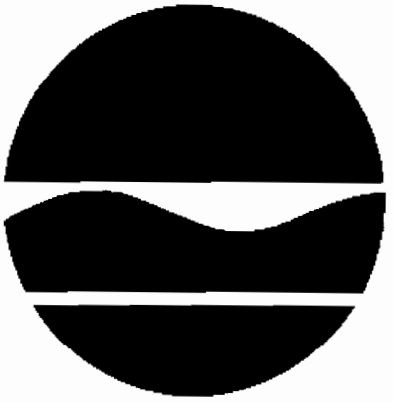
RECORD OF DECISION

Delphi Automotive Systems
State Superfund Project
Rochester, Monroe County
Site No. 828064
March 2011



Prepared by
Division of Environmental Remediation
New York State Department of Environmental Conservation

DECLARATION STATEMENT - RECORD OF DECISION

Delphi Automotive Systems
State Superfund Project
Rochester, Monroe County
Site No. 828064
March 2011

Statement of Purpose and Basis

This document presents the remedy for the Delphi Automotive Systems site, a Class 2 inactive hazardous waste disposal site. The remedial program was chosen in accordance with the New York State Environmental Conservation Law and Title 6 of the Official Compilation of Codes, Rules and Regulations of the State of New York (6 NYCRR) Part 375, and is not inconsistent with the National Oil and Hazardous Substances Pollution Contingency Plan of March 8, 1990 (40CFR300), as amended.

This decision is based on the Administrative Record of the New York State Department of Environmental Conservation (the Department) for the Delphi Automotive Systems site and the public's input to the proposed remedy presented by the Department. A listing of the documents included as a part of the Administrative Record is included in Appendix B of the ROD.

Description of Selected Remedy

The elements of the selected remedy are as follows:

1. Continued operation of the remedial systems installed as part of the RCRA corrective actions undertaken at the site, with the following evaluation and enhancements:

- LNAPL recovery will continue in the Building 22 and the Tank Farm areas. Additional LNAPL recovery methods will be implemented expand the area and volume of NAPL recovery, in a manner allowing for continued facility manufacturing operations in the areas affected by LNAPL.

- An effectiveness study will evaluate NAPL in areas adjacent to the existing NAPL collection points to determine if more aggressive collection techniques are required. Methods will be considered include, but are not limited to: surfactant enhanced recovery, vacuum enhanced recovery and/or additional recovery wells, etc.

- The continued operation of the Groundwater Migration Control systems with the addition of additional recovery wells. The operation of the current migration control systems in concert with the recovery of LNAPL interior to the Site will reduce the mass flux of dissolved phase contaminants. At a minimum, expansion of the groundwater migration control system will require the installation of at least two (2) bedrock groundwater

recovery wells north of the Eastern Parking Lot.

- Continue to maintain a positive pressure in site buildings to address vapor intrusion in areas of contamination in the subsurface and evaluation of the effectiveness and extent of the mitigation provided by this approach.

2. The existing buildings, pavement and lawns at the site will form a site cover, there is currently no exposed surface soil to be addressed. A site cover will be maintained as a component of any future site development, which will consist either of the structures such as buildings, pavement, sidewalks comprising the site development or a soil cover in areas where the upper one foot of exposed surface soil will exceed the applicable soil cleanup objectives (SCOs). Where the soil cover is required it will be a minimum of one foot of soil, meeting the SCOs for cover material as set forth in 6 NYCRR Part 375-6.7(d) for industrial use. The soil cover will be placed over a demarcation layer, with the upper six inches of the soil of sufficient quality to maintain a vegetation layer. Any fill material brought to the site will meet the requirements for the identified site use as set forth in 6 NYCRR Part 375-6.7(d).

3. Imposition of an institutional control in the form of an environmental easement for the controlled property that:

   a. requires the remedial party or site owner to complete and submit to the Department a periodic certification of institutional and engineering controls in accordance with Part 375-1.8 (h)(3).

   b. allows the use and development of the controlled property for industrial uses as defined by Part 375-1.8(g), although land use is subject to local zoning laws;

   c. restricts the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the NYSDOH or County DOH;

   d. prohibits agriculture or vegetable gardens on the controlled property; and

   e. requires compliance with the Department approved Site Management Plan.

4. A Site Management Plan is required, which includes the following:

   a. an Institutional and Engineering Control Plan that identifies all use restrictions and engineering controls for the site and details the steps and media-specific requirements necessary to ensure the following institutional and/or engineering controls remain in place and effective:

      Institutional Controls: The Environmental Easement discussed in Paragraph 3 above.

      Engineering Controls: The remedial systems in Paragraph 1 and site cover discussed in Paragraph 2.

This plan includes, but may not be limited to:

i. an Excavation Plan which details the provisions for management of future excavations in areas of remaining contamination;
ii. descriptions of the provisions of the environmental easement including any land use and/or groundwater use restrictions;
iii. a provision for evaluation of the potential for soil vapor intrusion in the existing on-site buildings currently subject to positive pressure and for any buildings developed on the site, including provision for implementing actions recommended to address exposures related to soil vapor intrusion;
iv. provisions for the management and inspection of the identified engineering controls;
v. maintaining site access controls and Department notification; and
vi. the steps necessary for the periodic reviews and certification of the institutional and/or engineering controls;

b. a Monitoring Plan to assess the performance and effectiveness of the remedy. The plan includes, but may not be limited to: include all that apply and re-number as appropriate
   i. monitoring of groundwater to assess the performance and effectiveness of the remedy;
   ii. a schedule of monitoring and frequency of submittals to the Department;
   iii. monitoring for vapor intrusion for any buildings occupied or developed on the site, as may be required pursuant to item a.iii. above; and

c. an Operation and Maintenance Plan to ensure continued operation, maintenance, monitoring, inspection and reporting of for any mechanical or physical components of the remedy. The plan includes, but is not limited to:

   i. compliance monitoring of treatment systems to ensure proper O&M as well as providing the data for any necessary permit or permit equivalent reporting;
   ii. maintaining site access controls and Department notification; and
   iii. providing the Department access to the site and O&M records.

New York State Department of Health Acceptance

The New York State Department of Health (NYSDOH) concurs that the remedy for this site is protective of human health.

Declaration

The selected remedy is protective of human health and the environment, complies with State and Federal requirements that are legally applicable or relevant and appropriate to the remedial action to the extent practicable, and is cost effective. This remedy utilizes permanent solutions and alternative treatment or resource recovery technologies, to the maximum extent practicable, and satisfies the preference for remedies that reduce toxicity, mobility, or volume as a principal

element.

MAR 31 2011

Date

Dale A. Desnoyers, Director
Division of Environmental Remediation

RECORD OF DECISION

Delphi Automotive Systems
Rochester, Monroe County
Site No. 828064
March 2011

SECTION 1: SUMMARY AND PURPOSE

The New York State Department of Environmental Conservation (the Department), in consultation with the New York State Department of Health (NYSDOH), has selected a remedy for the above referenced site. The disposal of hazardous wastes at the site has resulted in threats to public health and the environment that would be addressed by the remedy. The disposal or release of hazardous wastes at this site, as more fully described in this document, has contaminated various environmental media. The remedy is intended to attain the remedial action objectives identified for this site for the protection of public health and the environment. This Record of Decision (ROD) identifies the selected remedy, summarizes the other alternatives considered, and discusses the reasons for selecting the remedy.

The New York State Inactive Hazardous Waste Disposal Site Remedial Program (also known as the State Superfund Program) is an enforcement program, the mission of which is to identify and characterize suspected inactive hazardous waste disposal sites and to investigate and remediate those sites found to pose a significant threat to public health and environment.

The Department has issued this document in accordance with the requirements of New York State Environmental Conservation Law and 6 NYCRR Part 375. This document is a summary of the information that can be found in the site-related reports and documents.

SECTION 2: SITE DESCRIPTION AND HISTORY

Location: The 86.5 acre site (Site) is located at 1000 Lexington Ave in a largely commercial/industrial section within the City of Rochester (see Figure 1). The site is a triangular shaped property bounded on the west by Mt. Read Boulevard, on the north by Driving Park Avenue, and on the south by Lexington Avenue. The nearest residential area is approximately 0.25 miles to the east on Wren Street.

Site Features: The Site consists of a 2-million square foot active manufacturing plant where Delphi produces automotive components and houses administrative and engineering offices that are related to the manufacturing operations. Several smaller buildings also present on the Site are used for storage, utility, industrial-wastewater pretreatment and security activities. Paved roadways, service and shipping courtyards, and vehicle parking lots cover most of the remainder of the Site. Outdoor areas that are not paved occupy less than 5 percent of the Site.

Historical Uses: General Motors Corporation (GM) built the original manufacturing building and began manufacturing operations at the site in 1938. Various GM divisions operated the facility until ownership of the site and its operation were transferred to Delphi in 1999. The facility was used for producing a wide variety of automotive parts. Automotive fuel systems have been the primary product line since 1945. Manufacturing processes have included machining and forming of metal parts, metal tube manufacturing, metal plating, heat treating, die casting, solvent degreasing, injection molding of plastic parts, and the assembly of finished automotive parts and fuel systems. Fuel-systems flow-testing and calibration, engine output testing, and related product engineering and testing operations have also been conducted, as have wastewater pre-treatment and steam generation for plant heating. An area of the northern portion of the site was a part of the old Erie Canal. This area was filled in during the 1920s and 1930s with material excavated for the construction of a "subway" which was constructed in the former canal bed. Rochester Products (now known as Delphi Automotive systems) used part of this area for their own filling and have since constructed buildings over most of that area.

The site had interim status under the Resource Conservation and Recovery Act (RCRA) and is therefore subject to corrective action under that program. The Order on Consent addressing the RI/FS for the site also addresses the corrective action requirements of the RCRA program.

Current Zoning/Use(s): The site is currently an active manufacturing facility, and is zoned for industrial manufacturing. The surrounding area is currently used for a combination of commercial, light industrial and utility right-of-ways.

Geologic Setting: Four (4) hydrogeologic units are recognized at the Site:

- Overburden Unit - saturated unconsolidated overburden deposits are present at the surface and to a depth of up to about 25 feet. The overburden is thickest in the area at the north end of the plant and thinnest on the south near Lexington Avenue.

