Department of Environmental Conservation

Division of Environmental Remediation

Environmental Restoration
Record of Decision
Jonas Automotive Site
City of Newburgh, Orange Co., New York
Site Number B-00136-3

March 2003

New York State Department of Environmental Conservation
GEORGE E. PATAKI, *Governor* ERIN M. CROTTY, *Commissioner*

DECLARATION STATEMENT
ENVIRONMENTAL RESTORATION RECORD OF DECISION

Jonas Automotive Environmental Restoration Site
City of Newburgh, Orange County, New York
Site No. B-00136-3

Statement of Purpose and Basis

The Record of Decision (ROD) presents the selected remedy for the Jonas Automotive site, an environmental restoration site. The selected remedial program was chosen in accordance with the New York State Environmental Conservation Law 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 (NYSDEC) for the Jonas Automotive environmental restoration site, and the public's input to the Proposed Remedial Action Plan (PRAP) presented by the NYSDEC. A listing of the documents included as a part of the Administrative Record is included in Appendix B of the ROD.

Assessment of the Site

Actual or threatened releases of hazardous substances and petroleum products from this site, if not addressed by implementing the response action selected in this ROD, presents a current or potential significant threat to public health and/or the environment.

Description of Selected Remedy

Based on the results of the Site Investigation/Remedial Alternatives Report (SI/RAR) for the Jonas Automotive site and the criteria identified for evaluation of alternatives, the NYSDEC has selected excavation and off-site disposal of lead and mercury contaminated soils, removal and off-site disposal of petroleum contaminated debris, and a site cover. The components of the remedy are as follows:

- Excavation of lead contaminated soil in the former drum storage area, with a hot spot removal objective of 1000 ppm. Residual levels (above the soil cleanup objective of 500 ppm) will be addressed by the site cover.

- Excavation of mercury contaminated soil in the vicinity of sample SS-1, with a hot spot removal objective of 1 ppm. Residual levels (above the soil cleanup objective of 0.1 ppm) will be addressed by the site cover.

- Disposal of the excavated material to an appropriate off-site NYSDEC approved disposal facility.

- Backfill of the excavated areas with clean soil, as necessary to maintain reasonable grades.

- Placement of cover materials over the remainder of the site, e.g., asphalt, gravel, or twelve inches of soil underlain by a demarcation barrier, to minimize human contact with any remaining contaminated soils.

- Removal and off-site disposal of petroleum contaminated debris inside of the building.

- Development of a soil management plan to address residual contaminated soils that may be excavated during future redevelopment of the site.

- A deed restriction that will require compliance with the approved soils management plan, restrict the use of on-site groundwater, and prohibit residential use of the property.

- Implementation of a long-term monitoring program with annual certification that the deed restriction and engineering controls are still in place, have not been altered, and remain effective.

New York State Department of Health Acceptance

The New York State Department of Health (NYSDOH) concurs that the remedy selected 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.

_____ _____

Date

Dale A. Desnoyers, Director
Division of Environmental Remediation

TABLE OF CONTENTS

SECTION **PAGE**

Environmental Restoration
RECORD OF DECISION

Jonas Automotive Site
City of Newburgh, Orange County, New York
Site No.B-00136-3
March 2003

SECTION 1: SUMMARY OF THE RECORD OF DECISION

The New York State Department of Environmental Conservation (NYSDEC), in consultation with the New York State Department of Health (NYSDOH), has selected a remedy for the Jonas Automotive Site. The presence of hazardous substances has created threats to human health and/or the environment that are addressed by this remedy.

The 1996 Clean Water/ Clean Air Bond Act provides funding to municipalities for the investigation and cleanup of Environmental Restoration sites. Under the Environmental Restoration Program, the state provides grants to municipalities to reimburse up to 75 percent of eligible costs for site investigation and remediation activities. Once remediated the property can then be reused.

As more fully described in Sections 3 and 5 of this document, the dismantling of automobile motors and related activities have resulted in the disposal of hazardous substances, including volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), petroleum wastes, and metals. These hazardous substances have contaminated the soil, groundwater and building debris at the site, and have resulted in:

- a threat to human health associated with potential exposure to contaminated soil and petroleum contaminated debris.

To eliminate or mitigate these threats, the NYSDEC has selected the following remedy to allow for commercial/industrial redevelopment of the site:

- Excavation of lead contaminated soil in the former drum storage area to prevent human contact.

- Excavation of mercury contaminated soil in the vicinity of sample SS-1 to prevent human contact.

- Disposal of the excavated material to an appropriate off-site NYSDEC approved disposal facility.

- Backfill of the excavated areas with clean soil, as necessary to maintain reasonable grades.

- Placement of cover materials over the remainder of the site, e.g., asphalt, gravel, or twelve inches of soil underlain by a demarcation barrier, to minimize human contact with any remaining contaminated soils.

- Removal and off-site disposal of petroleum contaminated debris inside of the building.

- Development of a soil management plan to address residual contaminated soils that may be excavated during future redevelopment of the site.

- Imposing a deed restriction that will require compliance with the approved soils management plan.

- Imposing an institutional control that will prevent the use of groundwater as a source of potable or process water without treatment.

- Implementation of a long-term monitoring program.

- Annual certification that institutional and engineering controls are still in place.

SECTION 2: SITE LOCATION AND DESCRIPTION

The Jonas Automotive site is located at 86 Wisner Avenue in the city of Newburgh, Orange County (see Figures 1 and 2). It is situated on approximately 1.5 acres and contains a former foundry building and a smaller garage building. The remainder of the property is unpaved and covered with fill consisting of gravel and cinders with vegetation in less traveled areas. An overhead crane extends out the east end of the foundry building to encompass a covered area containing a concrete pad. An abandoned railroad spur is located east of the building. The area around the site is mixed residential and commercial/light industrial in nature.

SECTION 3: SITE HISTORY

3.1: Operational/Disposal History

Poughkeepsie Iron Fabricators operated on the site from 1963 until the early 1990s. The site was then operated by Poughkeepsie Trim and Steel until 1993. Jonas Automotive Rebuilders operated the facility from August 1993 through March 1999. Jonas used the facility for the dismantling of automobile motors for salvaging. Engines were unloaded onto a concrete pad in the overhead crane area and dismantling of the motors took place within the building on a large conveyor. A trough along the conveyor collected engine fluids which drained to a 275-gallon collection tank. A 1000-gallon tank was located in the overhead crane area to collect fluid runoff from the concrete pad. In March 1999, the City of Newburgh acquired the property through property tax foreclosure.

3.2: Remedial History

A spill was reported in 1994 as the result of engine blocks being dumped on a concrete pad in the overhead crane area with engine fluids contaminating adjacent soils. Corrective action was taken and the spill was closed. In 1998 another spill was reported involving the engine blocks. The contaminated soil associated with this spill was stockpiled on-site by Jonas and later removed as part of the Site Investigation (SI).

SECTION 4: ENFORCEMENT STATUS

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

The Potential Responsible Parties (PRPs) for the site, documented to date, include: Jonas Automotive Rebuilders.

The City of Newburgh will assist the state in their efforts by providing all information to the state which identifies PRPs. The City will also not enter into any agreement regarding response costs without the approval of the NYSDEC.

SECTION 5: SITE CONTAMINATION

The City of Newburgh has recently completed a site investigation/remedial alternatives report (SI/RAR) to determine the nature and extent of any contamination by hazardous substances at this environmental restoration-site.

5.1: Summary of the Site Investigation

The purpose of the SI was to define the nature and extent of any contamination resulting from previous activities at the site. The SI was conducted between September 1999 and February 2002**.** The field activities and findings of the investigation are described in the SI report.

The following activities were conducted during the SI:

- Research of historical information;
- Excavation of a test pit to locate the underground drainage/leach field;
- Collection of approximately 46 surface and subsurface soil samples;
- Installation of six soil borings and six monitoring wells for analysis of soils and groundwater as well as physical properties of soil and hydrogeologic conditions;
- Sampling of six monitoring wells; and
- A survey of public and private water supply wells in the area around the site.

To determine whether the soil and groundwater contain contamination at levels of concern, data from the investigation were compared to the following SCGs:

- Groundwater, drinking water, and surface water SCGs are based on NYSDEC "Ambient Water Quality Standards and Guidance Values" and Part 5 of the New York State Sanitary Code.

- Soil SCGs are based on the NYSDEC "Technical and Administrative Guidance Memorandum (TAGM) 4046; Determination of Soil Cleanup Objectives and Cleanup Levels".

