Brigantine Apartments Property
1831 Brigantine Boulevard
East Bay Charter Township, Grand Traverse County, Michigan
Tax Parcel Identification Number: 03-220-049-50

SECTION 20107(a) SECTION 21304(c) COMPLIANCE ANALYSIS (DUE CARE PLAN)

Conducted Pursuant to Section 20126(1)(c) of
1994 Public Act 451, Part 201, as amended,
and the Rules promulgated thereunder

September 2024

Prepared for:

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Environmental ▪ Brownfield ▪ Asbestos

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1.0 EXECUTIVE SUMMARY

The Brigantine Apartments Property (hereafter referred to as the subject property) is approximately 38.57 acres in size and consists of one partially developed residential apartment complex parcel. There are two partial building foundations located on the eastern central portion of the property. These foundations will be removed for the redevelopment of the subject property. The areas surrounding the foundations had also been graded in preparation for the proposed prior development activities. The areas surrounding the foundations consisted of gravel roadway and parking areas that had been constructed for future paving, and will also be removed. The remaining areas of the parcel consist of undeveloped field and scrub shrub areas.

An environmental assessment was completed for the subject property to identify and evaluate the historical use of the property. The assessment of the subject property was conducted as part of the due diligence process on behalf of LIV, prospective purchaser of the property. The environmental due diligence process included a Phase I Environmental Site Assessment (Phase I ESA), Phase II ESAs, a Baseline Environmental Assessment (BEA) and a Section 7a Compliance Analysis (Due Care Plan) which were prepared by Otwell Mawby, P.C., Consulting Engineers. Historical environmental assessments were also completed for the property by several environmental consulting firms for the purchase and development of the subject property between 2003, 2004 and 2022. These reports are available for review at your request from the current owner of the property.

During the completion of the Phase I ESA, review of available historical assessment documents for the subject property identified the past use of four portions of the property as former fruit orchards. Fruit farming activities took place during the early 1930s through the early 1990s. The historical orchard areas will be developed as rental single-family residential housing.

Historical farming practices included the use of agrochemicals and fertilizers. This use is common to many properties located in East Bay Charter Township and northern Michigan. Common agrochemicals

used in orchards in the early 1930s and into the 1970s included several that are persistent (slow to break down) and immobile in the soil column. Environmental assessment conducted in the historical orchard areas have identified the presence of residual agrochemicals within the soil.

Due to potential presence of residual agrochemicals to remain on the subject property, soil sampling was completed in 2003, 2004, December 2023, January and July 2024. Soil samples were collected from six areas of the subject property identified as Orchard Area #1, Orchard Area #3, Orchard Area #4 - Undisturbed, Orchard Area #4 - Disturbed / Cut, Orchard Area #4 - Disturbed / Fill and the Restrictive Covenant Area. Soil samples were also obtained from the three stockpiled soil piles (i.e., small, medium and large) identified on the subject property.

The soil sampling utilized incremental sampling protocols, bioavailability analysis techniques and statistical analysis to define and characterize the residual agrochemicals.

Review of the soil analytical laboratory results for the samples collected from the subject property has identified arsenic, at concentrations in excess of the Michigan Department of Environment, Great Lakes and Energy (EGLE) Part 201 Generic Cleanup Criteria (GCC) in Orchard Areas #1 and #3. The arsenic was identified at concentrations in excess of EGLE GCC for Drinking Water Protection Criteria (DWP), Groundwater Surface Water Interface Protection Criteria (GSIP) and Direct Contact Criteria (DCC).

For site evaluation, EGLE has published generic residential cleanup criteria (i.e., GCC) for various potential exposure scenarios. As these criteria are generic, they were developed utilizing conservative assumptions. Comparison of the sample results to the generic residential criteria indicated all of the detected residual agrochemicals were below the criteria with the exception of arsenic. Arsenic is a common residual agrochemical and likely the result of historical use of lead arsenate, a common pesticide historically utilized in orchard areas across northern Michigan.

As part of the due diligence for the current owner, the three pathways identified above have been evaluated to determine if there is potential “complete” human exposure pathway in light of the current site conditions.

The potential for exposure as a result of the DWP criteria is “not complete” as the proposed residential development will be connected to the municipal water supply. Any potential future phases of

development, if proposed, will also be connected to the water supply. Therefore, the exceedance of DWP criteria for the identified arsenic in soil is not believed to result in unacceptable human exposure through ingestion of groundwater.

The potential for exposure as a result of the GSIP criteria is "not complete" as there is no surface water bodies located on the subject property or on surrounding properties in relative proximity to the site. The closest offsite surface water body is located at a distance of three quarters of a mile away. Based on the distance between GSIP impacts to the nearest surface water body, the GSIP is not considered a current relevant or a complete exposure pathway.

Direct Contact exceedances of the generic EGLE criteria were identified at several locations in Orchard Areas #1 and #3. To mitigate this potential exposure pathway the impacted soil from Orchard Area #1 will be relocated to Orchard Area #3, an area of similar impact. After relocation the area will be covered with a geotextile demarcation layer, covered with 12 inches of soil with no direct contact exceedances and stabilized with topsoil, seed and mulch. This will mitigate the direct contact pathway. The locations of the orchard areas are depicted on the figures included within the Due Care Plan.

The soil in the small soil pile has a drinking water protection exceedance for arsenic. These soils will be relocated to Orchard Area #3 (an area with comparable impact) and can be used as cover for the soil relocated from Orchard Area #1. The location of the small soil pile is depicted on the Due Care Plan Exhibit (Sheet C3.2) included within the Due Care Plan.

Considering the relocation of soil from former Orchard Area #1 to #3, and the construction and maintenance of the exposure barrier at the location of former Orchard Area #3, the potential for unacceptable exposure is mitigated for the two former locations. *In consideration of these results the direct contact human exposure pathway is not complete for the subject property.*

Following the relocation of soil to Orchard Area #3, inspection of the demarcation layer, clean topsoil cover and vegetation (exposure barrier) shall be made on a periodic basis sufficient to know the impacted topsoil remains covered with clean soil and stabilized with vegetation. Any areas disturbed during maintenance activities or damage that may result in the deterioration of the exposure barrier, will be repaired and recovered with the demarcation layer and twelve inches of clean topsoil and vegetation.

The roadway construction with the Restrictive Covenant Area will require a small area of cut. The soil excavated from the area of cut will be relocated to Orchard Area #3 and place below the exposure barrier. The area of cut for the development will be finished with two feet of clean soil cap along the edges of the roadway, or be capped with asphalt pavement and aggregate base. The location of the roadway is depicted on the Due Care Plan Exhibit (Sheet C3.2) included within the Due Care Plan.

Soil relocation activities on the subject property associated with Orchard Area #1, Orchard Area #3, the small soil pile and the Restrictive Covenant Area will adhere to Section 324.20120c, "Relocation of Contaminated Soil," of the Natural Resources and Environmental Protect Act (NREPA), Act 451 of 1994, as amended.

Additional more detailed discussion of the exposure pathway analysis can be found in the text of the Due Care Plan report dated September 2024, prepared by Otwell Mawby, P.C., Consulting Engineers.

2.0 SECTION 20107(a) COMPLIANCE ANALYSIS (Due Care Plan)

Otwell Mawby, P.C. (Otwell Mawby) has prepared this Section 20107(a) Compliance Analysis (Due Care Plan) for the subject property, as described below, on behalf of LIV AE EAST BAY, LLC, a Michigan limited liability company, the user of this report. The Brigantine Apartments Property (hereafter referred to as the subject property) is located at 1831 Brigantine Boulevard in East Bay Charter Township, Grand Traverse County, Michigan. The subject property consists of one undeveloped parcel comprising a total of approximately 38.57 acres of land. Refer to the included Figures 1 through 7 for the subject property site features. Also refer to the Overall Site Plan (Proposed) prepared by Mansfield Land Use Consultants (Mansfield) included as Attachment A.

This Due Care Plan was completed in accordance with Section 20107a of Part 201 of Act 451 (the Natural Resources and Environmental Protection Act (NREPA)), of 1994, as amended, including the Part 9 Rules. The regulation imposes "Due Care Obligations" on owners and operators of contaminated properties. These obligations include the following:

1. Undertake measures as are necessary to prevent exacerbation;

2. Exercise due care by undertaking response activity necessary to mitigate unacceptable exposure to hazardous substances, mitigate fire and explosion hazards due to hazardous substances, and allow for the intended use of the facility in a manner that protects the public health and safety;
3. Take reasonable precautions against the reasonably foreseeable acts or omissions of a third party and the consequences that foreseeably could result from those acts or omissions;
4. Provide reasonable cooperation, assistance, and access to the persons that are authorized to conduct response activities at the facility, including the cooperation and access necessary for the installation, integrity, operation, and maintenance of any complete or partial response activity at the facility. Nothing in this subdivision shall be interpreted to provide any right of access not expressly authorized by law, including access authorized pursuant to a warrant or a court order, or to preclude access allowed pursuant to a voluntary agreement;
5. Comply with any land use or resource use restrictions established or relied on in connection with the response activities at the facility; and
6. Not impede the effectiveness or integrity of any land use or resource use restriction employed at the facility in connection with response activities.

Residual impact to the soil was identified from historic agricultural orchard activities on the property. The subject property has been identified as a "Facility" as defined by Part 201 of Act 451 of 1994, as amended, due to the identification of arsenic in soil samples in excess of Michigan Department of Environment, Great Lakes and Energy (EGLE) Generic Cleanup Criteria (GCC) for Drinking Water Protection Criteria (DWP), Groundwater Surface Water Interface Protection Criteria (GSIP) and Direct Contact Criteria in soil.

Refer to the included figures for the locations of the sampling activities completed at the subject property.

The persons primarily responsible for the data assembly, interpretation, and technical conclusions presented in this Documentation of Due Care Compliance are Mark R. Collison,

C.E.S., Environmental Professional, and Roger L. Mawby, P.E., Project Manager, both of Otwell Mawby. Otwell Mawby understands LIV AE EAST BAY, LLC, a Michigan limited liability company, will acquire the subject property in September 2024 and has plans to redevelop the subject property as a rental single-family residential housing development.

The purpose of this document is to provide a Section 20107a Compliance Analysis, or "Due Care Plan". A BEA entitled "Brigantine Apartments Property, 1831 Brigantine Blouevard, East Bay Charter Township, Grand Traverse County, Michigan, Tax Parcel Identification Number: 03-220-049-50," was completed in July 2024. Refer to the BEA for information pertaining to the completion of the previous investigation activities which have been conducted for the subject property.

2.1 Detailed Characteristics of Property Use

The subject property is comprised of one partially developed parcel of land, situated in Section 20, Townships 27 North (T27N), Range 10 West (R10W), in East Bay Charter Township, Grand Traverse County, Michigan. The subject property is located along North Four Mile Road to the north of the intersection of North Four Mile Road and Headwaters Drive. The subject property is also located at the northeast corner of the intersection of Vanderlip and East Hammond Roads. The subject property has frontage along East Hammond Road to the south and Vanderlip Road to the west. The subject property is accessed off all of the surrounding roadways, and from Headwaters Drive to the south.

The subject property is currently comprised of a partially developed residential apartment complex, as shown on the attached Figures 2 and 3. There are two partial building foundations located on the subject property, and has the assigned address of 1831 Brigantine Boulevard. The foundations are located on the eastern central portion of the property. The areas surrounding the foundations had been graded in preparation for the proposed development activities. The areas surrounding the foundations also consisted of gravel driveway and parking areas which had been constructed for future paving. Three stormwater retention basins had also been developed along the northern portion of the subject property as part of the initial site preparation activities for development. Three stockpiled soil piles were also located on the western portion of the

property along Vanderlip Road. The remaining areas of the parcel consist of undeveloped field and scrub shrub areas.

Historically the subject property had been developed and used for orchards from approximately 1938 to the early 1990's. Portions of the four historic orchard areas exist on the subject property and are denoted as former Orchard Area #1, Orchard Area #2, Orchard Area #3 and Orchard Area #4. There is also a portion of the subject property that is denoted as the Restrictive Covenant Area, located along the western property boundary. Refer to the 1977 historical aerial photograph which depicts the former operations and is included as Attachment B. The locations of the four former orchard areas and the Restrictive Covenant Area are shown on Figure 2.

Former Orchard Area #1 had been located at the southwest corner of the subject property at the intersection of Vanderlip and Hammond Roads. This area has had the fruit trees removed and was reported to have had the impacted topsoil excavated and relocated to the ravine (Restrictive Covenant Area) directly to the north along Vanderlip Road.

Former Orchard Area #2 had been located along the west side of the subject property adjacent to Vanderlip Road. This area also has had the fruit trees removed and the impacted topsoil excavated and relocated to the ravine (Restrictive Covenant Area) directly to the south along Vanderlip Road.

Former Orchard Area #3 has had the fruit trees removed but is not known to have been historically developed or mass graded. It had been located on the southern and southwestern portions of the parcel.

Former Orchard Area #4 had been located on the northeast portion of the subject property and has had the fruit trees removed. Orchard Area #4 has experienced extensive disturbance with recent project grading activities. During the completion of the Phase II ESA investigation activities for the subject property, evaluation of the former orchard area was split into three subareas; an area undisturbed by the site grading, an area where soils were cut and removed, and an area where soils from the cut were placed.

The Restrictive Covenant Area is located on the west side of the subject property near the southwest corner and to the north of the intersection of Vanderlip and Hammond Roads (Refer to Figure 2 and Attachment C). Review of the historical documentation for the property indicated the impacted topsoil from the former Orchard Areas (#1 and #2, discussed above) along the west side of the subject property (adjacent to Vanderlip Road) were excavated and relocated into a ravine on the west side of the property.

During the completion of the site reconnaissance for the project, three stockpiled soil piles were noted on the western portion of the subject property along Vanderlip Road. Review of the previous documentation for the subject property did not provide any information pertaining to the pile's origins or their composition. It is speculated the soil piles were generated by onsite grading activities, however, was not able to be documented.

Otwell Mawby completed a Phase I Environmental Site Assessment (ESA) in March 2024 for the acquisition of the subject property. Based on information obtained from the Phase I ESA, two Recognized Environmental Conditions (RECs) were identified in connection with the subject property. The identified RECs are presented below.

Potential for Residual Agrochemicals on the Subject Property: Review of the historical aerial photographs show the subject property as being developed and utilized for agricultural orchard production activities beginning prior to 1938. The use of the subject property for agricultural orchard production activities and possible agrochemicals application continued into the late 1980's or early 1990s. The use of agrochemicals in conjunction with the agricultural orchard production since 1938 and the identification of the subject property as a "Facility", as a result of residual agrochemicals, was identified as a REC.

Stockpiled Soil Piles on the Subject Property: During the completion of the Phase I ESA site reconnaissance, three stockpiled soil piles were identified on the western portion of the subject property along Vanderlip Road. Review of aerial photographs for the location of the subject property indicated the soil piles were not evident on the 1999 aerial, but were visible on the 2006 aerial. Due to the potential for the soil piles to be impacted with residual agrichemicals, and the lack of documentation pertaining to the composition and origin, the soil piles were identified as a REC.

Along with the RECs presented above, review of available historical assessment documents for the subject property identified arsenic impacted soils above Michigan Department of Environment, Great Lakes and Energy (EGLE) Part 201 Generic Residential Cleanup Criteria

(GCC) remain on the property. The residual impact to soil of the subject property is the result of the historical orchard operations which took place from the early 1930s through the early 1990s. Various environmental assessments (i.e., Phase I, Phase II, and BEAs) for the subject property spanning from 2003/2004 through 2022 have been completed and were reviewed for the preparation of the 2024 reports.

Further review of the historical data for the subject property had identified concerns with previous sampling and the potential for residual agrochemical soil impact to remain in areas of the former Orchards #1 and #3 at concentrations above the Part 201 GCC.

At the time of the development of the subject property, it will be connected to all of the available utility services. Any additional development of the subject property will also be connected to the utility services.

2.1.1 Development Considerations

LIV AE EAST BAY, LLC, a Michigan limited liability company, will purchase the subject property in October 2024 and will redevelop the subject property as a rental single-family residential housing development. Refer to the figures included with this report for the location of the subject property and the Overall Site Plan (Proposed) included as Attachment A.

Based upon the findings of the Phase I ESA (March 2024), the RECs presented above were further investigated during the Phase II activities conducted at the subject property in December 2023 and January 2024 by Otwell Mawby. The Phase II ESA investigation activities consisted of the completion of soil borings and soil pile test pitting activities on the subject property, along with soil sampling and analyses for chemical constituents based on the associated RECs. The sampling activities which were conducted were completed in six areas of the subject property identified as the former Orchard Area #1 (samples, S-1 through S-12), Orchard Area #3 (samples, S-25 through S-45), Orchard Area #4, Undisturbed (samples, S-46 through S-51), Orchard Area #4, Disturbed / Cut (samples, S-52 through S-60), Orchard Area #4, Disturbed / Fill (samples, S-61 through S-78) and the Restrictive Covenant Area (samples, S-13 through S-24).

As part of the investigation of the subject property soil samples were also obtained from the three stockpiled soil piles identified on the subject property. The locations of the stockpiled soil piles are shown on Figure 2 and are depicted in Attachment C. Due to the large volume of soil remaining within the stockpiled soil piles, Otwell Mawby followed the Michigan Department of Environment, Great Lakes and Energy (EGLE) Incremental Sampling Methodology (ISM) and Applications, January 2018 Guidance Document, and the EGLE Sampling Strategies and Statistics Training Materials for Part 201. Each of the soil piles was considered to be one Decision Unit (DU): Decision Unit #1 – Small Soil Pile; Decision Unit #2 – Medium Soil Pile; Decision Unit #3 – Large Soil Pile. Twelve composited IS samples (four samples from each pile) were then submitted for analysis.

Completion of the Phase II ESA investigation (December 2023) did not fully delineate the extent of arsenic impact within the former Orchard Area #1 and Orchard Area #3. These areas are proposed to be part of the redevelopment of the subject property and will be partially graded as part of the construction process.

To further define extent of the arsenic impact in Orchard Area #1 and Orchard Area #3, on July 1, 2024, all of the proposed sampling locations for the two orchards were surveyed and staked at the subject property by Mansfield Land Use Consultants. This allowed for the collection of the additional samples and provided accurate sample locations in relationship to the proposed residences.

On July 2 and 3, 2024, Otwell Mawby returned to the subject property to collect additional samples from Orchard Area #1 (S-104 @ 0.5’, 1.0’, 2.0’ through S-117 @ 0.5’ 1.0, 2.0’) and Orchard Area #3 (S-79 @ 0.5, 1.0’, 2.0’ through S-103 @ 0.5, 1.0’, 2.0’) for further delineation of each of these areas. Samples were collected at each location from three depths of approximately 0.5, 1.0 and 2.0’ below the ground surface. These results are discussed further in Section 1.3.

Review of the analytical results from all of the soil samples collected from the subject property, exhibited concentrations of arsenic above the EGLE GCC for Drinking Water Protection Criteria (DWP), Groundwater Surface Water Interface Protection Criteria (GSIP) and Direct Contact Criteria (DCC). The results of the Phase II ESA investigations have identified the presence of impacted soil conditions likely attributable to the historical use of the subject property as orchard. The presence of constituents which were identified in the soil samples in excess of the EGLE GCC are discussed further in Sections 1.2 and 1.3. All of the soil analytical results are present in Table 1 included with the plan.

Due to the identification of arsenic within the site soil, specific recommendations for Due Care Compliance are detailed in Section 2.0 and summarized below:

- Personal Protective Equipment (Type I) including gloves, and clothing to cover arms and legs, should be worn by workers coming into contact with soil from Orchard Areas #1 and #3.
- Access to exposed soils (Orchard Areas #1 and #3) on the subject property should be limited to those individuals directly involved with any onsite maintenance or future development activities who have been informed of the nature and extent of the contamination and necessary protection measures.
- A demarcation layer and approximately 12 inches of unimpacted topsoil will be utilized as an exposure barrier for the residual soil impact identified on the subject property with direct contact exceedances;
- Any soils obtained from impacted areas that are transported off-site should be disposed at a licensed Type II landfill or further evaluated;
- Dust control measures shall be implemented at the sites during development activities that can be reasonably expected to generate dust such as, excavation, grading, scraping, raking, onsite transport, or other disturbance of soil.

To qualify for the exemption from environmental liabilities resulting from historic chemical releases on the subject property, it is imperative to be able to identify any new releases from historic contamination. Restricting chemical use in these areas, and to the degree feasible,

eliminating the use of these chemicals from operations in these areas will promote a means to accomplish this objective. The sample locations on the subject property with identified impact based on the Phase II ESAs are shown on the included figures.

Restricting chemical use in areas with residual environmental impact will ensure the ability to be able to distinguish between any potential new releases and the existing contaminants. The location of the impact has been identified in the upper soil horizon typically from 0 to 18 inches below grade at the subject property (former Orchards Areas, Restrictive Covenant Area and Small Soil Pile). A demarcation layer as part of an exposure barrier will be utilized to prevent unacceptable exposure to the existing soil contamination, and will denote the location of the remaining impact after the relocation activities discussed within this plan.

The proposed development of residential dwellings on the subject property are outside of the areas of identified agrochemical impact, and no unacceptable exposure is anticipated for minor gardening / landscaping activities near the houses occupied by the tenants. We understanded the yard mowing and general up keep will be performed by the owner of the property. Any activities by the tenants (landscaping, gardening, construction) should be controlled and managed by the owner. Notification to the tenants, any easement holders and maintenance personnel regarding the residual impact should be provided.

We understand the continued use of the subject property will not store any materials containing constituents identified in the soil at locations of the known impact, or in quantities greater than those of normal residential use.