- Shallow-Bedrock Unit - the overburden-bedrock interface down to the underlying upper seven (7) feet of bedrock. Bedrock beneath the overburden is the Upper Silurian-aged Rochester Shale, a dolomitic mudstone.

- Intermediate-Bedrock Unit - from approximately 10 feet to 25 feet below the top of bedrock surface.

- Deep-Bedrock Unit - from approximately 30 feet to 65 feet below the top-of-bedrock surface. Deep bedrock wells on the north side of the site penetrate the Rochester shale and intersect the underlying Irondequoit Limestone.

Groundwater flows toward the northeast except along Driving Park Avenue where a fractured bedrock collection system (described below) installed under RCRA Corrective Action before the remedial investigation began, redirects flow on-site toward the south(see Figure 2).

A site location map is attached as Figure 1.

SECTION 3: LAND USE AND PHYSICAL SETTING

The Department may consider the current, intended, and reasonably anticipated future land use of the site and its surroundings when evaluating a remedy for soil remediation. For this site, alternatives (or an alternative) that restrict(s) the use of the site to industrial use as described in Part 375-1.8(g) is/are being evaluated in addition to an alternative which would allow for unrestricted use of the site.

A comparison of the results of the investigation to the appropriate standards, criteria and guidance values (SCGs) for the identified land use and the unrestricted use SCGs for the site contaminants is included in the Tables for the media being evaluated in Exhibit A.

SECTION 4: ENFORCEMENT STATUS

Potentially Responsible Parties (PRPs) are those who may be legally liable for contamination at a site. This may include past or present owners and operators, waste generators, and haulers.

The PRPs for the site, documented to date, include:

Delphi and General Motors Components Holdings LLC

The Department and Delphi, entered into a Consent Order on February 4, 2002. The Order obligates the responsible parties to implement a RI/FS remedial program. After the remedy is selected, the Department will approach the PRPs to implement the selected remedy.

SECTION 5: SITE CONTAMINATION

5.1: Summary of the Remedial Investigation

A Remedial Investigation (RI) has been conducted. The purpose of the RI was to define the nature and extent of any contamination resulting from previous activities at the site. The field activities and findings of the investigation are described in the RI Report.

The following general activities are conducted during an RI:

- Research of historical information,
- Geophysical survey to determine the lateral extent of wastes,
- Test pits, soil borings, and monitoring well installations,
- Sampling of waste, surface and subsurface soils, groundwater, and soil vapor,
- Sampling of surface water and sediment,

- Ecological and Human Health Exposure Assessments.

5.1.1: Standards, Criteria, and Guidance (SCGs)

The remedy must conform to promulgated standards and criteria that are directly applicable or that are relevant and appropriate. The selection of a remedy must also take into consideration guidance, as appropriate. Standards, Criteria and Guidance are hereafter called SCGs.

To determine whether the contaminants identified in various media are present at levels of concern, the data from the RI were compared to media-specific SCGs. The Department has developed SCGs for groundwater, surface water, sediments, and soil. The NYSDOH has developed SCGs for drinking water and soil vapor intrusion. The tables found in Exhibit A list the applicable SCGs in the footnotes. For a full listing of all SCGs see: http://www.dec.ny.gov/regulations/61794.html

5.1.2: RI Information

The analytical data collected on this site includes data for:

- groundwater
- soil
- soil vapor
- indoor air

The data have identified contaminants of concern. A "contaminant of concern" is a hazardous waste that is sufficiently present in frequency and concentration in the environment to require evaluation for remedial action. Not all contaminants identified on the property are contaminants of concern. The nature and extent of contamination and environmental media requiring action are summarized in Exhibit A. Additionally, the RI Report contains a full discussion of the data. The contaminant(s) of concern identified at this site is/are:

chlorinated solvents	polychlorinated biphenyls (pcb)
heavy metals	trichloroethene (tce)
vinyl chloride	stoddard solvent

As illustrated in Exhibit A, the contaminant(s) of concern exceed the applicable SCGs for:

- groundwater
- soil
- soil vapor

5.2: Interim Remedial Measures

An interim remedial measure (IRM) is conducted at a site when a source of contamination or exposure pathway can be effectively addressed before issuance of the Record of Decision.

There were no IRMs performed at this site during the RI.

5.3: Summary of Human Exposure Pathways

This human exposure assessment identifies ways in which people may be exposed to site-related contaminants. Chemicals can enter the body through three major pathways (breathing, touching or swallowing). This is referred to as *exposure.*

People are not drinking the contaminated groundwater because the area is served by a public water supply not affected by this contamination. Since this site is covered with concrete, asphalt and buildings, people will not come into contact with the contamination unless they dig below the surface.

Volatile organic compounds in the groundwater may move into the soil vapor (air between soil particles), which in turn may move into overlying buildings and affect the indoor air quality. This process, which is similar to the movement of radon gas from the subsurface into the indoor air of buildings, is referred to as soil vapor intrusion. Based on the groundwater and air testing completed, the potential for people to come into contact with site related contamination due to soil vapor intrusion is limited to the on-site building. To reduce the levels of contaminants in the indoor air and to prevent the indoor air quality from being affected any longer, soil vapor intrusion mitigation techniques are being evaluated for the entirety of the building.

5.4: Summary of Environmental Assessment

This section summarizes the assessment of existing and potential future environmental impacts presented by the site. Environmental impacts may include existing and potential future exposure pathways to fish and wildlife receptors, wetlands, groundwater resources, and surface water.

Based upon the resources and pathways identified and the toxicity of the contaminants of ecological concern at this site, a Fish and Wildlife Resources Impact Analysis (FWRIA) was deemed not necessary.

Nature and Extent of Contamination:
The work done during the RI defined the nature and extent of contamination as well as identified a number of source areas. Light non-aqueous phase liquid (LNAPL)(up to 10'thick) is present over large areas of the site. Much of the NAPL consists of petroleum (cutting oil and Stoddard Solvent), however, In some areas, LNAPL contains chlorinated solvents, and in some other areas it contains PCBs.

Off-site impacts are largely mitigated by the fractured rock groundwater collection system, however off-site contamination is present to the east of the site.

Groundwater:
Site groundwater is contaminated with chlorinated volatile organic compounds (chlorinated VOCs). A chlorinated VOC contaminant plume originates from 6 source areas below the footprint of the manufacturing building. These source areas result from releases of chlorinated

solvents from solvent degreasers that are no longer in use. Portions of the groundwater contaminant plume contain non-chlorinated VOCs that are related to releases of petroleum products (Stoddard solvent and cutting oils) used in product testing and engineering operations. The vertical extent of groundwater contamination is limited by geologic conditions to the overburden and top 25 feet of underlying bedrock. Laterally, the dissolved phase VOC plume extends downgradient to the northern boundary and beyond the eastern boundary.

Soil:
Significant soil contamination is present and consists of VOCs, Metals, PCBs, SVOCs. The majority of this contamination lies under the footprint of the manufacturing buildings. A soil vapor intrusion evaluation was also completed that indicated the presence of significantly elevated sub-slab soil vapor concentrations, indoor air concentrations showed limited impacts.

Interim Remedial Measures:
Prior to entering an order to conduct the RI, Delphi installed and continues to operate 4 Interim Remedial Measures (IRMs).

- Groundwater Migration Control, Collection System located north of the manufacturing building. This system intercepts, collects contaminated groundwater for treatment from the shallow and intermediate bedrock moving downgradient from the manufacturing buildings at the Site. Off-site migration of contamination to the north is mitigated by the migration-control system.

- Two LNAPL recovery systems that were installed in a Tank Farm Area (located at the northeast corner of the manufacturing building at the Site) and in the area of Building 22.

- Soil Vapor Extraction System (Degreaser Investigation Study Area 5)

- A groundwater migration-control system is in place along the northern edge of the site to limit northward lateral migration of groundwater contaminants. The system is one of four interim remedial measures (IRMs) operated at the site by Delphi. The migration-control system has been in operation since 1992, and in the area along the northern site boundary it has effectively reversed the gradient of groundwater flow in the horizons affected by the contaminant plume. Off-site migration of contamination to the north is mitigated by the migration-control system.

Significant Threat:
The site presents a significant environmental threat due to uncontrolled releases of contaminants from the source areas into the groundwater.

SECTION 6: SUMMARY OF THE EVALUATION OF ALTERNATIVES

To be selected the remedy must be protective of human health and the environment, be cost-effective, comply with other statutory requirements, and utilize permanent solutions, alternative technologies or resource recovery technologies to the maximum extent practicable. The remedy

must also attain the remedial action objectives identified for the site, which are presented in Exhibit B. Potential remedial alternatives for the Site were identified, screened and evaluated in the feasibility study (FS) report.

A summary of the remedial alternatives that were considered for this site is presented in Exhibit C. Cost information is presented in the form of present worth, which represents the amount of money invested in the current year that would be sufficient to cover all present and future costs associated with the alternative. This enables the costs of remedial alternatives to be compared on a common basis. As a convention, a time frame of 30 years is used to evaluate present worth costs for alternatives with an indefinite duration. This does not imply that operation, maintenance, or monitoring would cease after 30 years if remediation goals are not achieved. A summary of the Remedial Alternatives Costs is included as Exhibit D.

6.1: Evaluation of Remedial Alternatives

The criteria to which potential remedial alternatives are compared are defined in 6 NYCRR Part 375. A detailed discussion of the evaluation criteria and comparative analysis is included in the FS report.

The first two evaluation criteria are termed "threshold criteria" and must be satisfied in order for an alternative to be considered for selection.

1. Protection of Human Health and the Environment. This criterion is an overall evaluation of each alternative's ability to protect public health and the environment.

2. Compliance with New York State Standards, Criteria, and Guidance (SCGs). Compliance with SCGs addresses whether a remedy will meet environmental laws, regulations, and other standards and criteria. In addition, this criterion includes the consideration of guidance which the Department has determined to be applicable on a case-specific basis.

The next six "primary balancing criteria" are used to compare the positive and negative aspects of each of the remedial strategies.

