



# Memorandum

January 3, 2019

To: Dave Favero (RACER) Ref. No.: 012626

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**Subject: Sequence of Events  
RACER Stanley Road Site, Flint Michigan**

This memorandum presents a sequence of events for RACER's Stanley Road Site (Site), in Flint Michigan, with a specific focus on identifying exceedances and wastes that were present at the Site.

Dec. 1967 to No. 1968 Waste believed to be disposed at the Site was from Ternstedt Division of General Motors Corporation (GMC), located just south of the Site (aka the Coldwater Road Site). According to the hauling contract, the waste materials to be hauled included miscellaneous cans, bottles, noncombustible trash, incinerator ash, washer sludge and paint sludge. The owner of the Site at that time (Phillip Gunther) disposed of 3,093 cubic yards of waste material and 249 yards of sludge (all generated from the Ternstedt Division of GMC). Figure 1 presents the Site location and Figure 2 presents the Site layout.

1990 Michigan Department of Natural Resources (MDNR) received information that the Site was used for dumping of waste materials. MDNR inspected the Site in April 1990 and collected samples in May 1990 for leachable metals, aromatic hydrocarbons, and PCBs. On May 27, 1990, MDNR made a demand on Mr. Summerfield to develop a cleanup plan to remove contaminated materials from the Site and dispose of properly.

- Disposal Area 1 (DA1) – one of the samples collected indicated the material may be a characteristic waste based on EP Toxicity extraction result for zinc. Several of the wood blocks were sampled reportedly contained PCBs.
- Disposal Area 2 (DA2) – reported to have been used for disposal of paint waste.

Jan 1991 Former property owner, Mr. Summerfield sued General Motors Corporation (GMC) for the damages sustained to him as a result of GMC's waste disposed at the Site.

June 1991 CRA performed an investigation, on behalf of GMC (Phase 1) to characterize the general nature and extent of VOCs, PCBs, metals, and cyanide contamination of subsurface soils, groundwater, ditch sediments, and wood floor blocks in DA1 and DA2. Data summarized in the Remedial Action Completion Report – Appendix A – Remedial Action Evaluation (See below for data summarized in Remedial Action Completion Report – July 2000).



- Nov. 1992 Phase 2 of the investigation was completed by SSOE Inc. (retained jointly by GMC and the former property owner) to further characterize the nature and extent of VOC, base-neutral and acid extractable (BNA), PCB, and metal contamination in subsurface soils and groundwater in DA1 and DA2. Data summarized in the Remedial Action Completion Report – Appendix A – Remedial Action Evaluation (See below for data summarized in Remedial Action Completion Report – July 2000).
- July to Nov. 1996 Additional soil samples were collected in DA1 and DA2 and a round of groundwater sampling, in order to complete the remedy. Data summarized in the Remedial Action Completion Report – Appendix A – Remedial Action Evaluation (See below for data summarized in Remedial Action Completion Report – July 2000).
- 1997 - 1998 GMC purchased land (Specific date unknown).
- Nov. 1998 CRA conducted a Phase I Environmental Site Assessment (May 1999) on behalf of REALM a subsidiary of GMC, for areas other than DA1 and DA2, which identified the following potential areas of concern (PAOCs) as shown in Figure 3:
- PAOC-1 – Potential Disposal Area No. 1 – surficial debris was identified in the area
  - PAOC-2 – Potential Disposal Area No. 2 – surficial debris including wood blocks was identified in the area
  - PAOC-3 – Potential Disposal Area No. 3 – surficial debris including tires, foam rubber, and wood blocks was identified in the area
  - PAOC-4 – Potential Disposal Area No. 4 – surficial debris including concrete was identified in the area.
  - PAOC-5 – Utility Corridor – transmission lines have historically been treated with herbicides
  - PAOC-6 – Drainage Ditches – stormwater runoff from historical disposal area may be impacted
- Feb. 1999 CRA conducted a Phase II ESA (May 1999) on behalf of REALM a subsidiary of GMC in areas other than DA1 and DA2
- Potential Area of Concern (PAOC) No. 1 - Lead in soil was detected at 20 mg/kg, which is above the Michigan Part 201 Residential Drinking Water Protection Criteria (DWPC) of 1.0 mg/kg and below the Michigan Part 201 Residential Direct Contact Criteria (DCC) of 400 mg/kg. No other RCRA metals, TCL VOCs, TCL SVOCs, and PCBs were detected in the soil sample at concentrations above the Michigan Part 201 Residential DWPC or DCC.
  - PAOC No. 2 - Lead in soil was detected at 4 mg/kg, which is above the DWPC of 1.0 mg/kg and below DCC of 400 mg/kg. No other RCRA metals, TCL VOCs, TCL SVOCs, and PCBs were detected in the soil sample at concentrations above the Michigan Part 201 Residential DWPC or DCC. No TCL VOCs, TCL SVOCs, RCRA Metals or PCBS were detected in groundwater above Michigan Part 201 Residential Drinking Water Criteria (DWC) or DCC
  - PAOC No. 2 - Lead in soil was detected at 4 mg/kg, which is above the DWPC of 1.0 mg/kg and below DCC of 400 mg/kg. No other RCRA metals, TCL VOCs, TCL SVOCs, and PCBs were detected in the soil sample at concentrations above the Michigan Part 201 Residential DWPC or DCC. No TCL VOCs, TCL SVOCs, RCRA Metals or PCBS were detected in