Based on the SI results, in comparison to the SCGs and potential public health and environmental exposure routes, certain media and areas of the site require remediation. These are summarized below. More complete information can be found in the SI report.

5.1.1: Site Geology and Hydrogeology

Six shallow monitoring wells were installed on-site to characterize subsurface geology and the groundwater. Based on observations during the monitoring well installations, the site is underlain by approximately 2.5 to 7 feet of fill consisting of varying amounts of sand, silt and gravel with occasional brick fragments and cinders. Underlying the fill is silt near the southwest end of the site and sand, gravel and cobbles at other parts of the site. Bedrock was not encountered. Groundwater occurs at depths ranging from approximately 6 to14 feet below ground surface. Local groundwater flows to the southeast as shown on Figure 3.

5.1.2: Nature of Contamination

As described in the SI report, many soil and groundwater samples were collected to characterize the nature and extent of contamination. As summarized in Table 1, the main categories of contaminants that exceed their SCGs are VOCs, SVOCs, and inorganics (metals).

The only VOC of concern is tetrachloroethene detected in the groundwater. SVOCs of concern include several carcinogenic poly-nuclear aromatic hydrocarbons (PAHs) including benzo(a)pyrene. The primary metals of concern are lead and mercury.

5.1.3: Extent of Contamination

This section describes the findings of the investigation for all environmental media that were investigated. Chemical concentrations are reported in parts per billion (ppb) for water and parts per million (ppm) for soil and sediment. For comparison purposes, where applicable, SCGs are provided for each medium.

Table 1 summarizes the degree of contamination for the contaminants of concern in soil and groundwater and compares the data with the SCGs for the site. The following are the media which were investigated and a summary of the findings of the investigation.

Waste Materials

Wastes were sampled from the catch basin, sample S-22, which is located adjacent to the concrete pad in the overhead crane area. Benzene and xylene were detected above the cleanup objectives at 0.17 ppm and 3.9 ppm, respectively. Several metals were also detected above soil cleanup objectives including lead at 862 ppm. The petroleum impacted liquids and wastes in the catch basin were pumped out during the SI and disposed of off-site. Wastes from the dry well east of the building was also sampled, sample SS-18. Compounds detected above soil cleanup objectives include benzo(a)pyrene at 0.130 ppm and several metals. The wastes were subsequently removed from the dry well as part of the SI.

During the inspection of the building interior oily residues and petroleum contaminated debris was present in the area under the production conveyor/trough. The petroleum residues were not sampled as it was evident they were related to fluids from the dismantling of the automobile engines.

There were numerous containers found inside the building containing various industrial products. Sixteen drums were identified outside of the building containing petroleum wastes. The drums and containers were characterized and removed from the site during the SI.

Surface Soil

Surface soil samples were collected at various locations outside of the building area and analyzed for SVOCs, polychlorinated biphenyls (PCBs), and metals. Several SVOCs and metals were detected above the cleanup criteria. PCBs were detected at some locations, but were at levels well below the cleanup objectives.

Lead was detected at several locations above SCGs, as shown on Figure 4. The drum storage area contains the highest levels of lead detected at the site with detections ranging from 441 ppm to 6600 ppm. Lead was also detected above the cleanup objective in the low lying ground area on east side of the property. Levels ranged from 435 ppm to 1120 ppm. Levels were lower over the remainder of the site except one detection of 1000 ppm at sample SS-6, north of the building.

Mercury was detected at several locations slightly above the cleanup objective. However, a sample in the parking area south of the building contains higher levels with a detection of 48 ppm, as shown on Figure 4. Based on the other samples, this is considered a hot spot with limited aerial extent.

Carcinogenic PAHs were detected in most of the surface soil samples. Results for total carcinogenic PAHs are shown on Figure 5, with levels ranging from non-detect to 21 ppm. Benzo(a)pyrene was the most frequently detected carcinogenic PAH with levels ranging from non-detect to 3.5 ppm. Levels were highest in the over head crane area and low lying ground area with several samples detected above the cleanup objective of 0.061 ppm.

Subsurface Soil

Subsurface soils samples were collected to determine if contamination extended below depth and from the side walls and base of the gasoline tank excavation. Subsurface samples were analyzed for VOCs and only analyzed for SVOCs, PCBs or metals if the associated surface soil sample contained those compounds significantly above cleanup criteria.

No VOCs exceeded the cleanup objective except one sample in the drum storage area where xylene was detected at 1.4 ppm, which is only slightly above the objective of 1.2 ppm. Concentrations of lead in this area appear to diminish quickly with depth as lead levels in samples from 1 foot to 2.5 feet below ground surface were below the cleanup objective of 500 ppm.

Concentrations of carcinogenic PAHs in the overhead crane area also decrease with depth with benzo(a)pyrene present in samples from non-detect to 0.25 ppm.

Groundwater

Six shallow monitoring wells were installed on-site and the groundwater from each well was analyzed for VOCs, SVOCs, and metals. Two rounds of data were collected, one in August 2001 and the other in September 2002. Metals and SVOCs were not detected above groundwater standards in any of the wells. VOCs were detected in all wells, but at relatively low levels. The primary VOC detected was tetrachloroethene (PCE) with detections ranging from non-detect to 9.7 ppb, only slightly above the groundwater standard of 5 ppb (see Figure 3). This contamination is localized as PCE was not detected in MW-6, located on the down gradient side of the site. Methyl tert-butyl ether (MTBE), a component in gasoline, was detected in several wells, but above the standard of 10 ppb in MW-3. MTBE was detected in this well at 2.9 ppb during the first round of sampling and at 1200 ppb during the second round. To verify the inconsistently high second round detection, this well was re-sampled in December 2002 with MTBE only detected at 29 ppb. Therefore, the single high detection is considered an anomaly.

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 completion of the SI/RAR. The following IRMs were performed during the SI:

- Approximately 123 tons of petroleum-contaminated soil was disposed of off-site on December 6, 1999. This soil had been previously stockpiled by Jonas in response to a petroleum spill in the overhead crane area.

- Many drums and containers were characterized and removed from the site on November 9, 2000 for disposal as hazardous and non-hazardous waste, as appropriate. 14 of the drums were identified in the drum storage area and contained petroleum wastes. There were also numerous drums and containers found inside the building containing various industrial products.

- Two 275-gallon above ground storage tanks (ASTs) were removed from within the building. One tank, located at the end of the trough, contained approximately 200 gallons of a petroleum product/water mixture. The other tank contained approximately 150 gallons of petroleum product/water mixture.

- A 1000-gallon waste oil AST was removed from the site. This tank was located adjacent to the concrete pad area east of the building. Approximately 700 gallons of waste oil was pumped from this tank and disposed of off-site.

- A 1000-gallon gasoline underground storage tank and related piping were excavated and disposed of off-site. Prior to removing the tank, approximately 1.5 inches of gasoline was pumped out of the tank for off-site disposal.

- One sump, identified on the west end of the conveyor, was pumped out on June 21, 2001.

- A catch basin, which collected oil runoff from the concrete pad area, and a dry well were cleaned on June 22, 2001 with the contents drummed and disposed of off-site.

5.3: Summary of Human Exposure Pathways:

This section describes the types of human exposures that may present added health risks to persons at or around the site. A more detailed discussion of the human exposure pathways can be found in the Exposure Assessment presented in the SI/RA report.

An exposure pathway describes the means by which an individual may be exposed to contaminants originating from a site. An exposure pathway has five elements: [1] a contaminant source, [2] contaminant release and transport mechanisms, [3] a point of exposure, [4] a route of exposure, and [5] a receptor population.

The source of contamination is the location where contaminants were released to the environment (any waste disposal area or point of discharge). Contaminant release and transport mechanisms carry contaminants from the source to a point where people may be exposed. The exposure point is a location where actual or potential human contact with a contaminated medium may occur. The route of exposure is the manner in which a contaminant actually enters or contacts the body (e.g., ingestion, inhalation, or direct contact). The receptor population is the people who are, or may be, exposed to contaminants at a point of exposure.

An exposure pathway is complete when all five elements of an exposure pathway exist. An exposure pathway is considered a potential pathway when one or more of the elements currently does not exist, but could in the future.

Pathways which are known to or may exist at the site include:

C Incidental ingestion of on-site soil is a current potential pathway. Access to the site is not restricted and trespassers could come into contact with the contaminated soil.

C Dermal contact is a potential pathway if trespassers enter the site.

C Inhalation of contaminated particulates is a potential pathway during remediation activities if the Community Air Monitoring Plan is not properly implemented.

