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Special Exception Site Plan

Record Status: Application Complete

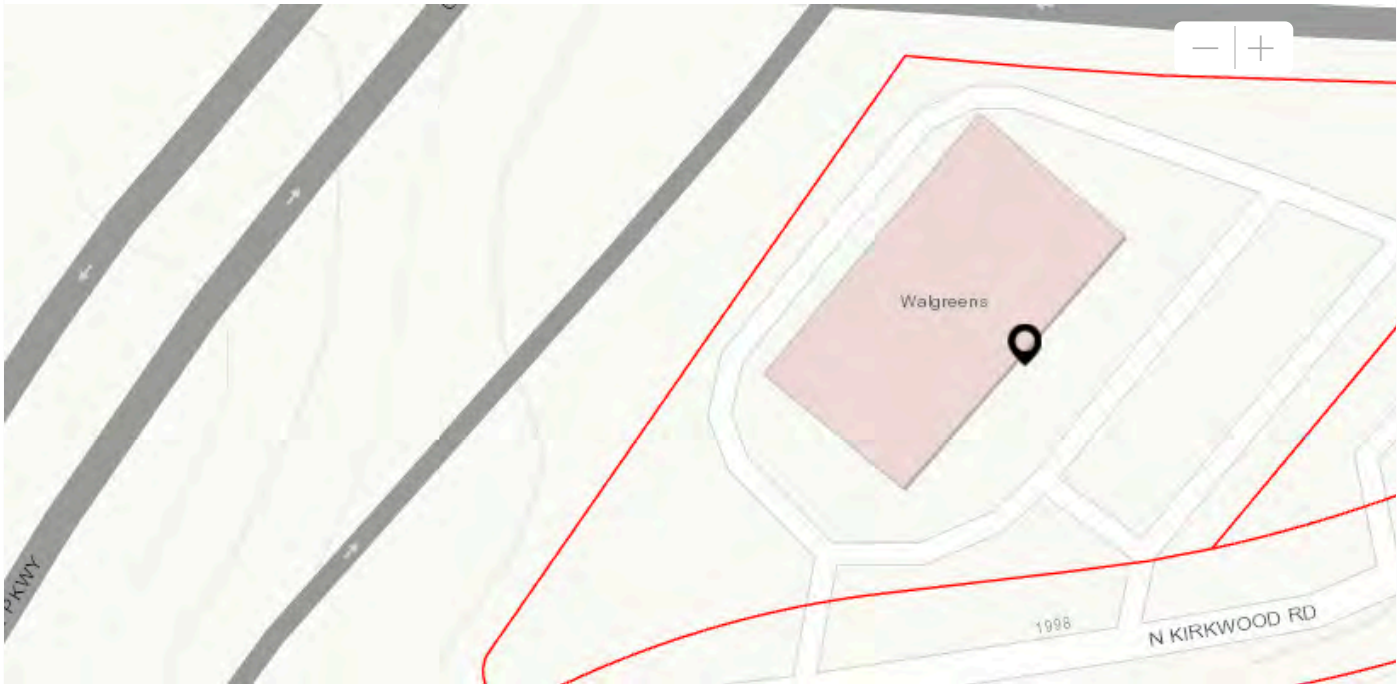
Record Info ▾

Payments ▾

Plan Review

Application Location

3130 LANGSTON BLVD, ARLINGTON, VA 22201 *



Record Details

Owner:

RP LANGSTON I LLC %ROONEY PROPERTIES

P.O. BOX 1159
DEERFIELD IL 60015

▼ More Details

▣ Related Contacts

▣ Application Information

SITE PLAN

Project Name: 3130 Langston Boulevard

What does this special exception site plan request include?: New Site Plan only

Is this Site Plan proposal part of a larger Phased Development Site Plan (PDSP)?: No

Has a Conceptual Plan Review been completed for this Site Plan project?: Yes

Provide record ID # assigned to the Conceptual Site Plan application: SPLC24-00006

Description of proposed project:

The Applicant proposes to redevelop the Property with a new mixed-use residential building with ground floor retail.

Does this proposal request a change in zoning?: Yes

Has a rezoning request for this project been submitted?: No

Does this proposal request a change in the General Land Use Plan (GLUP) that required a Special GLUP Study?: Yes

Did the GLUP Amendment require a Special GLUP Study?: No

Does this proposal include or impact any County property interests, such as real property, public easements, streets, alleys, or right of way?: Yes

Provide description of included County property.: Public Easements

Does project meet criteria for Traffic Impact Analysis as found in Site Plan Admin 4.1 Regulations?: No

Does this proposal include retail uses?: Yes

Does this proposal require the relocation of residents or retail tenants?: Yes

Does this proposal include any properties designated as a County Historic District or identified for preservation in a County plan?: No

Is the project located on a block east of the US Route 1 Corridor in Crystal City?: No

Does this proposal include any properties identified or ranked in the Historic Resources Inventory?: No

The application is being submitted by: Agent on behalf of the Developer

Does the proposal include bonus density and/or height that is supported by a Green Building Program?: Yes

Does the proposal include bonus density and/or height supported by the Affordable Housing Program?: No

Does the proposal include bonus density and/or height supported by any other type of program?: No

▣ Application Information Table

LIST ALL CONTRIBUTING PARCELS

RPC Number:

15012041

Master RPC Number:

15012041

Owner:

RP LANGSTON I LLC %ROONEY PROPERTIES

Address:

3130 LANGSTON BLVD

Total Lot SF:

73251

Contributing SF:

73254

Current GLUP:

Service Commercial

Current Zoning:

C-2 Service Commercial - Community Business Districts

Parcel Information

Parcel Number:15012041 *

Block:970000

Lot:73251

Subdivision:CRUITT TRACT &
PT PARC 4 CRUITT TRACT
72,501 SQ FT

PROPERTYNAME: Walgreens Pharmacy

RPCMSTR: 15012041

CLASS: 211-Retail strip

SHEET: 43-7

[Arlington County Permitting](#) [Contact Us](#)

August 9, 2024

t 202.344.4369
f 202.344.8300
ZGWilliams@Venable.com

Ms. Arlova Vonhm
Zoning Administrator
Arlington County
2100 Clarendon Boulevard, Suite 1000
Arlington, Virginia 22201

RE: AFFORDABLE HOUSING PLAN LETTER
PROPERTY: 3130 LANGSTON BOULEVARD (RPC #15-012-041)
OWNER/APPLICANT: RP LANGSTON I LLC

Dear Ms. Vonhm:

On behalf of the Applicant, please accept this Affordable Housing Plan Letter in fulfillment of the Administrative Regulation 4.1 filing requirements. The Applicant submits the following with the understanding that affordable housing plans are negotiated throughout the site plan process and not agreed upon at the time of application acceptance. By way of this letter, the Applicant agrees that it will work with Arlington County to comply with the requirements of the Arlington County Affordable Housing Ordinance.

Thank you for your consideration of this request, and please do not hesitate to contact me with any questions. As always, thank you for your attention to this matter.

Sincerely,



Zachary G. Williams

August 9, 2024

t 202.344.4369
 f 202.344.8300
 ZGWilliams@Venable.com

Ms. Arlova Vonhm
 Zoning Administrator
 Arlington County
 2100 Clarendon Boulevard, Suite 1000
 Arlington, Virginia 22201

**RE: BY-RIGHT DEVELOPMENT TABULATIONS
 PROPERTY: 3130 LANGSTON BOULEVARD (RPC #15-012-041)
 OWNER/APPLICANT: RP LANGSTON I LLC**

Dear Ms. Vonhm:

Please find below a tabulation in chart form of the by-right development capacity and site plan development for the above-referenced Property. The Property is presently zoned to the “C-2” Service Commercial-Community Business Zoning District. As part of this application, the Applicant proposes a rezoning to the “C-O-2.5” Mixed Use Zoning District.

Zoning Classification	Site Plan Area	Density Permitted By-Right	By-Right Development Capacity
C-2	73,254 sf 1.68 acres	1.5 FAR	109,881 sf GFA

Zoning Classification	Site Plan Area	Density Permitted By-Right	By-Right Development Capacity
C-O-2.5	73,254 sf 1.68 acres	0.6 FAR	43,952.4 sf GFA
Zoning Classification	Site Plan Area	Density Permitted By Special Exception	Special Exception Base Development Capacity
C-O-2.5	73,254 sf 1.68 acres	2.5 FAR office/commercial	183,135 sf GFA
		115 units/acre residential	193 units

Thank you for your consideration of this request, and please do not hesitate to contact me with any questions. As always, thank you for your attention to this matter.

Sincerely,



Zachary G. Williams

August 9, 2024

t 202.344.4369
f 202.344.8300
ZGWilliams@Venable.com

Ms. Arlova Vonhm
Zoning Administrator
Arlington County
2100 Clarendon Boulevard, Suite 1000
Arlington, Virginia 22201

RE: COMMUNITY BENEFITS LETTER
PROPERTY: 3130 LANGSTON BOULEVARD (RPC #15-012-041)
OWNER/APPLICANT: RP LANGSTON I LLC

Dear Ms. Vonhm:

On behalf of the Applicant, please accept this Community Benefits Letter in fulfillment of the Administrative Regulation 4.1 filing requirements. As currently submitted, the application includes retail and residential uses, which consist of both base and bonus density. Any change in the amount of density in the project may impact the proposed community benefits. The Applicant submits the following as a preliminary list solely to fulfill the Administrative Regulation 4.1 filing requirements, with the understanding that the community benefits package is negotiated throughout the site plan process and not agreed upon at the time of application acceptance. The preliminary list of potential community benefits includes:

- A new mixed-use residential building featuring ground floor retail;
- Provision of public open space;
- Streetscape and sidewalk improvements;
- Utility Fund contribution;
- Utility improvements (i.e., water main, sanitary sewer);
- Provision of bicycle parking;
- Transportation Demand Management Plan;
- Parking Management Plan;
- Public Art contribution/provision of on-site Public Art attributable to new density;
- Affordable Housing contribution attributable to new base density;
- Provision of on-site Committed Affordable Units;

August 13, 2024
Page 2

- Increased real estate and sales tax revenue;
- Implementation of the Langston Boulevard Area Plan; and
- Job creation.

Thank you for your consideration of this request, and please do not hesitate to contact me with any questions. As always, thank you for your attention to this matter.

Sincerely,

A handwritten signature in black ink, appearing to read "Zachary G. Williams". The signature is written in a cursive, flowing style.

Zachary G. Williams

May 21, 2024

Ms. Arlova Vonhm
Zoning Administrator
Arlington County
2100 Clarendon Boulevard, Suite 1000
Arlington, Virginia 22201

**Re: Consent and Authorization Letter – Administrative Regulation 4.1
Site Plan Application and Concept Plan Application, Rezoning, GLUP
Amendment
Property: 3130 Langston Boulevard (RPC # 15-012-041) (the
“Property”)**

Dear Ms. Vonhm:

The undersigned is the title owner of the above-referenced Property. The purpose of this letter is to consent to the filing of a new Administrative Regulation 4.1 Site Plan Application and Concept Plan Application for the Property, including any related applications such as (but not strictly limited to) a Rezoning Application, GLUP Amendment, Major Site Plan Amendment Applications, Minor Site Plan Amendment Applications, Administrative Change Applications, Vacations, and Encroachments.

We hereby authorize Venable LLP to act as attorneys on our behalf in connection with the Administrative Regulation 4.1 Site Plan Application and any related application(s) described herein. Please direct all correspondence relating to the application(s) to Zachary G. Williams at Venable LLP. The boundaries of the application(s) include the undersigned's land.

[SIGNATURE PAGE FOLLOWS]

RP Langston I LLC

A Virginia limited liability company

By: Cassie Guy

Name: Cassie Guy

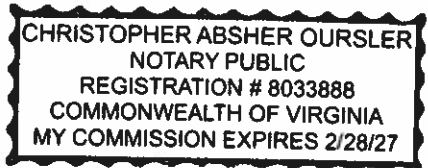
Title: Authorized person

STATE/Commonwealth of VIRGINIA

COUNTY/CITY/DISTRICT OF ARLINGTON

On this 6TH day of AUGUST, 2024, before me, a Notary Public in and for said jurisdiction, personally appeared CASSIE GUY, known to me (or satisfactorily proven) to be the person whose name is subscribed to the within instrument, and acknowledged that he/she executed the same for the purposes therein contained.

Given under my hand and official seal, this 6TH day of AUGUST, 2024.



Cm Cm
Notary Public

My Commission Expires: 2/28/27

Registration Number: 8033888

DISCLOSURE STATEMENT

ARLINGTON COUNTY ZONING ORDINANCE §15.1.4

Department of Community Planning, Housing & Development – Zoning Division
 2100 Clarendon Boulevard, Suite 1000, Arlington, Virginia 22201
 building.arlingtonva.us | contactzoning@arlingtonva.us
 Phone (703) 228-3883 | Fax (703) 228-3896



Revised July 2019

REAL PROPERTY IDENTIFICATION

3130 Langston Boulevard

ADDRESS(ES)
15-012-041

REAL PROPERTY CODE(S) [RPC]

SUBDIVISION NAME	LOT(S)	BLOCK	SECTION

LEGAL DESCRIPTION

OWNERSHIP INTEREST(S)

Please provide the: full name, full address, and nature of ownership interest of ALL persons and/or entities having equitable ownership of the identified real estate. For properties owned by general or limited partnerships, limited liability companies (LLCs), or other corporate entities, please list the full names of all stockholders, officers, and directors [for exceptions see below], and please provide staff the state incorporation paperwork for the corporation. Please attach any additional documentation as necessary.

SUBJECT PARCEL ADDRESS/RPC	NAME OF OWNER	FULL ADDRESS OF OWNER	NATURE OF OWNERSHIP INTEREST
15-012-041	RP Langston I LLC	c/o Rooney Properties, LLC 3330 Washington Blvd, Suite 220 Arlington, VA, 22201	Title owner and Applicant

Corporations with: (1) more than 500 shareholders; and, (2) having stock traded on a national or local stock exchange are not required to list all stockholders, officers, and directors. Please indicate any corporations listed above which meet these criteria:

CERTIFICATION

I hereby certify that this is a true and accurate disclosure of all persons and/or entities having equitable ownership interest in the real property identified above.

See attached signature page.

 SIGNATURE

 ADDRESS

STATE OF _____, COUNTY OF _____, TO WITNESS _____

Subscribed and sworn before me this _____ day of _____, 20 _____

Notary _____
 My commission expires _____

Limited Liability Company - Articles of Organization

Entity Information

Entity Name: RP Langston I LLC Entity Type: Limited Liability Company

Business Type

Industry Code: 0 - General

Duration

Perpetual(forever)

Registered Agent Information

RA Type: Entity

Locality: ARLINGTON COUNTY

RA Qualification: N/A

Name: ROONEY PROPERTIES,
LLC

Email Address: mrooney@rooneyholdings.com

The company's initial registered office address, including the street and number, if any, which is identical to the business office of the initial registered agent, is:

Registered Office Address: 3330 Washington Blvd Ste
220, Arlington, VA, 22201 -
4535, USA

Contact Number: N/A

Principal Office Address

Address: Brynn Hunt, 3330 Washington Blvd Ste 220, Arlington, VA, 22201 - 4535, USA

Principal Information

Management Structure: Member-Managed

Signature Information

Date Signed: 03/10/2023

Executed in the name of the limited liability company by:

Printed Name	Signature	Title
Michael Rooney	Michael Rooney	Organizer

**COMMONWEALTH OF VIRGINIA
STATE CORPORATION COMMISSION**

AT RICHMOND, MARCH 10, 2023

The State Corporation Commission has found the accompanying articles of organization submitted on behalf of

RP Langston I LLC

to comply with the requirements of law, and confirms payment of all required fees. Therefore, it is ORDERED that this

CERTIFICATE OF ORGANIZATION

be issued and admitted to record with the articles of organization in the Office of the Clerk of the Commission, effective March 10, 2023.

The limited liability company is granted the authority conferred on it by law in accordance with the articles of organization, subject to the conditions and restrictions imposed by law.

STATE CORPORATION COMMISSION

By

A handwritten signature in black ink, appearing to read "Jehmal T. Hudson", with a long horizontal flourish extending to the right.

Jehmal T. Hudson
Commissioner

Rooney Properties, LLC
Officers

1. Kathleen D. Rooney, President
2. Michael C. Rooney, General Counsel and Vice President
3. Greg Hoffman, Secretary
4. Brynn Hunt, Assistant Secretary and Treasurer

RP Langston I LLC

A Virginia limited liability company

By: Cassie Guy

Name: Cassie Guy

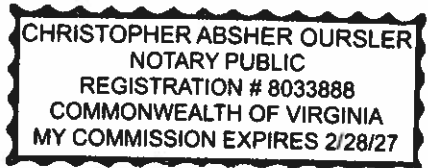
Title: Authorized person

STATE/Commonwealth of VIRGINIA

COUNTY/CITY/DISTRICT OF ARLINGTON

On this 6TH day of AUGUST, 2024, before me, a Notary Public in and for said jurisdiction, personally appeared CASSIE GUY, known to me (or satisfactorily proven) to be the person whose name is subscribed to the within instrument, and acknowledged that he/she executed the same for the purposes therein contained.

Given under my hand and official seal, this 6TH day of AUGUST, 2024.



Cm Cm
Notary Public

My Commission Expires: 2/28/27

Registration Number: 8033888

August 9, 2024

t 202.344.4369
f 202.344.8300
ZGWilliams@Venable.com

Ms. Arlova Vonhm
Zoning Administrator
Arlington County
2100 Clarendon Boulevard, Suite 1000
Arlington, Virginia 22201

RE: PUBLIC ART LETTER
PROPERTY: 3130 LANGSTON BOULEVARD (RPC #15-012-041)
OWNER/APPLICANT: RP LANGSTON I LLC

Dear Ms. Vonhm:

On behalf of the Applicant, please accept this Public Art Letter in fulfillment of the Administrative Regulation 4.1 filing requirements. The Applicant met with Arlington County public art staff on June 28, 2024, to discuss the public art requirements. Please see the attached staff memo. The Applicant will continue to work with public art staff during the application review and final site design process.

Thank you for your consideration of this request, and please do not hesitate to contact me with any questions. As always, thank you for your attention to this matter.

Sincerely,



Zachary G. Williams



MEMORANDUM

TO:	Rosa Achour, CPHD Zoning		
FROM:	Thomas Vannatter, AED	DATE:	June 28, 2024
SUBJECT:	Public Art 4.1 Pre-filing – June 18, 2024 3130 Langston Blvd.		

Arlington staff:

- Angela A. Adams, AED, Public Art
- Thomas Vannatter, AED, Public Art
- Kris Krider, CPHD, Urban Design

Developer representatives:

- Cassie Guy - Rooney Properties
- Greg Hoffman - Rooney Properties
- Zach Williams – Venable

Rooney Properties is working to redevelop 3130 Langston Blvd., currently the site of a Walgreens, through the creation of a mixed-use development following the [area plan for Langston Blvd.](#) This project would create a concrete frame, multifamily building with ground floor retail with a “pool deck” on level 3, along with townhouses and a small pocket park between Kirkwood and the bike trail at the southern edge of the site. The site is bounded by North Kirkwood Road to the south, Langston Blvd to the north, and the I-66 Custis Memorial Parkway to the west. The development is adjacent to a small shopping center and the Custis Trail and close to public transportation on Langston Blvd.

Mr. Krider was very familiar with this location and excited about the potential for this redevelopment. Mr. Krider did mention that the Spout Run stream runs directly under the site and may present a few challenges with the stormwater line. There may be an opportunity to recognize the stream in the design. It will also be important to coordinate with the open space vision as described in the Langston Boulevard Plan. Mr. Hoffman from Rooney Properties expressed that they are very familiar with the location of the stormwater box culvert that feeds Spout Run stream and suggested that there may be an opportunity for the County to remove some of the overgrowth on the east side of Kirkwood and improve property that the County lists as parkland. Mr. Krider recommended slightly relocating the townhouses on the site plan to pull them back off the street and move them southward towards the pocket park space to create a more cohesive design, and that the top right of the terrace level of the multi-family building provides an opportunity for biophilic design through a green roof in the area marked “patios.”

Mr. Krider felt uncertain if there was a good location for public art on site with the new development, potentially in the mini-park area or along the southeast facade that faces Kirkwood close to pawn shop or the “white box wall” on the pool deck level that was pointed out by Mr. Hoffman. Ms. Adams suggested that the design of the building should not create a problem that needs an art “fix” if there is a way to redesign the white-box rather than use it as a canvas. Adams also suggested to lean towards tile/mosaic rather than paint for any two-dimensional enhancements due to the longevity of the materials.



ARLINGTON ECONOMIC DEVELOPMENT

Cultural Affairs - Arlington Public Art

3700 S Four Mile Run Dr, Arlington, Virginia 22206

TEL 703.228.0808 FAX 703.228.0804 www.arlingtoneconomicdevelopment.com

Mr. Hoffman mentioned that he was in early negotiations with Encore Stage to possibly provide a “forever home” for the cultural group as part of this development. Ms. Adams strongly suggested getting the Cultural Affairs Division Chief Michelle Isabelle-Stark involved in any negotiations with Encore with regards to providing space as a cultural amenity in order to flesh out a larger community benefits package. Mr. Krider reiterated that working with a performing arts group like Encore to provide below market rate space could be a part of a larger benefit package, outside of the standard public art contribution.