groundwater above Michigan Part 201 Residential Drinking Water Criteria (DWC) or DCC

- PAOC No. 3 - Lead in soil was detected at 11 mg/kg, which is above the DWPC of 1.0 mg/kg and below the DCC of 400 mg/kg. No other parameters (other RCRA metals, TCL VOCs, TCL SVOCs, and PCBs) were detected in the soil sample at concentrations above the DWPC or DCC. Lead in groundwater was detected at 440 ug/L and mercury in groundwater was detected at 3.0 ug/L, which were above DWC, 4.0 ug/L and 2.0 ug/L, respectively. No other RCRA metals, TCL VOCs, TCL SVOCs, or PCBs were detected in groundwater above DWC or DCC.
- PAOC No. 4 - Lead in soil was detected at 160 mg/kg, which is above the DWPC of 1.0 mg/kg and below the DCC of 400 mg/kg. No other RCRA metals, TCL VOCs, TCL SVOCs, and PCBs were detected in the soil sample at concentrations above the DWPC or DCC.
- PAOC No. 5 – Five surface soil samples were collected and analyzed for herbicides along the utility corridor. There were no exceedances of criteria
- PAOC No. 6 – Silver in sediment was detected at 650 ug/kg which is above the Ontario sediment quality criteria (OSQC) of 500 ug/kg, cadmium in sediment was detected at 660 ug/kg which is above the OSQC of 600 ug/kg, and arsenic was detected at 6,300 ug/kg which is above the OSQC of 6,000 ug/kg. No other parameters (other RCRA metals, TCL VOCs, TCL SVOCs, and PCBs) were detected in the soil sample at concentrations above the DWPC or DCC. No TCL VOC, TCL SVOCs, RCRA metals, herbicides, or PCBs were detected in surface water above U.S. EPA MCLs.

May 1999

As a result of the Phase II ESA, CRA conducted a Baseline Environmental Assessment

1999/2000

GMC completed voluntary interim response activities in accordance with a December 2, 1999 letter from CRA to MDEQ, which achieved generic residential cleanup criteria.

