LYNX Blue Line Extension

(Northeast Corridor)

Light Rail Project

Contract #: 08-477

WBS #: 6.08

Evaluations of Effects Report

Prepared by:

Mattson, Alexander and Associates, Inc.

as subconsultant to

STV/Ralph Whitehead Associates

Prepared for:

City of Charlotte
Charlotte Area Transit System

Project #: 2513745

September 4, 2009

Rev. 00

EVALUATIONS OF EFFECTS REPORT
FOR
HISTORIC RESOURCES

LYNX BLUE LINE EXTENSION NORTHEAST CORRIDOR LIGHT RAIL PROJECT
CHARLOTTE AREA TRANSIT SYSTEM
MECKLENBURG COUNTY

Prepared for:

City of Charlotte
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II. INTRODUCTION

This evaluation of effects document was undertaken in conjunction with the planning for the Charlotte Area Transit System (CATS), LYNX Blue line Extension, Northeast Corridor Light Rail Project in Charlotte and Mecklenburg County, North Carolina (see **Figure 1a**). CATS proposes to extend the existing LYNX Blue Line Light Rail service northeast from its terminus at the 7th Street Station in Center City Charlotte to the University of North Carolina Charlotte (UNC Charlotte) campus and I-485. The Charlotte Area Transit System and the Federal Transit Administration (FTA) are the joint lead agencies for the project which is currently in the Preliminary Engineering/Environmental Impact Statement (PE/EIS) phase of project development. CATS is seeking federal funding through the FTA's discretionary Section 5309 New Starts grant program (49 USC§5309). A Notice of Intent to conduct an Alternatives Analysis and to prepare an Environmental Impact Statement (EIS) was published in the Federal Register on September 29, 2000. The Draft EIS and this evaluations of effects document are based on the 15 percent preliminary engineering design plans completed in January 2009 and subsequent design changes reflected in the 26 June 2009 conceptual alignment map.

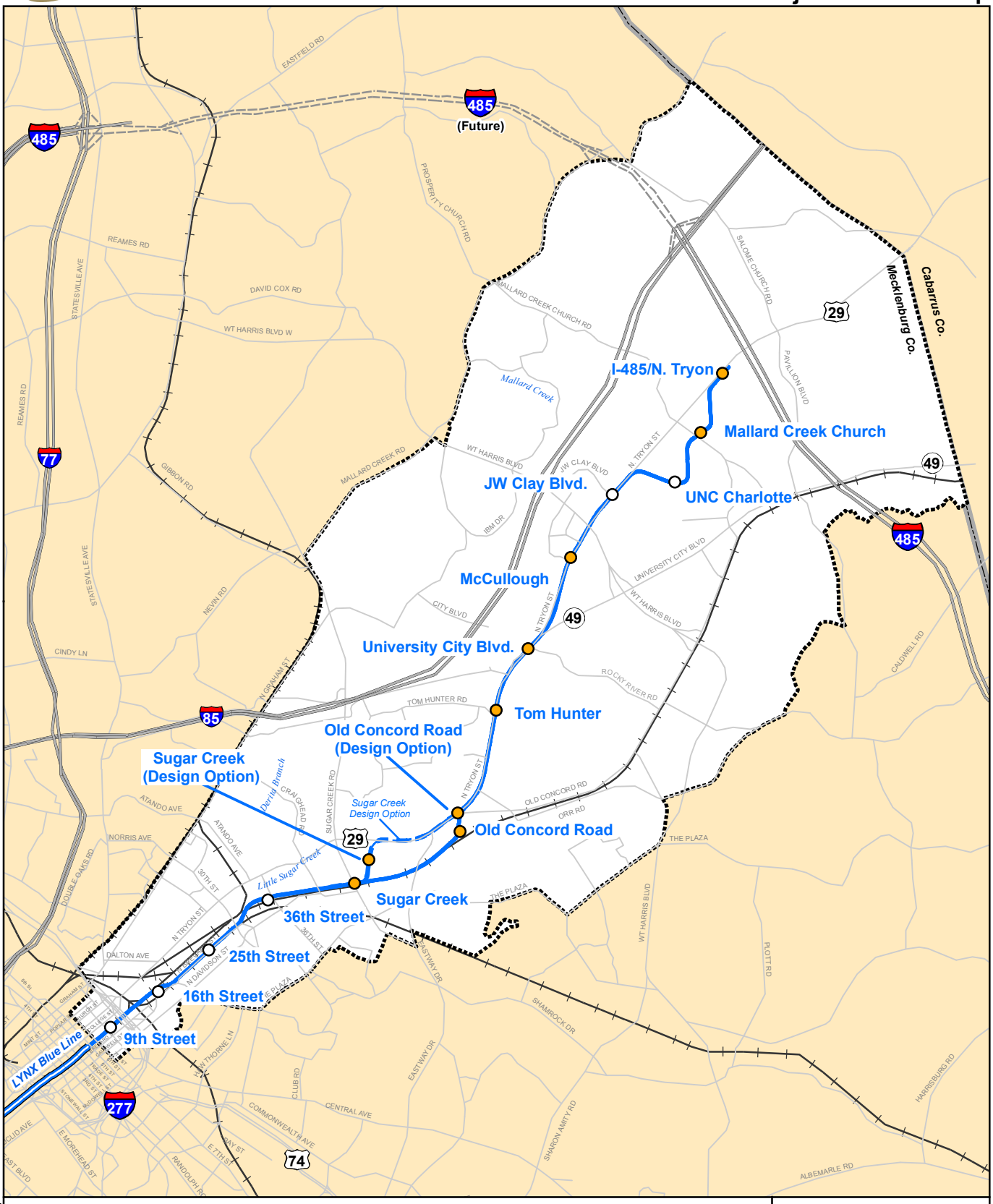
This document evaluates the effects of the proposed project on the historic resources identified in the Phase II historic resources survey report prepared by Mattson, Alexander and Associates, Inc. (MAA) dated 6 November 2008. Nine properties surveyed during the Phase II investigation (out of a total of 98 resources) are either listed in the National Register of Historic Places or were determined eligible for listing (see **Table 1**). The National Register resources are: the Philip Carey Company Warehouse (No. 1); the Orient Manufacturing Company/Chadwick-Hoskins No. 3 (No. 4); and the North Charlotte Historic District (No. 35). The McNeil Paper Company Warehouse Complex (No. 2); the Chadbourn Hosiery Mills (No. 32); the Herrin Brothers Coal and Ice Company Complex (No. 49); the Standard Chemical Products Plant (No. 70); the Republic Steel Corporation Plant (No. 71); and the General Motors Corporation Training Center (No. 86) were all determined eligible for the National Register. Three of these properties, the Philip Carey Company Warehouse, the McNeil Paper Company Warehouse Complex and the Orient Manufacturing Company/Chadwick-Hoskins No. 3 are also all locally designated landmarks. One National Register listed resource, the W.T. Alexander House (No. 98), was identified in the Phase II report, but because of changes to project alternatives, the Alexander house no longer lies within the area of potential effects (APE) for this project. MAA has prepared the present effects document for CATS and the project engineering firm of STV/Ralph Whitehead Associates, Inc. of Charlotte, North Carolina.

This report has been prepared in accordance with the National Environmental Policy Act (NEPA), the North Carolina Environmental Policy Act and the National Historic Preservation Act (NHPA) of 1966, as amended (36 CFR 800). Section 106 of the NHPA requires that if a federally funded, licensed, or permitted project has an effect on a property listed in, or potentially eligible for listing in, the National Register of Historic Places, the Advisory Council on Historic Preservation, the State Historic Preservation Office and any other consulting parties be given a reasonable opportunity to comment on such undertakings.

Evaluations of effects are based on the revised regulations (dated 18 May 1999) for enforcing Section 106 of the National Historic Preservation Act of 1966, as amended. Federal undertakings are considered to have adverse effects if they acquire land from a historic property or otherwise alter the qualities which make the resource eligible for the National Register of Historic Places.

LYNX Blue Line Extension

Figure 1a
Project Location Map



Legend

- Northeast Corridor Limits
- Proposed Light Rail Alternative
- Design Option
- Proposed Stations
- Proposed Stations with Park-and-Ride
- LYNX Blue Line
- Highway
- Major Roads
- Highway (Future)
- Streams
- Railroads
- County Line

0 0.5 1 Mile

Data Source:
CATS, City of Charlotte GIS, and Mecklenburg County GIS

Phase_II_Historic_Base_Map_Rev01.pdf

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Table 1

Summary Table
Historic Resources
(Keyed to Area of Potential Effects Maps in Phase II Report)

National Register—NR
North Carolina Study List—SL
Locally Designated Historic Landmark—LD
Determination of Eligibility—DOE

Survey Number/Resource Name		Status	Phase II Determination
1.	Philip Carey Company Warehouse	NR/LD	NR/LD
2.	McNeil Paper Company Warehouse Complex	SL/LD	NR Eligible
4.	Orient Manufacturing Company /Chadwick-Hoskins No. 3	NR/LD	NR/LD
32.	Chadbourn Hosiery Mills	None	NR Eligible
35.	North Charlotte Historic District	NR	NR
49.	Herrin Brothers Coal and Ice Company Complex	None	NR Eligible
70.	Standard Chemical Products Plant	DOE	DOE
71.	Republic Steel Corporation Plant	DOE	DOE
86.	General Motors Corporation Training Center	None	NR Eligible

Specifically, adverse effects may be caused by the following conditions:

- Physical Destruction/Damage
- Alteration of a property
- Removal of a property from its historic location
- Change of the character of a property's use or of physical features within a property's setting that contribute to its historic significance
- Introduction of visual, atmospheric or audible elements that diminish the integrity of a property's significant historic features
- Neglect of a property that causes its deterioration

Adverse effects may result from the direct actions of the project, as in the case of property acquisitions, or they may be the consequence of indirect and cumulative impacts. Changes in zoning, increased needs for parking and market demands for new development are all examples of the types of adverse effects that may result from federal undertakings. Both direct and indirect impacts are assessed in this document.

III. PROJECT DESCRIPTION

The proposed project would extend the existing LYNX Blue Line light rail system by approximately 10.6 miles and provide 13 transit stations, including six walk-up stations and seven park-and-ride facilities. The proposed Light Rail Alternative alignment, shown in **Figure 1a**, would begin at the LYNX 7th Street Station and travel along CATS-owned right-of-way until approximately 12th Street where it would cross over the CSX rail tracks and then enter the existing railroad rights-of-way to the middle of the alignment, near Old Concord Road, where it would then make the transition into the median of North Tryon Street/US-29. The line would remain in the median until north of JW Clay Boulevard, where it would turn east crossing under the existing travel lanes of North Tryon Street/US-29. The route would then enter the UNC Charlotte campus before returning to the east side of North Tryon Street/US-29 to a terminus just south of I-485.

The project would be designed to accommodate two light rail tracks, one for northbound service and one for southbound service. In general, the tracks would be located at-grade. Some portions would be elevated to go over existing freight tracks, water features or roads. The proposed Light Rail Alternative would include the depression of 36th Street under the existing railroad freight tracks and the proposed light rail tracks. A depression of the light rail tracks under the existing northbound travel lanes of North Tryon Street/US-29 would also occur where the alignment turns southeast to enter the UNC Charlotte campus. Sugar Creek Road would be depressed under the existing railroad tracks as planned and undertaken as a separate project by the railroad. A structure specifically for light rail use would be constructed over a depressed Sugar Creek Road.

The proposed project would include local, neighborhood circulator and express bus services to connect the light rail service with the CATS regional bus system, as well as any ancillary facilities such as traction power substations, signal houses, and crossing cases (see **Figure 1b**). CATS is evaluating alternatives for a maintenance and storage facility for the project, including the potential use of the existing South Boulevard Light Rail Facility and a light maintenance facility at the existing Norfolk Southern intermodal yard between 16th Street and Little Sugar Creek.

Along North Tryon Street/US-29 north of Old Concord Road, where the proposed alignment would be in the median, station platforms would be located in the median with pedestrian access via crosswalks. All stations would include facilities for bicyclists, such as bike racks or bike lockers. All stations would include shelters, lighting, benches, garbage cans, self-serve ticket-vending machines and CATS customer information, such as maps and schedules for the light rail line and connecting bus routes. Seven stations would include park-and-ride facilities, providing over 4,000 parking spaces. The park-and-ride facility at the I-485 terminal station would include a five-story parking garage.

A station design option for a station at 16th Street is also being studied in the Draft EIS. The Light Rail Alternative – 16th Street Station Option would provide a station to the north of 16th Street and would replace the planned Parkwood Station of the Light Rail Alternative. A design option for the proposed Light Rail Alternative, called the Light Rail Alternative - Sugar Creek Design Option, is also being studied in the Draft EIS and is discussed in this report. This optional alignment enters the median of North Tryon Street/US-29 in the vicinity of Sugar Creek Road approximately 500 feet before the Light Rail Alternative alignment. This design option

Figure 2-27
Substation and Signal Control House Examples

Traction Power Substation

Signal Control House

includes park-and-ride facilities at a Sugar Creek Station and an Old Concord Road Station that are in different locations than those proposed for the Light Rail Alternative.

IV. SUMMARY OF FINDINGS

The project area extends from Center City Charlotte to the northeastern suburban edge of the city. The area is defined by a wide mix of properties including historic industrial, commercial and residential resources from the late 19th and early 20th centuries, mid-century modern industrial and commercial strip construction and recent suburban development near the University of North Carolina at Charlotte.

The proposed light rail line would follow existing railroad right-of-way between downtown Charlotte and Old Concord Road, the segment where all the historic resources under consideration are found. The area between Old Concord Road and the project terminus at I-485 is largely modern, and along this segment of the proposed route, the light rail line would lie within the North Tryon Street/US-29 right-of-way. Most of the historic resources within the APE were built along the railroad corridor in urban locations, and few of the actions proposed under this project would have any effect on the historic properties. The exception to this pattern would occur at the 36th Street crossing of the railroad. This location is a proposed station site and a busy junction of road and rail with adjacent historic properties. The complicated nature of these intersections makes impacts to historic resources unavoidable. At 36th Street, the North Charlotte Historic District (NR) would be adversely affected by some of the proposed actions although no buildings within the historic district would be demolished.

Except for the actions needed at the 36th Street junction, the project would not greatly alter the already urban, industrial and rail-oriented view sheds of the historic resources. Furthermore, there are no noise impacts from the project. Indeed, the light rail trains proposed for the corridor would be quieter than the freight trains which currently use much of the rail corridor. Finally, there should be few, if any, indirect or cumulative impacts from the proposed light rail line. The historic resources are concentrated in heavily urban areas that already face intensive development pressures, transportation projects, new plans and rezonings intended to meet the challenges of great regional growth. The proposed actions and recommended effects are summarized in the Conclusions and Recommendations section of this report.

V. EVALUATIONS OF EFFECTS

No. 1 Philip Carey Company Warehouse, Charlotte, Mecklenburg County

Action: Track Installation

The proposed CATS LYNX Blue Line Extension, Northeast Corridor Light Rail Project would have its southern terminus at the existing LYNX Blue Line 7th Street Station in Center City Charlotte, directly across 7th Street from the Philip Carey Company Warehouse. In the vicinity of the Carey warehouse, two tracks would be installed to accommodate both northbound and southbound light rail traffic (see **Figure2a; Plates 1-2**). (The two historic freight spur lines have been removed.) This track installation would occur at the existing grade. One line of trackage (northbound) has already been built as part of the Charlotte Trolley Project and the LYNX Blue Line, South Corridor project, but between 7th and 9th streets, the second, southbound line would be added as part of this project. No additional right-of-way would need to be acquired for this track which would be installed on the west side of the existing corridor, on the opposite side of the tracks from the Philip Carey Company Warehouse.

Listed in the National Register and a designated local landmark, the Philip Carey Company Warehouse occupies a small, urban site on the east side of the railroad tracks at 7th Street. The National Register boundaries for the two story, masonry warehouse abuts the rail right-of-way and fronts directly onto 7th Street.

Effect: No Effect

The new trackage would have no effect on the Philip Carey Company Warehouse. Although the action would occur adjacent to a National Register property, the new trackage would be laid along existing rail alignment at the existing elevation, and no property would be acquired from within the National Register boundaries for the Philip Carey Company Warehouse site. The new, southbound track would be added on the opposite side of the rail corridor from the warehouse. The Carey warehouse was built along the rail line, and this historic geographical relationship would not be altered by the installation of new trackage nor would the views of the rail corridor from the building be affected by this action.

Action: Overhead Catenary System

The light rail line would be operated by an overhead electrical catenary system that would be carried on roughly 25-foot tall, standard profile poles. As part of the original LYNX Blue Line and the Charlotte Trolley projects, the catenary system was installed to 9th Street. Next to the Philip Carey property, the painted, metal poles have metal arms capped by the decorative finials found within the I-277 loop. The poles are spaced at 100 to 125-foot intervals along the light rail line. For this project, additional catenary poles and wires would be installed along the second set of tracks.

Effect: No Effect

Although the installation of the catenary system introduces a minor visual element to the view shed of the Philip Carey Company Warehouse, the catenary system has no effect on the property. The warehouse occupies an urban location, and the views from the Philip Carey property are already largely modern. The system of simple poles and wires are similar to existing overhead utilities.

Action: Noise and Vibrations

The light rail trains in the vicinity of the Philip Carey Company Warehouse would travel at speeds below the 25 miles per hour allowed in the center city. The existing 7th Street Station sits just across the street from the Philip Carey property, and trains would be slow in approaching or leaving the station. Crossing gates have been installed at the intersection of the light rail line and 7th Street, and horns would not be required for this crossing (train bell is used instead). There are already public address announcements at the 7th Street Station.

Effect: No Effect

The proposed light rail system would have no noise or vibration effects on the Philip Carey Company Warehouse site. The light rail trains would be quieter than the freight trains that have historically operated in this area, and the slow speeds of the trains in the center city would lessen any operational noise near the property.

Action: Safety and Warning Equipment

Crossing gates would be used to protect the at-grade crossing of 7th Street and the light proposed light rail line, situated at the southwest corner of the Philip Carey Company Warehouse property.

Effect: No Effect

Because the Philip Carey Warehouse sits across from the existing LYNX Blue Line terminus, crossing gates were installed at this crossing during the original Blue Line project. No additional safety equipment would be needed at this location.

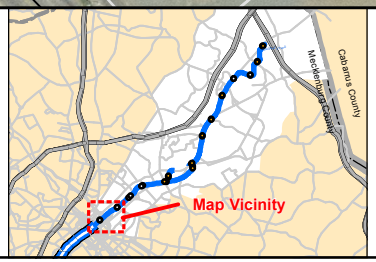
LYNX Blue Line Extension

Figure 2a

Philip Carey Company Warehouse

Legend

- Proposed Light Rail Alternative
- Design Option
- Proposed Structures
- Proposed Station Platforms
- Proposed Right-of-Way
- Proposed Retaining Walls
- Proposed Signal House
- Proposed Substation
- Proposed Park-and-Ride Facilities
- Streams
- Railroad
- Roads
- Historic Resource Site
- Railroad Right-of-Way
- Parcels



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Feet

1 inch equals 150 feet

Data Source: Mattson Alexander, Charlotte Area Transit System, STV/RWA, Mecklenburg County GIS Aerial (2007)

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Philip_Carey_Company_2a_Rev.00.pdf

Plate 1. Philip Carey Company Warehouse, Existing Light Rail Line, Overhead Catenary System and Crossing Gates, Looking Northeast Across 7th Street.

Plate 2. Philip Carey Company Warehouse, Existing Light Rail Line and Overhead Catenary System, Looking South.

2. McNeil Paper Company Warehouse Complex, Charlotte, Mecklenburg County

Action: Track Installation

The proposed LYNX Blue Line Extension, Northeast Corridor would have its southern terminus at the existing CATS LYNX Blue Line 7th Street Station in Center City Charlotte, one block south of the McNeil Paper Company Warehouse Complex. In the vicinity of the McNeil warehouse, a single track to accommodate both the light rail and trolley has already been installed between 7th and 9th streets (see **Figure 3a; Plates 3-8**). (The two freight spur lines were removed long ago.) A second track would be installed at the existing grade. No additional right-of-way would need to be acquired for the tracks which would be installed on the west side of the existing corridor. The existing trolley station would be removed. The proposed southbound line would diverge from the northbound lane as it approaches the proposed 9th Street Station, located one block to the north.

Comprising a designated local landmark and a Study List property, the McNeil Paper Company Complex was determined eligible for the National Register as a result of the Phase II historic resources survey for this project. The complex consists of two adjoining, masonry buildings that face directly onto the railroad right-of-way, and the National Register boundaries encompass the two tax parcels on which the buildings sit. These parcels overlap the rail right-of-way slightly.

Effect: No Effect

The new trackage would have no effect on the McNeil Paper Company Warehouse. Although the action would occur adjacent to a DOE property, the new trackage would be laid along existing rail alignment at the existing elevation, and no property would be acquired from within the National Register boundaries for the McNeil Paper Company Warehouse site. The new, southbound track would be added on the opposite side of the tracks from the warehouse. The McNeil warehouse was built along the rail line, and this historic geographical relationship would not be altered by the installation of new trackage nor would the views of the rail corridor from the building be affected by this action.

Action: Overhead Catenary System

The light rail line would be operated by an overhead electrical catenary system that is carried on roughly 25-foot tall, standard profile poles. As part of the original LYNX Blue Line project, the catenary system was installed to 9th Street. Next to the McNeil Paper Company Warehouse Complex, the painted, metal poles have metal arms capped by the decorative finials found within the I-277 loop. The poles are spaced at 100 to 125-foot intervals along the light rail line. For this project, additional catenary poles and wires would be installed along the second set of tracks.

Effect: No Effect

Although the installation of the catenary system introduces a minor visual element to the view shed of the McNeil Paper Company Warehouse Complex, the catenary system has no effect on the property. The two adjacent warehouses occupy an urban location, and the views from the buildings are already largely modern. The system of simple poles and wires are similar to existing overhead utilities.

Action: 9th Street Station and Signal House

The proposed 9th Street Station would be a walk-up design with roughly 15-foot tall canopies and a 300-foot long, center platform. The platform would be reached from 9th Street and a crosswalk at the north end of the platform. A walkway would run along the entire east side the station between 9th Street and 12th Street. A second walkway on the west side of the tracks would lead from the future 10th Street crosswalk on the north side of the platform to 12th Street. A utility area containing a proposed signal house would be built on the east side of the station just north of the existing electrical substation. This utility area would be enclosed by chain link fence and an eight-foot tall, masonry screen. The station proposed under the current project would be sited north of 9th Street and contained within retaining walls. (A station at 9th Street was built for the Charlotte Trolley as part of the original LYNX Blue Line Light Rail Project. This facility is located on the south side of 9th Street.)

Effect: No Effect

The construction of the proposed 9th Street Station would have no effect on the McNeil Paper Company Warehouse Complex. The station would be located one block to the north and would not require the acquisition of land from the McNeil property. In addition, the proposed station would be low-scale, at-grade facility that would not introduce noticeable visual elements into the McNeil view shed. The paper company warehouse complex occupies an urban location that already includes largely modern views. The station would have no indirect or cumulative effects on the paper company warehouse complex. The historic property is located in downtown Charlotte and already faces intense development pressures that are unrelated to the construction of the light rail station. Specifically, there would be little pressure to build large parking structures or park-and-ride lots to serve the station. The proposed station would be a walk-up facility to serve a large, existing downtown population, and there are already numerous surface parking lots in the vicinity of the station if additional parking were needed.

