

Figure 7-2: Springfield Existing Facilities Map



 Site Boundary



0 250 500
Feet
1 inch = 500 feet

Sources:
ESRI (2013), GSA (2013)
Fairfax County (2014)
Logistics Operation Center (2014)

AMSL

Above mean sea level (AMSL) is the average level for the surface of one or more of Earth's oceans from which heights such as elevations may be measured.

PHYSIOGRAPHIC PROVIDENCE

A geographic region with a characteristic geomorphology and often specific subsurface rock type or structural elements.

FALL LINE

The geomorphologic break between an upland region of relatively hard crystalline basement rock and a coastal plain of softer sedimentary rock.

7.1 Affected Environment

The following sections describe the Affected Environment for the Springfield site and associated study areas for each resource topic evaluated in this EIS.

7.1.1 Earth Resources

The following sections describe the affected environment for earth resources at the Springfield site. Earth resources encompass geology, topography, and soils.

7.1.1.1 Geology and Topography

The US Geological Survey (USGS) topographic map 7.5-minute Quadrangle series for Annandale, Virginia, indicates that the site is relatively flat with a slight slope toward the southeast. The site elevation ranges from approximately 220 to 230 feet above mean seal level (AMSL), as shown in figure 7-3.

The Springfield site is situated within the Piedmont physiographic province, which is the largest physiographic province in Virginia. The piedmont physiographic province is bounded on the east by the fall line, which separates the province from the Coastal Plain, and on the west by the mountains of the Blue Ridge province. The Piedmont province is characterized by gently rolling topography and a relative paucity of solid outcrop. Hard, crystalline igneous and metamorphic formations dominate this region, with some areas of sedimentary rocks and Saprolite deposits overlying the bedrock. The bedrock in this province are strongly weathered in the Piedmont's humid climate (VADEQ 2014a). The age of most of the bedrock ranges from Proterozoic (2.5 billion years ago to 542 million years ago) to Paleozoic (542 to 251 million years ago) and forms the internal core of the ancient Appalachian mountain belt (William and Mary Department of Geology 2015).

According to the Geologic Map of the Annandale Quadrangle, Virginia, geologic deposits beneath the site consist of Pliocene-aged terrace gravel, characterized by gray to yellow-brown, thick- to thinly-bedded cobble and pebble gravel interbedded with sand, silt, and clay (Drake and Froelich 1986). These deposits commonly occur as fluvial deposits, reaching a thickness of about 30 feet in upland conditions. Terrace deposits at the Springfield site are underlain by the early-Cretaceous-aged Potomac Formation, which consists of varicolored clay and silt intercalated with pebbly to cobbly sand at a depth of approximately 30 feet below ground surface. The Potomac Formation is approximately 100 feet thick and overlies saprolite on Piedmont crystalline bedrock. Figures 7-4 and 7-5 illustrate the geology of the Springfield site and its environs.

7.1.1.2 Soils

The Springfield site has been previously disturbed and is 93 percent covered by impervious surfaces, including buildings and parking lots. The United States Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS) web soil survey classifies all soils on the site as urban land, which is characterized as land mostly covered by pavement, buildings, and other structures common to urban areas, such that the original characteristics are no longer present. This soil type requires on-site survey investigation to determine the erosion, drainage, and building potential characteristics of the soil (USDA 1963; USDA 2015). As discussed in section 3.2.1, GSA has prepared preliminary geotechnical investigations in support of the exchange partner procurement process; however, this information was not available in time to be included in this EIS.

SPRINGFIELD EARTH RESOURCES AFFECTED ENVIRONMENT OVERVIEW

- The site is relatively flat with a slight slope toward the southeast. The site elevation ranges from approximately 220 to 230 feet AMSL.
- The Springfield site is situated within the Piedmont physiographic province, which is characterized by gently rolling topography and a relative paucity of solid outcrop.
- The Springfield site has been disturbed previously and consists almost entirely of impervious surface, including buildings and parking lots. The soils on the site is classified as urban land, which is land mostly covered by pavement, buildings, and other structures common to urban areas.

Figure 7-3: Springfield Topography

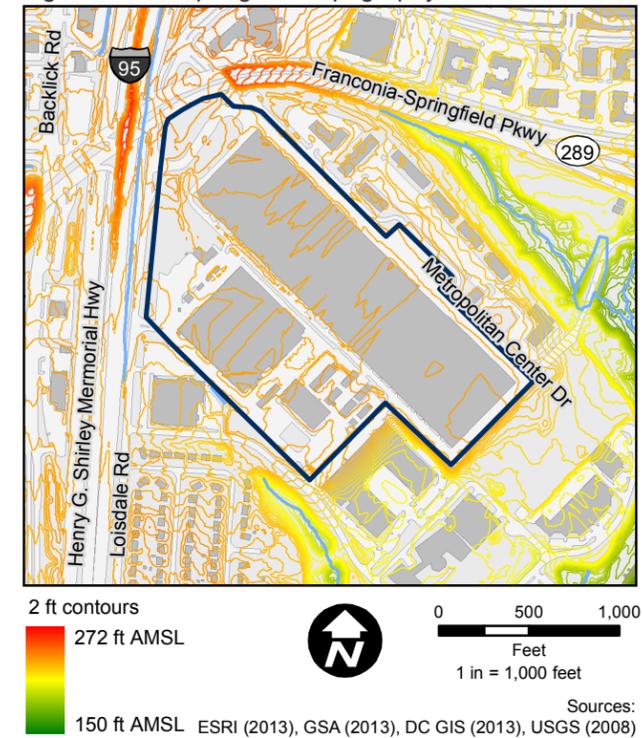


Figure 7-4: Physiographic Provinces of the National Capital Region

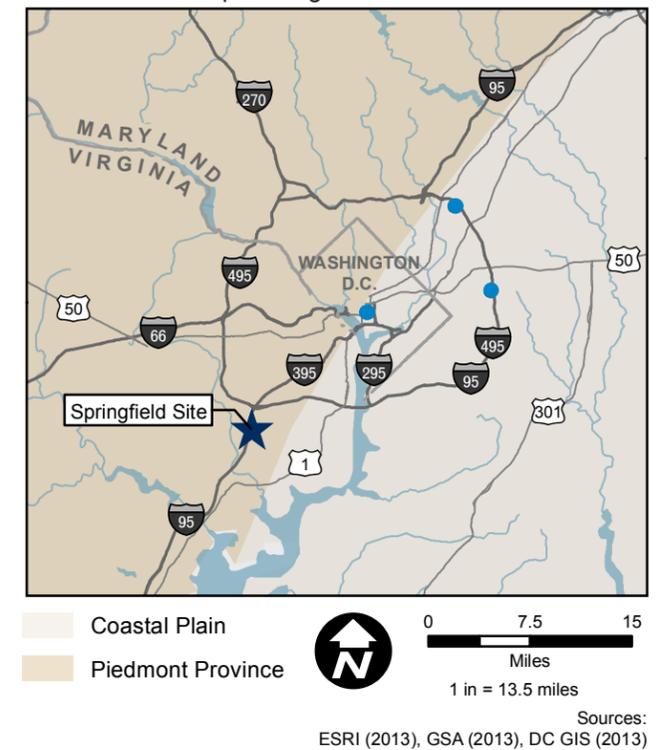


Figure 7-5: Springfield Geology Overview

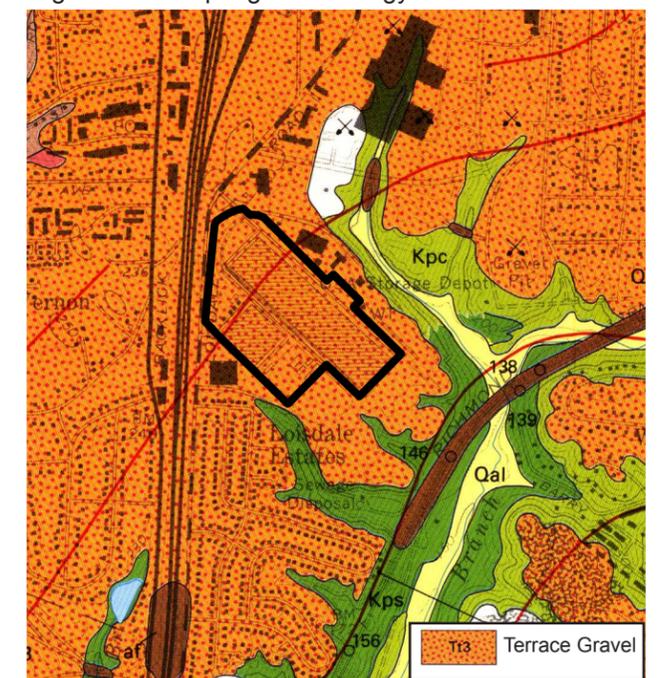
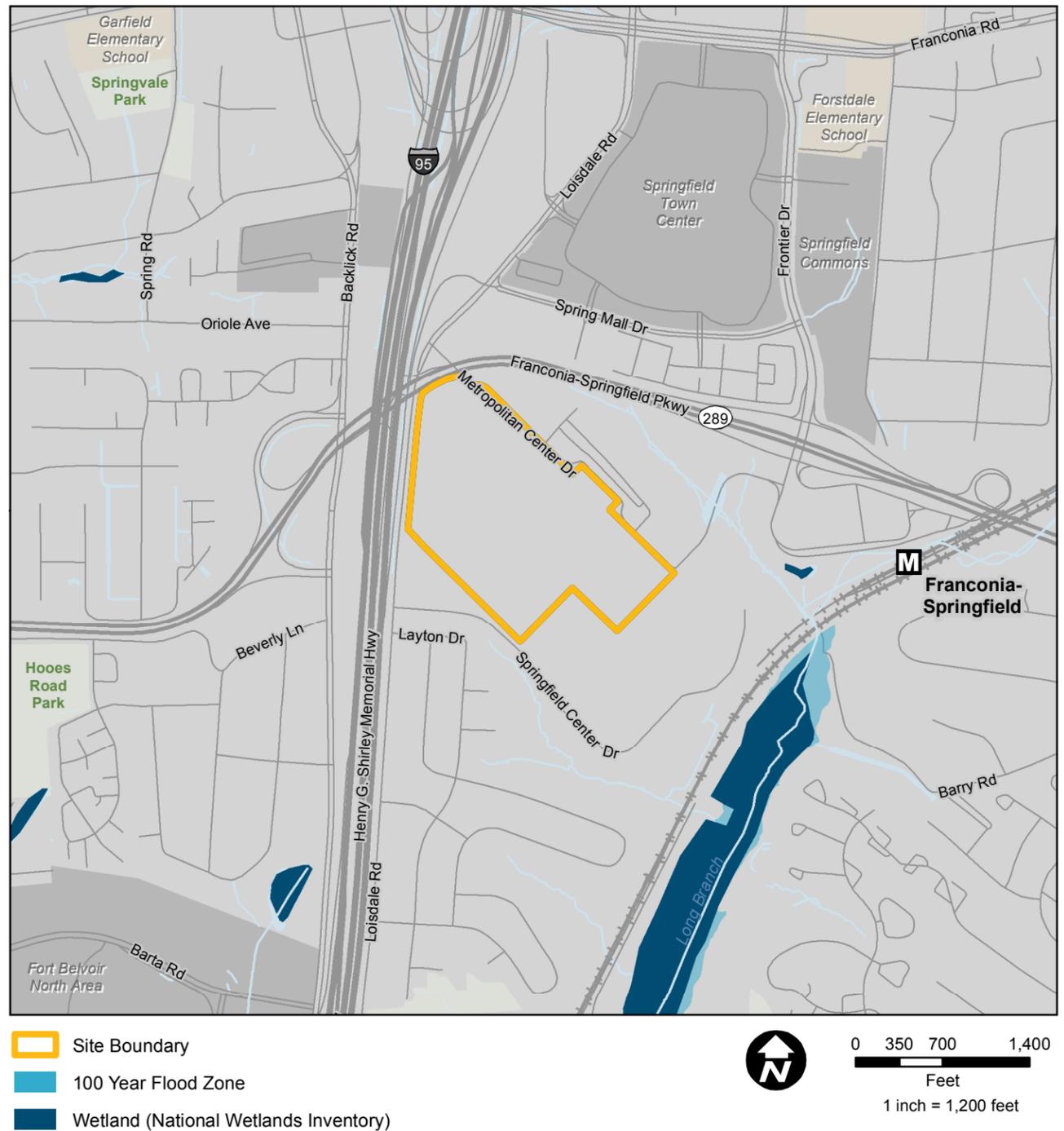


Figure 7-6: Springfield Water Resources Map



Sources:
 ESRI (2013), GSA (2013), FEMA (2013), NHD (2013),
 Fairfax County (2014)

7.1.2 Water Resources

The following sections describe the affected environment for the water resources at the Springfield site. Water resources encompass surface water, groundwater, hydrology, wetlands, and floodplains.

7.1.2.1 Surface Water

The Springfield site is located within the Accotink Creek watershed and the larger Chesapeake Bay watershed; however, there are no surface waters within the site, as shown in figure 7-6. Long Branch, a perennial stream, is located approximately 1,300 feet to the southeast across the CSX railroad right-of-way. An intermittent tributary that parallels the northern boundary of the site flows into Long Branch close to the northeastern corner of the site. Long Branch drains south to the Accotink Creek, then the Potomac River, and ultimately into the Chesapeake Bay. Several small perennial ponds are found within the wider area surrounding the site. The closest large water body is Lake Accotink, a reservoir located approximately 2.5 miles upstream of the site on Accotink Creek.

All surface waters in Virginia have the following designated uses: recreation, propagation and growth of balanced indigenous populations of aquatic life, wildlife, and production of edible and marketable natural resources (9VAC25-260-10). The Draft Virginia 2014 Water Quality Assessment 305(b)/303(d) Integrated Report list of impaired waters includes portions of Accotink Creek and Long Branch that do not support the designated uses of recreation and/or the consumption of fish. The causes of the impaired water quality are polychlorinated biphenyls (PCBs) in fish tissue and *Escherichia coli* (VADEQ 2014b). The main sources are stormwater runoff from developed areas, stormwater discharges, sewer effluent discharges, and pet and wildlife waste. Portions of both Long Branch and Accotink Creek have impaired macroinvertebrate communities and do not support the aquatic life designated use.

The riparian area surrounding Long Branch and the intermittent tributary north of the site are designated Resource Protection Areas (RPAs) under the Chesapeake Bay Preservation Act in 1993 (County of Fairfax 2005; Fairfax County 2015i). Disturbance and development activity in such areas is subject to county review. Native vegetation is encouraged, as is minimization of land disturbance and impervious surfaces.

Hydrology

The Springfield site is composed almost entirely of impervious surfaces with no natural surface waters; therefore, the hydrology of the site is composed of stormwater runoff rather than natural surface waters. Stormwater runoff at the site is managed through a series of stormwater manholes, inlets, and pipes that discharge to the intermittent tributary north of the site (Fairfax County 2014d). This runoff is either discharged directly through two outfalls or through a sand filter located off-site to the northeast. The discharges eventually drain into the wet pond located close to the confluence of the intermittent tributary and Long Branch. The wet pond has a control structure and double box structure that discharge the stormwater to Long Branch through an outfall.

PERENNIAL STREAMS
 Generally refers to freshwater streams or rivers with continuous flow in parts of its stream bed throughout the year.

FLUVIAL
 Refers to processes associated with rivers and streams and the deposits and landforms created by them.

Groundwater

Groundwater in the region is contained generally within igneous and metamorphic-rock aquifers of the Piedmont and Blue Ridge crystalline-rock aquifer system (USGS 2003). Groundwater in the approximate center of the site is anticipated to be encountered at depths ranging from approximately 14 to 20 feet below ground surface (Apex 1997, as cited by GSA 2014c). The actual depth to groundwater may be shallower towards the northern and northeastern boundaries with increasing proximity to the nearby surface water features (GSA 2014c). Under natural conditions, groundwater would be expected to follow the topography and flow southeast toward Long Branch. However, groundwater flow direction may vary based on pumping, dewatering, underground utilities, and seasonal fluctuation.

A Phase I Environmental Site Assessment (ESA) was performed at the site in October 2014 (GSA 2014c). Groundwater contaminants (pollution) associated with underground storage tanks were confirmed, and remediation and corrective actions were completed in 2000. Additionally, the presence of other active and abandoned underground storage tanks on the site, a wash water sump pit, and underground vaults may have the impacted groundwater. See section 7.1.8.2 for more information.

7.1.2.2 Wetlands

Review of the United States Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI) data indicated that there are no wetlands on the site (USFWS 2010). Figure 7-6 shows that the nearest mapped wetlands are associated with a small man-made stormwater basin located approximately 900 feet northeast of the site (USFWS 2010). A larger freshwater forested and shrub wetland associated with Long Branch is located on the east side of the CSX railroad right-of-way.

7.1.2.3 Floodplains

According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) data for Fairfax County, there are no floodplains within the site (figure 7-6) (FEMA 2010b). A small buffer surrounding Long Branch to the east is classified as flood zone AE, which is "areas subject to inundation by the 1-percent-annual-chance flood event," although no base flood elevations have been determined for this floodplain (FEMA 2014b).

SPRINGFIELD WATER RESOURCES AFFECTED ENVIRONMENT OVERVIEW

- The Springfield site is located within the Accotink Creek watershed and the larger Chesapeake Bay watershed; however, there are no surface waters within the site. Therefore, the hydrology of the site is composed of stormwater runoff rather than natural surface waters.
- There are no floodplains within the site, however a small buffer surrounding Long Branch to the east is classified as flood zone AE.

