



Pre-Regulatory Landfill Program
Department of Environmental Quality



City of Durham Parks - NCDEQ Update January 2025

(East Durham Park, East End Park, Northgate Park, Lyon Park and Walltown Park)



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



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



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



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



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



PRLF Program Process

from May 2024 meeting

Remedial Investigation (RI) Goal – identify receptors and sensitive environments (e.g. potable wells, occupied structures on waste, churches, schools, wetlands, etc.) and assess potentially impacted media (soil, groundwater, vapor) to establish the “site.”

- a) Geophysical/land surveys and identification of the waste boundary
- b) Above ground vapor survey
- c) Collect surface water, groundwater, sediment, cover soil samples
- d) Waste characterization (if applicable)
- e) Landfill/soil gas analysis
- f) Sample potable water supplies
- g) Collect background soil and groundwater samples

Completed Tasks (All Five Parks)

- November/December 2023 – First Phase Reports / Risk Rankings
- December 2023 – Initial soil cover investigation - No Waste Delineation Area (WDA) Established
 - Collected representative soil samples for quality and thickness
 - Analyzed soil samples for Volatile Organic Compounds (VOCs), and Lead.
- April/July 2024 – Topographic and Boundary Surveys (Future use for Remedial Action)
- April 2024 – Field Marking - Areas of Concern
 - 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).
- May 2024 – Geophysical Survey conducted to approximate the vertical and horizontal extents of the waste disposal areas. Next Step - WDA to be confirmed by confirmation borings.

Completed Task Orders (All Five Parks)

- May/June 2024 – Additional Soil Cover Investigation
 - Collected representative soil samples for quality and thickness
 - Analyzed soil samples for remaining PRLF parameters (Semi-Volatile Organic Compounds (SVOCs), 17 metals, Nitrate, Sulfate, Ammonia Nitrogen, 1,4-Dioxane.
 - Investigation expanded into areas that were identified as potentially having waste by the geophysical surveys.
 - Based upon the soil results, additional areas were closed off for access. Indications of contamination – still no WDA established.
- June 2024 - Provided Cost Estimates to the City of Durham for initial remediation costs based upon information at the time ~11M to import a 12” soil cover over the areas of documented contamination and stream restoration.
- June/July 2024 – Focus shifted to the playgrounds.
 - Playground materials (mulch/gravel/soil) was sampled for disposal purposes.
 - Results were reported as non-hazardous.

Completed Task Orders (All Five Parks)

- July / September 2024 – Initiated playground removals.
 - Removal of mulch, rubber, fabric and drainage stone.
 - Once playground materials were removed S&ME conducted soil sampling (All PRLF parameters).
 - Backfilled the playgrounds with geosynthetic fabric and 4” stone.
 - Remedial Investigation Reports are completed and under review by NCDEQ.
 - Waste material was present beneath all of the sampled playgrounds. **See Pictures Below.**
 - Conducted air monitoring for dust particulates and collected air samples for lead.
 - Two large storms/very little dust. All Sample results below lab reporting limits.
 - Conducted Borrow Source Sampling for imported fill that was used to make minor repairs at East Durham Park and Northgate Park. Imported fill met the requirements for unrestricted use.

Pictures of Waste Beneath the Playgrounds



Pictures of Waste Beneath the Playgrounds at Northgate Park

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Completed Task Orders (All Five Parks)

- September 2024 – Waste Delineation Borings East Durham Park (Ground truth the results of the geophysical survey to establish WDA boundary).
 - Results were good but we needed additional confirmation due to the nature of the incinerator waste (consistency of soil). ■
- October 2024 – Conducted limited clearing, trenching and test pits at the East Durham Park to confirm the WDA as indicated by the waste delineation soil borings.
 - Trenches provided a profile view of the waste to indicate where the waste stopped and where the waste was noted to go off site. See Pictures Below.
- December 2025 – Conducted Background Soil Sampling at East Durham Park. Background Soil Sampling to assess naturally occurring concentrations of metals in native soil.
 - Report is under development now and will be submitted to NCDEQ Feb 1st.
 - Site specific background soil concentrations will be established and applied to the previously submitted soil cover data to establish areas of risk (requiring remedial actions).