Action: Noise and Vibrations

The light rail trains in the vicinity of the McNeil Paper Company Complex would travel at no more than the 25 miles per hour allowed in the center city. Crossing gates have been installed at the intersection of the light rail line and 8th Street, and horns would not be required for this crossing (train bell is used instead). There would be public address announcements at 9th Street Station.

Effect: No Effect

The proposed light rail system would have no noise or vibration effects on the McNeil Paper Company Complex site. The light rail trains would be quieter than the freight trains that have historically operated in this area, and the slow speeds of the trains in the center city would lessen any operational noise near the property. Although there would be announcements at the station one block to the north, these should have a minimal effect on the McNeil property which already occupies an urban, center city location.

Action: Safety and Warning Equipment

Crossing gates would be used to protect the at-grade crossing of 8th Street and the light proposed light rail line, situated at the southwest corner of the McNeil Paper Company Warehouse Complex property.

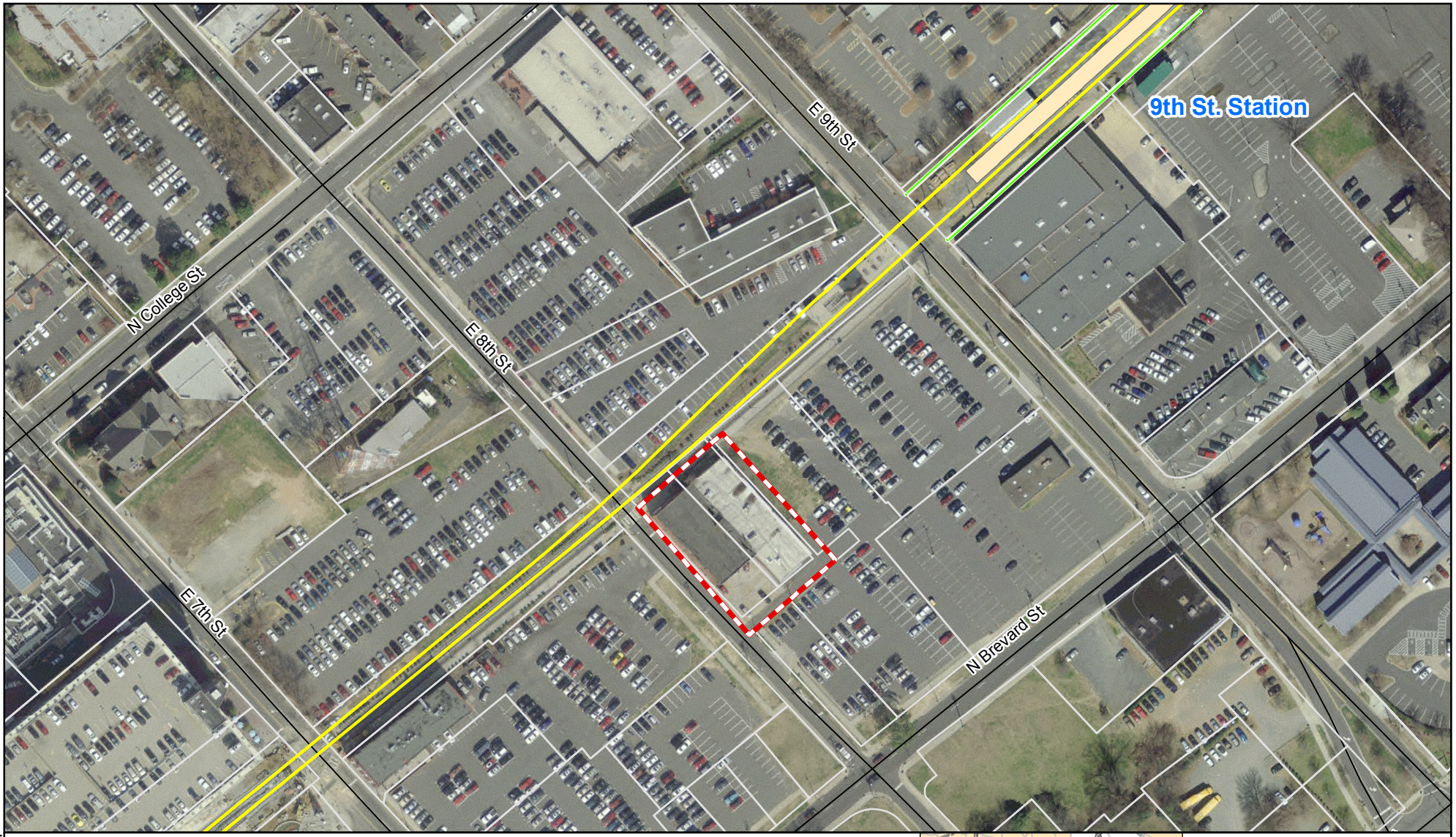
Effect: No Effect

The McNeil Paper Company Warehouse Complex sits one block north of the existing LYNX Blue Line terminus, and crossing gates have already been installed at this crossing as part of the original Blue Line project. No additional safety equipment would be needed at this location.

LYNX Blue Line Extension

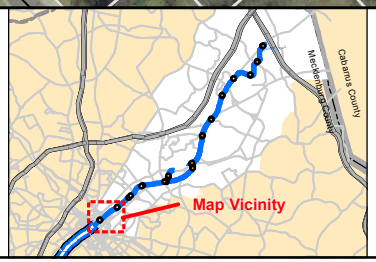
Figure 3a

McNeil Paper Company Warehouse Complex



Legend

- Proposed Light Rail Alternative
- Design Option
- Proposed Structures
- Proposed Station Platforms
- Proposed Right-of-Way
- Proposed Retaining Walls
- Proposed Signal House
- Proposed Substation
- Proposed Park-and-Ride Facilities
- Streams
- Railroad
- Roads
- Historic Resource Site
- Railroad Right-of-Way
- Parcels



75 37.5 0 75

Feet

1 inch equals 150 feet

Data Source: Mattson Alexander, Charlotte Area Transit System, STV/RWA, Mecklenburg County GIS Aerial (2007)

McNeil_Paper_Company_3a_Rev00.pdf

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Plate 3. McNeil Paper Company Warehouse Complex, Looking North Along the Existing Light Rail Line Towards McNeil Warehouse (Crossing Gates at 8th Street).

Plate 4. McNeil Paper Company Warehouse Complex, Existing Trolley Line, Overhead Catenary System and Crossing Gates, Looking Northeast Across 8th Street.

Plate 5. McNeil Paper Company Warehouse Complex, Looking East Across Existing Trolley Line.

Plate 6. McNeil Paper Company Warehouse Complex, Existing 9th Street Trolley Station and Overhead Catenary System, Looking South.

Plate 7. McNeil Paper Company Warehouse Complex, Existing 9th Street Trolley Station (McNeil Paper Company Warehouse Complex in Background), Looking Southeast.

Plate 8. McNeil Paper Company Warehouse Complex, Existing Crossing Case and Proposed Site of 9th Street Station, Looking North.

4. Orient Manufacturing Company/Chadwick-Hoskins No. 3, Charlotte, Mecklenburg County

Action: New Track Installation and Right-of-Way Acquisition

The proposed CATS LYNX Blue Line Extension, Northeast Corridor would have its southern terminus at the existing LYNX Blue Line 7th Street Station in Center City Charlotte, four blocks south of Orient Manufacturing Company/Chadwick-Hoskins No.3. Two tracks would be installed within the existing railroad right-of-way on the west side of the Orient Manufacturing Company site to accommodate both northbound and southbound light rail traffic (see **Figure 4a; Plates 9-13**). Alongside the Orient Manufacturing property, the track installation would occur at the existing grade until approximately 100 feet north of 12th Street where the line would begin a gradual elevated approach to a bridge over the CSX rail line at the northeast corner of the mill site (see **Figure 4b**). The bridge would be roughly 35 feet above the existing grade. The elevated approach would be supported by retaining walls, 32 feet tall, that would be constructed of modular, concrete panels. The eastern retaining wall, the northbound light rail line and the CSX bridge would be built just within the National Register boundaries for the Orient Manufacturing Company.

Both a designated local landmark and a National Register property, the Orient Manufacturing Company/Chadwick-Hoskins No. 3 consists of a number of attached and freestanding, brick buildings, some of which are modern structures added to the site during a certified rehabilitation of the mill complex. On the west side, the National Register boundary extends into the existing rail right-of-way although none of the buildings lies within the right-of-way.

Effect: No Adverse Effect

The installation of new tracks would have no adverse effect on the Orient Manufacturing Company/Chadwick-Hoskins No. 3. Although the action would occur within the boundaries of a National Register property, the new tracks would be built within existing railroad right-of-way which has always overlapped the parcel boundaries of the historic mill. Furthermore, the transit tracks would be constructed outside the fence that now encloses all the buildings associated with the former mill complex. The new tracks would begin following an elevated alignment roughly midway along the shared boundary, rising to a maximum height of approximately 35 feet above the existing elevation, but this maximum height would be reached only at the bridge crossing of the CSX corridor at the northwest corner of the Orient property. This partially above grade line would have only a minimal effect on the views west from the mill which have been historically industrial and rail oriented. Views to the south (towards Center City Charlotte) are now blocked by the elevated I-277 (Brookshire Freeway).

Action: Overhead Catenary System

The light rail line would be operated by an overhead electrical catenary system that would be carried on roughly 25-foot tall, standard profile poles. The painted, metal poles would have metal arms. The poles would be spaced at 100 to 125-foot intervals along the light rail line.

Effect: No Effect

Although the installation of the catenary system would introduce a minor visual element to the view shed of the Orient Manufacturing Company property, the catenary system would have no effect on the property. The warehouse occupies an urban location, and the views from the property are already largely modern. The system of simple poles and wires would be similar to existing overhead utilities in the area.

Action: Signal House
A signal house would be built on the west side of the proposed light rail line across 12th Street from the Orient mill. The signal house would stand 10 feet tall and would measure 10 feet wide and 30 feet long.

Effect: No Effect
The construction of a signal house across 12th Street from the historic mill would have no effect on the property. The 10-foot tall signal house would be minor element in the view shed of the mill which is now dominated by the elevated I-277/Brookshire Boulevard. Furthermore, most of the views from the mill property are already modern.

Action: Bridge over CSX Railroad Corridor and Elevated Line
A bridge to carry the light rail lines over the below grade CSX rail corridor would be constructed at the northwest corner of the Orient Manufacturing Company/Chadwick-Hoskins No. 3 property, just inside the National Register boundaries. The 87-foot long, reinforced concrete, deck girder span would have a vertical clearance of 23 feet over the CSX tracks. The light rail line would have a gradual elevated approach to the bridge which, at its highest point, would be roughly 35 feet above the existing grade. As described above, the elevated approach would be carried on a viaduct supported by retaining walls constructed of modular concrete panels.

Effect: No Adverse Effect
The new bridge and its elevated approach would have no adverse effect on the Orient Manufacturing Company/Chadwick-Hoskins No. 3. Although the action would occur within the boundaries of a National Register property, the elevated approach would be built within existing rail right-of-way which has always overlapped the parcel boundaries of the historic mill. Furthermore, the line and the bridge would be constructed beyond any buildings associated with the former mill complex. The bridge would be built at one of the rear corners of the property with multiple story modern construction buffering the views of the new span from several of the historic buildings on the site. The elevated line would be roughly 35 feet above the existing elevation, but this maximum height would be reached only at the bridge crossing of the CSX corridor. The line would have only a minimal effect on the views west from the historic mill which are now primarily modern.

Action: Noise and Vibrations
The light rail trains in the vicinity of the Orient Manufacturing Company site would travel at probably no more than 25 to 35 miles per hour. The mill property is situated just north of the I-277 center city loop where trains may travel at no more than 25 miles per hour. Crossing gates would be installed at the junction of the light rail line and 12th Street.

Effect: No Effect
The proposed light rail system would have no noise or vibration effects on the Orient Manufacturing Company site because the light rail trains would be quieter than the freight trains that have historically operated in this area. In addition, the slow speeds of the southbound trains (leaving either the nearby Parkwood or the 16th Street Design Option Station) or the northbound trains coming from downtown would lessen any operational noise near the Orient Manufacturing Company property.

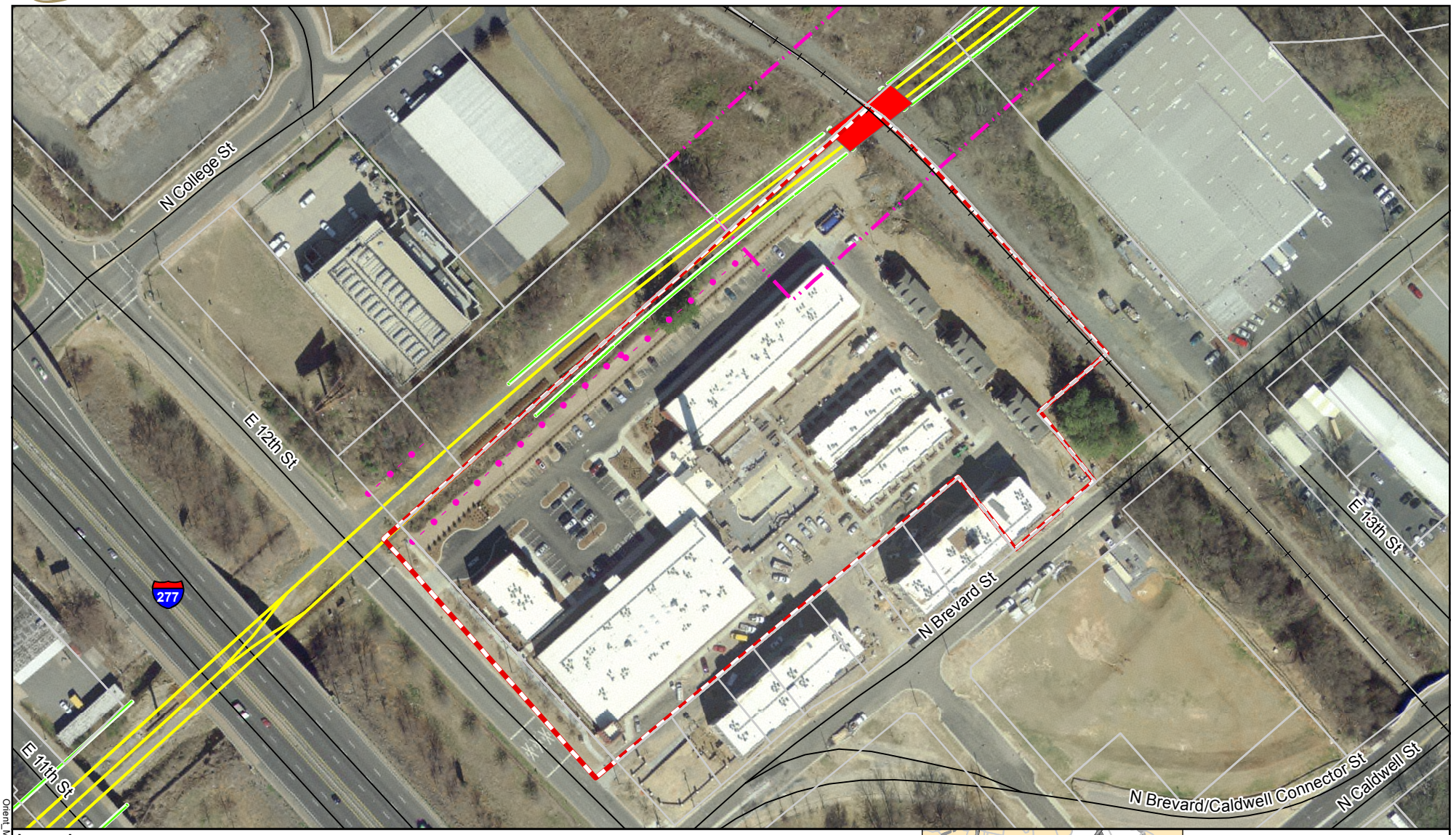
Action: Safety and Warning Equipment
Crossing gates are already located at the crossing of 12th Street and the proposed light rail line, situated at the southwest corner of the Orient Manufacturing Company property. The existing crossing gates are non-operational and would likely be replaced with operational crossing gates.

Effect: No Effect
Crossing gates have already been installed at this crossing, and no additional safety equipment would be needed at this location.

LYNX Blue Line Extension

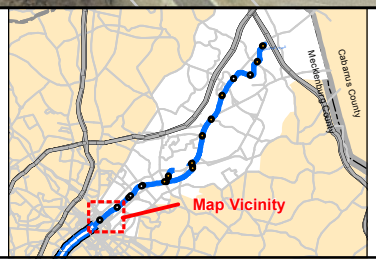
Figure 4a

Orient Manufacturing Company/Chadwick-Hoskins No.3



Legend

- Proposed Light Rail Alternative
- Design Option
- Proposed Structures
- Proposed Station Platforms
- Proposed Right-of-Way
- Proposed Retaining Walls
- Proposed Signal House
- Proposed Substation
- Proposed Park-and-Ride Facilities
- Streams
- Railroad
- Roads
- Historic Resource Site
- Railroad Right-of-Way
- Parcels



N

75 37.5 0 75

Feet

1 inch equals 150 feet

Data Source: Mattson Alexander, Charlotte Area Transit System, STV/RWA, Mecklenburg County GIS Aerial (2007)

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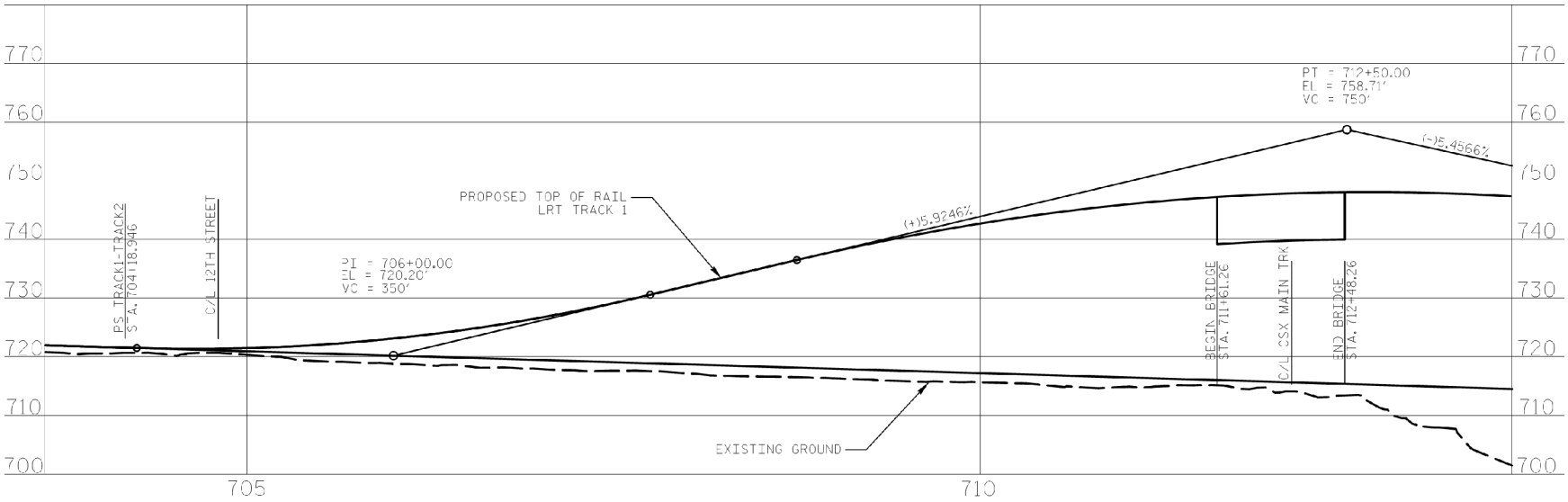
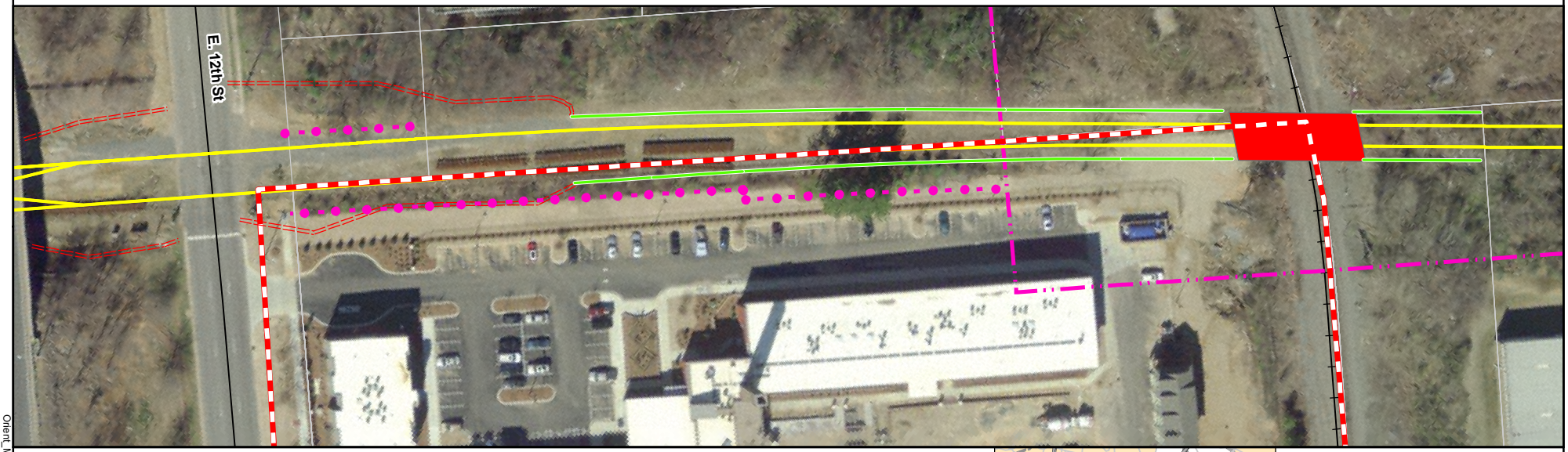
LYNX Blue Line Extension

Figure 4b

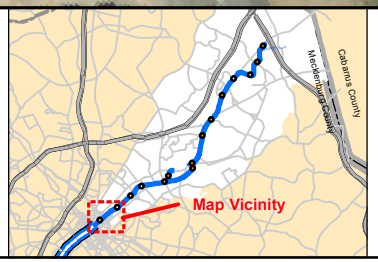
Orient Manufacturing Company/Chadwick-Hoskins No.3





Legend

- Proposed Light Rail Alternative
- Design Option
- Proposed Structures
- Proposed Station Platforms
- Proposed Right-of-Way
- Proposed Retaining Walls
- Proposed Signal House
- Proposed Substation
- Proposed Park-and-Ride Facilities
- Streams
- Railroad
- Roads
- Historic Resource Site
- Railroad Right-of-Way
- Proposed Slope Stakes
- Sidewalk
- Parcels



50 25 0 50

Feet

1 inch equals 100 feet

Data Source: Mattson Alexander, Charlotte Area Transit System, STV/RWA, Mecklenburg County GIS Aerial (2007)

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Plate 9. Orient Manufacturing Company/Chadwick-Hoskins No. 3, Looking Northeast Across Existing Railroad Tracks Towards Modern Apartment Building on Orient Manufacturing Company Site.

Plate 10. Orient Manufacturing Company/Chadwick-Hoskins No. 3, Looking East Along 12th Street Across Existing Railroad Tracks (Crossing Gates Visible).