This Due Care Plan will address potential unacceptable exposures during development, to construction workers, residents, and future users of the site, and the potential for the spread or exacerbation of the impacted soil; it will also describe the provisions necessary to mitigate those issues.

2.2 Additional Sampling Results

The laboratory results for the additional samples collected from the subject property on July 2 and 3, 2024, for Orchard Area #1 exhibited additional arsenic concentrations above the EGLE Part 201 GCC, as presented in Table 1. These samples area located along the eastern property boundary of the former Orchard Area #1, refer to Figure 4. This area is approximately 20 feet in width and extends from the southern property boundary 365 feet to the north to the Restrictive Covenant Area to the north as shown on Due Care Plan Exhibit (Sheet C3.2) prepared by Mansfield and included as Attachment C. This area of remaining impact appears to have been left in place and was not removed during the excavation and relocation activities in 2003/2004. The residual soil impact remaining within the former Orchard Area #1 is discussed further throughout this report.

The additional samples collected from former Orchard Area #3 were successful in the delineating the former extents of the area. The additional samples collected did not identify any arsenic concentrations above the EGLE Part 201 GCC. The results are presented in Table 1. The results of these samples provide a clear designation for the former location of Orchard Area #3 and the associated residual arsenic impact as shown on Figures 5 and 6, and the included Due Care Plan Exhibit (Sheet C3.2) as Attachment C.

The results from the additional samples will be utilized to direct the proposed grading on the site and the relocation of soil from the former Orchard Area #1 and the placement within Orchard Area #3. The results are presented in Section 1.3 and the management and relocation of soil on the subject property is discussed further in Section 3.0.

2.3 Hazardous Substance Information

Laboratory results did identify the presence of arsenic in soil samples collected from the subject property, at concentrations exceeding EGLE Part Generic 201 risk-based screening levels. The arsenic was identified at concentrations in excess of EGLE GCC for Drinking Water Protection Criteria (DWP), Groundwater Surface Water Interface Protection Criteria (GSIP) and Direct Contact Criteria (DCC).

The arsenic impacted soil was identified within the two former orchard areas of the subject property (Orchard Area #1 and Orchard Area #3), the Restrictive Covenant area and within the small stockpiled soil pile. Refer to the included figures for the sampling locations on the subject property.

The concentrations detected in the soil samples collected from the subject property from former Orchard Areas #1, Orchard Area #3, Restrictive Covenant Area and the Small Soil Pile are summarized below. All of the sample locations are depicted on the included Figures 3 through 7. The concentrations detected above EGLE Part 201 GCC are presented in the following tables.

FORMER ORCHARD AREA #1

Summary of Soil Concentrations Above GCC – Residential

Sample ID	Sample Depth (In./Ft.)	Parameter Exceeding Criteria / CAS #	Parameter Analytical Result (ug/Kg, ppb)	GCC Exceeded (ug/Kg, ppb)
S-1	0.5’	Arsenic CAS#: 7440382	19,000	DWP – 4,600 GSIP – 4,600 DCC – 7,600
S-5	0.5’	Arsenic CAS#: 7440382	8,300	DWP – 4,600 GSIP – 4,600 DCC – 7,600
S-9	0.5’	Arsenic CAS#: 7440382	20,000	DWP – 4,600 GSIP – 4,600 DCC – 7,600
S-10	0.5’	Arsenic CAS#: 7440382	26,000	DWP – 4,600 GSIP – 4,600 DCC – 7,600
S-104	0.5’	Arsenic CAS#: 7440382	27,000	DWP – 4,600 GSIP – 4,600 DCC – 7,600
S-104	1.0’	Arsenic CAS#: 7440382	4,800	DWP – 4,600 GSIP – 4,600
S-105	0.5’	Arsenic CAS#: 7440382	29,000	DWP – 4,600 GSIP – 4,600 DCC – 7,600
S-106	0.5’	Arsenic CAS#: 7440382	25,000	DWP – 4,600 GSIP – 4,600 DCC – 7,600
S-106	1.0’	Arsenic CAS#: 7440382	11,000	DWP – 4,600 GSIP – 4,600 DCC – 7,600
S-107	0.5’	Arsenic CAS#: 7440382	18,000	DWP – 4,600 GSIP – 4,600 DCC – 7,600

Sample ID	Sample Depth (In./Ft.)	Parameter Exceeding Criteria / CAS #	Parameter Analytical Result (ug/Kg, ppb)	GCC Exceeded (ug/Kg, ppb)
S-108	0.5’	Arsenic CAS#: 7440382	32,000	DWP – 4,600 GSIP – 4,600 DCC – 7,600
S-109	0.5’	Arsenic CAS#: 7440382	20,000	DWP – 4,600 GSIP – 4,600 DCC – 7,600
S-110	0.5’	Arsenic CAS#: 7440382	24,000	DWP – 4,600 GSIP – 4,600 DCC – 7,600
S-110	1.0’	Arsenic CAS#: 7440382	39,000	DWP – 4,600 GSIP – 4,600 DCC – 7,600

DWP – EGLE Part 201 Drinking Water Protection Criteria
GSIP – EGLE Part 201 Groundwater Surface Water Interface Protection Criteria
GCC – EGLE Part 201 Generic Cleanup Criteria
ug/Kg – Micrograms per kilogram (i.e., parts per billion/ppb)
CAS # - Chemical Abstract Service Number

FORMER ORCHARD AREA #3

Summary of Soil Concentrations Above GCC – Residential

Sample ID	Sample Depth (In./Ft.)	Parameter Exceeding Criteria / CAS #	Parameter Analytical Result (ug/Kg, ppb)	GCC Exceeded (ug/Kg, ppb)
S-25	0.5’	Arsenic CAS#: 7440382	12,000	DWP – 4,600 GSIP – 4,600 DCC – 7,600
S-26	0.5’	Arsenic CAS#: 7440382	12,00	DWP – 4,600 GSIP – 4,600 DCC – 7,600
S-27	0.5’	Arsenic CAS#: 7440382	11,000	DWP – 4,600 GSIP – 4,600 DCC – 7,600
S-29	0.5’	Arsenic CAS#: 7440382	11,000	DWP – 4,600 GSIP – 4,600 DCC – 7,600
S-31	0.5’	Arsenic CAS#: 7440382	15,000	DWP – 4,600 GSIP – 4,600 DCC – 7,600
S-32	0.5’	Arsenic CAS#: 7440382	25,000	DWP – 4,600 GSIP – 4,600 DCC – 7,600
S-35	0.5’	Arsenic CAS#: 7440382	6,700	DWP – 4,600 GSIP – 4,600
S-36	0.5’	Arsenic CAS#: 7440382	24,000	DWP – 4,600 GSIP – 4,600 DCC – 7,600

Sample ID	Sample Depth (In./Ft.)	Parameter Exceeding Criteria / CAS #	Parameter Analytical Result (ug/Kg, ppb)	GCC Exceeded (ug/Kg, ppb)
S-37	0.5’	Arsenic CAS#: 7440382	22,000	DWP – 4,600 GSIP – 4,600 DCC – 7,600
S-39	0.5’	Arsenic CAS#: 7440382	15,000	DWP – 4,600 GSIP – 4,600 DCC – 7,600
S-40	0.5’	Arsenic CAS#: 7440382	14,000	DWP – 4,600 GSIP – 4,600 DCC – 7,600
S-41	0.5’	Arsenic CAS#: 7440382	11,000	DWP – 4,600 GSIP – 4,600 DCC – 7,600

DWP – EGLE Part 201 Drinking Water Protection Criteria
GSIP – EGLE Part 201 Groundwater Surface Water Interface Protection Criteria
GCC – EGLE Part 201 Generic Cleanup Criteria
ug/Kg – Micrograms per kilogram (i.e., parts per billion/ppb)
CAS # - Chemical Abstract Service Number

RESTRICTIVE COVENANT AREA

Summary of Soil Concentrations Above GCC – Residential

Sample ID	Sample Depth (In./Ft.)	Parameter Exceeding Criteria / CAS #	Parameter Analytical Result (ug/Kg, ppb)	GCC Exceeded (ug/Kg, ppb)
S-14	0.5’	Arsenic CAS#: 7440382	21,000	DWP – 4,600 GSIP – 4,600 DCC – 7,600

DWP – EGLE Part 201 Drinking Water Protection Criteria
GSIP – EGLE Part 201 Groundwater Surface Water Interface Protection Criteria
GCC – EGLE Part 201 Generic Cleanup Criteria
ug/Kg – Micrograms per kilogram (i.e., parts per billion/ppb)
CAS # - Chemical Abstract Service Number

SMALL SOIL PILE

Summary of Soil Concentrations Above EGLE GCC – Residential

Sample Number	Sample Depth (In./Ft.)	Parameter Exceeding Criteria / CAS #	Parameter Analytical Result (ug/Kg, ppb)	GCC Exceeded (ug/Kg, ppb)
IS Sample (IS-1)	Varies	Arsenic CAS#: 7440382	4,900	DWP – 4,600 GSIP – 4,600
IS Replicate Sample 1 (IS-1)	Varies	Arsenic CAS#: 7440382	4,700	DWP – 4,600 GSIP – 4,600
IS Replicate Sample 3	Varies	Arsenic CAS#: 7440382	4,700	DWP – 4,600 GSIP – 4,600

Sample Number	Sample Depth (In./Ft.)	Parameter Exceeding Criteria / CAS #	Parameter Analytical Result (ug/Kg, ppb)	GCC Exceeded (ug/Kg, ppb)
(IS-1)				

DWP – EGLE Part 201 Drinking Water Protection
GSIP - EGLE Part 201 Groundwater Surface Water Interface Protection Criteria
GCC – Generic Cleanup Criteria
ug/Kg – Micrograms per kilogram (i.e., parts per billion/ppb)

The soil samples exhibited additional arsenic concentrations above the laboratory target detection limits but well below the EGLE Part 201 GCC, as presented in Table 1.

2.4 Potential Hazardous Substance Exposure Pathways

The exposure pathway analysis was completed considering the proposed use of the subject property by LIV AE EAST BAY, LLC, a Michigan limited liability company, as a rental single-family residential housing development.

The existing plans for the use of the subject property and the proposed development activities will include ground disturbance activities such as excavation, grading, building construction, infrastructure installation, and access to utilities. This Due Care Plan has been prepared to address the existing and proposed site uses. Refer to the Overall Site Plan (Proposed) included in Attachment A. The Due Care Plan includes provisions to address exacerbation of soil contamination and to mitigate potential unacceptable exposures based upon the identified soil impacts and proposed uses. If there are any future onsite activities which could potentially exacerbate the existing soil contamination, additional review by an Environmental Professional and preparation of a construction management plan may be needed.

Details regarding the identified hazardous substance concentration, fate, transport and exposure pathways are provided in the following sections. Potential human exposure pathways have been evaluated to determine whether any human exposure pathways are “complete” in light of current site conditions and the proposed use of the subject property as described above. If the exposure pathway was considered complete, additional evaluation of the human exposure pathways was conducted to determine whether there would be “unacceptable exposures” for the completed pathway. Potential exposure pathways that were screened included:

- Abandoned Containers;
- Ingestion of Groundwater (DWP and DWC);
- Indoor Air Hazards Due to Volatilization of Groundwater Contaminants;
- Groundwater Flammability / Explosivity;
- Acute Inhalation Risks Due to Volatilization of Groundwater Contaminants;
- Indoor Air Hazards Due to Volatilization of Soil Contaminants;
- Ambient Air Hazards Due to Volatilization of Soil Contaminants;
- Vapor Intrusion to Indoor Air;
- Direct Contact Criteria (DCC);
- Inhalation of Contaminated Soil Particles; and
- Groundwater/Surface Water Interface (GSIP and GSIC).

Based on the comparison of the data collected from the subject property to EGLE GCC, the potential hazardous exposure pathways with generic criteria exceedances are: 1) Drinking Water Protection Criteria (DWP), 2) Groundwater Surface Water Interface Protection Criteria (GSIP), 3) Direct Contact Criteria (DCC) for soils. Soil sample locations are depicted on the included Figures and laboratory analysis result are presented in Table 1.

The proposed and any additional future development activities on the site will first be evaluated by a qualified environmental professional with regard to potential exposure or exacerbation issues prior to being implemented. The following sections present the screening of each of these potential human exposure pathways and whether or not the pathway is considered complete. Planned response activities and due care actions necessary to prevent unacceptable human exposures are presented in Section 2.0, Planned Response Activities, for those pathways that are complete.

2.4.1 Abandoned Containers

At this time there are no known abandoned containers present at the subject property.

2.4.2 Ingestion of Groundwater (DWP and DWC)

Analytical results identified arsenic in the soil at concentrations in exceedance of the EGLE Part 201 DWP criteria (4.6 Milligrams / Kilogram (i.e., mg/Kg, parts per million)). The arsenic concentrations were identified within former Orchard Areas #1 and #3 and within the small

stockpiled soil pile. The proposed redevelopment of the subject property (rental single-family residential housing development) will be serviced by the municipal water system.

Any potential future phases of development will also be connected to the municipal water system. Therefore, the exceedance of DWP criteria for the identified constituent in soil is not believed to result in unacceptable human exposure through ingestion of groundwater and is not a complete human exposure pathway.

During the completion of the Phase II ESA investigation three of the sample results (IS Sample-IS-1; IS Replicate Sample 1 (IS-1); IS Replicate Sample 3 (IS-1)) for the small soil pile identified the presence of arsenic at concentrations in excess of the DWP criteria. As noted above the site will be connected to the municipal water supply at the time of development. However, due to the location of the soil pile on the subject property it will need to be relocated to allow for redevelopment activities. Relocation of the small soil pile will require it to be moved to a location on the subject property with existing similar concentrations of arsenic (former Orchard Area #3). The relocation of the soil impacted at concentrations above the DWP criteria from the small stockpile is discussed further in Section 3.0.

No water wells for potable or future use of groundwater for irrigation, or other use will be installed on the subject property without consultation with an Environmental Professional and the local health department.

2.4.3 Indoor Air Hazards Due to Volatilization of Groundwater Contaminants

No groundwater samples were collected from the subject property for comparison to the EGLE Part 201 Groundwater Volatilization to Indoor Air Inhalation criteria; therefore, this human exposure pathway is not complete.

2.4.4 Groundwater Flammability / Explosivity

No groundwater samples were collected from the subject property for comparison to the EGLE Part 201 Flammability and Explosivity criteria; therefore, this exposure pathway is not complete.

2.4.5 Acute Inhalation Risks Due to Volatilization of Groundwater Contaminants

No groundwater samples were collected from the subject property for comparison to the EGLE Part 201 Acute Inhalation criteria; therefore, this human exposure pathway is not complete.

2.4.6 Indoor Air Hazards Due to Volatilization of Soil Contaminants

No contaminants were identified in soil in excess of the EGLE Part 201 Soil Volatilization to Indoor Air Inhalation criteria; therefore, this human exposure pathway is not complete.

2.4.7 Ambient Air Hazards Due to Volatilization of Soil Contaminants

No contaminants were identified in soil in excess of the EGLE Part 201 Soil Volatilization to Ambient Air Inhalation criteria; therefore, this human exposure pathway is not complete.

2.4.8 Vapor Intrusion to Indoor Air

No contaminants were identified in soil in excess of the EGLE Media-Specific Volatilization to Indoor Air Interim Action Screening Levels for Residential and Non-residential Recommended Interim Action Screening Levels (RIASL).

2.4.9 Direct Contact with Contaminated Soil Residential

Arsenic is the only constituent that was identified during the Phase II ESA investigations at concentrations in excess of the EGLE Part 201 Generic Residential Direct Contact Criteria (7.6 mg/Kg). The arsenic impacted soil was identified within the Orchard Area #1 in ten of the samples, across the area of Orchard Area #3 in eleven of the samples collected, and at one location in the Restrictive Covenant Area. Refer to Figures 3, 4 and 5 for the sample locations.

To address the arsenic direct contact exceedances within the two orchard areas of the subject property, site-specific direct contact criteria was developed utilizing arsenic bioavailability. The site-specific direct contact criteria developed for each orchard utilized the samples which exceeded the EGLE Part 201 Generic Residential Direct Contact Criteria (7.6 mg/Kg).

Utilizing the arsenic bioavailability results for the samples, the Relative Bioavailability (RBA) value within the direct contact equation was modified to allow for the development of the site-

specific direct contact criteria. The equation can be referenced with a more complete description under the EGLE Part 201 rules, Rule 299.20 Generic Cleanup Criteria for Soil Based on Direct Contact. The site-specific direct contact criteria developed for each of the former orchard areas are discussed further in the following sections.

2.4.9.1 Former Orchard Area #1

The site-specific direct contact criteria for arsenic for former Orchard Area #1 of the subject property was calculated to be 19.0 mg/Kg. Three of the initial samples out of twelve, S-1 (19.0 mg/Kg), S-9 (20.0 mg/Kg) and S-10 (26.0 mg/Kg) collected from the Former Orchard Area #1 exceeded the site-specific direct contact criteria. These three samples are located along the eastern property boundary within the former Orchard Area #1 and appear to remain onsite as a result of the previous excavation activities (2003/2004) not extending to the property line.

To further delineate the remaining arsenic impact additional soil samples were collected to evaluate the vertical and horizontal extents of the impact. These samples S-104 @ 0.5', 1.0', 2.0' through S-117 @ 0.5' 1.0, 2.0' also identified the presence of arsenic at concentrations exceeding the site-specific direct contact criteria. The initial samples collected along with the additional samples have defined the area of remaining arsenic soil impact within former Orchard Area #1. The area of remaining impact is located along the east side of the former orchard and extends to the east subject property line and to the north to the Restrictive Covenant Area. The area of soil to be excavated and relocated is a strip which is approximately 20 feet by 365 feet, by 2 feet in depth. Refer to the included figures for the location of the soil to be relocated and the Due Care Plan Exhibit (Sheet C3.2) included as Attachment C.

Therefore, based on the residual arsenic concentrations this area remains a potential for unacceptable exposure and the pathway is complete. The defined area of former Orchard Area #1 is proposed to be relocated to former Orchard Area #3. The soil management and relocation of the residual arsenic impact from the area is discussed further in Section 3.0. The relocation of the impacted soil from Orchard Area #1 along with the installation of an exposure barrier (i.e., demarcation layer and the covering with the soil will eliminate / mitigate the direct contact exposure pathway for Orchard Area #1.

2.4.9.2 Former Orchard Area #3

The site-specific direct contact criteria for arsenic for former Orchard Area #3 of the subject property was calculated to be 21.9 mg/Kg. Three of the initial samples out twelve, S-32 (25.0 mg/Kg), S-36 (24.0 mg/Kg) and S-37 (22.0 mg/Kg) collected from the Former Orchard Area #3 exceeded the site-specific direct contact criteria. These three samples are located at the northeast corner and in the central portion of the former orchard.

To further delineate the remaining arsenic impact additional soil samples were collected to evaluate the vertical and horizontal extents of the area. These samples S-79 @ 0.5, 1.0', 2.0' through S-103 @ 0.5, 1.0', 2.0' also identified the presence of arsenic at concentrations above the method detection limits, but below the Part 201 GCC for residential. The initial samples collected along with the additional samples have defined the area of remaining arsenic soil impact within former Orchard Area #3. The area of residual arsenic impact remains within the presumed northeast corner and in the central portion of the former orchard as shown on Figures 5 and 6, and the Due Care Plan Exhibit (Sheet C3.2) included as Attachment C.

The former Orchard Area #3 portion of the subject property is undeveloped and consists of a sloped wooded terrain along the northern portion leading to a plateau along the southern portion. As noted above, the areas of former Orchard Area #3 with residual soil impact are going to be utilized for the relocation of the arsenic impacted soil from Orchard Area #1 (discussed above). This area is currently covered with natural tree and scrub brush vegetation. This area is proposed to be partially cleared in preparation for the site grading and soil relocation activities. The former Orchard Area #3 located to the south and west of the proposed residential development (proposed residential dwellings 74 through 79 and 107 through 112) is spatially separated from the proposed portions of the property developed with residences. This area will serve as a buffer area to the existing residential use to the south. The area is not designated to be developed and is proposed as open space common area in the development. It can be reasonably concluded that access to this area will be less frequent than the areas with residential structures.

Former Orchard Area #3 will be utilized for the relocation of arsenic impacted soil from the former Orchard Area #1, and the relocation of the small soil pile for cover material. This area will remain undeveloped with no plans for use in the proposed residential development. The three initial samples, S-32 (25.0 mg/Kg), S-36 (24.0 mg/Kg) and S-37 (22.0 mg/Kg) collected from the Former Orchard Area #3 which exceeded the site-specific direct contact criteria will be covered with a demarcation layer and 12 inches of soil.

2.4.9.3 Restrictive Covenant Area

During the completion of the Phase II ESA investigation arsenic was identified in one sample (S-14) out of the twelve collected from the Restrictive Covenant Area of the subject property at a concentration in excess of the EGLE Part 201 Generic Residential Direct Contact Criteria (7,600 ug/Kg). Due to the one exceedance within this area, the statistically based 95% Upper Confidence Levels (UCLs) for arsenic was calculated for the data set, and compared to the EGLE Part 201 GCC. The calculated 95% UCL for the restrictive covenant area of the subject property did not exceed the SDBL (5,800 ug/Kg) and the EGLE Part 201 GCC for Direct Contact Criteria (7,600 ug/Kg). Considering the 95% UCL is below the Direct Contact Criteria, the probability for unacceptable exposure as a result of the one exceedance is mitigated, and therefore, the direct contact exposure pathway is not complete.

