

CHARLOTTESVILLE AMTRAK STATION STUDY



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1 Executive Summary



Figure 1-1 Existing Charlottesville Amtrak Station

The 2019 “Transforming Rail in Virginia” Initiative¹ between CSX and the Commonwealth of Virginia will significantly increase rail and thus passenger capacity and projected demand – especially east to west - with the addition of 186 miles of track along the Buckingham Branch line which passes the south side of the station. The Virginia Senate Joint resolution 50 dated January 2020 requested that the Department of Rail and Public Transportation study the feasibility of an east-west “Commonwealth Corridor” passenger rail service which would connect Hampton Roads, Richmond and the New River Valley – including Charlottesville along the route. The resulting increase in ridership along the corridor is an opportunity to improve the Charlottesville Amtrak Station (also known as Union Station) and site for the community.

The Charlottesville Amtrak Station is a key multi-modal node in our rail service system, but it does not meet current standards for the capacity of ridership and is not prepared for increases in demand for the future.

This study was conducted in collaboration with DRPT, the City of Charlottesville, and the Thomas Jefferson Planning District Commission, and

analyzed the station facilities, the site, and opportunities for transit oriented development. The study recommends improvements to the Norfolk Southern and Buckingham Branch platforms, and the station itself. In addition the study recommends a path forward for transit oriented development on parcels 2A and 2B that benefits both the station patrons and the greater Charlottesville community.

The Union Station site is in need of infrastructure improvements to align it with current Amtrak and ADA standards. The site itself is a prime location for development along West Main Street. Improvements to both the station and site can provide station patrons with a more efficient and safer experience as well as provide community connections, housing, commercial development and parking through an infill development scenario that adheres to Charlottesville’s context and zoning requirements.

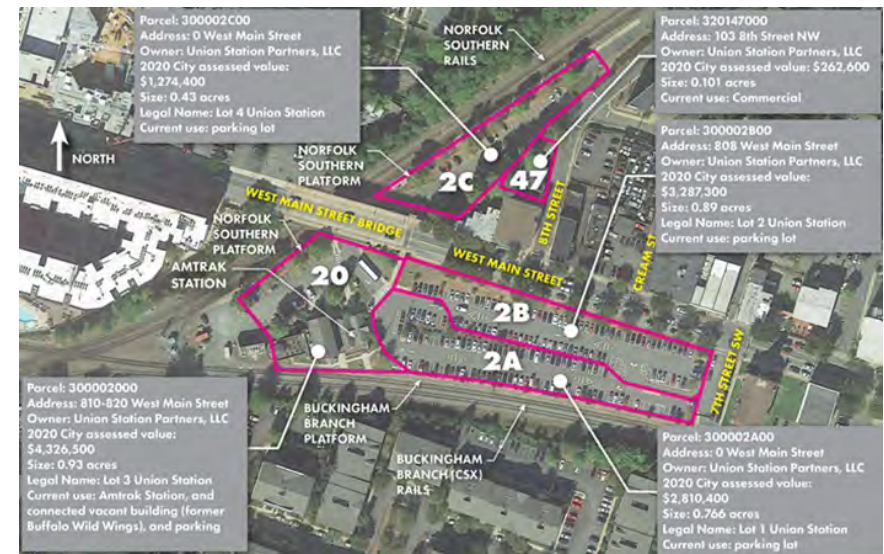


Figure 1-2 Site and Context

¹See <http://www.drpt.virginia.gov/rail/transforming-rail-in-virginia/>

The Charlottesville Amtrak Station is located between downtown to the east and the University of Virginia (UVA) to the west on 3.12 acres consisting of five privately-owned parcels north and south of West Main Street. The site is V shaped with the northern portion running along the Norfolk Southern rails being thinner and more constrained (parcel 2C, and 47), while the southern portion of the site is wider and connected to West Main Street and Charlottesville's grid network. Parcel 20 is at the westernmost part of the site and contains the current station building. Parcel 2B, south of West Main Street contains parking, as does parcel 2A, which is south and adjacent to parcel 2B. The existing station building is divided into two separate spaces. The eastern side is used for the Amtrak facilities while the western side was a restaurant (Wild Wing Cafe) – now closed. The site is accessible by car, but the station is not fully ADA accessible. The DRPT Station Needs Assessment of 2019 indicates several deficiencies at the station including lack of a platform canopy; lack of passenger information display; and lack of emergency platform call box. Amtrak's 2045 projections for ridership show an 137% increase from 131,400 passengers in 2018 to 312,500 passengers in 2045. Based on these ridership numbers, there is not enough space in the current station for waiting room; ticket office; cash out area; agent office; record storage; employee ADA restroom; baggage handling; baggage claim/service; and crew break room/sign-in. The Station Needs Assessment also determined that the Charlottesville station needed \$226,000 in "state of good repair" (SGR) improvements. The station also has exterior issues that include lack of dedicated lights, lack of and/or fading signage, uneven surfaces and ponding on the parking lot; and only 1 ADA accessible platform. Other needs include safer routes for pedestrians; tactile strips beyond the yellow warning lines; push buttons at entrances to station; and more benches.

There is space within the site to address these deficiencies, but not within the envelope of the existing station. In order to address the station space requirements, Amtrak would either need to add square footage to the existing station or acquire the former restaurant space connected to the station.

Both platforms are currently low-level platforms which require a lift for passengers who cannot climb stairs. FRA, Amtrak and the Commonwealth of Virginia prefer raised platforms also known as high-level or level-boarding platforms equal to the level of the train. In order to achieve high-level boarding platforms, ADA compliant ramps will need to be added to bring patrons from parking level to high-level platform grade.

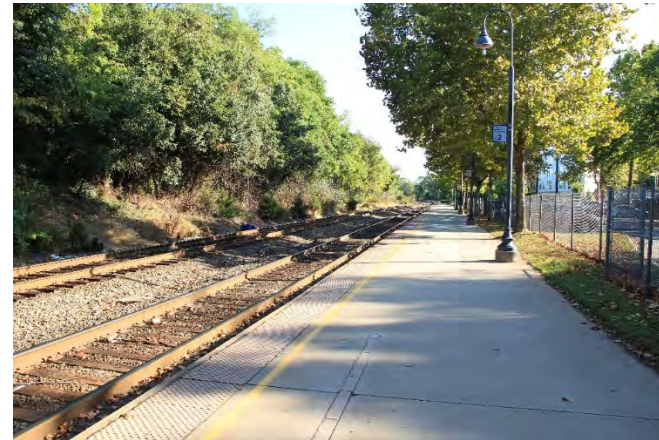


Figure 1-3 Norfolk Southern Platform

This study describes improvements to both the Norfolk Southern platform for Amtrak's Crescent line which connects to the NE Corridor, and Buckingham Branch (CSX) platforms for Amtrak's Cardinal service based on current requirements and regulations. The Norfolk Southern Platform base improvements include a new high-level platform, improvements to railing, sidewalk, asphalt and striping, and addition of canopies, lights, signage, steps and ADA accessible routes.

An alternative improvement plan for the Norfolk Southern Platform includes a passenger service siding concept and builds on base improvement plan by also including removable bollards, new drive lane for switching gear, striped raised pedestrian crosswalk, new siding concept per Amtrak specifications, and landscaping. The siding concept creates a new set of tracks to serve as a siding for passenger rail cars only and would not impact the existing

freight rails. This plan provides the safest option for passengers but will also prevent development on the small northern parcel.

The Buckingham Branch (CSX) Platform improvements include a high-level platform, rails, signage, canopy, pedestrian lights, stairs, ADA accessible routes, and inter-city bus bays.



Figure 1-4 Buckingham Branch Platform improvement option

This study recommends the Buckingham Branch improvement plan and the Norfolk Southern Platform alternative with special siding plan since it provides the most safety for passengers.

| | |
|--|--------------|
| Norfolk Southern platform improvements base: Includes existing demo, and platform improvements | \$ 3,852,300 |
| Norfolk Southern platform improvements <u>alternative</u> (with special siding - preferred): Includes existing demo, platform improvements, and new rail | \$ 7,588,555 |
| Buckingham Branch platform improvements: Includes existing demo, and platform improvements | \$ 3,118,007 |
| Access and Station Improvements: | \$ 3,444,670 |
| Lot 2C Landscaping | \$ 58,000 |

Figure 1-5 Order of Magnitude Cost for platform, station and site improvements

Transit Oriented Development

Charlottesville's land use regulations have also been reviewed to analyze development potential of the site. The zoning code places the station site in the West Main Street East Corridor (WME). Minimum building height is 35 ft. and maximum is 52 ft. Street side of any development is a maximum of 40' with a 10' step back before achieving the maximum building height. Setbacks are also included in this zone. The residential density is 43 DU/AC with 120 DU/AC allowed by special permit. Ground floor use is required to be commercial. The most significant development area combines the 2 parcels south of West Main Street. The following spatial diagram shows the maximum allowable volume by right on the site.

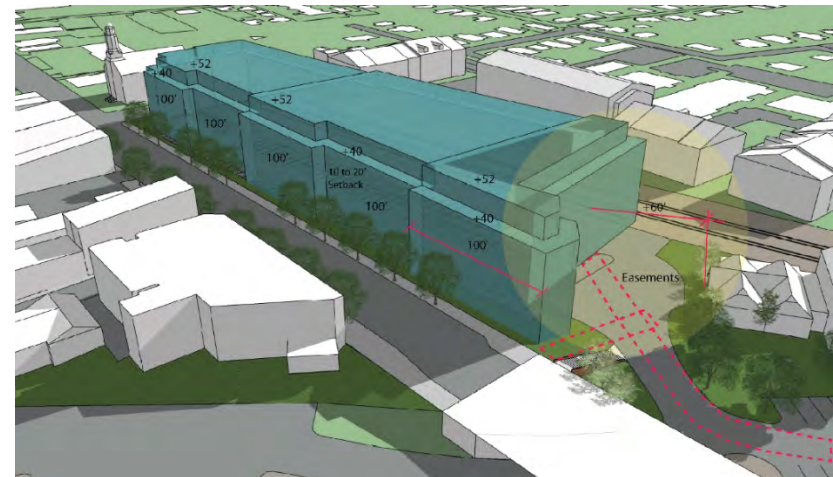


Figure 1-6 Zoning volume diagram – yellow circle and red lines indicates easements

The Transit-Oriented development (TOD) opportunities of the site are seen in parcels 2A and 2B located between West Main Street and the Buckingham Branch. The challenge of development in this area is the balancing of community scale, demand for different development types and financial resources. The conceptual diagrams on the following pages achieve that balance and provide the most opportunity, accessibility and function. The concept design for the development opportunities of the site includes three major components: commercial space along the West Main

Street frontage; housing above and around the east and west sides of the block; and a parking garage below grade and in the center of the block. The lowest level of the parking garage also serves as the vehicular access to the station from 7th street.

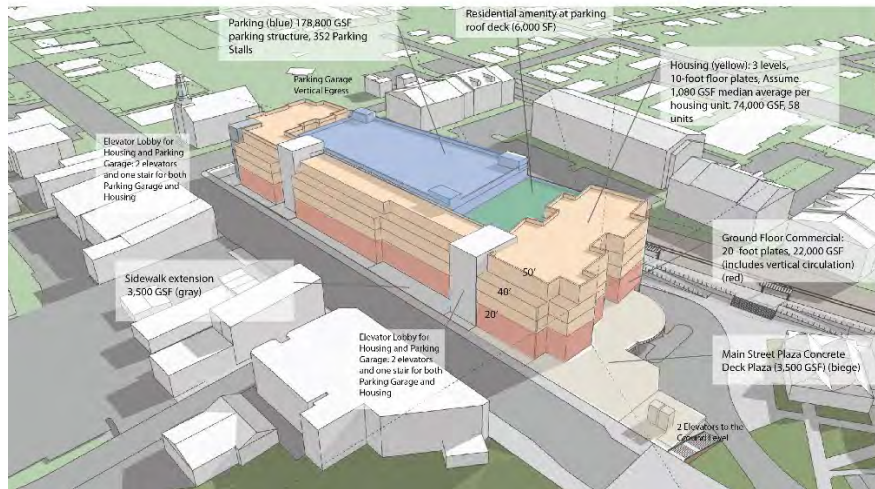


Figure 1-7 Conceptual TOD from West Main Street

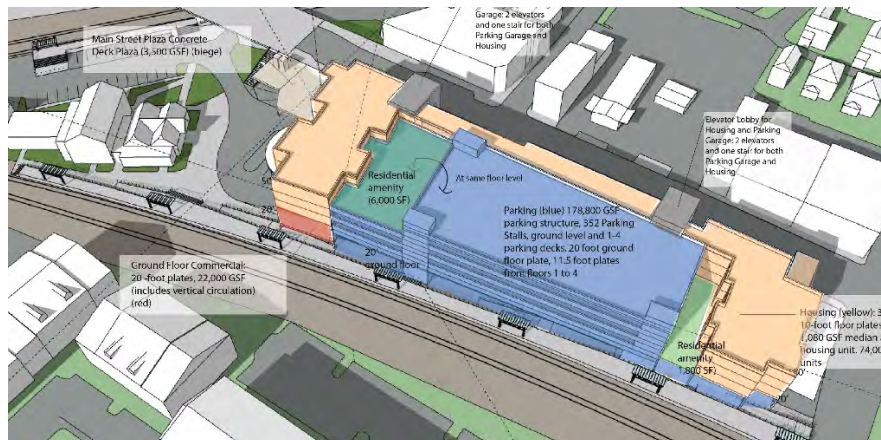


Figure 1-8 Conceptual TOD from Buckingham Branch

The order of magnitude cost for the conceptual TOD development is \$9.5 million for commercial space, \$11.2 million for housing, \$22.9 for parking deck, and \$1.7 million for the Main Street Parking deck. Supporting facilities were estimated at \$2 million. With 10% contingency, 5% construction management and 8% design fees, the total for the TOD concept comes to \$59 million. This is in alignment with similar current developments within a 10-block vicinity.

Transit Oriented Development Recommendation

To facilitate the development to the site, the City should acquire the 5 parcels that make up the station site, and then sell lots 2A and 2B for Transit-Oriented Development as shown in the study's conceptual design. The pro-forma analysis in Chapter 8: Financial Analysis details options for the financing of the work, and recommends that the City acquires title to all parcels, then enters into a development agreement with a developer to whom the title to the two TOD parcels is assigned. The City would finance and construct the up-front improvements, and a developer-partner would finance and construct the TOD project. The primary benefit to the City in this scenario is increased revenue from real estate taxes, which supplements the sales and restaurant taxes from the TOD project, while avoiding the risk of constructing and managing the TOD components.

The Charlottesville Amtrak Station and site is in great need of improvement, but also is fortunate to have the space for both site and architectural interventions that not only benefit the people that ride the rails but also the greater Charlottesville community. This report details the analysis of current conditions and provides conceptual solutions to move the station forward and address future capacity issues safely and efficiently. The TOD concept represents a potential development scenario that could feasibly be part of the station improvement effort.

2 Station Needs Assessment

Site and Station Basics

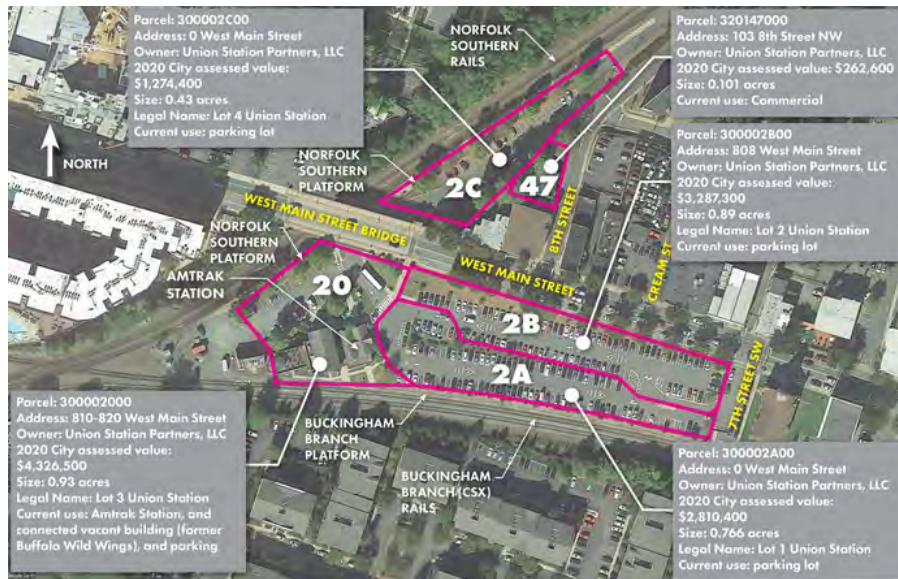


Figure 2-1 Existing Conditions

The Charlottesville Amtrak Station (also known as Union Station) is located at 810 West Main Street, as shown on Figure 2-1, between downtown and the University of Virginia (UVA). The site is approximately 3.12 acres in area and currently consists of five parcels in a "V" shape, open to the east-northeast, as seen on the existing conditions map attachment (Appendix A). The point of the "V" is not part of the station site; it is a Norfolk Southern right-of-way that contains storage and equipment and is not included in the acreage. The site is bounded on the west and south by two rail rights-of-way that intersect at the point of the "V" at the southwest corner of the

property and continue west. It is accessible from two roads: on the south side of the bridge via 7th Street and on the north side of the bridge via 8th Street. Both streets connect to the site via the parking lots. The two parcels are connected by a drive underneath the West Main Street viaduct and along the Norfolk Southern Platform. The site can be seen on the City of Charlottesville parcel map, available at <https://gisweb.charlottesville.org/GisViewer/>.

The most significant development potential of the site is located in the main parking lot area (parcels 2A and 2B) and will require setbacks from the drainage and utility easements to the west, a pedestrian easement through the site to the Amtrak Station and platforms, and setbacks from the street frontage along Main and 7th streets.

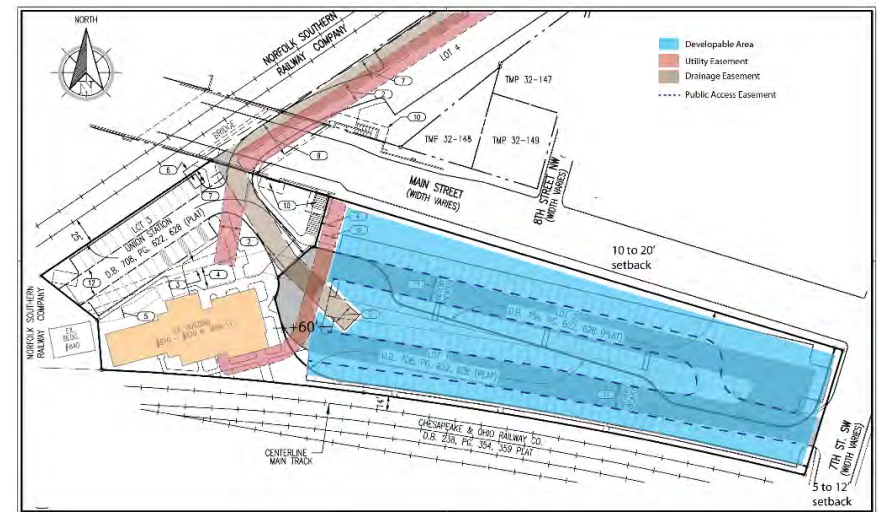


Figure 2-2. Amtrak Building and Parking Lot Site Plan - Development potential. A full-size version of this map is provided in Appendix A.

South Parking Lot Summary

Source: 2018 Property Appraisal, by Property Appraisal Group

Assessor's Parcel Number

The City of Charlottesville's Tax Assessor's parcel number is 300002A00 and 300002B00 (2A and 2B).

Easements and Encroachments

The Deed of Dedication and Declaration of Aerial Easement 1997 show there was a dedication of aerial easement and a public access easement for the right of way. The easement area measured about 33,216 feet plus another 30 x 30 aerial easement for a total of 33,306 square feet located on 300002A00. The same document shows there were unrecorded easements granted to the Virginia Department of Transportation and Norfolk Southern Railway Company for project #7250-104-102, RW101, RW201, C501, B606, per a construction agreement dated 1994. Subsequently, a draft survey of a new public access easement proposed vacating the public access easement and rerouting the right of way. The easement layout appears to match with the current configuration of the right of way.

It is unknown whether the access easements could be vacated prior to sale to a private developer or whether these easements run with the real estate. The 2018 Appraisal provided an estimate of value assuming that the easements are not punitive or restrictive. It is recommended that the project developers obtain a current title policy outlining all easements and encroachments on the property, if any, prior to making a business decision.

Covenants, Conditions, and Restrictions

There are no known covenants, conditions and restrictions impacting the site that are considered to affect the marketability or highest and best use.

The subject's use is an accessory use to the adjoining Train Station/Restaurant. Parking lot use is compatible with the parcel just north of the subject. In addition, other parcels in the subject neighborhood and south of the subject neighborhood in the Fifeville neighborhood are used for parking lots. There are currently a total of 200 parking spaces designated on the surface lots of (300002A00) and (300002B00) that would need to be incorporated or relocated in a new development.

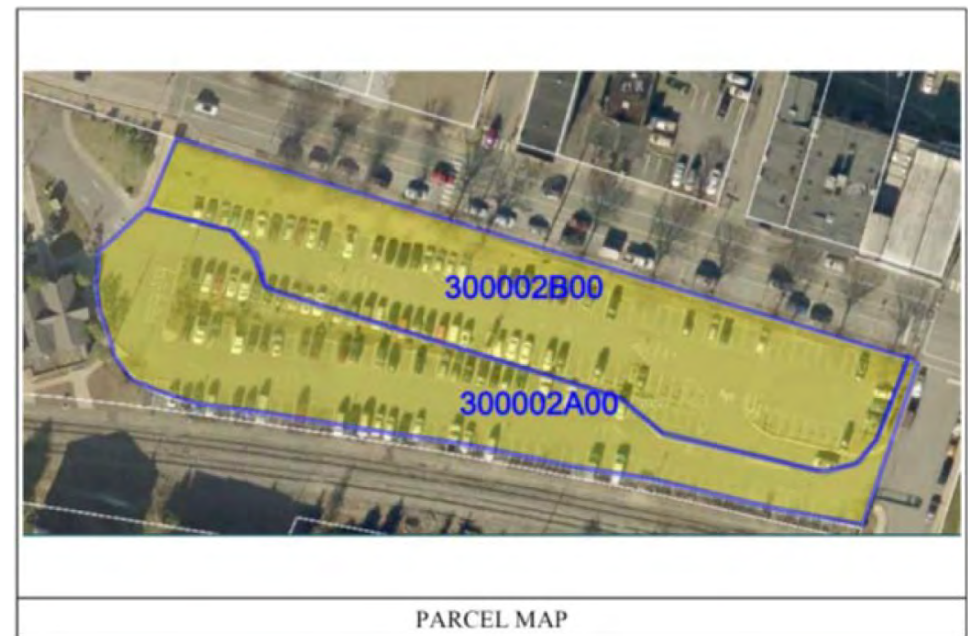


Figure 2-3. Parcel Map

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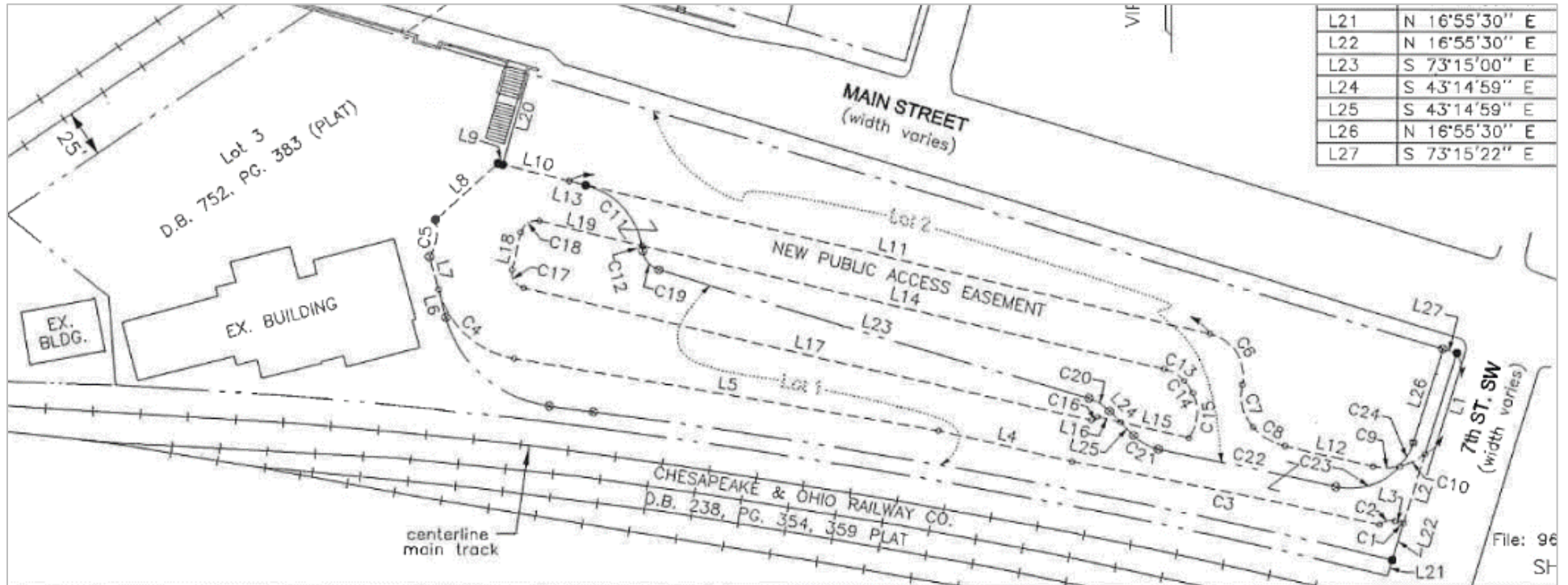


Figure 2-4. Easement Map



Figure 2-5. At the corner of 7th and Main Street: The south parking lot is near at-grade with the intersection of 7th and Market Streets. Direct access from the intersection into the development will be an important consideration of its design.



Figure 2-6. Along Main Street, looking southeast towards the south parking lot TOD site: The change in elevation between Main Street and the parking lot will allow one floor level clearance for buses below for nearly 150 feet of site frontage along Main Street.



Figure 2-7. Buckingham Branch Platform, looking west. Pedestrian accessibility issues to be solved. Lifts are currently used to provide access for ADA passengers.



Figure 2-8. Amtrak Mainline, Northeast Regional Crescent under the Main Street Bridge, looking east. The pier support underneath the Main Street Bridge will be an important consideration in the platform design for the mainline and accessibility.



Figure 2-9. Amtrak Mainline, Northeast Regional Crescent looking west. New 4-foot platform to include stairs and ADA ramps.



Figure 2-10. Buckingham Branch Platform for Cardinal. Asphalt at current platform areas.

The existing building is divided into two separate spaces. The eastern side is used for the Amtrak facilities while the western side was a restaurant (Wild Wing Cafe) – now closed. The building is protected as part of the Virginia Landmarks Register as of 2017 as a contributing structure to the West Main Street Historic District. The district was also listed in the National Register of Historic Places that year. The building is part of Charlottesville’s West Main Street Architectural Design Control District. This local designation is the most relevant one for the purposes of site development.



Figure 2-11. Charlottesville Amtrak Station

Amtrak would categorize the Charlottesville station as a “Category 2 – Medium Station,” per the 2013 Amtrak Station Program and Planning Guide. Category 2 stations have an annual ridership between 100,000 and 400,000 and train frequency between six and 300 trains weekly. Annual ridership at the Charlottesville station has exceeded 125,000 passengers since at least 2012, with at least 28 trains leaving the station each week. It has daily service from Amtrak’s Northeast Regional (Roanoke to Boston) and the Crescent (New Orleans to New York City), as well as service three times a week via the Cardinal (Chicago to New York City). It also provides Amtrak Thruway coach bus service to Richmond as there is no direct Amtrak rail

connection to Richmond from Charlottesville. The northernmost right-of-way (served by the Norfolk Southern Platform) is the Crescent and Northeast Regional Service routes and the southernmost right-of-way (Buckingham Branch Platform) is the route for the Cardinal. The site is a stop for Megabus and local transit system Charlottesville Area Transit (CAT), with bus stops approximately 350 to 400 feet from the station building. Megabus enters at 7th Street and the stop is at the eastern end of the parking lot. It exits the parking lot via 7th Street as well. Neither the station nor this section of West Main Street is served by University Transit Service (UTS), UVA’s campus transit system.

Review of Local and State Plans

2013 City of Charlottesville Comprehensive Plan

The 2013 comprehensive plan for Charlottesville mentions Amtrak in Goal 7.7, which states that the City of Charlottesville will/should:

“Work with regional partners and the Virginia Department of Rail and Public Transportation (DRPT) to examine future demand for and feasibility of additional AMTRAK rail service for Charlottesville and the Lynchburg corridor prior to the Roanoke Extension project.”

The Northeast Corridor’s service was extended to Roanoke in October of 2017. Amtrak provided DRPT with 2045 projected ridership (312,500) and a second train to Lynchburg is discussed in the 2017 Virginia Statewide Rail Plan (see below).

2017 Virginia Statewide Rail Plan

The Virginia Statewide Rail Plan discusses a second regional round trip train to Lynchburg after the Roanoke service opens.

It states that, “following the service extension to Roanoke, DRPT will pursue a project that would allow a second daily round-trip train between

Lynchburg and the Northeast Corridor via Washington, D.C. The proposed frequency would run counter to the current single round-trip train service, which provides an early morning northbound departure from Roanoke and Lynchburg to Washington, D.C., and an evening southbound return from Washington, D.C. to Lynchburg and Roanoke. The proposed second daily round-trip would be in addition to Amtrak's long-distance Crescent train between New York and New Orleans."

A second train would pass through Charlottesville and increase the number of daily trains and daily ridership at the station. This service has not yet been implemented.

2018 JAUNT Transit Development Plan

CAT's transit development plan (TDP), finalized in 2018, identifies the routes that serve the Amtrak station. The closest local bus stops are two on the west side of the viaduct in front of the Flats at West Village and a third in front of Mel's Cafe halfway between the viaduct and 7th Street. All three stops are approximately 350 to 400 feet from the station building. CAT routes 7, 9, 12, and the free trolley serve these stops. The most direct access from these stops to the station itself is the steps on the south side of the road that lead down to the station parking lot. However, the most direct accessible access is via sidewalks on West Main Street and 7th Street and either through the parking lot (with no markings) or along Platform S. JAUNT is a regional provider of Americans with Disabilities Act-compliant (ADA) service throughout the City of Charlottesville, and a qualified rider may be dropped off at the front door of the station upon request. All of JAUNT's CONNECT routes (five routes in all) between Charlottesville and outlying counties use West Main Street, but they do not stop near the station. The closest JAUNT-served location is Stacey Hall which is just over a quarter-mile away from the station.

2018 Virginia Breeze Expansion Alternatives Analysis

The Virginia Breeze intercity bus is a service administered by DRPT that currently has one route. The bus runs between the Virginia Tech campus in Blacksburg to Union Station in Washington, DC with seven stops in-between, including Staunton, Harrisonburg, and Dulles International Airport. A 2019 expansion study proposed 12 new route segments. Half of the routes were on the US 29 corridor and stopped in Charlottesville, providing service to Danville, Washington, Lynchburg, or all three.

At the July 16, 2019 Commonwealth Transportation Board meeting, DRPT presented two recommended routes described in the DRPT Station Needs Assessment of Virginia's Amtrak stations completed in the summer of 2019. One of these routes was a Danville to Washington route via the US 29 corridor. This proposal included a stop in Charlottesville. The Virginia Breeze stop in Charlottesville is currently at Arlington Blvd on the south side of Barracks Row. Charlottesville Area Transit provides service between the Amtrak Station itself and the Breeze stop.

DRPT Station Needs Assessment

The DRPT Station Needs Assessment (SNA) included 20 stations. It included a review of the Commonwealth stations' state of good repair (SGR) needs and its capacity needs, which include operational/structural, safety/security, ADA, amenities, and aesthetic consistency. The study found that the 2019 state of good repair needs for Virginia Amtrak stations was \$21,303,953 (50.44%) and that Capacity needs were \$20,931,613 (49.56%). Specifically, challenges that are faced statewide are: private or railroad ownership of many station buildings/infrastructure; platform deficiencies (ADA, deterioration); lack of canopies or canopies in bad condition; lack of adequate circulation; lack of adequate lighting; no single point of contact/funding source for station improvements; and customer does not see facility ownership nuances, only deficiencies. Additional details from the Station Needs Assessment are included on page 36 of this document.

Existing Site Characteristics

Access

The site primarily fronts West Main Street but is only accessible from the right-of-way via a staircase. An iron fence separates the road from some vegetation and a steep incline between the road and the parking lot. The incline decreases in height and angle moving from west to east until the site and the West Main streetscape are at grade at the West Main Street/7th Street intersection. The only ADA-compliant access to the site is via Buckingham Branch platform from 7th Street. An individual in a wheelchair from Main Street would have to access the station via the platform to avoid putting themselves in the drive aisle. The site is not ADA-accessible via 8th Street because there are no sidewalks on that side of the street nor is there safe access through the parking lot.

Parking

The site has 288 parking stalls according to a recent appraisal, four of which are van-accessible stalls. Approximately 30 of these stalls are for use of Wild Wing Cafe (now closed) and signs posted throughout the parking lot indicate that other parking spaces can be used for and validated by the restaurant. There is direct access between two of the accessible parking stalls and the front of the station via the Buckingham Branch platform. The other two require crossing the drive lane which is unmarked. At least ten spaces are designated “short-term” or overnight parking. Per the 2013 Amtrak Station Program and Planning Guidelines, Amtrak relies on local zoning ordinances to determine required parking. According to a 2016 Station Functional and Space Requirements Guidelines document, 185 parking spaces, including six employee parking spaces, are required within vicinity of the station in either public or private lots. Currently, the on-site parking exceeds that requirement. Parking is by fee at self-service machines.

Station Interior Characteristics

All passenger-specific functions are effectively inside a single room and exits to the platforms are on either side of the room (Figure 2-12 and Figure 2-13). There is a partially separated area with vending machines and additional seating on the south side of the building. Entry, circulation, waiting, and boarding are all handled within the same 1,000 square foot space. Amtrak support functions, ticketing agent functions, and baggage handling are handled in a number of rooms that, combined, are slightly bigger in size.



Figure 2-12. View of waiting area looking north (right from entrance).



Figure 2-13. View of waiting area looking north (left from entrance).



Figure 2-14. Bathrooms and e-ticketing area. Ticketing counter is to the right and small additional waiting area is to the left.

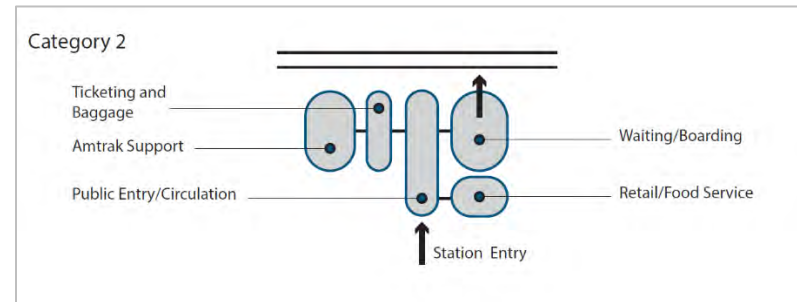


Figure 2-15. Schematic of a generalized Category 2 station type. Source: Amtrak Station Program and Planning Guide (2013).

As previously stated, Charlottesville's station qualifies as a small Category 2 station. Figure 2-15 shows a schematic from the 2013 Amtrak Station Program and Planning Guide that identifies the generalized components that should be part of a Category 2 station. Because there is considerable variability in what qualifies as Category 2 (between 1,000 and 400,000 ons/off's annually), these are considered basic needs. Stations serving closer to 400,000 passengers annually, for example, require more complex systems and functionality. Using the same approach, Charlottesville's existing, unimproved station would look similar to the concept depicted in Figure 2-16.

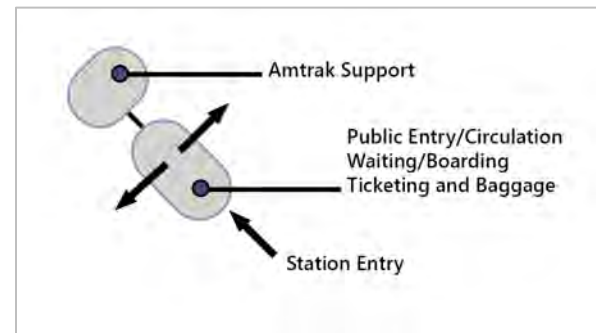


Figure 2-16. Hypothetical schematic of existing Charlottesville Station using schematic system from Amtrak Station Program and Planning Guide (2013).

DRPT Station Needs Assessment Results

The Station Needs Assessment was completed in the summer of 2019. It included a review of the Commonwealth's stations' state of good repair (SGR) needs and capacity needs, which include pedestrian infrastructure, amenities, and platforms. Amtrak's Station Program and Planning Guidelines contains a features matrix by station classification. Table 2-1 in this document, modeled on that table, includes required Category 2 station features checked against those available at the Charlottesville station, along with any relevant notes or mitigating factors. The Charlottesville station has most of the required features Amtrak expects out of its smaller Category 2 stations. It is, however, missing some considerable items that are noted in the needs assessment discussed in this section.

Table 2-1. Amtrak Category 2 Station Feature Matrix

| Feature Category | Required Feature for Category 2 Station* | Present? | Notes |
|-----------------------------|--|----------|---|
| Facility/Structure Elements | Platform | ✓ | |
| | Platform Canopy | | Noted as missing on the 2019 needs assessment. |
| | Station Building | ✓ | |
| Access & Wayfinding | Auto/Taxi Pick-up/Drop-off Lanes | ✓ | Driveway circle in front of station wide enough for two vehicles. |
| | Parking | ✓ | Over 250 paid parking stalls on site. |
| | <i>Transit and Bus Access</i> | ✓ | Transit stops are on West Main Street which is most conveniently accessed via a staircase near the station; ADA access to transit requires travel down the platform to 7th Street; there is access to Megabus and Amtrak Thruway service to Richmond on site. |
| | Taxi Access | ✓ | Taxis can be called from the station. |
| | Staff Parking | | |
| | Bicycle Racks | ✓ | |
| | Station Signage (Amtrak Standards) | ✓ | Most signage is to Amtrak's standards but the needs assessment from 2019 indicates a number of deficiencies to be addressed, including the sign on West Main Street; noted in 2019 needs assessment. |
| | Regulatory Signage (MUTCD) | ✓ | No deficiencies noted or seen on site. |
| | | | |

*Some features are listed for Category 2, but only based on site conditions (these include features like rental cars on property and checked baggage handling). Only those features present at the Charlottesville station are listed. Any feature in this category is italicized.

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| Feature Category | Required Feature for Category 2 Station* | Present? | Notes |
|--|---|----------|--|
| Source: Amtrak's Station Program and Planning Guidelines (2013) | | | |
| Station Features & Functions | Restrooms | ✓ | |
| | Drinking Fountain | ✓ | |
| | Site Lighting | ✓ ✓ | Certain areas are not lit, such as Platform 2 (south- ern platform), stairs to West Main Street, and space underneath viaduct. |
| | Trash Receptacles | ✓ | Only one trash receptacle visible outside one station entrance; no receptacles on platforms. |
| | Track Pick-up/Snow Removal | ✓ | |
| Customer Service: Ticketing & Baggage | Quik-Trak/e-Ticketing | ✓ | |
| | Ticket Office | ✓ | |
| | Passenger Boarding Assistance | ✓ | |
| Customer Service: Passenger Information | Passenger Information Display System | | Noted as missing in the 2019 needs assessment. |
| Customer Service: Security | Emergency Platform Call Box | | Noted as missing in the 2019 needs assessment. |
| | Security on Call/Systems | | |
| | Access Control/Card Readers | | |
| Staff Support & Functions | Station Management Services | ✓ | |
| | Passenger Baggage Assistance | ✓ | |
| | Ticket Agents | ✓ | |
| | Janitorial Service/Dedicated Cleaning Staff | ✓ | Janitorial service contracted. |
| Amenities | Vending Machines | ✓ | |
| <p>*Some features are listed for Category 2, but only based on site conditions (these include features like rental cars on property and checked baggage handling). Only those features present at the Charlottesville station are listed. Any feature in this category is italicized.</p> <p>Source: Amtrak's Station Program and Planning Guidelines (2013)</p> | | | |

Table 2-2. Amtrak space requirements and existing conditions for Charlottesville Station.

| Service/Space/Room | Required/ Suggested Area ^a | Existing Area | Met? |
|--|--|--------------------|------|
| Waiting Room | 2,396 sf ^b | 1,058 sf | |
| Ticket Office | 135 sf | 124 sf | |
| Cash Out Area | 15 sf | 0 sf | |
| Agent Office | 120 sf | 92 sf | |
| Record Storage | 40 sf | 35 sf | |
| Employee ADA Restroom | 40 sf | 73 sf ^c | |
| Employee Lounge Area | 100 sf | 133 sf | ✓ |
| Equipment Room | 80 sf | 276 sf | ✓ |
| Baggage Handling | 1200 sf | 431 sf | |
| Baggage Claim/Service | 150 sf | 0 sf | |
| Crew Break Room/Sign-In | 150 sf | 0 sf | |
| ^a Required area values are taken from “Station Functional and Space Requirement Guidelines” for the Charlottesville Amtrak Station which are in turn based on the 2013 <i>Station Program and Planning Guidelines</i> . ^b Based on 2045 projected passenger counts of 312,500. ^c Based on inspection dated May 7, 2019, the employee bathroom is not ADA compliant. Source: <i>Amtrak’s Station Program and Planning Guidelines (2013)</i> | | | |

Table 2-2, also adapted from the Amtrak Guidelines, indicates the existing spatial dimensions of various functional spaces in the Charlottesville Amtrak Station and the minimums required, per the guidelines Amtrak provided in 2017 as part of a submission to the Charlottesville Board of Architectural Review (BAR). These numbers were based on a projected ridership of 312,500 passengers in 2045, a 137 percent increase from 2018’s ridership of 131,400 passengers.

Only two of the noted spaces or rooms met the requirements provided in 2017: the employee lounge area and the equipment room. The employee bathroom was larger than required but an inspection this year found that it was not ADA-accessible. The waiting room is considerably smaller. At 1,058 square feet, it is less than half of what it should be to meet 2045 projections. The current station is missing a cash out area, baggage claim area, and crew break room/sign-in location. Its baggage handling space, located in the corridor between the station and the restaurant, is just over a third the size it should be to meet demand.

State of Good Repair Needs

As noted earlier in this document, the DRPT 2019 needs assessment included a review of the Commonwealth stations’ state of good repair (SGR) needs. As a result of that assessment, DRPT determined that Charlottesville’s station had an estimated \$226,000 in SGR needs. For the interior, the major issue was the crew area, which had safety issues with kitchen appliances and a lack of necessary amenities for the crew such as showers and hot water. None of the issues identified would remain unresolved in any remodel of the interior.

The exterior SGR needs highlight some of the major deficiencies of the Charlottesville station that could be considered aggravating factors to the capacity needs. Buckingham Branch platform does not have dedicated lights and relies on the parking lot’s lights. In addition, it has an uneven surface that showed signs of standing water at the time of the audit. The Buckingham Branch platform is the only unimpeded ADA thoroughfare from the parking lot and Main Street (see Figure 2-17).

Other ADA issues at the site include no tactile landing pads at six curb crossings (see Figure 2-18), including the crossing between the station and the stairs to West Main Street, although there appears to be some surface differentiation at the curb cuts.



Figure 2-17. *The Buckingham Branch platform has an uneven surface and no lighting. It is also the only safe ADA access from the ADA stalls to the right.*

The remaining SGR needs were primarily related to signage, including signs on both platforms and the degraded sign at the top of the stairs on West Main Street (see Figure 2-19). This faded signage gives Amtrak virtually no presence on the frontage. The sign is legible only if illuminated with sunlight. It is difficult to distinguish at all from a car. The station itself is not visible due to the topography so the signage here is the only means of indicating Amtrak's location from the primary road to the site.

Capacity Needs

There were a number of capacity needs found at the Charlottesville station. These needs range from safety issues to customer care issues and some of them are significant. Pedestrians were seen crossing the southern set of tracks from the residential properties to the south, which are not separated from the project site by any barrier other than vegetation. The Buckingham Branch platform does not have tactile strips installed beyond the yellow line, thus exacerbating the additional safety concerns with that platform. ADA compliance issues are also present—none of the three entrances or exits to the station building have push buttons.



Figure 2-18. *The crossing between the stairs to West Main Street (far side) and the station (behind photographer).*



Figure 2-19. The faded Amtrak sign at the top of the stairs on West Main Street.

The other capacity issues relate to customer service and comfort. Neither platform has canopies, which would be expected at a station with Charlottesville's ridership. The 2013 Amtrak Station Program and Planning Guidelines require that even Category 3 stations have platform canopies. Given the limited space for waiting in the undersized station, canopies to protect riders from inclement weather are necessary. It should be noted that the Norfolk Southern platform has a de facto canopy formed by the West Main Street viaduct, but it is unlit and not designed for that purpose (see Figure 2-20).



Figure 2-20. Norfolk Southern platform is partially covered due to the West Main Street viaduct.

The platforms do not have benches either, further underscoring the issues with the undersized station waiting area. The needs assessment notes that a crew member remarked that "seating inside [the] station get[s] overcrowded." Other infrastructure missing from the station area included a Passenger Information Display System and an emergency call box on either platform. Canopies, emergency platform call boxes, and the display system are the major items missing from the Category 2 station features identified in Table 2-1.

Analysis of Needs

Amtrak recently signed a five-year lease to keep the station at this property. It is an ideal location for a station because it is the only place in the city where the two sets of tracks used for Amtrak routes intersect and it is strategically located between downtown and UVA grounds. Table 2-2 on p. 20 lists the required/recommended area requirements for the Charlottesville station's functional components based on 2045 projections. Only two elements met the requirements: the employee lounge area and equipment room, although many of the components were not drastically off the mark. However, two of the most important components, the waiting room and the baggage handling area, were considerably undersized. The waiting room—which also serves as the entrance area, ticketing area, and circulation area—is over 1,300 square feet smaller than it should be. The baggage handling area is a third of the size it should be. Both of these deficiencies come into play when the station experiences its rush of student passengers at the end of semesters and during holidays.

Within the current footprint of the building (see Figure 2-21 for existing layout), it would be impossible to solve the issues with a reconfiguration of the space. Even though the equipment room exceeds requirements, the excess space is negligible. Any incremental subtractions from other spaces would further increase the level of noncompliance of the other rooms. Additionally, three components are entirely missing from this station. Most notably, there is no baggage claim area. Baggage claim is handled either in the station waiting area or outside, neither of which are acceptable long-term conditions.

There are effectively two options for addressing the noncompliance issues. One is an addition to the building, which was an option presented to the Charlottesville Board of Architectural Review (BAR) in 2017 (see [Review of BAR Submittal](#)). The second option is for the Amtrak to take over the restaurant portion of the building and allow for a complete reconfiguration of the building's interior. Both options are possible, but the latter solution is more attractive if the city is looking to minimize the impact on the historical character of the building.

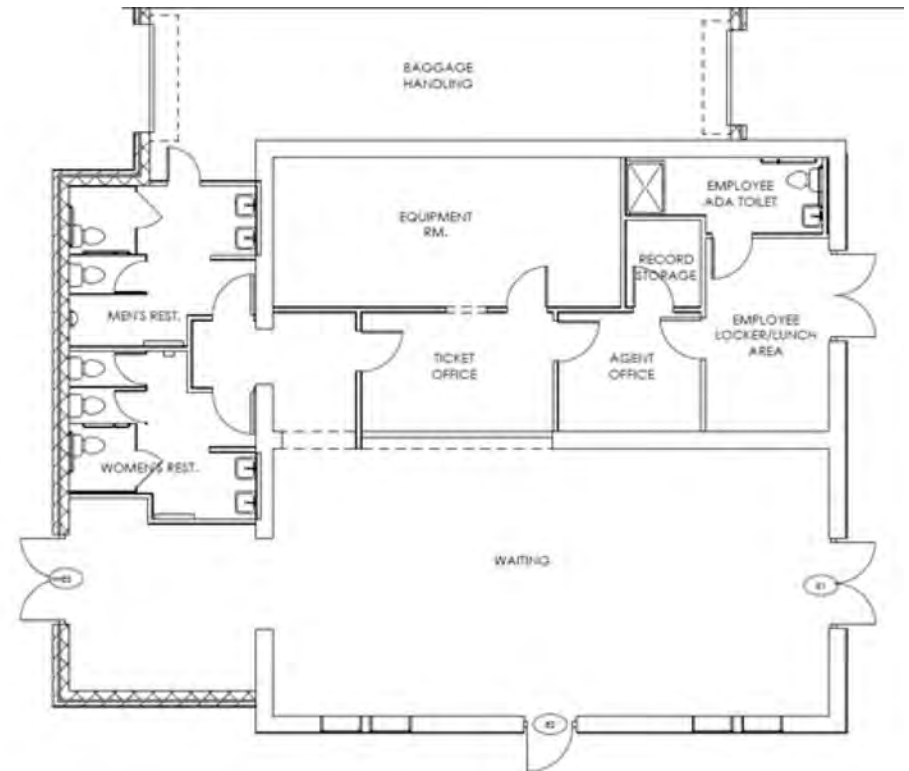


Figure 2-21. Existing layout of Charlottesville Amtrak Station. Drawings: BRW Architects.

ADA Compliance

The 2019 needs assessment itemized two specific ADA issues to correct. The first was missing tactile landing pads from six curb crossings throughout the site. The second issue was the lack of ADA push buttons at all three station entrances. Both of these issues can be fixed without a station remodel or site redevelopment.

A third issue that should also be solved is the lack of pavement striping for the two ADA stalls at the end of the median parking strip. There is no pavement striping leading them to the curb cut in front of the station (See Figure 2-22 and Figure 2-23). Additionally, when Thruway buses or other vehicles are parked at the front of the station and loading or unloading, they block the curb cut and ADA access to the station from these stalls (Figure 2-24). The two ADA stalls on the south side of the parking lot have no marked access to the curb cut through the drive aisle, either. There is access via the Buckingham Branch platform which is not a problem as presented. However, it does become an issue if and when there are large crowds or when trains are boarding or deboarding on the Buckingham Branch platform.

Another issue that is not an on-site ADA issue but is fundamentally an accessibility issue concerns access to the site from the road. Vehicular access to the site is via neighborhood roads north and south of West Main Street with two points of access (see Figure 2-25). Both of these points can also be used for pedestrian access (as well as a number of shortcuts across the site into the parking lot). From 7th Street, individuals with disabilities have access via a sidewalk which disappears on the south side of the entrance and becomes unusable on the north side (due to width and sign placement). They must use either the parking lot or the Buckingham Branch platform (which is accessible via the sidewalk). There is no sidewalk leading to the parking lot at the 8th Street entrance. There is no direct access from West Main Street beyond the stairs near the viaduct.



Figure 2-22. Aerial view of western end of parking lot in front of station. Yellow lines represent the safest available routes from ADA stalls to station. Note the stall at the bottom of the picture require usage of the Buckingham Branch platform.



Figure 2-23. Drive circle in front of station.

Site redevelopment can address these issues. Direct access from the public right-of-way can be provided without using the aisles or the platform. More directly, ADA access can be provided from the West Main Street right-of-way. This latter option would require reconfiguration of the site and new infrastructure in the form of a long ramp along a retaining wall against West Main Street or an elevator.



Figure 2-24 Amtrak Thruway bus parked in front of the station and blocking the curb cut.

Parking

The Parking section on p. 16 describes parking features as noted a recent appraisal for the City of Charlottesville, including number of parking spaces and special designations (ADA, employee parking, etc.). The city has indicated that it would like to see this site not only provide parking for the Amtrak station but also for surrounding downtown commercial uses. Site redevelopment should take advantage of the height allowances of the West Main East Corridor zoning district (52-ft. maximum, 35-ft. minimum, as measured from the streetscape, per Section 34-637(b)(1)), to provide parking vertically instead of horizontally. Ideally this parking would be part of a larger, vertically mixed-use development.

Multi-Modal Transportation Hub

As noted earlier in this document, customers can access service by Amtrak, Amtrak's Thruway service, and Megabus on site. CAT has three stops along West Main Street close to the site which provide indirect access to the

station. Neither JAUNT nor UTS stop near the station though JAUNT's CONNECTOR services do pass it on their daily runs. The site is accessible by bicycles and pedestrians, though bicycle and ADA access is only possible from 7th Street. It is also easily accessible for taxis, carsharing, bike sharing, and other mobility services.

Charlottesville's two other transportation hubs are located downtown. The Greyhound station is located at West Main Street and Ridge Street about a third of a mile from Amtrak. The station is in a 1950s-era building with no on-site parking and in need of updating to comply with the latest ADA requirements and Amtrak guidelines, per the assessment in Section 1. The other transportation hub is the CAT Transit Center located on Water Street at the north end of the Downtown Mall, approximately 0.8 miles from the Amtrak station. No JAUNT buses use the CAT Transit Center. The Transit Center was built in 2008.

As currently configured, the site can provide on-site service to CAT or JAUNT, but it is unlikely that either service will add an on-site stop. CAT stops on West Main Street and the additional time spent entering and exiting the station property would require modification of those routes. Additionally, with a ten-year old transit center less than a mile away, CAT would be very unlikely to use this as a hub for any of their routes. JAUNT's routes in the city are primarily commuter routes. While a stop at the station would be useful for some potential riders, the additional time would degrade the level of service for their primary riders. The Amtrak station is outside of UTS's service area.

Megabus, and more likely the Virginia Breeze intercity bus service, must be considered during site redevelopment. Moving Greyhound service to the Amtrak station for a shared facility is possible, but it would compound the station's square footage problem and add development constraints for coach bus bays, movements, and boarding needs.



Figure 2-25 Entrance to site via 7th Street (left) and 8th Street (right).

Station Redevelopment

The 2017 submittal to the Charlottesville Board of Architectural Review (BAR), described in [Appendix B: Review of BAR Submittal](#), includes the conceptualization for an addition on the south side of the building and a reconfiguration of the interior to address the undersized waiting and baggage handling areas.

The two options for increasing the station’s square footage to bring it up to required standards are to build one or more additions to enlarge the existing building, or to expand station uses to occupy the entire building (thus displacing the restaurant). Because of the local historic protection of the station, tearing down the building and rebuilding a new one is not an option. The Norfolk Southern platform is the most used platform: it serves the Northeast Corridor route and the Crescent, both of which are daily trains. The Buckingham Branch platform serves only the Cardinal, which runs three times a week. However, the station is closer to the Buckingham Branch platform. Between the building and the Norfolk Southern platform is the restaurant parking lot. This smaller parking lot is also the access point to the Norfolk Southern right-of-way and yard, so any redevelopment, including a brand-new station building closer to The Norfolk Southern platform, would still require this access. With the two conditions to consider—maintaining the historic structure and providing continuous access for Norfolk Southern to the western corner of the property—building a new structure closer to the platform would require a unique architectural solution. It moves the station closer to the Norfolk Southern platform but it

does not provide an ideal solution to the other issues that arise.

Building an addition on the south side of the station is a potential solution, but it may not completely solve the space issues (see [Appendix B](#)). An addition to the north side of the station would obstruct the view of the original station from West Main Street and degrade the historical integrity of the building, even if the addition was otherwise in keeping with the architectural style.

Platforms

Currently, both platforms are low-level platforms. Low-level platforms require a lift for passengers who cannot climb stairs so that they can be raised to the height of the floor of the train. High-level (also known as level-boarding) platforms are equal to the floor of the train and allow for level boarding. This height is usually 48 inches. Federal law requires that new or renovated Amtrak stations provide level boarding unless a waiver is granted. The Federal Railroad Administration (FRA) only **allows this** when freight rail shares the tracks that Amtrak uses for boarding. The reason for this is that high-level platforms pose a potential obstruction to wider freight trains. Freight trains can clear low-level platforms. There are engineering solutions for this problem—gauntlet tracks, hinged platforms, or platform gaps with bridge plates—but these solutions add additional cost and engineering. Both tracks used by Amtrak at the Charlottesville station are shared with freight.

The FRA, Amtrak, and the Commonwealth of Virginia all prefer raised platforms. If an engineering solution can be found to accommodate level boarding at Charlottesville’s renovated station, which is also acceptable to the host freight railroad, architects will need to find an ADA-compliant architectural solution to get people to the platform.



Figure 2-26 Freight trains use the same tracks that Amtrak uses to board passenger, potentially precluding level boarding. Viewed from Norfolk Southern Platform.

Platform Dimensions

Width

Amtrak's recommended platform width for sides with passenger service and baggage loading is 15 feet. The Charlottesville station does not have a central aisle or platform with passenger loading only. Currently, the Norfolk Southern platform is 10 feet at its southern end and 12 feet at its northern end. The Buckingham Branch platform is 10 feet for its entire length.

Length

Recommendations for platform lengths vary by the type of service. The Norfolk Southern platform has both Northeast Regional service and long-distance service (Crescent) and the Buckingham Branch platform has long distance service only (Cardinal). The preferred length for all locations is 1,000 feet and 1,200 feet respectively. The minimums are based on whether or not the platform serves Northeast Corridor service; the Norfolk Southern

platform does, and the Buckingham Branch platform does not. See Table 2-3 for the full breakdown. Neither platform meets the recommended length for either service but the Buckingham Branch platform does meet the minimum for a non-NEC platform.

Height

The height of the platform depends on the equipment operated on the line. Amtrak cars on the east coast use high-floor single-level equipment. This requires a 48-inch (4 foot) platform for level boarding. Currently both of Charlottesville's platforms require stairs for boarding; Platform 1 is approximately 18 inches high and Platform 2 is flush with the track/ground level. In order for passengers with disabilities who cannot use the stairs board the train from either platform, a lift mechanism is needed.

Federal regulations require level boarding wherever it would not be prevented by freight train clearance requirements. A "Level Boarding Final Rule" issued on September 9, 2011 requires that for any station modifying platforms, the passenger rail service must provide level boarding to passengers with disabilities. If that is not feasible, the service must request a waiver from the FRA.

ADA Requirements

Ramps

Ramps shall not have slopes greater than 1:12. A landing is required when the ramp reached a height of 30 inches above the prior landing. The bottom landing must be at least 72 inches in length as measured in the direction of travel, intermediate landings must be at least 60 inches, and the top landing must be at least 60 inches square. See Figure 2-27.

