# Asbestos-Containing Materials Inspection 1540-1582 Siller Terrace Ann Arbor, Michigan 48103

Ann Arbor Housing Development Corporation

April 4, 2023

**ASTI ENVIRONMENTAL** 





# Asbestos-Containing Materials Inspection 1540-1582 Siller Terrace Ann Arbor, Michigan 48103

April 4, 2023

#### **Report Prepared For:**

Ann Arbor Housing Development Corporation c/o Jennifer Hall 2000 S. Industrial Highway Ann Arbor, Michigan 48104

#### **Report Prepared By:**

ASTI Environmental 10448 Citation Drive, Suite 100 Brighton, Michigan 48116 1-800-395-ASTI

**ASTI Project No. 12703** 

Report Prepared by: Report Reviewed by:

elaine D. Tinsley David A. Amir, EP

Asbestos Inspector (A16395) Director-Site Redevelopment Services



### **TABLE OF CONTENTS**

Section	<u>on</u>	<u>Page</u>
Execu	itive Summary	i
1.0	Introduction	1
2.0	Limitation and Exceptions	2
3.0	Subject Property Description	3
4.0	Asbestos-Containing Materials Inspection	4
5.0	4.1 Previous Asbestos-Containing Materials Inspections 4.2 Asbestos Inspection Methodology 4.3 Sample Collection 4.4 Laboratory Analytical Results 4.5 Presumed Asbestos-Containing Materials  Conclusions and Recommendations	4 5 6
<u>Figure</u>	e <u>s</u> Site Location Map	
Table 1	S Asbestos Sample Results	
Appei A B C	ndices  Resumes and Accreditations of Inspectors  Results of Asbestos Sample Analysis and Chain of Custody  Photo Log	



#### **Executive Summary**

ASTI Environmental (ASTI) was retained by Ann Arbor Housing Development Corporation to conduct an asbestos-containing materials (ACMs) inspection of the buildings located at 1540-1582 Siller Terrace, Ann Arbor, Washtenaw County, Michigan (Subject Property). ASTI's scope of work included sampling of suspect ACMs in general conformance with the National Emission Standards for Hazardous Air Pollutants (NESHAP) 40 CFR Part 61 Subpart M. Apartments 1540 and 1560 Siller Terrace were not inspected due to uncooperative tenant in unit 1540 and an uncaged barking dog in unit 1560 with the tenant not present. The services provided by ASTI in completing this assessment have been provided in a manner consistent with the normal standards of the profession. No other warranties, expressed or implied, are made.

The structures inspected consists of five (5) approximately 2,400 square feet, 2-story buildings with gabled roofs. Based on the inspection conducted by ASTI on March 7, 2023, the following ACMs were identified on the Subject Property:

**Asbestos-Containing Materials Quantities** 

MATERIAL	LOCATION	ESTIMATED QUANTITY
Linoleum / Beige & Brown with pebble pattern	Kitchen, Bathroom, Utility room, entry area and stairs in Buildings: 1540-42, 1550-52, 1560-62, 1570- 72, 1580-82	500 ft <sup>2</sup> per unit 5,000 ft <sup>2</sup>
Vent Caulk / Grey	Exterior Throughout Buildings: 1540-42, 1550-52, 1560-62, 1570-72, 1580-82	10 vents 10 ft <sup>2</sup>

#### Presumed Asbestos-Containing Materials

During completion of the inspection, several materials were identified as potential ACMs, however, due to inaccessibility, and /or the destructive nature of sampling required; these materials were not sampled at this time and should be considered as presumed asbestoscontaining materials (PACMs) until it can be sampled. The following PACMs were identified during the site inspection.

**Presumed Asbestos-Containing Materials Summary** 

MATERIAL	LOCATION	ESTIMATED QUANTITY
Vibration Dampener - Black	Throughout the buildings: 1540-42, 1550-52, 1560-62, 1570-72, 1580-82	60 ft <sup>2</sup>
Bathtub undercoating and or surround adhesive	Throughout the buildings: 1540-42, 1550-52, 1560-62, 1570-72, 1580-82	10 bathtubs & surrounds
Roofing Materials	Throughout the buildings: 1540-42, 1550-52, 1560-62, 1570-72, 1580-82	7,500 ft <sup>2</sup>



#### 1.0 Introduction

ASTI Environmental (ASTI) was retained by Ann Arbor Housing Development Corporation to conduct an asbestos-containing materials (ACM) inspection at 1540-1582 Siller Terrace, Ann Arbor, Washtenaw County, Michigan (Subject Property). Refer to the attached Site Location Map for the approximate location of the Subject Property. The information and opinions rendered in this report are prepared for the benefit of Ann Arbor Housing Development Corporation; ASTI acknowledges that said parties may rely upon the contents and conclusions presented in this report. The services provided by ASTI in completing this assessment have been provided in a manner consistent with the normal standards of the profession. No other warranties, expressed or implied are made.



#### 2.0 LIMITATION AND EXCEPTIONS

ASTI's scope of work included sampling of suspect homogeneous ACMs in general conformance with the National Emission Standards for Hazardous Air Pollutants (NESHAP) 40 CFR Part 61 Subpart M and ASTM E2356-10 Standard Practice for Comprehensive Building Asbestos Surveys. Suspect materials not identified within this report may be encountered in inaccessible wall cavities, chases, floor cavities, etc. during demolition activities. These materials must be presumed to be ACM until they can be sampled and analyzed for asbestos content.

- Apartments 1540 and 1560 Siller Terrace were not inspected due to uncooperative tenant in unit 1540 and an uncaged barking dog in unit 1560 with the tenant not present. Should any different materials be encountered in these units, they should be presumed to contain asbestos until tested and proven otherwise.
- Hollow concrete block was used in the construction of the buildings. The possibility
  exists for suspect ACM insulation to be present inside the concrete block. If during
  demolition/renovation material is found within the concrete block it should be
  assumed to be ACM until it can be sampled and analyzed for asbestos content.
- Carpeted areas were identified throughout the buildings in the living rooms, dining rooms, and bedrooms. ASTI pulled back carpet in the corners of several locations and observed that the carpeting overlaid concrete or wood. If this pattern is consistent throughout the buildings, then there are no ACMs under the carpeted areas. However, should any flooring materials be encountered during carpet removal, the flooring and any associated mastics should be presumed to contain asbestos until tested and proven otherwise.