C Ingestion of groundwater is a potential pathway if contaminated groundwater was to migrate to off-site wells.

5.4: Summary of Environmental Impacts

This section summarizes the existing and potential future environmental impacts presented by the site. Environmental impacts include existing and potential future exposure pathways to fish and wildlife receptors, as well as damage to natural resources such as aquifers and wetlands.

No current pathways for environmental exposure have been identified for this site. The nearest creek is located 1000 feet east of the site and is not receiving drainage from the site. Groundwater is slightly impacted, but contravention of standards appear to be limited to areas on-site.

SECTION 6: SUMMARY OF THE REMEDIATION GOALS AND THE PROPOSED USE OF THE SITE

Goals for the remedial program have been established through the remedy selection process stated in 6 NYCRR Part 375-1.10. At a minimum, the remedy selected must eliminate or mitigate all significant threats to public health and/or the environment presented by the hazardous substances disposed at the site through the proper application of scientific and engineering principles.

The proposed future use for the Jonas Automotive Site is commercial/industrial redevelopment.

The remediation goals for this site are to eliminate or reduce to the extent practicable:

- exposures of persons at or around the site to SVOCs and metals in surface and subsurface soils;

- exposures of future workers to petroleum contaminated debris present inside of the building; and

- ingestion of groundwater with contaminant levels exceeding drinking water standards.

Further, the remediation goals for the site include attaining to the extent practicable:

- ambient groundwater quality standards and

- SCGs for surface and subsurface soils.

SECTION 7: SUMMARY OF THE EVALUATION OF ALTERNATIVES

The selected remedy must be protective of human health and the environment, be cost-effective, and comply with other statutory requirements. Potential remedial alternatives for the Jonas Automotive Site were identified, screened and evaluated in the RA report.

A summary of the remedial alternatives that were considered for this site is discussed below. The present worth 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.

7.1: Description of Remedial Alternatives

The following potential remedies were considered to address the contaminated soils, building debris and groundwater at the site.

Alternative 1: No Further Action

The No Further Action alternative recognizes remediation of the site conducted under previously completed IRMs. To evaluate the effectiveness of the remediation completed under the IRMs, only continued monitoring is necessary. This alternative would leave the site in its present condition and would not provide any additional protection to human health or the environment.

Present Worth: *$49,000*
Capital Cost: *$5,000*
Annual OM&M:
(Years 1-3): *$16,000*

Alternative 2: Site Cover and Groundwater Deed Restrictions and Monitoring

Present Worth: *$205,000*
Capital Cost: *$161,000*
Annual OM&M:
(Years 1-3): *$16,000*

This alternative would leave contaminated soils in place with placement of a cover over the site to mitigate human contact with the soil. The cover would depend on the specific future use of the site, but for cost purposes is assumed to consist of 75% asphalt cover and 25% twelve inch thick soil cover. The petroleum residues related to the conveyor/trough inside the building would be remediated by removal and off-site disposal of oily debris and power washing of petroleum stained areas of the floor. Institutional controls would be implemented prohibiting residential use of the property and prohibiting the use of untreated groundwater at the site. A soil management plan would be developed for proper handling of contaminated soils during future

excavations. This alternative would also include a long-term monitoring program for operation and maintenance of the cover and an estimated three years of groundwater monitoring.

Alternative 3: Hot Spot Excavation/Disposal and Site Cover with Groundwater Deed Restrictions and Monitoring

Present Worth: *$263,000*
Capital Cost: *$219,000*
Annual OM&M:
(Years 1-3): *$16,000*

This alternative is the same as Alternative 2, except the metal contaminated soils in the drum storage area and the sample SS-1 area would be excavated with disposal of off-site to a NYSDEC approved landfill. Excavated soils would be characterized for proper disposal. The estimated volume of soil to be excavated is estimated to be 180 tons. Excavated areas would be backfilled with clean fill. A cover would be placed over the remainder of the site to mitigate human contact with the soil, similar to Alternative 2. The institutional controls and soil management plan, described for Alternative 2, would also be implemented as levels of carcinogenic PAHs and metals would still be present under the site cover above SCGs. This alternative would also include cleanup of the petroleum residues inside the building and estimated three years of groundwater monitoring as described for Alternative 2.

Alternative 4: Excavation/Disposal with Groundwater Deed Restrictions and Monitoring

Present Worth: *$820,000*
Capital Cost: *$776,000*
Annual OM&M:
(Years 1-3): *$16,000*

Under this alternative all shallow soil contaminated with carcinogenic PAHs and metals above SCGs would be excavated and disposed off-site. It is estimated that this would involve the removal of approximately two feet of soil over much of the site (approximately 6000 tons), however, post excavation samples would be collected to verify excavation limits. The excavation would then be backfilled with clean fill to original grade. This alternative would also include cleanup of the petroleum residues inside the building and estimated three years of groundwater monitoring as described for Alternative 2.

7.2 Evaluation of Remedial Alternatives

The criteria to which potential remedial alternatives are compared are defined in 6 NYCRR Part 375, which governs the remediation of environmental restoration projects in New York State. A detailed discussion of the evaluation criteria and comparative analysis is included in the RA 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 NYSDEC has determined to be applicable on a case-specific basis.

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

3. Short-term 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.

4. 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.

5. 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.

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-Effectivness. Capital costs and 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. The costs for each alternative are presented in Table 2.

This final criterion 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.

8. Community Acceptance - Concerns of the community regarding the SI/RA reports and the PRAP have been evaluated. The responsiveness summary (Appendix A) presents the public comments received and the manner in which the NYSDEC addressed the concerns raised. In general, the public comments received were supportive of the selected remedy. A comment was received, however, pertaining to the potential for local flooding caused by the placement of the

site cover. The final site cover will be designed such that local flooding is not made worse, and the site cover design will consider eliminating backfill of hot spot removal areas, regrading material into the low lying area, and the use of catch basins, if necessary. The remedy description has been slightly modified to allow this flexibility.

SECTION 8: SUMMARY OF THE SELECTED REMEDY

Based on the Administrative Record (Appendix B) and the discussion presented below, the NYSDEC has selected Alternative 3, Hot Spot Soil Excavation/Disposal and Site Cover with Groundwater Deed Restrictions and Monitoring, as the remedy for this site. The elements of this remedy are described at the end of this section.

The selected remedy is based on the results of the SI and the evaluation of alternatives presented in the RAR.

Alternative 3 has been selected because, as described below, it satisfies the threshold criteria and provides the best balance of the primary balancing criteria described in Section 7.2. It will achieve the remediation goals for the site by removing the soils that create the most significant threat to public health and installing a cover over the remaining soils. Alternative 2 would also comply with the threshold selection criteria but to a lesser degree or with lower certainty. Alternative 4 would provide more certainty than Alternatives 2 and 3 as all contaminated soils would be removed from the site. Alternative 1, No Further Action, would not be protective of human health as it would not address human exposure to surface soils, leaving heavily contaminated areas of surface soil unremediated.

Because Alternatives 2, 3, and 4 satisfy the threshold criteria, the five balancing criteria are particularly important in selecting a final remedy for the site.

Alternatives 2 (site cover), 3 (hot spot removal and site cover), 4 (excavation/disposal) all have short-term impacts which can easily be controlled. The time needed to achieve the remediation goals would be similar for all alternatives as the time for soil excavation vs. site cover would be similar.

Achieving long-term effectiveness is best accomplished by excavation and removal of the contaminated overburden soils. Alternative 3 is slightly less favorable than Alternative 4, which would remove all of the contaminated soil at the site removing the need for property use restrictions and long-term monitoring. However, Alternative 3 would remove the areas of highest soil contamination and covering the remainder of the site would be effective and reliable. Alternative 2 would also be effective, but would leave more contamination on-site with greater reliance on property use restrictions and long-term monitoring to ensure effectiveness.

All the alternatives are readily implementable. Alternatives 2 and 3 are similar as both would involve installation of a site cover and require property use restrictions. Alternative 4 is slightly harder to implement as much more soil would be excavated and taken off-site as well as clean fill brought in to replace the excavated soils. However, deed restrictions would not have to be implemented for Alternative 4.

All alternatives (except Alternative 1) would reduce the volume and toxicity of contamination within the building as each alternative would remove the petroleum contaminated debris and dispose of it off-site. Alternative 3 would further reduce the volume of contaminated soil on-site by removing approximately 180 tons of highly contaminated soils from hot spot areas. Alternative 4 would reduce contaminant volumes further by removing all significantly contaminated soil on-site, however, this would involve a much greater volume of soil to be excavated and disposed off-site, approximately 6000 tons. Much of this soil would only be marginally above SCGs. Alternative 2 would not reduce volume or toxicity of any soil as the site would only covered.