Plate 11. Orient Manufacturing Company/Chadwick-Hoskins No. 3, Northwest Corner, Looking Towards Site of Proposed Bridge Over CSX Railway Line.

Plate 12. Orient Manufacturing Company/Chadwick-Hoskins No. 3, Modern Apartment Building (on Left) and Historic Weaving Building (on Right), Looking East Along Rear of Property.

Plate 13. Orient Manufacturing Company/Chadwick-Hoskins No. 3, Historic Weaving Building (on Left) with Parking Along West Side of Property, Looking South.

32. Chadbourn Hosiery Mills, Charlotte, Mecklenburg County

Action: New Track Installation, New Alignment and Right-of-Way Acquisition
In the vicinity of Chadbourn Hosiery Mill, the proposed LYNX Blue Line Extension light rail system would occupy an existing six to eight-foot tall berm across North Brevard Street from the mill (see **Figure 5a; Plates 14-17**). The existing unused rail spur track would be abandoned. Two new tracks for northbound and southbound traffic would be installed, and the elevated tracks would be supported by retaining walls. (Right-of-way would be acquired on the west side of the proposed track alignment, away from North Brevard Street and the Chadbourn site.)

The Chadbourn Hosiery Mills consists of a large, masonry principal building with a detached boiler house, and the site was determined eligible for the National Register as result of the Phase II historic resources survey for this project. The National Register boundaries conform to the existing tax parcel for the mill which are defined by North Brevard Street, Jordan Place and Charles Avenue. As noted above, the mill sits across North Brevard Street from the proposed light rail line.

Effect: No Effect
The installation of new tracks would have no effect on the Chadbourn Hosiery Mills. The action would occur across North Brevard Street from the former Chadbourn mill property and thus would not require the acquisition of any property from within the National Register boundaries for Chadbourn. In addition, the new trackage would be laid just to the west of the existing tracks at about the grade of the existing six to eight-foot tall berm, and views of the light rail lines from the mill would not change substantially. Furthermore, the mill was designed with windowless elevations which would limit visual effects. Chadbourn mill was built facing the rail line and the Southern Railway yards beyond the rail corridor, and this historic geographical relationship would not be altered by the installation of new trackage nor would the views of the rail corridor from the mill be affected by this action.

Action: Overhead Catenary System
The light rail line would be operated by an overhead electrical catenary system that would be carried on roughly 25-foot tall, standard profile poles. The painted, metal poles would have metal arms. The poles would be spaced at 100 to 125-foot intervals along the light rail line.

Effect: No Effect
The installation of the catenary system would introduce only a minor visual element to the view shed of the Chadbourn Hosiery Mills property and would have no effect on the property. The mill is located in an industrial area, facing the former Southern Railway yards and a large-scale Duke Energy electrical substation. The system of simple poles and wires would be similar to existing overhead utilities in the area but smaller in scale.

Action: Little Sugar Creek Bridges and Electrical Substation
An electrical substation and a pair of roughly 130-foot long bridges over Little Sugar Creek would be built just south of Chadbourn mill on the west side of North Brevard Street. The bridges would be reinforced concrete, deck girder spans that would be supported by reinforced concrete portal piers on either side of the creek. The spans would be built at the existing grade. The substation would be a one story, utilitarian building measuring 30 feet by 40 feet with a flat

roof and metal siding. The substation would need to be situated on a 40-foot by 60-foot lot to accommodate truck entry. The substation would be located on the southwest side of the bridge.

Effect: No Effect
The construction of the bridges over Little Sugar Creek and an electrical substation would have no effect on the Chadbourn Hosiery Mills property. The action would occur south of the mill on the opposite side of North Brevard Street, and the bridge and 10-foot tall substation would, at most, introduce only minor elements to the mill view shed. The small substation would a far smaller version of the large-scale Duke Energy electrical substation sited directly across from the Chadbourn property.

Action: Duke Energy Access Road
With the construction of the light rail lines, access to the existing Duke Energy substation across North Brevard Street from the mill would be cut off. A new access road would be built, beginning at the intersection of North Brevard Street and Mallory Street and looping south under the elevated light rail line and running along the west side of the proposed light rail line (see **Figure 6a**). The new access road would be a private, at-grade, 25-foot wide driveway that could accommodate heavy equipment.

Effect: No Effect
The construction of a new private road to serve the Duke Energy substation would have no effect on the Chadbourn Hosiery Mills. The action would occur across North Brevard Street north of the former Chadbourn mill, and thus would not require the acquisition of any property from within the National Register boundaries for Chadbourn. In addition, the new access road would be built at grade and would not alter views from the mill. The road would not introduce audible elements that would affect Chadbourn mill.

Action: Noise and Vibrations
The light rail trains in the vicinity of the Chadbourn Hosiery Mills would travel at no more than 40 miles per hour with trains either decelerating or accelerating at the 25th Street Station across from the mill. Because there would be no grade crossings in the vicinity of Chadbourn, horns would not be required. There would be public address announcements at the station.

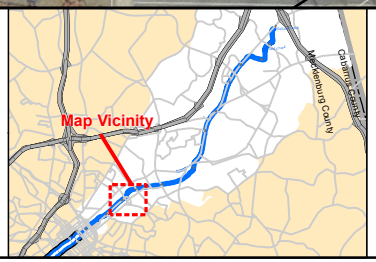
Effect: No Effect
The proposed light rail system would have no noise or vibration effects on the Chadbourn Hosiery Mills. Although there would be announcements at the station, these should have a minimal effect on the mill. The mill was built across the street from a large-scale rail yards so industrial and rail-related noises are part of its historic milieu. Furthermore, the windowless elevations of the building would reduce any noise impacts. Light rail trains would also be quieter than the freight trains currently found in the area. Finally, the light rail trains would be travelling at slow speeds in the vicinity of the 25th Street Station which would lessen any operational noise near Chadbourn Hosiery Mills.

LYNX Blue Line Extension

Figure 5a
Chadbourn Hosiery Mills

Legend

- Proposed Light Rail Alternative
- Design Option
- Proposed Structures
- Proposed Station Platforms
- Proposed Right-of-Way
- Proposed Retaining Walls
- Proposed Signal House
- Proposed Substation
- Proposed Park-and-Ride Facilities
- Streams
- Railroad
- Roads
- Historic Resource Site
- Railroad Right-of-Way
- Parcels



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Feet

1 inch = 150 feet

Data Source: Mattson Alexander, Charlotte Area Transit System, STV/RWA, Mecklenburg County GIS Aerial (2007)

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Chadbourn_Hosiery_Mills_5a_Rev.00.pdf

Plate 14. Chadbourn Hosiery Mills, Aerial View of Chadbourn Hosiery Mills (Circled), Duke Energy Substation (Right Foreground), Norfolk Southern Rail Yards and Center City Charlotte (Background), Looking South Along Brevard Street.

Plate 15. Chadbourn Hosiery Mills, Looking Northeast From North Brevard Street and Jordan Place.

Plate 16. Chadbourn Hosiery Mills, West Elevation (Façade), Facing North Brevard Street.

Plate 17. Chadbourn Hosiery Mills, View of Existing Rail Line and Duke Energy Substation From North Brevard Street and Jordan Place, Looking North.

35. North Charlotte Historic District, Charlotte, Mecklenburg County

Action: New Track Installation, New Alignment, Right-of-Way Acquisition and Bridge—North Brevard Street to 36th Street

In the vicinity of the North Charlotte Historic District, the proposed LYNX Blue Line Extension would include two lines that would run northwest from its alignment parallel to North Brevard Street before turning east to parallel the south side of the existing rail corridor (see **Figures 6a-6c; Plates 18-24**). Right-of-way would be acquired as the line makes the transition from North Brevard Street to the rail corridor. In this area, the light rail line would pass under the 30th Street viaduct before rising to a height of approximately 45 feet above grade as the route crosses over the proposed Duke Energy Access Road and the Aberdeen, Carolina, and Western Railway (AC&W) line. A reinforced concrete, deck girder bridge with two spans would carry the light rail lines over the proposed Duke Energy road and the AC&W tracks. Reinforced concrete portal piers would provide intermediate support for the 113-foot long bridge which would be roughly 35 feet above grade. After crossing the AC&W, the line curves to the east to follow the south (North Charlotte) side of the existing rail right-of-way. In this area, the Norfolk Southern freight tracks would be moved north of their existing location and would lie on the north side of the Light Rail Alternative. This action is described below in further detail.

As the proposed line curves east to parallel the rail corridor, the Light Rail Alternative would slope down to 36th Street where the line would be six to eight feet above the existing grade. This segment of the line would be supported by retaining walls of modular concrete panels. The Light Rail Alternative would lie within the existing rail right-of-way, but near the 36th Street junction, the National Register boundaries for the North Charlotte Historic District overlap the existing rail right-of-way. In addition, the rail right-of-way skirts the rear elevation of the Grinnell Manufacturing Company Building, a contributing resource to the historic district.

A National Register historic district, North Charlotte encompasses a large collection of industrial, commercial and residential properties associated with the North Charlotte textile mill community that emerged in the late 19th and early 20th centuries. The National Register boundaries are located south of the proposed light rail alternative except in the vicinity of 36th Street, as noted above.

Effect: Adverse Effect

The installation of new tracks would have no adverse effect on the North Charlotte Historic District until the route reaches the former Grinnell property near the 36th Street junction. West of Grinnell, the new transit lines, the bridges to support the elevated system, and the retaining walls would all be built outside the boundaries of the National Register historic district, and thus the actions would not require the acquisition of property from within the historic district boundaries. Views from the historic district would also not be greatly affected by the construction of the transit lines. The proposed line would cross through former rail yards so that views of the proposed transit lines would be similar to current views from the historic district. In addition, the AC&W line that delineates the northern boundary of the North Charlotte Historic District in this area has historically formed a barrier between the neighborhood and the rail corridor, and the buildings that line the northern boundary all face away from the rail corridor, further minimizing any visual effects.

However, portions of the proposed Light Rail Alternative alignment, and the retaining walls supporting the line, would lie within the boundary for the North Charlotte Historic District, roughly 20 feet away from the Grinnell building. Although the action would occur within the existing rail

right-of-way and no land acquisition would be required, the rear loading area at Grinnell, a key historic component of this industrial site, would be eliminated. Grinnell was a fabrication and distribution company, and the rear truck loading area (although not currently in use) was an integral part of the historic layout and function of the site. Furthermore, the historic connection between the Grinnell building and the rail line would be cut off, visually and physically, by the retaining walls. Thus, because of these effects on the Grinnell property, the proposed line and retaining walls would have an adverse effect on the historic district.

Action: Depression of 36th Street

As part of the Light Rail Alternative, CATS would also undertake the depression of 36th Street under the existing rail right-of-way from the AC&W line to Cullman Avenue (see **Figure 6c**). The grade separation is being proposed because this junction is currently crossed by 55 freight trains per day, and the addition of light rail service would cause traffic delays and safety hazards at 36th Street. The grade separation at 36th Street would have a vertical clearance of 15 feet under the light rail and relocated Norfolk Southern lines (see below). The creation of this depression would require the acquisition of land along the east side of 36th Street between the AC&W line and the existing rail corridor. The acquisition would occur within the North Charlotte Historic District to accommodate retaining walls, six and ten foot wide sidewalks, two five-foot bike lanes, and two ten-foot travel lanes. These actions would take place on the Johnston Mill property (a contributing resource), but no buildings would be demolished. The proposed roadway would have a maximum seven degree descent, but the sidewalks would be less elevated with a five percent maximum grade with landings for Americans with Disabilities Act (ADA) accessibility. Because the depression of 36th Street would begin at the crossing with the AC&W Railway, access to the commercial properties located between this rail line and North Davidson Street would remain undisturbed. In addition, car access from 36th Street to the office parking lot of the former Grinnell Manufacturing Company Building property, near the AC&W line, would be maintained. The truck access for the rear truck loading area (not currently in use) would be eliminated.

Effect: Adverse Effect

The acquisition of property and the depression of one of the main streets within the boundaries of the historic district would result in an adverse effect. The grade separation of 36th Street would change one of the principal entrances to North Charlotte and would alter the historic relationship of this industrial neighborhood to the rail corridor. The grade separation would also eliminate one of the historic access points to the Grinnell property which are located along 36th Street within the segment to be depressed. However, this effect may be mitigated by keeping pedestrian and vehicular access to the site adjacent to the AC&W line and the availability of truck access from 35th Street.

Action: 36th Street Station

The proposed 36th Street Station would be a walk-up facility with a 300-foot long, center platform station with free-standing canopies roughly 15 feet tall. The station platform would extend from the west side of 36th Street over the roadway to allow for pedestrian access on the east side of 36th Street (see **Figure 6c**). A covered staircase would be constructed to provide access from the southeast quadrant with a sidewalk on the east side of 36th Street. An additional eight-foot sidewalk would be built to provide direct access to the station following the existing grade along the east side of 36th Street. The station, sidewalk canopy, and light rail line would be elevated six to ten feet above existing grades. The station, and light rail alignment,

would be located on the south side of the existing rail right-of-way. A reinforced concrete, deck girder span, measuring roughly 75 feet long would carry the station and tracks over 36th Street with a vertical clearance of 15 feet. The bridge would have full-height, cast in place, reinforced concrete abutments. As noted above, the proposed 36th Street station would be constructed just within the boundary of the North Charlotte Historic District at the Grinnell Manufacturing Company site. The sidewalks would be located within the boundaries of the historic district on the Johnston Mill property.

Effect: Adverse Effect

The construction of the 36th Street Station would have an adverse effect on the North Charlotte Historic District. The station would be constructed on the boundary of the North Charlotte Historic District, approximately 20 feet away from the rear elevation of the former Grinnell building, a contributing resource. Furthermore, the stairs and sidewalk access to the station would require the acquisition of property from Johnston Mill, another contributing resource. Views from the historic district would also be affected by the station which would be only slightly elevated above the existing grade but which would straddle 36th Street, making the station a prominent feature when looking from North Davidson Street. However, there should be no cumulative and indirect effects from the 36th Street Station. North Charlotte has become a popular neighborhood in recent decades, and with certified rehabilitations of historic buildings and new construction, the area already faces development pressures not directly related to the light rail line.

Action: Construction of New Norfolk Southern Railway Freight Line and Bridge

East of the 30th Street viaduct and extending east of the 36th Street junction, CATS would construct a new freight line for the Norfolk Southern Railway that would lie on the north side of the existing rail right-of-way (see **Figures 6b-6c**). As part of this action, a new bridge would carry the Norfolk Southern over the depressed 36th Street. The bridge would be a steel, plate girder span with full-height, cast in place, reinforced concrete abutments. The bridge would be only slightly elevated above current grade.

Effect: No Adverse Effect

The new freight line and bridge would have no adverse effect on the North Charlotte Historic District. The new tracks and span would be built outside the boundaries of the National Register historic district, and thus the construction of the bridge would not require the acquisition of property from within the historic district boundaries. Views from the historic district would also not be greatly affected by the construction of the bridge which would only be elevated six to eight feet above the existing grade. In addition, views of the relocated Norfolk Southern line and the new bridge from North Charlotte would be largely blocked by the proposed 36th Street Station. The relocation of the existing freight line and the new bridge would have no indirect or cumulative effects on the North Charlotte Historic District.

Action: New Track Installation, New Alignment, Bridge over East Craighead Road, and Electrical Substation

Between 36th Street and East Craighead Road, the proposed Light Rail Alternative would run on an elevated alignment on the south side of the existing rail right-of-way. The rail corridor is already elevated roughly eight feet above North Davidson Street which parallels the railroad to the south. In places, the proposed light rail line either skirts or lies within the boundaries of the North Charlotte Historic District (see **Figures 6c-6e**). Specifically, the line would be located

roughly 15 feet away from the rear elevation of the Mecklenburg Mill, a contributing resource to the historic district. East of Mecklenburg Mill, the North Charlotte Historic District boundary shifts to the south side of North Davidson Street, away from the Light Rail Alternative alignment. The elevated line would be supported by retaining walls of modular concrete panels. At the East Craighead Road junction, the Light Rail Alternative would cross from the south side of the existing Norfolk Southern rail line to the north side. A steel plate girder bridge with a total length of approximately 750 feet and a slight S-shaped configuration would be constructed to carry the light rail tracks over the Norfolk Southern line and the crossing with East Craighead Road. The line would be elevated roughly 50 feet above grade. Retaining walls, formed of modular concrete panels, would support the elevated alignment east and west of the bridge. An electrical substation would be built on the north side of the light rail line, east and west of East Craighead Road. The substation would be one story, utilitarian buildings measuring 30 feet by 40 feet with flat roofs and metal siding. The substations would need to be situated on 40-foot by 60-foot lots to accommodate truck entry.

Effect: No Adverse Effect

The construction of new tracks, the bridge over East Craighead Road and an electrical substation would have no adverse effect on the North Charlotte Historic District even though, in segments, the Light Rail Alternative would be built along the boundary of the historic district. Specifically, the line would be constructed along the rear property lines of both the Johnston Mill and the Mecklenburg Mill properties, but the line would not compromise the settings, entry points, function, or view sheds of these properties. Both mills were built to face North Davidson Street and back up to the rail corridor, and under the proposed design, none of the resources on these sites would be demolished. East of Mecklenburg Mill, the historic district boundary is located along the south side of North Davidson Street, and the proposed line and retaining walls would be located outside the historic district boundaries. At East Craighead Road, the new tracks, bridge and substations would also be built outside the historic district boundaries and would introduce only minor elements to the view shed of the district. The 10-foot tall substation would be built on the north side of both the existing Norfolk Southern line and the proposed light rail lines and would be largely invisible from the historic district. Finally, this segment of the new alignment, the bridge over East Craighead Road, and the substations would have no indirect or cumulative effects on the historic district.

Action: Overhead Catenary System

The light rail line would be operated by an overhead electrical catenary system that would be carried on roughly 25-foot tall, standard profile poles. The painted, metal poles would have metal arms. The poles would be spaced at 100 to 125-foot intervals along the light rail line.

Effect: No Effect

The installation of the overhead catenary system would introduce only a minor visual element to the view shed of the North Charlotte Historic District and would have no effect on the district. The district is located in an urban, industrial area, and the system of simple poles and wires would be similar to existing overhead utilities in the area.

Action: Noise and Vibrations

The light rail trains in the vicinity of the North Charlotte Historic District would travel at no more than 40 miles per hour with trains either decelerating or accelerating at the 36th Street Station. Horns would not be required at the 36th Street crossing because of the proposed grade

separation. There would be public address announcements at the station. Freight trains would no longer have to blow their horns because of the grade separation, resulting in a significant reduction in noise.

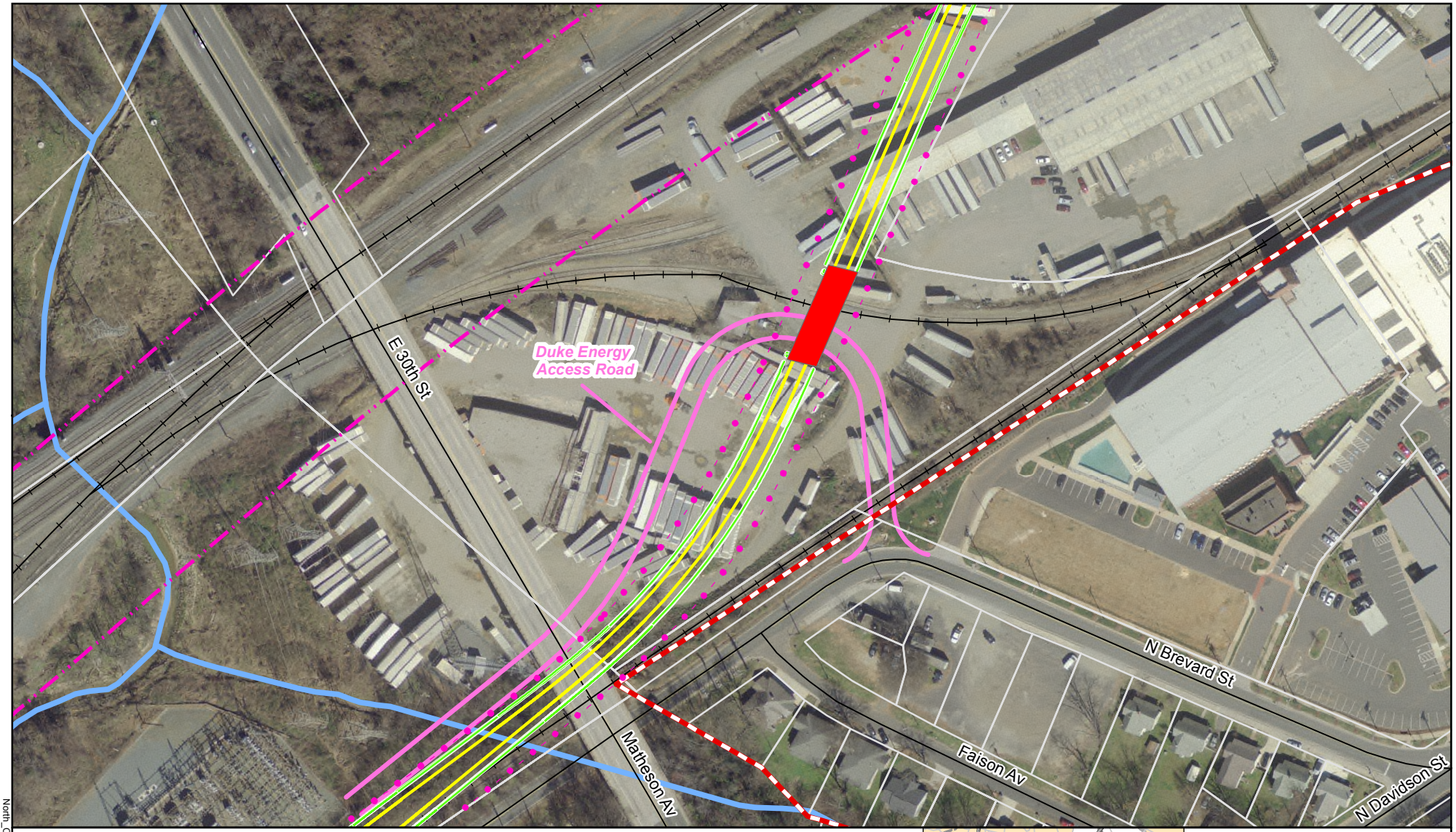
Effect: No Effect

The proposed Light Rail Alternative would have no noise or vibration effects on the North Charlotte Historic District. Although there would be public announcements at the station, these should have a minimal effect on the historic district. North Charlotte is a vibrant, urban area that already incorporates industrial and commercial land uses with both heavy automobile and rail traffic so that addition of a public address system would have little audible effect on the district. Light rail trains would also be quieter than the freight trains that currently use the line. Specifically, the light rail trains would be travelling at slow speeds in the vicinity of the 36th Street Station which would lessen any operational noise near North Charlotte. Finally, freight horn noise would be reduced due to the grade separation.