#### 3.0 SUBJECT PROPERTY DESCRIPTION

The Subject Property is currently developed with an apartment housing complex containing 10 units in five (5) buildings. The buildings were constructed in 1980. Each building is approximately 2,400 square feet and contains two (2) apartment units on two (2) levels. The buildings are of wood frame construction with gable roof. Exterior finish materials include asphalt shingles, siding, and brick façade. Interior finish materials include drywall, linoleum, carpeting, brick, concrete, paint, and glass.



#### 4.0 ASBESTOS-CONTAINING MATERIALS INSPECTION

Ms. Jelaine D. Tinsley (A16395), and Mr. John Schuitema (A51781) of ASTI's Site Redevelopment Services Group conducted the ACMs inspection of the Subject Property located at 1540-1580 Siller Terrace, Ann Arbor, Michigan on March 7, 2023. Copies of the inspectors' resumes and asbestos accreditations are provided in Appendix A.

#### 4.1 Previous Asbestos-Containing Materials Inspections

ASTI is not aware of any previous ACM inspections of the Subject Property.

#### 4.2 Asbestos Inspection Methodology

ASTI's scope of work included sampling of suspect ACMs in accordance with the AHERA and NESHAP protocols. The inspection included a visual inspection of the building in order to identify homogeneous areas of suspect surfacing materials, thermal system insulation, and miscellaneous materials, as well as the sampling of suspect friable and non-friable materials. The following definitions from 40 CFR Part 763 are provided below.

<u>Asbestos-Containing Material (ACM):</u> any material or product which contains more than one percent asbestos.

<u>Surfacing Materials (SM)</u>: material that is troweled-on, sprayed-on or otherwise applied to surfaces for acoustical, fireproofing or other purposes.

Thermal System Insulation (TSI): material applied to pipes, fittings, boilers, breeching, tanks, ducts, or other interior components to prevent heat loss or gain, or water condensation or for other purposes.

<u>Miscellaneous Materials (MM):</u> interior building material on structural components, structural members or fixtures such as floors and ceilings and does not include surfacing material or thermal system insulation.

<u>Friable:</u> material that when dry, may be crumbled pulverized or reduced to powder by hand pressure, and includes previously non-friable material after such previously non-friable material becomes damaged to the extent that when dry it may be crumbled, pulverized or reduced to powder by hand pressure.

Non-friable: material which when dry may not be crumbled, pulverized or reduced to powder by hand pressure.



Homogeneous areas (HAs): an area of surfacing material, thermal system insulation, or miscellaneous material that is uniform in color and texture.

#### 4.3 Sample Collection

Samples were collected by physically removing a small piece of suspect material and placing it in a marked plastic bag. Samples were collected using wet methods, as appropriate. The sample collection tool was cleaned prior to each use to avoid cross-contamination of samples. ASTI sampled a variety of materials for asbestos testing. The material types sampled are listed below.

- Sink undercoating
- Linoleum and associated mastic (various types)
- Glue
- Caulk (various types)
- Drywall and joint compound
- Brick & Block Mortar
- Cove base and associated mastic
- Exterior window caulk

ASTI collected 23 bulk samples from the suspect ACMs. A total of 30 sample layers were analyzed. The bulk samples were transmitted under chain-of-custody protocol to Apex Laboratory in Whitmore Lake, Michigan or asbestos analysis using polarized light microscopy with dispersion staining (PLM/DS) in accordance with the US Environmental Protection Agency's (US EPA's) "Interim Method for the Determination of Asbestos in Bulk Building Materials" (EPA 600/R-93/116, June 1993). Sample results are presented in the attached Table 1.



#### 4.4 <u>Laboratory Analytical Results</u>

Building materials identified to contain greater than 1% asbestos are defined as ACMs. Review of the asbestos test results revealed that the following ACMs were identified on the Subject Property:

НА	Material/Description	Location	Asbestos Result
2	Linoleum / Beige & Brown with pebble pattern	Kitchen, Bathroom, Utility room, entry area and stairs in Buildings: 1540-42, 1550-52, 1560-62, 1570-72, 1580-82	20% Chrysotile
9	Vent Caulk / Grey	Exterior Throughout Buildings: 1540-42, 1550-52, 1560-62, 1570-72, 1580-82	10% Chrysotile

A comprehensive list of sampled materials with analytical results is provided as Table 1. A copy of the laboratory data sheets, along with the chain-of-custodies are included in Appendix B.

**Asbestos-Containing Materials Quantities** 

MATERIAL	LOCATION	ESTIMATED QUANTITY
Linoleum / Beige & Brown with pebble pattern	Kitchen, Bathroom, Utility room, entry area and stairs in Buildings: 1540-42, 1550-52, 1560-62, 1570-72, 1580-82	500 ft <sup>2</sup> per unit 5,000 ft <sup>2</sup>
Vent Caulk / Grey	Exterior Throughout Buildings: 1540-42, 1550-52, 1560-62, 1570-72, 1580-82	10 vents 10 ft <sup>2</sup>



#### 4.5 <u>Presumed Asbestos-Containing Materials</u>

During completion of the inspection, several materials were identified as potential ACMs, however, due to inaccessibility, and /or the destructive nature of sampling required; these materials were not sampled at this time and should be considered as presumed asbestoscontaining materials (PACMs) until it can be sampled. The following PACMs were identified during the site inspection.

**Presumed Asbestos-Containing Materials Summary** 

MATERIAL	LOCATION	ESTIMATED QUANTITY
Vibration Dampener - Black	Throughout the buildings: 1540-42, 1550-52, 1560-62, 1570-72, 1580-82	60 ft <sup>2</sup>
Bathtub undercoating and or surround adhesive	Throughout the buildings: 1540-42, 1550-52, 1560-62, 1570-72, 1580-82	10 bathtubs & surrounds
Roofing Materials	Throughout the buildings: 1540-42, 1550-52, 1560-62, 1570-72, 1580-82	7,500 ft <sup>2</sup>



#### 5.0 CONCLUSIONS AND RECOMMENDATIONS

Based on the results of the inspection completed at the Subject Property by ASTI on March 7, 2023, ACMs were identified in the buildings. A summary of the ACMs identified, along with ASTI's recommendations are as follows:

MATERIAL	LOCATION	ESTIMATED QUANTITY
Linoleum / Beige & Brown with pebble pattern	Kitchen, Bathroom, Utility room, entry area and stairs in Buildings: 1540-42, 1550-52, 1560-62, 1570-72, 1580-82	500 ft <sup>2</sup> per unit 5,000 ft <sup>2</sup>
Dryer Vent Caulk / Grey	Exterior Throughout Buildings: 1540-42, 1550-52, 1560-62, 1570-72, 1580-82	10 vents 10 ft <sup>2</sup>

According to classification guidelines set forth in NESHAP, the linoleum is classified as Category I non-friable ACM. This material in it's current condition represents minimal risk of fiber release. If renovation or demolition would disturb this material, ASTI recommends the ACM be removed by a licensed abatement contractor prior to disturbance.