3. Long-term Effectiveness and Permanence. This criterion evaluates the long-term effectiveness of the remedial alternatives after implementation. If wastes or treated residuals remain on-site after the selected remedy has been implemented, the following items are evaluated: 1) the magnitude of the remaining risks, 2) the adequacy of the engineering and/or institutional controls intended to limit the risk, and 3) the reliability of these controls.

4. Reduction of Toxicity, Mobility or Volume. Preference is given to alternatives that permanently and significantly reduce the toxicity, mobility or volume of the wastes at the site.

5. Short-term Impacts and Effectiveness. The potential short-term adverse impacts of the remedial action upon the community, the workers, and the environment during the construction and/or implementation are evaluated. The length of time needed to achieve the remedial objectives is also estimated and compared against the other alternatives.

6. Implementability. The technical and administrative feasibility of implementing each alternative are evaluated. Technical feasibility includes the difficulties associated with the construction of the remedy and the ability to monitor its effectiveness. For administrative feasibility, the availability of the necessary personnel and materials is evaluated along with potential difficulties in obtaining specific operating approvals, access for construction, institutional controls, and so forth.

7. Cost-Effectiveness. Capital costs and annual operation, maintenance, and monitoring costs are estimated for each alternative and compared on a present worth basis. Although cost-effectiveness is the last balancing criterion evaluated, where two or more alternatives have met the requirements of the other criteria, it can be used as the basis for the final decision.

8. Land Use. When cleanup to pre-disposal conditions is determined to be infeasible, the Department may consider the current, intended, and reasonable anticipated future land use of the site and its surroundings in the selection of the soil remedy.

The final criterion, Community Acceptance, is considered a "modifying criterion" and is taken into account after evaluating those above. It is evaluated after public comments on the Proposed Remedial Action Plan have been received.

9. Community Acceptance. Concerns of the community regarding the investigation, the evaluation of alternatives, and the PRAP are evaluated. A responsiveness summary will be prepared that describes public comments received and the manner in which the Department will address the concerns raised. If the selected remedy differs significantly from the proposed remedy, notices to the public will be issued describing the differences and reasons for the changes.

6.2: Elements of the Remedy

The basis for the Department's remedy is set forth at Exhibit E.

The estimated present worth cost to implement the remedy is $9,100,000. The cost to construct the remedy is estimated to be $826,000 and the estimated average annual cost is $407,500.

The elements of the selected remedy are as follows:

1. Continued operation of the remedial systems installed as part of the RCRA corrective actions undertaken at the site, with the following evaluation and enhancements:

- LNAPL recovery would continue in the Building 22 and the Tank Farm areas. Additional LNAPL recovery methods will be implemented expand the area and volume of NAPL recovery, in a manner allowing for continued facility manufacturing operations in the areas affected by LNAPL.

- An effectiveness study will evaluate NAPL in areas adjacent to the existing NAPL

collection points to determine if more aggressive collection techniques are required. Methods will be considered include, but are not limited to: surfactant enhanced recovery, vacuum enhanced recovery and/or additional recovery wells, etc.

- The continued operation of the Groundwater Migration Control systems with the addition of additional recovery wells. The operation of the current migration control systems in concert with the recovery of LNAPL interior to the Site will reduce the mass flux of dissolved phase contaminants. At a minimum, expansion of the groundwater migration control system will require the installation of at least two (2) bedrock groundwater recovery wells north of the Eastern Parking Lot.

- Continue to maintain a positive pressure in site buildings to address vapor intrusion in areas of contamination in the subsurface and evaluation of the effectiveness and extent of the mitigation provided by this approach.

2. The existing buildings, pavement and lawns at the site will form a site cover, there is currently no exposed surface soil to be addressed. A site cover will be maintained as a component of any future site development, which will consist either of the structures such as buildings, pavement, sidewalks comprising the site development or a soil cover in areas where the upper one foot of exposed surface soil will exceed the applicable soil cleanup objectives (SCOs). Where the soil cover is required it will be a minimum of one foot of soil, meeting the SCOs for cover material as set forth in 6 NYCRR Part 375-6.7(d) for industrial use. The soil cover will be placed over a demarcation layer, with the upper six inches of the soil of sufficient quality to maintain a vegetation layer. Any fill material brought to the site will meet the requirements for the identified site use as set forth in 6 NYCRR Part 375-6.7(d).

3. Imposition of an institutional control in the form of an environmental easement for the controlled property that:

   a. requires the remedial party or site owner to complete and submit to the Department a periodic certification of institutional and engineering controls in accordance with Part 375-1.8 (h)(3).

   b. allows the use and development of the controlled property for industrial uses as defined by Part 375-1.8(g), although land use is subject to local zoning laws;

   c. restricts the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the NYSDOH or County DOH;

   d. prohibits agriculture or vegetable gardens on the controlled property; and

   e. requires compliance with the Department approved Site Management Plan.

4. A Site Management Plan is required, which includes the following:

a. an Institutional and Engineering Control Plan that identifies all use restrictions and engineering controls for the site and details the steps and media-specific requirements necessary to ensure the following institutional and/or engineering controls remain in place and effective:

Institutional Controls: The Environmental Easement discussed in Paragraph 3 above.

Engineering Controls: The remedial systems in Paragraph 1 and site cover discussed in Paragraph 2.

This plan includes, but may not be limited to:

vii. an Excavation Plan which details the provisions for management of future excavations in areas of remaining contamination;
viii. descriptions of the provisions of the environmental easement including any land use and/or groundwater use restrictions;
ix. a provision for evaluation of the potential for soil vapor intrusion in the existing on-site buildings currently subject to positive pressure and for any buildings developed on the site, including provision for implementing actions recommended to address exposures related to soil vapor intrusion;
x. provisions for the management and inspection of the identified engineering controls;
xi. maintaining site access controls and Department notification; and
xii. the steps necessary for the periodic reviews and certification of the institutional and/or engineering controls;

b. a Monitoring Plan to assess the performance and effectiveness of the remedy. The plan includes, but may not be limited to: include all that apply and re-number as appropriate
i. monitoring of groundwater to assess the performance and effectiveness of the remedy;
ii. a schedule of monitoring and frequency of submittals to the Department;
iii. monitoring for vapor intrusion for any buildings occupied or developed on the site, as may be required pursuant to item a.iii. above; and

c. an Operation and Maintenance Plan to ensure continued operation, maintenance, monitoring, inspection and reporting of for any mechanical or physical components of the remedy. The plan includes, but is not limited to:

i. compliance monitoring of treatment systems to ensure proper O&M as well as providing the data for any necessary permit or permit equivalent reporting;
ii. maintaining site access controls and Department notification; and
iii. providing the Department access to the site and O&M records.

Exhibit A

Nature and Extent of Contamination

This section describes the findings of the Remedial Investigation for all environmental media that were evaluated. As described in Section 5.1.2, samples were collected from various environmental media to characterize the nature and extent of contamination.

For each medium, a table summarizes the findings of the investigation. The tables present the range of contamination found at the site in the media and compares the data with the applicable SCGs for the site. The contaminants are arranged into four categories; volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), pesticides/ polychlorinated biphenyls (PCBs), and inorganics (metals). For comparison purposes, the SCGs are provided for each medium that allows for unrestricted use. For soil, if applicable, the Restricted Use SCGs identified in Section 5.1.1 are also presented.

Waste/Source Areas

As described in the RI report, waste/source materials were identified at the site and are impacting groundwater, soil and soil vapor.

Wastes are defined in 6 NYCRR Part 375-1.2 (aw) and include solid, industrial and/or hazardous wastes. Source Areas are defined in 6 NYCRR Part 375 (au). Source areas are areas of concern at a site were substantial quantities of contaminants are found which can migrate and release significant levels of contaminants to another environmental medium. Wastes and source areas that were identified at the site include; six vapor degreasing areas that used trichloroethylene that resulted in releases to the environment. All of these source areas are located beneath the manufacturing building.

Petroleum hydrocarbons are also present in the subsurface as light non-aqueous phase liquid (LNAPL) in areas beneath the manufacturing building and beyond the building footprint to the north and east. The LNAPL consists of machining oils used as lubricants during metal-machining operations and simulated fuels and calibration fluids (Stoddard Solvent) used in engineering and product-testing operations. In some areas, the LNAPL contains cVOCs and polychlorinated biphenyl (PCBs). In the eastern portion of the Site, LNAPL is present in the intermediate bedrock at 10 to 25 feet below the top of bedrock and extends slightly beyond the eastern site boundary. The LNAPL acts as a source for the dissolved phase organic contamination present in groundwater at the site.

The waste/source areas identified will be addressed in the remedy selection process.

Groundwater

Groundwater samples were collected from overburden and bedrock monitoring wells. The samples were collected to assess groundwater conditions on and off-site. The results indicate that contamination in overburden and bedrock groundwater at the site exceeds the SCGs for volatile organic compounds and inorganics (metals).

Shallow groundwater at the locations of former solvent degreaser systems inside the manufacturing building is contaminated with cVOCs such as trichloroethene (TCE) and breakdown products including dichloroethene and vinyl chloride. In the shallow-bedrock unit, the cVOC contamination extends downgradient from the former degreaser areas towards the migration control trench north of the manufacturing building.

Dissolved cVOC contaminated groundwater is also present in intermediate bedrock groundwater below the building and extends to the north and east. The intermediate-bedrock water bearing unit under the east side of the manufacturing building and extending slightly beyond the eastern Site boundary is contaminated with LNAPL.

Based on the findings of the RI, the past disposal of hazardous waste has resulted in the contamination of groundwater. The site contaminants that are considered to be the primary contaminants of concern which will drive the remediation of groundwater to be addressed by the remedy selection process are: benzene, tetrachloroethene, trichloroethene, dichloroethenes, and trimethylbenzenes.