Development of the subject property will include the construction of a roadway within the Restrictive Covenant Area which provides access to the subject property from Vanderlip Road. A small area of cut is proposed. Refer Figure 3 and the Due Care Plan Exhibit (Sheet C3.2) included as Attachment C. The area of the cut is assumed to be impacted and the soil will be relocated to former Orchard Area #3 (refer to Figure 6, Due Care Plan Exhibit (Sheet C3.2)). The Restrictive Covenant Area disturbed by the road construction will be capped by road gravel base and asphalt pavement or 2 feet of soil. This development within the Restrictive Covenant Area is discussed further in Section 3.0.

2.4.10 Inhalation of Contaminated Soil Particles

No contaminants were identified in soil in excess of the EGLE Part 201 Particulate Soil Inhalation criteria; therefore, this human exposure pathway is not complete. The maximum

concentrations of the contaminants identified in the soil at the subject property are significantly less than the established criteria and use of the property would not result in unacceptable human exposures.

2.4.11 Groundwater/Surface Water Interface Protection

Arsenic, was identified in the soil samples collected from the subject property at concentrations in excess of the EGLE Part 201 GSIP Criteria as presented in Section 1.3. For GSIP to be considered relevant or a complete pathway, surface water would have to exist on the property or be in relative proximity to the subject property. There no surface water bodies located on the surrounding properties within close proximity to the subject property. There are currently no onsite water bodies. The closest offsite surface water body is located at a distance of three quarters of a mile away. Based on the distance between GSIP impacts to the nearest surface water body, the GSIP is not considered a current relevant or a complete exposure pathway.

3.0 PLANNED RESPONSE ACTIVITIES

The Phase II ESA activities conducted by Otwell Mawby identified the presence of arsenic in soil at concentrations in excess of the GCC on the subject property. The sample locations with GCC exceedances are shown on the attached Figures 4 through 7. Based on the existing development of the subject property for a residential apartment complex, the response activities noted in Section 2.1 will be implemented in consideration of the known environmental impacts.

3.1 Response Activities

The following general response activities are planned for the subject property based upon the identified future commercial use of the site:

1) No hazardous substances will be used in the future.

2) No new water wells, including those for landscape irrigation purposes, will be installed at the subject property without further review by an Environmental Professional and approval by the Grand Traverse County Health Department. The subject property will be serviced by the municipal system for potable water.

3) Contractors, easement holders, and any site workers (such as construction and utility personnel) will be advised as to the nature and location of contaminated soil on the subject property and of the measures necessary to protect themselves from unacceptable exposure to the contamination.

4) During construction activities within areas of known impact, former Orchard Areas #1 and #3 and the Restrictive Covenant Area, workers shall minimize direct dermal contact with soil via the use of gloves and work clothing or disposable over-cloths to minimize exposed skin area. Exposed skin should be washed thoroughly with soap and water as soon as possible after exposure. Gloves and work clothing should be cleaned of soil each day before leaving the site, and if necessary, laundered before being worn again

5) Plans for landscaping, grading, excavation, drilling, or drainage modification activities in the areas of known impact, including stormwater management, should be reviewed by a qualified Environmental Professional prior to implementation to assure that no exacerbation or unacceptable exposures may result from these activities.

6) Precautionary measures shall be implemented to eliminate the risk of erosion, runoff and non-natural infiltration in the area of former Orchard Area #3. Site grading, stormwater controls and erosion protection measures shall be implemented to prevent contamination migration through precipitation runoff and erosion during the relocation of the soil from former Orchard Area #1 to #3 and the Restrictive Covenant Area.

7) To limit the possible release of contaminants to the air as dust, dust control measures shall be implemented at the sites during activities that can be reasonably expected to generate dust such as, excavation, grading, scraping, raking, onsite transport, or other disturbance of soil. Dust control measures may include lightly spraying the area with water.

8) Soils located on the subject property will not be relocated to any other property. Any soils taken off the property will need to be evaluated and/or characterized and, if

determined to contain contaminants above EGLE Criteria, taken to a licensed solid waste disposal facility. Any characterization should be discussed with the landfill in advance of offsite transport to ensure their acceptance of the waste.

9) All construction equipment, transport trucks and tools brought onto the site during excavation and construction activities, shall not have adhered soil, if present, on them prior to leaving the site.

10) The existing surface water flow patterns across the subject property should be maintained. Should future activities at the subject property require stormwater management features, design of the system(s) shall take into consideration the nature and location of soil contamination at the subject property and shall not significantly increase the infiltration of stormwater through the impacted area or be installed in such a manner that would otherwise exacerbate the known contamination.

11) Near surface soils that have generic criteria exceedances should be managed onsite. Based on our exposure pathway evaluation the Drinking Water Protection and Groundwater Surface Water Interface Protection Criteria are not complete pathways. Additionally, the Direct Contact exposure pathway has been mitigated by development of site-specific criteria, relocation and capping of arsenic impacted soil.

12) Soil relocation activities on the subject property associated with former Orchard Area #1, Orchard Area #3 and the Restrictive Covenant Area will adhere to Section 324.20120c, "Relocation of Contaminated Soil," of the Natural Resources and Environmental Protect Act (NREPA), Act 451 of 1994, as amended. A copy is included in Attachment D. Soil relocation and management for the subject property is discussed further in Section 3.0.

13) The relocation of arsenic impacted soil on the subject property will only be to areas which have been shown to contain similar arsenic concentrations. Therefore, the identified soil from former Orchard Area #1 will be placed within the defined area of former Orchard Area #3. Refer to Figure 6 and the Due Care Plan Exhibit (Sheet C3.2).

The soil being removed from the Restrictive Covenant Area for the development of the access roadway will also be relocated to the former Orchard Area #3.

14) The relocation of arsenic impact soil in the upper 0 to 18 inch soil horizon from the eastern most portion of former Orchard Area #1 to Orchard Area #3, and the from within the Restrictive Covenant Area will be documented with the total volume of soil moved, dates of relocation, photographic documentation of specific exposure barrier components that are representative of the entire construction, and product specification sheets (demarcation layer).

15) Following relocation of the soil to former Orchard Area #3, it will be covered with an exposure barrier. The exposure barrier will be comprised of a demarcation layer (i.e., non-biodegradable material, geotextile fabric) and twelve inches of topsoil and vegetated to prevent erosion. Inspection of the demarcation layer, clean topsoil cover and vegetation shall be made on a periodic basis sufficient to know the impacted topsoil remains covered with clean soil and stabilized with vegetation. We propose a visual inspection every three months with a written report documenting the inspection. The inspection frequency can be evaluated and modified in the future, once the vegetation has been established for the newly placed topsoil. After the vegetation has been established the areas of soil relocation with exposure barrier will be maintained and checked for integrity and any evidence of deterioration on a semi-annual basis to limit and manage the potential for contact with the impacted site soil. All records of the initial and annual inspections will be maintained by the property owner and made available upon request. Refer to section 3.0 below for more information pertaining to the relocation of impacted soil.

16) During the development of the roadway within the Restrictive Covenant Area the sides of the roadway will be restored with 24 inches of clean soil to maintain the protective cap over the previously relocated soil. The area of the roadway will rely on the engineered road base and surfacing material (i.e., compacted sand, gravel and asphalt pavement) to provide the protective cover.

17) Any areas disturbed during maintenance activities or damage that may result in the deterioration of the exposure barrier, will be repaired and recovered with the demarcation layer and twelve inches of clean topsoil and vegetation.

18) Any imported material (i.e., topsoil, backfill, or any other soil materials which are brought to the site) must be approved by the Construction Manager and/ or Owner and verified to be non-environmentally impacted prior to being brought onsite. The site Environmental Professional may be consulted to determine the appropriate parameters for the determination.

19) In the case of further development and use of the site the Due Care Plan will be modified dependent upon the specific development activities and future use of the site to address potential exacerbation and exposure issues.

20) Safety awareness training or other appropriate training sufficient to educate workers to the potential exposures and mitigation measures are recommended for site work contractors and subcontractors and employees, working in the areas with impacted soil.

4.0 RELOCATION AND SOIL MANAGEMENT ACTIVITIES

To address the arsenic that was identified at concentrations in excess of the EGLE Part 201 Generic Residential Direct Contact Criteria (7.6 mg/Kg) and the established site-specific direct contact criteria, relocation and soil management activities will be completed on the subject property. These activities will be conducted within the former Orchard Areas #1 and #3 which have arsenic exceedances of the site-specific direct contact criteria. Soil relocation will also be necessary for the development of the access roadway which is proposed to cross the Restrictive Covenant Area of the subject property. The activities are discussed further in the following Sections.

4.1 Former Orchard Areas #1 and #3

The arsenic impacted soil from Orchard Area #1 has been defined by the Phase II ESA investigations that have been conducted for the subject property. The area of residual impact within former Orchard Area #1 will be excavated and relocated to former Orchard Area #3, an

area with similar arsenic concentrations. The area of residual arsenic impacted soil to be excavated lies along the eastern property boundary line at the southeast corner of the subject property as shown on Figures 1 and 4. The area is bounded to the north by the Restrictive Covenant samples S-13, S-19 and S-21 and extends to the southern property line (along Hammond Road). The area extends to the east property line and is defined to the west by soil samples S-2, S-8, S-11, S-111 and S-112. The residual arsenic impacted soil is approximately 20 feet in width, 365 feet in length and 2 feet in depth. Refer to Figures 1 and 4, and the Due Care Plan Exhibit (Sheet C3.2) included in Attachment C.

Former Orchard Area #3 is defined by the eastern and southern property lines. The area is defined to the north and west by soil samples S-79 through S-89 which were shown to be non-detect or below the Part 201 GCC. The soil material being relocated from former Orchard Area #1 will be placed within these defined limits of former Orchard Area #3. Refer to Figures 5 and 6, and the Due Care Plan Exhibit (Sheet C3.2).

As noted in Section 2.1, all of the relocation activities and exposure barrier construction will be documented. Documentation will include the total volume of soil moved, dates of relocation, photographic documentation of specific exposure barrier components that are representative of the entire construction, and product specification sheets (i.e., demarcation layer). The documentation will be maintained and available upon request

Soil relocation activities on the subject property will adhere to Section 324.20120c, “Relocation of Contaminated Soil,” of the Natural Resources and Environmental Protect Act (NREPA), Act 451 of 1994, as amended.

The relocating of the contaminated soil and covering with an exposure barrier will utilize recommendations made within the EGLE March 24, 2024 Guidance Document, “*Exposure Barriers for the Direct Contact Pathway: Design, Documentation, and Management Guidance Under Part 201”*. Upon the placement of the relocated soil, the area will be covered with a constructed exposure barrier.

An exposure barrier is a protective cover that is designed to prevent contact with near surface soils present at the subject property that contain select chemical constituents at concentrations that do or could pose an unacceptable exposure if residents/ property users of the property were to come into direct contact with the noted soil. The exposure barrier is designed to protect against adverse health effects to potential long-term (chronic) ingestion of and dermal contact with contaminated soil. The exposure barrier is being utilized as an engineering control to prevent a potential exposure through direct contact with impacted soils. As soils containing exceedances to the Direct Contract Criteria, established under Part 201 of MI P.A. 451 of 1994, as amended, are intended to remain onsite, the exposure barrier discussed within this report must remain in place and its integrity maintained. The exposure barrier is comprised of several components as discussed below.

The relocated soil will be covered with the demarcation layer that is a durable non-biodegradable material installed as a marker to indicate that the soil beneath is contaminated and that maintenance and/or repairs to the exposure barrier is necessary when it becomes exposed. The demarcation layer will be installed below the soil cap. The demarcation layer should be an easily distinguishable geotextile (examples: MIRAFI 140NLO and TerraTex SD Orange).

The cover material will include soil contained in a small stockpiled soil pile as present above (refer to Section 1.3). Due to the DWP and GSIP exceedances, the soil will need to remain onsite and can be relocated to the former Orchard Area #3 (i.e., similar concentrations). The soil pile does not exceed Direct Contact Criteria and can be used as cap soil. The cover material will be stabilized, with seed and mulch, or another material deemed acceptable by the Owner and the site Environmental Professional.

The exposure barrier components, as discussed above, are to remain and be maintained. To verify the constructed integrity of the exposure barrier remains in place over time, inspection and maintenance requirements will be adhered to and conducted by a person designated by the owner/ operator.

A visual inspection of the location of the relocated soil on the subject property is to be completed on a regular basis. The inspections should consist of a walkthrough of the entire area to document the conditions of surficial cover, determine if repairs are needed to keep the integrity of the barrier intact, and determine, if necessary, any required repair or replacement actions required for the barrier, and establish a timeline for repair/ replacement. Areas of grass and landscaping are more likely to have the potential for a breach of the exposure barrier to occur as the surfaces are pervious. These areas are to be inspected on a more frequent basis until the vegetation has become established or in the event of a reported change in the components condition. Any necessary repair to the cap is to occur immediately to prevent potential exposure to direct contact exceedance containing soils.

The inspection frequency indicated above is meant to be a guide, additional, more frequent inspections may be required due to site conditions (i.e., establishment of vegetation, landscaping, etc.). A reduction in inspection frequency can be considered through consultation with an Environmental Professional.

The attached forms (Forms 1 and 2 in Attachment E) are required to be completed to document the inspections and to assist in recording the exposure barrier inspections, including details of its condition to ensure it is in place as designed, planning for work to be completed to re-establish the barrier if damaged, and to document any repairs.

Any activities that result in disturbance to the exposure barrier shall not be completed without prior authorization by the owner or their designated representative. In the event a breach to the barrier occurs, whether due to its use or in the event a breach is required for maintenance activities, the owner and/ or their designated representative shall be notified immediately. Replacement/ repair of the barrier is also required to be re-established based on the construction details as presented above.

As the exposure barrier is going to be installed as an engineered control to protect against a potential exposure to soils that contain Direct Contact exceedances the following activities are to be prohibited within the former Orchard Area #3 onsite:

1. Disturbance of the exposure barrier by any entity without prior authorization of the owner shall be strictly prohibited.
    a. Tenants and contractors must not disturb any areas of the site where the barrier is present, which is detailed on Figure 8. This includes planting, digging, excavation, or any other activity that impedes the integrity of the barrier.
        i. A notification to the tenants shall be supplied as a component of their lease.
        ii. Contractors shall be notified by the owner and/ or the property manager prior to completing work onsite where disturbance of the exposure barrier could occur.
2. Any disturbance to the exposure barrier that occurs, whether planned or not, shall be inspected using the forms in Attachment E and if required, repair to the barrier shall be completed.

Residents, contractors, etc. shall contact the designated property manager / owner for questions related to the exposure barrier. A representative of the owner will be able to respond to questions or provide contacts to office property management personnel and/ or the site Environmental Professional.

4.2 Restrictive Covenant Area

During the completion of the Phase I ESA for the subject property, documentation review for the report indicated that approximately 19,308 cubic yards arsenic impacted topsoil was relocated to a former ravine on the southern portion of the property along Vanderlip Road. This area has been identified as the Restrictive Covenant Area of the subject property. Refer to Figures 2 and 3, and the Due Care Plan Exhibit (Sheet C3.2). The arsenic impacted material was reportedly placed in a ravine and then covered with 2 feet of clean cover material to eliminate any potential direct contact with the contaminated soil. As a result of the relocation of the impacted topsoil, a Restrictive Covenant (EGLE REF# RC-RRD-201-15-085 / SITE ID# 28000386) was prepared and filed with Grand Traverse County Register of Deeds on January 21, 2015 for the subject property. A copy of the Restrictive Covenant which depicts the location on the subject property with the prohibited uses is included as Attachment F.

The proposed development of an access roadway within the Restrictive Covenant Area will require the excavation and relocation of soil material from one small area to former Orchard

Area #3. The relocated soil will be placed beneath the planned exposure barrier. Refer to the Due Care Plan Exhibit (Sheet C3.2), Attachment C. The development of the roadway (i.e., compacted sand and gravel bases and asphalt pavement) will be utilized as the protective cover for previously relocated soil materials from the subject property. The areas disturbed along the sides of the roadway as a result of the relocation activities will be restored with a demarcation layer and 24 inches of clean soil with seed and mulch.

All of the relocation and restoration activities will be documented in written form. These will include the total volume of soil moved, dates of relocation, photographic documentation of specific activities that are representative of the entire construction and restoration activities.

5.0 EVALUATION AND DEMONSTRATION OF COMPLIANCE WITH SECTION 7A OBLIGATIONS

Section 20107a of Part 201 of NREPA and its rules requires evaluation of due care, exacerbation, and responsible precautions for third parties, as described in the following sections.

5.1 Due Care

Potential third-party exposure to contaminated soil at the subject property will be mitigated by implementation of the Planned Response Activities outlined in Section 2.0, and the Soil Management Activities outlined in Section 3.0 of this Due Care Plan. As impacted soil may be encountered by third parties during site development or maintenance, these activities will be reviewed by a qualified Environmental Professional and adjusted as necessary to ensure such activities do not cause unacceptable exposures or exacerbate the contamination.

Prior to any future maintenance or construction activities, including stormwater management activities, disturbance to the impacted areas will be addressed in accordance with this Due Care Plan. Future activities at the subject property that may require subsurface disturbance and/or exposure to contaminated soil will be clearly detailed and reviewed by an Environmental Professional for potential exacerbation and exposure issues and to determine if additional due care procedures should be implemented.

1) During any activities which may disturbed the site soil, temporary soil erosion measures will be utilized. Upon completion of site activities, exposed soil areas not covered with structures or hard surfaces will be stabilized with clean topsoil and vegetative cover.
2) Areas of the subject property which have not been developed with structures or pavement, will not be disturbed, and will be maintained with existing natural vegetative cover. These activities will mitigate the potential of human exposure to impacted soils.
3) Limited access to the southern portion of the subject property in the former Orchard Area #3 will also be maintained with no improved access routes or pathways without further evaluation of potential exposures.
4) The exposure barrier for Orchard Area #3 will be maintained and checked for integrity on a periodic basis to limit and manage the potential for contact with the contaminated soil remaining onsite.
5) No additional development activities will be conducted within the Restrictive Covenant Area of the subject property without further review by an Environmental Professional.

5.2 Exacerbation

LIV AE EAST BAY, LLC, a Michigan limited liability company, will ensure that activities at the subject property do not exacerbate the existing soil contamination. Exacerbation is defined as any activity that could cause the contamination to spread or be made worse, as well as any activity that would increase the costs of addressing said contamination. The proposed development of the subject property involving disturbances to or use of the contaminated soil is planned. The development will be completed in consideration of limiting any runoff from impervious surfaces such as pavements, sidewalks, pathways, and parking lots into the identified areas of impact. The exposure barrier will be inspected on a regular basis and maintenance if needed will be conducted within a timely manner to prevent exacerbation. Any future development activities may require additional sampling and preparation of an ECM Plan.

Any future soil disturbance or development activities on the site will require additional analysis and development of an environmental construction management plan and conducted in accordance with Section 324.20120c, “Relocation of Contaminated Soil,” of NREPA, Act 451 of 1994, as amended. A copy is included in Attachment D.

The Planned Response Activities outlined in Section 2.0 of this Due Care Plan effectively address potential exacerbation issues.

5.3 Reasonable Precautions for a Third Party

For potential third parties, people who would access the property, property tenants, customers, or those accessing the property for utility work or construction, the likelihood of exposure to contaminated soil is remote. No ground-disturbing activities or activities that could access impacted soil, including excavation or dewatering and stormwater management activities, will be allowed without prior review and oversight by a qualified Environmental Professional. Property management personnel will be notified of the restricted access to the zones of contamination and easement holders will be notified prior to any on-site ground-disturbing activity. The owner will notify all contractors of the restrictions and requirements concerning the known zone of contamination prior to their access to the site so that proper precautions can be taken.

5.4 Other

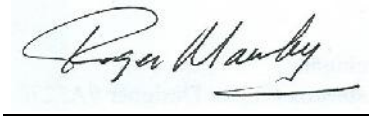
If site workers identify any suspect contamination during any future ground-disturbing activities, a qualified Environmental Professional shall be contacted to determine impact and appropriate precautionary actions.

6.0 CONCLUSIONS

This Documentation of Due Care Compliance was prepared in conjunction with and relies upon information developed in the Phase I and Phase II ESAs and BEA. The details and supplemental information regarding this site are provided in this Documentation of Due Care Compliance or in the supporting documents referenced above. This information should be reviewed in its entirety to provide background information supportive of this Documentation of Due Care Compliance.