According to classification guidelines set forth in NESHAP, the dryer vent caulk is classified as Category II non-friable ACM. This material appeared to be in good condition and presents minimal risk of fiber release. If renovation or demolition would disturb this material, ASTI recommends it be removed by a licensed abatement contractor prior to disturbance.



#### Presumed Asbestos-Containing Materials

During completion of the inspection, several materials were identified as potential ACMs, however, due to inaccessibility, and /or the destructive nature of sampling required; these materials were not sampled at this time and should be considered as presumed asbestos-containing materials (PACMs) until it can be sampled. The following PACMs were identified during the site inspection.

**Presumed Asbestos-Containing Materials Summary** 

MATERIAL	LOCATION	ESTIMATED QUANTITY
Vibration Dampener - Black	Throughout the buildings: 1540-42, 1550-52, 1560-62, 1570-72, 1580-82	60 ft <sup>2</sup>
Bathtub undercoating and or surround adhesive	Throughout the buildings: 1540-42, 1550-52, 1560-62, 1570-72, 1580-82	10 bathtubs & surrounds
Roofing Materials	Throughout the buildings: 1540-42, 1550-52, 1560-62, 1570-72, 1580-82	7,500 ft <sup>2</sup>

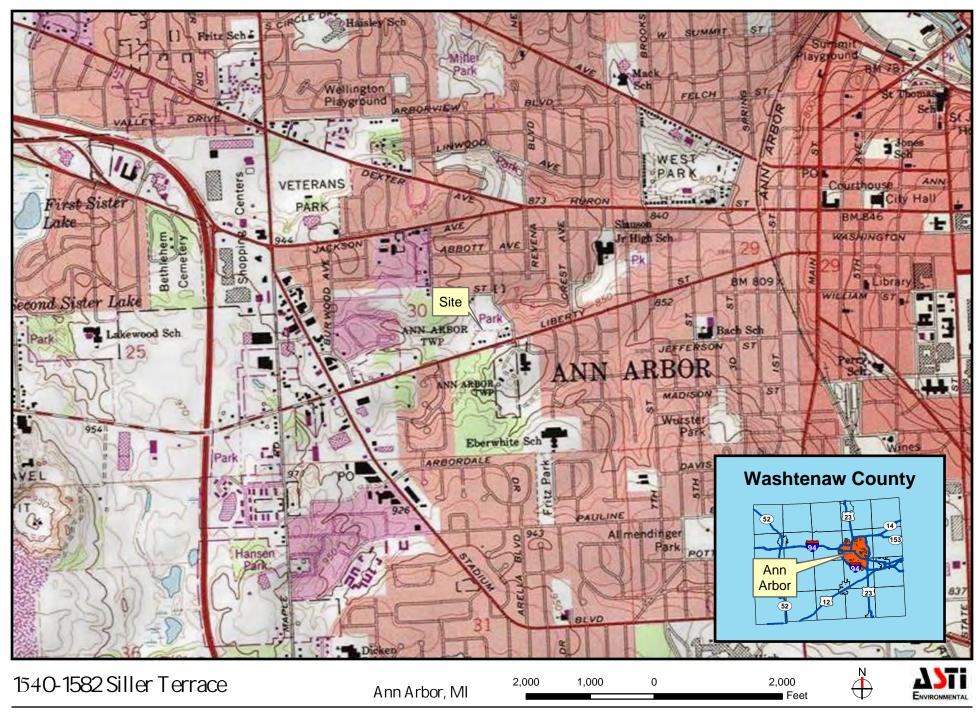
According to classification guidelines set forth in NESHAP, the vibration dampener, bathtub undercoating and/or surround adhesive and roofing materials are assumed to contain asbestos and are classified as Category II non-friable ACMs. Until testing of these materials is completed, they should be treated as Category II non-friable ACMs.



# **Figures**

Site Location Map





### Tables

1 Asbestos Sample Results



#### Table 1 Asbestos Sample Results 1540-1582 Siller Terrace Ann Arbor, MI

ASTI Project No: 12703

ASTI Project No: 12703				
ASTI Sample ID	Material/Description	Sample Location	Asbestos Result	
1A	Sink Undercoat / White	1580 Kitchen	NAD	
1B	Sink Undercoat / White	1580 Kitchen	NAD	
2A	Linoleum / Beige/Brown/Pebble Pattern	1580 Kitchen	20% Chrysotile	
2B	Linoleum / Beige/Brown/Pebble Pattern	1580 Utility Room	NA	
3A	Floor Glue / Brown	1580 Living Room	NAD	
3B	Floor Glue / Brown	1580 Living Room	NAD	
4A	Caulk / White	1580 Kitchen	NAD	
4B	Caulk / White	1580 Bathroom	NAD	
5A	Drywall / White	1580 Bedroom 1 closet	NAD	
5A	Joint Compound	1360 Bedroom 1 closet	NAD	
5B	Drywall / White	1570 Living room	NAD	
36	Joint Compound	1970 Living room	NAD	
5C	Drywall / White	1562 Kitchen	NAD	
50	Joint Compound	1302 Kitchen	NAD	
	Drywall #1 / White		NAD	
5D -	Joint Compound	1552 Bedroom closet	NAD	
30	Drywall #2	1552 Bedroom closet	NAD	
	Joint Compound	]	NAD	
5E	Drywall / White	1542 Utility room	NAD	
36	Joint Compound	1942 Othing 10011	NAD	
6A	Brick Mortar / Grey	1580 Exterior wall south side	NAD	
6B	Brick Mortar / Grey	1542 Exterior wall west side	NAD	
7A	Exterior Caulk / White	1580 Exterior window	NAD	
7B	Exterior Caulk / White	1560 Exterior window	NAD	
8A	Linoleum / Cream	1582 Utility Room	NAD	
8B	Linoleum / Cream	1570 Utility Room	NAD	
9A	Vent Caulk / Grey	1582 Exterior dryer vent south side	10% Chrysotile	
9B	Vent Caulk / Grey	1540 Exterior dryer vent south side	NA	

