

November 18, 2019

Mr. Steven Haines
Tropical Environmental Inc.
1350 Chase Street
Algonquin, Illinois 60102

**Assessment Part 1 of 2
involving buildings under the
footprint of the new construction**

**RE: Hazardous and Other Regulated Material Assessment (Revision I)
Illinois Veterans Home Quincy Complex
1707 N. 12th Street, Quincy, Illinois 62301
True North Project TII9626**

Dear Mr. Haines:

True North Consultants, Inc. (True North) was retained by Tropical Environmental Inc., (Client) to conduct an assessment of hazardous and other regulated materials associated with the six structures for demolition at the Illinois Veterans Home Quincy Complex located at 1707 N 12th Street in Quincy, Illinois (Site). Assessment activities were performed by qualified environmental professionals between the dates of August 26th and 28th, 2019.

The assessment was conducted to identify the presence, location, and approximate quantity/volume of potentially hazardous materials, universal waste materials and other regulated materials present at the Site.

Based upon the findings of the assessment, hazardous materials, universal waste and other regulated materials were identified at the Site. Enclosed with this cover letter is a copy of the assessment report including procedures, findings and recommendations.

We appreciate the opportunity to be of service to Tropical Environmental Inc. Should you have any questions regarding this report, please contact us at your earliest convenience.

Respectfully Submitted,
TRUE NORTH CONSULTANTS



Michael D. Brennan
Senior Project Manager



Hazardous and Other Regulated Material Assessment (Revision I)

Illinois Veterans Home Quincy Complex

**1707 N. 12th Street
Quincy, Illinois 62301**

PREPARED FOR
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Algonquin, Illinois 60102

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SUBMITTED ON
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PROJECT NUMBER
TII9626





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I.0 Introduction

I.1 General

True North Consultants, Inc. (True North) was retained by Tropical Environmental Inc., (Client) to conduct an assessment of hazardous and other regulated materials within the six (6) structures for demolition at the Illinois Veterans Home Quincy Complex located at 1707 N. 12th Street in Quincy, Illinois (Site). Assessment activities were performed by qualified environmental professionals between the dates of August 26th and 28th, 2019. The following report provides a summary of methodology, findings, and recommendations.

I.2 Background

The environmental conditions associated with the Site structures is being evaluated as part of the environmental due diligence process. As part of this evaluation, True North was retained to assess hazardous materials, universal waste materials and other regulated materials associated with the existing six on-site structures prior to planned demolition at the Site. The purpose of the assessment was to identify the presence, location and approximate quantity/volume of materials at the Site to assist in the management and/or disposal of identified materials.

I.3 Scope of Services

The scope of services provided for the project included the following tasks:

- Conduct interviews with knowledgeable personnel as applicable concerning the location and approximate quantities/volume of hazardous materials at the Site.
- Conduct a visual inspection of the Site structures to identify potential hazardous materials, universal waste materials, and other regulated materials present. For each identified material, the approximate quantity/volume of materials was determined.
- Provide a report including a summary of findings and provide recommendations for the management of identified materials.

2.0 Site Assessment

2.1 Site Description

The Site includes a total of six structures planned for demolition at the Illinois Veterans Home Quincy Complex. The structures are described as follows:

Assessment Part 1 of 2 involving buildings under the footprint of the new construction

- Elmore Infirmary Building #94 (W0646): Masonry structure constructed circa 1963 with three floors above grade and one below grade containing approximately 36,390 square feet.
- Kent Infirmary Building #91 (W0650): Masonry structure constructed circa 1972 with four floors above grade and one below grade containing approximately 57,307 square feet.
- Fletcher Infirmary Building #26 (W0618): Masonry structure constructed circa 1954 with three floors above grade and one floor below grade containing approximately 34,720 square feet.
- Northern Guest House Building #31 (W0603): Masonry structure constructed circa 1886 with two floors above grade containing approximately 7,560 square feet.
- Truck Maintenance Garage Building #32 (W0653): Masonry structure constructed circa 1927 with two floors above grade and one below grade containing 4,800 square feet.
- Vehicle Garage Building #24 (W0637): Masonry structure constructed circa 1951 with one above grade floor containing approximately 2,083 square feet.

