Pre-Regulatory Landfill Program

Department of Environmental Quality

Pre-Regulatory Landfills (PRLF)

- A pre-1983 landfill means any land area, whether publicly or privately owned, on which municipal solid waste disposal occurred prior to 1 January 1983 but not thereafter, but does not include any landfill used primarily for the disposal of industrial solid waste.

- Pre- 1983 landfills
  - Did not have construction standards
  - Were not lined
  - No disposal regulations

PRLF Program Funding

- A state-wide solid waste disposal tax of $2 per ton is collected for waste disposed at permitted landfills.

- 50 percent of the disposal tax is deposited into the Inactive Hazardous Sites Cleanup Fund (IHSCF).
  - Average annual fund ~ $12 million

- The Pre-Regulatory Landfill (PRLF) Program uses funds from the IHSCF to investigate and mitigate risks posed by pre-1983 landfills.

PRLF Program Facts

- 666 sites identified
- 147 sites have initiated a Remedial Investigation (RI)
  - 59 sites have RI in progress
  - 88 sites have RI completed
- 45 sites in Remedial Design
- 43 sites have completed Remediation
- 623 sites still open

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Risks Posed by PRLFs

- Uncontrolled mixture of solid and hazardous wastes
- Contaminated soils and exposed waste
- Uncontrolled hazardous vapors and explosive gas
- Contaminated groundwater could affect drinking water supplies
- Waste may erode into surface waters
- Waste material may have been used as fill at other properties
- No prohibition on use over or adjacent to the landfill

PRLF Program Process

1) Contact property owner to request access permission
2) Remedial investigation (RI) – identify receptors, sensitive environments, and assess potentially impacted media. RI may include multiple mobilizations to the site to fully identify and delineate the extent of the contaminants of concern.
    a) Geophysical survey and waste delineation
    b) Above ground vapor survey
    c) Collect surface water, groundwater, sediment, cover soil samples
    d) Waste characterization (if applicable)
    e) Landfill/soil gas
    f) Sample potable water supplies
    g) Collect background soil and groundwater samples

PRLF Program Process

3) Remedial Action Plan (RAP) Design:
   a) Remove surface debris (if applicable)
   b) Slope stabilization
   c) Permitting (Clean Water Act 404/401, stormwater and sedimentation control)
   d) Installation of soil cover system
4) Review potential remedy with property owners
5) Recordation of land use restrictions and notice plat
6) Public comment period

PRLF Program Process

7) Sub-contractor bid advertisement
8) Select sub-contractor and mobilize to site
9) Complete remedial action plan
10) Post construction monitoring
11) Release of erosion control permit
12) Property owner annual certification of land use restrictions

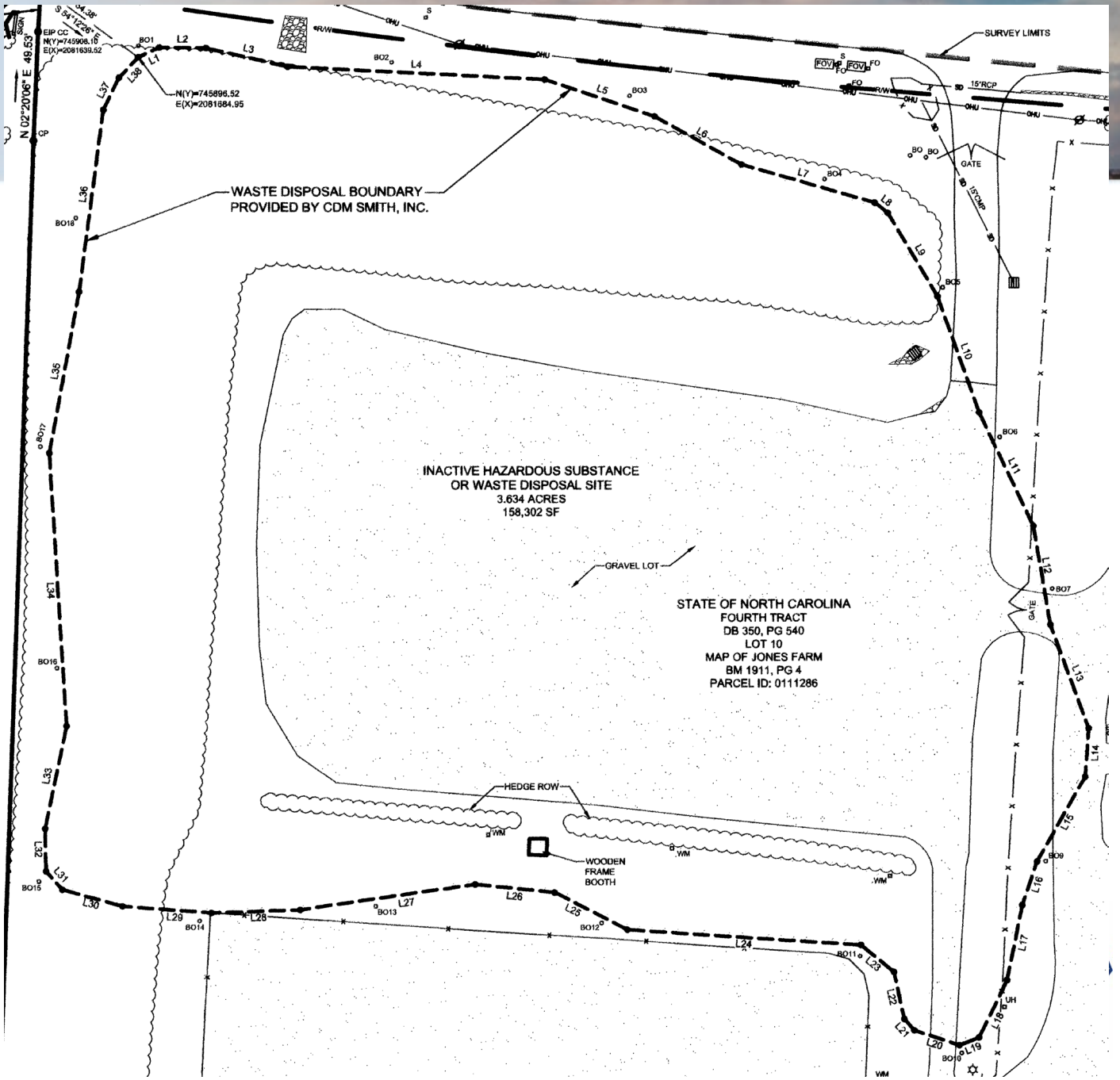
Land Use Restrictions

Declaration of Perpetual Land Use Restrictions (DPLUR) include the following:

- Identifies the impacted parcels/pieces of land
- Outlines the restrictions & maintenance requirements
- Representations and warranties
- Enforcement
- Future sales, leases, conveyances and transfers
- Annual certification

Notice of Environmental Contamination

Notice of Environmental Contamination recorded showing the boundary of the waste disposal site.



