

Brownfields, Battery Caps, and a Junkyard Dog of a site



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The Project – Charlotte Locomotive and Railcar Maintenance Facility

- NC DOT Rail Division, with the Federal Railroad Administration (FRA), is developing a new Locomotive and Railcar Maintenance Facility (LRMF) for the NC DOT Piedmont Improvement Project (PIP) and Charlotte Railroad Improvement and Safety Program (CRISP)
- Includes 15 properties totaling 27 acres



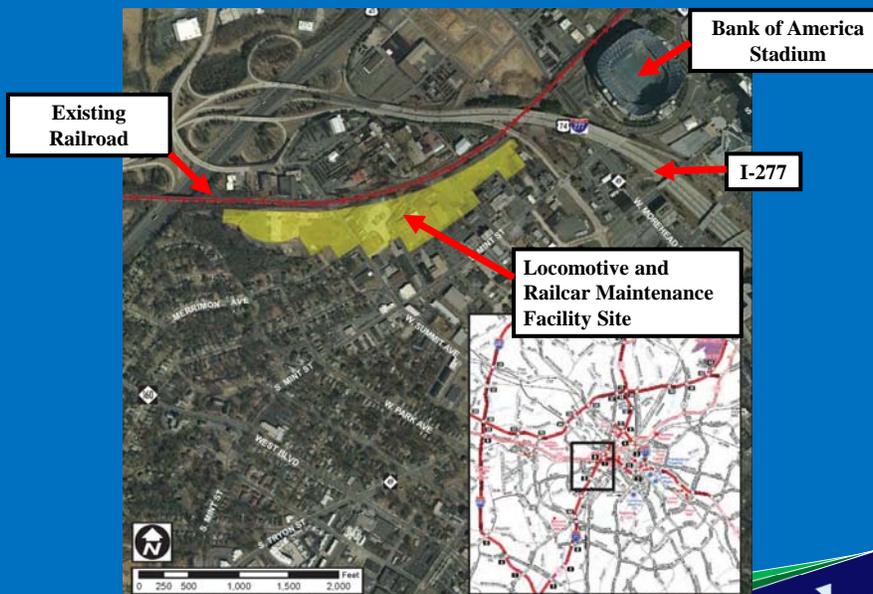
The Project Cont'd

- Includes former Smith Metal & Iron (SMI) junkyard (metals, PCBs & PAHs), Trucking Terminal (petroleum), former Copes-Vulcan REC site (PCBs and Chl. VOCs) and other impacted sites
- Will be a Brownfields project

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Project Location – Charlotte, NC



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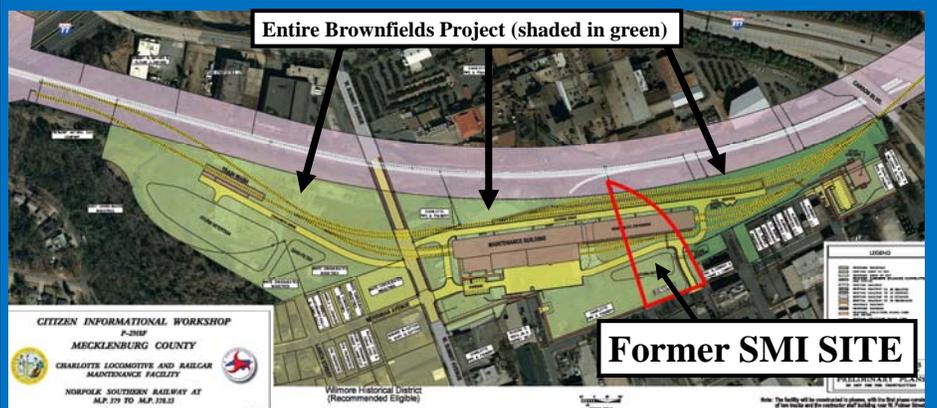
Proposed Charlotte Locomotive and Railcar Maintenance Facility - Preliminary



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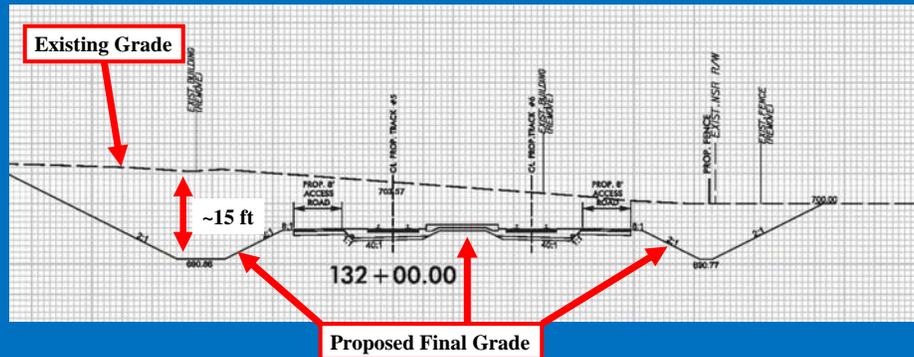
Proposed Charlotte Locomotive and Railcar Maintenance Facility - Preliminary



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Proposed Cut Area Near Former SMI property



- Proposed cut up to ~15 ft near SMI
- Potential storm water detention basin and/or piping

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Former Smith Metal & Iron (SMI)

- SMI at uptown site 1977 to 1983 (practice field and J&W) on older junkyard site
- A multi-million dollar cleanup occurred at the uptown site
- Impacts were metals and PCBs
- SMI still operates in Rock Hill, SC.