2.2 Field Observations

During on-site investigation activities, the following observations were made:

- Fluorescent lights and ballasts were observed to be present within all six on-site structures.
- Electrical panels, breakers, and transformers were observed within all six on-site structures.
- White goods were observed within all six on-site structures.
- Elevator lift systems and associated hydraulic oil were observed to be present within the Kent Infirmary and Elmore Infirmary structures.
- Miscellaneous cleaning chemicals were observed to be present within all six on-site structures.

- Underground storage tanks (USTs) are suspected to be present outside of the Truck Maintenance Garage structure.

3.0 Investigation Methodology

3.1 Investigation Activities

True North provided qualified environmental professionals to identify potential hazardous materials, universal waste materials and other regulated materials present within the on-site structures. The primary means of investigation was the visual examination of building materials and containerized chemicals. Prior to the initiation of investigation activities, information was gathered regarding the general facility layout and site history. The inspectors then performed a thorough walk-through of each building to identify potentially regulated materials. The scope of the investigation was limited to visible identification and did not include “intrusive” investigation activities. “Intrusive” investigation includes the removal of energized electrical components and equipment, hydraulic cylinder and tank evaluation, and deconstruction of electrical/light components.

Potential hazardous materials evaluated included materials that have the potential to become wastes upon termination of use. Materials identified during the assessment included universal wastes, as defined in Illinois Administrative Code (IAC) Part 721: *Identification and Listing of Hazardous Waste*, and hazardous wastes as defined in the United States Environmental Protection Agency (USEPA) *Resource Conservation and Recovery Act (RCRA)*. In addition to the aforementioned materials, appliances and white goods which may be subject to special handling and disposal requirements were also identified and inventoried for future reference.

For each identified material, the location and approximate quantity/volume of material were recorded. Materials identified during the assessment included those materials that are known or suspected to be classified as a hazardous, universal waste or other regulated material upon termination of use. The scope of work did not include the sampling or characterization of identified materials. Where available, the contents of containers were recorded and included in the hazardous materials inventory. For potential polychlorinated biphenyl (PCB)-containing light ballasts, a representative number of light ballasts were inspected to determine if the ballasts were identified as “Contains No PCBs”. Where no discernible identification of PCB content was noted, materials were assumed to contain PCBs. The total number of fluorescent bulbs were inventoried at the Site inclusive of low-mercury bulbs and standard fluorescent lamps.

4.0 Hazardous and Other Regulated Material Inventory

4.1 Polychlorinated Biphenyl Containing Oils

Polychlorinated biphenyls (PCBs) are a family of 209 stable man-made chemicals known for their insulating and fire-resistant properties. PCBs were banned from use in the United States in 1979 but may often be found in older equipment including transformers, capacitors, electronic equipment, hydraulic fluids, motors, and other specialty materials. PCBs have been demonstrated to cause a variety of adverse health effects and may form highly toxic dioxins when burned.

Fluorescent light ballasts manufactured before 1979 may also include capacitors, which contain up to 1.5 ounces of PCB oil. Generally, non-leaking PCB-containing ballasts may be treated as a municipal solid waste and may be disposed of as such. In the event that non-leaking ballasts are disposed of as a municipal solid waste, EPA recommends that the ballasts be containerized in a sealed steel drum packed with adsorbent material prior to disposal. Leaking ballasts must be treated as a special waste and disposed of in a licensed landfill.

PCB-containing fluids are regulated by the USEPA under the Toxic Substances Control Act (TSCA). These regulations establish rules governing the labeling and disposal of PCBs, in addition to prohibiting the manufacturing and processing of PCBs.

