



FEASIBILITY STUDY

Acquisition of 15.1 acres of Adjacent Land for the Expansion of the Chattanooga National Cemetery

Prepared for:

**Department of Veterans Affairs
National Cemetery Administration
810 Vermont Avenue NW
Washington, DC 20420**

NCA Project No. 907 CM 3034

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FEASIBILITY STUDY

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1.0 EXECUTIVE SUMMARY

Purpose and Need

Based on historical data and burial projections, the Department of Veterans Affairs National Cemetery Administration (NCA) is projecting the Chattanooga National Cemetery would reach maximum capacity to first interment burials in the year 2019 if it continues to operate within the current parameters. However, the cemetery is taking measures to maximize the remaining burial capacity which could extend the projected depletion date slightly beyond the estimated 2019 published depletion date.

Scope

Anderson Engineering of Minnesota LLC (AE) was authorized by the Department of Veterans Affairs National Cemetery Administration (NCA) to perform a preliminary feasibility study regarding the potential expansion of the Chattanooga National Cemetery via the acquisition and development of an identified 15.1 acre area of land adjacent to the existing Chattanooga National Cemetery located in the City of Chattanooga, Hamilton County, Tennessee.

Location

The identified area of investigation for potential future expansion is portions of city blocks comprised of residential, commercial, undeveloped, and railroad parcels bound by the existing Chattanooga National Cemetery to the north, East 14th Street to the south, South Holtzclaw Avenue to the east, and Polk Street to the west within the City of Chattanooga.

Land Ownership

The 15.1 acre area of investigation includes 51 tax parcels per the Hamilton County Assessor's Office public records. This area is owned as such: 26 unique owners totaling 11.9 acres, a portion of Norfolk Southern historic railroad right-of-way totaling 1.7 acres and portions of City of Chattanooga streets and alleyways totaling 1.5 acres.

Three commercial/industrial businesses are actively utilizing land and buildings within the area of investigation: Top Flight Inc, Fabricators Inc, and Mid South Mattress Company.

One of the undeveloped vacant lots within the area of investigation is owned by the United States of America. However, it is uncertain which specific agency is responsible for this parcel.

Two railroad companies own land within the specified area of investigation. The Alabama Great Southern Railroad Company maintains a north-south track alignment adjacent to South Holtzclaw Avenue on two small parcels as identified by the Hamilton County Assessor's Office. These two parcels containing existing rail track would likely not be acquired as part of the proposed expansion. Norfolk Southern owns a historic railroad right-of-way adjacent to and parallel to the southern boundary of the Chattanooga National Cemetery. This historic right-of-way has had the tracks removed and currently contains overhead wires.

Estimated Real Estate Valuation

Hamilton County Assessor's Office public records were reviewed; and the identified values for the 51 tax parcels within the area of investigation compiled. The values of those parcels not identified by Hamilton County as a tax parcel or not assigned a value by Hamilton County

(railroad parcels, municipal streets, and alleys) were estimated based upon average cost of land for the parcels in the area. The total Hamilton County Assessors Office “appraised” value of land plus buildings in the area of investigation is \$ 1.7 million. The Hamilton County Assessor’s Office public records also indicated pending assessments totaling \$ 590,355.

The total estimated cost for land acquisition including an anticipated acquisition allowance and potentially including the pending assessments ranges from \$ 4 to \$ 6 million.

Relocation Assistance & Obligations

The NCA may have responsibilities and costs per the Uniform Relocation Assistance Act to provide advisory assistance and financial benefits to those people whose home or business is displaced as a result of the land acquisition within the area of investigation. For the purpose of this feasibility study relocation expense allowances were estimated for each property type within the area of investigation. The total estimated relocation cost range is from \$ 3 to \$ 3.4 million.

Limited Historic Review

The Tennessee Historic Preservation Planner determined that there are no properties within the area of investigation that are listed or eligible to be listed on the National or State Registers of Historic Places. The Tennessee Division of Archaeology records indicate that the area of investigation has not been surveyed to determine the presence or absence of archaeological sites. Prior to further development of the area of investigation, consultation should be initiated to begin the process of compliance with Section 106 of the National Historic Preservation Act.

The majority of the parcels within the area of investigation have historically, since at least the early 1900s, been used as residential properties and/or vacant undeveloped lots. Based on this information, these parcels are not expected to have significant environmental impacts. However, several of the parcels within the area of investigation have historically and/or currently are commercial/industrial use properties that represent a potential for environmental impacts. These will likely require further investigation in the form of a Phase I and Phase II Environmental Site Assessment. Additionally, prior to any demolition activities, each structure should undergo a pre-demolition asbestos and hazardous materials survey.

Regulatory Agency Environmental Database Search

Regulatory agency environmental database records were reviewed to assist with the identification of potential environmental concerns within the area of investigation. The database search did not identify any major concerns beyond those previously identified during the Limited Historic Review; further investigation of the historic commercial/industrial parcels and historic railroad parcels.

Environmental Site Reconnaissance

AE staff conducted an environmental site reconnaissance of the area of investigation in December 2008. The site reconnaissance identified the need to complete Phase I and Phase II Environment Site Assessments of the appropriate properties within the area of investigation as well as the need to complete a pre-demolition asbestos and hazardous materials survey prior to any demolition activities.

Utilities and Recorded Easements

Multiple significant utilities are contained within the area of investigation, which would likely require abandoning, capping, removal, and/or relocation. Utility services include a 16-inch

diameter water main, a 48-inch diameter municipal storm sewer, and municipal sanitary sewer within the East 13th Street alignment. The historic Norfolk Southern railroad right-of-way was observed to contain significant overhead transmission lines as well as anecdotal evidence of potentially containing a buried fiber optic long distance telephone line.

A review of readily available deeds from Hamilton County Register’s Office identified one single recorded electrical easement on a single parcel within the area of investigation.

Preliminary Construction Cost Estimates

Demolition Cost Estimate

A preliminary cost estimate was prepared for the effective demolition and removal of all buildings, structures, infrastructure, trees and brush within the area of interest. The total estimated cost to complete these tasks is \$ 2.5 million to \$ 3.3 million.

Redevelopment Cost Estimate

A preliminary cost estimate was prepared for redevelopment following demolition activities in order to be suitable for final cemetery use. This estimate assumes that all utilities would be able to be relocated outside of the area of investigation. The total estimated cost to complete these tasks is \$ 5 to \$ 31 million.

Municipal Process and Estimate of Project Duration

The preliminary schedule developed for activities necessary to complete the acquisition and effective conversion to a state suitable for cemetery development of the identified area of investigation included the following items and estimated duration:

TABLE 1. Estimated Duration of Cemetery Expansion Activities

ESTIMATED DURATION OF CEMETERY EXPANSION ACTIVITIES	
TASK	DURATION (MONTHS)
Planning, City Process, Stakeholder Coordination	8 - 12
Detailed Study, Analysis, Design	8 - 12
Real Estate Research, Negotiation, Acquisition	48 - 60
Demolition Activities	60 - 84
Preliminary Redevelopment to Bare Level Ground	4 - 6
Complete Land Redevelopment to Cemetery Use	108 - 132
TOTAL DURATION:	20 to 26 years

The estimated timeframe for the acquisition of the area of interest and conversion to bare, level land suitable for cemetery uses is 20 to 26 years from the project initiation. This time frame is highly variable dependent upon a number of items, including the method and approach to acquisition, the funding available, the political nature of the project and support or opposition from stakeholders.

Conclusions

- Preliminary research indicates that it is feasible to use the identified area of investigation for cemetery expansion purposes.
- The total estimated cost range to acquire and redevelop the area for cemetery use is \$ 15.1 – \$ 44.6 million.
- The cost of acquiring the land is estimated to range from \$ 4 to \$ 6 million.
- The cost of demolition and redevelopment of the land to suit cemetery use is estimated to range from \$ 7.5 to \$ 34.3 million.
- The duration of the activities required to acquire and develop the land to suit cemetery uses is estimated to range from 20 to 26 years.
- The expansion area would likely provide approximately 15.0 acres of land suitable for cemetery development assuming leaving intact and undisturbed the two Alabama Great Southern Railroad parcels along South Holtzclaw Avenue containing functioning railroad track line.
- The expected capacity of the 15.0 acre expansion area is approximately 19,500 gravesites, assuming an average density of 1,300 gravesites per acre.
- The expected lifespan of the estimated 19,500 gravesites is 32.5 years at the current Chattanooga National Cemetery interment rate of 600 burials requiring new gravesites per year.

TABLE 2. Total Preliminary Cost Estimate

TOTAL PRELIMINARY COST ESTIMATE	
ITEM	PRELIMINARY COST ESTIMATE
Land Acquisition	\$ 4 – 6 million
Demolition Activities	2.5 – 3.3 million
Development Activities	5 – 31 million
Hazardous Material Abatement Allowance	600,000 – 850,000
Relocation Assistance Allowance	3 – 3.4 million
TOTAL:	\$ 15.1 – 44.6 million *
<i>*Note: Estimates are based upon available information and current market conditions at time of report development.</i>	

- Based upon the estimated \$ 15.1 – \$ 44.6 million cost of acquiring and developing 15.0 acres to cemetery use; the average price per acre is \$ 1 - \$ 3 million.

Recommendations

While the acquisition of the identified area of investigation and expansion of the Chattanooga National Cemetery generally appears feasible, it is premature at this stage to recommend moving forward with acquisition. The following are recommendations for the NCA to further consider in evaluating whether the project should move forward:

- Evaluate total estimated project costs versus the total estimated expansion area in terms of potential gravesite capacity as it relates to NCA goals, practices, and budget
- Further evaluate veteran demographics to forecast future capacity needs of Chattanooga National Cemetery
- Consideration of political implications of moving forward with project
- Determine the financial implications should the project move forward
- Develop strategy plan and action tasks to be completed should the NCA decide to move forward with project
- Conduct an informal survey of property owners to identify potential willing sellers and broadly gauge support and level of effort likely to be required for successful land acquisition
- Convene meeting(s) to obtain direct stakeholder input
- Perform title search and obtain legal review of parcels to be obtained
- Review and assess alternate options within and outside of Chattanooga National Cemetery to accommodate future interments



FIGURE 1. Area of Investigation Adjacent to Chattanooga National Cemetery

2.0 GENERAL INFORMATION

2.1 Purpose

Based on historical data and burial projections, the Department of Veterans Affairs National Cemetery Administration (NCA) is projecting the Chattanooga National Cemetery would reach maximum capacity to first interment burials in the year 2019 if it continues to operate within the current parameters. However, the cemetery is taking measures to maximize the remaining burial capacity which could extend the projected depletion date slightly beyond the estimated 2019 published depletion date. Anderson Engineering of Minnesota, LLC (AE) was authorized by the NCA, to perform a preliminary feasibility study regarding the potential acquisition and development of land adjacent to the existing Chattanooga National Cemetery for potential cemetery expansion activities.

2.2 Scope

The scope of this feasibility study regarding the potential acquisition of land adjacent to the Chattanooga National Cemetery for expansion activities includes the following

- General background, location and physical setting
- Summary of ownership and current use of the land parcels
- Compilation of Hamilton County Assessor' s Office value of real estate
- Summary of potential relocation assistance obligations
- Limited historic review
- Regulatory agency environmental database search review
- Environmental site reconnaissance summary
- Review of utilities and formally recorded easements
- Development of cost estimate for the demolition and redevelopment of the area of investigation
- Current City of Chattanooga zoning and code implications
- Expected municipal process and estimated duration of project activities



PHOTO 1. Existing Chattanooga National Cemetery Entrance

3.0 PROPOSED EXPANSION AREA BACKGROUND AND PHYSICAL SETTING

3.1 Background

The Chattanooga National Cemetery is located in the center of the City of Chattanooga, Hamilton County, Tennessee on a prominent round hill rising approximately 100 feet above the surrounding land. The cemetery footprint covers 120.9 acres and contains over 46,000 interments. Chattanooga National Cemetery is the only National Cemetery that has both World War I and World War II veterans, other United States veterans, as well as foreign prisoners of war, reinterred. There are a total of 186 POW's from both World Wars combined.



PHOTO 2. Existing Chattanooga National Cemetery

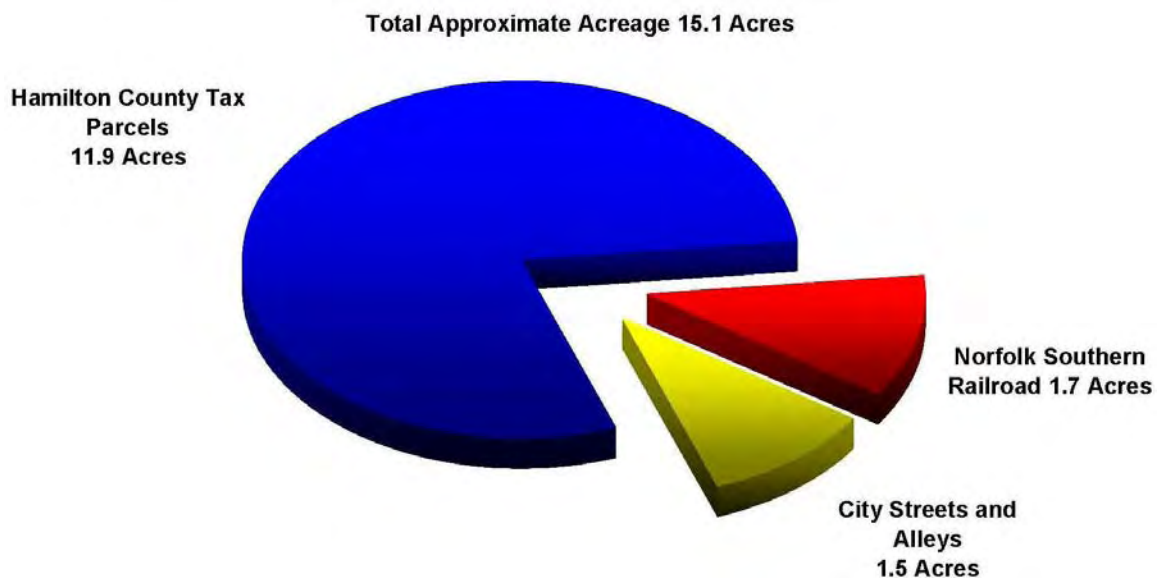
3.2 Location

The general location of the proposed expansion area is adjacent to and immediately south of the existing Chattanooga National Cemetery. The proposed expansion area is bounded by the existing Chattanooga National Cemetery to the north, East 14th Street to the south, South Holtzclaw Avenue to the east, and Polk Street to the west.