### Appendix A

Resumes and Accreditations of the Inspectors







JELAINE D. TINSLEY Environmental Professional

#### **PROFILE**

#### Certifications/Licenses

NIOSH 582-Equivalent Course Sampling and Analysis of Airborne Asbestos Fibers

OSHA 29 CFR 1910.120 HAZWOPER 40-Hour and 8-Hour Refresher

Asbestos Inspector-Michigan (License No. A16395)

Asbestos Inspector-Illinois (License No. 100-19756)

Asbestos Inspector-Indiana (License No. 19A007625)

Asbestos Hazard Evaluation Specialist-Ohio (License No.ES36108)

Asbestos Inspector / Management Planner-Kentucky (License No. 66369)

Asbestos Inspector-West Virginia (License No. AlO10697)

Asbestos Project Designer-Michigan (License No. A16395)

Certified Confined Space Entrant and Attendant

American Red Cross First Aide and Adult CPR Certified

ASTM Certification in RBCA Applied at Petroleum Release Sites

Michigan Provisional Teaching Certificate

#### Education

Western Michigan University, B.S., Earth Science and Education

#### **Experience History**

Environmental Professional, ASTI ENVIRONMENTAL

Project Manager, Yeoman Group

Project Manager, A&F Environmental

Environmental Consultant, DLZ Corporation

Environmental Consultant, AKT Peerless

Geologist, ATC Associates

Geologist, NUS Corporation

Teacher, Detroit Public Schools

Staff Scientist, CTI and Associates, Inc.

#### Professional Memberships and Service

Michigan Association of Environmental Professionals (MAEP)

Commercial Real Estate Women Detroit (CREW)

#### Professional Background

Ms. Tinsley has more than 33years' experience in the environmental industry in a variety of areas including Phase I environmental site assessments (ESAs), Phase II ESAs, baseline environmental assessments (BEAs), subsurface investigations (soil and groundwater testing), soil and groundwater evaluations, asbestos and mold inspections, abatement oversight, and specification development. Ms. Tinsley has also coordinated numerous hazardous material and pre-demolition surveys which included evaluations of asbestos, mold, radon and universal wastes for municipal, commercial, and industrial facilities.

Years' Experience:

8—ASTI ENVIRONMENTAL 25—other firms

# ENVIRONMENTAL DUE DILIGENCE AND SITE INVESTIGATION PROJECTS

#### **Environmental Site Assessments**

Completed numerous site assessments for a variety of projects (vacant land, agricultural, residential, commercial, and industrial) to determine the environmental condition of sites for real estate transactions. Projects involved both surface and subsurface evaluations of sites for a variety of hazardous substances. Responsibilities included the preparation and/or review of ASTM Phase I and Phase ESAs, Baseline Environmental Assessments (BEAs), and Due Care Plans. Ms. Tinsley has experience working in Michigan, Illinois, Indiana, Ohio, Kentucky, Tennessee, Georgia, Alabama, Mississippi, and Florida. Ms. Tinsley also has performed listing site evaluations for a dedicated contactor to the US EPA. Ms. Tinsley is also knowledgeable with All Appropriate Inquiries (AAI) per 40 CFR Part 312 and meets the requirements of an Environmental Professional per AAI.

#### **Customer Training**

Provided training for financial institutions on the types of properties that should have environmental evaluations.

#### Vapor Intrusion Evaluation, Jackson, Michigan

Conducted vapor intrusion studies at commercial properties to assess potential vapor migration. Scope of work included coordination of vapor intrusion points, vapor sample collection, and coordination of chemical testing.

#### CONSTRUCTION TESTING

Conducted construction material analysis which included soil proctors, soil sieve analysis, asphalt extractions, and concrete stress testing.

# ASBESTOS INSPECTIONS AND ABATEMENT COORDINATION/OVERSIGHT

Responsible for asbestos program management including coordination and technical lead for hazardous material surveys and asbestos and mold related testing activities.

#### <u>Asbestos Inspections, City of Detroit Neighborhood</u> Redevelopment Project

Inspector of asbestos hazards at over 300 residential and commercial properties. Collected samples of suspect ACM for laboratory analysis. Provided report to the City of Detroit with findings and compliance requirements.

#### Asbestos Inspections, City of Inkster Neighborhood Redevelopment Project

Conducted asbestos inspections at over 100 residential and commercial properties. Collected samples of suspect ACM for laboratory analysis. Provided report to the City of Inkster with findings and compliance requirements.

#### Large Hotel Detroit, Michigan

Inspected the hotel property as part of a team. Collected samples, reviewed laboratory analysis, and provided client a report of methods and findings. Performed oversight of ACM abatement.

#### Medical Complex Kalamazoo, Michigan

Responsible for coordination of field activities for the ACM abatement of the complex. Conducted schedule and strategy meetings.

#### Hotel, Detroit, Michigan

Inspected the hotel property. Collected samples, reviewed laboratory analysis, and provided client a report of methods and findings.

#### Former Coal Power Plant

Conducted a thorough asbestos inspection of an inactive multi-building coal power plant in Detroit, Michigan. Collected samples, and performed thorough photo documentation and quantification of all ACMs in the power plant and supporting buildings.

# UNDERGROUND STORAGE TANKS AND PETROLEUM REMEDIATION PROJECT

#### Commercial Development Royal Oak, Michigan

Coordinated the remediation of a former gasoline service station, during site development for a commercial company. Work included Phase I ESA and Phase II site investigation to evaluate USTs and hoists onsite, as well as coordinating a GPR survey for additional USTs on site, a BEA, and a Due Care Plan. Assisted with the development bid specifications for site remediation activities including UST and hoist removal, soil remediation, and asbestos abatement. Coordinated the removal of five (5) USTs, one in-ground hoist, and 300,000 cubic yards of petroleum-impacted soils.



# State of Michigan

Department of Labor and Economic Opportunity
higan Occupational Safety & Health Administration - Asbestos Program

# Asbestos Inspector

Jelaine D. Tinslev

Accreditation Number A16395

Expiration Date 09/26/2023

This individual has satisfactorily met or exceeded the requirements of Michigan Public Act 440 of 1988, as amended, to be accredited as an Asbestos Inspector.

Accreditation card is not valid if altered.