Table 2-3. Platform length recommendations and measurements for the Charlottesville Amtrak station.

| Platform | Service Type(s) | Recommended | Minimum | Minimum | Current |
|----------------|--------------------------|-------------|----------|-----------|--------------------|
| | | | (On NEC) | (Off NEC) | Platform (Approx.) |
| Platform N (N) | NEC Regional | 1,000' | 850' | N/A | 510' |
| | Long Distance (Crescent) | 1,200'* | | | |
| Platform S (S) | Long Distance (Cardinal) | 1,200' | N/A | 550' | 630' |

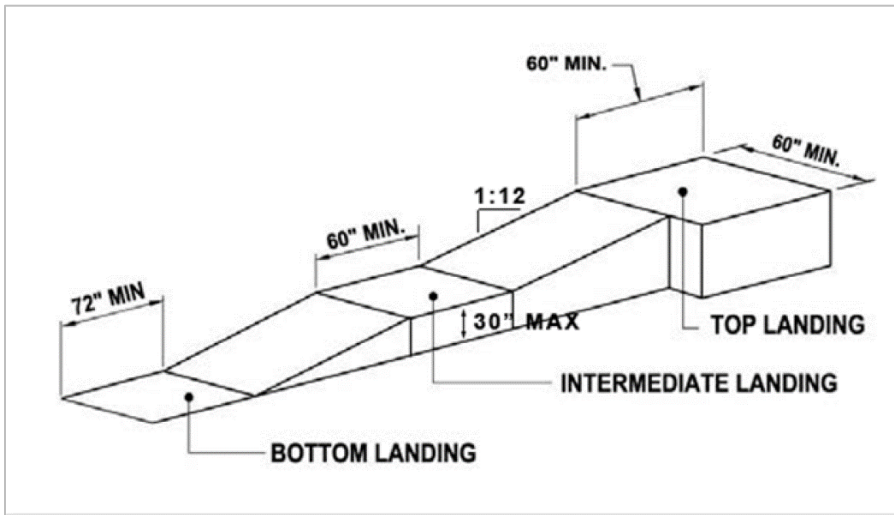


Figure 2-27 ADA Landing requirements

Guardrails

Per 2010 ADA standards, vertical clearance shall be 80 inches (2030 mm) high, minimum. Guardrails or other barriers shall be provided where the vertical clearance is less than 80 inches (2030 mm) high. The leading edge of such guardrails or barriers shall be located 27 inches (685 mm) maximum above the finished floor or ground.

Handrails

Per 2010 ADA standards, handrails are required on ramp runs with a rise greater than 6 inches (150 mm) and when they are provided on walking surfaces with running slopes less than 1:20. Handrails are not always required on walking surfaces with running slopes less than 1:20 (reference 505.1 ADA Standards).

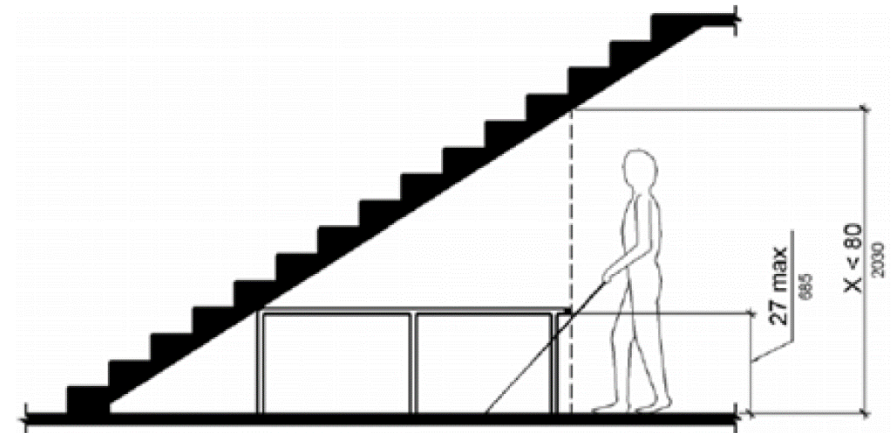


Figure 2-28. Vertical Clearance for 2010 ADA standards.

Per 2010 ADA Standards, handrails shall be provided on both sides of stairs and ramps. Handrails shall be continuous within the full length of each stair flight or ramp run. Inside handrails on switchback or dogleg stairs and ramps shall be continuous between flights or runs. Top of gripping surfaces of handrails shall be 34 inches (865 mm) minimum and 38 inches (965 mm) maximum vertically above walking surfaces, stair nosing, and ramp surfaces. Handrails shall be at a consistent height above walking surfaces, stair nosing, and ramp surfaces. See Figure 2-29 for examples.

Platform Infrastructure

Canopies

Amtrak does not have any specific design or dimensional requirements for canopies themselves. Canopies should, however, be provided for two-thirds

of the length of the platform anchored at the primary entrance to the platform.

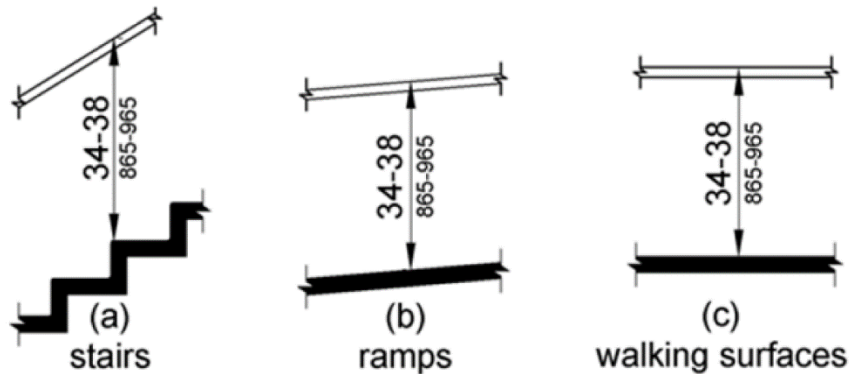


Figure 2-29. Handrail height examples.

Per building code, the underside of the canopy must be 80 inches (6'-8") from the surface of the ground. The canopy should be able to comfortably house infrastructure such as passenger information display signs (PIDS) and closed-circuit television (CCTV) security systems without interfering with passenger safety.

Passenger Information Display Signs (PIDS)

There are no specific dimensional recommendations for PIDS. A review of the Charlottesville Amtrak station found that PIDS were needed on both platforms as neither has one now.

Level Boarding Components

Based on the 2011 "Level Boarding Final Rule," all effort must be made to bring each platform up to 48 inches. When tracks are shared with freight lines, this creates a conflict due to the difference in car widths. The following options that can be explored to meet the requirement:

- Waiver: A waiver can be requested from the FRA due to the difficulties of implementing the rule.
- Alternative tracks: The freight lines can switch to the outer tracks when they approach the station. There are two parallel tracks at

each platform. However, at the Buckingham Branch platform, the outer line forks to continue along with the Crescent and Northeast Regional route so a switch would be necessary immediately west of the station and it may be infeasible.

- Gauntlet tracks: A set of gauntlet tracks could be installed at the platform allowing the freight vehicles to remain on the inner tracks but have the space to clear the platform.
- Bridge plates: The higher platform can be built as to not interfere with the freight trains and a bridge plate can be used to span the gap between the platform and the train.
- Hinged platform: A hinged platform is a rarely employed method of spanning the gap between a platform and the Amtrak car, but it allows station employees to lower and raise the plate.

Station Modifications

Without modifying the station building itself, there are ways to bring the site into compliance with Amtrak's regulatory requirements with regard to the waiting area square footage and platforms. The redevelopment of the station components requires construction of a new building, modification and reconfiguration of the existing primary parking lot, and rebuilding of the platforms (see Figure 2-30). It does not, however, as proposed, require any visual or structural changes to the existing station building or the restaurant. Shifting the bulk of the waiting area from the existing station to a proposed new structure would free up space for an internal reconfiguration of the existing station building.

The reasoning for these changes is as follows:

1. The Norfolk Southern platform is the busiest platform with daily Northeast Regional and Crescent service. It is also farthest away from the station. A new waiting area along the tracks would provide more proximate waiting area directly on the Norfolk Southern platform.
2. By creating new waiting room square footage (in excess of the 2,396 square feet required) in another location, it frees up the existing

station's square footage to be reconfigured. This will allow the other components that are low on square footage a modest amount of room to expand. Some waiting room space will need to remain in the original station (for the Buckingham Branch's service).

3. The site already has more parking than is currently considered necessary by Amtrak. It is also overparked per Charlottesville's zoning ordinance. Furthermore, the site's four ADA stalls are not in ideal locations and would be better located in another location. Reconfiguring some of the parking lot for bus parking allows free-flow conditions in the parking lot and additional pedestrian infrastructure along the Buckingham Branch platform (to handle the new ADA ramp needs for the raised platforms).
4. Raising the platforms requires additional space—primarily due to the requirement for steps and ADA ramps—but it provides a safer loading area for passengers and it separates the parking areas from the passenger loading areas, a separation that is poorly defined right now at the Buckingham Branch platform.
5. All ADA parking could be in one place, in the westernmost corner of the development site where the proposed waiting room building would go. This would provide buffering between the ADA stalls and regular parking lot traffic and buses and it would not require use of passenger loading and unloading areas or platforms areas (as is currently the case) for access.



Figure 2-30. Proposed Amtrak station modifications, including a new building for the Norfolk Southern platform waiting area, raised platforms with ADA access ramps, and bus stalls (north is up).

New Waiting Area/Structure

Currently, there are approximately 30 parking stalls on the north side of the Amtrak station and restaurant buildings. These stalls are currently designated as parking for the restaurant only. This parking lot also serves the access for Norfolk Southern's property at the junction of the two tracks. By removing the 16 stalls on the track-side part of the parking lot, a simple, fully-enclosed structure could be erected that would serve as a waiting area along the Norfolk Southern platform, which is the busiest platform. This structure could be accessed via steps or via ADA ramps. While it would not be connected to the ticketing area, it would provide a sheltered waiting area for passengers that would meet or exceed the needs for the Charlottesville Amtrak station in terms of square footage. The costs would be minimal: a loss of less than 20 stalls (see Figure 2-30).

This would not interfere with Norfolk Southern's property access and this parking lot could be dedicated to ADA stalls and employee parking. Restaurant parking could be located elsewhere in the parking lot (or parking structure) as is currently allowed.

New Platforms

Amtrak prefers level boarding, or raised platforms, for their stations. With new or redeveloped stations, it is required unless a waiver is sought. Neither existing platform is raised at Charlottesville. The Norfolk Southern platform is concrete as is common of lower tier Amtrak stations. The Buckingham Branch platform, however, is asphalt, in poor condition, and shows sign of poor drainage.

This would not interfere with Norfolk Southern's property access and this parking lot could be dedicated to ADA stalls and employee parking. Restaurant parking could be located elsewhere in the parking lot (or parking structure) as is currently allowed.

Raising the platforms would require modifications to the platform access. For the Norfolk Southern platform, ADA ramps could be added at the new

waiting area building and at other locations along the platform to the north with the removal of approximately 20 stalls (see Figure 2-31).



Figure 2-31. View of secondary parking lot north of West Main Street viaduct; new stairs and ADA ramps have been added to access a raised Norfolk Southern platform (looking west).

Providing ADA access to a raised Buckingham Branch platform would require a reconfiguration of the southside of the main parking lot (as discussed below); the southernmost spaces would have to be removed to make room for a bus queuing area ramps that meet ADA specifications (see Figure 2-32).

Parking Lot Reconfiguration

In order to accommodate the ADA ramps for the Buckingham Branch platform access, and to promote a better flow of traffic through the site, bus stalls would be created along the south side of the parking lot (against the platform) with room for bus queuing. This would give specifically designated space to Amtrak Thruway buses, the Megabus and/or the Virginia Breeze without impacting other turning movements in the parking lot (see Figure 2-32).

Approximately 95 stalls (two of which are ADA stalls) would be removed from the site as currently configured. They would be replaced elsewhere on site in a parking structure (or another lot).



Figure 2-32. View of primary parking lot with new bus parking stalls, queuing area, and a raised Buckingham Branch platform with ADA access (looking south).

3 Zoning Analysis

Zoning Regulations

The Amtrak Station site is located in the West Main Street East Corridor (“WME”) Zoning District with specific requirements for height and setback that will directly impact the profile of a mixed-use TOD development proposal.

Height

The height regulations that apply to the site within the West Main Street East (WME) Corridor district include:

- (1) Minimum height: Thirty-five (35) feet.
- (2) Maximum height: Fifty-two (52) feet

There is a slight increase in elevation along Main Street as one approaches the bridge which would affect gradually increase the height of the building. Other regulations that affect the new development includes:

- (3) The first floor of every building shall have a minimum height, measured floor to floor, of fifteen (15) feet.
- (4) The maximum height of the street wall of any building or structure shall be forty (40) feet. At the top of the street wall height, there shall be a minimum setback of ten (10) feet. Which means along Main Street the new development would go up 40 feet, setback 10 feet and go up to 52 feet as the maximum height.

Setbacks

(5) Primary street frontage: Along Main Street, a ten (10) feet minimum; twenty (20) feet maximum would be required. At least eighty (80) percent of the building façade width of a building must be in the build-to zone adjacent to a primary street.

(6) Linking street frontage: Along 7th Street, five (5) feet minimum; twelve (12) feet maximum setbacks are required. At least forty (40) percent of the building façade width of a building must be in the build-to zone adjacent to a linking street.

(7) Side and rear setback (from Norfolk Southern), adjacent to any other zoning district: None, the building will be placed at the property line.

Other

Other zoning regulations that affect the site is the building width requirement. The mass and scale of each building over one hundred (100) feet wide shall be reduced through the use of building and material modulation and articulation to provide a pedestrian scale and architectural interest, and to ensure the building is compatible with the character of the district. The use of setbacks within the 10 and 20-foot range, in addition to material modulation, may be more appropriate to the pedestrian scale along Main Street.

Lastly, residential density allowed for the site is 43 DU/AC, with up to 120 DU/AC by special use permit that would allow for commercial ground floor with up to 4 levels housing above. Residential uses along the ground level of Main Street are not allowed and would be required to be commercial. As development site that is nearly a full block site, there are opportunities for courtyards and plazas accessible from adjacent public rights-of-way.



Figure 3-1. Zoning Profile Diagram – From Main Street looking southeast

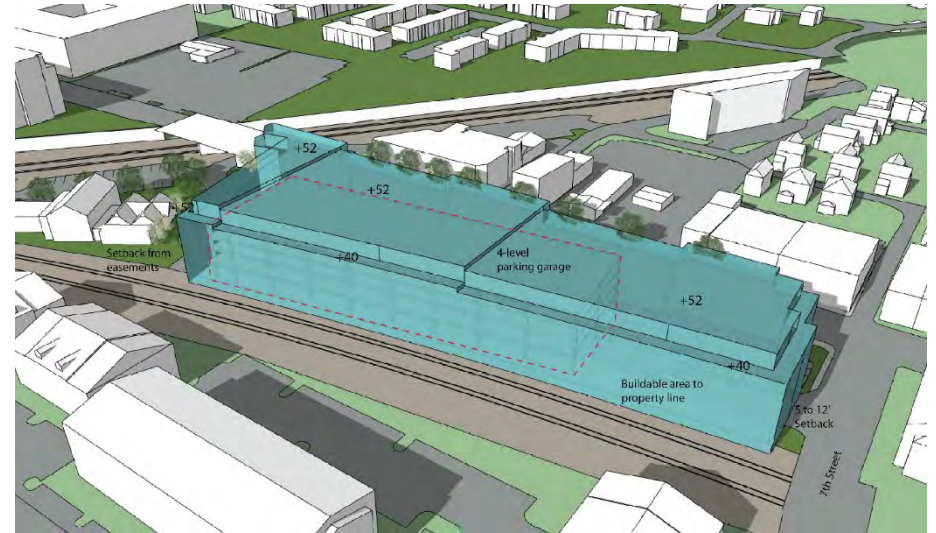


Figure 3-3 . Zoning Profile Diagram – Looking North from 7th Street and Norfolk Southern



Figure 3-2. Zoning Profile Diagram – At the corner of Main and 7th Streets

4 Environmental Checklist

The Charlottesville Amtrak Study proposes conceptual improvements to the Charlottesville Amtrak Station that are intended to allow the proposed siding track to serve high-level boarding in the future. As currently envisioned, the proposed siding track that parallels the existing Norfolk Southern (NS) mainline between the existing low-level platform and the Charlottesville Amtrak Station building would tie into the existing NS mainline after crossing the existing Buckingham Branch line by CSX (Figure 4-1). Three new 4-foot platform improvements are being proposed: (1) NS mainline, (2) Buckingham Branch, and (3) Special Siding (as shown in Figure 4-2) that would include a new siding with 4-foot boarding platform.

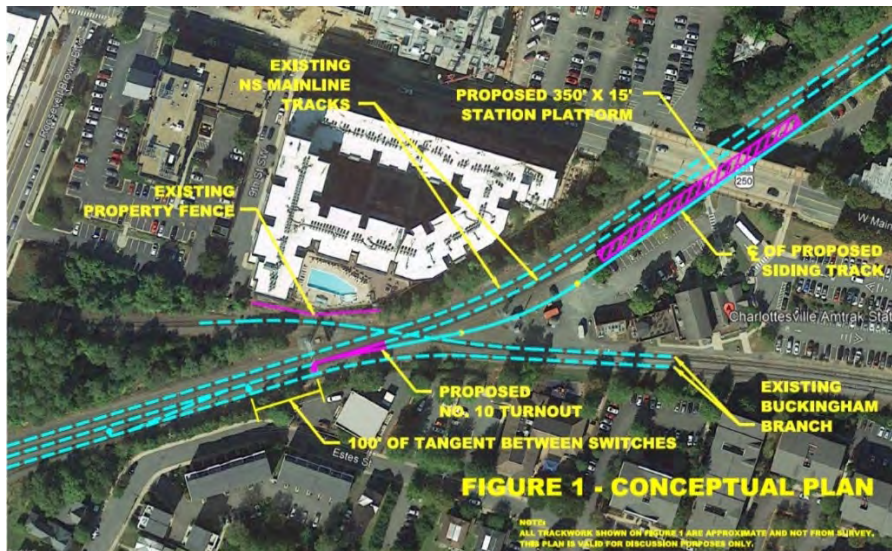


Figure 4-1 Special Siding Conceptual Plan - Aerial (Jacobs, March 2020)

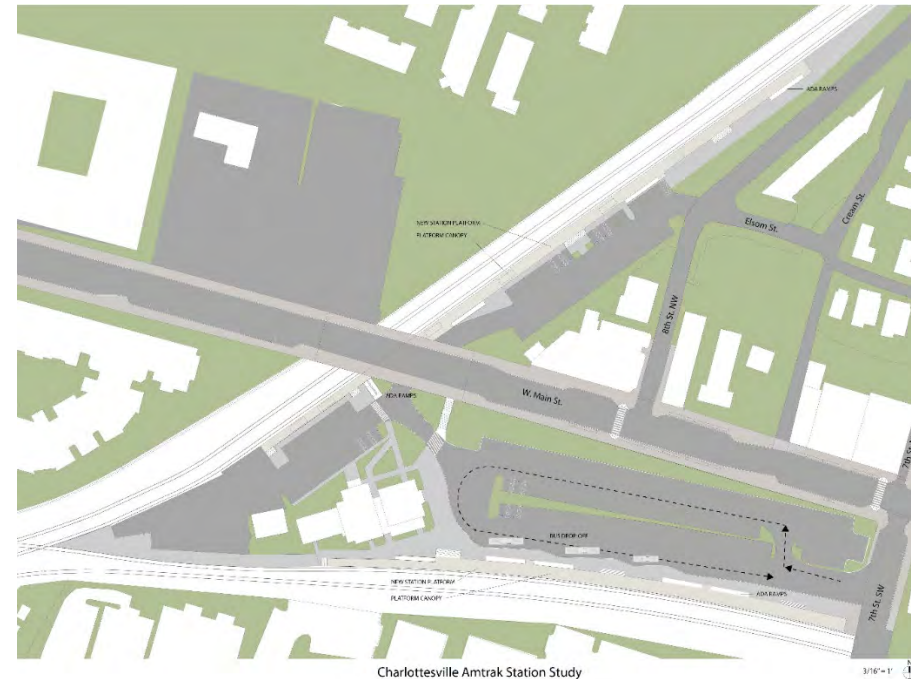


Figure 4-2 Conceptual Plan -Sketch

The level of environmental analysis required prior to the construction of the proposed improvements primarily depends on three factors: the funding source (federal versus state) used for design/construction of the proposed upgrades; the absence or presence of regulated resources; and the significance of potential impacts, should regulated resources be present.

Funding Source and Environmental Compliance

Federal Funding

If the project is supported by federal funds (e.g., FRA) at any point, then DRPT must comply with the requirements of the National Environmental Policy Act (NEPA). Figure 4-3, taken from FRA's website, illustrates its NEPA process. Compliance would be documented in one of the following and must be completed and approved by the lead federal agency prior to ground-disturbing activities associated with the proposed upgrades.

Categorical Exclusion (CE)

Proposed actions are "categorically excluded" from detailed impact analyses because similar actions have demonstrated they do not individually or cumulatively result in significant adverse effects or impacts. Each federal agency has its own list of actions are considered CEs. This is the least level of NEPA effort.

Environmental Assessment/Finding of No Significant Action (EA/FONSI)

At project initiation, when the significance of the environmental impact is not clearly established, the lead federal agency typically will require the preparation of an EA. An EA can result in either a FONSI, requiring no further environmental evaluation, or will result in the identification of potentially significant impacts requiring elevating the study to that of an EIS. This is the mid-level NEPA effort.

Environmental Impact Statement/Record of Decision (EIS/ROD)

In general, when a proposed action is anticipated to result in significant adverse impacts, the lead federal agency typically will require the preparation of an EIS. An EIS requires that a substantial technical analysis and public review process be conducted to evaluate project alternatives, identify potential social, economic, and environmental impacts of the

project, and designate methods to avoid or mitigate these impacts. Successful completion of an EIS results in the lead federal agency signing a Record of Decision (ROD). This is the greatest level of NEPA effort.

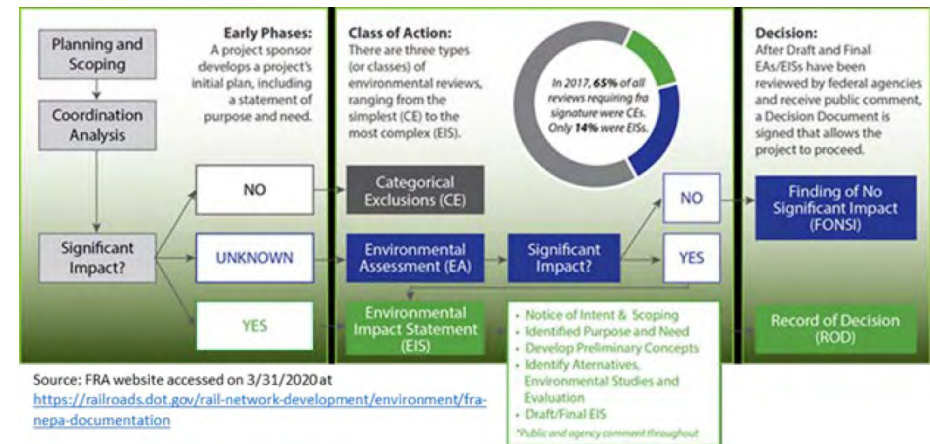


Figure 4-3. FRA and NEPA

State Funding

If no federal funding is involved and the project costs are anticipated to equal or exceed \$500,000, DRPT would be required to comply with the state's Environmental Impact Review (EIR) process under Virginia Code §10.1-1188. Compliance would be documented in an EIR Report and would include an assessment of the environmental impacts of the project, adverse environmental effects that are unavoidable, measures taken to minimize impacts, any alternatives to the proposed construction and irreversible environmental changes. This process must be completed and approved prior to the distribution of state funds for the proposed upgrades.

Anticipated Funding Source and Documentation Requirements

Based on previous discussions with DRPT, both federal and state funds are likely to be used for project implementation. As such, the NEPA process

would be followed with the lead federal agency determining the appropriate level of NEPA documentation necessary. The NEPA process satisfies both federal and state analysis and documentation requirements.

Based on the conceptual nature of the proposed improvements, along with a cursory review of the existing human and environmental resources in the project area (identified in the section), suggests the project would qualify as a CE. The three likely categories for which the project may qualify for a CE are provided below (§ 771.116 FRA categorical exclusions):

(13) Acquisition or transfer of real property or existing railroad facilities, including track and bridge structures; electrification, communication, signaling or security facilities; stations; and maintenance of way and maintenance of equipment bases or the right to use such real property and railroad facilities, for the purpose of conducting operations of a nature and at a level of use similar to those presently or previously existing on the subject properties or facilities

(16) Alterations to existing facilities, locomotives, stations, and rail cars in order to make them accessible for the elderly and persons with disabilities, such as modifying doorways, adding or modifying lifts, constructing access ramps and railings, modifying restrooms, and constructing accessible platforms.

(22) Track and track structure maintenance and improvements when carried out predominantly within the existing right-of-way that do not cause a substantial increase in rail traffic beyond existing or historic levels, such as stabilizing embankments, installing or reinstalling track, re-grading, replacing rail, ties, slabs and ballast, installing, maintaining, or restoring drainage ditches, cleaning ballast, constructing minor curve realignments, improving or replacing interlockings, and the installation or maintenance of ancillary equipment.

FRA's CE template is attached at the end of this paper to provide the reader with an understanding of the level of study necessary for this Class of

Action. However, the lead federal agency would be responsible for determining the Class of Action required for NEPA compliance when that phase of the project is at hand.

Absence or Presence of Regulated Resources

As stated on FRA's website, rail transportation project development must reflect the desires of communities and take into account the impacts on both the natural and human environments. Therefore, in addition to NEPA, proposed rail transportation projects are subject to many other laws, regulations, and Executive Orders. These laws cover social, economic, and environmental concerns ranging from community cohesion to threatened and endangered species. Table 4-1 provides a matrix of subjects and resources addressed as part of the federal environmental review process. A preliminary, desktop review of the project site indicates five primary areas of concern: Section 106 / historic properties and exemptions, Section 4(f) resources, the Charlottesville Architectural Design Control District, adjacent Environmental Justice populations, and existing rail right-of-way versus currently leased property for station and parking operations.

Table 4-1. Environmental Compliance Checklist and Potential Areas of Concern

| ENVIRONMENTAL COMPLIANCE CHECKLIST AND POTENTIAL AREAS OF CONCERN | | |
|---|--|---|
| NEPA and Related Categories | Are Proposed Improvements Likely to Require Additional Study, Agency Coordination, and/or Permits? | |
| | Yes? | How So? |
| Freight & Passenger Rail | ✓ | <p>Will the improvements increase the volume of freight and passenger rail passing and/or stopping at the station? If so, by what # or %? Could affect Air Quality and/or have Noise and Vibration effects on Sensitive Receptors, if present.</p> <p>Will need to determine if the project will have any effect (beneficial or adverse) on transportation including but not limited to other railway operations.</p> |
| Traffic, Transportation, and Parking | ✓ | <p>Will the improvements increase the volume of rail passengers? If so, by what # or %? Will this increase need for additional vehicle parking, bus loading areas, and vehicle-for-hire waiting/loading areas? Will additional traffic volumes alter current roadway network ADT and access to station? Would this affect Air Quality or have Noise and Vibration effects on Sensitive Receptors, including EJ populations?</p> <p>Will need to describe potential transportation, traffic, and parking impacts, and address capacity constraints and potential impacts to existing railroad and highway operations. Will need to document any consultation with other railroads or VDOT whose operations may be impacted by the project.</p> |

| ENVIRONMENTAL COMPLIANCE CHECKLIST AND POTENTIAL AREAS OF CONCERN | | |
|---|--|---|
| NEPA and Related Categories | Are Proposed Improvements Likely to Require Additional Study, Agency Coordination, and/or Permits? | |
| | Yes? | How So? |
| Section 106: Cultural Resources / Historical and Archaeological Resources | ✓ | Section 106 coordination will be required for this project, the extent to which will need to be determined via communication between FRA, VDHR, and VDRPT/SHPO. See discussion details in Historic Properties Section. |
| Section 4(f): Publicly-Owned Parks, Rec Areas, Wildlife/Waterfowl Refuges, Sites NRHP Listed or NRHP Eligible | ✓ | Of the types of resources protected by Section 4(f), only historic resources are present (i.e., sites listed or eligible for listing on the NRHP). However, FRA may determine Section 4(f) is not applicable to the Amtrak Station property within the West Main Street Historic District. If this occurs, there would be no Section 4(f) impacts. See discussion details in Section 4(f) Resources Section. |
| Land Use and Zoning: Architectural Design Control (ADC) District | ✓ | The project is located within the West Main Street Historic District (Listed on both NRHP and VLR) and is designated by the City of Charlottesville as an Architectural Design Control (ADC) District. All properties designated within a local ADC district are subject to review by the City of Charlottesville - Board of Architectural Review (BAR) for any exterior changes including demolitions. This ensures a public notification and review process before changes can be made to a protected property. |

| ENVIRONMENTAL COMPLIANCE CHECKLIST AND POTENTIAL AREAS OF CONCERN | | |
|---|--|--|
| NEPA and Related Categories | Are Proposed Improvements Likely to Require Additional Study, Agency Coordination, and/or Permits? | |
| | Yes? | How So? |
| Land Acquisition | ✓ | The rail improvements will occur within existing rail ROW and that no additional ROW will be needed for that component of the project. However, improvements to station, loading platform, and parking area configuration are dependent upon the City of Charlottesville's purchase of the south parking lots. |
| Environmental Justice | ✓ | The percentages of minority and low-income populations in adjacent parcels meets or exceeds the thresholds for EJ. See discussion details in Section 2.4. |
| Air Quality | ✓ | Project is not located in a National Ambient Air Quality Standard (NAAQS) Non-Attainment or Maintenance area. The proposed improvements will not impact existing air quality below acceptable NAAQS limits. |

| ENVIRONMENTAL COMPLIANCE CHECKLIST AND POTENTIAL AREAS OF CONCERN | | |
|---|--|--|
| NEPA and Related Categories | Are Proposed Improvements Likely to Require Additional Study, Agency Coordination, and/or Permits? | |
| | Yes? | How So? |
| Noise and Vibration | ✓ | <p>Must determine if there are sensitive receptors in the Project area (residences, EJ populations, parks, schools, hospitals, public gathering spaces). Must determine if and how the project may change the noise and/or vibration exposure of the sensitive receptors when applying the screening distances for noise and vibration assessment found in FRA's and the FTA's most recent noise impacts assessment guidance manuals. Changes in exposure might include changes in noise emissions and/or noise events, or changes in vibration emissions and/or vibration events.</p> <p>If the project is anticipated to change the noise or vibration exposure of sensitive receptors, must complete FRA's General Noise and/or Vibration Assessment.</p> |

| ENVIRONMENTAL COMPLIANCE CHECKLIST AND POTENTIAL AREAS OF CONCERN | | |
|---|--|---|
| NEPA and Related Categories | Are Proposed Improvements Likely to Require Additional Study, Agency Coordination, and/or Permits? | |
| | Yes? | How So? |
| Visual/Aesthetics | ✓ | The project is located within the West Main Street Historic District (Listed on both NRHP and VLR) and is designated by the City of Charlottesville as an Architectural Design Control (ADC) District. All properties designated within a local ADC district are subject to review by the City of Charlottesville - Board of Architectural Review (BAR) for any exterior changes including demolitions. This ensures a public notification and review process before changes can be made to a protected property. |
| Environmental Risk Sites and Hazardous Materials | ✓ | A Phase 1 Environmental Site Assessment (ESA) may be required for the City of Charlottesville's purchase of the currently leased Amtrak Station property. |
| Displacements - Residential, Business, Commercial, Non-Profit | ✗ | Assume no displacements are planned. If leased station land under private ownership is purchased, assume current restaurant on site will relocate per termination of their lease agreement and that this would not be considered a project displacement. |
| Natural Resources and Conservation Areas | ✗ | Not anticipated to be impacted within existing, urban area. |
| Public Safety and Security | ✗ | Not anticipated to be impacted within existing, urban area. |

| ENVIRONMENTAL COMPLIANCE CHECKLIST AND POTENTIAL AREAS OF CONCERN | | |
|--|--|--|
| NEPA and Related Categories | Are Proposed Improvements Likely to Require Additional Study, Agency Coordination, and/or Permits? | |
| | Yes? | How So? |
| Socioeconomics | X | Not anticipated to be a substantive concern. |
| Ecologically Sensitive Areas and Endangered Species | X | Not anticipated to be present within project area. |
| Section 404 Permits: Wetlands and Streams | X | Not anticipated to be present within project area. |
| Section 401 Permits: Water Resources/Water Quality | X | Not anticipated to be present within project area. |
| Floodplains | X | Not within 100-Year floodplain. |
| Wild and Scenic Rivers, Navigable Waterways, and Coastal Resources | X | Not present within project area. |
| Farmlands | X | Not applicable in urban area. |
| Construction | X | Not anticipated to be a substantive concern. |

Historic Properties

Section 106 of the National Historic Preservation Act (NHPA) requires federal agencies to consider the effect proposed actions might have on historic properties. Agencies are required to facilitate a stakeholder engagement process known as consultation – discussing and considering the views of consulting parties, including State Historic Preservation Officers (SHPOs) and/or Tribal Historic Preservation Officers (THPOs), Indian tribes, and others, while also providing opportunities for public input on the proposed improvements.

Charlottesville Union Station is part of the West Main Street Historic District listed on the National Register of Historic Places (NRHP) and the Virginia Landmarks Registry (VLR) (Figure 4-4). In addition, it appears the station itself is considered individually eligible for listing on the NRHP. NEPA requires compliance with Section 106. Therefore, additional coordination with the Virginia Department of Historic Resources (DHR), which serves as the SHPO will be necessary. Should the SHPO determine the proposed improvements would have an adverse effect on these or other historic properties, additional consultation and possible mitigation would likely be necessary.

IMPORTANT NOTE

In 2018, the Advisory Council on Historic Preservation (ACHP) issued a “Program Comment to Exempt Consideration of Effects to Rail Properties within Rail Rights-of-Way”. This program comment exempts undertakings that may affect historic rail properties within rail rights-of-way (ROW) from Section 106 of the National Historic Preservation Act. The program comment adopts a two-pronged approach: an activities-based approach and a property-based approach. The activities-based approach details specific activities that are exempt from Section 106 review which should have minimal or no adverse effects on historic properties. The property-based

approach provides an optional process for identifying excluded historic rail properties that will continue to be subject to Section 106 review while exempting consideration of effects to other rail properties. The Section 106 exemption is applicable ONLY to activities within rail ROW. A copy of the amended, 2019 notice in the Federal Register is attached at the end of this document.

The entire project area is within a historic district. While historic resources within existing rail ROW may be exempt from Section 106 requirements, not all proposed improvements would be within existing rail ROW. Therefore, Section 106 requirements would still apply to the project area outside of rail ROW.

To fully understand what is/is not exempt from further Section 106 consideration, it will be imperative to work with the lead federal agency prior to initiating future cultural resource/historic properties coordination, surveys, and assessments (if necessary).

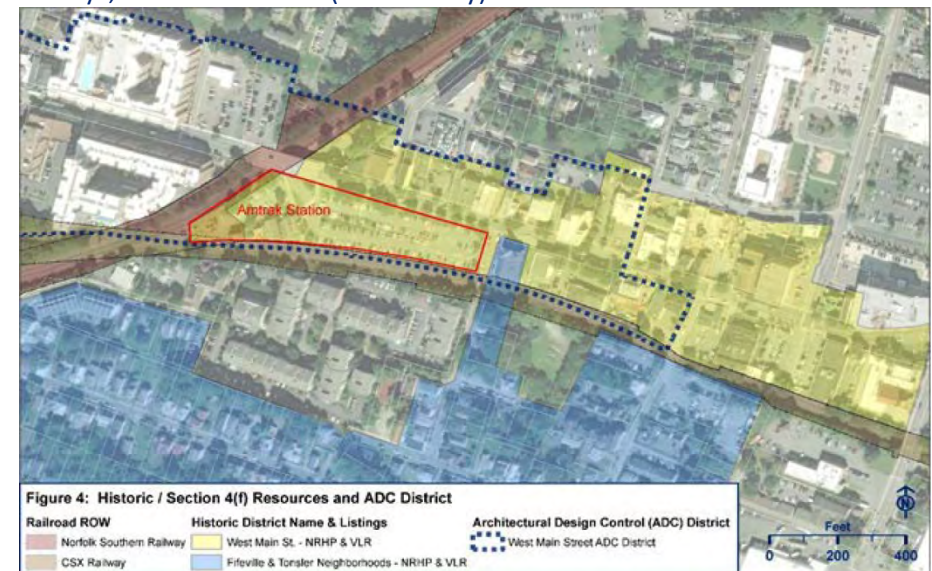


Figure 4-4 . Historic / Section 4(f) Resources and ADC District

Section 4(f) Resources

Section 4(f) refers to the original section within the USDOT Act of 1966 which provided for consideration of park and recreation lands, wildlife and waterfowl refuges, and historic sites during transportation project development. In essence, Section 4(f) prohibits the “use” of these resources unless it can be demonstrated there is no prudent and feasible alternative. The law applies only to the USDOT and its administrations, including FRA. Any project funding from the USDOT triggers compliance with Section 4(f) when such resources are present, and only the USDOT agency can make the determination of the applicability of Section 4(f) to those resources.

Section 4(f) must be addressed for the project because the proposed improvements are within the West Main Street Historic District, listed on the NRHP and the VLR (Figure 4-4). However, in the case of the Amtrak Station, the property has historically been and currently is in transportation use; a feature that made the property a contributing element to the Historic District.

In accordance with 23 CFR § 774.13, exceptions to Section 4(f) applicability, as they relate to the project, include:

(a) The use of historic transportation facilities in certain circumstances:

- (1) Common post-1945 concrete or steel bridges and culverts that are exempt from individual review under 54 U.S.C. 306108.
- (2) Improvement of railroad or rail transit lines that are in use or were historically used for the transportation of goods or passengers, including, but not limited to, maintenance, preservation, rehabilitation, operation, modernization, reconstruction, and replacement of railroad or rail transit line elements, except for:
 - (i) Stations;
 - (ii) Bridges or tunnels on railroad lines that have been abandoned, or transit lines not in use, over which regular service has never operated, and that have not been railbanked or otherwise reserved for the transportation of goods or passengers; and

(iii) Historic sites unrelated to the railroad or rail transit lines.

(3) Maintenance, preservation, rehabilitation, operation, modernization, reconstruction, or replacement of historic transportation facilities, if the Administration concludes, as a result of the consultation under 36 CFR 800.5, that:

- (i) Such work will not adversely affect the historic qualities of the facility that caused it to be on or eligible for the National Register, or this work achieves compliance with Section 106 through a program alternative under 36 CFR 800.14; and
- (ii) The official(s) with jurisdiction over the Section 4(f) resource have not objected to the Administration conclusion that the proposed work does not adversely affect the historic qualities of the facility that caused it to be on or eligible for the National Register, or the Administration concludes this work achieves compliance with 54 U.S.C. 306108 (Section 106) through a program alternative under 36 CFR 800.14.

Given these exceptions and the possibility the SHPO will determine the proposed improvements will not adversely affect historic properties, it is possible FRA could determine Section 4(f) not applicable to the station property even though it is within and an element of the Historic District.

If FRA determines the station property is not subject to Section 4(f) protection, then there are no Section 4(f) impacts. No further coordination would be required. However, the determination that the property is not subject to the protections of Section 4(f) must be included in the NEPA document, along with all pertinent supporting documentation.

Charlottesville Architectural Design Control (ADC) District

NEPA requires consideration of local and state regulations. The project is located within the West Main Street Historic District (listed on both NRHP and VLR) and is designated by the City of Charlottesville as an Architectural Design Control (ADC) District (Figure 4-5). All properties designated within a

local ADC District are subject to review by the City of Charlottesville's BAR for any exterior changes, including demolitions. This ensures a public notification and review process before changes can be made to a protected property. It is likely the preliminary and final design of improvements will require coordination with, and possibly approval from, the ADC District Board.

Environmental Justice (EJ) Populations

Executive Order 12898 requires federal agencies to make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations in the United States. As stated on FRA's website, the USDOT's EJ initiatives accomplish this goal by involving the potentially affected public in developing transportation projects that fit harmoniously within their communities without sacrificing safety or mobility.

Figure 4-5 shows most areas adjacent to the Amtrak Station are predominately minority and low income. Additional efforts to engage EJ populations in the project may be necessary, especially if the proposed improvements result in increased noise levels that approach or exceed Noise Abatement Criteria (NAC).

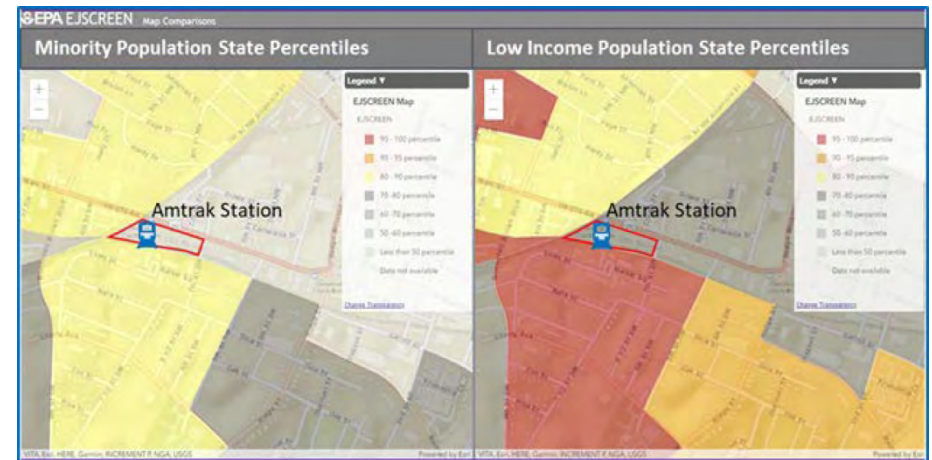


Figure 4-5. Historic / Section 4(f) Resources and ADC District

Existing Right-of-Way versus Leased Property

Raised boarding platforms will be installed within Norfolk Southern (NS) right-of-way and Buckingham Branch. There will be minimal construction within the leased property of the station property that will include new switch infrastructure and a rail-only siding concept that parallels the existing NS mainline between the proposed third set of tracks and the Charlottesville Amtrak Station. The existing bus drop-off area located within the south parking lot within leased property, will be moved and constructed adjacent to the Buckingham Branch with three bus drop-off areas, to allow for direct access to the Amtrak Station.

5 Platform Analysis and Concepts

Background Information

The two platforms at Charlottesville handle different Amtrak services on tracks owned by different parties. The southern platform is served by two sets of tracks that are part of the Buckingham Branch system (owned by CSX). Amtrak operates the Cardinal service at this platform.

Table 5-1. Amtrak service by platform.

| Platform/Track Owners | Amtrak Service | Approx. Train Length |
|-------------------------|--------------------|----------------------|
| Norfolk Southern | Northeast Regional | 850' |
| | Crescent | 1200' |
| Buckingham Branch (CSX) | Cardinal | 1200' |

Level Boarding Rules

A 2011 rule issued by the U.S. Department of Transportation (USDOT) affected how platforms are to be constructed at passenger rail stations. The rule requires full-length, level-boarding platforms (where the platform surface is level with the floor of the train cars) in new and substantially reconstructed commuter and Amtrak stations in order to fulfill the requirements of the Americans with Disabilities Act (ADA). Where full-length, level boarding is determined to be “infeasible,” such as due to freight train operations on the track adjacent to the platform, the use of

site-specific alternative methods is acceptable pending the approval of the U.S. DOT. The “Level Boarding Final Rule” issued on September 9, 2011 requires that for any station modifying platforms, the passenger rail service must provide level boarding to passengers with disabilities. If that is not feasible, the service must request a waiver from the Federal Railroad Administration (FRA).

At many Amtrak stations, especially outside the Northeast Corridor proper (Boston to Washington, DC), freight and passenger rail share the same lines which creates a conflict at stations with raised platforms. Freight rail cars are wider than passenger rail cars; if platforms are at the four-foot height, the freight rail cars will hit the platform. Thus, a level-boarding platform needs to be set back from the tracks more than a low platform, creating a gap between the platform edge and the passenger rail vehicle. This gap needs to be mitigated in some way. There are a number of options but what options are available depend on the context of the site. In the case of Charlottesville, there are two platforms, neither of which meet the 2011 rule.

What constitutes level boarding depends on the equipment operated on the line. Amtrak cars on the east coast use high-floor single-level equipment. This requires a 48-inch (four foot) platform for level boarding. Currently both of Charlottesville’s platforms require stairs for boarding; the Norfolk Southern platform is approximately 10 inches higher than the top of the rails and the Buckingham Branch platform is approximately four inches below the top of the rails. In order for passengers with disabilities who cannot use the stairs to board the train from either platform, a lift mechanism is needed (see Figure 5-1). The lift mechanism is automated but requires an Amtrak employee to load and operate. Additionally, the Buckingham Branch platform is low enough where an additional set of steps is needed on the platform to facilitate the boarding of non-ADA passengers.

Recommendations for platform lengths vary by the type of service. The Norfolk Southern platform has both Northeast Regional service and long-distance service (Crescent) and the Buckingham Branch platform has long

distance service only (Cardinal). The preferred length for all locations is 1,000 feet and 1,200 feet respectively. The minimums are based on whether or not the platform serves Northeast Regional service; the Norfolk Southern platform does and Buckingham Branch platform does not. See the table below for the full breakdown.

Level-Boarding Platform Concepts

Neither platform meets the recommended length for either service, but Buckingham Branch does meet the minimum for a non-NEC platform. Amtrak’s recommended platform width for sides with passenger service and baggage loading is 15 feet. The Charlottesville station does not have a central aisle or platform with passenger loading only. Currently, the Norfolk Southern platform is 10 feet at its southern end and 12 feet at its northern end. The Buckingham branch platform is 10 feet for its entire length.



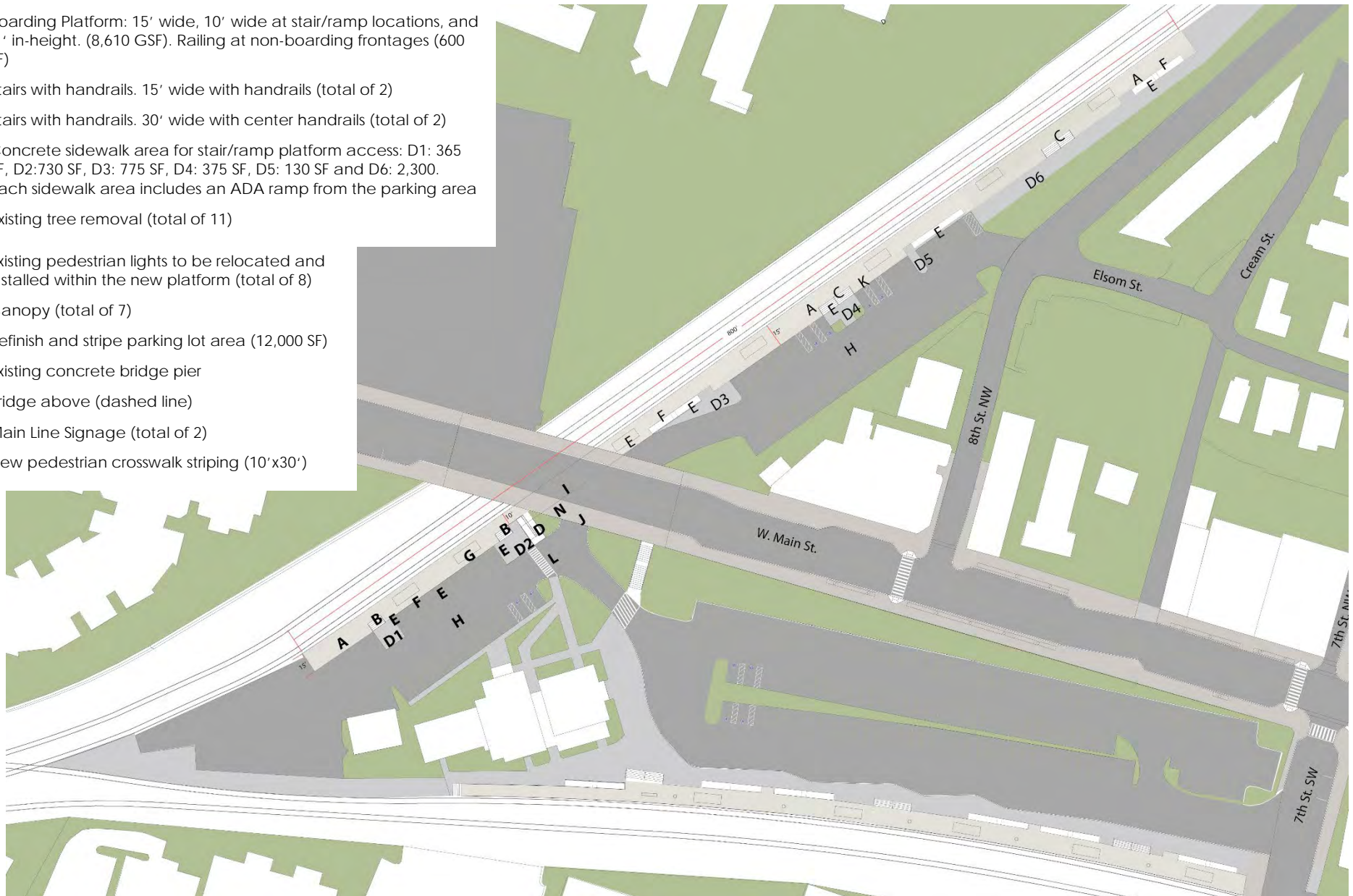
Figure 5-1. The Buckingham Branch platform at the Charlottesville Amtrak Station. Two items that may be required for passenger boarding at the Charlottesville station. The item circled on the right is the passenger lift required for ADA passengers on both platforms which requires an Amtrak employee to operate. The circled item on the left is a set of stairs that are needed for non-ADA passengers to reach the bottom stair on the vehicle itself.

Table 5-2. Charlottesville Amtrak station platform dimensions.

| Platform | Service Type(s) | Recommended Length | Min. Length (On NEC*) | Min. Length (Off NEC) | Current Platform Length (Approx.) | Current Platform Width |
|-------------------|--------------------------------------|--------------------|-----------------------|-----------------------|-----------------------------------|------------------------|
| Norfolk Southern | NE Regional Long Distance (Crescent) | 1,000’ 1,200’ | 850’ | N/A | 800’ | 10’ – 12’ |
| Buckingham Branch | Long Distance (Cardinal) | 1,200’ | N/A | 550’ | 630’ | 10’ |

Norfolk Southern platform improvements base:

- A. Boarding Platform: 15' wide, 10' wide at stair/ramp locations, and 4' in-height. (8,610 GSF). Railing at non-boarding frontages (600 LF)
- B. Stairs with handrails. 15' wide with handrails (total of 2)
- C. Stairs with handrails. 30' wide with center handrails (total of 2)
- D. Concrete sidewalk area for stair/ramp platform access: D1: 365 SF, D2: 730 SF, D3: 775 SF, D4: 375 SF, D5: 130 SF and D6: 2,300. Each sidewalk area includes an ADA ramp from the parking area
- E. Existing tree removal (total of 11)
- F. Existing pedestrian lights to be relocated and installed within the new platform (total of 8)
- G. Canopy (total of 7)
- H. Refinish and stripe parking lot area (12,000 SF)
- I. Existing concrete bridge pier
- J. Bridge above (dashed line)
- K. Main Line Signage (total of 2)
- L. New pedestrian crosswalk striping (10'x30')

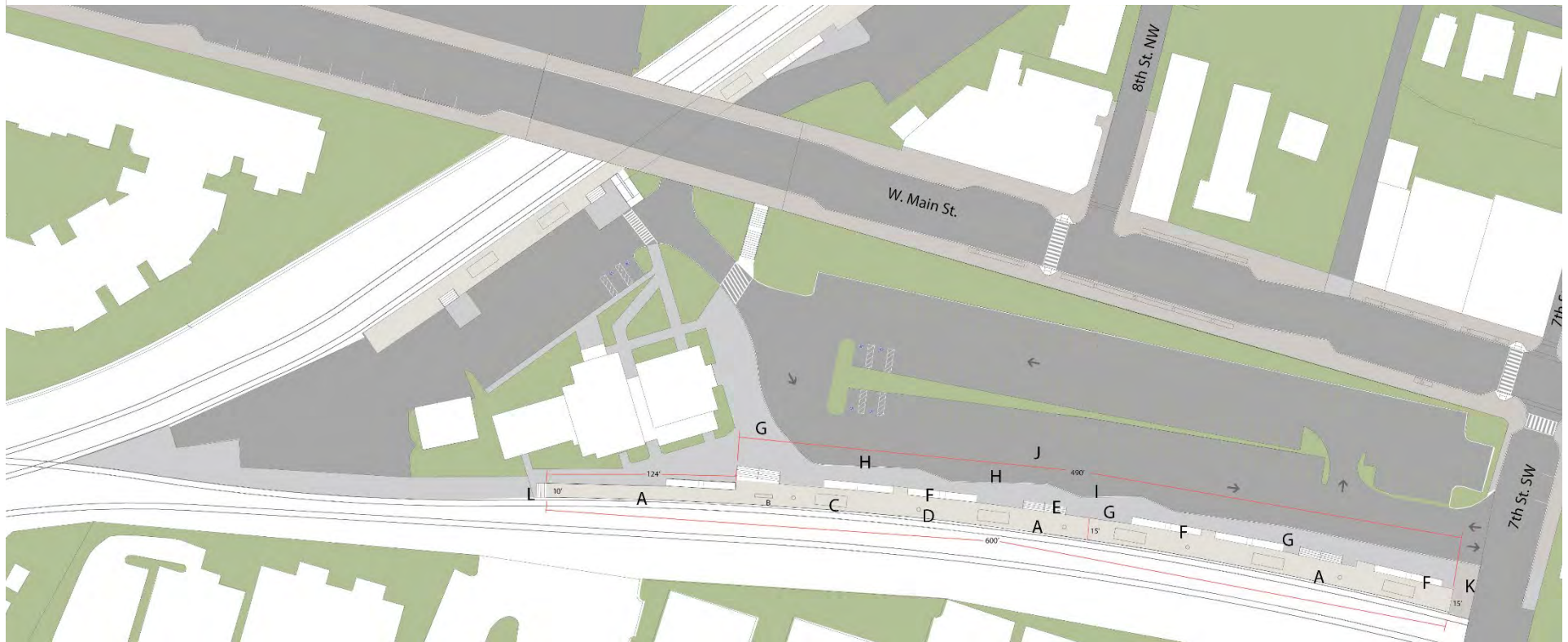


CHARLOTTESVILLE AMTRAK STATION STUDY

| Norfolk Southern platform improvements base: | | | |
|---|---|---|---|
| Description | Quantity | Area | Comments |
| 4-foot Platform | (1) platform; 15' wide x 850' length, 10' wide at stair and ramp locations | 11,270 GSF | Amtrak Specifications for Platforms |
| Platform Railing | | 600 LF | Pedestrian railing at all non-boarding frontages, railing per Amtrak Specifications |
| New sidewalk area to accommodate stair/ramp to platform | 6: D1: 365 SF D2: 730 SF D3: 775 SF D4: 375 SF D5: 130 SF D6: 2,300 | 4,675 GSF | Paved area to accommodate new platform by stairs and ramps. Requires demolition of existing asphalt parking areas Each area will have one ADA ramp to parking area. D6 will require some grading of landscaped area |
| Asphalt finish and striping improvements | - | 12,000 SF | Refinish and restripe parking stalls |
| Platform Canopies | 7 | | Amtrak Specifications |
| Pedestrian Lights | 8 - existing | | To be relocated and installed within the new boarding platform. |
| Existing tree removal | 11 | | Remove 11 existing trees due to conflict with new platform and access |
| Mainline Platform Signage | 2 | | Amtrak Specifications |
| ADA Platform Ramps #1 | 3 | 292 SF each, does not include landing at platform | 1:12, 5.5' clear width per Amtrak Specifications, 5' mid-ramp landing, 10' platform landing. Includes handrails |
| ADA Platform Ramps #2 | 1 | 314 SF | 1:12, 5.5' clear width per Amtrak Specifications, 5'x11' mid-ramp landing, 10' platform landing. Includes handrails |
| Stairs #1 | 2 | 30' width, 8" rise, 11" run | Includes handrails and center railing |
| Stairs #2 | 2 | 15' width, 8" rise, 11" run | Includes handrails |
| Pedestrian crosswalk striping | 1 | 10' wide and 30' long (300 SF) | New striping |

Buckingham Branch platform improvements:

- A. Boarding Platform: 15' wide (generally), and 4' in-height. (8,610 GSF) with railing at non-boarding frontages (1,266 LF)
- B. Buckingham Branch Signage Board (total of 2)
- C. Canopy (total of 5)
- D. Pedestrian Light (total of 5)
- E. Stairs with handrails. 30' wide with center handrail (total of 3)
- F. ADA Ramp with handrail. 1:12 slope, 5.5' wide, 48' length with 5' mid-landing, 10' platform landing. (total of 6)
- G. New concrete sidewalk walking surface, with (3) bus loading areas. (11,300 SF) Requires removal of portion of asphalt parking lot
- H. 65' Bus Bay Megabus Coach (2 Bays)
- I. 40' Bus Bay Breeze Bus (1 Bay)
- J. Restripe and finish parking area (20,000 SF)
- K. New curb and sidewalk, 15' wide and 35' long (525 SF)
- L. 10' wide stairs with handrails



CHARLOTTESVILLE AMTRAK STATION STUDY

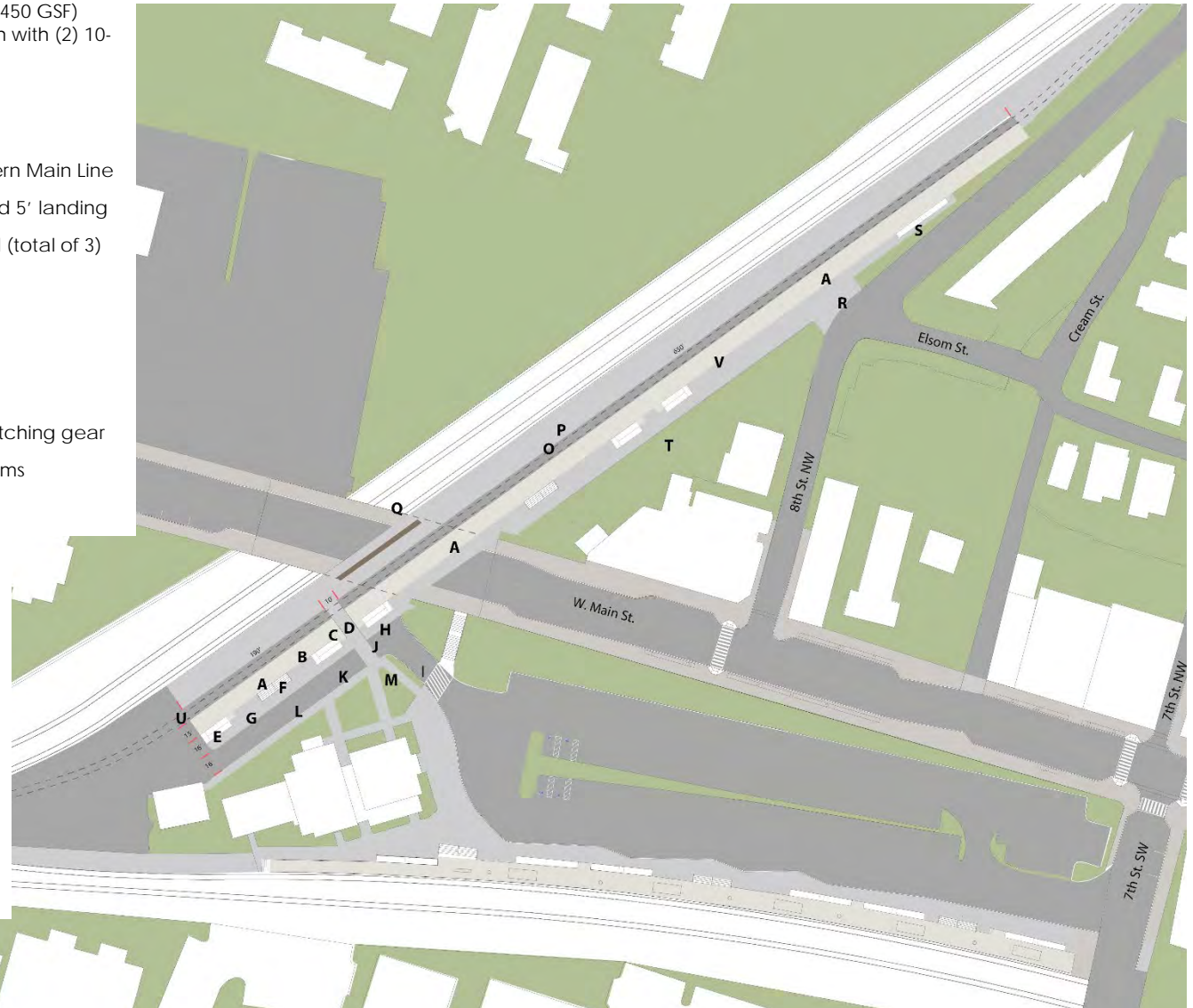
| Buckingham Branch platform improvements: | | | |
|--|---|--|---|
| Description | Quantity | Area | Comments |
| 4-foot Platform | (1) platform; 15' wide x 614' length, 10' wide for 134' | 8,610 GSF | Amtrak Specifications for Platforms. Note: Curved geometry along rail frontage |
| Platform Railing | | 1,266 LF | Pedestrian railing at all non-boarding frontages, railing per Amtrak Specifications |
| New sidewalk area to accommodate platform and Amtrak Station ticket office access, and three bus drop-off bays | 3 bus bays: (2) 65-foot bay and (1) 40 bay. Includes signage for each bay | 13,600 GSF | Paved area to accommodate new platform stairs and ramps. Requires demolition of existing asphalt parking areas. Connects to existing sidewalk area in front of Amtrak Ticket Office |
| Asphalt finish and striping improvements | - | 20,000 SF | Refinish and restripe parking stalls and add new directional arrows. |
| Platform Canopies | 5 | | Amtrak Specifications |
| Pedestrian Lights | 5 | | Amtrak Specifications. Requires electrical extension |
| Buckingham Branch Platform Signage | 2 | | Amtrak Specifications |
| ADA Platform Ramps | 6 (2 dual ramps share a 10' platform landing) | 320 SF each | 1:12, 5.5' clear width per Amtrak Specifications, 5' mid-ramp landing, 10' platform landing. Includes handrails |
| Stairs | 3 | 30' width, 8" rise, 11" run | Includes handrails and center railing |
| Stairs | 1 | 10' width, 30' width, 8" rise, 11" run | Includes handrails |
| New curb, sidewalk and landscape area in Front of Amtrak Station | - | 3,500 GSF | New curb, sidewalk area (1,500 SF) and landscaping (2,000 SF) |
| New curb and sidewalk | - | 15' wide and 35' long (525 SF) | Will require demolition of 3,000 GSF of landscape and sidewalk area |
| Removal of existing landscaping | 11 | | Removal due to conflict with train |

*Looking south at the Buckingham Branch platform
improvements with bus drop-off areas*



Norfolk Southern platform improvements alternative (with special siding – preferred):

- A. Boarding Platform: 15' wide and 4' in-height (12,450 GSF) with railing at non-boarding frontages. 850' length with (2) 10-foot pedestrian pass-throughs.
- B. Canopies (total of 9)
- C. Pedestrian Lights (total of 10)
- D. 10' wide passenger throughway to Norfolk Southern Main Line
- E. ADA Ramp with handrail. 5.5' wide, 1:12 slope and 5' landing
- F. Stairs with handrails. 30' wide with center handrail (total of 3)
- G. Concrete walking surface (13,600 GSF)
- H. Remove existing pedestrian light
- I. Removable bollards to secure access
- J. Striped pedestrian crosswalk
- K. New 16' wide asphalt drive lane for access to switching gear
- L. Striped and raised pedestrian crosswalk to platforms
- M. Existing pedestrian light to remain
- N. New landscaping with curb and sidewalks
- O. Existing trees to be removed due to conflict with new siding
- P. Existing Pedestrian lights to remain
- Q. Dash line indicates bridge above
- R. Access new siding concept from 8th Street
- S. 48' ADA ramp with landings
- T. New landscaped area over surface parking (4,500 SF)
- U. New siding concept per Amtrak specifications
- V. Station Signage (2 locations)



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| Norfolk Southern platform improvements alternative (with special siding – preferred): | | | |
|---|---|--|--|
| Description | Quantity | Area | Comments |
| New Siding | 1 | 850 LF at station platform, (2) +400 LF for blend to NS Main Line | Amtrak Specifications |
| 4-foot Platform | (3) platform; 15' wide x 850' length, minus (2) 10' wide passageways to center Amtrak Mainline surface platform | 12,450 GSF | Amtrak Specifications for Platforms |
| Rail Concrete Passthrough | 2 | 10-foot wide concrete pad for passenger pass through, 150 SF per passthrough, 300 SF total | |
| New paved areas adjacent to Platform | 16'x850' | 13,600 GSF | Paved area to accommodate new platform stairs and ramps. Demolition of existing driveway, curbs and sidewalk area (under bridge (2,400 SF) |
| Platform Railing | 860 LF | Located at non-boarding frontages | Amtrak Specifications |
| Platform Canopies | 9 | | Amtrak Specifications |
| Pedestrian Lights | 10 | | Amtrak Specifications |
| Platform Signage | 2 | | Amtrak Specifications |
| ADA Platform Ramps | 5 | 320 SF each | 1:12, 5.5' clear width per Amtrak Specifications, 5' landing, Includes handrails |
| ADA Ramp (long) | 1 | 319 SF | 48'x5.5' with a 5' mid and end landing |
| Stairs | 3 | 30' width, 8" rise, 11" run | Includes handrails |
| Existing Pedestrian Light Removal | 1 | | |
| New curb, sidewalk and landscape area in Front of Amtrak Station | - | 3,500 GSF | New curb, sidewalk area (1,500 SF) and landscaping (2,000 SF) |
| New asphalt driveway topping and pedestrian crosswalk stripping | - | 3,000 GSF, includes 420 SF raised crosswalk | Will require demolition of 3,000 GSF of landscape and sidewalk area |
| New Removable Bollards | 3 | | For controlled access to switch gear |
| Removal of existing trees | 11 | | Removal due to conflict with train |
| New landscaped area at north parking lot area | | 4,500 SF | New landscaping over southside parking stalls. Removal of asphalt |

Siding Concept (preferred alternative)

In order to provide level-boarding and to mitigate conflict between the platform and freight rail cars, an alternative is to provide a new set of tracks that would serve as a siding for passenger rail cars only. This would have no impact on the current two tracks which are both used by freight. This platform would be constructed to meet ADA requirements and allow for level boarding. The current station-side platform (Norfolk Southern platform) could remain in place as a passenger-only loading platform, remaining at its current height, but would have no ADA access. To reach it, a pedestrian pass-through would need to be provided through the platform at key location, or a pedestrian bridge would be required between the level-boarding platform and the Norfolk Southern platform.