3.3 Size

The identified area of investigation totals approximately 15.1 acres in size. Hamilton County, Tennessee public records indicate that the area of investigation includes 51 unique tax parcels totaling 11.9 acres, a Norfolk Southern railroad right-of-way immediately adjacent to the southern boundary of the existing Chattanooga National Cemetery totaling approximately 1.7 acres and 1.5 acres of City of Chattanooga streets including Olive Street (approximately 0.2 acres), a portion of East 13th Street (approximately 1.1 acres), and alleyways (approximately 0.2 acres).

CHART 1. Land Acreage within Area of Investigation



3.4 Topography

Review of the United States Geological Survey 7.5-minute Topographic Map, Chattanooga, Tennessee Quadrangles, dated 1976, indicated that the area of investigation is located in portions of Section 27 and Section 34, Township 2, Range 4 in the City of Chattanooga, Tennessee, Hamilton County. Observation of contour lines on the topographic map indicates the area of investigation is located at an approximate elevation of 660 feet above Mean Sea Level. The contour lines in the vicinity of the area of investigation indicate the topographic gradient is generally to the south.

3.5 Land Use and Zoning

The land uses immediately adjacent to the existing cemetery and the area of investigation are typical of contemporary urban settings and include residential, commercial, industrial, railroad, federal, and city streets.

A review of the City of Chattanooga zoning ordinance and zoning map shows that the existing Chattanooga National Cemetery is zoned as R3-Residential Zone. The land areas within the identified area of investigation include the following City of Chattanooga zoning designations:

R3 – Residential Zone (Apartment/Townhome District)

Permitted uses include, but are not limited to, single-family dwellings, multiple family dwellings, schools, parks, publicly used buildings, churches and daycares.

M1 – Manufacturing Zone

Permitted uses include, but are not limited to, mills, food processing plants and recycling centers.

M2 – Light Industrial Zone

Permitted uses include, but are not limited to, apparel manufacturers, cold storage plants, communications towers, food packaging and distribution, textile production, and wholesaling.

3.6 Surficial Soils

Review of the Hamilton County Soil Survey, dated November 9, 2007 indicated that the surficial soil beneath the area of investigation is comprised of the Colbert-Urban land complex, 2 to 12 percent slopes. This map unit consists of deep, moderately well drained, gently sloping and sloping Colbert soils, Urban land, and disturbed areas that have been altered during construction. Typically, Colbert soils have a surface layer of brown silt loam 4 inches thick. The subsoil is yellowish brown clay that extends to a depth of 45 inches. It is mottled in shades of brown and gray, except in the upper 10 to 15 inches. The underlying material is olive gray and has gray and brown mottles. Colbert soils are low in natural fertility and organic matter content. They are slightly acid to strongly acid, except in the layers above bedrock, which range to mildly alkaline. Permeability is very slow, and the available water capacity is moderate. The shrink-swell potential is high.

The Colbert soils are used for parks, open space, building sites, lawns, and gardens. They are moderately to poorly suited to lawns, gardens, trees, and shrubs; and they are poorly suited to intensive recreation developments such as football fields, baseball fields, and playgrounds. Colbert soils are poorly suited to building sites, roads, and most other engineering uses. A very slow permeable clayey subsoil, low strength when wet, and high shrink-swell potential are the major limiting features of these soils.

The Urban land part of this unit is covered by buildings, street, parking lots, sidewalks, and other structures. The disturbed areas have been excavated during the installation of utilities, and cut and filled during grading and shaping operations. They have been altered to the extent that individual soils cannot be identified and predictions cannot be made about their suitability for use without an onsite investigation.

3.7 Geology/Hydrogeology

A review of the United States Geological Survey, Geologic Map of Hamilton County, Tennessee – Bulletin 79, Plate 1 dated 1978 indicated that the uppermost bedrock unit beneath the area of investigation is likely the Chickamauga Supergroup. The Chickamauga Supergroup is approximately 1,500 to 1,800 feet thick and consists of gray limestone, mostly fine to medium grained, thin to medium-bedded, in part shaly and nodular. Locally contains beds of crystalline limestone and reddish silty limestone.

The general surficial ground water flow direction in the vicinity of the area of investigation is expected to be south.

3.8 Wetlands

Review of the United States Department of the Interior National Wetlands Inventory Geottract Mapping System, indicated that no wetlands were depicted within the area of investigation. A small wetland is shown in the southwest portion of the Chattanooga National Cemetery property to the northwest of the area of investigation.

3.9 Flood Plain

Review of the City of Chattanooga, Hamilton County FEMA Flood Insurance Rate Map Community Number 47065 C 0341 & 47065 C 0343, dated 2002, indicated that the area of investigation is depicted within Zone X, defined as located outside the 500-year floodplain. Confirmation of flood plain status would require additional investigation which is outside the scope of this assessment.

3.10 Radon

Review of the Environmental Data Resources Inc. (EDR)-Radius Map with GeoCheck Report, dated November 20, 2008, indicated that the area of investigation is located within EPA Radon Zone 2. The expected average indoor radon concentration of Radon Zone 2 is greater than or equal to 2 picoCuries/Liter (pCi/L) and less than or equal to 4 pCi/L, which is below the EPA Guidance Level of 4 pCi/L. Radon testing would be required to verify actual radon concentrations.

4.0 LAND PARCELS AND OWNERSHIP

4.1 Land Parcels

The identified area of investigation consists of 51 unique tax parcels ranging in size from 2.46 acres to 0.01 acres owned by 26 unique owners, as recorded at the Hamilton County Tennessee Register of Deeds Office. These parcels are a combination of single-family residential, multi-family rental, commercial/industrial, undeveloped vacant lots, and two state assessed railroad parcels.

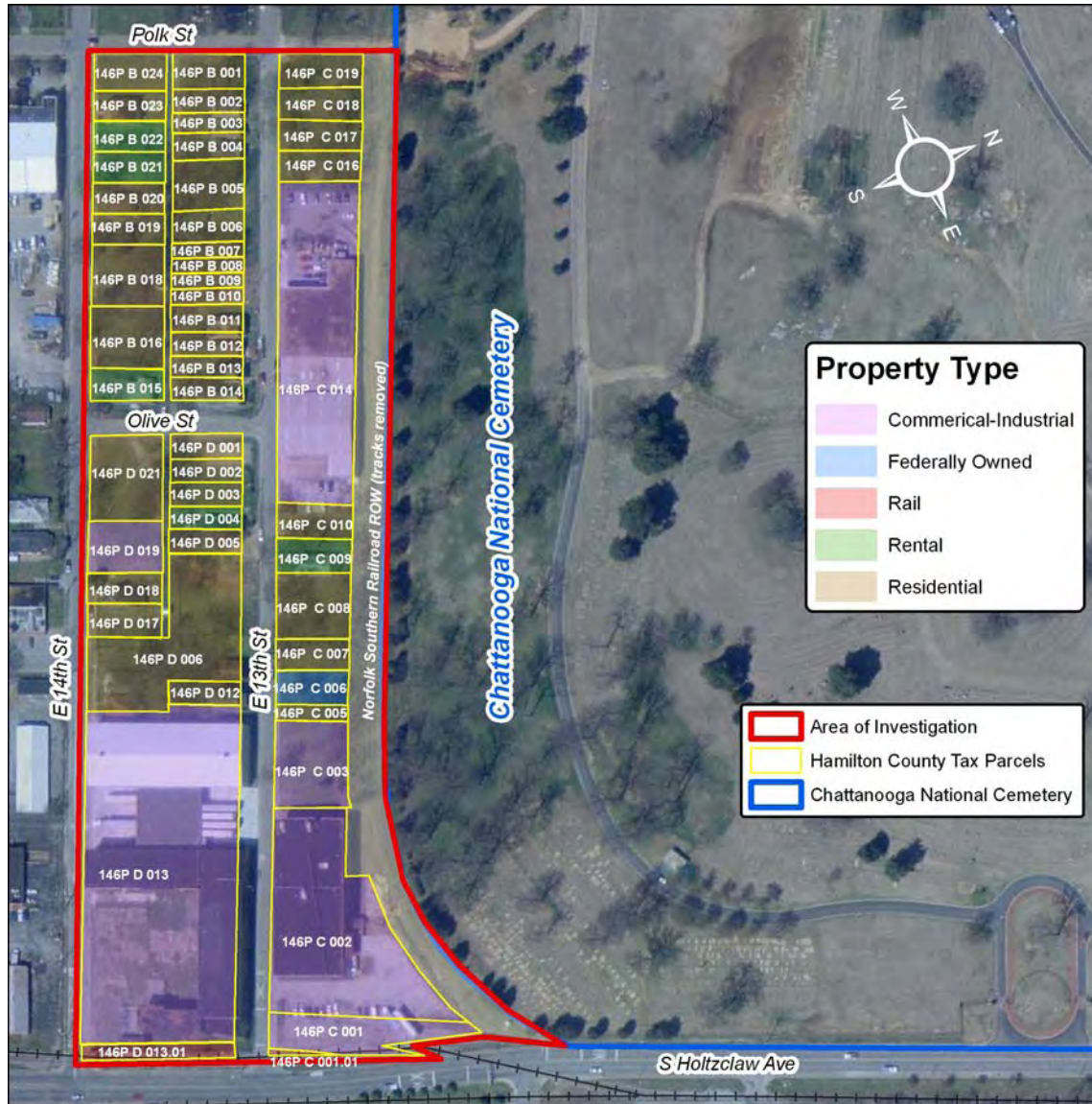


FIGURE 2. Hamilton County Tax Parcels within the Area of Investigation

TABLE 3. Parcel Owners within Area of Investigation

PID	Owner	Address	Acreage
146P B 001	TOP FLIGHT INC.	1100 E. 13TH STREET	0.12
146P B 002	MICHAEL L. HINES	1104 E.13TH STREET	0.07
146P B 003	LATASHA JONES	1106 E. 13TH STREET	0.07
146P B 004	CHARLIE JEFFERSON	1108 E. 13TH STREET	0.11
146P B 005	RESTIS PROPERTIES INC.	1110 E. 13TH STREET	0.19
146P B 006	S&M DEVELOPMENT INC.	E. 13TH STREET	0.11
146P B 007	TOP FLIGHT INC.	1114 E. 13TH STREET	0.06
146P B 008	TOP FLIGHT INC.	1116 E. 13TH STREET	0.06
146P B 009	S&M DEVELOPMENT INC.	1118 E. 13TH STREET	0.06
146P B 010	S&M DEVELOPMENT INC.	1120 E. 13TH STREET	0.06
146P B 011	TRUMAN AND JANET ANDERSON	1122 E. 13TH STREET	0.09
146P B 012	TOM GARDENHIRE	1124 E. 13TH STREET	0.09
146P B 013	COLLEGEDALE CREDIT UNION	1126 E. 13TH STREET	0.09
146P B 014	TOP FLIGHT INC.	1128 E. 13TH STREET	0.09
146P B 015	M3 PROPERTIES OF TENNESSEE	1123 E. 14TH STREET	0.12
146P B 016	TOP FLIGHT INC.	E. 14TH STREET	0.22
146P B 018	LEOLA WEAVER & ANNIE BUTLER	1115 E. 14TH STREET	0.22
146P B 019	GENINE THOMPSON	1111 E. 14TH STREET	0.11
146P B 020	JAMES & PEARLENE SMITH	1109 E. 14TH STREET	0.11
146P B 021	GERALD TAYLOR	1107 E. 14TH STREET	0.11
146P B 022	GERALD TAYLOR	1105 E. 14TH STREET	0.11
146P B 023	IDELLA DARWIN	1103 E. 14TH STREET	0.11
146P B 024	JAMES KELLY	1101 E. 14TH STREET	0.12
146P C 001	TOP FLIGHT INC.	S. HOLTZCLAW AVENUE	0.31
146P C 001.01	ALABAMA GREAT SOUTHERN	S. HOLTZCLAW AVENUE	0.01
146P C 002	MID SOUTH MATTRESS CO	1265 E. 13TH STREET	1.90
146P C 003	MID SOUTH MATTRESS CO	1257 E. 13TH STREET	0.33
146P C 005	JOE & FAY PHILLIPS	1253 E. 13TH STREET	0.07
146P C 006	UNITED STATES OF AMERICA	E. 13TH STREET	0.13
146P C 007	RUDOLPH FOSTER JR.	1247 E. 13TH STREET	0.13
146P C 008	IRIS GOSSARD	E. 13TH STREET	0.26
146P C 009	MILLIGAN REYNOLDS GUAR	1215 E. 13TH STREET	0.13
146P C 010	MILLIGAN REYNOLDS GUAR	1213 E. 13TH STREET	0.13
146P C 014	PERRY & CHRISSIE GUESS	1125 E. 13TH STREET	1.25
146P C 016	S&M DEVELOPMENT INC.	1109 E. 13TH STREET	0.12
146P C 017	S&M DEVELOPMENT INC.	1107 E. 13TH STREET	0.12
146P C 018	S&M DEVELOPMENT INC.	1105 E. 13TH STREET	0.12
146P C 019	S&M DEVELOPMENT INC.	1101 E. 13 STREET	0.13
146P D 001	TOP FLIGHT INC.	E. 13TH STREET	0.08
146P D 002	BETTY JOE CASEY	1202 E. 13TH STREET	0.08
146P D 003	TOP FLIGHT INC.	1204 E. 13TH STREET	0.08
146P D 004	VICTORIA L. RYALS	1206 E. 13TH STREET	0.08
146P D 005	WATT-CHEM INC.	1208 E. 13TH STREET	0.08
146P D 006	TOP FLIGHT INC.	1112 E. 13TH STREET	0.44
146P D 012	TOP FLIGHT INC.	1220 E. 13TH STREET	0.10
146P D 013	TOP FLIGHT INC.	1400 E. 14TH STREET	2.46
146P D 013.01	ALABAMA GREAT SOUTHERN	S. HOLTZCLAW AVENUE	0.13
146P D 017	PEARL & PATRICIA ROBINSON	1139 E. 14TH STREET	0.13
146P D 018	PEARL & ULYSSES ROBINSON	1137 E. 14TH STREET	0.11
146P D 019	WATT-CHEM INC.	1135 E. 14TH STREET	0.19
146P D 021	WATT-CHEM INC.	1129 E. 14TH STREET	0.31