The cost of the alternatives vary. Alternative 3 is only slightly more expensive than Alternative 2 but removes the most significant contamination from the site making it more reliable. Alternative 4 is much more costly than Alternatives 2 and 3. Although it is the only permanent remedy and would not require deed restrictions or long-term O&M, the slight increase in protection that this alternative would provide does not justify the additional cost. The contamination left on-site with Alternative 3 is not mobile or impacting groundwater, and can effectively be managed with a site cover and soil management plan. The need for a deed restrictions and a soil management plan under Alternative 3 would not restrict the intended commercial future use of the property.

The estimated present worth cost to implement the remedy is $263,000. The cost to construct the remedy is estimated to be $219,000 and the estimated average annual operation, maintenance, and monitoring costs for three (3) years is $16,000.

The elements of the selected remedy, as presented in Figure 6, are as follows:

- A remedial design program will be implemented to provide the details necessary for the construction, operation, maintenance, and monitoring of the remedial program.

- Excavation of lead contaminated soil in the former drum storage area to a hot spot removal objective of 1000 ppm. Residual levels (above the soil cleanup objective of 500 ppm) will be addressed by the site cover.

- Excavation of mercury contaminated soil in the vicinity of sample SS-1 to a hot spot removal objective of 1 ppm. Residual levels (above the soil cleanup objective of 0.1 ppm) will be addressed by the site cover.

- Disposal of the excavated material to an appropriate off-site NYSDEC approved disposal facility.

- Backfill of excavated areas with clean soil, as necessary to maintain reasonable grades.

- Placement of cover materials over the remainder of the site, e.g., asphalt, gravel, or twelve inches of soil underlain by a demarcation barrier, to limit human contact with the any remaining contaminated soil.

- Removal and off-site disposal of petroleum contaminated debris near the conveyor/trough inside the building.

- A soils management plan will be developed to address residual contaminated soils that may be excavated from the site during future redevelopment. The plan will require soil characterization and, where applicable, disposal/reuse in accordance with NYSDEC regulations.

- A deed restriction will be imposed, in such form as the NYSDEC may approve, that will require compliance with the approved soils management plan.

- An institutional control will be imposed, in such form as the NYSDEC may approve, that will prevent the use of groundwater as a source of potable or process water without necessary water quality treatment as determined by the Orange County Health Department.

- Since the remedy results in untreated hazardous substances remaining at the site, a long term monitoring program will be instituted. The monitoring will inspect the integrity of the site cover on an annual basis. Several monitoring wells will be sampled for a minimum of three years to confirm that levels are decreasing through natural attenuation. This program will allow the effectiveness of the site cover to be monitored and will be a component of the operation, maintenance, and monitoring for the site.

- The property owner will complete and submit to the NYSDEC an annual certification until the NYSDEC notifies the property owner in writing that this certification is no longer needed. This submittal will contain certification that the institutional controls and engineering controls put in place, pursuant to the Record of Decision, are still in place, have not been altered, and are still effective.

SECTION 9: HIGHLIGHTS OF COMMUNITY PARTICIPATION

As part of the Jonas Automotive Site environmental restoration process, a number of Citizen Participation activities were undertaken to inform and educate the public about conditions at the site and the potential remedial alternatives. The following public participation activities were conducted for the site:

- Repositories for documents pertaining to the site were established.

- A public contact list, which included nearby property owners, elected officials, local media and other interested parties, was established.

- In October 2000, a fact sheet was sent to the public contact list announcing the start of the project and availability of the SI/RAR work plan.

- In February 2003, a fact sheet was sent to the public contact list announcing the release of the PRAP and the public meeting date.

- A public meeting was held on March 4, 2003 to present and receive comment on the PRAP.

- A Responsiveness Summary (Appendix A) was prepared to address the comments received during the public comment period for the PRAP.

TABLE 1
Nature and Extent of Contamination
June 2001 - August 2002

SURFACE SOIL	Contaminants of Concern	Concentration Range Detected (ppm)[a]	SCG[b] (ppm)[a]	Frequency of Exceeding SCG
Semivolatile Organic Compounds (SVOCs)	Benzo(a)anthracene	ND[c]-3.8	0.224	7/25
	Benzo(a)pyrene	ND-3.5	0.061	16/25
	Benzo(b)fluoranthene	ND-5.2	1.1	4/25
	Benzo(k)fluoranthene	ND-3.8	1.1	3/25
	Chrysene	ND-3.7	0.4	4/25
	Dibenzo(a,h)anthracene	ND-0.22	0.014	5/25
Inorganic Compounds	Arsenic	5.2-104	7.5	5/25
	Cadmium	ND-3.4	1	9/25
	Chromium	16-394	10	15/25
	Copper	16-470	25	18/25
	Lead	9.6-6630	500[d]	10/25
	Mercury	0.02-48	0.1	11/28
	Nickel	13.6-53	13	16/25
	Zinc	51.5-2070	20	25/25

SUBSURFACE SOIL	Contaminants of Concern	Concentration Range Detected (ppm)[a]	SCG[b] (ppm)[a]	Frequency of Exceeding SCG
Volatile Organic Compounds (VOCs)	Xylene	ND-1.4	1.2	1/27
Semivolatile Organic Compounds (SVOCs)	Benzo(a)anthracene	ND-0.83	0.224	1/9
	Benzo(a)pyrene	ND-0.25	0.061	6/9
	Chrysene	ND-0.88	0.4	1/9
	Dibenzo(a,h)anthracene	ND-0.054	0.014	1/9
	Naphthalene	ND-29	13	1/9
	Phenanthrene	ND-11	50	1/9

TABLE 1
Nature and Extent of Contamination (continued)
June 2001 - August 2002

SUBSURFACE SOIL	Contaminants of Concern	Concentration Range Detected (ppm)[a]	SCG[b] (ppm)[a]	Frequency of Exceeding SCG
Inorganic Compounds	Cadmium	ND-1.6	1	1/3
	Chromium	17.6-78.8	10	1/3
	Copper	43-56.8	25	1/3
	Lead	25-973	500[d]	1/5
	Mercury	0.28-0.62	0.1	3/3
	Nickel	18.1-40.2	13	3/3
	Zinc	137-359	20	3/3

GROUNDWATER	Contaminants of Concern	Concentration Range Detected (ppb)[a]	SCG[b] (ppb)[a]	Frequency of Exceeding SCG
Volatile Organic Compounds (VOCs)	Tetrachloroethene	ND-9.7	5	3/6
	Methyl tert-butyl ether	ND-29[e]	10	1/6

[a] ppb = parts per billion, which is equivalent to micrograms per liter, ug/L, in water;
ppm = parts per million, which is equivalent to milligrams per kilogram, mg/kg, in soil;
ug/m^3 = micrograms per cubic meter

[b] SCG = standards, criteria, and guidance values;

[c] ND = non-detect.