Implementation of Passenger Service Siding would not permit any future redevelopment of the north parking lot into a mixed-use residential structure or a parking structure because of the direct conflict with the new platform and pedestrian access required.

As previously mentioned, the Norfolk Southern platform is approximately 800 feet in length, well short of the recommended length for both NEC (1,000 feet) and Crescent service (1,200 feet) and just short of the minimum for the NEC service of 800 feet. While it is not expected that the platform would need to be extended with the addition of new siding, there are limits to how long the siding can be on both the north and south sides of the station. The confluence of the Norfolk Southern line and the Buckingham Branch line is approximately 100 feet from the southern end of the Norfolk Southern platform and a bridge over 8th Street is approximately 200 feet north of the northern end. These physical constraints make it unlikely that the siding itself would be much longer than the existing 800 foot long platform. A Northeast Regional train could fully use the siding but a Crescent train, which is approximately 1,200 feet in length, would not be able to pull entirely off the main line onto the siding. The latter quarter of the train would block one set of tracks.

This alternative has the least amount of impact to the freight rail operations in that it removes the passenger rail vehicles from the primary two sets of tracks (the two that exist today). By creating a passenger rail-only siding, the conflict point between freight rail and level-boarding (the physical conflict point between the train itself and the platform) is removed and a permanent level-board option can be provided. However, this option has a considerable impact to the site itself: it takes away the developable potential of the parcel north of the viaduct that is currently parking for the Amtrak station. It would also displace the parking in front of the portion of the building that is currently a restaurant.

Table 5-3. Level-boarding platform/freight rail conflict mitigation alternatives.

| Mitigation Option | Norfolk Southern platform | Buckingham Branch platform | Notes |
|--------------------------|---------------------------|----------------------------|--|
| Passenger Service Siding | ✓ | ✗ | Siding would create a low-level middle platform where current Norfolk Southern platform now sits. |
| Gauntlet Tracks | ✓ | ✓ | Additional parallel track would be added for passenger rail trains to approach station |
| Hinged Platform | ✓ | ✗ | Hinged platform would likely require manual operation; would not need to be full length of platform. |

A quick engineering review of the Buckingham Branch corridor at the Charlottesville Amtrak station did not provide any potential options for adding a passenger rail-only siding. It is a wider corridor but the constraints at the confluence of the two lines to the west makes it infeasible in this particular situation.

Alternatives Without a Siding (not preferred)

There are other alternatives that are less impactful to the overall station site. These would require new infrastructure but not to the extent or cost of a new siding. Nor would they require acquisition of any of the site's developable property. Both options allow the freight vehicles to remain on either of the main tracks with no deviations. The two alternatives are gauntlet tracks and hinged platform extensions. Both of these options would work at the Norfolk Southern platform but only the gauntlet tracks would work at the Buckingham Branch platform.

Gauntlet Tracks

Gauntlet tracks are a parallel set of tracks that run on a single track bed where one set one may be used at a time. Gauntlet tracks would allow a freight train to remain on its own dedicated set of tracks while a passenger train could deviate slightly from those tracks onto a parallel set of tracks to serve the platform. The offset of the parallel set of tracks needs to only be enough to avoid any conflict between the raised platform and the freight rail vehicles and enough to provide a gapless boarding onto the Amtrak train (see Figure 5-2).

Gauntlet tracks can be employed on both sets of tracks at both platforms. The Buckingham Branch tracks and platform are curved but that would not prohibit the use of gauntlet tracks.

Hinged Platform

One solution that has not been frequently utilized is the hinged platform. It is a manual solution used a long a portion of a platform to allow for level boarding. The entire platform does not necessarily have to be hinged. The

example in Figure 5-3 from Hartford, Connecticut is only three-cars long. Where there is no hinged platform, the remainder of the platform can be low-level boarding.

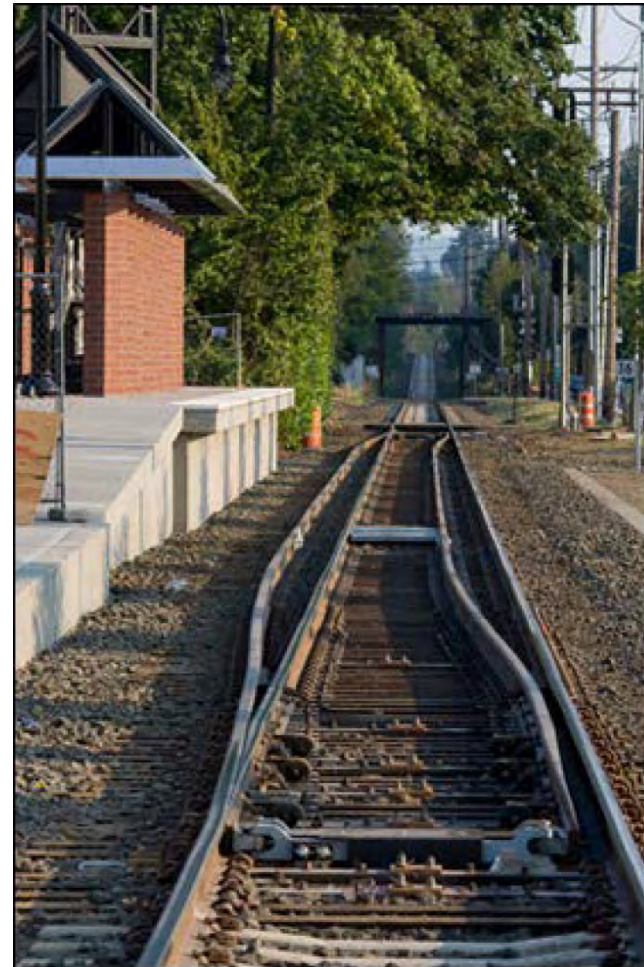


Figure 5-2. An example of a set of gauntlet tracks where freight rail cars can remain in place while a passenger rail train can switch to a parallel set of tracks to the left in order to serve the level-boarding platform on the left. This allows for compliance with the “Level Boarding Final Rule” while mitigating conflict between freight rail and raised platforms. These tracks are found at the Tualatin station on the WES Commuter Rail in Oregon.

When there is no passenger train boarding at the station, the hinged portion of the platform is flipped down. This removes the extension of the level-boarding platform that would collide with freight rail cars. Freight rail can pass by the station platform without conflict even though the majority of the platform is four feet tall. When an Amtrak train approaches, the yellow portion of the platform is flipped up (in the position shown in Figure 5-3) to provide the necessary extension to provide gapless level boarding conditions. No additional tracks are needed to make this work—the hinged portion of the platform would be designed to cover the distance that must be lowered during freight operations.



Figure 5-3 An example of a hinged platform installed in Hartford, CT. The platform here is flipped up to accommodate Amtrak boarding. At times where no Amtrak train is present, the platform would be flipped down.

This type of platform could be automated if desired. Alternatively, and at a lower cost, the hinged portion of the platform is raised and lowered by an Amtrak station staff member as the train approaches and departs. This does require additional staff training and staff work.

This option would only work at Norfolk Southern platform because the Norfolk Southern platform is a straight platform. The Buckingham Branch platform is curved and no portion of it is long enough to provide an adequate run for this type of infrastructure. Again, the entire 800 feet of the Norfolk Southern platform does not have to be hinged. Only a certain number of cars can have level-boarding access and the remainder can have similar boarding conditions as they do today (with platforms approximately ten to 18 inches above the top of the rail).

Platform Alternatives Summary

Table 5-4 summarizes the benefits and potential to each alternative.

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Table 5-4. Platform Summary

| Mitigation Option | Platform | Benefits | Potential Issues |
|---------------------------------|----------------------------|---|--|
| Passenger Service Siding | Norfolk Southern platform | <ul style="list-style-type: none"> Provides permanent level-boarding platform solution Removes a majority of the passenger trains from the main freight right-of-way | <ul style="list-style-type: none"> Requires acquisition of parts of parcels station sits on, including most of the developable property north of the viaduct Cannot be phased; platform and siding must be constructed at same time Requires relocation of Norfolk Southern equipment at junction Regional trains (Crescent) will not be able to fit completely on the siding High cost, high impact solution |
| Gauntlet Tracks | Norfolk Southern platform | <ul style="list-style-type: none"> Provides permanent-level-boarding platform solution Lower cost solution compared to siding Requires little to no manual work to utilize Can be phased; gauntlet tracks as a first phase does not preclude a second phase for station | <ul style="list-style-type: none"> Solution requires infrastructure to be built in freight rail right-of-way Passenger train remains in freight rail right-of-way |
| | Buckingham Branch platform | <ul style="list-style-type: none"> Provides permanent-level-boarding platform solution Lower cost solution compared to siding Requires little to no manual work to utilize Only workable solution for a curved platform without adding a passenger rail siding Can be phased; gauntlet tracks as a | <ul style="list-style-type: none"> Solution requires infrastructure to be built in freight rail right-of-way Passenger train remains in freight rail right-of-way |

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| Mitigation Option | Platform | Benefits | Potential Issues |
|------------------------|---------------------------|--|---|
| | | first phase does not preclude a second phase for station | |
| Hinged Platform | Norfolk Southern Platform | <ul style="list-style-type: none"> ▪ Low-cost solution ▪ Does not require platform to be a high-level platform for its entire length | <ul style="list-style-type: none"> ▪ Is not a permanent level-boarding platform solution (requires something to bridge the gap) ▪ Cannot be phased; hinged portion of platform must be constructed at same time four-foot platform is ▪ Will likely require some manual effort to raise and lower siding ▪ Solution requires infrastructure to be built in freight rail right-of-way (i.e., potential for conflict between platform and freight if hinged portion is left raised) |

Summary of Probable Costs

| | |
|---|---------------------|
| Norfolk Southern platform improvements base: Includes existing demo, and platform improvements | \$ 3,852,300 |
| Norfolk Southern platform improvements <u>alternative</u> (with special siding - preferred): Includes existing demo, platform improvements, and new rail | \$ 7,588,555 |
| Buckingham Branch platform improvements: Includes existing demo, and platform improvements | \$ 3,118,007 |
| Access and Station Improvements: | \$ 3,444,670 |
| Lot 2C Landscaping | \$ 58,000 |

See Appendix E for details.

6 Transit-Oriented Development Concepts

The station site is made up of 5 parcels as seen in Figure 6-1. Of the 5 parcels that make up the station site, the combination of parcels 2A and 2B provide the most opportunities for Transit Orient Development. Parcel 20 contains the station and adjacent parking. Parcel 2C contains parking and the proposed special siding platform, and parcel 47 is too small for financially sustainable TOD. Parcels 2A and 2B located between West Main Street and the Buckingham Branch when combined create a space that takes advantage of the most adjacencies, reinforce the streetscape along West Main Street, provide access to the station, parking for new commercial spaces, the public, and commuters; and is large enough to reflect the diverse needs of the Charlottesville community. The challenge of development in this area is the balancing of community scale, demand for different development types and financial resources. The conceptual diagrams on the following pages achieve that balance and provide the most opportunity, accessibility and function.

The concept design for the development opportunities of the site includes 3 major components: commercial space along the West Main Street frontage; housing above and around the east and west sides of the block; and a parking garage below grade and in the center of the block. The concept takes advantage of the topography concentrating the commercial and residential spaces along West Main Street which is in keeping with the community context, while keeping the parking below West Main Street adjacent to the platforms and tracks on the south. The scale of the development is within zoning requirements and mirrors current and on-going development of sites 2 blocks east of the station site. Vehicular circulation to the station is maintained through the lowest level of the parking structure for both cars and buses. A new connection to the parking deck is also created in line with 8th street. A series of elevators service both the TOD development as well as make connections from West main adjacent to the bridge down to the station elevation. The following chart illustrates the quantities and square footages of the various development types. 3-dimensional models show the perspectives from West Main Street and the Buckingham Branch. The perspectives are followed by conceptual plans and finally sections through the development. Additional plan graphics are provided in Appendix G.

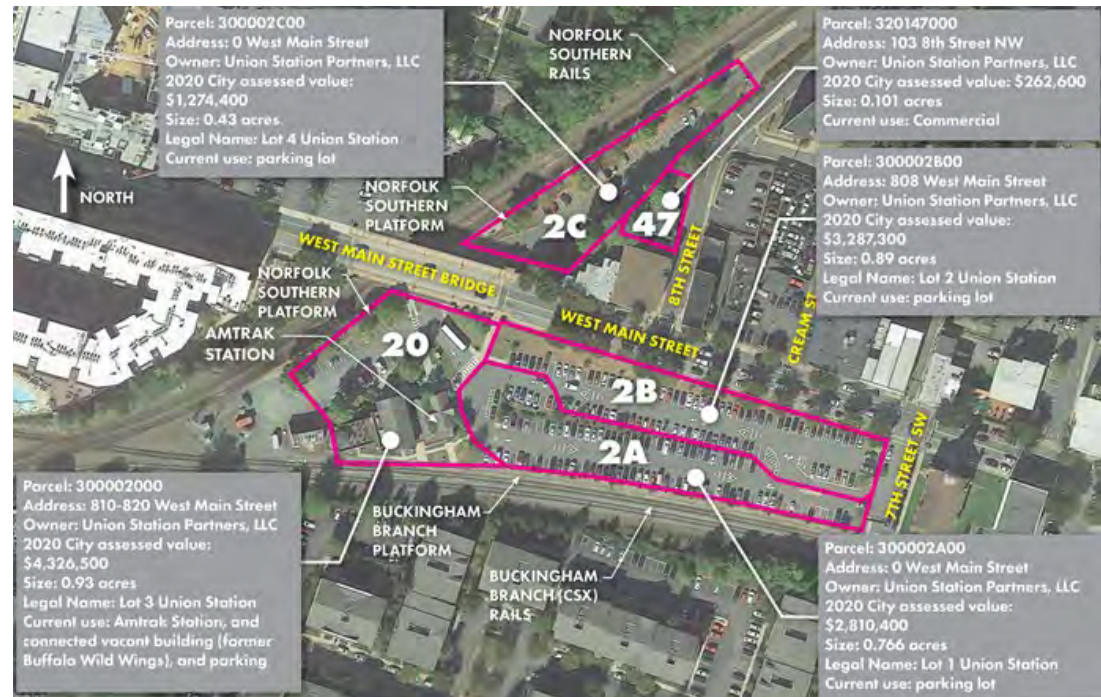


Figure 6-1 Parcels

Parcels 2A and 2B Mixed-Use Development Data

PARKING WITH HOUSING AND GROUND LEVEL COMMERCIAL ALONG MAIN STREET

Site Area of Development Footprint: 72,800 SF

| Building Element | Description | Quantity/Square Footage |
|---|---|--|
| Garage Structure Long Span Pre-Cast Concrete Construction. The mixed-use housing element is adjacent to and connected to the garage element. A portion of the housing element on the 4 th level would span over a portion garage structure with a singled-loaded corridor of housing units. | <u>Option #1:</u> 7 th Street Entry with 26-foot wide speed ramp at ground floor to first floor. Blend slopes from 2 to 4 th parking levels. Type I Concrete Construction <u>Option #2:</u> 8 th Street entry with ramp to Main Street 1 st level, 20-foot plate from ground level to Main Street 1 st level, Blend slopes from 2 to 4 th parking levels. Type I Concrete Construction | |
| Ground Level Amtrak Drop-off and Parking Area | Parking area with Amtrak parking and bus drop-off. Includes lighting, parking striping, directional signage. Clearance 16.5 feet. Top of floor to floor, 20 feet. Includes 3 bus bays, concrete walking area and stairs and ramp to platform (by other estimate). Assume 375 SF/stall | 72,800 GSF, 70 Parking Stalls Includes bus drop-off area and Ground floor retail at 7 th Avenue (5,000 SF) |
| 1 st Floor Main Street Level | Parking floor, 11.5' floor to floor, typical. Blend slope parking ramp, typical | 28,000 GSF, 74 Parking Stalls |
| 2 nd Floor | Parking floor | 28,000 GSF, 74 Parking Stalls |
| 3 rd Floor | Parking floor | 28,000 GSF, 74 Parking Stalls |
| 4 th floor | Parking roof deck, with 8,000 SF residential amenity deck | 22,000 GSF, 60 Parking Stalls |
| TOTAL | | 178,800 GSF parking structure, 352 Parking Stalls |
| Vertical Stair Corridors (concrete) | 4 vertical corridors | Garage vertical stair corridors (250 GSF each) |
| Vertical Stair Corridors with 2 Elevators | 1 elevator stair corridor lobby, egress at Main Street | |
| Exterior Treatment | Pre-cast panels with masonry veneer along the west elevation at the Buckingham Branch Rail frontage. | 15,000 gross square feet with 75% open to the exterior |

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| | | |
|---|--|--|
| | North, east and south sides would front adjacent and connected mixed-use housing elements. 4-hr rated wall assembly or concrete wall | |
| Commercial along Main Street | Assume 20-foot floor plate, concrete construction. | |
| 20-foot floor plate (top of floor to top of floor) Account for change in street slope. Assume storefront glazing and exterior thin set masonry veneer | | 5,000 GSF at 7 th Avenue |
| | | 10,000 GSF at mid-section along Main Street |
| | | 7,000 GSF at Main Street Bridge Area |
| | TOTAL | 22,000 GSF (includes vertical circulation) See housing wrap summary |
| Main Street Plaza Deck | Extended Main Street ground commercial area | 7,500 GSF, concrete decking |
| | Two Elevators | 20 feet from Main Street Plaza to Ground Level |
| | Metal railing | 1,000 linear feet |
| Sidewalk Extension | Extend existing sidewalk over new concrete deck | 3,500 GSF |
| Housing Wrap | Assume 1,080 GSF median average per housing unit 10-foot floor plates | 3 levels, stick frame construction (Type III) over ground level commercial (concrete construction, Type I) Assume 80-85% gross unit area, 15-20% gross circulation: 22,000 GSF Floor Area, 17,600 to 18,700 GSF residential area per floor |
| | Exterior treatment | Exterior thin set masonry veneer |
| | Vertical circulation | Two elevator and stair lobbies (400 SF each) and two exist stair corridors (240 SF each) |
| | 1 nd level | 22,000 GSF, 17 units |
| | 2 nd level | 22,000 GSF, 17 units |
| | 3 ^h level | 30,000 GSF, 24 units |
| | TOTAL | 74,000 GSF, 58 units |

Parcels 2A and 2B Mixed-Use Development Conceptual Diagrams

Figure 6-2. TOD Massing West Main side

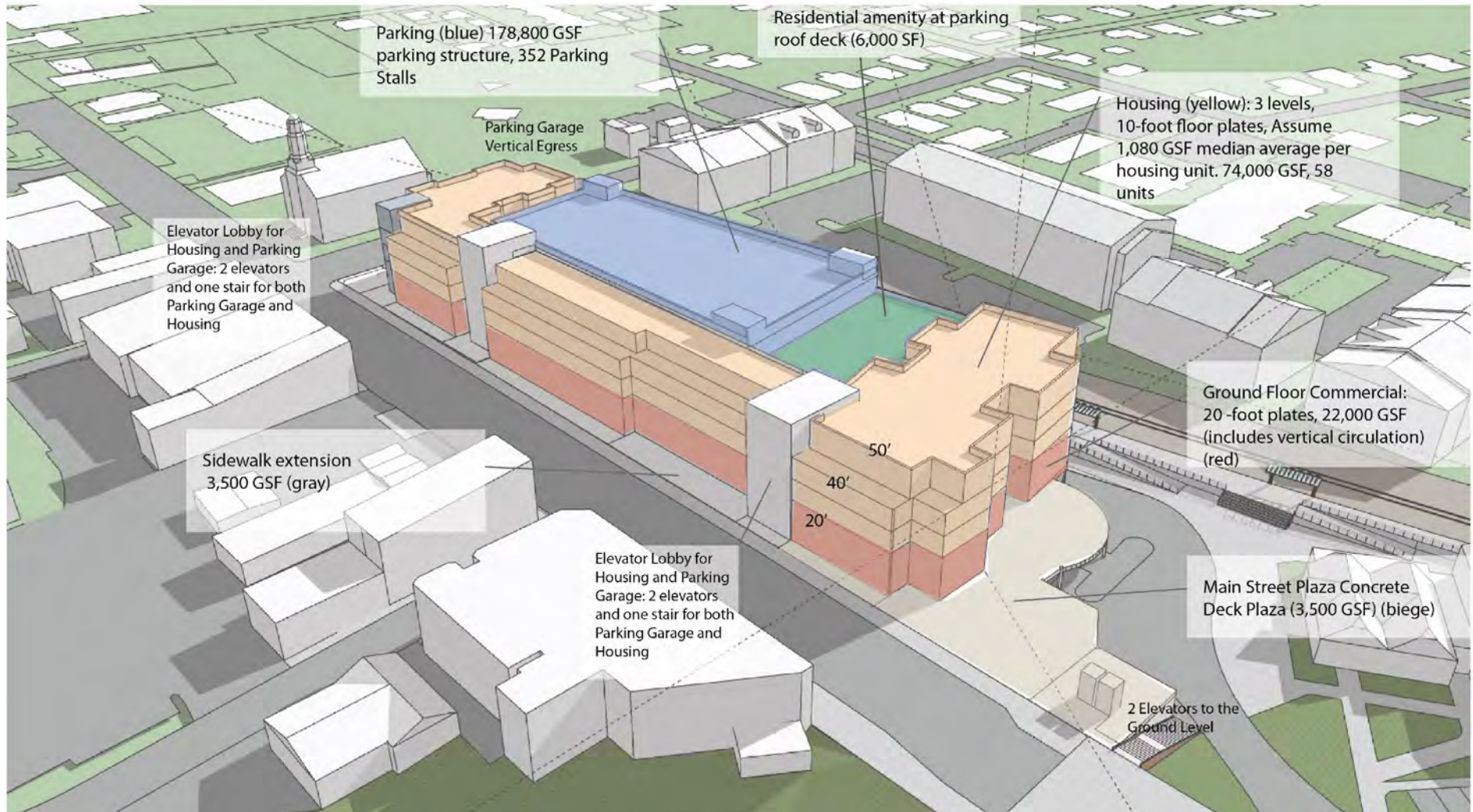


Figure 6-3. TOD Massing rail side

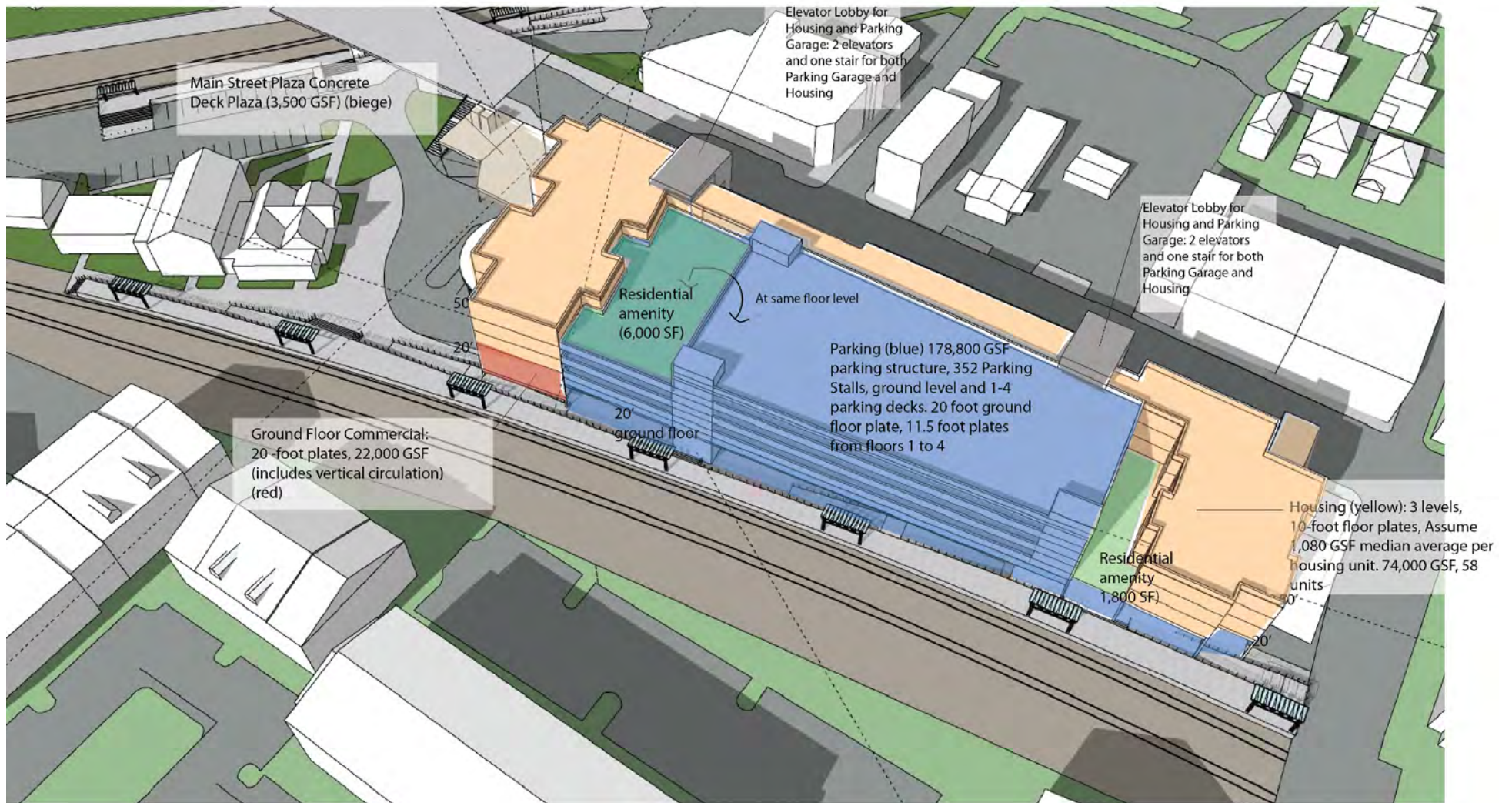


Figure 6-4. Egress with garage and housing

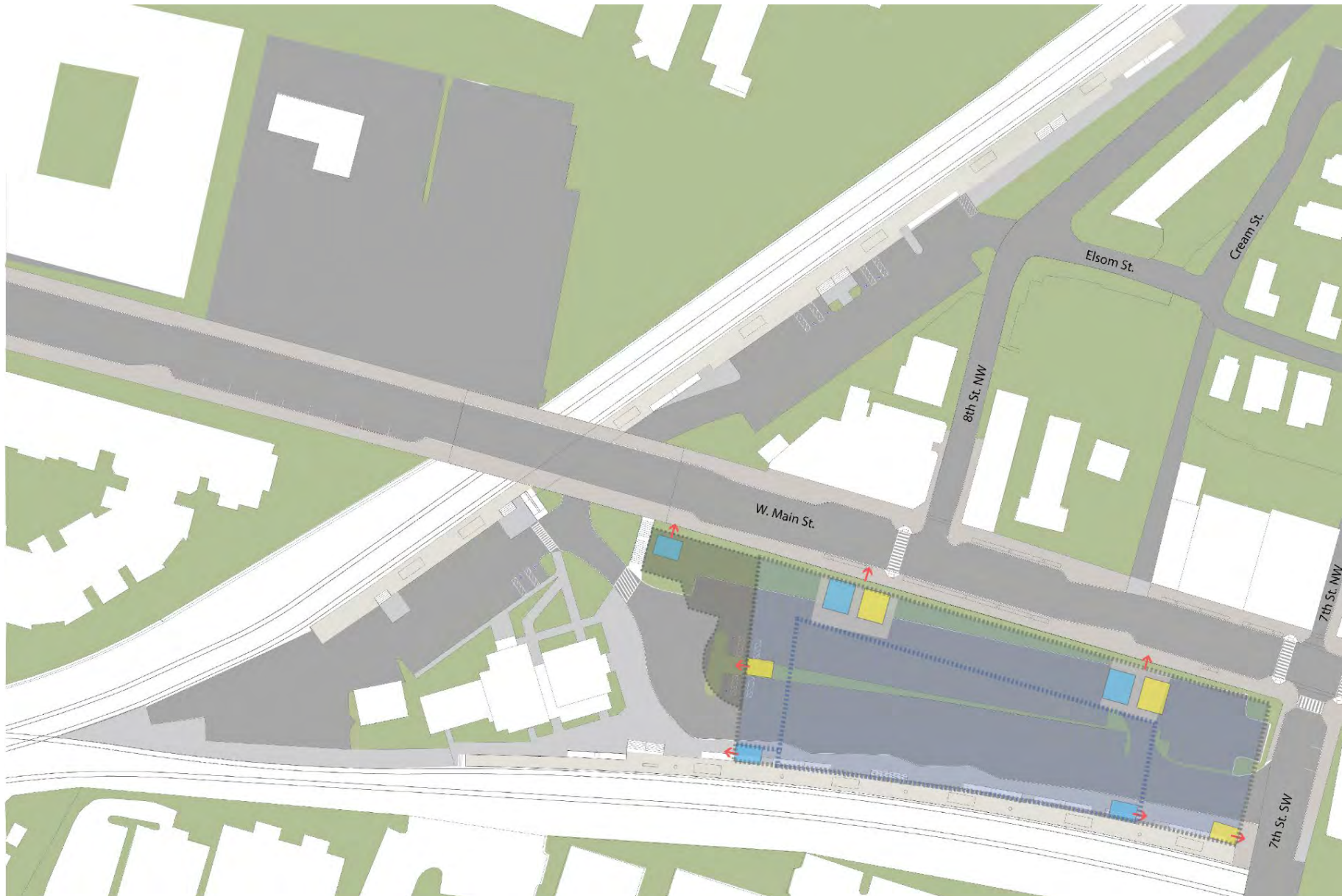


Figure 6-5. Massing and Egress

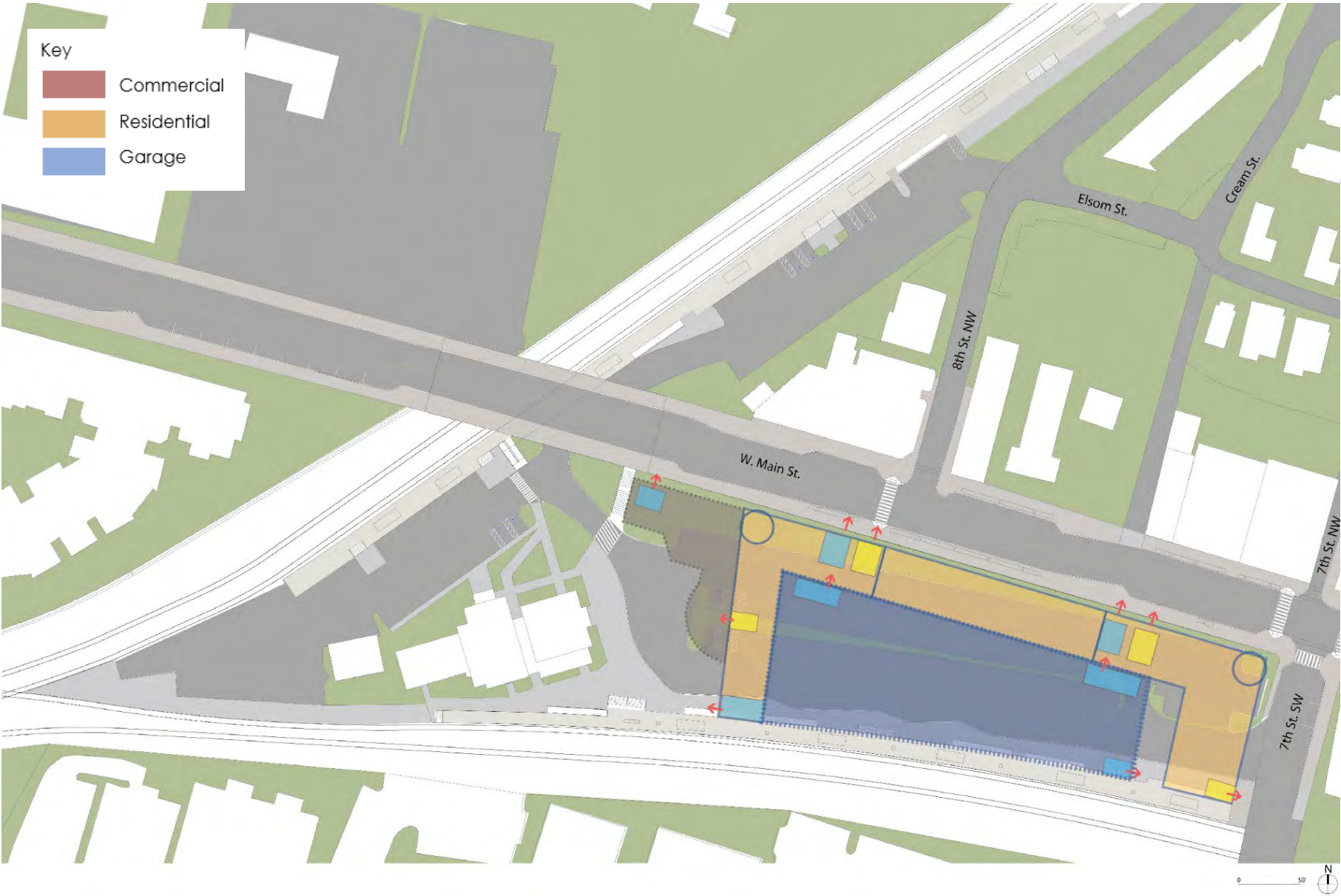


Figure 6-6. 7th Street Garage Entry

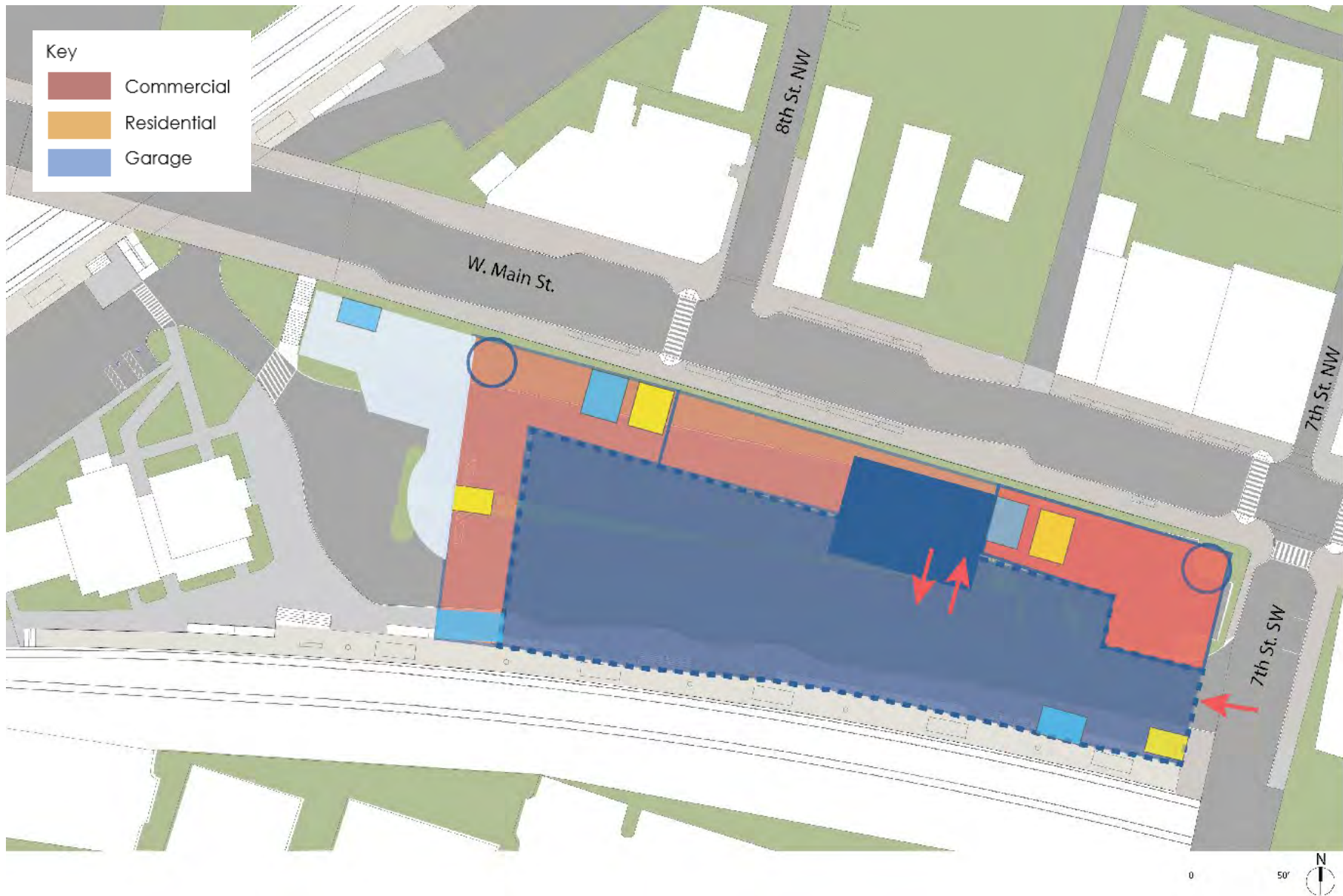
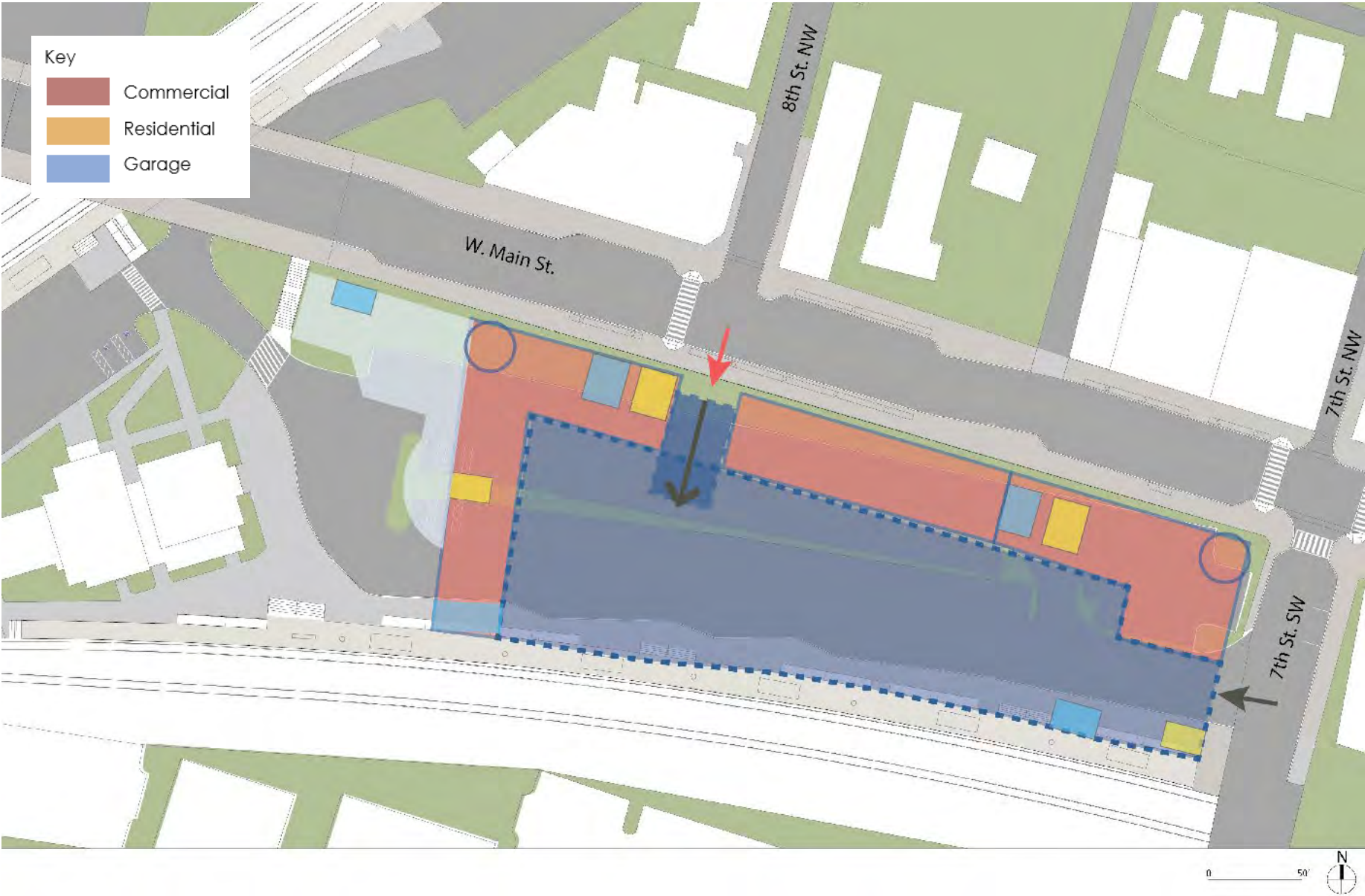
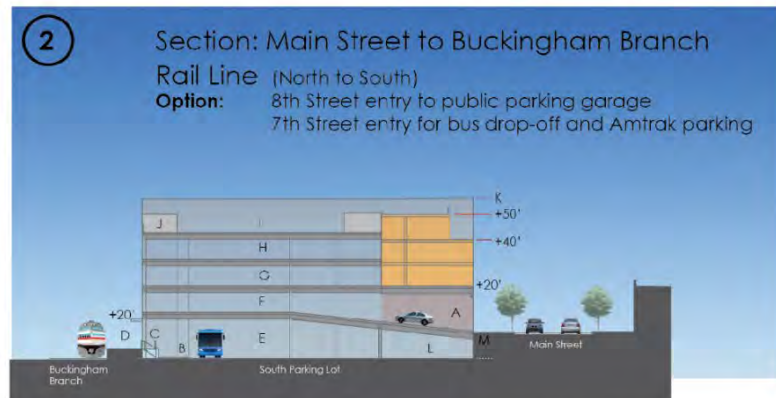
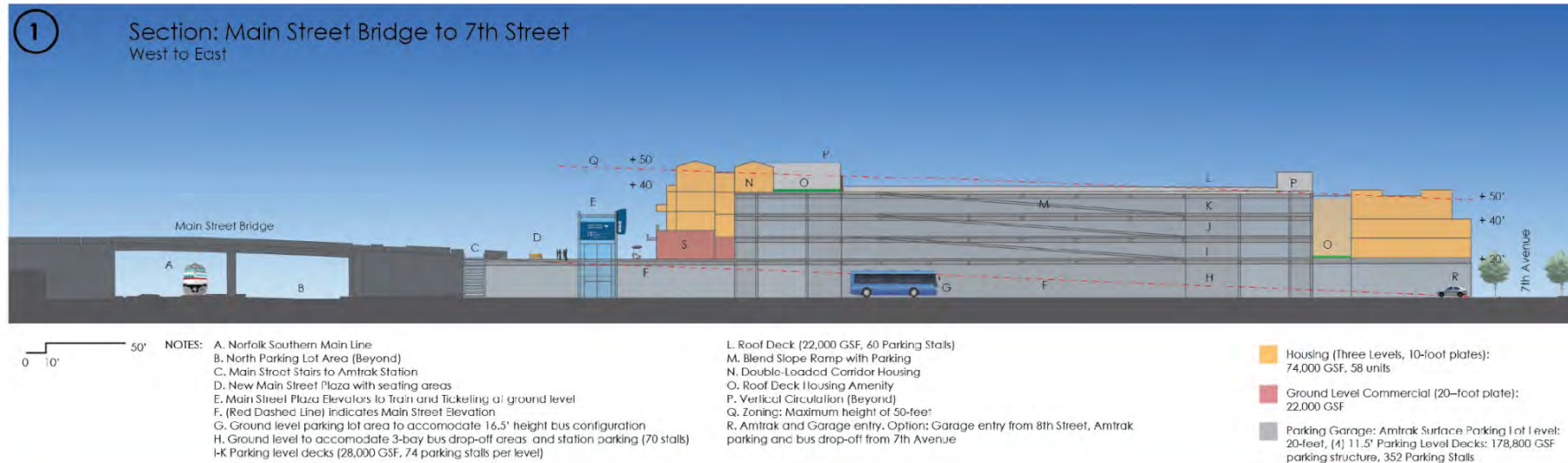


Figure 6-7. 8th Street Garage Entry

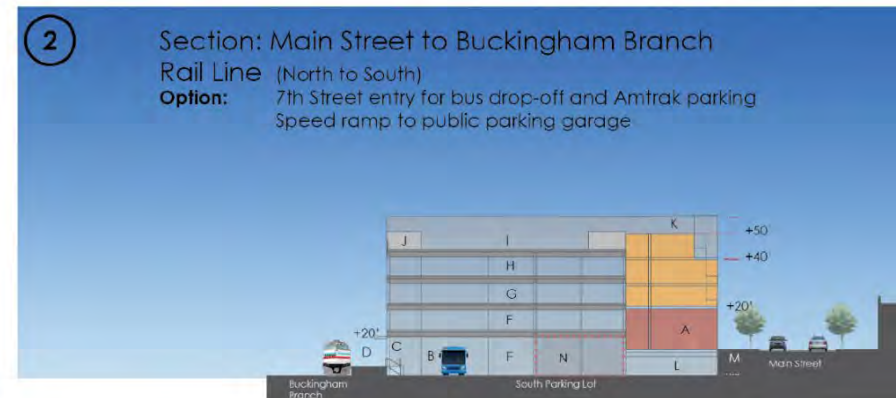


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Figure 6-8. Mixed Use Garage Sections



- NOTES:**
- A. Entry into public garage from 8th Avenue. Entry to Amtrak drop-off and parking from 7th Avenue. Ground level commercial beyond.
 - B. 3-bay bus drop-off area
 - C. Stairs and ramps to boarding platform
 - D. 4-foot Boarding Platform
 - E. Ground level parking lot area to accommodate 16.5' height bus configuration and station parking (70 stalls)
 - F-H Parking level decks (28,000 GSF, 74 parking stalls per level)
 - I. Roof Parking Deck (22,000 GSF, 60 Parking Stalls)
 - J. Vertical Circulation
 - K. Building beyond, at higher grade
 - L. Height in structural bay varies based on site grade. Site grading to property line
 - M. Extended sidewalk area



- NOTES:**
- A. Ground floor commercial along Main Street
 - B. 3-bay bus drop-off area
 - C. Stairs and ramps to boarding platform
 - D. 4-foot Boarding Platform
 - E. Ground level parking lot area to accommodate 16.5' height bus configuration and station parking (70 stalls)
 - F-H Parking level decks (28,000 GSF, 74 parking stalls per level)
 - I. Roof Parking Deck (22,000 GSF, 60 Parking Stalls)
 - J. Vertical Circulation
 - K. Building beyond (at higher grade)
 - L. Height in structural bay varies, based on site grade. Site grading to property line
 - M. Extend sidewalk area
 - N. Speed Ramp location to parking deck above

Parcels 2A and 2B Summary of Probable Costs

| Description | | Unit Cost | Total |
|------------------------------|---------------------------------------|---------------|----------------------|
| PRIMARY FACILITIES | | | |
| | Parking Garage | \$ 22,867,061 | |
| | Housing Wrap | \$ 11,275,629 | |
| | Commercial | \$ 9,490,144 | |
| | Main Street Plaza Deck | \$ 1,756,395 | |
| | Subtotal Primary Facilities | | \$ 45,389,230 |
| SUPPORTING FACILITIES | | | |
| | Access Roads | \$ 157,358 | |
| | Cleanup and Landscaping | \$ 24,842 | |
| | Clear and Grub | \$ 23,223 | |
| | Communications | \$ 26,124 | |
| | Excavation, Cut and Fill | \$ 906,352 | |
| | Gas Distribution | \$ 35,522 | |
| | Lighting | \$ 112,437 | |
| | Sanitary Sewer | \$ 50,424 | |
| | Sidewalks | \$ 95,115 | |
| | Storm Sewer | \$ 162,497 | |
| | Underground Electrical Distribution | \$ 215,442 | |
| | Water Distribution | \$ 59,237 | |
| | Subtotal Supporting Facilities | | \$ 1,868,574 |
| | Subtotal Primary and Support | | \$ 47,257,803 |
| | Contingency | 10% | \$ 4,725,780 |
| | Contract Cost | | \$ 51,983,584 |
| | Construction Management/Supervision | 5% | \$ 2,599,179 |
| | Total Construction Cost | | \$ 54,582,763 |
| | Design Fees | 8% | \$ 4,366,621 |
| | Total Project Cost | | \$ 58,949,384 |

See Appendix F for additional details.

7 Funding and Financing Plan

In order to provide the project developers a starting point in assembling necessary funding to initiate the public improvements recommended within this study, conceptual order of magnitude costs for short term improvements have been prepared. At a minimum, the total estimated capital costs for the rail station and platform improvements for this project are estimated to be approximately \$13,635,232. These represent costs directly related to rail infrastructure, station facility improvements, and the provision of station-specific parking not anticipated to be borne by a private developer. Additional public costs are also anticipated, associated with incentivizing surrounding redevelopment independent of rail station costs.

There is a public benefit in pursuing expansion of station facilities and amenities and other investment in and around the Charlottesville Amtrak train station. The government's participation (local, state, federal) will be essential to minimizing the risk to private investors that would participate in new housing and/or commercial developments that would benefit from the envisioned improvements. In this case, the financing for public improvements will typically be from state and federal assistance programs supplemented with municipal funds and include infrastructure, transportation, recreation and aesthetic improvements. Either joint development during the initial stages or subsequent private development would be implemented through public-private partnerships (PPP's) with some surrounding development components perhaps fully privately funded.

An overview of potential funding programs is provided in Table 7-1 , with a general overview of some of the more prevalent funding sources outlined below:

Federal: Federal programs are currently funded under the Fixing America's Surface Transportation (FAST) Act, signed into law in late 2015. Almost all

federal funding for transportation projects is distributed through the U.S. Department of Transportation (USDOT). Within this agency, several different administrations, such as the Federal Railroad Administration (FRA), the Federal Transit Administration (FTA), and the Federal Highway Administration (FHWA), have the potential to fund rail projects through various programs. The FRA in particular supports passenger and freight railroad projects through a variety of competitive grant, dedicated grant, and loan programs for projects deemed eligible by providing safety improvements, relieving congestion, and otherwise encouraging the expansion and upgrade of passenger and freight rail infrastructure and services.

Another program to highlight is the Better Utilizing Investments to Leverage Development, or BUILD Transportation Discretionary Grant program, which allow project sponsors at the State and local levels to obtain funding for multi-modal, multi-jurisdictional projects that are more difficult to support through traditional USDOT programs. BUILD can provide capital funding directly to any public entity, including municipalities, in contrast to traditional Federal programs which provide funding to very specific groups of applicants (mostly State Departments of Transportation and transit agencies). Federal BUILD grant funds may be used for up to 80% of the project cost. The balance of the project cost must be from non-Federal sources including State funds originating from programs funded by State revenue, local funds originating from State or local revenue sources, or private funds.