RIPARIAN

Riparian areas are vegetated ecosystems along a water body that characteristically have a high water table and are subject to periodic flooding and influence from the adjacent water body. These systems encompass wetlands, uplands, or some combination of these two landforms (USEPA 2006).

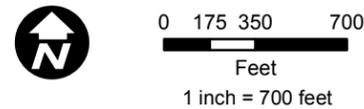
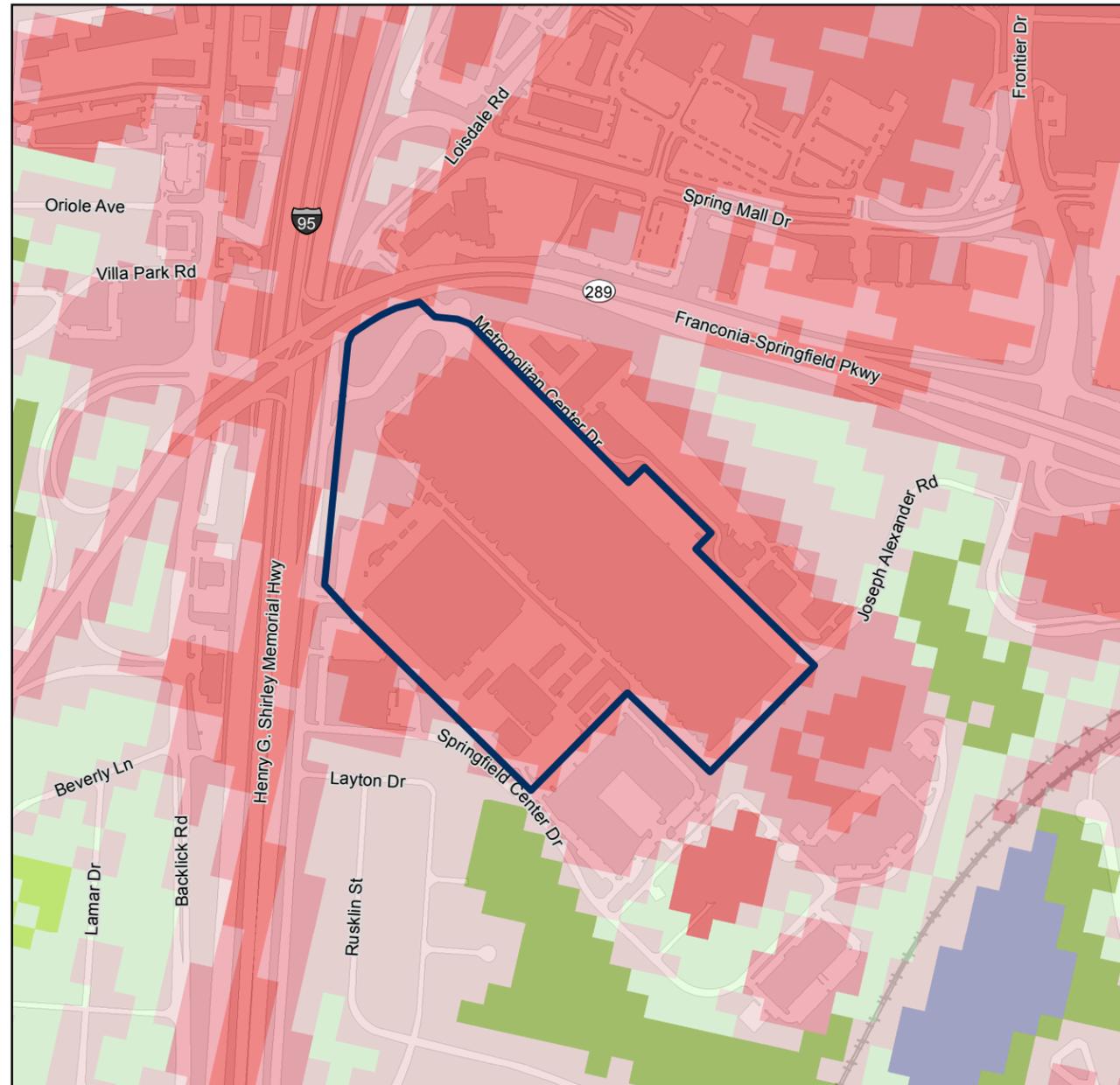
RESOURCE PROTECTION AREA (RPA)

Environmentally sensitive land adjacent to or near streams, rivers and other waterways which drain into the Potomac River and eventually into the Chesapeake Bay. RPAs, in their natural condition, perform important biological and ecological functions such as protecting water quality, reducing the volume of stormwater runoff, and preventing erosion (County of Fairfax 2015).

PHASE I ENVIRONMENTAL SITE ASSESSMENT (ESA)

A report that identifies potential or existing environmental contamination liabilities for real estate.

Figure 7-7: Land Cover Classes for the Springfield Site



Sources:
 ESRI (2013), GSA (2013), FEMA (2013), NLCD (2011)
 Fairfax County (2014)

SPRINGFIELD BIOLOGICAL RESOURCES AFFECTED ENVIRONMENT OVERVIEW

- The Springfield site is a previously developed site with minimal vegetation, the vegetation that does occur on the site consists of strips of woodland along the perimeter; trees on parking islands of the former Sears Department Store; and some grasses, weeds, and shrubs.
- There is no surface water, and therefore no aquatic habitats on the site to support aquatic species.
- The Springfield site lacks many terrestrial species because there is inadequate vegetation present on the site. However, those species that do exist on or adjacent to the site include Virginia opossum, eastern cottontail, coyote, eastern chipmunk, squirrel, raccoon, and species of bat.

7.1.3 Biological Resources

7.1.3.1 Vegetation

Because the Springfield site is composed almost entirely of impervious surfaces, vegetation does not occur on the site with the exception of small groupings of trees at the perimeter (Google 2015). Land cover classes in the vicinity of the Springfield site are shown in figure 7-7.

7.1.3.2 Aquatic Species

As described in section 7.1.2, the Springfield site is located within the Accotink Creek watershed and the larger Chesapeake Bay watershed. There are no surface waters within the site, and therefore no aquatic species. Long Branch is the closest water body, approximately 1,300 feet to the southeast. The ability of streams near the site to support aquatic life is impaired due to various forms of contamination, and pollution-tolerant species would be most likely to be found.

The Virginia Department of Game and Inland Fisheries (VADGIF) Fish and Wildlife Information database identifies habitat for bridge shiner (*Notropis bifrenatus*) and wood turtle (*Glyptemys insculpta*), as well as yellow perch (*Perca flavescens*) and Alewife (*Alosa pseudoharengus*) in reaches of Accotink Creek located more than 1 mile from the Springfield site (VADGIF 2015).

7.1.3.3 Terrestrial Species

Because the Springfield site consists almost entirely of buildings and other impervious surfaces, wildlife is scarce. Nevertheless, because it is located near areas of deciduous forest, wildlife may wander onto the site. Examples of mammals typical to Virginia that have habitat present near the site are squirrels, chipmunks, raccoons (*Procyon lotor*), white-tailed deer (*Odocoileus virginianus*), opossum (*Didelphis virginiana*), skunks (*Mephitis nigra*), red and grey foxes (*Vulpes* and *Urocyon cinereoargenteus*), and bat species.

Passerine birds such as sparrow species, starlings (*Sturnus vulgaris*), and grackles (*Quiscalus quiscula*) are a common sight. Birds of prey (hawks and falcons) and migratory songbirds may perch and forage around the edge of this site where trees and grasses are present.

There are 19 snake species that occur in Virginia, such as the mole king snake (*Lampropeltis calligaster rhombomaculata*) and the eastern rat snake (*Pantherophis alleghaniensis*), all of which could occur in the site vicinity (Fairfax County 2013a).

A variety of terrestrial insects common to Virginia that may occur on the site include: mosquitoes and flies, beetles, dragonflies, butterflies, and numerous others (Virginia Museum of Natural History n.d.), but specific species lists were not readily available. Insects influence the presence of other animal types, and are an essential component of the food web. Without the presence of insects, wildlife such as bats and many bird species would likely not be present. Of the known arachnids, garden spiders (*Argiope aurantia*) and wolf spiders are common throughout Virginia (VADCR 2015), as well as several species of ticks (Virginia Museum of Natural History n.d.).

7.1.3.4 Special Status Species

Special status species are species of plant or animal that require special consideration and/or protection. These species are listed as rare, threatened, or endangered by Federal and/or state governments. State species of greatest conservation concern are also covered under this section and include rare, threatened, and endangered species, as well as species that have a declining population and are considered at risk.

As noted previously, the site is a developed area with limited vegetation and natural habitat. It is unlikely that special status species are present in the study area because of the lack of natural habitat and vegetation at the site.

Across Virginia, there are three federally listed animal species [red knot (*Calidris canutus*), northern long-eared bat (*Myotis septentrionalis*), and American burying beetle (*Nicrophorus americanus*), 88 federally and state-listed (and Federal species of concern) animal species (8 terrestrial mammals, 7 marine mammals, 5 birds, 6 reptiles, 1 amphibian, 10 fishes, 38 mollusks, and 13 other invertebrates), and 45 state-only listed animal species (5 terrestrial mammals, 9 birds, 4 reptiles, 3 amphibians, 12 fishes, and 12 mollusks) (VADGIF 2014). Out of the 136 listed animal species occurring in Virginia, only the northern long-eared bat occurs in Fairfax County (USFWS 2014c). However, the northern long-eared bat would likely not be impacted by the Springfield Alternative because of unsuitable habitat on the project site. Additionally, areas that would be impacted by transportation mitigation would not be likely to affect the northern long-eared bat as the species would seek habitat away from road edges and human activity.

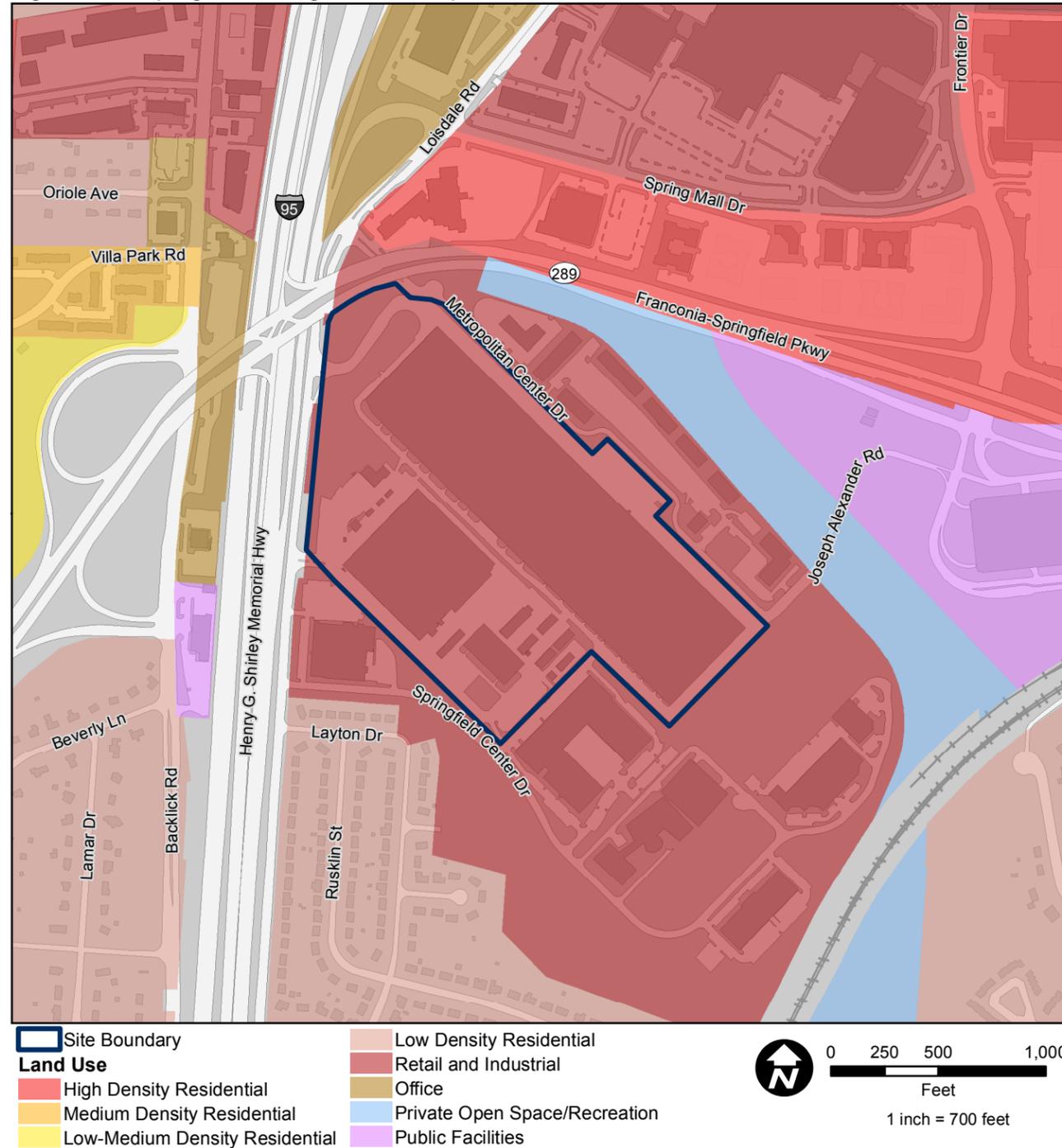
The Springfield site has 19 federally listed migratory birds of conservation concern associated with its location (table 7-1). Because of the lack of natural habitat on-site, it is possible although unlikely that the listed species may fly over, perch, forage, or breed at this location. No rare plants listed by the Virginia Department of Conservation and Recreation (VADCR) heritage program are known to occur on-site (USFWS 2014b).

Table 7-1: Federally Listed Migratory Birds of Conservation Concern in the Vicinity of the Springfield Site

Common Name	Scientific Name	Use of Site
American oystercatcher	<i>Haematopus palliatus</i>	Year-round
American bittern	<i>Botaurus lentiginosus</i>	Wintering
Bald eagle	<i>Haliaeetus leucocephalus</i>	Year-round
Black-billed cuckoo	<i>Coccyzus erythrophthalmus</i>	Breeding
Blue-winged warbler	<i>Vermivora cyanoptera</i>	Breeding
Fox sparrow	<i>Passerella iliaca</i>	Wintering
Kentucky warbler	<i>Oporornis formosus</i>	Breeding
Least bittern	<i>Ixobrychus exilis</i>	Breeding
Pied-billed grebe	<i>Podilymbus podiceps</i>	Breeding
Prairie warbler	<i>Dendroica discolor</i>	Breeding
Prothonotary warbler	<i>Protonotaria citrea</i>	Breeding
Purple sandpiper	<i>Calidris maritima</i>	Wintering
Red-headed woodpecker	<i>Melanerpes erythrocephalus</i>	Year-round
Rusty blackbird	<i>Euphagus carolinus</i>	Wintering
Short-billed dowitcher	<i>Limnodromus griseus</i>	Wintering
Short-eared owl	<i>Asio flammeus</i>	Wintering
Snowy egret	<i>Egretta thula</i>	Breeding
Wood thrush	<i>Hylocichla mustelina</i>	Breeding
Worm-eating warbler	<i>Helmitheros vermivorum</i>	Breeding

Source: USFWS 2014b

Figure 7-8: Springfield Existing Land Use Map



Sources:
 ESRI (2013), GSA (2013)
 Fairfax County (2014)

7.1.4 Land Use, Planning Studies, and Zoning

The following sections describe the affected environment for land use and zoning for the Springfield site, highlighting planning studies applicable to the site.

7.1.4.1 Land Use

The Springfield site currently operates as a GSA warehouse complex with 16 warehouse and storage buildings and associated asphalt-paved parking lots. Warehouse A is the largest facility covers the northeastern half of the site. The Springfield Crossing Apartment Complex and Extended Stay America hotel, which are located adjacent to the site, across Metropolitan Center Drive, are multifamily residential and hotel, respectively. Other uses bordering the site are a variety of industrial and commercial office. A small parcel of undeveloped land is adjacent to the eastern site boundary. Transportation infrastructure is prominent in the site vicinity, and includes I-95 to the west, Franconia-Springfield Parkway (VA Route 289) to the north, and the Franconia-Springfield Metro Station and CSX rail lines to the east. Several lower density residential areas are found in the study area; Loisdale Estates is located immediately to the south. The major commercial center of Springfield, including Springfield Town Center, is located farther to the north and west of the site. There are no public parks or farmland in the study area. Figure 7-8 illustrates land uses within the study area.

7.1.4.2 Zoning

This Springfield site is currently zoned I-4 (Medium Intensity Industrial District); however, as a federally owned parcel the property is exempt from local zoning, so there are no applicable height or density requirements (Fairfax County 2015h). However, the National Capital Planning Commission (NCPC) Comprehensive Plan encourages federal campuses to “develop sites and buildings consistent with local agencies’ zoning and land use policies and development, redevelopment, or conservation objectives, to the maximum extent feasible.”

There are various zoning designations in proximity to the site, as shown in figure 7-9. The I-4 zoning designation surrounds the site and includes the Franconia-Springfield Metro Station, with the exception of parcels zoned C-4 (High intensity Office District) associated with the Extended Stay America hotel and the open parcel to the east of the site; and a zoning designation of Planned Development Commercial District between this parcel and the CSX rail line. Springfield Town Center is also zoned Planned Development Commercial. Higher intensity commercial uses dominate parcels to the north of the site. Two Planned Development Housing Districts are located in proximity to the site; the Springfield Crossing Apartment Complex directly adjacent to the north and the Residences at Springfield Station located between Springfield Town Center and the Franconia-Springfield Parkway. Other residential zoning in the study area is generally lower in intensity; the northern portion of Loisdale Estates closest to the site is zoned R-4 (Residential District, Four Dwelling units/acre).