The residential and rental parcels within the area of investigation are generally 0.10 acres in size. The lots are generally narrow with minimal street frontage. The construction dates of the structures located on these parcels range from 1920 to 2008. The structures are primarily single story, wood frame, slab-on-grade construction technique. The residential structures within the area of investigation range in size from 850 to 1,450 square feet. The rental structures within the area of investigation range in size from 1,400 to 2,000 square feet.



PHOTO 3. Typical rental lot within area of investigation
(Parcel ID – 146P C 009)



PHOTO 4. Typical residential lot within area of investigation
(Parcel ID – 146P B 002)



PHOTO 5. Typical vacant lot within area of investigation
(Parcel ID – 146P D 019)

Two railroad companies own land within the specified area of investigation. The Alabama Great Southern Railroad Company maintains a north-south track alignment adjacent to South Holtzclaw Avenue on two small parcels as identified by the Hamilton County Assessor's Office. These two parcels containing existing rail track would likely not be acquired as part of the proposed expansion.

In addition to the Alabama Great Northern parcels identified by Hamilton County, Norfolk Southern owns a historic railroad right-of-way adjacent to and parallel to the southern boundary of the Chattanooga National Cemetery. The Norfolk Southern railroad right-of-way is not identified as a tax parcel by the Hamilton County Assessor's Office. This area is approximately 1.7 acres in size and is located immediately adjacent to and extends parallel to the southern boundary of the existing Chattanooga National Cemetery. The Norfolk Southern right-of-way has had the tracks removed and currently contains overhead wires and possibly buried fiber-optic cable.



PHOTO 6. Alabama Great Southern Rail along the west side of South Holtzclaw Avenue
(Parcel ID – 146P D 013.01)



PHOTO 7. Historic Norfolk Southern Railroad Right-of-Way adjacent to existing cemetery

4.2 Ownership

The 51 tax parcels contained within the area of investigation are owned by 26 unique owners, as identified during research of public records available from Hamilton County.

Top Flight Inc., a manufacturer and distributor of paper based products is the single largest owner of property within the area of investigation owning twelve parcels totaling 4.46 acres. Top Flight Inc.'s main business headquarters is outside of the area of investigation, although in close proximity. It appears that Top Flight Inc. is currently utilizing a parcel (Parcel ID – 146P D 013) for warehouse and distribution activities.



PHOTO 8. Top Flight Inc.
(Parcel ID – 146P D 013)



PHOTO 9. Top Flight Inc.
(Former Modern Maid Facility)
(Parcel ID – 146P D 013)

Mid South Mattress Company owns two adjacent parcels within the area of investigation totaling 2.23 acres. One parcel (Parcel ID – 146P C 002) is occupied by an industrial office/warehouse facility occupied by Mid South Mattress Company and utilized for manufacturing, storage, and shipping of mattresses.



PHOTO 10. Mid South Mattress Company.
(Parcel ID – 146P C 002)

Perry and Chrissie Guess own one single 1.25 acre parcel (Parcel ID – 146P C 014) within the area of investigation. The parcel contains a one story industrial building occupied by Fabricators Inc., a sheet metal fabrication company.



PHOTO 11. Fabricators Inc.
(Parcel ID – 146P C 014)

Watt-Chem Inc. owns three parcels within the area of investigation totaling 0.58 acres; two adjacent vacant parcels along the north side of East 14th Street (Parcel ID's - 146P D 019 & 146P D 021) and one vacant parcel along the south side of East 13th Street (Parcel ID – 146P D005). These parcels are all in close proximity to Watt-Chem Inc.'s primary business office located immediately across the street on the south side of East 14th Street and outside of the area of investigation.

S & M Development maintains ownership of 7 parcels totaling 0.72 acres within the area of investigation. All seven parcels are undeveloped vacant lots according to Hamilton County Assessor's Office public records.

The remaining parcels within the area of investigation are owned by various individuals owning one or more residential, multi-family rental, or undeveloped vacant lots.

One of the undeveloped vacant parcels (Parcel ID-146P C 006) within the area of investigation, 0.13 acres in size, is listed by the Hamilton County Assessor as "*federally owned*" property. The owner listed by Hamilton County is the United States of America - National Park Service. Discussions with the National Park Service Land Resource Staff at the Southeast Regional Office, located in Atlanta, Georgia, revealed that the parcel is not identified on the National Park Service Land Status Map as one of their holdings.



PHOTO 12. Federally-owned parcel within area of investigation (Parcel ID – 146P C 006)

The deed for the “*federally owned*” parcel was obtained from the Hamilton County Register of Deeds Office. The deed, executed August 26, 1957, does convey this parcel to the United States of America; however it does not identify the land for park use. The header at the top of the 1957 deed document contains the text “*Project: Chattanooga National Cemetery; Tract No. 100*”, suggesting direct ties to the Chattanooga National Cemetery. Further research and a full title search for this parcel should be performed to accurately determine the agency responsible for ownership of this parcel.

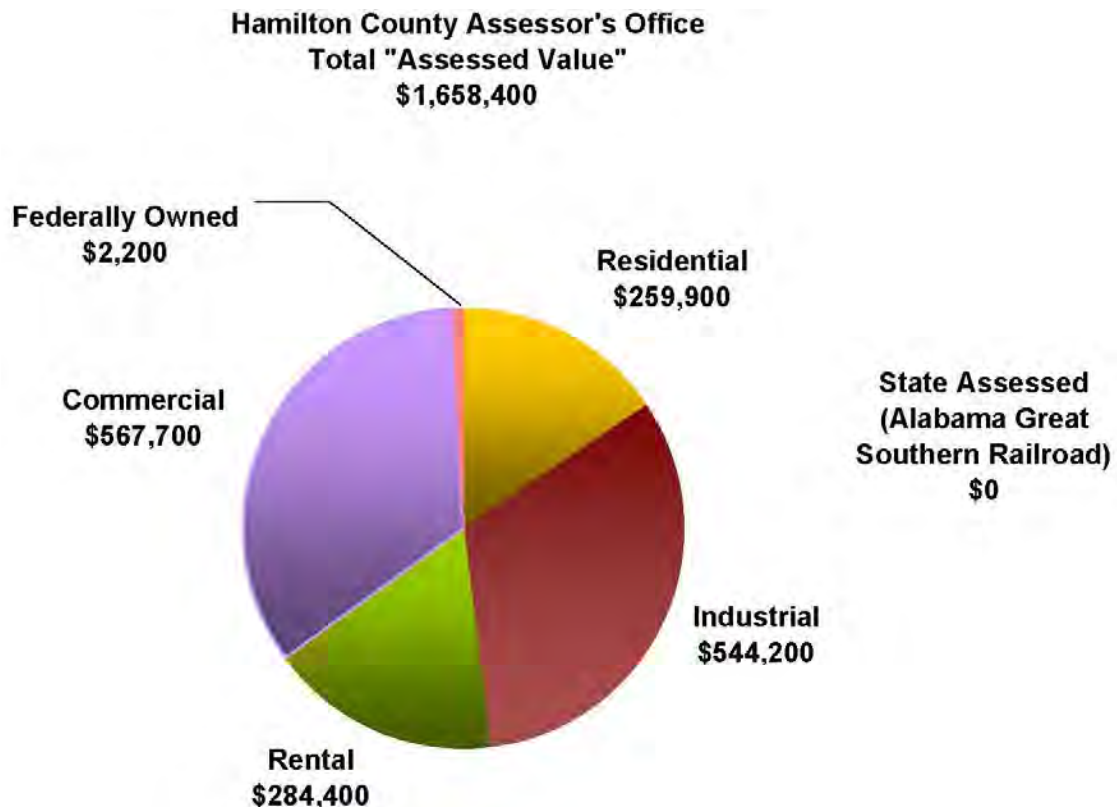
Inquiry has been made to the current ownership and use of the historic Norfolk Southern railroad right-of-way immediately adjacent to the southern boundary of the existing Chattanooga National Cemetery. A change in staffing at the Norfolk Southern, regarding the agent responsible for the property in question, has complicated the successful acquisition of first hand information. Further research and a full title search for this parcel should be performed to accurately determine the historic ownership and extent of this property area.

5.0 ESTIMATED REAL ESTATE VALUES

5.1 Estimated Real Estate Values

The Hamilton County Assessors Office public records were reviewed and County "appraised values" (land plus structures) were compiled for the tax parcels within the investigation area. The two small railroad parcels (Parcel ID's- 146P C 001.01 and 146P C 013.01) owned by Alabama Great Southern Railroad Company along South Holtzclaw Avenue were not assigned a property value by the Hamilton County Assessor's office and were listed as "State Assessed." The 49 tax parcels contained within the area of investigation and having an assigned value by Hamilton County Assessors Office had a total Hamilton County appraised value (land plus structure) of \$1,658,400.

CHART 2. Assessed Value of Parcels within Area of Investigation



The Hamilton County Assessor's Office public records also indicated pending assessments totaling \$590,355 for the parcels located within the area of investigation. This amount will either need to be paid or may be forgiven and incur no cost towards acquisition.

Those parcels not identified by Hamilton County as a tax parcel or not assigned a value by Hamilton County Assessors Office (railroad parcels, municipal streets, and alleys) were estimated based upon average cost of land for the parcels in the area. The two Alabama Great

Southern Railroad parcels totaling 0.1 acres had an estimated value of \$3,000. The 1.7 acre Norfolk Southern railroad right-of-way had an estimated value of \$42,500.

The 1.5 acres of City of Chattanooga streets and alleyways contained within the area of investigation were public areas and consequently not assigned a value by the Hamilton County Assessor's Office. While these public areas may potentially be vacated and conveyed without cost, for purposes of this analysis, the 1.5 acres of municipal streets and alleyways was estimated in a similar manner as the railroad parcels to be valued at \$37,500.