We encourage the developer to hire an art consultant should they wish to pursue an on-site public art project. To keep future options open and to avoid the need for amendments, Ms. Adams recommends retaining both the on-site and payment in lieu option (A and B of the standard public art condition language) and keeping Arlington Public Art staff looped in at each step. Arlington Public Art has recently updated their [Master Plan](#) and is happy to meet with the applicant’s design team to review the Plan’s overarching goals and those for this location.

August 9, 2024

t 202.344.4369
f 202.344.8300
ZGWilliams@Venable.com

Ms. Arlova Vonhm
Zoning Administrator
Arlington County
2100 Clarendon Boulevard, Suite 1000
Arlington, Virginia 22201

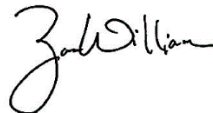
RE: RETAIL AND RESIDENTIAL RELOCATION LETTER
PROPERTY: 3130 LANGSTON BOULEVARD (RPC #15-012-041)
OWNER/APPLICANT: RP LANGSTON I LLC

Dear Ms. Vonhm:

On behalf of the Applicant, please accept this Retail and Residential Relocation Letter in fulfillment of the Administrative Regulation 4.1 filing requirements. The Property is improved with a single-story commercial building that currently operates as a Walgreens Pharmacy. The Applicant proposes to demolish the existing commercial building. As such, the retail tenant will be displaced during construction. The Applicant will coordinate with County staff to develop a Retail Tenant Relocation Plan in accordance with Administrative Regulation 4.1 and applicable County guidance. No residential tenants will be displaced by construction.

Thank you for your consideration of this request, and please do not hesitate to contact me with any questions. As always, thank you for your attention to this matter.

Sincerely,



Zachary G. Williams

August 9, 2024

t 202.344.4369
f 202.344.8300
ZGWilliams@Venable.com

Ms. Arlova Vonhm
Zoning Administrator
Arlington County
2100 Clarendon Boulevard, Suite 1000
Arlington, Virginia 22201

RE: RETAIL PROGRAM LETTER
PROPERTY: 3130 LANGSTON BOULEVARD (RPC #15-012-041)
OWNER/APPLICANT: RP LANGSTON I LLC

Dear Ms. Vonhm:

On behalf of the Applicant, please accept this Retail Program Letter in fulfillment of the Administrative Regulation 4.1 filing requirements. The following is a preliminary description of the potential new retail uses for the above-referenced Property. The Applicant submits this preliminary description solely to fulfill the Administrative Regulation 4.1 filing requirements, with the understanding that the ultimate retail program is not agreed upon at the time of application acceptance.

The 2015 Arlington County Retail Plan (the "Retail Plan") and the Langston Boulevard Area Plan (the "Plan") establish recommendations for retail uses in the Langston Boulevard corridor. With respect to the Property, the Plan designates its northern frontage (Langston Boulevard) and a portion of its eastern frontage (North Kirkwood Road) as "Gold" streets. The Retail Plan and the Plan use the "Gold" designation to indicate that a wide variety of retail sales, food establishments, entertainment, and service and repair uses (including retail equivalent uses) are appropriate for these frontages.

Consistent with the recommendations of the Plan, the Applicant will lease space to such retail uses as are permitted in the "C-O-2.5" Zoning District, including but not limited to food establishments, entertainment, retail sales, personal service, repair, and/or retail equivalent uses.

Thank you for your consideration of this request, and please do not hesitate to contact me with any questions. As always, thank you for your attention to this matter.

Sincerely,



Zachary G. Williams

Site Plan Submittal Checklist

To ensure a complete Site Plan Submittal, the applicant must complete and submit this form.

					Staff Notes	
DATE: August 9, 2024						
APPLICANT/DEVELOPER: RP Langston I LLC						
APPLICATION BY: Zachary G. Williams, Attorney/Agent						
ADDRESS: Venable LLP, 600 Massachusetts Avenue NW, Washington, DC 20001						
DAYTIME PHONE: 202.344.4369						
EMAIL ADDRESS: zgwilliams@venable.com						
CONTACT: Zachary G. Williams						
PROJECT TITLE: 3130 Langston Boulevard						
PROJECT LOCATION: 3130 Langston Boulevard (RPC #15-012-041)						
	Applicant	Staff				
		1 st	2 nd	3 rd	4 th	
<u>Preliminary Site Plan Drawings:</u> 2 copies of plan at correct scale and size (24" x 36"), with additional required information and 1 digital PDF copy						
<u>Final Site Plan Drawings:</u> 8 copies of plan at 24" x 36" and 11" x 17", with graphic scale representation, with additional required information and digital copy	N/A					
1. Site Plan Drawings Cover Page						
2. Civil Engineering Plans:						
A. Certified Survey Plat at Scale that is appropriate for the size of the project, ranging from 1" = 10' to 1" = 30'						
1) Full Cross-Sections of adjacent streets from curb to curb, with dimensions, including full intersections						
2) Dimensions of Tracts						
3) Lot area by Zoning District (square feet and acres) for each tract						
4) North Arrow						
5) Types and dimensions of existing easements						
6) Location, dimensions, size and uses of existing structures and below-grade structures, number parking spaces, number residential and hotel units, and distance from side lot lines and centerlines of adjacent streets						
7) Topography at 2-foot intervals						
8) Location and height in feet of existing structures on adjacent contiguous site and across adjacent streets						
9) Show location of trees on site with caliper of 3 inches or greater.						
10) Historic district and/or structures on the site or adjacent sites – add a						

note on the plot and location plan if there are not any							
11) Resource protections areas – add a note on the plot and location plan if there are not any							
12) Metes and Bounds Narrative Description							
B. Current aerial photograph of full site and surrounding uses							
C. Zoning plat including notation if from an R, RA, S-3A, S-D, C-1-R, C-1, C-1-R, C-2, C-1-O or C-O-1.0 district to any other commercial, mixed-use (C), industrial (M) or P-S district							
D. Proposed preliminary subdivision plat showing requirements of Subdivision Ordinance, including:	N/A						
1) Lot lines	N/A						
2) Size of subdivided parcels	N/A						
E. Plot and location plan at a 1"=25' scale. However, a different scale could be used that is appropriate for the size of the project, ranging from 1"=10' to 1"=30'. All civil sheets should use the same scale chosen for the project. Final engineering plans will need to be submitted at 1"=25' scale.							
1) Lot dimensions and site area, individual parcel Dimensions and area, and area within each existing and proposed zoning district							
2) North Arrow							
3) Public street and right-of-way dedications, with square footage, and site area before and after dedication							
4) Proposed grading at 2-foot contour intervals							
5) Location, dimension, connection, label and description of proposed and existing underground, surface, and aerial utilities and structures within the property, on the periphery of the site and in the full street. Show relationship of underground utilities to street tree placement.							
	Applicant		Staff				Staff Notes
			1 st		2 nd		
	Ext	Prop	Ext	Prop	Ext	Prop	
a. Water meter vaults & water meter clear zones							
b. Electric Transformer vaults							
c. Storm Sewer							
d. Gas							
e. Sanitary Sewer							

f. Water							
g. Electric							
h. Cable TV							
i. Telephone							
j. Fiber optics							
k. Other (please specify)							
l. METRO-related structures	N/A						
	Applicant		Staff				Staff Notes
			1 st	2 nd	3 rd	4 th	
6) Location, dimension, connection, label and description of proposed and existing surface and below grade structures within the property, on the periphery of the site.							
	Applicant		Staff				
			1 st		2 nd		
	Ext	Prop	Ext	Prop	Ext	Prop	
a. Full street sections and intersections.							
b. Sidewalks (full sidewalk and clear width)							
c. Curb and gutter							
d. Street lights							
e. Utility poles							
f. Bus Stops / Bus Shelters, if applicable							
g. Street trees, tree pits and/or tree planting strips							
h. Transformer pads							
i. Fire hydrants and fire department connections							
j. Crosswalks							
k. ADA ramps and driveway entrances							
l. Traffic signal poles and cabinets							
	Applicant		Staff				
			1 st	2 nd	3 rd	4 th	
m. Distance to all property lines and street center lines							
n. Corner vision obstruction area							
o. Physical relationship and distance to adjacent lots and buildings on same block, contiguous blocks and across adjacent streets							
p. Location of streets on adjacent sites and blocks, with garage and loading docks marked							
q. Driveways and driveway entrances on the same block and across the street							
r. Interior streets, sidewalks & open spaces							

s. Distance from shared property line or proposed subdivision line.						
t. Surface parking and loading areas						
u. Size and location of garage air intake and exhaust vents						
7) Retail						
a. Location and square footage of retail spaces. Dimension the sidewalk frontage where the finished floor elevation(s) of the retail space(s) is equal to the finished grade of the sidewalk, and label these areas as the location of potential retail entrances.						
b. Label street/pedestrian access						
8) Proposed elevations at:						
a. Ramps						
b. Patios						
c. Plazas						
d. Top/bottom of privacy walls and fences						
e. Sidewalks						
f. First floor and all entrances						
g. Garage & loading dock Entrances						
9) Location of trees to be saved, and limits of clearing and grading						
10) Average elevation of the site						
11) Coverage/Percent Coverage						
F. Types and dimensions of proposed vacations and/or types, dimensions and necessity for encroachments						
G. Other special plans or data – if applicable						
H. Presentation Plan at 1" = 25' scale showing proposed improvements only:						
1) Location, dimension, connection, label and description of all proposed surface structures within the property, on the periphery of the site, including:						
a. Buildings						
b. Sidewalks (full sidewalk clear width)						
c. Curb and Gutter						
d. Bus stops/shelters, if applicable						
e. Street tress, tree pits, and/or tree planting strips						
f. Crosswalks						
g. ADA ramps and driveway entrances						
h. Interior Streets, sidewalks, and						

open spaces						
i. Surface parking and loading areas						
j. Transformer Pads						
k. Fire hydrants and fire department connections						
l. Street lights						
m. Utility poles						
n. Traffic signal poles and cabinets						
o. Corner vision obstruction area						
p. Size and location of garage air intake and exhaust vents						
q. Distance to all property lines and street center lines						
r. Distance from shared property line or proposed subdivision line						
2) Location and square footage of retail spaces. Dimension the sidewalk frontage where the finished floor elevations of the retail space(s) is equal to the finished grade of the sidewalk, label these areas as the location of potential retail entrances.						
3) Proposed limits of clearing and grading.						
4) North arrow orientation						
5) Symbol Key/Legend						
I. Striping and marking plan providing number, direction and width of existing and proposed travel and parking lanes, crosswalks, medians, bike lanes; width of existing and proposed curb cuts, planting areas, street lights, existing traffic signals (poles, span wires and/or mast arms), label and delineate fire lanes, if applicable						
J. Existing and proposed street cross-sections:						
1) Building wall lines & dimensions of sidewalk						
2) Planting areas						
3) Curb and gutter						
4) Parking, bike and travel lanes						
5) Medians						
K. Fire Marshal page showing existing and proposed fire department connections, hydrant locations, and adjacent street widths.						
3. Architectural Plans at a scale appropriate for the project size						
A. Floor Plans of each garage level, including:						
1) Elevations						
2) Dimensions of overall structure						
3) GFA of overall structure						

4) Layout and number of parking spaces						
5) Label and dimension of typical standard, compact and handicapped spaces						
6) Widths of each aisle						
7) Label and size of storage, mechanical, retail parking, bicycle parking, and other non-parking areas.						
B. Ground Floor Plan						
1) Overall dimension, elevation and GFA						
2) Label all separate uses and access to separate uses, including storage, loading and service areas, retail and retail access/connections to service areas, recycling and trash collection areas, and garage						
3) Label building entrances for pedestrians and vehicles, including ground floor retail						
4) Location and information on landscaping, plazas and other site features						
C. Non-typical Floors						
5) Overall dimensions, elevation and GFA of each floor level						
2) Label all separate uses and access to separate uses, including storage, loading and service areas, retail and retail access/connections to service areas, recycling and trash collection areas, and garage						
D. Typical Floors						
6) Overall dimensions, elevation and GFA of each floor level						
2) Label all separate uses and access to separate uses, including storage, loading and service areas, retail and retail access/connections to service areas, recycling and trash collection areas, and garage						
E. Roof plan with elevations, showing main and penthouse roof elements and mechanical units						
F. Elevations of each building from the north, south, east and west showing:						
1) Height in feet of proposed building as measured from average site elevation, to the top of main roof, penthouse, and structures above the penthouse						
2) Number of floors and elevation of each floor including main roof, penthouse roof and any structures above penthouse roof, and slab-to-						

slab heights of all retail spaces						
3) Height, location and general design of structures above building height limit		N/A				
4) Label location and access to underground parking and loading						
5) Label façade and exterior surface materials and colors						
6) Complete street frontage, lobby and or plaza level elevations showing complete design details, façade materials and colors at a scale of 1/8" = 1'						
7) Distance from shared property line and percentage of building wall openings						
8) General size and location of vents for garage air intake and exhaust, HVAC, and laundry						
G. Vertical cross sectional views showing:						
1) Average elevation of the site						
2) Height in feet of proposed structure(s) as measured from average site elevation						
3) Number of floors and elevation of each floor, including main roof, penthouse, and structures above the penthouse						
4) Height, location, and general design of structures proposed above the building height limit		N/A				
5) Label location and access to underground parking and loading						
6) Elevation of all floor grades above and below ground						
7) Buildings in relationship to surrounding uses:						
a. Distance between proposed buildings and adjacent lots						
b. Distance between proposed buildings and adjacent buildings						
c. Distance between proposed buildings and adjacent streets						
d. Heights of proposed building and adjacent buildings.						
e. Distance of building wall from the shared property line.						
8) Plazas and landscape area above structures, soil depth for all landscaping, and elevations at finished grade						
9) Key showing where cross-sections are taken						
H. Screening Plans for:		N/A				
1) Mechanical equipment						

2) Parking areas						
3) Loading areas						
4) Trash areas						
5) Penthouse areas						
4. Conceptual Landscape Plan						
A. Existing (to remain) and proposed building footprints and hardscape, and delineation of existing (to remain) and proposed underground structures						
B. Existing and proposed utilities, and topography at 2' intervals						
C. Streetscape						
D. Label, design and size of plazas and other site features; location and types of landscaping; label other landscape elements; label street trees and streetscape elements						
E. Label, size and elements of common open spaces, open space easements and required landscaping						
F. Location to be saved, and limits of clearing and grading						
G. Tree survey of all trees on the site with a caliper of 3 inches and greater. Provide locations, sizes, and identification/species of all existing trees to be saved, trees to be removed, proposed limits of clearing and grading, and a calculation of the number of trees to be replaced in tabular form pursuant to the tree replacement formula						
5. Additional Drawings						
A. Materials of special architectural features						
B. Treatment of mechanical shafts and balcony railings						
C. Exterior treatment of loading dock doors						
D. Street level context of how buildings fit in neighborhood with existing conditions and known future development						
E. Massing context of how buildings fit in surrounding development						
F. Comparative drawing (sections) of height profiles within a 400-foot offset of development						
G. Context plan of street alignments, parking and travel lane designations, sidewalks, bike and transit facilities, and building lines within a 400-foot offset of development						
6. Information Sheet						
A. Tabulation in chart form of parking and bicycle spaces required and provided, by building level and user type.						
B. Tabulation in chart form of the square footage of all separate uses, by floor, and the totals for all floors, including storage,						

loading and service areas including height of loading docks, retail including retail slab-to-slab height, recycling and trash collection areas, and garage						
C. Tabulation in chart form of the total number of residential units by type, number of bedrooms/dens, and by floor area, per floor and total for all floors						
D. Tabulation in chart form of total number of hotel units by floor area, per floor, and total		N/A				
E. Tabulation in chart form of elevation and GFA for each floor and total GFA for all floors						
7. Tabulation in chart form of proposed density (GFA and/or Units per Acre) of the site plan project including all requested density bonuses and exclusions.						
8. Additional filing information						
A. Site Plan Application Acceptance Letter from CPHD, Director	N/A					
B. Application form						
C. Statement of justification letter						
D. Disclosure statement						
E. Consent of all property owners						
F. Site Plan Specification form						
G. Tabulation in chart form showing by-right development capacity						
H. Letter stating all requested Zoning Ordinance modifications (density bonuses and/or exclusions], height, parking, etc.) and justification of each, where applicable.						
I. Community benefits letter						
J. Vacation and Encroachment plat and application(s) or waiver form. The plat shall show the exact locations and types of vacations and/or encroachments						
K. Transportation Demand Management Plan						
L. Stormwater Management and Compliance Plan (may be within site plan drawings)	See plans					
M. MEP letter documenting transformer size and location						
N. LEED® version 4 (or most recent as approved by the County Manager) Scorecard						
1) Tracking sheet with description of proposed credits with explanation as to why/why not being achieved						
2) Energy model summary and proposed savings						
3) LEED consultant information						
O. Description of Retail Program						

P. Number and location of existing residential households and retail tenants requiring relocation, including names of retail tenants. Relocation Plan, if applicable.						
Q. Public art letter						
R. Rezoning Application and rezoning plat, if applicable						
S. Traffic Impact Analysis, if applicable						
T. Description and plats of transactions involving County property, if applicable						
U. Affordable Housing Plan, if applicable						
V. Historic preservation letter, if applicable	N/A					
W. Historic Resources Inventory (HRI) Informational Form, if applicable	N/A					
X. CCBP, Block development drawings at 24" x 36", if applicable	N/A					
Y. CCBP, Block Framework drawings at 11" x 17", if applicable	N/A					
Z. Urban Design Guidelines, if applicable	N/A					
AA. Staff Report on the Conceptual Site Plan Review, if applicable						
BB. Formal response to comments (for resubmissions only)	N/A					

Site Plan Specification Form

STAFF ENTRY:	
Assigned Site Plan Number	New 4.1 Site Plan TBD
PDSP Phase Number	N/A
APPLICANT ENTRY:	
Form (Re)Submission Date	August 9, 2024
Project Title	3130 Langston Boulevard
Project Location	3130 Langston Boulevard
Parcel RPC Numbers	15-012-041
DEVELOPMENT TEAM:	
Applicant	RP Langston I LLC
Address (incl. zip code)	c/o Rooney Properties, LLC 3330 Washington Boulevard, Suite 220, Arlington, VA 22201
Telephone Number	571.297.4904
Contact	Cassie Guy
E-mail Address	cguy@rooneypropertiesllc.com
Fax #	
APPLICATION MADE BY:	
Name	Venable LLP
Address (incl. zip code)	600 Massachusetts Avenue NW, Washington, DC 20001
Telephone Number	202.344.4369
Contact	Zachary G. Williams
E-mail Address	zgwilliams@venable.com
Fax Number	202.344.8300
ATTORNEY:	
Firm	Venable LLP
Address	600 Massachusetts Avenue NW, Washington, DC 20001
Telephone Number	202.344.4369
Contact	Zachary G. Williams
E-mail Address	zgwilliams@venable.com
Fax #	202.344.8300
ARCHITECT:	
Firm	DCS Design
Address	8614 Westwood Center Drive, Suite 800, Tysons, VA 22182
Telephone Number	703.556.9275
Contact	Stephen Saff
E-mail Address	ssaff@dcsdesign.com

Fax #	
ENGINEER:	
Firm	Vika Virginia, LLC
Address	8180 Greensboro Drive, Suite 200, Tysons, VA 22101
Telephone Number	703.442.7800
Contact	Robert Cochran
E-mail Address	cochran@vika.com
Fax #	
LANDSCAPE ARCHITECT:	
Firm	Land Design, Inc.
Address	200 S Peyton Street, Alexandria, VA 22310
Telephone Number	703.549.7784
Contact	Andrea Crossett
E-mail Address	acrossett@landdesign.com
Fax #	
LEED CONSULTANT:	
Firm	DCS Design
Address	8614 Westwood Center Drive, Suite 800, Tysons, VA 22182
Telephone Number	703.556.9275
Contact	Kathy Lawson
E-mail Address	klawson@dcsdesign.com
Fax #	
TRAFFIC CONSULTANT:	
Firm	Vika Virginia, LLC
Address	8180 Greensboro Drive, Suite 200, Tysons, VA 22102
Telephone Number	703.442.7800
Contact	Mike Pinkoske
E-mail Address	pinkoske@vika.com
Fax #	
ADDITIONAL CONSULTANT(S):	
Firm	
Address	
Telephone Number	
Contact	
E-mail Address	
Fax #	
ADDITIONAL CONSULTANT(S):	
Firm	
Address	

Telephone Number			
Contact			
E-mail Address			
Fax #			
		Square Feet	Acres
1.	A. Total Site Area	73,254	1.68
	B. Site Area in Existing Zoning District		
	District C-2	73,254	1.68
	C. Site Area in Proposed Zoning District		
	District C-O-2.5	73,254	1.68
2.	Site Area Allocated for Density Purposes To: (Attach exhibit of site area allocation when necessary)		
	A. Office	N/A	N/A
	B. Commercial	2,616.78	0.06
	C. Hotel	N/A	N/A
	D. Residential	70,637.22	1.62
	E. Other	N/A	N/A
3.	Floor Area Ratio (FAR) inclusive of requested density bonuses and exclusions (GFA divided by site area for density purposes [for mixed use districts, the allocated site area])		
	A. Office		N/A
	B. Commercial		4.69
	C. Hotel		N/A
	D. Residential		4.69
	E. Other		N/A
	Total		4.69
4.	Dwelling Units Per Acre		164.12
5.	Hotel Rooms Per Acre		N/A
		Square Feet	
6.	Total Gross Floor Area (After Exclusions)		
	A. Office Use		
	Building 1 - 3130 Langston Blvd.	N/A	
	B. Retail Use		
	Building 1 - 3130 Langston Blvd.	12,612	
	C. Hotel Use	Square Feet	# Rooms
	Building 1 - 3130 Langston Blvd.	N/A	N/A

	D. Residential Use	Square Feet	# Units
	Building 1 - 3130 Langston Blvd.	331,268	276
	Affordable Housing Units	TBD	TBD
	E. Other	N/A	N/A
	Total	343,880	
7.	Total # of Parking Spaces		
		Standard	Compact
			HC
			Total
			% Compact
	A. Office Use		
	Building 1 - 3130 Langston Blvd.	N/A	N/A
	B. Retail Use		
	Building 1 - 3130 Langston Blvd.	22	0
	C. Hotel Use		
	Building 1 - 3130 Langston Blvd.	N/A	N/A
	D. Residential Use		
	Building 1 - 3130 Langston Blvd.	256	53
	E. Other	N/A	N/A
	Total	278	53
			10
			331
			16.01
8.	Type of Parking		# of spaces
	A. Structured – Above grade		230
	B. Structured – Below grade		101
	C. Surface		0
9.	Parking Ratio		
	A. # of Spaces per Office GFA	N/A	
	B. # of Spaces per Retail GFA	0.004*	per Sq. Ft.
	C. # of Spaces per Hotel Rooms	N/A	
	D. # of Spaces per Residential	1.12	per one unit
	E. # of Spaces per Other	N/A	
10.	Building Height		
	Average Elevation of the Site in feet above sea level	177.72'	

* Parking is being provided for the 5,320 square feet of retail GFA at the ratio required by the Zoning Ordinance (1 space for every 250 square feet of retail GFA). Parking is not being provided for 7,292 square feet of retail equivalent amenity GFA because the amenity space is intended to serve the building's residents, for whom there is a residential parking space allocation.