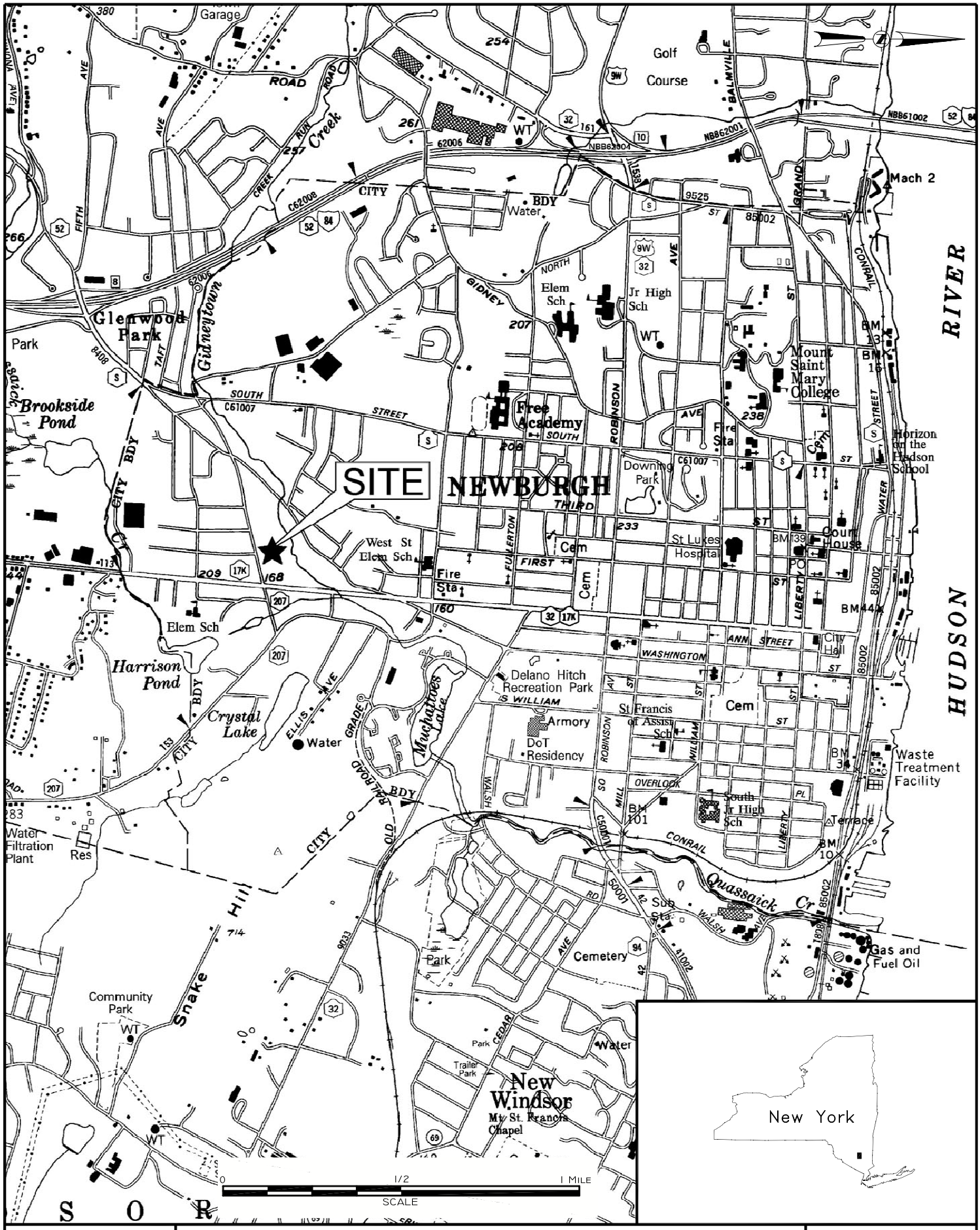
[d] The SCG for lead represents the upper value of the average background range for metropolitan areas.

[e] The anomalous value of 1200 ppb is not included.

TABLE 2
Remedial Alternative Costs

Remedial Alternative	Capital Cost	Annual OM&M	Total Present Worth[a]
1. No Further Action	$5000	$16,000	$49,000
2. Site Cover	$161,000	$16,000	$205,000
3. Hot Spot Excavation/Disposal and Site Cover	$219,000	$16,000	$263,000
4. Excavation/Disposal	$776,000	$16,000	$820,000

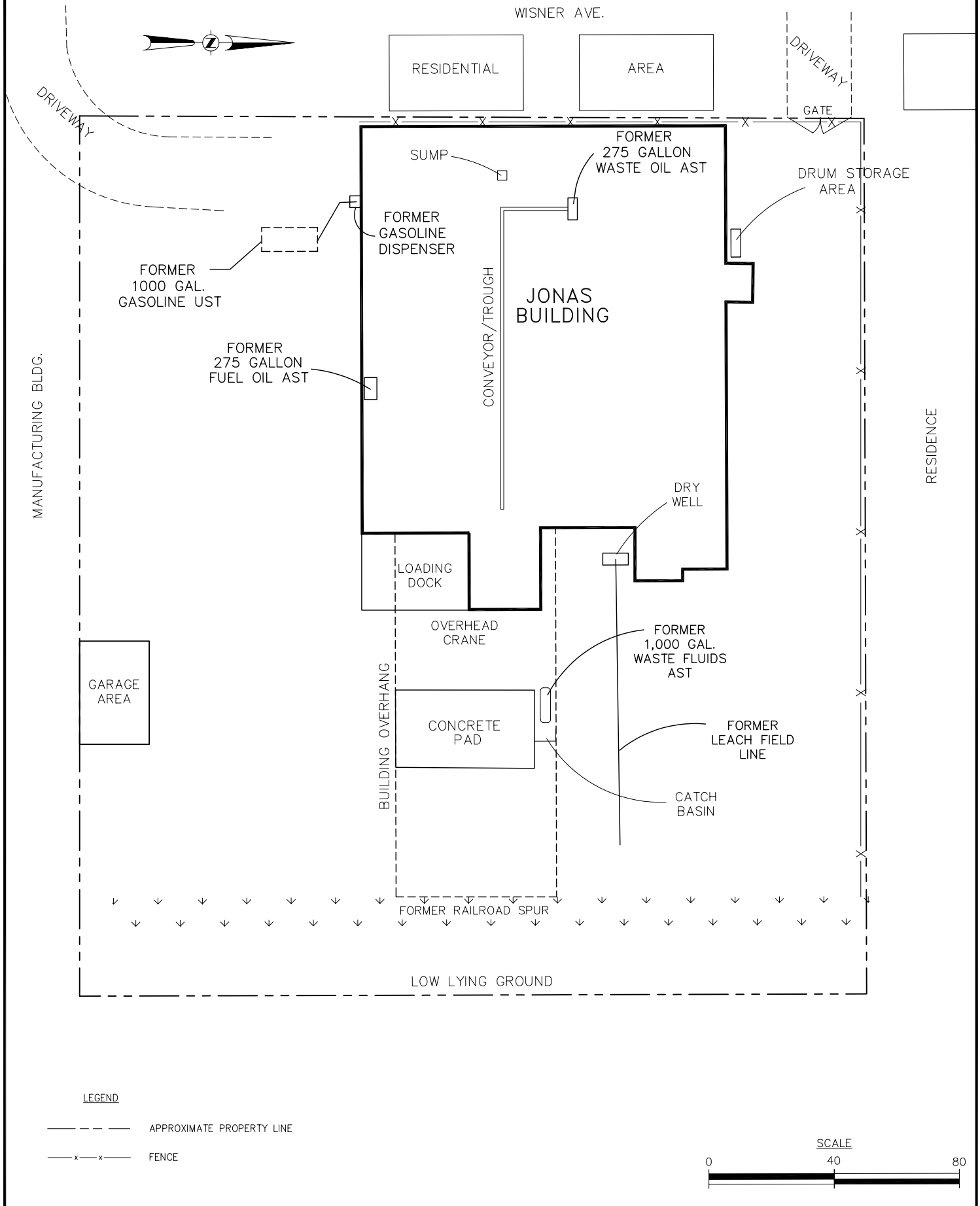
[a] Present worth based on estimated three years of groundwater monitoring and 5% interest rate.