TABLE 4. Hamilton County Assessors Office Building-Structure Values

HAMILTON COUNTY ASSESSORS OFFICE BUILDING-STRUCTURE VALUES		
TYPE	NUMBER OF PARCELS WITH STRUCTURES*	TOTAL VALUE^
Commercial/Industrial	4	\$ 921,800
Multi-Family Rental	5	274,400
Single Family Residential	11	174,800
TOTAL:	20	\$ 1,371,000
<i>^ Note: Values obtained from Hamilton County Assessor's Office public records</i>		
<i>* Note: Hamilton County Assessor's Office records may not reflect current structures present due to recent and ongoing construction within the area of investigation</i>		

CHART 3. Cumulative Land Value and Cumulative Building Value

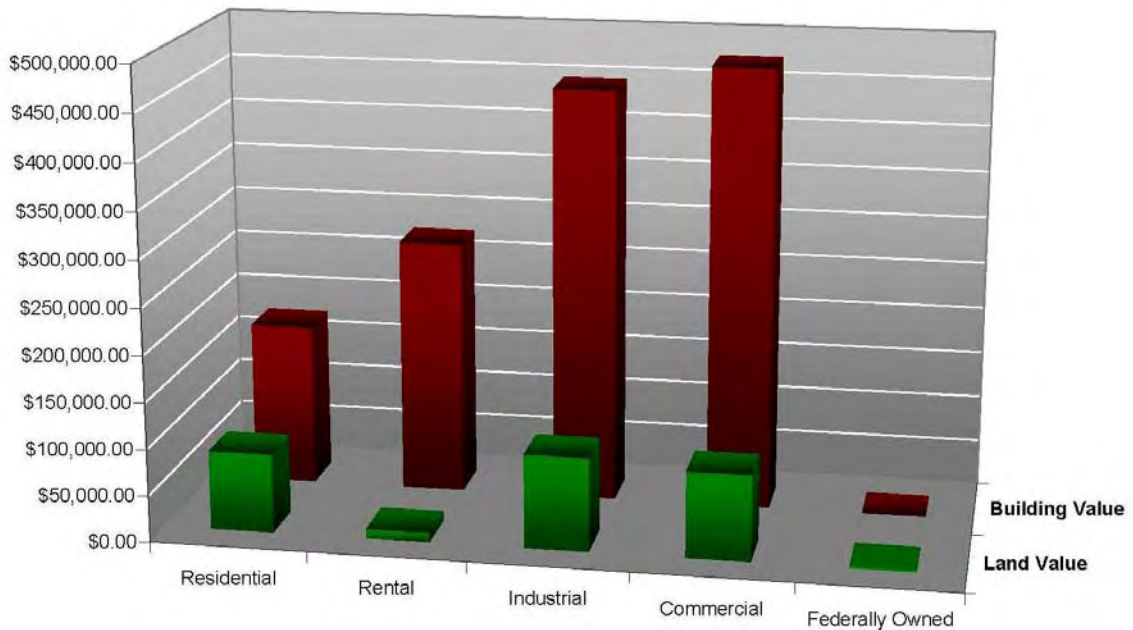


TABLE 5. Preliminary Hamilton County Assessors Office Real Estate Valuation

PRELIMINARY HAMILTON COUNTY ASSESSORS OFFICE REAL ESTATE VALUATION[^]					
HAMILTON Co. PROPERTY TYPE	NUMBER	APPROX AREA (ACRES)	LAND VALUE[^] (\$)	BUILDING VALUE[^] (\$)	TOTAL VALUE (LAND + BUILDING)
Residential Lots	37	4.6	85,100	174,800	259,900
Rental Lots	5	0.6	10,000	274,400	284,400
Commercial / Industrial Lots	6	6.5	190,100	921,800	1,111,900
Federally Owned	1	0.1	2,200	na	2,200*
Alabama Great Southern RR	2	0.1	3,000**	na	3,000**
Norfolk Southern RR ROW	1	1.7	42,500*	na	42,500*
City Streets & Alleyways		1.5	37,500*	na	37,500*
TOTAL:		15.1	\$ 370,400	\$ 1,371,000	\$ 1,741,400
Pending Assessments:					\$ 590,355
TOTAL:					\$ 2.33 million
[^] Note: Values obtained from Hamilton County Assessor's Office public records					
[*] Note: Those parcels not assigned a value by Hamilton County Assessor's Office were estimated based upon land value of surrounding parcels.					
^{**} Note: Active railroad parcels not likely to be acquired					

The total Hamilton County Assessed value of all land and buildings (\$1.7 million) plus pending assessments (\$590,335) within in the 15.1 acre area of investigation is \$2.33 million.

The Hamilton County Assessor Office's "appraised value" for the parcels is likely less than true market conditions would bear. For the purpose of this feasibility study, allowances were estimated for each property type and included in addition to the Hamilton County Assessor's Office values to formulate the upper range of potential real estate acquisition costs. The estimated allowances are shown in the following table.

TABLE 6. Estimated Land and Structure Acquisition Allowances

ESTIMATED LAND & STRUCTURE ACQUISITION ALLOWANCES			
OBSERVED PARCEL USES	NUMBER*	ALLOWANCE	ESTIMATED AMOUNT
Single Family Residential	18	\$40,000	\$ 720,000
Multi-Family Rental	5	50,000	250,000
Business/Commercial	3	250,000	750,000
Vacant Lots	23	10,000	23,000
Alabama Great Southern RR	2	na	na
TOTAL:	51		\$1.7 million
<i>* Note: number reflects those occupied structures observed during December 2008 site reconnaissance and may differ from the Hamilton County Assessors Office data due to recent and ongoing construction within the area of interest</i>			

The total estimated cost of land acquisition is expected to range from \$ 4 to 6 million for the specified 15 acres.

6.0 RELOCATION OBLIGATIONS

6.1 Potential Relocation Obligations

The Uniform Relocation and Assistance Act (URAA) establishes uniform policies to compensate people displaced from their homes or businesses by government programs. A person is eligible for assistance if his home or business is displaced by land acquisition programs, code enforcement activities, or housing rehabilitation programs. The act requires the displacing agency to provide advisory assistance and financial benefits.

When a program or project that an agency undertakes or supervises will displace anyone, the agency head must pay the displaced person for actual (1) reasonable moving expenses for him, his family, business, farm operation, or other personal property; (2) direct losses of tangible personal property as a result of moving or discontinuing a business or farm operation (not exceeding an amount equal to the reasonable relocation expenses, as determined by the agency); and (3) reasonable expenses in searching for a replacement business or farm.

The NCA may incur costs as a result of obligations required by the URAA. Specific cost estimates are dependent upon the approach, process, method of acquisition, and number of individuals displaced. The highly variable nature of this process precludes a definitive cost estimate.

For the purpose of this feasibility study relocation expense allowances were estimated for each property type within the area of investigation. The total estimated cost for relocation is expected to range from \$ 3.0 – 3.4 million.

TABLE 7. Estimated Relocation Allowances

ESTIMATED RELOCATION ALLOWANCES			
TYPE	NUMBER*	ALLOWANCE	ESTIMATED AMOUNT
Single Family Residential	18	\$25,000 - 30,000	\$ 450,000 – 540,000
Multi-Family Rental	5	50,000 - 55,000	250,000 – 275,000
Business/Commercial	3	750,000 – 850,000	2.25 – 2.55 million
Vacant Lots	23	0 - 1,000	0 - 23,000
Alabama Great Southern RR	2	na	na
TOTAL:	51		\$ 3.0 – 3.4 million
<i>* Note: number reflects those occupied structures observed during December 2008 site reconnaissance and may differ from the Hamilton County Assessors Office data due to recent and ongoing construction within the area of interest</i>			

7.0 LIMITED HISTORIC REVIEW

7.1 Historic Parcel Uses

Review of historic and governmental records identified that the majority of the parcels within the area of investigation have historically, since at least the early 1900s, been developed as residential properties, retail neighborhood “stores”, and/or have remained vacant undeveloped parcels. However, several of the parcels have been developed as industrial properties and are further discussed below:

1265 East 13th Street (Parcel ID- 146P C 002): 1.90-acre parcel occupied by an industrial office/warehouse facility. The building was originally constructed in the 1920s and was a part of the Tennessee Casket Company operations from at least 1929 until the 1950s. As part of the Tennessee Casket Company operations, the building was utilized for furniture finishing, crating, shipping, and storage. From approximately 1955 to the mid 1980s, the building was occupied by Chattanooga Mattress Company and utilized for manufacturing, storage, and shipping of mattresses. Currently, the building is occupied by Mid-South Mattress Company. The historic operations associated with the building, including furniture finishing, represents the potential for spills and improper handling of chemicals that may result in detrimental environmental impacts to the area of investigation.

1125 East 13th Street (Parcel ID – 146P C 014): 1.25-acre parcel occupied by a 1-story industrial building. The building was originally constructed in 1960 and utilized as a wholesale floor covering warehouse until 1992. Since 1992 to the present, the building has been occupied by Fabricators Inc., a sheet metal fabrication company. Further evaluation of this facility should be conducted, including a Phase I Environmental Site Assessment to gain access to the building to evaluate operations and potential for environmental impacts to the area of investigation.

1400 East 14th Street (Parcel ID – 146P D 013): 2.46-acre parcel occupied by an industrial/warehouse building. The building was originally constructed in approximately the 1920s and occupied by the Tennessee Coffin & Casket Company for the manufacturing of caskets and novelty wood products until the early 1960s. Review of historic Sanborn Fire Insurance Maps identified the coffin and casket manufacturing operations included woodworking, painting, varnishing, and metalworking. In addition, a gasoline storage tank was depicted in the center of the parcel on several historic maps. In the early 1960s until the 1980s, the building was occupied by Tennessee Stove Works (predecessor of Modern Maid Company) a manufacturer of stoves and kitchen appliances. From 1980 to 2006, the building was vacant or occupied by a cabinet manufacturer. Currently, the building is occupied by a paper company (Top Flight Inc) and utilized as a storage warehouse. The historic uses of the area of investigation represent the potential for detrimental environmental impacts to soil and/or groundwater at the area of investigation.

Addressed Unassigned (Parcel ID – 146P C 001.01 & 146P D 013.01): 0.28 and 0.14-acre parcels occupied by a rail line. Review of historic and governmental records identified that these parcels have been occupied by a rail spur line that serviced the former mattress factory and the former Tennessee Casket Company/Tennessee Stove Company facilities. Railroad operations for loading and unloading of supplies, including chemical solvents, paints and petroleum products, often result in spills and releases that may impact soil and groundwater. The historic rail spur line use represents the potential for detrimental environmental impacts to soil and/or groundwater at the area of investigation.

7.2 Historical Fire Insurance Maps

Sanborn fire insurance maps of the area of investigation area were obtained from Environmental Data Resources Inc. (EDR) for the years 1917, 1929, 1950, 1955, and 1964. The review of the map collection revealed the following information.

1917 – The area of investigation is shown subdivided into 66 separate parcels, including 55 residential dwellings located on 40 lots, 22 vacant unimproved lots, 2 lots (1719 East 13th Street & 1001 East 14th Street) improved with small structures labeled as “stores”, and 2 commercial “iron clad” structures with loading platforms (labeled as vacant) on 2 lots located at 1729 & 1733 East 13th Street near the intersection of East 13th Street and South Holtzclaw Avenue along the railroad spur line. A railroad spur line is shown traversing from the north along Holtzclaw Avenue to the west along East 12th Street bordering Jackson Park (current Chattanooga National Cemetery property).

1929 – The area of investigation is shown subdivided into 82 separate parcels, including 78 residential dwellings located on 62 lots, 12 vacant unimproved lots, 3 lots (1219/1220 East 13th Street & 1101 East 14th Street) improved with “stores”, 2 lots improved with small residential automobile garages, and 3 large lots (1261/1265 East 13th Street & 1211 East 14th Street) occupied by the Tennessee Coffin and Casket Company/Tennessee Red Cedar & Novelty Company (Tennessee Coffin). The Tennessee Coffin facility is a large manufacturing complex occupied by several buildings labeled as machine shop, woodworking, varnish room, painting, coffin storage, lumber sheds, waste vault, and furniture finishing, crating, shipping, and storage. The map depicts a “gas tank” near the center of the factory area. In addition, a railroad spur line extends from the north to the main factory building along the east side of the facility.

1950 – The area of investigation is shown subdivided into 80 separate parcels, including 80 residential dwellings located on 63 lots, 12 vacant unimproved lots, 2 lots (1220 East 13th Street & 1101 East 14th Street) improved with “stores”, and 3 large lots (1261/1265 East 13th Street & 1211 East 14th Street) occupied by the Tennessee Coffin and Casket Company. The Tennessee Coffin facility appears much as it was depicted on the 1929 map.

1955 - The area of investigation is shown subdivided into 78 separate parcels, including 78 residential dwellings located on 62 lots, 10 vacant unimproved lots, 2 lots (1220 East 13th Street & 1101 East 14th Street) improved with “stores”, 1 lot improved with a church (1222 East 13th Street), 2 large lots (1260 East 13th Street & 1211 East 14th Street) occupied by the Tennessee Coffin and Casket Company, and 1 large lot (1261/1265 East 13th Street) formerly occupied by a portion of the Tennessee Coffin Company is now shown occupied by the Chattanooga Mattress Company manufacturing facility. The American Telephone maintenance department facility and the Gulf Oil Refinery facility are shown across East 14th Street to the south of the area of investigation.

1964 - The area of investigation is shown subdivided into 92 separate parcels, including 79 residential dwellings located on 62 lots, 6 vacant unimproved lots, 2 lots (1220 East 13th Street & 1101 East 14th Street) improved with “stores”, 1 lot improved with a church (1222 East 13th Street), 2 large lots (1260 East 13th Street & 1211 East 14th Street) formerly occupied by the Tennessee Coffin Company now shown occupied by the Tennessee Stove Works, and 1 large lot (1261/1265 East 13th Street) occupied by the Chattanooga Mattress Company manufacturing facility. The American Telephone maintenance department facility and the Gulf Oil Refinery facility are shown across East 14th Street to the south of the area of investigation.

7.3 Historic Topographic Maps

Topographic maps of the area of investigation area were obtained from EDR. Topographic maps for the years 1958, 1969, and 1976 were reviewed, and revealed that the area of investigation is located within a depression in relation to the surrounding topography. No structures are depicted, except for the church noted on 13th Street. The ground surface elevation in the area of the area of investigation is approximately 660 feet above mean sea level. The topography in the area is generally flat with rolling hills. A railroad spur line is shown traversing from the north along Holtzclaw Avenue to the west along East 12th Street bordering the Chattanooga National Cemetery property.

7.4 City Directories

City directories for the City of Chattanooga were obtained from EDR. The R.L. Polk City Directories for the years 1966 to 2003, in approximately 5-year intervals, were reviewed. The results of the city directory review identified that the majority of the parcels have been developed as residential dwellings, vacant undeveloped parcels, or small local stores. Several parcels have been developed as commercial/industrial sites and are noted below:

TABLE 8. Summary of Historic City Directory Review

CITY DIRECTORY SUMMARY		
YEAR	EAST 13 TH STREET	EAST 14 TH STREET
1966	Chattanooga Mattress Company (PID-146P C 002)	Tennessee Stove Works – Fire Extinguisher Shed (PID-146P D 013)
1973	Chattanooga Mattress Company (PID-146P C 002)	Modern Maid (PID-146P D 013)
1979	Chattanooga Mattress Company (PID-146P C 002)	Modern Maid (PID-146P D 013)
1984	Chattanooga Mattress Company (PID-146P C 002)	Vacant (PID-146P D 013)
1988	Mid-South Mattress Company (PID-146P C 002)	Vacant (PID-146P D 013)
1994	Mid-South Mattress Company (PID-146P C 002)	Chattanooga Handlers – Warehouse (PID-146P D 013)
2003	Mid-South Mattress Company (PID-146P C 002)	Innovative Designs – cabinet mfrs. (PID-146P D 013)

7.5 Aerial Photographs

Aerial photographs covering the area of the area of investigation were obtained from EDR and the Tennessee Valley Authority. Photographs for the years 1964, 1967, 1977, 1983, 1997, and 2006 were reviewed.