Building Height in feet to Main Roof and Penthouse Roof			
	Main Roof	Penthouse Roof	# Stories
A. Office			
Building 1 - 3130 Langston Blvd.	N/A	N/A	N/A
B. Retail			
Building 1 - 3130 Langston Blvd.	N/A	N/A	N/A
C. Hotel			
Building 1 - 3130 Langston Blvd.	N/A	N/A	N/A
D. Residential			
Building 1 - 3130 Langston Blvd.	121.11'	133.69'	12
E. Other			
Building Elevation to Main Roof and Penthouse Roof (in feet above sea level)			
	Main Roof	Penthouse Roof	# Stories
A. Office			
Building 1 - 3130 Langston Blvd.	N/A	N/A	N/A
B. Retail			
Building 1 - 3130 Langston Blvd.	N/A	N/A	N/A
C. Hotel			
Building 1 - 3130 Langston Blvd.	N/A	N/A	N/A
D. Residential			
Building 1 - 3130 Langston Blvd.	301.11'	313.69'	12
E. Other			
Slab-to-slab heights			
	Height in Feet		
A. Office			
Building 1 - 3130 Langston Blvd.	N/A		
B. Retail			
Building 1 - 3130 Langston Blvd.	10.0' min.		
C. Hotel			
Building 1 - 3130 Langston Blvd.	N/A		
D. Residential			
Building 1 - 3130 Langston Blvd.	9' - 9.5" min		
E. Other			

	Sq. Ft.	%
11. Coverage and Percent Coverage	56,030	98.39%

12.	Dimensions of Yards or Setbacks from right-of-way (for townhouse projects)	# Feet
	A. Front	N/A
	B. Side	N/A
	C. Side	N/A
	D. Rear	N/A
13.	Common Open Space (if required)	36.51%
14.	Landscaped Area ("R-C", "C-O-A" and "C-R")	N/A
15.	Proximity to Metro Entrance (walking distance from main entrance to nearest station entrance) and proximity to regional and local bus service (walking distance from main entrance to bus shelter/ bus stop)	Approx. 0.9 mi (20 mins) from Courthouse Metro Station (per Google Maps). Approx. 0 mi from Langston Blvd. & Spout Run Pkwy. bus stop ID 6000715.
16.	Requested Zoning Ordinance Modifications of Use Regulations (for example, density, height, parking, setback, coverage, etc.)	
	A. Bonus density	
	B. Density exclusions	
	C. Loading spaces	
	D. Compact parking ratio	
	E. Other modifications as may be needed to facilitate the proposed development	
17.	Requested Encroachment(s) and/or Vacation(s). Include plat(s) showing exact locations and types. <i>Refer to civil drawings</i>	
18.	# LEED Credits	Yes – 9 (53 Targeted) No - 19 Maybe - 29
19.	Historic District and/or Building	Yes No x
	Name of Building:	N/A
	Address of Building:	N/A

August 9, 2024

t 202.344.4369
f 202.344.8300
ZGWilliams@Venable.com

Ms. Arlova Vonhm
Zoning Administrator
Arlington County
2100 Clarendon Boulevard, Suite 1000
Arlington, Virginia 22201

**RE: STATEMENT OF JUSTIFICATION FOR 3130 LANGSTON BOULEVARD
PROPERTY: 3130 LANGSTON BOULEVARD (RPC #15-012-041)
OWNER/APPLICANT: RP LANGSTON I LLC**

Dear Ms. Vonhm:

This firm represents RP Langston I LLC (the “Applicant”), an affiliate of Rooney Properties, LLC and title owner of the property located at 3130 Langston Boulevard in Arlington, Virginia (RPC #15-012-041) (the “Property”). On behalf of the Applicant, please accept this letter as a statement of justification for an application to amend the Property’s General Land Use Plan (“GLUP”) designation, a rezoning, and a new Administrative Regulation 4.1 site plan (collectively, the “Application”).

The Property

The Property consists of a 73,254 square feet (1.68 acres) parcel located near the intersection of Langston Boulevard and North Kirkwood Road. It is improved with a single-story commercial building constructed in 1998, which currently operates as a drive-through Walgreens Pharmacy.

The Property is designated for Service Commercial and Public uses in the GLUP and is located within the boundaries of the Langston Boulevard Area Plan (the “Plan”). Within the Plan, the Property is located in Area 5 (West). The Property is currently zoned to the “C-2” Service Commercial-Community Business Zoning District. The Property is not subject to an existing site plan.

The Proposed Project

The Applicant proposes to redevelop the Property with a new mixed-use residential building with ground floor retail. The proposed twelve-story building will have a height of up to 136 feet at its highest point. It will provide approximately 276 residential units to accommodate

August 13, 2024

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the County’s growing housing demand, as well as 5,320 square feet of retail GFA to serve the community and 7,292 square feet of retail equivalent building amenities. The retail area and the main residential entry will be located along Langston Boulevard. Above the three-story podium, the Applicant proposes a courtyard and amenities for the building’s residents. The building’s L-shaped tower—which engages the Langston Boulevard and I-66 frontages—will overlook the courtyard, providing an attractive view for the residents.

Approximately 331 parking spaces for the proposed building will be provided onsite in a multi-level garage. The garage entrance, along with the building’s service areas (such as trash and loading) will be located along the North Kirkwood Road frontage. This placement shields such areas from view and minimizes disruptions along Langston Boulevard.

The proposed development also includes significant site improvements, including but not limited to street and sidewalk improvements along Langston Boulevard and North Kirkwood Road, stormwater planters, a green roof, and a multi-use pathway fronting the site on Langston Boulevard. Further, the proposed development will include a new public space and dog run of approximately 5,000 square feet, as envisioned in the Plan.

The GLUP Amendment, Rezoning, and Site Plan

To facilitate the Property’s redevelopment, the Applicant proposes to amend the Property’s GLUP designation to “Medium” Office-Apartment-Hotel, rezone the Property to the “C-O-2.5” Mixed Use Zoning District, and create a new site plan for the Property. The Plan acknowledges that the Property’s current GLUP designation reflects land use policies envisioned in the mid-1960s and that, to redevelop the Property in accordance with the Plan, its GLUP designation must change to “Medium” Office-Apartment-Hotel. The C-O-2.5 Zoning District implements the “Medium” Office-Apartment Hotel GLUP designation, allowing development consistent with that designation’s density.

In addition to the GLUP amendment, rezoning, and new site plan, the Applicant proposes modifications for bonus density, density exclusions, loading, compact parking ratio, and other modifications as may be necessary to support the proposed development. The Applicant proposes to achieve bonus density in consideration of a community benefits package to be developed in coordination with Arlington County staff.

The Applicant’s redevelopment proposal is consistent with the Plan recommendations that the Property be developed with a commercial, multi-family residential, or mixed-use building with ground floor retail along Langston Boulevard. The proposed development will help transform Langston Boulevard into a main street with taller buildings concentrated around an activity hub—the Spout Run Parkway Activity Hub—where mixed uses support a walkable

August 13, 2024
Page 3

environment. It will also contribute to the Plan's vision for a diverse mix of parks, plazas, and other natural areas that balance community needs with environmental goals such as providing overland relief and public open space.

Thank you for your attention to this request. Please do not hesitate to contact me at zgwilliams@venable.com or at 202-344-4369 if you require additional information related to this Application.

Sincerely,

A handwritten signature in black ink, appearing to read "Zachary G. Williams". The signature is written in a cursive style with a large, looping initial "Z".

Zachary G. Williams

August 9, 2024

t 202.344.4369
f 202.344.8300
ZGWilliams@Venable.com

Ms. Arlova Vonhm
Zoning Administrator
Arlington County
2100 Clarendon Boulevard, Suite 1000
Arlington, Virginia 22201


RE: VACATION & ENCROACHMENT APPLICATION
PROPERTY: 3130 LANGSTON BOULEVARD (RPC #15-012-041)
OWNER/APPLICANT: RP LANGSTON I LLC

Dear Ms. Vonhm:

This purpose of this letter is to confirm that the Applicant will submit a vacation and encroachment application, if necessary, to the Real Estate Bureau under separate cover, in fulfillment of the Administrative Regulation 4.1 filing requirements.

Thank you for your consideration of this request, and please do not hesitate to contact me with any questions. As always, thank you for your attention to this matter.

Sincerely,



Zachary G. Williams

August 9, 2024

t 202.344.4369
f 202.344.8300
ZGWilliams@Venable.com

Ms. Arlova Vonhm
Zoning Administrator
Arlington County
2100 Clarendon Boulevard, Suite 1000
Arlington, Virginia 22201

RE: ZONING ORDINANCE MODIFICATIONS LETTER
PROPERTY: 3130 LANGSTON BOULEVARD (RPC #15-012-041)
OWNER/APPLICANT: RP LANGSTON I LLC

Dear Ms. Vonhm:

On behalf of the Applicant, please accept this Modifications Letter in fulfillment of the Administrative Regulation 4.1 filing requirements. The Applicant requests the following modifications:

- Bonus Density. Consistent with Zoning Ordinance Section 15.5.9 and the Langston Boulevard Area Plan (the “Plan”), the Applicant proposes density in excess of the planned base density for the Property. The Applicant will work with County staff to develop an appropriate package of community benefits in consideration of the proposed bonus density.
- Density Exclusions. Consistent with long-standing County practice and the Zoning Administrator’s “Advice: Density Exclusions for GFA – Site Plan Projects” dated April 11, 2016, the Applicant proposes to exclude rooftop mechanical space and certain other mechanical/service space from density. Please refer to the site plan drawings for additional information.
- Loading Spaces. The Applicant proposes a reduction in the number of required loading spaces. The Applicant has designed the project to facilitate sharing of loading spaces and optimized loading access and operational management. Further, the Applicant believes that the Ordinance-required number of loading spaces exceeds that which is necessary to adequately serve the proposed uses, given the small fraction of residential units which trigger the requirement for an additional loading space.
- Compact Parking Ratio. The Applicant proposes a compact parking ratio in excess of 15%. The increased compact ratio results from the provision of additional parking spaces for the building’s future residents, in excess of the total required by the Zoning Ordinance. Without the additional parking spaces, the compact to standard ratio is below 15%.

August 13, 2024
Page 2

In addition to the above-referenced modifications, the Applicant proposes any other modifications that may be needed to facilitate the proposed development, as may be identified throughout the course of application review.

Thank you for your consideration of this request, and please do not hesitate to contact me with any questions. As always, thank you for your attention to this matter.

Sincerely,

A handwritten signature in black ink, appearing to read "Zachary G. Williams". The signature is written in a cursive style with a large initial "Z".

Zachary G. Williams

3130 LANGSTON BOULEVARD

Multimodal Transportation Assessment Arlington, VA

August 9, 2024

Prepared by:

VIKA Virginia LLC
Michael R. Pinkoske, PTP
Rodolfo A. Roman
(703) 442-7800

www.vikavirginia.com



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3130 LANGSTON BOULEVARD

SECTION 1 INTRODUCTION

This report presents the results of a Multimodal Transportation Assessment (MMTA) for the proposed redevelopment of 3130 Langston Boulevard in Arlington County, Virginia. This MMTA was completed in support of the proposed rezoning and 4.1 Site Plan application. As shown in Figure 1-1, the site is bounded by Langston Boulevard to the north, N. Kirkwood Road to the south, and the 3100 Langston Boulevard development to the east in Arlington County, Virginia.

The site comprises one parcel, identified as Arlington County RPC #15-012-041, and is approximately 1.68 acres. The site is improved with a single-story brick building, currently occupied by a Walgreens pharmacy with a drive-through and associated surface parking.

The site is zoned to the C-2 Service Commercial-Community Business zoning district pursuant to §§ 7.17 et seq., respectively, of the Arlington County Zoning Ordinance (the “Zoning Ordinance”).

As proposed, the site would be rezoned with a General Land Use Plan (GLUP) amendment and redeveloped in accordance with the Langston Boulevard Plan. The existing building and surface parking would be razed and redeveloped with a mixed-use multifamily residential building with approximately 276 units and space for ground floor retail and/or equivalent. The site would be served by approximately 331 parking spaces and two loading spaces.

Access to the site is currently provided by one (1) driveway along Langston Boulevard, and two (2) driveways along N. Kirkwood Road. As proposed, access would be consolidated to one (1) driveway. The driveway on Langston Boulevard would be closed and the two (2) driveways on N. Kirkwood Road would be consolidated to a single access point. For reference the site plan is shown on Figure 1-2.

Study Scope

A scoping meeting was held with Arlington County staff on May 24, 2024, and identified four (4) study intersections for inclusion in the MMTA. The approved scoping document identified the parameters of the MMTA and is included in Appendix A for reference. For purposes of this study, the buildout year is assumed to be 2028.

Tasks undertaken in this study include the following:

1. Reviewed proposed development plans, recently completed traffic impact studies in the vicinity, the Langston Boulevard Plan, and other background data.
2. Completed a field reconnaissance of existing roadway and intersection geometries, traffic controls, speed limits, and adjacent on-street parking restrictions.
3. Conducted a comprehensive multimodal analysis of the site and the study area including transit, walkability, and bicycle facilities. The study identifies what options, other than vehicular, are available to all users of the site. The study includes bus ridership information, metro ridership information, bike-sharing facilities, and pedestrian infrastructure inventory.
4. Established a study scope and specific analysis parameters for the MMTA with Arlington County Department of Environmental Services (DES) staff (see Appendix A).
5. Collected vehicular, pedestrian, and bicycle counts at the study intersections during the weekday AM and PM peak hours.
6. Requested boarding and alighting information for adjacent bus stops serving the study area from WMATA and Arlington County.
7. Reviewed and summarized VDOT's crash data for the study area.
8. Conducted operational analyses of existing levels of service (LOS) and vehicle queues (average and 95th percentile) at the study intersections based on the existing peak hour traffic volumes, the existing intersection geometries and traffic controls.
9. Forecasted future peak hour traffic volumes for the year 2028 without the proposed development based on existing traffic volumes with the addition of regional traffic growth. No pipeline developments were identified during the scoping meeting.
10. Analyzed 2028 future LOS and queues without the proposed development at the study intersections based on the future forecasts without development, the future intersection geometries, and traffic controls.
11. Estimated the number of peak hour vehicular trips and person trips that would be generated by the buildout of the proposed development based on standard Institute of Transportation Engineers (ITE) Trip Generation Manual, 11th Edition rates and equations and County mode share information.



12. Forecasted future peak hour traffic volumes for the year 2028 with the proposed development based on background traffic volumes and traffic associated with the proposed development.
13. Analyzed year 2028 future peak hour LOS and vehicle queues with the proposed development at the study intersections and site driveway, based on the future traffic forecasts and future intersection geometries and traffic controls.
14. Identified traffic improvements / enhancements necessary to mitigate future forecasts as a result of the proposed development for 2028 conditions, if required.



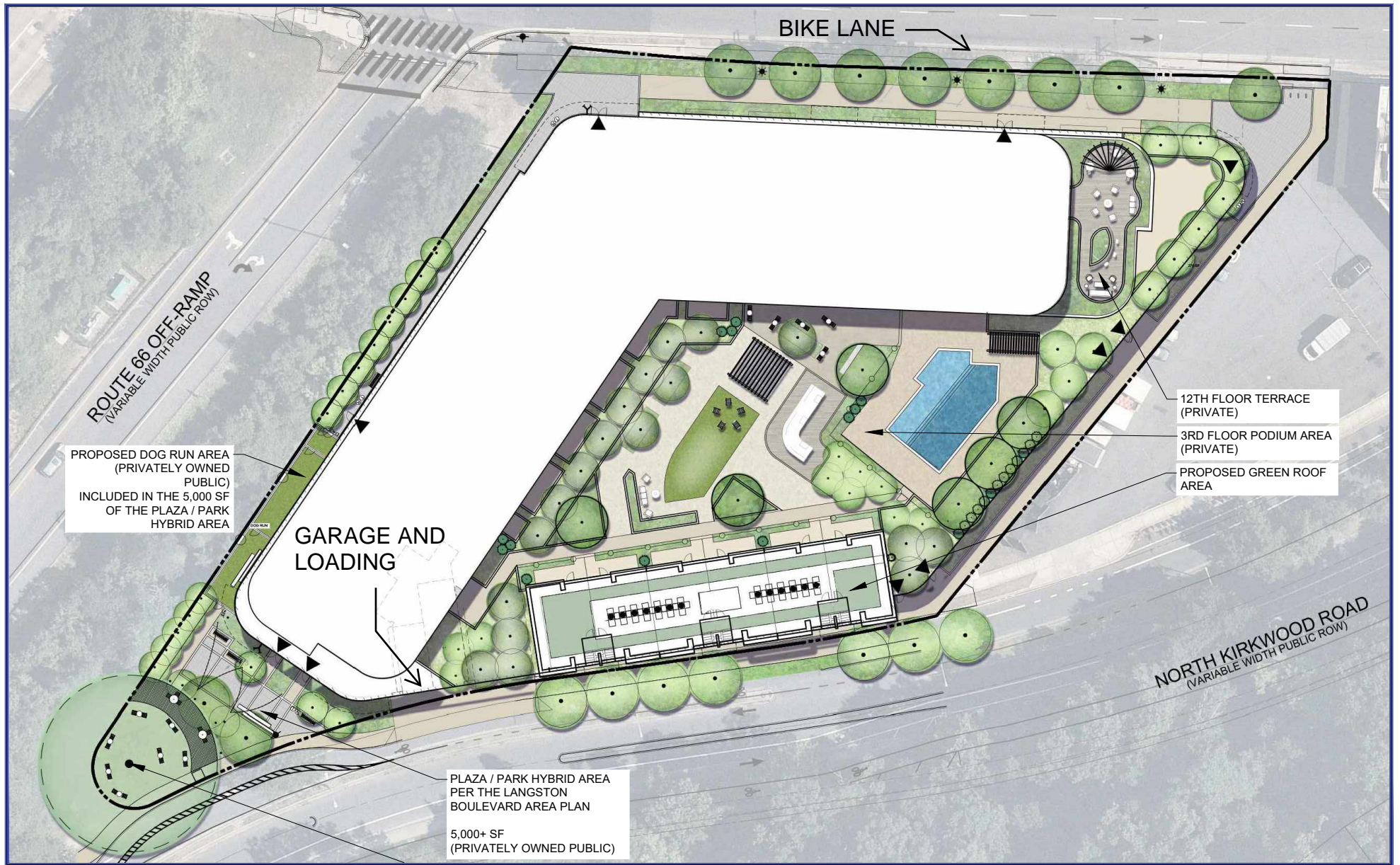


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Figure 1-1
Site Location

 3130 Langston Boulevard
Arlington, Virginia





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Figure 1-2
Rendered 4.1 Site Plan

 3130 Langston Boulevard
Arlington, Virginia



SECTION 2 BACKGROUND INFORMATION

Existing Transportation Facilities

Roadway Network. Vehicular access to/from the existing site is provided via one (1) driveway along Langston Boulevard, and two (2) driveways along N. Kirkwood Road. Regional access to/from the site is provided via Interstate 66 to the east, Spout Run Parkway to the northwest, and Langston Boulevard to the north.