JONAS AUTOMOTIVE SITE
NEWBURGH, ORANGE COUNTY, NEW YORK

SITE LOCATION MAP

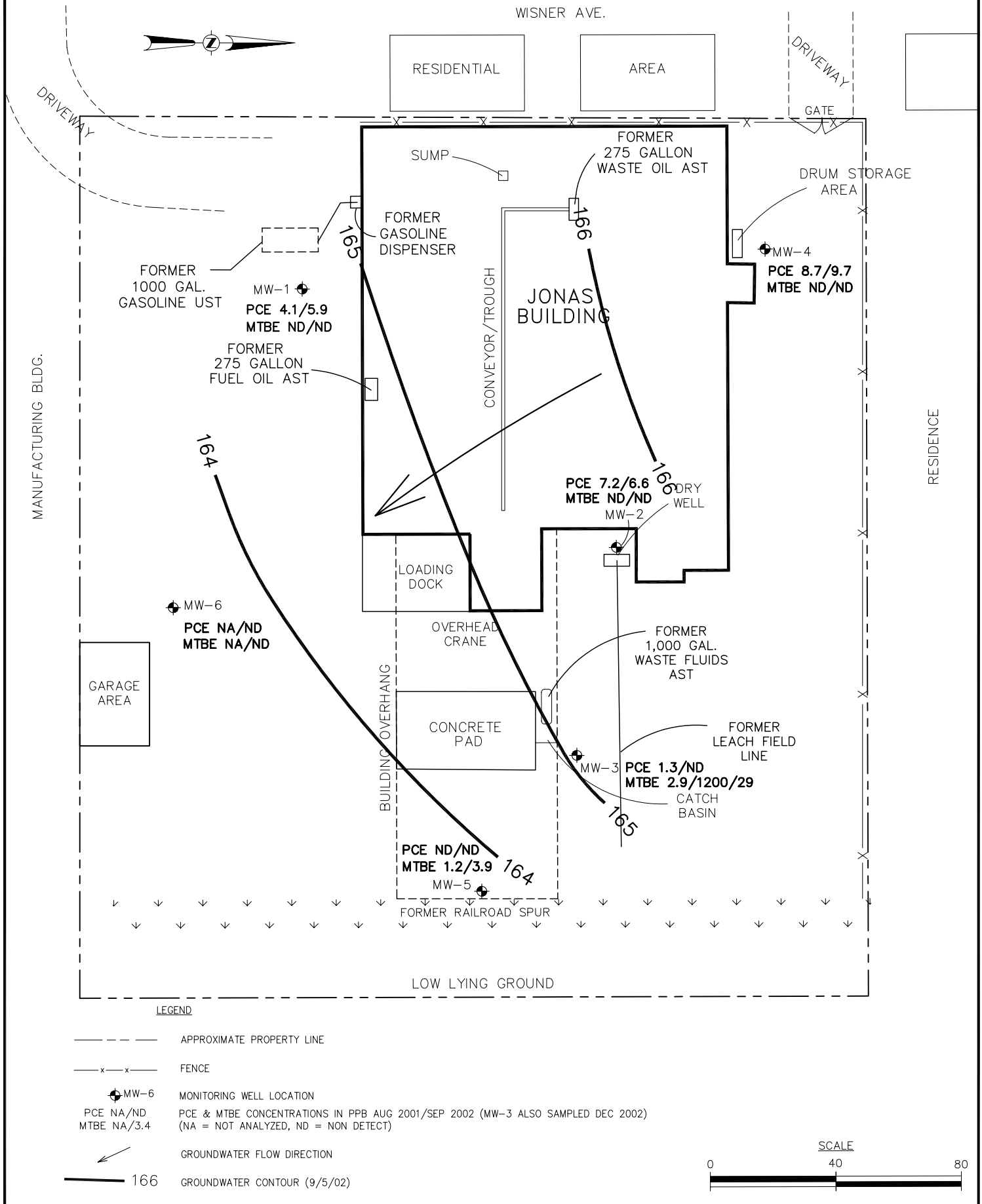
FIGURE 1



JONAS AUTOMOTIVE SITE
NEWBURGH, ORANGE COUNTY, NEW YORK

SITE MAP

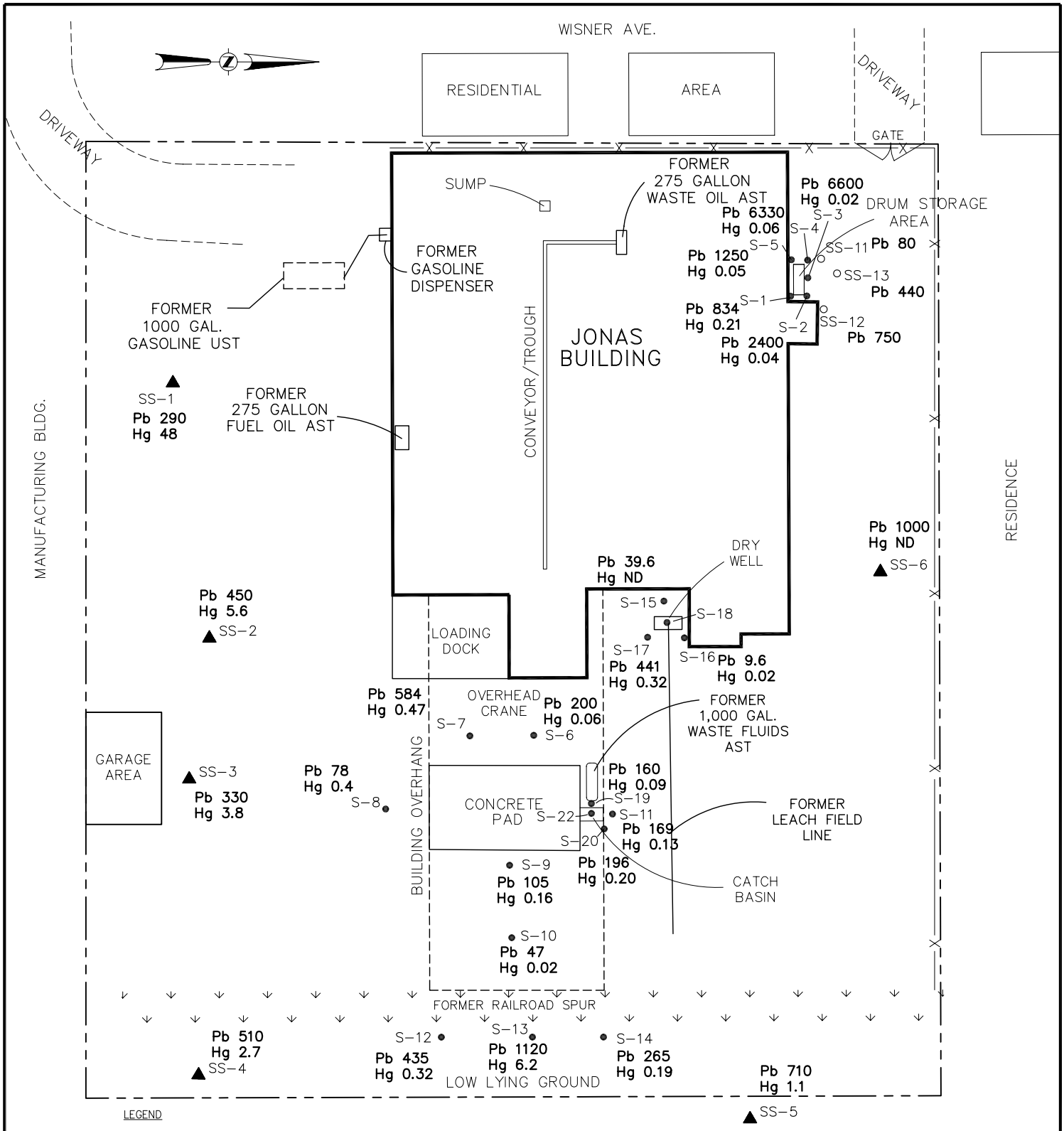
FIGURE 2



JONAS AUTOMOTIVE SITE
NEWBURGH, ORANGE COUNTY, NEW YORK

GROUNDWATER CONTOURS AND VOC CONCENTRATIONS (PPB)