LYNX Blue Line Extension

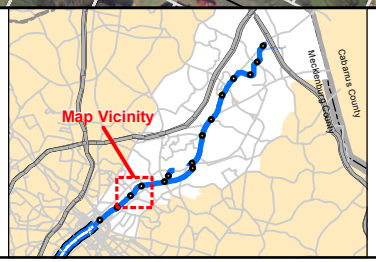
Figure 6a

North Charlotte Historic District



Legend

- Proposed Light Rail Alternative
- Design Option
- Proposed Structures
- Proposed Station Platforms
- Proposed Right-of-Way
- Proposed Retaining Walls
- Proposed Signal House
- Proposed Substation
- Proposed Park-and-Ride Facilities
- Streams
- Railroad
- Roads
- Historic Resource Site
- Railroad Right-of-Way
- Parcels



75 37.5 0 75

Feet

1 inch equals 150 feet

Data Source: Mattson Alexander, Charlotte Area Transit System, STV/RWA, Mecklenburg County GIS Aerial (2007)

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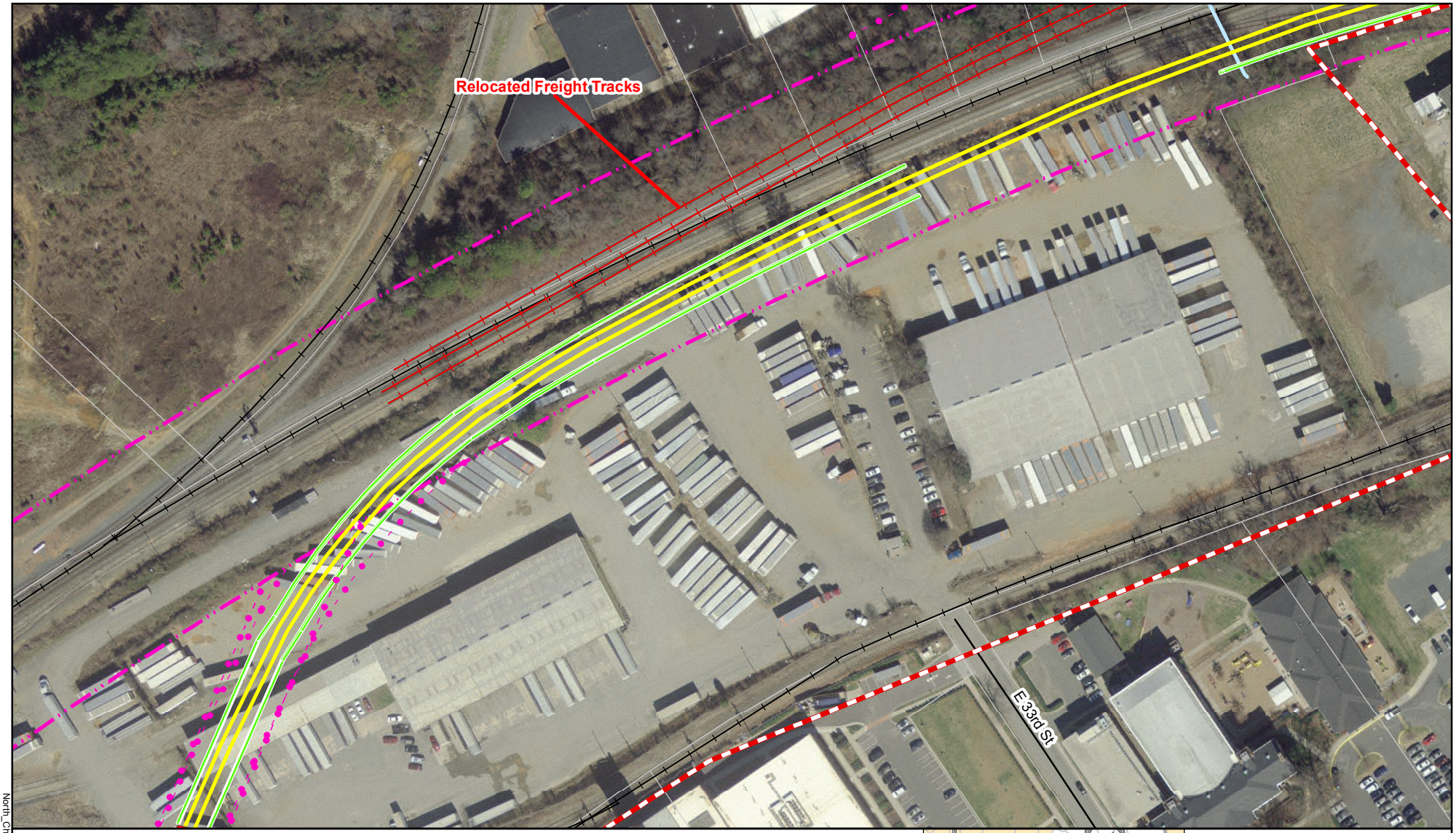
North_Charlotte_Historic_District_6a_Rev.00.pdf

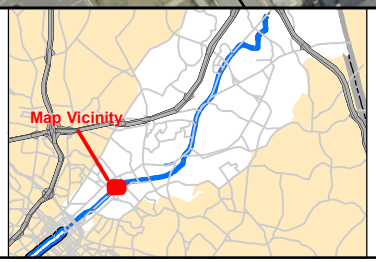
LYNX Blue Line Extension

Figure 6b
North Charlotte Historic District



Legend

- Proposed Light Rail Alternative
- Design Option
- Proposed Structures
- Proposed Station Platforms
- Proposed Right-of-Way
- Proposed Retaining Walls
- Proposed Signal House
- Proposed Substation
- Proposed Park-and-Ride Facilities
- Streams
- Railroad
- Roads
- Historic Resource Site
- Railroad Right-of-Way
- Parcels



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Feet

1 inch = 150 feet

Data Source: Mattson Alexander, Charlotte Area Transit System, STV/RWA, Mecklenburg County GIS Aerial (2007)

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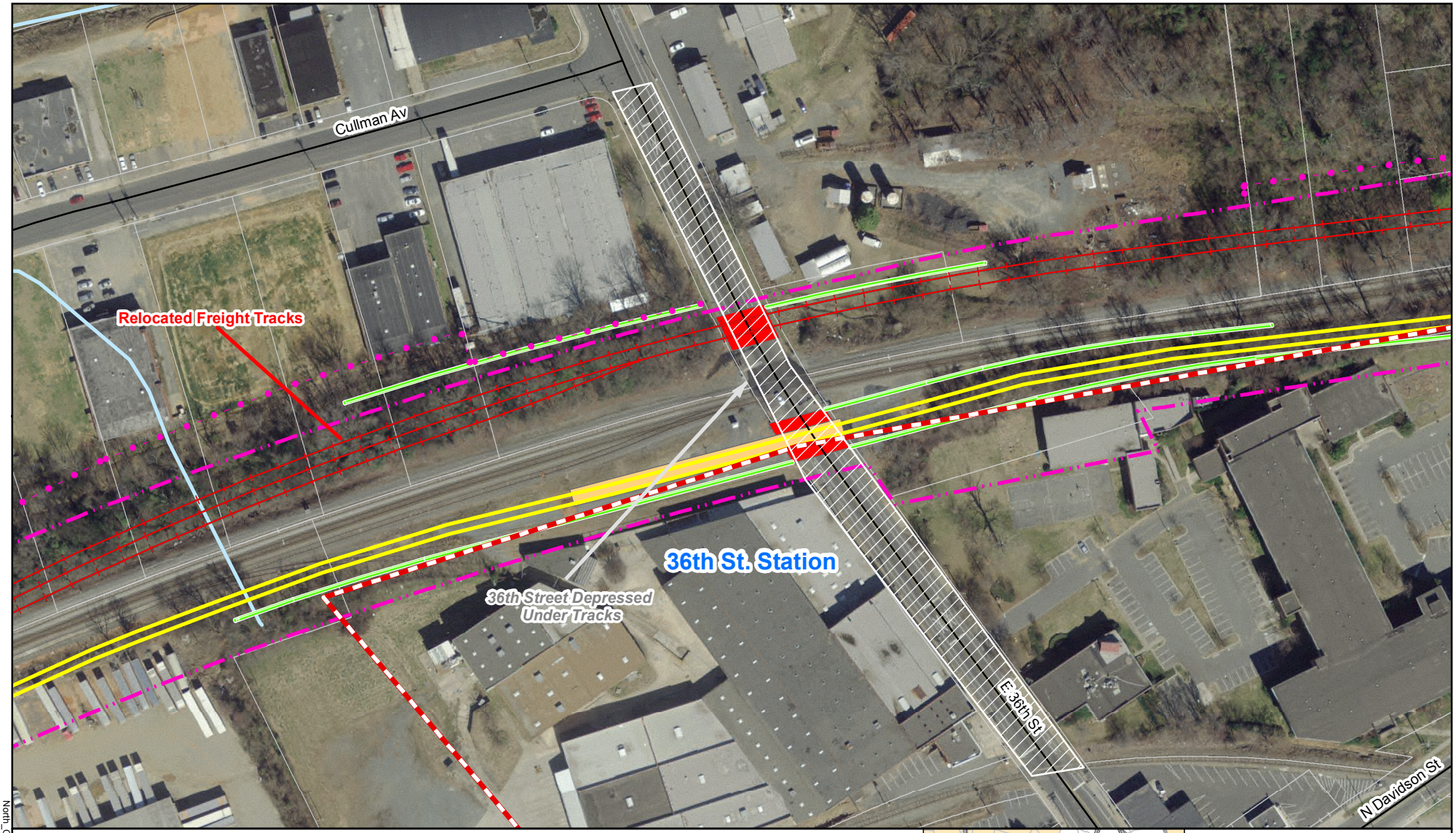
North_Charlotte_Historic_District_6b6_Rev.01.pdf

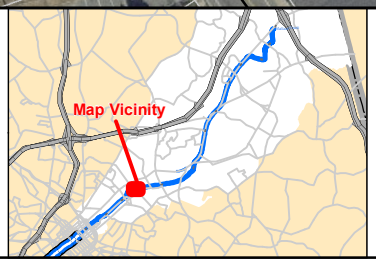
LYNX Blue Line Extension

Figure 6c
North Charlotte Historic District (LPA)



Legend

- Proposed Light Rail Alternative
- Design Option
- Proposed Structures
- Proposed Station Platforms
- Proposed Right-of-Way
- Proposed Retaining Walls
- Proposed Signal House
- Proposed Substation
- Proposed Park-and-Ride Facilities
- Streams
- Railroad
- Roads
- Historic Resource Site
- Railroad Right-of-Way
- Parcels



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Feet

1 inch = 150 feet

Data Source: Mattson Alexander, Charlotte Area Transit System, STV/RWA, Mecklenburg County GIS Aerial (2007)

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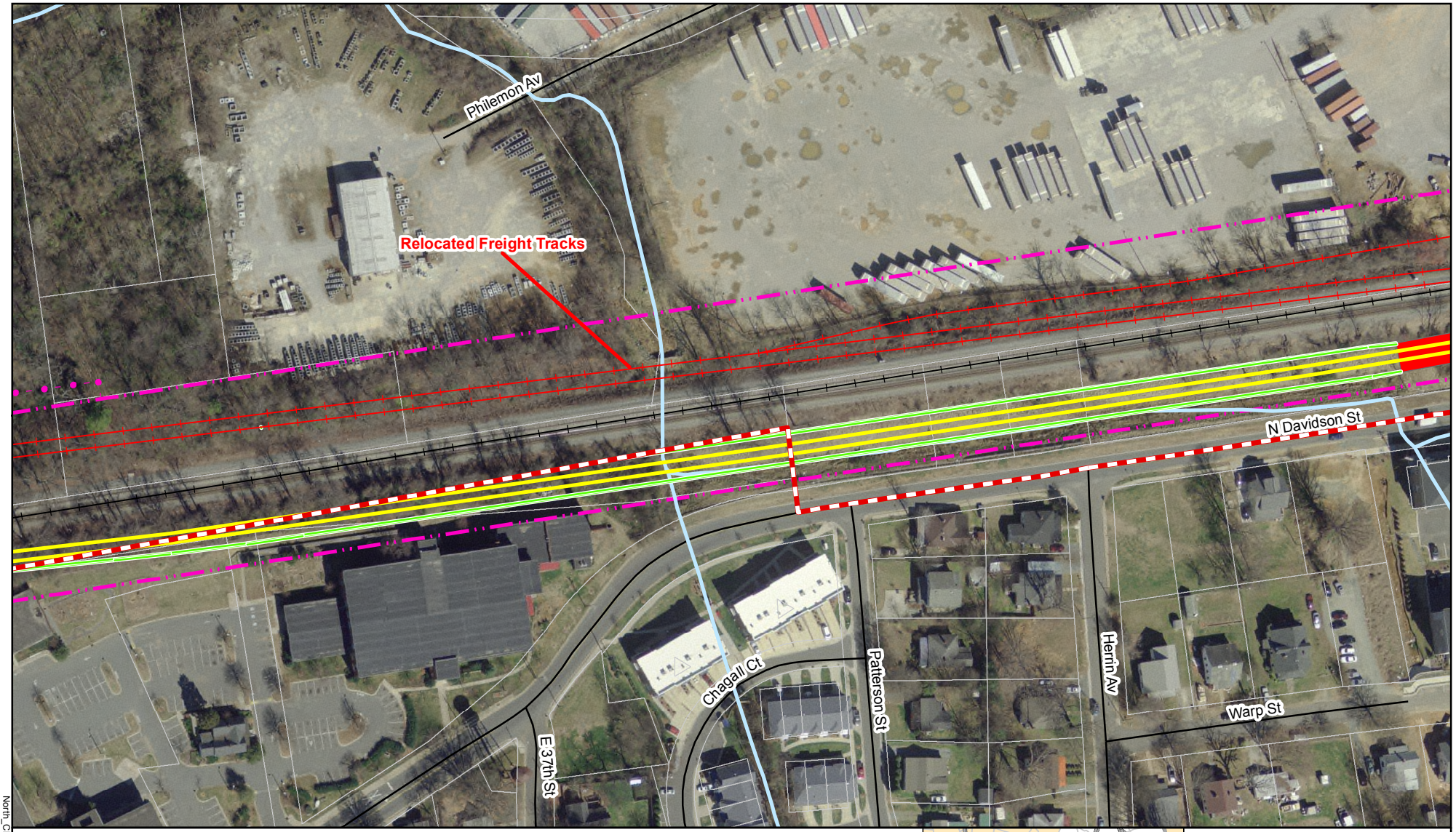
North_Charlotte_Historic_District_6c_Rev.00.pdf

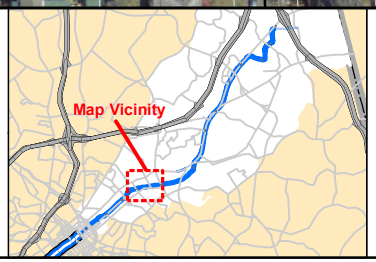
LYNX Blue Line Extension

Figure 6d
North Charlotte Historic District



Legend

- Proposed Light Rail Alternative
- Design Option
- Proposed Structures
- Proposed Station Platforms
- Proposed Right-of-Way
- Proposed Retaining Walls
- Proposed Signal House
- Proposed Substation
- Proposed Park-and-Ride Facilities
- Streams
- Railroad
- Roads
- Historic Resource Site
- Railroad Right-of-Way
- Parcels



75 37.5 0 75

Feet

1 inch = 150 feet

Data Source: Mattson Alexander, Charlotte Area Transit System, STV/RWA, Mecklenburg County GIS Aerial (2007)

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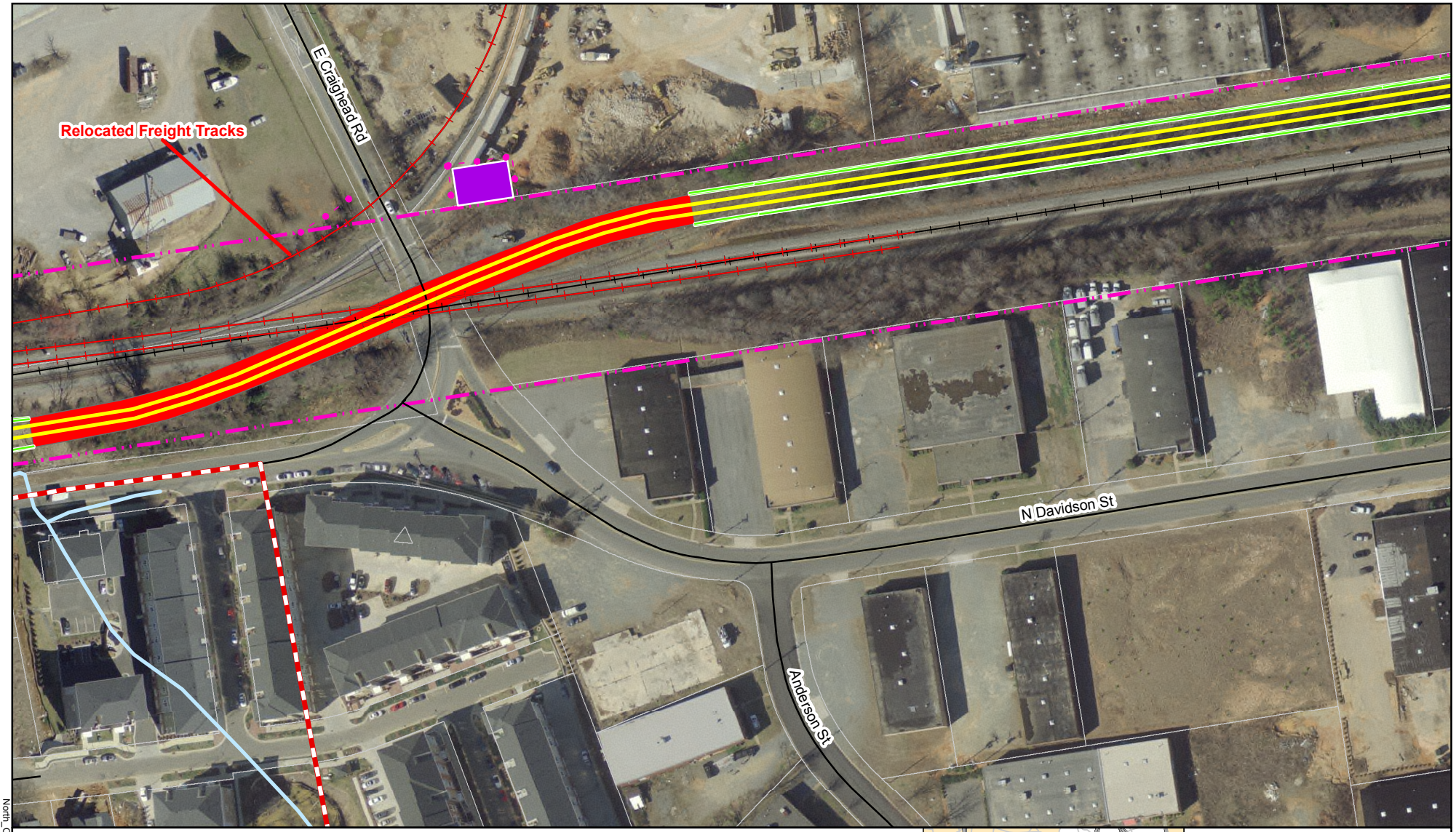
North_Charlotte_Historic_District_6d_Rev01.pdf

LYNX Blue Line Extension

Figure 6e
North Charlotte Historic District



Legend

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- Design Option
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- Proposed Station Platforms
- Proposed Right-of-Way
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- Proposed Signal House
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- Roads
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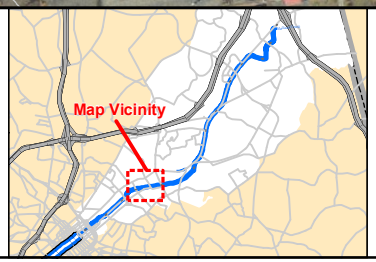

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Feet

1 inch = 150 feet

Data Source: Mattson Alexander, Charlotte Area Transit System, STV/RWA, Mecklenburg County GIS Aerial (2007)

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North_Charlotte_Historic_District_6e_Rev.01.pdf

Plate 18. North Charlotte Historic District, Highland Park No. 3, Looking Northeast From North Brevard Street and Proposed Entrance to Duke Energy Access Road.

Plate 19. North Charlotte Historic District, Houses on Faison Avenue Near Proposed Entrance to Duke Energy Access Road (30th Street Viaduct Visible in Background), Looking Southwest.

Plate 20. North Charlotte Historic District, Looking North on 36th Street From AC&W Line (Terminus of Proposed 36th Street Depression) with Grinnell Manufacturing Company Building on Left and Johnston Mill Building on Right.

Plate 21. North Charlotte Historic District, Commercial Buildings on 36th Street Looking Southeast From Grinnell Manufacturing Company Site.

Plate 22. North Charlotte Historic District, Junction of 36th Street and Railroad Corridor, Looking South into Historic District (Grinnell Manufacturing Company Building on Right).

Plate 23. North Charlotte Historic District, Grinnell Manufacturing Company Building, Proposed Site of Light Rail Alternative and 36th Street Station, Looking Northwest.

Plate 24. North Charlotte Historic District, Rear Elevation of Grinnell Manufacturing Company Building, Proposed Location of Light Rail Alternative and 36th Street Station, Looking Southwest.

49. Herrin Brothers Coal and Ice Company Complex, Charlotte, Mecklenburg County

Action: New Track Installation and New Alignment

In the vicinity of Herrin Brothers Coal and Ice Company Complex, the proposed Light Rail Alternative would include two lines of new trackage that would run on the south side of the existing rail corridor within the existing rail right-of-way (see **Figures 7a-7b; Plates 25-29**). At the 36th Street junction, the proposed line would be six to ten feet above the existing grade and supported by retaining walls of modular concrete panels. The Light Rail Alternative would lie within the existing rail right-of-way outside the National Register boundaries for Herrin Brothers.

Determined eligible for the National Register as a result of the Phase II investigation for this project, Herrin Brothers encompasses a large collection of detached buildings and structures associated with coal distribution and ice production during the early 20th century. Herrin Brothers sits on the opposite side of the Norfolk Southern Railway corridor from North Charlotte. The National Register boundaries for Herrin Brothers conform to the current tax parcel which, in sections, overlaps with the existing rail right-of-way.

Effect: No Effect

The installation of new tracks and retaining walls for the Light Rail Alternative would have no effect on the Herrin Brothers Coal and Ice Company Complex. The new transit line and the retaining walls would all be built outside the National Register boundaries for Herrin Brothers, and thus no property would be required from within the National Register boundaries and no buildings demolished. Views from the Herrin Brothers site would also not be greatly affected by the construction of the Light Rail Alternative which would be located on the south side of the existing rail corridor, away from Herrin Brothers. Temporary construction easements would be needed, but these would have no permanent impact on the coal and ice company site.

Action: Depression of 36th Street

As part of the Light Rail Alternative, CATS would also undertake the depression of 36th Street under the existing rail right-of-way from the AC&W line to Cullman Avenue. The grade separation is being proposed because this junction is currently crossed by 55 freight trains per day, and the addition of light rail service would cause traffic delays and safety hazards at 36th Street. The grade separation at 36th Street would have a vertical clearance of 15 feet under the light rail and relocated Norfolk Southern lines (see below). Along 36th Street adjacent to the Herrin Brothers site, two ten-foot travel lanes, five-foot bike lanes, eight-foot sidewalks, an eight-foot planting strip, and retaining walls would be constructed within the existing road right-of-way. No land would be acquired from Herrin Brothers for the retaining walls and no buildings would be demolished. Temporary construction easements would be needed, but these would have no permanent impact on the coal and ice company site.The proposed roadway would have a maximum seven degree descent, with a 0.5 degree descent on the west side of the rail bridge. Access to the Herrin Brothers site is located opposite Cullman Avenue, and this driveway opening would remain.