Existing lane use and traffic controls at the study intersections are shown on Figure 2-1. A description of each roadway in the vicinity of the site is provided below:

Langston Boulevard (US-29) is classified as a Principal Arterial with a posted speed limit of 35 mph. Langston Boulevard serves as a major east-west connection through Arlington County between Leesburg Pike (Route 7) in Falls Church and the Key Bridge in Washington D.C. Langston Boulevard in the vicinity of the site carries approximately 26,000 vehicles per day (VPD).

Kirkwood Road is classified as a Minor Arterial with a posted speed limit of 25 mph. Kirkwood Road serves as a minor north-south connection through Arlington County from Washington Boulevard near Virginia Square, past Lyon Village, and ending at Langston Boulevard (US-29). Kirkwood Road in the vicinity of the site carries approximately 7,000 VPD.

Spout Run Parkway is classified as a Minor Arterial with a posted speed limit of 40 mph. Spout run serves as a major east-west connection through Arlington County between the George Washington Memorial Parkway, past Interstate 66, and ending at Langston Boulevard (US-29) and Kirkwood Road. Spout Run Parkway in the vicinity of the site carries approximately 15,000 VPD.

Interstate 66 is classified as an Interstate with a posted speed limit of 55 mph. I-66 serves as a major east-west connection through Arlington County, ending on the Theodore Roosevelt Bridge. The off-ramp of Interstate 66 in the vicinity of the site carries approximately 7,000 VPD.

For reference, the existing and proposed cross section for the Langston Boulevard and N. Kirkwood Road are shown on Figures 2-2 and 2-3, respectively.

General Land Use Plan (GLUP)

The entire Property is planned for Service Commercial and Public uses on the General Land Use Plan (“GLUP”). The “Service Commercial” designation recommends personal and business services from one to four stories as well as a series of zoning districts, including the C-2 and C-O-1.0 zoning districts. The “Public” designation includes land used for parks (local, regional, and federal), public schools, libraries, and cultural facilities. This use includes the S-3A and S-D zoning districts.

The Property is located within the boundary of Area 5 (West) of Arlington County’s Langston Boulevard Area Plan. As proposed, the site would be rezoned with a GLUP amendment and be redeveloped in accordance with the Langston Boulevard Plan.

Figure 2-2 shows the GLUP map within the vicinity of the site.

Langston Boulevard Area Plan

The site is located within Area 5 (West) of Arlington County’s Langston Boulevard Area Plan, a Comprehensive Plan with the goal of improving the safety, comfort, and convenience of the Langston Boulevard Corridor. The Plan’s transportation goals focus on providing access to a wider variety of multimodal transportation options with the intent of transforming Langston Boulevard into a more sustainable transportation zone and minimizing the use of cars. Through this Plan, some Arlington County General Land Use Plan policies were amended to allow for further residential development along the Langston Boulevard Corridor, including this site. The Langston Boulevard Corridor, with direct and multimodal access to Washington, D.C., presents a prime opportunity to provide residents and commuters with a safe and convenient approach to sustainable development. Transportation elements of the Plan include the simplification of intersections, the facilitation of a multimodal corridor for commuters, the reallocation of roadway space for pedestrians and bicyclists, as well as providing access to improved pedestrian facilities and greenspaces.

Due to the travel speeds of Langston Boulevard in the vicinity of the site, as well as the limited facilities for pedestrians and bicyclists on the sidewalks and the nearby Custis Trail, the Langston Boulevard Area Plan calls for a number of multimodal improvements to be added to the area. In the area of the Langston Boulevard / Spout Run / North Kirkwood intersection, a Greenway will be established to benefit pedestrians and users of the Custis Trail. According to the Plan, there is sufficient space along Langston Boulevard to provide enhanced bike lanes without the need for redevelopment with the possible conversion vehicular travel lanes, which will require coordination with VDOT. Additionally, developments in this area should include improvements such as bicycle and improved lighting facilities, as well as public art. Along the western edge of Spout Run and Kirkwood Road to the north and south of Langston Boulevard, a Greenway / overland relief area should be made available.

VDOT Crash Data

Crash data was downloaded from VDOT's Crash Data Map webpage for the past three (3) years for the study area along Langston Boulevard. This data is summarized below. Based on the available data, a total of 32 crashes occurred within the study area from January 2022 through April 2024. The detailed information is included in Appendix C for reference.

The types and number of crashes during the study period is as follows:

- Rear End: 5 Crashes (16%)
- Angle: 24 Crashes (75%)
- Pedestrians: 0 Crashes (0%)
- Fixed Object : 0 Crashes (0%)
- Sideswipe: 1 Crashes (3%)
- Head-On: 2 Crashes (6%)

The year with the highest number of crashes is 2023 with 16 crashes in the vicinity of the site. As shown above, the most common type of crash found in the study are angled crashes, accounting for 75% of the reported incidents. The least common type of crash are sideswipe collisions, accounting for only 3%. From all these crashes, no fatalities were reported; with 18 reported injuries. Most of these crashes occurred at the signalized intersections. Of the 32 crashes, six (6) occurred in the vicinity of the site driveway on Langston Boulevard, four (4) of which were angled collisions, and one (1) was a sideswipe collision. Some of these crashes were accessing the retail site to the north.

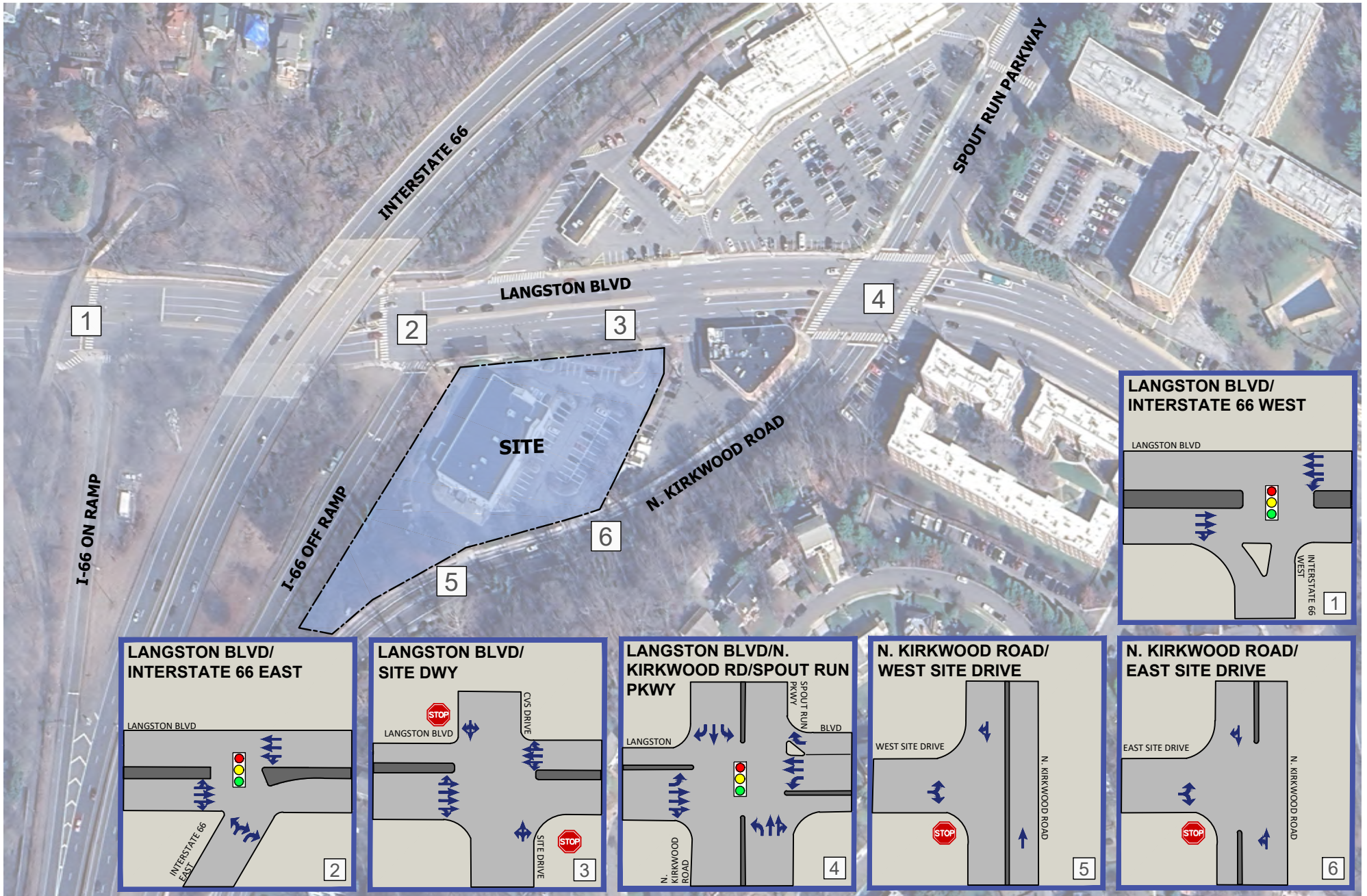


Figure 2-1
Existing Lane Use and Traffic Controls

 3130 Langston Boulevard
Arlington, Virginia



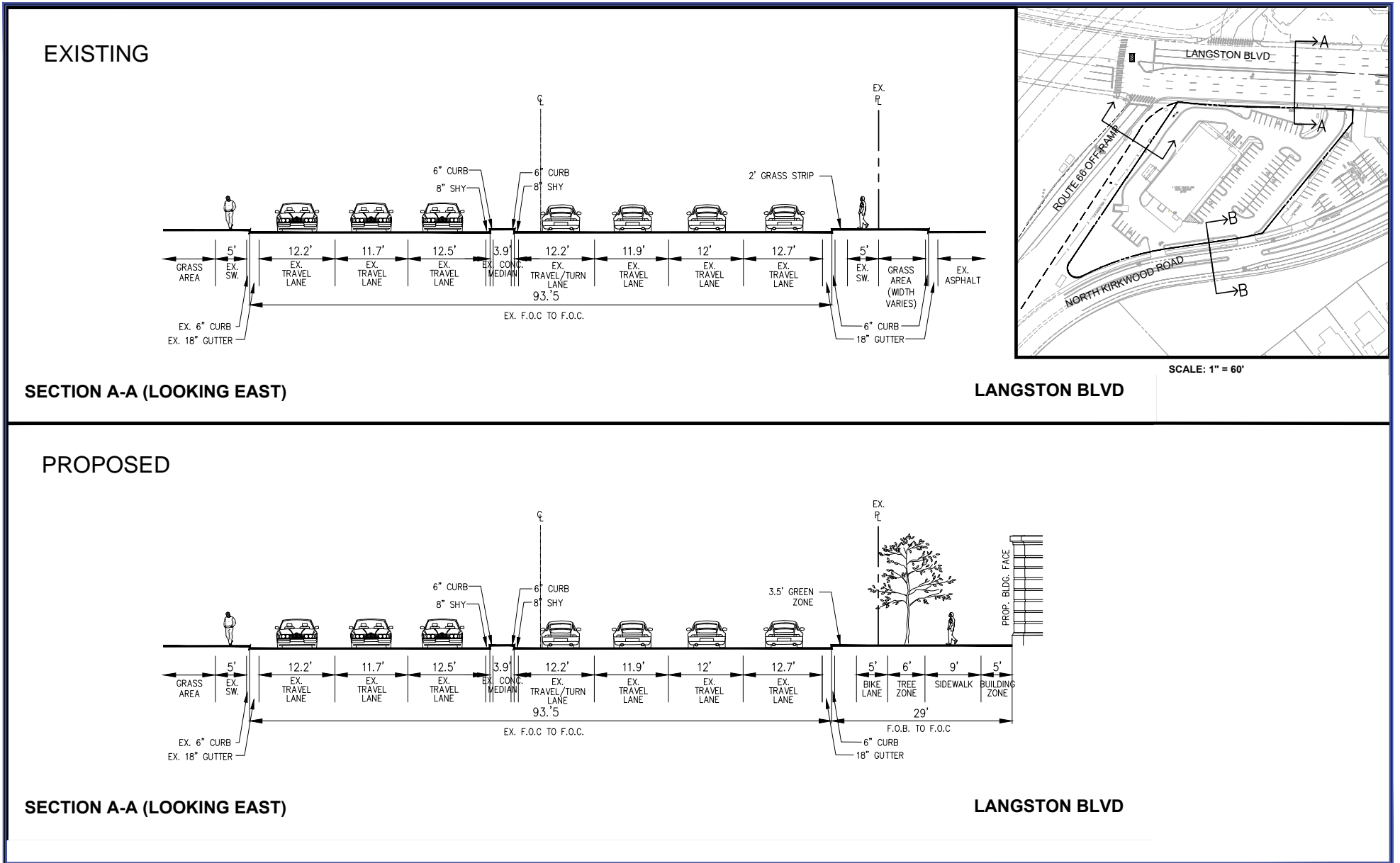
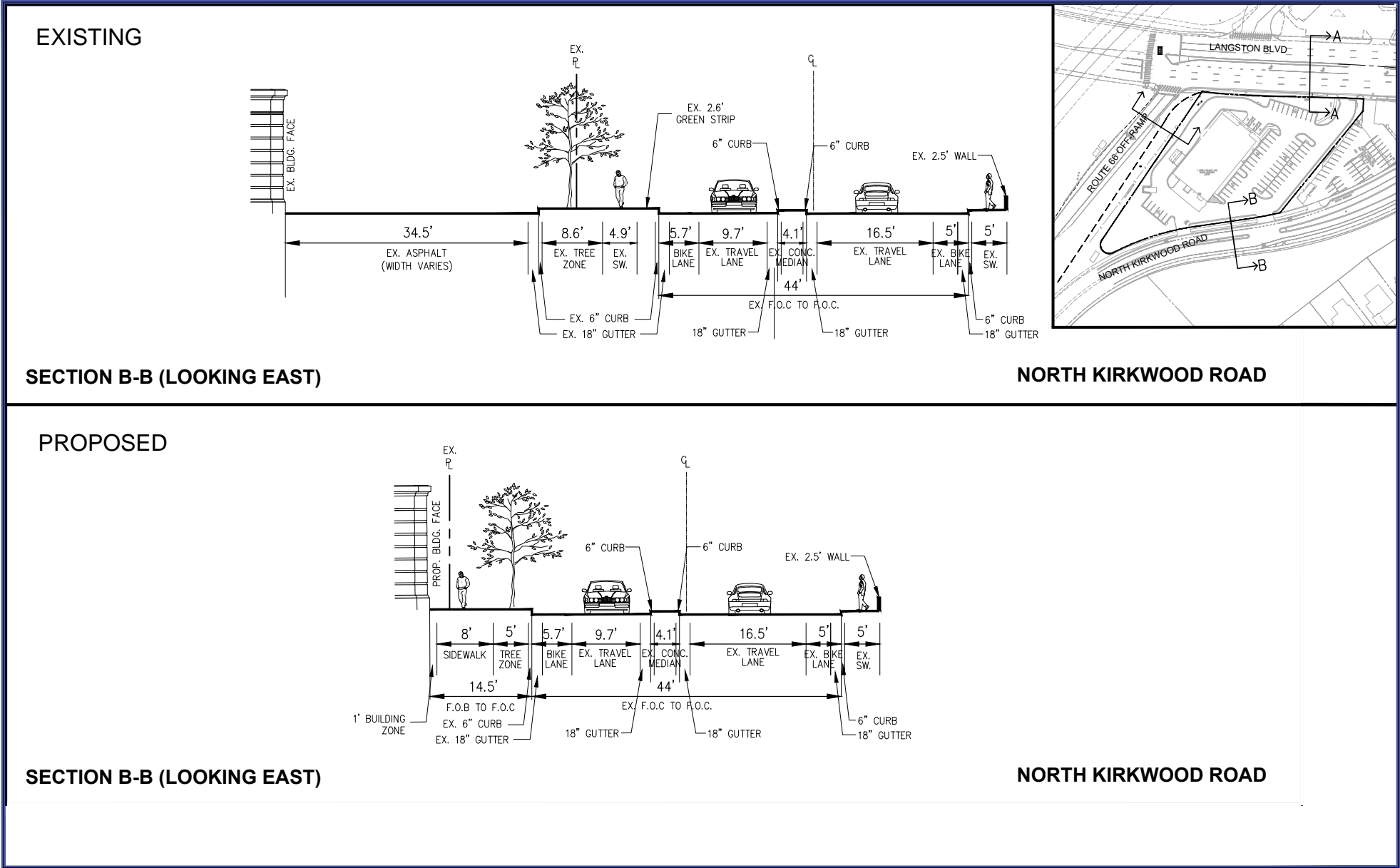


Figure 2-2
Langston Boulevard Street Section

3130 Langston Boulevard
Arlington, Virginia





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Figure 2-3
N. Kirkwood Road Street Section

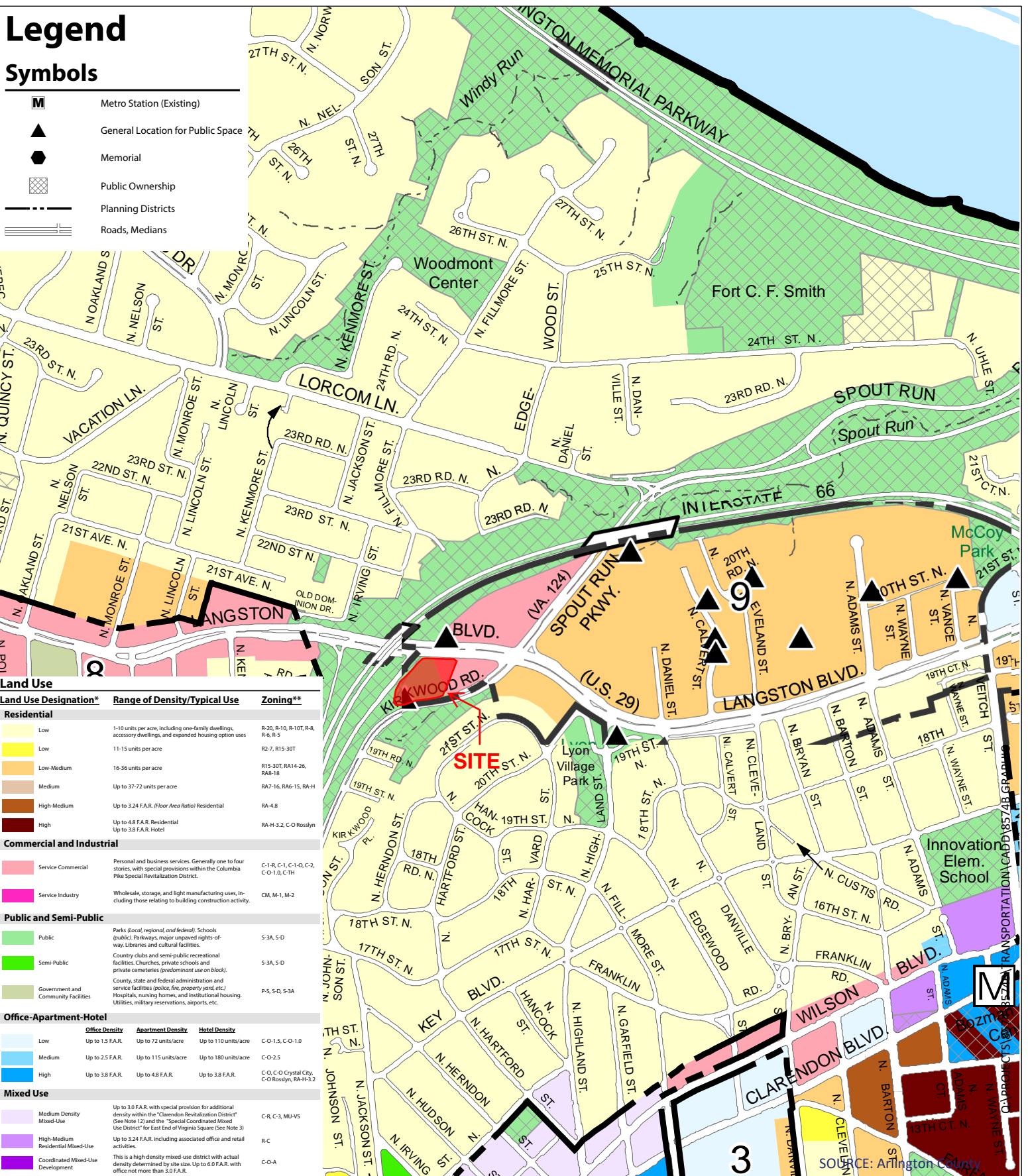
 3130 Langston Boulevard
Arlington, Virginia



