bucket of soil (0.75 yd^3/bucket) removed from areas near the existing cleaners (specifically the west and northwest sides of the future Winter Garden) will be visually inspected and screened using the OVA.

4.3 On-Site Soil Transportation

Excavated soils are designated clean or contaminated based on the field screening results. Clean soil will be loaded into dump trucks and transported off-site. Contaminated soil will be loaded into a dump truck designated specifically for that purpose. The contaminated soil will be transported from the exclusion zone to the on-site soil staging area.

4.4 Soil Staging

Contaminated soil will be staged on-site pending sample results and disposal arrangements. Contaminated soil will be placed onto and covered by 8 mil thick polyethylene sheeting in order to prevent runoff and fugitive vapors. Sheeting will be weighted down.

4.5 Engineering Controls

4.5.1 Breathing Zone

Breathing zone vapor concentrations above the action level will be abated using industrial fans as an alternative to respiratory protection upgrade. If this should prove unsuccessful at lowering vapor concentrations to acceptable levels or if elevated vapor concentrations are noted outside of the exclusion zone, the use of the fans will be discontinued.

4.5.2 Vapor Barrier

At the recommendation of the NYSDEC, a vapor barrier will be installed in all excavations where contaminated soil is found. This vapor barrier will consist of 8 mil thick polyethylene sheeting. Concrete will be placed over the vapor barrier. In addition, as a precautionary step a vapor barrier will be installed under the entire slab of the Winter Garden.

4.6 Over-Excavation

With the on-site concurrence of Todd Caffoe of the NYSDEC, only contaminated soils encountered during planned construction activities will be excavated. Veins or pockets of contamination will not be chased unless they lie directly beneath building support structures. Contaminated soils beneath footers will be over-excavated to remove all contaminated soil or to the digging depth limit of the excavating equipment, whichever comes first. The vapor barrier will be placed in the excavation and concrete will be used to bring the excavation to the proper depth.

5.0 SOIL AND WATER SAMPLING

Soil and water contaminated by organic compounds will be tested to satisfy all applicable regulations.

5.1 Sampling Protocol

Samples will be collected in a manner consistent with personal safety and the protocols described in US Environmental Protection Agency (EPA) document EPA 600/4-84-076 Characterizations of Hazardous Waste Sites - A Methods Manual: Volume II, Available Sampling Methods, Second Edition.

5.2 Disposal Facility/Soil Sampling

The excavated contaminated soil will be characterized to satisfy the requirements of an appropriate permitted disposal facility. The following laboratory test methods will be completed on excavated soils staged on-site:

Test	Method Number
pH	EPA Method 9045
Flashpoint	7.1 SW-846
Reactivity CN/S	7.3 SW-846
Total Organic Halogens	EPA Method 9020
PCB	EPA Method 8080
Total Cyanide	EPA Method 9010
% Solids	EPA Method 160.3
Paint Filter Test	EPA Method 9095
TCLP Arsenic	EPA Method 7060
TCLP Barium	EPA Method 7080
TCLP Cadmium	EPA Method 7130
TCLP Chromium	EPA Method 7190
TCLP Copper	EPA Method 7210
TCLP Lead	EPA Method 7420
TCLP Mercury	EPA Method 7470
TCLP Selenium	EPA Method 7740
TCLP Silver	EPA Method 7760
TCLP Zinc	EPA Method 7950
TCLP Volatiles	EPA Method 8240
TCLP Semi-Volatiles	EPA Method 8270
TCLP Herbicides	EPA Method 8150
TCLP Pesticides	EPA Method 8080

Based upon the sample results, the soil will be characterized and profiled into an appropriate facility. Should the test results indicate that the soil is a non-hazardous waste as defined by existing RCRA Hazardous Waste Management (40 CFR Part 264) regulations, the soil will be disposed of in an appropriate RCRA permitted facility for non-hazardous waste streams.