7.1.4.3 Regional and Local Land Use Studies

This section describes the regional planning, land use, and transportation studies that form the framework for understanding Fairfax County's vision and plans for the area containing the Springfield site.

Fairfax County Comprehensive Plan: Franconia – Springfield Area

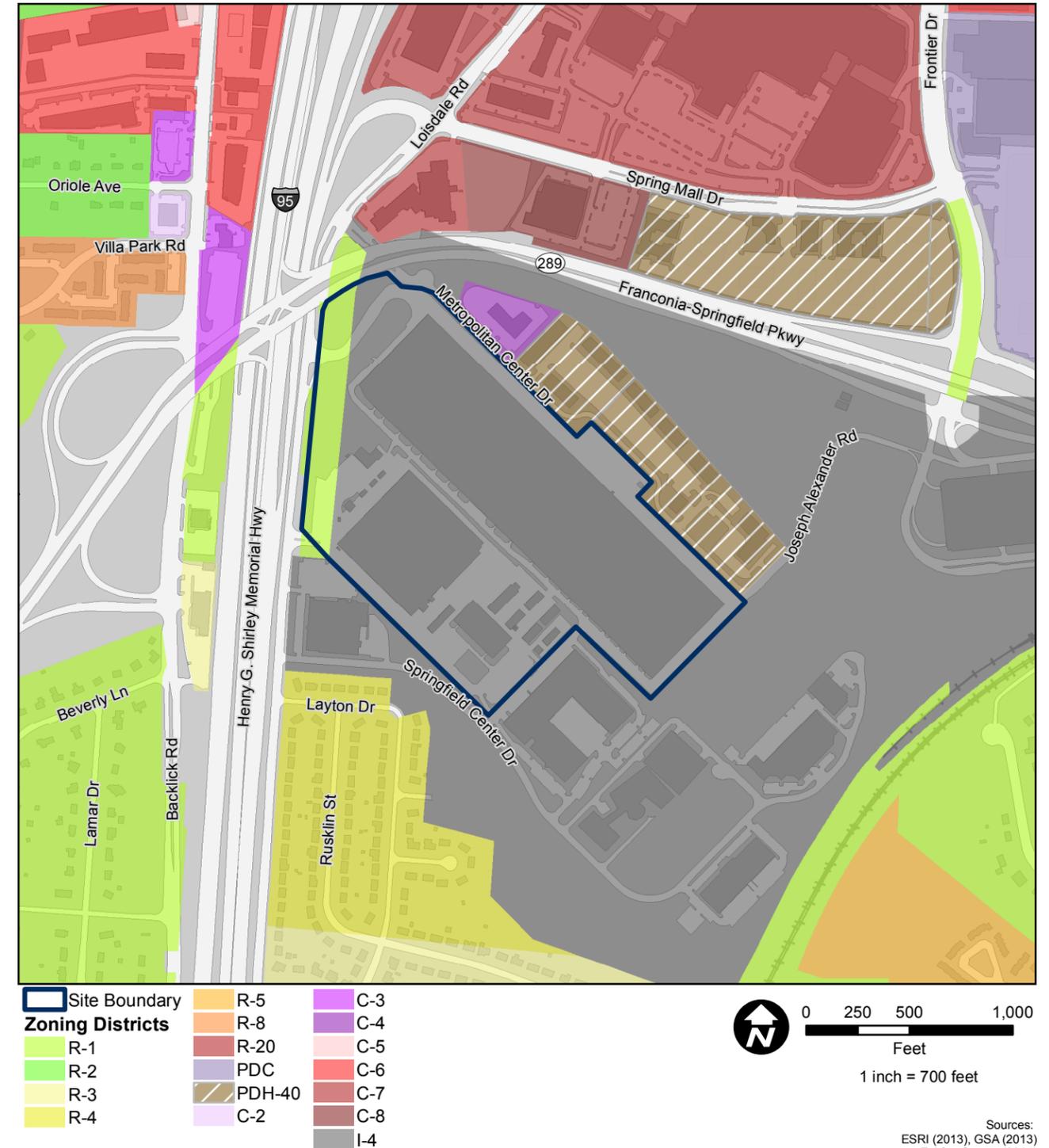
The current comprehensive plan for the Franconia-Springfield area was adopted in 2013 and has been amended through October 28, 2014, by the Fairfax County Board of Supervisors. The Springfield site is within the Franconia-Springfield Transit Station Area, which focuses on the regional aspects of the Springfield Town Center, and encourages multi-modal usage, including a transit-oriented development component at the Franconia-Springfield Metro Station. The Franconia-Springfield Metro Station Area is located in the southeast quadrant of the intersection of I-95 and Franconia Road, between I-95 and the CSX railroad tracks.

The vision for the Franconia-Springfield area is to foster revitalization and reinvestment by transforming the area into a mixed-use, easily accessible, and interconnected place. Residents, employees, and visitors would have their essential needs and services proximate to one another and easily accessible by multiple means of transportation, particularly walking and biking. Redevelopment would also serve the needs of the surrounding neighborhoods and, to a lesser extent, the region.

SPRINGFIELD LAND USE AFFECTED ENVIRONMENT OVERVIEW

- Land uses in the vicinity of the site include a variety of industrial and commercial use, transportation infrastructure, and lower density residential areas. A small parcel of undeveloped land is adjacent to eastern site boundary.
- The site is zoned as I-4, medium intensity industrial district, however, as it is currently a federally owned parcel it is exempt from local zoning.
- Land use plans and studies that guide the development for the Springfield site and the surrounding area include the Fairfax County Comprehensive Plan: Franconia – Springfield area, Springfield Connectivity Study, Franconia-Springfield Station Vision Plan, and Comprehensive Plan for the National Capital Region: Federal Elements.

Figure 7-9: Springfield Zoning Map





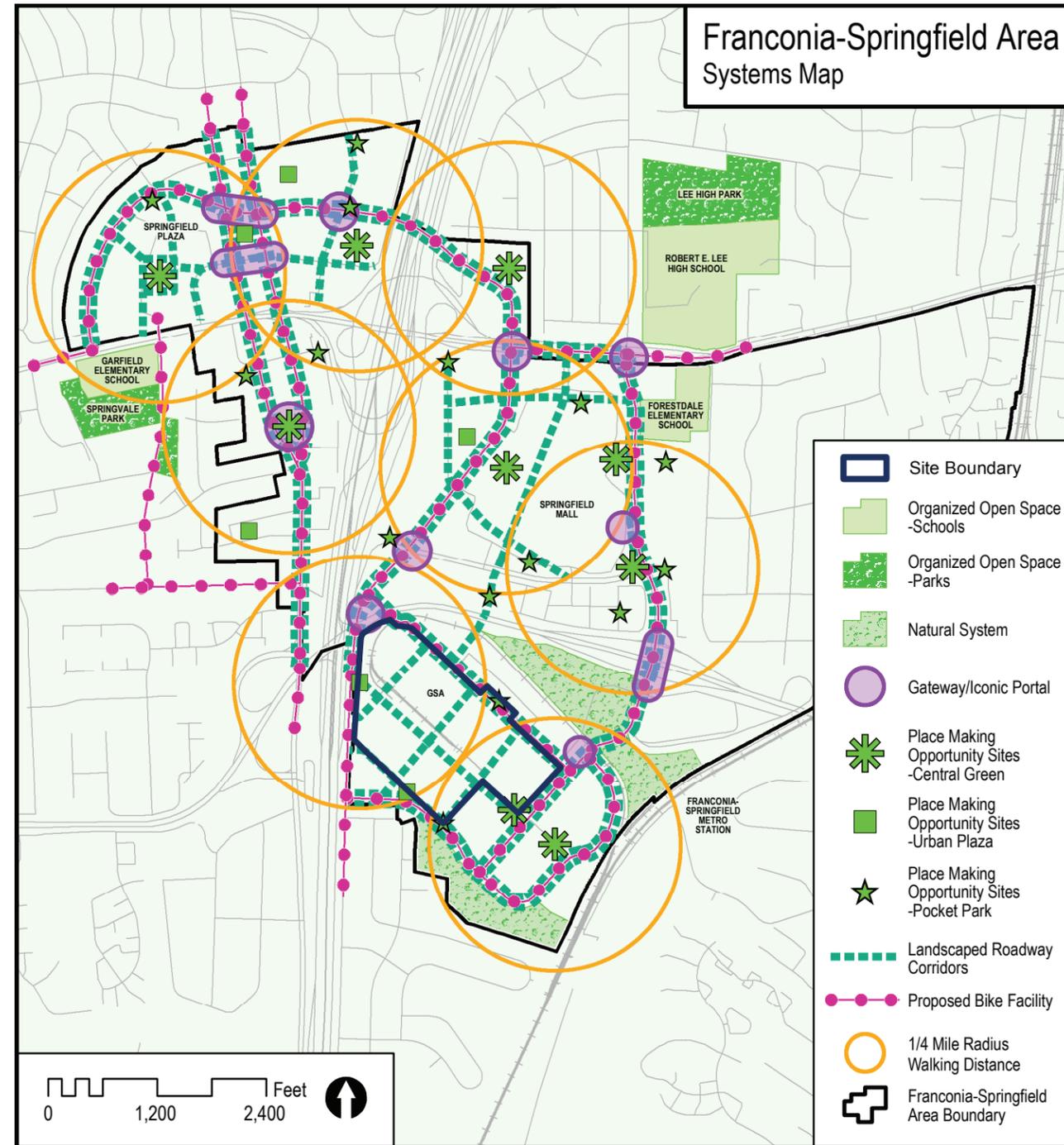
Approach to Franconia-Springfield VRE Station



Greyhound, MetroBus, and Fairfax Connector Bus bays at the Franconia-Springfield Metro Station

75 dBA is comparable to an alarm clock or vacuum cleaner (80 dBA) and freeway traffic at 50 feet (70 dBA)

Figure 7-10: Franconia-Springfield Comprehensive Plan: Future Systems Plan



Source: Fairfax County (2013b)

The comprehensive plan is composed of the following three overarching attributes that work to achieve the vision of the plan:

Connectivity: The connectivity aspect of the comprehensive plan intends to improve the connectivity between the quadrants adversely affected by the regional roadways that divide the city of Springfield. These connectivity improvements would come in the form of enhanced physical connections, such as roadway and trail improvements; enhancements to networks such as open spaces; and uniform thematic elements, such as design consistency and place-making characteristics.

Revitalization: The revitalization component intends to improve the economic vitality of the Franconia-Springfield area primarily by to improve pedestrian and vehicular circulation through the Springfield Commercial Revitalization District and encouraging coordinated development.

Implementation – This aspect of the plan provides guidance on how to implement the vision of the Franconia-Springfield area as a connected, multi-modal, mixed-use community.

The vision to transform the Franconia-Springfield area into a mixed-use, easily accessible, and interconnected place is broken down into a variety of principles intended to guide area development and land use. Those principles applicable to the Springfield site's potential impact to land use are summarized as follows:

- Provide opportunities for high-density, mixed-use redevelopment, which would allow residents, employees, and visitors to work, shop, exercise, and live in relative proximity to each other.
- Identify and minimize pedestrian and vehicular conflicts by separating the pedestrians from vehicular traffic, improving traffic circulation, and developing the pedestrian realm.
- Preserve and protect stable, low-density residential neighborhoods that surround the Franconia-Springfield area through screening, buffering, and tapering of development at the transitional boundaries.
- Utilize innovative design and engineering techniques to preserve, enhance, and restore the existing natural resources in the area.

These overarching principles are supplemented by specific area-wide recommendations for future development by city-wide elements. Contributing elements lay out guidelines for land use, urban design and streetscape, transportation, urban parks and open spaces, heritage resources, sustainability, noise, affordable housing and universal design, and schools. The following section summarizes these city-wide elements that are most applicable to the Springfield site.

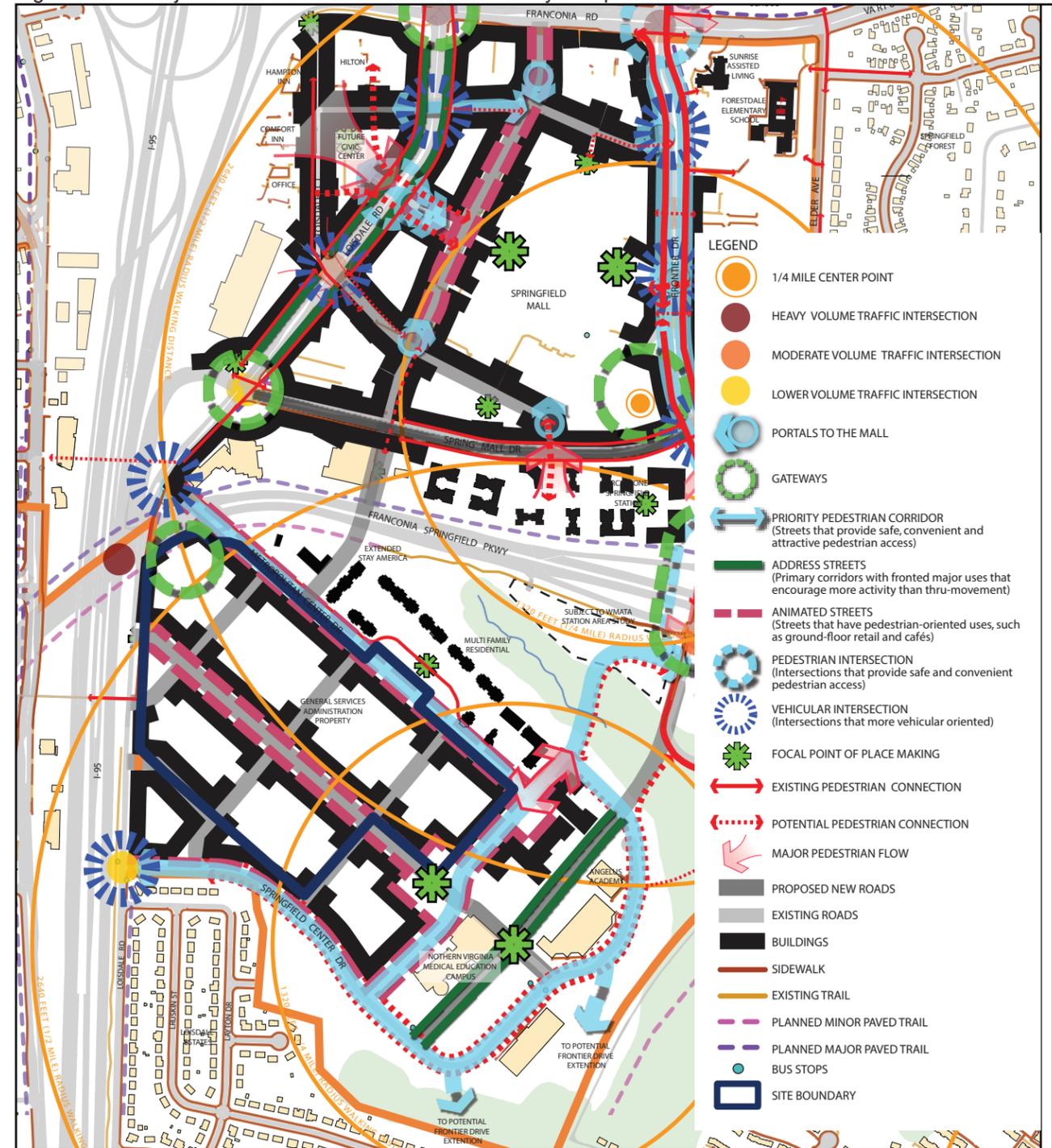
Land Use

Future land use should be a mixture of uses provided to create a vibrant, unique, and social place that extends activity beyond the normal working hours. The mixture of uses should include the success of the retail centers in the community business center and transit station area (Fairfax County 2013b) as well as more intense residential, office, hotel, and ground-floor retail uses. Additional, future redevelopment should enhance the development centers through consolidated, urban mixed-use projects, supported by a grid of streets and urban parks. Figures 7-10 and 7-11 portray the future potential land use outlined in the comprehensive plan.

Urban Design and Streetscape

The predominant urban design and streetscape element described in the plan is parking. Reducing the prominence of parking has the capability to transform the area into a dynamic, multi-modal place and, according to the comprehensive plan, parking should be consolidated into structures and integrated into the streetscape (Fairfax County 2013b). On-street and underground parking are prioritized over other forms of parking, such as surface parking lots or structured parking garages. On-street parking could be used as teaser parking for ground-floor, retail shops. Surface parking lots should be avoided or located in the rear of the buildings when necessary. In this case, space for trees and other landscaping features should be accommodated. The redesign and consolidation of existing, private, surface parking lots should be encouraged.

Figure 7-11: Projected Land Use under the Fairfax County Comprehensive Plan



Source: Fairfax County (2013b).

Noise

Given the proximity to I-95, the Franconia-Springfield Parkway, and other roadways, noise impacts from vehicular traffic are likely in some parts of the Franconia-Springfield area. Current comprehensive plan policies recommend against new residential redevelopment and other noise-sensitive uses in areas where current and future noise levels exceed 75 decibel (dBA) day-night loudness (DNL) (Fairfax County 2013b). However, residential development and other noise-sensitive uses may be planned and located in these areas due to the compact, urban nature of the Franconia-Springfield area plan. Such noise-sensitive uses in these locations may be considered only with the completion of a noise study during the review of the development, noise mitigation measures, and, potentially, the provision of disclose statement and a post-development noise study. For those studies that indicate noise levels in excess of 75 dBA DNL on proposed noise-sensitive issues, mitigation measures should be provided with the goal of achieving 45 dBA DNL for interior space and 65 dBA DNL for outdoor recreation areas.