Legend

Symbols

-  Metro Station (Existing)
-  General Location for Public Space
-  Memorial
-  Public Ownership
-  Planning Districts
-  Roads, Medians
























Land Use Designation*	Range of Density/Typical Use	Zoning**
Residential		
	Low 1-10 units per acre, including one-family dwellings, accessory dwellings, and expanded housing option uses	R-20, R-10, R-10T, R-8, R-4, R-5
	Low 11-15 units per acre	R2-7, R15-30T
	Low-Medium 16-36 units per acre	R15-30T, RA14-26, RA8-18
	Medium Up to 37-72 units per acre	RA7-16, RA6-15, RA-H
	High-Medium Up to 3.24 F.A.R. (Floor Area Ratio) Residential	RA-4.8
	High Up to 4.8 F.A.R. Residential Up to 3.8 F.A.R. Hotel	RA-H-3.2, C-O Rosslyn
Commercial and Industrial		
	Service Commercial Personal and business services. Generally one to four stories, with special provisions within the Columbia Pike Special Revitalization District.	C-1-R, C-1, C-1-O, C-2, C-O-1.0, C-TH
	Service Industry Wholesale, storage, and light manufacturing uses, including those relating to building construction activity.	CM, M-1, M-2
Public and Semi-Public		
	Public Parks (local, regional, and federal). Schools (public). Parkways, major ungaraged rights-of-way, libraries and cultural facilities.	S-3A, S-D
	Semi-Public Country clubs and semi-public recreational facilities. Churches, private schools and private cemeteries (predominant use on block).	S-3A, S-D
	Government and Community Facilities County, state and federal administration and service facilities (police, fire, property yard, etc.) Hospitals, nursing homes, and institutional housing. Utilities, military reservations, airports, etc.	P-5, S-D, S-3A
Office-Apartment-Hotel		
	Office Density Up to 1.5 F.A.R.	Up to 72 units/acre
	Apartment Density Up to 2.5 F.A.R.	Up to 115 units/acre
	Hotel Density Up to 3.8 F.A.R.	Up to 3.8 F.A.R.
	Low	Up to 110 units/acre
	Medium	Up to 180 units/acre
	High	Up to 3.8 F.A.R.
	C-O, C-O Crystal City, C-O Rosslyn, RA-H-3.2	
Mixed Use		
	Medium Density Mixed-Use Up to 3.0 F.A.R. with special provision for additional density within the "Clarendon Revitalization District" (See Note 12) and the "Special Coordinated Mixed Use District" for East End of Virginia Square (See Note 3)	C-R, C-3, MU-VS
	High-Medium Residential Mixed-Use Up to 3.24 F.A.R. including associated office and retail activities.	R-C
	Coordinated Mixed-Use Development This is a high density mixed-use district with actual density determined by site size. Up to 6.0 F.A.R. with office not more than 3.0 F.A.R.	C-O-A

Figure 2-2
Arlington General Land Use Plan

 3130 Langston Boulevard
ARLINGTON, Virginia



SECTION 3 MULTIMODAL TRANSPORTATION FACILITIES

Overview

The subject site is served by multiple public transportation options including regional bus service; the Washington Metropolitan Area Transit Authority (WMATA) Metrorail system; a connected network of sidewalks and pedestrian crosswalks; bike-sharing systems; and on-street and trail bicycle facilities. The site is located within the Lyon Village neighborhood, with the Cherrydale neighborhood located just to the west and the Maywood Village to the north. The neighborhoods are primarily developed with retail/service uses along the Langston Boulevard frontage and residential neighborhoods behind.

Census Data Mode-Share Information

U.S Census data for "Means of Transportation to Work by Vehicles Available" based on the 2021 and 2021 American Community Survey 5-year estimates for Census Tracts surrounding the site were analyzed to understand travel patterns exhibited by local residents. A total of six (6) census tracts were selected due to their proximity to the site. They include Census Tracts 1005, 1006, 1014.02, 1014.06, 1015, 1015.02, and 1015.03. The survey results of the selected census tracts indicate that approximately 38% of commuters travel by vehicle, 3% carpooled, 25% by public transportation, 6% walk, 4% bike/other, 24% work from home. Refer to Appendix B for a map with the identified census tracts as well as detailed census mode-share information.

Existing Transit Services

Metrorail Service. The closest Metrorail Stations, Court House and Clarendon to the south, are located approximately one (1) mile from the subject site. The Court House and Clarendon Metrorail Stations provide access to the Orange and Silver lines. The Orange Line runs between New Carrollton and Vienna. The Silver Line runs between Largo Town Center and Ashburn Metrorail Station. Riders can take any of these lines to Metro Center and L'Enfant Plaza for access to other metro lines.

Figure 3-1 analyzes the 15-minute and 30-minute transit shed centered around the vicinity of the Langston Boulevard site. As shown on the graphic, most of Arlington County, parts of Falls Church, as well as much of Downtown D.C. are accessible via transit options within 30 minutes of the site. Some areas of interest within the highlighted zones include a variety of retail and residential areas, and Metro stations served by all Metro lines.

The WMATA Metrorail system operates seven (7) days a week from 5:00 AM to 11:30 PM Monday through Thursday, 5:00 AM to 1:00 AM on Fridays, 7:00 AM to 1:00 AM on Saturdays and 8 AM to 11:00 PM on Sundays. The train headways at the Ballston-MU and Pentagon City Metrorail Station range from eight (8) minutes during peak periods to 12-20 minutes during off-peak periods and weekends.

Bus Service. The site and nearby area is served by two (2) bus routes operated by Arlington Rapid Transit (ART) and WMATA. Below are summaries of the routes that operate near the site.

WMATA Metro Bus 3Y (Langston Boulevard – McPherson Square Line). This route runs across Arlington, starting from the East Falls Church Metro Station on S. Sycamore Street, and down Langston Boulevard (US-29), ending across the Theodore Roosevelt Bridge in D.C. near the Metro Center Metro Station. The bus line operates on weekdays with approximately 8-minute headways during peak periods.

ART Bus 55 (East Falls Church – Langston Blvd – Rosslyn). This route runs across Arlington, starting from the East Falls Church Metro Station on S. Sycamore Street, and down Langston Boulevard (US-29), ending near the Rosslyn Metro Station on N. Moore Street. The bus line operates on weekdays, Saturdays, and Sundays with 7-minute headways during peak periods.

Refer to Figure 3-2 for the locations of bus stops near the site and Figure 3-3 for bus routes. Specific information for the above-listed routes is in Appendix B. Average weekday boarding and alighting data was requested from Arlington County and WMATA for the nearby bus stops. However, no data was provided.

Pedestrian Facilities. A majority of the streets in the vicinity area provide sidewalks on both sides of the street and marked crosswalks at signalized intersections. Two (2) of the site frontages include sidewalks, the frontage facing Langston Boulevard (US-29) to the north, and the frontage facing N. Kirkwood Drive to the east and southeast. Below provides a summary of the pedestrian infrastructure in place at each of the study signalized intersections.

1. Langston Boulevard / I-66 WB On-Ramp: The signalized intersection of Langston Boulevard and the I-66 WB On-Ramp has marked crosswalks, pedestrian countdown heads, and ramps serving two (2) legs of the intersection.

2. Langston Boulevard / I-66 EB Off-Ramp: The signalized intersection of Langston Boulevard and the I-66 EB Off-Ramp has marked crosswalks, pedestrian countdown heads, and ramps serving two (2) legs of the intersection.

3. Langston Boulevard / N. Site Drive / CVS Drive: The un-signalized intersection of Langston Boulevard / N. Site Drive / CVS Drive has no marked crosswalks, pedestrian countdown heads, or ramps serving any legs of the intersection.

4. Langston Boulevard / N. Kirkwood Road: The signalized intersection of Langston Boulevard and N. Kirkwood Road has marked crosswalks, pedestrian countdown heads, and ramps serving four (4) legs of the intersection.

5. N. Kirkwood Road / E. Site Drive: The unsignalized intersection of N. Kirkwood Road and the E. Site Drive has no marked crosswalks, pedestrian countdown heads, or ramps serving any leg of the intersection.

6. N. Kirkwood Road / S. East Site Drive: The unsignalized intersection of N. Kirkwood Road and the S. East Site Drive has no marked crosswalks, pedestrian countdown heads, or ramps serving any leg of the intersection.

Figure 3-4 shows the pedestrian facilities within the vicinity of the site.

In order to provide an assessment of the site's access to pedestrian facilities and nearby amenities, the Walk Score was calculated for the site is included in Appendix B. The Walk Score is an analysis provided by the website and provides scores from 0 (worst) to 100 (best) for walkability. Based on its location, the subject site received a score of 82 which is classified as "Very Walkable – Most errands can be accomplished on foot." Further, walk score provides a transit score of 56 which is classified as "Good Transit – Many nearby public transportation options" and a bike score of 65 implying that the site is "bikeable". It is to be noted that Langston Boulevard has no dedicated bike lanes in the vicinity of the site, and the latest 2022 Arlington County Bike Map categorizes Langston Boulevard as a "Challenging" bike route. However, other bike trails and bike routes exist in the vicinity of the site.

The combination of sidewalks marked crosswalks at the intersections around the site, installation of ramps to serve the crosswalks, and planting buffers enhance the pedestrian experience around the site and encourage alternative modes of transportation. The site's proximity to the Clarendon and Court House Metrorail station provides multiple transit options for future residents.

Figure 3-5 shows the 10-minute, 20-minute, and 30-minute pedestrian travel shed for the proposed development. Within a 10-minute walk, a commuter could access neighboring roads, multiple Capital Bikeshare locations, pay-as-you-go electric scooters and bicycles, and Thrifton Hills Park. Within a 20-minute walk, commuters could access a wide range of retail and residential areas, and three Metro stations served by the Silver and Orange lines. Within a 30-minute walk, commuters will have access to more retail, residential, and recreational amenities, an additional Metro station served by the Orange and Silver lines, and more Capital Bikeshare locations.

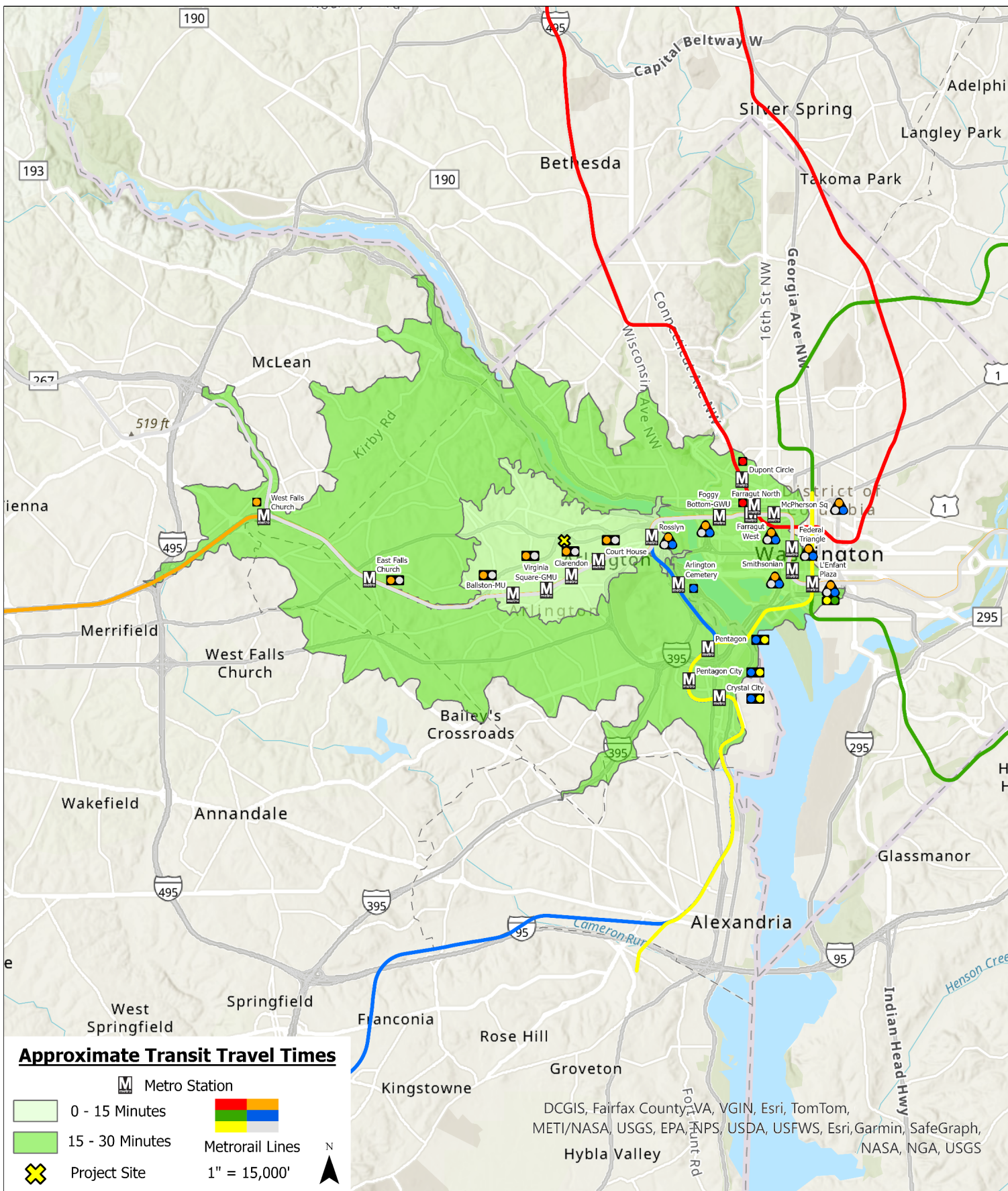
Bicycle Facilities. Marked bike lanes exist on both the northbound and southbound lanes of Kirkwood Road. According to the 2022 Arlington County Bike Map, this bike route is classified with a medium “perception of comfort”. To the west and the east on Langston Boulevard are dedicated bike lanes, categorized as “Challenging” by the Arlington County Bike Map. Across Langston Boulevard, north of the site, runs the Martha Custis Trail. The Custis Trail is a 4.5-mile-long shared use path in Arlington County. This path is a part of the Arlington Loop Trail. Figure 3-6 shows the bike routes from the Arlington County Bicycle Facilities Map. As shown, the combination of on-street routes, nearby Bikeshare, and proximity to the Arlington Loop trail create a bicycle friendly environment and encourage use as a non-auto mode. Additionally, Figure 3-7 highlights the bicycle facilities existing and planned as part of the Master Transportation Plan (MTP). With the proposed developed a new 5-foot bike lane will be provided along the site’s frontage as recommended in the MTP.

Figure 3-8 demonstrates the 10-minute, 20-minute, and 30-minute bicycle travel shed for the proposed development. Within a 10-minute bike ride, commuters will have access to much of Arlington, several bicycle paths, retail and residential options, and multiple Metro stations served by the Silver and Orange lines. Within a 20-minute bike ride, commuters would have access to all of Arlington, parts of Falls Church, McLean, and much of Washington D.C., and access to Metro stations served by all Metro lines. Within a 30-minute bike ride, commuters will have access to the areas of McLean and Annandale. Alexandria, access to parts of Bethesda, and most of Washington D.C.

Capital Bikeshare is an automated bicycle rental or bicycle sharing program that provides over 5,000 bicycles at 700+ stations across Washington, DC, Maryland, and Virginia. Membership, which is required to use Capital Bikeshare, includes different options for joining; from single trip (\$1), 24 hours (\$8), 30 days (\$20), one year (\$95), or one year with monthly installments (\$95, \$7.92/month for 12 months). The first 45 minutes of use are free; users then are charged a usage fee (\$0.05) for each additional minute. Bicycles can be returned to any station with an available dock.

Within a ½ mile radius of the site there are four (4) Capital Bikeshare stations, as shown on Figure 3-4, with the closet is located just east of the site at the intersection of Langston Boulevard and N. Kirkwood Road. A total of 15 docks are available at this location.

In addition to bikeshare, electric-assist scooter sharing, and dock-less bicycles have become readily available throughout Langston Boulevard. Users must have an account with the scooter service provider and can then board a scooter wherever available. Fees per ride vary with each service provider, but typically charge a small startup fee and rate per minute. When the user is done with their trip, the scooter is left for the next rider.



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Figure 3-1
Transit Shed



3130 Langston Boulevard
ARLINGTON, Virginia





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Figure 3-2
Bus Stop Locations

-  Bus Stop Location
-  Bus Route

 3130 Langston Boulevard
Arlington, Virginia



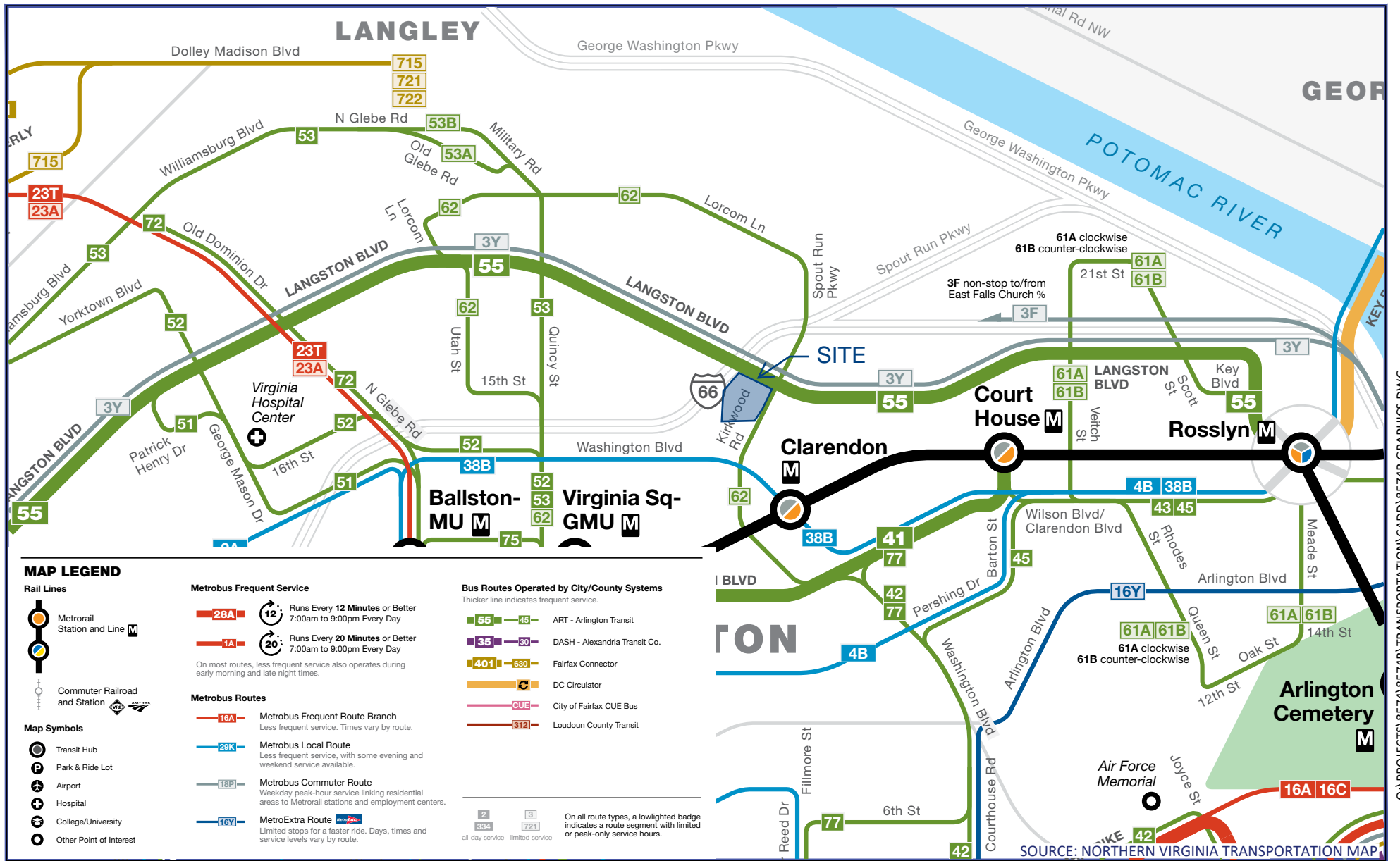
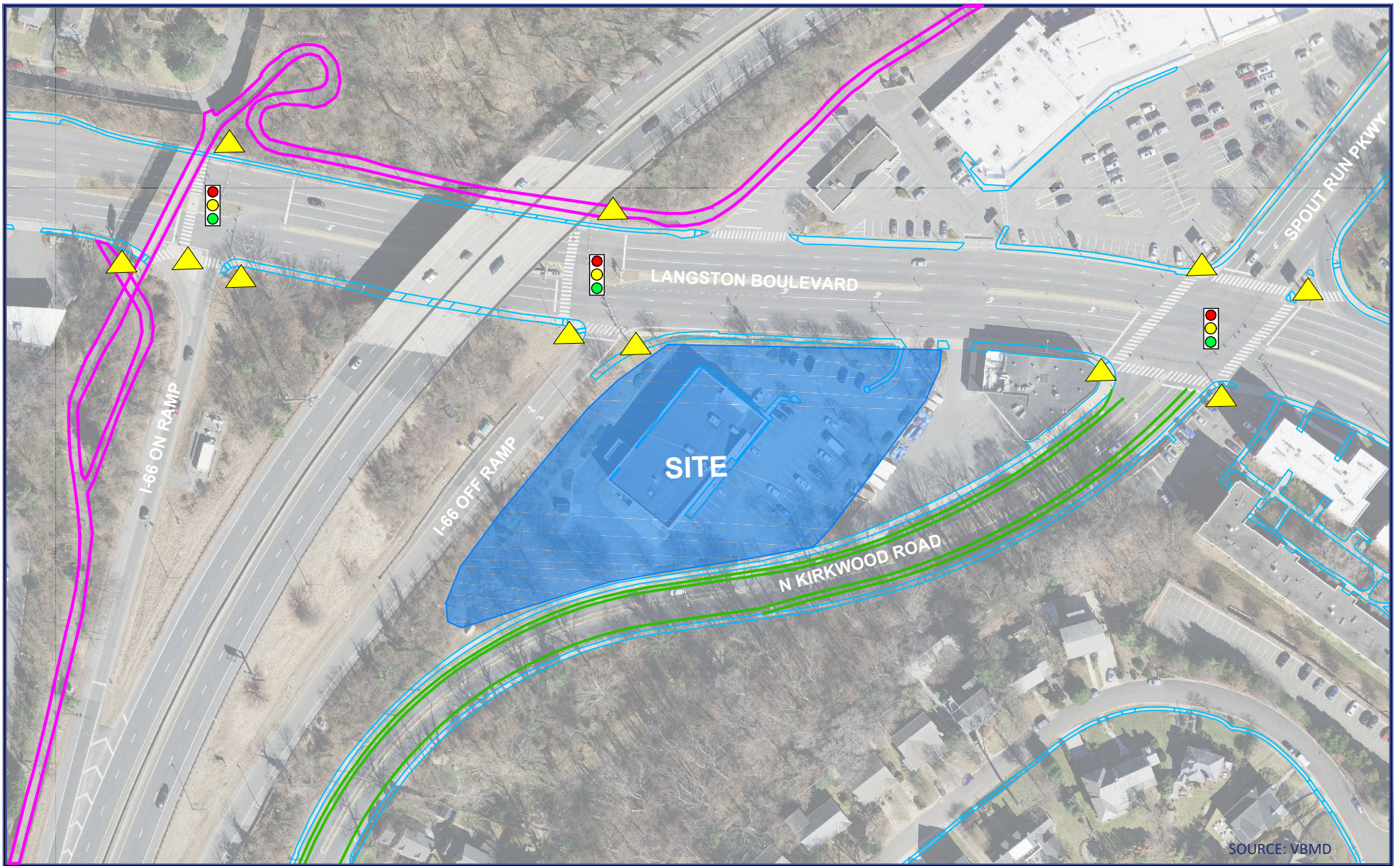