5.3 NYS DEC Soil Sampling

As requested by Mr. Todd Caffoe of the NYS DEC, soil testing of contaminated soils will be completed in accordance with NYS DEC STARS Memo #1. The number of samples required by that guidance document are as follows:

Soil Quantity (yd^3)	Grab	Composite
0 - 50	1	1
50 - 100	2	1
100 - 200	3	1
200 - 300	4	1
300 - 400	4	2
400 - 500	5	2
500 - 800	6	2
800 - 1000	7	2

The total volume of excavated contaminated soil is anticipated not to exceed 100 yd^3.

5.4 Disposal Facility Water Sampling

Water which collects in excavations in contact with contaminated soils will be considered to be contaminated. The water will be tested for the presence of chlorinated hydrocarbons using EPA Method 8010.

6.0 DEWATERING

Water may collect in excavations in contact with contaminated soils. This water will be considered contaminated. The water will be pumped into DOT Spec 17E or 17H drums for off-site disposal at an appropriate facility.

6.1 Method

An electric sump pump will be utilized to transfer water from an excavation to drums. Clean water will be flushed through pump and hoses after the contaminated was has been transferred. All personnel shall comply with requirements of the HASP and must have any protective equipment required by the Health and Safety Plan for on-site work.

6.2 Drum Handling Procedure

Dewatering of excavations with contaminated soils may lead to the presence of drummed liquids on-site. Any drummed waste liquids should be reported to the Project Engineer. Care should be taken not to spill liquids during transfer operations. Drums will be labeled with an appropriate label based on sample results. Labels will be completed with an indelible pen. Drums will be stored in a secure area on-site. The City of Rochester must be notified of the drum removal date so that a representative of the City is available to ratify all waste disposal arrangements and to sign the appropriate paperwork.

7.0 UNDERGROUND STORAGE TANKS

Underground storage tanks (UST) may be encountered during the construction activities on-site. Should a UST be encountered, the Project Engineer must be notified immediately. A contractor with a valid Certification of Registration with the City of Rochester should be contacted to the remove the tank.

7.1 Notification

The NYS DEC Division of Bulk Storage should be notified if a UST is encountered. A permit for tank removal from the City of Rochester should be obtained by the tank removal contractor.

7.2 Waste Disposal

Waste generated from any tank cleaning will be handled in accordance with all applicable local, State and Federal regulations.

7.3 Tank Closure Assessment

The tank removal should be documented in a Tank Closure Assessment Report. This report should include, at a minimum, the following information:

- Tank size, construction, condition;
- Tank contents;
- Sensitive receptors;
- Geologic and hydrologic setting;
- Field test results; and,
- Site photographs.

A laboratory analysis of the tank excavation is optional in accordance with existing NYS DEC guidelines.

8.0 OFF-SITE TRANSPORTATION AND DISPOSAL

Contaminated soil and water which are generated during construction activities will be transported off-site to appropriate disposal facilities.

8.1 Method

Prior to soil transportation and disposal the following will be completed:

A. Mark, label, placard and package all waste materials in addition to providing equipment, personnel and facilities necessary to handle/load and transport the waste materials.
B. Comply with applicable regulatory requirements listed as well as other applicable Federal, State or local laws, codes and ordinances which govern or regulate hazardous wastes.
C. Obtain all the permits required.
D. Insure that all vehicles entering and leaving the site comply with all safety requirements.
E. Prepare vehicles to prevent spillage or contamination.
F. Inspect vehicles before leaving the site.
G. Transport equipment and materials from the site to a special waste, hazardous waste or other disposal facility approved by the Project Engineer.
H. Conduct all sampling and analysis required for transportation and disposal.
I. Materials from the remediation are to be manifested in conformance with existing regulations.

8.2 Loading

A. All personnel shall comply with requirements of the HASP and must have any protective equipment required by the Health and Safety Plan for on-site work.
B. A loader will be provided which can reach into a dump trailer with an 11 foot high sidewall.
C. Air monitoring will be completed during soil loading operations.
D. The soil loading area will be restricted to authorized personnel.