159722







JOHN F. SCHUITEMA Associate II

#### **PROFILE**

#### Certifications

Asbestos Inspector (A51781)
Michigan Lead Inspector/Risk Assessor (P-07409)
ICC Property Maintenance Inspector
ICC Zoning Inspector
40-Hour OSHA HAZWOPER Training
8-Hour OSHA HAZWOPER Refresher

#### Education

Lead Inspector/Risk Assessor Training Asbestos Awareness Training Lead Awareness Training Asbestos Inspector Training

#### **Experience History**

Associate I, ASTI Environmental Field Technician, ASTI Environmental Government

#### Professional Background

Mr. Schuitema has experience in the field with soil sampling, lead dust sampling, asbestos surveys, air monitoring, hazardous materials surveys, and lead inspections. Mr. Schuitema has assisted with Phase II investigations, property condition assessments, mold sampling, indoor air quality assessments, moisture operation and maintenance plans, and performed health and safety related building inspections.

Years' Experience: 5—ASTI ENVIRONMENTAL

3—Government

# ENVIRONMENTAL DUE DILIGENCE AND SITE INVESTIGATION PROJECTS

#### **Environmental Site Assessments**

Completed numerous site assessments for a variety of projects (vacant land, agricultural, residential, commercial, and industrial), to determine the environmental condition of sites for real estate transactions. Projects involved both surface and subsurface evaluations of sites for a variety of hazardous substances.

# ASBESTOS AND LEAD INSPECTION AND RISK ASSESSMENTS

Responsible for asbestos inspections and lead inspections and risk assessments on commercial, multi-family, and single-family properties.

#### <u>Lead Based Paint Inspections and Risk Assessments,</u> Flint Housing Commission

Inspection of lead hazards throughout Flint's public housing complexes, dust wipe sample collection for laboratory analysis, XRF sampling, and writing the report to the Flint Housing Commission with findings and compliance requirements.

#### Large Apartment Complex in Flint, Michigan

Conducted asbestos inspections of over 100 residential units. Collected samples of suspect ACM for laboratory analysis. Provided report to the City of Flint with findings and compliance requirements.

#### INDOOR AIR QUALITY AND MOLD

Conducted mold assessments and verification sampling on municipal buildings, schools, and private facilities in the State of Michigan. Assessment scopes included mold identification and moisture infiltration, abatement scope design, and post abatement visual inspection and clearance sampling.

Conducted visual and indoor air quality clearance samples for multiple residential homes following ACM removal, prior to demolition, throughout the State of Michigan.

#### Highrise Apartment Building Detroit, Michigan

Monitored indoor air quality during removal of asbestos containing materials. Provided clearance air sampling upon completion.

#### Multiple School Buildings Detroit, Michigan

Performed visual inspection, tape lift samples, air sampling, and moisture readings to evaluate potential mold growth. Completed clearance inspection and

sampling after remediation and provided the client with a report of methods and findings.

#### PROPERTY CONDTION ASSESSMENTS

Completed inspections of commercial, industrial, and residential properties in the State of Michigan. Identified physical deficiencies, material defects, and deferred maintenance. Reported findings, including cost estimates for repairs and replacements deemed necessary.

#### **STORM WATER INSPECTIONS**

Performed inspections of construction sites to determine compliance with state storm water regulations. Reported deficiencies and recommend remedies.

#### Large Apartment Complex Howell, Michigan

Conducted weekly inspections during construction to ensure compliance with construction storm water regulations. Provided weekly report with findings, deficiencies, and remedy options to the client and County.

#### **WASTEWATER OPERATIONS**

#### Super Fund Site, St. Joseph, Michigan

Performed monthly maintenance and sampling to insure proper operation and compliance with applicable regulations. Maintained air striper and CatOx system for removal of VOCs from contaminated groundwater.

#### **AIR MONITORING**

#### Former McLouth Steel Site, Trenton, Michigan

Operated outdoor air monitoring and sampling stations to ensure chemicals of concern and fugitive dust did not leave the property. Performed real time air monitoring during demolition activities.





# Appendix B

Results of Asbestos Sample Analysis and Chain of Custody



# Test Method, Polarized Light Microscopy (PLM)



Project: 1540-1580 Siller Project #: 12703

 Report To:
 ARI Report # 23-103614

 Mr. David Amir
 Date Collected: 03/07/23

 ASTI Environmental
 Date Received: 03/09/23

 10448 Citation Dr., Suite 100
 Date Analyzed: 03/13/23

 Brighton, MI 48116
 Date Reported: 03/14/23

Sample Information

Asbestos Type/Percent

Non-Asbestos Material

Lab ID #: 103614 - 01 Asbestos Present: **NO** Cellulose - 20% Cust. #: 1A No Asbestos Observed Other - 80%

Material: Sink Undercoat-White

Location: 1580 Kitchen

Appearance: beige, fibrous, homogenous

Layer: 1 of 1

Lab ID #: 103614 - 02 Asbestos Present: **NO** Cellulose - 20% Cust. #: 1B No Asbestos Observed Other - 80%

Material: Sink Undercoat-White

Location: 1580 Kitchen

Appearance: beige, fibrous, homogenous

Layer: 1 of 1

Lab ID #: 103614 - 03 Asbestos Present: **YES** Other - 80%

Cust. #: 2A Chrysotile - 20%

Material: Linoleum-Beige, Brown, Pebble Pattern

Location: 1580 Kitchen

Appearance: beige, fibrous, homogenous

Layer: 1 of 1

For Layered Samples, each component will be analyzed and reported separately.

Robert T. Letarte Jr., Laboratory Director



# Test Method, Polarized Light Microscopy (PLM)



Project: 1540-1580 Siller Project #: 12703

 Report To:
 ARI Report # 23-103614

 Mr. David Amir
 Date Collected: 03/07/23

 ASTI Environmental
 Date Received: 03/09/23

 10448 Citation Dr., Suite 100
 Date Analyzed: 03/13/23

 Brighton, MI 48116
 Date Reported: 03/14/23

**Sample Information** 

Asbestos Type/Percent

Non-Asbestos Material

Lab ID #: 103614 - 04

Asbestos Present:

Cust. #: 2B

7 ISOCSIOS I TOSCIII

Material: Linoleum-Beige, Brown, Pebble Pattern

1

Location: 1580 Utility Room

NOT ANALYZED

Appearance: Layer: of

Lab ID #: 103614 - 05

Asbestos Present: **NO**No Asbestos Observed

Other - 100%

Other - 100%

Cust. #: 3A

Material: Floor Glue-Brown Location: 1580 Living Room

Appearance: yellow,nonfibrous,homogenous

Layer: 1 of 1

Lab ID #: 103614 - 06

Asbestos Present: **NO** 

Cust. #: 3B

No Asbestos Observed

Material: Floor Glue-Brown Location: 1580 Living Room

Appearance: yellow,nonfibrous,homogenous

Layer: 1 of 1

For Layered Samples, each component will be analyzed and reported separately.