Sustainability

According to the comprehensive plan, as the Franconia-Springfield area evolves into a multi-modal, mixed-use place, long-term sustainability is expected to be a key consideration in evaluating future development (Fairfax County 2013b). The plan states that, with increased redevelopment, the Franconia-Springfield area should promote increased quality of life for the public and improve the quality of natural resources. Considerations for sustainable practices that relate to land use include designing new renovated buildings to minimize impacts to the environment; protecting portions of a site that include substantial native habitat or wetlands, restoring native specie and removing invasive species; and enhancing pedestrian accessibility to minimize automobile dependence, supporting the connectivity goals of the Franconia-Springfield Comprehensive Plan.

Transportation

Springfield has extensive access to the regional highway network with its proximity to I-395, I-95, and I-95/I-495 (Fairfax County 2013b). In addition many transportation services and facilities serve the Franconia-Springfield area, including the Franconia-Springfield Metro Station, the Virginia Railway Express (VRE) commuter rail station, Greyhound Interstate bus service, Metrobus regional service, and county bus services.

Continued growth in the surrounding communities of Franconia-Springfield and throughout Northern Virginia would substantially increase the traffic levels. The comprehensive plan addresses these impacts by encouraging increased transit and walking trips and reducing peak hour automobile reliance. The future land use for Franconia-Springfield should focus on creating opportunities for transit, pedestrian, and bicycle travel along with land uses that achieve optimal densities and use mixes.

Land Unit O

The comprehensive plan includes specific recommendations for a series of land units, A-R, within the plan area. The Springfield site is located in Land Unit O, a 93-acre unit that also contains the Extended Stay America hotel, Springfield Crossing Apartment Complex, and open space as shown in figure 7-9. (Fairfax County 2013b). A railroad spur and Long Branch separate the site from the Franconia-Springfield Metro Station to the northwest. Land Unit O is planned for industrial use up to .50 Floor-to-Area Ratio (FAR) to recognize existing uses and to minimize traffic generation in an area with limited transportation capacity. To enhance access to the nearby Franconia-Springfield Metro Station, the plan recommends a pedestrian and vehicular connection to the transit hub, which would, at a minimum, accommodate shuttle bus service to the Franconia-Springfield Metro Station.

Recommendations for the future private redevelopment of the GSA warehouse, should it be proposed for private redevelopment, are included in the comprehensive plan. The plan envisions a mixed-use development of uses that may include the following: biotech, office, entertainment, conference center, and hotel. These uses would complement the Northern Virginia Community College/Inova Medical Center located adjacent in Land Unit P, and the existing residential and hotel within the land unit. The plan outlines two options. The first option suggests up to 1,090,000 square feet (SF) of light industrial/research and development use, with an additional up to 160,000 SF for a conference center; and up to 40,000 SF of office and support retail use. Option 2 envisions an entertainment/conference center/hotel complex, which would include an entertainment center (such as performing arts facility and/or cultural center) with a capacity of up to 6,500 patrons, up to 160,000 SF for a conference center, up to 40,000 SF of office and support retail uses, up to 565,000 SF of hotel use, and integral open space and pedestrian amenities.

Springfield Connectivity Study

The Springfield Connectivity Study was initiated by Fairfax County Board of Supervisors, the Department of Planning and Zoning, and Fairfax County Department of Transportation (FCDOT) to address several challenges and opportunities facing the Springfield area (Fairfax County 2008). The study examines both the recommendations offered by a May 2006 Urban Land Institute Advisory Services Panel report and the challenges associated with the 2005 Base Realignment and Closure (BRAC) actions for Fort Belvoir, which would affect the Springfield area. The study's preferred alternative is a balanced and extensive mix of proposed land use and density for the area.

The study analyzes the short-term and long-term implications of development at the Springfield site, with reference to the GSA Site. In the preferred alternative, the study assumes 5,000 jobs would relocate to the GSA site by 2015 due to BRAC, and that other land uses would be developed consistent with the 2030 Comprehensive Plan, including office, light industrial, and supporting retail uses (Fairfax County 2008). In the long term, the preferred alternative would show redevelopment of the GSA site to further develop a mix of land uses including office, light industrial, supporting retail, and the addition of 9,000 BRAC jobs.

The study recommends several transportation improvements for the preferred alternative, including construction of a parking garage with up to 1,000 spaces on the old Circuit City site on Loisdale Road between Spring Mall Drive and Franconia Road (Fairfax County 2008), and various improvements for non-motorized transportation modes, including the introduction of many new bicycle lanes and sidewalk connections throughout the study area.

Franconia-Springfield Station Vision Plan

The Franconia-Springfield Station Vision Plan was commissioned by the Washington Metropolitan Area Transit Authority (WMATA) to identify station improvements and joint development potential at the Franconia-Springfield Metro Station in Fairfax County, Virginia (WMATA 2008). The goals of the vision plan are to improve accessibility to and from the station, improve station functionality and transit operations, and develop the highest and best use of the station's property that meets stakeholders' goals and plans for future joint development.

The Franconia-Springfield Metro Station is located within one of the fastest growing areas in Fairfax County (WMATA 2008). The study proposes two alternatives that address the needs and potential of the site. In the short term, the plan envisions making substantial improvements to the pedestrian and bicycle environment while maintaining most of the existing station site design. New connections to local destinations, improved sidewalks, and safer pedestrian crossings would be implemented. In the short-term, the plan would provide an alternative which would remove the impetus for pedestrians accessing the Franconia-Springfield Metro Station from Frontier Drive to walk through the parking garage. The short-term vision does not anticipate any joint development because there is poor site access and the existing parking garage occupies much of the land.

In the long term, WMATA's approximately 60-acre Franconia-Springfield property is proposed for large-scale redevelopment around its principal transit function. This vision includes:

- Redevelopment of the parking garage into a mixed-use transit-oriented development that also houses transit functions such as bus bays and a taxi stand. The development would be located in three separate blocks that are oriented towards the transit station, including 430,000 SF of office, 36,000 SF of retail, and 660 residential units in buildings ranging from 2 to 15 stories tall.
- Two new roads running north-south through the site that would create a grid-like system of streets.
- A wetland park featuring native Virginian vegetation.
- A central transit plaza that creates a new sense of entry for the Metro Station.

Comprehensive Plan for the National Capital Region

The Comprehensive Plan for the National Capital is a document that guides future planning and development in Washington, D.C., and the surrounding region, known as the National Capital Region (NCR). The plan is divided into two components – the Federal Elements and the District Elements. The Federal Elements are prepared by NCPC and provide a policy framework for the Federal government in managing its operations and activity in the NCR. The District Elements, which are applicable only in the District, are developed by the District to address traditional city planning issues such as land use, housing, and economic development. For this site, only the Federal Elements are applicable and only as they apply to the future development of Federal facilities. The Federal Elements are described in detail in section 5.1.4.3.



Warehouse A



Views toward the Springfield site from the Franconia-Springfield Metro Station; Springfield Crossing in mid-ground.



Springfield Crossing Apartments

**SPRINGFIELD VISUAL RESOURCES
AFFECTED ENVIRONMENT
OVERVIEW**

- The Springfield site is home to numerous warehouse and storage buildings set throughout asphalt-paved parking lots.
- The general visual character of the surrounding area is typical of suburban landscapes with commercial and residential development interspersed with wooded areas.

7.1.5 Visual Resources

The proposed site houses numerous warehouses and storage buildings set throughout asphalt-paved parking lots. Building A is a large, low-slung, long warehouse stretching across the northern perimeter of the site, adjacent to the Springfield Crossing Apartment Complex and Extended Stay America hotel. Building B is a smaller square warehouse of similar height located in the southwestern corner of the site. Many smaller trailers and other modular structures are located on the remainder of the site. Parking is located at several points along the site boundary. Vegetation on the site is limited, and consists primarily of a thin row of trees along the northern border, with small clusters of trees and green areas sporadically situated on the western side of the site separating the parking lot from I-95. A single row of sparse trees borders the southeast side separating the apartment complex from an open grass-covered lot and the Northern Virginia Community College – Medical Campus. Denser vegetation outside the site but in proximity to the site boundary south of Springfield Center Drive and east of the site along Long Branch provide a visual barrier for the adjacent Loisdale Estates residential area and for residential areas to the east along Beulah Road. The Franconia-Springfield Parkway flies over I-95 in proximity to the northwestern corner of the site, and is not only visually prominent due to its height, but provides direct views of the site to both east and westbound traffic from above.

The general visual character of the surrounding area is typical of suburban landscapes with commercial and residential development interspersed with wooded areas. Currently, the Springfield Crossing Apartment Complex and the Extended Stay America hotel have views of the site from the north. Due to the presence of screening landscape vegetation, views from this area are limited at ground level, but increase with height in the middle and upper stories of these buildings. The adjacent commercial/office/industrial uses have similar views from the south and west; again the warehouses are sometimes screened from view at ground level by vegetation, but views from the south along Springfield Center Drive are relatively unobstructed.

7.1.6 Cultural Resources

GSA, in consultation with the Virginia Department of Historic Resources (VA SHPO) and in accordance with the regulations implementing Section 106 of the National Historic Preservation Act (NHPA), has determined the Area of Potential Effect (APE) of the Proposed Action on historic properties in the vicinity of the Springfield site. The APE for the Springfield site is illustrated in figure 7-12. The VA SHPO concurred with the APE on June 12, 2015 (A. Burke 2015). The APE for the Springfield site is shown in figure 7-12.

7.1.6.1 Archaeological Resources

In 2007, an archaeological survey was completed for the GSA warehouse site by New South Associates and Tetra Tech for the U.S. Army Corps of Engineers (USACE) (Joseph 2007). The study concluded that the GSA warehouse property has no potential to contain archaeological sites due to the extent of site disturbance during the construction of the warehouse facilities, subterranean utilities, and paving for parking areas and driveways, and did not warrant intensive survey. VA SHPO concurred with this assessment in December 2007 (Landwermeyer 2007).

7.1.6.2 Historic Resources

There are two large government warehouses built in 1953 on the Springfield site. All of the buildings on the warehouse site were determined not eligible for the National Register of Historic Places (NRHP) in 2007. The study found that, although the warehouses played an important role in GSA's early history as a storage depot for Federal offices, the property lacks significance under Criterion A (events). The study also found that the wooded truss structural system used in the warehouses is not significant under Criterion C (architecture) due to its commonality as well as its lack of integrity due to repairs and replacement of a number of the load-bearing trusses (Joseph and Price 2007). The VA SHPO concurred with the determination in 2007 (Landwermyer 2007).

No additional architectural surveys have been completed within the APE for the Springfield site. Two residential subdivisions and one small cluster of residential post World War II housing are located within the APE for the Springfield site. Planned subdivisions within the APE are Loisdale Estates, developed around 1955-1962, and Beverly Forest, developed around 1952-1958. Springvale is a cluster of houses along Oriole Avenue, built in the 1950s, that is interspersed with more recent infill development. These subdivisions and clusters represent typical post World War II suburban development and within the Washington, D.C., metropolitan area and do not appear to be the first of their type, noteworthy for their design, or influential to other subdivisions in the area.

SPRINGFIELD CULTURAL RESOURCES AFFECTED ENVIRONMENT OVERVIEW

- A 2007 archaeological survey concluded that the Springfield site has a low potential to contain archaeological sites, and did not warrant intensive survey.
- The Springfield site has two large government warehouses built in 1953, both of which were determined not eligible for the NRHP in 2007. No additional architectural surveys have been completed within the APE for the Springfield Alternative.

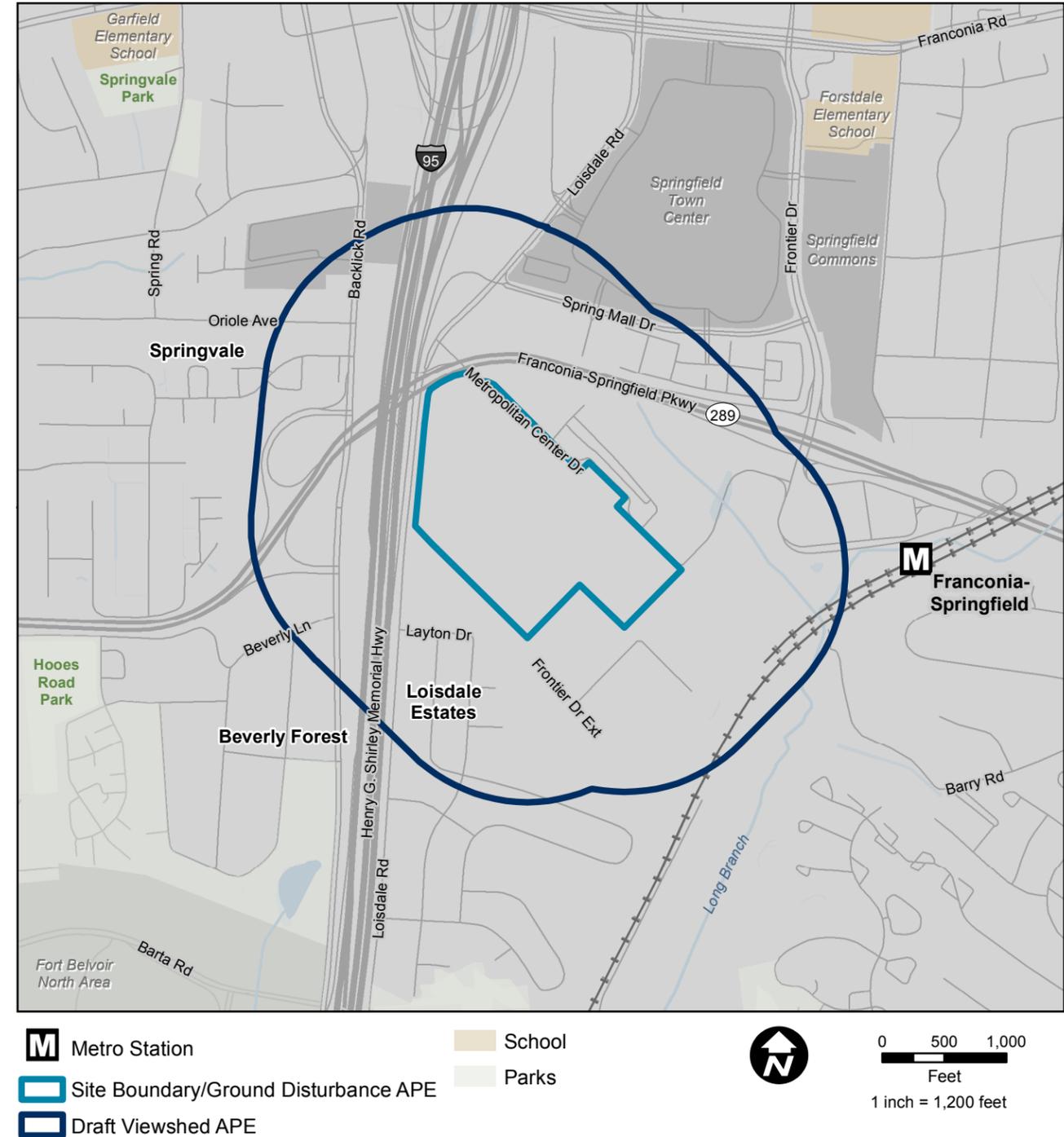


Beverly Forest



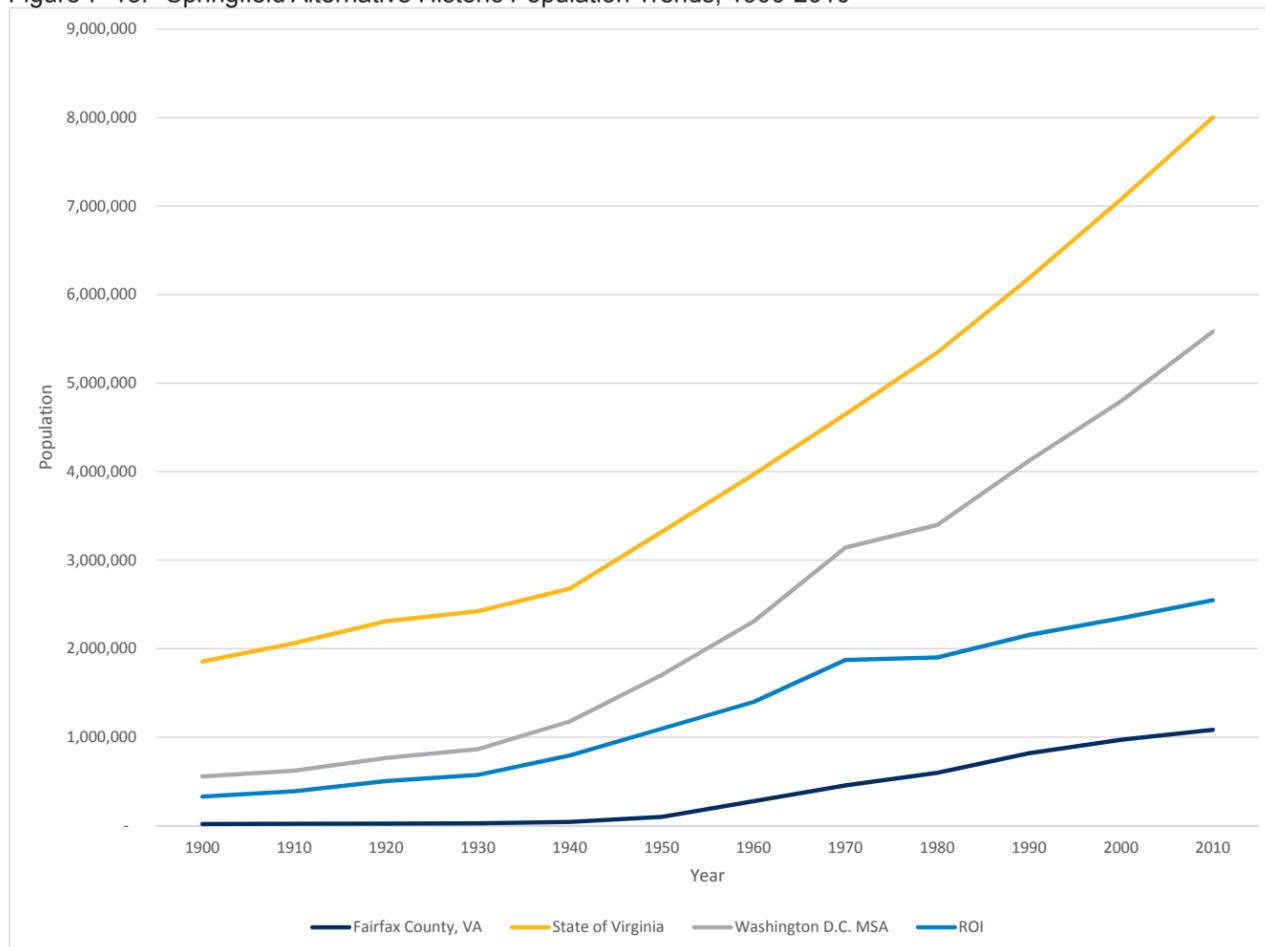
Loisdale Estates

Figure 7-12: Springfield Historic Resource Map



Sources:
ESRI (2013), GSA (2013)
Fairfax County (2014)

