

15.0 HAZARDOUS AND CONTAMINATED MATERIALS

This chapter describes the procedures used to determine the potential presence for known hazardous and contaminated materials within the study area of the LYNX Blue Line Extension Northeast Corridor Light Rail Project (LYNX BLE). In addition, this chapter presents the results of a corridor level field review and a search of local, state and federal databases for known hazardous or contaminated materials sites are presented for the alternatives under consideration in this Draft Environmental Impact Statement (EIS). Mitigation measures to minimize impacts are also described.

15.1 Affected Environment

To identify the existing conditions, limited Phase I Environmental Site Assessments (ESA) were conducted for each full property acquisition and the project corridor. These evaluations were conducted in general accordance with the American Society for Testing and Materials (ASTM) Standard for Environmental Site Assessments: *Phase I Environmental Site Assessment Process (ASTM E-1527-05)*. The intent of the limited Phase I ESAs was to provide 1) an early indication of hazardous or contaminated materials that may be encountered and 2) identification of mitigation measures and associated mitigation costs for activities associated with the implementation of the alternatives under study. The long nature of the rail corridor and the objectives of determining immediate potential impacts to the proposed LYNX BLE necessitated some deviation from the ASTM standards. These limitations are documented in each of the limited Phase I ESAs performed for this study.

These reports are available for review as separate documents and are listed in Appendix G. Activities conducted during the development of the Phase I ESAs included:

- Field Review - a limited site reconnaissance was conducted to identify potential evidence of contamination;
- Database Search - a review of state and federal databases of previously reported environmental violations; and,
- Review of Phase I ESAs - a review of ESAs completed in the study area for other projects as provided by other City departments.

The computer database search of federal and state records to identify sites with potential environmental conditions located within 650 feet of the proposed Light Rail Alternative alignment was obtained by Environmental Database Resources on October 2, 2008 (EDR, 2008). This search revealed 351 reports on sites with one or more of the following environmental conditions:

- Contaminated sites under state and/or federal jurisdiction that are categorized as Resource Conservation and Recovery Act (RCRA), Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) or State Hazardous Waste Sites (SHWS).
- Sites that have had Leaking Underground Storage Tank (LUST) incidents. LUST incidents mostly involve leaks of petroleum products such as gasoline and diesel fuels.
- RCRA Treatment, Storage or Disposal (TSD) sites. These are sites that generate, store, treat or dispose of RCRA hazardous waste.
- RCRA hazardous waste Large Quantity Generators (LQG) and Small Quantity Generators (SQG).
- Sites with Underground Storage Tanks (USTs). USTs typically contain liquid petroleum products such as gasoline, diesel or heating fuels.
- Sites with activities regulated by the Federal Insecticide, Fungicide, Rodenticide Act (FIFRA) regulating pesticides, the Toxic Substances Control Act (TSCA) regulating toxic compounds such as Polychlorinated Biphenyls (PCB) and asbestos, sites with surface impoundments for wastes and sites with Underground Injection Control (UIC) activity.

Of the 351 sites identified, 84 sites were determined to warrant further consideration because of their proximity to the study corridor and/or topographic position relative to the study corridor. Table 15-1 details the results of the state and federal databases review. In addition to the sites identified in Table 15-1, arsenic levels in soils and ballast materials have been found to be above background levels along former and existing railroad grades. The presence of arsenic within these areas was discovered during the

Charlotte Trolley Project construction and again tested for during the South Corridor Light Rail Project. Based on these experiences, arsenic impacted soils are likely present along the proposed right-of-way, in the area that is adjacent or within existing railroad right of way. The source of arsenic is suspected to be the normal application of an herbicide product. The City of Charlotte has obtained a guidance letter from the Director of the North Carolina Division of Waste Management regarding handling options, including beneficial reuse of the soils.