Other federal agencies, such as the U.S. Department of Housing and Urban Development (HUD) and the U.S. Department of the Interior also issue viable grants, depending on the project.

State: The Virginia Department of Rail and Public Transportation (DRPT) represents a significant funding source at the state-level for rail station improvement projects. DRPT's Rail Division manages grant programs to implement freight and passenger rail initiatives. The primary anticipated state funding source is Virginia's Intercity Passenger Rail Operating and

Capital Program (IPROC). The program is open for railroads, municipalities, local businesses and other entities to seek funds for projects that advance the vision and goals of the IPROC fund. Goals especially relevant to the improvements envisioned for the City of Charlottesville Amtrak station include strengthening connections to centers of population and economic activity and advancement of projects that serve to make passenger rail a more attractive transportation alternative to commuters, business travelers, and tourists.

Also, the Rail Enhancement Fund represents a dedicated source of funding for capital improvements benefiting passenger and freight initiatives. This funding can be utilized for a variety of project design, engineering, environmental, and site preparation activities. Funding requires a 30 percent match (cash or in-kind) from private source, which may include a railroad, a regional authority, a local government source, or a combination of such sources.

Local: Tax increment financing (TIF) typically captures the increase in property tax revenue (and, in some states, sales tax revenue) that occurs in a designated area after a set year. The tax increment is collected for a set period (usually between 15 and 30 years) and the tax increment can be used to secure a bond, allowing the issuer to collect the money up front, or it can be used on a pay-as-you-go basis over time. The most common uses of TIF are for local infrastructure, environmental cleanup, and land assembly.

The Charlottesville Affordable Housing Fund (CAHF) provides a flexible funding mechanism for housing-related projects. The primary purpose of the CAHF is to provide financial resources to address the affordable housing needs of individuals and families who live or work in the City by promoting, preserving and producing quality, long-term affordable housing options. Eligible uses of CAHF funds include but are not limited to: Land acquisition and assembly; Land development; Pre-development expenses; Construction of supported affordable homeowner or rental housing units and construction of mixed-income communities.

Private/Other: Joint development (JD) refers to the simultaneous

development of a transportation facility and adjacent private real estate. There are two types of JD: revenue sharing arrangements and cost-sharing arrangements. In the former, the infrastructure provider—typically a public entity—retains a share of the generated revenues from new development near the improved facility. Revenue sharing can include ground rights, air rights, or even direct participation through development rent revenues. In the latter, the private sector directly shares in the costs of providing or maintaining the transportation facility. Under a cost-sharing agreement, a private developer will pay for the provision and/or maintenance of the infrastructure facility.

Finally, innovative financing options are also available to manage cash flows for project elements such as embodied by the Charlottesville Amtrak Station improvements. This could include conventional bond financing, direct federal loans from the Transportation Infrastructure Finance and Innovation Act (TIFIA) program, the Railroad Rehabilitation and Improvement Financing (RRIF) program, or short-term borrowing. Financing may also be coupled with a public-private partnership arranged to deliver a portion of the project or complementary development.

A well-conceived funding plan will communicate how the City of Charlottesville will derive a public benefit and equitable cost sharing from the investment of local revenues into this project. Rail station improvement projects are particularly appealing for attracting the necessary local participation since the investment stays within the immediate community. Local funds can be used for the initial purchase or lease of preexisting stations or land, station construction and renovation, construction of parking and for ongoing station expenses (cleaning and maintenance, security, etc.). This local funding leverages and makes accessible many of the funding programs through satisfaction of local match requirements, thereby further expanding the overall investment potential. Furthermore, through the application of transit-oriented development principles, local investment can spur creative multi-use destinations and additional economic development.

In conclusion, the coordination of rail station investment for the Charlottesville Amtrak station, to build upon and be integrated with other incremental public investments in revitalization within the City remains the best strategy to pursue, allowing further design to progress in anticipation of the public and private funding outlook to come into sharper focus.

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Table 7-1. Overview of Funding and Financing Alternatives

| FUNDING SOURCE | FUNDING DESCRIPTION | Station Platforms | Station Facility | Rail Infrastructure | Parking & Site Improvements | TOD Components |
|----------------|--|----------------------|---------------------|------------------------|--------------------------------|-------------------|
| Federal | Capacity Building for Community Development and Housing Grants - This program provides funding for planning, acquisition, construction, and other eligible activities related to affordable housing and community development. | | | | | ✓ |
| | Community Development Block Grants - Community Development Block Grants (CDBG) can be used for a wide range of development needs, from new construction to façade improvement. | | | | | ✓ |
| | Low Income Housing Tax Credit - The Low Income Housing Tax Credit (LIHTC) is an indirect federal subsidy that can be used to finance the development of affordable rental housing for low-income households. | | | | | ✓ |
| | Railroad Rehabilitation Improvement and Financing - The Railroad Rehabilitation Improvement and Financing (RRIF) program can now also be used to finance commercial and residential development near passenger rail stations. | | | ✓ | | |

CHARLOTTESVILLE AMTRAK STATION STUDY

| FUNDING SOURCE | FUNDING DESCRIPTION | Station Platforms | Station Facility | Rail Infrastructure | Parking & Site Improvements | TOD Components |
|----------------|---|----------------------|---------------------|------------------------|--------------------------------|-------------------|
| Federal | The Transportation Infrastructure Finance and Innovation Act (TIFIA) - Program provides loans, loan guarantees, and lines of credit to finance surface transportation projects. Certain development projects including parking garages are eligible to apply. | | | | ✓ | |
| | BUILD Discretionary Grants – A competitive, discretionary grant program supporting investments in critical rail and transit projects. Project selection is based on rigorous merit-based process | ✓ | ✓ | ✓ | | |
| | Intercity Passenger Rail Service Corridor Capital Assistance Program – Provides funding assistance to states, public agencies, and Amtrak. The program provides grants to assist in financing the cost of the facilities, infrastructure, and equipment necessary to improve intercity rail transportation. | | | ✓ | | |
| | Transportation Alternatives Set Aside - A cost reimbursement program of the Surface Transportation Block Grant Program that uses federal funds that expand travel choices and enhance the transportation experience. Station-area applications can include smaller-scale pedestrian and bicycle improvements and landscaping and scenic beautification. | | | | | ✓ |
| State | Intercity Passenger Rail Operating and Capital Fund (IPROC) - Invests directly into projects related to growth and enhancement of intercity passenger rail service in the Commonwealth; and match federal transportation grants to improve intercity passenger rail. | ✓ | ✓ | ✓ | | |

CHARLOTTESVILLE AMTRAK STATION STUDY

| FUNDING SOURCE | FUNDING DESCRIPTION | Station Platforms | Station Facility | Rail Infrastructure | Parking & Site Improvements | TOD Components |
|----------------|--|----------------------|---------------------|------------------------|--------------------------------|-------------------|
| | Rail Enhancement Fund (REF) – A capital infrastructure program based on a public benefit analysis meant to provide support to passenger and freight rail capital improvements. | ✓ | ✓ | ✓ | | |
| | Virginia Transportation Infrastructure Bank - Makes loans and other financial assistance available to localities, certain private entities and other eligible borrowers and grants to localities to finance transportation projects. | ✓ | ✓ | ✓ | ✓ | |
| State | Smart Scale - The Smart Scale program scores transit and highway projects based on an objective, outcome-based process. The Commonwealth Transportation Board holds public hearings on the proposed projects before voting on funding recommendations. | ✓ | ✓ | | | |
| | Historic Rehabilitation Tax Credits - State tax credits are available for owner-occupied, as well as income-producing buildings. Administered in in Virginia through the Department of Historic Resources | | ✓ | | | ✓ |
| Local | Tax Increment Financing - Designed to provide a mechanism for growth or redevelopment to pay for itself, where the incremental increase in tax revenues is pledged to pay for infrastructure improvements. | | | | ✓ | ✓ |

CHARLOTTESVILLE AMTRAK STATION STUDY

| FUNDING SOURCE | FUNDING DESCRIPTION | Station Platforms | Station Facility | Rail Infrastructure | Parking & Site Improvements | TOD Components |
|----------------|--|----------------------|---------------------|------------------------|--------------------------------|-------------------|
| | Charlottesville Affordable Housing Fund - Provide a flexible funding mechanism for housing-related projects that promote, preserve and produce quality, long-term affordable housing options; providing housing related services to low-income and moderate-income households. | | | | | ✓ |
| Other | Joint Development – Value capture mechanism used near transit facilities, usually on publicly owned land, and can take many forms, ranging from an agreement to develop land owned by the public entity to joint financing and development of a project that incorporates both public facilities (e.g., parking garages) and private development. | | ✓ | | ✓ | ✓ |
| | Credit Assistance - Federal and state agencies have developed a variety of financial tools to help local governments access credit to expedite infrastructure projects. This credit assistance takes several forms: Bond Insurance, Credit Enhancements, Credit Lines, Loans, Loan Guarantees. Credit assistance improves local agencies' creditworthiness and thus lets them access better borrowing terms and lower financing costs. | | ✓ | | | ✓ |
| | User fees - User fees and rates are charged for the use of public infrastructure or goods, including transit and parking facilities. Local governments or utilities might be able to issue bonds backed by user fee revenue to pay for new or improved infrastructure. | | | | ✓ | |

8 Financial Analysis

The purpose of this section is to present and explain the results of the financial analysis of the Charlottesville Amtrak Station Development Project (“project”).

Model Scenarios Background and Assumptions

Two model scenarios were analyzed for the project. The first scenario assumes the City of Charlottesville (“City”), as the owner-developer, acquires title to all five parcels (see Acquisition table below), finances and constructs the “up-front” improvements (“now,” near, medium, and long term), and leases the revenue-generating transit-oriented development (TOD) (retail, parking, and residential) directly to end-occupants. In the second scenario, the City finances and builds only the up-front improvements, acquires all the parcels, and assigns the two TOD parcels, which are the site of the existing parking lot along Main Street. In the second scenario, the City will negotiate the sale of the two TOD parcels to a private developer.

The Charlottesville Amtrak Station Study for the Virginia Department of Rail and Public Transportation (“Station Study”) describes the required up-front improvements to the rail infrastructure and the existing Amtrak station. The Station Study Implementation Plan presents these costs in three plans. The cost of each plan includes construction, mobilization, safety and security, contractor’s markup, and contingency. The total cost, “City Share,” and time frame for each plan are as follows:

- Norfolk Southern station and platform improvements base: \$3,852,300, City share: \$315,990 (near term 2-5 years)
- Buckingham Branch platform improvements: \$3,118,007, City share: \$405,121 (medium term 3-6 years)
- Norfolk Southern platform improvements alternative (with special siding - preferred): \$7,588,555, City share: \$356,410 (near term 2-5 years)

The total up-front costs of \$761,531 for Buckingham Branch platform improvements and Norfolk Southern platform improvements alternative (with special siding - preferred) are included as City-funded costs in the model. Assumed to be constructed in the “now” term (the first year of overall plan implementation) are the following two elements that would also be funded by the City (identified in the Updated Draft DRPT Report):

1. Modal and Access Improvements
 - a. Bus Bays (3): \$195,000
 - b. Sidewalks: \$95,000
2. Amtrak Waiting Area and Tenant Improvements
 - a. Station Expansion: \$2,928,670
 - b. State of Good Repair needs: \$226,000

1st year improvement cost: \$3,444,670

Total up-front infrastructure plus station improvements: $\$3,444,670 + \$761,531 = \$4,206,201$. The other long-term cost is the North Lot Landscaping: \$58,000 in TOD year 1, which the model shows as funded by the TOD developer.

Acquisition

The cost to acquire parcels needed for plan implementation and timing of acquisition were assumed as follows:

| Parcel Number | Appraisal Value (as is) | Title (per City Tax Assessor) | Year of Acquisition |
|---------------------------------|-------------------------|-------------------------------|--|
| Station Parcel (300002000) | \$4,401,091 | Union Station Partners, LCC | Prior to Station Expansion 1 st year of overall plan implementation |
| Platforms Parcel (300002C00) | \$2,921,495 | Union Station Partners, LCC | Prior to construction of platforms (Plans 1, 2 or 3) 2 nd year overall |
| Storage Shed parcel (320147000) | \$475,921 | Union Station Partners, LLC | Prior to construction of platforms (Plans 1, 2 or 3) 2 nd year overall |
| TOD Parcel (300002A00) | \$3,609,460 | City of Charlottesville* | Prior to construction of TOD, TOD Year 0, 5 th year overall |
| TOD Parcel (300002B00) | \$4,222,032 | Union Station Partners, LLC | Prior to construction of TOD, TOD Year 0, 5 th year overall |
| Total Whole Property Valuation | \$15,630,000 | | |

*Even though the “City of Charlottesville” is named on the Assessor’s role as owner of Parcel 30002A00, the parcel is included for acquisition due to some uncertainty in title.

In the Appraisal Report, the gross retail value of the properties totaled \$18,430,000. However, the appraisal indicates a “Whole Property” valuation of \$15,630,000 dated August 23, 2018. The discount is due to the assumed need to sell each parcel separately over a period of five years. Cash flow from sales and net operating revenues over this period with an assumed IRR of 13 percent yields the discounted whole property value (net present value) as indicated. Therefore, \$4,712,089 (\$15,630,000/3.317 acres) is the average cost per acre used in all models in this financial analysis. Note that the retail values for the parcels in the Appraisal Report are substantially different from the individual values determined by the applying the average value per acre.

TOD Projections, Costs and Revenues

Except for the “Station Restaurant” and the balcony, all components in the table below are identified as revenue centers in the Station Study. In the model, the Station Restaurant spaces are added as a revenue generator benefiting the entity (the City) that acquires the Station parcel. Note that the revenue generated by

CHARLOTTESVILLE AMTRAK STATION STUDY

the Station Restaurant is a critical cash-flow component of the investment, helping to offset a significant portion of the debt service from land acquisition and improvements of the early phases of plan implementation.

| Component | Projected Floor Areas/Spaces | Construction Cost per Square Foot* | Lease/Rental Rates per Square Foot or Each** |
|----------------------------|------------------------------|--|---|
| Station Restaurant | 7,266 sq. ft. | Renovation included in Station Expansion | \$25 probable lease rate given in Station Study |
| Station Restaurant Balcony | 1,716 sq. ft. | Renovation included in Station Expansion | \$5 City's lease rate for similar outdoor seating space |
| Restaurant (TOD) | 4,400 sq. ft. | \$547 | \$25 per year as suggested by Appraisal Report |
| Office, other Commercial | 17,600 sq. ft. | \$547 | \$30 based on CoStar data |
| Main Street Plaza Deck | 7,500 sq. ft. | \$301 | \$5 |
| Residential | 74,000 sq. ft. | \$198 | \$1,950 monthly rent per unit from Zillow search |
| Parking | 178,000 sq. ft 352 spaces | \$134 | \$150 per space per month*** |

*Total primary facilities plus support facilities prorated by square foot and soft costs as a percentage of construction cost.

** The financial models assume a 2 percent increase in all rents starting in 2021.

*** 100 spaces will be reserved for the City's use at \$135 per space.

Absorption

The Implementation Plan indicates a 6–10-year development period for “Parcels 2A and 2B Transit-Oriented Development (TOD).” However, once a development agreement is signed, the model assumes three years for construction; a one-year lease-up period for the restaurant and plaza deck; and a four-year straight-line absorption for the commercial, parking, and residential components (25, 50, 75, and 100 percent).

Financial Assumptions

In the first scenario, the City finances all land acquisition, improvements, and TOD construction by a series of six 40-year general obligation bonds at a 2 percent

annual interest rate. The first series is issued prior to acquisition of the Station parcel and the last series prior to the last year of TOD construction (Year 3 of TOD implementation). The bond principal is fully amortized over the 40 years of each series.

Total Financing Required (cumulative investment, including acquisition) = \$80.7 million.

| | |
|---------------------------------|--------------|
| Acquisition | \$15,630,000 |
| Infrastructure & Up-front Costs | |
| City only | \$4,200,000 |
| Transit Oriented Development: | \$52,900,000 |
| Developer Fee | \$5,300,000 |
| Financing Fees | \$2,650,000 |

The first scenario model includes a TOD replacement reserve of 1 percent of the construction cost per year throughout the service life of the project. The reserve is intended to fund major replacement and reconstruction over the life of the project; routine maintenance is covered by operating expenses as a percentage of gross scheduled income.

Scenario 1 - City as TOD Developer

Performance measures below are calculated for the scenario with the City as developer-owner. These results are calculated through the “return period,” which is the last year of debt service or 48 years enveloping all bond series in this scenario. Net present values are calculated at an assumed City investment pool rate of 3 percent.

| | | |
|---|-------------------------|--------------|
| Return on Investment (ROI) (Net Operating Income/Investment) 1st yr./return period (48 years) | 0.88% | 7.55% |
| Average ROI through return period | 4.3% | |
| Internal Rate of Return (IRR) through return period | | 4.8% |
| IRR, including tax revenues* | | 5.8% |
| Net Present Value (NPV), through return period @ 3 percent not including tax revenues | | \$7,957,000 |
| NPV, through return period including tax revenues | | \$12,238,800 |
| Years to break even (first year of positive cash flow): | TOD Year 10; 15 overall | |
| Years to break even including tax revenue | TOD Year 8; 13 overall | |

* In this scenario real estate tax revenues, except for the Station Restaurant, are excluded since the City owns and manages the TOD. The City’s annual tax

revenue at the first year of full lease-up is \$162,200, summarized as follows:

| | |
|------------------|--|
| Real Estate Tax: | \$20,761 (Station restaurant only) |
| Restaurant Tax: | \$122,700 (both Station and TOD Restaurants) |
| Sales Tax: | \$18,700 |

The model includes a 1 percent annual increase in real estate valuation.

The IRR (the interest rate at which the NPV is zero), even including tax revenues in the cash flow, is very low for this type of project. The high cost of the restaurant, commercial, and parking construction, relative to the rents for retail, office and parking space, and residential units in the area, and the up-front costs are factors in the low projected return to the City in the first scenario.

Scenario 2 - Private Developer

In this scenario, the City acquires title to all parcels, then enters into a development agreement with a developer to whom the title to the two TOD parcels is assigned. As in the first scenario, the City finances and constructs the up-front improvements, but does not finance or construct the TOD project.

The primary benefit to the City in this scenario is increased revenue from real estate taxes, which supplements the sales and restaurant taxes from the TOD project, while avoiding the risk of constructing and managing the TOD components. The City will reserve 100 parking spaces in this scenario at an assumed monthly rate of \$135 per space; the rate may be negotiated.

The second scenario pro forma may be used to help determine what price the City should pay and subsequently receive for the TOD parcels and estimate the number of years to “break even” on the up-front investments—land acquisition and the now, near-, and medium-term improvements.

Interest and Present Value Discount Rates

Private development financing assumes construction (interest only) and 30-year amortized loans at 4.5 percent and 3.5 percent, respectively. The construction and lease absorption time frames for the second scenario are the same as for the first scenario—TOD construction over a three-year period and full lease-up over four years.

Residual Land Value (RLV) at Sale of Project

An RLV analysis was done to compare the value of the land from the perspective of the TOD developer with the appraised value of the two TOD parcels. The RLV is the capitalized market value of the project, which is determined by dividing the net operating income of the project by a local market capitalization rate (assumed at 5.0 percent), less development and financing costs. Land costs are excluded from the RLV analysis.

To calculate RLV, we assume the developer will sell the project in the twelfth year after beginning to receive rent payments. The financial analysis also assumes that the City will at this time receive full payment for the TOD parcels from the developer.

The RLV for the TOD parcels is calculated by subtracting from the market value of the project the sum of the following: the NPV of the project's cash flow, the remaining principal balance, and the cost of sale. The RLV is \$11.0 million compared to the appraised value of \$7,831,500 for the two TOD parcels. Typically, RLV is calculated at full lease-up, which, in this case, would be four years after construction. The 12-year time frame assumed for the sale of this project is longer due to the need for rent revenues to increase over time; sale of the project by the developer or payment for the land earlier than 12 years would result in a much lower or negative RLV. The RLV could be used as an indicator of where the City might begin negotiations for the sales price of the TOD parcels.

After 12 years, the developer's IRR is 6.25 percent, before payment for the TOD parcels. This IRR is low due to negative cash flows through the first five years of the TOD development. Assuming the land payment is \$11.0 million (=RLV), the IRR is less than zero. The low IRR will likely reduce the final price paid for the parcels. At a sales price of about \$9 million for the parcels, the IRR is still only 1.38 percent, indicating the project does a little better than break even. Note that the developer does receive a cash fee payment during the project construction and the first years of operation before the sale.

After the sale of the project and payment for the land, the project's IRR, including the subsequent buyer's debt service, is a respectable 9.60 percent through the end of the after-sale debt service period (30 years). Average ROI during this period is 7.5 percent based on net operating cash flow, including debt service over the buyer's investment (10 percent of the \$60.5 million purchase price). The IRR improves to 13.1 percent if the subsequent buyer capitalizes on the project's increased market value and sells it 30 years after purchase—indicating that the project should be profitable for the subsequent buyer, or for the developer if they hold it for an extended period of time.

Scenario 2 Results for the City

The City's benefit in the second scenario includes recouping the purchase price of the TOD parcels, the real estate tax, and sales tax revenue from the TOD project. The City also avoids the TOD debt service and maintenance expenses from Scenario 1. The key factor in Scenario 2 is the sales price of the TOD parcels and when the City receives payment. Since the TOD developer's profit is linked to both the price and timing, these will likely be specified in the development agreement. For this analysis, we assumed payment 14 years after construction of the TOD begins at a price of \$8.8 million, which is a 1 percent annual appreciation from the \$7.8 million appraisal.

Summary of City Results for Scenario 2

| | | |
|--|-------|------------------|
| Return on Investment (ROI) (Net Operating Income/Investment) | | |
| 1st yr./return period (44 years) | 0.86% | 10.59% |
| Average ROI through return period | 6.53% | |
| Internal Rate of Return (IRR) through return period | | Negative |
| IRR, including tax revenues* | | 7.3% |
| Net Present Value (NPV), through return period @ 3 percent | | Negative |
| NPV, through return period including tax revenues | | \$4,949,731 |
| Years to break even including tax revenue | | 12 years overall |

*The annual tax revenue is \$757,800 at full lease-up summarized as follows:

| | |
|------------------|--|
| Real Estate Tax: | \$615,450 (TOD and Station Restaurant) |
| Restaurant Tax: | \$123,640 (both Station and TOD Restaurants) |
| Sales Tax: | \$18,700 |

The model includes a 1 percent annual increase in real estate valuation.

Findings of Financial Models

In the scenario with the City as developer-owner, the project’s cash flow, including tax revenues over the 48 years of debt service, yields an NPV of \$12.2 million. This is compared to the second scenario with a City NPV of \$4.9 million. This indicates the first scenario provides a higher return. The IRRs for the first and second scenario are 5.8 and 7.3 percent, respectively. These numbers are close and are both well above the assumed 3 percent discount rate and the 2 percent general obligation bond rate. The higher NPV in the first scenario is due to the escalating TOD rent revenues that the City would receive if it owned and managed the TOD project, which are much larger than debt service toward the end of the return period.

The City may significantly improve the performance of the second scenario by negotiating a higher purchase price for the TOD parcels.

The first scenario appears to provide the City with a comparably better investment from the standpoint of NPV. However, the differential in IRR (5.8 versus 7.3 percent) does suggest a higher level of risk with the first scenario. For example, if rents cannot be raised as indicated, or if vacancies are higher, the City may be faced with more years of low or even negative cash flows. In the second scenario, the City is not subject to the same market rent risk, although cash flows from tax revenues also may fall with vacancies or during economic downturns. More discussion of risk factors associated with this analysis is in the following section.

Financial Analysis Risk Factors

The financial models summarized in this memorandum are based on several key variables that affect the future financial performance of the project. The values of these variables in the future depend on local and national economic forces beyond the control of the City or private developers. The following is a list of the most significant variables:

- **Construction Costs**—The cost of public infrastructure improvements and the private TOD project are high-level estimates prepared for the Draft DRPT Report before the completion of detailed planning and engineering. The final cost of construction may be significantly higher. With the application of value-engineering, the cost could be reduced. This financial analysis includes a reduction of 18 percent from the DRPT estimate of the parking structure’s construction cost. This reduction is based on a review of recent costs of construction for similar structures in the region.
- **Market Rents**—The rents assumed for commercial floor area and residential units in the TOD in this financial analysis are at the high end of the Charlottesville market, reflecting the intention to provide an upper-end development for this area.
- **Interest Rates**—The City will borrow money for parcel acquisition and its share of the up-front infrastructure at an annual interest rate of 2 percent. Financing costs are assumed at 5 percent of the investment. Interest rates for the private TOD project (Scenario 2) are 4.5 and 3.5 percent for the construction loan and 30-year amortized loan, respectively.
- **State and Federal Funding**—Non-local funding is assumed to be 100 percent of the total costs of platform, rail right-of-way and infrastructure, and 67 percent of canopies, lighting, ADA-compliant ramps and stairs.
- **Project Phasing, Absorption and Vacancy**—The financial analysis assumes a fairly aggressive build-out and absorption of 6 years from beginning of construction to full lease-up. Longer periods will result in reduced returns. Vacancy rates are set at 4 and 5 percent of gross rental income for commercial and residential, respectively, which are at the low end of the range for the area.
- **Market Capitalization Rate**—The rate at which net operating income is converted into the potential sales price is between 5 and 8 percent in the Charlottesville market; the analysis assumes 5 percent. A higher cap rate translates to lower sales price and lower return for the developer and a higher return for the subsequent purchaser.
- **Developer’s Fee**—10 percent of the TOD project cost is integrated into the cash flow as the developer’s fee; it is distributed as a payment to the project developer over the first 12 years of the project’s construction and operation. The developer’s fee is capitalized in the amortized debt. It is assumed the City would also pay 10 percent of the project cost to a development firm for management during construction and operation.

Conclusion

The results of the financial pro forma analysis conducted for the development plan as presented in the DRPT Report indicate that the private TOD project will not be profitable for at least several years until rents increase to provide a positive cash flow. The project’s internal rate of return is determined at the sale of the project when the developer may realize significant appreciation due to higher net operating income. In the preferred second scenario, the sale is assumed to take place in the 12th year after project completion. The TOD developer will realize an IRR of 6.25 percent, prior to payment for the two TOD parcels. The cash for payment of the TOD parcels will come from the proceeds of the sale. After deducting an \$8.8 million payment for the parcels, the IRR drops to 1.35 percent. With the land payment, the City will realize an IRR of 7.3 percent over the bond repayment period (44 years).

These rates of return are much lower than what is considered a reasonable threshold for projects of this type—10 to 13 percent is the usual target. The high cost of TOD construction relative to the market rents in the area is one factor in the low returns projected during the early years of the TOD operations. Over time, with the increase in rents, the project’s improved performance is exhibited in its projected market value that allows a relatively high RLV after subtracting the remaining debt service, the cost of sale, and the net present value of cash flows. The \$11 million RLV for the TOD parcels should be considered an upper-bound for the price of these parcels.

9 Implementation Plan

The Implementation Plan for the Charlottesville Amtrak Station Site will be accomplished in five phases: Up Front; Now (years 0 to 3); Near-Term (years 2 to 5); Medium-Term (years 3 to 6) and Long-Term (years 6 to 10). The Up Front phase includes property acquisition. The Now-Term phase will include modal and access improvements to the site as well as bringing the station up to Amtrak and ADA standards which includes expansion of passenger and employee use areas. While the first batch of improvements are being designed, approved, and constructed, decision about the path forward for the Near-Term Phase work can be made. The third phase of work addresses needs at the Norfolk Southern platform. There are two options to choose from for the Norfolk Southern platform:

- Norfolk Southern Platform improvements base: includes a level boarding concept, canopies and lighting, information displays, ADA ramps and stairs, and right of way infrastructure (either gauntlet tracks or a hinged platform to allow for the passage of freight rail vehicles without conflict).
- Norfolk Southern platform improvements alternative (with special siding - preferred): includes the components of the base improvements plus new track infrastructure and a dedicated level platform for passenger loading adjacent to the passenger rail only track which is parallel to the existing line. This alternative for the Norfolk Southern platform is the preferred option since it is the safest option for passengers, moving them away from freight movement on the line.

Once a decision is made for the Norfolk Southern platform, then design, approvals, and construction can begin. Before the Norfolk Southern platform is complete, the Medium-Term Phase work can begin on the Buckingham Branch platform, which includes the platform itself, canopies and lighting, information displays, ADA ramps and stairs, and right-of-way infrastructure. When all the platform work has been completed, then the project can proceed to the Long-Term Phase work of transit-oriented development in parcels 2A and 2B where public-private agreements can be created for the structure that will include housing, commercial storefronts along West Main Street, and a public and private parking garage. The development will have access points from 7th and 8th streets. The bus bays in the garage will also be completed during the Long-Term Phase. Below is a summary of major implementation items (TOD costs are shown in Appendix F):

| | Cost Estimate | Up Front | Now-term (0-3 years) | Near-Term (2-5 years) | Medium-Term (4-7 years) | Long-Term (6-10 years) |
|---|----------------------|----------|-------------------------|--------------------------|----------------------------|---------------------------|
| Property Acquisition | \$ 15,630,000 | X | | | | |
| Access & Station Improvements | \$ 3,444,670 | | X | | | |
| Norfolk Southern Platform Area Improvements (with dedicated passenger siding) – preferred alternative | \$ 7,588,555 | | | X | | |
| Buckingham Branch Platform Area Improvements | \$ 3,118,007 | | | | X | |
| North Lot Landscaping | \$ 58,000 | | | | | X |
| Total: | \$ 29,839,232 | | | | | |

Notes: Property cost based on 2018 appraisal of five parcels. Assumed start year-of-expenditure for improvement costs is 20XX
See matrix below for additional information on each phase of implementation.

Amtrak Station Improvements

| Project Element | | Description | Review & Approvals | Environmental | Funding | Timing | Notes |
|---|----------------------------------|--|-------------------------------|--|------------------------------------|---------------------------------------|---|
| Norfolk Southern platform improvements base | Platforms | Level-boarding, 4' high platform: 15' wide x 850' length, 10' wide at stair and ramp locations | Amtrak Norfolk Southern | NEPA - possible Categorical Exclusion. | DRPT | Near Term (years 2-5) If Chosen | Level boarding platform as required for ADA rule |
| | Canopies & Lighting | Amtrak Station Program and Planning Guidelines | Amtrak | | DRPT, City of Charlottesville | Near Term (years 2-5) If Chosen | Per <i>Amtrak Station Program and Planning Guidelines</i> |
| | Public Information Displays | Amtrak Station Program and Planning Guidelines | Amtrak | | DRPT, City of Charlottesville | Near Term (years 2-5) If Chosen | Per <i>Amtrak Station Program and Planning Guidelines</i> |
| | ADA Ramps & Stairs | ADA ramps and stairs to access the platform (does not include parking lot features) | Amtrak | | DRPT, City of Charlottesville | Near Term (years 2-5) If Chosen | Includes SOGR upgrades |
| | Rail Right-of-Way Infrastructure | Gauntlet Tracks or Hinged Platform | Norfolk Southern | | DRPT City of Charlottesville | Near Term (years 2-5) If Chosen | Gauntlet tracks are the proposed option for Platform N <i>if there is no passenger service siding.</i> |

CHARLOTTESVILLE AMTRAK STATION STUDY

| Project Element | | Description | Review & Approvals | Environmental | Funding | Timing | Notes |
|---|--|---|--------------------|--|---------------------------------|-------------------------|--|
| Buckingham Branch Platform improvements | Platforms | Level-boarding, 4' high platform: 15' wide x 614' length, 10' wide for 134' | Amtrak CSX | NEPA - possible Categorical Exclusion. | DRPT | Medium Term (years 3-6) | Level boarding platform as required for ADA rule |
| | Canopies & Lighting | Amtrak Station Program and Planning Guidelines | Amtrak | | DRPT City of Charlottesville | Medium Term (years 3-6) | <i>Per Amtrak Station Program and Planning Guidelines</i> |
| | Public Information Displays | Amtrak Station Program and Planning Guidelines | Amtrak | | DRPT City of Charlottesville | Medium Term (years 3-6) | <i>Per Amtrak Station Program and Planning Guidelines</i> |
| | ADA Ramps & Stairs | ADA ramps and stairs to access the platform (does not include parking lot features) | Amtrak | | DRPT City of Charlottesville | Medium Term (years 3-6) | Includes SOGR upgrades |
| | Rail Right-of-Way Infrastructure (Gauntlet Tracks/Hinged Platform) | Gauntlet tracks | CSX | | DRPT City of Charlottesville | Medium Term (years 3-6) | Gauntlet tracks are the only option that will work for the proposed platform due to the curvature of Platform S |

CHARLOTTESVILLE AMTRAK STATION STUDY

| Project Element | | Description | Review & Approvals | Environmental | Funding | Timing | Notes |
|---|-----------------------------|---|----------------------------|--|---------------------------------|------------------------------------|---|
| Norfolk Southern platform improvements alternative (with special siding - preferred): | Platforms | Level-boarding, 4' high platform: 15' wide x 850' length, minus (2) 10' wide passageways to center Amtrak Mainline surface platform | Amtrak Norfolk Southern | NEPA - possible Categorical Exclusion. | DRPT | Near Term (years 2-5) If Chosen | Level boarding platform as required for ADA rule |
| | Canopies & Lighting | Amtrak Station Program and Planning Guidelines | Amtrak | | DRPT City of Charlottesville | Near Term (years 2-5) If Chosen | Per <i>Amtrak Station Program and Planning Guidelines</i> |
| | Public Information Displays | Amtrak Station Program and Planning Guidelines | Amtrak | | DRPT City of Charlottesville | Near Term (years 2-5) If Chosen | Per <i>Amtrak Station Program and Planning Guidelines</i> |
| | ADA Ramps & Stairs | ADA ramps and stairs to access the platform (does not include parking lot features) | Amtrak | | DRPT City of Charlottesville | Near Term (years 2-5) If Chosen | Includes SOGR upgrades |
| | New Track Infrastructure | New passenger boarding siding, switches, new rail yard infrastructure | Norfolk Southern | | DRPT City of Charlottesville | Near Term (years 2-5) If Chosen | |

CHARLOTTESVILLE AMTRAK STATION STUDY

| Project Element | | Description | Review & Approvals | Environmental | Funding | Timing | Notes |
|---|-----------------------------|---|-------------------------|---|-----------------------------------|-----------------|---|
| Modal and Access Improvements | Bus Bays | 3 bus bays: (2) 65-foot bay and (1) 40 bay. Includes signage for each bay | City of Charlottesville | NEPA - possible Categorical Exclusion. | City of Charlottesville Developer | Now (years 0-3) | Service would be temporarily need to be relocated during construction |
| | Sidewalks | | City of Charlottesville | | City of Charlottesville Developer | Now (years 0-3) | |
| Amtrak Waiting Area and Tenant Improvements | Station Expansion SGR Needs | Expansion of station into previous restaurant space; redevelopment of existing space to meet recommendations and guidance from Amtrak | City of Charlottesville | Section 106 NHPA, Possible Section 4(f) as determined by SHPO | City of Charlottesville Developer | Now (years 0-3) | |

Transit-Oriented Development

| Project Element | | Description | Review & Approvals | Environmental | Funding | Timing | Notes |
|---------------------------------|---------------------|---|--------------------------------|--|-------------------------|------------------------|-------|
| Parcels 2A and 2B Redevelopment | 7th Street Entrance | Reconfiguration of vehicular and pedestrian entry to site from 7th street | City of Charlottesville / VDOT | Comply with VA Stormwater Management Requirements. | City of Charlottesville | Long Term (years 6-10) | |

CHARLOTTESVILLE AMTRAK STATION STUDY

| Project Element | | Description | Review & Approvals | Environmental | Funding | Timing | Notes |
|-----------------|---------------------------------|---|--------------------------------|--|--|------------------------|-------|
| | 8th Street Entrance | Reconfiguration of vehicular and pedestrian entry to site from 8th street into new TOD development | City of Charlottesville / VDOT | Comply with VA Stormwater Management Requirements | City of Charlottesville | Long Term (years 6-10) | |
| | Public Parking Garage | Structured parking - ground and lower level - for Amtrak and bus circulation, upper levels for retail and housing | City of Charlottesville | Section 106 NHPA, Possible Section 4(f) as determined by SHPO, Stormwater Management | Public Private Partnership - City of Charlottesville and Developer | Long Term (years 6-10) | |
| | Housing Development | Apartment/Condominium housing | City of Charlottesville | Section 106 NHPA, Possible Section 4(f) as determined by SHPO, Stormwater Management | Developer | Long Term (years 6-10) | |
| | Main Street Ground Level Retail | Retail spaces to reinforce West Main Street context including commercial and restaurant opportunities | City of Charlottesville | Section 106 NHPA, Possible Section 4(f) as determined by SHPO | Developer | Long Term (years 6-10) | |

CHARLOTTESVILLE AMTRAK STATION STUDY

| Project Element | | Description | Review & Approvals | Environmental | Funding | Timing | Notes |
|-----------------|-------------|---|-------------------------|--|-------------------------------|------------------------|-------|
| North Lot | Landscaping | Improve landscape areas with City Standard tree and groundcover plantings, site furnishings and additional lighting if required | City of Charlottesville | Comply with VA Stormwater Management Requirements. | DRPT, City of Charlottesville | Long Term (years 6-10) | |

10 Appendices

Appendix A: Existing Conditions Map Attachment

[Appendix B: Review of BAR Submittal](#)

Appendix C: FRA CE Worksheet Template

Appendix D: Advisory Council on Historic Preservation

Appendix E: Probable Costs for Station Platforms

[Appendix F: Parcels 2A and 2B TOD Development Concept Cost Estimates](#)

Appendix G: Additional TOD Floor Plans

Appendix A: Existing Conditions Maps Attachments

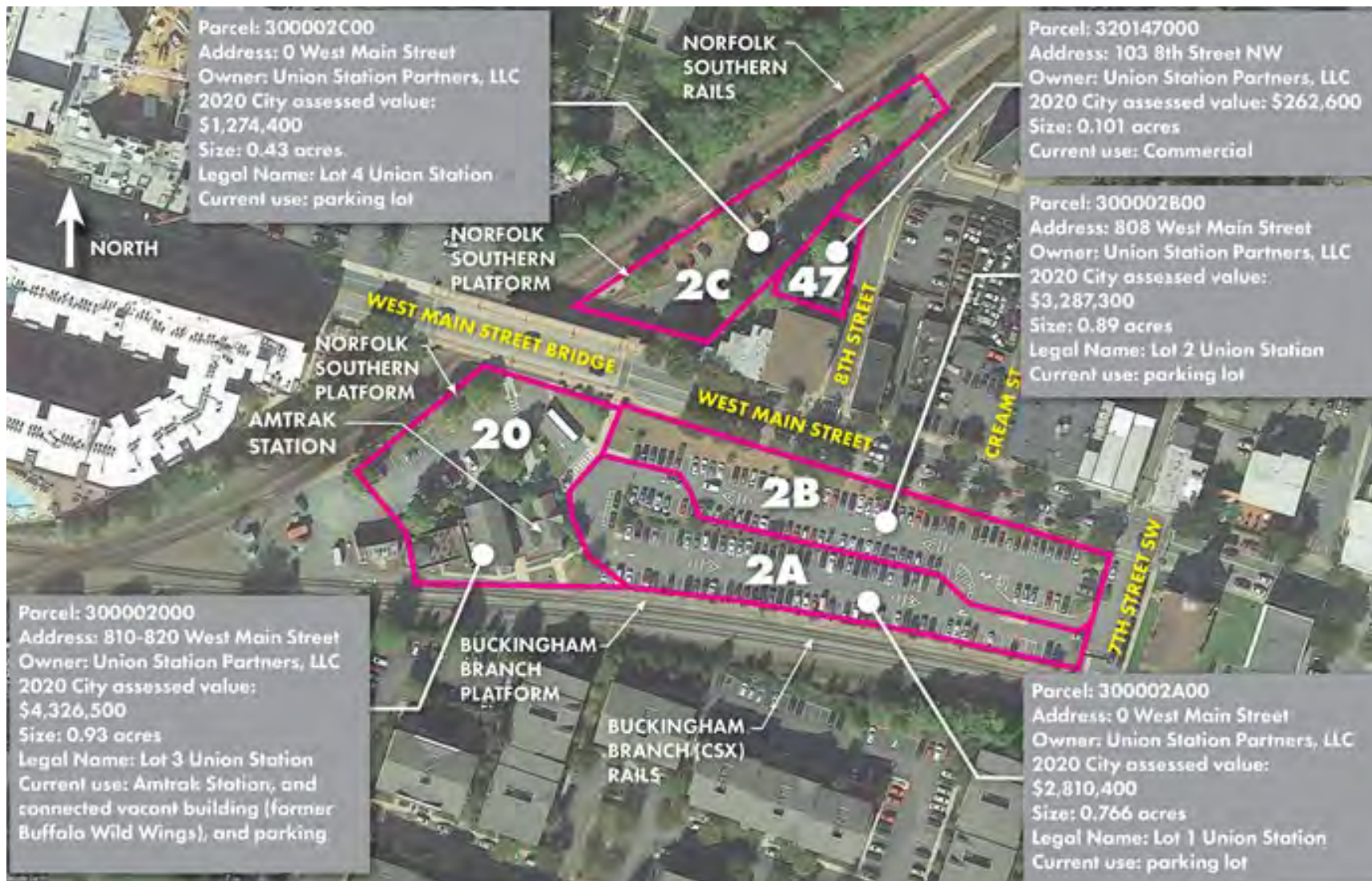


Figure 10-1 Existing Conditions

CHARLOTTESVILLE AMTRAK STATION STUDY

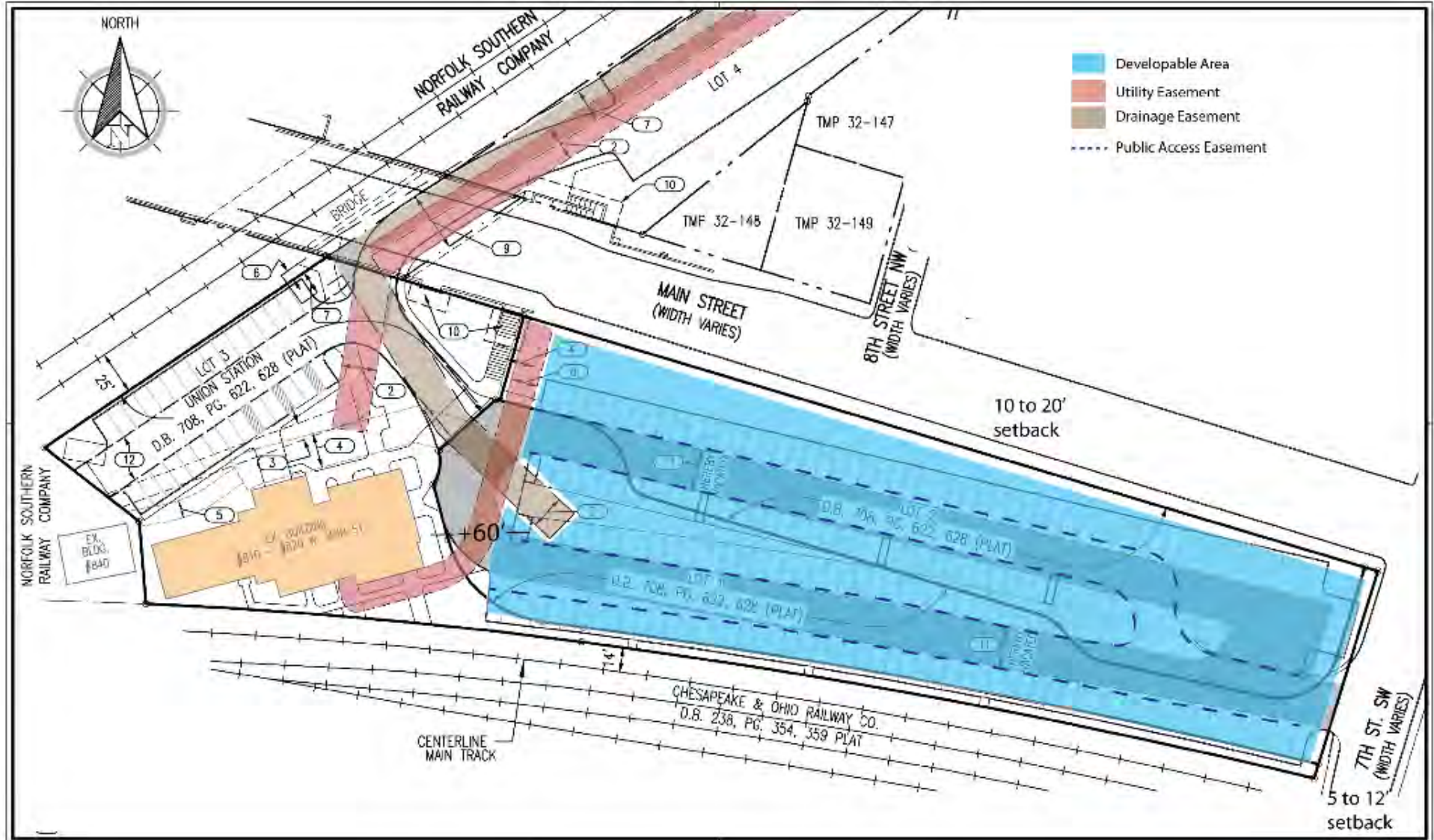


Figure 10-2 Developable Area and Easements

Appendix B: Review of BAR Submittal

In 2017, the property owner hired an architect to conceptualize an addition on the south side of the building and a reconfiguration of the interior (see Figure 16). The goal of both efforts was to address the undersized waiting area and baggage handling area and to add a baggage claim area.

The addition is two stories, with the upstairs of the addition being 650 square feet of waiting area. In total, the amount of waiting area is 2,695 square feet, which exceeds the required area proposed by Amtrak in 2016 (see Table 3). Baggage handling was increased from 431 square feet to 900 square feet, which is still undersized but a considerable improvement over the existing conditions. Of note, a baggage claim area was added in the addition, in a location with little impact with boarding and circulation. There was little to no cannibalization of existing components in the reconfiguration except for the loss of the equipment room (which would need to be replaced) and the employee locker/lunchroom which is notable because no crew break room was added in the new addition.

Figure B-1: Proposed addition by BRW Architects submitted to Charlottesville BAR.

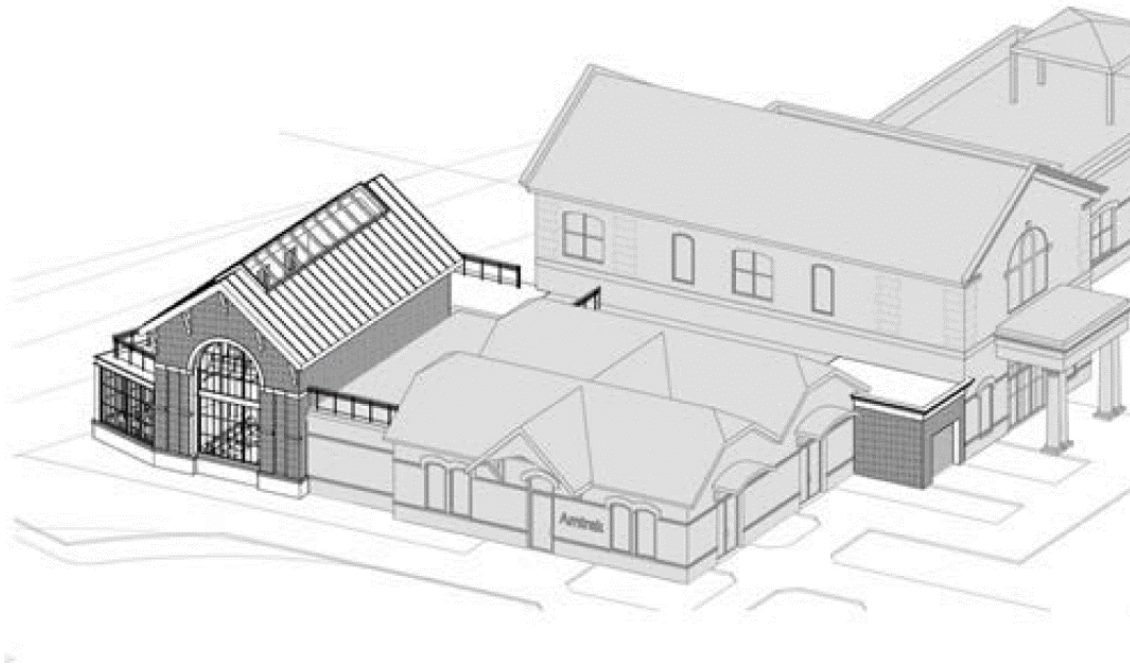


Figure B-2: Layout of proposed addition (not including second floor waiting area).

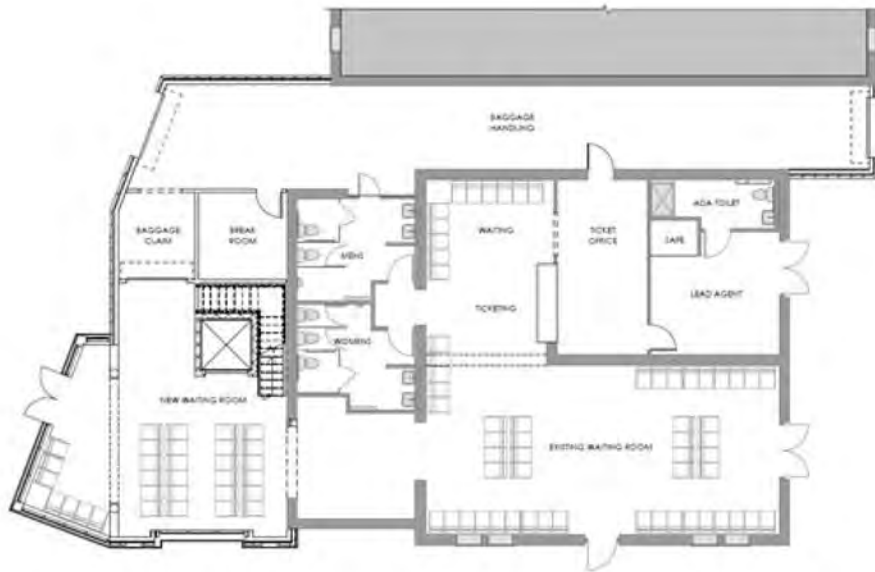


Table B-1: Existing, minimum, and proposed areas for components of the Charlottesville station.

| EXISTING STATION AREA: | | MINIMUM REQUIRED AREA: | | NEW AMTRAK APPROVED PROPOSED STATION AREA: | |
|---------------------------------|---------|---------------------------------|----------|--|---------|
| Men's Restroom | 157 SF | Men's Restroom | Per Code | Men's Restroom | 157 SF |
| Women's Restroom | 146 SF | Women's Restroom | Per Code | Women's Restroom | 146 SF |
| Waiting | 1000 SF | Waiting | 2396 SF | Waiting | 2695 SF |
| Ticket Office | 124 SF | Ticket Office | 135 SF | Ticket Office | 212 SF |
| Equipment Room | 276 SF | Equipment Room | 80 SF | Equipment Room | 0 SF |
| Baggage Handling | 431 SF | Baggage Handling | 1200 SF | Baggage Handling | 903 SF |
| Agent Office | 92 SF | Agent Office | 120 SF | Agent Office | 199 SF |
| Record Storage | 35 SF | Record Storage | 40 SF | Record Storage | 23 SF |
| Employee Locker/Lunch Area | 133 SF | Employee Locker/Lunch Area | 100 SF | Employee Locker/Lunch Area | 112 SF |
| Employee ADA Toilet | 71 SF | Employee ADA Toilet | 40 SF | Employee ADA Toilet | 73 SF |
| Cash Out Area | 0 SF | Cash Out Area | 15 SF | Cash Out Area | 0 SF |
| Baggage Claim/Service | 0 SF | Baggage Claim/Service | 150 SF | Baggage Claim/Service | 91 SF |
| Crew Break Rm/ Lunch Rm/Sign In | 0 SF | Crew Break Rm/ Lunch Rm/Sign In | 150 SF | Crew Break Rm/ Lunch Rm/Sign In | 0 SF |

The additional space for waiting and seating is a positive addition. However, two issues arise that are necessarily a result of the limited space for the addition. First of all, the new seating in the addition (on the first floor) is placed in a way that it creates a major obstacle to passenger flow. There is no direct line of movement between the existing waiting and ticketing area to the exit for Platform S. Secondly, a quarter of the total waiting area, and a considerable percentage of the seating, is on the second floor. This is not an inherent problem, but it raises the question of how many people are willing to take their carry-on luggage up two sets of stairs to wait.

The waiting space is weighted towards Platform S, the platform with the fewest trains. This is not a problem, but it does impact the internal circulation of the entrance, existing waiting area, and ticketing counter.

A final issue results from a desire to have raised platforms. The addition appears to be flush with the platform, leaving no room for ADA access from the Platform S exit. It is possible to engineer another solution from the front exit but given the existing space constraints and substandard platform conditions, increasing the size of the waiting area at the expense of improving Platform S is likely not an option.

Appendix C: FRA CE Worksheet Template

Public reporting burden for this information collection is estimated to average 156 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. According to the Paperwork Reduction Act of 1995, a federal agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a currently valid OMB control number. The valid OMB control number for this information collection is 2130-0615. All responses to this collection of information are mandatory. Send comments regarding this burden estimate or any other aspect of this collection, including suggestions for reducing this burden to: Information Collection Officer, Federal Railroad Administration, 1200 New Jersey Ave., S.E., Washington D.C. 20590.

Expiration 10/31/2021

OMB No. 2130-0615

**Federal Railroad Administration (FRA)
CATEGORICAL EXCLUSION WORKSHEET**

| | |
|--|---------------------|
| <i>For Agency Use: Categorical Exclusion Signature Approval</i> | |
| <i>Date of Class of Action Determined by FRA:</i> | |
| <i>Date Completed Document was Received by FRA:</i> | |
| <i>Reviewed By:</i> | |
| <i>Date:</i> | |
| | |
| <i>Concurrence by Approving Official:</i> | <i>Date:</i> |

| | |
|---|-----------------------------|
| <i>For Agency Use: Section 4(f) Evaluation</i> | |
| Will the Project result in the use of a resource protected by 49 U.S.C. §303 [Section 4(f)] of the Department of Transportation Act of 1966? <i>If answer 'YES,' please include Section 4(f) documentation, and coordination letters.</i> | |
| <input type="checkbox"/> YES | <input type="checkbox"/> NO |

| | |
|--|-----------------------------|
| <i>For Agency Use: FRA Required Mitigation</i> | |
| Does FRA require additional mitigation for this Project? <i>If answer 'YES,' please indicate additional mitigation in Section V below.</i> | |
| <input type="checkbox"/> YES | <input type="checkbox"/> NO |

**Federal Railroad Administration (FRA)
CATEGORICAL EXCLUSION WORKSHEET**

The purpose of this worksheet is to assist Project Sponsors in gathering and organizing materials for environmental analysis required under the National Environmental Policy Act (NEPA), particularly for projects that may qualify as Categorical Exclusions (CE). CEs are categories of actions (i.e. types of projects) that the FRA has determined, based on its experience, typically do not individually or cumulatively have a significant effect on the human environment and which generally do not require the preparation of either an environmental impact statement (EIS) or an environmental assessment (EA). Decisions to prepare EAs and EISs are made by FRA.

The Project sponsor is responsible for providing FRA with a sufficient level of documentation and analysis to help inform FRA's determination that a CE is the appropriate NEPA class of action. Documentation and analysis may include background research, results of record searches, field investigations, field surveys, and any past planning or studies.

Submission of the worksheet by itself does not meet NEPA requirements. FRA must concur in writing with the CE recommendation for NEPA requirements to be met.

Instructions for completing this CE worksheet are available on the FRA website at: <https://www.fra.dot.gov/Page/P0550>. Please complete and submit the completed form in **MS Word** electronic format.

Submit the following documents along with this worksheet:

1. Map(s) or diagram(s) of the Project area that identify locations of critical resource areas, wetlands, potential historic sites, or sensitive noise receptors such as schools, hospitals, and residences.
2. Map(s) or diagram(s) of the proposed modifications to existing railways, roadways, and parking facilities.
3. Copies of all agency correspondence particularly with permitting agencies.
4. Representative photographs of the Project area.
5. Any technical memoranda or report(s) developed to support this CE worksheet.

I. PROJECT DESCRIPTION

| | | |
|--|------------------------------|---|
| Project Sponsor Name | Date Submitted to FRA | FRA Funding Program or other FRA Action Triggering NEPA (Unfunded) |
| Project Sponsor Contact | Project Sponsor Phone | Project Sponsor E-mail address |
| Proposed Project Title (verify with FRA Regional Manager if part of a grant award, list grant award number) | | |
| Location (Include Street Address, City or Township, County, and State) | | |
| FRA NEPA Contact | FRA NEPA Contact | FRA NEPA Contact E-mail address |

| | | |
|--|--|--|
| | | |
|--|--|--|

Description of Project:

Fully describe the Project. The description should focus on Project elements that may be of environmental concern, such as: *widening an embankment to stabilize roadbed; repairing or replacing bridge pier foundations, extending culverts, adding rip-rap in a waterway; earthwork and altering natural (existing) drainage patterns and creating a new water discharge; contaminated water needing treatment; building a new or adding on to a shop building; fueling or collection of fuel or oil and contaminated water; building or extending a siding; and building or adding on to a yard. Where applicable fully describe the operational characteristics of the facility to be improved by the Project and any anticipated operational changes that may result.*

Purpose and Need of Project:

II. FRA CATEGORICAL EXCLUSION

Please list the CEs below that the Project best fits within.

FRA CEs are found at: <https://www.fra.dot.gov/Page/P0550>.

If no CE category applies, contact FRA, as the Project may require an EA or EIS. FRA will officially designate the Project as a CE only after conducting a Class of Action determination.

FRA may request the applicant or project sponsor to submit documentation to demonstrate that the specific conditions or criteria for the CEs are satisfied and that significant environmental effects will not result.

III. PROJECT INFORMATION

Analyze and identify potential impacts from both construction and changes to operations (where applicable) for each resource type below. Where appropriate, the Project sponsor may commit to mitigation measures to avoid, reduce, or minimize impacts, including the use of Best Management Practices (BMP). Identify any mitigation measures necessary to comply with other laws or regulations in each section (e.g. Clean Water Act Section 404) and consider the impacts from mitigation.

- A. Affected Environment:** *Briefly describe the ecosystems and environmental conditions in the area affected by the Project (defined as broadly as necessary to evaluate potential impacts and address Project area habitats).*
- B. Location & Land Use:** *Briefly describe the existing land use of the Project site and surrounding properties and resources and identify and discuss any potential inconsistencies the Project might have with local land use plans and policies.*
- C. Cultural Resources:** *Is the Project of the type where there is no potential to affect historic properties?*

☐ Yes, explain how the Project is not the type of activity that has the potential to cause effects on historic properties, assuming historic properties are present. (Continue to D)

☐ No, there is potential to affect historic properties, if present.

