
Appendix H – I-94 Project Area Contamination Survey and Air Pollutants

I-94 PROJECT AREA CONTAMINATION SURVEY AND AIR POLLUTANTS

1.0 METHODOLOGY

A Project Area Contamination Survey (PACS) of the project corridor was conducted to determine the potential for contamination of the I-94 right-of-way from adjacent properties and business operations. The methodology generally followed the procedures of the American Society for Testing and Materials (ASTM) Phase 1 Environmental Site Assessment E-1527-00. The evaluation included document and file research, coordination with the Michigan Department of Environmental Quality (MDEQ) and site reconnaissance. The sites were researched for evidence of documented contamination and evaluated for potential contamination with respect to the anticipated construction impacts.

A review of aerial photography, Sanborn Fire Insurance maps and local City of Detroit directories was conducted during the initial site assessment in 1996. Aerial photography was also reviewed at the Southeast Michigan Council of Governments (SEMCOG) in March 2004 to compare the changes in land use and identify sources of potential contamination.

Potential contamination sites were visited in March 2004 to determine the location of each site with respect to the proposed project right-of-way and the locations of key features such as fuel dispensers and fill ports for underground storage tanks.

Analytical results indicated in available MDEQ site assessment and/or site cleanup reports were evaluated based on the Residential and Industrial-Commercial Cleanup Criteria and Screening Levels (Part 201 of the Michigan Natural Resource Environmental Protection Act 1994 PA 451).

In addition to sites evaluated that are in proximity to the proposed improvements, a supplemental evaluation of federally mandated cleanup activities (Superfund sites) within 1 mile of the proposed improvements was completed. This information is provided since regulatory agencies typically require it as part of the permit package for projects that involve groundwater dewatering for construction activities. This information is typically included in the permit application for the National Pollution Discharge Elimination System (NPDES).

Asbestos was used extensively until the 1970s when the United States Environmental Protection Agency (US EPA) banned certain applications with the establishment of the Asbestos National Emissions Standards for Hazardous Air Pollutants (NESHAP) regulation, promulgated under Section 112 of the Clean Air Act on April 6, 1973 (Revised 1990). Structures designated for demolition with this project were evaluated to determine if they are subject to Asbestos NESHAP regulation.

Site photographs for each potential contamination site are included in Appendix A.

1.1 Environmental Database Search

Environmental database searches were performed for the Draft Environmental Impact Statement (DEIS) in 1998 and for the Final Environmental Statement (FEIS) in January 2003. The environmental searches utilized a geographic information system integrated database which includes both federal and state sites.

After comparing the 1998 and 2003 environmental database searches, a table was developed to include the potential contamination sites that are within the limits of the preferred alignment, as described in the FEIS. The locations of these sites were verified through site visits in March 2004 and with the City of Detroit Real Property Inquiry System, as necessary. Additional potential contamination sites that were not shown in the environmental database searches but were identified during the site visit, were also researched for evidence of documented contamination. The identified sites were subsequently evaluated for potential contamination with respect to the anticipated construction impacts. The Potential Contamination Site Comparison Report is included in Appendix B.

The following US EPA and MDEQ or Michigan Department of Natural Resources (MDNR) databases were researched during the screening process.

US EPA

- Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS) list is the Superfund database used to track facilities and/or locations that the US EPA is investigating to determine if any existing or threatened release of a hazardous substance is present.
- The Archived CERCLIS sites No Further Remedial Action Planned (NFRAP) list contains archived data on CERCLIS sites where the US EPA has completed assessment activities and determined no further steps to list the site on the National Priority Listing (NPL). The NFRAP sites may be reviewed by the states in which they are located to determine if they should be returned to CERCLIS because of newly identified contamination problems at the site.
- Resource Conservation Recovery Information System (RCRIS) – The Resource Conservation and Recovery Act (RCRA) database includes information on sites that generate, store, treat, or dispose of hazardous waste as defined by the Act. Sites can be considered as a treatment, storage and disposal (TSD), small quantity generator (SQG) or large quantity generator (LQG).
- RCRIS Handlers with Corrective Action (CORRACTS) database is a listing of hazardous waste handlers that have undergone RCRA corrective action activity.
- The Emergency Response Notification System (ERNS) database stores information on the notification of oil discharges and hazardous substance releases.
- The Hazardous Materials Incident Report System contains hazardous material spill incidents reported to the United States Department of Transportation.

