

**Draft Analysis of Brownfield Cleanup Alternatives  
General Oil Site, Redford Charter Township, Michigan  
Petroleum Brownfield Cleanup Project**

**Funded by a U.S. EPA  
Brownfield Cleanup Grant**

**Michigan Department of Environmental Quality  
Remediation and Redevelopment Division**

**June 6, 2018**

**Draft Analysis of Brownfield Cleanup Alternatives: General Oil Site, 12680 Beech Daly Road, Redford Charter Township, Wayne County, Michigan**

This draft Analysis of Brownfield Cleanup Alternatives (ABCA) was developed by the Michigan Department of Environmental Quality (MDEQ) Remediation and Redevelopment Division (RRD). A draft ABCA is required for the MDEQ's Brownfield Cleanup Grant Proposal to the United States Environmental Protection Agency (U.S. EPA) under its Proposal Guidelines for 2017. The ABCA will be included as an attachment to the proposal. This document, originally produced as of October 30, 2017, and updated on June 6, 2018 indicating the current site conditions, examines three potential scenarios for addressing the contamination at the site and meeting the objectives for the site's remediation status and potential redevelopment.

**SITE DESCRIPTION:** The property is located at 12680 Beech Daly Road in Redford Charter Township, in Wayne County, Michigan. The 1.18 acre property is located within an industrial area, and consists of one industrial building, approximately 5,900 square feet, surrounded by concrete pads and gravel driveways. Historically, over 18 above ground storage tanks (ASTs) and an unknown number of underground storage tanks (USTs) were located at the property, which had been used for recycling waste oil and retail sales of the recycled oil.

General Oil Company, Incorporated began operating at the site in the late-1960's, continuing until the early 2000s, and was followed in operation by Aevitas Specialty Services Corporation, which abandoned the site in 2014. Aevitas removed the ASTs at that time, however, records in the MDEQ's Storage Tank Information Database show that a 15,000-gallon used oil tank was closed in place in 1986. Based on geophysical survey anomalies, it is possible that other non-registered USTs may still be buried in the ground. There is one confirmed petroleum release from a UST at the site. This was discovered in 1987. The property tax-reverted to Wayne County in 2016 and was transferred to the Michigan Land Bank Fast Track Authority for them to hold the title during the assessment and cleanup of the property and facilitate redevelopment. The General Oil site and surrounding area are served by municipal water and sewer systems.

**RESPONSE ACTIVITIES:** Aevitas submitted a Baseline Environmental Assessment (BEA) in 2011. The BEA verified that petroleum contamination was present at the site. The MDEQ completed a Phase 2 equivalent expanded triage investigation of the site, taking 12 soil and 5 groundwater samples, many of which indicated petroleum constituents in the soil and shallow/perched groundwater. Response activities are proposed for the site in order to ensure the protection of the public health, safety, welfare and the environment. These activities will be conducted in accordance with Part 201, Environmental Remediation, and Part 213, Leaking Underground Storage Tanks, of the Natural Resources and Environmental Protection Act 1994 PA 451, as amended (NREPA).

**RISKS PRESENT:** The triage investigation indicated that historic oil recycling operations have contaminated the property. Based on the sampling of soil and groundwater, the site is a facility as defined by Part 201 of the NREPA, and a leaking underground storage tank (LUST) site under Part 213 of the NREPA. The contaminants include: Benz(a)anthracene, Chrysene, Fluoranthene, Fluorene, Phenanthrene, Pyrene, 1,2,3, 1,2,4, and 1,3,5-Trimethylbenzene, Methylnaphthalene, Benzene, Cyclohexane, Ethylbenzene, Hexane, Naphthalene, and Toluene.

**CLEANUP OBJECTIVES:**

Cleanup objectives must be determined prior to evaluating the options available to meet those objectives. The environmental impacts at General Oil are a threat to public health and the environment and a hindrance to redevelopment. MDEQ's objectives are to:

- Mitigate impacts from historic UST and AST releases by removing contaminated soils.
- Mitigate impacts from the structure, formerly used for oil recycling activities, by removing the structure. This will allow mitigation of both potential dangers within the structure, and access to the impacted soils and groundwater beneath the footprint of the structure and its foundation which are targeted for removal.
- Prevent further impacts to surface water from site drainage.
- Reduce risks from impacted soil and groundwater to an acceptable level of risk based on the future land use that will protect human health and the environment.
- Remove environmental and financial impediments to future site redevelopment and improve the potential for future sale of the property to a new purchaser.