Interim response activities completed included the following removals:

- Removal and off-Site disposal of surficial debris (~8.6 tons). From DA1 debris removed included: metal grindings, scrap metal, and wooden floor blocks. The remainder of the debris that was removed was surface debris (junk cars, discarded tires, scrap metal, refrigerators, televisions, and stoves) that was present over the rest of the Site.
- Excavation, transportation, and off-Site disposal of 14,748 tons of non-hazardous material exceeding generic residential criteria (13,932 tons of soil from DA1 and 816 tons of soil from DA2).
- Removal and off-Site disposal of 28 drum remnants (15 of the drums contained residual solid or partially solid paint wastes of varying colors, 1 drum contained an unknown liquid, and the other 12 drums were empty). The drum contents were subjected to a full RCRA characterization. The drum contents were determined to be hazardous for lead (indicative of a lead-based paint waste).
- Verification sampling was completed in each of the disposal areas.
- For DA1 69 verification samples were collected and analyzed for SVOCs, VOCs, PCBs, and select metals. There were no SVOCs or PCBs detected in any of the samples. All VOC data was below residential criteria. All metals data were below residential criteria except for marginal exceedances of selenium and lead in four samples.



- For DA2 21 verification samples were collected and analyzed for SVOCs and VOCs. There were no SVOCs detected in any of the samples. Total xylenes and toluene were detected above screening criteria in two of the 21 sample locations. The remaining compounds were either below screening criteria or were not detected.
- Conclusion: Site was successfully remediated to the Generic Residential Criteria. MDEQ approved a residential closure.

July 2000

#### Remedial Action Completion Report

##### DA1 - soil

- Facility boundary for DA1 was established based on VOC, BNA, PCB, and metals concentrations above residential drinking water criteria
- Xylene was reported above soil saturation screening levels in four samples (soils were removed)
- Xylene and PCBs were reported above industrial direct contact criteria (soils were removed)
- TCLP results indicated several metals above industrial drinking water criteria (look at groundwater)

##### DA1 - wood floor blocks

- Some samples were reported above industrial direct contact criteria for PCBS (all floor blocks were removed)

##### DA1 – groundwater

- All groundwater are below MCL or DWC, groundwater contact criteria and ground water inhalation criteria
- Zinc was above GSI criteria in certain three locations

##### DA2 – soil

- Facility boundary for DA2 was established based on VOC, BNA, and metals concentrations above residential drinking water criteria
- VOCs were reported above soil saturation in one sample (soils were removed)
- Ethylbenzene, toluene, and xylenes were reported above industrial direct contact criteria in two samples (soils were removed)
- TCLP results indicated several metals above industrial drinking water criteria. (resulted in sampling groundwater)

