

Hazardous Materials and NCDOT





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NCDOT Mission Statement

Connecting people and places in North Carolina - safely and efficiently, with accountability and environmental sensitivity.



GeoEnvironmental Section Mission Statement

Investigate known and potentially contaminated properties to assist in the planning, design, construction and maintenance of transportation projects to ensure that all waste management is safe, legally sound, cost effective and environmentally sustainable.

National Environmental Policy Act 1997 NEPA

All federal agencies are to prepare detailed statements assessing the environmental impact of all alternatives to major federal actions significantly affecting the environment. These statements are commonly referred to as environmental impact statements (EISs).

Hazardous Materials

Are hazardous materials on the project and how will the project impact them?

Procedure Overview

- 1. Desk Search for Known Sites of Concern
- Phase I (Non-Intrusive) Field Investigation to Identify Sites of Concern in the Study Area
- 3. Phase II (Sampling) Investigation on Sites of Concern
- 4. Site Remediation
- 5. Construction Support

Project Life Cycle



Project Scoping



Locations of Potentially Contaminated Sites



Typical Sites of Concern

- Gas Stations
- Dry Cleaners
- Paint Shops
- Auto Repair Shops
- Metal Plating Operations
- Battery Recycling Facilities
- Agricultural Chemical Manufacturers and Suppliers
- Green Houses
- Landfills (active and closed)
- Manufacturing Facilities
- Residential (Home Heating Oil)
- Farms (Fuel Tanks and Chemical Sheds)

Petroleum Sites

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• 80% of all sites of concern are petroleum related

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Soil and Groundwater Sampling



Soil Contamination



State Soil Action Levels

Total Petroleum	UST Release	Non UST
Hydrocarbon		Release
Compound		
Gasoline Range	10 ppm	10 ppm
Diesel Range	10 ppm	40 ppm

Contaminant Concentrations

Part Per Million (ppm)	1 shot glass of water in an Olympic size swimming pool	1 second of time in 11.5 Days
Part Per Billion (ppb)	1 drop of water in Olympic size swimming pool	1 second of time in 31.7 Years

Right of Way Recommendations















Construction Support























Resources

- FHWA, 1988. Interim Guidance, Hazardous Waste Sites Affecting Highway <u>Project Development</u>, Office of Environmental Policy, U.S. Department of Transportation,
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- Friend, David and Connery, Jan, 1988. <u>NCHRP Report 310, Dealing With</u> <u>Hazardous Waste Sites-A Compendium For Highway Agencies</u>. TRB, National Research Council, Washington, D.C.,
- AASHTO, 1990. *Hazardous Waste Guide for Project Development*
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