- The Polychlorinated Biphenyl (PCB) Activity Database (PADs) identifies generators, transporters, commercial storers and/or brokers and disposers of PCBs who are required to notify the US EPA of such activities.
- The Toxic Chemical Release Inventory System (TRIS) identifies facilities that release toxic chemicals to the air, water and land in reportable quantities under SARA Title III, Section 313.
- Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) Toxic Substance Control Act (TSCA) Tracking System (FTTS) provides tracking information relating to inspections, referrals, case reviews, enforcement actions, settlement conditions, state pesticide grant activities, and import and sample information.

MDEQ or MDNR

- The State Hazardous Waste Sites (SHWS) records are the state's equivalent to the federal CERCLIS list. These sites may or may not already be listed on the CERCLIS list. Priority sites planned for cleanup, using state funds, are identified along with sites where cleanup will be paid for by potentially responsible parties.
- The Solid Waste Facilities/Landfill Sites (SWF/LF) records typically contain an inventory of solid waste disposal facilities or landfills in Michigan.
- The Leaking Underground Storage Tank (LUST) database contains an inventory of reported leaking underground storage tank incidents.
- The Underground Storage Tank (UST) database contains registered USTs, which are regulated under Subtitle I of the RCRA.
- The Aboveground Storage Tank (AST) database contains registered ASTs.

Other Sources

- A Baseline Environmental Assessment (BEA) is an evaluation of environmental conditions that is conducted for a piece of property or facility prior to being purchased. A BEA focuses on the contamination of hazardous substances on the property.
- The Materials Licensing Tracking System is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites, which possess or use radioactive materials and are subject to NRC licensing requirements.

1.2 Site Ratings

A hazardous materials rating system was used to rate the identified sites. The ratings include NO, LOW, MEDIUM, and HIGH and are generally defined as follows:

NO: After a review of available information, there is no evidence that contamination would be a problem. It is possible that contaminants could have been handled on the property; however, contamination problems should not be expected. Examples of operations that may receive this rating are:

- A gas station that has been closed and has a closure assessment or contamination assessment documenting that there is no contamination remaining.
- A wholesale or resale outlet that handles hazardous materials in sealed containers, which are never opened while at this facility, such as spray cans of paint at a drug store.

LOW: The former or current operation has a hazardous waste generator ID number, or deals with hazardous materials; however, based on best available information, there is no reason to believe there would be any contamination involvement.

MEDIUM: After a review of best available information, indications are found that identify known or likely soil and/or water contamination and that the problem does not need remediation, is being remediated (i.e. air stripping of the groundwater, etc.), or that continued monitoring is required.

HIGH: After a review of best available information, there is a potential for contamination problems. Further assessment will be required after alignment selection to determine the actual presence and/or levels of contamination and the need for remedial action.

2.0 PROJECT IMPACTS

Forty-nine sites in proximity to the proposed improvements were identified and evaluated for potential hazardous materials and petroleum involvement. The sites are listed in Table 1 and described below. The physical locations are shown on the concept plans in Appendix C.

During the site visits, the bridges along the project were also visually examined. There was evidence of pavement staining in the westbound lane of I-94 under the Chene Avenue bridge.

Additionally, the 11 sites located within 1 mile of the project area that were identified on the federal CERCLIS (Superfund) are included for reference.