1964/1967: The area of investigation is shown primarily as a residential area with numerous small residential dwellings. Along Holtzclaw Avenue at the east boundary of the area of investigation, two large industrial buildings are present corresponding to the former (1260 East 13th Street & 1211 East 14th Street) Tennessee Coffin Company/Tennessee Stove Works facility, and 1 large lot (1261/1265 East 13th Street) occupied by the former Chattanooga Mattress Company manufacturing facility. In addition, an office/warehouse building is visible along East 13th Street corresponding to the former wholesale flooring warehouse facility. A railroad spur line extends down Holtzclaw Avenue from the north and terminates at the former Modern Maid facility. In addition, a railroad line traverses along the north boundary of the area of investigation.

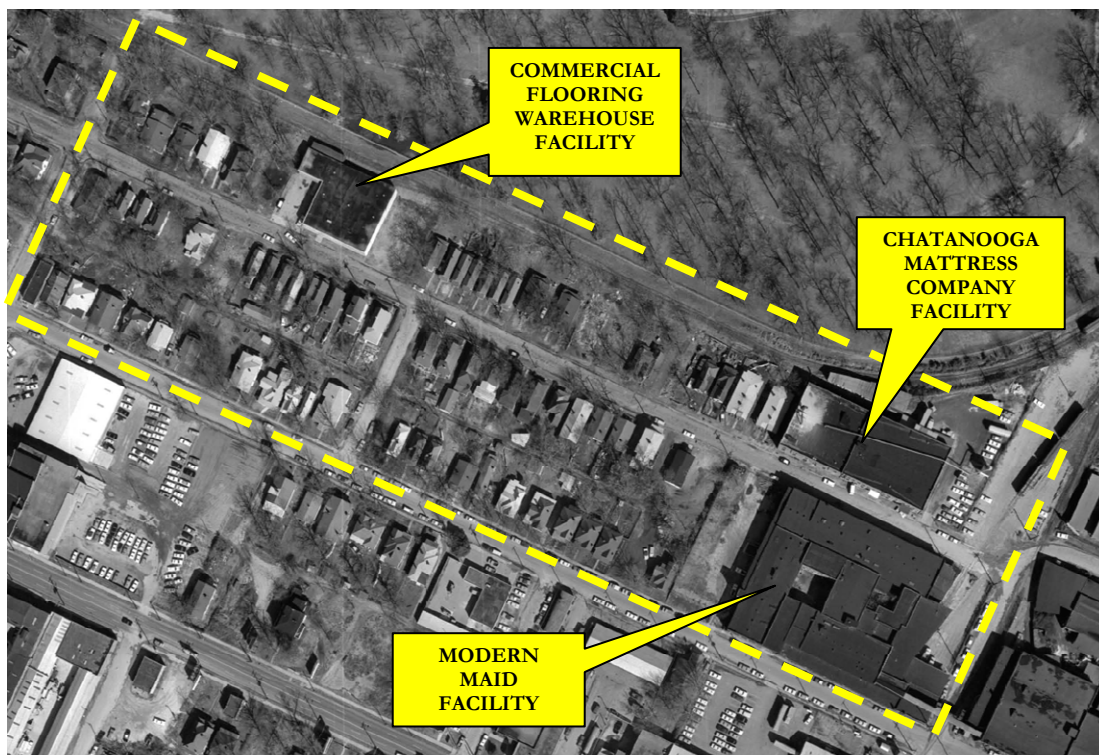


FIGURE 3. Historic 1967 Aerial Photograph of Area of Investigation

The Chattanooga National Cemetery is shown on the adjoining property to the north of the area of investigation. Industrial and commercial developments are visible to the south, east, and west of the area of investigation, including the Modern Maid manufacturing facility across Holtzclaw Avenue to the east and the bulk oil storage facility to the south across East 14th Street.

1977: The 1977 photograph is too faded to identify structures on the area of investigation.

1983: The area of investigation and surrounding properties appear largely unchanged.

1997, 2006: Many of the former residential dwellings are no longer present and the parcels are vacant. Portions of the former Tennessee Coffin Company/Tennessee Stove Works (Modern Maid) facility have been demolished. The mattress manufacturing facility is still present at East 13th Street and South Holtzclaw Avenue. The former wholesale flooring warehouse located along East 13th Street has expanded.

7.6 State Historic Preservation/Archaeological/Endangered Species Records Review

As part of the limited environmental review for this project, a cultural and historic database subject review of the property was requested from the Tennessee Historic Preservation Planner, the Tennessee Division of Archaeology, and the Tennessee Division of Natural Areas (DNA). The results of the database review are discussed below:

Historic Resources: As part of the limited environmental review for this project, a historic review of the property was requested from the Tennessee Historic Preservation Planner. Based on their review of the area of investigation area, they determined that this area is characterized by mid to late 20th century industrial/commercial buildings and early 20th century homes and concluded that there are no properties in the project area that are listed or eligible to be listed on the National or State Registers of Historic Places.

Cultural & Archaeological Resources: As part of the limited environmental review for this project, a cultural & archaeological review of the property was requested from the Tennessee Division of Archaeology. Their records indicate that the area of investigation area has not been surveyed to determine the presence or absence of archaeological sites. Archaeological resources could be present, but not yet identified. Prior to further development of the area of investigation, the project representative should initiate consultation to begin the process of compliance with Section 106 of the National Historic Preservation Act, 36 CFR 800 (Federal Register, December 12, 2000, 77698-77739).

Endangered & Rare Species: As part of this project, a database search was requested from the DNA to determine if any records exist for occurrences of rare or endangered plants, animals, or communities on or within one mile of the area of investigation. Based on their review of the state's natural heritage database, the DNA identified that the state threatened plant, yellow honeysuckle (*Lonicera flava*) has been observed within one mile of the area of investigation. This species was last observed in the area in "rocky woods and bluffs" in 1954, and the DNA stated they believe that its existence on the urbanized cemetery expansion site is unlikely.

In addition, the results of the database search identified that twenty-eight (28) known occurrences of rare species or natural communities have been recorded within four (4) miles of the area of investigation; however, no rare species or natural communities were identified within the area of investigation. If suitable habitat exists on or downstream of the site, the DNA asks that project plans incorporate protective measures for the identified rare species. Furthermore, if it is determined that suitable habitat for these species may be impacted, the DNA requests that this project be coordinated with the Tennessee Wildlife Resources Agency and the United States Fish and Wildlife Service to ensure that any legal requirements for protection of rare animals are properly addressed.

8.0 REGULATORY AGENCY ENVIRONMENTAL DATABASE SEARCH

Regulatory agency environmental database records, compiled by EDR, were reviewed to assist with the identification of potential environmental concerns in connection with the area of investigation. The EDR report meets the governmental records search requirements of ASTM E 1527-05. Results of the environmental records database review are summarized below:

8.1 Federal Environmental Records Database

NPL: National Priority List – The NPL is a subset of Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) and identifies over 1,200 sites for priority cleanup under the Superfund Program.

No NPL sites were identified in the area of investigation or within 1.0 mile of the area of investigation.

PROPOSED NPL: Proposed National Priority List Sites

No PROPOSED NPL sites were identified in or within 1.0 mile of the area of investigation.

DELISTED NPL: National Priority List Deletions – Database of sites that have been deleted from the NPL where no further response is appropriate.

No DELISTED NPL sites were identified in or within 1.0 mile of the area of investigation.

NPL Recovery: Federal Superfund Liens – List of filed notices of Superfund Liens

No NPL Recovery sites were identified in the area of investigation.

CERCLIS: Comprehensive Environmental Response, Compensation, and Liability Information System – Database of sites proposed to or on the NPL and sites in the screening and assessment phase for possible inclusion on the NPL.

No CERCLIS sites were identified in or within 0.5 miles of the area of investigation.

CERCLIS-NFRAP: No Further Remedial Action Planned – Sites listed on this database have been removed from CERCLIS. NFRAP sites may be sites where, following an initial investigation, no contamination was found, contamination was removed quickly without the need for the site to be placed on the NPL, or the contamination was not serious enough to require Federal Superfund action or NPL consideration.

One (1) CERCLIS-NFRAP site was identified in the area of investigation.

Modern Maid Company, 14th Street East and South Holtzclaw Avenue. Review of the EDR report identified that the United States Environmental Protection Agency (EPA) completed a discovery phase of the Modern Maid property in 1980. Further evaluation of the site was completed by the EPA in 1984 and 1988. Based on the findings of the preliminary assessment and subsequent site inspection, the site investigation file was archived in 1988 indicating that no contamination was found, contamination was removed

quickly without the need for the site to be placed on the NPL, or the contamination was not serious enough to require Federal Superfund action or NPL consideration.

No CERCLIS-NFRAP sites were identified within 0.5 miles of the area of investigation.

CORRACTS: Corrective Action Report – Identifies hazardous waste handlers with Resource Conservation and Recovery Act) RCRA corrective action activity.

No CORRACTS sites were identified in or within 1.0 mile of the area of investigation.

RCRIS-TSD: Resource Conservation and Recovery Information System - Treatment, Storage, and Disposal Facilities – Database on sites which treat, store and/or dispose of hazardous wastes.

No RCRIS-TSD sites were identified in or within 0.5 miles of the area of investigation.

RCRIS-LQG: Large Quantity Generators – Facilities which generate more than 1000 kg of hazardous waste per month, or meet other applicable requirements of RCRA.

No RCRIS-LQG sites were identified in the area of investigation.

One (1) RCRIS-LQG site was identified within 0.25 miles of the area of investigation. Review of the EDR report identified that this facility is located 1/8th to 1/4 mile south southwest of the area of investigation in a presumed downgradient direction with respect to the estimated direction of groundwater flow. Based on this information, this RCRIS-LQG site is not expected to impact the area of investigation.

RCRIS-SQG: Small Quantity Generators – Facilities that generate from 100 kg to 1000 kg of hazardous waste per month, or meet other applicable requirements of RCRA.

No RCRIS-SQG sites were identified in or within 0.25 miles of the area of investigation.

RCRIS-CESQG: Conditionally Exempt Small Quantity Generators – Facilities that generate less than 100Kg of hazardous waste or 1 kg of acutely hazardous waste per month.

No RCRIS-CESQG sites were identified in the area of investigation.

Two (2) RCRIS-CESQG sites were identified within 0.25 miles of the area of investigation. Review of the EDR report identified that no hazardous waste permit violations have been reported at these sites and they are not listed in a database that would indicate the presence of a release. Based on this information, these sites are not expected to impact the area of investigation.

RCRIS-NonGen: Conditionally Exempt Small Quantity Generators – Facilities that do not currently generate hazardous waste.

One (1) RCRIS-NonGen site was identified in or adjacent to the area of investigation.

Modern Maid Facility, East 14th and Holtzclaw Avenue, Chattanooga, TN. Review of the EDR report identified that hazardous waste is no longer generated at this site and no previous violations of their hazardous waste permit have been reported. This site is also

listed on the CERCLA-NFRAP database and further discussed above in that section of this report.

Twelve (12) RCRIS-NonGen sites were identified within 0.25 miles of the area of investigation. The EDR report indicates that no hazardous waste permit violations have been reported at these sites and these facilities are no longer generators of hazardous waste. Based on this information, these RCRIS-NonGen sites are not expected to impact the area of investigation.

ERNS: Emergency Response Notification System – Database that records and stores information on reported releases of oil and hazardous substances.

No ERNS sites were identified in the area of investigation.

HMIRS: Hazardous Materials Information Reporting System – Database contains hazardous material spill incidents reported to DOT.

No HMIRS sites were identified in the area of investigation.

US ENG CONTROLS: Engineering Controls Sites List – A listing of sites with engineering controls in place.

No US ENG CONTROLS sites were identified in or within 0.5 miles of the area of investigation.

US INST CONTROLS: Sites with Institutional Controls – A listing of sites with institutional controls in place.

No US INST CONTROLS sites were identified in or within 0.5 miles of the area of investigation.

DOD: Department of Defense Sites – Database of federally owned or administered lands, administered by the Department of Defense.

No DOD sites were identified in or within 1.0 mile of the area of investigation.

FUDS: Formerly Used Defense Sites – This listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

No FUDS sites were identified in or within 1.0 mile of the area of investigation.

US BROWNFIELDS: A Listing of Brownfield Sites – Database of identified Brownfield sites.

No US BROWNFIELDS sites were identified in or within 0.5 miles of the area of investigation.

CONSENT: Superfund Consent Decrees – Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites.

No CONSENT sites were identified in or within 1.0 mile of the area of investigation.

ROD: Records of Decision – Decisions that mandate a permanent remedy at an NPL site.

No ROD sites were identified in or within 1.0 mile of the area of investigation.

UMTRA: Uranium Mill Tailings Sites – Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

No UMTRA sites were identified in or within 0.5 miles of the area of investigation.