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City of Durham Parks – East Durham Park

East Durham Park (NONCD0000821) – 2601 E. Main & 300 Gary St, Durham, NC

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Completed Task Orders – East Durham Park

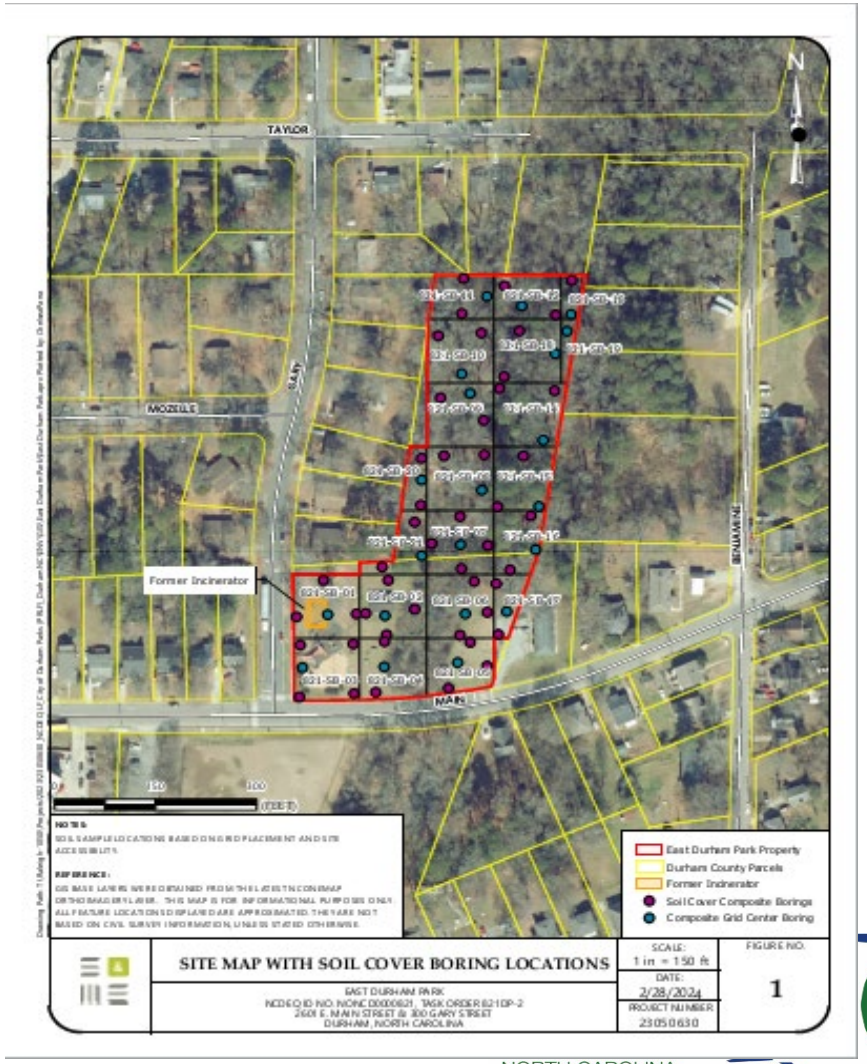
- Initial Soil Cover Investigation – December 2023
  - Collected Representative Soil Samples for Quality and Thickness
  - Analyzed soil samples for Volatile Organic Compounds (VOCs), and Lead.

- Geophysical Survey – March/April 2024
  - Conducted a Geophysical Survey to approximate the vertical and horizontal extents of the waste disposal area.

- Figure Revisions and Field Marking – April 2024
  - Field marked the grids that failed for quality (lead exceeding the USEPA health-based screening level of 200 milligrams per kilogram (mg/kg) and thickness (12” soil cover over the waste).

East Durham Park Soil Cover Investigation Summary

- Each Sample Grid - 10,000 Square Feet (100’ x 100’) to a depth of 12”.
  - Installed a total of 69 individual soil borings across the park property.
  - Total of 21 composite soil samples.
  - Field screened composite soil samples for Volatile Organic Compounds (VOCs).
    - Measured from 0.0 parts per million (ppm) to 20.4 ppm in the collected samples across the investigation area.