**Table 1
Potential Contamination Sites**

Site No.	Site Name and Location	Facility or Handler ID Numbers	Storage Tank(s)	Potential Contaminant Concerns	Distance from Proposed Right-of-Way (feet)	Risk Evaluation Rating
1	Former Superior Coffee & Foods 2777 West Edsel Ford Frwy. aka address: 5300 Lawton	00014016	4 USTs removed	BEA performed in 2001	Adjacent	MEDIUM
2	City of Detroit DOT 5600 Wabash Street	00013463 EPA ID: MID985597145	6 USTs and 4 ASTs in use; 7 USTS removed, 9 USTs closed	SQG, 4 LUSTs	Adjacent	HIGH
3	Superior Starter and Generator Service, Inc. 5505 Rosa Parks Boulevard	EPA ID: MID016977175	No	SQG, automobile repair facility, asbestos	Complete acquisition	MEDIUM
4	Whiting Public Warehouse (formerly Zeneca Resins) 5470 Hecla Street	EPA ID: MIC096967757	No	SQG	Adjacent	MEDIUM
5	Ash Stevens Research, Inc. 5861 John C. Lodge Freeway	EPA ID: MID985643691	No	SQG	Adjacent	LOW
6	Dewey Development Center Training Jobs 5820 Forsyth Street	N/A	No	Old warehouse, asbestos	Complete acquisition	LOW
7	Abandoned Building (formerly National Baltimore Building) 899 Baltimore West	EPA ID: MID985584168	8 55-gal drums	SQG, asbestos	Complete acquisition	MEDIUM
8	Detroit Public Library Facilities Services (formerly Maintenance Building) 5828 Third Street	00038640	1 UST removed	SQG, former petroleum involvement, asbestos	Complete acquisition	MEDIUM
9	Miscellaneous Buildings 5813, 5821, 5832, 5840, 5841, 5847 Second Street	N/A	No	Asbestos	Complete acquisition	LOW
10	Miscellaneous Buildings 435, 447, 459, 467 Antoinette Street & 5847, 5857 Cass Ave.	N/A	No	Asbestos	Complete acquisition	LOW
11	Big Bookstore (former Firestone Store) 5911 Cass Avenue	00021776 (Firestone) EPA ID: MID985583376 (Big Bookstore)	2 USTs removed	SQG, 2 LUSTs	Adjacent	MEDIUM
12	Metro 25 Car Care Center - Terry's Tires 5919-5935 Cass Avenue	00038592	3 USTs removed	Former petroleum involvement	Adjacent	LOW
13	BP Gas Station (formerly John R. & I-94 Gas Station) 5901 John R. Street	00041226	3 USTs in use	1 LUST	Adjacent	HIGH
14	Wayne Co. Public Services District 6 Urban Freeway Yard 5811 Brush Street	00001759	2 USTs in use; 1 UST removed	SQG, 1 LUST, asbestos	Complete acquisition	HIGH
15	Michigan Paper Die (formerly MOD Interiors) 632 Harper Avenue	EPA ID: MI0000042002	No	SQG	Adjacent	LOW

**Table 1
Potential Contamination Sites**

Site No.	Site Name and Location	Facility or Handler ID Numbers	Storage Tank(s)	Potential Contaminant Concerns	Distance from Proposed Right-of-Way (feet)	Risk Evaluation Rating
16	Vacant Land (formerly MCI, Inc.) 666 Harper Avenue	EPA ID: MID981190531 SHWS 82000114	No	SQG, CERCLIS, SHWS	Adjacent	MEDIUM
17	Parking Lots NW Quadrant of I-94 and I-75 Interchange	N/A	No	Adjacent to CERCLIS site	Partial acquisition	LOW
18	New Center Stamping Company (formerly GMC Fisher Body Division) 950 East Milwaukee Avenue	EPA ID: MIT270010069	No	SQG, TRIS	Adjacent	LOW
19	Detroit DOT Plant Maintenance and Construction 1201 East Warren Avenue	N/A	Could not be determined	Possible petroleum and hazardous materials involvement	Adjacent	LOW
20	Wayne State University Future Hazardous Waste Storage Site (formerly Maxwell Foods) 1011 Ferry Avenue	N/A	No	Distressed vegetation	Adjacent	MEDIUM
21	General Linen Supply Company 1016 East Palmer Street	00034826	2 USTs removed	1 LUST	Partial acquisition	HIGH
22	D.C. Byers Company (formerly City Building Maintenance Company) 5715 Rivard Street	00009846	2 USTs removed	1 LUST	Partial acquisition	HIGH
23	Storage Yard 5751 Rivard Street	N/A	No	Steel drums	Partial acquisition	HIGH
24	Rivard Plating Company 5778 Rivard Street	EPA ID: MIR000042549	No	LQG	190 feet	LOW
25	Abandoned Building (formerly a bakery) 5845 Russell Street	N/A	1 AST	Possible former hazardous materials involvement, asbestos	Complete acquisition	MEDIUM
26	MDOT R/W I-75 NB to I-94 EB Ramps	N/A	No	Tanker fuel truck spill	Within	HIGH
27	Department of Public Works Solid Waste Division 5800 Russell Street aka address: 5710 Russell St.	00019073	9 USTs in use; 8 USTs removed	SQG, 5 LUSTs	Adjacent	MEDIUM
28	Service Envelope 6001 Russell Street	ERNS: 98430326	1 AST	Vent pipes, heavy oil staining, ERNS, asbestos	Complete acquisition	HIGH
29	Quality Storage, Inc. (formerly Volunteers of America) 6060 Rivard Street	00001414	2 USTs in use; 2 ASTs closed	Petroleum involvement, asbestos	Complete acquisition	MEDIUM