**Table 15-1
State and Federal Database Review**

Federal Databases	Sites
CERCLIS: Comprehensive Environmental Response, Compensation, and Liability Information System	1
CERCLIS-NFRAP: CERCLIS No Further Remedial Action Planned	3
CORRACTS: Corrective Action Report	1
RCRA-TSDF: RCRA-Transporters, Storage and Disposal	1
RCRA-LQG: RCRA-Large Quantity Generators	1
RCRA-SQG: RCRA-Small Quantity Generators	2
RCRA-CESQG: RCRA-Conditionally Exempt Small Quantity Generators	19
RCRA-NonGen: RCRA-Non Generators	20
ERNS: Emergency Response Notification System	3
State and Local Records	Sites
FTTS: FIFRA/ TSCA Tracking System-FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)	2
HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing	2
FINDS: Facility Index System/Facility Registry System	106
SHWS: Inactive Hazardous Sites Inventory	8
HSDS: Hazardous Substance Disposal Site	3
IMD: Incident Management Database	56
SWF/LF: List of Solid Waste Facilities	2
HIST LF: Solid Waste Facility Listing	2
LUST: Leaking Underground Storage Tank List	47
LUST TRUST: State Trust Fund Database	6
UST: Petroleum Underground Storage Tank Database	61
DRYCLEANERS: Dry Cleaning Sites	2
BROWNFIELDS: Brownfields Projects Inventory	3

Source: EDR, October 2, 2008.

Hazardous/contaminated materials evaluations were conducted within the study area during 2009. These evaluations were conducted to identify recognized environmental conditions (REC), historical recognized environmental conditions (HREC) and the likelihood of soil and groundwater contamination. These evaluations were conducted in general accordance with the American Society for Testing and Materials (ASTM) Standard for Environmental Site Assessments: *Phase I Environmental Site Assessment Process (ASTM E-1527-05)*.

15.2 Environmental Consequences

The following sections describe the potential impacts to each of the alternatives under study in this Draft Environmental Impact Statement (EIS).

15.2.1 No-Build Alternative

Since no property acquisition would occur under the No-Build Alternative, no impacts from hazardous and contaminated materials would occur with this alternative.

15.2.2 Light Rail Alternative

The limited Phase I ESAs referenced in Section 15.1 identified locations where there is potential for hazardous or contaminated materials to affect costs and construction schedule for the proposed Light Rail Alternative. The hazardous and contaminated materials sites mentioned would increase capital costs because of federal and state remediation requirements. The capital costs reported in Chapter 2.0:

Alternatives Considered include preliminary estimates for the remediation of contaminated or hazardous materials based on the conclusions of the limited Phase I ESAs. With mitigation, the proposed Light Rail Alternative could result in an environmental condition that remediates adverse environmental conditions to levels below state and federal standards. Improved conditions would result in a positive impact from the proposed Light Rail Alternative. Improvement over existing conditions would not be achieved by the No-Build Alternative.

15.2.2.1 Corridor Level Impacts

The *Limited Phase I ESA, Proposed Light Rail Alternative Alignment Corridor Study* (September 2009) examined potential impacts along the length of the proposed project right-of-way. Table 15-2 provides a summary of the most significant areas of concern that would occur on properties to be acquired for the proposed Light Rail Alternative. Adjacent properties that may also be of concern are described in the corridor study.

An incident rating system was included to help assess the potential for impacts based on the degree of hazard for the contamination potentially encountered. Properties were rated, on a scale of 1 to 4, based on the degree of hazard as follows:

1. Remediated groundwater contamination (lowest degree of hazard).
2. Remediated soil contamination.
3. Non-remediated groundwater contamination.
4. Non-remediated soil contamination (highest degree of hazard).

Sites having USTs with no documented contamination incidents (that were not on or adjacent to the proposed corridor right-of-way) were excluded from the tables.

15.2.2.2 Station Impacts

Proposed park-and-ride locations were each evaluated in separate limited Phase I ESAs as listed in Appendix G. Each of these sites was visually evaluated during field reconnaissance visits conducted in support of the Phase I ESA development. Table 15-3 identifies the items of concern for properties to be acquired for the park-and-ride facilities. Sites of concern were only noted to potentially occur on two station park-and-ride sites: Sugar Creek Station Park-and-Ride Option 1 and the Tom Hunter Station. Other sites beyond the limits of the park-and-ride location have potential to affect the subject properties and are detailed in the each park-and-ride facility Phase I ESAs.

15.2.3 Light Rail Alternative – Sugar Creek Design Option

The items of concern listed in Table 15-2 would remain a concern with the Light Rail Alternative – Sugar Creek Design Option as these properties are located on the alignment where the base alignment and the design option would be the same. There would be one difference in station level impacts presented in Table 15-3 as the Sugar Creek Station Park-and-Ride Option 1 properties would not be acquired. One property, Former Marel Cleaners at 5542 North Tryon Street, would be located on the Old Concord Road Station for this design option whereas the proposed Light Rail Alternative alignment itself would be on this property. Therefore, there is one less property of concern between the Light Rail Alternative and the Light Rail Alternative – Sugar Creek Design Option.