Based upon the requirements of 40 CFR Part 761, transformers that have been manufactured before July 2, 1979 that are known to contain mineral oil must be assumed to be PCB-contaminated (i.e. 50 ppm < 500 ppm). Although transformers must be assumed to be mineral-oil filled and PCB-contaminated while the equipment is in use, testing of transformer mineral oil must be performed prior to disposal to determine actual PCB concentrations. PCBs in hydraulic systems installed after July 1, 1984 are required to contain no greater than 50 ppm by law. However, any systems installed prior to July 1, 1984 should be assumed to contain greater than 50 ppm of PCBs and should be tested to determine the materials appropriate disposal classification.

During the investigation, suspect PCB light ballasts, transformers, electrical panels/switches, and hydraulic in-ground lifts were identified at the Site. The following table provides the approximate locations and quantities of suspect PCB-containing ballasts and other PCB-containing oil filled equipment:

Table 4.1: Summary of Findings – PCB Containing Oils					
Building/Structure	Fluorescent Ballasts	Transformers	Hydraulic Oil	Electrical Panels/ Switches	Other
Elmore Infirmary	260	N/Q ¹	250 Gallons	20	N/A
Truck Maintenance Garage	15	N/Q ¹	N/A	4	N/A
Vehicle Garage	N/A	N/A	N/A	1	N/A
Kent Infirmary	805	N/Q ¹	750 Gallons	45	N/A
Fletcher Infirmary	308	N/Q ¹	N/A	14	N/A
Northeast Guest House	20	N/Q ¹	N/A	2	N/A

Notes:

- (1) Transformers are present but appear to have been manufactured after July 1, 1984. Field verification is recommended to determine actual PCB concentration.
- (2) N/Q= Not Quantified
- (3) N/A= Not Applicable

4.2 Fluorescent and High Intensity Discharge Lamps

Fluorescent and high intensity discharge (mercury-vapor, metal halide, and high pressure sodium) lamps may be classified as hazardous waste due to their mercury content and thus may be subject to special disposal requirements. In Illinois, universal waste materials are subject to the requirements of Part 721: *Identification and Listing of Hazardous Waste* which encourages the recycling or proper disposal of waste lamps.

Based upon the visual inspection, the following table provides an approximate number of fluorescent and high intensity discharge (HID) lamps identified at the Site:

Table 4.2: Summary of Findings – Fluorescent Bulbs and Mercury Containing Lamp Summary		
Building/Structure Location	Fluorescent Bulbs	HID Lamps
Elmore Infirmary	410	4
Truck Maintenance Garage	42	1
Vehicle Garage	N/A	1

Table 4.2: Summary of Findings – Fluorescent Bulbs and Mercury Containing Lamp Summary

Building/Structure Location	Fluorescent Bulbs	HID Lamps
Kent Infirmary	3,506	8
Fletcher Infirmary	407	4
Northeast Guest House	40	2

Notes: N/A = Not Applicable

4.3 Mercury Containing Devices

Mercury may be found in thermostats, thermometers, barometers, switches and other measurement devices. Quantities of mercury in these components may range from 275 to 3,000 milligrams. Mercury ampoules or free liquids should not be removed from their containers or devices. In Illinois, these mercury-containing components may be recycled at an off-site mercury recovery facility.

Thermostat and switch plates were removed wherever feasible to identify the presence of mercury. Based upon the visual inspection, the following table provides an approximate number of mercury-containing devices identified at the Site:

Table 4.3: Summary of Findings – Mercury Containing Devices

Building/Structure Location	Mercury Thermostats	Other Devices
Elmore Infirmary	62	NA
Truck Maintenance Garage	N/A	N/A
Vehicle Garage	N/A	N/A
Kent Infirmary	93	N/A
Fletcher Infirmary	1	N/A
Northeast Guest House	8	N/A