Figure 7-13: Springfield Alternative Historic Population Trends, 1900-2010



Source: U.S. Census Bureau (1990, 2000, 2010a)

7.1.7 Socioeconomics and Environmental Justice

The following sections describe the socioeconomic and environmental justice affected environment around the Springfield Parcel. Socioeconomic and environmental justice covers these subtopics: population, housing, employment, income, taxes, schools, community facilities, community services, recreation, environmental justice and protection of children. The region of influence (ROI) for socioeconomic and environmental justice is defined as the Washington-Arlington-Alexandria Metropolitan Statistical Area (Washington, D.C., MSA). See section 3.8 for more detailed information on the Washington, D.C., MSA and the methodology used for this section.

7.1.7.1 Population and Housing

Population

The population in Fairfax County almost tripled between 1950 and 1960, and then continued to increase steadily through 2010 when the most recent decennial census occurred, as shown in figure 7-13. The population in Washington, D.C., MSA and the Commonwealth of Virginia increased at greater rates than Fairfax County over the same period.¹

Between 2000 and 2013, the total population in Fairfax County increased by 13.5 percent to approximately 1.1 million persons. This was a lower rate of growth than the population growth rate in the Commonwealth of Virginia (14.4 percent) but a higher rate of growth than the rate of population growth in the Washington, D.C., MSA (12.5 percent) over the same period (table 7-2).

The Metropolitan Washington Council of Governments (MWCOG),⁴ which does not share the same boundary as the Washington, D.C., MSA, projects that the population of the metropolitan area would grow by 1.8 million people by 2040, resulting in a total population of 7,042,966 in 2040, which represents a 34 percent increase in population from 2010 (table 7-3). Fairfax County's population is projected to grow by 27 percent between 2010 and 2040, which is less than the projected growth in the Commonwealth of Virginia and the Washington, D.C., MSA (40 percent and 34 percent, respectively) over the same period (table 7-3).

Fairfax County had a high percentage of persons who identify themselves as Asian alone, at approximately 18 percent on average, annually between 2009 and 2013. This percentage is almost three times the amount of this same demographic in the Commonwealth of Virginia, and nearly twice the level of this demographic in the Washington, D.C., MSA (table 7-4). The percentage of those who identify themselves as a minority in Fairfax County is only slightly higher than in the Commonwealth. The population of those who identify as Black or African American alone, at approximately 9 percent on average, annually between 2009 and 2013, was at least half the level, as a percentage of the total population, of this same demographic in the Washington, D.C., MSA and the Commonwealth of Virginia.

¹ The current geographic boundaries for the MSA represent the boundaries as they existed in 2010. However, the geographic boundaries for counties and cities included in these combined area statistics have likely changed between 1900 and 2010. Therefore, the statistics in figure 7-13 and in the supporting paragraph are reflective of the total population of these areas as their boundaries existed at the time the statistics were recorded and are not based on the boundaries that existed in 2010.

⁴ The population projection model is based on the 1983 definition of the Metropolitan Statistical Area (MSA) that includes the District of Columbia, Calvert County, Charles County, Frederick County, Montgomery County, and Prince George's County in Maryland; and Alexandria, Arlington County, Fairfax, Fairfax County, Falls Church, Loudoun County, Manassas, Manassas Park, Prince William County, and Stafford County in Virginia (MWCOG 2015). The 1983 definition of the MSA is not the current Washington, D.C., MSA definition used in this document.

Housing

Fairfax County and the Commonwealth of Virginia have rental vacancy rates of four and seven percent, respectively, as shown in table 7-5. These rates are lower than the national average vacancy rate of approximately 8 percent. The rate in Fairfax County is lower than the average vacancy rate of housing in the Washington, D.C., MSA, while the vacancy rate in the Commonwealth of Virginia is higher than average vacancy rate in the Washington, D.C., MSA. Approximately 18 percent of all housing units in the Washington, D.C., MSA are located in Fairfax County.

As stated in section 3.8, regional economic growth is expected to continue to attract new residents and increase the general demand for new housing. According to MWCOC, between 2005 and 2040, the number of households would grow in Fairfax County by 31 percent (MWCOC 2010). According to U.S. Census American Community Survey's One Year Estimates, current housing vacancy levels, at 17,519 vacant housing units, are the lowest they have been in previous 8 years (U.S. Census 2013a; U.S. Census 2013g).

Table 7-2: Population Growth for Fairfax County, Washington, D.C., MSA, and Commonwealth, 2000, 2009-2013*

County/Area	2000	2009-2013 ^a	Percent Change, 2000 - 2013
Commonwealth of Virginia	7,078,515	8,100,653	14.4%
Washington, D.C., MSA	5,119,490	5,759,330	12.5%
Fairfax County, VA/Area	969,749	1,101,071	13.5%

^aThis statistic is an annual average statistic from 2009-2013.
Source: U.S. Census Bureau (2013, 2000)

Table 7-3: Population Projections, 2020-2040

Area/County	Year					2010 - 2040	
	2020	2025	2030	2035	2040	Total Change	Percent Change
Commonwealth of Virginia	2,727,518	2,903,287	3,046,179	3,175,769	3,297,418	937,679	40%
Washington, D.C., MSA	5,945,206	6,277,833	6,564,198	6,820,892	7,042,966	1,775,715	34%
Fairfax County, VA	1,153,456	1,212,464	1,265,650	1,317,578	1,369,001	287,270	27%

Source: MWCOC (2014)

Table 7-4: Racial Characteristics, 2009-2013^a

Area or County	Total Population	White alone	Black or African American alone	American Indian and Alaska Native alone	Asian alone	Native Hawaiian and Other Pacific Islander alone	Some other race alone	Minority Population ^b
Commonwealth of Virginia	8,100,563	63.50%	19.4%	0.3%	5.7%	0.1%	5.2%	35.7%
Washington, D.C., MSA	5,759,330	56.1%	25.5%	0.4%	9.3%	0.1%	8.7%	51.7%
Fairfax County, VA	1,101,071	63.5%	9.2%	0.4%	17.9%	0.1%	9.0%	46.1%

^aThis statistic is an annual average statistic from the years 2009-2013.

^bThis is the total population minus the population of persons identifying themselves as non-Hispanic white alone. Minority population is separate from race and includes the Hispanic ethnicity.
Source: U.S. Census Bureau (2013)

Table 7-5: Housing Supply, 2009-2013^a

Geographic Area	Total Number of Housing Units	Percent Change in Number of Housing Units (2000 to 2013)	Total Number of Occupied Housing Units	Total Number of Vacant Housing Units	Percent of Vacant Housing Units	Total number of Renter-Occupied Units	Percent of Housing Units Available for Rent
Washington, D.C., MSA	2,249,459	N/A	2,091,301	158,158	1.50%	725,793	5.30%
Commonwealth of Virginia	3,381,332	16.4%	3,022,739	358,593	1.80%	933,701	6.7%
Fairfax County, VA	408,180	13.6%	389,908	18,272	0.90%	117,864	4.0%

^aThis statistic is an annual average statistic from 2009-2013.
Source: U.S. Census Bureau (2013, 2000)

SPRINGFIELD SOCIOECONOMICS AFFECTED ENVIRONMENT OVERVIEW

- The population in Fairfax County almost tripled between 1950 and 1960, and then continued to increase steadily through 2010 when the most recent decennial census occurred. Between 2000 and 2013, the total population in Fairfax County increased by 13.5 percent to approximately 1.1 million persons. Fairfax County's population is projected to grow by 27 percent between 2010 and 2040.
- In 2013, the total employed labor force in Fairfax County was 586,818 people, and the average, annual median wage between 2009 and 2013 was \$110,292.
- Between 2000 and 2013, total unemployment in Fairfax County increased from a low of approximately 2 percent of the total labor force in 2000 to a high of approximately 5 percent of the total labor force in 2010. In 2013, Fairfax County's annual unemployment rate was 4.3 percent.
- In 2013, approximately 7 percent of all jobs were in state and local government industry and almost 8 percent of jobs were in the retail trade industry.
- Between 2005 and 2040, the number of households in Fairfax County is projected to grow by 31 percent.
- Fairfax County has a total of 195 public schools and learning centers and has the 10th largest school enrollment in the nation.

Figure 7-14: Springfield Alternative Unemployment Rates, 2000-2013

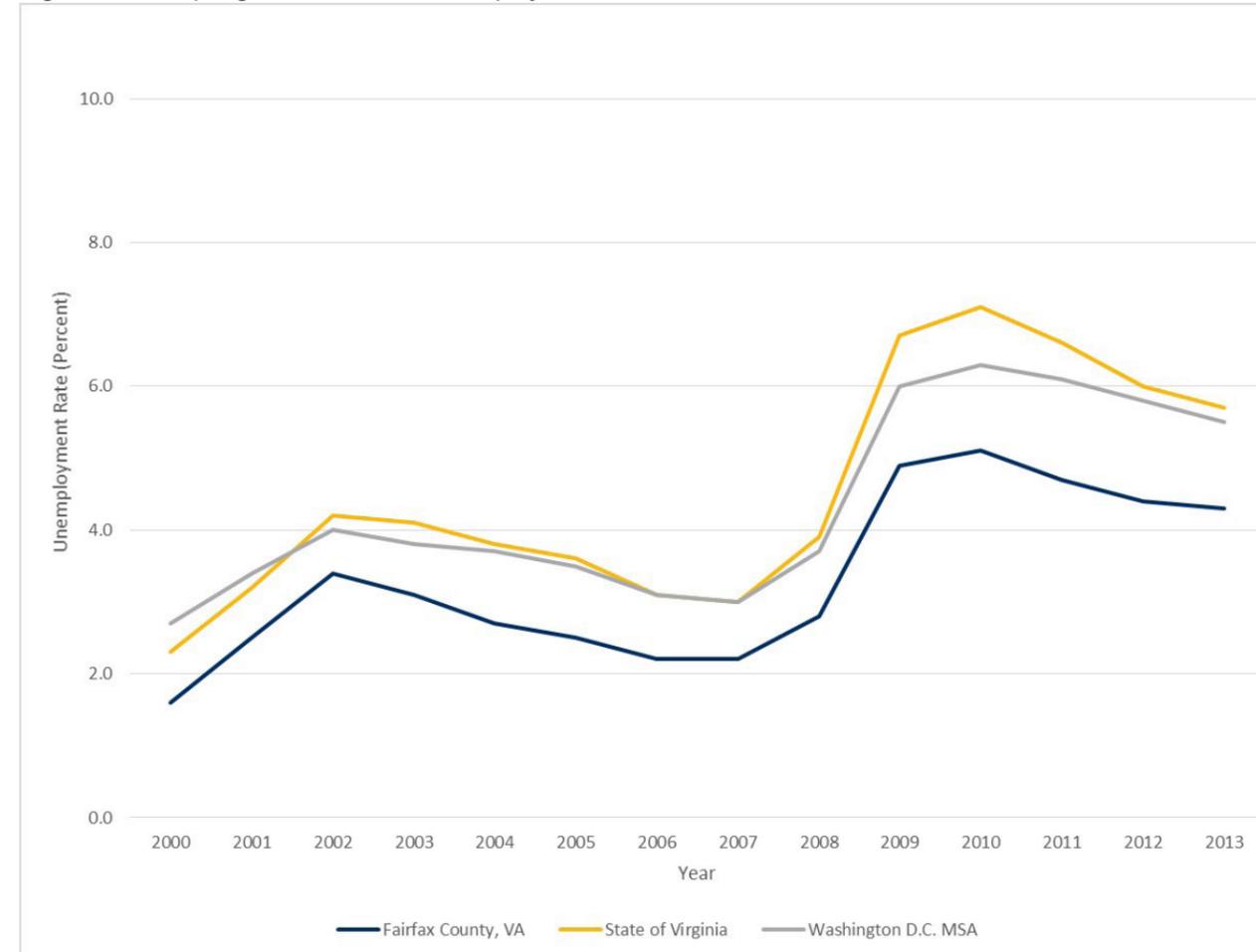


Table 7-6: Employment and Income, 2001, 2009-2013^a

Area	Employed Labor Force 2013 (number)	Employment Change 2001 - 2013 (percent)	Median Household Income, 2009-2013 ^a	Percentage of People Living Below Poverty, 2009-2013 ^a
Washington, D.C., MSA	3,078,147	+ 16.4%	\$90,540	8.2%
Commonwealth of Virginia	4,004,513	+ 12.8%	\$63,907	11.3%
Fairfax County, VA	598,080	+ 10.4%	\$110,292	5.9%

^aNote: This statistic is an annual average statistic from the years 2009-2013. Source: U.S. Census Bureau (2013a); BLS (2001, 2013)

7.1.7.2 Employment and Income

Total employment, unemployment, and income information is presented by place-of-residence. In 2013, the total employed labor force in Fairfax County was 598,080 people. Between 2001 and 2013, the total employed labor force (including Armed Forces) increased by approximately 10 percent in Fairfax County, which was lower than the employment growth rate in the Washington, D.C., MSA (16 percent) during this period (BLS 2013). Table 7-6 presents employed labor force, median household income, and percentage of people living below poverty in Fairfax County, the Washington, D.C., MSA, and the Commonwealth of Virginia.

Unemployment

Between 2000 and 2013, total unemployment in Fairfax County increased from a low of approximately 2 percent of the total labor force in 2000 to a high of approximately 5 percent in 2010 (BLS 2014). As a percent of the total labor force, unemployment levels in Fairfax County annually have exceeded those at the level of the Washington, D.C., MSA. In 2013, Fairfax County's annual unemployment rate, at 4.3 percent, was lower than the national average, at 7.4 percent, by almost half (figure 7-14).

Jobs by Industry

In 2013, in Fairfax County, approximately 7 percent of all jobs were in the state and local government industry while almost 8 percent of all jobs were in the retail trade industry in 2013. The construction industry contained approximately 5 percent of all jobs, which represents an 8 percent decline in jobs in this industry since 2001.

In the Commonwealth of Virginia, the largest industry by total number of jobs is the state and local government industry (11 percent). This is followed by the retail trade and professional, scientific, and technical services industries (both at 10 percent). The construction industry made up approximately 6 percent of all jobs in Virginia in 2013. Table 7-7 summarizes jobs by industry in 2013 and the total change in the percentage of jobs for each industry since the year 2001 (BEA 2013).

7.1.7.3 Taxes

In Fairfax County, Virginia, assessments occur annually, and both residential and commercial properties are assessed at 100 percent of the estimated market value, at \$1.09 per \$100 of assessed value (Fairfax County 2015m). Real property tax revenues for Fairfax County were approximately \$2.2 billion in Fiscal Year (FY) 2014 (Fairfax County 2015n). Both the Commonwealth of Virginia and Fairfax County apply a general sales tax of 4.3 percent and 1 percent, respectively. In addition, the Commonwealth imposes an additional sales tax rate of 0.7 percent on counties in Northern Virginia, which includes Fairfax County, for an overall sales tax of 6.0 percent. In addition, sales taxes are also applied to transportation and food for home consumption in Virginia (Virginia Department of Taxation 2015a). Sales tax revenues in Fairfax County were approximately \$322 million in FY 2014 (Virginia Department of Taxation 2015a).

The Commonwealth of Virginia does not disclose personal income tax revenues at the county level, but rather provides tax liabilities, which are tax collections prior to applying various credits. Total tax liabilities for Fairfax County were \$2.5 billion in 2012, while total tax revenues for the entire state were \$11.2 billion for FY 2014 (Virginia Department of Taxation 2015b).