Trenches and Test Pits



Pictures of Waste at East Durham Park

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City of Durham Parks – East Durham Park

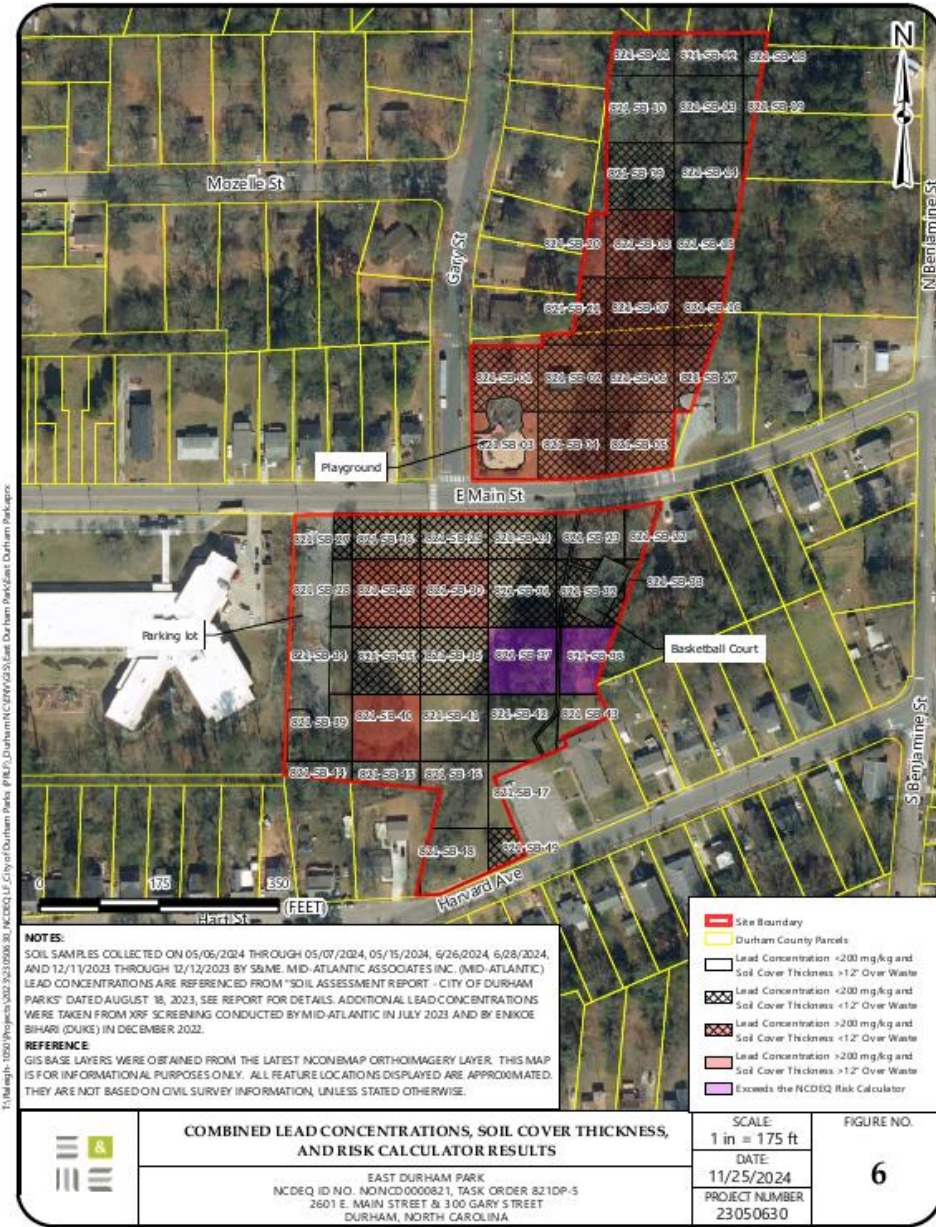
East Durham Park (NONCD0000821) – 2601 E. Main & 300 Gary St, Durham, NC