8.3 Transportation

A. All personnel shall comply with requirements of the HASP and must have any protective equipment required by the Health and Safety Plan for on-site work.
B. Any material classified as hazardous shall be transported in containers that are in conformance with Federal DOT regulations, and any other applicable regulations.
C. Coordinate with the Project Engineer for vehicle inspection and recording of quantities and types of wastes leaving the site.
D. Prior to leaving the site, tthe ransporter shall submit a copy of the completed manifest to the ProjectEngineer.
E. All vehicles will have identification numbers displayed as per US DOT Specifications 49 CFR 172.336 a.b.
F. Transporter will provide placard or identification number as required.
G. Transporters of hazardous wastes off-site shall be in full conformance and have current permits in accordance with 40 CFR 263, 6 NYCRR Part 364 and Part 372, as well as other applicable laws including US Department of Transportation requirements.
H. All trucks shall be washed and clean prior to arriving at the site.

8.4 Off-Site Disposal

Provide for off-site disposal of excavated contaminated soils and contaminated water. Record volumes and character of materials disposed. The manifest forms and records should be consistent with appropriate NYS DEC, RCRA and DOT requirements. A US EPA identification number will be obtained for the site, if necessary. A City of Rochester representative must be available to ratify all waste disposal arrangements and to sign any paperwork.

9.0 SAFETY ISSUES

On-site safety is addressed in the Health and Safety Plan.

9.1 Tailgate Safety Meetings

Daily tailgate safety meetings will be conducted for workers within the exclusion zone. The provisions of the HASP will be reviewed in the meetings. Meeting attendees will be recorded on a Tailgate Safety Meeting Log. Appendix D contains an example of the Tailgate Safety Meeting Log.

Appendix A

Field Work Plan

APPENDIX A

FIELD WORK PLAN

LeChase Construction
Bausch & Lomb Downtown Building Site
South Clinton Avenue and East Broad Street, Rochester, New York
Work Plan
MARCOR of New York, Inc.
MARCOR Job # RO-00463-001
December 10, 1993

The purpose of this work plan is to identify and remove contaminated soil in compliance with the HASP, and all local, State and Federal regulations in order to maintain the construction schedule at the Bausch & Lomb World Headquarters building site.

The exclusion zone surrounding the excavation will be restricted to authorized personnel. Preliminary soil tests have indicated the presence of chlorinated and aromatic hydrocarbon compounds. Soil samples will be obtained and tested to determine appropriate disposal arrangements. Periodic air monitoring will be completed within the exclusion zone and along the work area perimeter. Air monitoring results will determine the need for engineering controls and/or PPE.

An area will be designated for soil staging. The excavated soil will be placed onto and covered by 8 mil thick polyethylene sheeting. Disposal facilities permitted to accept non-hazardous or hazardous soils have been identified Based on the specific analytical testing requirements of these facilities, soil samples will be collected and submitted for analysis. Based on the soil sample test results, the soils will be loaded and transported off-site to an appropriate facility.

Following completion of the excavation activities, periodic air monitoring will be completed during placement of footers, the tunnel, etc. Tail gate safety meetings will be held periodically to inform all site workers of any potential hazards.

Water will be tested then discharged to the municipal sewer system when it can be shown that the water meets the Pure Waters discharge requirements. Any water not meeting these standards will be treated appropriately.

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Appendix B

Air Monitoring Log

Field Log Data Sheet

AM PM

Instrument _____
Serial Number _____
Calibration _____
Span Setting _____
Zero Check _____
Page _____ Name _____

Job Description _____
Bldg. _____ Attachment _____
Excavation Permit # _____

Date	Time	BZ	SS	WS	Reading		Volume or Weight	Technician	Comments
					BZ	Soil			

Appendix C

Exclusion Zone Log

EXCLUSION ZONE SITE LOG

Location of Site:______________________ Job #:______________ Date:______________

Site Safety and Health Officer:____

LEVEL	NAME IN:	TIME	NAME OUT:	TIME

Appendix D

Tailgate Safety Meeting Log

MARCOR
TAILGATE SAFETY MEETING

JOB-SPECIFIC TOPIC

Subject: _____ Date: _____
TSM.61

NOTES:

ATTENDEES

Name Printed	Signature

PLEASE COMPLETE THE BACK OF THIS FORM