**Table 15-2
Items of Concern/Hazardous Material Sites, Light Rail Alternative**

Name and Address	Description	Degree of Hazard
Railroad grade arsenic from herbicides along railroad right-of-way, from station 683 to 920.	Contamination from past use of arsenic-based herbicide was discovered along south corridor and is suspected along northeast corridor.	4
North College Street Property 900 North College Street	Brownfields property with land use restrictions imposed because of soil and groundwater contamination.	4
Norfolk Southern Intermodal Terminal 16th Street and Parkwood Avenue	Soil contamination from RECs and HRECs.	4
Former Harper Crawford Bag Company 401 Parkwood Avenue	HREC: On-site hazardous materials in drums, documentation incomplete. No information on IMD incident readily available.	2
Former Harrison J. King 1609 North Brevard Street	Soil Contamination.	2
1803 North Brevard Street	One gallon diesel surface spill.	2
Former Carolina Consolidators 400 E. 33rd Street	Soil and groundwater contamination.	4
Detrex Chemical 3114 Cullman Avenue	185-gallon surface spill, 1 gallon lost to storm sewer, 175 gallons recovered.	2
Former INX International Ink Company 3200 Cullman Avenue	Lead and chromium soil contamination.	4
Former Newco Fibre 430 East 36th Street	Soil and groundwater contamination.	4
Herrin Brothers Coal & Ice 315 East 36th Street	No documented incidents. Three USTs in use and four removed. Potential HREC.	3
Former Marel Cleaners 5542 North Tryon Street	HREC: Historic dry cleaner.	3

*NDI — No documented incident but site is a potential concern.
Source: Corridor Phase I ESAs (referenced in Appendix G).

**Table 15-3
Park-and-Ride Station Items of Concern/Hazardous Material Sites, Light Rail Alternative**

Name and Address	Description	Degree of Hazard
Sugar Creek Station, Option 1		
Former Kaiser Fluid Technologies 530 Sugar Creek Road	Soil and groundwater contamination from LUST.	4
Tryon Mall Cleaning Center 451 East Sugar Creek Road	Active dry cleaner.	NDI
Former Henkel Corporation 600 East Sugar Creek Road	On-site PCB use, minor fuel spill, butyl stearate spill.	2
Cottman Transmission Center 501 East Sugar Creek Road	UST, HREC: Service Station	NDI
Tom Hunter Station		
Rama Cleaners 118 Tom Hunter Road	HREC: Historic dry cleaner.	NDI
Former BP/Conoco Phillips 6501 North Tryon Street	Soil and groundwater contamination from LUST.	4
Former 7-Eleven Store 118 Tom Hunter Road	UST, HREC: Former gasoline station	NDI

Source: Individual Phase I ESAs performed for park-and-ride facilities (referenced in Appendix G).

15.3 Mitigation

The presence of soil and/or groundwater contamination, or the existence of hazardous materials within existing or proposed rights-of-way, can adversely affect the cost and schedule to complete a transportation project. Early identification of potential contamination sites provides valuable information for the alternatives evaluation, design, right-of-way acquisition and construction plans.

15.3.1 Light Rail Alternative

Mitigation of arsenic contaminated soil generated from construction activities for the proposed Light Rail Alternative will be beneficially re-used or disposed as special waste consistent with arsenic contaminated soil handling on the Vintage Trolley and South Corridor Light Rail projects. Assessment of the vertical and horizontal extent of arsenic impacts will be necessary to prepare the appropriate design requirements.

Phase II ESAs will be performed for all full or partial property acquisitions determined to be at risk of hazardous material contamination. Results of these assessments will be used to determine appropriate property valuations and provide detail for design requirements, including but not limited to protection of human health and the environment, waste management practices and work and monitoring practices required for the smooth execution of construction activities. For sites of low concern, CATS will use a special provision in the construction contract specifications for the excavation and disposal of non-hazardous contaminated sites,

15.3.2 Light Rail Alternative – Sugar Creek Design Option

Mitigation commitments for the Light Rail Alternative – Sugar Creek Design Option would be the same as stated in Section 15.3.1 for the proposed Light Rail Alternative.