Robert T. Letarte Jr., Laboratory Director



# Test Method, Polarized Light Microscopy (PLM)



Project: 1540-1580 Siller Project #: 12703

 Report To:
 ARI Report # 23-103614

 Mr. David Amir
 Date Collected: 03/07/23

 ASTI Environmental
 Date Received: 03/09/23

 10448 Citation Dr., Suite 100
 Date Analyzed: 03/13/23

 Brighton, MI 48116
 Date Reported: 03/14/23

Sample Information

Asbestos Type/Percent Non-Asbestos Material

Lab ID #: 103614 - 07 Asbestos Present: **NO** Other - 100%

Cust. #: 4A No Asbestos Observed

Material: Caulk-White Location: 1580 Kitchen

Appearance: white, nonfibrous, homogenous

Layer: 1 of 1

Lab ID #: 103614 - 08 Asbestos Present: **NO** Other - 100%

No Asbestos Observed

Cust. #: 4B

Material: Caulk-White Location: 1580 Bath

Appearance: white, nonfibrous, homogenous

Layer: 1 of 1

Lab ID #: 103614 - 09 Asbestos Present: **NO** Cellulose - 20% Cust. #: 5A No Asbestos Observed Other - 80%

Material: Drywall-White

Location: #

Appearance: beige, fibrous, nonhomogenous

Layer: 1 of 2

For Layered Samples, each component will be analyzed and reported separately.

Robert T. Letarte Jr., Laboratory Director



# Test Method, Polarized Light Microscopy (PLM)



Project: 1540-1580 Siller Project #: 12703

 Report To:
 ARI Report # 23-103614

 Mr. David Amir
 Date Collected: 03/07/23

 ASTI Environmental
 Date Received: 03/09/23

 10448 Citation Dr., Suite 100
 Date Analyzed: 03/13/23

 Brighton, MI 48116
 Date Reported: 03/14/23

Sample Information

Asbestos Type/Percent

Asbestos Present: NO

Asbestos Present: NO

Asbestos Present: NO

No Asbestos Observed

No Asbestos Observed

No Asbestos Observed

Non-Asbestos Material

Other - 100%

Cellulose - 20%

Other - 80%

Other - 100%

Lab ID #: 103614 - 09a

Cust. #: 5A

Material: Joint Compound

Location: #

Appearance: beige,nonfibrous,homogenous

Layer: 2 of 2

Lab ID #: 103614 - 10

Cust. #: 5B

Material: Drywall-White

Location: #

Appearance: beige, fibrous, nonhomogenous

Layer: 1 of 2

Lab ID #: 103614 - 10a

Cust. #: 5B

Material: Joint Compound

Location: #

Appearance: beige,nonfibrous,homogenous

Layer: 2 of 2

For Layered Samples, each component will be analyzed and reported separately.

Robert T. Letarte Jr., Laboratory Director



# Test Method, Polarized Light Microscopy (PLM)



Project: 1540-1580 Siller Project #: 12703

 Report To:
 ARI Report # 23-103614

 Mr. David Amir
 Date Collected: 03/07/23

 ASTI Environmental
 Date Received: 03/09/23

 10448 Citation Dr., Suite 100
 Date Analyzed: 03/13/23

 Brighton, MI 48116
 Date Reported: 03/14/23

Sample Information

Asbestos Type/Percent N

Non-Asbestos Material

Lab ID #: 103614 - 11 Asbestos Present: **NO** Cellulose - 20% Cust. #: 5C No Asbestos Observed Other - 80%

Material: Drywall-White

Location: #

Appearance: beige, fibrous, nonhomogenous

Layer: 1 of 2

Lab ID #: 103614 - 11a Asbestos Present: **NO** Other - 100%

No Asbestos Observed

Cust. #: 5C

Material: Joint Compound

Location: #

Appearance: beige,nonfibrous,homogenous

Layer: 2 of 2

Lab ID #: 103614 - 12 Asbestos Present: **NO** Cellulose - 20% Cust. #: 5D No Asbestos Observed Other - 80%

Material: Drywall #1-White

Location: #

Appearance: beige, fibrous, nonhomogenous

Layer: 1 of 4

For Layered Samples, each component will be analyzed and reported separately.

Robert T. Letarte Jr., Laboratory Director



### Test Method, Polarized Light Microscopy (PLM)



Project: 1540-1580 Siller Project #: 12703

 Report To:
 ARI Report # 23-103614

 Mr. David Amir
 Date Collected: 03/07/23

 ASTI Environmental
 Date Received: 03/09/23

 10448 Citation Dr., Suite 100
 Date Analyzed: 03/13/23

 Brighton, MI 48116
 Date Reported: 03/14/23

Sample Information Asbestos Type/Percent Non-Asbestos Material

Lab ID #: 103614 - 12a Asbestos Present: **NO** Other - 100%

Cust. #: 5D No Asbestos Observed

Material: Joint Compound

Location: #

Appearance: beige,nonfibrous,homogenous Layer: 2 of 4

Lab ID #: 103614 - 12b Asbestos Present: **NO** Cellulose - 20% Cust. #: 5D No Asbestos Observed Fiberglass - 2%

Material: Drywall #2 Other - 78%

Location: #

Appearance: beige,fibrous,nonhomogenous

Layer: 3 of 4

Lab ID #: 103614 - 12c Asbestos Present: **NO** Other - 100%

Cust. #: 5D No Asbestos Observed

Material: Joint Compound

Location: #

Appearance: beige,nonfibrous,homogenous

Layer: 4 of 4

For Layered Samples, each component will be analyzed and reported separately.

Robert T. Letarte Jr., Laboratory Director



# Test Method, Polarized Light Microscopy (PLM)



Project: 1540-1580 Siller Project #: 12703

 Report To:
 ARI Report # 23-103614

 Mr. David Amir
 Date Collected: 03/07/23

 ASTI Environmental
 Date Received: 03/09/23

 10448 Citation Dr., Suite 100
 Date Analyzed: 03/13/23

 Brighton, MI 48116
 Date Reported: 03/14/23

Sample Information Asbestos Type/Percent

Non-Asbestos Material

Lab ID #: 103614 - 13 Asbestos Present: **NO** Cellulose - 20% Cust. #: 5E No Asbestos Observed Other - 80%

Material: Drywall-White

Location: #

Appearance: beige, fibrous, nonhomogenous

Layer: 1 of 2

Lab ID #: 103614 - 13a Asbestos Present: **NO** Other - 100%

No Asbestos Observed

No Asbestos Observed

Cust. #: 5E

Material: Joint Compound

Location: #

Appearance: white,nonfibrous,homogenous

Layer: 2 of 2

Lab ID #: 103614 - 14 Asbestos Present: **NO** Other - 100%

Cust. #: 6A

Material: Brick Mortar-Grey

Location: #

Appearance: grey,nonfibrous,homogenous

Layer: 1 of 1

For Layered Samples, each component will be analyzed and reported separately.