GROUNDWATER	Contaminants of Concern	Concentration Range Detected (ppb)	SCGs (ppb)	Frequency Exceeding SCGs
Metals	Antimony	ND - 186	3	12 of 168
	Arsenic	ND - 470	25	28 of 168
	Beryllium	ND - 30	3	15 of 168
	Cadmium	ND - 50	5	20 of 321
	Chromium	ND - 21,000	50	72 of 365
	Copper	ND - 7,690	200	25 of 366
	Cyanide	ND - 239	200	1 of 83
	Iron	50 - 112,000	300	12 of 16
	Lead	ND - 2,200	25	122 of 366
	Manganese (filtered & unfiltered)	ND - 4,510	300	9 of 32
	Mercury	ND - 390	1	27 of 362
	Nickel	ND - 5,450	100	62 of 366
	Selenium	ND - 400	10	18 of 168
	Thallium	ND - 400	0.5	20 of 168
	Zinc	ND - 51,600	2,000	5 of 366
MNA Water Quality Parameters	Chloride	156,000 - 9,880,000	250,000	15 of 16
	Nitrogen, Ammonia	60 - 8,530	2,000	3 of 16
	Phosphorus	ND - 120	20	6 of 16
	Sulfate	39,000 - 4,600,000	250,000	5 of 16
	Sulfide (Direct)	ND - 8,200	50	12 of 16

GROUNDWATER	Contaminants of Concern	Concentration Range Detected (ppb)	SCGs (ppb)	Frequency Exceeding TOGS 1.1.1
SVOCs	Acenaphthene	ND - 37	20	1 of 151
	Anthracene	ND - 84	50	1 of 151
	Benzo(a)anthracene	ND - 7	0.002	4 of 151
	Benzo(a)pyrene	ND - 5	Detected	4 of 151
	Benzo(b)fluoranthene	ND - 7	0.002	4 of 151
	Benzo(k)fluoranthene	ND - 7	0.002	4 of 151
	Bis(2-ethylhexyl)phthalate	ND -3,300	5	38 of 147
	Chrysene	ND - 19	0.002	5 of 151
	Fluoranthene	ND - 97	50	1 of 151
	Fluorene	ND - 260	50	1 of 151
	Indeno(1,2,3-cd)pyrene	ND - 8	0.002	3 of 151
	Naphthalene	ND - 240	10	16 of 151
	n-Nitrosodiphenylamine	ND - 74	50	1 of 147
	Pentachlorophenol	ND - 93	1	2 of 147
	Phenanthrene	ND - 780	50	6 of 151
	Phenol	ND - 26	1	11 of 147

GROUNDWATER	Contaminants of Concern	Concentration Range Detected (ppb)	(SCGs) (ppb)	Frequency Exceeding SCGs
Volatile Organic Compounds (VOCs)	1,1,1-Trichloroethane	ND - 10	5	3 of 390
	1,1,2,2-Tetrachloroethane	ND - 10	5	1 of 390
	1,1,2-Trichloro-1,2,2-trifluoroethane	ND - 10	5	1 of 54
	1,1,2-Trichloroethane	ND - 26	1	6 of 389
	1,1-Dichloroethane	ND - 270	5	38 of 383
	1,1-Dichloroethene	ND - 660	5	22 of 386
	1,2,4-Trichlorobenzene	ND - 10	5	1 of 54
	1,2,4-Trimethylbenzene	ND - 3,400	5	35 of 310
	1,2-Dibromo-3-chloropropane	ND - 10	0.04	1 of 54
	1,2-Dichlorobenzene	ND - 10	3	2 of 54
	1,2-Dichloroethane	ND - 10	0.6	4 of 390
	1,2-Dichloroethene (cis- and/or trans-)	ND - 240,000	5	7 of 43
	1,2-Dichloroethene, cis-	ND - 180,000	5	129 of 318
	1,2-Dichloroethene, trans-	ND - 310	5	40 of 317
	1,2-Dichloropropane	ND - 10	5	1 of 390
	1,3-Dichlorobenzene	ND - 10	3	1 of 54
	1,4-Dichlorobenzene	ND - 10	3	1 of 54
	Acetone	ND - 310	50	6 of 377
	Benzene	ND - 1,400	1	37 of 383
	Bromomethane	ND - 10	5	1 of 390

GROUNDWATER	Contaminants of Concern	Concentration Range Detected (ppb)	SCGs (ppb)	Frequency Exceeding SCGs
Volatile Organic Compounds (VOCs) cont.	Carbon tetrachloride	ND - 10	5	1 of 390
	Chlorobenzene	ND - 10	5	1 of 390
	Chloroethane	ND - 80	5	2 of 390
	Chloroform	ND - 31	7	6 of 390
	Dichlorodifluoromethane	ND - 10	5	1 of 54
	Ethylbenzene	ND - 170	5	13 of 387
	Isopropylbenzene	ND - 170	5	9 of 53
	Methylene Chloride	ND - 10	5	1 of 390
	n-Butylbenzene	ND - 80	5	21 of 311
	sec-Butylbenzene	ND - 50	5	15 of 310
	Styrene	ND - 10	5	1 of 390
	tert-Butylbenzene	ND - 28	5	4 of 315
	Tetrachloroethene	ND - 15,000	5	20 of 391
	Toluene	ND - 180	5	12 of 385
	Trans-1,3-Dichloropropene	ND - 10	0.4	3 of 390
	Trichloroethene	ND - 27,000	5	48 of 384
	Trichlorofluoromethane	ND - 10	5	1 of 54
	Vinyl Chloride	ND - 35,000	2	134 of 369
	Xylenes, Total	ND - 270	5	28 of 376

Notes and Abbreviations:

1. ppb: parts per billion which is equivalent to micrograms per liter in groundwater.
2. New York State Ambient Water Quality Standards and Guidance (1998) Class GA
3. Only detected compounds/analytes for which there is an applicable standard or guidance value are shown
4. Exceedances do not include not detected compounds/analytes where the detection limit exceeded the standard or guidance value.
5. Exceedances include those detections that were detected at or above the applicable standard or guidance value.

ND – Not Detected

NA – Not Applicable

Soil

Surface and subsurface soil samples were collected at the site during the RI. Surface soil samples were collected from a depth of 0 - 2 inches to assess direct human exposure although there is very little exposed surface soils present at the site. Subsurface soil samples were collected from a depth of 1 - 20 feet to assess soil contamination impacts to groundwater. The results indicate that soils at the site exceed the unrestricted SCGs for volatile and semi-volatile organics,metals and PCBs.

SOIL	Contaminants of Concern	Concentration Range Detected (ppm[1])	SCOs					
			Restricted for Industrial Use SCO (ppm[1])	Frequency Exceeding Restricted for Industrial Use SCO	Restricted for Protection of Groundwater SCO (ppm[1])	Frequency of Exceeding Restricted for Protection of Groundwater SCO	Unrestricted Use SCO (ppm[1])	Frequency of Exceeding Unrestricted SCO
Metals	Arsenic	ND - 56	16	2 of 167	16	2 of 167	13	3 of 167
	Cadmium	ND - 39	60	0 of 197	7.5	3of 197	2.5	7 of 197
	Chromium	ND - 5,700	800[3]	2 of 185	19[3]	19 of 185	1[3]	179 of 185
	Copper	ND - 21,400	10,000	2 of 178	1,720	4 of 178	50	10 of 178
	Lead	ND - 8,620	3,900	3 of 187	450	5 of 187	63	12 of 187
	Mercury	ND - 9,820	5.7	5 of 188	0.73	8 of 188	0.18	21 of 188
	Nickel	ND - 825	10,000	0 of 179	130	1 of 179	30	4 of 179
	Selenium	ND - 5.18	6,800	0 of 167	4	2 of 167	3.9	2 of 167
	Silver	ND - 2.3	6,800	0 of 167	8.3	0 of 167	2	1 of 167
	Zinc	6.1 - 29,800	10,000	4 of 177	2,480	5 of 177	109	16 of 177
Polychlorinated Biphenyls (PCBs)	Aroclor 1242	ND - 7.28	25	0 of 167	3.2	1 of 167	0.1	9 of 167
	Aroclor 1248	ND - 7.2	25	0 of 169	3.2	2 of 169	0.1	13 of 169
	Aroclor 1254	ND - 2.69	25	0 of 167	3.2	0 of 167	0.1	11 of 167
	Aroclor 1260	ND - 1.6	25	0 of 167	3.2	0 of 167	0.1	1 of 167

SOIL	Contaminants of Concern	Concentration Range Detected (ppm[1])	SCOs					
			Restricted for Industrial Use SCO[2] (ppm[1])	Frequency Exceeding Restricted for Industrial Use SCO[2]	Restricted for Protection of Groundwater SCO[2] (ppm[1])	Frequency of Exceeding Restricted for Protection of Groundwater SCO[2]	Unrestricted Use SCO[2] (ppm[1])	Frequency of Exceeding Unrestricted SCO[2]
Semivolatile Organic Compounds (SVOCs)	Acenaphthene	ND - 19.2	1,000	0 of 171	98	0 of 171	20	0 of 171
	Acenaphthylene	ND - 21	1,000	0 of 171	107	0 of 171	100	0 of 171
	Anthracene	ND - 6.6	1,000	0 of 171	1,000	0 of 171	100	0 of 171
	Benzo(a)anthracene	ND - 5.6	11	0 of 171	1	5 of 171	1	5 of 171
	Benzo(a)pyrene	ND - 3.5	1.1	5 of 171	22	0 of 171	1	6 of 171
	Benzo(b)fluoranthene	ND - 6.8	11	0 of 171	1.7	2 of 171	1	8 of 171
	Benzo(g,h,i)perylene	ND - 2.6	1,000	0 of 171	1,000	0 of 171	100	0 of 171
	Benzo(k)fluoranthene	ND - 3.5	110	0 of 171	1.7	1 of 171	0.8	5 of 171
	Chrysene	ND - 6.8	110	0 of 171	1	8 of 171	1	8 of 171
	Dibenz(a,h)anthracene	ND- 2.9	1.1	3 of 171	1,000	0 of 171	0.33	4 of 171
	Fluoranthene	ND - 24.9	1,000	0 of 171	1,000	0 of 171	100	0 of 171
	Fluorene	ND - 4.67	1,000	0 of 171	386	0 of 171	30	0 of 171
	Indeno(1,2,3-cd)pyrene	ND - 2.3	11	0 of 171	8.2	0 of 171	0.5	4 of 171
	Naphthalene	ND - 24.2	1,000	0 of 171	12	2 of 171	12	2 of 171
	Phenanthrene	ND - 30.1	1,000	0 of 171	1,000	0 of 171	100	0 of 171
	Pyrene	ND - 14	1,000	0 of 171	1,000	0 of 171	100	0 of 171