##### DA2 – groundwater

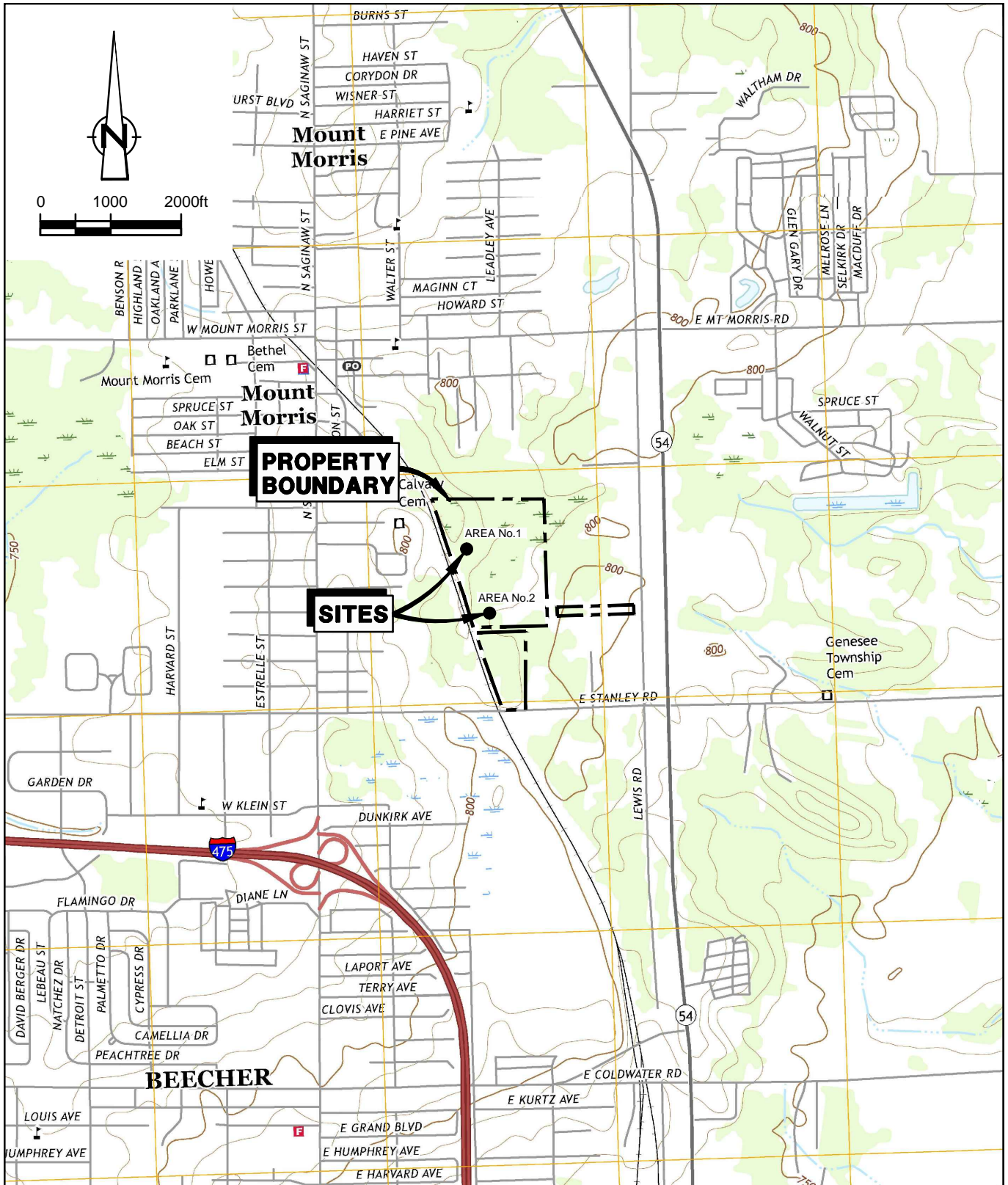
- Exceedance of residential drinking water at one location for toluene, xylene, and 4-methylphenol
- No exceedances of GSI at wells downgradient of DA2
- All groundwater was below groundwater contact criteria and ground water inhalation criteria

2003

Prepared documents to establish a wetland bank. No wetland bank was established as a result of low demand for clean fill and low demand for wetland credits identified at that time.

#### List of Figures

Figure 1	Site Location
Figure 2	Site Layout
Figure 3	Potential Areas of Concern



SOURCE: USGS QUAD MAPS; FLINT NORTH AND CLIO, MICHIGAN, 2017.