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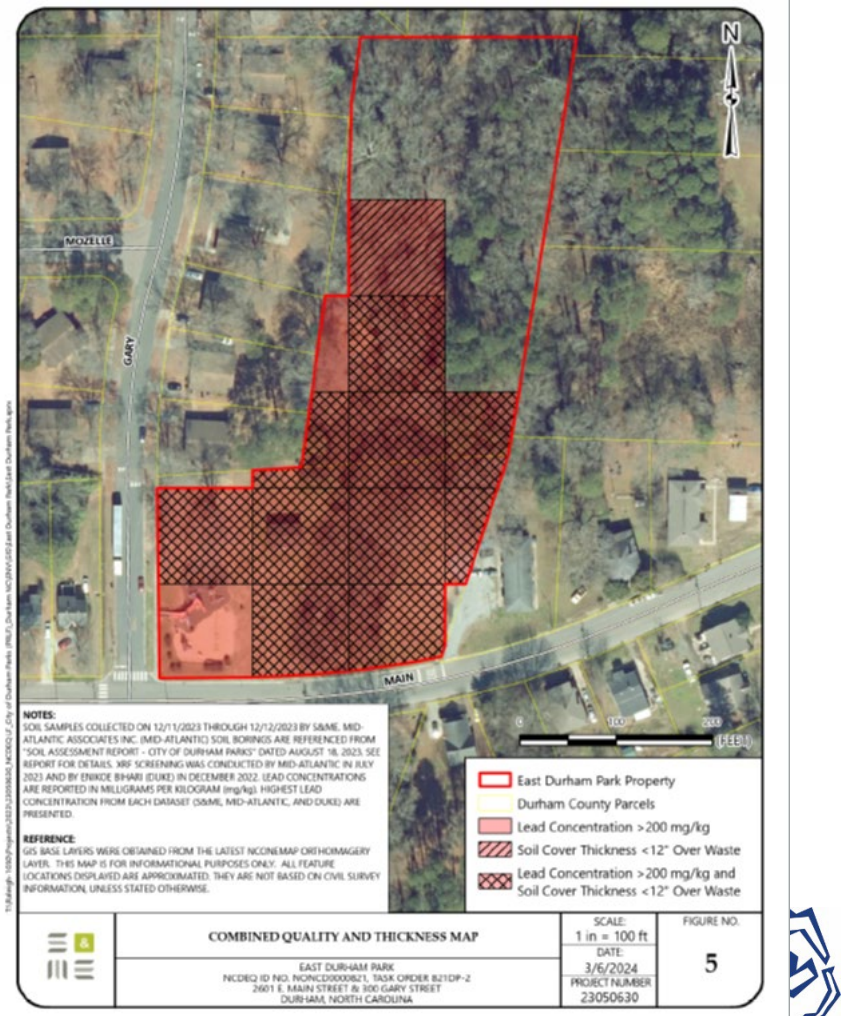
East Durham Park Soil Cover Investigation Summary

- Each Sample Grid - 10,000 Square Feet (100’ x 100’) to a depth of 12”.
  - This figure combines the historical exceedances of the USEPA health-based screening level of 200 mg/kg for lead and the sample grids that were shown to have an insufficient soil cover thickness per the NCDEQ Pre-Regulatory Landfill Guidelines
  - Insufficient soil cover is defined as there being less than a foot of soil above the waste material or waste being encountered in the top foot of soil above waste.
  - A grid shaded red (with or without lines) has been isolated for lead concentrations or for having insufficient soil cover.



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East Durham Park Geophysical Investigation Summary

- Conducted a Geophysical Survey to approximate the vertical and horizontal extents of the waste disposal area.
- Environmental Assessment now extends to the Eastern portion of the park property.

NORTH CAROLINA
Department of Environmental Quality

City of Durham Parks – East End Park

East End Park (NONCD0000823) – 1200 N. Alston Avenue, Durham, NC

Department of Environmental Quality

NORTH CAROLINA
Department of Environmental Quality

Completed Activities– East End Park

- Initial Soil Cover Investigation – December 2023
  - Collected Representative Soil Samples for Quality and Thickness
  - Analyzed soil samples for Volatile Organic Compounds (VOCs), and Lead.

- Geophysical Survey – March/April 2024
  - Conducted a Geophysical Survey to approximate the vertical and horizontal extents of the waste disposal area.

- DP-2 Figure Revisions and Field Marking – April 2024
  - Field marked the grids that failed for quality (lead exceeding the USEPA health-based screening level of 200 milligrams per kilogram (mg/kg) and thickness (12” soil cover over the waste).

East End Park Soil Cover Investigation Summary

- Each Sample Grid - 10,000 Square Feet (100’ x 100’) to a depth of 12”.
  - Installed a total of 41 individual soil borings across the park property.
  - Total of 16 composite soil samples.
  - Field screened composite soil samples for Volatile Organic Compounds (VOCs)
    - Measured from 0.0 parts per million (ppm) to 0.3 ppm in the collected samples across the investigation area.

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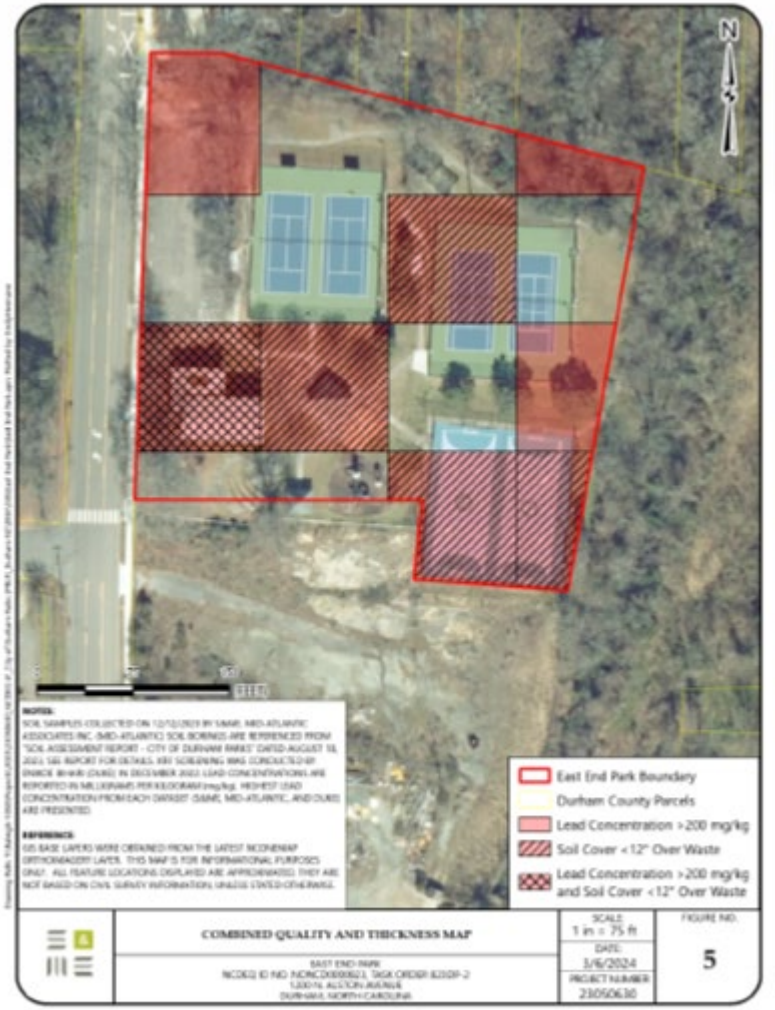
East End Park Soil Cover Investigation Summary