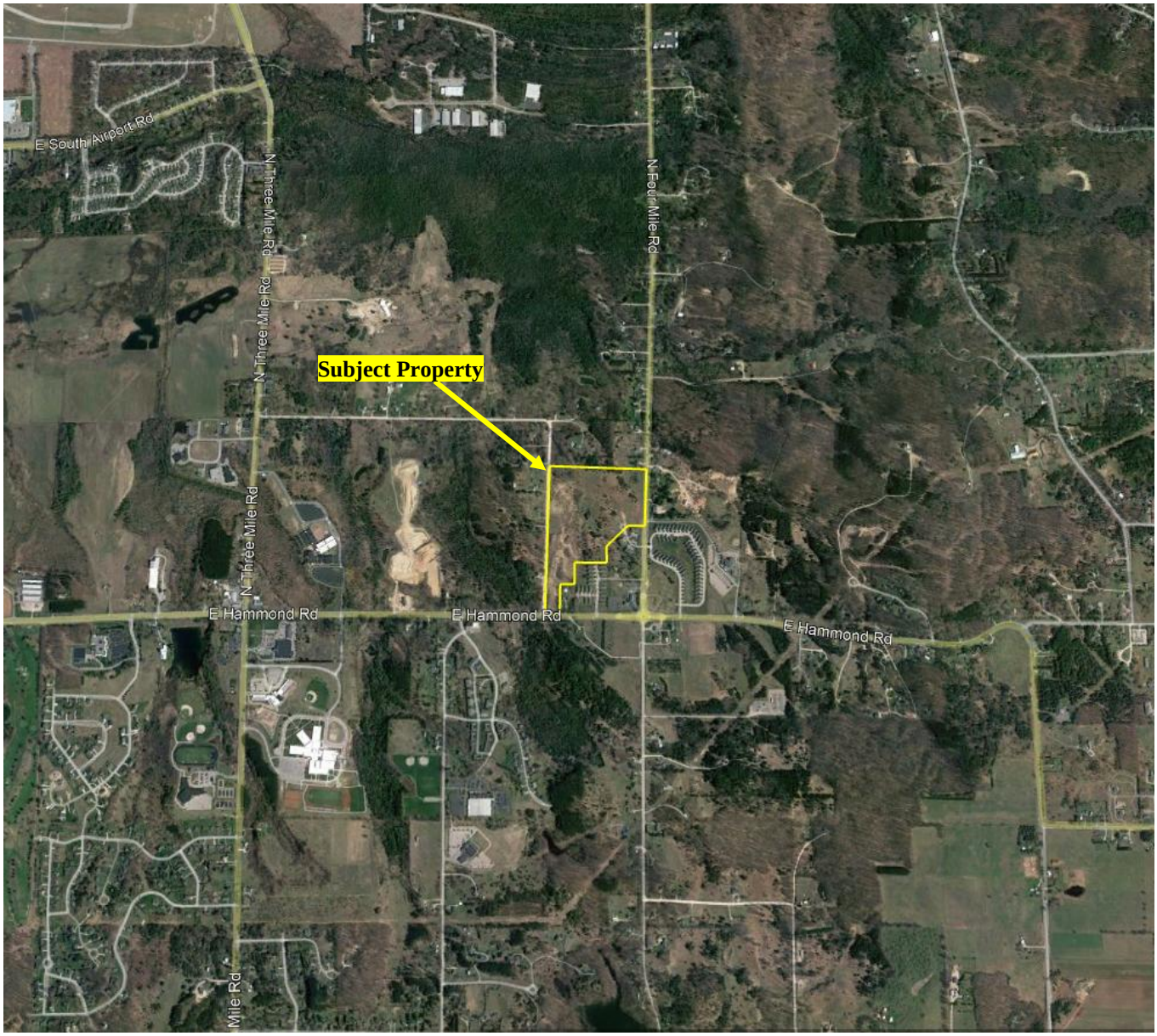
The signatures of the environmental professionals responsible for this Documentation of Due Care Compliance are provided below. The credentials of these individuals are included in Attachment G.

Mark R. Collison, C.E.S.
Senior Environmental Professional



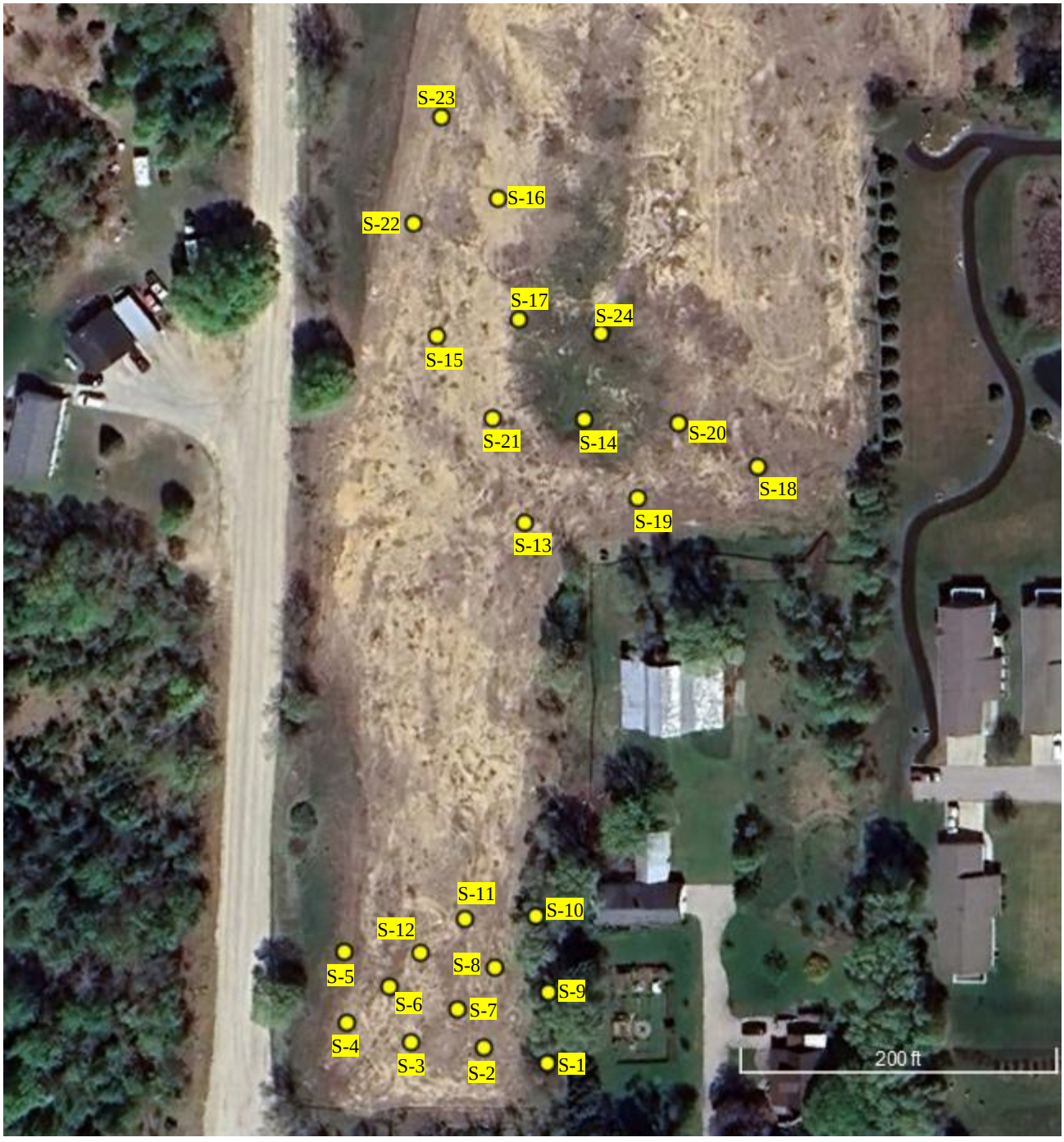
Roger L. Mawby, P.E.
Project Manager

FIGURES

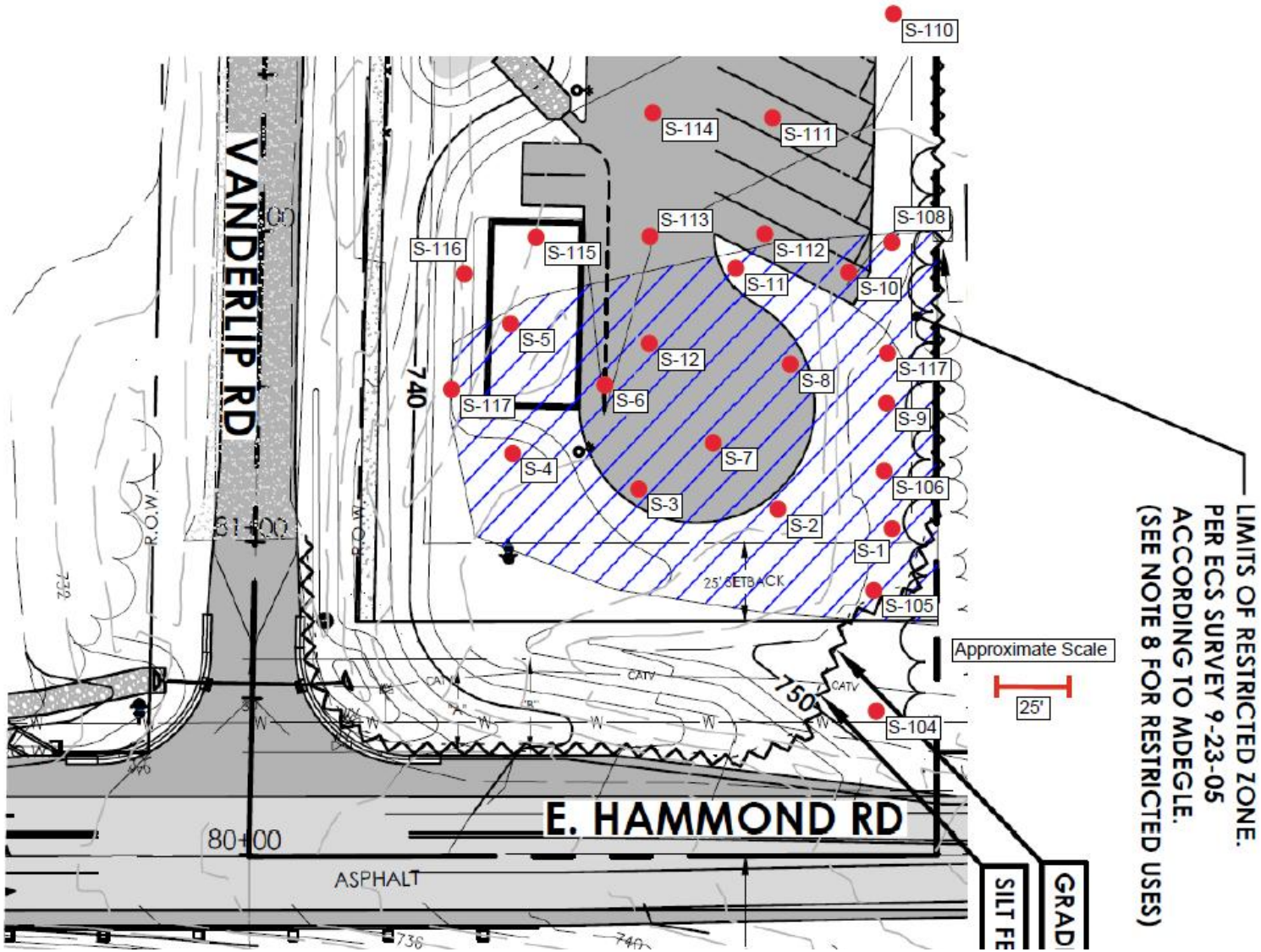


Brigantine Apartments Property **1831 Brigantine Boulevard** **East Bay Township, Grand Traverse County, Michigan** **Due Care Plan**	**Figure 1:** **Site Location Map** **NORTH**		
Otwell Mawby, PC **Traverse City, Michigan**	**Project No:** **22-116A**	**Date:** **8/19/2024**	**Source:** **Google Earth**

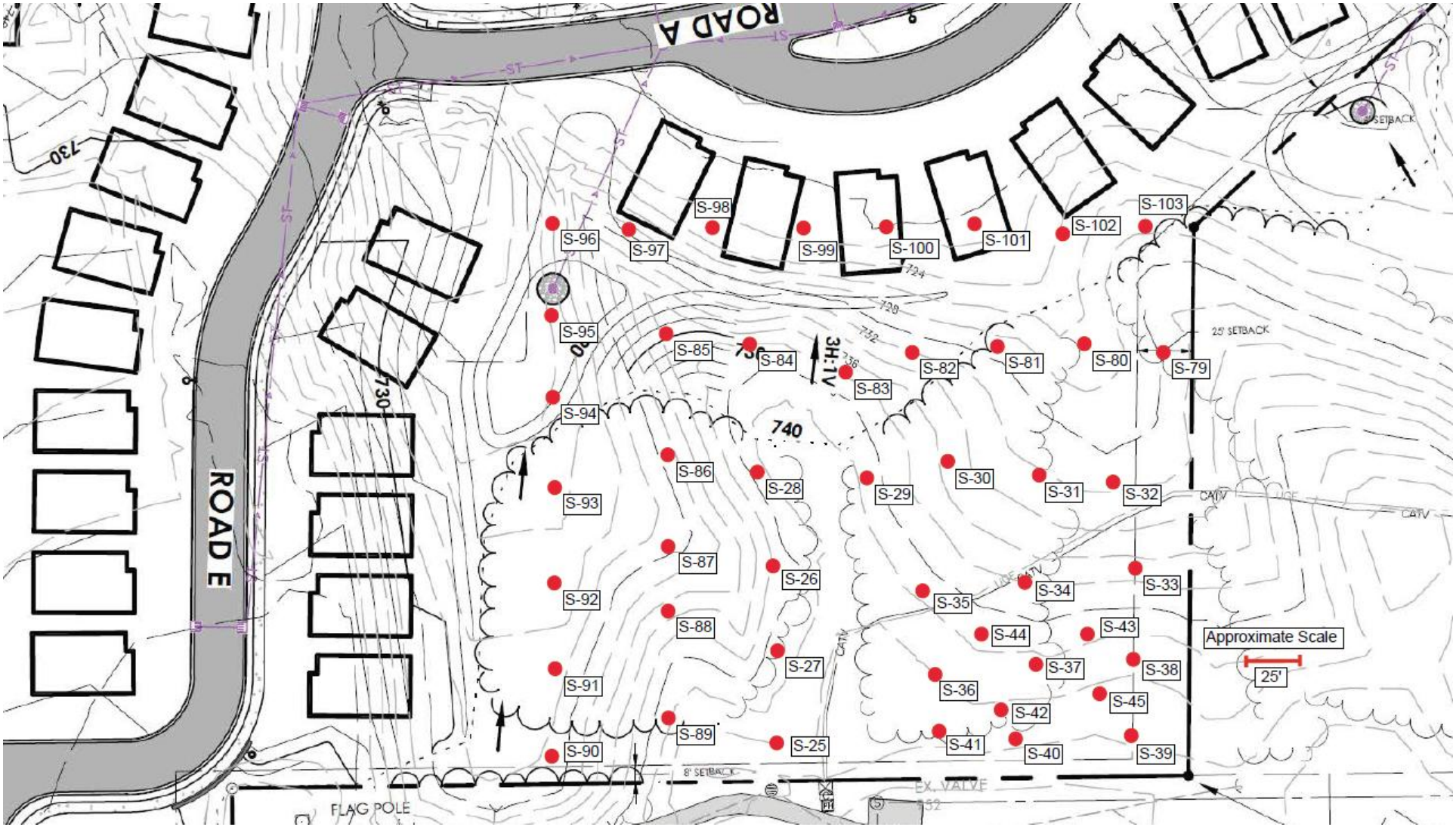
Brigantine Apartments Property **1831 Brigantine Boulevard** **East Bay Township, Grand Traverse County, MI** **Due Care Plan**	**Figure 2:** **Site Map**		NORTH
Otwell Mawby, PC **Traverse City, Michigan**	**Project No:** **22-116A**	**Date:** **8/19/2024**	**Source:** **Google Earth**



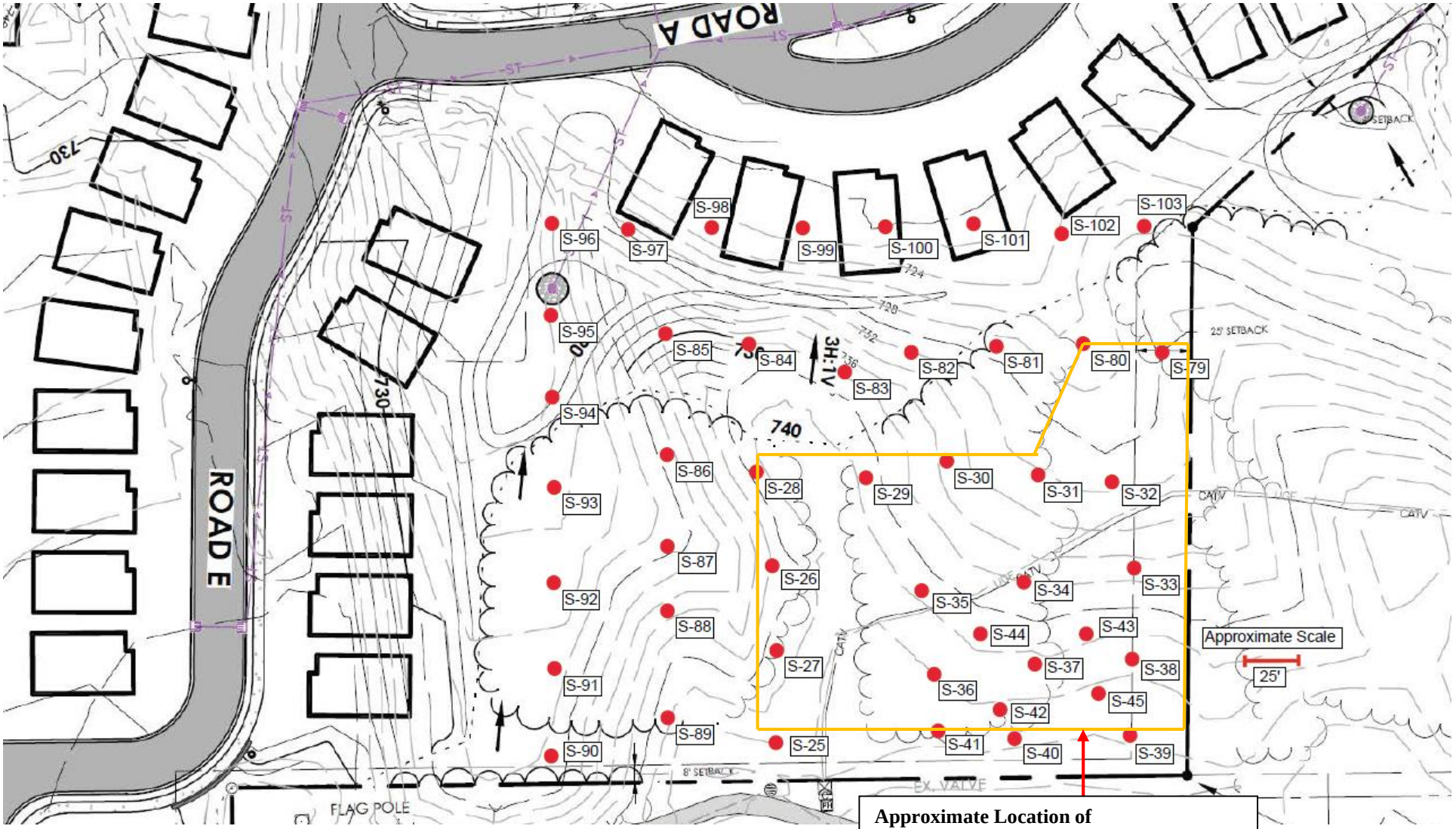
Brigantine Apartments Property **1831 Brigantine Boulevard** **East Bay Township, Grand Traverse County, MI** **Due Care Plan**	**Figure 3:** **Sample Locations Map - Orchard Area #1 and Restrictive Covenant Area** **NORTH**		
Otwell Mawby, PC **Traverse City, Michigan**	**Project No:** **22-116A**	**Date:** **8/19/24**	**Source:** **Google Earth**



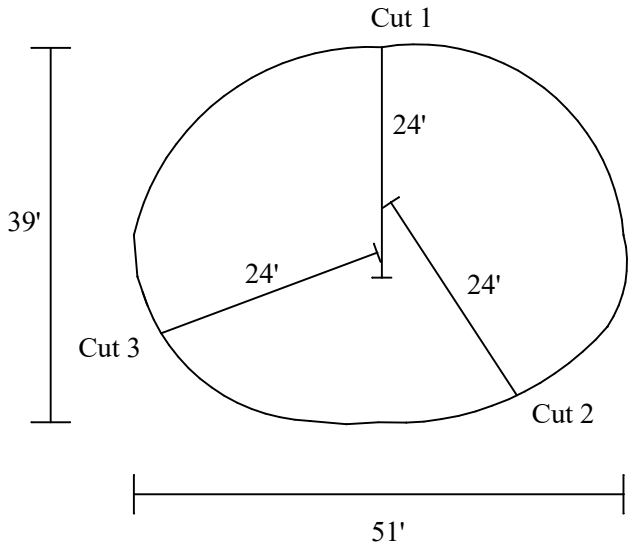
Brigantine Apartments Property **1831 Brigantine Boulevard** **East Bay Township, Grand Traverse County, MI** **Due Care Plan**	**Figure 4:** **Sample Locations Map - Orchard Area #1** *-Additional Soil Samples-*		**NORTH**
Otwell Mawby, PC **Traverse City, Michigan**	**Project No:** **22-116A**	**Date:** **8/19/24**	**Source:** **Mansfield**

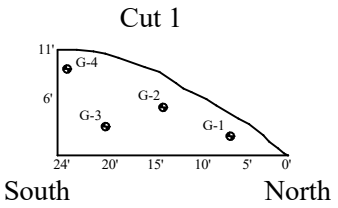


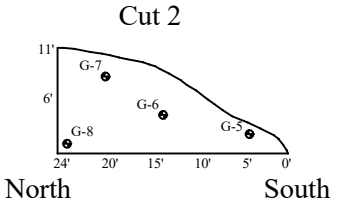
Brigantine Apartments Property **1831 Brigantine Boulevard** **East Bay Township, Grand Traverse County, MI** **Due Care Plan**	**Figure 5:** **Sample Locations Map - Orchard Area #3**		
Otwell Mawby, PC **Traverse City, Michigan**	**Project No:** **22-116A**	**Date:** **8/19/24**	**Source:** **Mansfield**

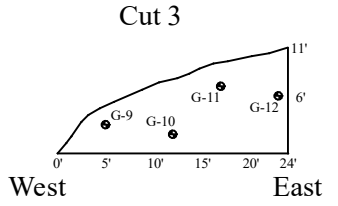


Brigantine Apartments Property **1831 Brigantine Boulevard** **East Bay Township, Grand Traverse County, MI** **Due Care Plan**	**Figure 6:** **Orchard Area #3** **Exposure Barrier Location** **NORTH**		
Otwell Mawby, PC **Traverse City, Michigan**	**Project No:** **22-116A**	**Date:** **8/19/24**	**Source:** **Mansfield**