Robert T. Letarte Jr., Laboratory Director



# Test Method, Polarized Light Microscopy (PLM)



Project: 1540-1580 Siller Project #: 12703

 Report To:
 ARI Report # 23-103614

 Mr. David Amir
 Date Collected: 03/07/23

 ASTI Environmental
 Date Received: 03/09/23

 10448 Citation Dr., Suite 100
 Date Analyzed: 03/13/23

 Brighton, MI 48116
 Date Reported: 03/14/23

**Sample Information** 

Asbestos Type/Percent

Asbestos Present: NO

Asbestos Present: NO

Asbestos Present: NO

No Asbestos Observed

No Asbestos Observed

No Asbestos Observed

Non-Asbestos Material

Other - 100%

Other - 100%

Other - 100%

Lab ID #: 103614 - 15

Cust. #: 6B

Material: Brick Mortar-Grey

Location: #

Appearance: grey,nonfibrous,homogenous

Layer: 1 of 1

Lab ID #: 103614 - 16

Cust. #: 7A

Material: Ext. Caulk-White

Location: #

Appearance: white, nonfibrous, homogenous

Layer: 1 of 1

Lab ID #: 103614 - 17

Cust. #: 7B

Material: Ext. Caulk-White

Location: #

Appearance: white, nonfibrous, homogenous

Layer: 1 of 1

For Layered Samples, each component will be analyzed and reported separately.

Robert T. Letarte Jr., Laboratory Director



### Test Method, Polarized Light Microscopy (PLM)



Project: 1540-1580 Siller Project #: 12703

 Report To:
 ARI Report # 23-103614

 Mr. David Amir
 Date Collected: 03/07/23

 ASTI Environmental
 Date Received: 03/09/23

 10448 Citation Dr., Suite 100
 Date Analyzed: 03/13/23

 Brighton, MI 48116
 Date Reported: 03/14/23

Sample Information Asbestos Type/Percent Non-Asbestos Material

Lab ID #: 103614 - 18 Asbestos Present: **NO** Cellulose - 20% Cust. #: 8A No Asbestos Observed Fiberglass - 5%

Material: Linoleum-Cream Other - 75%

Location: 1582 Utility Room
Appearance: beige, fibrous, homogenous

Layer: 1 of 1

Lab ID #: 103614 - 19 Asbestos Present: **NO** Cellulose - 20% Cust. #: 8B No Asbestos Observed Fiberglass - 5%

Material: Linoleum-Cream Other - 75%

Location: 1570 Utility Room

Appearance: beige, fibrous, homogenous

Layer: 1 of 1

Lab ID #: 103614 - 20 Asbestos Present: **YES** Other - 90%

Cust. #: 9A Chrysotile - 10%

Material: Vent Caulk-Grey

Location: 1582 Ext.

Appearance: beige, fibrous, homogenous

Layer: 1 of 1

For Layered Samples, each component will be analyzed and reported separately.

Robert T. Letarte Jr., Laboratory Director



# Test Method, Polarized Light Microscopy (PLM)



Project: 1540-1580 Siller Project #: 12703

 Report To:
 ARI Report # 23-103614

 Mr. David Amir
 Date Collected: 03/07/23

 ASTI Environmental
 Date Received: 03/09/23

 10448 Citation Dr., Suite 100
 Date Analyzed: 03/13/23

 Brighton, MI 48116
 Date Reported: 03/14/23

Sample Information Asbestos Type/Percent Non-Asbestos Material

Asbestos Present:

NOT ANALYZED

Asbestos Present: NO

Asbestos Present: NO

No Asbestos Observed

No Asbestos Observed

Lab ID #: 103614 - 21

Cust. #: 9B

Material: Vent Caulk-Grey

Location: 1540 Ext.

Appearance: Layer: of

Lab ID #: 103614 - 22

Cust. #: 10A

Material: 4" Cove Base-Tan

Location: 1572 Bath

Appearance: beige,nonfibrous,homogenous

Layer: 1 of 2

Lab ID #: 103614 - 22a

Cust. #: 10A

Material: Mastic Location: 1572 Bath

Appearance: beige,nonfibrous,homogenous

Layer: 2 of 2

For Layered Samples, each component will be analyzed and reported separately.

Robert T. Letarte Jr., Laboratory Director

Other - 100%

Other - 100%



# Test Method, Polarized Light Microscopy (PLM)



Project: 1540-1580 Siller Project #: 12703

 Report To:
 ARI Report # 23-103614

 Mr. David Amir
 Date Collected: 03/07/23

 ASTI Environmental
 Date Received: 03/09/23

 10448 Citation Dr., Suite 100
 Date Analyzed: 03/13/23

 Brighton, MI 48116
 Date Reported: 03/14/23

**Sample Information** 

Asbestos Type/Percent Non-Asbestos Material

Lab ID #: 103614 - 23 Asbestos Present: **NO** Other - 100%

Cust. #: 10B No Asbestos Observed

Material: 4" Cove Base-Tan Location: 1572 Bath

Appearance: beige,nonfibrous,homogenous

Layer: 1 of 2

Lab ID #: 103614 - 23a Asbestos Present: **NO** Other - 100%

No Asbestos Observed

Cust. #: 10B Material: Mastic Location: 1572 Bath

Appearance: beige, nonfibrous, homogenous

Layer: 2 of 2

Lab ID #: Asbestos Present:

Cust. #:
Material:
Location:
Appearance:
Layer: o

For Layered Samples, each component will be analyzed and reported separately.