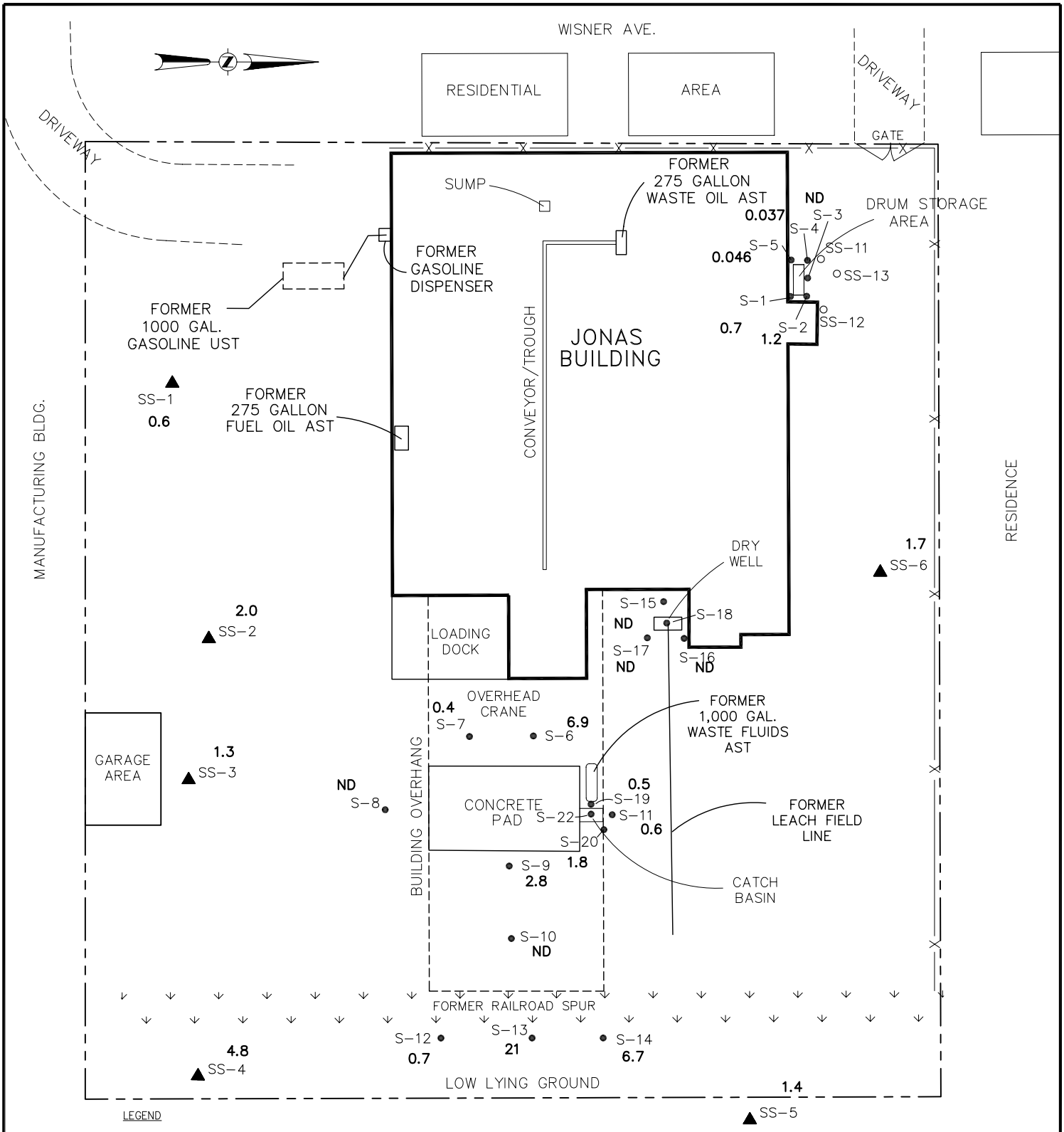
FIGURE 3



JONAS AUTOMOTIVE SITE
NEWBURGH, ORANGE COUNTY, NEW YORK

LEAD AND MERCURY CONCENTRATIONS IN SURFACE SOILS (PPM)

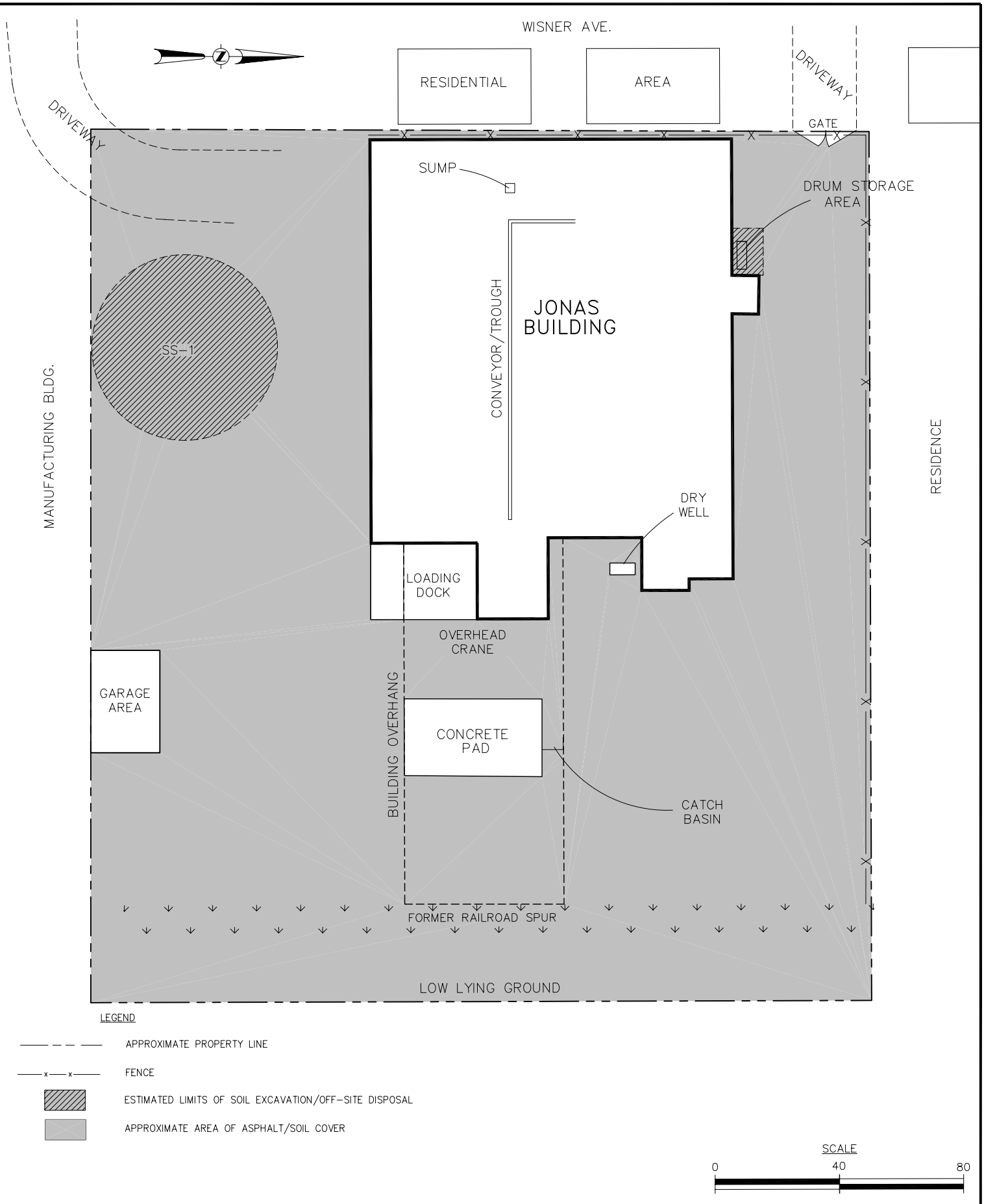
FIGURE 4



JONAS AUTOMOTIVE SITE
NEWBURGH, ORANGE COUNTY, NEW YORK

TOTAL CARCINOGENIC PAH CONCETRATIONS IN SURFACE SOILS (PPM)

FIGURE 5



JONAS AUTOMOTIVE SITE
NEWBURGH, ORANGE COUNTY, NEW YORK

PROPOSED REMEDIAL ACTION

FIGURE 6

APPENDIX A

Responsiveness Summary

RESPONSIVENESS SUMMARY

Jonas Automotive Environmental Restoration Site
City of Newburgh, Orange County, New York
Site No. B-00136-3

The Proposed Remedial Action Plan (PRAP) for the Jonas Automotive site, was prepared by the New York State Department of Environmental Conservation (NYSDEC) in consultation with the New York State Department of Health (NYSDOH) and was issued to the document repositories on February 6, 2003. The PRAP outlined the remedial measure proposed for the contaminated wastes, soils, and groundwater at the Jonas Automotive 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 4, 2003, which included a presentation of the Site Investigation (SI) and the Remedial Alternatives Report (RAR) 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 24, 2003.

This responsiveness summary responds to all questions and comments raised during the public comment period. Similar comments/questions have been grouped together for ease of response. The following are the comments received, with the NYSDEC's responses:

COMMENT 1: At present, is this site substantially contaminated? How contaminated is this property compared to the parking lot outside of this building (the City of Newburgh Multipurpose Activity Center)? Did you remove the contaminated soil from the drum storage area yet? Every square inch of the inside of the Jonas building is contaminated with oil. If the interior of the building is pressure washed, what happens to the water that is used?

RESPONSE 1: There are presently three areas of elevated contamination. The drum storage area has elevated lead contamination in soil, the area near sample SS-1 has elevated mercury contamination in soil, and debris inside the building is contaminated with petroleum. Outside of these areas, the remainder of the site has only moderately contaminated soils, comparable to most urban/industrial sites. The contaminated soil in the drum storage area has not yet been removed but all three areas of elevated contamination will be removed by implementing the remedy. Any floor areas of the building impacted by petroleum will also be pressure washed to remove the surficial petroleum contamination with the wash water collected and sent off-site for disposal.

COMMENT 2: If Alternative 1 was chosen, would the city be able to use the property? If we now know that contamination exists on the site, why hasn't a fence been put up to keep kids off? Will any more work be done until the remedy is implemented? Why isn't the building secure?

RESPONSE 2: Alternative 1 (No Action) would not address the existing contamination in accessible areas (above or at the ground surface). This would pose an unacceptable risk to future on-site workers if the property was reused, because those workers could potentially be exposed to this contamination for forty hours each week. If Alternative 1 was chosen, the property could not be used without undue long term risks to on-site workers.