ODI: Open Dump Inventory – An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

No ODI sites were identified in or within 0.5 miles of the area of investigation.

TRIS: Toxic Chemical Release Inventory System – Identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under Superfund Amendments and Reauthorization Act (SARA) Title III.

No TRIS sites were identified in the area of investigation.

TSCA: Toxic Substances Control Act – Identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory List.

No TSCA sites were identified in the area of investigation.

FTTS: FIFRA/TSCA Tracking System – Tracks administrative cases and pesticide enforcement actions and compliance activities related to Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), TSCA and Emergency Planning and Community Right-to-Know Act (EPCRA).

No FTTS sites were identified in the area of investigation.

SSTS: Section 7 Tracking System – Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the EPA by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

No SSTS sites were identified in the area of investigation.

ICIS: Integrated Compliance Information System – The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

No ICIS sites were identified in the area of investigation.

PADS: PCB Activity Database System – Database of generators, transporters, commercial storers and/or brokers and disposers of PCBs who are required to notify EPA of such activities.

No PADS sites were identified in the area of investigation.

MLTS: Material Licensing Tracking System – List of sites which possess or use radioactive materials and which are subject to NRC licensing requirements.

No MLTS sites were identified in the area of investigation.

MINES: Mines Master Index File – List of mines located in the United States.

No MINES sites were identified in or within 0.25 miles of the area of investigation.

FINDS: Facility Index System – Inventory of all facilities regulated or tracked by the EPA. Each facility is assigned a unique number that serves as a cross-reference to other EPA databases.

No FINDS sites were identified in the area of investigation.

RAATS: RCRA Administrative Action Tracking System – Records based on enforcement actions issued under RCRA pertaining to major violators.

No RAATS sites were identified in the area of investigation.

8.2 State Environmental Records Database

SHWS: State Hazardous Waste Sites – State hazardous waste site records are the states' equivalent to CERCLIS. These sites may or may not already be listed on the federal CERCLIS list.

No SHWS sites were identified in or within 1.0 mile of the area of investigation.

SWF/LF: Solid Waste Facility Inventory/Transfer Stations – Inventory of solid waste disposal facilities or landfills.

No LF sites were identified in or within 0.5 miles of the area of investigation.

LUST: Leaking Underground Storage Tank Incident Reports – Inventory of reported leaking underground storage tank incidents.

No LUST sites were identified in the area of investigation.

Nineteen (19) LUST sites were identified within 0.5 miles of the area of investigation. Review of the EDR report identified that all of these leak site files have been closed by the regulatory agency. A closure status indicates that the releases at these facilities have been investigated, and if necessary remediated to the satisfaction of the regulatory agency. Based on this information and the location of these sites downgradient and/or crossgradient with respect to the estimated direction of groundwater flow, the identified closed LUST sites are not expected to impact the area of investigation.

LUST JO: Leaking Underground Storage Tank Incident Reports – Inventory of reported leaking underground storage tank incidents in Carter, Greene, Hancock, Hawkins, Johnson, Sullivan, Unicol, and Washington Counties.

No LUST JO sites were identified in or within 0.5 miles of the area of investigation.

LUST TRUST: Lust Trust Fund Database – Inventory of sites that have had accidental releases of petroleum and are eligible for reimbursement from the Tennessee Petroleum UST fund.

No LUST TRUST sites were identified in the area of investigation.

Four (4) LUST TRUST sites were identified within 0.5 miles of the area of investigation. Review of the EDR report identified that all of these leak site files have been closed by the regulatory agency. A closure status indicates that the releases at these facilities have been investigated, and if necessary remediated to the satisfaction of the regulatory agency. Based on this information and the location of these sites downgradient and/or crossgradient with respect to the estimated direction of groundwater flow, the identified closed LUST TRUST sites are not expected to impact the area of investigation.

HIST LUST CO: Leaking Underground Storage Tank Incident Reports – Inventory of reported leaking underground storage tank incidents from the Columbia Field Office. The list is no longer updated.

No HIST LUST CO sites were identified in the area of investigation.

One (1) HIST LUST CO site was identified within 0.5 miles of the area of investigation. Review of the EDR report identified that this site is located downgradient and/or crossgradient with respect to the estimated direction of groundwater flow. Based on this information, the identified HIST LUST CO site is not expected to impact the area of investigation.

UST: Listing of Regulated Underground Storage Tanks – Inventory of registered underground storage tanks.

No UST sites were identified in the area of investigation.

One (1) UST site was identified within 0.5 miles of the area of investigation. Review of the EDR report identified that this site is located downgradient and/or crossgradient with respect to the estimated direction of groundwater flow. Based on this information, the identified UST site is not expected to impact the area of investigation.

HIST UST: Underground Storage Tank Database – This database is no longer updated by the agency. It contains records that the current UST database does not.

No HIST UST sites were identified in the area of investigation.

Seven (7) HIST UST sites were identified within 0.5 miles of the area of investigation. Review of the EDR report identified that these sites are located downgradient and/or crossgradient with respect to the estimated direction of groundwater flow. Based on this information, the identified HIST UST sites are not expected to impact the area of investigation.

AST: Listing of Regulated Aboveground Storage Tanks – Inventory of registered aboveground storage tanks.

No AST sites were identified in or within 0.25 miles of the area of investigation.

SPILLS – Spills Database.

No SPILLS sites were identified in the area of investigation.

ENG CONTROL: Site Remediation Section Database - Sites that have an Engineering Control event.

No ENG CONTROL sites were identified in or within 0.5 miles of the area of investigation.

INST CONTROL: Site Remediation Section Database - Sites that have an Institutional Control event.

No INST CONTROL sites were identified in or within 0.5 miles of the area of investigation.

VCP: Voluntary Cleanup Program – Voluntary Investigation and Cleanup Program list.

No VCP sites were identified in or within 0.5 miles of the area of investigation.

DRYCLEANERS: Registered Drycleaning Facilities - A listing of coin-operated laundries and drycleaning; drycleaning plants, except rug cleaning; and industrial launderers.

No DRYCLEANERS sites were identified on or within 0.25 miles of the area of investigation.

PRIORITYCLEANERS: DCERP Remediation Sites Listing – Drycleaner Environmental Response Program remediation sites.

No PRIORITYCLEANERS sites were identified in or within 0.50 miles of the area of investigation.

BROWNFIELDS: Superfund VOAP Listing

No BROWNFIELDS sites were identified in or within 0.5 miles of the area of investigation.

CDL: Clandestine Drug Labs

No CDL sites were identified on the area of investigation.

NPDES: National Pollution Discharge Elimination System Permit Holders

No NPDES Permit sites were identified in the area of investigation.

AIRS: Listing of Permitted Sources

No AIRS Permit sites were identified in the area of investigation.

8.3 Tribal Environmental Records Database

INDIAN RESERV: Indian Reservations - Indian administered lands of the United States that have any area equal to or greater than 640 acres.

No INDIAN RESERV sites were identified in or within 1.0 mile of the area of investigation.

INDIAN ODI: Location of open dumps on Indian Land

No INDIAN ODI sites were identified in or within 0.5 miles of the area of investigation.

INDIAN UST: Underground Storage Tanks on Indian Land

No INDIAN UST sites were identified in or within 0.25 miles of the area of investigation.

INDIAN LUST: Leaking Underground Storage Tanks on Indian Land

No INDIAN LUST sites were identified in or within 0.5 miles of the area of investigation.

INDIAN VCP: Voluntary Cleanup Sites on Indian Land

No INDIAN VCP sites were identified in or within 0.5 miles of the area of investigation.

8.4 Unmappable Sites

Unmappable sites are facilities listed on environmental databases that cannot be plotted with confidence, but can be located by ZIP code or city name. Review of the unmappable sites in the EDR report, cross-referencing addresses and site names, reveals the following:

No unmappable sites were determined to be located in the area of investigation or adjoining properties, nor within a search radius for a specific database that would be expected to impact the area of investigation.

9.0 ENVIRONMENTAL SITE RECONNAISSANCE

9.1 Site Access

Anderson Engineering of Minnesota, LLC, conducted a reconnaissance of the area of investigation in December 2008. The reconnaissance consisted of observing the periphery of the area of investigation from accessible adjacent public thoroughfares. Interior portions of the area of investigation were systematically traversed to provide an overlapping field of view, wherever possible. Structures present on the property, if any, were observed from public right-of-ways.

9.2 Facility Operations/Noteworthy Tenants

The area of investigation currently consists of developed residential lots, undeveloped vacant parcels, and commercial developments. The majority of the area of investigation has historically been cultivated farmland, a wetland area, and natural areas.

9.3 Surface Areas

With the exception of bituminous streets and concrete sidewalks, the area of investigation residential and vacant undeveloped lots are covered with grasses, weeds and bare soil. Surface water drainage along the completed portions of the streets in the area of investigation is provided by the municipal storm sewer system via catch basins, curbs and gutters. In other areas of the area of investigation, surface water drainage is provided by natural infiltration and runoff into the local watershed.

No evidence of surface migration of petroleum releases or hazardous materials onto or off the area of investigation or adjoining properties was identified.

9.4 Hazardous Substances and Petroleum Products

The use, treatment, storage, disposal, or generation of hazardous substances and/or petroleum products identified in connection with the use of the area of investigation, to the extent visually or physically observed or identified from interviews, is described below:

No evidence of the use, treatment, storage, disposal or generation of hazardous substances and/or petroleum products was observed on the area of investigation.

Historic operations associated with the former industrial uses (Tennessee Coffin & Casket Company, Chattanooga Mattress Company, Tennessee Stove Works (Modern Maid) sites would have utilized hazardous substances and petroleum products during manufacturing operations.

9.5 Storage Tanks

The presence of aboveground storage tanks (ASTs) or underground storage tanks (USTs) or vent pipes, fill pipes or access ways indicating underground storage tanks identified on the area of investigation, to the extent visually or physically observed or identified from interviews, is described below:

No evidence of current ASTs or USTs associated with the area of investigation was identified.

Review of historic records and maps identified the former presence of gasoline USTs associated with the former Tennessee Coffin & Casket manufacturing operations. It is likely that additional unreported ASTs and USTs were present on the historic industrial operations formerly located within the area of investigation.

9.6 Odors

The presence of strong, pungent, or noxious odors identified on the area of investigation, to the extent visually or physically observed or identified from interviews, is described below:

No evidence of strong, pungent, or noxious odors in connection with the area of investigation was observed.

9.7 Pools of Liquid

The presence of standing pools of liquid identified on the area of investigation, to the extent visually or physically observed or identified from interviews, is described below:

No evidence of standing pools of liquid in connection with the area of investigation was observed.

9.8 Drums and Containers

The presence of drums or containers containing hazardous substances or petroleum products identified on the area of investigation, to the extent visually or physically observed or identified from interviews, is described below:

No evidence of drums or containers containing hazardous substances or petroleum products in connection with the area of investigation was observed.

9.9 Polychlorinated Biphenyls (PCBs)

The presence of electrical or hydraulic equipment likely to contain PCBs identified on the area of investigation, to the extent visually or physically observed or identified from interviews, is described below:

No evidence of potential PCB-containing equipment within the area of investigation was observed, except for the presence of pole-mounted electrical transformers associated with the overhead electrical power lines located within the Norfolk Southern right-of-way corridor. No leakage of leaking dielectric fluid from the transformers was observed. Prior to dismantling and disposal of the electrical transformers, testing of the dielectric fluid should be conducted to determine PCB content.

9.10 Asbestos-Containing Building Materials (ACBMs)

The presence of asbestos-containing building materials, to the extent visually or physically observed or identified from interviews, is described below:

Based on the construction dates of the observed dwellings, stores, and industrial/commercial buildings located on the area of investigation, the presence of ACBMs associated with these structures is likely. Prior to commencement of demolition activities, an asbestos building survey should be completed in accordance with EPA regulation. Observed ACBMs should be abated prior to disturbance by demolition operations.

9.11 Pits, Ponds, or Lagoons

The presence of pits, ponds, or lagoons, particularly if associated with waste disposal or waste treatment processes, identified on the area of investigation or adjoining property, to the extent visually or physically observed or identified from interviews, is described below:

No evidence of pits, ponds, or lagoons associated with waste disposal or treatment processes in connection with the area of investigation was observed. However, access to the interior of the existing buildings was not granted.

9.12 Stained Soil or Pavement

The presence of stained soil or pavement areas identified on the area of investigation, to the extent visually or physically observed or identified from interviews, is described below:

No evidence of stained soil or pavement in connection with the area of investigation was observed.

9.13 Stressed Vegetation

The presence of areas of stressed vegetation identified on the area of investigation, to the extent visually or physically observed or identified from interviews, is described below:

No evidence of stressed vegetation in connection with the area of investigation was observed.

9.14 Solid Waste Dumping or Suspect Fill Material

The presence of areas of solid waste dumping or suspect fill material identified on the area of investigation, to the extent visually or physically observed or identified from interviews, is described below:

No current evidence of areas of solid waste dumping in connection with the area of investigation was observed.

9.15 Wastewater Discharge

The presence of wastewater discharges into a drain, ditch, or stream identified on or adjacent to the area of investigation, to the extent visually or physically observed or identified from interviews, is described below:

No evidence of wastewater discharges into a drain, ditch, or stream in connection with the area of investigation was observed.

9.16 Wells

The presence of wells (including dry wells, irrigation wells, injection wells, or abandoned wells) identified on the area of investigation, to the extent visually or physically observed or identified from interviews, is described below:

No evidence of wells associated with the area of investigation was observed. However, no entry into onsite structures was obtained. Therefore, prior to commencement of demolition activities, a survey for the presence of wells should be conducted. Any identified wells should be properly sealed and abandoned in accordance with TN regulations.