**Table 1
Potential Contamination Sites**

Site No.	Site Name and Location	Facility or Handler ID Numbers	Storage Tank(s)	Potential Contaminant Concerns	Distance from Proposed Right-of-Way (feet)	Risk Evaluation Rating
30	Kwik Paint RBI Products 6000 Russell Street aka address: 6040 Russell St.	N/A	No	Possible former hazardous materials involvement, asbestos	Complete acquisition	LOW
31	Detroit Edison Trombly Service Center 1530 Trombly Avenue	0010790 EPA ID: MID000721589	2 USTs in use; 4 USTs removed	SQG, asbestos	Partial acquisition	MEDIUM
32	Abandoned Building 1551 Harper Avenue	N/A	No	Possible former petroleum or hazardous materials involvement, asbestos	Complete acquisition	HIGH
33	City Environmental, Inc./City Disposal Systems, Inc. 1550 Harper Avenue	00008609 EPA ID: MID054683479	2 USTs removed; 1 AST in use	CORRACTS, TSD, 2 LUST	Partial acquisition	MEDIUM
34	GMC Detroit/Hamtramck Assembly Plant 2500 East Grand Boulevard	EPA ID: MID980795488	No	LQG, TRIS	Adjacent	LOW
35	Dump Site 6291, 6281 and 6269 Russell Street	N/A	No	Hazardous materials involvement	Adjacent	HIGH
36	Sunoco Station (formerly Mobil Oil Corporation) 6050 Mt. Elliott Street	00016628 EPA ID: MID985610583	4 USTs in use, 1 UST removed	SQG, 2 LUSTs	Adjacent	HIGH
37	Stone Container Corporation 6400 Harper Avenue	00015619	2 USTs removed	BEA performed in 2000, 1 LUST	Adjacent	MEDIUM
38	Stramaglia Property (formerly Chrysler Corporation Amplex) 6501 Harper Avenue	EPA ID: MID005358114 SHWS: 82001557	No	SQG, CERC-NFRAP, SHWS, TRIS	Adjacent	MEDIUM
39	Central Transport 6599 Sherwood Street	00006099	3 USTs removed	Petroleum involvement	Adjacent	LOW
40	Vacant Lot (formerly Sunoco, Knight Enterprises, Inc.) 6134 Van Dyke Avenue	EPA ID: MID000666701	3 USTs in place	SQG, existing remediation system	Adjacent	HIGH
41	Amoco Oil Company #0202 6420 Van Dyke Avenue	00005713 EPA ID: MID985608371	3 USTs in use	SQG, 2 LUSTs	Adjacent	HIGH
42	Marathon Unit #2748 9670 Harper Avenue @ Gratiot Avenue	00041092 00034047	2 USTs in use 4 USTs removed	BEA performed in 2001, 2 LUSTs	Adjacent	HIGH
43	Kentucky Fried Chicken 9650 Gratiot Avenue	N/A	No	Asbestos, potential contamination from Site No. 42	Complete acquisition	HIGH