SOIL	Contaminants of Concern	Concentration Range Detected (ppm[1])	SCOs					
			Restricted for Industrial Use SCO[2] (ppm[1])	Frequency Exceeding Restricted for Industrial Use SCO[2]	Restricted for Protection of Groundwater SCO[2] (ppm[1])	Frequency of Exceeding Restricted for Protection of Groundwater SCO[2]	Unrestricted Use SCO[2] (ppm[1])	Frequency of Exceeding Unrestricted SCO[2]
Volatile Organic Compounds (VOCs)	1,1,1-Trichloroethane	ND - 34	1,000	0 of 391	0.68	7 of 391	0.68	7 of 391
	1,1-Dichloroethane	ND - 120	480	0 of 391	0.27	8 of 391	0.27	8 of 391
	1,2,4-Trimethylbenzene	ND - 934	380	1 of 172	3.6	27 of 172	3.6	27 of 172
	1,2-Dichloroethane	ND - 0.2	60	0 of 393	0.02	1 of 393	0.02	1 of 393
	cis-1,2-Dichloroethene	ND - 47.7	1,000	0 of 172	0.25	34 of 172	0.25	34 of 172
	trans-1,2-Dichloroethene	ND - 0.491	1,000	0 of 172	0.19	4 of 172	0.19	4 of 172
	1,2-Dichloroethene (cis- or trans-)	ND - 64	1,000[4]	0 of 221	0.19[4]	64 of 221	0.19[4]	64 of 221
	1,3,5-Trimethylbenzene	ND - 346	380	0 of 172	8.4	10 of 172	8.4	10 of 172
	2-Butanone	ND - 1.7	1,000	0 of 388	0.12	7 of 388	0.12	7 of 388
	Acetone	ND - 3.3	1,000	0 of 391	0.05	20 of 391	0.05	20 of 391
	Benzene	ND - 12	89	0 of 393	0.06	7 of 393	0.06	7 of 393

SOIL	Contaminants of Concern	Concentration Range Detected (ppm[1])	SCOs					
			Restricted for Industrial Use SCO[2] (ppm[1])	Frequency Exceeding Restricted for Industrial Use SCO[2]	Restricted for Protection of Groundwater SCO[2] (ppm[1])	Frequency of Exceeding Restricted for Protection of Groundwater SCO[2]	Unrestricted Use SCO[2] (ppm[1])	Frequency of Exceeding Unrestricted SCO[2]
Volatile Organic Compounds (VOCs) cont.	n-Butylbenzene	ND - 208	1,000	0 of 172	12	9 of 172	12	9 of 172
	Methylene chloride	ND - 18	1,000	0 of 393	0.05	4 of 393	0.05	4 of 393
	sec-Butylbenzene	ND - 104	1,000	0 of 172	11	4 of 172	11	4 of 172
	Tetrachloroethene	ND - 5,700	300	8 of 393	1.3	82 of 393	1.3	82 of 393
	Toluene	ND - 11	1,000	0 of 393	0.7	10 of 393	0.7	10 of 393
	Trichloroethene	ND - 950	400	8 of 393	0.47	107 of 393	0.47	107 of 393
	Vinyl Chloride	ND - 21.9	27	0 of 393	0.02	15 of 393	0.02	15 of 393
	Xylenes, Total	ND - 260	1,000	0 of 393	0.26	38 of 393	0.26	38 of 393

Notes and Abbreviations:

1. ppm: parts per million which is equivalent to milligrams per kilogram in soil.
2. SCO: Soil Cleanup Objective. NYCRR Part 375-6.8(a-b).
3. SCO for hexavalent chromium used.
4. SCO for trans-1,2-dichloroethene used.
5. Only detected compounds/analytes for which there is an applicable SCO are shown
6. Exceedances do not include not detected compounds/analytes where the detection limit exceeded the SCO.

ND – Not Detected

Based on the findings of the Remedial Investigation, the past disposal of hazardous waste has resulted in the contamination of soil. The site contaminants identified in soil which are considered to be the primary contaminants of concern, to be addressed by the remedy selection process are, trichloroethene, tetrachloroethene, dichloroethenes, trimethylbenzenes, metals and PCBs.

Soil Vapor

The evaluation of the potential for soil vapor intrusion resulting from the presence of site related soil or groundwater contamination was evaluated by the sampling of soil vapor, sub-slab soil vapor under structures, and indoor air inside structures. At this site due to the presence of buildings in the impacted area a full suite of samples were collected to evaluate whether soil vapor intrusion was occurring. The sampling focused on the former degreaser areas but included other areas of the building as well as indoor and outdoor air. A fenceline soil vapor evaluation was also completed that found soil vapor contamination from sources other than the Delphi site.

	Contaminants of Concern	Concentration Range Detected ($\mu g/m^3$)[1]	NYSDOH Guidance Values	
			Minimum No Further Action Threshold ($\mu g/m^3$)[1]	Frequency exceeding minimum No Further Action Threshold
SUB-SLAB SOIL VAPOR	1,1-Dichloroethene	ND - 13,000	100	2 of 6
	cis-1,2-Dichloroethene	ND - 2,300,000	100	4 of 6
	Tetrachloroethene	ND - 1,500	100	2 of 6
	Trichloroethene	ND - 1,400,000	5[2]	5 of 6
	Vinyl Chloride	ND - 350,000	5[2]	2 of 6

	Contaminants of Concern	Concentration Range Detected ($\mu g/m^3$)[1]	NYSDOH Guidance Values	
			Minimum No Further Action Threshold ($\mu g/m^3$)[1]	Frequency exceeding minimum No Further Action Threshold
INDOOR AIR	cis-1,2-Dichloroethene	ND - 4.6	3	2 of 6
	Tetrachloroethene	ND - 39	3	1 of 6
	Trichloroethene	ND - 6	0.25	1 of 6

Notes and Abbreviations:

1. $\mu g/m^3$: micrograms per cubic meter.

2. NYSDOH Guidance: Soil Vapor/Indoor Air Matrices 1 and 2 from the 2006 New York State Department of Health Guidance for Evaluating Soil Vapor Intrusion in New York State. Note that the values presented assume below the minimum "no further action" value for indoor air. *For carbon tetrachloride, trichloroethene, and vinyl chloride – if indoor air detections are below the minimum "no further action" threshold for indoor air, than the "no further action" threshold is 50 $\mu g/m^3$.*

3. Only compounds for which there is an applicable guidance value are shown. Trimethylbenzenes were also detected.

4. Exceedances do not include not detected compounds where the detection limit exceeded the guidance value.

5. NYSDOH Guidance: Soil Vapor/Indoor Air Matrices 1 and 2 from the 2006 New York State Department of Health Guidance for Evaluating Soil Vapor Intrusion in New York State. Note that the values presented are the lowest possible "no further action" threshold values, which assumes that sub-slab vapor is also below "no further action" thresholds. Monitoring and/or mitigation are based on both the indoor air and sub-slab vapor data.

6. ND – Not Detected

Based on the concentration detected during the remedial investigation, and in comparison with the NYSDOH Soil Vapor Intrusion Guidance, the presence of chlorinated volatile compounds resulted in the contamination of soil vapor. The site contaminants that are considered to be the primary contaminants of concern which will drive the remediation of soil vapor to be addressed by the remedy selection process are 1,1-Dichloroethene, cis-1,2-Dichloroethene, tetrachloroethene, trichloroethene and vinyl chloride.

Exhibit B

SUMMARY OF THE REMEDIATION OBJECTIVES

The objectives for the remedial program have been established through the remedy selection process stated in 6 NYCRR Part 375. The goal for the remedial program is to restore the site to pre-disposal conditions to the extent feasible. At a minimum, the remedy shall eliminate or mitigate all significant threats to public health and the environment presented by the contamination identified at the site through the proper application of scientific and engineering principles.

The remedial objectives for this site are:

Soil

RAOs for Public Health Protection

- Prevent ingestion/direct contact with contaminated soil.
- Prevent inhalation of or exposure from contaminants volatilizing from contaminants in soil

RAOs for Environmental Protection

- Prevent migration of contaminants that would result in groundwater contamination.

Groundwater

RAOs for Public Health Protection

- Prevent ingestion of groundwater with contaminant levels exceeding drinking water standards.
- Prevent contact with, or inhalation of volatiles, from contaminated groundwater.

RAOs for Environmental Protection

- Restore ground water aquifer to pre-disposal/pre-release conditions, to the extent practicable.
- Remove the source of ground water contamination.

Soil Vapor

RAOs for Public Health Protection

- Mitigate impacts to public health resulting from existing, or the potential for, soil vapor intrusion into buildings at a site.

Exhibit C

Description of Remedial Alternatives

The following alternatives were considered based on the remedial action objectives (see Exhibit B) to address the contaminated media identified at the site as described in Exhibit A:

Alternative 1: No Further Action

The No Further Action Alternative recognizes the remediation of the site completed by the IRM(s) described in Section 5.4. This alternative leaves the site in its present condition and does not provide any additional protection of the environment.

Alternative 2: No Further Action with Site Management

The No Further Action with Site Management Alternative recognizes the remediation of the site completed by the IRMs described in Section 5.4, Site Management and Institutional Controls and Engineering Controls are necessary for the effectiveness of the IRMs. This alternative maintains engineering controls which were part of the IRMs and includes institutional controls, in the form of an environmental easement and site management plan, necessary to protect public health and the environment from contamination remaining at the site after the IRMs.

Present Worth: *$7,613,000*
Capital Cost: *$679,000*
Annual Costs: *$327,000*

Alternative 3: Restoration to Pre-Disposal or Unrestricted Conditions

This alternative achieves all of the SCGs discussed in Section 5.1.1 and Exhibit A and soil meets the unrestricted soil cleanup objectives listed in Part 375-6.8 (a). This alternative would include demolition of the existing buildings, excavation and off-site disposal of all waste and soil contamination above the unrestricted soil cleanup objectives and requires the demolition of all structures above the contaminated soil. The remedy will not rely on institutional or engineering controls to prevent future exposure. This alternative includes excavation and off-site disposal of all soils that do not meet the unrestricted SCOs.