Review of the County Water Well Index of Tennessee and the USGS National Water Inventory System identified the following:

One (1) test water well (Well ID # 06500829) is located within the investigation area at Longitude 851727 and Latitude 350153. The well is owned by the Tennessee Valley Authority and was completed in 1979. The well extends to a depth of 207 feet below ground surface. If the test well is no longer required, then it should be properly abandoned in accordance with State of Tennessee regulations.

9.17 Septic Systems

The presence of on-site septic systems or cesspools identified on the area of investigation, to the extent visually or physically observed or identified from interviews, is described below:

No evidence of former or existing septic systems or cesspools in connection with the area of investigation was observed, although septic system or cesspools may have been utilized in the past. Prior to commencement of demolition activities, a survey for the presence of septic systems/cesspools should be conducted. Any identified systems should be properly sealed and abandoned in accordance with Tennessee regulations.

9.18 Lead-Based Paint

The presence of lead-based paint identified on the area of investigation, to the extent visually or physically observed or identified from interviews, is described below:

Based on the construction dates of the observed dwellings, stores, and industrial/commercial buildings located on the area of investigation, the presence of lead-based paint associated with these structures is likely. Prior to commencement of demolition activities, a lead-based paint survey must be completed in accordance with EPA regulation. Damaged lead-based paint that no longer adheres to the substrate must be stabilized or abated prior to disturbance by demolition operations.

10.0 UTILITIES AND RECORDED EASEMENTS

10.1 Utilities

The Tennessee American Water Company services the area of investigation. A 16-inch diameter water main is present within East 13th Street alignment. This water main will most likely need to be relocated outside the proposed expansion area. Further research and data would be necessary to adequately assess relocation and alignment alternatives.

The Tennessee American Water Company also maintains a 24-inch diameter water main within the South Holtzclaw Avenue alignment. While this water main is not likely to be disturbed during potential acquisition and expansion of the cemetery, it should be noted as occurring within the immediate vicinity.

The City of Chattanooga maintains a 48-inch diameter municipal storm sewer within East 13th Street alignment. This storm sewer will most likely need to be relocated outside the proposed cemetery expansion area. Relocation may be possible to the East 14th Street alignment, although further detailed engineering analysis would be required to assess adequate space, depth, and slope requirements are met to ensure proper functioning characteristics.

The City of Chattanooga maintains sanitary sewer service to all structures within the area of investigation. The sanitary sewer will likely need to be removed, capped, and/or relocated as necessary. Further engineering analysis and more complete data will be required in order to adequately assess and recommend alternatives which ensure uninterrupted sanitary sewer service to existing users in neighboring areas.

The electric service within the area of investigation is provided by Tennessee Electric Power Board. Observations made during a meander survey conducted in December of 2008 indicate that electric service is provided to the existing structures via overhead lines. These overhead lines will likely need to be removed and/or relocated in order to ensure continuity of electric service to other users in the immediate neighboring areas.

Overhead lines were noted within the Norfolk Southern railroad right-of-way corridor and extending beyond the area of investigation. These overhead lines will likely need to be re-routed, should the area be developed for cemetery use. Further research and in-depth discussions with the appropriate owner(s) will be necessary to fully assess the impacts and costs of potentially relocating these lines.

The Tennessee Gas Company services the area of investigation with natural gas. These services would need to be field located, as requests for map data were unsuccessful.

The area of investigation exhibited numerous plaques indicating underground telephone services. These services should be field located and would likely present minimal issues regarding removal. However, further information should be collected in regards to the possible presence of a fiber-optic line within the Norfolk Southern railroad right-of-way parcel. This could potentially present planning complications depending upon the alignment, configuration and level of use.

10.2 Recorded Easements

A preliminary review of readily available deeds from the Hamilton County identified one recorded electrical easement on a parcel owned by Mid-South Mattress Company (Parcel ID-146P C 002).

11.0 PRELIMINARY CONSTRUCTION COST ESTIMATES

11.1 Preliminary Demolition Cost Estimate

A preliminary cost estimate was developed for the effective demolition and removal of all buildings and infrastructure within the area of investigation. The development of this cost estimate assumes that all utilities and municipal infrastructure contained within the area of investigation would successfully be relocated outside of the area. The preliminary demolition cost estimate also assumes that the entire area would be acquired and all demolition activities completed in a single phase. Finally, the preliminary demolition cost estimate assumes that the existing Alabama Great Southern Railroad track line along South Holtzclaw Avenue will remain undisturbed and operational.

The preliminary demolition cost estimate includes the following items and respective range of costs.

TABLE 9. Preliminary Demolition Cost Estimate

PRELIMINARY DEMOLITION COST ESTIMATE	
ITEM	PRELIMINARY COST ESTIMATE
Furnish & Install 6' Perimeter Fencing	\$ 120,000 – 135,000
Furnish & Install Erosion Control Fencing	10,000 – 15,000
Phase I & II Envir. Site Assessments	95,000 – 175,000
Pre-Demolition Hazardous Materials Survey	50,000 – 75,000
Utility Company Fees and Relocate Costs	650,000 – 875,000
Remove Small Utilities	55,000 – 85,000
Demolition & Removal of Structures	850,000 – 975,000
Remove Existing Streets, Curbs, Walks, etc	65,000 – 95,000
Clear & Grub Trees and Brush	35,000 – 65,000
Remove Existing Storm, Sanitary, Water Mains	95,000 – 150,000
Design, Engineering and Coordination Fees	425,000 – 695,000
TOTAL:	\$ 2.5 million – 3.3 million *
<i>*NOTE: This cost estimate does not include the costs associated with abatement and disposal of any potential hazardous materials.</i>	

The total estimated cost for the effective demolition and removal of all buildings and infrastructure within the area of investigation is expected to range from \$ 2.5 – 3.3 million.

11.2 Preliminary Redevelopment Cost Estimate

A preliminary cost estimate was developed for the redevelopment of the area to a bare, level parcel of land suitable for cemetery development following acquisition and demolition activities. The cost estimate does not include cemetery development activities such as design, roads, irrigation, landscaping, turf establishment, crypt placement and associated items. The development of this cost estimate assumes that all utilities and municipal infrastructure contained within the area of investigation would successfully be relocated outside of the area. The preliminary cost estimate also assumes that redevelopment activities be completed in a single manner. Finally, the preliminary redevelopment cost estimate assumes that the existing Alabama Great Southern Railroad track line along South Holtzclaw Avenue will remain intact and operational.

The preliminary redevelopment cost estimate includes the following items and respective range of costs:

TABLE 10. Preliminary Redevelopment Cost Estimate

PRELIMINARY REDEVELOPMENT COST ESTIMATE	
ITEM	PRELIMINARY COST ESTIMATE
Inspection & Onsite Management/Coordination	\$ 50,000 - 60,000
Municipal Review, Permits, Fees	20,000 - 35,000
Relocate Storm Sewer	19,500
Relocate Sanitary Sewer	117,500
Relocate 16" Water Main to East 14 th St	90,000
Reconstruct East 14 th St	219,000
Reconstruct Polk St	41,000
Reconstruct Sidewalk along south side of East 14 th St	40,000
Level all disturbed areas, respread salvaged topsoil	43,000 - 46,000
Apply Temporary Seed & Mulch across site	11,000 - 13,000
Design, Engineering and Coordination Fees	165,000 - 185,000
TOTAL:	\$ 816,000 - 866,000 *
<i>*NOTE: This cost estimate is to return the site to level bare ground condition. Final cemetery development would be additional.</i>	

The estimated cost to convert the area of investigation to bare, level land is expected to range from \$ 816,000 to 866, 000.

The NCA's estimated cost to complete the development of the bare, level land to final cemetery use ranges from \$ 4.2 – 30.1 million.

The total estimated cost to fully develop the area of investigation to final cemetery use is estimated to range from \$ 5 – 31 million.

12.0 MUNICIPAL PROCESS AND ESTIMATE OF PROJECT DURATION

12.1 Municipal Process

The municipal process, while not yet completely defined would likely include the following:

- Prepare and submit for City review, preliminary and final plats combining the existing parcels into a single large parcel for addition to the cemetery property. This city approval process will include City staff review, public hearings and public meetings.
- Prepare and submit for City review, engineering plans for relocation and/or rerouting of existing City utilities passing through the project area.
- Petition the City for vacation of the public right-of-way and easements within the project area. A notification and public hearing will likely be needed to complete this process.

12.2 Preliminary Estimate of Project Duration

A preliminary timeline was developed to estimate the duration of general tasks as part of the process to acquire and redevelop the area of investigation for cemetery use. The preliminary duration of cemetery expansion activities includes the following items and respective estimated duration of time.

TABLE 11. Estimated Duration of Cemetery Expansion Activities

ESTIMATED DURATION OF CEMETERY EXPANSION ACTIVITIES	
TASK	DURATION (MONTHS)
Planning, City Process, Stakeholder Coordination	8 - 12
Detailed Study, Analysis, Design	8 - 12
Real Estate Research, Negotiation, Acquisition	48 - 60
Demolition Activities	60 - 84
Preliminary Redevelopment to Bare Level Ground	4 - 6
Complete Land Redevelopment to Cemetery Use	108 - 132
TOTAL DURATION:	20 to 26 years

The estimated timeframe for the acquisition of the area of interest and conversion to bare land suitable for cemetery uses is 20 to 26 years from the project initiation. This time frame is highly variable dependent upon a number of items, including the method and approach to acquisition, the funding available, the political nature of the project and support or opposition from stakeholders.

13.0 CONCLUSIONS AND RECOMMENDATIONS

13.1 Conclusions

- Preliminary research indicates that it is feasible to use the identified area of investigation for cemetery expansion purposes.
- The total estimated cost range to acquire and redevelop the area for cemetery use is from \$ 15.1 – \$ 44.6 million.
- The cost of acquiring the land is estimated to range from \$ 4 to \$ 6 million.
- The cost of demolition and redevelopment of the land to suit cemetery use is estimated to range from \$ 7.5 to \$ 34.3 million.
- The duration of the activities required to acquire and develop the land to suit cemetery uses is estimated to range from 20 to 26 years.
- The expansion area would likely provide approximately 15.0 acres of land suitable for cemetery development assuming leaving intact and undisturbed the two Alabama Great Southern Railroad parcels along South Holtzclaw Avenue containing functioning railroad track line.
- The expected capacity of the 15.0 acre expansion area is approximately 19,500 gravesites, assuming an average density of 1,300 gravesites per acre.
- The expected lifespan of the estimated 19,500 gravesites is 32.5 years at the current Chattanooga National Cemetery interment rate of 600 burials requiring new gravesites per year.

TABLE 12. Total Preliminary Cost Estimate

TOTAL PRELIMINARY COST ESTIMATE	
ITEM	PRELIMINARY COST ESTIMATE
Land Acquisition	\$ 4 – 6 million
Demolition Activities	2.5 – 3.3 million
Development Activities	5 – 31 million
Hazardous Material Abatement Allowance	600,000 – 850,000
Relocation Assistance Allowance	3 – 3.4 million
TOTAL:	\$ 15.1 – 44.6 million *
<i>*Note: Estimates are based upon available information and current market conditions at time of report development.</i>	

- Based upon the estimated \$ 15.1 – \$ 44.6 million cost of acquiring and developing 15.0 acres to cemetery use; the average price per acre is \$ 1 - \$ 3 million.

13.2 RECOMMENDATIONS

While the acquisition of the identified area of investigation and expansion of the Chattanooga National Cemetery to the south may be feasible, it is premature at this stage to recommend moving forward with acquisition. The following are recommendations for the NCA to further consider in evaluating whether the project should move forward:

- Evaluate total estimated project costs versus the total estimated expansion area in terms of potential gravesite capacity as it relates to NCA goals, practices, and budget
- Further evaluate veteran demographics to forecast future capacity needs of Chattanooga National Cemetery
- Consideration of political implications of moving forward with project
- Determine the financial implications should the project move forward
- Develop strategy plan and action tasks to be completed should the NCA decide to move forward with project
- Conduct an informal survey of property owners to identify potential willing sellers and broadly gauge support and level of effort likely for land acquisition
- Convene meeting(s) to obtain direct stakeholder input
- Perform title search and obtain legal review of parcels to be obtained
- Review and assess alternate options within and outside of Chattanooga National Cemetery to accommodate future internments

14.0 ACRONYMS AND ABBREVIATIONS

ACBMs: Asbestos-Containing Building Materials
AIRS: Listing of Permitted Sources
AST: Listing of Regulated Aboveground Storage Tanks
ASTM: American Society for Testing and Materials
BROWNFIELDS: Superfund VOAP Listing
CDL: Clandestine Drug Labs
CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act
CERCLIS: Comprehensive Environmental Response, Compensation, and Liability Information System
CERCLIS-NFRAP: No Further Remedial Action Planned
CONSENT: Superfund Consent Decrees
CORRACTS: Corrective Action Report
DELISTED NPL: National Priority List Deletions
DNA: Tennessee Division of Natural Areas
DOD: Department of Defense Sites
DRYCLEANERS: Registered Dry-cleaning Facilities
EDR: Environmental Data Resources
ENG CONTROL: Site Remediation Section Database
EPA: Environmental Protection Agency
ERNS: Emergency Response Notification System
FINDS: Facility Index System
FTTS: FIFRA/TSCA Tracking System
FUDS: Formerly Used Defense Sites
HIST LUST CO: Leaking Underground Storage Tank Incident Reports
HIST UST: Underground Tank Database
HMIRS: Hazardous Materials Information Reporting System
ICIS: Integrated Compliance Information System
INDIAN LUST: Leaking Underground Storage Tanks on Indian Land
INDIAN ODI: Location of open dumps on Indian Land
INDIAN RESERV: Indian Reservations
INDIAN UST: Underground Storage Tanks on Indian Land
INDIAN VCP: Voluntary Cleanup Sites on Indian Land
INST CONTROL: Site Remediation Section Database