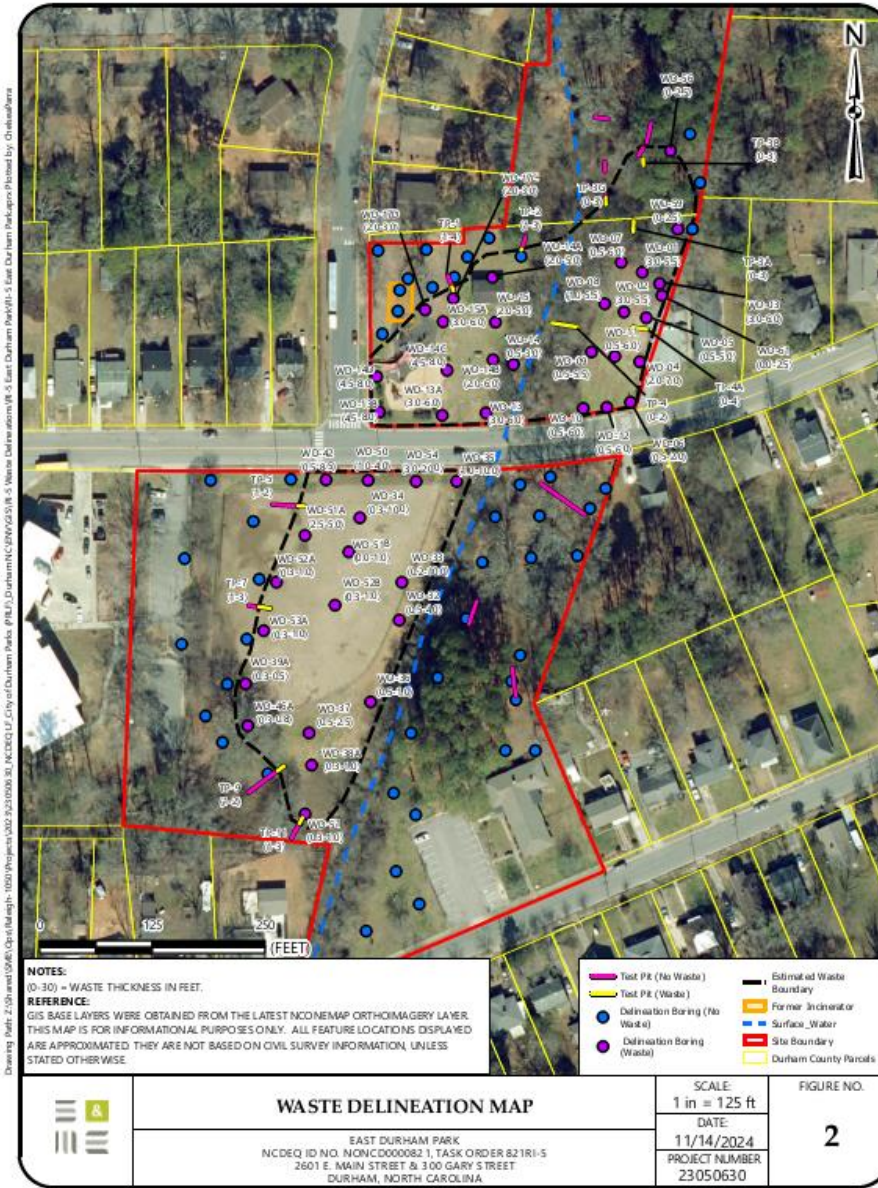
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