- Each Sample Grid - 10,000 Square Feet (100’ x 100’) to a depth of 12”.
  - This figure combines the historical exceedances of the USEPA health-based screening level of 200 mg/kg for lead and the sample grids that were shown to have an insufficient soil cover thickness per the NCDEQ Pre-Regulatory Landfill Guidelines
  - Insufficient soil cover is defined as there being less than a foot of soil above the waste material or waste being encountered in the top foot of soil above waste.
  - A grid shaded red (with or without lines) has been isolated for lead concentrations or for having insufficient soil cover.



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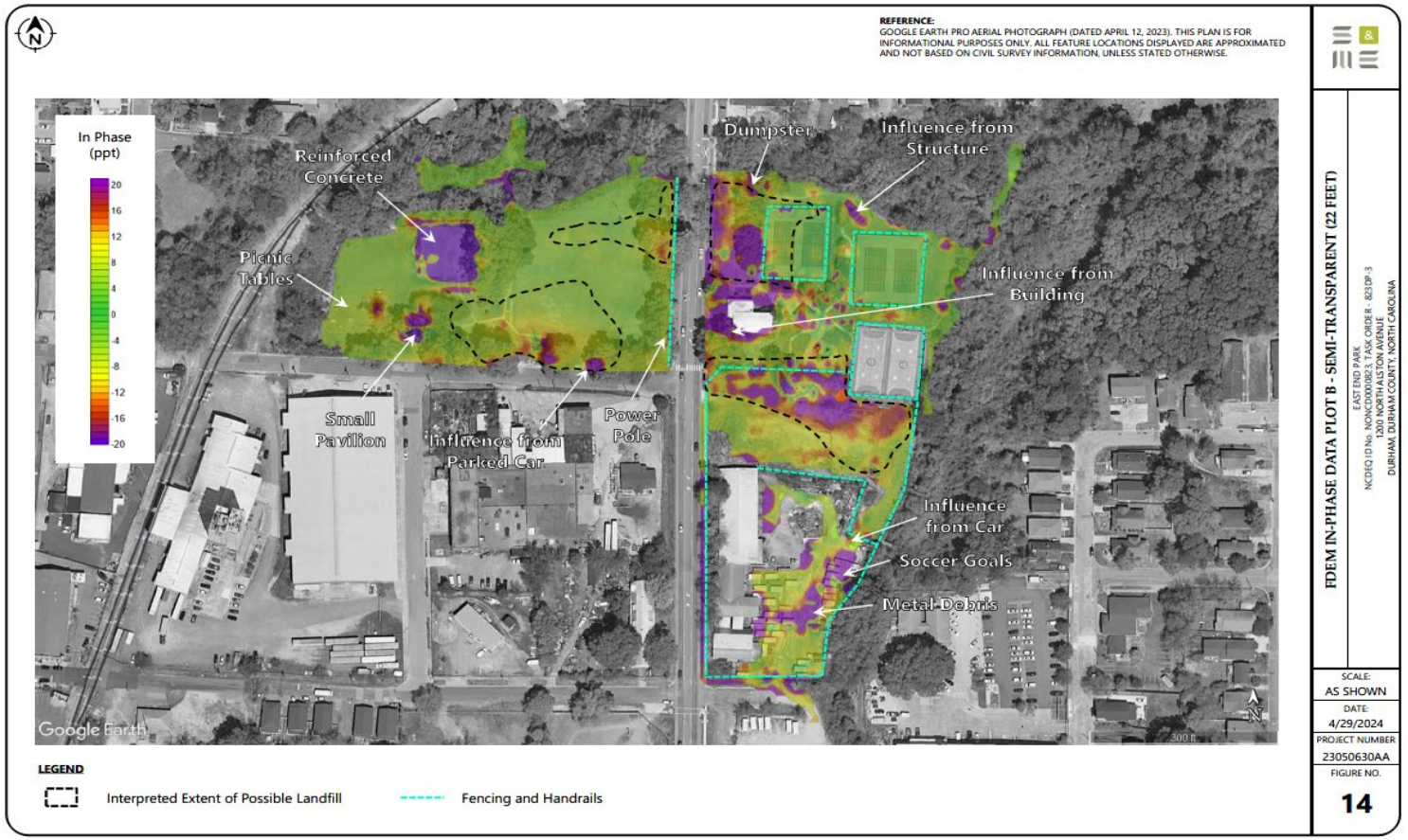
East End Park Geophysical Investigation Summary

- Conducted a Geophysical Survey to approximate the vertical and horizontal extents of the waste disposal area.
- Environmental Assessment now extends to the Western portion of the park property.