Currently, the Springfield site is owned by GSA. According to U.S. Public Law, Federal real property is tax exempt in all jurisdictions (U.S. Code 1966).

Table 7-7: Springfield Alternative - Jobs by Industry, 2013

Industry	Fairfax County, VA		Washington, D.C., MSA		Commonwealth of Virginia	
	2013	Percent Change 2001-2013	2013	Percent Change 2001-2013	2013	Percent Change 2001-2013
Total employment	874,660	15.8%	4,019,399	16%	4,899,410	11.0%
Farm employment	188	1.6%	10,752	-12.5%	51,124	-17.7%
Forestry, fishing, and related activities	299	38.4%	3,273	(D)	13,081	5.1%
Mining	1,543	(D)	(D)	(D)	16,030	35.3%
Utilities	(D)	(D)	8,309	(D)	11,052	-9.6%
Construction	41,847	-8.0%	(D)	(D)	269,178	-8.4%
Manufacturing	6,923	(D)	57,571	(D)	243,606	-30.6%
Wholesale trade	(D)	(D)	71,248	(D)	122,545	-1.7%
Retail trade	68,281	-2.8%	316,461	4%	489,022	2.3%
Transportation and warehousing	16,250	(D)	86,532	(D)	141,192	2.0%
Information	26,909	-50.5%	93,241	(D)	85,568	-35.1%
Finance and insurance	40,783	31.6%	160,815	(D)	211,867	28.6%
Real estate and rental and leasing	45,817	49.9%	188,198	(D)	210,323	47.9%
Professional, scientific, and technical services	208,182	37.6%	(D)	(D)	517,714	35.9%
Management of companies and enterprises	23,276	40.4%	(D)	(D)	78,773	6.9%
Administrative and waste management services	57,924	10.6%	251,942	(D)	280,354	14.6%
Educational services	18,857	60.3%	129,519	(D)	97,482	46.8%
Health care and social assistance	66,566	32.8%	347,852	(D)	461,911	41.6%
Arts, entertainment, and recreation	18,562	26.9%	(D)	(D)	100,314	33.3%
Accommodation and food services	47,073	19.1%	(D)	(D)	336,867	23.3%
Other services, except public administration	49,128	17.6%	285,699	21%	292,622	19.5%
Federal, civilian	45,942	36.1%	389,596	15%	193,383	23.2%
Military	9,680	31.5%	66,531	-15.9%	140,677	-16.0%
State and local	60,469	14.3%	314,560	17.0%	534,725	10.5%

Note: (D) indicates information collected by BEA that is protected against public disclosure by the International Investment and Trade in Services Survey Act (P.L. 94-472, 90 Stat. 2059, 2 u.s.c. 3101-3108, as amended).
Source: BEA (2013)

Table 7-8: Number of Schools in Fairfax County

Type of School	Fairfax County, VA
Elementary Schools	139
Middle Schools	23
Secondary Schools ^a	3
High Schools	22
Academies ^b	N/A
Education Campuses	N/A
Adult Education Schools	N/A
Special Education Schools	7
Youth Engagement Schools	N/A
Vocational Centers	N/A
Alternative Schools	2
Public Charter Schools	N/A
Total	196

^a Secondary schools include grades 7 through 12.
^b Academies include grades from pre-kindergarten to 8th grade.
 Source: DCPS (2014); Fairfax County (2014a); PGCPs (2014)
 *N/A: This means that data for these was not available.

SPRINGFIELD RECREATION AND OTHER COMMUNITY FACILITIES

- Fairfax County has nine indoor recreation centers with swimming pools and fitness rooms/gyms, eight golf courses, five nature and visitor centers, an ice skating rink, and several lakes and parks with campgrounds.
- Within 1 mile of the site, there are four childcare centers, three houses of worship, one university, and one library.

7.1.7.4 Schools

Fairfax County has a total of 196 public schools and learning centers (FCPS 2014). There are 48 alternative programs and learning centers. Approximately one of every six residents in Fairfax County is a public school student. Projected enrollment for the 2014-2015 school year in Fairfax County is 186,785 students. Table 7-8 shows the number of schools in Fairfax County.

Fairfax County has the largest school enrollment in Virginia and the tenth largest school enrollment in the nation. Seventy-four percent of graduates from county schools attend post-secondary programs. Fairfax County also sponsors a Youth Leadership Program to educate and motivate high school students to become engaged residents and leaders in the community (Fairfax County 2014a).

7.1.7.5 Community Services, Facilities, and Recreation

The following sections describe the existing conditions for a variety of community facilities, including police services, fire and emergency services, medical facilities, libraries, schools, childcare facilities, and houses of worship.

Police Services

The Fairfax County Police Department located in northern Virginia, is a full-service law enforcement agency that serves the population of the county. The Police Department currently has 1,369 sworn officers. This results in 1.23 officers per 1,000 residents. With the development going into the Springfield Town Center, Police are preparing for the new challenges and rapid growth and development of Springfield. Police response times increased 6 percent over all of Fairfax County between 2013 and 2014 while they decreased in the West Springfield area by 5 percent during this period.

The majority of patrol officers operate out of eight district stations: Mason District, McLean District, Mount Vernon District, Fair Oaks District, Franconia District, Reston District, Sully District, and West Springfield District (Fairfax County 2013c). The Springfield site is served by the Franconia District police station, located at 6121 Franconia Road, Franconia, Virginia 22310 and shown in figure 7-15. Further detail on police services for the Springfield site is provided in section 7.1.8.

Fire and Emergency Services

In Fairfax County, there are 38 fire and rescue stations (Fairfax County 2013c). There are 1,340 uniformed personnel in the fire department. This results in 1.2 fire fighters per resident in Fairfax County (FCFRD 2014). The closest fire department station to the Springfield site is Station 22, which is the Greater Springfield Volunteer Fire Department, located approximately 200 yards to the west of the site (shown in figure 7-15). The department is a combined system made up of career firefighters and paramedics who staff the station, and volunteers who provide supplemental staffing (GSVFD 2015). Further detail on fire and emergency services near the Springfield site is provided in section 7.1.3.

Medical Facilities

The Fairfax County Health Department operates three health centers located in Falls Church, Alexandria, and Reston (Fairfax County 2013c). The Fairfax County Community Health Care Network is a partnership of health professionals, physicians, hospitals, and local government formed to provide primary health services for low-income, uninsured residents of Fairfax County and the cities of Fairfax and Falls Church. Inova is a not-for-profit healthcare system in Northern Virginia that serves more than two million people each year. Inova's five hospitals include 1,753 hospital beds and 98,015 in-patient admissions in 2013 (Inova 2013). Inova Fairfax Hospital, Inova's flagship hospital, is an

833-bed, medical center serving the Washington, D.C., MSA. The nearest medical facility to the Springfield site is Inova Healthplex, located 0.65 mile from the site location (shown in figure 7-15). Inova Franconia-Springfield Surgery Center is a full-service ambulatory outpatient facility located off the Fairfax County Parkway at the Inova HealthPlex (Inova 2015).

Other Community Facilities

In addition to schools, police, fire and emergency, and recreation facilities, there are numerous other community facilities near the Springfield site that are commonly located in suburban environments, such as childcare centers, houses of worship, universities, and libraries. Unless noted otherwise, the following community resources were located using Fairfax County Geographic Information System (GIS) data and Google Maps (Fairfax County 2014b).

Four childcare centers cater to the suburban population and concentration of employment in Springfield. Those childcare centers within 1 mile of the Springfield site include Quality Home Childcare at 6711 Cimarron Street, Springfield; Laalee Day Care at 7205 Sumpter Lane, Springfield; Lily Pad at Metro Park at 6361 Walk Lane, C110, Alexandria; and Kingstowne KinderCare at 6301 Kingstowne Commons Drive, Kingstowne.

There is one library located within 1 mile of the Springfield site, which is the Richard Byrd Library at 7250 Commerce Street, Springfield.

Several houses of worship are located within 1 mile of the site as well as the Northern Virginia Community College located at 6699 Springfield Center Drive, Springfield.

Table 7-9 provides a comprehensive list of all the community facilities found within a 1-mile radius of the Springfield site, while figure 7-15 shows all community facilities found within the study area.

Recreation

Fairfax County has nine indoor recreation centers with swimming pools and fitness rooms/gyms, eight golf courses, five nature and visitor centers, an ice skating rink, and several lakes and parks with campgrounds (Fairfax County 2014b). The nearest recreational area to the Springfield Park is Hooes Road Park, located on 7233 Hooes Road, Springfield, Virginia 22150, about 1.5 miles from the Springfield site on the western side of I-95. Hooes Road Park offers recreational park areas and fields to play sports such as baseball and has multiple tennis courts. Manchester Lakes Recreation Center is located about 1.5 miles east of the Springfield site and includes a residential community, a clubhouse, two outdoor pools, tennis courts, an exercise facility, ponds, and several small parks (Manchester Lakes 2015).

Several parks are located in the surrounding areas of the Springfield site. Loisdale Park lies south of the site location along I-95 and offers fields for sports and a new synthetic turf. Beulah Park is located just over 1 mile from the site, located adjacent to Lane Elementary School and offers playing fields for sports such as softball. The closest regional park is Huntley Meadows Park, which is located more than 1 mile east of the Springfield site. Huntley Meadows Park has a number of visitor activities including exhibits, events, wildlife viewing and nature trails (Fairfax County 2015j). Lee District Park, including the Lee District Recreation Center, is adjacent to Huntley Meadows Park. This 193-acre park has one soccer field with two overlay T-ball fields, two football fields, two overlay softball fields, four basketball courts, an amphitheater, a playground, four tennis courts, a tennis practice wall, two sand volleyball courts, and walking trails (Fairfax County 2015f).

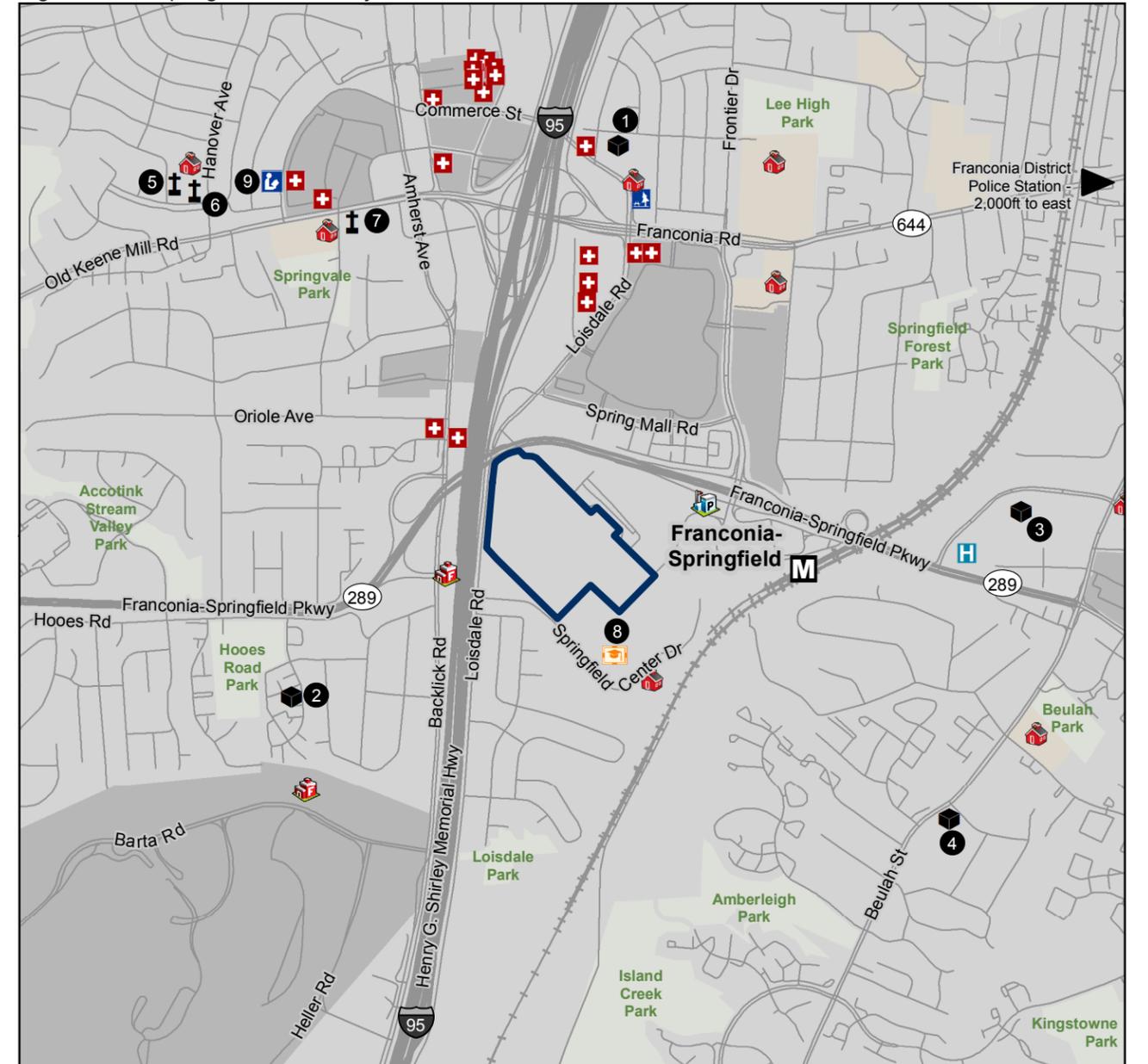
Three golf courses are located within a few miles of the Springfield site. Greendale Golf Course is located across the road from Lee District Park, approximately 3 miles from the site, while Hilltop Golf Club is located about 2 miles southeast of the site. The Fort Belvoir Golf Club is located just south of the Hilltop Golf Club. Recreation facilities located within 1 mile of the project site are noted in figure 7-15.

Table 7-9: Springfield Community Facilities

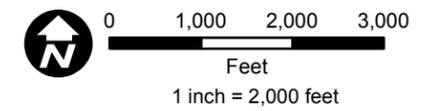
Facility	Map ID	Description
Child Care	1	Quality Home Childcare
	2	LaaLee Day Care
	3	Lily Pad at Metro Park
	4	Kingstowne KinderCare
Houses of Worship	5	First Baptist Church of Springfield, VA
	6	St. Christopher's Episcopal Church
	7	Springfield Methodist Church
University	9	Northern Virginia Community College
Library	8	Richard Byrd Library

Source: Google Maps (2014); ESRI (2013)

Figure 7-15: Springfield Community Services, Facilities, and Recreation

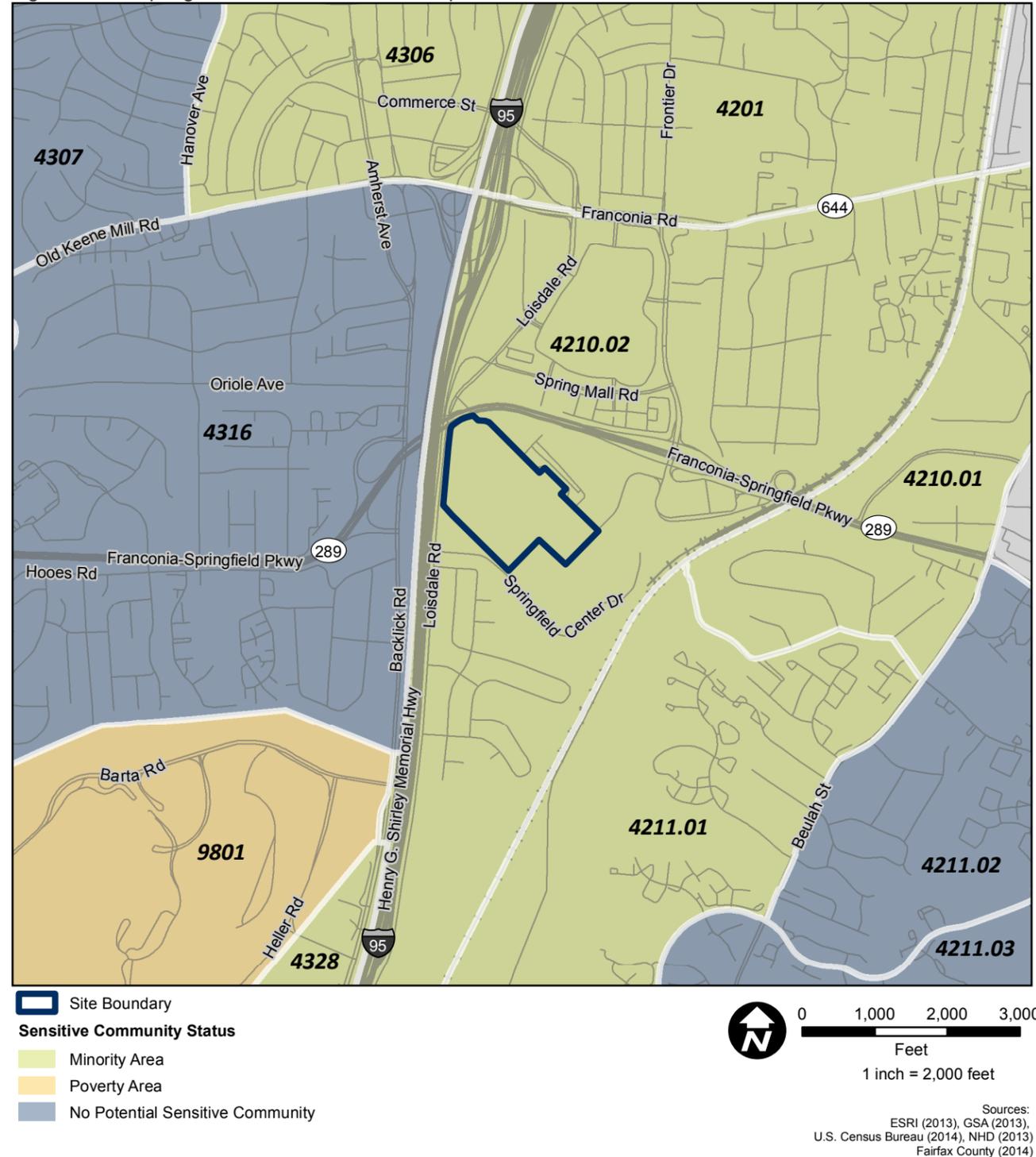


Rec and Community Centers	Hospital	Library
Fire Station/Emergency Services	Rehabilitative Clinic	Child Care Facilities
Police Station	University	Houses of Worship
	School	



Sources:
ESRI (2013), GSA (2013), FEMA (2013), NHD (2013)
Fairfax County (2014)

Figure 7-16: Springfield Alternative Sensitive Populations



SPRINGFIELD ENVIRONMENTAL JUSTICE AND PROTECTION OF CHILDREN

- Of the 655 census tracts within the ROI, 11 census tracts are located within 1 mile of the Springfield site. Of these, six census tracts have proportionately higher minority populations compared to the rest of the county.
- There are 50 preschools and childcare centers in Springfield, Virginia.