Vehicle access to the site is currently restricted with a gate and a chain blocking the two entrances to discourage additional dumping on the property. While existing contamination at the surface would present a long term risk to on-site workers (on-site up to forty hours each week), it does not warrant the complete fencing of the site, since existing exposures would be limited to occasional trespassers, who might be on the site for a few hours each year. No additional remediation work is anticipated until the remedy is implemented. Securing the building is the responsibility of the City of Newburgh, which has been made aware of this issue.

COMMENT 3: There is steel dust inside that building. In the past, it contaminated my pool. What steps will be taken to prevent this from happening during any remediation?

RESPONSE 3: Before any cleanup work is done at the site, a remedial design must be reviewed and approved by NYSDEC / NYSDOH. NYSDOH requires that a community air monitoring plan be implemented as part of any cleanup. This plan will require continuous monitoring for particulate (which would include steel dust) with a requirement for dust suppression (usually by spraying water or foam on the area) if action levels are exceeded.

COMMENT 4: Has there been enough investigation of this site to select a remedy? Is there still contaminated "item 4" (crushed stone and stone dust) near my house. If so, does every heavy rain re-contaminate the area?

RESPONSE 4: The investigation of this 1.5 acre site included the analysis of 46 soil samples, sampling and analysis of 6 on-site groundwater monitoring wells, several excavations in underground storage tank areas/spill areas, a 96 foot long trench investigation of the drainage/leach field, and visual observations of the contaminated debris inside the building. This investigation was thorough and sufficient to select a remedy for this site.

The types of contaminants identified in the soils (including the "item 4" material) are almost exclusively metals and semivolatiles, while the groundwater was not impacted by metals or semivolatiles. This indicates that the soil contaminants are not very soluble and are not expected to re-contaminate the groundwater due to heavy rain. Soil contaminant concentrations in the low lying area were not significantly higher than elsewhere on the site, also indicating that the soil contaminants on-site are not being washed into the low lying areas due to heavy rain.

COMMENT 5: Where is the downgradient monitoring well and how do you know that the contamination isn't going off site?

RESPONSE 5: There are two downgradient monitoring wells, MW-5 and MW-6, both located on-site. While other monitoring wells on-site have low concentrations of volatile organic compounds (VOCs) in them, these same VOCs were not found above groundwater standards in MW-5 or MW-6. This indicates that the VOC contaminants in groundwater are being naturally degraded/attenuated before that groundwater leaves the site.

COMMENT 6: If you put a cap on the site, it might change (increase) the grade and wind up flooding my property. What type of precautions will you take to prevent that? Will there be a catch basin installed? Is the depression toward the eastern end of the property going to be taken into consideration when regrading after the hot spots are removed? If you don't backfill after excavating the hot spots, wouldn't that help reduce the flooding?

RESPONSE 6: When designing the final site cover, the design engineer will have to address storm water runoff and minimize the increase in grade, based on the type of final cover used. The remedy allows the flexibility to use asphalt, gravel, or soil as components of the final site cover and these materials have different thickness requirements and significantly different properties for conveying storm water runoff. The final site cover will be designed such that local flooding is not made worse, and the site cover design will consider eliminating backfill of hot spot removal areas, regrading material into the low lying area, and the use of catch basins, if necessary. The remedy description has been slightly modified to allow this flexibility.

COMMENT 7: When the drums were on this site, why did it take so long to get rid of them? There were fumes coming off them which I complained about.

RESPONSE 7: When notified of the drums on-site, the NYSDEC asked the previous site owner to remove the drums, as required by law. When the previous owner refused, the NYSDEC took measures to inspect and secure the drums. At that time, the City of Newburgh indicated that it was considering doing the site investigation and drum removal under the NYSDEC's Environmental Restoration Program (ERP), which they ultimately did. Since the drums were considered secure, there was a delay in removing them until the City's application for the ERP was approved and a contractor procured to remove the drums.

COMMENT 8: In addition to lead paint on the walls, lead paint was used to cover the iron that was fabricated when this site was a foundry. Has lead been tested for? What about lead abatement, is that being looked into? If found, who will be responsible for addressing the lead issue?

RESPONSE 8: Soils and groundwater were tested for lead, with only the soils showing impacts from lead contamination. The ERP does not cover costs of testing interior lead paint or for lead paint abatement. Depending on the end use of the building, the building owner may need to assess the lead paint.

COMMENT 9: If the building is demolished that will disturb the soil and the cap. Would additional soil need to be removed? How do you know this remedy will be continued as time goes on? Is there an end user in mind? What about a "hold harmless" clause for future owners of the site?

RESPONSE 9: If the building is demolished after the site cover is in place, the owner of the property would have to comply with the soils management plan which is part of the remedy for this site. The soils management plan would identify the required soil testing and disposal/reuse options for soils encountered beneath the building. Demolition would have to be done in a manner that preserves the integrity of the soil cover by protecting it or repairing any damaged portions. The remedy includes a deed restriction to make sure that certain parts of the remedy remain in place in the long term. The deed restriction requires compliance with the soils management plan; prohibits residential use of the property; prohibits use of groundwater without treatment; and requires annual certification that the site cover and deed restriction are being maintained and remain effective.

The City of Newburgh has been contacted by individuals interested in the property but no definite end user has been identified. Once the property is remediated in accordance with this Record of Decision (ROD), it can be reused within the limitations of the ROD and deed restrictions. As long as future owners continue to comply with the ROD and deed restrictions they would receive the liability protections afforded by Environmental Conservation Law article 56-0509, the law governing the ERP.

COMMENT 10: I have lived next to this site for 55 years and I have a large garden near the drum storage area. Is it safe to eat the produce from my garden?

RESPONSE 10: Soil samples taken near the drum storage area show decreasing contaminant concentrations as you move toward the property in question. Based on this and the current grades it does not appear that contamination from the Jonas property has migrated toward this garden and that the produce from this garden should not be impacted by the Jonas site.

COMMENT 11: Who makes the decision as to the remedy selected? Is Alternative 3 going to be implemented? Who is paying for this? What is the time frame from now?

RESPONSE 11: The NYSDEC in consultation with the NYSDOH, has made the final remedy selection decision in this ROD. The comments identified in the Responsiveness Summary have been factored into this ROD through some modifications of the language to allow more flexibility on backfilling and regrading. Alternative 3 is the selected remedy which will have to be implemented for this property to be reused.

If the City of Newburgh decides to cleanup this property under NYSDEC's ERP, the NYSDEC would provide up to 75% of the cost, with the City paying the remainder. If a private party decides to implement this remedy, the private party would pay all of the cleanup costs. After the ROD is issued (expected in Spring 2003), the schedule is dependent on the City of Newburgh or

a private party coming forward to cleanup the property. Since the cleanup would be done voluntarily, there is no set time frame within which this decision must occur.

COMMENT 12: Who in the city administration is involved in this process?

RESPONSE 12: The City Manager and City Engineer have been involved in this process.

COMMENT 13: How many people were on the mailing list for this meeting? What were the criteria used to decide who received this mailing?

RESPONSE 13: The meeting announcement and fact sheet were mailed to approximately 100 people. The news media (newspaper, radio, television, and on-line news outlets), local and county officials, State/Federal elected officials, and environmental groups who cover or represent the City of Newburgh area were included in this list. Local citizens were selected by their proximity to the Jonas property, with those on Wisner Avenue within two blocks of the Jonas property selected.

COMMENT 14: Where are these study documents available for review?

RESPONSE 14: The study documents, including the Site Investigations/Remedial Alternatives Report and the Proposed Remedial Action Plan, are available at the document repositories. The repositories include the Newburgh Free Library located at 124 Grand St., Newburgh, the NYSDEC Region 3 Office located at 21 South Putt Corners Rd, New Paltz, and the NYSDEC Central Office located at 625 Broadway, Albany.

APPENDIX B

Administrative Record

Administrative Record

Jonas Automotive
Site No. B-00136-3

- Proposed Remedial Action Plan for the Jonas Automotive site, dated February 2003, prepared by the NYSDEC.
- "Site Investigation/Remedial Alternatives Report, Former Jonas Automotive Facility", February 2003, First Environment, Inc.
- Fact Sheet for the Proposed Remedial Action Plan and Public Meeting, February 2003, prepared by the NYSDEC.
- Fact Sheet for the SI/RAR Work Plan, October 2000, prepared by the NYSDEC.
- "Site Investigation/Remedial Alternatives Work Plan, Environmental Restoration Project Number B00136-3", September 2000, First Environment, Inc.