City of Durham Parks – Walltown Park

Walltown Park (NONCD0000824) – 1308 W Club Blvd, Durham, NC

Department of Environmental Quality

Completed Activities– Walltown Park

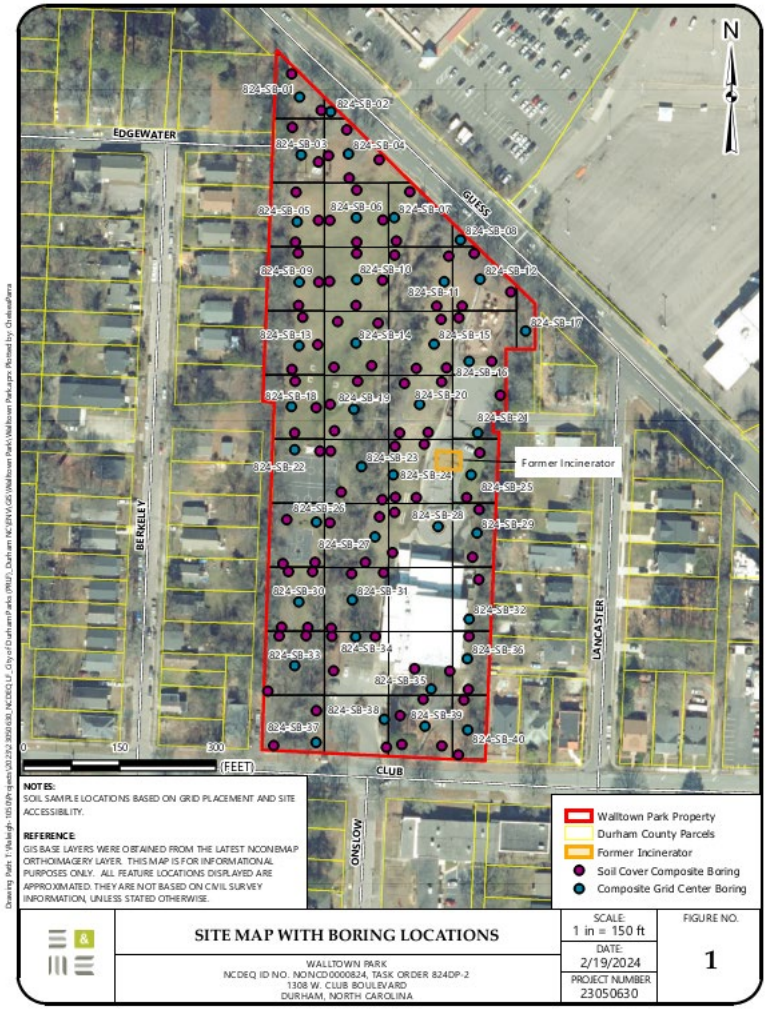
- Initial Soil Cover Investigation
  - Collected Representative Soil Samples for Quality and Thickness
  - Analyzed soil samples for Volatile Organic Compounds (VOCs), and Total Lead.

- Geophysical Survey – March/April 2024
  - Conducted a Geophysical Survey to approximate the vertical and horizontal extents of the waste disposal area.

- DP-2 Figure Revisions and Field Marking – April 2024
  - Field marked the grids that failed for quality (lead exceeding the USEPA health-based screening level of 200 milligrams per kilogram (mg/kg) and thickness (12” soil cover over the waste).

Walltown Park Soil Cover Investigation Summary

- Each Sample Grid - 10,000 Square Feet (100’ x 100’) to a depth of 12”.
  - Installed a total of 140 individual soil borings across the park property.
  - Total of 40 composite soil samples.
  - Field screened composite soil samples for Volatile Organic Compounds (VOCs)
    - None measured in the collected samples across the investigation area.



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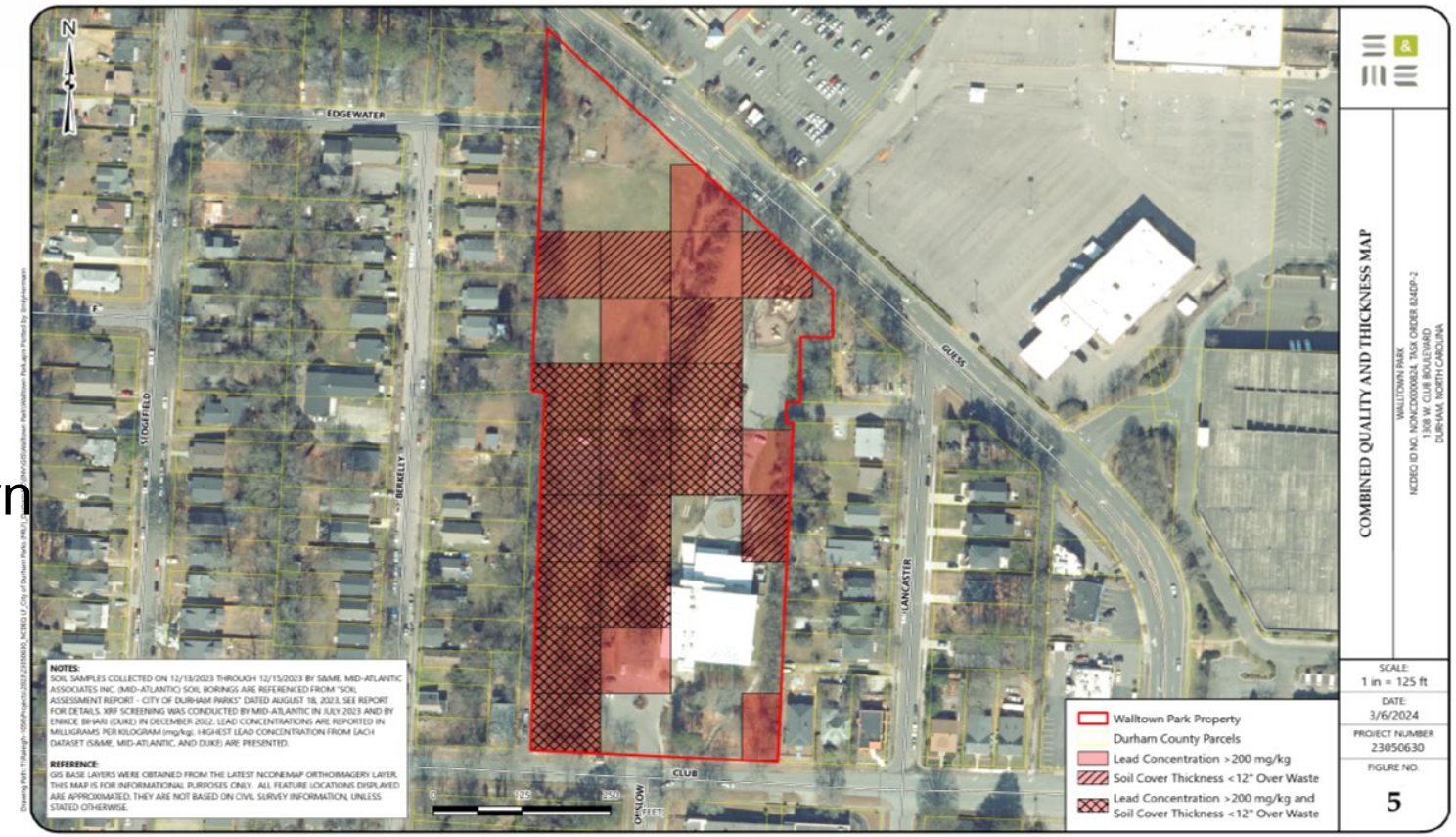
Walltown Park Task Order Soil Cover Investigation Summary