7.1.7.6 Environmental Justice

Minority and poverty information for the Commonwealth of Virginia and Fairfax County are provided in tables 7-4 and 7-6. Census tracts with minority and impoverished populations within 1 mile of the Springfield site in Fairfax County are identified in figure 7-16. There are 11 census tracts located within 1 mile of the Springfield site. Of these, six census tracts (4201, 4210.01, 4210.02, 4211.01, 4306, and 4328) have proportionately high minority populations compared to the rest of Fairfax County. One census tract, 9801, located within 1 mile of the site, has more than 20 percent of its population living in poverty and is identified as a poverty area. Therefore, a majority of the census tracts within 1 mile of the Springfield project site have either minority or low-income populations residing within them. Details on Executive Order (EO) 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations are provided in section 3.8.3.3.

7.1.7.7 Protection of Children

There are 50 childcare centers and preschools in Springfield. There are three childcare centers that are located within 1 mile of the Springfield site: Laalee Day Care, Lily Pad at Metro Park and Kingstowne KinderCare. The closest elementary schools to the site are Lane Elementary School and Forestdale Elementary School. There are approximately 1,400 children attending schools within 1 mile of the project site (FCPS 2015). There are neighborhoods located to the south of the project site and southwest of the project site across the across I-95. There is also an apartment complex located along the northern boundary of the project site. Children make up approximately 20 and 22 percent of the residents of the census tracts (4316 and 4210.02, respectively) that contain these neighborhoods (US Census 2013g). EO 13045, Protection of Children from Environmental Health and Safety Risk, is described in section 3.8.3.3.

7.1.8 Public Health and Safety/ Hazardous Materials

The current public health and safety concerns at the Springfield site are typical of a suburban environment and transit center, as described in the following sections.

7.1.8.1 Public Health and Safety

The Springfield site is located in the Springfield area of Fairfax County, and is protected by the Franconia District police station. The Franconia Station is located at 6121 Franconia Road in Alexandria, Virginia, an approximately 2.3 mile drive from the Springfield site. It employs approximately 140 sworn officers and 30 civilians who serve the 51 square mile Franconia District (Fairfax County 2015a). The Franconia-Springfield Metro Station, as with all WMATA facilities, is patrolled by the Metropolitan Transit Police Department (MTPD). MTPD is in the process of building a new facility in proximity to the site; however, it is not expected that MTPD would respond to incidents occurring outside of the Franconia-Springfield Metro Station.

Emergency services provided for the Springfield site are provided by Greater Springfield Volunteer Fire Department (GSVFD), a member of the Fairfax County Fire and Rescue Department. The department is a combined system made up of career firefighters and paramedics. GSVFD provides additional staffing on engines, trucks, and medical units, as well as additional reserve engines, ambulances, brush units, utility plows, and canteen/rehab units (Fairfax County 2015a). GSVFD, located at 7011 Backlick Road in Springfield, Virginia, is located across I-95 from the southeastern corner of the site. Fort Belvoir North Area has its own emergency services center to respond to emergencies within the installation.

Police and fire/emergency response times to the site are approximately 3 minutes, as shown in table 7-10.

SPRINGFIELD PUBLIC HEALTH AND SAFETY/HAZARDOUS MATERIALS

- The Springfield site is protected by the Franconia District Police Station, which employs 140 sworn officers and 30 civilians who serve the 51 square mile Franconia District.
- Emergency services provided for the Springfield site are provided by GSVFD, and the department is made up of career firefighters and paramedics.
- Police and fire/emergency response times to the site are approximately 4 to 7 minutes.
- A site assessment for the Springfield site concluded that environmental investigation and remediation began at the site in 1988 when soil and wipe samples indicated the presence of elevated PCB concentrations in site soils.
- Neither the Springfield site nor any nearby facilities within a 1.0-mile radius of the site were listed in the National Priorities List (NPL), Delisted NPL, or Proposed NPL databases.

Table 7-10: Springfield Emergency Response Times

Emergency Response	Response Time (min)	Distance (In miles)	Notes
Fire Station/Emergency Services	6.1	4.3	Fort Belvoir Emergency Services Center
	4.3	1.5	Springfield Fire Station
Police Station	7.0	2.7	Franconia Police Department
Hospital	3.9	1.2	Inova Surgery Center @ Franconia-Springfield

Note: Police and emergency response times were calculated by applying the ArcGIS Network Analyst routing function to a network dataset based on the 2014 ESRI Detailed Streets layer. The streets layer records the average travel time, in minutes, to traverse each road segment. Travel time data originates with TomTom North America, Inc. The route function summarizes the time cost for each route. Actual response times may vary from this reported time depending on traffic conditions and the average speeds of the response vehicles, which are unknown at this time. Source: Google Maps and GIS Data

RESOURCE CONSERVATION AND RECOVERY ACT

RCRA is the principal U.S. law governing the disposal of solid and hazardous waste. One of its primary goals is to protect the health of humans and the natural environment from hazardous waste.

SMALL QUANTITY GENERATORS

Small Quantity Generators generate more than 100 kilograms, but less than 1,000 kilograms, of hazardous waste per month (USEPA).

CONDITIONALLY EXEMPT SMALL QUANTITY GENERATOR

Conditionally Exempt Small Quantity Generators generate 100 kilograms or less per month of hazardous waste or 1 kilogram or less per month of acutely hazardous waste (USEPA).

NON-GENERATOR/NO LONGER REGULATED

The RCRA Non-Generator/No Longer Regulated list contains a list of properties that may have been ongoing generators of hazardous waste at some time in the past, or may have been the site of a one-time hazardous waste event, but are now considered "closed" and no longer regulated under RCRA.

7.1.8.2 Hazardous Materials

GSA's commissioned a Phase I ESA for the Springfield site in November 2014 (Louis Berger 2014c). The ESA identified current Recognized Environmental Concerns associated with a wash water sump pit and two underground vaults.

The wash water sump pit is located in the Maintenance Handling Equipment space of Building A, which is sealed and no longer used. The sump pit formerly accepted runoff from washing of forklifts, scooters, and small battery-powered vehicles. The integrity of the sump pit walls and floor is unknown. The two underground vaults are also located in Building A. Each vault measures approximately 20 feet long by 5 feet wide, and both were welded shut at the time of field inspections conducted in support of the ESA. The vaults may be associated with repair operations formerly performed on track-mounted cargo vehicles. Because of the presence of these Recognized Environmental Concerns, soil contamination may exist at the site.

Records reviewed as part of the ESA indicated that environmental investigation and remediation began at the site in 1988 when soil and wipe samples indicated the presence of elevated PCB concentrations in site soils. Since that time, numerous releases from underground storage tanks (USTs) at the site have been reported and investigated. Approximately 10 to 12 USTs have been removed from the site, and one was abandoned in place. Approximately 24 monitoring, injection, and recovery wells were installed at the site by the mid-1990s, and remediation and reporting efforts continued until 2000 when the Virginia Department of Environmental Quality (VADEQ) determined that "No further corrective action was required." All wells were subsequently decommissioned and sealed at VADEQ's direction.

In addition to the current and historical Recommended Environmental Concerns, the Phase I ESA found that a 10,000-gallon diesel UST and a 6,000-gallon gasoline UST are present in a vehicle fueling area along the northeast corner of Building B, and used for government vehicles only. Another UST was abandoned in place in the vicinity of the sprinkler system pump house adjacent to Building A. The 4,000-gallon UST formerly contained fuel oil and was cleaned and filled with concrete because removal was not practical due to proximity to the pump house. Based on the early development of the property and former operations at the site, it is possible that additional unknown and undocumented USTs are present.

Asbestos-containing materials and lead-based paints abatement at the Springfield site is well-documented (Mactec 2008); a hazardous materials inspection and report conducted for the site in 2014 included asbestos-containing material inspections using U.S. Environmental Protection Agency (USEPA) guidelines for controlling asbestos-containing materials in buildings. The inspections confirmed the presence of numerous types of asbestos-containing materials in Buildings A and B (Louis Berger 2014d). The hazardous materials inspection also confirmed the presence of lead-based paint on numerous walls, ceilings, doors, and fixtures throughout Buildings A and B. In addition, the inspection documented the presence of lighting fixtures and ballasts suspected of containing PCBs.

Neither the Springfield site nor any nearby facilities were listed in the NPL, Delisted NPL, or Proposed NPL databases within a 1.0-mile radius of the site (USEPA 2015b). Information obtained from USEPA's Resource Conservation and Recovery Act (RCRA) database identified Fort Belvoir North Area, approximately 0.65 mile to the southwest of the Springfield site, as the closest contaminated site where corrective actions have been or are currently being conducted (USEPA 2015c).

The Springfield site is identified as a Conditionally Exempt Small Quantity Generator in the RCRA database. There are nine active Small Quantity Generators, one Conditionally Exempt Small Quantity Generator, and two Non-Generator/No Longer Regulated facilities were identified within a 0.25-mile radius of the site. The Phase I ESA did not identify any solid waste facilities or landfills, brownfields, or sites containing engineering controls such as caps or liners within 0.5 mile of the site. The ESA did find that the Springfield site, along with eight other listings within a 0.5-mile radius, appeared in the Leaking UST database. All eight of the off-site listings are identified as closed.

7.1.9 Transportation

The following sections describe the affected environment for the Springfield site and provide a summary of the existing transportation conditions in the study area as of May 2015.

7.1.9.1 Study Area Description

The larger vehicular transportation study area, as shown in figure 7-17, extends from just east of I-95 to the west, just north of Franconia Road to the north, Beulah Street to the east, and Fairfax County Parkway to the south. Section 3.10.1 contains the methodology used to identify the vehicular and other transportation mode's study area. The study area was established in consultation with Virginia Department of Transportation (VDOT) and FCDOT and includes 23 intersections for the Existing Condition analysis but does not have a clearly defined study boundary.

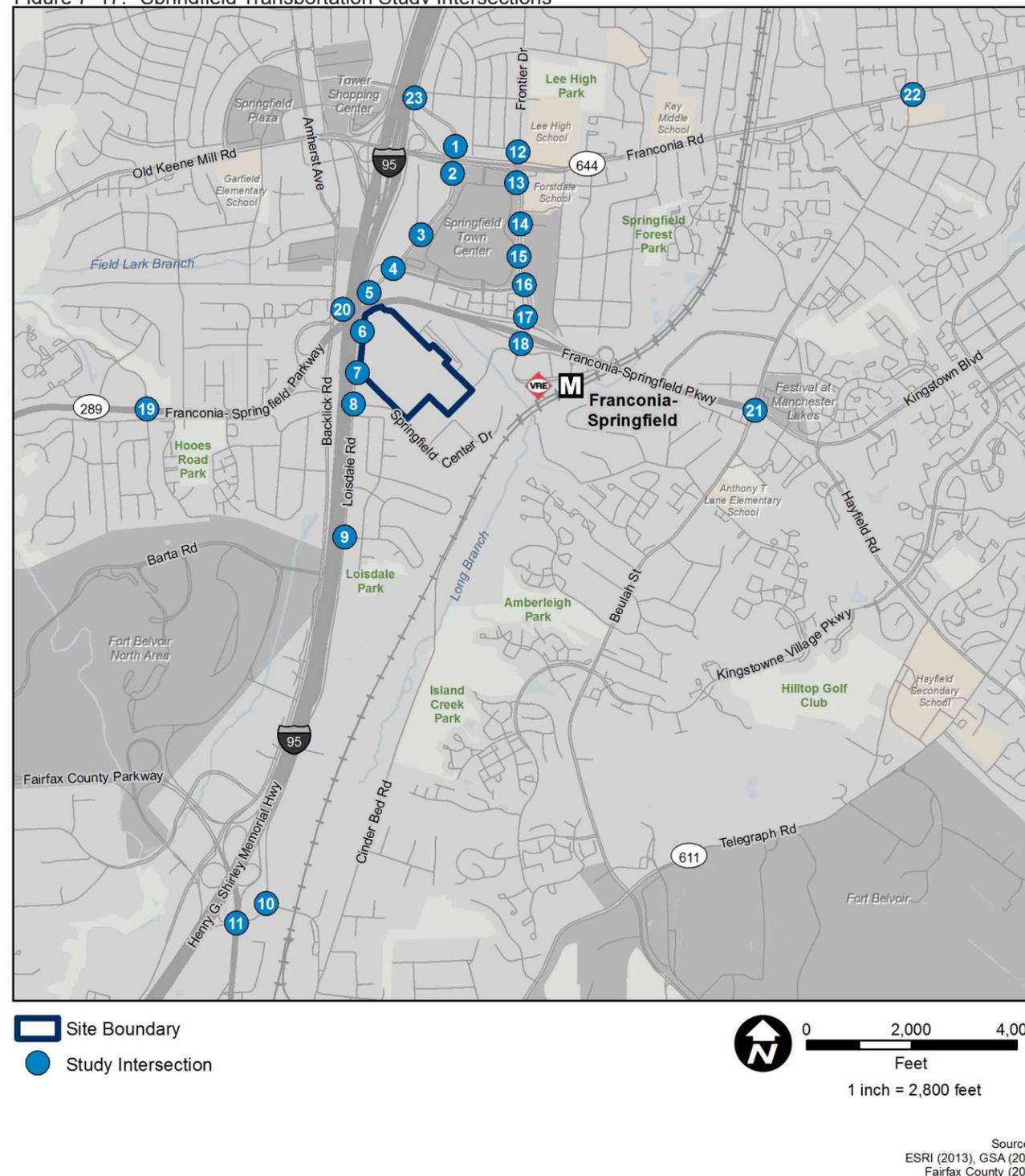
7.1.9.2 Project Area Accessibility and Roadway Functional Classification

The Springfield site is currently accessible via two access points from Loisdale Road on the western side of the site (Intersections #6 and #7). Loisdale Road connects with Franconia Road to the north and Fairfax County Parkway to the south, both of which are east-west arterial roads. Franconia Road and Fairfax County Parkway provide the closest access points to the north-south oriented I-95; however, northbound I-95 traffic destined for the Springfield site can also exit via Exit 169A, which exits as Loisdale Road, just north of the site. I-95, just west of the site, provides regional north-south connections and becomes I-395 about 1 mile north of the site, providing direct access to Arlington, Virginia, and Washington, D.C. Approximately 1 mile north of the site, I-95 intersects with the Capital Beltway (I-495), providing access to Northern Virginia and Montgomery and Prince George's Counties in Maryland. Franconia-Springfield Parkway also abuts the Springfield site to the northwest, but this roadway is not directly accessible from Loisdale Road where vehicles exit the site. Access to Franconia-Springfield Parkway from the site is provided via Metropolitan Center Drive or Spring Mall Road and then Frontier Drive.

The Springfield site is accessible by transit, including Metrorail, commuter rail, and local and intercity buses, as well as carsharing services. The site is served by sidewalks along its western and northern edges (Loisdale Road and Metropolitan Center Drive) and most of the roadways in the study area have sidewalks on at least one side of the street except for Springfield Center Drive south of the site, Franconia-Springfield Parkway as it travels over I-95 (although there is a pedestrian bridge that makes this connection), and various residential neighborhoods in the 0.5-mile non-vehicular study area. There are no bikeshare stations or bicycle lanes in the vicinity of the study area, but there are several mixed-use paths along Franconia-Springfield Parkway and portions of Loisdale Road and Frontier Drive.

A map of roadway functional classifications within the project area according to the geographic information systems (GIS) data collected from various local and state governments is shown in figure 7-18 (VGIN 2013). Functional classification is the process by which public streets and highways are grouped into classes according to the character of service they are intended to provide. Interstates, freeways, and expressways provide the highest level of service at the greatest speed for the longest uninterrupted distance, followed by principal arterials, minor arterials, collector roads, and local roads. The primary interstate within the study area providing regional access is I-95 just west of the Springfield site. Farther north and outside of the study area, I-395 and I-495 are two additional interstates that provide regional access. South of the site, Fairfax County Parkway provides regional east-west connectivity, and north of the site, Franconia-Springfield Parkway (Virginia State Route 289) also provides east-west connectivity. Both roadways are classified by VDOT as an other principal arterial. Other study area roadways classified as minor arterials include: Frontier Drive, Franconia Road/Old Keene Mill Road (Virginia State Route 644), Commerce Street, Amherst Avenue, Backlick Road, Loisdale Road, Beulah Street, and Telegraph Road (Virginia State Route 611). Collector roads provide the next roadway classification and Spring Mall Drive is the only collector road serving the study area. The other study area roadways, including Metropolitan Center Drive, Springfield Center Drive, and other smaller roadways, are classified by VDOT as local roadways.