Figure 3-3
Bus Map

3130 Langston Boulevard
Arlington, Virginia










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SOURCE: VBMD

Figure 3-4
Pedestrian Facilities Map



-  SIGNALIZED PEDESTRIAN CROSSINGS
-  SIDEWALKS
-  BIKE LANES
-  CUSTIS TRAIL
-  SIGNALIZED INTERSECTION

 3130 Langston Boulevard
Arlington, Virginia

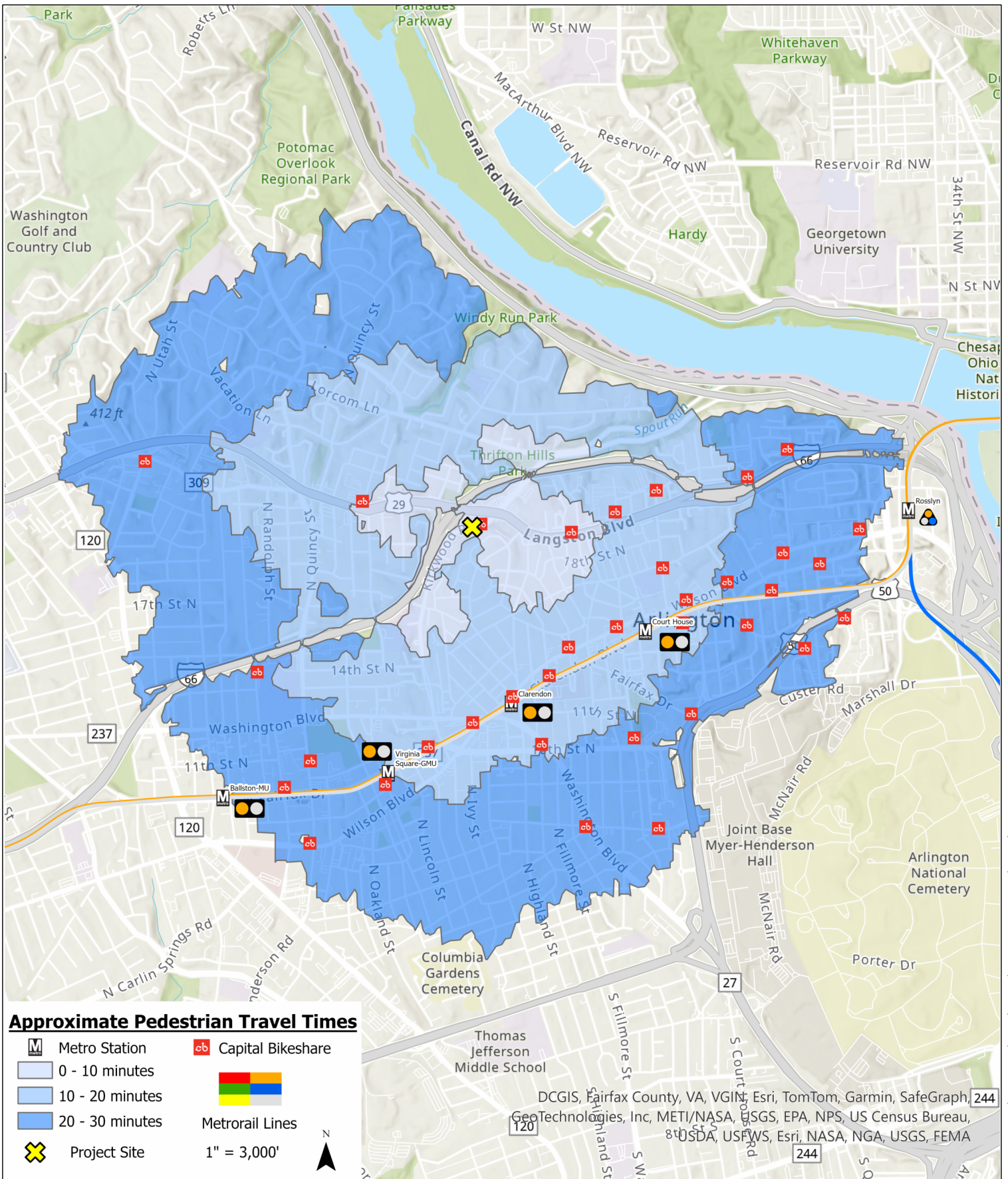


Figure 3-5
Pedestrian Shed

3130 Langston Boulevard
ARLINGTON, Virginia





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Figure 3-6
Bike Map

3130 Langston Boulevard
Arlington, Virginia



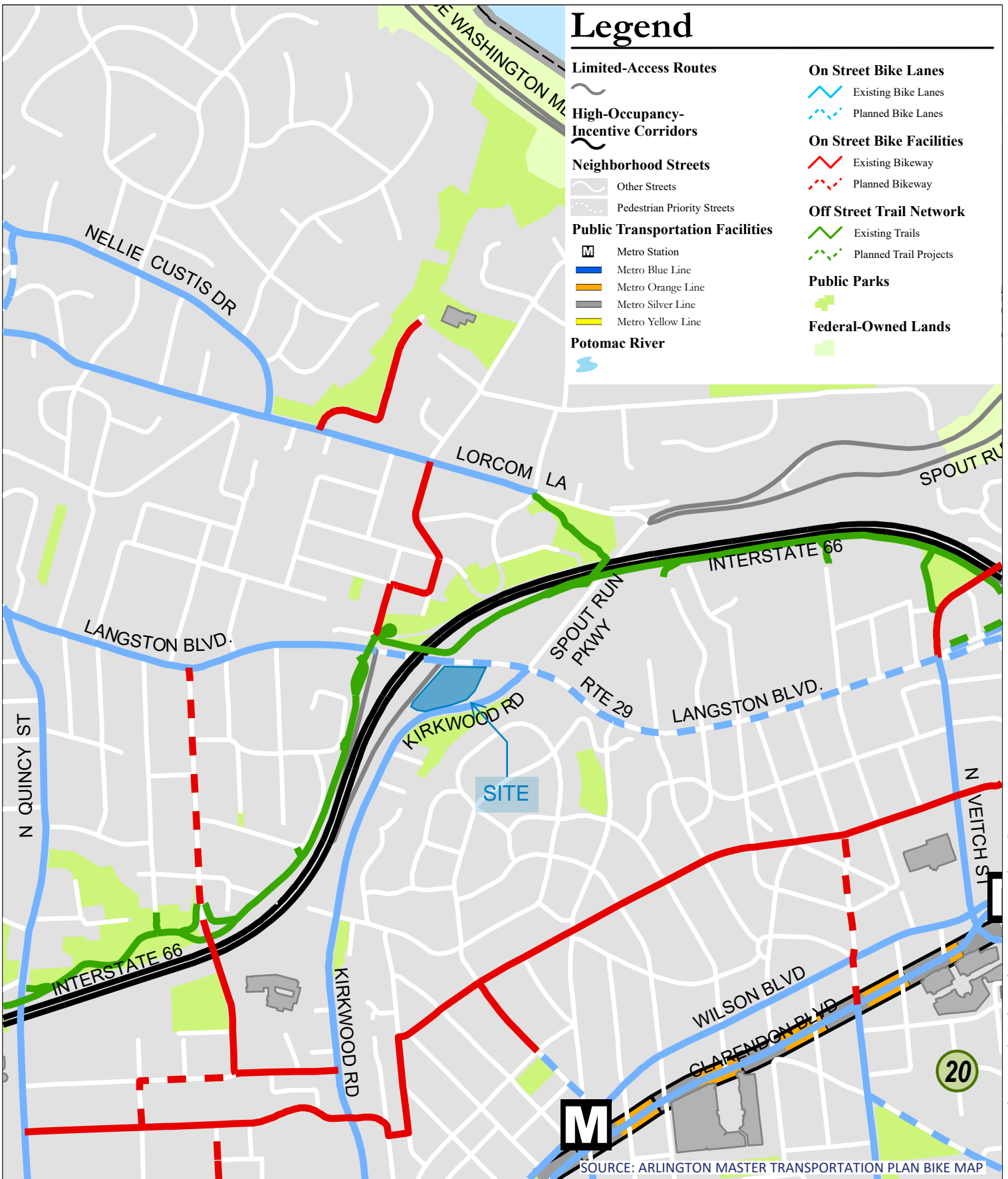
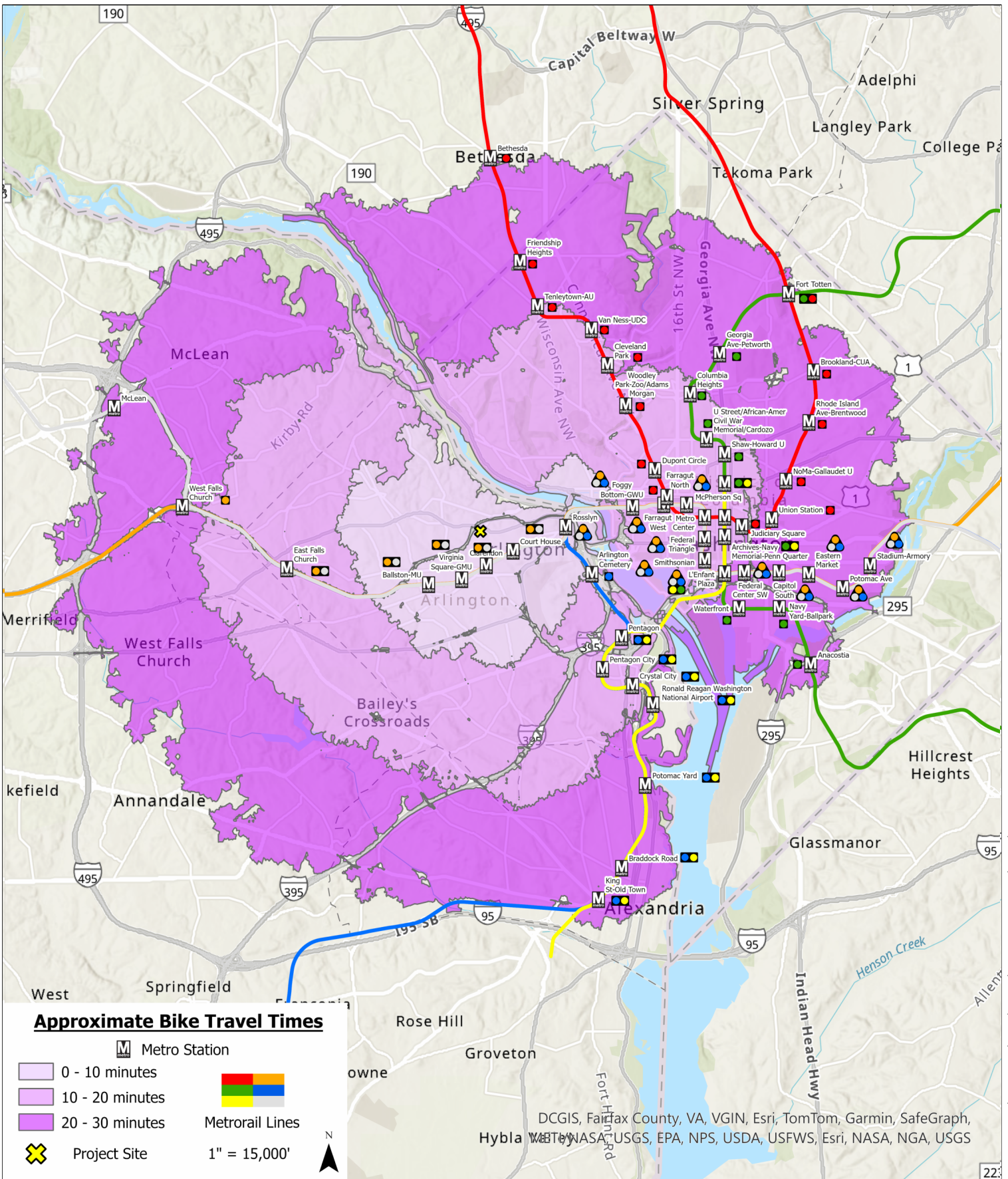


Figure 3-7
Arlington Master Transportation Plan Bike Map

3130 Langston Boulevard
Arlington, Virginia





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Figure 3-8
Bicycle Shed

3130 Langston Boulevard
ARLINGTON, Virginia



SECTION 4 EXISTING CONDITIONS

Existing Traffic Counts

Existing vehicular, pedestrian, and bicycle traffic counts were conducted by National Data & Surveying Services (NDS) on Thursday, May 30, 2024, from 7:00 to 10:00 AM and 4:00 to 7:00 PM at the following study intersections:

1. Langston Boulevard and I-66 WB On-ramp
2. Langston Boulevard and I-66 EB Off-ramp
3. Langston Boulevard and N. Site Drive and CVS Drive
4. Langston Boulevard and N. Kirkwood Road
5. N. Kirkwood Road and East Site Drive
6. N. Kirkwood Road and Southeast Site Drive

The weekday AM and PM peak hour vehicular, pedestrian, and bicycle traffic counts are summarized on Figures 4-1 through 4-3, respectively. Detailed sheets containing the count data are included in Appendix C.

A review of the peak hour vehicular count data indicates that the link of Langston Boulevard, adjacent to the site, currently carries approximately 2,960 AM peak hour trips and 2,836 PM peak hour trips. The northern driveway on Langston Boulevard currently carries approximately 1 AM peak hour trips, and 7 PM peak hour trips. The western site driveway on Kirkwood Road currently carries approximately 2 AM peak hour trips and 4 PM peak hour trips while the eastern site driveway currently carries approximately 16 AM peak hour trips, and 42 PM peak hour trips.

Existing Conditions Operational Analysis

The existing peak hour LOS and queues were estimated at the study intersections based on; the existing lane use and traffic controls shown on Figure 2-1; existing traffic signal phasing/timings obtained from Arlington County; the existing vehicular, pedestrian, and bicycle traffic counts shown on Figures 4-1 through 4-3; and the Highway Capacity Manual (HCM) 2000 methodologies, using Synchro Software, version 11.

Descriptions of LOS “A” through “F” for signalized and unsignalized intersections are included in Appendix D. The results of the existing conditions analysis are presented in Appendix E and summarized in Tables 4-1 and 4-2. In addition to the peak hour vehicular, pedestrian and bike volumes the following inputs were coded into Synchro: calculated peak hour factors by approach, lane widths, speed limits, adjacent parking lane, number parking maneuvers, and bus blockages.

Levels of Service. As shown in Table 4-1 the three (3) signalized study intersections currently operate at overall acceptable LOS “C” or better during the AM and PM peak hours, with most operating at LOS “B” or “C”. All lane groups operate at LOS “E” or better with the exception of the eastbound-left movement during the PM peak hour period at the intersection of Langston Boulevard / N. Kirkwood and Spout Run Parkway.

At the stop-controlled intersections, all lane groups currently operate at LOS “C” or better during the AM and PM peak hours.

Queuing. Existing peak hour queues for study intersection were determined using the 50th and 95th percentile queues estimated by Synchro Software, version 11. The 50th and 95th percentile queues of existing conditions are used to establish a datum against which to compare future conditions. The 50th percentile (or average) queue is defined as the maximum back of queue associated with a typical signal cycle. The 95th percentile queue is defined as the maximum back of queue with 95th percentile traffic volumes. The 95th percentile queue is not necessarily ever observed, it is simply based on statistical calculations¹. The results of the queueing analysis are presented in Appendix E and summarized in Table 4-2.

As shown on Table 4-2 and observed in the field, peak hour queuing and the calculated average queues can be accommodated within a majority of available turn lane storage provided at study intersections. Vehicular queueing (95th percentile) exceeds the available storage for the southbound left (AM and PM) and eastbound left turns (PM) at the Langston Boulevard / N. Kirkwood and Spout Run Parkway intersection and the westbound left at the Langston Boulevard / I-66 (PM) on ramp as shown on Table 4-2.

¹ Synchro Studio 11, Traffic Signal Software – User Guide

Table 4-1
 3130 Langston Boulevard
 Existing Conditions with Development Intersection Level of Service Summary ¹

Approach/ Lane Group	Existing Conditions (2024)			
	AM Peak Hour		PM Peak Hour	
	LOS	Delay (s)	LOS	Delay (s)
1. Langston Boulevard / I-66 On Ramp - Signalized				
EBTR	B	11.5	A	4
WBL	D	35.8	A	1.8
WBT	<u>A</u>	<u>0.1</u>	<u>A</u>	<u>4.4</u>
Overall	B	11.1	A	4.0
2. Langston Boulevard / I-66 Off Ramp - Signalized				
EBT	A	3.6	A	3.6
WBT	A	6.6	A	3.0
NBL	C	23.8	D	44.6
NBR	<u>A</u>	<u>4</u>	<u>A</u>	<u>4.1</u>
Overall	A	5.6	A	3.7
3. Langston Boulevard / Site Dwy / CVS Dwy - Unsignalized				
EBL	B	10.6	B	11.2
EBTR	A	0.0	A	0.0
WBLTR	A	0.0	A	0.0
NBLTR	A	8.9	B	10.1
SBLTR	B	10.2	B	13.5
4. N Kirkwood Rd / Spout Run Pkwy / Langston Boulevard - Signalized				
EBL	D	43.2	F	184.7
EBTR	B	12.4	A	7.1
WBL	C	34.5	C	27.7
WBT	C	25.9	C	23.2
WBR	C	22.9	B	19.5
NBL	D	35.7	C	34.3
NBTR	D	36.4	C	33.4
SBL	E	69.3	D	54.3
SBT	C	34.4	C	34.7
SBR	<u>C</u>	<u>34.5</u>	<u>C</u>	<u>34.5</u>
Overall	C	27.8	D	44.7
5. N Kirkwood Rd / West Site Dwy - Unsignalized				
EBLT	A	0.0	A	0.0
WBLTR	A	0.0	A	0.0
SBLR	A	9.3	B	10.2
6. N Kirkwood Rd / East Site Dwy - Unsignalized				
EBLT	A	0.0	A	0.3
WBTR	A	0.0	A	0.0
SBLR	B	11.6	B	13.4

Note(s):

- Capacity analysis based on Highway Capacity Manual methodology, using Synchro 11.