If No: *Is the Project governed by a Federal agency program alternative established under Advisory Council on Historic Preservation regulations (36 CFR 800.14)?*

☐ Yes, include the program alternative (Continue to D)

☐ No, there is no applicable program alternative.

Identify and describe the Area of Potential Effect (APE), the procedures to determine the existence of cultural resources, any resource(s) identified in the APE, and then describe any potential effect of the Project on the resource(s).

Have you consulted with the State Historic Preservation Office?

No, contact FRA

Yes, describe and attach relevant correspondence

What resources of interest to Federally-recognized Native American Tribes are known to be present in the Project area?

D. Parks and Recreational Facilities: *Are there any publicly owned park, wildlife and waterfowl refuge, or recreational area of national, state, or local significance within or directly adjacent to the Project area?*

☐ No, include a short statement describe efforts to identify parks and recreational facilities in the Project area.

☐ Yes, include a detailed description of the property, including map or drawing, describe the recreational uses of the property, any unique characteristics of the property, any consultations with the entity with legal jurisdiction over the property, and the potential impact on the property.

E. Transportation: *Would the Project have any effect (beneficial or adverse) on transportation including but not limited to other railway operations, road traffic, or increase the demand for parking?*

☐ No, explain why the Project would have no effect (beneficial or adverse) on transportation,

☐ Yes, describe potential transportation, traffic, and parking impacts, and address capacity constraints and potential impacts to existing railroad and highway operations. Also, summarize any consultation that has occurred with other railroads or highway authorities whose operations this Project will impact.

F. Noise and Vibration: *Are there any sensitive receptors in the Project area?*

☐ No, describe why there are no sensitive receptors (residences, parks, schools, hospitals, public gathering spaces) in or near the Project area. (Continue to G)

☐ Yes, will the Project change the noise and/or vibration exposure of the sensitive receptors when applying the screening distances for noise and vibration assessment found in FRA's and the Federal Transit Administration's most recent noise impacts assessment guidance manuals. Such changes in exposure might include changes in noise emissions and/or noise events, or changes in vibration emissions and/or vibration events.

If the Project is anticipated to change the noise or vibration exposure of sensitive receptors, complete and attach a General Noise and/or Vibration Assessment. Describe the results of the Assessment and any mitigation that will address potential impacts.

G. Air Quality: *Is the Project located in a National Ambient Air Quality Standard (NAAQS) Non-Attainment or Maintenance area?*

No, identify any air emissions increases or benefits that the project will create.
(Continue to H)

Yes, **for which of the following pollutants:**

Carbon Monoxide (CO) Ozone (O₃) Particulate Matter (PM₁₀) or PM_{2.5}

Nitrogen Oxide (NO_x) Sulphur Dioxide (SO₂) Lead (Pb)

emissions from volatile organic compounds (VOC)

Will the Project, during construction and/or operation, result in new emissions from: Carbon Monoxide (CO), Ozone (O₃), Particulate Matter (PM₁₀ or PM_{2.5}), Nitrogen Oxide (NO_x), Sulphur Dioxide (SO₂) and Lead (Pb) or volatile organic compounds?

No Yes, **attach an emissions analysis for General Conformity regarding criteria air pollutants or VOCs.**

Based on the emissions analysis, will the Project increase concentrations of ambient criteria pollutants to levels that exceed the NAAQS, lead to the establishment of a new non-attainment area, or delay achievement of attainment?

No Yes, **describe any substantial impacts from the Project.**

H. Hazardous Materials: *Does the Project involve the use or handling of hazardous materials?*

☐ No (continue to I)

☐ Yes, describe the use and measures that will mitigate any potential for release and contamination.

I. Hazardous Waste: *Is the Project site in a developed area or was it previously developed or used for industrial or agricultural production?*

☐ No, describe the steps taken to determine that hazardous materials are not present on the Project site. (Continue to J)

☐ Yes

If yes, is it likely that hazardous materials will be encountered by undertaking the Project? (Prior to acquiring land or a facility with FRA funds, consult with FRA regarding the potential presence of hazardous materials)

☐ Yes, complete a Phase I site assessment and attach.

☐ No, explain why it is unlikely that hazardous materials will be encountered.

If a Phase I survey was completed, is a Phase II site assessment recommended?

☐ No, explain why a Phase II site assessment is not recommended.

☐ Yes, provide a copy of the Phase II site assessment and describe mitigation and clean-up measures to remediate any hazardous materials present identified in the Phase II site

assessment, and describe what steps will be taken to ensure that the local community is protected from contamination during construction and operation of the Project.

J. Property Acquisition: *Is property acquisition needed for the Project?*

☐ No (continue to K)

☐ Yes, indicate how much property and whether the acquisition will result in relocation of businesses or individuals.

❖ **Note: acquiring property prior to completing the NEPA process and receiving written FRA concurrence in the NEPA recommendation may jeopardize Federal financial participation in the Project**

K. Community Impacts and Environmental Justice: *Is the Project likely to result in impacts to adjacent communities? Impacts might be both beneficial (e.g. economic benefits) or adverse (e.g. reduction in community cohesion).*

☐ No, describe the steps taken to determine whether the Project might result in impacts to adjacent communities. (Continue to L)

☐ Yes, characterize the socio-economic profile of the affected community, including the presence of minority or low-income populations.

Describe any potential adverse effects to communities, including noise, visual and barrier effects. Indicate whether the Project will have a disproportionately high and adverse effect on minority or low-income populations. Describe outreach efforts targeted specifically at minority or low-income populations.

L. Impacts On Wetlands: *Does the Project temporarily or permanently impact wetlands or require alterations to streams or waterways?*

☐ No, describe the steps taken to determine that the Project is not likely to temporarily or permanently impact wetlands or require alterations to streams or waterways. (Continue to M)

☐ Yes, show wetlands and waters on the site map and classification. Describe the Project's potential impact to on-site and adjacent wetlands and waters and attach any correspondence with the US Army Corps of Engineers.

Is a Section 404 Permit necessary?

☐ Yes, attach all permit related documentation

☐ No

M. Floodplain Impacts: *Is the Project located within the 100-year floodplain or are regulated floodways affected?*

☐ No (Continue to N)

☐ Yes, describe the potential for impacts due to changes in floodplain capacity or water flow, if any and how the Project will comply with Executive Order 11988.

If impacts are likely, attach scale maps describing potential impacts and describe any

coordination with regulatory entities.

N. Water Quality: *Are protected waters of special quality or concern, or protected drinking water resources present at or adjacent to the Project site?*

- ☐ No, describe the steps taken to identify protected waters of special quality or concern, or protected drinking water resources present at or adjacent to the Project site.
- ☐ Yes, describe water resource and the potential for impact from the Project, and any coordination with regulatory agencies.

O. Navigable Waterways: *Does the Project cross or have an effect on a navigable waterway?*

- ☐ No (continue to P)
- ☐ Yes, describe potential for impact and any coordination with US Coast Guard.

P. Coastal Zones: *Is the Project in a designated coastal zone as defined in 16 U.S.C. 1453(1)?*

- ☐ No (continue to Q)
- ☐ Yes, describe coordination with the applicable coastal state(s) regarding consistency with the coastal zone management plan and attach the coastal state's finding if available.

Q. Prime and Unique Farmlands: *Does the Project impact any prime or unique farmlands?*

- ☐ No, describe the steps taken to identify impacts to prime or unique farmlands.
- ☐ Yes, describe potential for impact and any coordination with the Natural Resources Conservation Service of the US Department of Agriculture.

R. Critical Habitat and Threatened or Endangered Species: *Are there any designated critical habitat areas (woodlands, prairies, wetlands, rivers, lakes, streams, and geological formations determined to be essential for the survival of a threatened or endangered species) within or directly adjacent to the Project site?*

- ☐ No, describe the steps taken to identify critical habitat within or adjacent to the Project site.
- ☐ Yes, describe them and the potential for impact.

Are any Threatened or endangered species located in or adjacent to the Project?

- ☐ No, describe the steps taken to identify the presence of endangered species adjacent to the Project site.
- ☐ Yes, describe them and the potential for impact.

Describe any consultation with the US Fish and Wildlife Service, National Marine Fisheries Service, or State, as appropriate, about the impacts to critical habitat and to threatened and endangered species. If required, prepare a biological assessment and attach it and any

applicable agency correspondence.

S. Public Safety: *Will the Project result in any public safety impacts?*

☐ No, describe method used to determine whether the Project results in any safety or security impacts.

☐ Yes, describe the impacts to safety or security and any measures that would need to be taken to provide for the safe and secure operation of the Project during and after its construction.

T. Cumulative Impacts: A “cumulative impact” is the impact on the environment that results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts may include ecological (such as the effects on natural resources and on the components, structures, and functioning of affected ecosystems), aesthetic, historic, cultural, economic, social, or health, whether direct, indirect, or resulting from smaller actions that individually have no significant impact. Determining the cumulative environmental consequences of an action requires delineating the cause-and-effect relationships between the multiple actions and the resources, ecosystems, and human communities of concern.

Are cumulative impacts likely? Yes ☐ No ☐ Yes, describe the impacts:

U. Indirect Impacts: “Indirect impacts” are those that are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect impacts may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems.

Are Indirect impacts likely? Yes ☐ No ☐ Yes, describe the impacts:

V. Mitigation: Describe all mitigation measure commitments which address identified impacts that have been incorporated into the Project, if any.

What is the Project sponsor’s plan to enforce and monitor the mitigation proposed?

What are FRA’s additional mitigation requirements (if any)?

W. Public Notification: *Briefly describe any public outreach efforts undertaken on behalf of the Project, if any. Indicate opportunities the public has had to comment on the Project (e.g., Board meetings, open houses, special hearings).*

Has the Project generated any public discussion or concern, even though it may be limited to a relatively small subset of the community? Indicate any concerns expressed by agencies or the public regarding the Project.

X. Related Federal, State, or Local Actions: *Does the Project require any additional actions (e.g., permits) by other Agencies? Attach copies of relevant correspondence. It is not necessary to attach voluminous permit applications if a single cover agency transmittal will indicate that a permit has been granted. Describe permitting issues in the relevant resource discussion above.*

Section 106 *Historic Properties*

Section 401/404 of the Clean Water Act; *Wetlands and Water Quality*

Section 402 of the Clean Water Act

USCG 404 *Navigable Waterways*

Migratory Bird Treaty Act

Endangered Species Act *Threatened and Endangered Biological Resources*

Magnuson-Stevens Fishery Conservation and Management Act *Essential Fish Habitat*

Safe Drinking Water Act

Section 6(f) Land and Conservation Act

Other State or Local Requirements (Describe)

Appendix D: Advisory Council on Historic Preservation

ADVISORY COUNCIL ON HISTORIC PRESERVATION

Notice of Amendment to the Program Comment To Exempt Consideration of Effects to Rail Properties Within Rail Rights-of-Way

AGENCY: Advisory Council on Historic Preservation.

ACTION: Notice of Adoption of Amendment to the Program Comment to Exempt Consideration of Effects to Rail Properties within Rail Rights-of-Way.

SUMMARY: The Advisory Council on Historic Preservation (ACHP) has approved an amendment to the Program Comment to Exempt Consideration of Effects to Rail Properties within Rail Rights-of-Way. The amendment extends the deadline for the Department of Transportation to prepare and publish the implementing guidance to allow implementation of the property-based approach.

DATES: The amendment went into effect on June 10, 2019.

ADDRESSES: Address any questions concerning the amendments to Jaime Loichinger, Office of Federal Agency Programs, Advisory Council on Historic Preservation, 401 F Street NW, Suite 308, Washington, DC 20001.

FOR FURTHER INFORMATION CONTACT: Jaime Loichinger, (202) 517-0219, jloichinger@achp.gov.

SUPPLEMENTARY INFORMATION: Section 106 of the National Historic Preservation Act, 54 U.S.C. 306108, requires federal agencies to consider the effects of their undertakings on historic properties and to provide the Advisory Council on Historic Preservation (ACHP) a reasonable opportunity to comment with regard to such undertakings. The ACHP has issued the regulations that set forth the process through which federal agencies comply with these duties. Those regulations are codified under 36 CFR part 800 (Section 106 regulations).

Under Section 800.14(e) of those regulations, agencies can request the ACHP to provide a "Program Comment" on a particular category of undertakings in lieu of conducting individual reviews of each individual undertaking under such category, as set forth in 36 CFR 800.4 through 800.7. An agency can meet its Section 106 responsibilities with regard to the effects of particular aspects of those undertakings by taking into account an applicable Program Comment and following the steps set forth in that comment.

On August 17, 2018, the ACHP issued the Program Comment to Exempt

Consideration of Effects to Rail Properties within Rail Rights-of-Way at the request of the U.S. Department of Transportation (USDOT). See 83 FR 42920 (August 24, 2018). This Program Comment accelerates the review of undertakings affecting rail properties within rail rights-of-way under Section 106 of the National Historic Preservation Act and meets the requirement of Section 11504 of the Fixing America's Surface Transportation Act. The Program Comment can be used by any federal agency with responsibility to consider the effects of undertakings within rail rights-of-way.

The Program Comment is comprised of two major parts: (1) An activity-based approach, and (2) a property-based approach. The activity-based approach provides a list of activities in Appendix A for which, when the specific conditions are met, no further Section 106 review is required. The property-based approach establishes a process whereby project sponsors can opt to work with the relevant USDOT Operating Administration and stakeholders to develop a list of excluded historic rail properties that would continue to be subject to Section 106 review, and exempt from review the effects of undertakings to all other historic rail properties within a designated area. While the activity-based approach was effective immediately, the property-based approach does not go into effect until USDOT publishes implementing guidance. This amendment extends the deadline for USDOT to publish the implementing guidance to October 14, 2019.

In May 2019, the USDOT requested that the ACHP amend its Program Comment. As a result of the 35-day partial government shutdown earlier this year, the additional time necessary to review guidance in accordance with USDOT's new departmental review process, and to allow adequate time for necessary stakeholder reviews, USDOT was not able to meet the original deadline in the Program Comment and therefore requested a one-time 150-day extension to develop and issue the guidance. USDOT expects this amendment will constitute a one-time extension.

In considering USDOT's request, ACHP staff discussed the amendment with ACHP members during the Federal Agency Programs Committee call on May 20, 2019, and also during a conference call for all members which took place on May 30, 2019. Comments were received regarding the members' interest in discussing the draft guidance during the next ACHP business meeting

in July. USDOT was also asked to provide additional context for why a 150-day extension was needed, and USDOT emphasized that the uncertainty of its new internal review and other factors made such a request necessary.

The ACHP membership voted unanimously to adopt the amendment on June 10, 2019.

What follows is the text of the Program Comment, incorporating the adopted amendment:

Program Comment To Exempt Consideration of Effects to Rail Properties Within Rail Rights-of-Way, as Amended Advisory Council on Historic Preservation

Section 106 of the National Historic Preservation Act (NHPA), 54 U.S.C. 306108 (Section 106), requires federal agencies to take into account the effects of their undertakings on historic properties and to provide the Advisory Council on Historic Preservation (ACHP) a reasonable opportunity to comment with regard to such undertakings. The ACHP has issued regulations that set forth the process through which federal agencies comply with these responsibilities. Those regulations are codified under 36 CFR part 800 (Section 106 regulations).

Under section 800.14(e) of the Section 106 regulations, agencies can request the ACHP to provide a program comment on a particular category of undertakings in lieu of conducting separate reviews of each individual undertaking under such category, as set forth in 36 CFR 800.3 through 800.7. Federal agencies can satisfy their Section 106 responsibilities with regard to the effects of undertakings on rail properties located in railroad and rail transit rights-of-way (rail ROW) by following this program comment and the steps set forth therein.

I. Introduction

The ACHP issued this program comment to exempt consideration of effects under Section 106 to rail properties located within rail ROW in August 2018. The amendment to this program comment is for the sole purpose of extending the timeline for development of the Implementing Guidance for the Property-Based Approach under section IV.C. This program comment has been developed in accordance with Section 11504 of the FAST Act (49 U.S.C. 24202), which mandated the development of a Section 106 exemption for "railroad rights-of-way." More specifically, it required the Secretary of Transportation to submit a proposed exemption to the ACHP for consideration, and for the ACHP to

issue a final exemption not later than 180 days after the date of receipt of the U.S. Department of Transportation's (USDOT) submittal.

This program comment establishes two methods to meet the statutory directive: An activities-based approach and a property-based approach. The activities-based approach described in section III exempts from Section 106 review the activities listed in Appendix A, "Exempted Activities List," provided the conditions outlined therein are met. Those activities involve maintenance, repair, and upgrades to rail properties that are necessary to ensure the safe and efficient operation of freight, intercity passenger, commuter rail, and rail transit operations. While those activities may over time alter various historic elements within rail ROW, these changes are likely to be minimal or not adverse and are necessary to continue meeting the transportation needs of the nation. The property-based approach described in section IV provides an optional process for identifying excluded historic rail properties that are subject to Section 106 review, while exempting consideration of effects to other rail properties.

If a federal agency responsible for carrying out, licensing, permitting, or assisting an undertaking with the potential to affect historic rail properties meets the terms of this program comment, its Section 106 responsibility to take into accounts those effects will be satisfied.

II. Applicability

A. Applicability of Program Comment

1. The program comment applies to undertakings that may affect rail properties located within rail ROW. Any federal agency responsible for an undertaking located within rail ROW may utilize this program comment to satisfy its Section 106 responsibilities for those undertakings.

2. Under the Surface Transportation Project Delivery Program, codified at 23 U.S.C. 327, a state may assume the Secretary of Transportation's responsibilities to comply with Section 106 for certain projects or classes of projects. In such cases, the state may rely on this program comment to fulfill its Section 106 responsibilities.

3. Where a program alternative developed pursuant to 36 CFR 800.14, such as a statewide programmatic agreement, delegates Section 106 responsibility to another entity, that entity may also utilize the terms of this program comment for relevant undertakings as applicable. This program comment does not supersede or

modify any existing program alternatives, including existing executed programmatic agreements. In cases when this program comment and one or more other program alternatives apply to a proposed undertaking, the federal agency has discretion to determine which program alternative to follow.

B. Continued Applicability of Section 106

1. This program comment does not apply to, and the federal agency must comply with the requirements of 36 CFR part 800, or adhere to the terms of an applicable program alternative executed pursuant to 36 CFR 800.14, for the following:

a. Undertakings within rail ROW in the following situations:

i. Undertakings that are located within or would affect historic properties located on tribal lands;

ii. Undertakings consisting of activities not included in Appendix A and that may affect an excluded historic rail property designated by USDOT pursuant to section IV;

iii. Undertakings that could affect historic buildings, structures, sites, objects, or districts that do not have a demonstrable relationship to the function and operation of a railroad or rail transit system;

iv. Undertakings that could affect archaeological sites located in undisturbed portions of rail ROW, regardless of whether the sites are associated with railroads or rail transit systems. An archaeologist meeting the Secretary of the Interior's Professional Qualifications (SOI qualified professional) may assist in identifying undisturbed soils; and

v. Undertakings that could affect historic properties of religious and cultural significance to federally recognized Indian tribes or Native Hawaiian organizations (NHOs).

b. Undertakings that are not within rail ROW. For undertakings for which the area of potential effects (APE) is partially within but extends beyond rail ROW, this program comment applies only to the portions of the undertaking within rail ROW. Federal agencies must consider potential effects to properties adjacent to rail ROW that could be affected by the undertaking, including noise or vibration effects or changes to a historic property's setting.

2. If an unanticipated discovery of a non-rail historic property, archaeological site of any nature, or human remains, or an unanticipated adverse effect on a previously identified non-rail historic property is made during the implementation of an exempted activity listed in Appendix A,

the Section 106 requirements at 36 CFR 800.13 and/or applicable burial law, as appropriate depending on the nature of the resource, apply because effects to such resources are not covered by this program comment. At minimum, the Project Sponsor must cease all work in the affected area, secure the area, and notify the federal agency within 72 hours. The federal agency will consult with the State Historic Preservation Officer (SHPO), federally recognized Indian tribes, NHOs, and any other stakeholders as appropriate, to determine the appropriate course of action. If an undertaking involves multiple exempted activities listed in Appendix A, those that do not involve or affect the non-rail resource, as determined by the federal agency, may continue. The Project Sponsor must comply with any applicable state and/or local law regarding the resource.

C. This program comment does not alter the requirements of any applicable easements, covenants, and/or state or local historic preservation ordinances. Other federal and state laws such as the National Environmental Policy Act and Section 4(f) of the USDOT Act also remain applicable, as appropriate.

III. Activities-Based Approach To Exempting Consideration of Effects Under Section 106

A. Undertakings to maintain, improve, or upgrade rail properties located in rail ROW that are limited to the activities specified in Appendix A are exempt from the requirements of Section 106 because their effects on historic rail properties are foreseeable and likely to be minimal or not adverse. The activities included in Appendix A are exempt from further Section 106 review regardless of whether the rail properties affected are eligible for or listed on the National Register of Historic Places or whether the activities may affect an excluded historic rail property as designated by USDOT pursuant to section IV.

B. If a SHPO, a federally recognized Indian tribe, or an NHO believe an undertaking carried out under Appendix A is adversely affecting or has adversely affected a historic rail property, the SHPO, Indian tribe, or NHO may notify the federal agency responsible for the undertaking of its concern. The federal agency will promptly investigate the concern within 72 hours of the notification. The federal agency will then determine the appropriate course of action, in consultation with the Project Sponsor, SHPO, Indian tribe, NHO, and other stakeholders, as appropriate.

IV. Property-Based Approach To Exempting Consideration of Effects Under Section 106

Project Sponsors may opt to collaborate with a USDOT Operating Administration (OA) to designate excluded historic rail properties within a defined study area, as described in section IV.A, for which the federal agency must comply with requirements of Section 106 for undertakings that have the potential to affect those properties. Once a USDOT OA formally excludes historic rail properties within a study area, consideration of effects to all other evaluated rail properties within that study area shall be exempt from Section 106 review for any undertaking by any federal agency. In accordance with section IV.C. below, USDOT will publish implementing guidance that will provide further detail regarding the identification and evaluation of excluded historic rail properties. This property-based approach shall go into effect on the date USDOT publishes the implementing guidance no later than October 14, 2019.

A. Identification of Excluded Historic Rail Properties

1. A Project Sponsor that opts to follow the property-based approach to identify excluded historic rail properties must follow the steps outlined below, in accordance with the implementing guidance. To provide maximum flexibility and utility in this process, a Project Sponsor can opt-in on its preferred timeline.

a. A Project Sponsor must clearly define the study area, *i.e.*, the portion of rail ROW to be evaluated, which can be identified by location (*e.g.*, state, county), name of rail corridor, railroad, rail transit system or line, and/or mile-post information, etc.

b. A Project Sponsor may choose to evaluate for designation as excluded historic rail properties either (i) all rail properties in the defined study area, or (ii) a particular property type or types, such as rail bridges, stations and depots, tunnels, etc. within the defined study area.

c. A Project Sponsor's evaluation efforts should also be informed by a variety of available and existing information, including historic context studies, local and state inventories, surveys and evaluations; railroad company records (*e.g.*, bridge inventories or inspection reports); knowledgeable railroad and rail transit personnel; railroad and rail transit historical society museum and archival collections; railroad and rail transit enthusiast website publications; state or

local historic preservation organizations; and other relevant documentation and professional experience and expertise. Prior to submitting its proposed list to the USDOT OA, each Project Sponsor must notify the SHPO(s) in the state(s) within which the study area lie(s), and Indian tribes or NHOs who may attach religious and cultural significance to historic properties within the study area, of its evaluation efforts to identify excluded properties and request their input. If existing information is not available to determine the potential historic significance of rail properties within the defined study area, the USDOT OA may require the Project Sponsor to conduct a physical survey of the study area carried out by or under the direct supervision of individuals meeting the SOI's professional qualifications.

d. A Project Sponsor must submit to the USDOT OA the rail properties it proposes be designated as excluded historic rail properties, along with a summary of its evaluation efforts including whether it evaluated all rail properties within the study area or only a certain type(s) of rail property, in accordance with the implementing guidance.

2. Once a Project Sponsor submits a proposal to designate excluded historic rail properties for a study area to the USDOT OA, the USDOT OA will take the following actions to review and designate excluded historic rail properties:

a. The USDOT OA will review each proposal received from a Project Sponsor in accordance with the implementing guidance. The USDOT OA shall notify and request the input of the SHPO(s), Indian tribes, and/or NHOs when reviewing a Project Sponsor's proposal. The USDOT OA will have the discretion to require a Project Sponsor to conduct additional evaluation and/or provide additional documentation to demonstrate that the Project Sponsor made a reasonable effort to identify potential excluded rail properties. Following its review of a Project Sponsor's proposal, the USDOT OA will make the proposed list, modified as necessary based on its review and any consultation or additional evaluation or documentation, available for public review and comment, and will consider input from interested parties and the public before designating the excluded historic rail properties within a study area. The USDOT OA may seek input from the ACHP, including advice regarding resolution of any objections or concerns from commenters, before making such designations. The USDOT may, as needed, consult with the Keeper

of the National Register to resolve questions or disagreements about the National Register eligibility of any rail properties.

b. The USDOT OA will designate excluded historic rail properties within a study area within 12 months of receipt of a Project Sponsor's adequately supported proposal, in accordance with the implementing guidance.

c. USDOT will publish and periodically update the list of designated excluded historic rail properties on its website (www.transportation.gov).

B. Effect of Designation as an Excluded Historic Rail Property

1. All undertakings that may affect USDOT-designated excluded historic rail properties are subject to Section 106. However, undertakings that include activities listed in Appendix A require no further Section 106 review regardless of the rail property that would be affected, including excluded historic rail properties.

2. Once a USDOT OA designates excluded historic rail properties within a study area and the list is published on the USDOT website, consideration of effects to all other evaluated rail properties within that study area are exempt from Section 106 review. If a Project Sponsor chooses to evaluate only a specific rail property type, rather than all historic properties, within a study area, then consideration of effects to rail properties other than the type evaluated remain subject to Section 106.

C. Implementing Guidance

1. By October 14, 2019, USDOT, in coordination with the ACHP and other federal agencies who may have an interest in utilizing the Program Comment, will publish guidance for implementing the property-based approach.

2. The guidance will: Provide further instruction and examples for evaluating rail properties for potential designation as excluded historic rail properties to remain subject to Section 106; describe the process by which a Project Sponsor may propose excluded historic rail properties to a USDOT OA, including early coordination between the Project Sponsor and the USDOT OA; establish timeframes for USDOT OA review of proposals and designation of excluded historic rail properties; and establish public involvement methods.

V. Definition of Terms

Any terms not defined below shall follow the definitions in the NHPA, 54 U.S.C. 300301–300321, and in 36 CFR parts 60 and 800.

A. "Area of potential effects" is defined in 36 CFR 800.16(d) and means the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist. The area of potential effects is influenced by the scale and nature of an undertaking and may be different for different kinds of effects caused by the undertaking.

B. "Excluded historic rail properties" means those historic properties that illustrate the history of the development of the nation's railroads or rail transit systems and:

1. Are at least 50 years old, possess national significance, and meet the National Register eligibility criteria as defined in 36 CFR 60.4;

2. are less than 50 years old, possess national significance, meet the National Register eligibility criteria, and are of exceptional importance;

3. were listed in the National Register, or determined eligible for the National Register by the Keeper pursuant to 36 CFR part 63, prior to the effective date of the Program Comment and retain eligibility as determined by the USDOT OA; or

4. are at least 50 years old and meet the National Register eligibility criteria at the state or local level of significance, as determined by the USDOT OA.

C. "Historic property" is defined in 36 CFR 800.16(l) and means any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register of Historic Places maintained by the Secretary of the Interior. This term includes artifacts, records, and remains that are related to and located within such properties. The term includes properties of religious and cultural importance to a federally recognized Indian tribe or Native Hawaiian organization that meet the National Register criteria.

D. "In-kind" means that new materials used in repairs or replacements match the material being repaired or replaced in design, color, texture, other visual properties, and, where possible, materials. For more information, see The Secretary of the Interior's Standards for Rehabilitation, at <https://www.nps.gov/tps/standards/rehabilitation.htm>.

E. "National significance" means a historic property that is eligible or listed in the National Register and either:

1. Designated as a National Historic Landmark;

2. designated as a Historical Civil Engineering Landmark;

3. listed as nationally significant in its nomination or listing in the National Register; or

4. determined by a USDOT OA to have significance at the national level.

F. "Project Sponsor" means an entity such as a state, tribal or local government, joint venture, railroad commission, compact authority, port authority, transit agency or authority, or private company that is eligible to receive federal financial assistance (e.g., grant, loan). A Project Sponsor may also be an entity that requires a federal permit, license, or approval to carry out a proposed activity in rail ROW (e.g., a permit under Section 404 of the Clean Water Act issued by the Army Corps of Engineers or a permit under Section 9 of the Rivers and Harbors Act of 1899 issued by the United States Coast Guard).

G. "Rail properties" means infrastructure located within rail ROW that has a demonstrable relationship to the past or current function and operation of a railroad or rail transit system, including but not limited to: Rails and tracks, ties, ballast, rail beds, signal and communication systems, switches, overhead catenary systems, signage, traction power substations, passenger stations/depots and associated infrastructure and utilities, freight transfer facilities, boarding areas and platforms, boarding platform shelters and canopies, bridges, culverts, tunnels, retaining walls, ancillary facilities, ventilation structures, equipment maintenance and storage facilities, railyards and rail transit yards, parking lots and parking structures, landscaping, passenger walkways, and security and safety fencing. Rail properties may also include a section of a railroad or rail transit line. The definition does not include properties with no demonstrable relationship to the function and operation of a railroad or rail transit system, such as: Adjacent residential, commercial or municipal buildings; or property unrelated to existing or former railroads and rail transit lines that is proposed to be used for new rail infrastructure.

H. "Railroad and Rail Transit Rights-of-Way" means the land and infrastructure that have been developed for existing or former intercity passenger rail, freight rail, rail transit operations, or that are maintained for the purpose of such operations. Rail ROW includes current and/or former railroad or rail transit lines regardless of current ownership and whether there is rail service operating on the railroad or rail transit line. It includes property that was previously developed for railroad or rail transit use even though the

infrastructure has been modified or removed, and the property may lack visual evidence of previous railroad or rail transit use. It does not include land that was never developed for railroad or rail transit use. Rail ROW includes and may be identifiable by the presence of infrastructure that has a demonstrable relationship to the past or current function and operation of a railroad or rail transit system that commonly includes but is not limited to the rail properties specified in the definition above.

I. "Section 106" means Section 106 of the National Historic Preservation Act, 54 U.S.C. 306108.

J. "Study area" means the portion of rail ROW identified for the purposes of the evaluation under the property-based approach described in section IV. It may be delineated by: Location (e.g., state, county); name of rail corridor, railroad, rail transit system or line; or mile-post information.

K. "Undertaking" is defined at 36 CFR 800.16(y) and means a project, activity, or program funded in whole or in part under the direct or indirect jurisdiction of a federal agency, including those carried out by or on behalf of a federal agency; those carried out with federal financial assistance; and those requiring a federal permit, license, or approval.

L. "Undisturbed portions of rail ROW" means soils that have not been physically impacted by previous construction or other ground disturbing activities such as grading. Undisturbed soils may occur below the depth of previously disturbed soils or fill.

M. "USDOT OA" means the United States Department of Transportation's Operating Administrations, including the Federal Railroad Administration, the Federal Transit Administration, and the Federal Highway Administration.

VI. Effective Date

The activities-based approach to exempting consideration of effects under Section 106, as described in section III, shall go into effect on the date the program comment is issued by the ACHP. At that time, federal agencies may immediately utilize the list of exempted activities in Appendix A. This includes undertakings that have not yet been initiated and undertakings for which the Section 106 review process is underway but not completed.

The property-based approach to exempting consideration of effects under Section 106, as described in section IV, shall go into effect on the date USDOT publishes the implementing guidance in accordance with section IV.C.

VII. Program Comment Review

Within one year of the issuance of this program comment, and every two years thereafter, the USDOT OAs and the ACHP shall evaluate the ongoing effectiveness and efficiency of the implementation of this program comment. The USDOT OAs shall review their use and application of the program comment, and may invite transportation stakeholders to participate in this review as appropriate.

VIII. Amendment

The ACHP may amend this program comment after consulting with the USDOT OAs and other relevant federal agencies, the National Conference of State Historic Preservation Offices (NCSHPO), National Association of Tribal Historic Preservation Officers (NATHPO), tribal representatives, the National Trust for Historic Preservation, and representatives from the railroad and rail transit industry, as appropriate. The ACHP will publish a notice in the **Federal Register** informing the public of any amendments that are made to the program comment.

IX. Withdrawal

The ACHP may withdraw this program comment, pursuant to 36 CFR 800.14(e)(6), by publication of a notice in the **Federal Register** 30 days before the withdrawal will take effect.

Appendix A: Exempted Activities List

I. General Rule

A. The federal agency is responsible for determining if an undertaking is covered by one or more activities in the Exempted Activities List. At its discretion, the federal agency may require the Project Sponsor to provide relevant documentation, such as plans, photographs, or materials specifications, so that the federal agency can determine whether the Exempted Activities List applies.

B. Whenever possible, historic materials must be repaired rather than replaced. At its discretion, the federal agency may require the Project Sponsor to provide written justification explaining why repair is not feasible. In cases where existing historic materials are beyond repair, replacement must be carried out in-kind as defined below.

C. Several of the activities in the Exempted Activities List require that the work be "in-kind." For purposes of this program comment, "in-kind" means that new materials used in repairs or replacements match the material being repaired or replaced in design, color, texture, other visual properties, and, where possible, materials. For more information, see The Secretary of the Interior's Standards for Rehabilitation, at <https://www.nps.gov/tps/standards/rehabilitation.htm>. Except where specified in the Exempted Activities List, a Project Sponsor is not required to involve an SOI-

qualified professional in carrying out in-kind work. However, the federal agency, at its discretion, may require the Project Sponsor to provide documentation demonstrating that the work would be in-kind, utilize non-damaging or reversible methods, etc.

D. Certain activities, as specified in the Exempted Activities List, require that the federal agency and Project Sponsor ensure the work is performed by or under the supervision of individuals that meet the SOI's Professional Qualification Standards in Architectural History, Architecture, and/or Historic Architecture (see 36 CFR Appendix A to Part 61), as appropriate, and must be performed in accordance with the SOI Standards for the Treatment of Historic Properties (<https://www.nps.gov/tps/standards.htm>). If an SOI-qualified professional is not available to assist in the evaluation and/or design of a specified activity, that activity is not exempt from Section 106 review.

E. The Exempted Activities List does not apply to archaeological sites of any nature located within undisturbed portions of rail ROW. Therefore, if an exempted activity would cause ground disturbance in undisturbed portions of the rail ROW, the federal agency is responsible for complying with Section 106 regarding consideration of potential effects to archaeological sites before approving the undertaking.

F. The Exempted Activities List does not apply to non-railroad or rail transit related buildings or structures located within or adjacent to rail ROW within an undertaking's APE. The federal agency remains responsible for determining whether an activity in the Exempted Activities List has the potential to affect non-rail historic properties and for complying with Section 106 with regard to those properties before approving the undertaking.

G. If an unanticipated discovery of a non-rail historic property, archaeological site of any nature, or human remains, or an unanticipated adverse effect on a previously identified non-rail historic property is made during the implementation of an activity on the Exempted Activities List, the Section 106 requirements at 36 CFR 800.13 and/or applicable burial law, as appropriate depending on the nature of the resource, apply because effects to such resources are not covered by this program comment. At minimum, the Project Sponsor must cease all work in and secure the area and notify the federal agency within 72 hours. The federal agency will consult with SHPO, federally recognized Indian tribes, NHOs, and other stakeholders as appropriate, to determine the appropriate course of action. The Project Sponsor must comply with any applicable state or local law regarding the resource. If an undertaking involves multiple activities on the Exempted Activities List, those that do not involve or affect the non-rail resource, as determined by the federal agency, may continue.

H. The Project Sponsor must comply with the requirements of any applicable easements, covenants, and/or state or local historic preservation ordinances. Other federal and state laws such as the National Environmental Policy Act and Section 4(f) of

the USDOT Act also remain applicable to activities exempted from Section 106, as appropriate.

II. Exempted Activities List

A. Track and Trackbed

1. Track and trackbed maintenance, repair, replacement, and upgrades within the existing footprint (*i.e.*, existing subgrade, sub-ballast, ballast, and rails and crossties (track)). These activities must not include alterations to the trackbed that would result in a substantial visual change (*i.e.*, elevation or alignment) in the relationship between the trackbed and the surrounding landscape or built environment.

2. Reinstallation of double tracking on a currently single-tracked line that had historically been double-tracked.

B. Bridges and Tunnels

1. In-kind maintenance and repair of bridges and tunnels.

2. In-kind replacement of bridge hardware and mechanical and electrical components (*e.g.*, brackets, rivets, bearings, motors).

3. Maintenance or repair of tunnel ventilation structures and associated equipment (*e.g.*, fans, ducting).

4. Replacement of tunnel ventilation structures that are not located within a previously identified historic district.

5. Replacement of tunnel ventilation structures that are located and publicly visible within a previously identified historic district, provided the replaced structures are substantially the same size as or smaller than the existing structures and are visually compatible with the surrounding built environment.

6. Maintenance, repair, or replacement of tunnel emergency egress hatchways.

7. Maintenance, installation, repair, or replacement of lighting, signal and communications systems, railings, and other safety- and security-related equipment or elements located within the interiors of tunnels.

8. Removal or replacement of any bridge or tunnel material or added-on element that is not part of the original construction.

9. Actions to strengthen or repair deteriorating non-character defining structural components of bridges that are intended to maintain their useful life and safe use and that do not substantially alter the bridge from its existing appearance.

10. The following activity must be performed or supervised by an SOI-qualified professional: In-kind replacement of character-defining structural or non-structural components of a bridge superstructure or substructure that do not diminish the overall integrity of the bridge. This does not include demolition of a bridge and replacement with an entirely new structure.

C. Railroad and Rail Transit Buildings (*e.g.*, Passenger Stations and Depots, Maintenance and Equipment Buildings, Interlocking Towers) and Boarding Platforms

1. Modifications (*e.g.*, repair, extension, widening, slope adjustments, changes in height) to non-character defining passenger platforms and walkways that are necessary to

meet Americans with Disabilities Act (ADA) requirements or other federal or municipal public or life safety codes and standards, provided those changes do not require associated improvements such as relocation of station doors, construction of ramps, etc. When the original material and construction used something other than common concrete or asphalt methods (e.g., decorative brick or tile), new materials (e.g., non-slip) may be used but must visually match the existing decorative pattern.

2. Maintenance or repair of escalators, elevators, or stairs. Repair of decorative (i.e., non-mechanical) elements must be in-kind. Repair of stairs constructed of material other than common concrete (e.g., brick, tile, marble) must be in-kind.

3. Cleaning, painting, or refinishing of surfaces with a like color and where the products or methods used would not damage the original surface.

4. Maintenance, repair, or replacement of fire or security alarm or fire suppression systems, physical access controls, security cameras, wireless internet, and similar safety, security, or computer equipment and devices.

5. Installation of new fire or security alarm or fire suppression systems, physical access controls, security cameras, wireless internet, and similar safety, security, or computer equipment and devices, except within publicly accessible areas of stations or depots. Such new installations must, to the extent feasible and when appropriate, use a minimally obtrusive design; match the color of surrounding paint, wall coverings, finishes, etc.; avoid damaging or removing historic fabric; be attached to non-historic fabric; be concealed within existing enclosures or conduit or behind walls and ceilings; be co-located with existing similar modern equipment, etc.

6. Maintenance, repair, or replacement of HVAC or electrical systems.

7. Installation of new HVAC or electrical systems, except within publicly accessible areas of stations or depots. Such new installations must, to the extent feasible and when appropriate, use a minimally obtrusive design; match the color of surrounding paint, wall coverings, finishes, etc.; avoid damaging or removing historic fabric; be attached to non-historic fabric; be concealed within existing enclosures or conduit or behind walls and ceilings; be co-located with existing similar modern equipment, etc.

8. Minor ADA improvements at passenger stations that do not damage, cover, alter, or remove character-defining architectural spaces, features, or finishes. Examples include the installation of restroom stalls/partitions, hardware and fixtures such as grab bars, tilt frame mirrors, and sinks and toilets; tactile warning strips on floors, passenger walkways, and platforms; cane detectors; sidewalk curb cuts; automatic door openers; and handrails.

9. Maintenance, repair, or replacement of previously installed ADA elements.

10. Maintenance, repair, or replacement of pumps, air compressors, or fueling stations.

11. Removal of mechanical equipment inside railroad and rail transit facilities not visible to the public. Examples include relay

panels, switchgear, and track diagram boards. If the equipment to be removed includes obsolete or outdated technology, the Project Sponsor must contact the SHPO, railroad museums or railroad historical societies, museums, educational institutions, or similar entities to determine if there is an entity that may be interested in purchasing or receiving the equipment as a donation, as appropriate. The Project Sponsor must demonstrate to the federal agency that it has made a good faith effort to contact such parties prior to removal and disposition of such equipment.

12. Addition of new mechanical equipment in basements, beneath platforms, in designated mechanical equipment areas, or in areas that are otherwise out of public view.

13. Paving, painting, or striping of existing parking surfaces.

14. In-kind maintenance or repair of platform boarding canopies and supports.

15. In-kind maintenance or repair of architecturally distinctive light poles and fixtures.

16. State-of-good-repair (SOGR) activities not included elsewhere in this section that are necessary to keep a station, depot, or other railroad or rail transit building inhabitable and safe, as required by applicable federal or municipal fire, life safety, or health codes or standards, and in transportation-related use that meet the following conditions:

a. Maintenance and repair activities that affect character-defining architectural features (e.g., elevator head houses and portals; roofs; doors; windows; stairs; platform canopies; columns; floors; ceilings) must be in-kind.

b. SOGR activities do not include demolition, decommissioning, or mothballing of railroad or rail transit buildings that are not in use, or reconfiguring the interior spaces of passenger stations for a new use (e.g., enclosing a passenger waiting area to create new office, baggage handling, or event space).

17. Maintenance, repair, or replacement activities that are not included elsewhere on this list and involve non-character-defining non-structural elements, features, systems, hardware, and fixtures in the interior or on the exterior of non-station railroad or rail transit buildings.

18. In-kind maintenance or repair of original architectural features in the interior or on the exterior of passenger stations (e.g., handrails, ticket counters, mouldings).

19. In-kind maintenance or repair of character-defining signage (e.g., station identifier, wayfinding) within publicly accessible areas of stations or depots.

20. Maintenance, repair, or replacement of non-character defining signage (e.g., station identifier, wayfinding) within publicly accessible areas of stations or depots.

21. The following activities must be performed or supervised by an SOI-qualified professional:

a. Replacement of character defining escalators, elevators, or stairs, and decorative elements related thereto.

b. ADA improvements at passenger stations that involve the modification or removal of character-defining features such as stairs, floors, ceilings, doors, windows, roofs,

platform boarding canopies and supports, benches/seating, or ticket counters; or that involve the addition of new ramps, stairs, escalators, elevators, wheelchair lifts, wheelchair lift enclosures, station identifier and wayfinding signage, and public information display systems (PIDS).

c. SOGR activities that include replacement of character-defining architectural features or otherwise require substantial rehabilitation to address deteriorated conditions. As previously indicated, SOGR activities do not include demolition, decommissioning, or mothballing of railroad or rail transit buildings that are not in use, or reconfiguring the interior spaces of passenger stations for a new use (e.g., enclosing a passenger waiting area to create new office, baggage handling, or event space).

d. Installation of new fire or security alarm or fire suppression systems, physical access controls, security cameras, wireless internet, and similar safety, security, or computer equipment and devices within publicly accessible areas of stations or depots.

e. Installation of new HVAC or electrical systems within publicly accessible areas of stations or depots.

f. Replacement of platform boarding canopies and supports.

g. Replacement of architecturally distinctive light poles and fixtures.

h. Replacement of original architectural features in the interior or on the exterior of passenger stations (e.g., handrails, ticket counters, mouldings).

i. Replacement of character-defining signage (e.g., station identifier, wayfinding) within publicly accessible areas of stations or depots.

D. Signals, Communications, and Power Generation

1. Maintenance, repair, or replacement of component parts of signal, communications, catenary, electric power systems, or other mechanical equipment that retains the visual appearance of the existing infrastructure. This includes replacement of individual signal masts or transmission lines, but does not include demolition and replacement of an entire catenary system or signal bridge.

2. Maintenance, repair, or replacement of radio base stations.

3. Maintenance, repair, or replacement of the mechanical components of traction power substations, e.g., transformers, circuit breakers, electrical switches. This does not include demolition and replacement of an entire substation.

4. In-kind maintenance or repair of signal bungalows, signal houses, control houses, instrument houses, and structures of similar function.

5. Installation, repair, or replacement of communications equipment on locomotives and rolling stock that are actively used for intercity passenger rail, rail transit, or freight rail. This does not apply to historic trains used for tourism.

6. The following activities must be performed or supervised by an SOI-qualified professional:

a. Replacement of signal bungalows, signal houses, control houses, instrument houses, and structures of similar function.

E. Railroad and Rail Transit/Roadway At-Grade Crossings and Grade Separations

1. Maintenance, repair, or rehabilitation of at-grade railroad and rail transit crossings including installation of railroad and rail transit crossing signs, signals, gates, warning devices and signage, highway traffic signal preemption, road markings, paving and resurfacing, and similar safety improvements.

2. Replacement of at-grade railroad and rail transit crossings on existing railroads, rail transit lines, and roadways, including components such as crossing signs, signals, gates, warning devices and signage, highway traffic signal pre-emption, road markings, paving and resurfacing, and similar safety features.

3. Expansion of sidewalks, constructed with common concrete or asphalt methods, along the sides of an existing at-grade railroad or rail transit crossing.

4. In-kind maintenance or repair of grade-separated crossings of other transportation modes (highways, local roads, pedestrian underpasses).

5. In-kind rehabilitation or replacement of grade-separated crossings of other transportation modes (highways, local roads, pedestrian underpasses). This does not include modifications to existing grade separation structures (e.g., bridges, overpasses) that would result in a substantial increase in height or overall massing or substantial change in appearance. Replacements must be substantially the same appearance and size as existing.

6. Addition of lanes, turning lanes, road widening, and pavement markings at existing at-grade crossings when the crossing does not involve an individual National Register-listed or known historic roadway or a roadway that is a contributing resource to a National Register-listed or known historic district.

7. Construction of curbs, gutters, or sidewalks adjacent to existing roadway at existing at-grade crossings when the crossing does not involve an individual National Register-listed or eligible roadway or a roadway that is a contributing resource to a National Register-listed or eligible historic district.

8. The following activities must be performed or supervised by an SOI-qualified professional:

a. Addition of lanes, turning lanes, road widening, and pavement markings at existing at-grade crossings when the crossing involves an individual National Register-listed or eligible roadway or a roadway that is a contributing resource to a National Register-listed or eligible historic district.

b. Construction of curbs, gutters, or sidewalks adjacent to existing roadway at existing at-grade crossings when the crossing involves an individual National Register-listed or eligible roadway or a roadway that is a contributing resource to a National Register-listed or eligible historic district.

F. Safety and Security

1. Maintenance, repair, replacement, or installation of the following security and intrusion prevention devices adjacent to tracks or in railyards or rail transit yards: Security cameras, closed captioned television (CCTV) systems, light poles and fixtures,

bollards, emergency call boxes, access card readers, and warning signage.

2. Maintenance, repair, replacement, or installation of security and safety fencing, guardrails, and similar intrusion prevention and fall protection measures.

3. Maintenance, repair, replacement, or installation of safety equipment/fall protection equipment on rail bridges, signal bridges, or other non-station structures for the protection of rail workers or the public. Examples include railings, walkways, gates, tie-off safety cables, anchors, and warning signage.

4. Maintenance, repair, replacement, or installation of wayside detection devices.

5. Maintenance, repair, replacement, or installation of bridge clearance/strike beams.

G. Erosion Control, Rock Slopes, and Drainage

1. Placement of riprap and similar bank stabilization methods to prevent erosion affecting bridges and waterways.

2. Erosion control through slide and slope corrections.

3. Rock removal and re-stabilization activities such as scaling and bolting.

4. Maintenance, repair, or replacement of pre-cast concrete, cast iron, and corrugated metal culverts that lack stone or brick headwalls. This does not include culverts such as those built by the Civilian Conservation Corps or those made out of unique materials (e.g., a hollowed log).

5. Expansion through horizontal elongation of pre-cast concrete, cast iron, and corrugated metal culverts that lack stone or brick headwalls for the purpose of improved drainage.

6. Embankment stabilization or the re-establishment of ditch profiles.

7. Corrections to drainage slopes, ditches, and pipes to alleviate improper drainage or changing alluvial patterns.

8. In-kind maintenance, repair, or replacement of retaining walls. Replacements must be substantially the same size and appearance as existing.

9. In-kind maintenance or repair of stone or brick culvert headwalls and wingwalls.

10. Maintenance, repair, or replacement of culvert headwalls and wingwalls constructed of concrete.

11. Maintenance, repair, or alterations to the interiors of culverts and related drainage pathways.

12. The following activities must be performed or supervised by an SOI-qualified professional:

a. Replacement of stone or brick culvert headwalls and wingwalls.

b. Vertical extension of stone or brick culvert headwalls using in-kind materials and design compatible with existing.

H. Environmental Abatement

1. Removal or abatement of environmental hazards such as asbestos, treated wood, and lead or heavy-metal coatings and paintings. Activities that replace coatings, paint, flooring materials, etc. must be of the same color and appearance as the materials that have been removed or abated.

2. Removal of contaminated ballast, sub-ballast, subgrade, and soils.

I. Operations

1. Establishment of quiet zones, including the installation of required warning devices and additional safety measures installed at grade crossings, that do not entail closing of existing roadways.

2. Increased frequency of train or rail transit operations that do not result in noise or vibration impacts. The lead federal agency may, at its discretion, require a noise and vibration study be prepared by a qualified subject matter expert before approving the undertaking.

3. Temporary storage of rail cars or rail transit cars on active rail lines.

4. Maintenance, repair, or replacement of noise barriers. If a replaced noise barrier is to be located and publicly visible within a National Register-listed or eligible historic district, it must be substantially the same size as or smaller than existing and be visually compatible with the surrounding built environment.

J. Landscaping, Access Roads, and Laydown Areas

1. In-kind replacement of landscaping.

2. Mowing, seeding/reseeding, planting, tree trimming, brush removal, or other similar groundcover maintenance activities.

3. Maintenance of access roads and lay-down areas.

K. Utilities

1. Maintenance, repair, or replacement of above-ground and underground utilities (e.g., electrical, sewer, compressed air lines, fuel lines, fiber optic cable).

2. Maintenance, repair, replacement, or installation of utility lines and conduit inside tunnels that does not involve affixing new equipment to the exterior face of tunnel portals.

3. Affixing conduit, repeaters, antennae, and similar small-scale equipment on the exterior masonry face of tunnel portals where the color of the equipment matches the existing masonry in order to limit its visibility and does not damage the masonry construction.

L. Bicycle and Pedestrian Facilities, Shared Use Paths, and Other Trails

1. Maintenance, repair, or replacement of existing bicycle lanes, pedestrian walkways, shared use paths (e.g., bicycle, pedestrian), and other trails intended for non-motorized transportation that are constructed with common materials (i.e., non-decorative concrete, asphalt, pavement, or gravel).

2. Adding lanes to existing shared use paths or other trails constructed with common materials.

3. Adding at-grade crossings for pedestrians and bicycle facilities, shared use paths, or other trails.

4. Maintenance, repair, replacement, or installation of bicycle aid stations, bicycle racks, and bicycle storage sheds, and similar amenities. Installation of new bicycle storage structures must be visually compatible with the surrounding building environment when located adjacent to historic passenger stations or within National Register-listed or eligible historic districts.

5. Maintenance, repair, replacement, or installation of information kiosks or displays,

wayfinding signage, and similar amenities for pedestrian, bicyclists, or other path or trail users.

6. Maintenance, repair, or replacement of curbs, gutters, or sidewalks constructed with common materials.

M. Construction/Installation of New Railroad or Rail Transit Infrastructure

For any of the activities listed below, the federal agency shall require the work be performed by or under the supervision of an SOI-qualified professional, based on the scope of work and location of a specific proposal. As with all activities in this Exempted Activities List, but especially important for construction/installation of new railroad or Rail Transit infrastructure, consideration must be given to the potential for effects to non-rail properties within or adjacent to the rail ROW.

1. Minor new construction and installation of railroad or rail transit infrastructure that is compatible with the scale, size, and type of existing rail infrastructure, such as buildings for housing telecommunications equipment, signal instruments, and similar equipment; storage buildings that house landscaping or maintenance of way equipment or specialty vehicles for track repairs or inspections; locomotive and train or rail transit car service and inspection facilities; trailers or temporary structures for housing rail personnel; fueling stations; underground utilities; overhead utilities, transmission lines, and communications poles, and signage. This does not include substantial new construction, such as construction of new passenger stations, railyards or rail transit yards, or tunnels, or demolition of existing structures.

2. Construction of new at-grade crossings.

3. Construction of new erosion control, drainage, or stormwater management

infrastructure, such as culverts or retaining walls.

(END OF DOCUMENT)

Authority: 36 CFR 800.14(e).

Dated: June 24, 2019.

John M. Fowler,
Executive Director.

[FR Doc. 2019-13779 Filed 6-27-19; 8:45 am]

BILLING CODE 4310-K6-P

DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

**[Docket No. FWS-HQ-IA-2019-0024;
FXIA16710900000-178-FF09A30000]**

**Endangered Species; Marine
Mammals; Issuance of Permits**

AGENCY: Fish and Wildlife Service,
Interior.

ACTION: Notice of issuance of permits.

SUMMARY: We, the U.S. Fish and Wildlife Service, have issued the following permits to conduct certain activities with endangered species, marine mammals, or both. We issue these permits under the Endangered Species Act and the Marine Mammal Protection Act.

ADDRESSES: Information about the applications for the issued permits listed in this notice is available online at www.regulations.gov. See **SUPPLEMENTARY INFORMATION** for details.

FOR FURTHER INFORMATION CONTACT:
Brenda Tapia, by phone at 703-358-

2104, via email at DMAFR@fws.gov, or via the Federal Relay Service at 800-877-8339.

SUPPLEMENTARY INFORMATION: We, the U.S. Fish and Wildlife Service (Service), have issued permits to conduct certain activities with endangered and threatened species in response to permit applications that we received under the authority of section 10(a)(1)(A) of the Endangered Species Act of 1973, as amended (ESA; 16 U.S.C. 1531 *et seq.*)

After considering the information submitted with each permit application and the public comments received, we issued the requested permits subject to certain conditions set forth in each permit. For each application for an endangered species, we found that (1) the application was filed in good faith, (2) the granted permit would not operate to the disadvantage of the endangered species, and (3) the granted permit would be consistent with the purposes and policy set forth in section 2 of the ESA.

Availability of Documents

The permittees' original permit application materials, along with public comments we received during public comment periods for the applications, are available for review. To locate the application materials and received comments, go to www.regulations.gov and search for the appropriate permit number (*e.g.*, 12345C) provided in the following tables.

| Permit No. | Applicant | Permit issuance date |
|---------------------------|---|----------------------|
| Endangered Species | | |
| 93328C | University of Texas at Arlington | February 27, 2019. |
| 66689C | Memphis Zoo | February 1, 2019. |
| 86989C | Audubon Nature Institute | February 1, 2019. |
| 90228C | Lowry Park Zoological Society of Tampa, Inc | January 31, 2019. |
| 91602C | Dr. Viktoria Oelze, University of California Santa Cruz | January 30, 2019. |
| 93509C | Dmitri Petrov | February 26, 2019. |
| 78121C | Pinola Conservancy | February 26, 2019. |
| 77865C | Maria de Lourdes Martinez Estevez | February 26, 2019. |
| 19818A | Phoenix Herpetological Society, Inc | February 26, 2019. |
| Marine Mammals | | |
| 75595C | ABR, Inc | March 1, 2019. |

Authorities

We issue this notice under the authority of the ESA and the Marine Mammal Protection Act as amended (16

U.S.C. 1361 *et seq.*) and their implementing regulations.

Brenda Tapia,
Program Analyst/Data Administrator, Branch
of Permits, Division of Management
Authority.

[FR Doc. 2019-13790 Filed 6-27-19; 8:45 am]

BILLING CODE 4333-15-P

DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

**[Docket No. FWS-HQ-IA-2019-0052;
FXIA16710900000-190-FF09A30000]**

**Endangered Species; Issuance of
Permits**

AGENCY: Fish and Wildlife Service,
Interior.

Appendix E: Probable Costs for Station Platforms and Station Expansion

| | |
|---|---------------------|
| Norfolk Southern platform improvements base: Includes existing demo, and platform improvements | \$ 3,852,300 |
| Norfolk Southern platform improvements <u>alternative</u> (with special siding - preferred): Includes existing demo, platform improvements, and new rail | \$ 7,588,555 |
| Buckingham Branch platform improvements: Includes existing demo, and platform improvements | \$ 3,118,007 |
| Access and Station Improvements: | \$ 3,444,670 |
| Lot 2C Landscaping | \$ 58,000 |

Note, station expansion information is provided in each of the 3 articulated estimates below. When combining platform improvements for Norfolk Southern and Buckingham Branch, this value should only be counted once.