Effect: No Adverse Effect

Although the depression of 36th Street would occur next to the Herrin Brothers site, this grade separation project would not require the acquisition of any land or the demolition of any resources from the Herrin Brothers property. In addition, access to the site, the function of the property, and views should not be greatly altered. Temporary construction easements would be needed, but these would have no permanent effect on the Herrin Brothers property. Finally,

there should be no indirect or cumulative effects from the depression of 36th Street. The grade separation and sidewalks would improve access from Herrin Brothers to North Charlotte, and thereby might increase development pressure on the site, but this property is already situated close to the popular neighborhood that has been undergoing certified rehabilitations and redevelopments in recent years. The grade separation should not greatly increase these pressures.

Action: 36th Street Station

A station is proposed for the 36th Street junction that would be located on the south side of the existing rail corridor away from the Herrin Brothers Coal and Ice Company Complex. The station would be a walk-up facility with a 300-foot long, center platform station with free-standing canopies roughly 15 feet tall. The station platform would extend from the west side of 36th Street over the roadway to allow for pedestrian access on the east side of 36th Street. A covered staircase would be accessed from the southeast quadrant (the North Charlotte side) with a sidewalk on the east side of 36th Street. The station, sidewalk canopy and rail line would be elevated six to ten feet above the existing grade. A reinforced concrete, deck girder span, measuring roughly 75 feet long would carry the station and tracks over 36th Street with a vertical clearance of 15 feet. The bridge would have full-height, cast in place, reinforced concrete abutments.

Effect: No Adverse Effect

The construction of the 36th Street Station would have no adverse effect on the Herrin Brothers Coal and Ice Company Complex. The station would be constructed on the south side of the rail corridor, away from Herrin Brothers, and the construction of the station would not require the acquisition of property or buildings from within the National Register boundaries of Herrin Brothers. Views from Herrin Brothers would also not be greatly affected by the station. The station would introduce only a relatively minor visual element to the view shed which already includes the industrial and rail-related land uses associated with North Charlotte. Furthermore, the relocated Norfolk Southern rail bridge (see below) would probably block most views of the light rail station. Finally, there should be no cumulative and indirect effects from the 36th Street Station. Because of the proximity of North Charlotte, which has become a popular neighborhood in recent decades, Herrin Brothers and the surrounding area already face development pressures that predate the light rail line.

Action: Construction of New Norfolk Southern Railway Freight Line and Bridge

East of the 30th Street viaduct and extending east of the 36th Street junction, CATS would construct a new freight line for the Norfolk Southern Railway that would lie on the north side of the existing rail right-of-way, roughly 75 feet north of the existing freight line. The elevated route would be carried on retaining walls, and although the proposed construction would occur within existing rail right-of-way, the route would extend through the National Register boundaries for Herrin Brothers. (A portion of the National Register boundaries for Herrin Brothers extend into the existing rail right-of-way.) As part of this action, a new bridge would carry the Norfolk Southern over the depressed 36th Street. The bridge would be a steel, plate girder span with full-height, cast in place, reinforced concrete abutments. The bridge would be only slightly elevated above current grade.

Effect: No Adverse Effect

Although the proposed freight line would extend through the southern edge of the Herrin Brothers property, the new freight line and bridge would have no adverse effect on the historic property. The construction of the new bridge, freight line, and retaining wall would not require the demolition of any buildings or structures from the Herrin Brothers site. Also, views from the historic site should not be greatly affected by the relocation of the freight line and bridge which would only be elevated six to eight feet above the existing grade. Herrin Brothers was built overlooking the adjacent freight railroad so while the Norfolk Southern would be closer to Herrin by roughly 75 feet, the views and historic geographical relationship remain largely the same. Finally, the relocation of the existing freight line and the new bridge would have no indirect or cumulative effects on the Herrin Brothers Coal and Ice Company Complex.

Action: Overhead Catenary System

The light rail line would be operated by an overhead electrical catenary system that would be carried on roughly 25-foot tall, standard profile poles. The painted, metal poles would have metal arms. The poles would be spaced at 100 to 125-foot intervals along the light rail line.

Effect: No Effect

The installation of the overhead catenary system would introduce only a minor visual element to the view shed of Herrin Brothers Coal and Ice Company Complex and would have no effect on the property. This historic resource is located in an urban, industrial area, and the system of simple poles and wires would be similar to existing overhead utilities in the area.

Action: Noise and Vibrations

The light rail trains in the vicinity of Herrin Brothers Coal and Ice would travel at no more than 40 miles per hour with trains either decelerating or accelerating at the 36th Street Station. Horns would not be needed at the 36th Street crossing because of the proposed grade separation. There would be public address announcements at the station. Freight trains would no longer have to blow their horns because of the grade separation, resulting in a significant reduction in noise. In addition, the freight rail alignment would be moved sixty feet closer to the Herrin Brothers property.

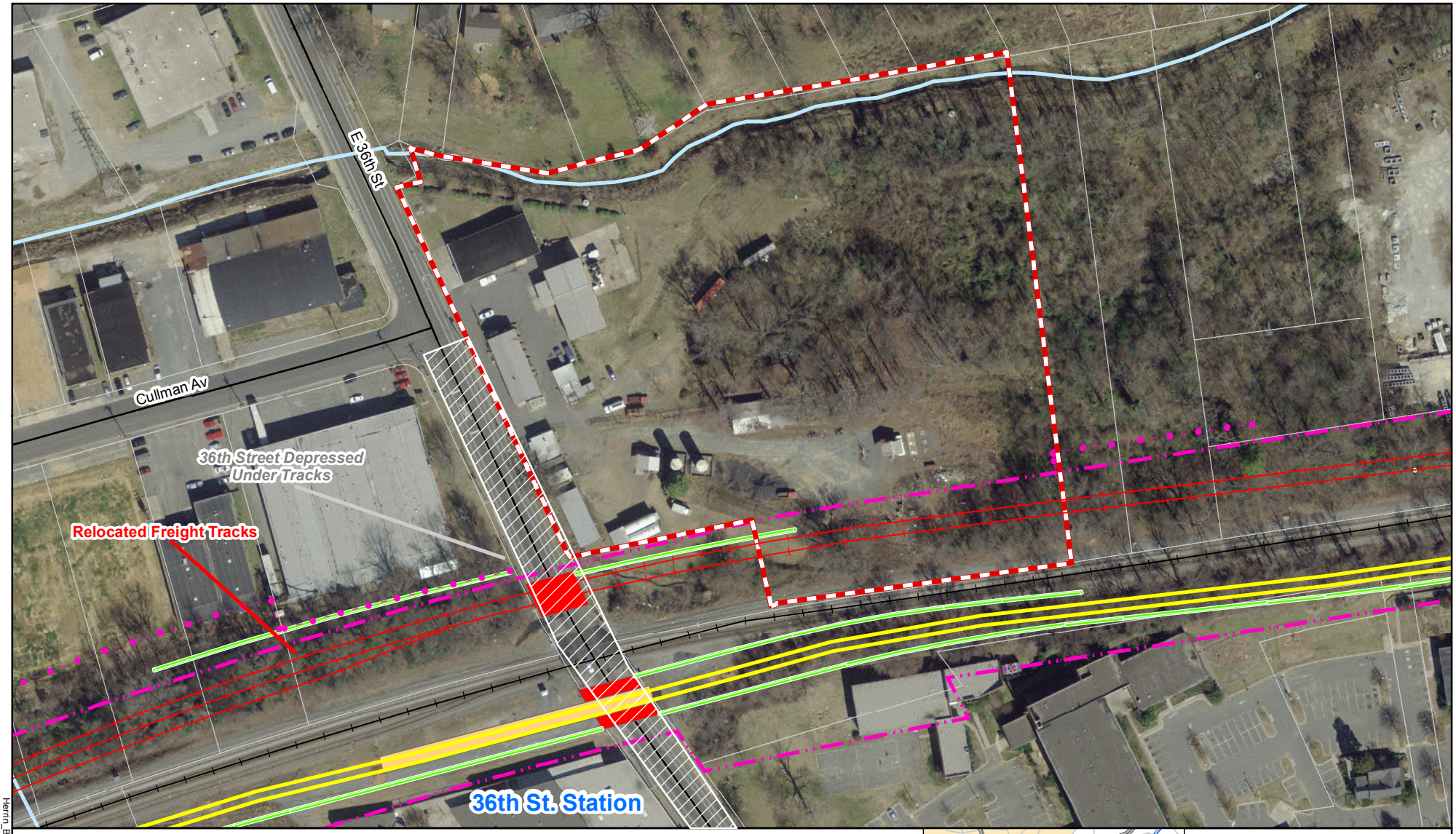
Effect: No Effect

The proposed light rail system would have no noise or vibration effects on Herrin Brothers Coal and Ice Company Plant. Although there would be public announcements at the 36th Street station next to Herrin Brothers, these should have a minimal effect on this industrial property which occupies an industrial, trackside site next to the vibrant North Charlotte neighborhood. The addition of a public address system would have little audible effect on the property. Light rail trains would also be quieter than the freight trains that currently use the line. Specifically, the light rail trains would be travelling at slow speeds in the vicinity of the 36th Street Station which would lessen any operational noise near Herrin Brothers. Although the freight railroad alignment would be moved closer to the Herrin Brothers site, the creation of a grade separation at 36th Street would reduce freight horn noise. Finally, freight horn noise would be reduced due to the grade separation.

LYNX Blue Line Extension

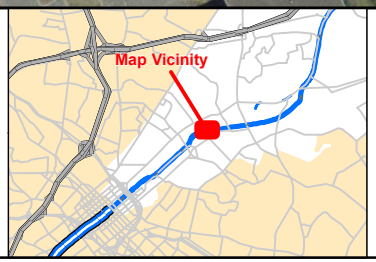
Figure 7a

Herrin Brothers Coal and Ice Company Complex (LPA)



Legend

- Proposed Light Rail Alternative
- Design Option
- Proposed Structures
- Proposed Station Platforms
- Proposed Right-of-Way
- Proposed Retaining Walls
- Proposed Signal House
- Proposed Substation
- Proposed Park-and-Ride Facilities
- Streams
- Railroad
- Roads
- Historic Resource Site
- Railroad Right-of-Way
- Parcels



N

75 37.5 0 75

Feet

1 inch = 150 feet

Data Source: Mattson Alexander, Charlotte Area Transit System, STV/RWA, Mecklenburg County GIS Aerial (2007)

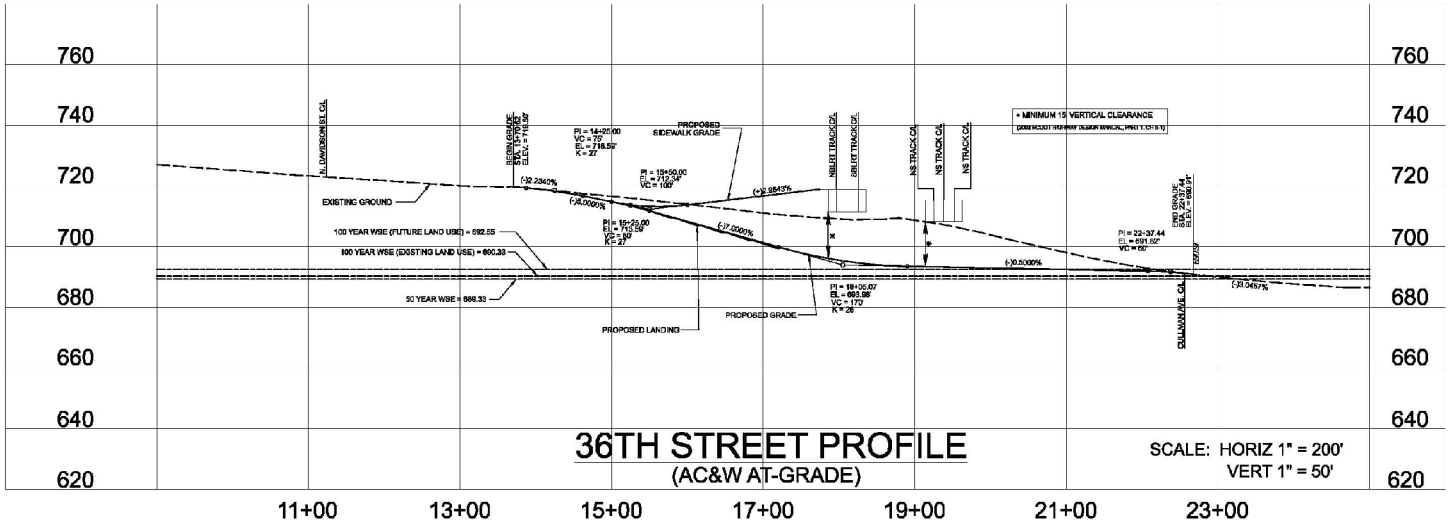
08/12/09

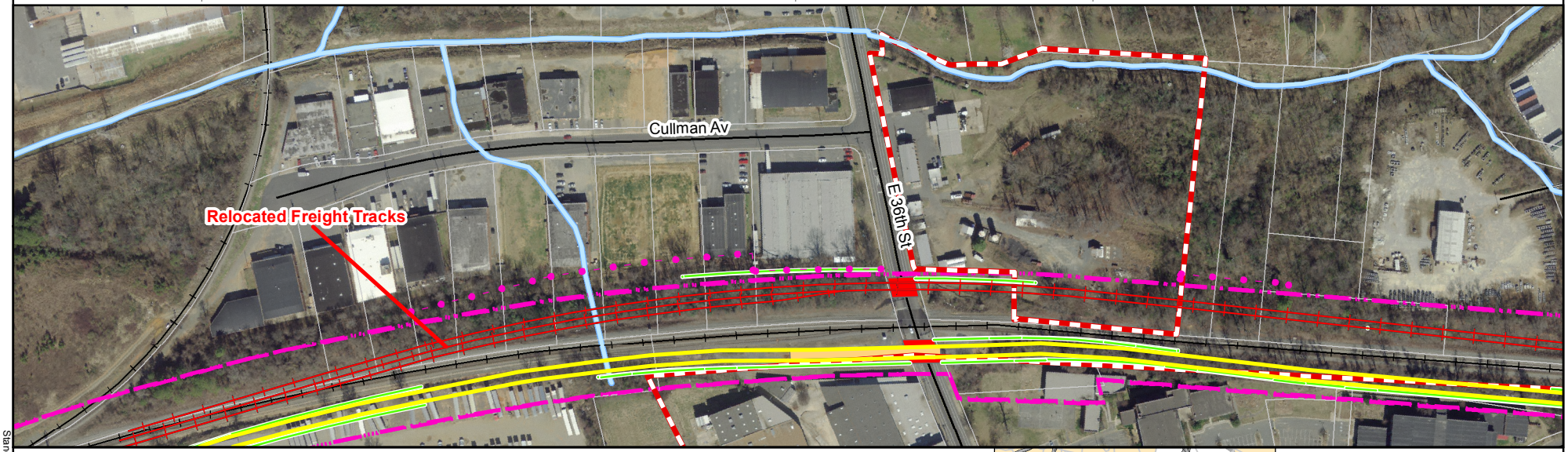
Herrin_Bros_Coal_and_Ice_LPA_7a_Rev.01.pdf

LYNX Blue Line Extension

Figure 7b

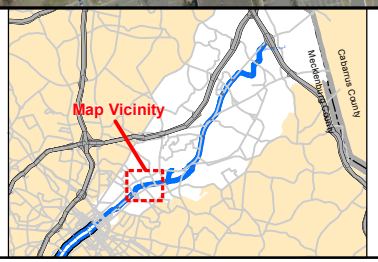
Herrin Brothers Coal and Ice Company (LPA)





Legend

- Proposed Light Rail Alternative
- Design Option
- Proposed Structures
- Proposed Station Platforms
- Proposed Right-of-Way
- Proposed Retaining Walls
- Proposed Signal House
- Proposed Substation
- Proposed Park-and-Ride Facilities
- Streams
- Railroad
- Roads
- Historic Resource Site
- Railroad Right-of-Way
- Proposed Slope Stakes
- Sidewalk
- Parcels



150 75 0 150

Feet

1 inch = 300 feet

Data Source: Mattson Alexander, Charlotte Area Transit System, STV/RWA, Mecklenburg County GIS Aerial (2007)

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Standard_Chemical_Products_80_Rev.01.pdf

Plate 25. Herrin Brothers Coal and Ice Company Complex, Looking North Along 36th Street Right-of-Way, ca. 1929 Equipment Shed on Right.

Plate 26. Herrin Brothers Coal and Ice Company Complex, ca. 1929 Equipment Shed (ca. 1929 Office on Left), Looking Southeast.

Plate 27. Herrin Brothers Coal and Ice Company Complex, Looking East, Existing Norfolk Southern Railway Visible on Right, Modern Oil Tanks on Left.

Plate 28. Herrin Brothers Coal and Ice Company Complex, ca. 1929 Office (Right) and ca. 1929 Ice Plant (Center), Looking Northeast Across 36th Street.

Plate 29. Herrin Brothers Coal and Ice Company Complex, Looking South Along 36th Street From Cullman Avenue (Terminus of Proposed 36th Street Depression).

70. Standard Chemical Products Plant, Charlotte, Mecklenburg County

Action: Light Rail Alternative
Existing Rail Right-of-Way Alignment—New Track Installation and New Alignment

In the vicinity of Standard Chemical Products Plant, the Light Rail Alternative would be an at-grade light rail line that would occupy new alignment on the north side of the existing Norfolk Southern freight line within the existing rail right-of-way (see **Figure 8a-8b; Plates 30-34).** The rail right-of-way forms the southern National Register boundary for Standard Chemical Products Plant.

Standard Chemical is a mid-century industrial complex that was determined eligible for the National Register during a preliminary Phase II evaluation for this project. The National Register boundaries for the property conform to the current tax parcel which abut but do not overlap the railroad right-of-way.

Effect: No Effect

The new light rail lines would have no effect on the Standard Chemical Products property. The action would occur outside the National Register boundaries for the property, and thus, the proposed light rail line would not require the acquisition of any land from within the boundaries of the historic factory. In addition, the historic view shed from the plant would not be adversely affected by the proposed line. The chemical plant was built along the existing railroad right-of-way, and this historic geographical and visual relationship would not be altered by the installation of the new lines. Finally, there should be no indirect and cumulative impacts from the installation of new trackage.

Action: Light Rail Alternative
Existing Rail Right-of-Way Alignment—Sugar Creek Station

Under the Light Rail Alternative, the Sugar Creek Station would be a station with a 300-foot long, center platform and simple canopies that stand roughly 15 feet tall. The station would straddle four-lane Sugar Creek Road which the North Carolina Railroad is planning to depress under this junction. The station would be at the existing grade. A steel, deck girder bridge measuring 90 feet long would carry the light rail line over the roadway at the height of the existing Norfolk Southern main line. With a vertical clearance of 17 feet, the bridge would have full-height, cast in place concrete abutments. Pedestrians would reach the elevated station platform from new eight-foot wide sidewalks to be built along both sides of Sugar Creek Road. Concrete steps and ADA ramps would provide access to the platform from both the northwest and northeast quadrants. These access points would connect to pedestrian crossings at either end of the platform. The sidewalks and ADA ramp would require the acquisition of property from the Standard Chemical Products property.

Effect: No Adverse Effect

The low-scale station and the bridge over a depressed Sugar Creek Road would have no adverse effect on Standard Chemical Products even though a corner of the property (the southeast corner) would be acquired to accommodate a sidewalk and ADA ramp. The area needed for the sidewalk and ramp is now part of a paved loading area, and no buildings or significant features would be demolished for the new construction. Furthermore, the ramp and walkway would not impede the historic function of the factory. Otherwise, the station and bridge would be built outside the National Register boundaries for the property. The historic view shed

from the plant would not be adversely affected by the proposed station. The property was built along the railroad, and this historic industrial and rail-related view shed would not be greatly altered by the construction of the low-scale, at-grade station. Finally, there should be no negative indirect and cumulative impacts from the construction of the proposed station. The proximity of a light rail station may provide opportunities for adaptive reuse of this factory. Park-and-ride lots are already planned that would provide adequate parking for this station, and the Standard Chemical site should not be needed for parking.

It should be noted that the grade separation of Sugar Creek Road is assumed, but is not part of this project. This action would be undertaken by the North Carolina Railroad, and those plans have not been decided at this time.

Action: Light Rail Alternative
Sugar Creek Station—Proposed Park-and-Ride Lots

Three potential sites have been identified for park-and-ride lots for the Sugar Creek Station. Two surface park-and-ride lots are proposed near the Standard Chemical Products Plant. One would be located across Raleigh Street from Standard Chemical Products, and the other would be located across Sugar Creek Road. A third park-and-ride lot is proposed for the lot directly west of Standard Chemical Products between Raleigh Street and the rail corridor.

Existing Raleigh Street, on the north side of Standard Chemical Products, would be closed and realigned to allow for kiss-and-ride drop-off points and overflow parking. This realignment would occur outside the National Register boundaries for Standard Chemical Products.

Effect: No Effect

The new park-and-ride lots would have no effect on the Standard Chemical Products property. The action would take place outside the National Register boundaries for the property, and thus, the proposed lot would not require the acquisition of any land from within the National Register boundaries of Standard Chemical. In addition, the historic view sheds from the plant would not be adversely affected by the proposed park-and-ride lots. Although the lots would draw traffic, there should not be any noise impacts from the new lots. Sugar Creek Road is already heavily traveled, and area factories are currently served by heavy truck traffic.

The realignment of Raleigh Street would have no effect on Standard Chemical. Raleigh Street would be shifted north of the existing alignment, farther away from Standard Chemical and outside its National Register boundaries. Finally, there would be no indirect and cumulative impacts from the proposed park-and-ride lots and the Raleigh Street realignment.

Action: Sugar Creek Design Option—Sugar Creek Station and Sugar Creek Road Bridges

Under the Sugar Creek Design Option, the station would be located between Raleigh Street and North Tryon Street, outside the vicinity of Standard Chemical Products Plant (see **Figure 8c**). However, as part of this design, a pair of steel deck girder bridges, with full-height, concrete abutments, would be constructed to carry the light rail lines over a depressed Sugar Creek Road.

Effect: No Effect

The construction of two bridges over Sugar Creek Road would have no effect on the Standard Chemical Products Plant. The bridges would be built within the existing rail right-of-way, outside the National Register boundaries for the property. Thus, there would be no acquisition of land from within the historic site. In addition, the historic view shed from the plant would not be adversely affected by the proposed bridges. The property was built along the railroad, and this historic industrial and rail-related view shed would not be greatly altered by the construction of the low-scale spans over Sugar Creek Road.

Action: Overhead Catenary System

The light rail line would be operated by an overhead electrical catenary system that would be carried on roughly 25-foot tall, standard profile poles. The painted, metal poles would have metal arms. The poles would be spaced at 100 to 125-foot intervals along the light rail line.

Effect: No Effect

The installation of the overhead catenary system would introduce only a minor visual element to the view shed of the Standard Chemical Products Plant and would have no effect on the property. This historic resource is located in an urban, industrial area, and the system of simple poles and wires would be similar to existing overhead utilities in the area.

Action: Noise and Vibrations

Under the Light Rail Alternative, the trains in the vicinity of Standard Chemical Products would probably travel at no more than 40 miles per hour with trains either decelerating or accelerating as they approach or leave the Sugar Creek Station. There would be public address announcements at the station under the Light Rail Alternative. With the grade separation of Sugar Creek Road and the rail corridor, horns would not be needed at this crossing under either the Light Rail Alternative or the Sugar Creek Design Option.