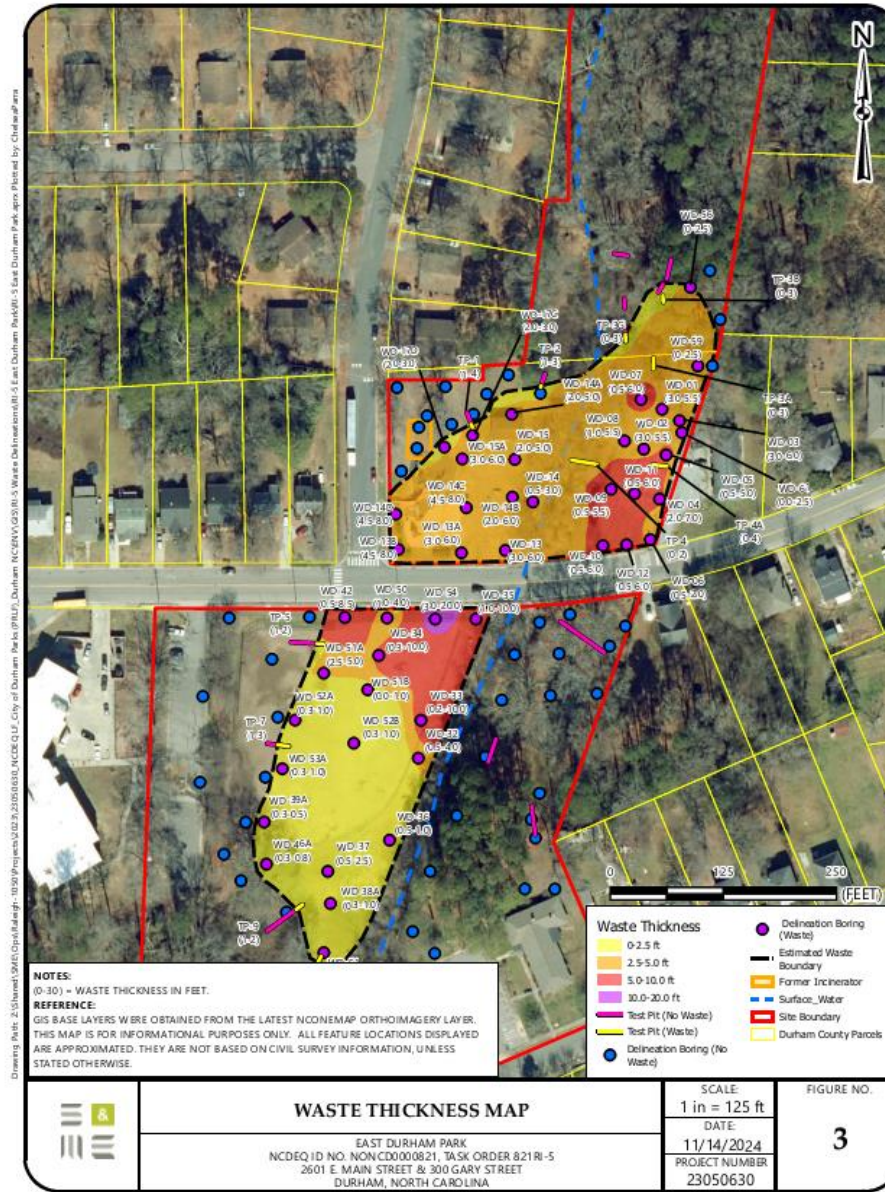
East Durham Park Soil Cover Map