CHARLOTTESVILLE AMTRAK STATION STUDY

Norfolk Southern platform improvements base:

| 850' Platform x 15'W | Units | Qty | Unit Cost | Total |
|---|-------|--------|-------------|------------|
| Sawcut Existing Pavement | LF | 1,000 | \$ 5.00 | \$ 5,000 |
| Remove Existing Concrete Platform | SY | 12,750 | \$ 10.00 | \$ 127,500 |
| Rough Grading | SY | 1,500 | \$ 8.00 | \$ 12,000 |
| Remove Signage | EA | 10 | \$ 75.00 | \$ 750 |
| E&S Control - Silt Fence | LF | 1,200 | \$ 3.00 | \$ 3,600 |
| Remove Existing Fencing | LF | 1,000 | \$ 8.00 | \$ 8,000 |
| Remove Concrete Curb | LF | 1,000 | \$ 5.50 | \$ 5,500 |
| Existing Tree Removal | EA | 11 | \$ 1,000.00 | \$ 11,000 |
| Demolish Existing Light Poles and Fixtures | EA | 8 | \$ 650.00 | \$ 5,200 |
| Remove Underground Conduit and Wire | LF | 1,000 | \$ 8.00 | \$ 8,000 |
| | | | | |
| Precast Concrete Platform, 15'W x 4" Thick | SF | 12,750 | \$ 15.00 | \$ 191,250 |
| Topping Slab (4" Thick) | SF | 12,750 | \$ 8.00 | \$ 102,000 |
| Canopies (122 sqft coverage each) | EA | 7 | \$ 6,500.00 | \$ 45,500 |
| Platform Steel Framing | TON | 45 | \$ 6,375.00 | \$ 286,875 |
| Helical Micro Piles (assume 20 VLF ea spaced @ 12'OC) | VLF | 3,500 | \$ 150.00 | \$ 525,000 |
| Tactile Warning Stips (24"W) | LF | 850 | \$ 50.00 | \$ 42,500 |
| Rub Rails (2) 3x8s | LF | 850 | \$ 8.75 | \$ 7,438 |
| Handrails along back side of Platforms | LF | 850 | \$ 250.00 | \$ 212,500 |
| ADA Ramps and Landings | SF | 785 | \$ 30.00 | \$ 23,550 |
| ADA Ramps and Landings Railings | LF | 360 | \$ 250.00 | \$ 90,000 |
| Stairs and Landings | SF | 407 | \$ 30.00 | \$ 12,210 |
| Stairs and Landings Railings | LF | 100 | \$ 250.00 | \$ 25,000 |
| Concrete Sidewalk Areas | SF | 4,675 | \$ 10.00 | \$ 46,750 |
| 8" Gravel Ballast | SY | 2,500 | \$ 21.50 | \$ 53,750 |
| 4" Underdrain | LF | 850 | \$ 14.00 | \$ 11,900 |
| Control Joints, caulked | LF | 500 | \$ 3.00 | \$ 1,500 |

CHARLOTTESVILLE AMTRAK STATION STUDY

Norfolk Southern platform improvements base - continued:

| | | | | | | |
|---|-------|-------|----|-----------|------------|------------------|
| Station Signage ALLOWANCE | LS | 1 | \$ | 40,000.00 | \$ | 40,000 |
| New Sign Foundations | EA | 10 | \$ | 3,500.00 | \$ | 35,000 |
| | | | | | | |
| Renovations within Existing Station | SF | 7,266 | \$ | 225.00 | \$ | 1,634,850 |
| | | | | | | |
| Asphalt Pavement | SY | 1,350 | \$ | 50.00 | \$ | 67,500 |
| Concrete Curbs | LF | 1,000 | \$ | 16.95 | \$ | 16,950 |
| Line Striping | STALL | 30 | \$ | 35.00 | \$ | 1,050 |
| Pedestrian crosswalk striping | EA | 1 | \$ | 850.00 | \$ | 850 |
| | | | | | | |
| Install New Light Poles | EA | 27 | \$ | 2,000.00 | \$ | 54,000 |
| Install New Light Fixtures | EA | 27 | \$ | 1,800.00 | \$ | 48,600 |
| New Pole Foundations | EA | 27 | \$ | 200.00 | \$ | 5,400 |
| New Feeder, 3#10 & 1#10 GND in 1-1/2" PVC | LF | 1,000 | \$ | 8.07 | \$ | 8,068 |
| Trenching and Fill (6'D) | CY | 400 | \$ | 15.00 | \$ | 6,000 |
| New Daylight Sensor | EA | 1 | \$ | 250.00 | \$ | 250 |
| Trough Screen Controls | EA | 1 | \$ | 2,500.00 | \$ | 2,500 |
| | | | | | | |
| Mob/Demob | % | 4.0% | \$ | 3,785,291 | \$ | 151,412 |
| Safety & Security | % | 2% | \$ | 3,785,291 | \$ | 75,706 |
| | | | | | | |
| Subtotal | | | | | \$ | 4,012,408 |
| Contractor's Markup | % | 30% | | | \$ | 1,203,722 |
| Estimating Contingency | % | 30% | | | \$ | 1,564,839 |
| Total | | | | | \$ | 6,780,969 |
| | | | | | | |
| | | | | | ROUNDED \$ | 6,781,000 |

CHARLOTTESVILLE AMTRAK STATION STUDY

Norfolk Southern platform improvements alternative (with special siding – preferred):

| 850' Platform x 15'W | Units | Qty | Unit Cost | Total |
|---|-------|--------|-------------|------------|
| Sawcut Existing Pavement | LF | 24,000 | \$ 5.00 | \$ 120,000 |
| Remove Existing Concrete Platform | SY | 0 | \$ 10.00 | \$ - |
| Rough Grading | SY | 4,000 | \$ 8.00 | \$ 32,000 |
| Remove Signage | EA | 10 | \$ 75.00 | \$ 750 |
| E&S Control - Silt Fence | LF | 2,000 | \$ 3.00 | \$ 6,000 |
| Remove Existing Fencing | LF | 1,000 | \$ 8.00 | \$ 8,000 |
| Remove Concrete Curb | LF | 2,000 | \$ 5.50 | \$ 11,000 |
| Existing Tree Removal | EA | 11 | \$ 1,000.00 | \$ 11,000 |
| Demolish Existing Light Poles and Fixtures | EA | 8 | \$ 650.00 | \$ 5,200 |
| Remove Underground Conduit and Wire | LF | 1,000 | \$ 8.00 | \$ 8,000 |
| | | | | |
| Precast Concrete Platform, 15'W x 4" Thick | SF | 12,600 | \$ 15.00 | \$ 189,000 |
| Topping Slab (4" Thick) | SF | 12,600 | \$ 8.00 | \$ 100,800 |
| Canopies (122 sqft coverage each) | EA | 9 | \$ 6,500.00 | \$ 58,500 |
| Platform Steel Framing | TON | 45 | \$ 6,375.00 | \$ 286,875 |
| Helical Micro Piles (assume 20 VLF ea spaced @ 12'OC) | VLF | 3,500 | \$ 150.00 | \$ 525,000 |
| Tactile Warning Stips (24"W) | LF | 840 | \$ 50.00 | \$ 42,000 |
| Rub Rails (2) 3x8s | LF | 840 | \$ 8.75 | \$ 7,350 |
| Handrails along back side of Platforms | LF | 840 | \$ 250.00 | \$ 210,000 |
| ADA Ramps and Landings | SF | 1,650 | \$ 30.00 | \$ 49,500 |
| ADA Ramps and Landings Railings | LF | 360 | \$ 250.00 | \$ 90,000 |
| Stairs and Landings | SF | 820 | \$ 30.00 | \$ 24,600 |
| Stairs and Landings Railings | LF | 100 | \$ 250.00 | \$ 25,000 |
| Concrete Sidewalk Areas | SF | 10,600 | \$ 10.00 | \$ 106,000 |
| 8" Gravel Ballast | SY | 2,000 | \$ 21.50 | \$ 43,000 |
| 4" Underdrain | LF | 840 | \$ 14.00 | \$ 11,760 |
| Control Joints, caulked | LF | 500 | \$ 3.00 | \$ 1,500 |

CHARLOTTESVILLE AMTRAK STATION STUDY

Norfolk Southern platform improvements alternative (with special siding – preferred):

| | | | | | | |
|--|-------|--------|----|------------|----|-------------------|
| Stairs and Landings Railings | LF | 100 | \$ | 250.00 | \$ | 25,000 |
| Concrete Sidewalk Areas | SF | 10,600 | \$ | 10.00 | \$ | 106,000 |
| 8" Gravel Ballast | SY | 2,000 | \$ | 21.50 | \$ | 43,000 |
| 4" Underdrain | LF | 840 | \$ | 14.00 | \$ | 11,760 |
| Control Joints, caulked | LF | 500 | \$ | 3.00 | \$ | 1,500 |
| Station Signage ALLOWANCE | LS | 1 | \$ | 40,000.00 | \$ | 40,000 |
| New Sign Foundations | EA | 10 | \$ | 3,500.00 | \$ | 35,000 |
| Renovations within Existing Station | SF | 7,266 | \$ | 225.00 | \$ | 1,634,850 |
| Rail Track (Rail, Ties, Fasteners Plate) Ballast Included | LF | 1,600 | \$ | 800.00 | \$ | 1,280,000 |
| Rail Switch/Turnout (rails, plates, bars, frog, switch point, ties, ballast) | EA | 2 | \$ | 370,000.00 | \$ | 740,000 |
| Asphalt Pavement | SY | 100 | \$ | 50.00 | \$ | 5,000 |
| Concrete Curbs | LF | 2,000 | \$ | 16.95 | \$ | 33,900 |
| Line Striping | STALL | 30 | \$ | 35.00 | \$ | 1,050 |
| Pedestrian crosswalk striping | EA | 1 | \$ | 500.00 | \$ | 500 |
| Install New Light Poles | EA | 27 | \$ | 2,000.00 | \$ | 54,000 |
| Install New Light Fixtures | EA | 27 | \$ | 1,800.00 | \$ | 48,600 |
| New Pole Foundations | EA | 27 | \$ | 200.00 | \$ | 5,400 |
| New Feeder, 3#10 & 1#10 GND in 1-1/2" PVC | LF | 1,000 | \$ | 8.07 | \$ | 8,068 |
| Trenching and Fill (6'D) | CY | 600 | \$ | 15.00 | \$ | 9,000 |
| New Daylight Sensor | EA | 1 | \$ | 250.00 | \$ | 250 |
| Trough Screen Controls | EA | 1 | \$ | 2,500.00 | \$ | 2,500 |
| Mob/Demob | % | 4.0% | \$ | 5,870,953 | \$ | 234,838 |
| Safety & Security | % | 2% | \$ | 5,870,953 | \$ | 117,419 |
| Subtotal | | | | | \$ | 6,223,210 |
| Contractor's Markup | % | 30% | | | \$ | 1,866,963 |
| Estimating Contingency | % | 30% | | | \$ | 2,427,052 |
| Total | | | | | \$ | 10,517,225 |
| | | | | | | |
| | | | | ROUNDED | \$ | 10,517,300 |

CHARLOTTESVILLE AMTRAK STATION STUDY

Buckingham Branch platform improvements:

| 614' Platform x 15'W | Units | Qty | Unit Cost | Total |
|---|-------|--------|--------------|--------------|
| Sawcut Existing Pavement | LF | 350 | \$ 5.00 | \$ 1,750 |
| Remove Existing Concrete Platform | SY | 0 | \$ 10.00 | \$ - |
| Rough Grading | SY | 1,250 | \$ 8.00 | \$ 10,000 |
| Remove Signage | EA | 4 | \$ 75.00 | \$ 300 |
| E&S Control - Silt Fence | LF | 1,000 | \$ 3.00 | \$ 3,000 |
| Remove Existing Fencing | LF | 0 | \$ 8.00 | \$ - |
| Remove Concrete Curb | LF | 800 | \$ 5.50 | \$ 4,400 |
| Existing Landscape Removal | LS | 1 | \$ 5,000.00 | \$ 5,000 |
| Demolish Existing Light Poles and Fixtures | EA | 6 | \$ 650.00 | \$ 3,900 |
| Remove Underground Conduit and Wire | LF | 800 | \$ 8.00 | \$ 6,400 |
| | | | | |
| Precast Concrete Platform, 15'W x 4" Thick | SF | 9,210 | \$ 15.00 | \$ 138,150 |
| Topping Slab (4" Thick) | SF | 9,210 | \$ 8.00 | \$ 73,680 |
| Canopies (122 sqft coverage each) | EA | 5 | \$ 6,500.00 | \$ 32,500 |
| Platform Steel Framing | TON | 26 | \$ 6,375.00 | \$ 165,750 |
| Helical Micro Piles (assume 20 VLF ea spaced @ 12'OC) | VLF | 2,500 | \$ 150.00 | \$ 375,000 |
| Tactile Warning Stips (24"W) | LF | 614 | \$ 50.00 | \$ 30,700 |
| Rub Rails (2) 3x8s | LF | 614 | \$ 8.75 | \$ 5,373 |
| Handrails along back side of Platforms | LF | 700 | \$ 250.00 | \$ 175,000 |
| ADA Ramps and Landings | SF | 1,366 | \$ 30.00 | \$ 40,980 |
| ADA Ramps and Landings Railings | LF | 540 | \$ 250.00 | \$ 135,000 |
| Stairs and Landings | SF | 650 | \$ 30.00 | \$ 19,500 |
| Stairs and Landings Railings | LF | 100 | \$ 250.00 | \$ 25,000 |
| Concrete Sidewalk Areas | SF | 13,600 | \$ 10.00 | \$ 136,000 |
| Concrete Sidewalk Areas (In Front of Amtrak Station) | SF | 3,500 | \$ 10.00 | \$ 35,000 |
| 8" Gravel Ballast | SY | 2,500 | \$ 21.50 | \$ 53,750 |
| 4" Underdrain | LF | 614 | \$ 14.00 | \$ 8,596 |
| Control Joints, caulked | LF | 450 | \$ 3.00 | \$ 1,350 |
| Station Signage ALLOWANCE | LS | 1 | \$ 35,000.00 | \$ 35,000 |
| New Sign Foundations | EA | 5 | \$ 3,500.00 | \$ 17,500 |
| | | | | |
| Renovations within Existing Station | SF | 7,266 | \$ 225.00 | \$ 1,634,850 |

CHARLOTTESVILLE AMTRAK STATION STUDY

Buckingham Branch platform improvements – continued:

| | | | | | | |
|---|-------|-------|----|-----------|-----------|------------------|
| Asphalt Pavement | SY | 2,300 | \$ | 50.00 | \$ | 115,000 |
| Concrete Curbs | LF | 250 | \$ | 16.95 | \$ | 4,238 |
| Line Striping | STALL | 30 | \$ | 35.00 | \$ | 1,050 |
| Pedestrian crosswalk striping | EA | 0 | \$ | 850.00 | \$ | - |
| Install New Light Poles | EA | 17 | \$ | 2,000.00 | \$ | 34,000 |
| Install New Light Fixtures | EA | 17 | \$ | 1,800.00 | \$ | 30,600 |
| New Pole Foundations | EA | 17 | \$ | 200.00 | \$ | 3,400 |
| New Feeder, 3#10 & 1#10 GND in 1-1/2" PVC | LF | 750 | \$ | 8.07 | \$ | 6,051 |
| Trenching and Fill (6'D) | CY | 325 | \$ | 15.00 | \$ | 4,875 |
| New Daylight Sensor | EA | 1 | \$ | 250.00 | \$ | 250 |
| Trough Screen Controls | EA | 1 | \$ | 2,500.00 | \$ | 2,500 |
| | | | | | | |
| Mob/Demob | % | 4.0% | \$ | 3,375,392 | \$ | 135,016 |
| Safety & Security | % | 2% | \$ | 3,375,392 | \$ | 67,508 |
| | | | | | | |
| Subtotal | | | | | \$ | 3,577,916 |
| Contractor's Markup | % | 30% | | | \$ | 1,073,375 |
| Estimating Contingency | % | 30% | | | \$ | 1,395,387 |
| Total | | | | | \$ | 6,046,677 |
| | | | | | | |
| | | | | ROUNDED | \$ | 6,046,700 |

Appendix F: Parcels 2A and 2B Transit-Oriented Development Concept Cost Estimates

Parcels 2A and 2B Transit-Oriented Development Concept Cost Estimates

Opinion Of Probable Cost

The basis for this Opinion Of Probable Cost was established using the following assumptions to provide estimates for the South Parking Development Concept.

The PACES (Parametric Cost Engineering System) estimating software was selected for this Project because it provides estimates based on cost models for many types of facilities and sitework systems where very little, if any, design information exists. Each model contains a set of parameters that allow the model to be "customized" to fit the specific requirements of the proposed project. PACES uses the model equations together with parametric information to calculate a detailed estimate of the construction costs for the project.

The Estimates are based on the best available information regarding the anticipated scope of the project. Changes in the cost elements are likely to occur as a result of new information and data collected during the design and engineering process. Major changes should be documented in the form of a memorandum to the administrative record file with an explanation of significant differences.

The quantity survey for this project is detailed as possible and indicative of the levels of design and documentation available, and does not indicate a higher degree of accuracy than is actually possible. Where quantities are not available, assumptions have been made based on the historical information from a similar type or other recently estimated project(s).

The pricing used reflects the probable construction costs for the scheduled time period of the project. This estimate assumes a competitive bid situation, and is an opinion of probable costs based on fair market value, and is not a prediction of the anticipated low bid. This estimate assumes no control over the cost of labor and materials, the General Contractor's or any subcontractor's method of determining price or competitive bidding and market conditions.

This opinion of probable cost of construction is made on the basis of the experience, qualifications, and best judgment of the Cost Estimator. There can be no guarantee that proposals, bid or actual construction costs will not vary from this or subsequent estimates. This estimate was prepared in accordance with generally accepted cost estimating practices and industry standards.

Parcels 2A and 2B Transit-oriented Development Concept Cost Estimates

Opinion of Probable Cost - Summary

Note: Quantities and square footages of items in potential development can be found at the beginning of chapter 7 Transit-Oriented Development Concepts

| Description | | Unit Cost | Total |
|------------------------------|---------------------------------------|---------------|----------------------|
| PRIMARY FACILITIES | | | |
| | Parking Garage | \$ 22,867,061 | |
| | Housing Wrap | \$ 11,275,629 | |
| | Commercial | \$ 9,490,144 | |
| | Main Street Plaza Deck | \$ 1,756,395 | |
| | Subtotal Primary Facilities | | \$ 45,389,230 |
| SUPPORTING FACILITIES | | | |
| | Access Roads | \$ 157,358 | |
| | Cleanup and Landscaping | \$ 24,842 | |
| | Clear and Grub | \$ 23,223 | |
| | Communications | \$ 26,124 | |
| | Excavation, Cut and Fill | \$ 906,352 | |
| | Gas Distribution | \$ 35,522 | |
| | Lighting | \$ 112,437 | |
| | Sanitary Sewer | \$ 50,424 | |
| | Sidewalks | \$ 95,115 | |
| | Storm Sewer | \$ 162,497 | |
| | Underground Electrical Distribution | \$ 215,442 | |
| | Water Distribution | \$ 59,237 | |
| | Subtotal Supporting Facilities | | \$ 1,868,574 |
| | Subtotal Primary and Support | | \$ 47,257,803 |
| | Contingency | 10% | \$ 4,725,780 |
| | Contract Cost | | \$ 51,983,584 |
| | Construction Management/Supervision | 5% | \$ 2,599,179 |
| | Total Construction Cost | | \$ 54,582,763 |
| | Design Fees | 8% | \$ 4,366,621 |
| | Total Project Cost | | \$ 58,949,384 |

CHARLOTTESVILLE AMTRAK STATION STUDY

Parcels 2A and 2B Transit Oriented Development Concept Cost Estimate – Parking Garage

Facility: Parking Garage

FSA: BUILDING SHELL

Size: 178,800.00 SF

| Assembly | | Quantity UOM | Unit Cost | Material | Labor | Equipment | SubBid | Total Cost |
|-------------|---|---------------|-------------|----------------|----------------|--------------|--------|----------------|
| A1010010133 | 380 mm(15") Thick Concrete Foundation Wall 27,578 kPa(4000 PSI), 1220 mm(48") Deep Spread Footing | 3,613.66 LF | \$251.67 | \$251,820.91 | \$632,506.62 | \$25,124.77 | \$0.00 | \$909,452.30 |
| A1010020201 | Spread Footing | 13.58 CY | \$329.99 | \$2,609.82 | \$1,889.54 | \$71.90 | \$0.00 | \$4,481.26 |
| A1010020241 | Spread Footing, Reinforcing Steel | 0.37 TON | \$3,482.14 | \$579.41 | \$708.98 | \$0.00 | \$0.00 | \$1,288.39 |
| A1010020280 | Pile Cap, Over 10 CY, Incl. Forms and Reinf. | 3.30 CY | \$434.05 | \$982.82 | \$547.09 | \$2.47 | \$0.00 | \$1,432.38 |
| A1020909050 | Tie Beams (Seismic Modification) | 1,330.39 LF | \$98.32 | \$52,583.03 | \$77,217.72 | \$897.11 | \$0.00 | \$130,787.87 |
| A1030020202 | 304.8 mm(12") Structural Slab On Grade | 54,257.28 SF | \$22.21 | \$669,986.21 | \$528,107.33 | \$6,921.76 | \$0.00 | \$1,205,017.29 |
| A1030040501 | Elevator Pit 3.66 m X 3.66 m X 2.44 m(12' X 12' X 8') Deep Includes Slab/Walls | 9.00 EA | \$22,225.46 | \$49,410.78 | \$124,248.07 | \$4,144.84 | \$0.00 | \$177,803.69 |
| B1010010137 | Columns, 24 X 24 CIP | 437.57 CY | \$2,016.00 | \$310,513.16 | \$523,455.42 | \$48,174.44 | \$0.00 | \$882,143.01 |
| B1010010199 | Seismic Modifications | 178,800.00 SF | \$0.72 | \$129,614.87 | \$0.00 | \$0.00 | \$0.00 | \$129,614.87 |
| B1010030317 | Precast/Prestressed Floor Members | 267,832.87 SF | \$15.53 | \$3,014,575.92 | \$810,443.51 | \$234,906.42 | \$0.00 | \$4,159,925.86 |
| B1010030318 | 3" Topping Slab | 267,832.87 SF | \$3.49 | \$576,701.48 | \$327,986.86 | \$29,897.18 | \$0.00 | \$934,584.52 |
| B1010030330 | Concrete Beams - 3' X 2' | 1,136.49 CY | \$1,326.74 | \$466,025.41 | \$953,267.18 | \$88,531.64 | \$0.00 | \$1,507,824.24 |
| B1020030313 | Precast/Prestressed Roof Members | 136,307.33 SF | \$15.53 | \$1,534,198.53 | \$463,349.12 | \$119,550.18 | \$0.00 | \$2,117,097.82 |
| B1020030314 | 76.2 mm(3") Topping Slab | 136,307.33 SF | \$3.49 | \$293,499.85 | \$166,920.80 | \$15,215.48 | \$0.00 | \$475,635.13 |
| B2010010102 | Brick Veneer Wall | 28,311.19 SF | \$35.29 | \$259,542.03 | \$739,419.80 | \$0.00 | \$0.00 | \$998,961.83 |
| B2010010144 | Reinforced 203.2 mm(8") Concrete Masonry Unit Back-Up Wall | 28,311.19 SF | \$27.08 | \$235,527.47 | \$530,208.44 | \$451.47 | \$0.00 | \$788,185.37 |
| B2010010147 | Additional Vertical Reinforcement And Grouting, Seismic | 7,077.80 SF | \$1.70 | \$3,579.10 | \$8,368.54 | \$112.87 | \$0.00 | \$12,060.50 |
| B2010020312 | Paint CMU/Concrete | 9,433.58 SF | \$1.21 | \$4,000.95 | \$7,369.56 | \$0.00 | \$0.00 | \$11,370.51 |
| B2010060702 | 2" Dia Welded Pipe Railing, 3'8" High | 219.34 LF | \$74.15 | \$9,728.38 | \$6,414.03 | \$122.42 | \$0.00 | \$16,264.82 |
| B3010020101 | Single-ply Membrane Roof Covering | 53,929.56 SF | \$3.34 | \$97,647.95 | \$79,705.48 | \$2,579.98 | \$0.00 | \$179,933.41 |
| B3010030310 | Rigid Insulation - Tapered | 53,929.56 SF | \$2.58 | \$107,324.77 | \$31,882.19 | \$0.00 | \$0.00 | \$139,206.96 |
| C2010010101 | 1.22 m(4'0") Wide, Cast In Place Concrete, Stair Construction | 5,136.00 VLF | \$1,215.15 | \$2,691,302.89 | \$3,666,798.29 | \$82,884.60 | \$0.00 | \$6,240,985.88 |
| D1010020203 | Hydraulic Passenger Elevator - 4 Story | 32.00 STOP | \$29,498.79 | \$588,947.77 | \$377,013.39 | \$0.00 | \$0.00 | \$943,961.15 |
| D2040010101 | Rainwater Drainage Piping | 222.18 LF | \$168.11 | \$22,854.52 | \$14,495.28 | \$0.00 | \$0.00 | \$37,349.81 |
| D2040020204 | 101.6 mm(4") Roof Drains With Deck Clamp | 1.00 EA | \$875.90 | \$579.08 | \$298.82 | \$0.00 | \$0.00 | \$875.90 |
| D2040040301 | Rainwater Drainage Pipe Insulation | 222.18 LF | \$16.45 | \$695.86 | \$2,980.04 | \$0.00 | \$0.00 | \$3,655.90 |
| D4010010113 | 12 Zone Fire Alarm Panel And Remote Annunciator | 24.00 EA | \$8,893.89 | \$110,401.15 | \$103,054.70 | \$0.00 | \$0.00 | \$213,455.85 |
| D4030010102 | 152.40mm (6") Standpipe With Fire Hose Cabinets | 1.00 EA | \$8,964.08 | \$4,516.86 | \$4,416.13 | \$31.10 | \$0.00 | \$8,964.08 |
| D5010010271 | Underground 125 Amp Secondary | 1.00 EA | \$49.22 | \$24.79 | \$24.43 | \$0.00 | \$0.00 | \$49.22 |

CHARLOTTESVILLE AMTRAK STATION STUDY

| | | | | | | | | |
|----------------------------|--|----------|------------|-------------|-------------|--------|--------|------------------------|
| D5010040581 | Panel board 120/208V 100A Mto 24 Cir W/Bkr | 1.00 EA | \$6,390.85 | \$2,582.23 | \$3,808.63 | \$0.00 | \$0.00 | \$6,390.85 |
| D5030010303 | 4-Pair Telephone Outlet | 1.00 EA | \$1,028.83 | \$266.15 | \$772.68 | \$0.00 | \$0.00 | \$1,028.83 |
| D5030050802 | CCTV Security System | 2.00 OUT | \$6,429.21 | \$9,194.35 | \$3,664.06 | \$0.00 | \$0.00 | \$12,858.42 |
| D5030050907 | Light Control System | 4.00 OUT | \$6,394.22 | \$13,327.74 | \$12,249.12 | \$0.00 | \$0.00 | \$25,576.87 |
| D5090030302 | Building Grounding | 24.00 EA | \$1,220.32 | \$10,206.23 | \$19,081.33 | \$0.00 | \$0.00 | \$28,287.57 |
| FSA: BUILDING SHELL | | | | | | | | \$22,285,522.35 |

FSA: PARKING GARAGE

| Assembly | | Quantity UOM | Unit Cost | Material | Labor | Equipment | SubBid | Total Cost |
|----------------------------|---|---------------|------------|-------------|-------------|-----------|--------|---------------------|
| C1010010132 | Wire Mesh Fence, 1" X 2" Mesh, 3' High | 229.43 LF | \$14.88 | \$1,288.71 | \$1,763.26 | \$378.84 | \$0.00 | \$3,408.81 |
| C1020010121 | 3'0" X 7'0" H.M. Door W/Louver | 9.00 EA | \$2,117.12 | \$15,171.94 | \$3,892.17 | \$0.00 | \$0.00 | \$19,054.10 |
| C1020010122 | 6'0" X 7'0" Pair H.M. Doors W/ Louver | 5.00 EA | \$3,982.22 | \$15,634.21 | \$4,276.89 | \$0.00 | \$0.00 | \$19,911.10 |
| C1020950224 | Renovate Door Closer - Surface Mtd | 6.00 EA | \$489.74 | \$2,025.98 | \$912.49 | \$0.00 | \$0.00 | \$2,938.47 |
| C1020950228 | Renovate Panic Device | 6.00 EA | \$941.00 | \$4,551.11 | \$1,094.91 | \$0.00 | \$0.00 | \$5,646.02 |
| C3020909001 | Concrete Floor Sealer | 171,521.68 SF | \$0.34 | \$36,372.70 | \$21,728.69 | \$0.00 | \$0.00 | \$58,101.39 |
| D5020010195 | 4 Channel | 27.00 EA | \$3,028.41 | \$59,458.07 | \$22,309.06 | \$0.00 | \$0.00 | \$81,767.13 |
| D5020020211 | 4'- 2 Lamp Wall Mount Fluorescent | 3.00 EA | \$990.19 | \$1,124.12 | \$1,846.45 | \$0.00 | \$0.00 | \$2,970.58 |
| D5020020214 | Surface Mounted 1' X 4' Fluorescent Fixture | 1.00 EA | \$924.72 | \$262.16 | \$662.57 | \$0.00 | \$0.00 | \$924.72 |
| D5020020218 | 8' Vapor Tight Fluorescent Fixture | 8.00 EA | \$2,162.36 | \$5,589.40 | \$11,689.49 | \$0.00 | \$0.00 | \$17,298.89 |
| D5020020223 | Recessed Fluorescent Down Light | 4.00 EA | \$1,093.66 | \$1,660.46 | \$2,714.20 | \$0.00 | \$0.00 | \$4,374.66 |
| D5020020229 | 100W Hps Wall Mount | 1.00 EA | \$2,109.66 | \$1,146.37 | \$963.29 | \$0.00 | \$0.00 | \$2,109.66 |
| D5020020238 | 250W Hps Flood Light | 6.00 EA | \$1,727.91 | \$4,725.03 | \$5,642.41 | \$0.00 | \$0.00 | \$10,367.44 |
| D5020020243 | Floodlight, Pole Mounted | 23.00 EA | \$2,646.88 | \$42,132.85 | \$18,722.36 | \$0.00 | \$0.00 | \$60,855.21 |
| D5020020261 | Compact Fluorescent Exterior Gasketed Fixture | 145.00 EA | \$874.42 | \$38,253.56 | \$88,537.97 | \$0.00 | \$0.00 | \$126,791.53 |
| D5020909032 | outdoor PTZ Color Camera And Dome, Heater | 14.00 EA | \$5,942.10 | \$65,656.71 | \$17,532.69 | \$0.00 | \$0.00 | \$83,189.40 |
| D5020959156 | Renovate Receptacle Duplex 15A 120V GFI | 5.00 EA | \$63.14 | \$112.15 | \$203.54 | \$0.00 | \$0.00 | \$315.68 |
| D5020959245 | Exit Light W/Battery Back-Up | 9.00 EA | \$549.90 | \$2,701.30 | \$2,247.78 | \$0.00 | \$0.00 | \$4,949.08 |
| FSA: PARKING GARAGE | | | | | | | | \$504,973.87 |

FSA: PARKING GARAGE SUPPORT

| Assembly | | Quantity UOM | Unit Cost | Material | Labor | Equipment | SubBid | Total Cost |
|------------------------------------|--|--------------|------------|-------------|-------------|-----------|--------|--------------------|
| C1010010118 | 8 X 8 X 16 Load Bearing Concrete Masonry Unit Wall | 1,230.53 SF | \$30.97 | \$11,903.10 | \$26,188.82 | \$19.62 | \$0.00 | \$38,111.55 |
| C1020010121 | 3'0" X 7'0" H.M. Door W/Louver | 1.00 EA | \$2,117.12 | \$1,685.77 | \$431.35 | \$0.00 | \$0.00 | \$2,117.12 |
| C1020010122 | 6'0" X 7'0" Pair H.M. Doors W/ Louver | 2.00 EA | \$3,982.22 | \$6,253.68 | \$1,710.75 | \$0.00 | \$0.00 | \$7,964.44 |
| C3010900502 | Paint To Concrete Block Using Brushes, Two Coats | 1,846.20 SF | \$1.95 | \$893.82 | \$2,611.66 | \$0.00 | \$0.00 | \$3,605.48 |
| C3020909001 | Concrete Floor Sealer | 280.00 SF | \$0.34 | \$59.38 | \$35.47 | \$0.00 | \$0.00 | \$94.85 |
| D3040073716 | 500 CFM Exhaust Fan, Cent | 2.00 EA | \$2,339.73 | \$2,993.78 | \$1,885.67 | \$0.00 | \$0.00 | \$4,679.45 |
| D5020010128 | 30A 3 Phase 208V, Receptacle | 1.00 EA | \$1,443.01 | \$293.59 | \$1,149.43 | \$0.00 | \$0.00 | \$1,443.01 |
| D5020010156 | 120 Volt 20 Amp Single Pole Switch | 3.00 EA | \$735.70 | \$530.47 | \$1,676.63 | \$0.00 | \$0.00 | \$2,207.11 |
| D5020010172 | 30A 3 Pole Lighting Contactor | 1.00 EA | \$1,528.55 | \$804.60 | \$723.94 | \$0.00 | \$0.00 | \$1,528.55 |
| D5020020249 | Pendant Mount 150W Hps Fixture | 7.00 EA | \$2,116.18 | \$9,416.39 | \$6,396.89 | \$0.00 | \$0.00 | \$14,813.28 |
| FSA: PARKING GARAGE SUPPORT | | | | | | | | \$76,564.83 |

Parking Garage Total Cost: **\$22,867,061.06**

Facility: Site Work

CHARLOTTESVILLE AMTRAK STATION STUDY

Model: Access Roads

| Assembly | | Quantity | UOM | Unit Cost | Material | Labor | Equipment | SubBid | Total Cost |
|----------------------------|--|----------|-----|-------------|-------------|-------------|------------|--------|---------------------|
| Project Num: | | | | | | | | | |
| G1030010103 | Rough Grading, 0.0014 T (14G), 1 Pass | 7,111.11 | SY | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 | \$0.00 |
| G1030010108 | Fine Grading, 0.013 T (130G), 2 Passes | 3,222.22 | SY | \$1.52 | \$0.00 | \$3,197.54 | \$1,695.65 | \$0.00 | \$4,893.20 |
| G1030020202 | Ditch Excavation, Normal Soil, Haul off Spoil 1.61 km (1 Mile) | 1,250.00 | CY | \$15.23 | \$0.00 | \$11,902.82 | \$7,135.11 | \$0.00 | \$19,038.93 |
| G1030020203 | Roadway Soil Excavation, W/Scraper, Load & Haul Spoil | 895.08 | CY | \$9.10 | \$0.00 | \$5,159.15 | \$2,983.08 | \$0.00 | \$8,142.24 |
| G1030050501 | Compact Subgrade, 2 Lifts | 1,185.19 | CY | \$4.06 | \$0.00 | \$4,604.36 | \$207.80 | \$0.00 | \$4,812.26 |
| G2010010102 | Gravel, Delivered & Dumped | 895.08 | CY | \$48.12 | \$43,071.25 | \$0.00 | \$0.00 | \$0.00 | \$43,071.25 |
| G2010030310 | Prime Coat | 2,666.67 | SY | \$3.99 | \$7,829.88 | \$1,914.31 | \$893.01 | \$0.00 | \$10,637.20 |
| G2010030312 | Asphalt Wearing Course, 1 Pass (Line Item Incl 5% Waste) | 362.50 | TON | \$145.22 | \$46,566.31 | \$4,508.03 | \$1,566.55 | \$0.00 | \$52,640.89 |
| G3030040402 | 10.36m (34') Complete, 609.60mm (24") CMP Culvert W/Headwalls | 1.00 | EA | \$14,122.08 | \$8,197.71 | \$5,356.79 | \$667.59 | \$0.00 | \$14,122.08 |
| Model: Access Roads | | | | | | | | | \$157,358.04 |

Model: Cleanup and Landscaping

| Assembly | | Quantity | UOM | Unit Cost | Material | Labor | Equipment | SubBid | Total Cost |
|---------------------------------------|--|----------|------|-------------|------------|------------|------------|--------|--------------------|
| G1020070101 | General Area Cleanup | 2.00 | ACRE | \$5,206.68 | \$0.00 | \$6,970.59 | \$3,442.78 | \$0.00 | \$10,413.36 |
| G2050010101 | Area Preparation, .67 Level & .33 Slope | 0.20 | ACRE | \$35,284.29 | \$6,252.93 | \$329.07 | \$474.85 | \$0.00 | \$7,056.96 |
| G2050040404 | Sodding, Average Conus | 0.20 | ACRE | \$32,395.39 | \$4,121.25 | \$2,343.24 | \$14.59 | \$0.00 | \$6,479.08 |
| G2050040408 | Fertilizer, Hydr Spread | 0.20 | ACRE | \$357.14 | \$1.76 | \$69.67 | \$0.00 | \$0.00 | \$71.43 |
| G2050040413 | Watering With 11356.23 L (3,000 Gal) Tank Truck, Per Pass, 9.35 kgal/ha (1kgal/AC) | 1.60 | ACRE | \$462.08 | \$437.66 | \$205.22 | \$96.45 | \$0.00 | \$739.33 |
| G2050040415 | Mowing | 0.20 | ACRE | \$408.36 | \$0.00 | \$81.67 | \$0.00 | \$0.00 | \$81.67 |
| Model: Cleanup and Landscaping | | | | | | | | | \$24,841.73 |

Model: Clear and Grub

| Assembly | | Quantity | UOM | Unit Cost | Material | Labor | Equipment | SubBid | Total Cost |
|------------------------------|--|----------|-----|-----------|------------|------------|------------|--------|--------------------|
| G1010040501 | Dozer 78.33 kW (105 HP) D5, Grubbing & Stacking | 161.33 | CY | \$1.31 | \$0.00 | \$85.16 | \$126.06 | \$0.00 | \$211.22 |
| G1010040502 | Dozer 149.20 kW (200 HP) D7, Grubbing & Stacking | 1,936.00 | CY | \$7.85 | \$0.00 | \$6,213.16 | \$8,983.94 | \$0.00 | \$15,197.09 |
| G1020070401 | Dump Charge | 193.60 | CY | \$24.47 | \$4,737.07 | \$0.00 | \$0.00 | \$0.00 | \$4,737.07 |
| G1030020220 | 910, 0.98m3 (1.25 CY), Wheel Loader | 5.00 | HR | \$141.53 | \$0.00 | \$478.12 | \$229.55 | \$0.00 | \$707.67 |
| G1030020284 | 6.12m3 (8 CY), Dump Truck | 15.00 | HR | \$158.01 | \$0.00 | \$1,596.51 | \$773.57 | \$0.00 | \$2,370.08 |
| Model: Clear and Grub | | | | | | | | | \$23,223.13 |

Model: Communications

| Assembly | | Quantity | UOM | Unit Cost | Material | Labor | Equipment | SubBid | Total Cost |
|-------------|---|----------|-----|-----------|------------|------------|-----------|--------|------------|
| G1030020258 | Cat 225, 1.15m3 (1.5 CY), Soil/Sand, Trenching | 64.81 | CY | \$4.08 | \$0.00 | \$176.52 | \$87.85 | \$0.00 | \$264.37 |
| G1030040401 | 950, 2.29m3 (3 CY), Backfill W/Excavated Material | 37.04 | CY | \$2.84 | \$0.00 | \$53.18 | \$51.98 | \$0.00 | \$105.16 |
| G1030040405 | 950, 2.29m3 (3 CY), Delivered & Dumped, Backfill W/Sand | 10.65 | CY | \$73.62 | \$651.47 | \$67.01 | \$65.55 | \$0.00 | \$784.03 |
| G1030050511 | Compact Soil W/Vibrating Plate | 37.04 | CY | \$3.75 | \$0.00 | \$132.95 | \$5.91 | \$0.00 | \$138.86 |
| G1030050515 | Compact With Pegosticks | 10.65 | CY | \$20.09 | \$0.00 | \$202.60 | \$11.39 | \$0.00 | \$213.98 |
| G1030101002 | 50.80mm (2") Dia Contractor's Trash Pump, 283.91 L/min (75 GPM) | 1.00 | DAY | \$136.52 | \$110.12 | \$26.39 | \$0.00 | \$0.00 | \$136.52 |
| G4010070610 | 50.80mm (2") PVC Conduit | 1,000.00 | LF | \$8.16 | \$2,055.34 | \$6,101.84 | \$0.00 | \$0.00 | \$9,157.18 |

CHARLOTTESVILLE AMTRAK STATION STUDY

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|------------------------------|-------------------------------------|-----------|----------|------------|------------|---------|--------|--------------------|
| G4010070815 | Concrete Encasement For Duct Bank | 18.52 CY | \$291.56 | \$4,823.87 | \$561.90 | \$13.88 | \$0.00 | \$5,399.75 |
| G4030010101 | 25 Pair No. 22 Awg Wire, Comm Cable | 500.00 LF | \$7.34 | \$1,843.28 | \$1,826.33 | \$0.00 | \$0.00 | \$3,669.61 |
| G4030010102 | 50 Pair No. 22 Awg Wire, Comm Cable | 500.00 LF | \$14.51 | \$5,016.01 | \$2,238.05 | \$0.00 | \$0.00 | \$7,254.06 |
| Model: Communications | | | | | | | | \$26,123.52 |

Model: Excavation, Cut and Fill

| Assembly | Quantity | UOM | Unit Cost | Material | Labor | Equipment | SubBid | Total Cost |
|--|---|--------------|-----------|--------------|-------------|-------------|--------|---------------------|
| G1020070401 | Dump Charge | 28,125.00 CY | \$8.86 | \$249,165.75 | \$0.00 | \$0.00 | \$0.00 | \$249,165.75 |
| G1030020226 | 988, 5.35m3 (7 CY), Wheel Loader | 108.00 HR | \$328.83 | \$0.00 | \$10,853.10 | \$23,991.00 | \$0.00 | \$34,844.10 |
| G1030020289 | 24.47m3 (32 CY), Semi Dump | 530.00 HR | \$175.29 | \$0.00 | \$41,068.15 | \$51,834.28 | \$0.00 | \$92,902.45 |
| G1030030312 | D10 WU Blade & Single Shank Ripper, Bulldozer | 37.00 HR | \$411.51 | \$0.00 | \$3,718.54 | \$11,507.25 | \$0.00 | \$15,225.78 |
| G1030040424 | Unclass Fill, Delivered, Off-Site | 7,500.00 CY | \$67.41 | \$464,653.79 | \$22,644.39 | \$18,298.73 | \$0.00 | \$505,596.91 |
| G1030050517 | Spread/Compact Lg Areas, 152.40mm (6") Lifts, D8 & Towed Sheepsft | 7,500.00 CY | \$1.18 | \$0.00 | \$4,750.57 | \$4,068.39 | \$0.00 | \$8,818.96 |
| Model: Excavation, Cut and Fill | | | | | | | | \$906,351.95 |

Model: Gas Distribution

| Assembly | Quantity | UOM | Unit Cost | Material | Labor | Equipment | SubBid | Total Cost |
|--------------------------------|---|-----------|------------|-------------|-------------|------------|--------|--------------------|
| G1020070401 | Dump Charge | 37.02 CY | \$24.47 | \$905.82 | \$0.00 | \$0.00 | \$0.00 | \$905.82 |
| G1030020220 | 910, 0.96m3 (1.25 CY), Wheel Loader | 1.00 HR | \$141.53 | \$0.00 | \$95.62 | \$45.91 | \$0.00 | \$141.53 |
| G1030020258 | Cat 225, 1.15m3 (1.5 CY), Soil/Sand, Trenching | 167.00 CY | \$4.08 | \$0.00 | \$454.85 | \$226.36 | \$0.00 | \$681.21 |
| G1030020284 | 6.12m3 (8 CY), Dump Truck | 3.00 HR | \$158.01 | \$0.00 | \$319.30 | \$154.71 | \$0.00 | \$474.02 |
| G1030040401 | 950, 2.29m3 (3 CY), Backfill W/Excavated Material | 138.00 CY | \$2.84 | \$0.00 | \$198.13 | \$193.66 | \$0.00 | \$391.79 |
| G1030040405 | 950, 2.29m3 (3 CY), Delivered & Dumped, Backfill W/Sand | 33.00 CY | \$73.62 | \$2,018.64 | \$207.63 | \$203.13 | \$0.00 | \$2,429.40 |
| G1030050511 | Compact Soil W/Vibrating Plate | 138.00 CY | \$3.75 | \$0.00 | \$495.33 | \$22.01 | \$0.00 | \$517.33 |
| G1030050515 | Compact With Pogosticks | 33.00 CY | \$20.09 | \$0.00 | \$627.77 | \$35.26 | \$0.00 | \$663.03 |
| G3060060104 | 101.60mm (4") Black Steel Pipe, Welded T & C Sch 40 | 500.00 LF | \$51.34 | \$13,783.83 | \$10,841.86 | \$1,044.50 | \$0.00 | \$25,670.19 |
| G4080010101 | 3-4.08kg (9 Lb) Magnesium Anodes, Cathodic Protection Point | 2.00 EA | \$1,823.79 | \$468.32 | \$3,037.07 | \$142.18 | \$0.00 | \$3,647.58 |
| Model: Gas Distribution | | | | | | | | \$35,521.90 |

Model: Lighting

| Assembly | Quantity | UOM | Unit Cost | Material | Labor | Equipment | SubBid | Total Cost |
|------------------------|--|-------------|------------|-------------|-------------|------------|--------|---------------------|
| G1030020255 | Trenching To 1828.80mm (6") Dp, Inc Bkll & Compaction | 32.40 CY | \$18.11 | \$0.00 | \$521.27 | \$65.62 | \$0.00 | \$586.89 |
| G1030020282 | Soil, 8.05km (5 Mi), Dump Truck, Load/Haul off Spoil From Trench | 22.79 CY | \$5.80 | \$0.00 | \$73.82 | \$58.51 | \$0.00 | \$132.13 |
| G1030040417 | Delivered & Dumped - Hand, Backfill W/Sand | 6.82 CY | \$145.92 | \$222.50 | \$761.45 | \$11.20 | \$0.00 | \$995.15 |
| G1030050515 | Compact With Pogosticks | 5.81 CY | \$20.09 | \$0.00 | \$112.43 | \$6.31 | \$0.00 | \$119.74 |
| G4010060508 | #10 Thw Wire | 2,017.39 LF | \$4.60 | \$1,908.67 | \$7,368.84 | \$0.00 | \$0.00 | \$9,277.51 |
| G4020010602 | 400W Hps Fixture | 16.00 EA | \$1,314.28 | \$13,702.27 | \$7,326.27 | \$0.00 | \$0.00 | \$21,028.54 |
| G4020039901 | 25.40mm (1") Rigid Steel Conduit | 478.26 LF | \$16.55 | \$2,262.43 | \$5,654.78 | \$0.00 | \$0.00 | \$7,917.21 |
| G4020039903 | Concrete Backfill Around Conduit | 6.88 CY | \$242.29 | \$1,599.25 | \$35.88 | \$31.82 | \$0.00 | \$1,666.95 |
| G4020040301 | 9.14m (30') Area Lighting Pole | 16.00 EA | \$4,419.63 | \$50,163.36 | \$18,007.35 | \$1,543.38 | \$0.00 | \$70,714.09 |
| Model: Lighting | | | | | | | | \$112,437.20 |

Model: Sanitary Sewer

| Assembly | Quantity | UOM | Unit Cost | Material | Labor | Equipment | SubBid | Total Cost |
|----------|----------|-----|-----------|----------|-------|-----------|--------|------------|
|----------|----------|-----|-----------|----------|-------|-----------|--------|------------|

CHARLOTTESVILLE AMTRAK STATION STUDY

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|-------------|---|-------------|------------|-------------|------------|----------|--------|-------------|
| G1020070401 | Dump Charge | 121.63 CY | \$24.47 | \$2,976.08 | \$0.00 | \$0.00 | \$0.00 | \$2,976.08 |
| G1030020220 | 910, 0.96m3 (1.25 CY), Wheel Loader | 3.00 HR | \$141.53 | \$0.00 | \$286.87 | \$137.73 | \$0.00 | \$424.60 |
| G1030020258 | Cat 225, 1.15m3 (1.5 CY), Soil/Sand, Trenching | 587.02 CY | \$4.08 | \$0.00 | \$1,588.84 | \$785.68 | \$0.00 | \$2,384.53 |
| G1030020284 | 6.12m3 (8 CY), Dump Truck | 9.00 HR | \$158.01 | \$0.00 | \$957.91 | \$464.14 | \$0.00 | \$1,422.05 |
| G1030040401 | 950, 2.29m3 (3 CY), Backfill W/Excavated Material | 489.72 CY | \$2.84 | \$0.00 | \$703.10 | \$687.22 | \$0.00 | \$1,390.33 |
| G1030040405 | 950, 2.29m3 (3 CY), Delivered & Dumped, Backfill W/Sand | 93.08 CY | \$73.82 | \$5,693.78 | \$685.65 | \$672.94 | \$0.00 | \$6,952.37 |
| G1030050511 | Compact Soil W/Vibrating Plate | 489.72 CY | \$3.75 | \$0.00 | \$1,757.76 | \$78.09 | \$0.00 | \$1,835.86 |
| G1030050515 | Compact With Pogosticks | 93.08 CY | \$20.09 | \$0.00 | \$1,770.70 | \$99.45 | \$0.00 | \$1,870.15 |
| G3020010127 | 203.20mm (8") PVC Pipe Sanitary | 1,000.00 LF | \$17.11 | \$10,032.02 | \$7,073.07 | \$0.00 | \$0.00 | \$17,105.09 |
| G3020020201 | Precast, C/P Base, 1.22m Dia, 1.83m Deep (4' Dia, 6' Deep), Manhole | 4.00 EA | \$3,538.35 | \$9,581.48 | \$4,070.29 | \$501.62 | \$0.00 | \$14,153.38 |

Model: Sanitary Sewer \$50,424.44

Model: Sidewalks

| Assembly | Quantity | UOM | Unit Cost | Material | Labor | Equipment | SubBid | Total Cost |
|-------------|--|-------------|-----------|-------------|-------------|-----------|--------|-------------|
| G1030010105 | Fine Grading, Hand | 544.44 SY | \$13.48 | \$0.00 | \$7,345.38 | \$0.00 | \$0.00 | \$7,345.38 |
| G1030020205 | Curb/Sidewalk Excav & Bkfl, 27% Haul off Spoil, 1.61 km (1 Mile) | 81.01 CY | \$19.28 | \$0.00 | \$1,188.74 | \$373.34 | \$0.00 | \$1,562.08 |
| G1030040417 | Delivered & Dumped - Hand, Backfill W/Sand | 54.01 CY | \$145.92 | \$1,762.05 | \$6,030.16 | \$88.71 | \$0.00 | \$7,880.92 |
| G1030050511 | Compact Soil W/Vibrating Plate | 54.01 CY | \$3.75 | \$0.00 | \$193.86 | \$8.61 | \$0.00 | \$202.47 |
| G2030030303 | Brick Sidewalk W/Sand Joints 48.44 Bricks/m2 (4.5 Bricks/SF) | 3,600.00 SF | \$22.32 | \$16,271.45 | \$61,852.43 | \$0.00 | \$0.00 | \$78,123.87 |

Model: Sidewalks \$95,114.72

Model: Storm Sewer

| Assembly | Quantity | UOM | Unit Cost | Material | Labor | Equipment | SubBid | Total Cost |
|-------------|---|-------------|------------|-------------|-------------|------------|--------|-------------|
| G1020070401 | Dump Charge | 433.34 CY | \$24.47 | \$10,603.11 | \$0.00 | \$0.00 | \$0.00 | \$10,603.11 |
| G1030020220 | 910, 0.96m3 (1.25 CY), Wheel Loader | 11.00 HR | \$141.53 | \$0.00 | \$1,051.86 | \$505.01 | \$0.00 | \$1,556.87 |
| G1030020282 | Cat 235, 1.91m3 (2.5 CY), Soil/Sand, Trenching | 924.48 CY | \$2.89 | \$0.00 | \$1,502.97 | \$987.74 | \$0.00 | \$2,490.71 |
| G1030020284 | 6.12m3 (8 CY), Dump Truck | 32.00 HR | \$158.01 | \$0.00 | \$3,405.88 | \$1,650.28 | \$0.00 | \$5,056.17 |
| G1030040401 | 950, 2.29m3 (3 CY), Backfill W/Excavated Material | 577.80 CY | \$2.84 | \$0.00 | \$829.56 | \$810.83 | \$0.00 | \$1,640.39 |
| G1030040405 | 950, 2.29m3 (3 CY), Delivered & Dumped, Backfill W/Sand | 216.55 CY | \$73.62 | \$13,246.55 | \$1,362.50 | \$1,332.95 | \$0.00 | \$15,942.00 |
| G1030050511 | Compact Soil W/Vibrating Plate | 577.80 CY | \$3.75 | \$0.00 | \$2,073.91 | \$92.14 | \$0.00 | \$2,166.05 |
| G1030050515 | Compact With Pogosticks | 216.55 CY | \$20.09 | \$0.00 | \$4,119.52 | \$231.37 | \$0.00 | \$4,350.88 |
| G2020020204 | 1.22m x 1.22m (4' x 4'), 1.83m (6') Deep Cast in Place | 4.00 EA | \$8,317.29 | \$13,075.88 | \$19,585.69 | \$807.57 | \$0.00 | \$33,289.14 |
| | Deep Precast Area Drain W/Grate | | | | | | | |
| G3030010168 | 609.60mm (24") RCP, Class 3, With Gaskets | 1,000.00 LF | \$85.16 | \$37,289.75 | \$45,014.30 | \$2,854.44 | \$0.00 | \$85,158.49 |
| G3030090933 | 609.60mm (24") Flared End RCP, Class 3 | 2.00 EA | \$131.72 | \$193.14 | \$64.57 | \$5.74 | \$0.00 | \$283.44 |

Model: Storm Sewer \$162,497.26

Model: Underground Electrical Distribution

| Assembly | Quantity | UOM | Unit Cost | Material | Labor | Equipment | SubBid | Total Cost |
|-------------|---|-----------|-----------|------------|----------|-----------|--------|------------|
| G1030020259 | Cat 225, 1.15m3 (1.5 CY), Soil/Sand, Trenching | 217.00 CY | \$4.08 | \$0.00 | \$591.03 | \$294.14 | \$0.00 | \$885.17 |
| G1030040401 | 950, 2.29m3 (3 CY), Backfill W/Excavated Material | 124.00 CY | \$2.84 | \$0.00 | \$178.03 | \$174.01 | \$0.00 | \$352.04 |
| G1030040405 | 950, 2.29m3 (3 CY), Delivered & Dumped, Backfill W/Sand | 36.00 CY | \$73.62 | \$2,202.15 | \$226.51 | \$221.59 | \$0.00 | \$2,650.25 |
| G1030050511 | Compact Soil W/Vibrating Plate | 124.00 CY | \$3.75 | \$0.00 | \$445.08 | \$19.77 | \$0.00 | \$464.85 |

CHARLOTTESVILLE AMTRAK STATION STUDY

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|-------------|---|-------------|-------------|-------------|-------------|----------|--------|-------------|
| G1030050515 | Compact With Pogosticks | 36.00 CY | \$20.09 | \$0.00 | \$684.84 | \$38.46 | \$0.00 | \$723.31 |
| G4010060514 | 5 KV, 500 MCM, Shielded Cable, Copper | 3,000.00 LF | \$27.11 | \$53,830.35 | \$27,489.97 | \$0.00 | \$0.00 | \$81,320.32 |
| G4010080551 | 6 KV, 400 To 700 MCM Conductor, Terminations & Splicing | 6.00 EA | \$1,069.15 | \$3,317.91 | \$3,096.99 | \$0.00 | \$0.00 | \$8,414.90 |
| G4010070613 | 152.40mm (6") PVC Conduit | 2,000.00 LF | \$34.95 | \$21,042.77 | \$48,866.98 | \$0.00 | \$0.00 | \$69,899.75 |
| G4010070615 | Concrete Encasement For Duct Bank | 62.00 CY | \$291.56 | \$16,149.37 | \$1,881.10 | \$46.47 | \$0.00 | \$18,076.93 |
| G4010070616 | Elect & Comm Manhole, 0.98m2 x 3.05m Deep (10.5' Sq x 10' Deep), W/Cable Tray | 1.00 EA | \$17,162.21 | \$10,922.87 | \$5,595.22 | \$844.32 | \$0.00 | \$17,162.21 |
| G4010074215 | Hand holes, precast concrete, with concrete cover, 4' x 4' x 4' deep, excludes exco & bckfl | 4.00 EA | \$4,373.19 | \$8,971.72 | \$7,804.45 | \$716.58 | \$0.00 | \$17,492.75 |

Model: Underground Electrical Distribution \$215,442.48

Model: Water Distribution

| Assembly | | Quantity UOM | Unit Cost | Material | Labor | Equipment | SubBid | Total Cost |
|-------------|---|--------------|-----------|------------|-------------|------------|--------|-------------|
| G1020070401 | Dump Charge | 100.87 CY | \$24.47 | \$2,468.12 | \$0.00 | \$0.00 | \$0.00 | \$2,468.12 |
| G1030020220 | 910, 0.96m3 (1.25 CY), Wheel Loader | 2.00 HR | \$141.53 | \$0.00 | \$191.25 | \$91.82 | \$0.00 | \$283.07 |
| G1030020259 | Cat 225, 1.15m3 (1.5 CY), Soil/Sand, Trenching | 546.52 CY | \$4.08 | \$0.00 | \$1,488.53 | \$740.79 | \$0.00 | \$2,229.32 |
| G1030020284 | 6.12m3 (8 CY), Dump Truck | 8.00 HR | \$158.01 | \$0.00 | \$851.47 | \$412.57 | \$0.00 | \$1,264.04 |
| G1030040401 | 950, 2.29m3 (3 CY), Backfill W/Excavated Material | 465.83 CY | \$2.84 | \$0.00 | \$669.81 | \$653.70 | \$0.00 | \$1,322.51 |
| G1030040405 | 950, 2.29m3 (3 CY), Delivered & Dumped, Backfill W/Sand | 81.42 CY | \$73.62 | \$4,980.53 | \$512.28 | \$501.17 | \$0.00 | \$5,993.99 |
| G1030050511 | Compact Soil W/Vibrating Plate | 465.83 CY | \$3.75 | \$0.00 | \$1,672.01 | \$74.28 | \$0.00 | \$1,746.30 |
| G1030050515 | Compact With Pogosticks | 81.42 CY | \$20.09 | \$0.00 | \$1,548.88 | \$86.99 | \$0.00 | \$1,635.88 |
| G3010020208 | 152.40mm (6"), Class 200, PVC Piping | 1,000.00 LF | \$42.29 | \$7,976.68 | \$26,392.06 | \$7,925.46 | \$0.00 | \$42,294.20 |

Model: Water Distribution \$59,237.42

Supporting Facilities total Marked Up Cost: \$1,868,573.78

CHARLOTTESVILLE AMTRAK STATION STUDY

Parcels 2A and 2B Transit-Oriented Development Concept Cost Estimate – Housing Wrap