**Table 1
Potential Contamination Sites**

Site No.	Site Name and Location	Facility or Handler ID Numbers	Storage Tank(s)	Potential Contaminant Concerns	Distance from Proposed Right-of-Way (feet)	Risk Evaluation Rating
44	Eastside Oil Company 11001 Hern Street	00013119	5 USTs in use	Petroleum involvement	Adjacent	HIGH
45	PVS Transportation, Inc. 11005 Harper Avenue	91082624 EPA ID: MIR000019554 EPA ID: MID006530273	1 AST	LQG, PCB activity	Adjacent	LOW
46	Hern Road Yard 11002 Hern Street	00008526	1 UST in use, 1 UST removed	1 LUST, asbestos	Complete acquisition	HIGH
47	Wayne County Comm. College 5901 Conner Street	00007548	6 USTs removed	SQG, former petroleum involvement	Adjacent	LOW
48	Quick Fill (formerly Jamil Mini Mart) 9000 Conner Street	00001596	3 USTs in use	Petroleum involvement	Adjacent	HIGH
49	P.A. & M. Towing 11545 Harper Avenue	N/A	No	Petroleum and hazardous materials involvement	Adjacent	HIGH

3.0 RELEVANT AIR POLLUTANTS

"Air pollution" is a general term that refers to one or more chemical substances that degrade the quality of the atmosphere. Individual air pollutants degrade the atmosphere by:

- Reducing visibility
- Damaging property
- Reducing the productivity and vigor of crops and natural vegetation
- Reducing human or animal health

Eight air pollutants have been identified by the U.S. Environmental Protection Agency (EPA) as being of concern nationwide:

- Carbon monoxide
- Sulfur oxides
- Hydrocarbons
- Nitrogen oxides
- Ozone
- Particulate matter sized 10 microns or less
- Particulate matter sized 2.5 microns or less
- Lead

Pollutants that can be traced principally to motor vehicles are relevant to the evaluation of the project impacts; these pollutants include CO, HC, NO_x, O₃, and PM_{10/2.5}. Transportation sources account for a small percentage of regional emissions of SO_x and Pb.

The sources of these pollutants, their effects on human health and the nation's welfare, and their final deposition in the atmosphere vary considerably. A brief description of each pollutant is given below.

3.1 Carbon Monoxide

Carbon monoxide (CO) is a colorless and odorless gas that is generated in the urban environment primarily by the incomplete combustion of fossil fuels in motor vehicles. Relatively high concentrations of CO typically are found near crowded intersections and along heavily used roadways carrying slow-moving traffic. CO chemically combines with the hemoglobin in red blood cells to decrease the oxygen-carrying capacity of the blood. Prolonged exposure can cause headaches, drowsiness, or loss of equilibrium.

3.2 Hydrocarbons

Hydrocarbons (HC) include a wide variety of organic compounds emitted principally from the storage, handling, and use of fossil fuels. Though HC can cause eye irritation and breathing difficulty, the principal health effects are related to hydrocarbons' role in the formation of ozone.

3.3 Nitrogen Oxides

Nitrogen oxides (NO_x) constitute a class of compounds that include nitrogen dioxide (NO₂) and nitric oxide (NO); both are emitted by motor vehicles. Although NO₂ and NO can irritate the eyes and nose and impair the respiratory system, NO_x (like HC) is a concern primarily due to its role in forming ozone.

3.4 Ozone

Ozone (O₃), or photochemical oxidant, is a major cause of lung and eye irritation in urban environments. It is formed through a series of reactions involving HC and NO_x; these reactions occur in the atmosphere in the presence of sunlight. Relatively high concentrations of O₃ normally are found only in the summer.

3.5 Particulate Matter

Particulate pollution is composed of solid particles or liquid droplets that are small enough to remain suspended in the air. In general, particulate pollution can include dust, soot, and smoke; these can be irritating but usually are not poisonous.

Particulate pollution also can include bits of solid or liquid substances that can be highly toxic. Of particular concern are those particles that are smaller than, or equal to, 10 microns (PM₁₀) and 2.5 microns (PM_{2.5}) in size. Data collected through numerous nationwide studies indicates that most of the PM₁₀ comes from:

- Fugitive dust
- Wind erosion
- Agricultural and forestry sources

A small portion of particulate matter is the product of fuel combustion processes. In the case of PM_{2.5}, the combustion of fossil fuels accounts for a significant portion of this pollutant. The main health effect of airborne particulate matter is on the respiratory system.