Notes: N/A = Not Applicable

4.4 Hazardous Substances and Petroleum Products

Accumulations of hazardous substances and petroleum products were observed at the Site. The

following table provides a summary of hazardous substances and petroleum products identified during the assessment:

Table 4.4: Summary of Findings – Hazardous Substances and Petroleum Products		
Building/Structure Location	Hazardous Substances	Petroleum Products
Elmore Infirmary	N/A	8 Electrical Motors
Truck Maintenance Garage	N/A	1 Fuel Pump 2 Underground Tanks
Vehicle Garage	N/A	N/A
Kent Infirmary	N/A	18 Electrical Motors
Fletcher Infirmary	N/A	N/A
Northeast Guest House	N/A	N/A

Notes: N/A = Not Applicable

Consumer commodity size containers of paint, various cleaners, aerosol cans, etc. were identified at the Site. The potential exists for underground storage tanks (USTs) to be present outside of the truck maintenance garage. If the materials will not be used for their intended use the materials will be classified as a “waste” and should be handled and disposed of properly or recycled per applicable regulations and/or industry standards prior to planned demolition.

4.5 CFCs, HCFCs and Refrigerants

Regulations for the proper handling and disposal of ozone-depleting substances have been established under Section 608 of the Clean Air Act as identified in 40 CFR Part 82, Subpart F. The regulation contains several provisions to protect the environment including the following requirements:

- Requires that practices be used to maximize recovery and recycling of ozone-depleting substances (both chlorofluorocarbons [CFCs] and hydrochlorofluorocarbons [HCFCs] and their blends) during the servicing and disposal of air-conditioning and refrigeration equipment.
- Requires that persons servicing or disposing of air-conditioning and refrigeration equipment certify to USEPA that they have acquired refrigerant recovery and/or recycling equipment and are complying with the requirements of the rule.

- Establishes safe disposal requirements to ensure removal of refrigerants from goods that enter the waste stream with the charge intact (e.g., motor vehicle air conditioners, home refrigerators, and room air conditioners).

Refrigeration and air-conditioning equipment that is typically dismantled on-site before disposal (e.g., retail food refrigeration, central residential air conditioning, chillers, and industrial process refrigeration) must have the refrigerant recovered in accordance with USEPA's requirements for servicing prior to their disposal. However, equipment that typically enters the waste stream with the charge intact (e.g., motor vehicle air conditioners, household refrigerators and freezers, and room air conditioners) are subject to special safe disposal requirements.

Under these requirements, the final person in the disposal chain (e.g., a scrap metal recycler or landfill owner) is responsible for ensuring that refrigerant is recovered from equipment before disposal of the equipment. If the final person in the disposal chain accepts appliances that no longer hold a refrigerant charge, that person is responsible for maintaining a signed statement from whom the appliance is being accepted. The signed statement must include the name and address of the person who recovered the refrigerant, and the date that the refrigerant was recovered, or a copy of a contract stating that the refrigerant will be removed prior to delivery.

Technician certification is not required for individuals removing refrigerant from small appliances, motor vehicle air conditioners, and motor vehicle-like air conditioners, when preparing them for disposal. However, the equipment used to recover refrigerant from appliances prior to disposal must meet the same performance standards as refrigerant recovery equipment used prior to servicing. Persons involved in the disposal of appliances must certify to their EPA Regional Office that they have obtained and are properly using USEPA certified refrigerant recovery equipment.