LUST: Leaking Underground Storage Tank Incident Reports
LUST TRUST: Lust Trust Fund Database
LUST JO: Leaking Underground Storage Tank Incident Reports
MINES: Mines Master Index File
MLTS: Material Licensing Tracking System
NCA: Department of Veterans Affairs National Cemetery Administration
NPDES: National Pollution Discharge Elimination System Permit Holders
NPL: National Priority List
NPL RECOVERY: Federal Superfund Liens
ODI: Open Dump Inventory
PADS: PCB Activity Database System
PCBs: Polychlorinated Biphenyls
PRIORITYCLEANERS: DCERP Remediation Sites Listing
PROPOSED NPL: Proposed National Priority List Sites
RAATS: RCRA Administrative Action Tracking System
RCRA: Resource Conservation and Recovery Act
RCRIS-CESQG: Conditionally Exempt Small Quantity Generators
RCRIS-LQG: Large Quantity Generators
RCRIS-NonGen: Conditionally Exempt Small Quantity Generators
RCRIS-SQG: Small Quantity Generators
RCRIS-TSD: Resource Conservation and Recovery Information System - Treatment, Storage,
and Disposal Facilities
RECs: Recognized Environmental Conditions
ROD: Records of Decision
SHWS: State Hazardous Waste Sites
SPILLS – Spills Database
SSTS: Section 7 Tracking System
SWF/LF: Solid Waste Facility Inventory/Transfer Stations
TRIS: Toxic Chemical Release Inventory System
TSCA: Toxic Substances Control Act
UMTRA: Uranium Mill Tailings Sites
URAA: Uniform Relocation and Assistance Act
US BROWNFIELDS: A Listing of Brownfield Sites

US ENG CONTROLS: Engineering Controls Sites List

US INST CONTROLS: Sites with Institutional Controls

UST: Listing of Regulated Underground Storage Tanks

VCP: Voluntary Cleanup Program

VOAP: Voluntary Cleanup Oversight and Assistance Program

APPENDIX A: Map Figures



PROJECT LOCATION

SOURCE: USGS & Hamilton Co, TN

1" = 0.25 mi.



Area of Investigation



State of Tennessee

City of Chattanooga

Chattanooga National Cemetery located at 1200 Bailey Ave Chattanooga, TN Section 27, Township 2, Range 4 Hamilton County, TN

Anderson Engineering of Minnesota, LLC
CIVIL ENGINEERING AND LAND SURVEYING

13605 1st AVENUE NORTH, SUITE 100, PLYMOUTH, MN 55441
TEL (763) 412-4000 FAX (763) 412-4090

MAP FIGURE 1. USGS TOPOGRAPHIC QUAD MAP

Chattanooga National Cemetery

Hamilton County, Tennessee

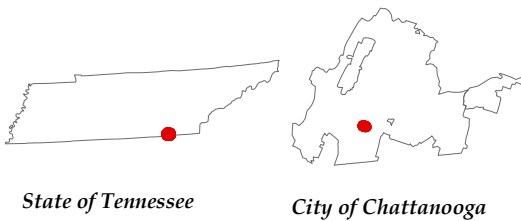
AE Comm #: 12263



PROJECT LOCATION

SOURCE: GlobeExplorer, Hamilton Co, TN

1" = 500'



State of Tennessee

City of Chattanooga

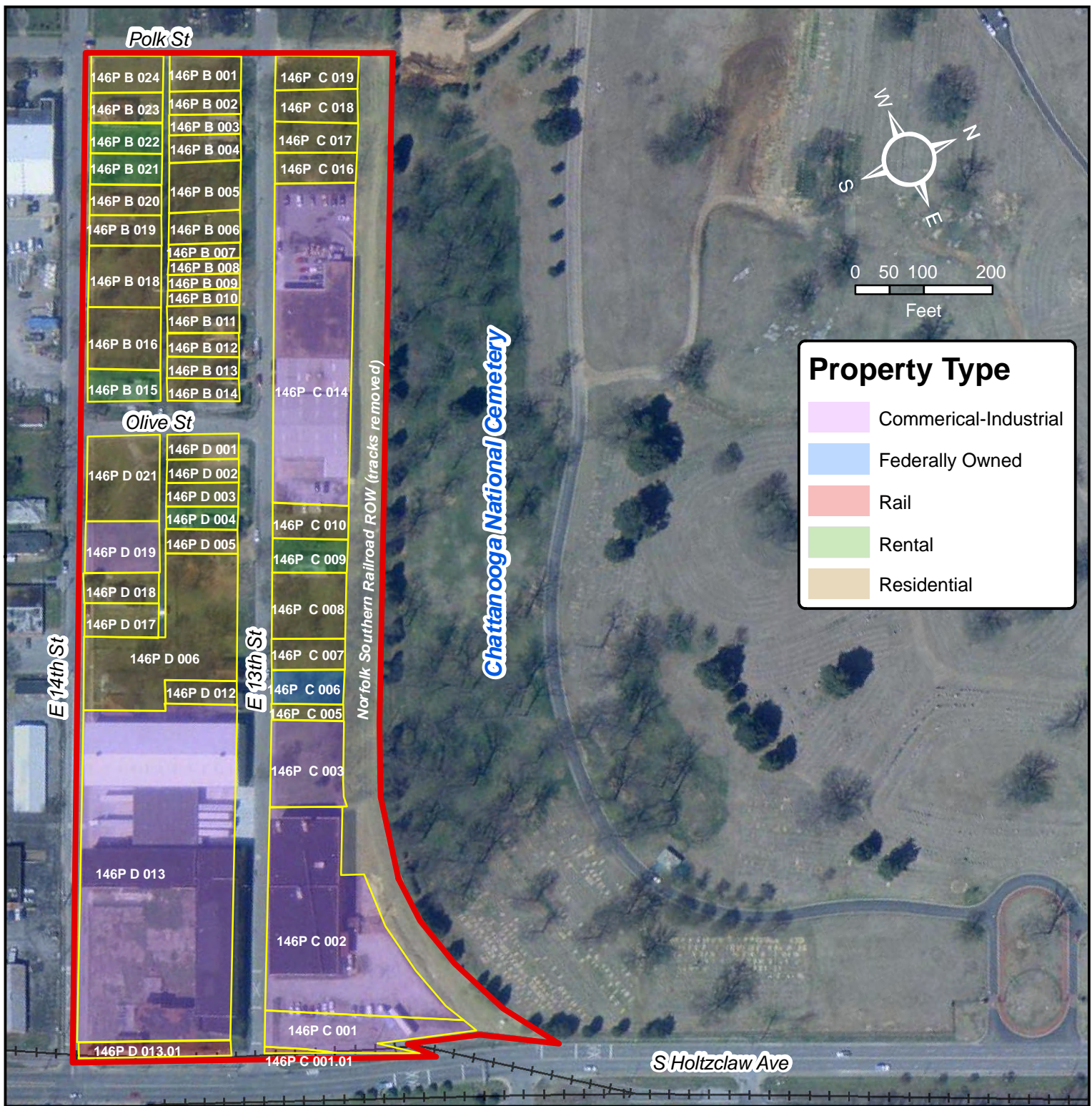
- Area of Investigation
- Chattanooga National Cemetery

Chattanooga National Cemetery located at 1200 Bailey Ave Chattanooga, TN Section 27, Township 2, Range 4 Hamilton County, TN

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MAP FIGURE 2. AREA MAP
 Chattanooga National Cemetery
 Hamilton County, Tennessee
 AE Comm #: 12263



PROJECT LOCATION

SOURCE: GlobeExplorer, Hamilton Co, TN

1" = 200'



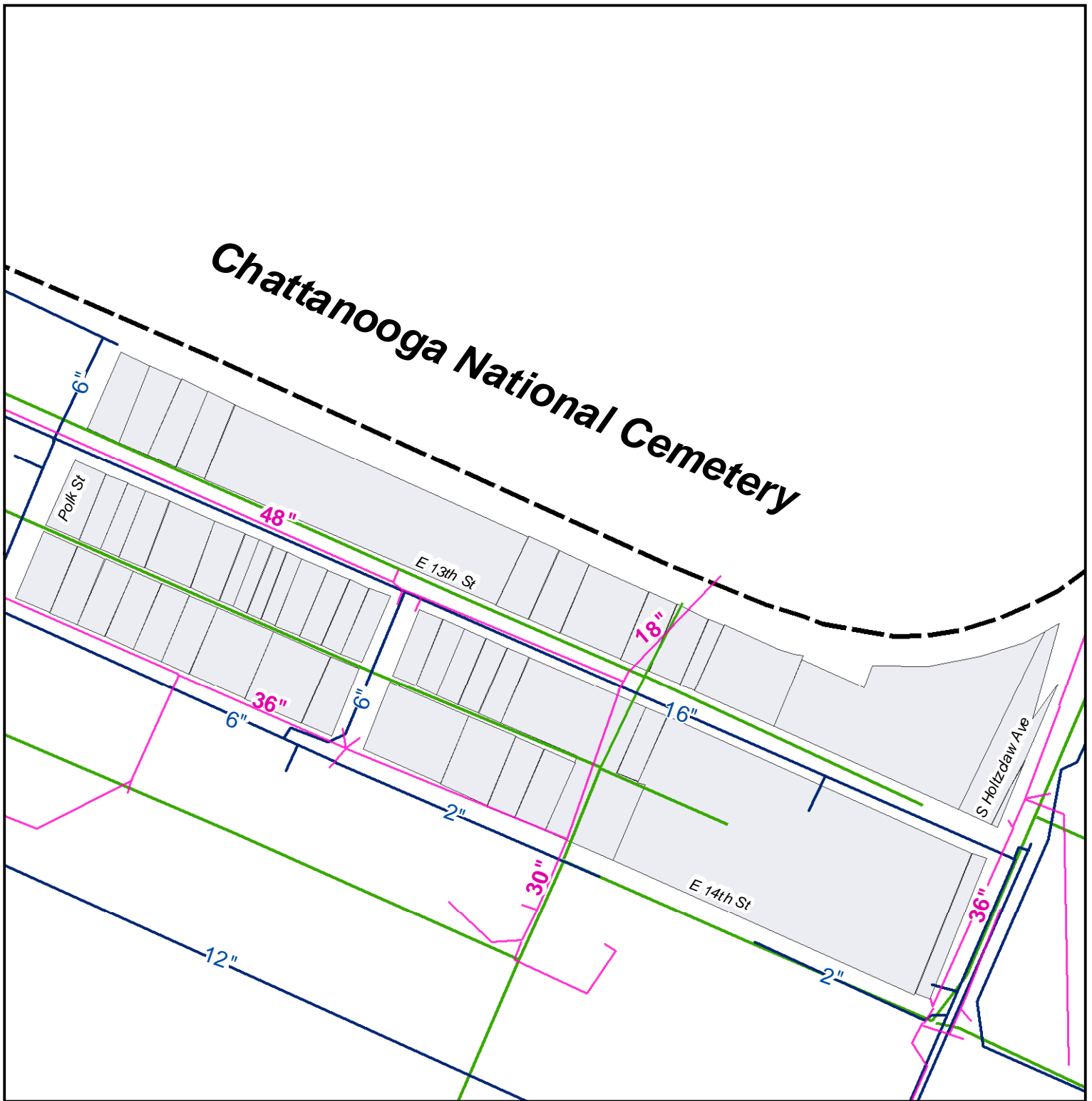
State of Tennessee

City of Chattanooga

- Potential Future Expansion Area
- Hamilton County Tax Parcels

Chattanooga National Cemetery located at 1200 Bailey Ave Chattanooga, TN Section 27, Township 2, Range 4 Hamilton County, TN

<p>Anderson Engineering of Minnesota, LLC CIVIL ENGINEERING AND LAND SURVEYING</p> <p>13605 1st AVENUE NORTH, SUITE 100, PLYMOUTH, MN 55441 TEL (763) 412-4000 FAX (763) 412-4090</p>	<p>MAP FIGURE 3. PARCEL MAP Chattanooga National Cemetery Hamilton County, Tennessee AE Comm #: 12263</p>
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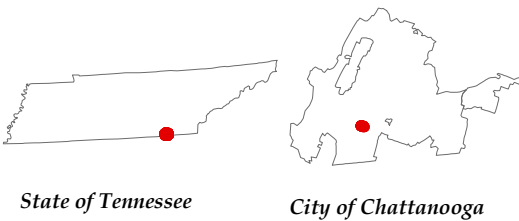






Chattanooga National Cemetery

PROJECT LOCATION

SOURCE: City of Chattanooga & Hamilton Co, TN

1" = 200'



-  Chattanooga Storm Sewer
-  Tennessee American Water
-  Chattanooga Sanitary Sewer
-  Area of Investigation

Chattanooga National Cemetery located at 1200 Bailey Ave Chattanooga, TN Section 27, Township 2, Range 4 Hamilton County, TN

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MAP FIGURE 4. UTILITY MAP
 Chattanooga National Cemetery
 Hamilton County, Tennessee
 AE Comm #: 12263