Figure 7-17: Springfield Transportation Study Intersections



7.1.9.3 Roadway Descriptions

The following section describes the primary roadways within the study area, including the VDOT roadway classifications of minor arterial and above, according to the Virginia Geographic Information Network road centerline GIS data (VGIN 2013). This section also discusses the number of lanes in each direction, the latest average annual daily traffic (AADT) volumes (12-months of traffic volumes averaged) available from VDOT (2013a, 2013b), and any noteworthy characteristics such as a roadway's role within the transportation network. The information was collected from the Virginia Geographic Information Network GIS data, VDOT, observations in the field, and aerial imagery from Google Maps. These roadways are shown on figure 7-18.

Interstate 95 (I-95), is a north-south oriented interstate that traverses just west of the Springfield site and provides regional access, as well access along the east coast of the United States from Maine to Florida. The section of I-95 north of I-495 into Washington, D.C., is referred to as I-395. Traveling south and north, the roadway generally consists of four lanes and additional right-merging access lane(s) in each direction. In between the northbound and southbound lanes are two reversible lanes dedicated to High Occupancy Toll (HOT) lanes that travel northbound in the morning and southbound in the evening. The center HOT lanes are available for use by any vehicular user who opts to pay and available for free to users who have three or more passengers in their vehicle, transit vehicles, or motorcycles. The roadway connects to Old Keene Mill Road, Franconia Road, and Loisdale Road, and Spring Mall Drive (northbound exiting traffic only) north of the site. South of the site, I-95 connects to Franconia-Springfield Parkway and via access ramps to Loisdale Road, Backlick Road, Boudinot Drive, and Heller Road. The central HOT lanes of I-95 also connect to Franconia-Springfield Parkway, but the regular travel lanes of I-95 do not. Traveling on the regular lanes, the speed limit is 55 miles per hour (mph), while the speed limit is 65 mph in the HOT lanes. In 2013, the AADT for I-95 traversing through the study area was 110,000 vehicles (VDOT 2013a).

Franconia-Springfield Parkway, also known as Virginia State Route 289 (VA 289), travels east to west and is classified as a minor arterial road by VDOT (VGIN 2013). The road traverses north of the Springfield site connecting I-95 with Kingstowne Center on the east and Fairfax County Parkway on the west via a three-lane roadway in each direction with a protected median. The speed limit is 50 mph. In 2013, the AADT for the Franconia-Springfield Parkway was 45,000 vehicles (VDOT 2013a).

Franconia Road, also known as Virginia State Route 644 (VA 644), travels north of the study area with an east-west orientation and provides local access as well as access to many residential neighborhoods north and south of the roadway. According to VDOT, the roadway is classified as a minor arterial road (VGIN 2013). East of Frontier Drive, Franconia Road has three travel lanes at-grade in each direction; on the west side of Frontier Drive east of I-95, Franconia Road is an elevated roadway with two travel lanes in each direction. The roadway has a protected median throughout, several left turn lanes, and is flanked by two subsidiary connecting at-grade roadways between I-95 and Elder Avenue (just east of Frontier Drive). These parallel at-grade roadways are called Franconia Road East (to the south) and Franconia Road West (to the north), and they have two or three travel lanes in each direction. Franconia Road, or the at-grade Franconia Road East or West, connects to Loisdale Road, I-95, Frontier Drive, Commerce Street, and Backlick Road. The speed limit is 40 mph west of Frontier Drive and 35 mph east of Frontier Drive. West of I-95, Franconia Road becomes Old Keene Mill Road. The estimated AADT in 2013 for Franconia Road between I-95 and Loisdale Road was 58,000 vehicles, and east of Loisdale Road the estimated 2013 AADT was 36,000 vehicles (VDOT 2013b).

Old Keene Mill Road, also known as Virginia State Route 644 (VA 644), begins just west of I-95 and has an east-west orientation. According to VDOT, the roadway is classified as a minor arterial road (VGIN 2013). With a protected median throughout,

the roadway changes between three to four lanes in each direction with periodic left-turn lanes (Cambridge Systematics, Inc. et al. 2008). The roadway connects to Backlick Road, I-95, and Commerce Street. The speed limit is 45 mph. East of I-95, Old Keene Mill Road becomes Franconia Road. The estimated AADT in 2013 for Old Keene Mill Road west of Backlick Road was 46,000 vehicles, and between Backlick Road and I-95, the estimated 2013 AADT was 74,000 vehicles (VDOT 2013b).

Commerce Street traverses I-95 with an east-west orientation, forming a curvilinear connection from Old Keene Mill Road east of I-95 to Franconia Road west of I-95, where it eventually forms a north-south orientation and becomes Loisdale Road south of Franconia Road. According to VDOT, the roadway is classified as a minor arterial road (VGIN 2013). East of I-95, the road maintains a two- to three-way roadway in each direction in addition to a protected median throughout. West of I-95, the road is composed of two lanes in each direction and the road centerline changes between a protected median, an unprotected median, and periodic left-turn lanes. The road connects to Old Keene Mill Road, Backlick Road, I-95, Franconia Road, and Loisdale Road. According to VDOT, Commerce Street is classified as a minor arterial road (VGIN 2013). The speed limit is 35 mph. The estimated AADT in 2013 for Commerce Street between Franconia Road and Backlick Road was 23,000 vehicles, and between Backlick Road and Old Keene Mill Road, the estimated 2013 AADT was 11,000 vehicles (VDOT 2013b).

Loisdale Road has a north-south orientation and traverses just west of the Springfield site. According to VDOT, the roadway is classified as a minor arterial road (VGIN 2013). North of Franconia-Springfield Parkway, the roadway changes between two and three lanes in each direction with occasional extra left-turn lane(s) and a protected median throughout. South of Franconia-Springfield Parkway, there is one lane in each direction with a shared center turning lane and no median. Along this southern stretch, there is an extra paved area on the eastern side of the road that does not allow parking north of Layton Drive, but in the residential area south of Layton Drive on-street parking is allowed. According to VDOT, the roadway is classified as a minor arterial road (VGIN 2013). To the north of the site, Loisdale Road connects to Franconia Road, Commerce Street, Loisdale Court at the western Springfield Town Center entrance, Spring Mall Drive, and Metropolitan Center Drive. South of the site, Loisdale Road connects to Springfield Center Drive and Lois Drive, and farther south it connects to Fairfax County Parkway. The speed limit is 35 mph. The estimated AADT in 2013 for Loisdale Road north of Spring Mall Road was 21,000 vehicles (VDOT 2013b). Between Spring Mall Road and Newington Road, the estimated 2013 AADT was 9,600 vehicles, while the estimated AADT between Newington Road and Fairfax County Parkway was 15,000 vehicles.

Frontier Drive is a north-south oriented collector roadway as classified by VDOT (VGIN 2013). South of Franconia Road, Frontier Drive generally has three travel lanes in each direction with additional left-turn lane(s) throughout. Extending from Franconia-Springfield Parkway to Franconia Road, there is a narrow protected median. South of Franconia Road, Frontier Drive becomes the sole access roadway to the Franconia-Springfield Metro Station. At the intersection with Franconia Road to the north, Frontier Drive traverses underneath Franconia Road into a primarily residential area with one lane in each direction and no median.

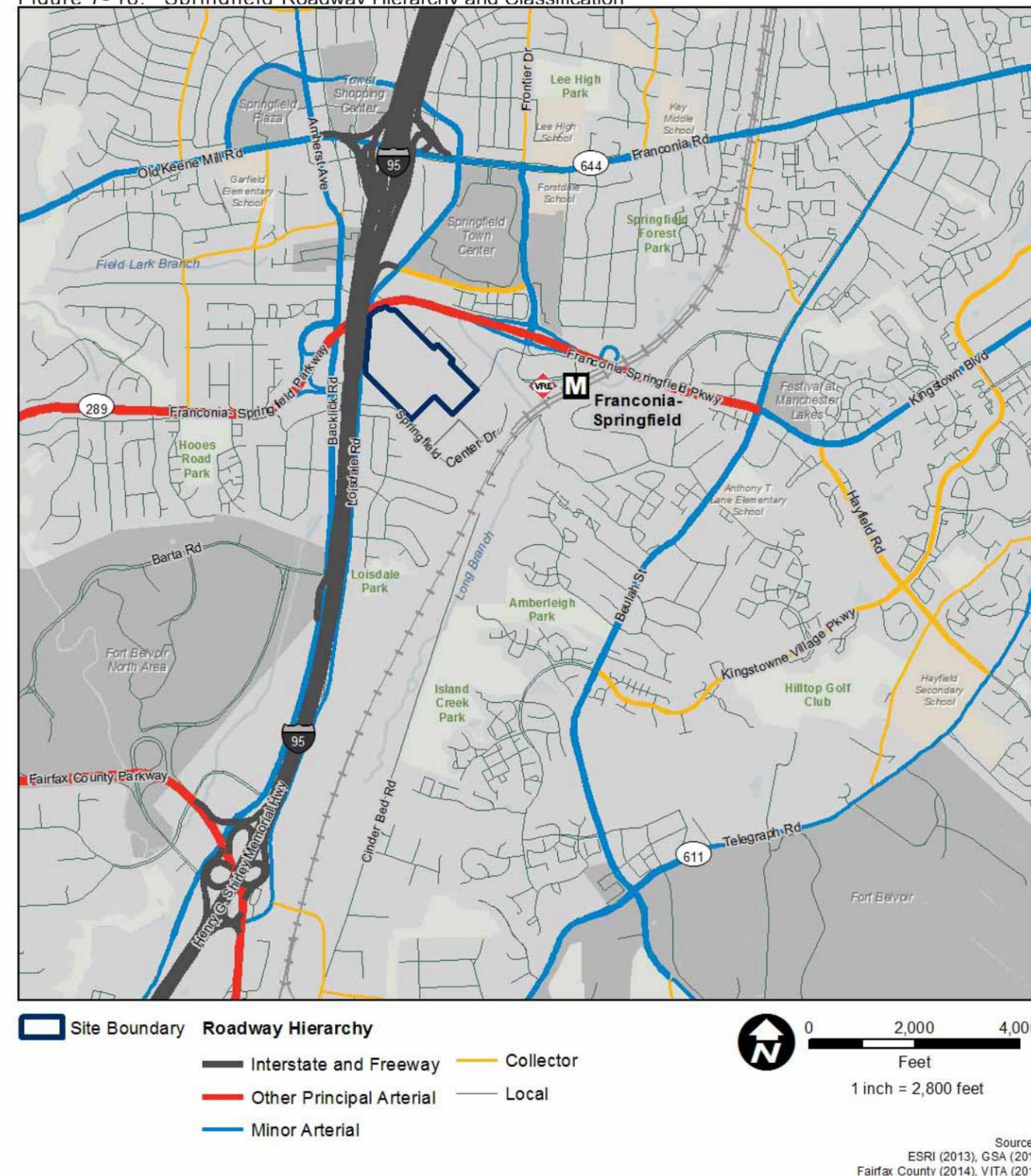
Frontier Drive connects to Franconia Road, Spring Mall Drive, Franconia-Springfield Parkway, and Joseph Alexander Road (which turns west to become Metropolitan Center Drive). The speed limit is 35 mph. The estimated AADT in 2013 for Frontier Drive between Franconia Road and Spring Mall Road was 26,000 vehicles, and south of Spring Mall Road, the estimated 2013 AADT was 34,000 vehicles (VDOT 2013b).

Spring Mall Drive has an east-west orientation that extends from Loisdale Road to Frontier Drive north of the site. According to VDOT, the road is classified as a local roadway (VGIN 2013). Containing a protected median and periodic left-turn lanes, Spring Mall Drive serves the Springfield Town Center to the north and several commercial properties and a multi-family residential neighborhood to the south. The roadway has two travel lanes in each direction, and the speed limit is 35 mph. The estimated AADT in 2013 for Spring Mall Drive was 17,000 vehicles (VDOT 2013b).

Springfield Center Drive has a curvilinear shape around the south perimeter of the Springfield site. According to VDOT, the road is classified as a local road and connects to Loisdale Road on the west (VGIN 2013). The roadway has one wide lane in each direction with no median. The speed limit is 25 mph.

Metropolitan Center Drive has a northwest-southeast orientation that travels along the northeast perimeter of the Springfield site. According to the VDOT, this roadway is classified as a local roadway (VGIN 2013). Metropolitan Center Drive has a one-way travel lane in each direction with no median. The road connects to Loisdale Road on the west and turns at the eastern end of the residential development to become Joseph Alexander Road, which then connects to Frontier Drive on the east, south of the intersection with Franconia-Springfield Parkway. The speed limit towards the residential section of Metropolitan Center Drive is 5 mph.

Figure 7- 18: Springfield Roadway Hierarchy and Classification



Backlick Road is located west of the site and I-95 and is north-south oriented. According to VDOT, the road is classified as a minor arterial road south of where it merges with Amherst Avenue and a local road north of that point (VGIN 2013). South of Commerce Street, Backlick Road primarily has two travel lanes in each direction with periodic left-turn lanes and a protected median south of Old Keene Mill Road. At Old Keene Mill Road, Backlick Road is split, preventing through north-south travel due to a continuous median on Franconia Road. Paralleling Backlick Road, Amherst Avenue crosses over Old Keene Mill Road and becomes a one-way southbound road when Backlick Road becomes a one-way northbound road north of Commerce Street. North of Commerce Street, Backlick Road becomes a one-way road with three travel lanes and one wide outside parking lane. Backlick Road connects to Commerce Street, Old Keene Mill Road, Amherst Avenue, Franconia-Springfield Parkway, and the Fairfax County Parkway south of the site. The speed limit is generally 30 mph; however, south of Franconia-Springfield Parkway the speed limit rises to 45 mph. The estimated AADT in 2013 for Backlick Road south of Franconia-Springfield Parkway was 25,000 vehicles; north of Franconia-Springfield Road to Franconia Road, the estimated 2013 AADT for Backlick Road was 42,000 vehicles (VDOT 2013b).

Amherst Avenue has a north-south orientation and is located west of the Springfield site. The roadway parallels Backlick Road north of Old Keene Mill Road and has two lanes in each direction, with periodic left-turn lanes, and a protected median. According to VDOT, Amherst Avenue is classified as a minor arterial road (VGIN 2013). The roadway connects to Commerce Street, Backlick Road, and Old Keene Mill Road. The speed limit is 30 mph. The estimated AADT in 2013 for Amherst Avenue south of Franconia Road was 28,000 vehicles; north of Franconia Road the estimated 2013 AADT for Amherst Avenue was 15,000 vehicles (VDOT 2013b).

Beulah Street is located east of the site, has a southwest-northeast orientation, and connects Telegraph Road to the south with Franconia Road to the north via a connection with Franconia-Springfield Parkway. Within the study area, Beulah Street generally has two through lanes in each direction, left and right turn lanes at intersections, a protected median, and bike lanes in each direction. Beulah Street is classified as a minor arterial road by VDOT, and the speed limit is 35 mph (VGIN 2013). The estimated AADT in 2013 for Beulah Street north of Franconia-Springfield Parkway was 23,000 vehicles; south of Franconia Road the estimated 2013 AADT for Beulah Street was 15,000 vehicles (VDOT 2013b).

Fairfax County Parkway is located south of the site and has an overall northwest-southeast orientation connecting areas as far north as Reston and Herndon near Route 7 to the Newington and Fort Belvoir areas near its terminus at Route 1 in the south. According to VDOT, the roadway is classified as a principal arterial (VGIN 2013). West of I-95, the Fairfax County Parkway provides limited access primarily to other regional roadways via grade-separated interchanges, has a speed limit of 50 mph, has a protected median, and generally has three through lanes in each direction. East of I-95, Fairfax County Parkway generally provides access to multiple road classifications via at-grade intersections, has two through lanes in each direction, left and right turning lanes at intersections or access points, a protected median, and a speed limit of 40 mph. The estimated AADT in 2013 for this section of the Fairfax County Parkway was 28,000 vehicles (VDOT 2013b).

As part of the field data collected, a detailed inventory of the lane geometry was conducted through field reconnaissance and a study of aerial imagery. The existing lane geometry and traffic control type (signalized or unsignalized) are shown in figure 7-19.

7.1.9.4 Data Collection

Section 3.10.4.1 provides an overview of all data collected as part of the study. After examining the collected count data for the study area, the peak AM and PM traffic hours were determined for both the arterial transportation system (via intersection counts) and the interstate system (via automated Traffic Recorder [ATR] for the mainlines and a combination of ATR and intersection counts for the ramps). These peak hours are shown as yellow bands on the charts in figures 7-20 through 7-22 (cumulative represents all turning movement volumes for all study area intersections summed together). The determination of a peak hour relied on the arterial system peak hour because the arterial system would be most impacted by the addition of a consolidated FBI HQ facility. In addition, the interstate system morning peak hour is within 15 minutes of the arterial system, and afternoon flows remain near the peak through the arterial system peak hour. The overall weekday AM peak hour used for the analysis occurs between 7:30 AM and 8:30 AM, and the weekday PM peak hour occurs between 5:00 PM and 6:00 PM. Figure 7-23 shows the existing AM and PM weekday peak hour turning movement volumes occurring in the study area.

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