The following table summarizes the locations and quantities of potentially regulated refrigerants present at the Site:

Building/Structure Location	Type of Unit	Comments
Elmore Infirmary	2 A/C Units	2 A/C Units (Basement)
Truck Maintenance Garage	1 A/C Unit	N/A
Vehicle Garage	N/A	N/A

Table 4.5: Summary of Findings – CFCs, HCFCs and Refrigerants		
Building/Structure Location	Type of Unit	Comments
Kent Infirmary	88 A/C Units	N/A
Fletcher Infirmary	27 A/C Units	N/A
Northeast Guest House	16 A/C Units	N/A

Notes: N/A = Not Applicable

4.6 Appliances and White Goods

Items that fall under the classification of appliances include refrigerators, freezers, ranges, water heaters, air conditioners, humidifiers, and other similar domestic and commercial large appliances. These items, also referred to as “white goods”, that have not had their components removed were banned from landfills on July 1, 1994. These components may include mercury switches, chlorofluorocarbon (CFC) refrigerant gas (Freon), and polychlorinated biphenyls (PCBs). Appliances that contain CFCs or PCBs must be processed by an appliance de-manufacturer registered with the Illinois Environmental Protection Agency (IEPA).

The following table summarizes the locations and quantities of potentially regulated appliances and white goods present at the Site:

Table 4.6: Summary of Findings – Appliance and White Goods		
Building/Structure Location	Type of Unit	Comments
Elmore Infirmary	6 Drinking Fountains	N/A
Truck Maintenance Garage	1 Drinking Fountain 1 Refrigerator	N/A
Vehicle Garage	N/A	N/A
Kent Infirmary	6 Drinking Fountains 10 Refrigerators	N/A
Fletcher Infirmary	4 Drinking Fountains 4 Refrigerators	N/A
Northeast Guest House	2 Refrigerators	N/A
Elmore Infirmary	6 Drinking Fountains 15 Refrigerators 4 Ice Makers	N/A

Notes: N/A = Not Applicable

4.7 Miscellaneous Materials

During the investigation, an assessment of other potentially regulated materials was performed including batteries, self-luminous exit signs, smoke detectors, compressed gas cylinders, containerized liquid wastes and other materials. The following table provides the location of these materials and a brief listing of the general categories of materials present:

Table 4.7: Summary of Findings – Miscellaneous Materials		
Building/Structure Location	Description of Material	Comments
Elmore Infirmary	20 Exit Signs 22 Fire Alarms 90 Smoke Detectors 28 Gallons Misc. Cleaners 50 Sharps Containers 16 Fire Extinguishers	N/A
Truck Maintenance Garage	2 Smoke Detectors 2 Fire Alarms 1 Fire Extinguisher	N/A
Vehicle Garage	4 Smoke Detectors 1 Fire Alarm	N/A
Kent Infirmary	154 Smoke Detectors 38 Exit Signs 21 Fire Alarms 50 Gallons Misc. Cleaners 88 Sharps Containers 5 Cylinders (Compressed Nitrogen) 2 Cylinders (Acetylene) 12 Fire Extinguishers	2- 50 Gallon Drums (Unknown)- Basement
Fletcher Infirmary	100 Smoke Detectors 10 Exit Signs 12 Fire Alarms 22 Sharps Containers 20 Gallons Misc. Cleaners 9 Fire Extinguishers	N/A
Northeast Guest House	30 Smoke Detectors 4 Fire Alarms 15 Sharps Containers 9 Exit Signs 4 Fire Extinguishers	N/A

Notes: N/A = Not Applicable

Batteries should be separated from other waste streams and taken to a recycling facility or business that accepts batteries for recycling. Smoke detectors that contain a small amount of radioactive material will be labeled and should be returned to the manufacturer for disposal. Fire extinguishers or other compressed gasses that may be present at the Site may typically be recycled and reclaimed. All remaining suspect hazardous materials identified during demolition and renovation activities should be appropriately handled and disposed of in accordance with applicable regulations.

5.0 Discussion

5.1 General

Due to the potential for contamination associated with hazardous and other regulated materials that may be deposited in a landfill or otherwise released to the environment, these materials may require special handling prior to demolition or renovation of the Site structures. The handling and disposal of hazardous wastes are regulated by the USEPA and IEPA. Hazardous wastes must be removed prior to demolition or renovation and disposed of in accordance with existing regulatory requirements.