Table 4-2
 3130 Langston Boulevard
 Existing Conditions with Intersection Queuing Summary ^{1,2,3}

Approach / Lane Group	Storage Length (ft)	Existing Conditions (2023)			
		AM Peak Hour		PM Peak Hour	
		50th Percentile	95th Percentile	50th Percentile	95th Percentile
1. Langston Boulevard / I-66 On Ramp - Signalized					
EBT	-	139	186	54	105
WBL	185	82	#240	74	141
WBT	-	0	0	0	0
NBR	-	0	0	0	0
SBLTR	-	0	0	0	0
2. Langston Boulevard / I-66 Off Ramp - Signalized					
EBT	-	100	351	46	161
WBT	-	265	246	48	167
NBL	-	13	27	18	33
NBR	-	0	30	0	45
3. Langston Boulevard / N Site Dwy / CVS Dwy - Unsignalized					
EBL	-	-	7	-	5
EBTR	-	-	0	-	0
WBLTR	-	-	0	-	0
NBLTR	-	-	0	-	0
SBLTR	-	-	7	-	12
4. N Kirkwood Rd / Spout Run Pkwy / Langston Boulevard - Signalized					
EBL	500	217	#399	~314	#529
EBTR	-	170	198	88	54
WBL	250	28	#91	42	0
WBT	-	132	195	165	#117
WBR	165	0	52	0	246
NBL	100	62	100	51	85
NBTR	-	114	140	90	111
SBL	135	106	170	108	165
SBTR	-	76	115	125	170
SBR	-	0	73	42	132
5. N Kirkwood Rd / West Site Dwy - Unsignalized					
EBLT	-	-	0	-	0
WBLTR	-	-	0	-	0
SBLR	-	-	0	-	0
6. N Kirkwood Rd / East Site Dwy - Unsignalized					
EBLT	-	-	0	-	1
WBTR	-	-	0	-	0
SBLR	-	-	1	-	5

Note(s):

1. ~ Volume exceeds capacity, queue is theoretically infinite.
2. # 95th percentile volume exceeds capacity, queue may be longer.
3. Volume for 95th percentile queue is metered by upstream signal.



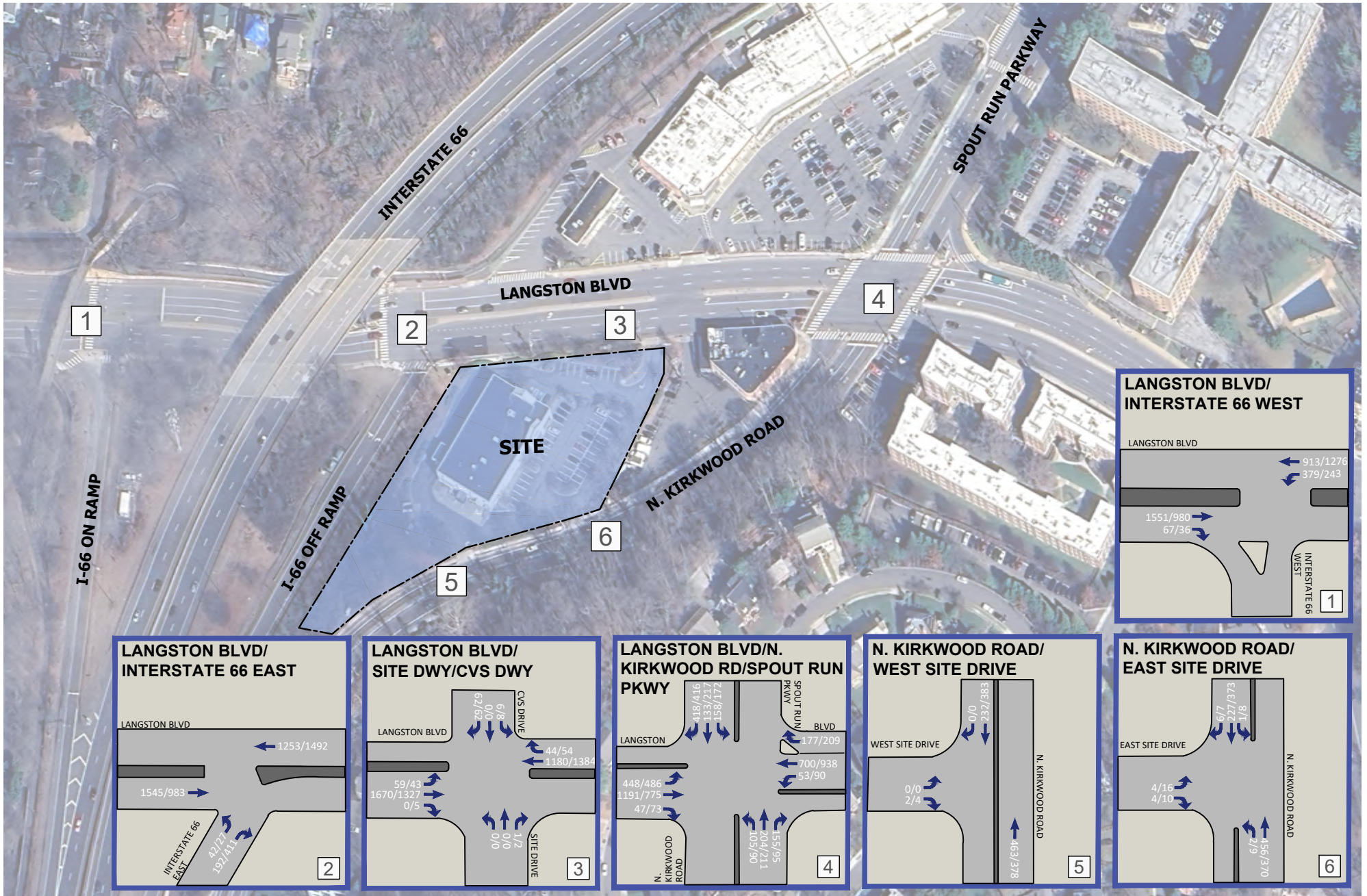


Figure 4-1
Existing Peak Hour Traffic Volumes

AM PEAK HOUR
PM PEAK HOUR
000 / 000

3130 Langston Boulevard
Arlington, Virginia



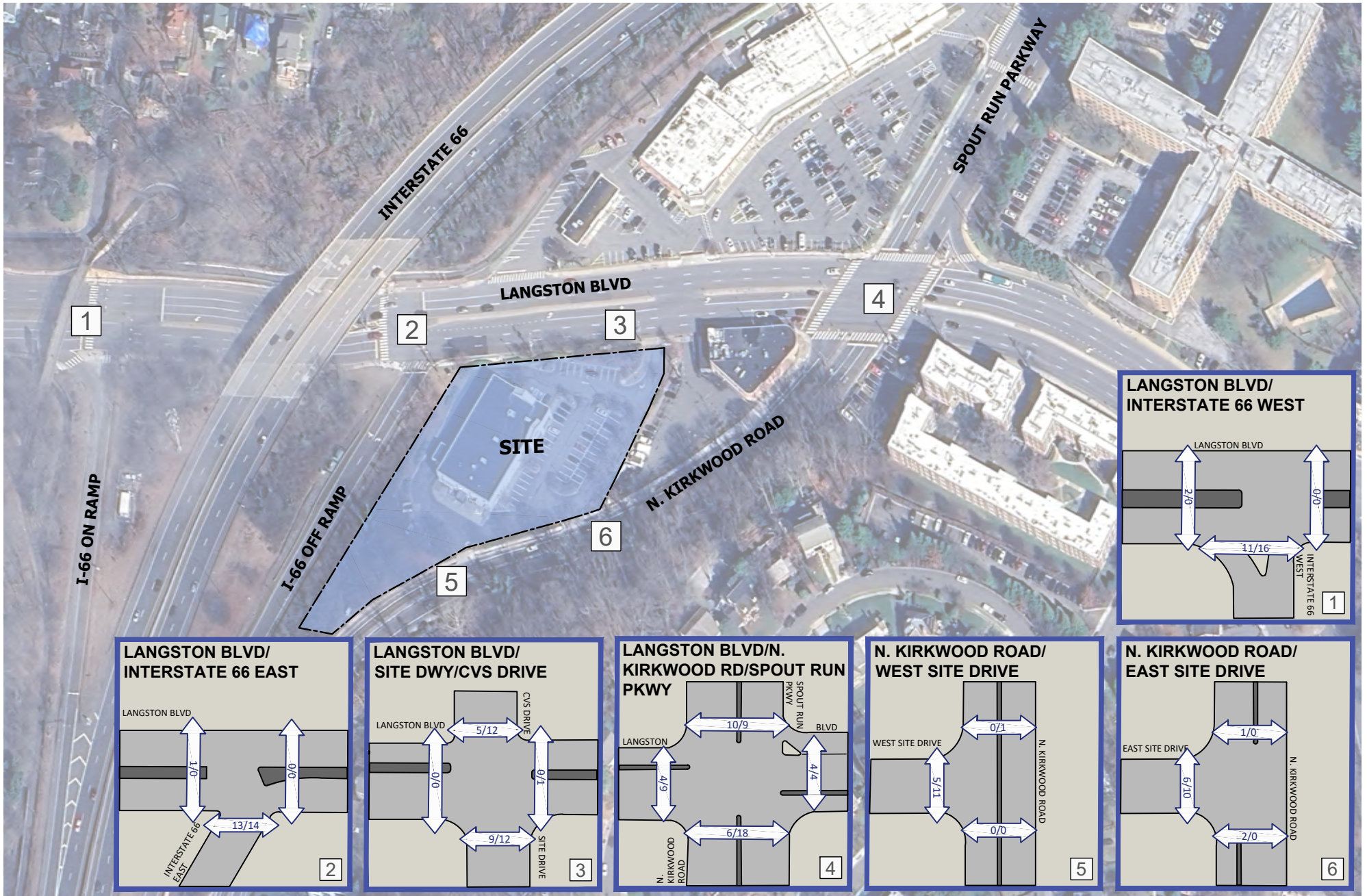


Figure 4-2
Existing Peak Hour Pedestrian Volumes



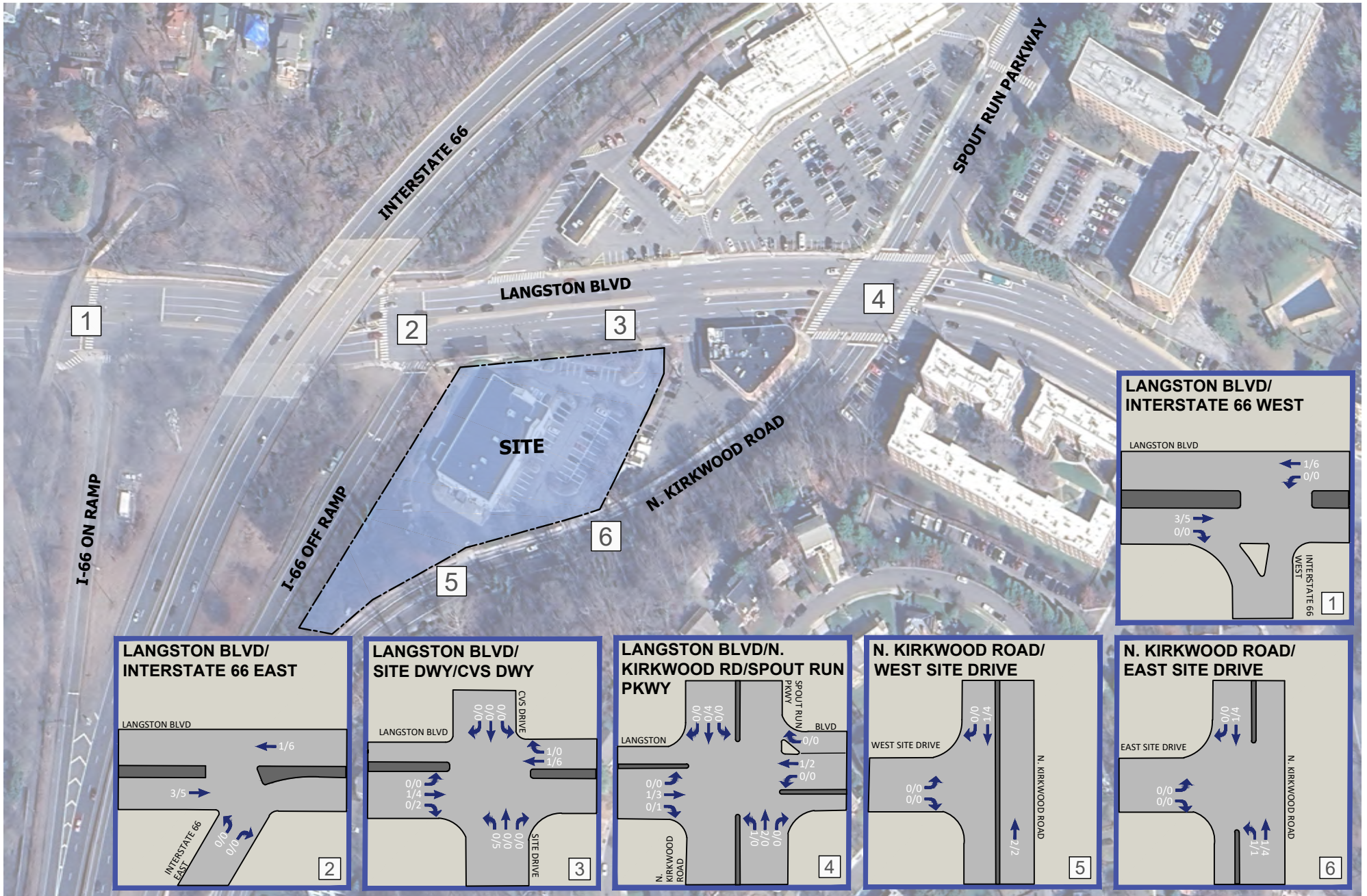


Figure 4-3
Existing Peak Hour Bike Volumes

AM PEAK HOUR
PM PEAK HOUR
000 / 000

3130 Langston Boulevard
Arlington, Virginia



SECTION 5 FUTURE CONDITIONS WITHOUT DEVELOPMENT (2028)

Background Conditions

This section presents an analysis of the future transportation conditions including projections of 2028 future traffic forecasts without the proposed development, as well as capacity and queuing analyses under this condition.

Methodology/Assumptions. It was assumed that the proposed redevelopment would be constructed and fully occupied by 2028, as specified in the traffic scoping document. The 2028 future traffic forecasts without site redevelopment were developed based on a composite of existing baseline 2024 traffic volumes and regional traffic growth.

Pipeline Developments. As outlined in the scoping document, there are currently no pipeline developments identified near the site.

Regional Growth. An increase in traffic associated with regional growth from 2024 to 2028 was estimated at 0.5 percent per year, compounded annually, for all turning movements as agreed to with DES staff during scoping. This growth rate was applied to all turning movements, except for the movements in/out of the site driveways. This growth accounts for increases in traffic resulting from potential development and influences outside of the immediate study area. The regional growth at each of the study intersections is shown on Figure 5-1.

The resulting 2028 future traffic forecasts without development are shown on Figure 5-2.

Planned Improvements. There are currently no funded transportation improvements within the study area. It is noted new traffic signal infrastructure is planned at the Langston Boulevard / N. Kirkwood Road / Spout Run Parkway intersection. No changes to traffic signal timings or phasing are planned with the improvements.

Future Conditions without Development Operational Analysis (2028)

Future peak hour LOS and 50th and 95th percentile queues without the redevelopment of the Walgreens site in year 2028 were estimated at the study intersections based on the existing conditions, lane use and traffic controls shown on Figure 2-1; existing traffic signal phasing/timings obtained from Arlington County; the future peak hour traffic forecasts without redevelopment are shown on Figure 5-2; and the HCM 2000 methodologies using Synchro Software, version 11. The LOS and queue results are presented in Appendix F and summarized in Tables 5-1 and 5-2.

Levels of Service. As shown in Table 5-1, with increases in traffic due to regional growth, all signalized study intersections would continue to operate at overall LOS “C” or better during the AM and PM peak hours.

Additionally, all individual lane groups/movements would operate LOS “E” exception of the eastbound left movement at the intersection of N Kirkwood Road / Spout Run Parkway / Langston Boulevard during the PM peak hour, consistent with existing conditions.

The results indicate that slight increases in delay would occur throughout the network as a result of increased traffic due to regional growth vehicle trips.

All of the stop-controlled study intersections would continue to operate similar to existing conditions, with all movements operating at acceptable levels of service.

Queuing. As shown on Table 5-2, the results of the queuing analysis are similar to those described in under existing conditions. Some movements would experience greater queuing as a result of increased traffic from regional growth and pipeline developments. Storage bays noted under existing conditions would continue to exceed available capacity.

Table 5-1
 3130 Langston Boulevard
 Future Conditions without Development Intersection Level of Service Summary ¹

Approach/ Lane Group	Existing Conditions (2024)				Future Conditions without Development (2028)			
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
	LOS	Delay (s)	LOS	Delay (s)	LOS	Delay (s)	LOS	Delay (s)
1. Langston Boulevard / I-66 On Ramp - Signalized								
EBTR	B	11.5	A	4	B	11.8	A	4.1
WBL	D	35.8	A	1.8	D	37.2	A	1.9
WBT	<u>A</u>	<u>0.1</u>	<u>A</u>	<u>4.4</u>	A	0.1	A	4.5
Overall	B	11.1	A	4.0	B	12.7	A	4.1
2. Langston Boulevard / I-66 Off Ramp - Signalized								
EBT	A	3.6	A	3.6	A	4.7	A	3.6
WBT	A	6.6	A	3.0	A	6.6	A	3.1
NBL	C	23.8	D	44.6	C	23.9	D	44.6
NBR	<u>A</u>	<u>4</u>	<u>A</u>	<u>4.1</u>	A	4	A	4.1
Overall	A	5.6	A	3.7	A	5.7	A	3.8
3. Langston Boulevard / Site Dwy / CVS Dwy - Unsignalized								
EBL	B	10.6	B	11.2	B	10.7	B	11.3
EBTR	A	0.0	A	0.0	A	0.0	A	0.0
WBLTR	A	0.0	A	0.0	A	0.0	A	0.0
NBLTR	A	8.9	B	10.1	A	9.0	B	10.1
SBLTR	B	10.2	B	13.5	B	10.2	B	13.6
4. N Kirkwood Rd / Spout Run Pkwy / Langston Boulevard - Signalized								
EBL	D	43.2	F	184.7	D	51.5	F	208.3
EBTR	B	12.4	A	7.1	B	12.8	A	7.2
WBL	C	34.5	C	27.7	D	36.4	C	28.7
WBT	C	25.9	C	23.2	C	26.4	C	23.6
WBR	C	22.9	B	19.5	C	23.3	B	19.7
NBL	D	35.7	C	34.3	D	35.3	C	34.2
NBTR	D	36.4	C	33.4	D	36.1	C	33.2
SBL	E	69.3	D	54.3	E	71.1	E	55.8
SBT	C	34.4	C	34.7	C	34.1	C	34.5
SBR	<u>C</u>	<u>34.5</u>	<u>C</u>	<u>34.5</u>	C	34.2	C	34.7
Overall	C	27.8	D	44.7	C	29.1	D	48.0
5. N Kirkwood Rd / West Site Dwy - Unsignalized								
EBLT	A	0.0	A	0.0	A	0.0	O	0.0
WBLTR	A	0.0	A	0.0	A	0.0	A	0.0
SBLR	A	9.3	B	10.2	A	9.4	B	10.3
6. N Kirkwood Rd / East Site Dwy - Unsignalized								
EBLT	A	0.0	A	0.3	A	0.0	A	0.3
WBTR	A	0.0	A	0.0	A	0.0	A	0.0
SBLR	B	11.6	B	13.4	B	11.7	B	13.6

Note(s):

1. Capacity analysis based on Highway Capacity Manual methodology, using Synchro 11.



Table 5-2
 3130 Langston Boulevard
 Future Conditions without Development Intersection Queuing Summary^{1, 2, 3}

Approach / Lane Group	Storage Length (ft)	Existing Conditions (2023)				Future Conditions without Development (2026)			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		50th Percentile	95th Percentile	50th Percentile	95th Percentile	50th Percentile	95th Percentile	50th Percentile	95th Percentile
1. Langston Boulevard / I-66 On Ramp - Signalized									
EBT	-	139	186	54	105	143	192	57	110
WBL	185	82	#240	74	141	94	#242	3	5
WBT	-	0	0	0	0	0	0	79	147
NBR	-	0	0	0	0	-	-	-	-
SBLTR	-	0	0	0	0	-	-	-	-
2. Langston Boulevard / I-66 Off Ramp - Signalized									
EBT	-	100	351	46	161	0	104	47	165
WBT	-	265	246	48	167	5	271	49	175
NBL	-	13	27	18	33	13	28	18	34
NBR	-	0	30	0	45	0	31	0	45
3. Langston Boulevard / N Site Dwy / CVS Dwy - Unsignalized									
EBL	-	-	7	-	5	-	7	-	5
EBTR	-	-	0	-	0	-	0	-	0
WBLTR	-	-	0	-	0	-	0	-	0
NBLTR	-	-	0	-	0	-	0	-	0
SBLTR	-	-	7	-	12	-	7	-	12
4. N Kirkwood Rd / Spout Run Pkwy / Langston Boulevard - Signalized									
EBL	500	217	#399	~314	#529	228	~340	~340	#552
EBTR	-	170	198	88	54	174	92	92	55
WBL	250	28	#91	42	0	29	44	44	#123
WBT	-	132	195	165	#117	137	171	171	252
WBR	165	0	52	0	246	0	0	0	53
NBL	100	62	100	51	85	62	52	52	87
NBTR	-	114	140	90	111	115	92	92	113
SBL	135	106	170	108	165	108	110	110	170
SBTR	-	76	115	125	170	78	127	127	173
SBR	-	0	73	42	132	0	46	46	140
5. N Kirkwood Rd / West Site Dwy - Unsignalized									
EBLT	-	-	0	-	0	-	0	-	0
WBLTR	-	-	0	-	0	-	0	-	0
SBLR	-	-	0	-	0	-	0	-	0
6. N Kirkwood Rd / East Site Dwy - Unsignalized									
EBLT	-	-	0	-	1	-	0	-	1
WBTR	-	-	0	-	0	-	0	-	0
SBLR	-	-	1	-	5	-	1	-	5

Note(s):

1. ~ Volume exceeds capacity, queue is theoretically infinite.
2. # 95th percentile volume exceeds capacity, queue may be longer.
3. Volume for 95th percentile queue is metered by upstream signal.