Effect: No Effect

The proposed light rail system would have no noise or vibration effects on Standard Chemical Products Plant. Although there would be public announcements at the Sugar Creek Station next to Standard Chemical Products, these should have a minimal effect on this factory property which already occupies a trackside site in a heavily industrialized area. In addition, the light rail trains would be quieter than the freight trains that currently use the line, and the slow speeds of the trains near either the station (Light Rail Alternative) or the curve (SCDO) would lessen any operational noise near Standard Chemical Products.

Action: Light Rail Alternative and Sugar Creek Design Option
Safety and Warning Equipment

Because the proposed light rail line would parallel the existing freight rail corridor, crossing gates are already in place at the crossing of Sugar Creek Road and the proposed LYNX Blue Line Extension. Under both the Light Rail Alternative and the Sugar Creek Design Option, Sugar Creek Road would be depressed under the light rail crossing, and no gates would be required for the proposed grade separation.

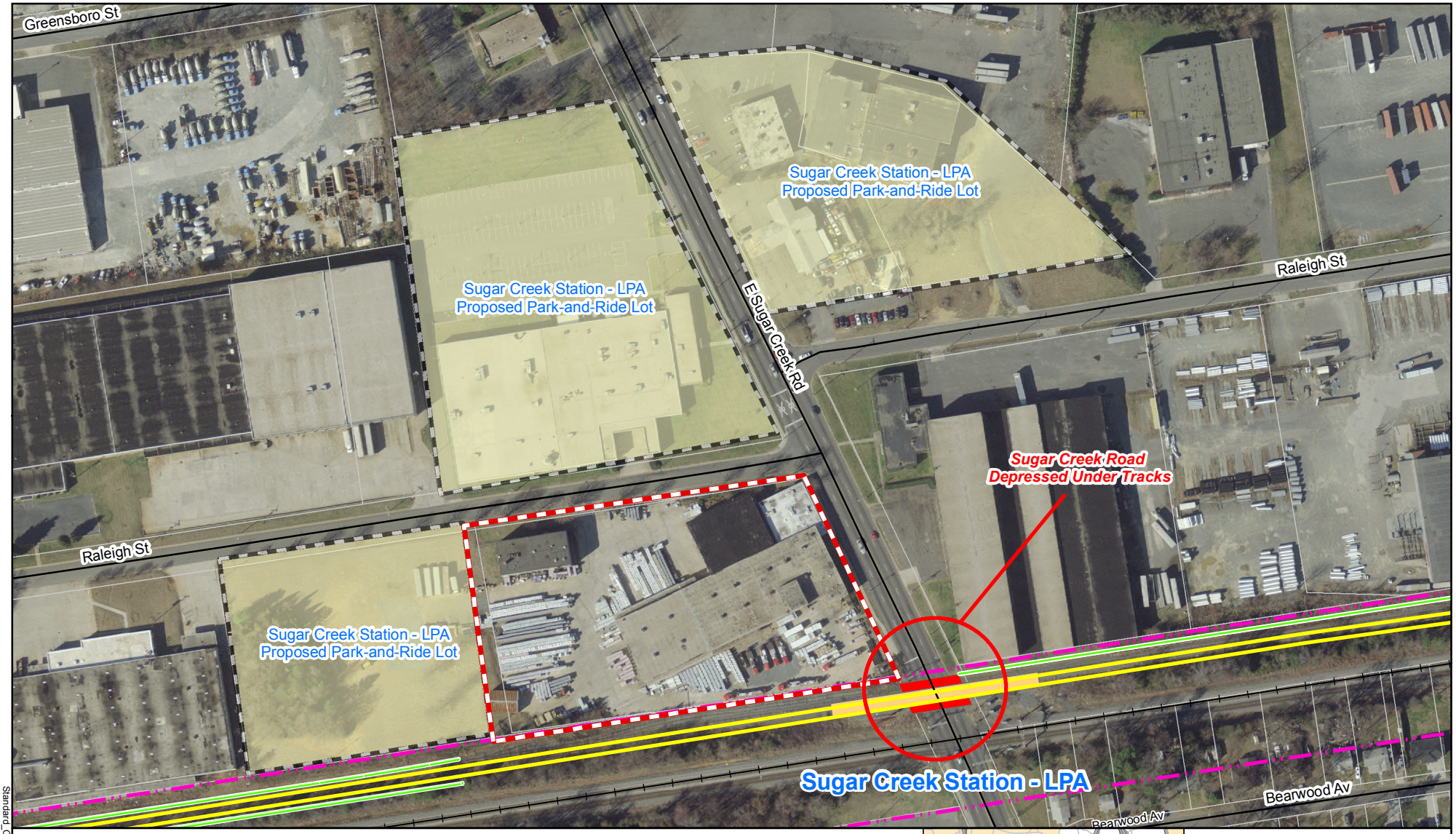
Effect: No Effect

With the grade separation, no crossing gates or other safety equipment would be needed at this location.

LYNX Blue Line Extension

Figure 8a

Standard Chemical Products Plant (LPA)



Legend

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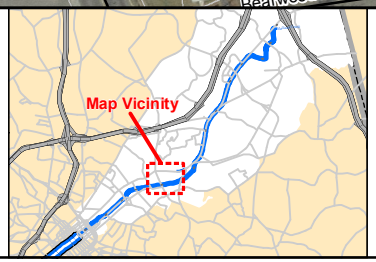
- Roads
- Historic Resource Site
- Railroad Right-of-Way
- Parcels



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100 50 0 100

Feet

1 inch = 200 feet

Data Source: Mattson Alexander, Charlotte Area Transit System, STV/RWA, Mecklenburg County GIS Aerial (2007)

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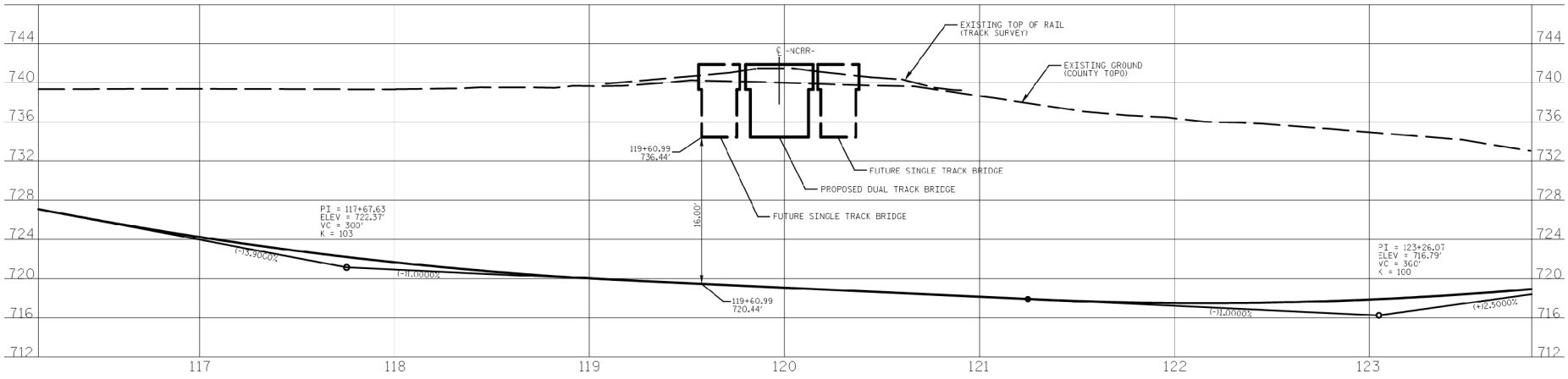
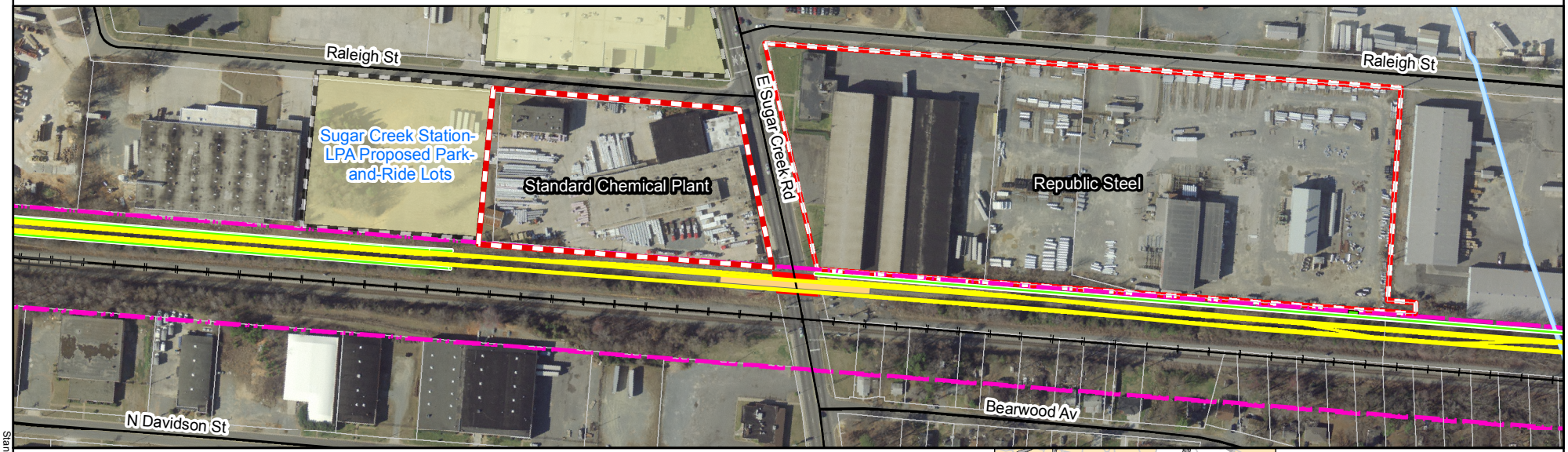
Standard_Chemical_Products_LPA_8a_Rev.01.pdf

LYNX Blue Line Extension

Figure 8b

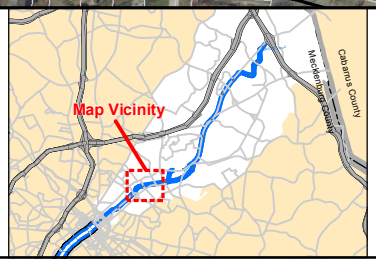
Standard Chemical Products Plant (LPA)





Legend

- Proposed Light Rail Alternative
- Design Option
- Proposed Structures
- Proposed Station Platforms
- Proposed Right-of-Way
- Proposed Retaining Walls
- Proposed Signal House
- Proposed Substation
- Proposed Park-and-Ride Facilities
- Streams
- Railroad
- Roads
- Historic Resource Site
- Railroad Right-of-Way
- Proposed Slope Stakes
- Sidewalk
- Parcels



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Feet

1 inch = 300 feet

Data Source: Mattson Alexander, Charlotte Area Transit System, STV/RWA, Mecklenburg County GIS Aerial (2007)

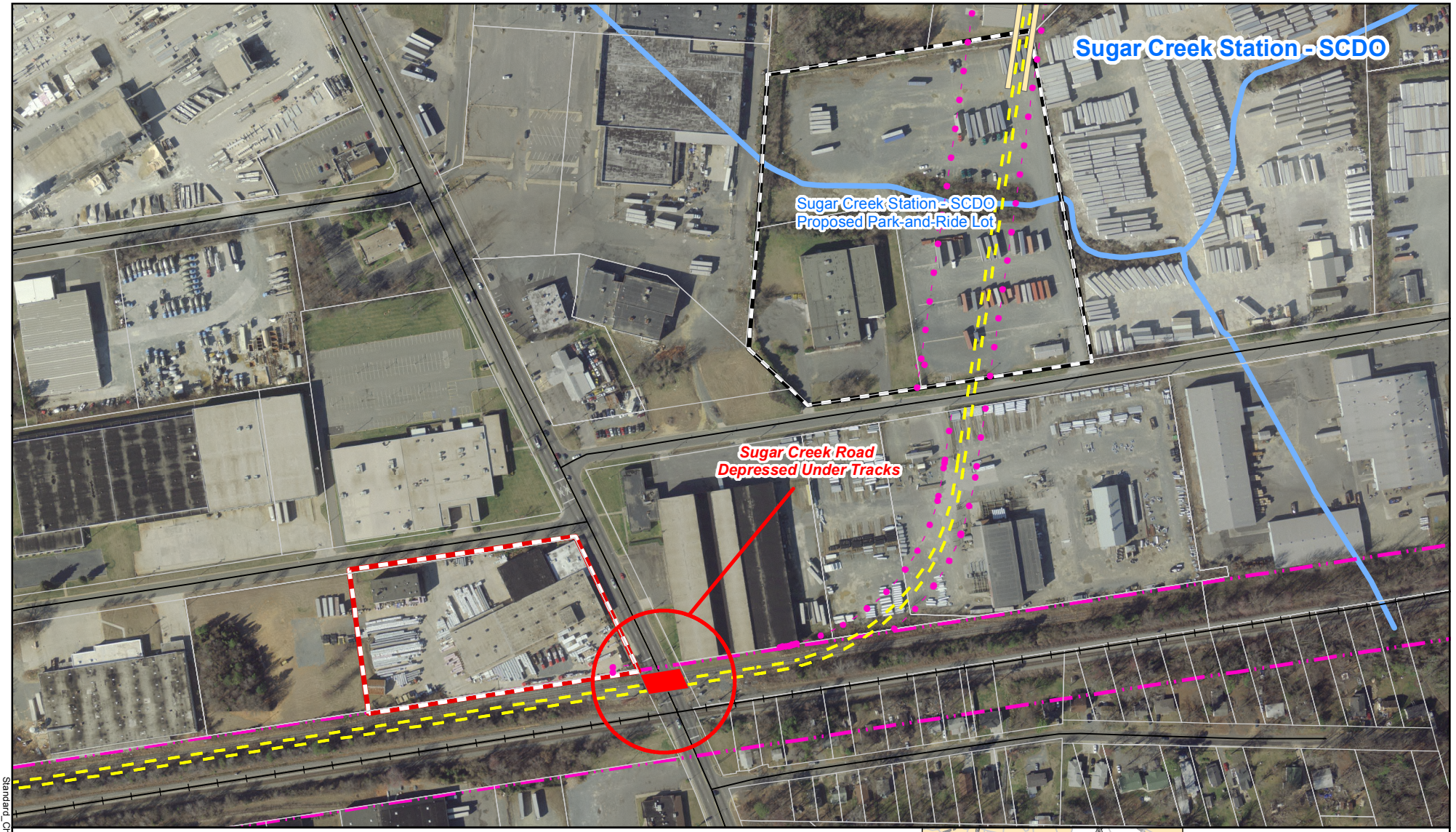
08/31/09

Standard_Chemical_Products_8b_Rev01.pdf

LYNX Blue Line Extension

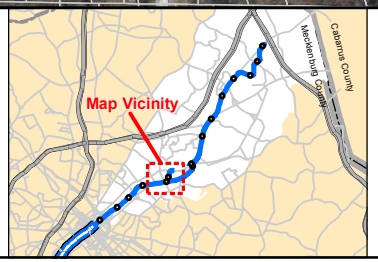
Figure 8c

Standard Chemical Products Plant (SCDO)



Legend

- Proposed Light Rail Alternative
- Design Option
- Proposed Structures
- Proposed Station Platforms
- Proposed Right-of-Way
- Proposed Retaining Walls
- Proposed Signal House
- Proposed Substation
- Proposed Park-and-Ride Facilities
- Streams
- Railroad
- Roads
- Historic Resource Site
- Railroad Right-of-Way
- Parcels



150 75 0 150

Feet

1 inch equals 300 feet

Data Source: Mattson Alexander, Charlotte Area Transit System, STV/RWA, Mecklenburg County GIS Aerial (2007)

01.21.09

Standard_Chemical_Products_SCDO_8c_Rev00.pdf

Plate 30. Standard Chemical Products Plant, Aerial View Looking North Along Sugar Creek Road, Standard Chemical Products Plant on Left Above Existing Railroad Corridor and Republic Steel Corporation Plant on Right.

Plate 31. Standard Chemical Products Plant, View From Existing Rail Right-of-Way, Looking Northwest.

Plate 32. Standard Chemical Products Plant, Façade (East Elevation), Looking North Along Sugar Creek Road.

Plate 33. Standard Chemical Products Plant, Façade (East Elevation), Looking South Along Sugar Creek Road.

Plate 34. Standard Chemical Products Plant, Site of.
Proposed Park-and-Ride Lot, Looking North Across Raleigh Street From Standard Chemical Products Plant.

71. Republic Steel Corporation Plant, Charlotte, Mecklenburg County

Action: Light Rail Alternative
Existing Rail Right-of-Way Alignment—New Track Installation, New Alignment and Signal House

In the vicinity of the Republic Steel Corporation Plant, the proposed Light Rail Alternative would be an at-grade light rail line that would occupy new alignment on the north side of the existing Norfolk Southern freight line within the existing rail right-of-way (see **Figures 9a;Plates 35-39)** The line would be supported by a retaining wall that would stand 22 feet tall at its maximum. The rail right-of-way forms the southern National Register boundary for Republic Steel Corporation Plant. A signal house is proposed for a track-side site just outside the National Register boundaries of the Republic Steel property, abutting the retaining wall at the southeast corner. The signal house would stand 10 feet tall and would measure 10 feet wide and 30 feet long.

Republic Steel Corporation Plant was determined eligible for the National Register during a preliminary Phase II evaluation for this project. Republic Steel is a mid-century industrial complex that encompasses multiple, attached and detached buildings covering three tax parcels. The National Register boundaries for the plant conform to these three current tax parcels. The southern of the property abuts the railroad right-of-way.

Effect: No Effect

The new light rail lines would have no effect on the Republic Steel Corporation Plant property. The action would occur within the existing rail right-of-way, outside the National Register boundaries for the property. Consequently, the proposed light rail line would not require the acquisition of any land from within the boundaries of the historic steel plant. In addition, the historic view shed from the plant would not be adversely affected by the proposed line. Although the retaining wall would extend along the southern, or rear, boundary of Republic Steel, the plant is oriented towards Sugar Creek Road and Raleigh Street. The steel plant was built along the existing railroad right-of-way, and this historic geographical and visual relationship would not be altered by the installation of the new line. Finally, there should be no indirect and cumulative impacts from the new light rail line given the surrounding industrial buildings and a vast amount of vacant and underutilized land.

The proposed signal house also would have no effect on the resource. The facility would be built outside the National Register boundaries, and there would be essentially no visual impact from the construction of this 10-foot tall building.

Action: Light Rail Alternative
Existing Rail Right-of-Way Alignment—Sugar Creek Station

Under the Light Rail Alternative, the Sugar Creek Station would be a station with a 300-foot long, center platform and simple canopies that stand roughly 15 feet tall. The station would straddle four-lane Sugar Creek Road. The North Carolina Railroad is planning to depress Sugar Creek Road under this junction, and a reinforced concrete, deck girder bridge measuring 90 feet long would carry the light rail line over the roadway at the height of the existing Norfolk Southern main line. With a vertical clearance of 17 feet, the bridge would have full-height, cast in place concrete abutments. Pedestrians would reach the elevated station platform from new eight-foot wide sidewalks to be built along both sides of Sugar Creek Road. Concrete steps and ADA ramps would provide access to the platform from both the northeast quadrant on the Republic

Steel site and the northwest quadrant on the Standard Chemical Products property. These access points would connect to pedestrian crossings at either end of the platform. The sidewalk and ramp would require a minor acquisition of property from the Republic Steel Corporation site.

Effect: No Adverse Effect

The low-scale station and the bridge over a depressed Sugar Creek Road would have no adverse effect on the Republic Steel Corporation Plant even though a corner of the property (the southwest corner) would be acquired to accommodate a sidewalk and ADA ramp. The area needed for the sidewalk and ramp is now part of the front lawn, and no buildings or significant features would be demolished for the new construction. Furthermore, the sidewalk and ramp would not impede the historic function of the factory. Otherwise, the station and bridge would be built outside the National Register boundaries for the property and thus would not require the acquisition of any land from within the boundaries of the historic factory. In addition, the historic view shed from the plant would not be adversely affected by the proposed station. The property was built along the railroad, and this historic industrial and rail-related view shed would not be greatly altered by the construction of the station and bridge. Finally, there should be no negative indirect and cumulative impacts from the construction of the proposed station. The proximity of a station may provide opportunities for adaptive reuse of this factory. Park-and-ride lots are already planned that would provide adequate parking for this station, and the Republic Steel site should not be needed for parking.

It should be noted that the grade separation along Sugar Creek Road is not part of this project. This action would be undertaken by the North Carolina Railroad, and those plans have not been decided at this time.

Action: Light Rail Alternative
Existing Rail Right-of-Way Alignment—Sugar Creek Station
Proposed Park-and-Ride Lots

Three potential sites have been identified for park-and-ride lots for the Sugar Creek Station. One surface park-and-ride lot is proposed for the site across Raleigh Street from the Republic Steel Corporation Plant. The other two are located across Sugar Creek Road, adjacent to Standard Chemical Products.

Effect: No Effect

The new park-and-ride lots would have no effect on the Republic Steel Corporation property. The action would take place outside the National Register boundaries for the property, and thus, the proposed lot would not require the acquisition of any land from within the boundaries of Republic Steel. In addition, the historic view shed from the plant would not be adversely affected by the proposed park-and-ride lot. Although the lot would draw traffic, there should not be noise impacts from the new lot. Sugar Creek Road is already heavily traveled, and area factories are currently served by heavy truck traffic. Finally, there would be no indirect and cumulative impacts from the proposed park-and-ride lot.

Action: Sugar Creek Design Option
New Alignment and Track Installation

Under the Sugar Creek Design Option (SCDO), the light rail line would be constructed on new location, extending from the existing rail right-of-way to North Tryon Street/US-29 through the Republic Steel property on the east side of Sugar Creek Road (see **Figures 9b-9c**). The route

of the proposed line would cross the center of the Republic Steel property at grade through an open loading area and would not require the demolition of any buildings. Because of the at-grade alignment, barrier fencing would line the tracks of the line to limit access between the areas of the plant bisected by the light rail line. An at-grade crossing of the tracks using Raleigh Street would provide access to both areas.

Effect: No Adverse Effect
In preliminary discussions with the North Carolina Historic Preservation Office, it was decided that the new alignment under the proposed Sugar Creek Design Option would have no adverse effect on Republic Steel. The route of the line would not require the demolition of any buildings associated with this historic steel fabrication plant.

Action: Sugar Creek Design Option
Sugar Creek Station and Proposed Park-and-Ride Lot
Under the Sugar Creek Design Option, the Sugar Creek Station would be an at-grade station with 300-foot long, side platforms and simple canopies that stand roughly 15 feet tall. The station would be located between Raleigh Street and North Tryon Street/US-29 at the north end of a proposed park-and-ride lot. The light rail line would cut through the proposed lot before reaching the proposed Sugar Creek Station. The surface parking lot would be sited across Raleigh Street from Republic Steel. The Sugar Creek Station would also have access from Dorton Street, a dead-end street off North Tryon Street/US-29.

Effect: No Effect
The station and park-and-ride lot would have no effect on the Republic Steel Corporation property. The facilities would be situated outside the National Register boundaries for the historic property, and thus, the station and parking lot would not require the acquisition of any land from within the boundaries of Republic Steel. The station would be located on the north side of the parking lot, well to the north of Republic Steel. In addition, the historic view shed from the plant would not be adversely affected by the proposed station and park-and-ride lot. The factory already overlooks low-scale, postwar industrial plants and vast parking or loading areas so the addition of surface parking lot would not greatly alter views from Republic Steel. Although the station would draw traffic, there should not be noise impacts from the new lot. Sugar Creek Road is already heavily traveled, and area factories are currently served by heavy truck traffic. Finally, there would be no indirect and cumulative impacts from the proposed station and park-and-ride lot.