Hazardous waste is defined as a waste that is dangerous or potentially harmful to human health or the environment and can be liquids, solids, gases or sludges. There are four types of hazardous waste including:

- **Listed Wastes:** Wastes that the USEPA has determined are hazardous. The lists include the F-list (wastes from common manufacturing and industrial processes), K-list (wastes from specific industries), and P and U-lists (wastes from commercial chemical products).
- **Characteristic Wastes:** Wastes that do not meet any of the listings above but exhibit ignitability, corrosivity, reactivity, or toxicity.
- **Universal Wastes:** Batteries, pesticides, mercury-containing equipment (e.g. thermostats) and lamps (e.g., fluorescent bulbs).
- **Mixed Wastes:** Waste that contains both radioactive and hazardous waste components.

Universal waste materials include hazardous wastes that may be collected and disposed of with less stringent regulatory requirements. Materials such as batteries, thermostats, and other mercury-containing equipment and lamps must be handled and disposed of in accordance with Illinois Administrative Code (IAC) Part 721: *Identification and Listing of Hazardous Waste*.

In order for a material to be classified as a “waste” the material must no longer be suitable for its intended use and is therefore to be discarded or otherwise disposed of as a waste. If a material (e.g. unused product) may still be utilized for the commercially intended purpose, the material may be classified as a “hazardous material” but is not classified as a “hazardous waste” until termination of use. Other materials such as oils may be recycled and therefore are not classified as a waste under the USEPA regulations. In that demolition activities inherently imply the end of use of a facility, hazardous materials that cannot be used for their intended use or otherwise

recycled may likely be classified as a hazardous or universal waste.

5.2 Findings

Based upon the findings of the hazardous and other regulated materials assessment, potentially hazardous waste materials, universal waste materials, and other regulated materials are present at the Site including the following:

- Fluorescent Bulbs;
- Assumed PCB-containing Ballasts;
- Fire Extinguishers / Smoke Detectors;
- Mercury-containing Devices;
- Consumer Commodity Size Containers of Cleaning Products;
- In-Ground Hydraulic Lifts; and
- Potential USTs.

5.3 Recommendations

Prior to the demolition of the Site buildings/structures, True North recommends that the following activities be performed to ensure that the identified hazardous materials do not enter the demolition waste stream for land disposal:

- Remove all fluorescent light bulbs and dispose/recycle these materials as a universal waste according to IAC Part 721.
- Remove all PCB-containing or assumed PCB-containing ballasts and dispose according to 40 CFR 761, Subpart K, where applicable.
- Remove of batteries that are no longer to be used for their intended use and transport them to an approved recycling facility (if applicable).
- Return smoke detectors and fire extinguishers that will no longer be used for the intended use to the manufacturer for disposal.
- Return mercury-containing thermostats to a takeback recycling facility for decontamination and proper disposal.
- Ensure that appropriate disposal receipts are provided by the disposal contractor and maintained for waste materials to be removed from the Site.
- Ensure that proper removal and disposal of in-ground hydraulic lifts/oil tanks is performed by an appropriately qualified contractor.



- Ensure that proper removal and disposal are provided by an appropriately licensed contractor should any potential UST(s) be encountered during future demolition/earthwork activities.

6.0 General Remarks

The scope of assessment activities was limited to a visual inspection throughout the Site structures planned for demolition. True North attempted to inspect all areas of the structures to evaluate the presence of hazardous materials on the interior and exterior of the structures. However, True North is not responsible for the identification of materials which are not readily accessible or that cannot be accessed due to unsafe conditions including but not limited to height, heat, fumes, vapors, confined space, and electrical hazards.

No samples were collected as part of the assessment to identify the hazardous nature of the materials present. Identification and quantification were based on physical appearance, labels and demarcation, and available Site documentation.

The services performed by the environmental professionals on this project have been conducted with that level of care and skill ordinarily exercised by reputable members of the industry, practicing in the same locality, under similar budget and time constraints. No warranty is made or intended.