Legend

G-1 - Grab Soil Sample Location

Scale

0' 5' 10' 20'

North

Brigantine Apartments Property 1831 Brigantine Road East Bay Twp., Grand Traverse Co., MI	**Figure 7:** Sample Locations Map - Small Soil Pile		
Otwell Mawby, P.C. **Traverse City, Michigan**	**Date:** 2/9/2024	**Proj. No.:** 22-116A	**Scale:** 1" = 20'

TABLE

Table 1 – Soil Analytical Summary

Table 1
Brigantine Apartments Property
1831 Brigantine Boulevard, East Bay Township, Grand Traverse County, Michigan
Project Number: 22-116A
Soil Analytical Data Summary

Analyte - MI Metals	CAS #	EGLE Part 201 Statewide Default Background Levels	EGLE Part 201 Drinking Water Protection Criteria	EGLE Part 201 Groundwater Surface Water Interface Protection Criteria	EGLE Part 201 Direct Contact Criteria	S-1 0.5' 12/12/2023	S-2 0.5' 12/12/2023	S-3 0.5' 12/12/2023	S-4 0.5' 12/12/2023	S-5 0.5' 12/12/2023	S-6 0.5' 12/12/2023	S-7 0.5' 12/12/2023	S-8 0.5' 12/12/2023
Arsenic	7440382	**5,800**	**4,600**	**4,600**	**7,600**	**19,000**	ND	2,100	ND	**8,300**	ND	ND	ND
Lead	7439921	**21,000**	7.00E+05	G=1.8E+6,G,X	4.00E+05	120,000	ND	ND	ND	**25,000**	ND	ND	ND
Analyte - Organochlorines													
All Organochlorines	Varies	NA	Varies	Varies	Varies	NA	NA	NA	NA	NA	NA	NA	NA
Analyte - Organophosphorus													
All Organophosphoruses	Varies	NA	Varies	Varies	Varies	NA	NA	NA	NA	NA	NA	NA	NA

Analyte - MI Metals	CAS #	ELGE Part 201 Statewide Default Background Levels	EGLE Part 201 Drinking Water Protection Criteria	ELGE Part 201 Groundwater Surface Water Interface Protection Criteria	EGLE Part 201 Direct Contact Criteria	S-9 0.5' 12/12/2023	S-10 0.5' 12/12/2023	S-11 0.5' 12/12/2023	S-12 0.5' 12/12/2023	S-13 0.5' 12/12/2023	S-14 0.5' 12/12/2023	S-15 0.5' 12/12/2023	S-16 0.5' 12/12/2023
Arsenic	7440382	**5,800**	**4,600**	**4,600**	**7,600**	**20,000**	**26,000**	ND	2,000	ND	**21,000**	2,100	ND
Lead	7439921	**21,000**	7.00E+05	G=1.8E+6,G,X	4.00E+05	**65,000**	**93,000**	ND	ND	ND	**70,000**	ND	ND
Analyte -Organochlorines													
All Organochlorines	Varies	NA	Varies	Varies	Varies	NA	NA	NA	NA	NA	NA	NA	NA
Analyte - Organophosphorus													
All Organophosphoruses	Varies	NA	Varies	Varies	Varies	NA	NA	NA	NA	NA	NA	NA	NA

Analyte - MI Metals	CAS #	ELGE Part 201 Statewide Default Background Levels	EGLE Part 201 Drinking Water Protection Criteria	ELGE Part 201 Groundwater Surface Water Interface Protection Criteria	EGLE Part 201 Direct Contact Criteria	S-17 0.5' 12/12/2023	S-18 0.5' 12/12/2023	S-19 12"-16" 12/12/2023	S-20 12"-16" 12/12/2023	S-21 12"-16" 12/12/2023	S-22 12"-16" 12/12/2023	S-23 12"-16" 12/12/2023	S-24 12"-16" 12/12/2023
Arsenic	7440382	5,800	4,600	4,600	7,600	ND	ND	ND	ND	ND	2,300	ND	ND
Lead	7439921	21,000	7.00E+05	G=1.8E+6,G,X	4.00E+05	ND	ND	ND	ND	ND	ND	ND	ND
Analyte -Organochlorines													
All Organochlorines	Varies	NA	Varies	Varies	Varies	NA	NA	NA	NA	NA	NA	NA	NA
Analyte - Organophosphorus													
All Organophosphoruses	Varies	NA	Varies	Varies	Varies	NA	NA	NA	NA	NA	NA	NA	NA

Metals, Organochlorine/phosphorus results and criteria are recorded in parts per billion (ppb)

ND = Not Detected **= GCC Exceedences** NC = No Criteria

ID = Insufficient Data NA = Not Applicable or Not Analyzed **Bold** = Background Exceedance

NLL= Hazardous substance not likely to leach under most soil conditions. Results compared to EGLE Criteria Lookup Tables

G = Groundwater surface water interface (GSI) criterion dependes on the pH or water hardness, or both, of the receiving surface water. 100 mg used for hardness

X = The groundwater surface water interface (GSI) criterion shown in the generic cleanup criteria tables is not protective for surface water that is used as a drinking water source.

Table 1
Brigantine Apartments Property
1831 Brigantine Boulevard, East Bay Township, Grand Traverse County, Michigan
Project Number: 22-116A
Soil Analytical Data Summary

Analyte - MI Metals	CAS #	EGLE Part 201 Statewide Default Background Levels	EGLE Part 201 Drinking Water Protection Criteria	EGLE Part 201 Groundwater Surface Water Interface Protection Criteria	EGLE Part 201 Direct Contact Criteria	S-25 0.5' 12/11/2023	S-26 0.5' 12/11/2023	S-27 0.5' 12/11/2023	S-28 0.5' 12/11/2023	S-29 0.5' 12/11/2023	S-30 0.5' 12/11/2023	S-31 0.5' 12/11/2023	S-32 0.5' 12/11/2023
Arsenic	7440382	**5,800**	**4,600**	**4,600**	**7,600**	**12,000**	**12,000**	**11,000**	3,500	**11,000**	5,200	**15,000**	**25,000**
Lead	7439921	**21,000**	7.00E+05	G=1.8E+6,G,X	4.00E+05	**37,000**	**31,000**	**37,000**	15,000	**100,000**	**52,000**	**77,000**	**59,000**
Analyte - Organochlorines													
All Organochlorines	Varies	NA	Varies	Varies	Varies	NA	NA	NA	NA	NA	NA	NA	NA
Analyte - Organophosphorus													
All Organophosphoruses	Varies	NA	Varies	Varies	Varies	NA	NA	NA	NA	NA	NA	NA	NA

Analyte - MI Metals	CAS #	EGLE Part 201 Statewide Default Background Levels	EGLE Part 201 Drinking Water Protection Criteria	EGLE Part 201 Groundwater Surface Water Interface Protection Criteria	EGLE Part 201 Direct Contact Criteria	S-33 0.5' 12/12/2023	S-34 0.5' 12/12/2023	S-35 0.5' 12/12/2023	S-36 0.5' 12/12/2023	S-37 0.5' 12/12/2023	S-38 0.5' 12/12/2023	S-39 0.5' 12/12/2023	S-40 0.5' 12/12/2023
Arsenic	7440382	**5,800**	**4,600**	**4,600**	**7,600**	4,300	3,100	**6,700**	**24,000**	**22,000**	5,500	**15,000**	**14,000**
Lead	7439921	**21,000**	7.00E+05	G=1.8E+6,G,X	4.00E+05	15,000	11,000	19,000	**88,000**	**57,000**	21,000	**49,000**	**53,000**
Analyte - Organochlorines													
All Organochlorines	Varies	NA	Varies	Varies	Varies	NA	NA	NA	NA	NA	NA	NA	NA
Analyte - Organophosphorus													
All Organophosphoruses	Varies	NA	Varies	Varies	Varies	NA	NA	NA	NA	NA	NA	NA	NA

Analyte - MI Metals	CAS #	EGLE Part 201 Statewide Default Background Levels	EGLE Part 201 Drinking Water Protection Criteria	EGLE Part 201 Groundwater Surface Water Interface Protection Criteria	EGLE Part 201 Direct Contact Criteria	S-41 0.5' 12/12/2023	S-42 6"-10" 12/12/2023	S-43 6"-10" 12/12/2023	S-44 12"-16" 12/12/2023	S-45 12"-16" 12/12/2023	S-46 0.5' 12/11/2023	S-47 0.5' 12/11/2023	S-48 0.5' 12/11/2023
Arsenic	7440382	**5,800**	**4,600**	**4,600**	**7,600**	**11,000**	ND	ND	ND	ND	2,500	2,200	ND
Lead	7439921	**21,000**	7.00E+05	G=1.8E+6,G,X	4.00E+05	**39,000**	ND	ND	ND	ND	ND	10,000	ND
Analyte - Organochlorines													
All Organochlorines	Varies	NA	Varies	Varies	Varies	NA	NA	NA	NA	NA	NA	NA	NA
Analyte - Organophosphorus													
All Organophosphoruses	Varies	NA	Varies	Varies	Varies	NA	NA	NA	NA	NA	NA	NA	NA

Metals, Organochlorine/phosphorus results and criteria are recorded in parts per billion (ppb)
ND = Not Detected **= GCC Exceedences** NC = No Criteria
ID = Insufficient Data NA = Not Applicable or Not Analyzed **Bold** = Background Exceedance
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X = The groundwater surface water interface (GSI) criterion shown in the generic cleanup criteria tables is not protective for surface water that is used as a drinking water source.

Table 1
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1831 Brigantine Boulevard, East Bay Township, Grand Traverse County, Michigan
Project Number: 22-116A
Soil Analytical Data Summary

Analyte - MI Metals	CAS #	EGLE Part 201 Statewide Default Background Levels	EGLE Part 201 Drinking Water Protection Criteria	EGLE Part 201 Groundwater Surface Water Interface Protection Criteria	EGLE Part 201 Direct Contact Criteria	S-49 0.5' 12/11/2023	S-50 0.5' 12/11/2023	S-51 0.5' 12/11/2023	S-52 0.5' 12/11/2023	S-53 0.5' 12/11/2023	S-54 0.5' 12/11/2023	S-55 0.5' 12/11/2023	S-56 0.5' 12/11/2023
Arsenic	7440382	5,800	4,600	4,600	7,600	2,200	ND	2,200	ND	ND	ND	ND	ND
Lead	7439921	21,000	7.00E+05	G=1.8E+6,G,X	4.00E+05	ND	ND	ND	ND	ND	ND	ND	ND
Analyte - Organochlorines													
All Organochlorines	Varies	NA	Varies	Varies	Varies	NA	NA	NA	NA	NA	NA	NA	NA
Analyte - Organophosphorus													
All Organophosphoruses	Varies	NA	Varies	Varies	Varies	NA	NA	NA	NA	NA	NA	NA	NA

Analyte - MI Metals	CAS #	ELGE Part 201 Statewide Default Background Levels	EGLE Part 201 Drinking Water Protection Criteria	ELGE Part 201 Groundwater Surface Water Interface Protection Criteria	EGLE Part 201 Direct Contact Criteria	S-57 0.5' 12/11/2023	S-58 0.5' 12/11/2023	S-59 0.5' 12/11/2023	S-60 0.5' 12/11/2023	S-61 0.5' 12/11/2023	S-62 0.5' 12/11/2023	S-63 0.5' 12/11/2023	S-64 0.5' 12/11/2023
Arsenic	7440382	5,800	4,600	4,600	7,600	3,300	ND	ND	ND	ND	ND	ND	3,000
Lead	7439921	21,000	7.00E+05	G=1.8E+6,G,X	4.00E+05	ND	ND	ND	ND	ND	ND	ND	ND
Analyte -Organochlorines													
All Organochlorines	Varies	NA	Varies	Varies	Varies	NA	NA	NA	NA	NA	NA	NA	NA
Analyte - Organophosphorus													
All Organophosphoruses	Varies	NA	Varies	Varies	Varies	NA	NA	NA	NA	NA	NA	NA	NA

Analyte - MI Metals	CAS #	ELGE Part 201 Statewide Default Background Levels	EGLE Part 201 Drinking Water Protection Criteria	ELGE Part 201 Groundwater Surface Water Interface Protection Criteria	EGLE Part 201 Direct Contact Criteria	S-65 0.5' 12/11/2023	S-66 0.5' 12/11/2023	S-67 0.5' 12/11/2023	S-68 0.5' 12/11/2023	S-69 0.5' 12/11/2023	S-70 12"-16" 12/12/2023	S-71 12"-16" 12/12/2023	S-72 12"-16" 12/12/2023
Arsenic	7440382	5,800	4,600	4,600	7,600	2,400	ND	2,100	ND	2,300	2,000	ND	ND
Lead	7439921	21,000	7.00E+05	G=1.8E+6,G,X	4.00E+05	ND	ND	ND	ND	ND	ND	ND	ND
Analyte -Organochlorines													
All Organochlorines	Varies	NA	Varies	Varies	Varies	NA	NA	NA	NA	NA	NA	NA	NA
Analyte - Organophosphorus													
All Organophosphoruses	Varies	NA	Varies	Varies	Varies	NA	NA	NA	NA	NA	NA	NA	NA

Metals, Organochlorine/phosphorus results and criteria are recorded in parts per billion (ppb)
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Table 1
Brigantine Apartments Property
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Analyte - MI Metals	CAS #	EGLE Part 201 Statewide Default Background Levels	EGLE Part 201 Drinking Water Protection Criteria	EGLE Part 201 Groundwater Surface Water Interface Protection Criteria	EGLE Part 201 Direct Contact Criteria	S-73 12"-16" 12/12/2023	S-74 12"-16" 12/12/2023	S-75 12"-16" 12/12/2023	S-76 12"-16" 12/12/2023	S-77 12"-16" 12/12/2023	S-78 12"-16" 12/12/2023	C-1 12/12/2023	C-2 12/12/2023
Arsenic	7440382	5,800	4,600	4,600	7,600	ND	2,100	ND	ND	ND	ND	NA	NA
Lead	7439921	21,000	7.00E+05	G=1.8E+6,G,X	4.00E+05	ND	ND	ND	ND	ND	ND	NA	NA
Analyte - Organochlorines													
All Organochlorines	Varies	NA	Varies	Varies	Varies	NA	NA	NA	NA	NA	NA	ND	ND
Analyte - Organophosphorus													
All Organophosphoruses	Varies	NA	Varies	Varies	Varies	NA	NA	NA	NA	NA	NA	ND	ND

Analyte - MI Metals	CAS #	EGLE Part 201 Statewide Default Background Levels	EGLE Part 201 Drinking Water Protection Criteria	EGLE Part 201 Groundwater Surface Water Interface Protection Criteria	EGLE Part 201 Direct Contact Criteria	C-3 12/12/2023	C-4 12/12/2023	C-5 12/12/2023	C-6 12/12/2023	C-7 12/12/2023	C-8 12/12/2023	C-9 12/12/2023	C-10 12/12/2023
Arsenic	7440382	5,800	4,600	4,600	7,600	NA	NA	NA	NA	NA	NA	NA	NA
Lead	7439921	21,000	7.00E+05	G=1.8E+6,G,X	4.00E+05	NA	NA	NA	NA	NA	NA	NA	NA
Analyte - Organochlorines													
4,4-DDE	72559	NA	NLL	NLL	45,000	ND	ND	33*	ND	ND	ND	ND	ND
Other Organochlorines	Varies	NA	Varies	Varies	Varies	ND	ND	ND	ND	ND	ND	ND	ND
Analyte - Organophosphorus													
All Organophosphoruses	Varies	NA	Varies	Varies	Varies	ND	ND	ND	ND	ND	ND	ND	ND

Analyte - MI Metals	CAS #	EGLE Part 201 Statewide Default Background Levels	EGLE Part 201 Drinking Water Protection Criteria	EGLE Part 201 Groundwater Surface Water Interface Protection Criteria	EGLE Part 201 Direct Contact Criteria	IS-1 IS Sample 1/15/2024	IS-1 IS Rep. 1 1/15/2024	IS-1 IS Rep. 2 1/15/2024	IS-1 IS Rep. 3 1/15/2024	IS-2 IS Sample 1/15/2024	IS-2 IS Rep. 1 1/15/2024	IS-2 IS Rep. 2 1/15/2024	IS-2 IS Rep. 3 1/15/2024
Arsenic	7440382	5,800	**4,600**	**4,600**	7,600	**4,900**	**4,700**	4,300	**4,700**	2,900	2,700	2,700	2,800
Lead	7439921	21,000	7.00E+05	G=1.8E+6,G,X	4.00E+05	NA	NA	NA	NA	NA	NA	NA	NA
Analyte - Organochlorines													
4,4-DDE	72559	NA	NLL	NLL	45,000	NA	NA	NA	NA	NA	NA	NA	NA
Other Organochlorines	Varies	NA	Varies	Varies	Varies	NA	NA	NA	NA	NA	NA	NA	NA
Analyte - Organophosphorus													
All Organophosphoruses	Varies	NA	Varies	Varies	Varies	NA	NA	NA	NA	NA	NA	NA	NA

Metals, Organochlorine/phosphorus results and criteria are recorded in parts per billion (ppb)
ND = Not Detected **= GCC Exceedences** NC = No Criteria
ID = Insufficient Data NA = Not Applicable or Not Analyzed **Bold** = Background Exceedance
NLL= Hazardous substance not likely to leach under most soil conditions. Results compared to EGLE Criteria Lookup Tables
G = Groundwater surface water interface (GSI) criterion dependes on the pH or water hardness, or both, of the receiving surface water. 100 mg used for hardness
X = The groundwater surface water interface (GSI) criterion shown in the generic cleanup criteria tables is not protective for surface water that is used as a drinking water source.

* The laboraotry analytical results was multiplied by three due to the sample being a composite of three samples.

Table 1
Brigantine Apartments Property
1831 Brigantine Boulevard, East Bay Township, Grand Traverse County, Michigan
Project Number: 22-116A
Soil Analytical Data Summary

Analyte - MI Metals	CAS #	EGLE Part 201 Statewide Default Background Levels	EGLE Part 201 Drinking Water Protection Criteria	EGLE Part 201 Groundwater Surface Water Interface Protection Criteria	EGLE Part 201 Direct Contact Criteria	IS-3 IS Sample 1/15/2024	IS-3 IS Rep. 1 1/15/2024	IS-3 IS Rep. 2 1/15/2024	IS-3 IS Rep. 3 1/15/2024	S-79 0.5' 7/2/2024	S-79 1' 7/2/2024	S-79 2' 7/2/2024	S-80 0.5' 7/2/2024
Arsenic	7440382	5,800	4,600	4,600		1,800	1,800	2,000	1,900	ND	ND	ND	3,200
Lead	7439921	21,000	7.00E+05	G=1.8E+6,G,X	4.00E+05	NA	NA	NA	NA	NA	NA	NA	NA
Analyte - Organochlorines													
4,4-DDE	72559	NA	NLL	NLL	45,000	NA	NA	NA	NA	NA	NA	NA	NA
Other Organochlorines	Varies	NA	Varies	Varies	Varies	NA	NA	NA	NA	NA	NA	NA	NA
Analyte - Organophosphorus													
All Organophosphoruses	Varies	NA	Varies	Varies	Varies	NA	NA	NA	NA	NA	NA	NA	NA

Analyte - MI Metals	CAS #	EGLE Part 201 Statewide Default Background Levels	EGLE Part 201 Drinking Water Protection Criteria	EGLE Part 201 Groundwater Surface Water Interface Protection Criteria	EGLE Part 201 Direct Contact Criteria	S-80 1' 7/2/2024	S-80 2' 7/2/2024	S-81 0.5' 7/2/2024	S-81 1' 7/2/2024	S-81 2' 7/2/2024	S-82 0.5' 7/2/2024	S-82 1' 7/2/2024	S-82 2' 7/2/2024
Arsenic	7440382	5,800	4,600	4,600	7,600	ND	ND	ND	ND	ND	ND	ND	ND
Lead	7439921	21,000	7.00E+05	G=1.8E+6,G,X	4.00E+05	NA	NA	NA	NA	NA	NA	NA	NA
Analyte - Organochlorines													
4,4-DDE	72559	NA	NLL	NLL	45,000	NA	NA	NA	NA	NA	NA	NA	NA
Other Organochlorines	Varies	NA	Varies	Varies	Varies	NA	NA	NA	NA	NA	NA	NA	NA
Analyte - Organophosphorus													
All Organophosphoruses	Varies	NA	Varies	Varies	Varies	NA	NA	NA	NA	NA	NA	NA	NA

Analyte - MI Metals	CAS #	EGLE Part 201 Statewide Default Background Levels	EGLE Part 201 Drinking Water Protection Criteria	EGLE Part 201 Groundwater Surface Water Interface Protection Criteria	EGLE Part 201 Direct Contact Criteria	S-83 0.5' 7/2/2024	S-83 1' 7/2/2024	S-83 2' 7/2/2024	S-84 0.5' 7/2/2024	S-84 1' 7/2/2024	S-84 2' 7/2/2024	S-85 0.5' 7/2/2024	S-85 1' 7/2/2024
Arsenic	7440382	5,800	4,600	4,600	7,600	ND	ND	ND	4,000	3,600	2,500	ND	4,400
Lead	7439921	21,000	7.00E+05	G=1.8E+6,G,X	4.00E+05	NA	NA	NA	NA	NA	NA	NA	NA
Analyte - Organochlorines													
4,4-DDE	72559	NA	NLL	NLL	45,000	NA	NA	NA	NA	NA	NA	NA	NA
Other Organochlorines	Varies	NA	Varies	Varies	Varies	NA	NA	NA	NA	NA	NA	NA	NA
Analyte - Organophosphorus													
All Organophosphoruses	Varies	NA	Varies	Varies	Varies	NA	NA	NA	NA	NA	NA	NA	NA

Metals, Organochlorine/phosphorus results and criteria are recorded in parts per billion (ppb)
ND = Not Detected **= GCC Exceedences** NC = No Criteria
ID = Insufficient Data NA = Not Applicable or Not Analyzed **Bold** = Background Exceedance
NLL= Hazardous substance not likely to leach under most soil conditions. Results compared to EGLE Criteria Lookup Tables
G = Groundwater surface water interface (GSI) criterion dependes on the pH or water hardness, or both, of the receiving surface water. 100 mg used for hardness
X = The groundwater surface water interface (GSI) criterion shown in the generic cleanup criteria tables is not protective for surface water that is used as a drinking water source.