Capital Cost: *$59,000,000*

Alternative 4: Enhancement of existing GW collection system, Site management and LNAPL collection

The continued operation of the Groundwater Migration Control systems with additional recovery wells (figure 5). The operation of the current migration control systems in concert with the recovery of LNAPL containing cVOC interior to the Site will reduce the mass flux of dissolved phase contaminants. Expansion of the groundwater migration control system will require the installation of at least two (2) bedrock groundwater recovery wells north of the Eastern Parking Lot. . Phased implementation of LNAPL recovery. LNAPL recovery would continue in the Building 22 and Tank Farm areas and additional LNAPL recovery methods would be implemented in a manner allowing for continued facility manufacturing operations in the areas affected by LNAPL.
An effectiveness study would also evaluate NAPL in areas adjacent to NAPL collection points to determine if more

aggressive collection techniques are required in the future.

Implementation of the institutional controls to address soil, groundwater and soil vapor contamination. The institutional controls would consist of restrictions that will:

• prohibit the use of Site groundwater for any purpose without prior review and approval by NYSDEC;
• restrict the use of the Site to industrial use;

• require the use of a NYSDEC-approved Site Management Plan (SMP) for any activities that could potentially involve exposure including addressing the potential for soil vapor intrusion;

• provide for periodic monitoring of groundwater quality; the operation of existing remedial systems and the levels of LNAPL.

Periodic reports would include evaluation of the continuing protectiveness of this alternative and the need for additional measures. The scope of initial inspection and monitoring would be specified in the SMP, and the SMP would be updated as appropriate over time in response to inspection and monitoring results

Present Worth: *$9,100,000*
Capital Cost: *$826,000*
Annual Costs: *$407,500*

Exhibit D

Remedial Alternative Costs

Remedial Alternative	Capital Cost ($)	Annual Costs ($)	Total Present Worth ($)
Alternative 1: No Action	0	0	0
Alternative 2: No Further Action with Site Management	679,000	327,000	7,613,000
Alternative 3: Excavation to predisposal conditions	59,000,000	0	59,000,000
Alternative 4: Enhancement of existing GW collection system, Site management and LNAPL collection	826,000	407,500	9,100,000

Exhibit E

SUMMARY OF THE PROPOSED REMEDY

The Department is proposing Alternative 4, enhancement of existing groundwater collection system, site management and LNAPL collection as the remedy for this site. The elements of this remedy are described in Section 6.2.

Basis for Selection

The proposed remedy is based on the results of the RI and the evaluation of alternatives.

Alternative 4 is being proposed because, as described below, it satisfies the threshold criteria and provides the best balance of the balancing criterion described in Exhibit C. It will achieve the remediation goals for the site by removing the LNAPL sources. By doing this, alternative 4 addresses the source of the groundwater contamination, which is the most significant threat to public health and the environment, and it creates the conditions necessary to restore groundwater quality to the extent practicable. While it may not be possible to return the site to predisposal conditions, this alternative is as effective as restoration to pre-disposal conditions as any of the alternatives.

Alternative 1 (no further action) does not provide any additional protection to public health and the environment and will not be evaluated further. Alternative 3 (Restoration to Pre-Disposal or Unrestricted Conditions) by removing all soil contaminated above the unrestricted soil cleanup objective meets the threshold criteria. Alternative 2 (No Further Action w/Site Management), does not completely comply with this criteria

Alternatives 3 and 4 both have short-term impacts which could be controlled; however, Alternative 4 would have the smallest impact. The time needed to achieve the remediation goals is the shortest for Alternative3 but the cost of implementation is prohibitive and it would require demolition of the on-site buildings.. Alternative 2 could be quickly implemented but would not be as protective as alternative3 and 4.

Alternative 3 results in the greatest reduction of mobility and volume of contamination by removal of all of the chemical contamination at the site which eliminates the need for property use restrictions and long-term monitoring. Alternative 4 would result in a very significant reduction of mobility and volume of contamination through the removal of the LNAPL sources and contaminated groundwater. For Alternative 2, site management remains effective, but it will not be desirable in the long term as it does not address the sources or significantly reduce the toxicity, mobility or volume of the contamination.

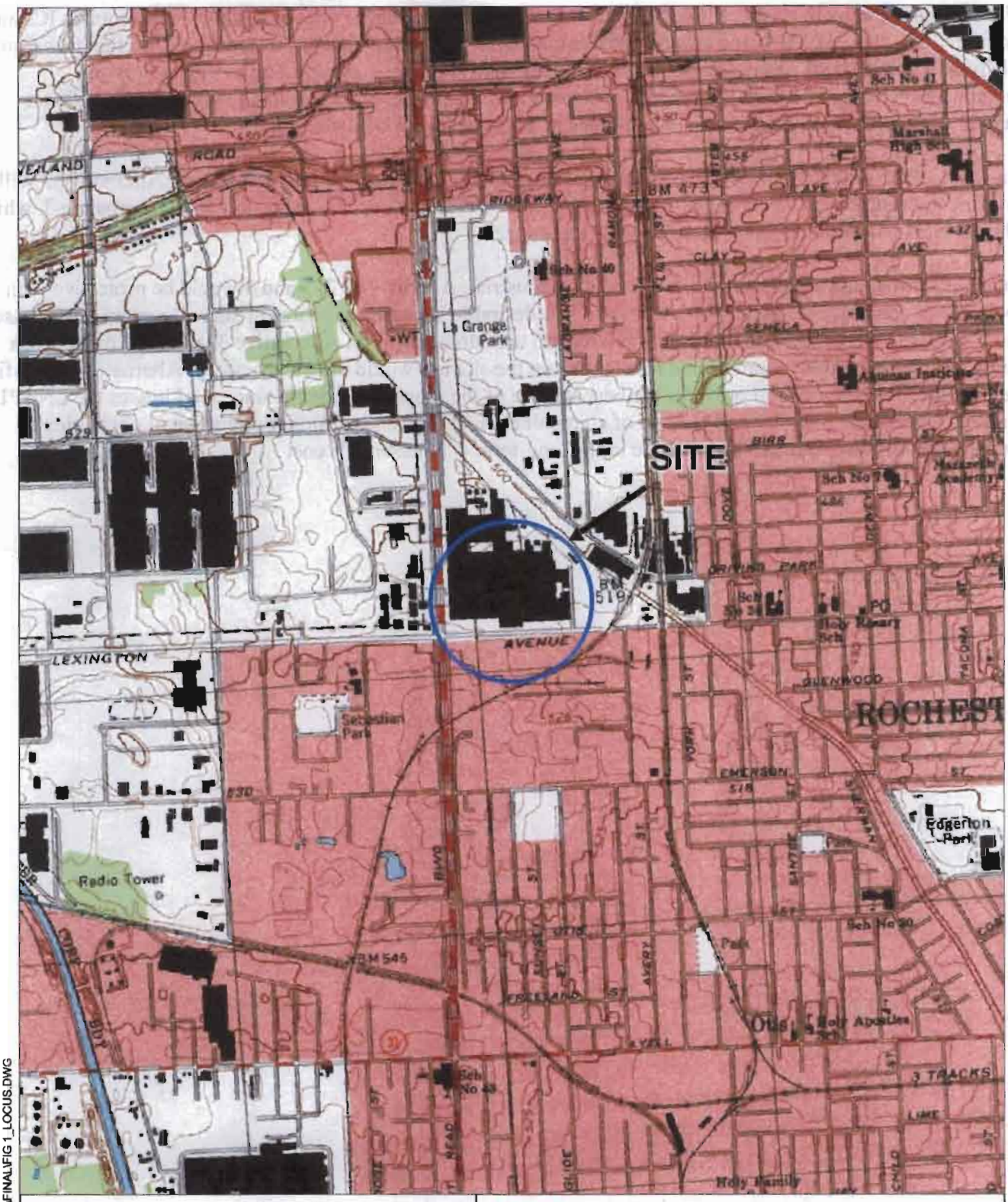
Alternative 2 includes the continued operation of the current treatment system and the implementation of institutional controls and will not result in short term adverse impacts and risks to the community, site workers, or the environment. During the implementation of the remedial action, Alternatives 3 and 4 will result in potential short-term adverse impacts and risks to the community, site workers, and the environment. Potential short-term adverse impacts and risks associated with the implementation of Alternative 4 will be controlled with the use of appropriate engineering controls and the preparation of and adherence to a comprehensive construction work plan, health and safety plan and a community air monitoring plan.

Alternatives 2 and 4 are readily implementable since Alternative 2 only requires ICs and Alt 4 requires ICs and modifications to the LNAPL and groundwater containment systems using conventional construction techniques. There will be technical issues with implementing Alternative 3, associated primarily with addressing contamination present beneath the building, excavations to depths of 25 feet below grade, and a significant number of truck trips to remove all contaminated soil and replace it with clean soil.

The costs of the alternatives vary significantly. With the large volume of soil to be handled, Alternative 3 will have the highest present worth costs. Alternatives 2 and 4 will be much less expensive than Alternative 3, while Alternative 4 will provide removal of the LNAPL sources.