figure 1

**SITE LOCATION**  
**MOUNT MORRIS DUMP SITE**  
*Genesee County, Michigan*



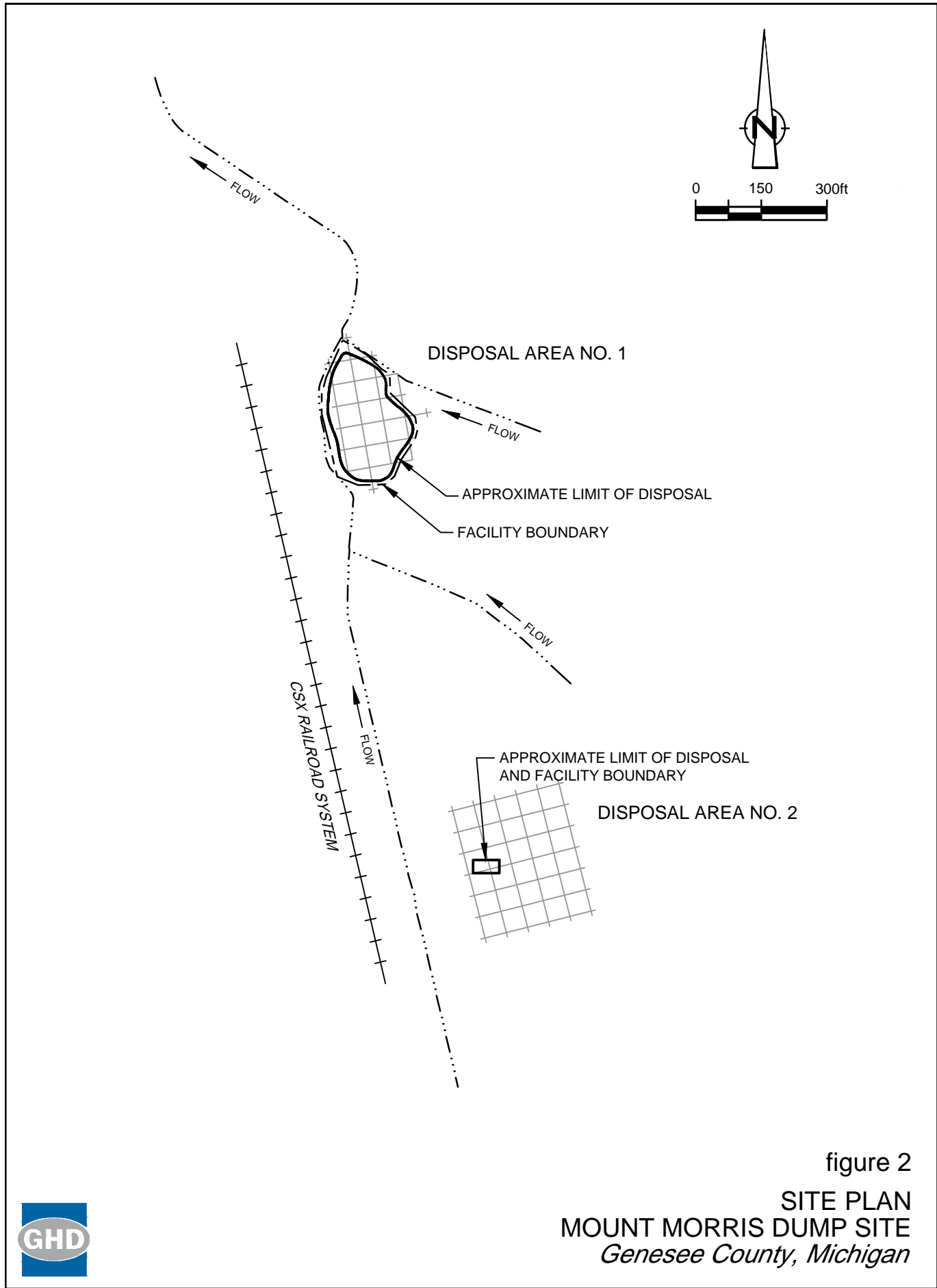
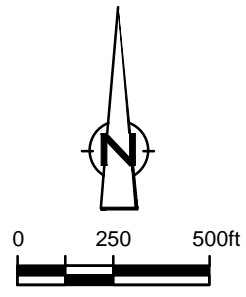
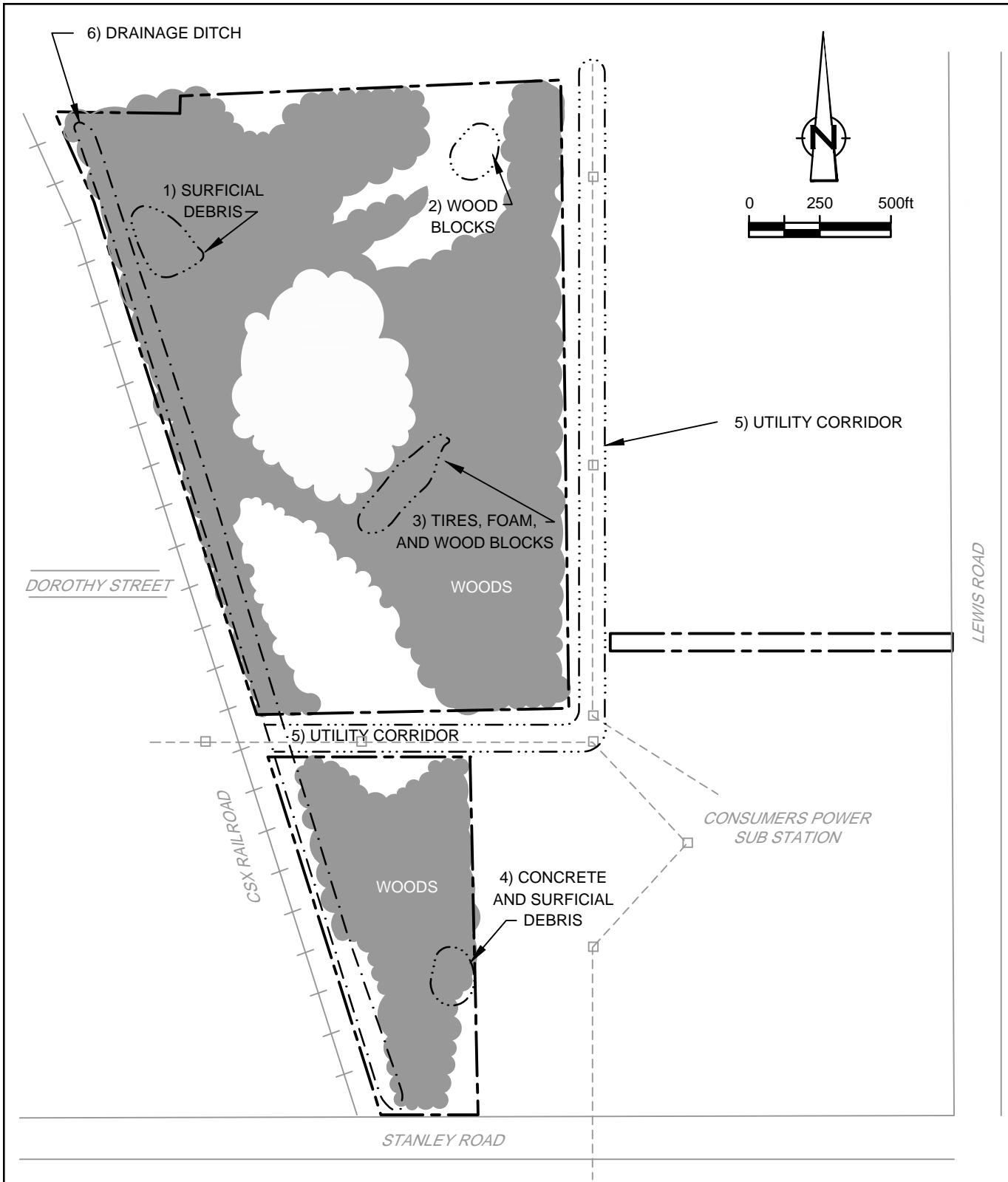


figure 2

SITE PLAN  
 MOUNT MORRIS DUMP SITE  
*Genesee County, Michigan*





**LEGEND**

- 2) WOOD BLOCKS
- — — — — PROPERTY BOUNDARY
- + + + + + RAILROAD TRACKS
- - - - - □ - - - - - CONSUMERS POWER LINES
- - - - - □ - - - - - DRAINAGE DITCH



figure 3  
**PAOC LOCATIONS**  
**MOUNT MORRIS DUMP SITE**  
*Genesee County, Michigan*