Table 1
Brigantine Apartments Property
1831 Brigantine Boulevard, East Bay Township, Grand Traverse County, Michigan
Project Number: 22-116A
Soil Analytical Data Summary

Analyte - MI Metals	CAS #	EGLE Part 201 Statewide Default Background Levels	EGLE Part 201 Drinking Water Protection Criteria	EGLE Part 201 Groundwater Surface Water Interface Protection Criteria	EGLE Part 201 Direct Contact Criteria	S-85 2' 7/2/2024	S-86 0.5' 7/2/2024	S-86 1' 7/2/2024	S-86 2' 7/2/2024	S-87 0.5' 7/2/2024	S-87 1' 7/2/2024	S-87 2' 7/2/2024	S-88 0.5' 7/2/2024
Arsenic	7440382	5,800	4,600	4,600	7,600	2,400	ND	ND	ND	2,400	ND	ND	ND
Lead	7439921	21,000	7.00E+05	G=1.8E+6,G,X	4.00E+05	NA	NA	NA	NA	NA	NA	NA	NA
Analyte - Organochlorines													
4,4-DDE	72559	NA	NLL	NLL	45,000	NA	NA	NA	NA	NA	NA	NA	NA
Other Organochlorines	Varies	NA	Varies	Varies	Varies	NA	NA	NA	NA	NA	NA	NA	NA
Analyte - Organophosphorus													
All Organophosphoruses	Varies	NA	Varies	Varies	Varies	NA	NA	NA	NA	NA	NA	NA	NA

Analyte - MI Metals	CAS #	EGLE Part 201 Statewide Default Background Levels	EGLE Part 201 Drinking Water Protection Criteria	EGLE Part 201 Groundwater Surface Water Interface Protection Criteria	EGLE Part 201 Direct Contact Criteria	S-88 1' 7/2/2024	S-88 2' 7/2/2024	S-89 0.5' 7/2/2024	S-89 1' 7/2/2024	S-89 2' 7/2/2024	S-90 0.5' 7/2/2024	S-90 1' 7/2/2024	S-90 2' 7/2/2024
Arsenic	7440382	5,800	4,600	4,600	7,600	ND	ND	ND	ND	ND	ND	ND	ND
Lead	7439921	21,000	7.00E+05	G=1.8E+6,G,X	4.00E+05	NA	NA	NA	NA	NA	NA	NA	NA
Analyte - Organochlorines													
4,4-DDE	72559	NA	NLL	NLL	45,000	NA	NA	NA	NA	NA	NA	NA	NA
Other Organochlorines	Varies	NA	Varies	Varies	Varies	NA	NA	NA	NA	NA	NA	NA	NA
Analyte - Organophosphorus													
All Organophosphoruses	Varies	NA	Varies	Varies	Varies	NA	NA	NA	NA	NA	NA	NA	NA

Metals, Organochlorine/phosphorus results and criteria are recorded in parts per billion (ppb)
ND = Not Detected **= GCC Exceedences** NC = No Criteria
ID = Insufficient Data NA = Not Applicable or Not Analyzed **Bold** = Background Exceedance
NLL= Hazardous substance not likely to leach under most soil conditions. Results compared to EGLE Criteria Lookup Tables
G = Groundwater surface water interface (GSI) criterion dependes on the pH or water hardness, or both, of the receiving surface water. 100 mg used for hardness
X = The groundwater surface water interface (GSI) criterion shown in the generic cleanup criteria tables is not protective for surface water that is used as a drinking water source.

Table 1
Brigantine Apartments Property
1831 Brigantine Boulevard, East Bay Township, Grand Traverse County, Michigan
Project Number: 22-116A
Soil Analytical Data Summary

Analyte - MI Metals	CAS #	EGLE Part 201 Statewide Default Background Levels	EGLE Part 201 Drinking Water Protection Criteria	EGLE Part 201 Groundwater Surface Water Interface Protection Criteria	EGLE Part 201 Direct Contact Criteria	S-91 0.5' 7/2/2024	S-91 1' 7/2/2024	S-91 2' 7/2/2024	S-92 0.5' 7/2/2024	S-92 1' 7/2/2024	S-92 2' 7/2/2024	S-93 0.5' 7/2/2024	S-93 1' 7/2/2024
Arsenic	7440382	5,800	4,600	4,600	7,600	ND	2,100	2,000	ND	ND	ND	ND	ND
Lead	7439921	21,000	7.00E+05	G=1.8E+6,G,X	4.00E+05	NA	NA	NA	NA	NA	NA	NA	NA
Analyte - Organochlorines													
4,4-DDE	72559	NA	NLL	NLL	45,000	NA	NA	NA	NA	NA	NA	NA	NA
Other Organochlorines	Varies	NA	Varies	Varies	Varies	NA	NA	NA	NA	NA	NA	NA	NA
Analyte - Organophosphorus													
All Organophosphoruses	Varies	NA	Varies	Varies	Varies	NA	NA	NA	NA	NA	NA	NA	NA

Analyte - MI Metals	CAS #	EGLE Part 201 Statewide Default Background Levels	EGLE Part 201 Drinking Water Protection Criteria	EGLE Part 201 Groundwater Surface Water Interface Protection Criteria	EGLE Part 201 Direct Contact Criteria	S-93 2' 7/2/2024	S-94 0.5' 7/2/2024	S-94 1' 7/2/2024	S-94 2' 7/2/2024	S-95 0.5' 7/2/2024	S-95 1' 7/2/2024	S-95 2' 7/2/2024	S-96 0.5' 7/2/2024
Arsenic	7440382	5,800	4,600	4,600	7,600	ND	ND	ND	ND	ND	ND	ND	3,700
Lead	7439921	21,000	7.00E+05	G=1.8E+6,G,X	4.00E+05	NA	NA	NA	NA	NA	NA	NA	NA
Analyte - Organochlorines													
4,4-DDE	72559	NA	NLL	NLL	45,000	NA	NA	NA	NA	NA	NA	NA	NA
Other Organochlorines	Varies	NA	Varies	Varies	Varies	NA	NA	NA	NA	NA	NA	NA	NA
Analyte - Organophosphorus													
All Organophosphoruses	Varies	NA	Varies	Varies	Varies	NA	NA	NA	NA	NA	NA	NAA	NA

Analyte - MI Metals	CAS #	EGLE Part 201 Statewide Default Background Levels	EGLE Part 201 Drinking Water Protection Criteria	EGLE Part 201 Groundwater Surface Water Interface Protection Criteria	EGLE Part 201 Direct Contact Criteria	S-96 1' 7/2/2024	S-96 2' 7/2/2024	S-97 0.5' 7/2/2024	S-97 1' 7/2/2024	S-97 2' 7/2/2024	S-98 0.5' 7/2/2024	S-98 1' 7/2/2024	S-98 2' 7/2/2024
Arsenic	7440382	5,800	4,600	4,600	7,600	ND	ND	ND	ND	ND	ND	4,100	ND
Lead	7439921	21,000	7.00E+05	G=1.8E+6,G,X	4.00E+05	NA	NA	NA	NA	NA	NA	NA	NA
Analyte - Organochlorines													
4,4-DDE	72559	NA	NLL	NLL	45,000	NA	NA	NA	NA	NA	NA	NA	NA
Other Organochlorines	Varies	NA	Varies	Varies	Varies	NA	NA	NA	NA	NA	NA	NA	NA
Analyte - Organophosphorus													
All Organophosphoruses	Varies	NA	Varies	Varies	Varies	NA	NA	NA	NA	NA	NA	NA	NA

Metals, Organochlorine/phosphorus results and criteria are recorded in parts per billion (ppb)
ND = Not Detected **= GCC Exceedences** NC = No Criteria
ID = Insufficient Data NA = Not Applicable or Not Analyzed **Bold** = Background Exceedance
NLL= Hazardous substance not likely to leach under most soil conditions. Results compared to EGLE Criteria Lookup Tables
G = Groundwater surface water interface (GSI) criterion dependes on the pH or water hardness, or both, of the receiving surface water. 100 mg used for hardness
X = The groundwater surface water interface (GSI) criterion shown in the generic cleanup criteria tables is not protective for surface water that is used as a drinking water source.

Table 1
Brigantine Apartments Property
1831 Brigantine Boulevard, East Bay Township, Grand Traverse County, Michigan
Project Number: 22-116A
Soil Analytical Data Summary

Analyte - MI Metals	CAS #	EGLE Part 201 Statewide Default Background Levels	EGLE Part 201 Drinking Water Protection Criteria	EGLE Part 201 Groundwater Surface Water Interface Protection Criteria	EGLE Part 201 Direct Contact Criteria	S-99 0.5' 7/2/2024	S-99 1' 7/2/2024	S-99 2' 7/2/2024	S-100 0.5' 7/2/2024	S-100 1' 7/2/2024	S-100 2' 7/2/2024	S-101 0.5' 7/2/2024	S-101 1' 7/2/2024
Arsenic	7440382	5,800	4,600	4,600	7,600	2,200	ND	ND	ND	ND	ND	2,200	ND
Lead	7439921	21,000	7.00E+05	G=1.8E+6,G,X	4.00E+05	NA	NA	NA	NA	NA	NA	NA	NA
Analyte - Organochlorines													
4,4-DDE	72559	NA	NLL	NLL	45,000	NA	NA	NA	NA	NA	NA	NA	NA
Other Organochlorines	Varies	NA	Varies	Varies	Varies	NA	NA	NA	NA	NA	NA	NA	NA
Analyte - Organophosphorus													
All Organophosphoruses	Varies	NA	Varies	Varies	Varies	NA	NA	NA	NA	NA	NA	NA	NA

Analyte - MI Metals	CAS #	EGLE Part 201 Statewide Default Background Levels	EGLE Part 201 Drinking Water Protection Criteria	EGLE Part 201 Groundwater Surface Water Interface Protection Criteria	EGLE Part 201 Direct Contact Criteria	S-101 2' 7/2/2024	S-102 0.5' 7/2/2024	S-102 1' 7/2/2024	S-102 2' 7/2/2024	S-103 0.5' 7/2/2024	S-103 1' 7/2/2024	S-103 2' 7/2/2024	S-104 0.5' 7/3/2024
Arsenic	7440382	5,800	4,600	4,600	7,600	ND	ND	ND	ND	2,400	ND	ND	**27,000**
Lead	7439921	21,000	7.00E+05	G=1.8E+6,G,X	4.00E+05	NA	NA	NA	NA	NA	NA	NA	NA
Analyte - Organochlorines													
4,4-DDE	72559	NA	NLL	NLL	45,000	NA	NA	NA	NA	NA	NA	NA	NA
Other Organochlorines	Varies	NA	Varies	Varies	Varies	NA	NA	NA	NA	NA	NA	NA	NA
Analyte - Organophosphorus													
All Organophosphoruses	Varies	NA	Varies	Varies	Varies	NA	NA	NA	NA	NA	NA	NA	NA

Analyte - MI Metals	CAS #	EGLE Part 201 Statewide Default Background Levels	EGLE Part 201 Drinking Water Protection Criteria	EGLE Part 201 Groundwater Surface Water Interface Protection Criteria	EGLE Part 201 Direct Contact Criteria	S-104 1' 7/3/2024	S-104 2' 7/3/2024	S-105 0.5' 7/3/2024	S-105 1' 7/3/2024	S-105 2' 7/3/2024	S-106 0.5' 7/3/2024	S-106 1' 7/3/2024	S-106 2' 7/3/2024
Arsenic	7440382	5,800	4,600	4,600	7,600	**4,800**	3,300	**29,000**	3,400	2,700	**25,000**	**11,000**	3,000
Lead	7439921	21,000	7.00E+05	G=1.8E+6,G,X	4.00E+05	NA	NA	NA	NA	NA	NA	NA	NA
Analyte - Organochlorines													
4,4-DDE	72559	NA	NLL	NLL	45,000	NA	NA	NA	NA	NA	NA	NA	NA
Other Organochlorines	Varies	NA	Varies	Varies	Varies	NA	NA	NA	NA	NA	NA	NA	NA
Analyte - Organophosphorus													
All Organophosphoruses	Varies	NA	Varies	Varies	Varies	NA	NA	NA	NA	NA	NA	NA	NA

Metals, Organochlorine/phosphorus results and criteria are recorded in parts per billion (ppb)
ND = Not Detected **= GCC Exceedences** NA= Not Analyzed NC = No Criteria
ID = Insufficient Data NA = Not Applicable or Not Analyzed **Bold** = Background Exceedance
NLL= Hazardous substance not likely to leach under most soil conditions. Results compared to EGLE Criteria Lookup Tables
G = Groundwater surface water interface (GSI) criterion dependes on the pH or water hardness, or both, of the receiving surface water. 100 mg used for hardness
X = The groundwater surface water interface (GSI) criterion shown in the generic cleanup criteria tables is not protective for surface water that is used as a drinking water source.

Table 1
Brigantine Apartments Property
1831 Brigantine Boulevard, East Bay Township, Grand Traverse County, Michigan
Project Number: 22-116A
Soil Analytical Data Summary

Analyte - MI Metals	CAS #	EGLE Part 201 Statewide Default Background Levels	EGLE Part 201 Drinking Water Protection Criteria	EGLE Part 201 Groundwater Surface Water Interface Protection Criteria	EGLE Part 201 Direct Contact Criteria	S-107 0.5' 7/3/2024	S-107 1' 7/3/2024	S-107 2' 7/3/2024	S-108 0.5' 7/3/2024	S-108 1' 7/3/2024	S-108 2' 7/3/2024	S-109 0.5' 7/3/2024	S-109 1' 7/3/2024
Arsenic	7440382	5,800	4,600	4,600	7,600	**18,000**	2,200	ND	**32,000**	4,400	ND	**20,000**	2,400
Lead	7439921	21,000	7.00E+05	G=1.8E+6,G,X	4.00E+05	NA	NA	NA	NA	NA	NA	NA	NA
Analyte - Organochlorines													
4,4-DDE	72559	NA	NLL	NLL	45,000	NA	NA	NA	NA	NA	NA	NA	NA
Other Organochlorines	Varies	NA	Varies	Varies	Varies	NA	NA	NA	NA	NA	NA	NA	NA
Analyte - Organophosphorus													
All Organophosphoruses	Varies	NA	Varies	Varies	Varies	NA	NA	NA	NA	NA	NA	NA	NA

Analyte - MI Metals	CAS #	EGLE Part 201 Statewide Default Background Levels	EGLE Part 201 Drinking Water Protection Criteria	EGLE Part 201 Groundwater Surface Water Interface Protection Criteria	EGLE Part 201 Direct Contact Criteria	S-109 2' 7/3/2024	S-110 0.5' 7/3/2024	S-110 1' 7/3/2024	S-110 2' 7/3/2024	S-111 0.5' 7/3/2024	S-111 1' 7/3/2024	S-111 2' 7/3/2024	S-112 0.5' 7/3/2024
Arsenic	7440382	5,800	4,600	4,600	7,600	3,100	**24,000**	**39,000**	ND	ND	ND	ND	ND
Lead	7439921	21,000	7.00E+05	G=1.8E+6,G,X	4.00E+05	NA	NA	NA	NA	NA	NA	NA	NA
Analyte - Organochlorines													
4,4-DDE	72559	NA	NLL	NLL	45,000	NA	NA	NA	NA	NA	NA	NA	NA
Other Organochlorines	Varies	NA	Varies	Varies	Varies	NA	NA	NA	NA	NA	NA	NA	NA
Analyte - Organophosphorus													
All Organophosphoruses	Varies	NA	Varies	Varies	Varies	NA	NA	NA	NA	NA	NA	NA	NA

Analyte - MI Metals	CAS #	EGLE Part 201 Statewide Default Background Levels	EGLE Part 201 Drinking Water Protection Criteria	EGLE Part 201 Groundwater Surface Water Interface Protection Criteria	EGLE Part 201 Direct Contact Criteria	S-112 1' 7/3/2024	S-112 2' 7/3/2024	S-113 0.5' 7/3/2024	S-113 1' 7/3/2024	S-113 2' 7/3/2024	S-114 0.5' 7/3/2024	S-114 1' 7/3/2024	S-114 2' 7/3/2024
Arsenic	7440382	5,800	4,600	4,600	7,600	ND	ND	ND	2,100	2,500	ND	ND	ND
Lead	7439921	21,000	7.00E+05	G=1.8E+6,G,X	4.00E+05	NA	NA	NA	NA	NA	NA	NA	NA
Analyte - Organochlorines													
4,4-DDE	72559	NA	NLL	NLL	45,000	NA	NA	NA	NA	NA	NA	NA	NA
Other Organochlorines	Varies	NA	Varies	Varies	Varies	NA	NA	NA	NA	NA	NA	NA	NA
Analyte - Organophosphorus													
All Organophosphoruses	Varies	NA	Varies	Varies	Varies	NA	NA	NA	NA	NA	NA	NA	NA

Metals, Organochlorine/phosphorus results and criteria are recorded in parts per billion (ppb)
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Table 1
Brigantine Apartments Property
1831 Brigantine Boulevard, East Bay Township, Grand Traverse County, Michigan
Project Number: 22-116A
Soil Analytical Data Summary

Analyte - MI Metals	CAS #	EGLE Part 201 Statewide Default Background Levels	EGLE Part 201 Drinking Water Protection Criteria	EGLE Part 201 Groundwater Surface Water Interface Protection Criteria	EGLE Part 201 Direct Contact Criteria	S-115 0.5' 7/3/2024	S-115 1' 7/3/2024	S-115 2' 7/3/2024	S-116 0.5' 7/3/2024	S-116 1' 7/3/2024	S-116 2' 7/3/2024	S-117 0.5' 7/3/2024	S-117 1' 7/3/2024
Arsenic	7440382	5,800	4,600	4,600	7,600	3,100	ND	ND	ND	ND	ND	ND	ND
Lead	7439921	21,000	7.00E+05	G=1.8E+6,G,X	4.00E+05	NA	NA	NA	NA	NA	NA	NA	NA
Analyte - Organochlorines													
4,4-DDE	72559	NA	NLL	NLL	45,000	NA	NA	NA	NA	NA	NA	NA	NA
Other Organochlorines	Varies	NA	Varies	Varies	Varies	NA	NA	NA	NA	NA	NA	NA	NA
Analyte - Organophosphorus													
All Organophosphoruses	Varies	NA	Varies	Varies	Varies	NA	NA	NA	NA	NA	NA	NA	NA

Analyte - MI Metals	CAS #	EGLE Part 201 Statewide Default Background Levels	EGLE Part 201 Drinking Water Protection Criteria	EGLE Part 201 Groundwater Surface Water Interface Protection Criteria	EGLE Part 201 Direct Contact Criteria	S-117 2' 7/3/2024							
Arsenic	7440382	5,800	4,600	4,600	7,600	ND							
Lead	7439921	21,000	7.00E+05	G=1.8E+6,G,X	4.00E+05	NA							
Analyte - Organochlorines													
4,4-DDE	72559	NA	NLL	NLL	45,000	NA							
Other Organochlorines	Varies	NA	Varies	Varies	Varies	NA							
Analyte - Organophosphorus													
All Organophosphoruses	Varies	NA	Varies	Varies	Varies	NA							

Metals, Organochlorine/phosphorus results and criteria are recorded in parts per billion (ppb)
ND = Not Detected **= GCC Exceedences** NC = No Criteria
ID = Insufficient Data NA = Not Applicable or Not Analyzed **Bold** = Background Exceedance
NLL= Hazardous substance not likely to leach under most soil conditions. Results compared to EGLE Criteria Lookup Tables
G = Groundwater surface water interface (GSI) criterion dependes on the pH or water hardness, or both, of the receiving surface water. 100 mg used for hardness
X = The groundwater surface water interface (GSI) criterion shown in the generic cleanup criteria tables is not protective for surface water that is used as a drinking water source.