- Each Sample Grid - 10,000 Square Feet (100’ x 100’) to a depth of 12”.
  - This figure combines the historical exceedances of the USEPA health-based screening level of 200 mg/kg for lead and the sample grids that were shown to have an insufficient soil cover thickness per the NCDEQ Pre-Regulatory Landfill Guidelines
  - Insufficient soil cover is defined as there being less than a foot of soil above the waste material or waste being encountered in the top foot of soil above waste.



- A grid shaded red (with or without lines) has been isolated for lead concentrations or for having insufficient soil cover.

Walltown Park Task Order Geophysical Investigation Summary

- Conducted a Geophysical Survey to approximate the vertical and horizontal extents of the waste disposal area.

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City of Durham Parks – Lyon Park

Lyon Park (NONCD0000822) – 1101 Cornell St & 1200 W. Lakewood Avenue, Durham, NC

Department of Environmental Quality

Completed Activities – Lyon Park

- Initial Soil Cover Investigation
  - Collected Representative Soil Samples for Quality and Thickness
  - Analyzed soil samples for Volatile Organic Compounds (VOCs), Semi-Volatile Compounds (SVOCs), 18 Metals (Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium (Trivalent), Chromium (Hexavalent), Cobalt, Copper, Lead, Manganese, Mercury, Nickel, Selenium, Silver, Thallium, Vanadium, and Zinc.

- Geophysical Survey – March/April 2024
  - Conducted a Geophysical Survey to approximate the vertical and horizontal extents of the waste disposal area.

- Figure Revisions and Field Marking – April 2024
  - Field marked the grids that failed for quality (lead exceeding the USEPA health-based screening level of 200 milligrams per kilogram (mg/kg) and thickness (12” soil cover over the waste).

Lyon Park Task Order Soil Cover Investigation Summary

- Each Sample Grid - 10,000 Square Feet (100’ x 100’) to a depth of 12”.
  - Installed a total of 169 individual soil borings across the park property.
  - Total of 52 composite soil samples.
  - Field screened composite soil samples for Volatile Organic Compounds (VOCs)
    - Measured from 0.0 parts per million (ppm) to 50.1 ppm in the collected samples across the investigation area.

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Lyon Park Soil Cover Investigation Summary

- Each Sample Grid - 10,000 Square Feet (100’ x 100’) to a depth of 12”.
  - This figure combines the historical exceedances of the USEPA health-based screening level of 200 mg/kg for lead and the sample grids that were shown to have an insufficient soil cover thickness per the NCDEQ Pre-Regulatory Landfill Guidelines
  - Insufficient soil cover is defined as there being less than a foot of soil above the waste material or waste being encountered in the top foot of soil above waste.

- A grid shaded red (with or without lines) has been isolated for lead concentrations or for having insufficient soil cover.

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Task Order Geophysical Investigation Summary

- Conducted a Geophysical Survey to approximate the vertical and horizontal extents of the waste disposal area.

- Environmental Assessment now extends to the Eastern portion of the park property.

Department of Environmental Quality

City of Durham Parks – Northgate Park

Northgate Park (NONCD0000825) – 308 W. Club Blvd & 400 W. Lavender Avenue, Durham, NC

Department of Environmental Quality

Completed Task Orders – Northgate Park

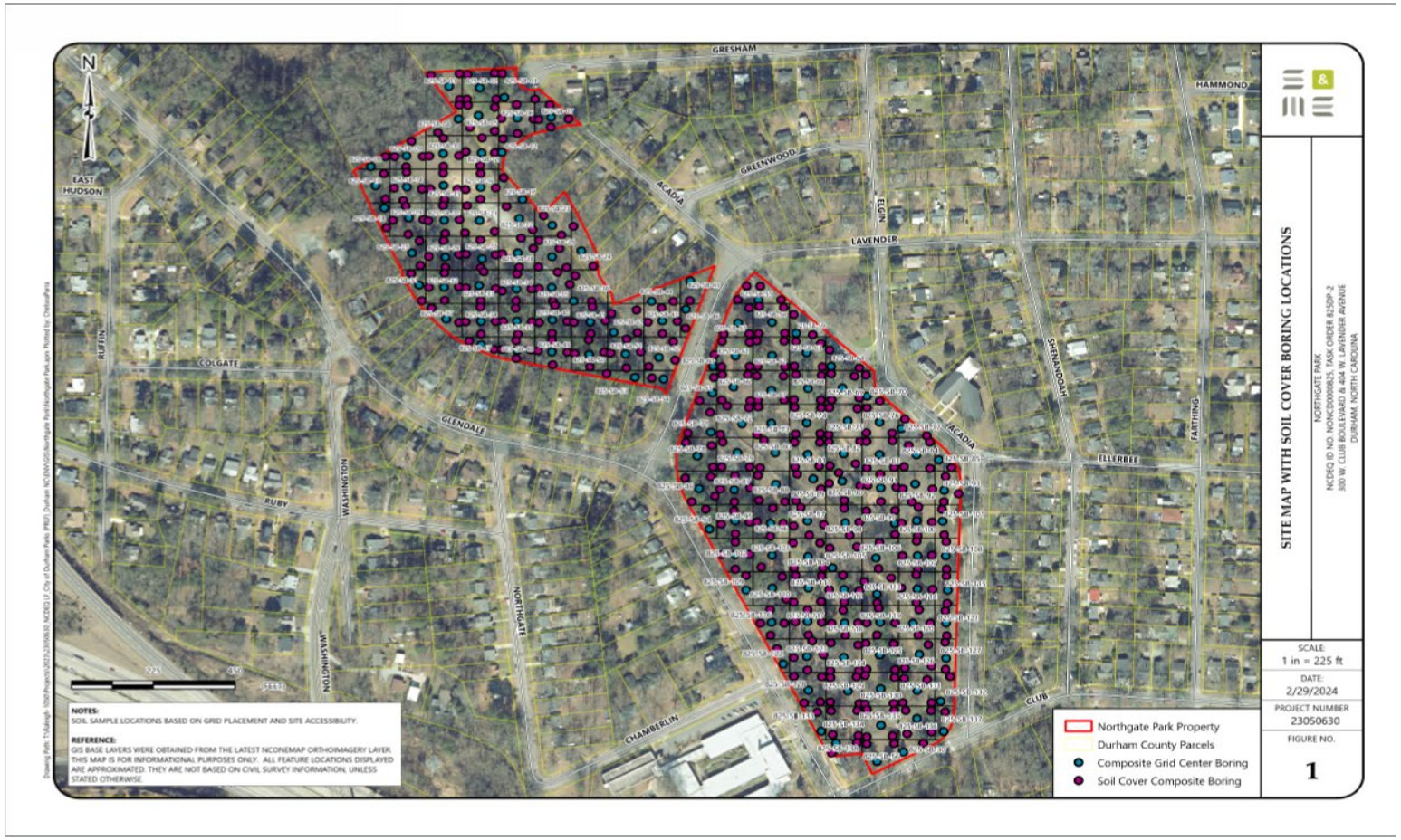
- Initial Soil Cover Investigation
  - Collected Representative Soil Samples for Quality and Thickness
  - Analyzed soil samples for Volatile Organic Compounds (VOCs), Semi-Volatile Compounds (SVOCs), 18 Metals (Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium (Trivalent), Chromium (Hexavalent), Cobalt, Copper, Lead, Manganese, Mercury, Nickel, Selenium, Silver, Thallium, Vanadium, and Zinc.