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The Site – Former Smith Metal & Iron (SMI)

- SMI junkyard from the 1920's to the mid-1970's.
- Now occupied by Ferguson Plumbing Supply (early 1990s).



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Current and Former SMI Property

Today – Plumbing Supply



SMI - 1950



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Assessment at Former SMI

- H&H assessed former SMI property for DOT
- Observed widespread black soil with metal debris
- Battery caps identified on surface (Gould, Willard and others).
- Gould and Willard were mid-century battery manufacturers
- Suspect “battery cracking” operation near the former battery storage building.



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Former SMI
1953 Sanborn Map

Old Storage Batteries

“Now I am Scary”

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Soil Boring Locations

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Smelly black soil (up to 5 ft thick).

Battery Cap (Good Year)

Metal pieces encountered in soil borings.

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Maximum Concentrations in Soil (and target level)

- TPH DRO - 4,330 mg/kg (10 mg/kg)
- TPH GRO - 58.7 mg/kg (10 mg/kg)
- Total PCBs - 6.78 mg/kg (1 mg/kg)
- Total Lead - 28,700 mg/kg (800 mg/kg)
- TCLP Lead - 398 mg/L (5 mg/L)

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Non-Hazardous Soil

- TPH DRO and GRO Impacted Soil
- PCB Impacted soil
 - Highest PCB concentration = 6.78 mg/kg
 - PCBs are below the Toxic Substances Control Act (TSCA) regulatory level of 50 mg/kg

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Is Lead Impacted Soil a Hazardous Waste?

Total Lead & TCLP Lead Results

	<u>Total Lead</u>	<u>TCLP Lead</u>
32-1 (2-4 ft)	2,580 mg/kg	3.9 mg/L
32-7 (0-2 ft)	2,290 mg/kg	5.3 mg/L
32-15 (0-1.5 ft)	28,700 mg/kg	398 mg/L

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Hazardous Waste Threshold for Lead = 5 mg/L

TCLP RCRA Metal Results for Lead

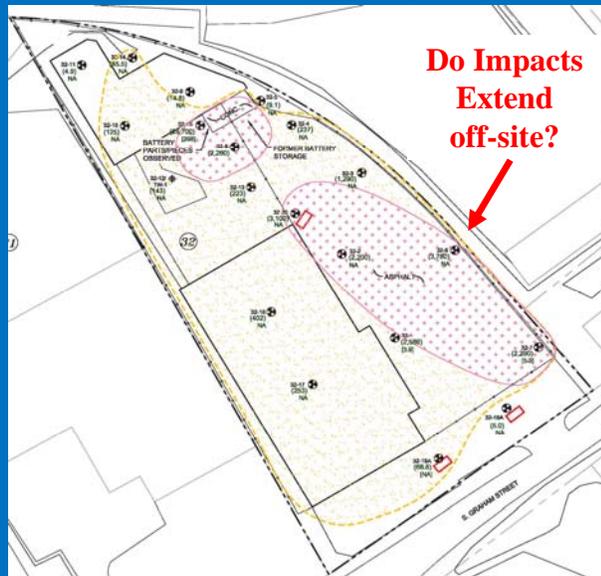
	<u>Result</u>
32-7 (0-2 ft)	5.3 mg/L
32-15 (0-1.5 ft)	398 mg/L



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Lead Impacts in Soil



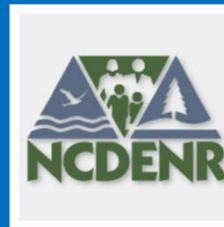
AREA OF LEAD IMPACTED SOIL
AREA OF CHARACTERISTICALLY HAZARDOUS LEAD SOIL

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Why Does Brownfields Make Sense?

- Reuse Contaminated Soil
- Lower Cleanup Goals
- Reduces Environmental Liability
- Tax Breaks in Some Cases



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Brownfields Process

- **Prospective Developer (PD) Submits Brownfields Property Application**
- **DENR Determines Eligibility & Sends Letter of Eligibility (LOE) to PD**
- **PD pays Initial Fee of \$2,000**
- **DENR Determines if Additional Assessment is Required**
- **PD Completes Additional Assessment (sometimes includes VI)**

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Brownfields Process Cont'd

- **DENR Drafts Brownfields Agreement (additional fees required)**
- **Public Comment (final fees)**
- **Notice of Brownfields Property (NBP) Prepared by DENR (includes Land Use Restrictions – LURs)**
- **PD Submits Annual LUR Updates to DENR**

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How to Safely Redevelop: Environmental Management Plan

- Referenced in BFA
- Defines how development will be conducted
- Management of impacted soil and groundwater
- Procedures for handling unexpected environmental conditions



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Impacted Soil Management Approach & Reuse Opportunities for Impacted Soil

- Non-hazardous Impacted Soil
 - Soil can stay in place;
 - Soil can be reused (fill material) on-site;
 - Soil must be covered (hardscape or 2 ft of clean fill) if exceeds Industrial SRG



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Impacted Soil Management Cont'd

- **Hazardous Impacted Soil**
 - Soil can stay in place;
 - Soil must be covered (hardscape or 2 ft of clean fill);
 - Soil can be treated on site to non-haz and reused (DENR approval required);
 - Otherwise proper off-site disposal required if disturbed



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Summary

- Major DOT project to disturb heavily impacted sites
- Includes former junkyard/battery cracking site
- Use Brownfields to manage environmental liability
- Able to reuse non-haz impacted soil
- EMP is a document to show how to safely redevelop

Questions?

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