Robert T. Letarte Jr., Laboratory Director



# APEX Research, Inc.

ADEV	
OF SE AND O	

11054 Hi Tech Drive, Whitmore Lake, MI 48189. Phone: (734) 449 - 9990, Fax (734) 449 - 9991 www.ApexMI.com

		en brive, which ore Lune, Fiz. 10103.	Date of Survey:				Lab Use Only
Customer	Name: ASTI		Project: 1540 -		iller		Log-In:
	)448 Citation Dr.		Project # <u>/770</u>	7			Report:
City, St., Zi	p: Brighton, MI, 481	69	Contact Person: _	Dave Amir			Fax:
Phone: 810	)-225-2800	Fax:	Email: damir@asti-	-env.com jsc	huitema@as	sti-env.com	Verbal:
Turn Around	Time: (circle one )***Tern	ns and conditions on the other side.	Circle analyses requ	ired, indicate	type and qua	antity	Email:
Rush	24 hour	Asbestos:	Bulk X Wipe	2	Point Count _	PCM	
48 hour	72 h <b>X</b> ur	Lead / Cad / Chrome:	Wipe ASTM E1792? circle	YES or NO	Air	Paint	Bulk
Other:			Bulk Air/Z	Zefon/Alergenc	oD	BioSIS	Tape
Samples received aft logged in next morning	•	TEM:	Bulk/NOB	NIOSH 7402_	EPA Le	evel II	Other
Lab ID	Customer ID#	Material/Lo	ecation	Volume	Area	Res	ults
3	14	Sink undreant - Whi	te 1580 K	itchin			
	18	11	()				
	24	Linoleum - Beign, B	roun, Pebble Paths	n - 1580	Kitchy		
	ZP	h	, ,,	1586	1 .	oon	
	34	Floor Glue - Bro	wr - 1588	Living	Room		
	3 B	h		"			
	44	Caulk - white -	1580 Kitchen				
	48	to 11	580 2914			RECEIVED	
	5 A	Drywill & Joint cong	ound - white -	1580		MAR 0 9 202	.3
	5 B			1570		APEX RESEAR	CLL
	5 6			1562		1 to V to / \ 1	
	5 D	<b>V</b>	<b>V</b>	1552			
Relinquished By Date: 3/8/E Revision R4 Date: Ma	. 8 (.)	Received By: KD Time/Date: 1:00	_ Relinquished By			eived By:	

# APEX Research, Inc.

	4
- 4	Side.
	No.
-40000000	924 1110000
490000000000000000000000000000000000000	VIA 1755000
968655,488	
VERTICAL STATE OF THE PARTY OF	######################################
2000	
-	Comment of the Commen
/ A FT	E
- A-	E A \

	11054 Hi Te	ch Drive, Whitmore Lake, MI 48189.  I	Phone: (734) 449 - 9990, Fa	ıx (734) 449 - 9	991 www.ApexM	iI.com	तिर्देश रेतिको
			Date of Survey: 3/7/2073				Lab Use Only
Customer I	Name: ASTI		Project: 1540 - 1580 Siller				Log-In:
	448 Citation Dr.		Project # <u>/2703</u>				Report:
City, St., Zip	: Brighton, MI, 481	69	Contact Person: Dave Amir Email: damir@asti-env.com jschuitema@asti-env.com				Fax:
Phone: 810	-225-2800	Fax:					Verbal:
Turn Around	<b>Time:</b> (c <i>ircle one</i> )***Term	s and conditions on the other side.	Circle analyses required, indicate type and quantity				Email:
Rush	24 hour	Asbestos:	Bulk X Wipe	***************************************	Point Count _	PCM	-
48 hour	72 h <b>X</b> ur	Lead / Cad / Chrome:	Wipe ASTM E1792? circle				Bulk
Other: TTP 1/4s /		no Mold:	Bulk BioSIS _			Tape	
Samples received after 3pm (Test Till Positive logged in next morning			Bulk/NOB	_			
Lab ID	Customer ID #	Material/Lo	cation	Volume	Area	Res	sults
	26	Drywell & Joint con	upoul - White -	1542			
	6 A	1 '	•				
The state of the s	6 B	Brink Morter - G	11 1542				
	74	Ext Caulk - White	- 1580				<u></u>
	78	le U					
	84	Linderm - Gream	- 1582 Utility	Rosm			
	8 B	u u	1570 Uhily	Room			
	94	Vent Caulk - Gay	- Usra	1582	Ext	RECE	EIVED
	9 B	h /	11	1540	RAF	MAD (	10 2022
	104	4" Cove 64h -	Tan - 1572	Bath		7017 () (	A 7053
	10 B	4	11			APEX R	ESEARCH
Relinquished By: Received By: Received By: Received By: Received By: Received By: Date: 3/8/2013 Time/Date: N:00 Date: Time/Date: Time/Date: Time/Date: May/2017							

# Appendix C

Photo Log



### **PHOTO LOG**

1540 - 1580 Siller Terrace, Ann Arbor, Michigan



**Photo 1.** A view of the typical Siller Terrace apartment building front



**Photo 2.** A view of the typical Siller Terrace apartment building side



**Photo 3.** View of the interior of the structure



### **PHOTO LOG**

1540 - 1580 Siller Terrace, Ann Arbor, Michigan



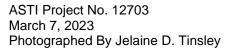
**Photo 4.** View of the asbestoscontaining linoleum in the entry area



**Photo 5.** View of the asbestoscontaining dryer vent caulk



**Photo 6.** View of the presumed asbestos-containing vibration dampener





### **PHOTO LOG**

1540 - 1580 Siller Terrace, Ann Arbor, Michigan



**Photo 7.** View of the presumed asbestos-containing bathtub undercoating and surround adhesive



#### **ASTI ENVIRONMENTAL**

# ENVIRONMENTAL INVESTIGATION, REMEDIATION, COMPLIANCE AND RESTORATION PROJECTS THROUGHOUT THE GREAT LAKES SINCE 1985.

#### **OUR SERVICES INCLUDE:**

- ASBESTOS, LEAD, MOLD, AND RADON ASSESSMENTS
- Brownfield/Greyfield Redevelopment Assistance
- DEVELOPMENT INCENTIVES AND GRANT MANAGEMENT
- ECOLOGICAL ASSESSMENTS AND RESTORATION
- Environmental Assessments and Impact Statements
- ENVIRONMENTAL OPPORTUNITIES ASSESSMENT
- GIS MAPPING
- HAZARD MITIGATION PLANNING
- MINING AND RECLAMATION ASSISTANCE
- REMEDIATION IMPLEMENTATION, OPERATION AND MAINTENANCE
- Phase I ESA and Environmental Due Diligence Assessments
- REGULATORY COMPLIANCE AND PERMITTING
- Soil and Groundwater Assessments
- Soil and Groundwater Remediation
- STORAGE TANK COMPLIANCE AND CLOSURE
- THREATENED AND ENDANGERED SPECIES SURVEYS
- WATERSHED AND STORMWATER MANAGEMENT PROGRAMS
- WETLAND DELINEATION, PERMITTING, MITIGATION AND BANKING