Facility: Housing Wrap

FSA: BUILDING SHELL

Size: 74,000.00 SF

| Assembly | Quantity | UOM | Unit Cost | Material | Labor | Equipment | SubBid | Total Cost |
|-------------|---|--------------|------------|--------------|--------------|------------|--------|--------------|
| A1010010139 | 0,305 m X 0.46 m(1'0" X 1'6") Turn Down Slab | 9,232.98 LF | \$32.32 | \$115,075.93 | \$180,110.15 | \$3,222.20 | \$0.00 | \$298,408.28 |
| A1030010101 | 101.6 mm(4") Standard Slab On Grade | 74,000.00 SF | \$9.08 | \$319,303.43 | \$344,902.84 | \$7,859.81 | \$0.00 | \$672,066.07 |
| B1010010199 | Seismic Modifications | 74,001.00 SF | \$0.69 | \$51,043.30 | \$0.00 | \$0.00 | \$0.00 | \$51,043.30 |
| B1020010130 | 50.8 mm x 101.6 mm(2x4) Wood Truss Roof Framing | 81,723.00 SF | \$8.52 | \$282,883.06 | \$408,809.24 | \$4,960.05 | \$0.00 | \$696,632.36 |
| B1020010136 | W/19.05 mm(3/4") Plywd Roof Deck | | | | | | | |
| | Structural Steel, Lt Load, Columns | 6.51 TON | \$5,213.40 | \$26,776.51 | \$6,424.55 | \$738.17 | \$0.00 | \$33,938.23 |
| B2010010126 | 203.2 mm(8") Load Bearing Concrete Block Wall w/Furred Interior | 18,725.00 SF | \$31.13 | \$140,667.66 | \$442,014.74 | \$284.12 | \$0.00 | \$592,966.52 |
| B2010010128 | Brick Veneer - Residential | 18,725.00 SF | \$30.76 | \$139,214.48 | \$436,748.18 | \$0.00 | \$0.00 | \$575,962.66 |
| B2010030205 | Loose Fill 8" Block Insulation | 18,725.00 SF | \$3.88 | \$47,373.61 | \$25,204.24 | \$0.00 | \$0.00 | \$72,577.86 |
| B2010070804 | Vinyl Soffit And Fascia, Vented | 1,919.13 SF | \$18.83 | \$12,540.46 | \$23,585.70 | \$0.00 | \$0.00 | \$36,136.16 |
| B2020010109 | Aluminum Frm Sliding Type Window - 9.53 mm(3/8") Clear | 1,111.00 SF | \$129.91 | \$84,444.47 | \$59,884.14 | \$0.00 | \$0.00 | \$144,328.61 |
| B2030010208 | Residential Sliding Glass Door, 1830 mm X 2030 mm(6'0" x 6'8") | 58.00 EA | \$1,706.85 | \$73,819.13 | \$25,177.81 | \$0.00 | \$0.00 | \$98,997.04 |
| B2030010209 | Residential Pre-Hung Steel Entry Door W/Sidelight & Fra | 58.00 EA | \$1,168.39 | \$66,248.38 | \$11,518.12 | \$0.00 | \$0.00 | \$67,766.50 |
| B2030010211 | Pre-Hung, Insulated, Exterior Steel Door 910 mm X 2030 mm(3'0" x 6'-8") | 58.00 EA | \$743.11 | \$31,581.98 | \$11,518.12 | \$0.00 | \$0.00 | \$43,100.11 |
| B3010020101 | Single-ply Membrane Roof Covering | 81,723.00 SF | \$3.17 | \$140,797.31 | \$114,928.29 | \$3,720.04 | \$0.00 | \$259,443.84 |
| B3010030309 | 228.6 mm(9") Kraft Faced Fiberglass Ceiling Insulation, R30 | 54,938.29 SF | \$2.80 | \$118,526.92 | \$35,318.49 | \$0.00 | \$0.00 | \$153,845.42 |
| B3010040407 | Aluminum Drip Edge | 3,499.65 LF | \$3.05 | \$3,096.18 | \$7,593.21 | \$0.00 | \$0.00 | \$10,689.39 |
| B3010040408 | Aluminum Flashing | 1,899.79 SF | \$7.06 | \$3,980.76 | \$9,427.13 | \$0.00 | \$0.00 | \$13,407.90 |
| B3010050601 | 5" Box Gutters With Downspouts | 166.31 LF | \$16.09 | \$944.77 | \$1,730.71 | \$0.00 | \$0.00 | \$2,675.48 |
| D2020010104 | Residential Water Piping for Full Bath | 63.00 EA | \$2,676.60 | \$34,191.14 | \$134,434.78 | \$0.00 | \$0.00 | \$168,625.92 |
| D2020010106 | Residential Water Piping for Kitchen & Laundry | 58.00 EA | \$2,448.00 | \$25,982.53 | \$118,001.54 | \$0.00 | \$0.00 | \$141,984.08 |
| D2020010107 | Residential Water Heater & Hose Bibb Piping | 58.00 EA | \$2,443.33 | \$34,930.85 | \$108,782.38 | \$0.00 | \$0.00 | \$141,713.24 |
| D2020020204 | Residential Valves & Hose Bibbs | 58.00 EA | \$442.26 | \$13,719.56 | \$11,931.77 | \$0.00 | \$0.00 | \$25,651.33 |
| D2020030105 | Domestic Water Heater | 58.00 EA | \$2,145.42 | \$86,872.51 | \$37,561.78 | \$0.00 | \$0.00 | \$124,434.29 |
| D2020040403 | Residential Water Piping Insulation | 58.00 EA | \$2,384.00 | \$12,079.33 | \$126,192.48 | \$0.00 | \$0.00 | \$138,271.82 |
| D2030010105 | Residential Service Waste Piping | 58.00 EA | \$2,100.68 | \$28,184.57 | \$92,644.86 | \$0.00 | \$0.00 | \$121,839.43 |
| D2030010106 | Residential Waste & Vent Pipe for Full Bath | 58.00 EA | \$4,414.79 | \$52,562.82 | \$203,495.00 | \$0.00 | \$0.00 | \$256,057.82 |
| D2030010107 | Residential Waste & Vent Pipe for Kitchen & Laundry | 58.00 EA | \$3,787.99 | \$37,703.57 | \$180,839.78 | \$0.00 | \$0.00 | \$218,543.35 |
| D3010020222 | Residential Interior Natural Gas Piping 5.86 kW (200 MBH) VMeter | 3.00 EA | \$4,375.84 | \$4,797.61 | \$8,329.82 | \$0.00 | \$0.00 | \$13,127.53 |
| D3030020214 | Residential 7.03 kW(2 Ton) Heat Pump Outside Unit W/Ref Piping | 58.00 EA | \$5,628.10 | \$174,065.50 | \$152,364.32 | \$0.00 | \$0.00 | \$326,429.83 |

CHARLOTTESVILLE AMTRAK STATION STUDY

| | | | | | | | | |
|----------------------------|--|----------|-------------|-------------|-------------|--------|--------|-----------------------|
| D3000011101 | Controls, Residential HVAC Systems | 1.00 EA | \$372.62 | \$107.10 | \$265.43 | \$0.00 | \$0.00 | \$372.62 |
| D5010030401 | 25 KVA Dry Type Transformer (Single Phase) | 2.00 EA | \$5,505.95 | \$6,829.36 | \$4,182.55 | \$0.00 | \$0.00 | \$11,011.91 |
| D5010030402 | 37.5 KVA Dry Type Transformer | 2.00 EA | \$6,766.03 | \$8,303.88 | \$5,228.19 | \$0.00 | \$0.00 | \$13,532.06 |
| D5010030403 | 75 KVA Dry Type Transformer | 1.00 EA | \$9,736.28 | \$6,518.93 | \$3,217.35 | \$0.00 | \$0.00 | \$9,736.28 |
| D5010040581 | Panel board 120/208V 100A Mlo 24 Cir W/Bkr | 3.00 EA | \$6,080.97 | \$7,371.05 | \$10,971.85 | \$0.00 | \$0.00 | \$18,242.90 |
| D5010040582 | Panel board 120/208V 225A Mlo 38 Cir W/Bkr | 2.00 EA | \$10,203.21 | \$9,216.53 | \$11,189.90 | \$0.00 | \$0.00 | \$20,406.42 |
| D5010040583 | Panel board 120/208V 225A Mlo 42 Cir W/Bkr | 2.00 EA | \$10,897.33 | \$9,682.16 | \$12,112.50 | \$0.00 | \$0.00 | \$21,794.87 |
| D5030010303 | 4-Pair Telephone Outlet | 1.00 EA | \$978.94 | \$243.73 | \$735.21 | \$0.00 | \$0.00 | \$978.94 |
| D5030040701 | Television Outlet Complete With Wire And Conduit | 58.00 EA | \$390.03 | \$12,513.24 | \$10,108.22 | \$0.00 | \$0.00 | \$22,821.46 |
| FSA: BUILDING SHELL | | | | | | | | \$5,609,362.31 |

FSA: BATHROOM

| Assembly | | Quantity | UOM | Unit Cost | Material | Labor | Equipment | SubBid | Total Cost |
|---------------|--|-----------|-----|------------|--------------|-------------|-----------|--------|--------------|
| C1010010120 | 2"x4" Wood Stud Partition, 16" O.C. W/Insulation | 6,938.34 | SF | \$5.54 | \$12,384.56 | \$26,065.99 | \$0.00 | \$0.00 | \$38,450.55 |
| C1020010126 | 26" X 68" Hollow Core Interior Door And Frame | 58.00 | EA | \$308.64 | \$5,268.97 | \$12,630.80 | \$0.00 | \$0.00 | \$17,900.87 |
| C1030020213 | Accessories For Typical Bath Unit | 58.00 | EA | \$1,384.17 | \$51,938.96 | \$28,342.62 | \$0.00 | \$0.00 | \$80,281.59 |
| C1030090202 | Custom Bathroom Vanity - Prefinished W/Plastic Lam Top | 164.00 | LF | \$394.70 | \$53,709.78 | \$11,020.90 | \$0.00 | \$0.00 | \$64,730.68 |
| C3010030305 | 5/8" WP Gypsum Board/Installed/Taped & Finished | 13,026.00 | SF | \$2.43 | \$8,087.20 | \$23,552.15 | \$0.00 | \$0.00 | \$31,639.35 |
| C3010900501 | Paint To Gypsum Board Walls Using Roller | 13,026.00 | SF | \$1.17 | \$4,245.78 | \$10,991.01 | \$0.00 | \$0.00 | \$15,236.78 |
| C3020010101 | Thin Set Natural Clay Ceramic Tile Floor And Base | 3,070.00 | SF | \$23.52 | \$30,210.28 | \$42,001.28 | \$0.00 | \$0.00 | \$72,211.56 |
| C3030020301 | 5/8" Gypsum Wallboard Ceiling, 1 Layer, Fire Rated | 3,070.00 | SF | \$2.89 | \$1,906.01 | \$6,969.38 | \$0.00 | \$0.00 | \$8,875.39 |
| C3030900601 | Painting To Drywall Or Plaster Using Rollers, 2 Coats | 3,070.00 | SF | \$1.17 | \$1,000.66 | \$2,590.39 | \$0.00 | \$0.00 | \$3,591.04 |
| D2010010101 | Floor Mounted Water Closet | 58.00 | EA | \$783.30 | \$20,705.37 | \$24,725.80 | \$0.00 | \$0.00 | \$45,431.17 |
| D2010030301 | Wall Hung 16" By 14" White Single Bowl Lavatory | 58.00 | EA | \$3,094.77 | \$84,171.81 | \$95,324.85 | \$0.00 | \$0.00 | \$179,496.66 |
| D2010050509 | Residential Bathtub & Shower | 58.00 | EA | \$2,663.33 | \$112,189.07 | \$42,304.20 | \$0.00 | \$0.00 | \$154,473.26 |
| D5020010183 | 120 Volt Residential GFI Receptacle | 58.00 | EA | \$265.14 | \$4,640.70 | \$10,737.43 | \$0.00 | \$0.00 | \$15,378.13 |
| D5020020286 | Residential Bath Exhaust Fan/Light | 58.00 | EA | \$524.03 | \$12,211.66 | \$18,181.87 | \$0.00 | \$0.00 | \$30,393.64 |
| D5020020290 | Residential Vanity Light | 58.00 | EA | \$550.36 | \$11,041.36 | \$20,879.44 | \$0.00 | \$0.00 | \$31,920.80 |
| FSA: BATHROOM | | | | | | | | | \$790,011.47 |

FSA: BEDROOM #2

| Assembly | | Quantity | UOM | Unit Cost | Material | Labor | Equipment | SubBid | Total Cost |
|-------------|--|-----------|-----|-----------|-------------|-------------|-----------|--------|-------------|
| C1010010110 | | 5,316.43 | SF | \$4.39 | \$6,766.45 | \$16,554.89 | \$0.00 | \$0.00 | \$23,321.44 |
| C1020010125 | | 58.00 | EA | \$308.67 | \$5,271.77 | \$12,630.90 | \$0.00 | \$0.00 | \$17,902.67 |
| C1020010126 | | 29.00 | EA | \$308.64 | \$2,634.98 | \$6,315.45 | \$0.00 | \$0.00 | \$8,950.43 |
| C1030060601 | | 140.77 | LF | \$21.24 | \$1,245.41 | \$1,744.91 | \$0.00 | \$0.00 | \$2,990.32 |
| C3010030304 | | 14,956.30 | SF | \$2.43 | \$9,285.63 | \$27,042.31 | \$0.00 | \$0.00 | \$36,327.93 |
| C3010900501 | | 14,956.30 | SF | \$1.17 | \$4,874.85 | \$12,619.74 | \$0.00 | \$0.00 | \$17,494.70 |
| C3020050501 | | 560.00 | SY | \$63.16 | \$27,596.81 | \$7,773.97 | \$0.00 | \$0.00 | \$35,370.78 |
| C3030020301 | | 5,040.00 | SF | \$2.89 | \$3,129.09 | \$11,441.58 | \$0.00 | \$0.00 | \$14,670.67 |
| C3030900601 | | 5,040.00 | SF | \$1.17 | \$1,642.77 | \$4,252.62 | \$0.00 | \$0.00 | \$5,895.39 |
| D5020010182 | | 113.00 | EA | \$330.29 | \$6,805.14 | \$30,517.69 | \$0.00 | \$0.00 | \$37,322.84 |
| D5020020293 | | 58.00 | EA | \$554.62 | \$8,862.80 | \$23,305.41 | \$0.00 | \$0.00 | \$32,168.21 |
| D5020020296 | | 58.00 | EA | \$415.83 | \$6,225.11 | \$17,893.00 | \$0.00 | \$0.00 | \$24,119.11 |

CHARLOTTESVILLE AMTRAK STATION STUDY

| | | | | | | | | |
|------------------------|----------------|----------|----------|------------|------------|--------|--------|---------------------|
| D5020959276 | Smoke Detector | 59.00 EA | \$339.39 | \$9,902.57 | \$9,781.96 | \$0.00 | \$0.00 | \$19,684.52 |
| FSA: BEDROOM #2 | | | | | | | | \$276,118.01 |

FSA: BEDROOM #3

Size: 74,000.00 SF

| Assembly | Quantity | UOM | Unit Cost | Material | Labor | Equipment | SubBid | Total Cost |
|-------------|---|--------------|-----------|-------------|-------------|-----------|--------|-------------|
| C1010010110 | 2"x4" Wood Stud Partition, 16" O.C. | 5,139.34 SF | \$4.39 | \$6,541.06 | \$16,003.54 | \$0.00 | \$0.00 | \$22,544.60 |
| C1020010125 | 2'0" X 6'8" Hollow Core Interior Door And Frame | 116.00 EA | \$308.67 | \$10,543.53 | \$25,261.80 | \$0.00 | \$0.00 | \$35,805.33 |
| C1020010126 | 2'6" X 6'8" Hollow Core Interior Door And Frame | 59.00 EA | \$308.64 | \$5,269.97 | \$12,630.90 | \$0.00 | \$0.00 | \$17,900.87 |
| C1030060601 | 10" Wide Stock Prefinished Shelves With Supports | 135.57 LF | \$21.24 | \$1,199.40 | \$1,680.45 | \$0.00 | \$0.00 | \$2,879.85 |
| C3010030304 | 5/8" Gypsum Board/Installed/Taped & Finished | 14,453.27 SF | \$2.43 | \$8,973.32 | \$26,132.78 | \$0.00 | \$0.00 | \$35,106.10 |
| C3010900501 | Paint To Gypsum Board Walls Using Roller | 14,453.27 SF | \$1.17 | \$4,710.99 | \$12,195.30 | \$0.00 | \$0.00 | \$16,906.29 |
| C3020040404 | Sheet Vinyl Resilient Flooring | 4,854.00 SF | \$10.94 | \$32,697.65 | \$20,380.89 | \$0.00 | \$0.00 | \$53,078.54 |
| C3030020301 | 5/8" Gypsum Wallboard Ceiling, 1 Layer, Fire Rated | 4,854.00 SF | \$2.89 | \$3,013.61 | \$11,019.33 | \$0.00 | \$0.00 | \$14,032.94 |
| C3030900601 | Painting To Drywall Or Plaster Using Rollers, 2 Coats | 4,854.00 SF | \$1.17 | \$1,582.14 | \$4,095.68 | \$0.00 | \$0.00 | \$5,677.83 |
| D5020010182 | 120 Volt Residential Receptacle | 109.00 EA | \$330.29 | \$6,564.25 | \$29,437.42 | \$0.00 | \$0.00 | \$36,001.67 |
| D5020020283 | Residential Bedroom Fixture | 58.00 EA | \$554.62 | \$8,862.80 | \$23,305.41 | \$0.00 | \$0.00 | \$32,168.21 |
| D5020020296 | Residential Closet Fixture | 58.00 EA | \$415.83 | \$6,225.11 | \$17,893.00 | \$0.00 | \$0.00 | \$24,118.11 |
| D5020959276 | Smoke Detector | 58.00 EA | \$339.39 | \$9,902.57 | \$9,781.96 | \$0.00 | \$0.00 | \$19,684.52 |

FSA: BEDROOM #3

FSA: EXTERIOR STORAGE/MECHANICAL ROOM

Size: 74,000.00 SF

| Assembly | Quantity | UOM | Unit Cost | Material | Labor | Equipment | SubBid | Total Cost |
|-------------|--|-------------|------------|-------------|-------------|-----------|--------|-------------|
| C1010010110 | 2"x4" Wood Stud Partition, 16" O.C. | 616.18 SF | \$4.39 | \$784.24 | \$1,918.74 | \$0.00 | \$0.00 | \$2,702.98 |
| C1020010131 | Residential Hollow Metal Doors, Pair, 910 mm X 2130 mm X 44.5mm(3'0"X 7'0"X 1-3/4) | 58.00 EA | \$1,570.14 | \$79,220.53 | \$11,847.88 | \$0.00 | \$0.00 | \$91,068.41 |
| C3010030304 | 5/8" Gypsum Board/Installed/Taped & Finished | 4,107.65 SF | \$2.43 | \$2,550.24 | \$7,426.89 | \$0.00 | \$0.00 | \$9,977.23 |
| C3010900501 | Paint To Gypsum Board Walls Using Roller | 4,107.65 SF | \$1.17 | \$1,338.87 | \$3,465.93 | \$0.00 | \$0.00 | \$4,804.80 |
| D5020010182 | 120 Volt Residential Receptacle | 59.00 EA | \$330.29 | \$3,492.91 | \$15,063.95 | \$0.00 | \$0.00 | \$19,156.85 |
| D5020010189 | 60A 220V Equipment Connection | 59.00 EA | \$1,473.14 | \$28,202.51 | \$57,239.89 | \$0.00 | \$0.00 | \$85,442.40 |
| D5020020295 | Residential Keyless Pullchain | 58.00 EA | \$314.46 | \$4,897.27 | \$13,342.85 | \$0.00 | \$0.00 | \$18,240.11 |

FSA: EXTERIOR STORAGE/MECHANICAL ROOM

FSA: FAMILY ROOM

Size: 74,000.00 SF

| Assembly | Quantity | UOM | Unit Cost | Material | Labor | Equipment | SubBid | Total Cost |
|-------------|---|--------------|-----------|-------------|-------------|-----------|--------|-------------|
| C1010010110 | 2"x4" Wood Stud Partition, 16" O.C. | 3,739.64 SF | \$4.39 | \$4,759.60 | \$11,644.97 | \$0.00 | \$0.00 | \$16,404.58 |
| C3010030304 | 5/8" Gypsum Board/Installed/Taped & Finished | 12,464.64 SF | \$2.43 | \$7,738.68 | \$22,537.17 | \$0.00 | \$0.00 | \$30,275.84 |
| C3010900501 | Paint To Gypsum Board Walls Using Roller | 12,464.64 SF | \$1.17 | \$4,062.81 | \$10,517.34 | \$0.00 | \$0.00 | \$14,580.15 |
| C3020030301 | Wood Floor - Oak | 5,226.00 SF | \$10.27 | \$27,011.00 | \$26,667.37 | \$0.00 | \$0.00 | \$53,678.37 |
| C3030020301 | 5/8" Gypsum Wallboard Ceiling, 1 Layer, Fire Rated | 5,226.00 SF | \$2.89 | \$3,244.56 | \$11,863.83 | \$0.00 | \$0.00 | \$15,108.39 |
| C3030900601 | Painting To Drywall Or Plaster Using Rollers, 2 Coats | 5,226.00 SF | \$1.17 | \$1,703.40 | \$4,409.57 | \$0.00 | \$0.00 | \$6,112.96 |
| D5020010182 | 120 Volt Residential Receptacle | 134.00 EA | \$330.29 | \$8,069.82 | \$36,189.12 | \$0.00 | \$0.00 | \$44,258.94 |
| D5020020282 | Residential Family Room Fixture | 58.00 EA | \$554.62 | \$8,862.80 | \$23,305.41 | \$0.00 | \$0.00 | \$32,168.21 |

FSA: FAMILY ROOM

FSA: HALLWAY

Size: 74,000.00 SF

| Assembly | Quantity | UOM | Unit Cost | Material | Labor | Equipment | SubBid | Total Cost |
|----------|----------|-----|-----------|----------|-------|-----------|--------|------------|
|----------|----------|-----|-----------|----------|-------|-----------|--------|------------|

CHARLOTTESVILLE AMTRAK STATION STUDY

| | | | | | | | | |
|---------------------|---|--------------|----------|-------------|-------------|--------|--------|---------------------|
| C1010010110 | 2"x4" Wood Stud Partition, 16" O.C. | 6,237.25 SF | \$4.39 | \$7,938.42 | \$19,422.36 | \$0.00 | \$0.00 | \$27,360.78 |
| C3010030304 | 5/8" Gypsum Board/Installed/Taped & Finished | 10,395.19 SF | \$2.43 | \$6,453.86 | \$19,795.42 | \$0.00 | \$0.00 | \$26,249.28 |
| C3010900501 | Paint To Gypsum Board Walls Using Roller | 10,395.19 SF | \$1.17 | \$3,388.28 | \$8,771.20 | \$0.00 | \$0.00 | \$12,159.47 |
| C3020040404 | Sheet Vinyl Resilient Flooring | 2,869.00 SF | \$10.94 | \$19,326.24 | \$12,046.31 | \$0.00 | \$0.00 | \$31,372.55 |
| C3030020301 | 5/8" Gypsum Wallboard Ceiling, 1 Layer, Fire Rated | 2,869.00 SF | \$2.89 | \$1,781.22 | \$6,513.07 | \$0.00 | \$0.00 | \$8,294.29 |
| C3030900601 | Painting To Drywall Or Plaster Using Rollers, 2 Coats | 2,869.00 SF | \$1.17 | \$935.14 | \$2,420.79 | \$0.00 | \$0.00 | \$3,355.93 |
| D5020010182 | 120 Volt Residential Receptacle | 98.00 EA | \$330.29 | \$5,901.81 | \$26,466.87 | \$0.00 | \$0.00 | \$32,368.48 |
| D5020020288 | Residential 120V Smoke Detector | 58.00 EA | \$409.81 | \$10,348.18 | \$13,420.92 | \$0.00 | \$0.00 | \$23,769.10 |
| D5020020294 | Residential Hallway Fixture | 58.00 EA | \$462.78 | \$8,522.19 | \$20,318.97 | \$0.00 | \$0.00 | \$26,841.16 |
| FSA: HALLWAY | | | | | | | | \$190,771.03 |

FSA: KITCHEN - HOUSING

| Assembly | | Quantity | UOM | Size: 74,000.00 SF | | | | | SubBid | Total Cost |
|-------------------------------|--|-----------|-----|--------------------|--------------|--------------|-----------|--------|--------|-----------------------|
| | | | | Unit Cost | Material | Labor | Equipment | | | |
| C1010010110 | 2"x4" Wood Stud Partition, 16" O.C. | 6,663.81 | SF | \$4.39 | \$8,481.32 | \$20,750.63 | \$0.00 | \$0.00 | \$0.00 | \$29,231.96 |
| C1020010101 | 3'0" X 7'0" Hollow Metal Door | 58.00 | EA | \$1,749.81 | \$82,976.30 | \$18,518.72 | \$0.00 | \$0.00 | \$0.00 | \$101,495.02 |
| C1030090203 | Ktchn Cab. - Prefinished Hardwd W/Plastic Laminate Top | 1,170.00 | LF | \$816.18 | \$614,711.87 | \$106,219.75 | \$0.00 | \$0.00 | \$0.00 | \$720,931.62 |
| C3010030304 | 5/8" Gypsum Board/Installed/Taped & Finished | 14,807.63 | SF | \$2.43 | \$9,193.32 | \$26,773.50 | \$0.00 | \$0.00 | \$0.00 | \$35,966.82 |
| C3010900501 | Paint To Gypsum Board Walls Using Roller | 14,807.63 | SF | \$1.17 | \$4,826.50 | \$12,494.30 | \$0.00 | \$0.00 | \$0.00 | \$17,320.79 |
| C3020010101 | Thin Set Natural Clay Ceramic Tile Floor And Base | 6,311.00 | SF | \$23.52 | \$62,103.28 | \$86,342.05 | \$0.00 | \$0.00 | \$0.00 | \$148,445.32 |
| C3030020301 | 5/8" Gypsum Wallboard Ceiling, 1 Layer, Fire Rated | 6,311.00 | SF | \$2.89 | \$3,918.19 | \$14,326.95 | \$0.00 | \$0.00 | \$0.00 | \$18,245.14 |
| C3030900601 | Painting To Drywall Or Plaster Using Rollers, 2 Coats | 6,311.00 | SF | \$1.17 | \$2,057.05 | \$6,325.06 | \$0.00 | \$0.00 | \$0.00 | \$7,382.11 |
| D2010040402 | S.S. Sink, Double Bowl 32 X 21 X 7 | 27.00 | EA | \$1,984.05 | \$40,859.73 | \$12,709.59 | \$0.00 | \$0.00 | \$0.00 | \$53,569.32 |
| D5020010182 | 120 Volt Residential Receptacle | 261.00 | EA | \$330.29 | \$15,718.07 | \$70,487.77 | \$0.00 | \$0.00 | \$0.00 | \$86,205.84 |
| D5020010183 | 120 Volt Residential GFI Receptacle | 66.00 | EA | \$265.14 | \$5,280.80 | \$12,218.46 | \$0.00 | \$0.00 | \$0.00 | \$17,499.26 |
| D5020010185 | 50A Residential Range Receptacle | 58.00 | EA | \$867.98 | \$11,176.40 | \$27,568.59 | \$0.00 | \$0.00 | \$0.00 | \$38,742.99 |
| D5020010186 | Residential Telephone Outlet | 58.00 | EA | \$113.62 | \$1,234.32 | \$5,365.80 | \$0.00 | \$0.00 | \$0.00 | \$6,590.12 |
| D5020020285 | Residential Kitchen Fluorescent Fixture | 58.00 | EA | \$580.26 | \$15,209.44 | \$17,285.92 | \$0.00 | \$0.00 | \$0.00 | \$32,495.37 |
| D5020020287 | Residential Kitchen Cabinet Fixture | 58.00 | EA | \$304.01 | \$5,702.98 | \$11,929.44 | \$0.00 | \$0.00 | \$0.00 | \$17,632.42 |
| E1020010801 | Residential Kitchen Vent Hood | 58.00 | EA | \$1,970.02 | \$76,969.94 | \$37,291.45 | \$0.00 | \$0.00 | \$0.00 | \$114,261.40 |
| E1020010802 | Garbage Disposal, Residential | 58.00 | EA | \$378.43 | \$8,372.17 | \$13,577.05 | \$0.00 | \$0.00 | \$0.00 | \$21,949.22 |
| E1020010804 | Residential Refrigerator W/Ice Maker | 58.00 | EA | \$2,928.63 | \$153,039.66 | \$16,821.00 | \$0.00 | \$0.00 | \$0.00 | \$169,860.66 |
| E1020010805 | Residential Oven | 58.00 | EA | \$2,042.28 | \$108,677.84 | \$11,774.47 | \$0.00 | \$0.00 | \$0.00 | \$118,452.11 |
| E1020010806 | Residential Dishwasher | 58.00 | EA | \$3,071.79 | \$110,278.58 | \$67,885.27 | \$0.00 | \$0.00 | \$0.00 | \$178,163.84 |
| FSA: KITCHEN - HOUSING | | | | | | | | | | \$1,934,441.33 |

FSA: LIVING/DINING ROOM

| Assembly | | Quantity | UOM | Size: 74,000.00 SF | | | | | SubBid | Total Cost |
|-------------|---|-----------|-----|--------------------|-------------|-------------|-----------|--------|--------|--------------|
| | | | | Unit Cost | Material | Labor | Equipment | | | |
| C1010010110 | 2"x4" Wood Stud Partition, 16" O.C. | 8,479.13 | SF | \$4.39 | \$10,791.76 | \$26,403.41 | \$0.00 | \$0.00 | \$0.00 | \$37,195.17 |
| C3010030304 | 5/8" Gypsum Board/Installed/Taped & Finished | 18,842.78 | SF | \$2.43 | \$11,698.56 | \$34,069.40 | \$0.00 | \$0.00 | \$0.00 | \$45,767.96 |
| C3010900501 | Paint To Gypsum Board Walls Using Roller | 18,842.78 | SF | \$1.17 | \$6,141.74 | \$15,899.06 | \$0.00 | \$0.00 | \$0.00 | \$22,040.79 |
| C3020030301 | Wood Floor - Oak | 10,250.00 | SF | \$10.27 | \$52,977.95 | \$52,303.97 | \$0.00 | \$0.00 | \$0.00 | \$105,281.92 |
| C3030020301 | 5/8" Gypsum Wallboard Ceiling, 1 Layer, Fire Rated | 10,250.00 | SF | \$2.89 | \$6,363.72 | \$23,269.09 | \$0.00 | \$0.00 | \$0.00 | \$29,632.81 |
| C3030900601 | Painting To Drywall Or Plaster Using Rollers, 2 Coats | 10,250.00 | SF | \$1.17 | \$3,340.95 | \$8,648.69 | \$0.00 | \$0.00 | \$0.00 | \$11,989.64 |
| D5020010182 | 120 Volt Residential Receptacle | 212.00 | EA | \$330.29 | \$12,767.17 | \$57,254.43 | \$0.00 | \$0.00 | \$0.00 | \$70,021.60 |

CHARLOTTESVILLE AMTRAK STATION STUDY

| | | | | | | | | |
|--------------------------------|---------------------------------|----------|----------|------------|-------------|--------|--------|---------------------|
| D5020010186 | Residential Telephone Outlet | 59.00 EA | \$113.62 | \$1,224.32 | \$5,365.80 | \$0.00 | \$0.00 | \$6,590.12 |
| D5020010187 | Residential TV Outlet | 59.00 EA | \$237.25 | \$4,681.21 | \$9,079.33 | \$0.00 | \$0.00 | \$13,760.55 |
| D5020020287 | Residential Dining Fixture | 59.00 EA | \$554.62 | \$8,862.80 | \$23,305.41 | \$0.00 | \$0.00 | \$32,168.21 |
| D5020020289 | Residential Wall Lantern | 59.00 EA | \$521.51 | \$8,412.68 | \$21,834.91 | \$0.00 | \$0.00 | \$30,247.59 |
| D5020020292 | Residential Family Room Fixture | 59.00 EA | \$554.62 | \$8,862.80 | \$23,305.41 | \$0.00 | \$0.00 | \$32,169.21 |
| FSA: LIVING/DINING ROOM | | | | | | | | \$436,864.56 |

FSA: MASTER BEDROOM & BATH

Size: 74,000.00 SF

| Assembly | Quantity | UOM | Unit Cost | Material | Labor | Equipment | SubBid | Total Cost |
|---------------------------------------|-------------------------------------|-----------|------------|--------------|-------------|-----------|--------|---------------------|
| C3010030304 | 18,982.44 | SF | \$2.43 | \$11,785.26 | \$34,321.92 | \$0.00 | \$0.00 | \$46,107.18 |
| C3010030305 | 6,019.80 | SF | \$2.43 | \$3,736.78 | \$10,882.52 | \$0.00 | \$0.00 | \$14,619.30 |
| C3010900501 | 25,001.24 | SF | \$1.17 | \$8,149.07 | \$21,095.41 | \$0.00 | \$0.00 | \$29,244.47 |
| C3020040404 | 7,893.00 | SF | \$10.84 | \$53,169.05 | \$33,140.89 | \$0.00 | \$0.00 | \$86,310.04 |
| C3030020301 | 7,893.00 | SF | \$2.89 | \$4,900.37 | \$17,918.33 | \$0.00 | \$0.00 | \$22,818.71 |
| C3030900601 | 7,893.00 | SF | \$1.17 | \$2,572.70 | \$6,659.91 | \$0.00 | \$0.00 | \$9,232.61 |
| D2010010101 | 59.00 | EA | \$783.30 | \$20,705.37 | \$24,725.80 | \$0.00 | \$0.00 | \$45,431.17 |
| D2010030301 | 59.00 | EA | \$3,094.77 | \$84,171.81 | \$95,324.85 | \$0.00 | \$0.00 | \$179,496.66 |
| D2010050509 | 59.00 | EA | \$2,653.33 | \$112,169.07 | \$42,304.20 | \$0.00 | \$0.00 | \$154,473.26 |
| D5020010182 | 120 Volt Residential Receptacle | 116.00 EA | \$330.29 | \$6,985.81 | \$31,327.90 | \$0.00 | \$0.00 | \$38,313.71 |
| D5020010183 | 120 Volt Residential GFI Receptacle | 59.00 EA | \$265.14 | \$4,640.70 | \$10,737.43 | \$0.00 | \$0.00 | \$15,378.13 |
| D5020010186 | Residential Telephone Outlet | 59.00 EA | \$113.62 | \$1,224.32 | \$5,365.80 | \$0.00 | \$0.00 | \$6,590.12 |
| D5020010187 | Residential TV Outlet | 59.00 EA | \$237.25 | \$4,681.21 | \$9,079.33 | \$0.00 | \$0.00 | \$13,760.55 |
| D5020020286 | Residential Bath Exhaust Fan/Light | 59.00 EA | \$524.03 | \$12,211.66 | \$18,181.97 | \$0.00 | \$0.00 | \$30,393.64 |
| D5020020290 | Residential Vanity Light | 59.00 EA | \$550.36 | \$11,041.36 | \$20,879.44 | \$0.00 | \$0.00 | \$31,920.80 |
| D5020020293 | Residential Bedroom Fixture | 59.00 EA | \$554.62 | \$8,862.80 | \$23,305.41 | \$0.00 | \$0.00 | \$32,168.21 |
| D5020020296 | Residential Closet Fixture | 59.00 EA | \$415.83 | \$6,225.11 | \$17,893.00 | \$0.00 | \$0.00 | \$24,118.11 |
| D5020959276 | Smoke Detector | 59.00 EA | \$339.39 | \$8,902.57 | \$9,781.96 | \$0.00 | \$0.00 | \$19,684.52 |
| FSA: MASTER BEDROOM & BATH | | | | | | | | \$800,061.19 |

FSA: PATIO/PORCH

Size: 74,000.00 SF

| Assembly | Quantity | UOM | Unit Cost | Material | Labor | Equipment | SubBid | Total Cost |
|-------------------------|-------------------------------------|----------|-----------|-------------|-------------|-----------|--------|---------------------|
| C1020010130 | 59.00 | EA | \$759.47 | \$32,858.51 | \$11,190.70 | \$0.00 | \$0.00 | \$44,049.21 |
| C3030040501 | 5,319.00 | SF | \$3.78 | \$7,265.07 | \$12,822.86 | \$0.00 | \$0.00 | \$20,088.03 |
| C3030900601 | 5,319.00 | SF | \$1.17 | \$1,733.71 | \$4,488.04 | \$0.00 | \$0.00 | \$6,221.75 |
| D5020010183 | 120 Volt Residential GFI Receptacle | 59.00 EA | \$265.14 | \$4,640.70 | \$10,737.43 | \$0.00 | \$0.00 | \$15,378.13 |
| D5020020298 | Residential Garage/Porch Fixture | 59.00 EA | \$473.98 | \$6,868.78 | \$20,621.93 | \$0.00 | \$0.00 | \$27,490.71 |
| FSA: PATIO/PORCH | | | | | | | | \$113,227.83 |

FSA: STORAGE CLOSET

Size: 74,000.00 SF

| Assembly | Quantity | UOM | Unit Cost | Material | Labor | Equipment | SubBid | Total Cost |
|-------------|----------|-----|-----------|------------|-------------|-----------|--------|-------------|
| C1010010110 | 3,223.05 | SF | \$4.39 | \$4,102.12 | \$10,038.35 | \$0.00 | \$0.00 | \$14,138.47 |
| C1020010126 | 59.00 | EA | \$308.64 | \$5,269.97 | \$12,630.90 | \$0.00 | \$0.00 | \$17,900.87 |
| C1030060601 | 502.21 | LF | \$21.24 | \$4,443.11 | \$6,225.12 | \$0.00 | \$0.00 | \$10,668.23 |
| C3010030304 | 5,371.66 | SF | \$2.43 | \$3,335.00 | \$8,712.43 | \$0.00 | \$0.00 | \$13,047.43 |
| C3010900501 | 5,371.66 | SF | \$1.17 | \$1,750.87 | \$4,532.47 | \$0.00 | \$0.00 | \$6,283.34 |

CHARLOTTESVILLE AMTRAK STATION STUDY

| | | | | | | | | |
|----------------------------|---|-------------|----------|------------|-------------|--------|--------|---------------------|
| C3020040404 | Sheet Vinyl Resilient Flooring | 1,163.00 SF | \$10.94 | \$7,834.23 | \$4,983.18 | \$0.00 | \$0.00 | \$12,717.42 |
| C3030020301 | 5/8" Gypsum Wallboard Ceiling, 1 Layer, Fire Rated | 1,163.00 SF | \$2.89 | \$722.05 | \$2,640.19 | \$0.00 | \$0.00 | \$3,362.24 |
| C3030000601 | Painting To Drywall Or Plaster Using Rollers, 2 Coats | 1,163.00 SF | \$1.17 | \$379.08 | \$981.31 | \$0.00 | \$0.00 | \$1,360.39 |
| D5020020295 | Residential Closet Fixture | 58.00 EA | \$415.83 | \$6,225.11 | \$17,893.00 | \$0.00 | \$0.00 | \$24,118.11 |
| FSA: STORAGE CLOSET | | | | | | | | \$103,596.49 |

FSA: UTILITY ROOM

Size: 74,000.00 SF

| Assembly | Quantity | UOM | Unit Cost | Material | Labor | Equipment | SubBid | Total Cost |
|--------------------------|---|-------------|-----------|-------------|-------------|-----------|--------|---------------------|
| C1010010120 | 2"x4" Wood Stud Partition, 16" O.C. W/Insulation | 5,742.00 SF | \$6.54 | \$10,249.32 | \$21,571.81 | \$0.00 | \$0.00 | \$31,821.23 |
| C1020010127 | Residential Interior Hollow Metal Door And Frame | 58.00 EA | \$801.48 | \$46,362.01 | \$5,923.84 | \$0.00 | \$0.00 | \$52,285.95 |
| C1030000601 | 10" Wide Stock Prefinished Shelves With Supports | 287.77 LF | \$21.24 | \$2,545.94 | \$3,567.04 | \$0.00 | \$0.00 | \$6,112.97 |
| C3010030305 | 5/8" WP Gypsum Board/Installed/Taped & Finished | 9,570.15 SF | \$2.43 | \$5,941.63 | \$17,303.67 | \$0.00 | \$0.00 | \$23,245.31 |
| C3010900501 | Paint To Gypsum Board Walls Using Roller | 9,570.15 SF | \$1.17 | \$3,119.36 | \$8,075.05 | \$0.00 | \$0.00 | \$11,194.40 |
| C3020040404 | Sheet Vinyl Resilient Flooring | 2,590.00 SF | \$10.94 | \$17,446.83 | \$10,874.85 | \$0.00 | \$0.00 | \$28,321.68 |
| C3030020301 | 5/8" Gypsum Wallboard Ceiling, 1 Layer, Fire Rated | 2,590.00 SF | \$2.89 | \$1,608.00 | \$5,879.70 | \$0.00 | \$0.00 | \$7,487.70 |
| C3030900601 | Painting To Drywall Or Plaster Using Rollers, 2 Coats | 2,590.00 SF | \$1.17 | \$844.20 | \$2,185.38 | \$0.00 | \$0.00 | \$3,029.58 |
| D5020010182 | 120 Volt Residential Receptacle | 87.00 EA | \$330.29 | \$5,239.36 | \$23,495.92 | \$0.00 | \$0.00 | \$28,735.28 |
| D5020010184 | 30A Residential Dryer Receptacle | 58.00 EA | \$354.63 | \$3,048.19 | \$17,520.13 | \$0.00 | \$0.00 | \$20,568.32 |
| D5020020289 | Residential Wall Lantern | 58.00 EA | \$521.51 | \$8,412.68 | \$21,834.91 | \$0.00 | \$0.00 | \$30,247.59 |
| D5020020295 | Residential Keyless Pullchain | 58.00 EA | \$314.48 | \$4,897.27 | \$13,342.85 | \$0.00 | \$0.00 | \$18,240.11 |
| FSA: UTILITY ROOM | | | | | | | | \$261,290.14 |

3 Bedroom - SNCO/CGO - Free Standing Unit Total Cost:

\$11,275,629.48

Model: Sidewalks

| Assembly | Quantity | UOM | Unit Cost | Material | Labor | Equipment | SubBid | Total Cost |
|-------------|--|-------------|-------------|-------------|--------------|------------|--------|--------------|
| C3040020101 | Exposed Concrete Finish | 6,000.00 SF | \$6.25 | \$2,421.32 | \$35,076.91 | \$0.00 | \$0.00 | \$37,498.22 |
| D2010060604 | Electric Water Fountain, Wall Mounted | 2.00 EA | \$5,750.63 | \$6,657.23 | \$4,844.03 | \$0.00 | \$0.00 | \$11,501.25 |
| G1030010105 | Fine Grading, Hand | 933.33 SY | \$12.84 | \$0.00 | \$11,981.55 | \$0.00 | \$0.00 | \$11,981.55 |
| G1030020205 | Curb/Sidewalk Excav & Bkfl, 27% Haul off Spoil, 1.61 km (1 Mile) | 138.88 CY | \$18.35 | \$0.00 | \$1,939.11 | \$609.00 | \$0.00 | \$2,548.11 |
| G1030040417 | Delivered & Dumped - Hand, Backfill W/Sand | 92.59 CY | \$139.84 | \$2,974.23 | \$9,836.32 | \$144.70 | \$0.00 | \$12,855.25 |
| G1030060511 | Compact Soil W/Vibrating Plate | 92.59 CY | \$3.57 | \$0.00 | \$316.22 | \$14.05 | \$0.00 | \$330.27 |
| G2030030303 | Brick Sidewalk W/Sand Joints 48.44 Bricks/m2 (4.5 Bricks/SF) | 6,000.00 SF | \$21.24 | \$26,541.36 | \$100,891.31 | \$0.00 | \$0.00 | \$127,432.67 |
| G204003u1 | Site seating, picnic tables, various colors | 8.00 EA | \$2,230.18 | \$15,521.26 | \$2,320.14 | \$0.00 | \$0.00 | \$17,841.40 |
| G204003u2 | Picnic table umbrella | 4.00 EA | \$410.87 | \$1,241.70 | \$401.80 | \$0.00 | \$0.00 | \$1,643.50 |
| G2040070701 | 30.48m x 30.48m (100' x 100') Playground, Complete | 1.00 EA | \$40,929.35 | \$32,374.25 | \$8,295.65 | \$259.45 | \$0.00 | \$40,929.35 |
| G205005u1 | Shrubs | 6.00 EA | \$96.54 | \$351.65 | \$227.58 | \$0.00 | \$0.00 | \$579.23 |
| G205005u2 | Perennials | 36.00 EA | \$23.42 | \$555.41 | \$267.85 | \$0.00 | \$0.00 | \$843.26 |
| G2050060601 | Reinforced Concrete Planter | 6.00 EA | \$346.61 | \$642.30 | \$1,427.55 | \$9.83 | \$0.00 | \$2,079.68 |
| G3010020201 | 3/4", Class 200, PVC Piping | 300.00 LF | \$13.98 | \$111.75 | \$3,140.05 | \$942.27 | \$0.00 | \$4,194.07 |
| G3060047601 | Prefab Steel Canopy, Low Structure | 500.00 SF | \$65.30 | \$22,552.40 | \$8,739.09 | \$1,358.02 | \$0.00 | \$32,649.50 |
| G4020010601 | 150W Hps Fixture | 6.00 EA | \$1,116.77 | \$4,377.00 | \$2,323.63 | \$0.00 | \$0.00 | \$6,700.63 |
| G4020040304 | 10' Aluminum Light Pole, Anchor Base | 6.00 EA | \$1,665.55 | \$7,846.00 | \$2,147.29 | \$0.00 | \$0.00 | \$9,993.28 |

Model: Sidewalks

\$321,601.24

Sidewalks Total Cost:

\$321,601.24

Total Facilities Marked Up Cost:

\$11,597,230.71

CHARLOTTESVILLE AMTRAK STATION STUDY

Parcels 2A and 2B Transit-Oriented Development Concept Cost Estimate - Commercial

Facility: Commercial

FSA: BUILDING SHELL

| Assembly | | Quantity UOM | Unit Cost | Material | Labor | Equipment | SubBid | Total Cost |
|-------------|--|--------------|-------------|--------------|--------------|------------|--------|--------------|
| A1010010103 | 1'0" X 3'0" Strip Footing 3000 PSI | 1,845.08 LF | \$58.26 | \$55,242.85 | \$50,930.62 | \$1,315.82 | \$0.00 | \$107,489.09 |
| A1010020201 | Spread Footing | 69.28 CY | \$313.99 | \$12,183.30 | \$9,220.85 | \$349.00 | \$0.00 | \$21,753.15 |
| A1010020202 | 0.91 m X 0.762 m X 0.305 m(3'0" X 2'6" X 1'0") Spread Footing 20,684 kPa(3000 PSI) 1.52 m(5' Deep) | 139.00 EA | \$597.48 | \$21,921.91 | \$59,413.05 | \$1,716.81 | \$0.00 | \$83,051.76 |
| A1010020241 | Spread Footing, Reinforcing Steel | 1.87 TON | \$3,313.30 | \$2,796.38 | \$3,409.49 | \$0.00 | \$0.00 | \$6,195.87 |
| A1030010103 | 152.4 mm(6") Standard Slab On Grade | 22,000.00 SF | \$10.34 | \$120,879.60 | \$104,306.59 | \$2,336.70 | \$0.00 | \$227,522.89 |
| A1030050601 | Drainage | 782.69 LF | \$29.92 | \$11,261.51 | \$11,431.45 | \$724.44 | \$0.00 | \$23,417.40 |
| B1020010101 | Small Span, Concrete Roof Frame, 4 use forms | 28,806.00 SF | \$10.08 | \$67,065.83 | \$219,330.60 | \$3,933.76 | \$0.00 | \$290,330.18 |
| B1020010134 | Concrete Frame, Columns | 28,806.00 SF | \$2.79 | \$42,475.02 | \$37,037.36 | \$437.08 | \$0.00 | \$79,949.47 |
| B1020030309 | CIP Two-way Flat Slab, Small Span Roof Slab | 28,806.00 SF | \$29.58 | \$395,852.06 | \$458,337.30 | \$7,867.52 | \$0.00 | \$852,056.87 |
| B2010010102 | Brick Veneer Wall | 21,486.00 SF | \$33.57 | \$187,421.30 | \$633,952.14 | \$0.00 | \$0.00 | \$721,373.44 |
| B2010010144 | Reinforced 203.2 mm(8") Concrete Masonry Unit Back-Up Wall | 21,486.00 SF | \$25.75 | \$170,079.83 | \$382,874.33 | \$326.02 | \$0.00 | \$553,280.18 |
| B2010020303 | 3/4" MtI Furring Strip | 21,486.00 SF | \$3.13 | \$11,672.15 | \$65,682.96 | \$0.00 | \$0.00 | \$67,355.11 |
| B2010020310 | 5/8" Gypsum Board/Installed/Taped & Finished | 21,486.00 SF | \$2.43 | \$13,339.59 | \$38,848.58 | \$0.00 | \$0.00 | \$52,188.17 |
| B2010020311 | Paint to Gypsum Board Walls Using Roller | 21,486.00 SF | \$1.17 | \$7,003.29 | \$18,129.34 | \$0.00 | \$0.00 | \$25,132.62 |
| B2010030201 | Polystyrene Rigid Wall Insulation, 25.4 mm(1") Thick | 21,486.00 SF | \$1.95 | \$18,675.43 | \$23,309.15 | \$0.00 | \$0.00 | \$41,984.58 |
| B2010050501 | Fixed Blade Exterior Louver With Baked Enamel Finish | 559.22 SF | \$64.93 | \$21,265.51 | \$15,043.20 | \$0.00 | \$0.00 | \$36,308.72 |
| B2010070601 | Gypsum Plaster Exterior Soffits | 90.40 SF | \$7.87 | \$134.70 | \$573.90 | \$2.74 | \$0.00 | \$711.34 |
| B2020010101 | Aluminum Frm Fixed Type Window - 6.35 mm(1/4") Clear | 681.00 SF | \$81.09 | \$40,599.29 | \$14,625.20 | \$0.00 | \$0.00 | \$55,224.50 |
| B2030010202 | 910 mm X 2130 mm(30" X 70") Hollow Metal Door W/Frame | 4.00 EA | \$4,133.72 | \$12,932.94 | \$3,601.95 | \$0.00 | \$0.00 | \$16,534.89 |
| B2030010204 | 1830 mm X 2130 mm(6'0" X 7'0") Pair Hollow Metal Doors W/Frame and Panic Handles | 4.00 EA | \$7,100.07 | \$21,755.84 | \$8,844.44 | \$0.00 | \$0.00 | \$28,400.29 |
| B2030020101 | 910 mm X 2130 mm(30" X 70") Aluminum And Glass Door | 2.00 EA | \$3,085.03 | \$3,375.87 | \$2,784.18 | \$0.00 | \$0.00 | \$6,170.05 |
| B2030020102 | 910 mm X 2130 mm(30" X 70") Aluminum And Glass Door With Transom | 3.00 EA | \$2,603.23 | \$4,482.70 | \$3,327.00 | \$0.00 | \$0.00 | \$7,809.70 |
| B3010020101 | Single-ply Membrane Roof Covering | 28,806.00 SF | \$3.17 | \$49,628.71 | \$40,509.61 | \$1,311.25 | \$0.00 | \$91,449.57 |
| B3010030310 | Rigid Insulation - Tapered | 28,806.00 SF | \$2.46 | \$54,546.87 | \$16,203.84 | \$0.00 | \$0.00 | \$70,750.72 |
| D2020010101 | Copper Pipe & Fittings (1/2" to 4" Dia. Piping) | 63.00 EA | \$3,395.35 | \$89,653.47 | \$144,253.78 | \$0.00 | \$0.00 | \$213,907.25 |
| D2020020201 | Valves & Hydrants | 14.00 EA | \$621.48 | \$7,577.60 | \$1,123.06 | \$0.00 | \$0.00 | \$8,700.67 |
| D2020030107 | Commercial Water Sup Equip, 287.41 L(77 Gal) H/W Heater | 1.00 EA | \$35,273.91 | \$31,508.16 | \$3,765.75 | \$0.00 | \$0.00 | \$35,273.91 |
| D2020030109 | Water Softening System | 1.00 EA | \$25,244.22 | \$19,595.59 | \$5,648.63 | \$0.00 | \$0.00 | \$25,244.22 |
| D2020040401 | Fiberglass 1-1/2" Pipe Insulation With Vapor Barrier | 24.00 EA | \$375.39 | \$2,130.01 | \$6,879.41 | \$0.00 | \$0.00 | \$9,009.43 |
| D2020050502 | Domestic Water Supply Specialties, 25.4 mm(1") | 3.00 EA | \$1,000.85 | \$2,561.01 | \$441.54 | \$0.00 | \$0.00 | \$3,002.54 |

CHARLOTTESVILLE AMTRAK STATION STUDY

| | | | | | | | | |
|-------------|---|--------------|--------------|--------------|--------------|----------|------------|--------------|
| D2030010101 | Waste Pipe & Fittings | 18.00 EA | \$2,523.99 | \$16,695.91 | \$28,735.94 | \$0.00 | \$0.00 | \$45,431.86 |
| D2030020201 | C.I. No Hub Vent Pipe System | 9.00 EA | \$248.89 | \$830.74 | \$1,409.22 | \$0.00 | \$0.00 | \$2,239.97 |
| D2030030303 | Medium Duty And Heavy Duty Cast Iron Floor Drains | 37.00 EA | \$841.15 | \$23,459.61 | \$7,662.94 | \$0.00 | \$0.00 | \$31,122.55 |
| D2040010101 | Rainwater Drainage Piping | 419.45 LF | \$159.95 | \$41,054.54 | \$26,038.49 | \$0.00 | \$0.00 | \$67,093.03 |
| D2040020204 | 101.6 mm(4") Roof Drains With Deck Clamp | 13.00 EA | \$833.43 | \$7,183.06 | \$3,871.50 | \$0.00 | \$0.00 | \$10,834.57 |
| D2040040301 | Rainwater Drainage Pipe Insulation | 419.45 LF | \$15.66 | \$1,250.00 | \$5,317.24 | \$0.00 | \$0.00 | \$6,567.24 |
| D2090030307 | Grease Trap - 28.5 L/min(7 GPM), 53 L(14 Gal) | 2.00 EA | \$2,807.21 | \$4,966.80 | \$647.62 | \$0.00 | \$0.00 | \$5,614.42 |
| D3010020227 | 585.62 kW (2000 MBH) Natural Gas Supply | 1.00 EA | \$13,102.64 | \$7,112.48 | \$6,980.18 | \$0.00 | \$0.00 | \$13,102.64 |
| D3020010259 | Hot Water Boiler, Gas Fired 512.4kW (1750 MBH), complete w/ fittings | 1.00 EA | \$135,478.55 | \$86,278.16 | \$49,084.29 | \$116.11 | \$0.00 | \$135,478.55 |
| D3030011104 | 140.67 kW (40 Ton) Air Cooled Packaged Scroll Chiller W/Mech. Room Piping | 1.00 EA | \$157,695.87 | \$97,551.54 | \$59,823.87 | \$320.46 | \$0.00 | \$157,695.87 |
| D3040011152 | Ductwork Supply Stack Insulation | 783.39 SF | \$12.73 | \$826.83 | \$9,143.89 | \$0.00 | \$0.00 | \$9,970.72 |
| D3040011153 | Floor Ductwork (Supply at 1500FPM) | 5,324.00 LB | \$11.21 | \$4,379.67 | \$55,297.52 | \$0.00 | \$0.00 | \$59,677.19 |
| D3040011154 | Floor Ductwork (Return at 2500FPM) | 2,722.50 LB | \$11.21 | \$2,239.60 | \$28,277.14 | \$0.00 | \$0.00 | \$30,516.74 |
| D3040011155 | Floor Ductwork (Exhaust at 2500FPM) | 1,795.75 LB | \$11.21 | \$1,477.23 | \$19,651.49 | \$0.00 | \$0.00 | \$20,128.72 |
| D3040011161 | Ductwork Stack (Supply at 1500FPM) Commercial Building | 801.90 LB | \$11.21 | \$659.66 | \$8,328.90 | \$0.00 | \$0.00 | \$8,988.57 |
| D3040011162 | Ductwork Stack (Return at 2500FPM) Commercial Building | 801.90 LB | \$11.21 | \$659.66 | \$8,328.90 | \$0.00 | \$0.00 | \$8,988.57 |
| D3040011163 | Ductwork Stack (Exhaust at 2500FPM) Commercial Building | 880.00 LB | \$11.21 | \$542.93 | \$8,855.06 | \$0.00 | \$0.00 | \$7,398.00 |
| D3040909001 | Exhaust Ventilation System | 1.00 EA | \$18,263.19 | \$15,181.44 | \$3,081.75 | \$0.00 | \$0.00 | \$18,263.19 |
| D3050080673 | VAV Air Handling Unit, w Heat, 175.7 kW (60 Ton), 190.3 KW (650 MBH) | 1.00 EA | \$154,115.17 | \$126,217.28 | \$26,858.91 | \$0.00 | \$1,038.98 | \$154,115.17 |
| D3060011102 | Controls, Commercial HVAC Systems | 1.00 EA | \$55,955.54 | \$30,146.17 | \$22,055.42 | \$0.00 | \$3,753.94 | \$55,955.54 |
| D3060011105 | Controls, Boilers and Pumps | 1.00 EA | \$2,853.15 | \$1,480.73 | \$1,372.42 | \$0.00 | \$0.00 | \$2,853.15 |
| D3060011108 | Controls, Chillers and Pumps | 1.00 EA | \$8,206.36 | \$4,067.35 | \$4,139.01 | \$0.00 | \$0.00 | \$8,206.36 |
| D4010010102 | Fire Alarm System - Rate Of Rise Heat Detectors | 22.00 OUT | \$1,375.69 | \$6,198.66 | \$24,066.54 | \$0.00 | \$0.00 | \$30,265.20 |
| D4010010112 | 8 Zone Fire Alarm Panel And Remote Annunciator | 3.00 EA | \$4,784.71 | \$5,168.58 | \$9,125.54 | \$0.00 | \$0.00 | \$14,294.12 |
| D4020010105 | Fire Protection Water Supply | 193.00 EA | \$105.24 | \$14,633.52 | \$5,657.05 | \$20.50 | \$0.00 | \$20,311.07 |
| D4030010101 | 6" Standpipe System | 3.00 EA | \$11,468.33 | \$26,087.36 | \$8,252.54 | \$65.09 | \$0.00 | \$34,404.99 |
| D4040010102 | Concealed Sprinkler Heads, Pipes & Fittings - Ord. Haz. | 193.00 EA | \$1,505.31 | \$121,702.40 | \$168,648.97 | \$172.78 | \$0.00 | \$290,524.14 |
| D4050010101 | 5 Pound All Purpose ABC Type Fire Extinguishers | 7.00 EA | \$99.01 | \$287.92 | \$405.15 | \$0.00 | \$0.00 | \$693.07 |
| D5010010161 | MV/LV 150 kVA Main Transformer, 225A Distribution | 1.00 EA | \$29,287.40 | \$20,807.28 | \$7,886.28 | \$593.84 | \$0.00 | \$29,287.40 |
| D5010010254 | Underground 200 Amp Secondary - 3 Phase 4 Wire | 1.00 EA | \$8,922.88 | \$4,505.82 | \$4,385.38 | \$31.68 | \$0.00 | \$8,922.88 |
| D5010030401 | 25 KVA Dry Type Transformer (Single Phase) | 2.00 EA | \$5,505.95 | \$8,829.36 | \$4,182.55 | \$0.00 | \$0.00 | \$11,011.91 |
| D5010040581 | Panel board 120/208V 100A Mto 24 Cir W/Bkr | 1.00 EA | \$6,080.87 | \$2,457.02 | \$3,623.95 | \$0.00 | \$0.00 | \$6,080.87 |
| D5010040582 | Panel board 120/208V 225A Mto 36 Cir W/Bkr | 1.00 EA | \$10,203.21 | \$4,608.26 | \$5,594.95 | \$0.00 | \$0.00 | \$10,203.21 |
| D5010040583 | Panel board 120/208V 225A Mto 42 Cir W/Bkr | 1.00 EA | \$10,897.33 | \$4,841.08 | \$6,056.25 | \$0.00 | \$0.00 | \$10,897.33 |
| D5030010302 | 27-Pair Telephone System | 1.00 EA | \$3,760.03 | \$2,733.96 | \$1,026.07 | \$0.00 | \$0.00 | \$3,760.03 |
| D5030020401 | Sound And Public Address | 22,000.00 SF | \$1.94 | \$21,853.94 | \$20,772.92 | \$0.00 | \$0.00 | \$42,626.86 |
| D5030040701 | Television Outlet Complete With Wire And Conduit | 19.00 EA | \$390.03 | \$4,099.17 | \$3,311.31 | \$0.00 | \$0.00 | \$7,410.48 |
| D5030050801 | Card Reader Security System | 8.00 OUT | \$1,709.74 | \$7,256.38 | \$6,397.58 | \$0.00 | \$0.00 | \$13,653.95 |
| D5030050807 | Light Control System | 4.00 OUT | \$6,084.17 | \$12,681.49 | \$11,655.18 | \$0.00 | \$0.00 | \$24,336.67 |
| D5030070801 | Clock System | 5.00 EA | \$1,192.45 | \$2,109.11 | \$3,853.14 | \$0.00 | \$0.00 | \$5,962.24 |
| D5090030302 | Building Grounding | 3.00 EA | \$1,161.14 | \$1,213.92 | \$2,269.51 | \$0.00 | \$0.00 | \$3,483.43 |