Action: Sugar Creek Design Option
Bridges over Sugar Creek Road

As part of this design alternative, a pair of steel deck girder bridges, with full-height, concrete abutments, would be constructed to carry the light rail lines over a depressed Sugar Creek Road.

Effect: No Effect
The construction of two bridges over Sugar Creek Road would have no effect on the Republic Steel Corporation Plant. The bridges would be built within the existing rail right-of-way, outside the National Register boundaries for the property. Thus, there would be no acquisition of land from within the historic site. In addition, the historic view shed from the plant would not be

adversely affected by the proposed bridges. The property was built along the railroad, and this historic industrial and rail-related view shed would not be greatly altered by the construction of the low-scale spans over Sugar Creek Road.

Action: Sugar Creek Design Option
Safety and Warning Equipment

Under this design option, the proposed light rail line would bisect the Republic Steel property, and barrier fences would be installed to limit pedestrian access across the line. Crossing gates would also be installed at the crossing of the light rail line and Raleigh Street.

Effect: No Adverse Effect

The installation of barrier fences along the proposed light rail line would not have an adverse effect on the Republic Steel Corporation Plant. Portions of the site are already divided by chain link fences that limit access across the three tax parcels that encompass the National Register boundaries.

Action: Overhead Catenary System

The light rail line would be operated by an overhead electrical catenary system that would be carried on roughly 25-foot tall, standard profile poles. The painted, metal poles would have metal arms. The poles would be spaced at 100 to 125-foot intervals along the light rail line.

Effect: No Effect

The installation of the overhead catenary system would introduce only a minor visual element to the view shed of the Republic Steel Corporation Plant and would have no effect on the property. This historic resource is located in an urban, industrial area, and the system of simple poles and wires would be similar to existing overhead utilities in the area.

Action: Noise and Vibrations

Under the Light Rail Alternative, the light rail trains in the vicinity of Republic Steel would probably travel at no more than 40 miles per hour with trains either decelerating or accelerating as they approach or leave the Sugar Creek Station. There would be public announcements at the station under the Light Rail Alternative. With the grade separation of Sugar Creek Road and the rail corridor, horns would not be needed at this crossing under either the Light Rail Alternative or the Sugar Creek Design Option.

Effect: No Effect

The two proposed options would have no noise or vibration effects on the Republic Steel Corporation Plant. Although there would be public announcements at the Sugar Creek Station next to Republic Steel, these should have a minimal effect on this factory property which already occupies a trackside site in a heavily industrialized area. In addition, the light rail trains would be quieter than the freight trains that currently use the line, and the slow speeds of the trains near either the station (Light Rail Alternative) or in the curve through the Republic property (SCDO) would lessen any operational noise impact.

Action: Light Rail Alternative
Existing Rail Right-of-Way Alignment—Safety and Warning Equipment

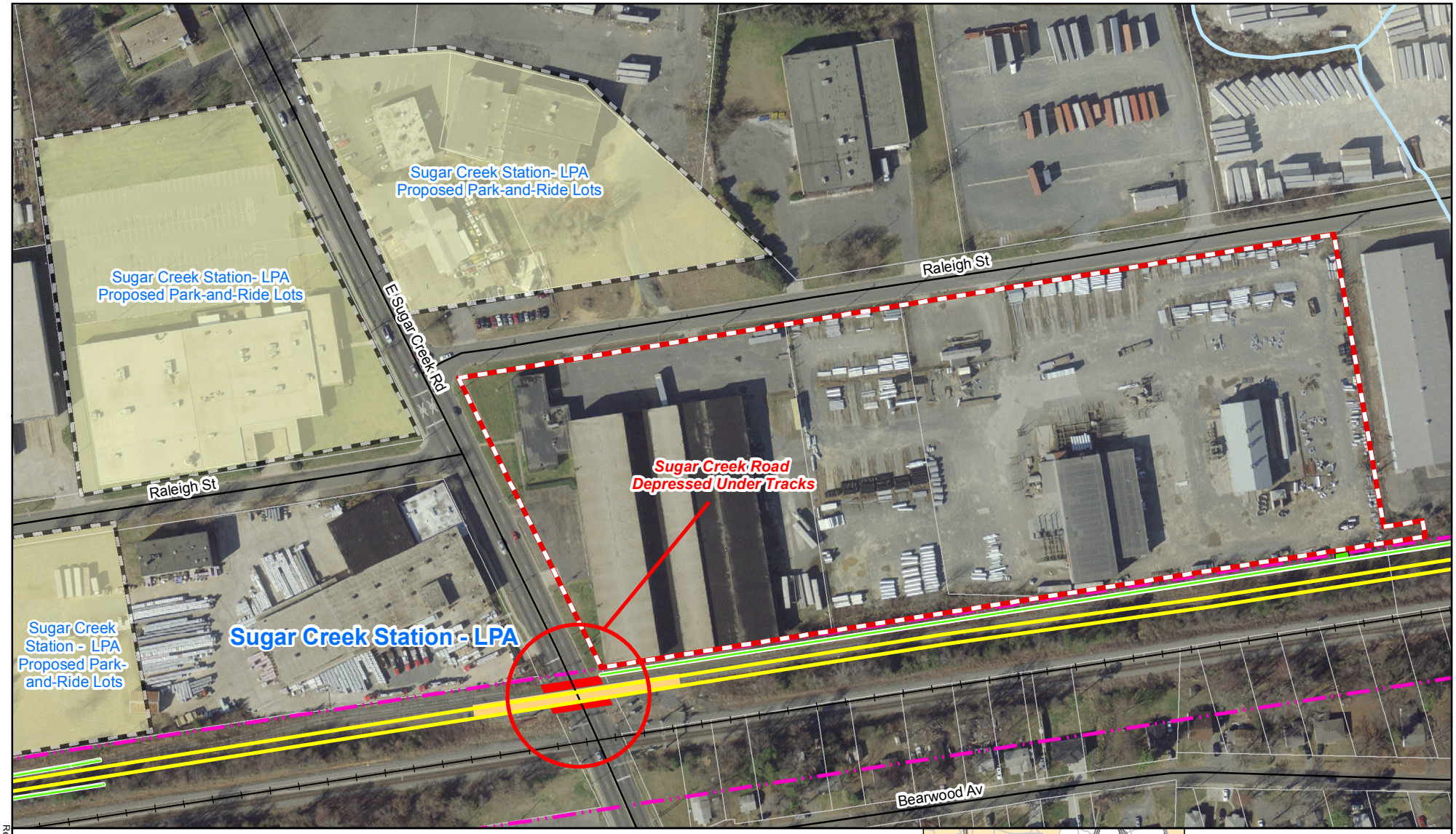
Because the proposed light rail line would parallel the existing freight rail corridor, crossing gates are already in place at the crossing of Sugar Creek Road and the proposed LYNX Blue Line Extension. Sugar Creek Road would be depressed under the light rail crossing, and no gates would be required for the proposed grade separation.

Effect: No Effect

With the grade separation, no crossing gates or other safety equipment would be needed at this location.

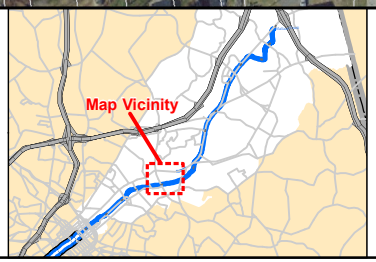
LYNX Blue Line Extension

Figure 9a
Republic Steel Corporation Plant (LPA)



Legend

- Proposed Light Rail Alternative
- Design Option
- Proposed Structures
- Proposed Station Platforms
- Proposed Right-of-Way
- Proposed Retaining Walls
- Proposed Signal House
- Proposed Substation
- Proposed Park-and-Ride Facilities
- Streams
- Railroad
- Roads
- Historic Resource Site
- Railroad Right-of-Way
- Parcels



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Feet

1 inch = 200 feet

Data Source: Mattson Alexander, Charlotte Area Transit System, STV/RWA, Mecklenburg County GIS Aerial (2007)

Republic_Steel_Plant_LPA_9a_Rev01.pdf

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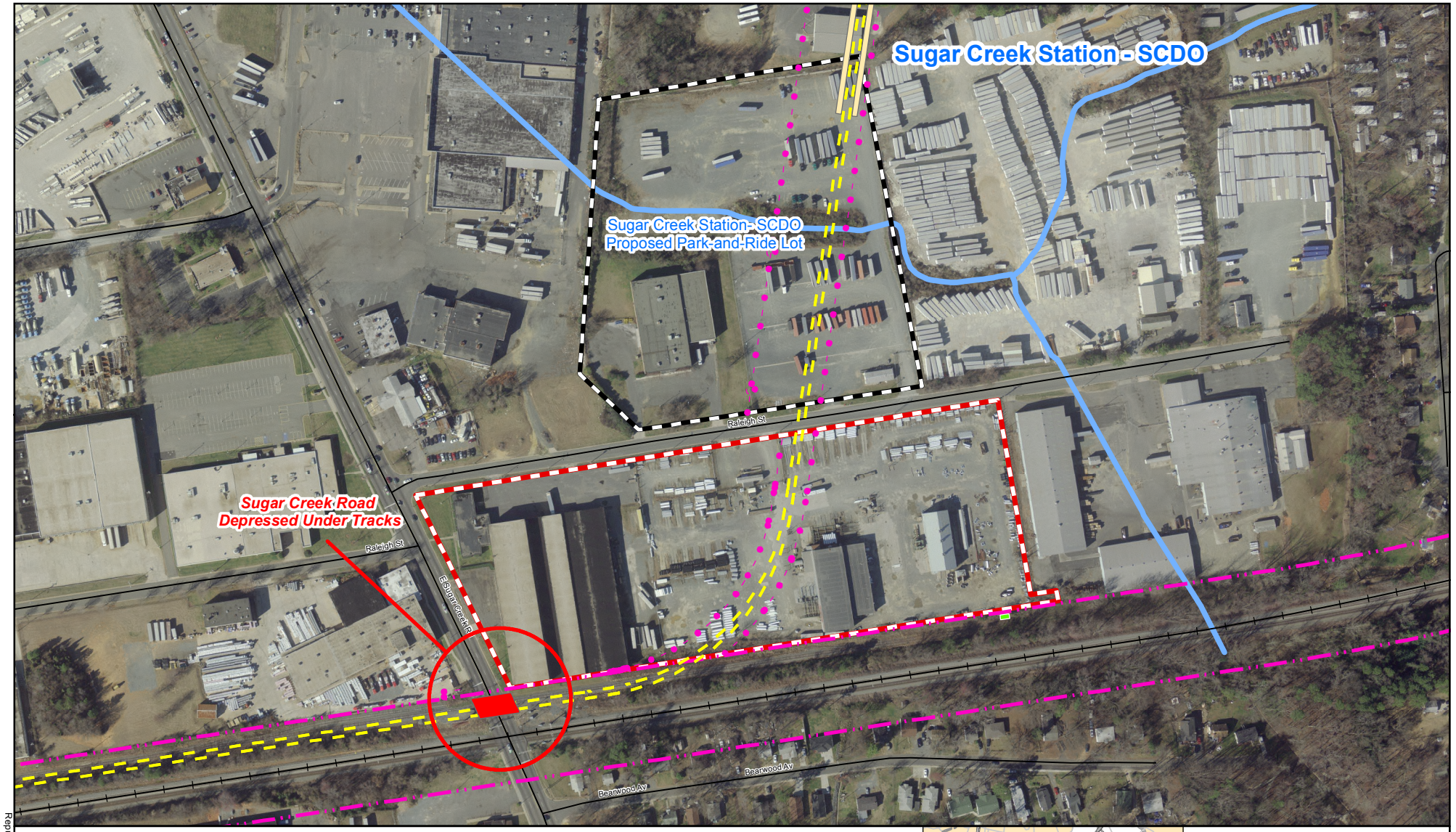
LYNX Blue Line Extension

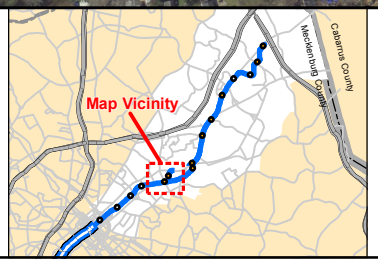
Figure 9b

Republic Steel Corporation Plant (SCDO)



Legend

- Proposed Light Rail Alternative
- Design Option
- Proposed Structures
- Proposed Station Platforms
- Proposed Right-of-Way
- Proposed Retaining Walls
- Proposed Signal House
- Proposed Substation
- Proposed Park-and-Ride Facilities
- Streams
- Railroad
- Roads
- Historic Resource Site
- Railroad Right-of-Way
- Parcels



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Feet

1 inch equals 300 feet

Data Source: Mattson Alexander, Charlotte Area Transit System, STV/RWA, Mecklenburg County GIS Aerial (2007)

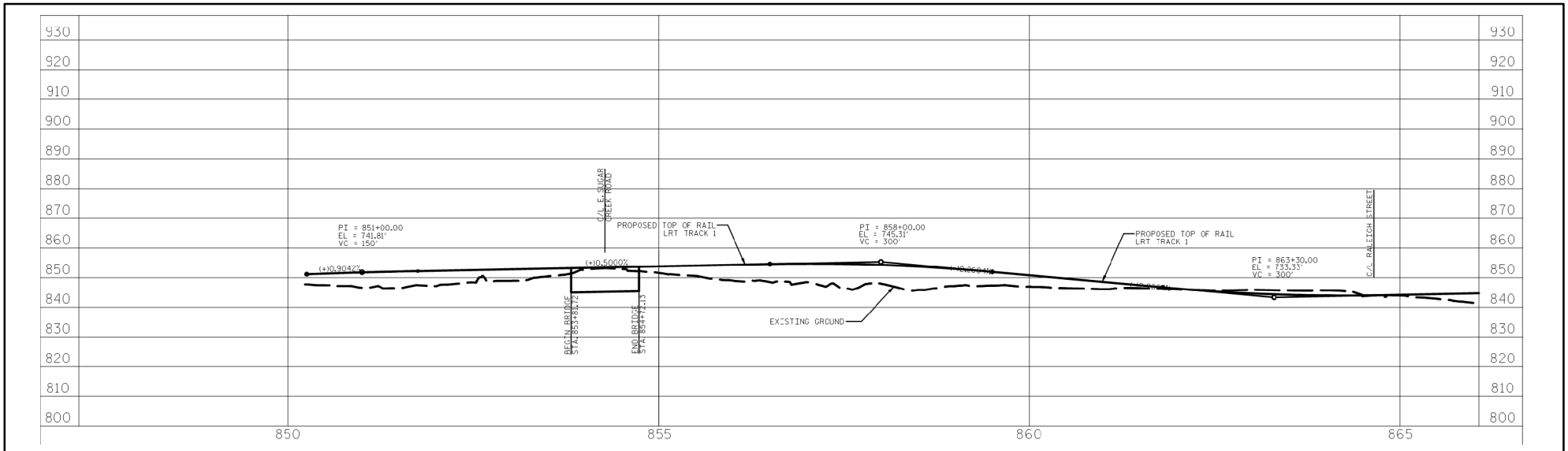
01.21.09

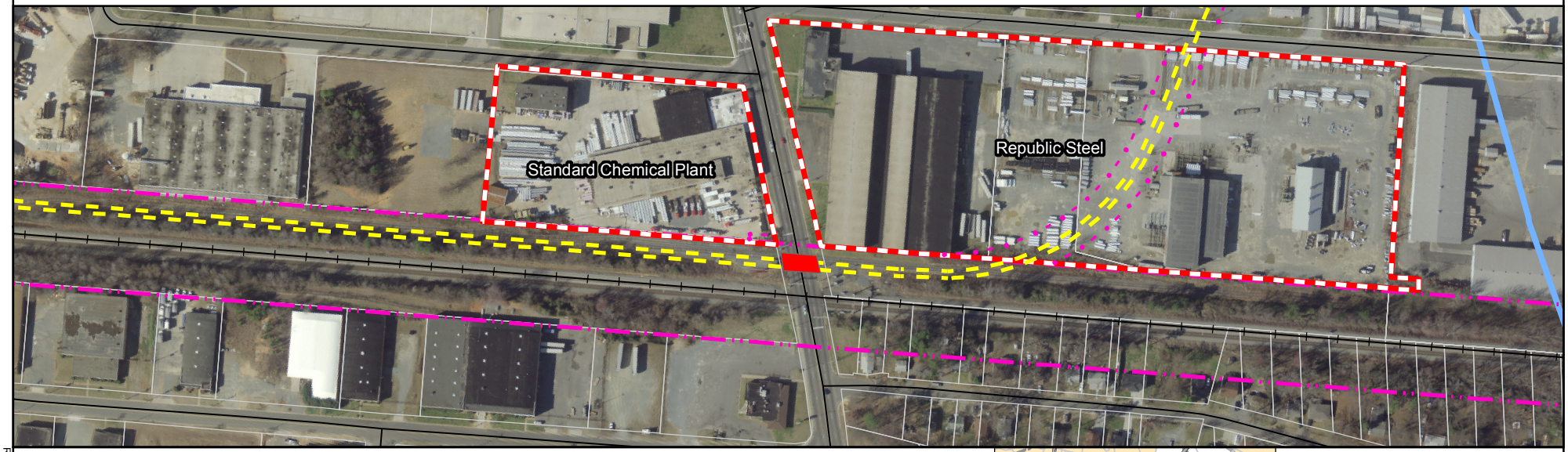
Republic_Steel_Plant_SCDO_9b_Rev.00.pdf

LYNX Blue Line Extension

Figure 9c

Republic Steel Corporation Plant (SCDO)





Legend

- Proposed Light Rail Alternative
- Design Option
- Proposed Structures
- Proposed Station Platforms
- Proposed Right-of-Way
- Proposed Retaining Walls
- Proposed Signal House
- Proposed Substation
- Proposed Park-and-Ride Facilities
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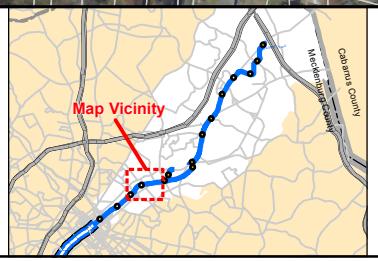
- Railroad
- Roads
- Historic Resource Site
- Railroad Right-of-Way
- Proposed Slope Stakes
- Sidewalk
- Parcels



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Feet

1 inch equals 300 feet

Data Source: Mattson Alexander, Charlotte Area Transit System, STV/RWA, Mecklenburg County GIS Aerial (2007)

03.17.09

Republic_Steel_Company_9c_Rev.00.pdf

Plate 35. Republic Steel Corporation Plant, Looking South Along Sugar Creek Road.

Plate 36. Republic Steel Corporation Plant, Looking Northeast From Railroad Corridor.

Plate 37. Republic Steel Corporation Plant, Location of Proposed Sugar Creek Design Option Alignment, Looking Southeast From Raleigh Street.

Plate 38. Republic Steel Corporation Plant, Looking Southwest From Location of Proposed Sugar Creek Design Option Alignment.

Plate 39. Republic Steel Corporation Plant, Location of Proposed Sugar Creek Design Option, Park-and-Ride Lot, Looking Northeast From Raleigh Street.

86. General Motors Corporation Training Center, Charlotte, Mecklenburg County

Action: Light Rail Alternative
Existing Rail Right-of-Way Alignment—New Track Installation, New Alignment, Right-of-Way Acquisition and Bridge over Old Concord Road

In the vicinity of the General Motors Corporation Training Center, the proposed Light Rail Alternative would occupy new alignment on a route that diverges north from the existing rail right-of-way, crosses Old Concord Road, and turns east to follow the existing southbound lanes of North Tryon Street/US-29 (see **Figure 10a; Plates 40-43)**. CATS proposes to construct new traffic lanes on the north side of North Tryon Street/US-29 so that the light rail line would occupy a median between the northbound and southbound traffic lanes. Because the line would run along new location between the existing rail right-of-way and North Tryon Street/US-29, right-of-way would have to be acquired in this area. Under this option, the proposed Old Concord Road Station would be located along this newly acquired segment between the rail corridor and North Tryon Street/US-29 south of the General Motors site. The line would be at grade on the south side of the proposed Old Concord Road Station after which the line would gradually follow an elevated alignment, reaching a maximum height of 20 feet as it approaches Old Concord Road. The line would be carried on a 445-foot long, steel plate girder bridge over both Old Concord Road and North Tryon Street/US-29. Supported by modular concrete panel retaining walls, the elevated line would reach a maximum height of 55 feet as it turns east along North Tryon Street/US-29. As the route continues on North Tryon, the line would have a maximum height of 31 feet. Between the proposed station and Old Concord Road, the route would run through the southeast corner of the General Motors Corporation Training Center property.

Determined eligible for the National Register as a result of the Phase II investigation for this project, the remarkably well-preserved General Motors Corporation Training Center is a large, one-story, mid-century modern building that fronts on North Tryon Street/US-29. The National Register boundaries conform to the current tax parcel which encompasses the building, its front lawn and a large parking lot situated on the east side.

Effect: No Adverse Effect

The Light Rail Alternative alignment would have no adverse effect on the General Motors Training Center site. Although the line would run through the southeast corner of the property (within the National Register boundaries), the proposed Light Rail Alternative would not take any portion of the training center building and would leave most of the parking lot for the building intact. The line, which would gradually rise to a height of 20 feet on the north side of the station, would also not greatly affect the view shed from the historic property. The line would run along the rear of the property, and the area is already surrounded by commercial and industrial land uses. The property was built along a major transportation thoroughfare so the light rail line would not greatly alter the historic setting and context for the training center. Finally, there should be no negative indirect and cumulative impacts from the construction of the line.

Action: Light Rail Alternative
Existing Rail Right-of-Way Alignment—Old Concord Road Station and Park-and-Ride Lot

The proposed Old Concord Road Station would be built to the rear of the General Motors property. The station would be designed with 300-foot long, side loading platforms that would be sheltered by simple, approximately 15-foot tall canopies. East of the station would be a large, surface parking lot that would serve as a park-and-ride facility for the station, and bus parking

would be located next to the northbound platform. A driveway would extend from North Tryon Street/US-29 just west of the General Motors Corporation Training Center property and would pass the north end of the station platforms before turning east to exit onto a realigned Old Concord Road.

Effect: No Effect

The low-scale station and parking lots should have no effect on the General Motors Corporation Training Center. The station and park-and-ride lots would be built outside the National Register boundaries for the property and thus would not require the acquisition of any land from within the National Register boundaries of the historic property. In addition, the historic view shed from the training center would not be adversely affected by the proposed station which would be a low-scale facility built at grade behind the General Motors property. Furthermore, the training center was built along a major transportation thoroughfare in an area characterized by postwar, automobile oriented, industrial and commercial development so the construction of the light rail station would not greatly alter the historic setting and context for the training center. Finally, there should be no negative indirect and cumulative impacts from the construction of the line. Park-and-ride lots are already planned that would provide adequate parking for this station, and the General Motors site should not be needed for parking. Also, the area is characterized primarily by low-scale, suburban development with numerous vacant and underused tracts so the General Motors site should not face undue development pressures.