Since the current and anticipated use of the site is industrial, Alternatives 2, 3 and 4 would be protective with institutional controls but alternative 2 would be less desirable because the source areas will remain unaddressed and the off-site contamination to the east will remain unaddressed. With Alternative 3, all of the overburden soil to bedrock would be removed and restrictions on the site use would not be necessary. Alternative 4 satisfies the two threshold criteria and provides the best balance of the remaining criteria since it addresses the LNAPL sources, reduces the mobility and volume of contamination by preventing further migration of contaminated groundwater off-site, and will be effective in the long-term at a reasonable cost

{Version: 2011-01-25}



SITE COORDINATES: 43°10'56"N 77°39'22"W

U.S.G.S. QUADRANGLE: ROCHESTER WEST, NY

HALEY & ALDRICH

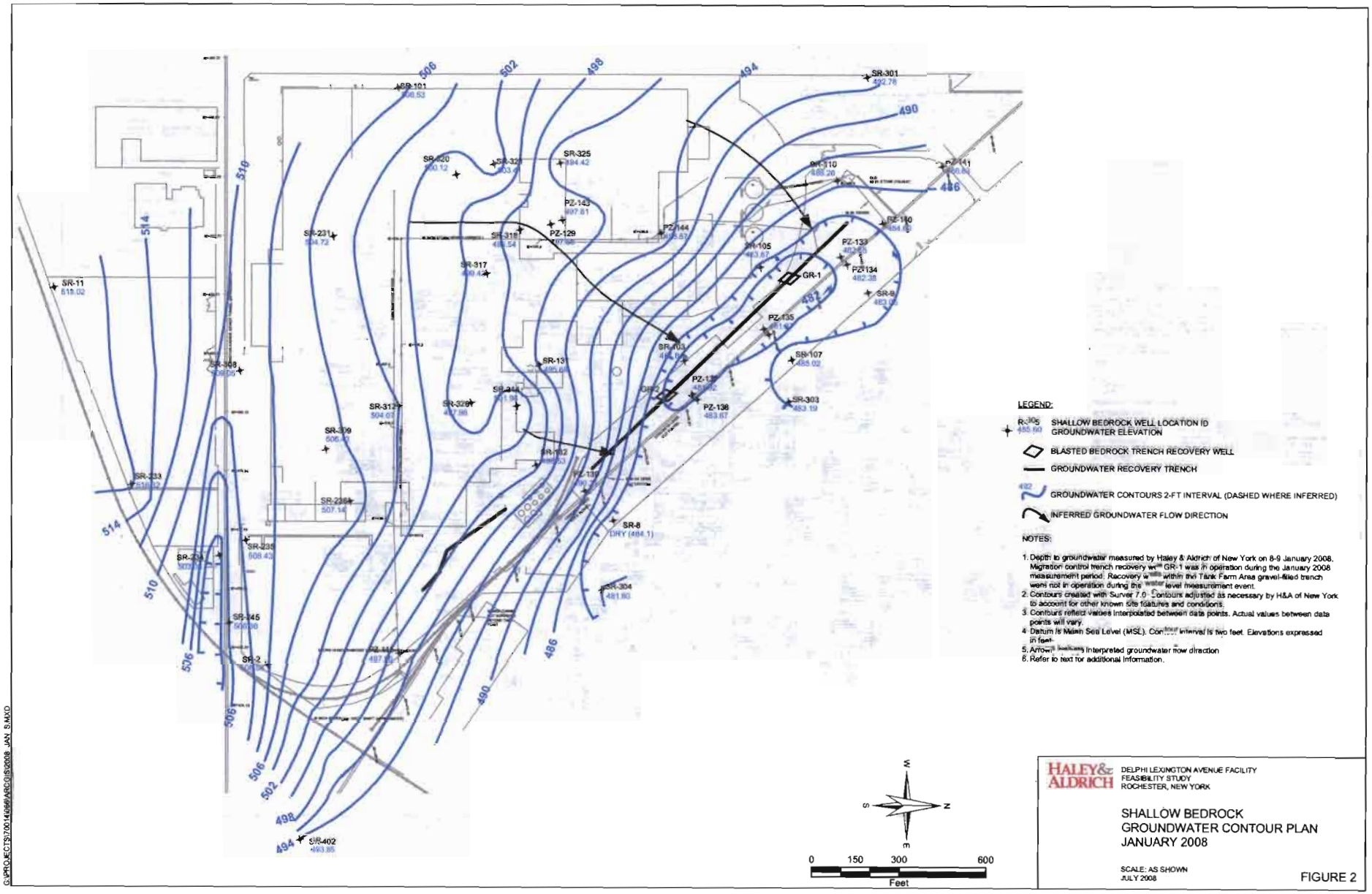
DELPHI LEXINGTON AVENUE FACILITY
FEASIBILITY STUDY
ROCHESTER, NEW YORK

PROJECT LOCUS

SCALE: 1:24000
JULY 2008

FIGURE 1

G:\PROJECTS\70014067\FIGURES\FINAL\FIG 1_LOCUS.DWG



HALEY & ALDRICH

DELPHI LEXINGTON AVENUE FACILITY
FEASIBILITY STUDY
ROCHESTER, NEW YORK

SHALLOW BEDROCK GROUNDWATER CONTOUR PLAN JANUARY 2008

SCALE: AS SHOWN
JULY 2008

FIGURE 2

G:\PROJECTS\70014066\ARC\GIS\2008_JAN_S.MXD

70014-057\DATABOX DRAWINGS FOR RI REPORT\DATABOX2 EXCEEDANCES OF GW CRITERIA - SHALLOW (OW AND SR).DWG

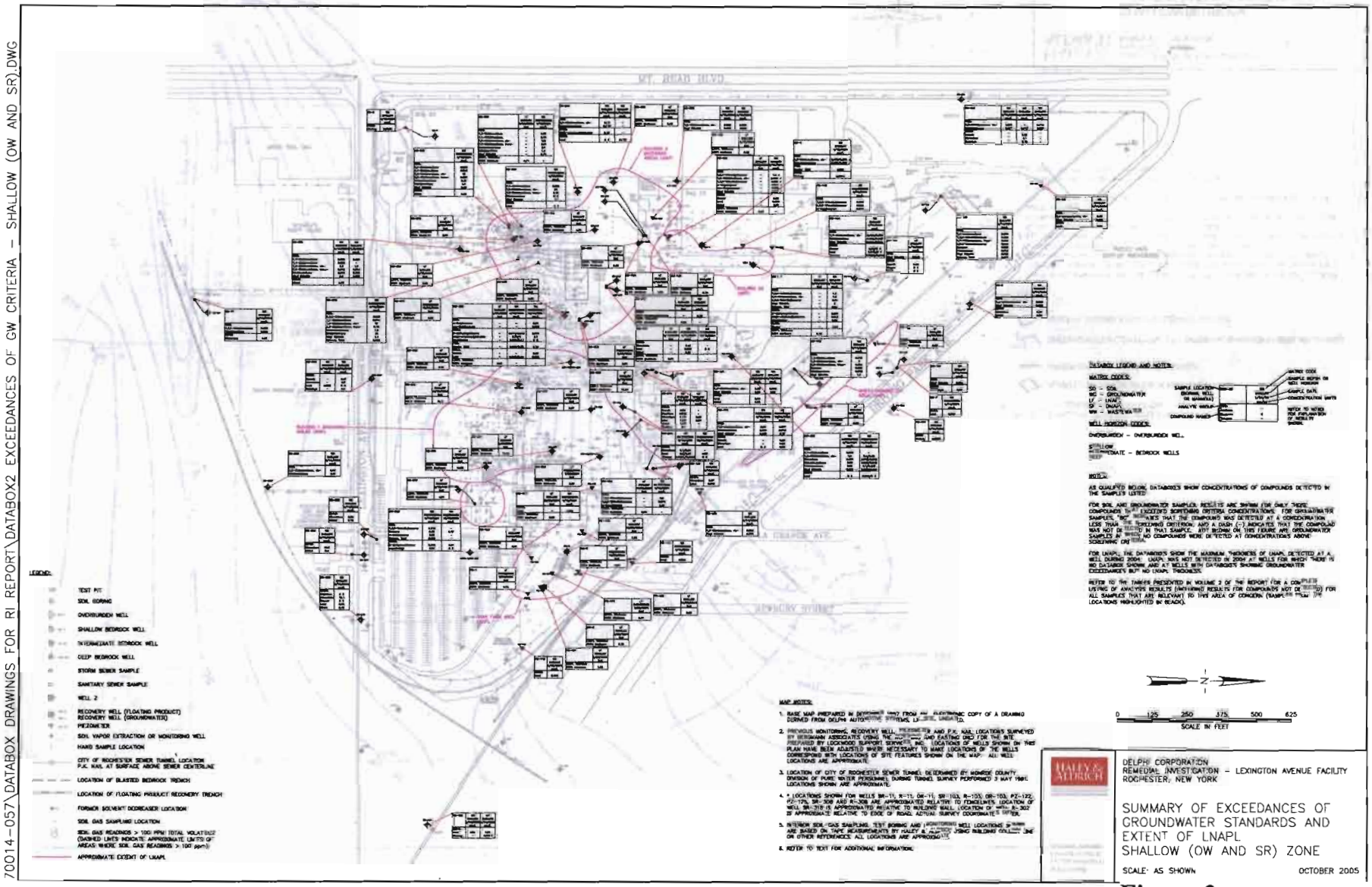
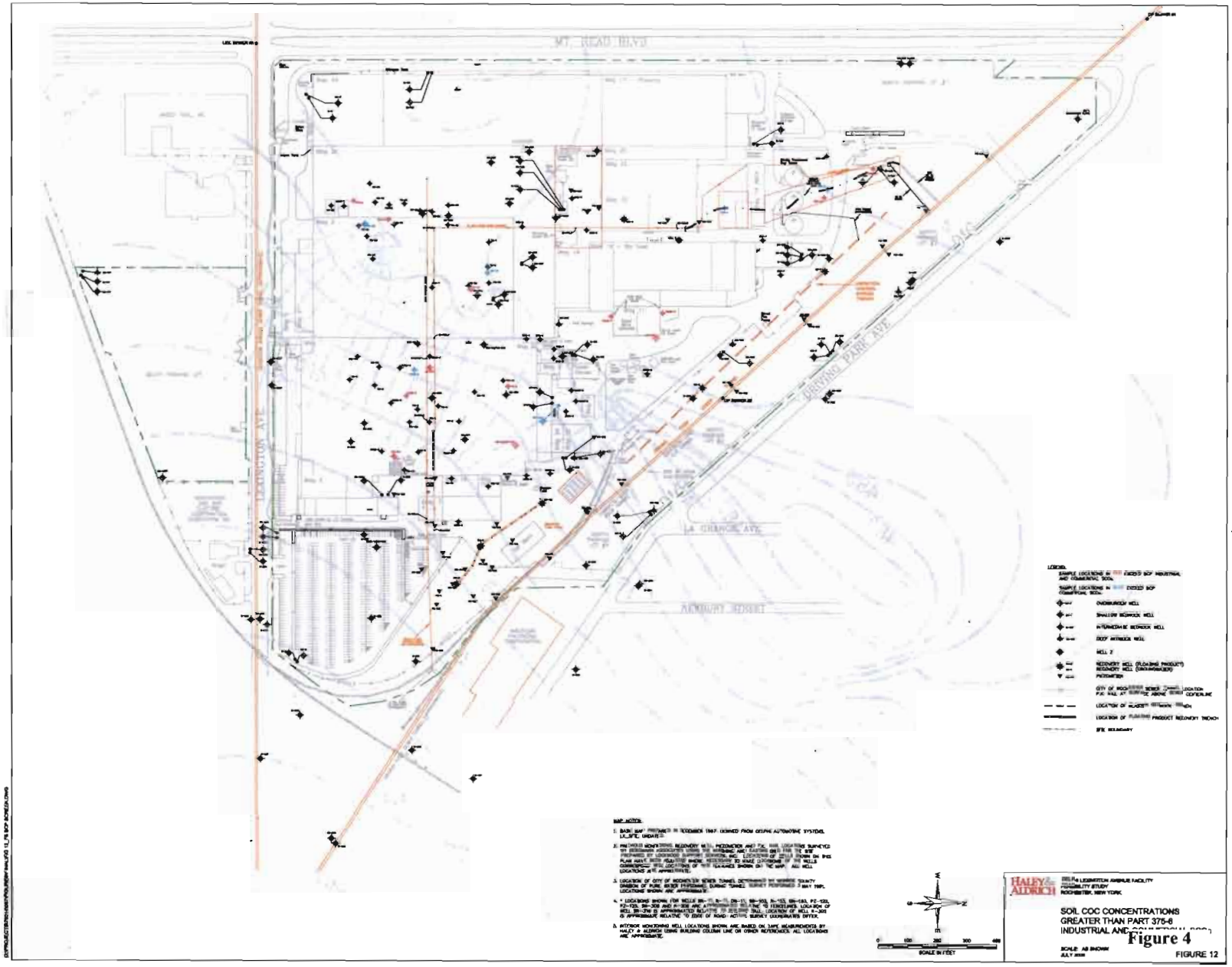