**POTENTIAL CLEANUP ALTERNATIVES AND EVALUATION OF EFFECTIVENESS:**

**Option 1: No Remedial Actions** - This alternative would involve conducting no remedial activities at the site. This option does not mitigate risks posed by the contamination or the dangerous and contaminated structure. This alternative leaves contaminated soil in place, impeding redevelopment and leaving a dangerously contaminated site unsecured. It would be ineffective to address the conditions at the site. The site would remain an open LUST site in the MDEQ's records and this would hinder any future redevelopment as any developer would be required to take on the environmental and financial risks associated with due care or clean up at the facility.

**Option 2: In-Situ Soil and Shallow Groundwater Remediation.** Options for remediation of in-situ soils and shallow groundwater include passive remediation/biodegradation through monitored natural attenuation, potentially supplemented with active remediation such as chemical injections. This option would involve long-term monitoring of groundwater and soils. This option would also involve placing a restrictive covenant on the property, limiting use of the site and requiring extensive due care requirements for any future purchaser of the property. The time required to allow the soils and any added chemical compounds to bio-remediate will be an impediment to redevelopment. Groundwater would continue to be impacted by the contamination and may act as a source of vapor intrusion into any future building. In-Situ remediation also creates byproducts that may impact ongoing operations at nearby facilities during remedial

activities. Being an active industrial area near a residential neighborhood this is not ideal.

Option 3: Excavation and Off-site Disposal of Contaminated Soil, Groundwater Treatment, and Site Restoration. Source materials (petroleum-impacted soil) would be excavated and transported to an appropriate disposal facility. In order to achieve appropriate mitigation of contaminated soils and to remove abandoned containers (USTs), it is necessary to demolish the existing dangerous and contaminated building that is located at the site. If necessary, dewatering activities would be planned, and any impacted groundwater or perched water would be properly addressed during excavation. Clean fill would be brought in to replace the impacted materials. Confirmation sampling and a final report will be conducted to verify final site conditions. This option meets our cleanup objectives by protecting human health and environment, which leaves the site ready for future redevelopment.

Currently, Option 3 is the preferred alternative.

#### COST FACTORS RELATED TO ALTERNATIVES:

Option 1 - "No Remedial Actions" - This would cost nothing. The MDEQ would not expend any funds to conduct any further site activities. However, this option does nothing to protect the public health, safety, welfare, or the environment. It does not address the issues at the facility and environmental conditions will continue as a barrier to any future redevelopment at the facility.

Option 2 - In-Situ remediation: Bioremediation, or other in-situ remedial activities, will take much more time to adequately reduce the levels of contamination at the site and would lead to long-term monitoring, adding unpredictable costs to the potential future redevelopment, which is also less likely due to the presence of the dangerous and contaminated building. Environmental professional fees would be far greater in Option 2, as engineering costs to determine the proper type of treatment, ongoing vapor intrusion mitigation, and other due care obligations, makes it less desirable than Option 3.

Option 3 - Excavation and Off-site Disposal: The costs for site demolition, off-site disposal of contaminated soil, dewatering activities, and site restoration are moderate. Based upon the estimates provided in the grant proposal, the cleanup costs will be approximately \$240,000. The cost is warranted given the size and location of the site in an industrial area, its opportunity for redevelopment, the expected volume of contaminated source materials to be removed, and MDEQ and Redford Charter Township's desire to bring the site to a developable condition. Contractors in the area are very competitive and are experienced in similar types of projects. MDEQ's project manager and environmental professional, through the bid specification development, will seek to minimize the costs of digging, hauling, and disposing of the soils and will emphasize the desire to obtain backfill from a local source. Demolition materials will be recycled if appropriate, to minimize disposal costs.

**OTHER ENVIRONMENTAL FACTORS:**

As a primary concern to changing environmental conditions, the proposed project will evaluate Greener Cleanups options as developed in ASTM E-2893-13 Greener Cleanup Summary. The MDEQ has developed a Green and Sustainable Remediation Tool to help project managers determine the types of best management practices to reduce or eliminate off-site impacts to the environment, while still meeting the overall goals for remediation and redevelopment. The MDEQ will utilize this tool in developing contractor goals, and will evaluate the effectiveness of these practices during and after the project has been completed.

**PREFERRED ALERNATIVE AND CLEANUP PLAN:**

Option 3 is the preferred alternative because it will meet the cleanup objectives in the most efficient and cost-effective manner. Removal of the contaminated soils and groundwater will reliably eliminate the exposure pathways now present at the site and demolition of the building will allow access to the contamination below the structure and limit the potential for trespass or injury to the general public due to the site's current condition.

**PUBLIC COMMENT**

The MDEQ requests and welcomes public comment regarding the activities presented in the ABCA and will respond to all comments through July 11, 2018. A Decision Memo will be issued no later than July 15, 2018.

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