ATTACHMENTS

ATTACHMENT A

Overall Site Plan
(Proposed)

BM#1: ELEV = 692.88 NAVD88
FOUND IRON ROD (0.5")

BM#2: ELEV = 751.33 NAVD88
FOUND IRON ROD (0.5")

BM#3: ELEV = 712.70 NAVD88
SPIKE IN SOUTH SIDE OF PP

NOTES:

1. 171 HOMES SHOWN
2. APPROX. 25% WALKOUT UNITS
3. UNITS TO BE SERVED BY INDIVIDUAL TRASH TOTES

830 Cottageview Dr., Ste. 201
P.O. Box 4015
Traverse City, MI 49685
Phone: 231-946-9310
www.maaeps.com
info@maaeps.com

Mansfield & Land Use Consultants

REV	DATE	DES	DRN	CHK	DESC
01	04-29-24	dlm	mmm	ejw	Township Submittal

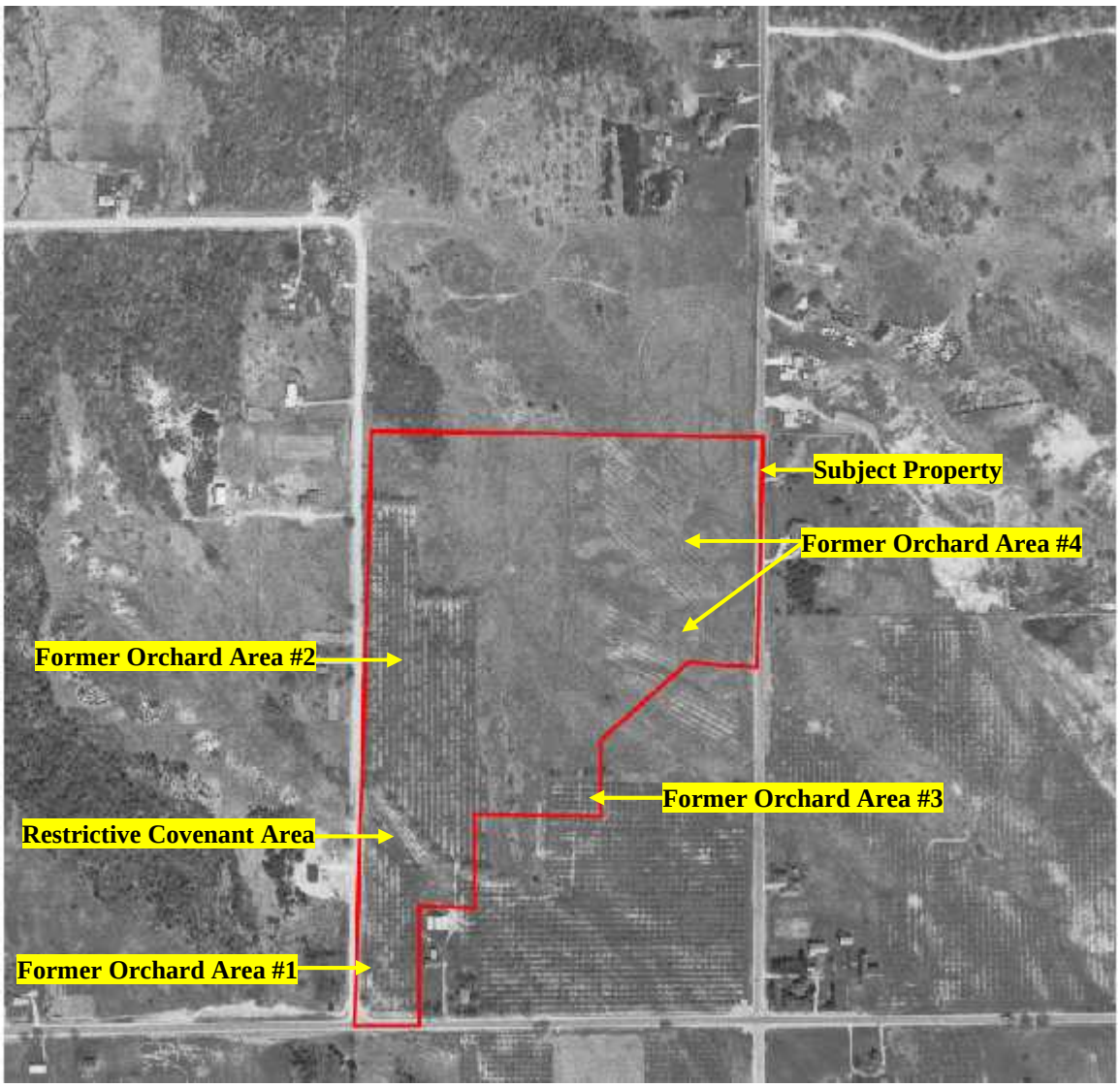
LIV Communities
The Brigantine
OVERALL SITE PLAN
Section 14, Town 29 North, Range 10 West
East Bay Township., Grand Traverse County, Michigan

PRELIMINARY

P.M.: dlm
DR.: jeh CKD.: ejw CREATED: 04.24.24
JOB NO.: 24029
C4.0

ATTACHMENT B

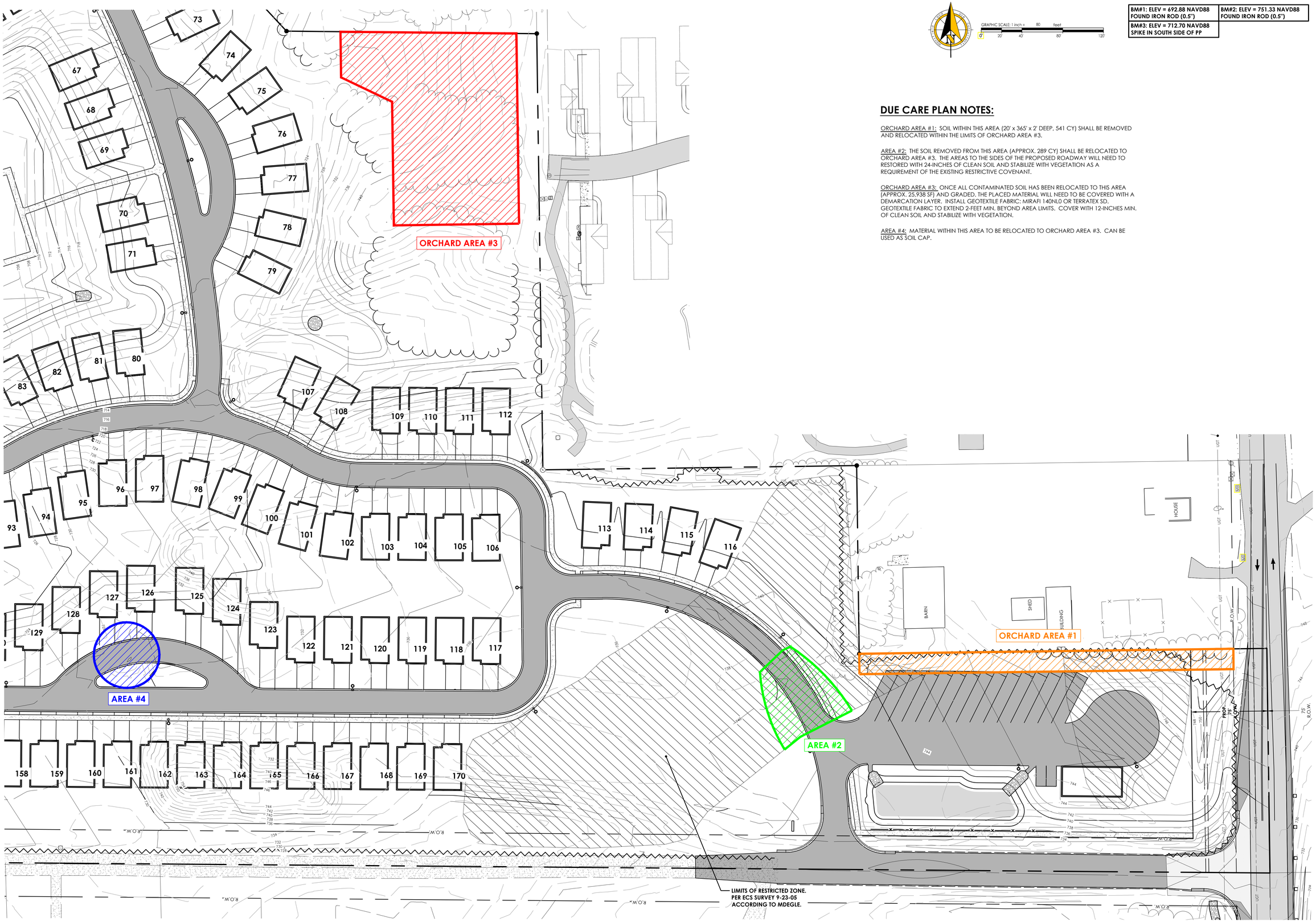
Historical Aerial Photograph - 1977



Brigantine Apartments Property **1831 Brigantine Boulevard** **East Bay Township, Grand Traverse County, MI** **Phase I Environmental Site Assessment**	**1977 Aerial Photograph** **NORTH**		
Otwell Mawby, PC **Traverse City, Michigan**	**Project No:** **22-116A**	**Date:** **11/29/23**	**Source:** **EDR**

ATTACHMENT C

Due Care Plan Exhibit (Sheet C3.2), Prepared by Mansfield



BM#1: ELEV = 692.88 NAVD88 FOUND IRON ROD (0.5")	BM#2: ELEV = 751.33 NAVD88 FOUND IRON ROD (0.5")
BM#3: ELEV = 712.70 NAVD88 SPIKE IN SOUTH SIDE OF PP	

DUE CARE PLAN NOTES:

ORCHARD AREA #1: SOIL WITHIN THIS AREA (20' x 365' x 2' DEEP, 541 CY) SHALL BE REMOVED AND RELOCATED WITHIN THE LIMITS OF ORCHARD AREA #3.

AREA #2: THE SOIL REMOVED FROM THIS AREA (APPROX. 289 CY) SHALL BE RELOCATED TO ORCHARD AREA #3. THE AREAS TO THE SIDES OF THE PROPOSED ROADWAY WILL NEED TO RESTORED WITH 24-INCHES OF CLEAN SOIL AND STABILIZE WITH VEGETATION AS A REQUIREMENT OF THE EXISTING RESTRICTIVE COVENANT.

ORCHARD AREA #3: ONCE ALL CONTAMINATED SOIL HAS BEEN RELOCATED TO THIS AREA (APPROX. 25,938 SF) AND GRADED. THE PLACED MATERIAL WILL NEED TO BE COVERED WITH A DEMARCATION LAYER. INSTALL GEOTEXTILE FABRIC: MIRAFI 140NL0 OR TERRATEX SD. GEOTEXTILE FABRIC TO EXTEND 2-FEET MIN. BEYOND AREA LIMITS. COVER WITH 12-INCHES MIN. OF CLEAN SOIL AND STABILIZE WITH VEGETATION.

AREA #4: MATERIAL WITHIN THIS AREA TO BE RELOCATED TO ORCHARD AREA #3. CAN BE USED AS SOIL CAP.

Mansfield & Land Use Consultants
830 Cottageview Dr., Ste. 201
P.O. Box 4015
Traverse City, MI 49685
Phone: 231-946-9310
www.maeps.com
info@maeps.com

REV#	DATE	DIS	JBN	CHK	DESC
01	04-29-24	dlm	mmm	ejw	Township Submittal
02	06-28-24	dlm	mmm	ejw	Township Submittal (Contraction Permitting)
03	06-28-24	dlm	mmm	ejw	EGLE Permit Submittal

LIV Communities
The Brigantine
DUE CARE PLAN EXHIBIT
Section 14, Town 29 North, Range 10 West
East Bay Township,, Grand Traverse County, Michigan

PERMITS

P.M.: dlm

DR.: jeh | CKD.: ejw | CREATED: 04.24.24

JOB NO.: 24029

C3.2

P:\Land Projects\24029\24029 - LIV Communities\Dwg\Plan\24029 plan03.dwg [C3.2 DUE CARE] - Sep 05, 2024 8:23am - erinm

ATTACHMENT D

Section 324.20120c,
"Relocation of Contaminated Soil," NREPA

NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION ACT (EXCERPT)
Act 451 of 1994

324.20120c Relocation of contaminated soil.

Sec. 20120c. (1) An owner or operator may relocate contaminated soil off-site or allow contaminated soil to be relocated off-site if all of the following requirements are met:

(a) The person determines that the soil can be lawfully relocated without posing a threat to the public health, safety, or welfare or the environment. In making the determination, the owner or operator shall consider whether the soil is subject to regulation under part 111. For the purposes of this subdivision, soil poses a threat to the public health, safety, or welfare or the environment if concentrations of hazardous substances in the soil exceed the cleanup criterion determined pursuant to section 20120a(1) or (2) that apply to the facility to which the soil will be relocated. Any land use or resource use restrictions that would be required for the application of a criterion pursuant to section 20120a(1) or (2) shall be in place at the facility before the soil is relocated. Contaminated soil shall not be relocated to a location that is not a facility.

(b) Prior department approval is obtained if the contaminated soil is being relocated off-site from or to either of the following:

(*i*) A facility where a remedial action plan that includes soil as an affected media has been approved by the department based on a categorical cleanup criterion in section 20120a(1)(b), (c), or (d) or site-specific criteria under section 20120a(2).

(*ii*) A facility where a no further action report that includes soil as an affected medium has been approved by the department.

(c) If contaminated soil is being relocated off-site in a manner not addressed by subdivision (b), the owner or operator of the facility from which soil is being relocated provides notice to the department within 14 days after the soil is relocated. The notice shall include all of the following:

(*i*) The facility from which soil was relocated.

(*ii*) The facility to which the soil was relocated.

(*iii*) The volume of soil relocated.

(*iv*) A summary of information or data on which the owner or operator based the determination required in subdivision (a) that the soil did not present a threat to the public health, safety, or welfare or the environment.

(*v*) If land use or resource use restrictions in a postclosure plan or a postclosure agreement would apply to the soil when it is relocated, documentation that those restrictions are in place.

(2) An owner or operator may relocate contaminated soil, or allow contaminated soil to be relocated, on-site if all of the following requirements are met:

(a) If either a remedial action plan that includes soil as an affected medium or a no further action report that includes soil as an affected medium has been approved for a facility, the person assures that the same degree of control required for application of the criteria of section 20120a(1) or (2) under the remedial action plan or no further action report is provided for the contaminated soil. This subdivision does not apply to soils that are temporarily relocated for the purpose of implementing response activity or utility construction if the response activity or utility construction is completed in a timely fashion and the short-term hazards are appropriately controlled.

(b) If 500 cubic yards or more of contaminated soil are being relocated on-site at a facility where either a remedial action plan that includes soil as an affected medium or a no further action report that includes soil as an affected medium has been approved by the department, the owner or operator of the facility at which soil is being relocated provides notice to the department within 14 days after the soil is relocated. The notice shall include all of the following:

(*i*) The facility from which soil was relocated.

(*ii*) The facility to which the soil was taken.

(*iii*) The volume of soil relocated.

(*iv*) A summary of information or data assuring that the same degree of control required for application of the criteria of section 20120a(1) or (2) is provided for the contaminated soil under subdivision (a).

(*v*) If land use or resource use restrictions in a postclosure plan or a postclosure agreement would apply to the soil when it is relocated, documentation that those restrictions are in place.

(c) If subdivision (b) does not apply and an owner or operator relocates contaminated soil on-site without department approval or notice to the department, the owner of the facility within which contaminated soil is relocated includes the following information regarding the relocation as part of disclosing the general nature and extent of the release under section 20116 to a purchaser or other person to which the facility is transferred:

(*i*) The facility from which soil was relocated.

(*ii*) The facility to which the soil was taken.

(*iii*) The volume of soil relocated.

(*iv*) A summary of the basis for the owner's or operator's determination that the relocation did not cause any exacerbation under section 20107a(1).

(d) Section 20107a(1) and (3) applies to the relocation of soil under this subsection even if an owner or operator is not otherwise subject to section 20107a.

(3) The determination required by subsections (1)(a) and (2)(a) shall be based on knowledge of the person undertaking or approving of the removal or relocation of soil, or on characterization of the soil for the purpose of compliance with this section.

(4) This section does not apply to the following:

(a) Soil that is designated as an inert material pursuant to section 11507(3).

(b) Uncontaminated soil that is mixed with a beneficial use by-product under part 115.

(c) Soil that is relocated for treatment or disposal in conformance with applicable laws and regulations.

(d) The relocation of uncontaminated soil.

(5) As used in this section:

(a) "Contaminated soil" means soil that meets all of the following criteria:

(*i*) The soil is contaminated with 1 or more hazardous substances at levels that exceed the background concentration for that hazardous substance or those hazardous substances.

(*ii*) The soil is contaminated with 1 or more hazardous substances at levels that exceed any applicable cleanup criteria under section 20120a(1) or any applicable site-specific criteria under section 20120b.

(b) "Off-site" means property that is not on-site.

(c) "On-site" means within any contiguous or adjacent parcels owned by or under the control of an owner or operator.

(d) "Uncontaminated soil" means soil that is either of the following:

(*i*) Not contaminated with any hazardous substances due to human activity.

(*ii*) Contaminated with 1 or more hazardous substances as a result of human activity but the levels of those hazardous substances at the facility do not exceed any categorical cleanup criteria under section 20120a(1) or site-specific criteria under section 20120b.

History: Add. 1995, Act 71, Imd. Eff. June 5, 1995;—Am. 2010, Act 228, Imd. Eff. Dec. 14, 2010;—Am. 2012, Act 446, Imd. Eff. Dec. 27, 2012.

Popular name: Act 451

Popular name: Environmental Remediation

Popular name: Environmental Response Act

Popular name: NREPA

ATTACHMENT E

Exposure Barrier Inspection Forms 1 and 2

Section 7a Compliance Analysis (Due Care Plan)
Direct Contact Exposure Barrier Inspection Log (Form #1)

Brigantine Apartments Property
1831 Brigantine Boulevard, Parcel Identification Number: 03-220-049-50
East Bay Charter Township, Grand Traverse County, Michigan, EGLE Part 201 Facility Identification Number: 28000386

This form is to be completed by a Designated Person by the Owner.
The attached Figures in the Due Care Plan, provide details of the exposure barrier associated with the former Orchard Area #3 and the Restrictive Covenant Area on the site and their locations.

Name of Inspector: _____	Date of Inspection: _____

It is intended that any repairs needed to the exposure barrier are to be detailed in the applicable "Notes" section of this form. If any repairs to the exposure barrier are required, the response actions outlined in the Due Care Plan are to be implemented and documented as noted by the Due Care Plan. The inspection frequency indicated below is meant to be a guide, additional, more frequent inspections may be required due to site conditions (i.e., establishment of vegetation, landscaping, etc.). A reduction in inspection frequency can be considered when vegetation cover has been established or through consultation with an Environmental Professional.

Grass/ Landscaped Area Locations - Former Orchard Area #3 and Restrictive Covenant Area (Monthly Inspection)		
Is Soil Exposed Since Last Inspection	Yes ____ No ____	Notes: _____
Is Vegetative Cover Intact and Not Sparce Since Last Inspection	Yes ____ No ____	Notes: _____
Have Holes or Excavation (i.e., Man-made or Wildlife) Occurred Since Last Inspection	Yes ____ No ____	Notes: _____

Asphalt Paving for Roadway – Restrictive Covenant Area (Quarterly Inspection)		
Has Cracking of the Asphalt Pavement Occurred Since Last Inspection	Yes ____ No ____	Notes: _____
Have Potholes Been Created Since Last Inspection	Yes ____ No ____	Notes: _____
Has Settlement/ Standing Water Occurred Since Last Inspection	Yes ____ No ____	Notes: _____

If any questions are answered "yes", repairs would be required. If any questions are answered "no", repairs would not be required. If repairs to the barrier are required the owner is to be notified immediately. Repairs, if required, are to be initiated within one week following notification of an issue. Within 24 hours of the inspection completion the owner is to be notified of the inspection results by the Designated Person. A copy of this completed form shall also be forwarded to the owner within 24 hours of completion of the inspection.

Section 7a Compliance Analysis (Due Care Plan)
Direct Contact Exposure Barrier Inspection Log (Form #2)

Brigantine Apartments Property
1831 Brigantine Boulevard, Parcel Identification Number: 03-220-049-50
East Bay Charter Township, Grand Traverse County, Michigan, EGLE Part 201 Facility Identification Number: 28000386

This form is to be completed by the person(s) and/ or entity that is planning an activity to repair the exposure barrier.
This form is to be completed and provided to the owner within 24 hours following completion of the exposure barrier repair.

Name of Person/ Title Completing this Form:	Entity Represented:
_____	_____

Description of Planned Repair Activity:
_____
_____
_____
_____

Date(s) of Planned Repair Activity:
_____

Has the owner been notified of the exposure barrier repair?	Yes ____ No ____	Notes: _____ _____
It is possible the work could disturb or damage the exposure barrier?	Yes ____ No ____	Notes: _____ _____
Did the repair fix the identified issue with the exposure barrier?	Yes ____ No ____	Notes: _____ _____
Has exposure barrier been re-established, as detailed in the Due Care Plan as a result of the repair?	Yes ____ No ____	Notes: _____ _____

ATTACHMENT F

Restrictive Covenant
(EGLE REF# RC-RRD-201-15-085)

1775 1957 1964 Headwaters Drive
Grand Traverse County
Location ID# 28000386

KERMIT ID# 11120115085

8166733
Tx:4083490

8

2015R-01235
STATE OF MICHIGAN
GRAND TRAVERSE COUNTY
RECORDED 11:22:19 AM
01/21/2015 PAGE 1 OF 8
PEGGY HAINES REGISTER OF DEEDS

DECLARATION OF RESTRICTIVE COVENANT

EGLE REF# RC-RRD-201-15-085

This Declaration of Restrictive Covenant ("Restrictive Covenant") has been recorded with the Grand Traverse County Register of Deeds for the purpose of protecting public health, safety, and welfare, and the environment by prohibiting or restricting activities that could result in unacceptable exposure to environmental contamination present at the property located at Headwaters Drive, Traverse City, East Bay Township, Grand Traverse County and legally described in Exhibit 1 attached hereto ("Property").

Response activities were implemented to address environmental contamination at the Property pursuant to Part 201, Environmental Remediation, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA), MCL 324.20101 *et seq*. The adequacy of the response activities implemented at the Property has not been subject to a facility-specific review by the Michigan Department of Environmental Quality (DEQ) nor has the DEQ determined that the response activities comply with Part 201 of the NREPA.