Figure 3


MT. READ BLVD
LEXINGTON AVE
DRIVING PARK AVE
LA CHANCE AVE
ARMORY SQUARE
LEGEND:
MAP NOTES:
SOIL COC CONCENTRATIONS
GREATER THAN PART 375-6
INDUSTRIAL AND
Figure 4
FIGURE 12

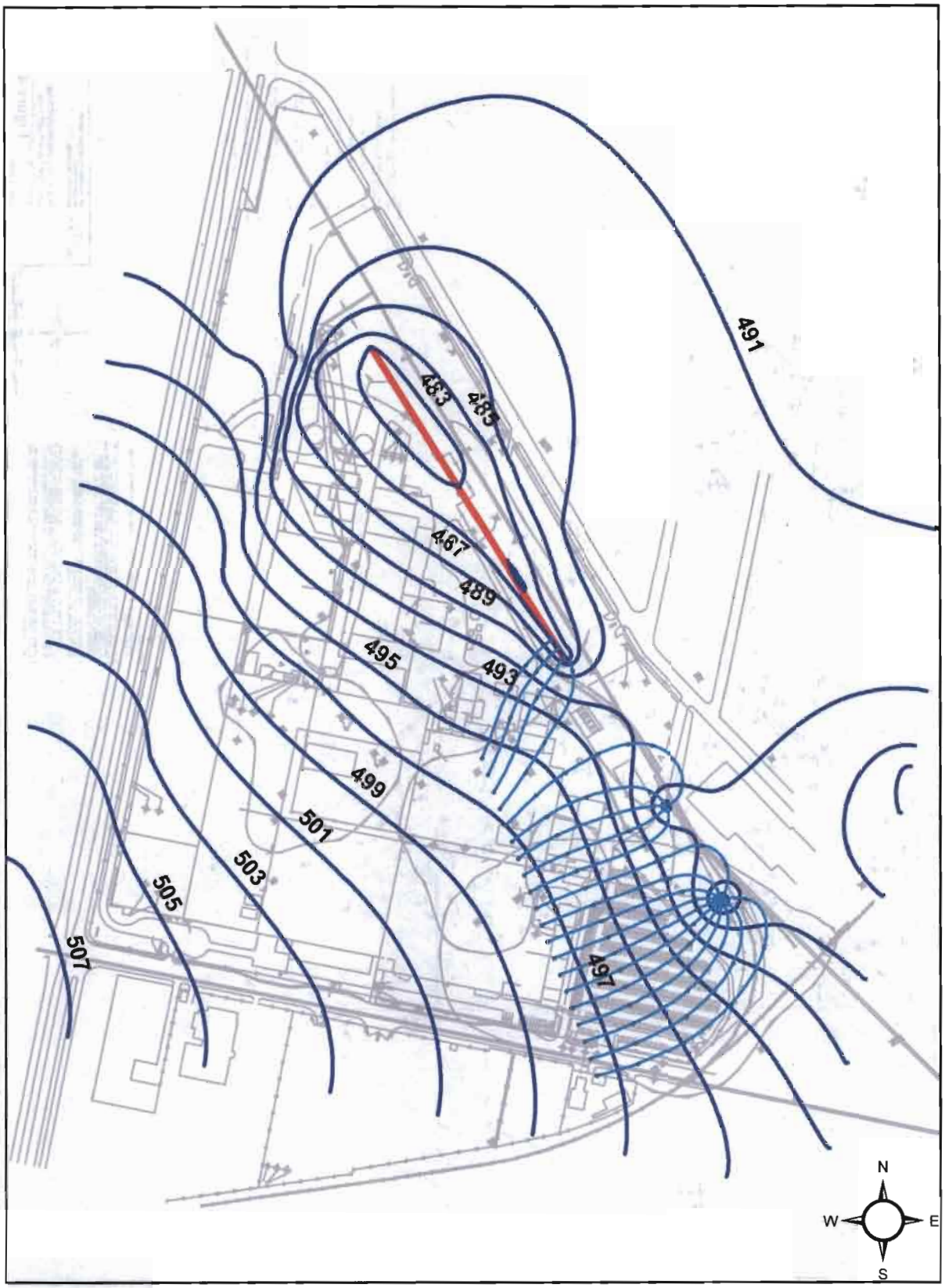


Figure 5
Head contours in the intermediate bedrock layer if the existing bedrock trench is head-controlled to el. 481.5 ft, and implementation of two vertical capture wells pumping at a between of 1-1.5 gpm.

APPENDIX A

Responsiveness Summary
RESPONSIVENESS SUMMARY

Delphi Automotive Systems Site
State Superfund Project
City of Rochester, Monroe County, New York
Site No. 828064

The Proposed Remedial Action Plan (PRAP) for the Delphi Automotive Systems site, was prepared by the New York State Department of Environmental Conservation (the Department) in consultation with the New York State Department of Health (NYSDOH) and was issued to the document repositories on March 1, 2010. The PRAP outlined the remedial measure proposed for the contaminated soil, groundwater, and soil vapor at the Delphi Automotive Systems site.

The release of the PRAP was announced by sending a notice to the public contact list, informing the public of the opportunity to comment on the proposed remedy.

A public meeting was held on March 21, 2010, which included a presentation of the remedial investigation , feasibility study (RI/FS) for the Delphi Automotive Systems Site as well as a discussion of the proposed remedy. The meeting provided an opportunity for citizens to discuss their concerns, ask questions and comment on the proposed remedy. These comments have become part of the Administrative Record for this site. The public comment period for the PRAP ended on March 30, 2010.

This responsiveness summary responds to all questions and comments raised during the public comment period. The following are the comments received at the public meeting, with the Department's responses:

COMMENT 1: Will the site's use restriction be limited to industrial, commercial or what other uses?

RESPONSE 1: The remedy restricts the site's use to industrial.

COMMENT 2: Will this restriction be for the entire site or only a portion of the site?

RESPONSE 2: Because the contamination is present over the majority of the site, the restriction applies to the entire site.

COMMENT 3: How will the potential for soil vapor intrusion be addressed?

RESPONSE 3: An environmental easement will be executed for the site which will require implementation of a Site Management Plan (SMP). The SMP will include a provision to evaluate and, if necessary, mitigate soil vapor intrusion in existing buildings and any new buildings that may be proposed on the site. The mitigation systems are typically similar to a radon mitigation system and include perforated piping in crushed stone beneath the building's slab with blowers to maintain a vacuum.

COMMENT 4: Is the inclusion of blowers required, or can the mitigation systems be passive?

RESPONSE 4: Typically the sub-slab systems approved for vapor mitigation in the State's remedial programs are powered systems. The system design must demonstrate continuous system effectiveness and that may not be possible with a passive system.

COMMENT 5: Will the remedy prohibit building new buildings on the site?

RESPONSE 5: No, the SMP will also address the potential for new construction.

COMMENT 6: Can a soil vapor mitigation system be included in the design of new buildings?

RESPONSE 6: Yes.

COMMENT 7: Will a DEC approval be required for every soil excavation that takes place on the site?

RESPONSE 7: Not necessarily, the Excavation Plan included in the SMP can include flexibility to allow for self implementation for smaller excavations. Larger excavations may require Department involvement.

COMMENT 8: Will the Department negotiate a new order on consent with Delphi for implementing the remedy?

RESPONSE 8: Yes, the existing order addresses the remedial investigation and the feasibility study but does not address remedy design and implementation.

APPENDIX B

Administrative Record

Administrative Record

Delphi Automotive Systems Site
State Superfund Project
City of Rochester, Monroe County, New York
Site No. 828064

1. Proposed Remedial Action Plan for the Delphi Automotive Systems site, dated March 2011, prepared by the Department.

2. Order on Consent, Index No. B8-0531-98-06, between the Department and Delphi Automotive Systems, LLC, executed on February 4, 2002.

3. "Remedial Investigation/Feasibility Study Work Plan, Delphi Corp., Lexington Avenue Facility," dated October 2001, Prepared by Haley and Aldrich of New York

4. "Remedial Investigation Report, Delphi Corp., Lexington Avenue Facility", dated November 2005, Prepared by Haley and Aldrich of New York

5. "Feasibility Study, Delphi Automotive Systems LLC, Rochester Operations Facility, 1000 Lexington Avenue," dated July 2008, Prepared by Haley and Aldrich of New York