CHARLOTTESVILLE AMTRAK STATION STUDY

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|---------------------|-----------------------------|---------|----------|------------|------------|--------|--------|----------------|
| D5090040401 | Lightning Protection System | 9.00 EA | \$790.39 | \$2,164.24 | \$4,949.28 | \$0.00 | \$0.00 | \$7,113.52 |
| FSA: BUILDING SHELL | | | | | | | | \$5,197,064.65 |

FSA: BUILDING SUPPORT AREA

Size: 22,000.00 SF

| Assembly | Quantity | UOM | Unit Cost | Material | Labor | Equipment | SubBid | Total Cost |
|-------------|--|-------------------------|------------|-------------|-------------|-----------|--------|-------------|
| C1010010101 | 181.37 | SF | \$2.38 | \$104.18 | \$327.93 | \$0.00 | \$0.00 | \$432.09 |
| C1010010102 | 725.47 | SF | \$4.13 | \$1,002.16 | \$1,986.72 | \$0.00 | \$0.00 | \$2,988.88 |
| C1010010112 | 362.74 | SF | \$14.63 | \$1,722.84 | \$3,585.40 | \$0.00 | \$0.00 | \$5,308.24 |
| C1010010113 | 2,357.78 | SF | \$15.86 | \$11,866.80 | \$25,673.18 | \$0.00 | \$0.00 | \$37,639.98 |
| C1010040401 | 28.78 | LF | \$105.33 | \$2,254.28 | \$759.79 | \$15.27 | \$0.00 | \$3,029.34 |
| C1010050504 | 74.80 | SF | \$81.09 | \$4,459.36 | \$1,606.41 | \$0.00 | \$0.00 | \$6,065.77 |
| C1010060601 | 85.15 | SF | \$245.25 | \$15,919.10 | \$4,964.31 | \$0.00 | \$0.00 | \$20,883.41 |
| C1020010108 | 1.00 | EA | \$1,822.34 | \$1,495.82 | \$326.52 | \$0.00 | \$0.00 | \$1,822.34 |
| C1020010111 | 2440 mm X 2130 mm(8'0" X 7'0") | Pair Hollow Metal Doors | 1.00 EA | \$3,311.08 | \$2,744.84 | \$566.23 | \$0.00 | \$3,311.08 |
| C1020010117 | 3'0" X 7'0" Wood Door, H.M. Frm | 3.00 EA | \$1,339.48 | \$2,921.65 | \$1,096.79 | \$0.00 | \$0.00 | \$4,016.43 |
| C1020010118 | 4'0" X 7'0" Wood Door, H.M. Frm | 2.00 EA | \$1,411.80 | \$2,078.14 | \$745.66 | \$0.00 | \$0.00 | \$2,823.80 |
| C1020010119 | 6'0" X 7'0" Pair Wood Doors, H.M. Frm | 1.00 EA | \$2,409.49 | \$1,750.64 | \$658.85 | \$0.00 | \$0.00 | \$2,409.49 |
| C1020020204 | 6'0" X 7'0" Pair Aluminum And Glass Doors With Transom | 1.00 EA | \$4,453.28 | \$2,864.29 | \$1,588.99 | \$0.00 | \$0.00 | \$4,453.28 |
| C1020030301 | 3'0" X 7'0" Fire Rated Hollow Metal Door | 1.00 EA | \$1,829.34 | \$1,481.02 | \$348.32 | \$0.00 | \$0.00 | \$1,829.34 |
| C1020030302 | 6'0" X 7'0" Pair Fire Rated Hollow Metal Doors | 1.00 EA | \$3,342.16 | \$2,732.33 | \$609.83 | \$0.00 | \$0.00 | \$3,342.16 |
| C1020030303 | 3'0" X 7'0" Fire Rated Wood Door | 1.00 EA | \$1,813.36 | \$1,411.58 | \$401.78 | \$0.00 | \$0.00 | \$1,813.36 |
| C1020030304 | 6'0" X 7'0" Pair Fire Rated Wood Doors | 1.00 EA | \$3,310.19 | \$2,693.45 | \$716.75 | \$0.00 | \$0.00 | \$3,310.19 |
| C1030010101 | Urinal Screens | 1.00 EA | \$320.31 | \$146.68 | \$173.84 | \$0.00 | \$0.00 | \$320.31 |
| C1030010102 | Toilet Partition And Accessories | 4.00 EA | \$1,880.20 | \$5,487.70 | \$2,033.09 | \$0.00 | \$0.00 | \$7,520.79 |
| C1030010106 | Lavatory Accessories | 4.00 EA | \$856.86 | \$2,902.48 | \$520.97 | \$0.00 | \$0.00 | \$3,423.45 |
| C1030030301 | Porcelain Enamel Chalkboard | 12.12 SF | \$41.35 | \$407.65 | \$93.50 | \$0.00 | \$0.00 | \$501.15 |
| C1030040403 | Bronze Letters 8" High | 2.00 EA | \$180.00 | \$273.17 | \$86.83 | \$0.00 | \$0.00 | \$360.00 |
| C1030040406 | Aluminum Framed Glass Covered Directory Board | 2.00 EA | \$1,760.01 | \$2,110.89 | \$1,389.13 | \$0.00 | \$0.00 | \$3,500.03 |
| C1030060601 | 10" Wide Stock Prefinished Shelves With Supports | 19.88 LF | \$21.24 | \$175.88 | \$246.42 | \$0.00 | \$0.00 | \$422.30 |
| C3010030301 | 5/8" Gypsum Board On 7/8" Furring Channel | 817.26 SF | \$5.14 | \$900.58 | \$2,269.32 | \$0.00 | \$0.00 | \$3,169.90 |
| C3010030303 | Two Layers Of 5/8" Fire Resistant Gypsum Board | 117.52 SF | \$6.60 | \$261.72 | \$406.09 | \$0.00 | \$0.00 | \$667.81 |
| C3010030304 | 5/8" Gypsum Board/Installed/Taped & Finished | 289.80 SF | \$2.43 | \$179.80 | \$523.62 | \$0.00 | \$0.00 | \$703.42 |
| C3010040401 | 4-1/4" X 4-1/4" Ceramic Tile To Walls | 995.04 SF | \$14.45 | \$6,085.05 | \$8,295.94 | \$0.00 | \$0.00 | \$14,380.99 |
| C3010050602 | Medium Weight Vinyl Wallcovering With Fabric Backing | 896.26 SF | \$2.52 | \$1,252.00 | \$1,008.32 | \$0.00 | \$0.00 | \$2,260.32 |
| C3010900501 | Paint To Gypsum Board Walls Using Roller | 1,965.46 SF | \$1.17 | \$640.63 | \$1,658.40 | \$0.00 | \$0.00 | \$2,299.04 |
| C3010900502 | Paint To Concrete Block Using Brushes, Two Coats | 1,799.50 SF | \$1.86 | \$921.71 | \$2,422.16 | \$0.00 | \$0.00 | \$3,343.87 |
| C3020010101 | Thin Set Natural Clay Ceramic Tile Floor And Base | 312.50 SF | \$23.52 | \$3,075.15 | \$4,275.37 | \$0.00 | \$0.00 | \$7,350.53 |
| C3020040401 | Vinyl Tile 1/8" X 12" X 12" | 156.24 SF | \$12.09 | \$1,539.90 | \$348.41 | \$0.00 | \$0.00 | \$1,888.31 |
| C3020050501 | Commercial Grade 28 Oz. Nylon Carpet | 92.48 SY | \$63.16 | \$4,557.42 | \$1,283.82 | \$0.00 | \$0.00 | \$5,841.23 |
| C3020060601 | Floor Pavers 8x4, 1" To 1-1/4" Thick | 279.34 SF | \$27.89 | \$1,920.72 | \$5,870.05 | \$0.00 | \$0.00 | \$7,790.77 |
| C3030010402 | 2" X 2" Or 2" X 4" Fiberglass Acoustical Ceiling Tiles | 1,170.44 SF | \$2.95 | \$2,016.50 | \$1,434.35 | \$0.00 | \$0.00 | \$3,450.86 |
| C3030020302 | 5/8" Gypsum Wallboard Ceiling, 3 Layers, Over 8 Ft | 539.76 SF | \$4.16 | \$846.15 | \$1,398.84 | \$0.00 | \$0.00 | \$2,244.99 |
| C3030050703 | T-Bar Ceiling Suspension System 2" X 4' Grid | 1,174.24 SF | \$2.28 | \$1,403.38 | \$1,273.88 | \$0.00 | \$0.00 | \$2,677.26 |
| C3030050704 | Suspension System For Gypsum Board Ceiling | 535.98 SF | \$8.49 | \$956.69 | \$3,596.43 | \$0.00 | \$0.00 | \$4,553.13 |

CHARLOTTESVILLE AMTRAK STATION STUDY

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|-------------|---|-----------|------------|------------|-------------|--------|--------|-------------|
| C3030900601 | Painting To Drywall Or Plaster Using Rollers, 2 Coats | 539.78 SF | \$1.17 | \$175.94 | \$455.45 | \$0.00 | \$0.00 | \$631.39 |
| D2010010106 | Wall Mounted Water Closet, White Vitreous China | 4.00 EA | \$3,644.87 | \$9,343.80 | \$5,235.66 | \$0.00 | \$0.00 | \$14,579.46 |
| D2010020204 | Wall Mounted Urinal, White Vitreous China | 1.00 EA | \$4,149.92 | \$2,362.51 | \$1,767.41 | \$0.00 | \$0.00 | \$4,149.92 |
| D2010030302 | Wall Hung 18" By 15" White Single Bowl Lavatory | 3.00 EA | \$2,647.76 | \$2,891.61 | \$5,051.69 | \$0.00 | \$0.00 | \$7,843.29 |
| D2010030303 | Wall Hung 20" By 18" White Single Bowl Lavatory | 1.00 EA | \$2,730.02 | \$1,086.49 | \$1,643.53 | \$0.00 | \$0.00 | \$2,730.02 |
| D2010040408 | Wall Hung 24" By 20" Janitors Sink Of Porcelain Enamel | 1.00 EA | \$5,306.27 | \$3,003.36 | \$2,302.90 | \$0.00 | \$0.00 | \$5,306.27 |
| D2010060606 | Handicapped Type 8 GPM Water Cooler W/Rough In | 1.00 EA | \$5,936.64 | \$4,702.94 | \$1,233.70 | \$0.00 | \$0.00 | \$5,936.64 |
| D3040959220 | Fire Damper | 4.00 EA | \$171.97 | \$310.43 | \$377.45 | \$0.00 | \$0.00 | \$687.87 |
| D5020010101 | 120 Volt, 20 Amp Duplex Receptacle - Stud Partition | 50.00 EA | \$706.06 | \$8,323.28 | \$26,979.69 | \$0.00 | \$0.00 | \$35,302.96 |
| D5020010102 | 120 Volt, 20 Amp Duplex Receptacle - Masonry Partition | 6.00 EA | \$685.54 | \$973.65 | \$3,139.56 | \$0.00 | \$0.00 | \$4,113.21 |
| D5020010107 | 120 Volt, 15 Amp Duplex Ground Fault Receptacle | 13.00 EA | \$694.54 | \$2,226.60 | \$6,802.39 | \$0.00 | \$0.00 | \$9,028.99 |
| D5020010137 | Equipment Connections For Up To 10 HP | 6.00 EA | \$2,491.57 | \$4,296.07 | \$10,653.38 | \$0.00 | \$0.00 | \$14,949.44 |
| D5020010138 | 480 Volt Equipment Connections For Motors - 15 To 25 HP | 6.00 EA | \$2,270.75 | \$4,328.76 | \$9,295.74 | \$0.00 | \$0.00 | \$13,624.50 |
| D5020010139 | 480 Volt Equipment Connections For Motors - 30 TO 40 HP | 6.00 EA | \$2,825.38 | \$5,635.71 | \$11,316.58 | \$0.00 | \$0.00 | \$16,952.29 |
| D5020020201 | Four Foot Strip Fluorescent Fixture | 4.00 EA | \$900.02 | \$1,152.98 | \$2,447.11 | \$0.00 | \$0.00 | \$3,600.09 |
| D5020020202 | 2' X 4' Lay-In Fluorescent Fixture | 23.00 EA | \$972.32 | \$5,867.12 | \$16,496.25 | \$0.00 | \$0.00 | \$22,363.37 |
| D5020020220 | Ceiling Recessed Incandescent 100 Watt Fixture | 4.00 EA | \$719.73 | \$896.45 | \$1,982.47 | \$0.00 | \$0.00 | \$2,878.91 |
| D5020909011 | Fire Alarm Pull Station | 2.00 EA | \$871.90 | \$464.24 | \$1,279.56 | \$0.00 | \$0.00 | \$1,743.80 |

FSA: BUILDING SUPPORT AREA

\$350,674.07

FSA: RETAIL SPACE (MEDIUM)

Size: 22,000.00 SF

| Assembly | Quantity | UOM | Unit Cost | Material | Labor | Equipment | SubBld | Total Cost |
|-------------|------------------------------------|-----------|------------|----------------|--------------|-----------|--------|----------------|
| C1010010101 | 28,137.82 | SF | \$2.38 | \$16,159.18 | \$50,875.66 | \$0.00 | \$0.00 | \$67,034.83 |
| C1010060601 | 5,000.00 | SF | \$245.25 | \$934,768.09 | \$291,503.97 | \$0.00 | \$0.00 | \$1,226,272.05 |
| C1020010126 | 76.00 | EA | \$308.64 | \$6,905.47 | \$16,550.84 | \$0.00 | \$0.00 | \$23,456.31 |
| C1020020201 | 31.00 | EA | \$2,241.89 | \$41,817.54 | \$27,680.96 | \$0.00 | \$0.00 | \$69,499.51 |
| C1030090201 | 1,400.00 | LF | \$829.87 | \$1,032,164.01 | \$129,660.00 | \$0.00 | \$0.00 | \$1,161,824.01 |
| C3010900501 | 33,527.36 | SF | \$1.17 | \$10,928.13 | \$28,289.53 | \$0.00 | \$0.00 | \$39,217.66 |
| C3020040401 | 20,000.00 | SF | \$12.09 | \$197,120.04 | \$44,599.50 | \$0.00 | \$0.00 | \$241,719.55 |
| C3030010402 | 20,000.00 | SF | \$2.95 | \$34,457.20 | \$24,509.64 | \$0.00 | \$0.00 | \$58,966.84 |
| C3030050703 | 20,000.00 | SF | \$2.28 | \$23,902.75 | \$21,697.06 | \$0.00 | \$0.00 | \$45,599.80 |
| D5020010101 | 591.00 | EA | \$706.06 | \$98,381.14 | \$318,899.90 | \$0.00 | \$0.00 | \$417,281.04 |
| D5020010108 | 152.00 | EA | \$1,362.87 | \$52,313.81 | \$154,841.93 | \$0.00 | \$0.00 | \$207,155.54 |
| D5020010126 | 30A 3 Phase 208V. Receptacle | 76.00 EA | \$1,373.04 | \$21,230.73 | \$93,120.62 | \$0.00 | \$0.00 | \$104,351.35 |
| D5020020202 | 2' X 4' Lay-In Fluorescent Fixture | 288.00 EA | \$972.32 | \$73,466.49 | \$206,561.76 | \$0.00 | \$0.00 | \$280,028.25 |

FSA: RETAIL SPACE (MEDIUM)

\$3,942,405.73

Primary Facilities Total Marked Up Cost: \$9,490,144.45

CHARLOTTESVILLE AMTRAK STATION STUDY

Parcels 2A and 2B Transit-Oriented Development Concept Cost Estimate – Main Street Plaza Deck

Facility: Main Street Plaza Deck

FSA: BUILDING SHELL

Type: Primary Facilities

Size: 7,500.00 SF

| Assembly | Quantity | UOM | Unit Cost | Material | Labor | Equipment | SubBid | Total Cost |
|-------------|---|--------------|-------------|--------------|--------------|-------------|--------|--------------|
| A1010010133 | 380 mm(15") Thick Concrete Foundation Wall 27,579 | 606.32 LF | \$238.28 | \$40,004.30 | \$100,480.07 | \$3,991.32 | \$0.00 | \$144,475.70 |
| | kPa(4000 PSI), 1220 mm(48") Deep | | | | | | | |
| A1010020201 | Spread Footing | 2.28 CY | \$312.44 | \$398.97 | \$301.96 | \$11.43 | \$0.00 | \$712.35 |
| A1010020241 | Spread Footing, Reinforcing Steel | 0.06 TON | \$3,296.91 | \$89.96 | \$109.85 | \$0.00 | \$0.00 | \$197.81 |
| A1010020280 | Pile Cap, Over 10 CY, Incl. Forms and Reinf. | 0.55 CY | \$410.96 | \$139.31 | \$86.33 | \$0.39 | \$0.00 | \$226.03 |
| A1020909050 | Tie Beams (Seismic Modification) | 223.22 LF | \$93.09 | \$8,353.34 | \$12,266.80 | \$168.40 | \$0.00 | \$20,778.54 |
| A1030020202 | 304.8 mm(12") Structural Slab On Grade | 9,103.57 SF | \$21.03 | \$106,434.19 | \$83,895.02 | \$1,099.59 | \$0.00 | \$181,428.79 |
| B1010010198 | Seismic Modifications | 7,500.00 SF | \$0.89 | \$5,147.65 | \$0.00 | \$0.00 | \$0.00 | \$5,147.65 |
| B1020030313 | Precast/Prestressed Roof Members | 22,871.28 SF | \$14.71 | \$243,732.30 | \$73,610.52 | \$18,992.48 | \$0.00 | \$336,335.30 |
| B1020030314 | 76.2 mm(3") Topping Slab | 22,871.28 SF | \$3.30 | \$46,627.05 | \$26,518.07 | \$2,417.23 | \$0.00 | \$75,562.35 |
| B2010010102 | Brick Veneer Wall | 3,889.86 SF | \$33.41 | \$33,589.62 | \$95,694.83 | \$0.00 | \$0.00 | \$129,284.45 |
| B2010010144 | Reinforced 203.2 mm(8") Concrete Masonry Unit Back-Up Wall | 3,889.86 SF | \$25.62 | \$30,481.68 | \$68,619.68 | \$58.43 | \$0.00 | \$99,159.80 |
| B2010010147 | Additional Vertical Reinforcement And Grouting; Seismic | 987.48 SF | \$1.61 | \$463.20 | \$1,083.04 | \$14.61 | \$0.00 | \$1,560.85 |
| B2010020312 | Paint CMU/Concrete | 1,289.48 SF | \$1.14 | \$617.80 | \$953.76 | \$0.00 | \$0.00 | \$1,471.56 |
| B2010030201 | Polystyrene Rigid Wall Insulation, 25.4 mm(1") Thick | 1,289.48 SF | \$1.94 | \$1,115.26 | \$1,391.98 | \$0.00 | \$0.00 | \$2,507.24 |
| B2010060702 | 2" Dia Welded Pipe Railing, 3'6" High | 1,000.00 LF | \$70.21 | \$41,993.56 | \$27,686.83 | \$528.44 | \$0.00 | \$70,208.84 |
| C2010010101 | 1.22 m(4'0") Wide, Cast In Place Concrete, Stair Construction | 24.00 VLF | \$1,150.50 | \$11,464.75 | \$15,780.66 | \$366.71 | \$0.00 | \$27,612.12 |
| D1010020211 | Passenger Elevator, Hospital - 2 Story | 4.00 STOP | \$61,080.33 | \$193,056.10 | \$51,265.22 | \$0.00 | \$0.00 | \$244,321.32 |
| D2040010101 | Rainwater Drainage Piping | 76.36 LF | \$159.16 | \$7,436.93 | \$4,716.80 | \$0.00 | \$0.00 | \$12,153.73 |
| D2040020204 | 101.6 mm(4") Roof Drains With Deck Clamp | 1.00 EA | \$829.31 | \$549.28 | \$281.03 | \$0.00 | \$0.00 | \$829.31 |
| D2040040301 | Rainwater Drainage Pipe Insulation | 76.36 LF | \$15.58 | \$226.43 | \$963.21 | \$0.00 | \$0.00 | \$1,189.64 |
| D4010010113 | 12 Zone Fire Alarm Panel And Remote Annunciator | 1.00 EA | \$8,420.87 | \$4,355.35 | \$4,085.53 | \$0.00 | \$0.00 | \$8,420.87 |
| D4030010102 | 152.40mm (6") Standpipe With Fire Hose Cabinets | 1.00 EA | \$8,487.23 | \$4,276.58 | \$4,181.21 | \$29.44 | \$0.00 | \$8,487.23 |
| D5010010271 | Underground 125 Amp Secondary | 1.00 EA | \$46.60 | \$23.48 | \$23.13 | \$0.00 | \$0.00 | \$46.60 |
| D5010040581 | Panel board 120/208V 100A Mlo 24 Cir W/Bkr | 1.00 EA | \$6,050.89 | \$2,444.86 | \$3,606.03 | \$0.00 | \$0.00 | \$6,050.89 |
| D5030060802 | CCTV Security System | 1.00 OUT | \$8,087.20 | \$4,352.83 | \$1,734.58 | \$0.00 | \$0.00 | \$8,087.20 |
| D5030050907 | Light Control System | 4.00 OUT | \$6,054.07 | \$12,619.76 | \$11,597.52 | \$0.00 | \$0.00 | \$24,216.29 |
| D5090030302 | Building Grounding | 1.00 EA | \$1,155.40 | \$402.64 | \$752.76 | \$0.00 | \$0.00 | \$1,155.40 |
| G2030030307 | Brick Sidewalk W/Sand Joints 77.50 Bricks/m2 (7.2 Bricks/SF) | 9,049.00 SF | \$29.98 | \$54,924.57 | \$216,349.20 | \$0.00 | \$0.00 | \$271,273.77 |

FSA: BUILDING SHELL

\$1,690,900.62

FSA: GSA PARKING GARAGE

Size: 7,500.00 SF

| Assembly | Quantity | UOM | Unit Cost | Material | Labor | Equipment | SubBid | Total Cost |
|----------|----------|-----|-----------|----------|-------|-----------|--------|------------|
|----------|----------|-----|-----------|----------|-------|-----------|--------|------------|

CHARLOTTESVILLE AMTRAK STATION STUDY

| | | | | | | | | |
|-------------------------|---|-------------|------------|-------------|-------------|---------|--------|-------------|
| C1010010132 | Wire Mesh Fence, 1" X 2" Mesh, 3' High | 12.14 LF | \$14.07 | \$63.56 | \$88.34 | \$18.88 | \$0.00 | \$170.78 |
| C1010040403 | Cable Guide Rail, Steel Posts | 180.64 LF | \$149.87 | \$11,996.54 | \$15,076.27 | \$0.00 | \$0.00 | \$27,072.81 |
| C1020010121 | 3'0" X 7'0" H.M. Door W/Louver | 1.00 EA | \$2,004.50 | \$1,596.10 | \$408.41 | \$0.00 | \$0.00 | \$2,004.50 |
| C1020010122 | 6'0" X 7'0" Pair H.M. Doors W/ Louver | 1.00 EA | \$3,770.38 | \$2,960.51 | \$809.87 | \$0.00 | \$0.00 | \$3,770.38 |
| C1020950224 | Renovate Door Closer - Surface Mtd | 1.00 EA | \$463.69 | \$319.70 | \$143.99 | \$0.00 | \$0.00 | \$463.69 |
| C1020950228 | Renovate Panic Device | 1.00 EA | \$890.95 | \$718.17 | \$172.78 | \$0.00 | \$0.00 | \$890.95 |
| C3020909001 | Concrete Floor Sealer | 7,205.99 SF | \$0.32 | \$1,446.81 | \$864.31 | \$0.00 | \$0.00 | \$2,311.11 |
| C3030909002 | Exterior Canopy W/Framing | 1.02 SF | \$38.14 | \$15.33 | \$23.20 | \$0.37 | \$0.00 | \$38.90 |
| D5020010195 | 4 Channel | 2.00 EA | \$2,867.31 | \$4,170.01 | \$1,564.62 | \$0.00 | \$0.00 | \$5,734.63 |
| D6020020211 | 4'- 2 Lamp Wall Mount Fluorescent | 1.00 EA | \$837.52 | \$354.78 | \$582.74 | \$0.00 | \$0.00 | \$937.52 |
| D5020020214 | Surface Mounted 1' X 4' Fluorescent Fixture | 1.00 EA | \$875.53 | \$248.21 | \$627.32 | \$0.00 | \$0.00 | \$875.53 |
| D6020020218 | 8' Vapor Tight Fluorescent Fixture | 1.00 EA | \$2,047.33 | \$662.69 | \$1,384.64 | \$0.00 | \$0.00 | \$2,047.33 |
| D5020020223 | Recessed Fluorescent Down Light | 1.00 EA | \$1,035.49 | \$393.03 | \$642.45 | \$0.00 | \$0.00 | \$1,035.49 |
| D5020020229 | 100W Hps Wall Mount | 1.00 EA | \$1,997.44 | \$1,085.39 | \$912.05 | \$0.00 | \$0.00 | \$1,997.44 |
| D5020020239 | 250W Hps Flood Light | 1.00 EA | \$1,635.99 | \$745.61 | \$890.38 | \$0.00 | \$0.00 | \$1,635.99 |
| D5020020243 | Floodlight, Pole Mounted | 1.00 EA | \$2,505.13 | \$1,734.42 | \$770.71 | \$0.00 | \$0.00 | \$2,505.13 |
| D5020020261 | Compact Fluorescent Exterior Gasketed Fixture | 7.00 EA | \$927.91 | \$1,748.49 | \$4,046.88 | \$0.00 | \$0.00 | \$5,795.36 |
| D5020909032 | outdoor PTZ Color Camera And Dome, Heater | 1.00 EA | \$5,626.01 | \$4,440.29 | \$1,185.72 | \$0.00 | \$0.00 | \$5,626.01 |
| D5020959158 | Renovate Receptacle Duplex 15A 120V GFI | 1.00 EA | \$59.78 | \$21.24 | \$38.54 | \$0.00 | \$0.00 | \$59.78 |
| D5020959245 | Exit Light W/Battery Back-Up | 1.00 EA | \$520.65 | \$284.18 | \$236.47 | \$0.00 | \$0.00 | \$520.65 |
| FSA: GSA PARKING GARAGE | | | | | | | | \$65,493.97 |

Total Facilities Marked Up Cost: \$1,756,394.59

Square Foot Analysis

| FUNCTIONAL AREAS | U/M | SUBTOTAL | TOTAL |
|------------------------------|-----------|----------|----------------|
| Garage Structure | SF | 178,800 | |
| Commercial along Main Street | SF | 22,000 | |
| Housing Wrap | SF | 74,000 | |
| Main Street Plaza Deck | SF | 7,500 | |
| Total | SF | | 282,300 |

Appendix G: Additional Transit-Oriented Development Conceptual Plans

Figure 10-3. TOD South Lot Garage Overhead 1'



Figure 10-4. 7th Street Entry Ground Level

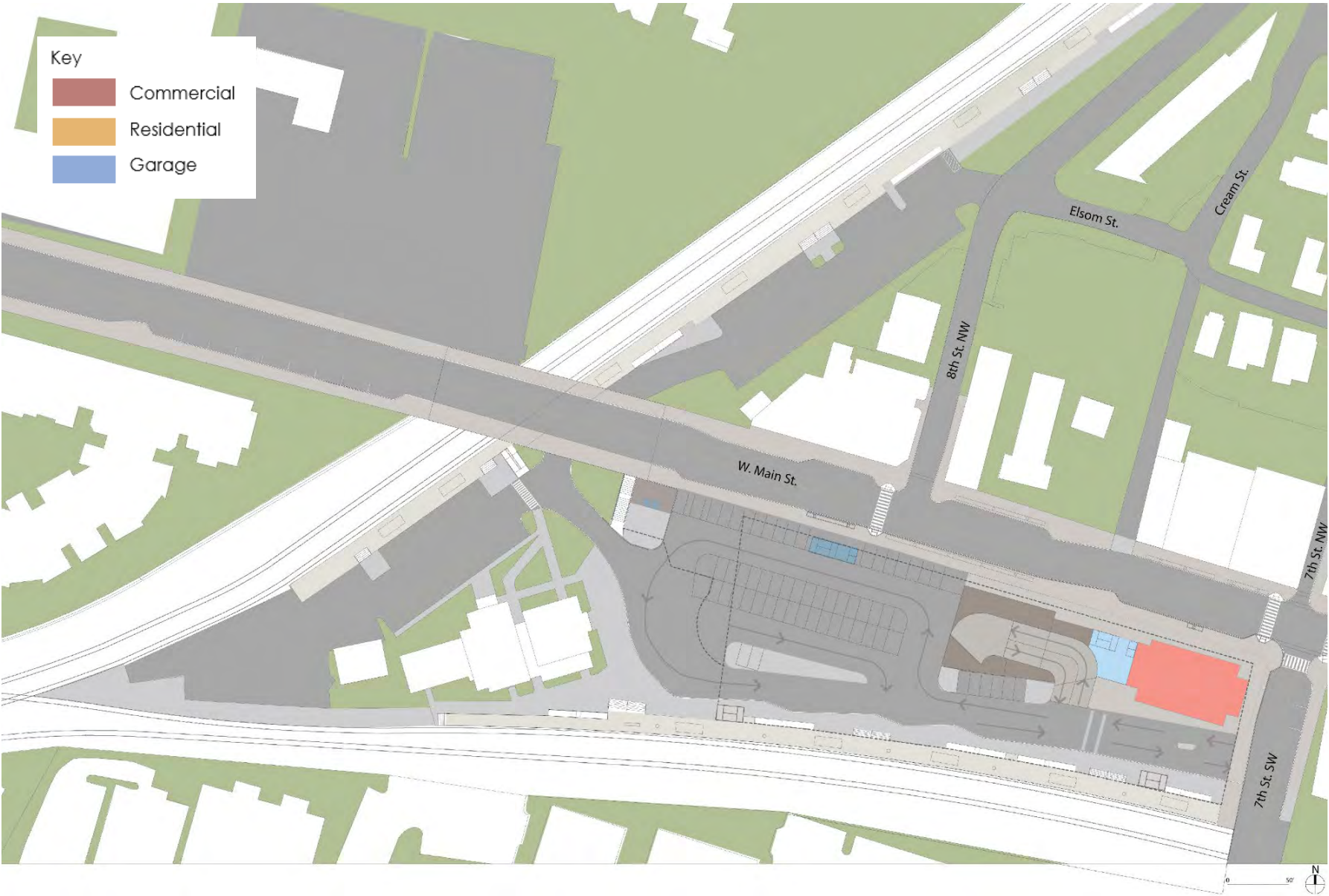


Figure 10-5. 8th Street Entry Ground Level

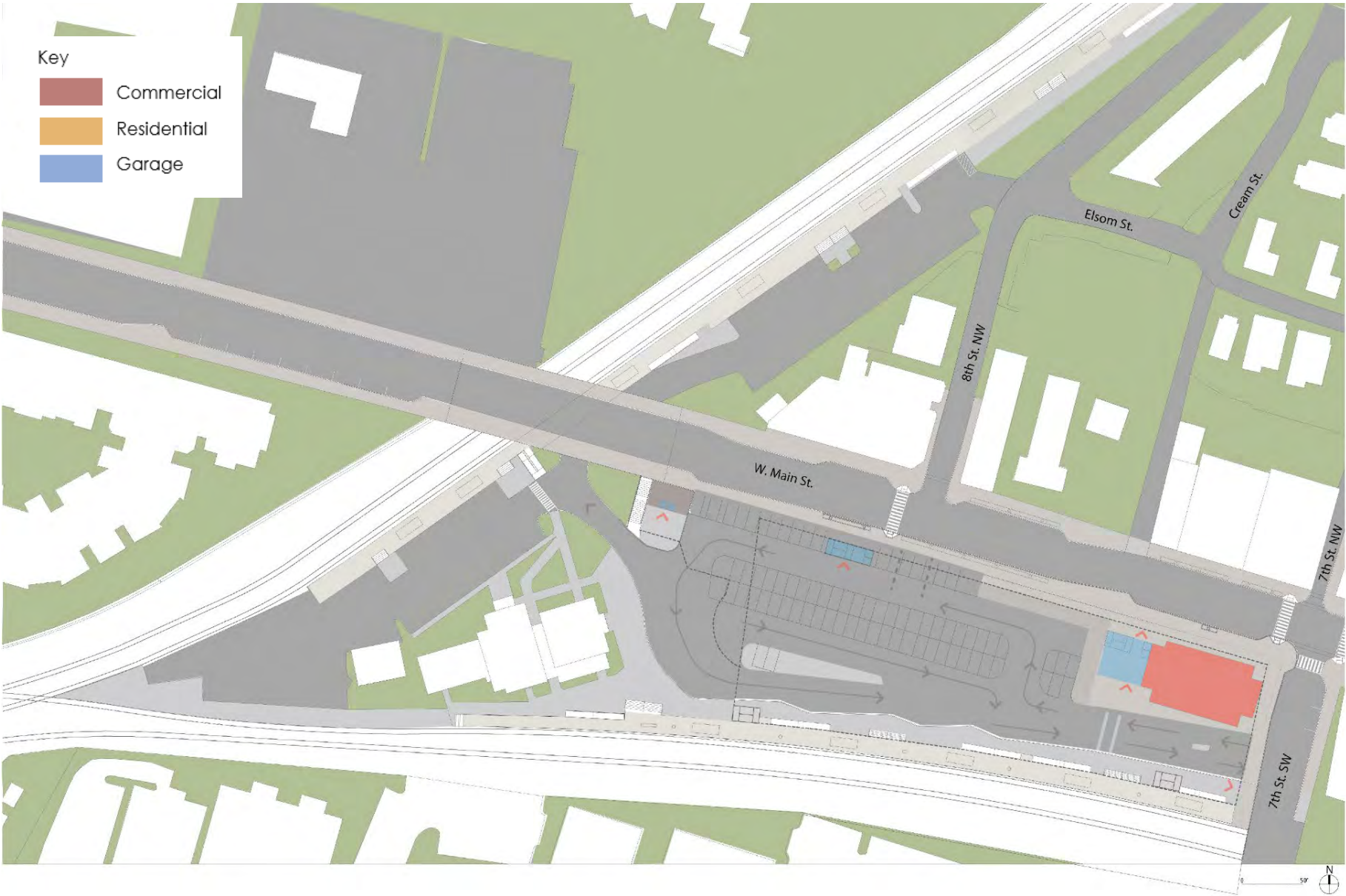


Figure 10-6. 7th Street – Main Street Level

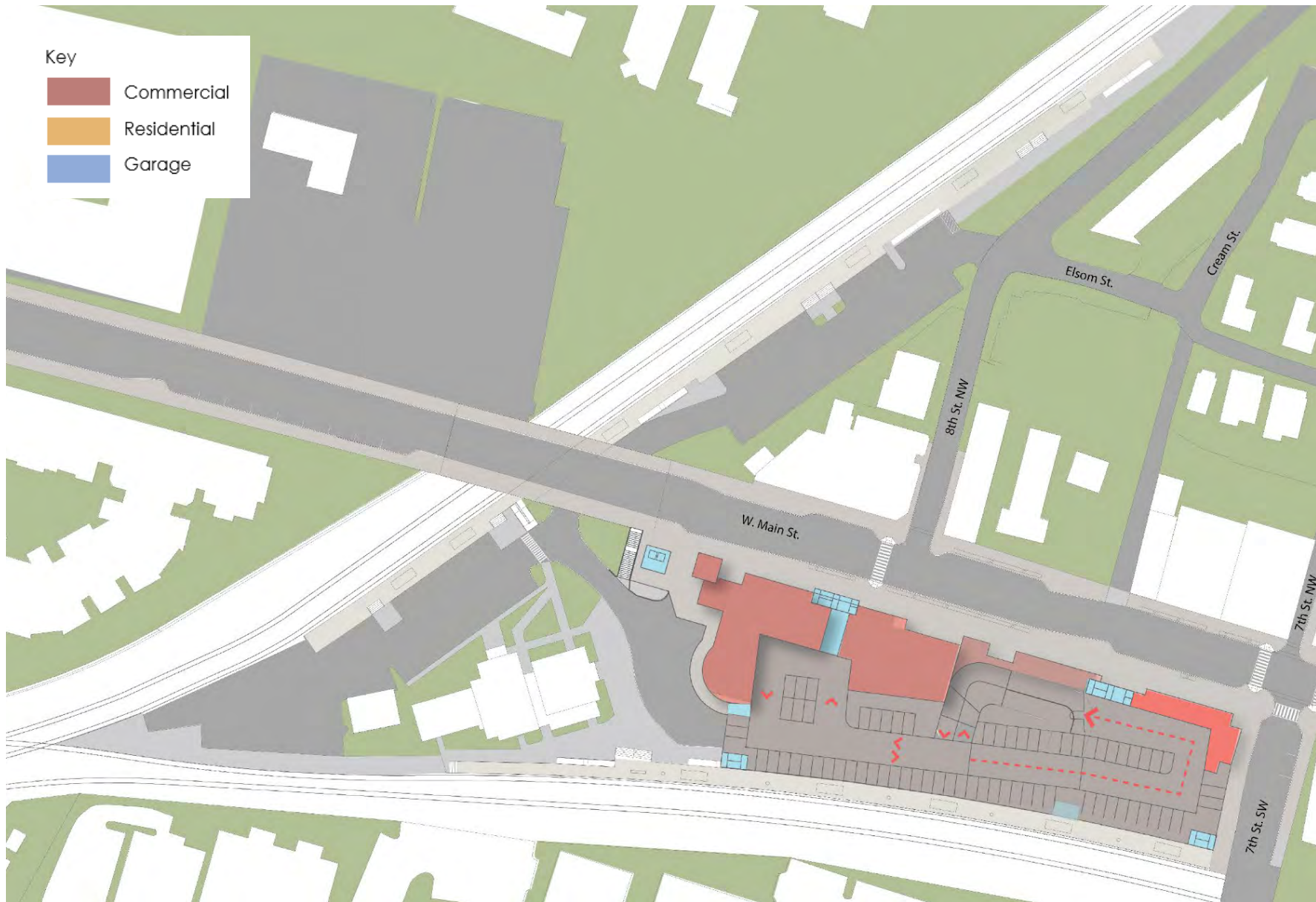


Figure 10-7. 8th Street at Main Street with Housing and Retail

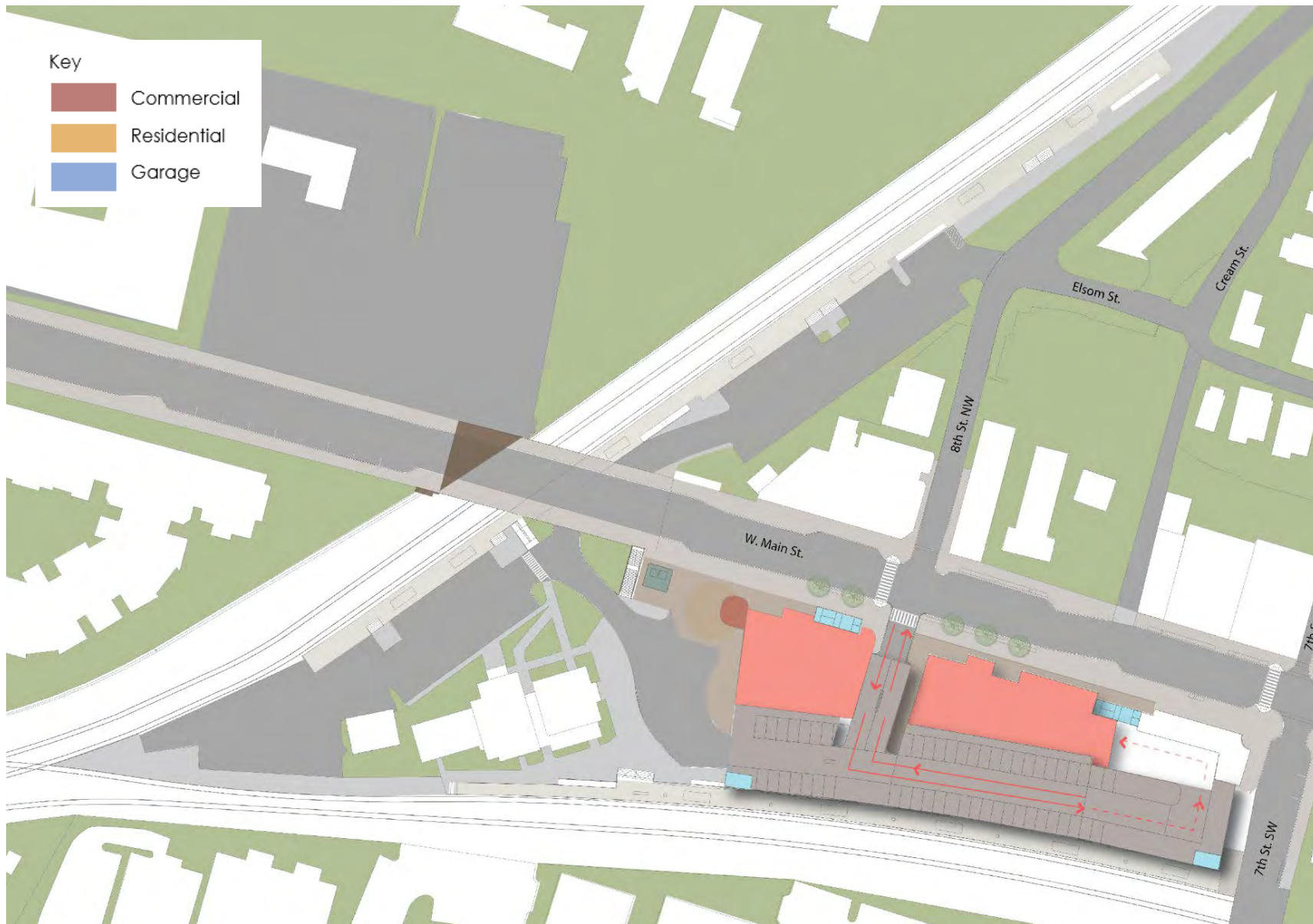


Figure 10-8. 8th Street at Main Street

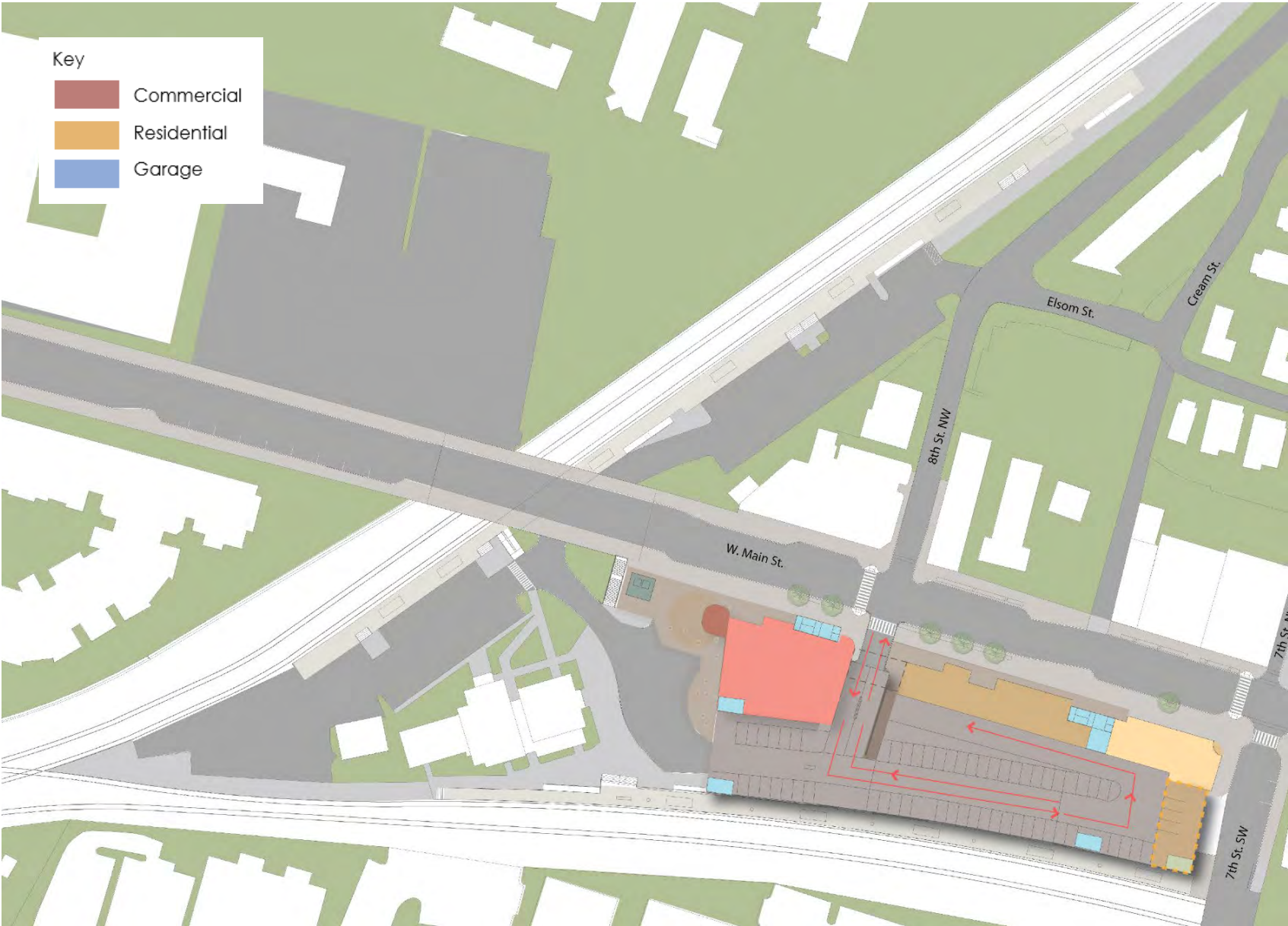


Figure 10-9. Housing Wrap Typical Garage Level

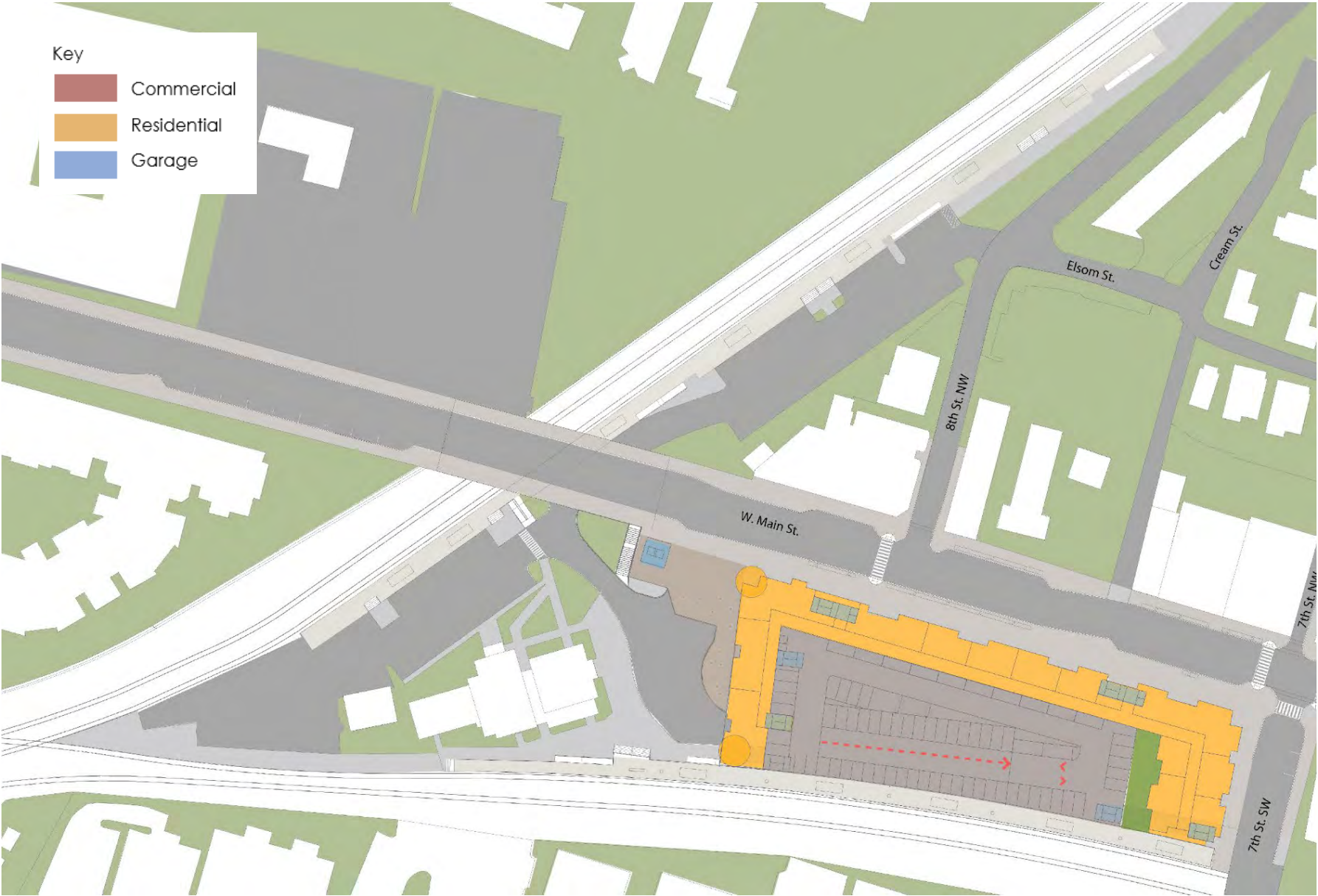


Figure 10-10. TOD Roof Plan with Housing

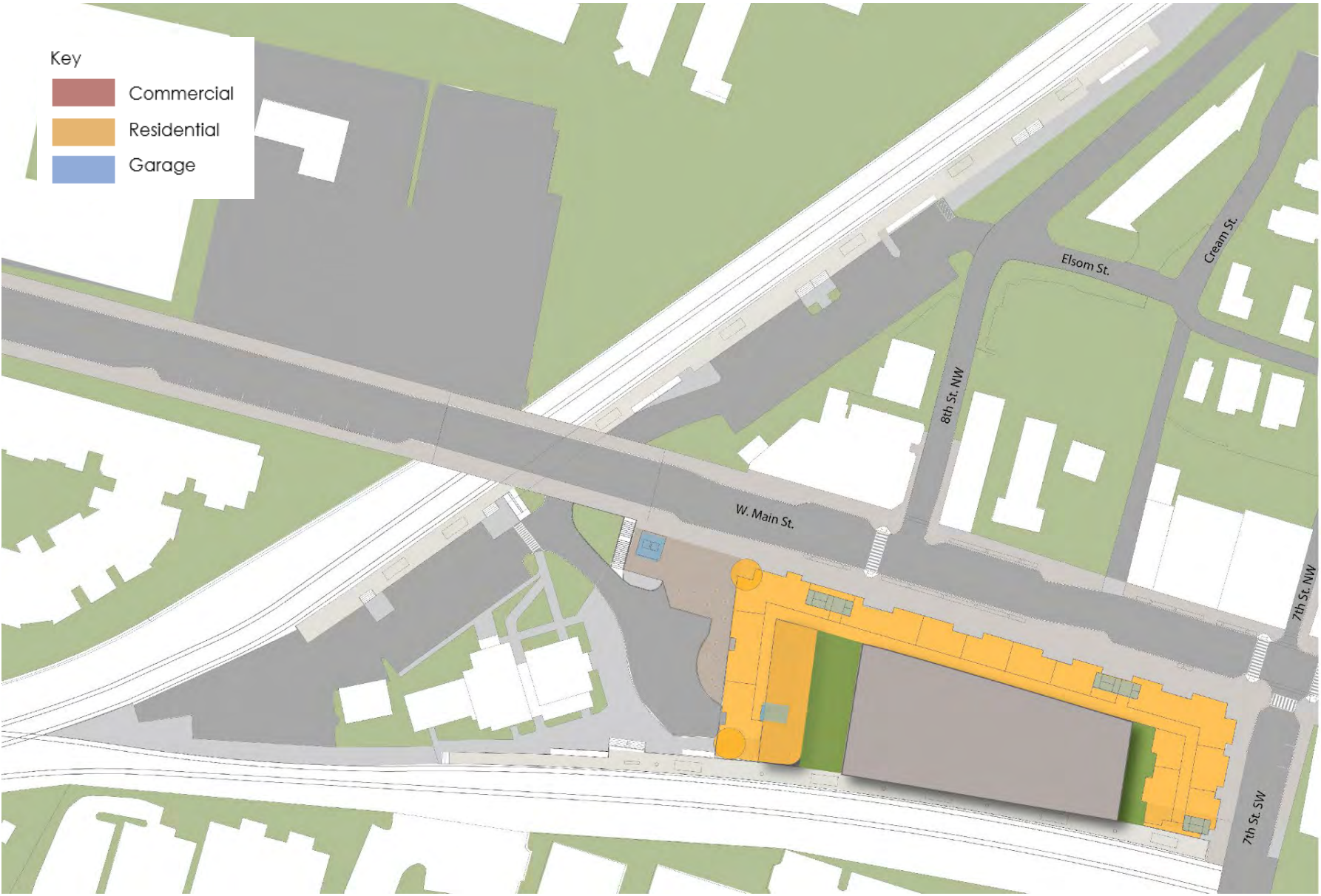


Figure 10-11. Dual Housing with 300-foot Garage

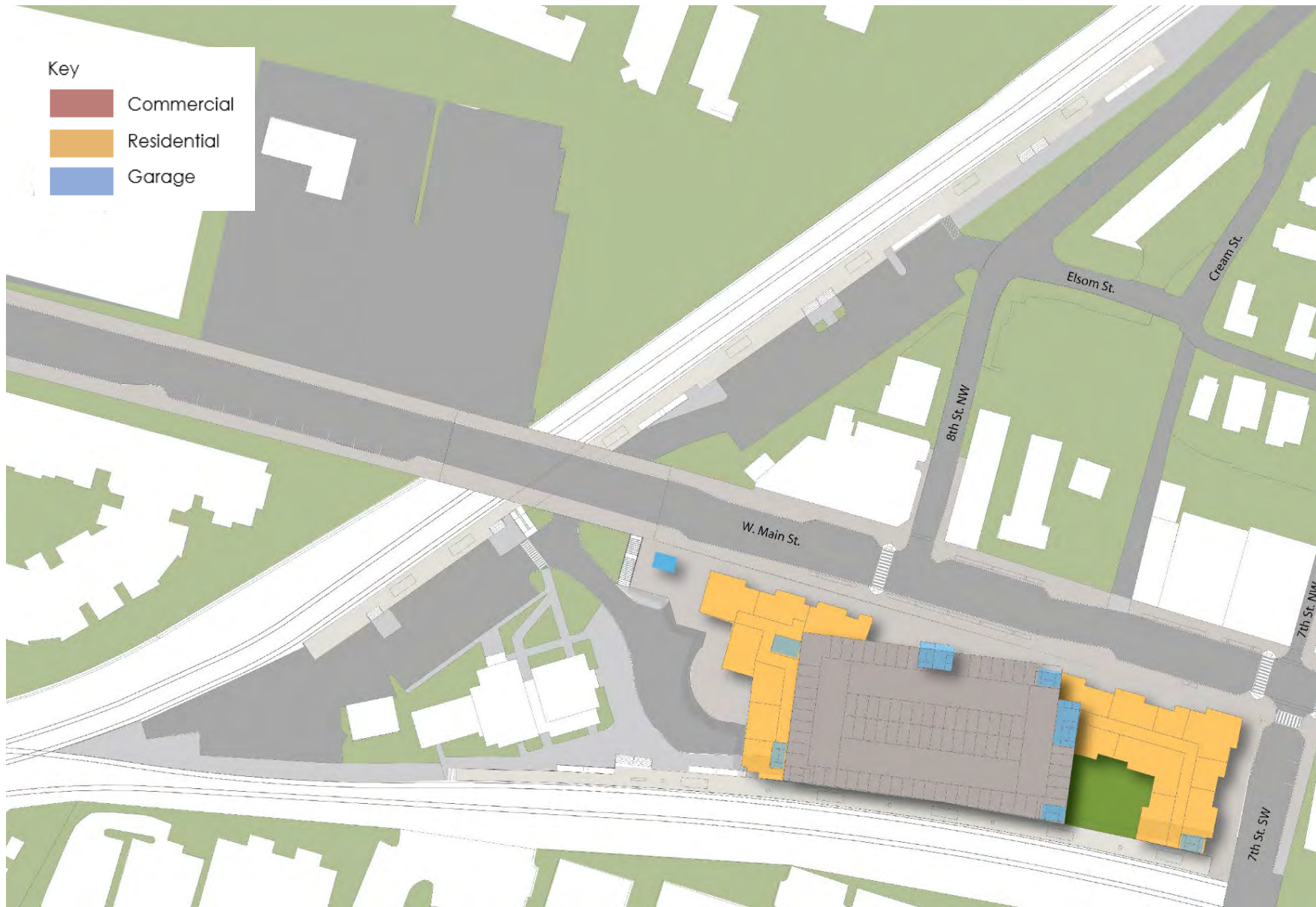


Figure 10-12. Dual Housing and Office with 300-foot Garage