The Property described contains hazardous substances in excess of the concentrations developed as the unrestricted residential criteria under Section 20120a(1)(a) or (17) of the NREPA. The DEQ recommends that prospective purchasers or users of the Property undertake appropriate due diligence prior to acquiring or using this Property, and undertake appropriate actions to comply with the requirements of Section 20107a of the NREPA.

The response activities required the recording of this Restrictive Covenant with the Grand Traverse County Register of Deeds to: 1) restrict unacceptable exposures to hazardous substances located on the Property; 2) assure that the use of Property is consistent with the exposure assumptions used to develop the residential cleanup criteria under section 20120a(1)(a) of the NREPA and the exposure control measures relied upon at the Property; 3) to prevent damage or disturbance of any element of the response activity constructed on the property.

The restrictions contained in this Restrictive Covenant are based upon information available at the time the response activities were implemented. Failure of the response activities to achieve and maintain the criteria, exposure controls, and any requirements specified by the response activities; future changes in the environmental condition of the Property or changes in the residential cleanup criteria under section 20120a(1)(a) of the NREPA; the discovery of environmental conditions at the Property that were not accounted for during implementation of the response activities; or use of the Property in a manner inconsistent with the restrictions described herein, may result in this Restrictive Covenant not being protective of public health, safety, and welfare, and the environment.

The "Survey of Property and Limits of Land or Resource Use Restrictions," attached as Exhibit 2, provides a survey of the Property that depicts the area or areas subject to restriction and contains legal descriptions that distinguish those portions of the Property that are subject to land use or resource use restrictions specified in this Restrictive Covenant.

Definitions

For the purposes of this Restrictive Covenant, the following definitions shall apply:

"DEQ" means the Michigan Department of Environmental Quality, its successor entities, and those persons or entities acting on its behalf.

"Owner" means at any given time the then current title holder of the Property or any portion thereof.

All other terms used in this document which are defined in Part 3, Definitions, of the NREPA; Part 201 of the NREPA; or the Part 201 Administrative Rules, 2002 Michigan Register; Effective December 21, 2002, shall have the same meaning in this document as in Parts 3 and 201 of the NREPA and the Part 201 Administrative Rules, as of the date of filing of this Restrictive Covenant.

Summary of Response Activities

Hazardous substances including arsenic and lead have been disposed of on the Property. Prior to the recording of this Restrictive Covenant, response activities have been undertaken to remove or treat in-place some of the hazardous substances. Arsenic and lead remains present at levels that require controls to prevent unacceptable exposures. An exposure barrier, consisting of twenty four (24) inches of clean soil and vegetation, has been placed, to prevent direct contact with the impacted soils.

NOW THEREFORE,

1. Declaration of Land Use or Resource Use Restrictions

David W. Whiteford, with express written permission of the Owner of the Property, hereby declares and covenants that the Property shall be subject to the following restrictions and conditions:

a. Prohibited Use. Use of the restricted area shall be limited to the construction of roads, utilities, storage buildings and asphalt parking areas.

b. Prohibited Activities to Eliminate Unacceptable Exposure to Hazardous Substances. The Owner shall prohibit activities within the portions of the Property designated in Exhibit 2, that may result in exposures to hazardous substances at the Property. These prohibited activities include: Any use by residents that would involve disturbance of contaminated area that is not covered by asphalt or storage buildings.

c. Prohibited Activities to Ensure the Effectiveness and Integrity of the Response Activity. The Owner shall prohibit activities on the Property that may interfere with any element of the response activities, including the performance of operation and maintenance activities, monitoring, or other measures necessary to ensure the effectiveness and integrity of the response activities implemented at the Property. These prohibited activities include: any excavation or other intrusive activity that could affect the integrity of the barrier is prohibited, except during short-term construction or repair projects or for purposes of further treating or remediating the subject contamination. Any excavation or other intrusive activity, including removing, altering, or disturbing soil that could affect the integrity of the barrier, must include the use of engineering controls.

d. Contaminated Soil Management. The Owner shall manage all soils, media and/or debris located within the portions of the Property designated in Exhibit 2, in accordance with the applicable requirements of Section 20120c of the NREPA; Part 111, Hazardous Waste Management, of the NREPA; Subtitle C of the Resource Conservation and Recovery Act, 42 U.S.C. Section 6901 *et seq.*; the administrative rules promulgated thereunder; and all other relevant state and federal laws.

2. Term of Restrictive Covenant. This Restrictive Covenant shall run with the Property and shall be binding on the Owner; future owners; and their successors and assigns, lessees, easement holders, and any authorized agents, employees, or persons acting under their direction and control. This Restrictive Covenant shall continue in effect until the DEQ or its successor determines that hazardous substances no longer present an unacceptable risk to the public health, safety, or welfare, or the environment.

3. Enforcement of Restrictive Covenant. The State of Michigan, through the DEQ, and WBWA LLC may individually enforce the restrictions set forth in this Restrictive Covenant by legal action in a court of competent jurisdiction.

4. Severability. If any provision of this Restrictive Covenant is held to be invalid by any court of competent jurisdiction, the invalidity of such provision shall not affect the validity of any other provisions hereof, and all such other provisions shall continue unimpaired and in full force and effect.

5. Authority to Execute Restrictive Covenant. The undersigned person executing this Restrictive Covenant is the Owner, or has the express written permission of the Owners of WBWA LLC, as the Managing Member, and represents and certifies that he or she is duly authorized and has been empowered to execute and deliver this Restrictive Covenant.

IN WITNESS WHEREOF, David W. Whiteford has caused this Restrictive Covenant to be executed on this 19th day of January, 2015.

WBWA LLC

By: _____
Signature

Name: DAVID W. WHITEFORD

Its: WBWA LLC Managing Member
Title

STATE OF MICHIGAN
COUNTY OF GRAND TRAVERSE

The foregoing instrument was acknowledged before me this 19th of January, 2015, by DAVID W. WHITEFORD.

JO ANN WIDICK
Notary Public - Michigan
Grand Traverse County
My Commission Expires Feb 10, 2019
Acting in the County of Grand Traverse

_____
Notary Public Signature

Jo Ann Widick
Notary Public, State of Michigan
County of Grand Traverse County
My Commission Expires: 02/10/2019
Acting in the County of Grand Traverse

Prepared by and when recorded return to:

David W. Whiteford
328 Munson Avenue, Suite B, Traverse City, MI 49686

CONSENT OF OWNER

WBWA LLC, the current and legal Owner of the Property, does hereby consent to the recording of this Restrictive Covenant and authorize David W. Whiteford to file the Restrictive Covenant with the Grand Traverse County Register of Deeds for recording.

WBWA LLC

By: _____
Signature

Name: _____
David W. Whiteford,
Its: Managing Member

STATE OF MICHIGAN
COUNTY OF GRAND TRAVERSE

The foregoing instrument was acknowledged before me this 19th day of January 2015 by ~~Jo Ann Widick~~, ~~Notary~~. DAVID W. WHITEFORD

_____
Notary Public Signature

JO ANN WIDICK
Notary Public - Michigan
Grand Traverse County
My Commission Expires Feb 10, 2019
Acting in the County of Grand Traverse

Jo Ann Widick
Notary Public, State of Michigan
County of Grand Traverse County
My Commission Expires: 02/10/2019
Acting in the County of Grand Traverse

EXHIBIT 1
LEGAL DECRIPTION OF PROPERTY

P:\Survey Field\East Bay Don Berg\dwg\SVY01.dwg (Cert Legals) - Apr 28, 2004 2:00pm - mikeg

CERTIFICATE OF SURVEY

LEGAL DESCRIPTIONS

Previously Described as;
Land situated in the Township of East Bay, County of Grand Traverse, State of Michigan and described as:

The East 1/2 of the Southeast 1/4, section 20, Town 27 North, Range 10 West, EXCEPT a parcel of land: Commencing at the Southeast corner of said section 20; thence West (assumed) along the section line, 916.50 feet to the Point of Beginning; thence West 185 feet; thence North at right angles, 400 feet; thence East 185 feet; thence South 400 feet.

AND EXCEPTING THEREFROM: Part of the North 1/2 of the Northeast 1/4 of the Southeast 1/4, section 20, Town 27 North, Range 10 West.

AND EXCEPTING THEREFROM: The East 466.50 feet of the South 467.00 feet of the Southeast 1/4 of the Southeast 1/4 of section 20, Town 27 North, Range 10 West.

AND EXCEPTING THEREFROM: Part of the Southeast 1/4 of the Southeast 1/4, Section 20, Town 27 North, Range 10 West, more fully described as: Commencing at the Southeast corner of said section 20; thence North 88°57'00" West, 466.64 feet along the South line of said section 20 and the centerline of Hammond Road to the Point of Beginning; thence North 88°57'00" West, 449.86 along said South line of said centerline; thence North 01°03'02" East, 708.36 feet; thence South 88°57'00" East, 933.55 feet parallel to said South line; thence South 02°25'45" West, 241.43 feet along the East line of said section 20 and centerline of Four Mile Road; thence North 88°57'00" West, 466.64 feet parallel to said South line; thence South 02°25'45" West, 467.14 feet parallel with said East line to the Point of Beginning.

More Particularly Described as;
Part of the East half, of the Southeast 1/4, of Section 20, Town 27 North, Range 10 West, East Bay Township, Grand Traverse County, Michigan more fully described as:
Commencing at the Southeast corner of said section 20; thence North 88°57'00" West, 1101.50 feet along the South line of section 20 to the Point of Beginning; thence North 88°57'00" West, 220.52 feet along said South line to the East 1/8 line; thence North 02°18'22" East, 1987.14 feet along the East 1/8 line, to the South line of the North 1/2, of the Northeast 1/4, of the Southeast 1/4; thence along said south line South 88°43'18" East, 1326.17 feet to the East line of said section 20; thence South 02°25'45" West, 1273.39 feet along said East line; thence North 88°57'00" West, 933.55 feet; thence South 01°03'02" West, 308.36 feet; North 88°57'00" West, 185.00 feet; thence South 01°03'02" West, 400.00 feet to the South line of said section 20 and the Point of Beginning. Subject to the right-of-way of Hammond, Vanderlip, and Four Mile Roads. Containing 43.58 acres of land.

WITNESSES

South 1/4 Corner
sec. 20, T27N, R10W
Fd County Remon
N03°W 34.68' PP
S48°E 57.45' 6" Elm
S45°W 55.67' PP
N43°W 51.52' Guy Pole

Southeast Corner
sec. 20, T27N, R10W
Fd County Remon
N65°E 63.46' 18" basswood
S22°E 68.32' PP
S43°W 115.70' PP
S57°W 60.39' Lgt Pole

East 1/4 Corner
sec. 20, T27N, R10W
Set PK
N60°W 39.57' fd spk on East side 30" Maple
N59°W 40.46' fd spk on North side 30" Maple
N44°W 47.84' fd spk on North side PP
S85°W 57.21' fd spk in old fence post
N78°E 28.27' fd spk on North side PP

EXHIBIT 2

LEADING EDGE SURVEYING, LLC
6164 GINAFRED SHORES DR., SW
FIFE LAKE, MI 49633
PHONE: (231) 342-5012 OR
(231) 342-9892

DESCRIPTION: AREA OF BURIED CONTAMINATED SOIL

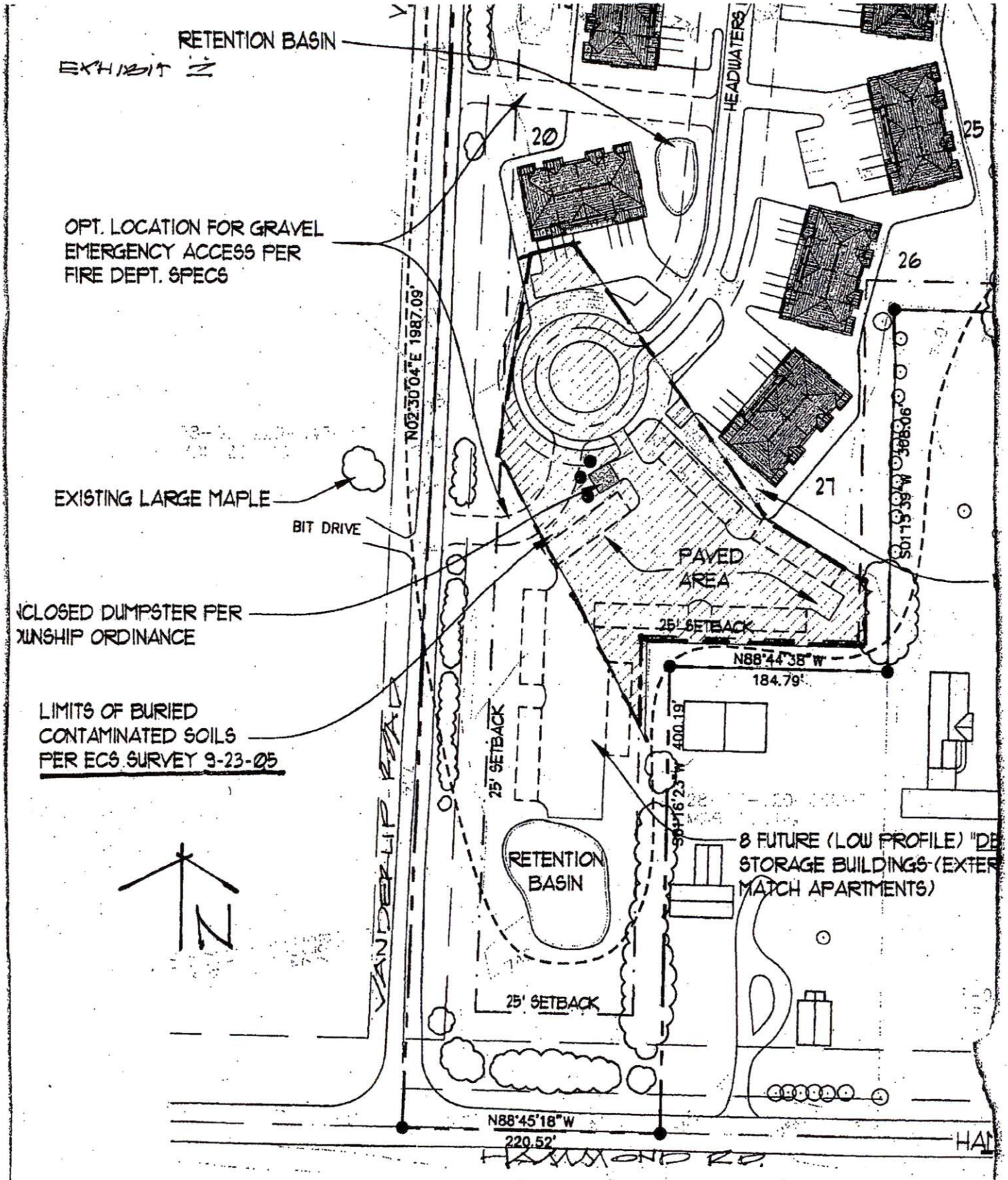
Part of the East 1/2 of the Southeast 1/4 of Section 20, Town 27 North, Range 10 West, East Bay Township Grand Traverse County, Michigan more fully described as:

Commencing at the Southeast Corner of said Section 20, thence N88°45'18"W, 1101.42 feet along the South Line of Section 20; thence N01°16'23"E, 400.19 feet to the POINT OF BEGINNING;
thence S18°33'24"W, 67.61 feet;
thence N24°52'58"W, 137.36 feet;
thence N36°52'59"W, 117.07 feet;
thence N50°27'05"W, 33.80 feet;
thence N11°53'35"W, 22.00 feet;
thence N00°53'44"W, 72.51 feet;
thence N03°16'18"E, 79.43 feet;
thence N07°46'05"E, 25.15 feet;
thence N36°52'51"E, 16.99 feet;
thence N69°27'05"E, 19.36 feet;
thence S83°28'58"E, 39.92 feet;
thence S87°08'19"E, 22.69 feet;
thence S61°23'57"E, 14.20 feet;
thence S22°15'25"E, 26.93 feet;
thence S23°38'16"E, 19.78 feet;
thence S34°13'34"E, 34.25 feet;
thence S22°37'40"E, 14.73 feet;
thence S27°33'43"E, 29.39 feet;
thence S41°26'05"E, 25.69 feet;
thence S29°15'30"E, 32.46 feet;
thence S33°11'20"E, 35.19 feet;
thence S23°58'15"E, 22.32 feet;
thence S38°22'43"E, 34.68 feet;
thence S32°00'56"E, 21.38 feet;
thence S59°02'46"E, 33.04 feet;
thence S53°59'00"E, 15.41 feet;
thence S61°42'31"E, 33.46 feet;
thence S51°21'04"E, 21.77 feet;
thence S19°59'25"E, 13.26 feet;
thence S05°24'55"E, 36.02 feet;
thence S00°00'00"E, 10.20 feet;
thence S21°48'33"W, 6.10 feet;
thence S78°41'40"W, 5.78 feet;
thence S88°26'18"W, 124.70 feet;
thence S84°51'45"W, 43.25 feet to the POINT OF BEGINNING.

Said parcel contains 1.75 acres.

Subject to easements or restrictions, if any.

C:\AUTO CAD DWGS\2014\14-0066 Whiteford Associates\CONTAMINATED SOILS.doc
9/2/2014


RETENTION BASIN
EXHIBIT 2
OPT. LOCATION FOR GRAVEL EMERGENCY ACCESS PER FIRE DEPT. SPECS
EXISTING LARGE MAPLE
BIT DRIVE
CLOSED DUMPSTER PER
WNSHIP ORDINANCE
LIMITS OF BURIED CONTAMINATED SOILS PER ECS SURVEY 9-23-05
PAVED AREA
25' SETBACK
N88°44'38"W
184.79'
400.19'
S01°15'39"W 308.06'
S64°16'23"W
8 FUTURE (LOW PROFILE) "DE
STORAGE BUILDINGS (EXTER
MATCH APARTMENTS)
RETENTION BASIN
25' SETBACK
25' SETBACK
N88°45'18"W
220.52'
N02°30'04"E 1987.09'
VANDERLIP RD.
HEADWATERS
20
25
26
27
N

ATTACHMENT G

Environmental Professional Credentials

OTWELL MAWBY, P.C.

CONSULTING ENGINEERS

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ROGER L. MAWBY, P.E.
State of Michigan - Professional Engineer #32383
Underground Storage Tank Certified Professional #32621
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Roger Mawby has over 30 years of experience conducting soils and environmental investigations. In his position as Principal, he is responsible for managing the company's environmental and geotechnical engineering services. He is a Michigan Underground Storage Tank Professional and he is responsible for all phases of environmental assessments, underground storage tank assessments and closures, and site remediation projects associated with real estate transactions, oil and gas production, industry, and geotechnical and soils investigations. Responsibilities include planning, coordinating and supervising field activities relating to hydrogeologic, geotechnical and geoenvironmental projects, as well as performing engineering analysis and evaluation of field and laboratory data, historical research, site reconnaissance and interaction with regulatory agencies on behalf of the client.

Specific project experience includes characterization of soils hydrogeologic conditions, evaluation of contaminant transport mechanisms and pathways, assessment of contaminant impact to groundwater quality, recommendation of remedial alternatives and development and implementation of remedial action and closure plans.

Prior to joining Otwell Mawby, P.C., Mr. Mawby managed the Geoenvironmental/Geotechnical Group at Gourdie Fraser & Associates, a Traverse City based engineering consulting firm from 1985 to 1990. He was responsible for managing the firms environmental, hydrogeological and geotechnical engineering operations as well as directing field operations and construction materials testing activities. Projects included environmental assessment projects for real estate transactions, hydrogeological investigation for discharge permitting and environmental remediation projects. Specific project experience included the selection and hydrogeologic evaluation of large flow residential septic disposal sites, groundwater discharge permitting, design of community sewage collection and disposal systems and geotechnical engineering.

From September 1982 to July 1985 Mr. Mawby worked as a Project Geotechnical Engineer for Black & Veatch Consulting Engineers in Kansas City, Kansas. His responsibilities included all phases of geotechnical field investigation and engineering analysis, providing geotechnical design recommendations for several large utility owned power projects.

PROFESSIONAL MEMBERSHIPS
Grand Traverse County Resource Recovery Council, Past Chairman
National Society of Professional Engineers
Michigan Society of Professional Engineers, Northern Chapter, Past President
Grand Traverse County Board of Public Works, Past Member
Grand Traverse County Building Authority

EDUCATION
M.S., Civil Engineering, Michigan State University, 1982
B.S., Civil Engineering, Michigan State University, 1980

QUALIFICATIONS OF ENVIRONMENTAL PROFESSIONALS

Mr. Mark Collison, C.E.S. (Environmental Professional)

Mr. Collison has over 25 years of environmental experience focusing on the preparation of Phase I and Phase II Environmental Site Assessments in the State of Michigan and the State of Ohio; Baseline Environmental Assessments and Brownfield Redevelopment Plans in Michigan; and Remedial Investigations.

He also has experience in proposal and report preparation, project presentations, project management, marketing, project research and historical reviews, overseeing of field personnel for project related sampling activities, environmental field sampling and screening of Asbestos, lead based paints, soil, surface waters, groundwater, oils and sludges, containment facilities and impoundments.

He has additional experience including working as an assistant on a drill rig to assist with soil sampling and classifications, boring log preparation, monitoring well installation and development, equipment decontamination and sample screening with a Photoionization Detector.

Mr. Collison also has experience with professional interaction with environmental regulatory agencies and local units of government.

Certifications
Environmental Assessment Association - Certified Environmental Specialist (CES) - February 1995
40 Hour OSHA Hazardous Materials Training and Refresher – February 2022
American Red Cross First Aid and CPR Certifications – April 2003

Education
Northern Michigan University, Marquette, Michigan
Bachelor of Science Degree in Environmental Conservation in May 1991

Affiliations
Environmental Assessment Association