Action: Overhead Catenary System

The light rail line would be operated by an overhead electrical catenary system that would be carried on roughly 25-foot tall, standard profile poles. The painted, metal poles would have metal arms. The poles would be spaced at 100 to 125-foot intervals along the light rail line.

Effect: No Effect

The installation of the overhead catenary system would introduce only a minor visual element to the view shed of the General Motors Training Center and would have no effect on the property. This historic resource is located in an urban, industrial area, and the system of simple poles and wires would be similar to existing overhead utilities in the area.

Action: Noise and Vibrations

Under the Light Rail Alternative and the SCDO, the light rail trains in the vicinity of the General Motors Training Center would probably travel at no more than 40 miles per hour as trains either approach or leave the proposed Old Concord Road Station. There would be public announcements at the stations and horns would be used at an at-grade crossing south of the property.

Effect: No Effect

The proposed light rail options would have no noise or vibration effects on the General Motors Corporation Training Center. Although there would be public announcements at either location of the Old Concord Road Station and horns at an at-grade crossing south of the General Motors site, these should have a minimal effect on the property which already occupies a noisy location along a major thoroughfare and highway. In addition, the slow speeds of the trains near the station under either option would lessen any operational noise impact on the General Motors property.

Action: Light Rail Alternative
Safety and Warning Equipment

Under this option, the proposed light rail line would occupy new location that would not cross existing streets until reaching Old Concord Road. Between the proposed station and Old Concord Road, most of the line would be elevated with a bridge carrying the line over Old Concord Road. There would be only one at-grade crossing, located south of the General Motors property. Crossing gates would be required at this junction.

Effect: No Effect

With the grade separation of the light rail line and Old Concord Road, no crossing gates or other safety equipment would be needed. Crossing gates would be required only at the new junction, but this feature would be located behind the General Motors site and would have no visual impact on the property.

Action: Sugar Creek Design Option
New Track Installation, New Alignment and Right-of-Way Acquisition

In the vicinity of the former General Motors Corporation Training Center, the proposed Sugar Creek Design Option would be an elevated (30 feet high) light rail line that would occupy the existing southbound lanes of North Tryon Street/US-29 (see **Figure 10b**). The line would follow North Tryon past the General Motors property before entering the proposed Old Concord Road Station. Under the Sugar Creek Design Option, the proposed route would be located on the far side of North Tryon from the General Motors Corporation Training Center property.

Effect: No Effect

The construction of light rail line under the Sugar Creek Design Option would have no adverse effect on the General Motors property. The proposed alignment would occur outside the National Register boundaries for the property and thus would not require the acquisition of land from the historic resource. The line also would not have adverse visual or noise impacts. The training center was built along a well-travelled highway lined with commercial development, and while the new line would be elevated, keeping the light rail line within the existing transportation corridor would minimize any visual or noise impacts. Finally, there should be no indirect or cumulative effects.

Action: Sugar Creek Design Option
Old Concord Road Station and Park-and-Ride Lot

The proposed Old Concord Road Station would occupy an elevated site along the current southbound lanes of North Tryon Street/US-29, just north of the General Motors property. The station would have a 300-foot long, center platform and simple canopies that would stand roughly 15 feet high. A large, surface park-and-ride lot would be constructed adjacent to the General Motors site at the junction with Old Concord Road. The park-and-ride would require the acquisition of a portion of the rear parking lot from the General Motors site.

Effect: No Adverse Effect

The proposed station and the acquisition of property from the General Motors site for the park-and-ride lot would not result in an adverse effect. Although the park-and-ride lot would require the southeast corner of the General Motors property (within the National Register boundaries), the lot would not take any portion of the training center building and would leave most of the

parking lot for the building intact. The proposed station would be built outside the National Register boundaries for the property and thus would not require the acquisition of any land from within the National Register boundaries of the historic property. In addition, the historic view shed from the training center would not be adversely affected by the proposed station which would be built within the existing North Tryon Street/US-29 corridor. The training center is located in an area characterized by postwar, automobile oriented, industrial and commercial development so the construction of the light rail station would not greatly alter the historic setting and context for the training center. Finally, there should be no negative indirect and cumulative impacts from the construction of the station.

Action: Sugar Creek Design Option
Safety and Warning Equipment

Under the Sugar Creek Design Option, the proposed light rail line would be located within the existing North Tryon Street/US-29 corridor. The line would be elevated, and therefore, there would be no grade crossings.

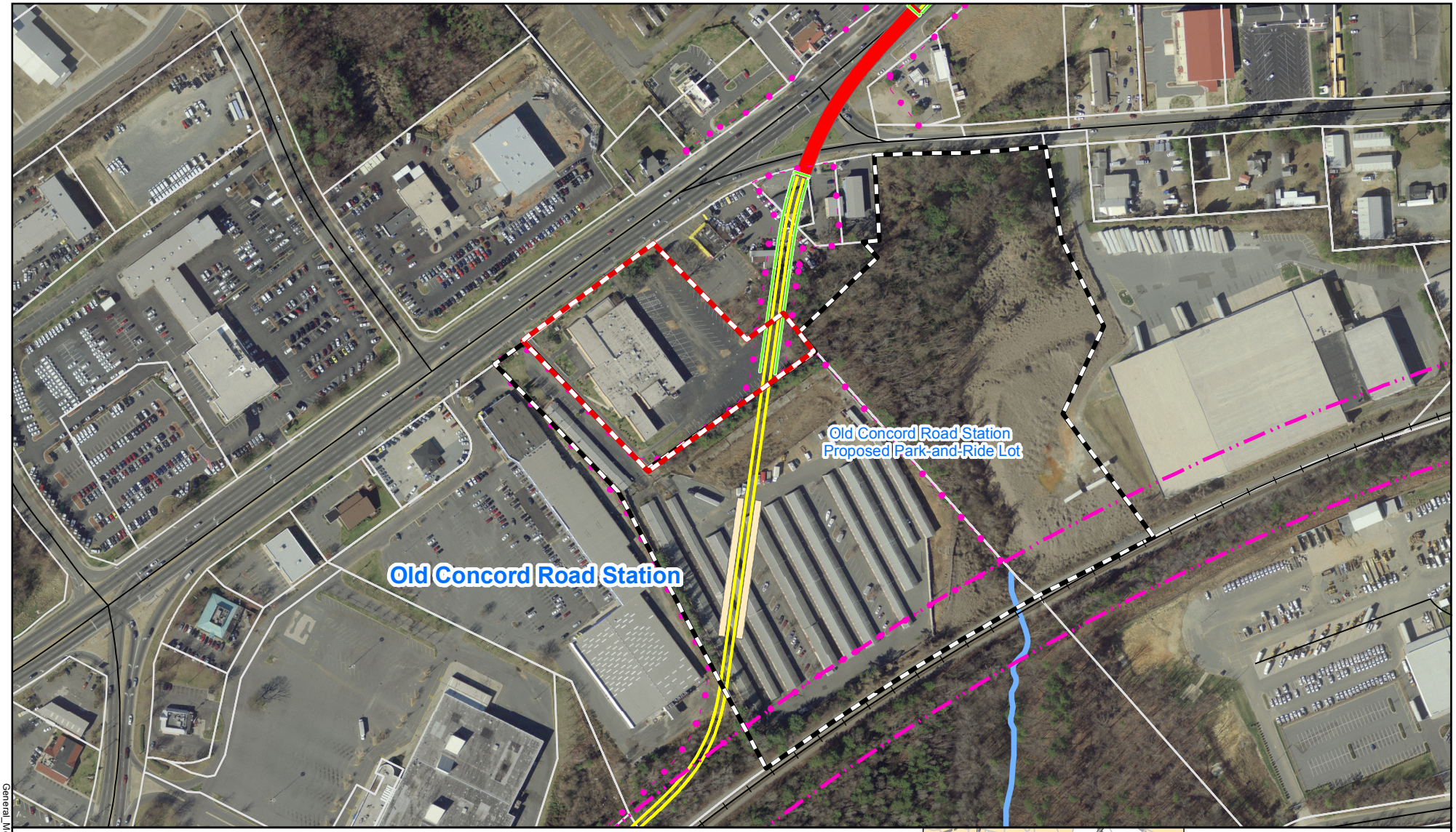
Effect: No Effect

With the grade separation of the light rail line and North Tryon Street/US-29, no crossing gates or other safety equipment would be needed at this location.

LYNX Blue Line Extension

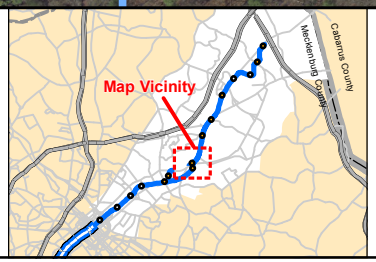
Figure 10a

General Motors Corporation Training Center (LPA)



Legend

- Proposed Light Rail Alternative
- Design Option
- Proposed Structures
- Proposed Station Platforms
- Proposed Right-of-Way
- Proposed Retaining Walls
- Proposed Signal House
- Proposed Substation
- Proposed Park-and-Ride Facilities
- Streams
- Railroad
- Roads
- Historic Resource Site
- Railroad Right-of-Way
- Parcels



150 75 0 150

Feet

1 inch equals 300 feet

Data Source: Mattson Alexander, Charlotte Area Transit System, STV/RWA, Mecklenburg County GIS Aerial (2007)

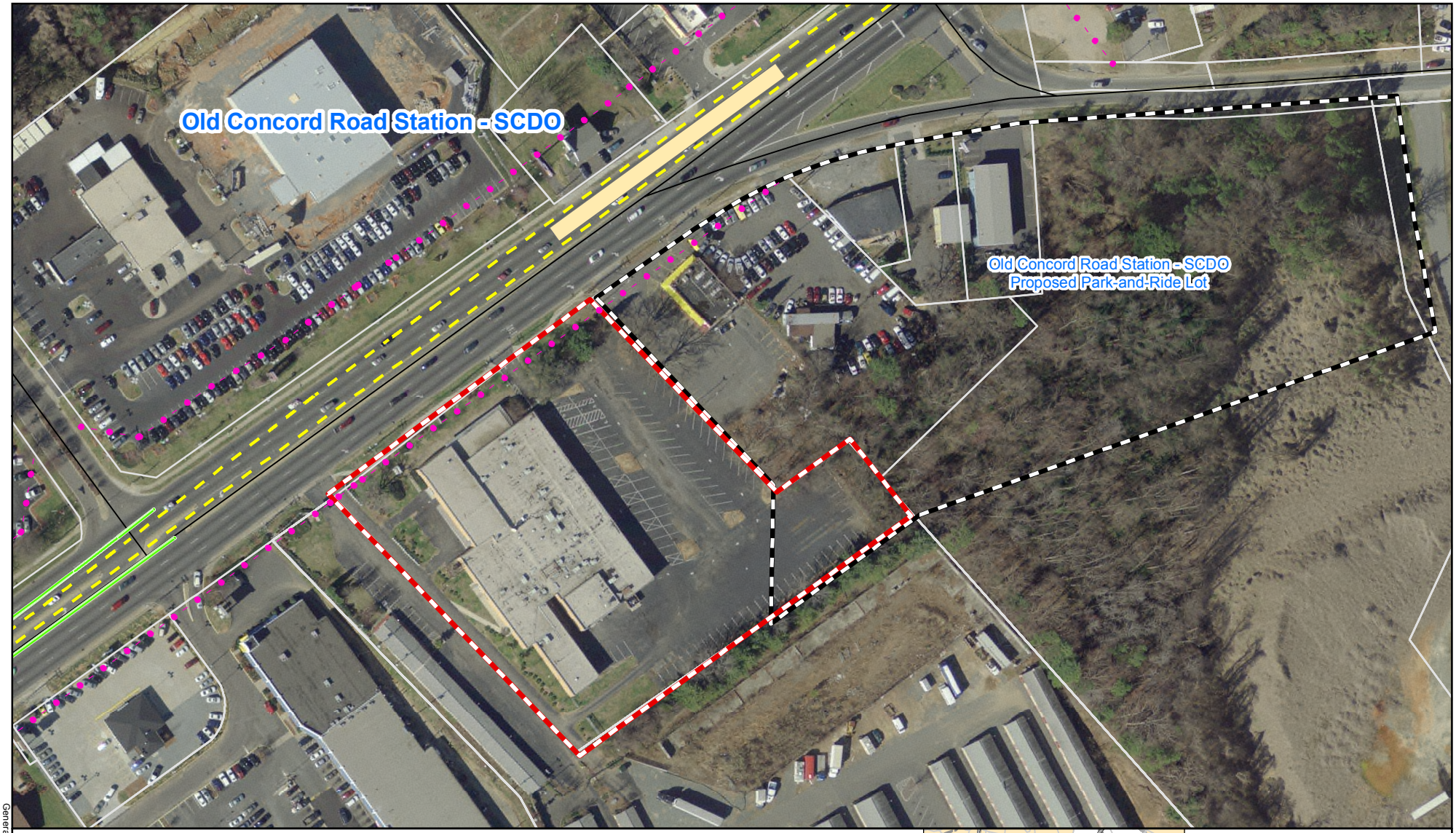
03.19.09

General_Motors_Corporation_LPA_10a_Rev00.pdf

LYNX Blue Line Extension

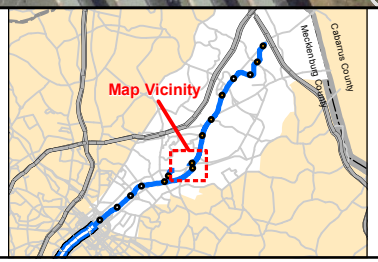
Figure 10b

General Motors Corporation Training Center (SCDO)



Legend

- Proposed Light Rail Alternative
- Design Option
- Proposed Structures
- Proposed Station Platforms
- Proposed Right-of-Way
- Proposed Retaining Walls
- Proposed Signal House
- Proposed Substation
- Proposed Park-and-Ride Facilities
- Streams
- Railroad
- Roads
- Historic Resource Site
- Railroad Right-of-Way
- Parcels



N

75 37.5 0 75

Feet

1 inch equals 150 feet

Data Source: Mattson Alexander, Charlotte Area Transit System, STV/RWA, Mecklenburg County GIS Aerial (2007)

03.18.09

General_Motors_Corp_SCDO_10b_Rev0.pdf

Plate 40. General Motors Corporation Training Center, Site of Proposed Light Rail Alignment (Light Rail Alternative), Looking East From Southwest Corner of Property.

Plate 41. General Motors Corporation Training Center, Site of Proposed Old Concord Road Station and Park-and-Ride Lot, Looking Southeast From General Motors Site.

Plate 42. General Motors Corporation Training Center, Site of Proposed Old Concord Road Station (Sugar Creek Design Option) Site on North Tryon Street/US-29, Looking Northeast From General Motors Site.

Plate 43. General Motors Corporation Training Center, Existing View From General Motors Site of Proposed Sugar Creek Design Option Alignment on North Tryon Street/US-29.

VI. CONCLUSIONS AND RECOMMENDATIONS

The CATS LYNX Blue Line Extension, Northeast Corridor Light Rail Project would connect Center City Charlotte with the UNC Charlotte campus and the surrounding University City area which has emerged in recent decades as a dense population center. Between these two termini, the route would pass through the vibrant, historic neighborhood of North Charlotte and established industrial and commercial zones along Sugar Creek Road and North Tryon Street/US-29. The historic resources identified in the Phase II investigation are largely situated along the southern half of the proposed project corridor where development during the historic period was concentrated. Consequently, this effects document covers actions that would occur between the existing LYNX Blue Line 7th Street Station and Old Concord Road. The evaluations of effects found in this document are based on the 15 percent preliminary engineering designs dated 6 January 2009 and subsequent design changes reflected in the 26 June 2009 conceptual alignment map.

For much of this length, the proposed light rail alignment would lie within existing railroad right-of-way where there would be relatively few direct impacts from the proposed alignment. However, adverse impacts would occur at the 36th Street crossing of the railroad. A station is proposed for this location, which is a busy junction of road and rail adjacent to the North Charlotte Historic District (NR). The demands of the project and the complicated nature of these intersections make impacts to the historic district unavoidable although no buildings within the historic district would be demolished.

Except for the actions needed at the 36th Street junction, the project would not greatly alter the already urban view sheds of the historic resources. Furthermore, there are no noise impacts from the project. Indeed, the light rail trains proposed for the corridor would be quieter than the freight trains which currently use much of the rail corridor. Finally, there should be few, if any, indirect or cumulative impacts from the proposed light rail line. The historic resources are concentrated in heavily urban areas that already face intensive development pressures, transportation projects, new plans and rezonings intended to meet the challenges of great regional growth. A summary table of recommended effects (**Table 2**) is included with this section.

In order to mitigate any adverse effects, the principal investigators recommend that the following agencies, organizations, or interested groups be included as parties to the consultation process with the State Historic Preservation Office. Representatives of the Charlotte-Mecklenburg Planning Department; Dr. Dan L. Morrill, Consulting Director, Charlotte-Mecklenburg Historic Landmarks Commission; and Ms. Diane Althouse, Executive Director, Historic Charlotte, Inc. should all be invited to participate in the consultation process. Because the proposed LYNX Blue Line Extension project would share sections of right-of-way with the proposed Southeast High Speed Rail project, the Norfolk Southern Railway and the North Carolina Railroad, the North Carolina Department of Transportation, Rail Division and representatives of both Norfolk Southern and the North Carolina Railroad should be offered the opportunity to participate in the process.

TABLE 2

SUMMARY TABLE
RECOMMENDED EVALUATIONS OF EFFECTS

No.	Resource Name	Action	Recommended Effect
1.	Philip Carey Company Warehouse	Track Installation	No Effect
		Overhead Catenary System	No Effect
		Noise/Vibrations	No Effect
		Safety & Warning Equipment	No Effect
2.	McNeil Paper Company Warehouse Complex	Track Installation	No Effect
		Overhead Catenary System	No Effect
		9th Street Station and Signal House	No Effect
		Noise/Vibrations	No Effect
		Safety & Warning Equipment	No Effect
4.	Orient Manufacturing Company/Chadwick-Hoskins No. 3	New Track Installation and Right-of-Way Acquisition	No Adverse Effect
		Overhead Catenary System	No Effect
		Signal House	No Effect
		Bridge over CSX Railroad And Elevated Line	No Adverse Effect
		Noise/Vibrations	No Effect
		Safety & Warning Equipment	No Effect

32.	Chadbourn Hosiery Mills	New Track Installation, New Alignment, Right-of-Way Acquisition	No Effect
		Overhead Catenary System	No Effect
		Little Sugar Creek Bridges and Electrical Substation	No Effect
		Duke Energy Access Road	No Effect
		Noise/Vibrations	No Effect
35.	North Charlotte Historic District	New Track Installation, New Alignment, Right-of-Way Acquisition, Bridge over AC&W Line	Adverse Effect
		Depression of 36th Street	Adverse Effect
		36th Street Station	Adverse Effect
		Norfolk Southern Freight Line Relocation and Bridge	No Adverse Effect
		New Track Installation, New Alignment, Bridge Over East Craighead Road, Electrical Substation	No Adverse Effect
		Overhead Catenary System	No Effect
		Noise/Vibrations	No Effect
49.	Herrin Brothers Coal and Ice Company Complex	Light Rail Alternative New Track Installation, New Alignment	No Effect
		Depression of 36th Street	No Adverse Effect
		36th Street Station	No Adverse Effect
		Norfolk Southern Freight Line Relocation and Bridge	No Adverse Effect

		Overhead Catenary System	No Effect
		Noise/Vibrations	No Effect
70.	Standard Chemical Products Plant	Light Rail Alternative Existing Rail Alignment—New Track Installation and New Alignment	No Effect
		Light Rail Alternative Existing Rail Alignment—Sugar Creek Station	No Adverse Effect
		Light Rail Alternative Existing Rail Alignment—Sugar Creek Station, Park-and-Ride Lots	No Effect
		Sugar Creek Design Option—Sugar Creek Station and Sugar Creek Road Bridges	No Effect
		Overhead Catenary System	No Effect
		Noise/Vibrations	No Effect
		Light Rail Alternative and Sugar Creek Design Option—Safety & Warning Equipment	No Effect
71.	Republic Steel Corp. Plant	Light Rail Alternative Existing Rail Alignment—New Track Installation, New Alignment, New Signal House	No Effect
		Light Rail Alternative Existing Rail Alignment—Sugar Creek Station	No Adverse Effect
		Light Rail Alternative Existing Rail Alignment—Sugar Creek Station, Park-and-Ride Lots	No Effect
		Sugar Creek Design Option—New Alignment and New Track Installation	No Adverse Effect
		Sugar Creek Design Option—	

	Sugar Creek Station and Park-and-Ride Lots	No Effect
	Sugar Creek Design Option—Sugar Creek Road Bridges	No Effect
	Sugar Creek Design Option—Safety & Warning Equipment	No Adverse Effect
	Overhead Catenary System	No Effect
	Noise/Vibrations	No Effect
	Light Rail Alternative Existing Rail Alignment—Safety & Warning Equipment	No Effect
86. General Motors Corporation Training Center	Light Rail Alternative Existing Rail Alignment—New Track Installation, New Alignment, Right-of-Way Acquisition, Bridge over Old Concord Road	No Adverse Effect
	Light Rail Alternative Existing Rail Alignment—Old Concord Road Station and Park-and-Ride Lot	No Effect
	Overhead Catenary System	No Effect
	Noise/Vibrations	No Effect
	Light Rail Alternative Safety & Warning Equipment	No Effect
	Sugar Creek Design Option—New Track Installation, New Alignment, Right-of-Way Acquisition	No Effect
	Sugar Creek Design Option—Old Concord Road Station and Park-and-Ride Lot	No Adverse Effect
	Sugar Creek Design Option—Safety and Warning Equipment	No Effect

APPENDIX

Professional Qualifications

Frances P. Alexander
Architectural Historian

Education

1991	M.A.	American Civilization-Architectural History George Washington University Washington, D.C.
1981	B.A.	History with High Honors Guilford College Greensboro, North Carolina

Relevant Work Experience

1991-date	Architectural Historian, Mattson, Alexander and Associates, Inc. Charlotte, North Carolina
1988-1991	Department Head, Architectural History Department Engineering-Science, Inc., Washington, D.C.
1987-1988	Architectural Historian, Historic American Buildings Survey/Historic American Engineering Record, National Park Service, Washington, D.C.
1986-1987	Historian, National Register of Historic Places, National Park Service, Washington, D.C.
1986	Historian, Historic American Engineering Record, National Park Service, Chicago, Illinois

Richard L. Mattson, Ph.D.
Historical Geographer

Education

1988 Ph.D. Geography
University of Illinois, Urbana, Illinois

1980 M.A. Geography
University of Illinois, Urbana, Illinois

1976 B.A. History, Phi Beta Kappa
University of Illinois, Urbana, Illinois

Relevant Work Experience

1991-date Historical Geographer, Mattson, Alexander and Associates, Inc.
Charlotte, North Carolina

1991 Visiting Professor, History Department, Queens College, Charlotte, North Carolina

1989-1991 Mattson and Associates, Historic Preservation Consulting
Charlotte, North Carolina

1988 Visiting Professor, Department of Urban and Regional Planning,
University of Illinois, Urbana, Illinois

1984-1989 Private Historic Preservation Consultant,
Raleigh, North Carolina

1981-1984 Academic Advisor, College of Liberal Arts and Sciences, University of Illinois, Urbana, Illinois

1981 Instructor, Department of Geography, University of Illinois, Urbana, Illinois

1978-1980 Private Historic Preservation Consultant, Champaign, Illinois