East Durham Park Waste Delineation Map



East Durham Park Waste Delineation Heat Map



City of Durham Parks – Lyon Park

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



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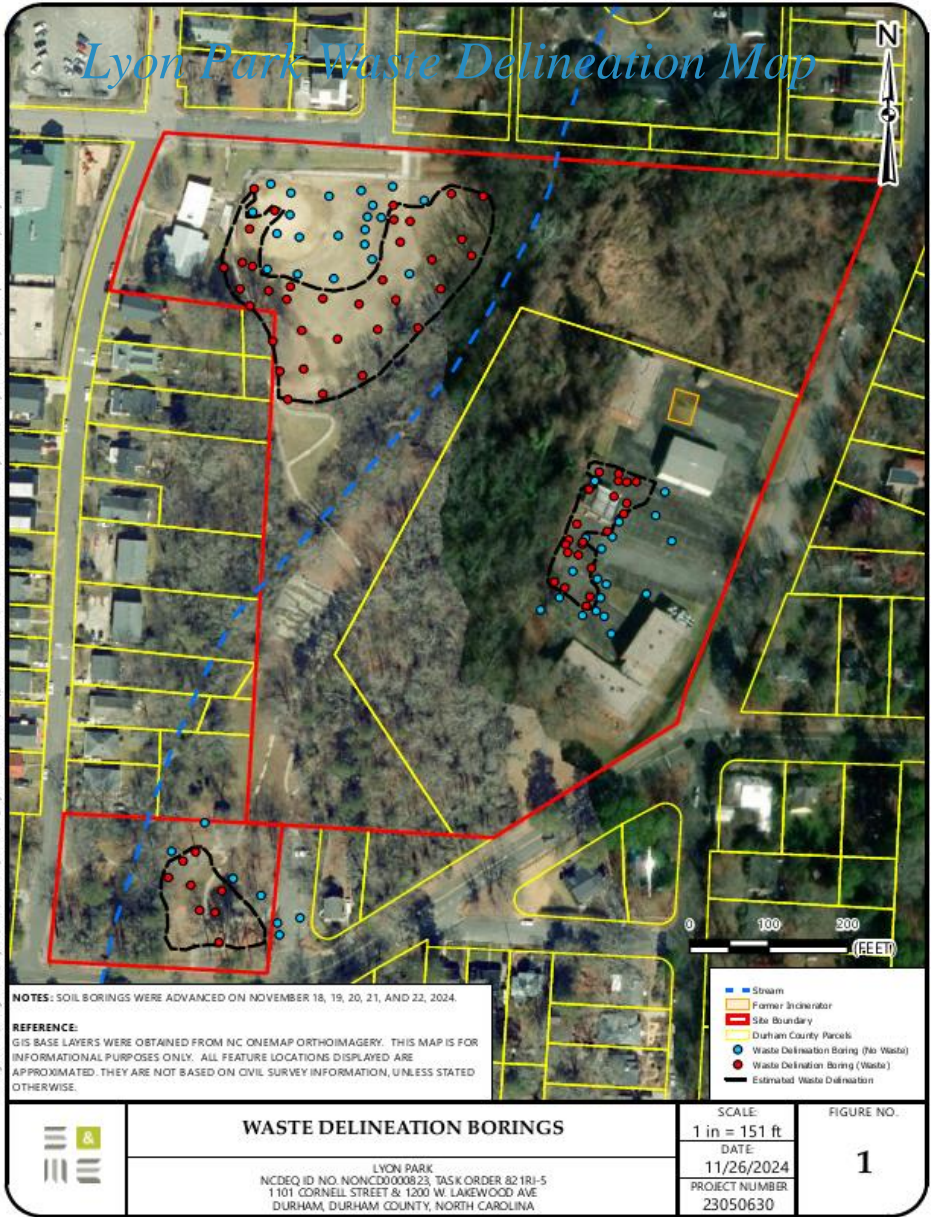
NOTES:
 LEAD CONCENTRATIONS AND SOIL COVER THICKNESS RESULTS TAKEN FROM SOIL COVER SAMPLING CONDUCTED ON 05/16/2024 THROUGH 05/17/2024 AND 12/19/2023 THROUGH 12/21/2023 BY S&M&E MID-ATLANTIC ASSOCIATES INC. (MID-ATLANTIC LEAD CONCENTRATIONS ARE REFERENCED FROM "SOIL ASSESSMENT REPORT - CITY OF DURHAM PARKS" DATED AUGUST 18, 2023, SEE REPORT FOR DETAILS. ADDITIONAL LEAD CONCENTRATIONS WERE TAKEN FROM XRF SCREENING CONDUCTED BY MID-ATLANTIC IN JULY 2023 AND BY ENIKOJE BHARI (DUKE) IN DECEMBER 2022.

REFERENCE:
 GIS BASE LAYERS WERE OBTAINED FROM THE LATEST NCEQ/EMAP ORTHOREGISTRY LAYER. THIS MAP IS FOR INFORMATIONAL PURPOSES ONLY. ALL FEATURE LOCATIONS DISPLAYED ARE APPROXIMATED. THEY ARE NOT BASED ON CIVIL SURVEY INFORMATION, UNLESS STATED OTHERWISE.

Lyon Park Soil Cover Map

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City of Durham Parks – East End Park

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



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East End Park Soil Cover Map

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East End Park Waste Delineation Map



City of Durham Parks – Walltown Park

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



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Walltown Park Soil Cover Map



Walltown Park Waste Delineation Map



City of Durham Parks – Northgate Park

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



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Northgate Park Soil Cover Map





Northgate Park Waste Delineation Map



Ongoing Investigation– All Five Parks

- Waste Delineation Trenching and Test Pits (Remaining four parks) – January 2025
 - Field work is currently Underway.
 - Reports will be submitted to NCDEQ for review in February 2025
 - This data will be used to establish the limits of the waste disposal areas and to determine background soil sample locations for the four remaining parks (Northgate, Lyon, East End and Walltown).
 - Additional delineation investigations may be needed in areas where the waste goes beyond the park property boundaries.

Pending Investigations – 2025

- Background Soil Sampling (Four Remaining Parks) – Dependent upon waste boundary delineations.
- Surface Water Assessment
 - To assess concentrations (if present) of surface water constituents.
- Groundwater Assessment
 - To assess concentrations (if present) of groundwater constituents.
 - May require up to four sampling events.
- Soil Gas Assessment
 - To assess concentrations (if present) of soil gas/landfill gas constituents.
 - Multiple sampling events may be necessary to delineate extent of contamination
- Remedial Investigation Summary Report

Thank you



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