- Geophysical Survey – March/April 2024
  - Conducted a Geophysical Survey to approximate the vertical and horizontal extents of the waste disposal area.

- DP-2 Figure Revisions and Field Marking – April 2024
  - Field marked the grids that failed for quality (lead exceeding the USEPA health-based screening level of 200 milligrams per kilogram (mg/kg) and thickness (12” soil cover over the waste).

Northgate Park Soil Cover Investigation Summary

- Each Sample Grid - 10,000 Square Feet (100’ x 100’) to a depth of 12”.
  - Installed a total of 566 individual soil borings across the park property.
  - Total of 138 composite soil samples.
  - Field screened composite soil samples for Volatile Organic Compounds (VOCs)
    - Measured from 0.0 parts per million (ppm) to 47.8 ppm in the collected samples across the investigation area.



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Northgate Park Soil Cover Investigation Summary

- Each Sample Grid - 10,000 Square Feet (100’ x 100’) to a depth of 12”.
  - This figure combines the historical exceedances of the USEPA health-based screening level of 200 mg/kg for lead and the sample grids that were shown to have an insufficient soil cover thickness per the NCDEQ Pre-Regulatory Landfill Guidelines
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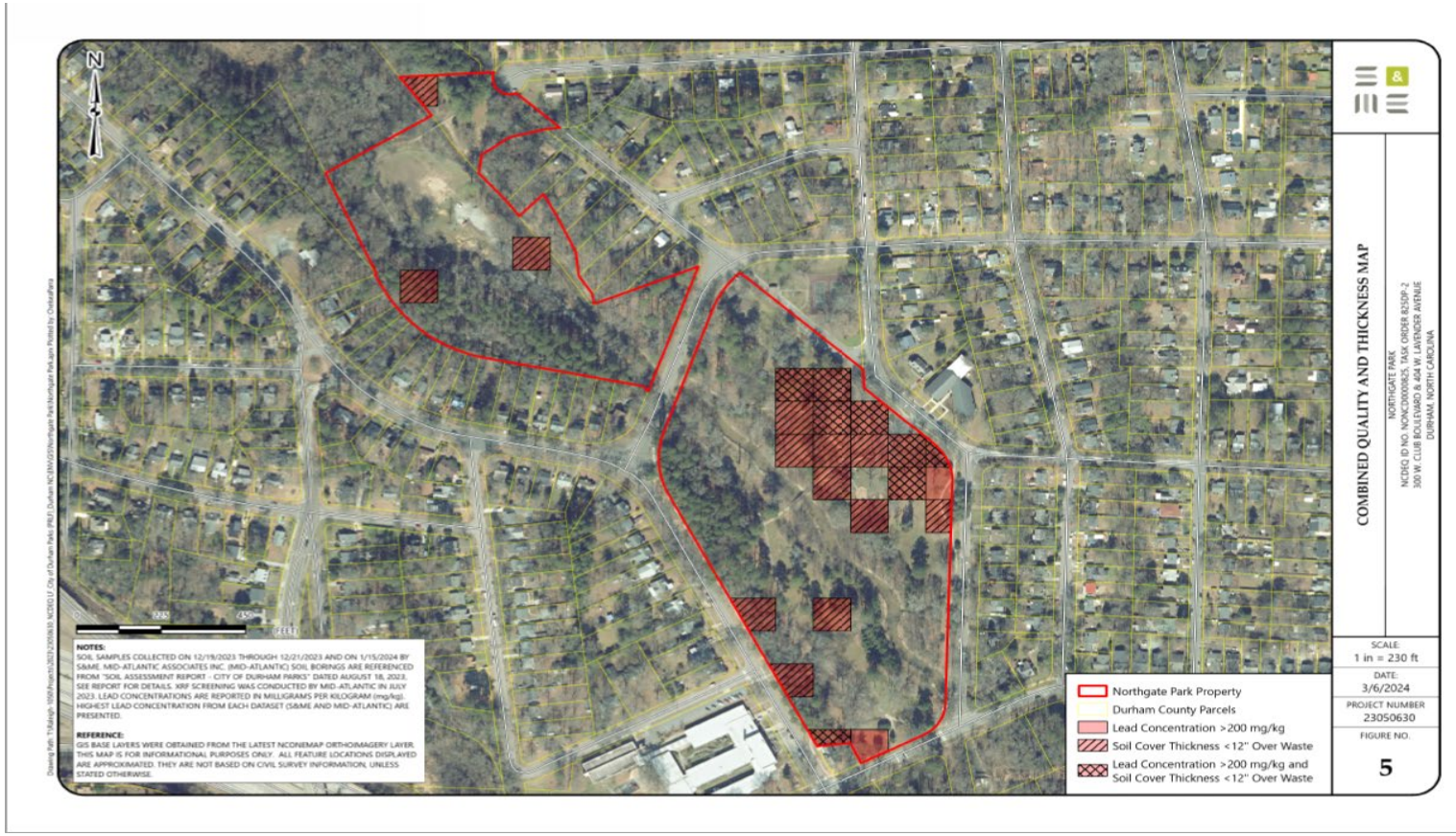
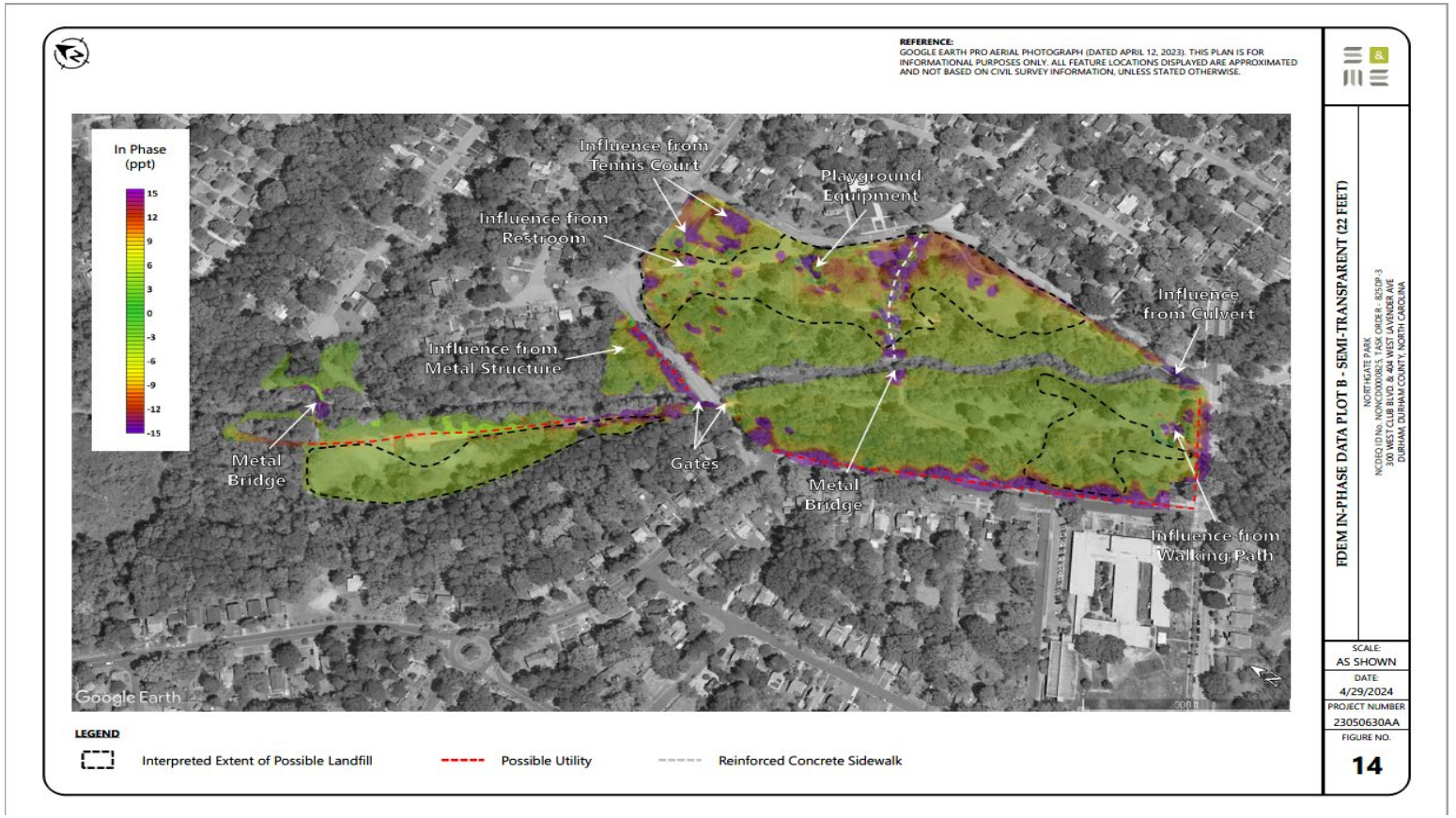


Northgate Park Geophysical Investigation Summary

- Conducted a Geophysical Survey to approximate the vertical and horizontal extents of the waste disposal area.



Ongoing Investigation– All Five Parks

- Additional Soil Cover Sampling - May – July 2024
  - Collecting Additional Soil Samples to complete the PRLF Guidance Requirements.
- Topographic/Boundary Surveys - April – June 2024
- Site Remedy Budget Estimates - May 2024
- Playground Material Removal - Thru July 2024
  - Contracting is underway and is expected to be completed in July 2024.
- Playground Area Sampling
  - Conduct soil sampling following the removal and disposal of the playground materials.

Pending Investigations – All Five Parks – 2024 to 2025

- Waste Delineation Borings
    - Delineate the approximate waste boundary based upon the results of the Geophysical Survey.
- Background Soil Sampling –Dependent upon Soil Cover Assessment results.
    - Background Soil Sampling to assess naturally occurring concentrations of metals in native soil.
- Surface Water Assessment
    - To assess concentrations (if present) of surface water constituents.

Pending Investigations – All Five Parks – 2024 to 2025

- Groundwater Assessment
  - To assess concentrations (if present) of groundwater constituents.
- Soil Gas Assessment
  - To assess concentrations (if present) of soil gas/landfill gas constituents.
- Remedial Investigation Summary Report

Thank you

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