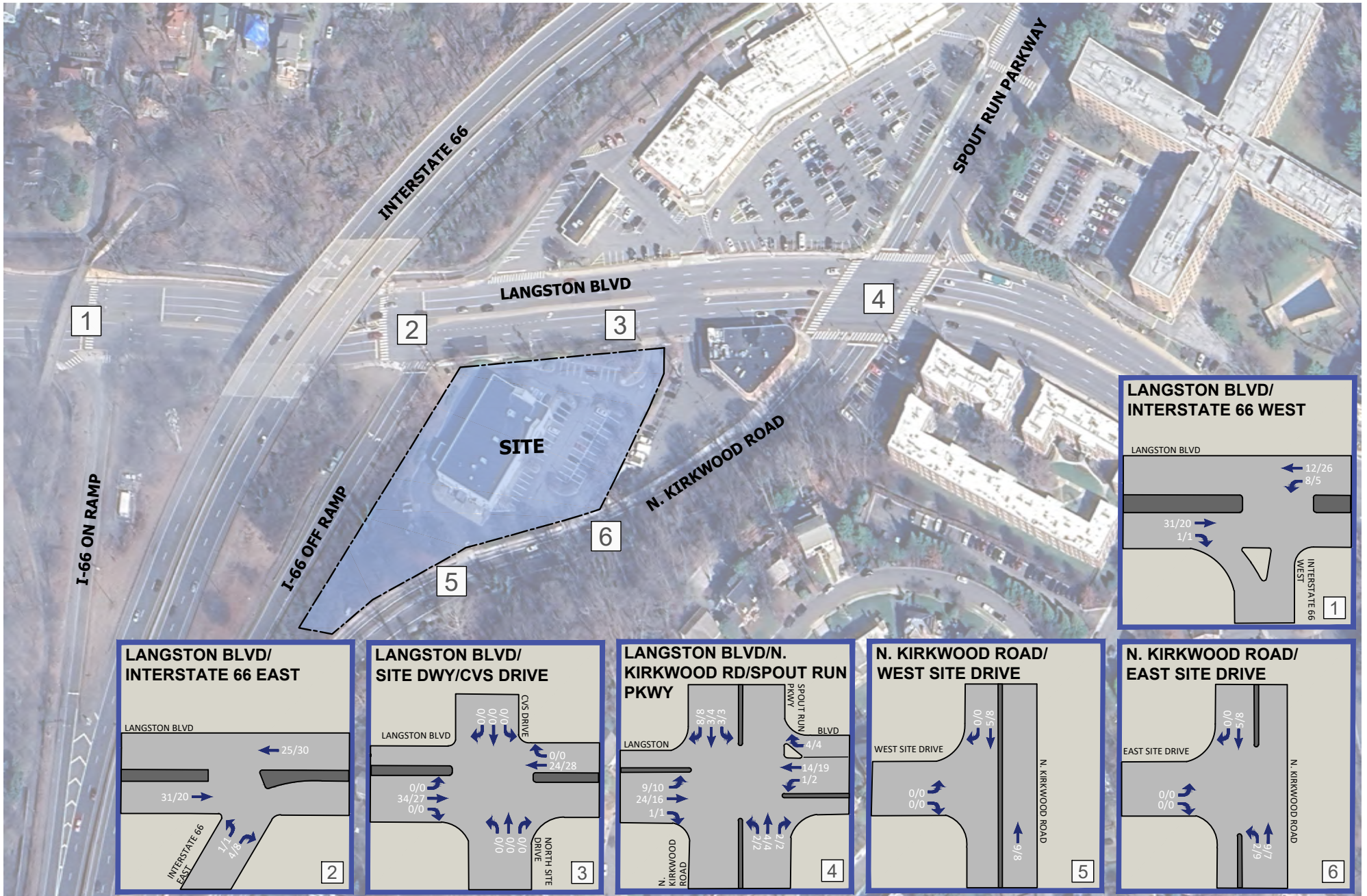


Figure 5-1
Regional Growth (2024-2028)

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3130 Langston Boulevard
 Arlington, Virginia



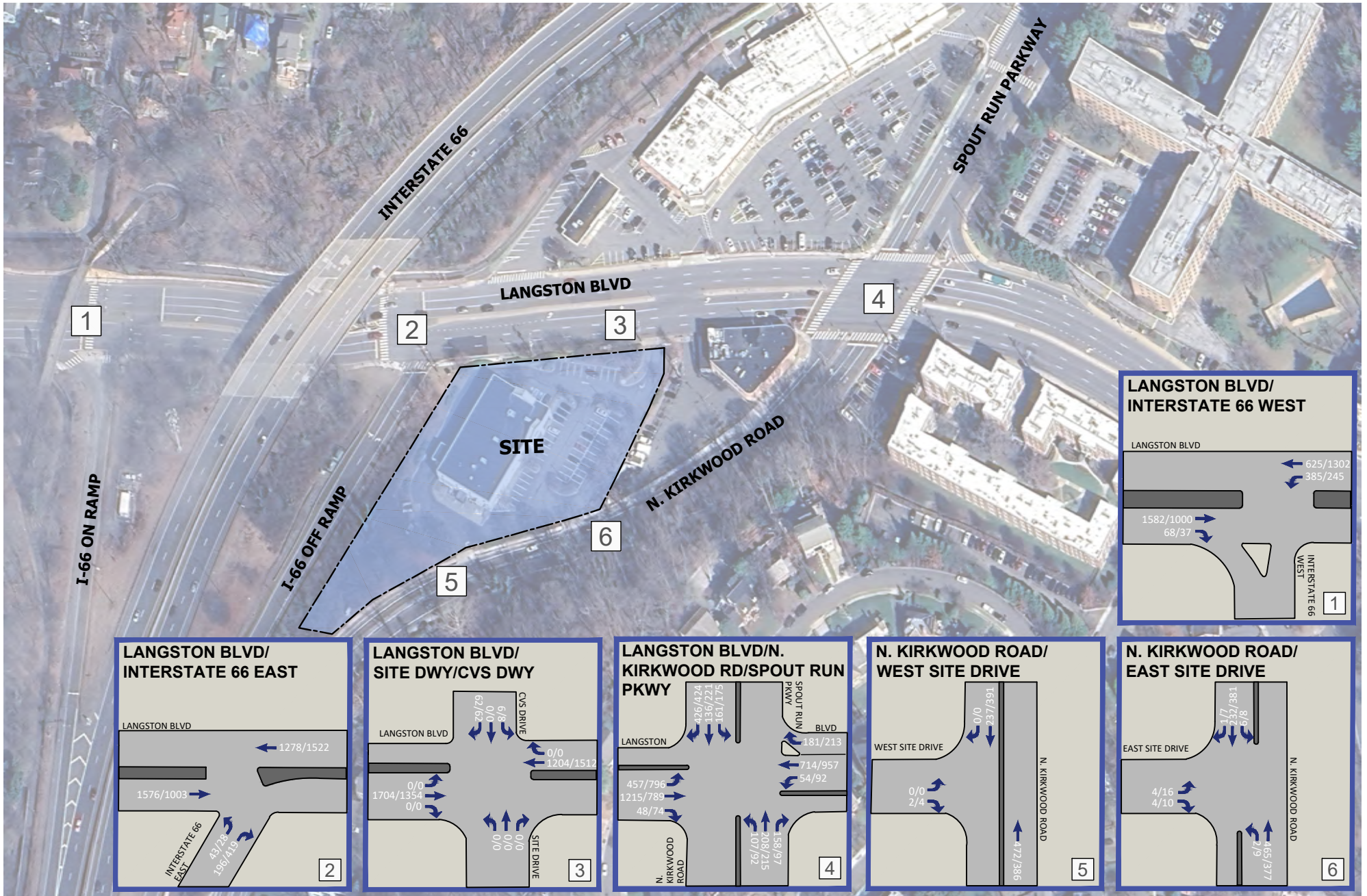


Figure 5-2
Future Peak Hour Traffic Forecasts without Development



SECTION 6 PROPOSED SITE DESCRIPTION, TRIP GENERATION, DISTRIBUTIONS & ASSIGNMENTS

Proposed Site Redevelopment Description

The Applicant has filed a 4.1 Site Plan and rezoning application to redevelop the site with mixed-used development in accordance with the Langston Boulevard Plan. This redevelopment would include up to 276 multi-family residential dwelling units and space for ground floor retail and/or equivalent. The site will be served by a parking structure with a total of approximately 331 parking spaces.

Access to the site would be consolidated from two (2) to one (1) driveway along N. Kirkwood Road and provide access to the parking structure.

Site Trip Generation Analysis

The number of site generated vehicular and person trips anticipated to be generated by the redevelopment was estimated for proposed conditions based on ITE's Trip Generation Manual, 11th Edition Land Use Code (LUC) 222 (Multifamily Residential). General Urban / Suburban rates were utilized along with the Arlington County mode share assumptions that would suggest a 48% non-auto reduction for the residential use. No internal reduction was assumed for the residential use.

As shown on Table 6-1, the proposed development program (276 residential units) is anticipated to generate 42 AM peak hour trips (11 in and 31 out), and 49 PM peak hour trips (30 in and 19 out). Accordingly, comparing the existing and proposed programs, the proposed uses would generate 4 additional AM peak hour trips, and 55 fewer PM peak hour trips.

The number of person trips expected to be generated by the site also were estimated. As shown in Table 6-1, the site is expected to generate 87 AM peak hour person trips and 102 PM peak hour person trips. This includes 33 AM and 39 PM transit trips and 6 AM and 7 PM active trips.

Site Trip Distribution and Assignment

The total vehicular trips generated by the proposed development were assigned to the roadway network using the trip distributions developed from the traffic count data, existing observed intersection splits and directions of approaches, and engineering judgement.

The trips were assigned to the proposed site driveway on N. Kirkwood Road. These distributions were reaffirmed with County staff through the scoping process.

The directional distribution for new site generated trips is as follows:

To/From the East on Langston Boulevard:	20%
To/From the West on Langston Boulevard:	15%
To/From the North on Spout Run Parkway:	25%
To/From the South on N. Kirkwood Road:	20%
<u>To/From the West on Interstate 66:</u>	<u>20%</u>
Total:	100%

Refer to Figure 6-1 for the site trips assignments.

Existing Site Trips Removed

The existing site trips summarized previously in the MMTA were removed from the network based on existing traffic patterns and are shown in Figure 6-2.

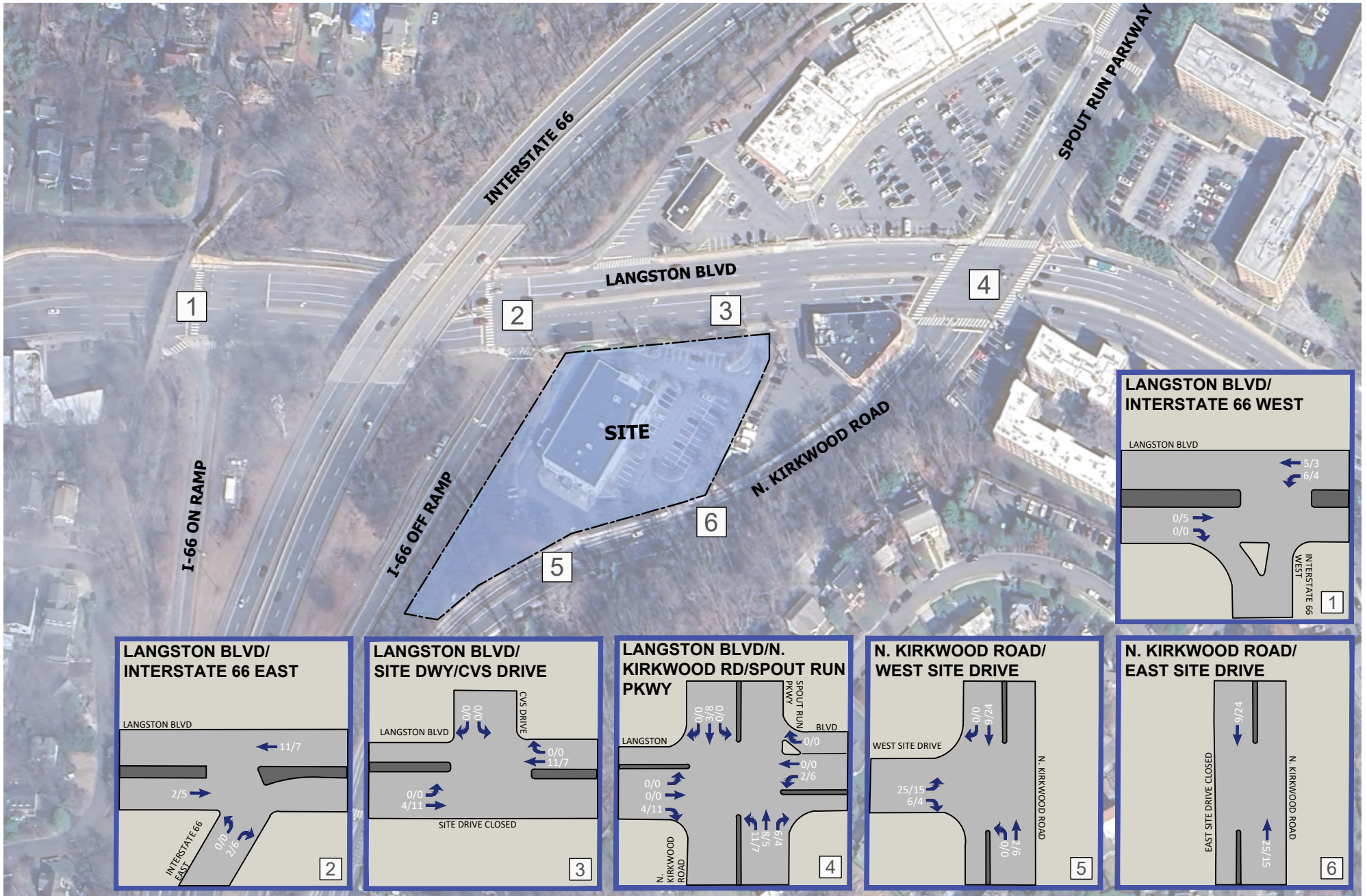


Figure 6-1
Site Peak Hour Traffic Forecasts

— AM PEAK HOUR
- - - PM PEAK HOUR
000 / 000

3130 Langston Boulevard
Arlington, Virginia



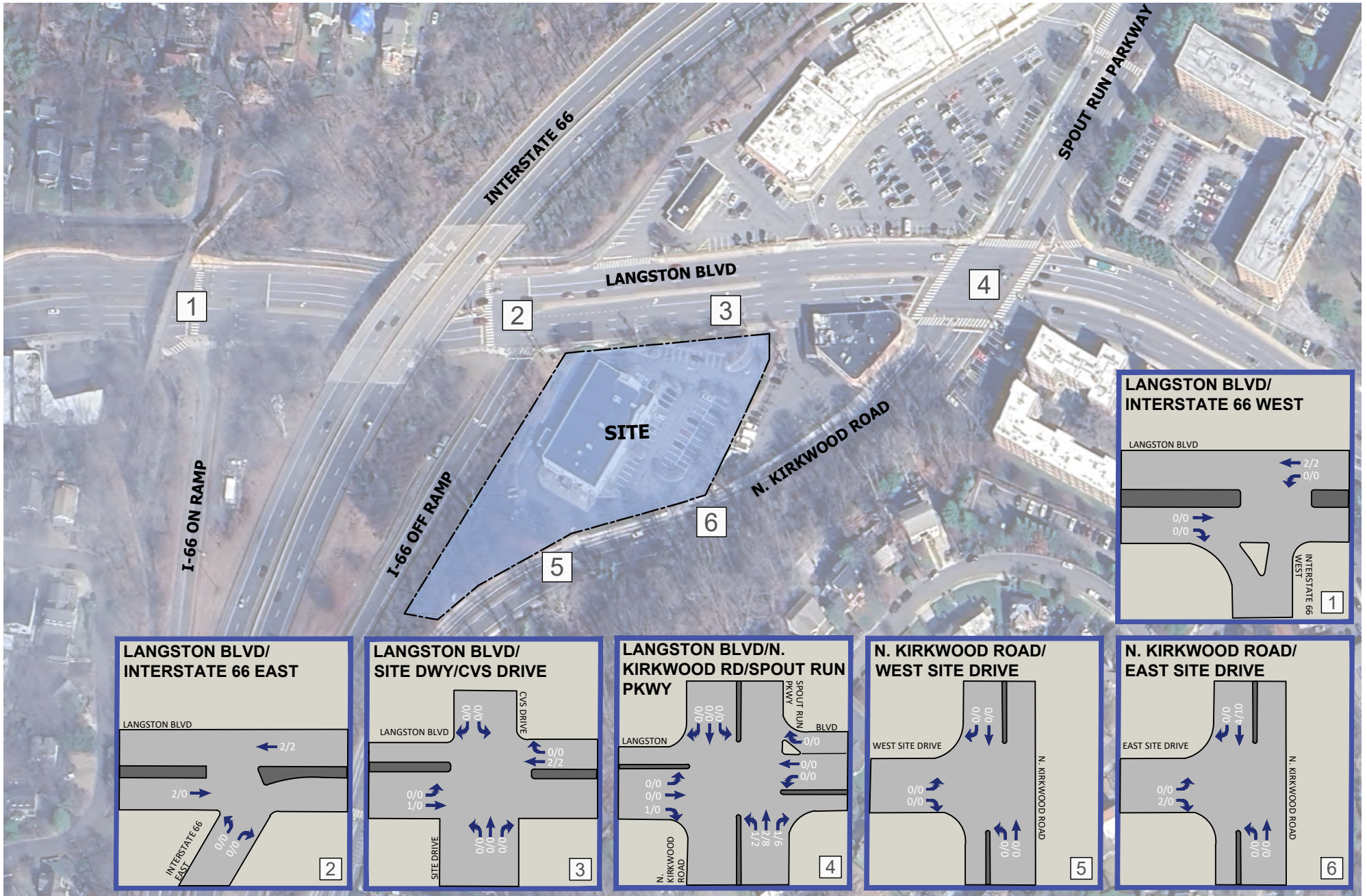


Figure 6-2
Site Trips Removed

AM PEAK HOUR
PM PEAK HOUR
000 / 000

3130 Langston Boulevard
Arlington, Virginia



SECTION 7 FUTURE CONDITIONS WITH DEVELOPMENT (2028)

This section presents an analysis of the future conditions including projections of 2028 future traffic forecasts with the proposed development, as well as capacity and queuing analyses.

Future Traffic Forecasts with Development (2028)

Future traffic forecasts with the site development were derived by adding the future traffic forecasts without development, shown on Figure 5-2, the site generated trips shown on Figure 6-1, and the existing site trips removed shown on Figure 6-2 to arrive at the future traffic forecasts with development shown on Figure 7-1.

Operational Analysis of Future Conditions with the Proposed Development

Future peak hour LOS and 50th and 95th percentile queues with the proposed development were estimated at the study intersections based on the future peak hour traffic forecasts with redevelopment shown on Figure 7-1; the existing traffic signal phasing/timings obtained from Arlington County; and the HCM 2000 methodologies using Synchro Software, Version 11. The results are presented in Appendix H and summarized in Table 7-1 and Table 7-2.

Levels of Service. The results with the proposed redevelopment indicate that all of the signalized study intersections would continue to operate at an overall LOS “C” or better during the AM and PM. These results are based on the current traffic signal timings provided by Arlington County DES. Additionally, all lane groups and turning movements will operate at similar levels of service to the future conditions without development. Based on a review of the traffic signal timings provided by DES staff indicated that adjustments to phasing could improve operations for certain lane groups operating at or near capacity.

Queuing. As shown on Table 7-2, the results of the queueing analysis are similar to those described in under existing conditions and future conditions without development. Increases in the estimated average and 95th percentile queues when compared to future conditions would not significantly affect the overall performance of the study intersections.

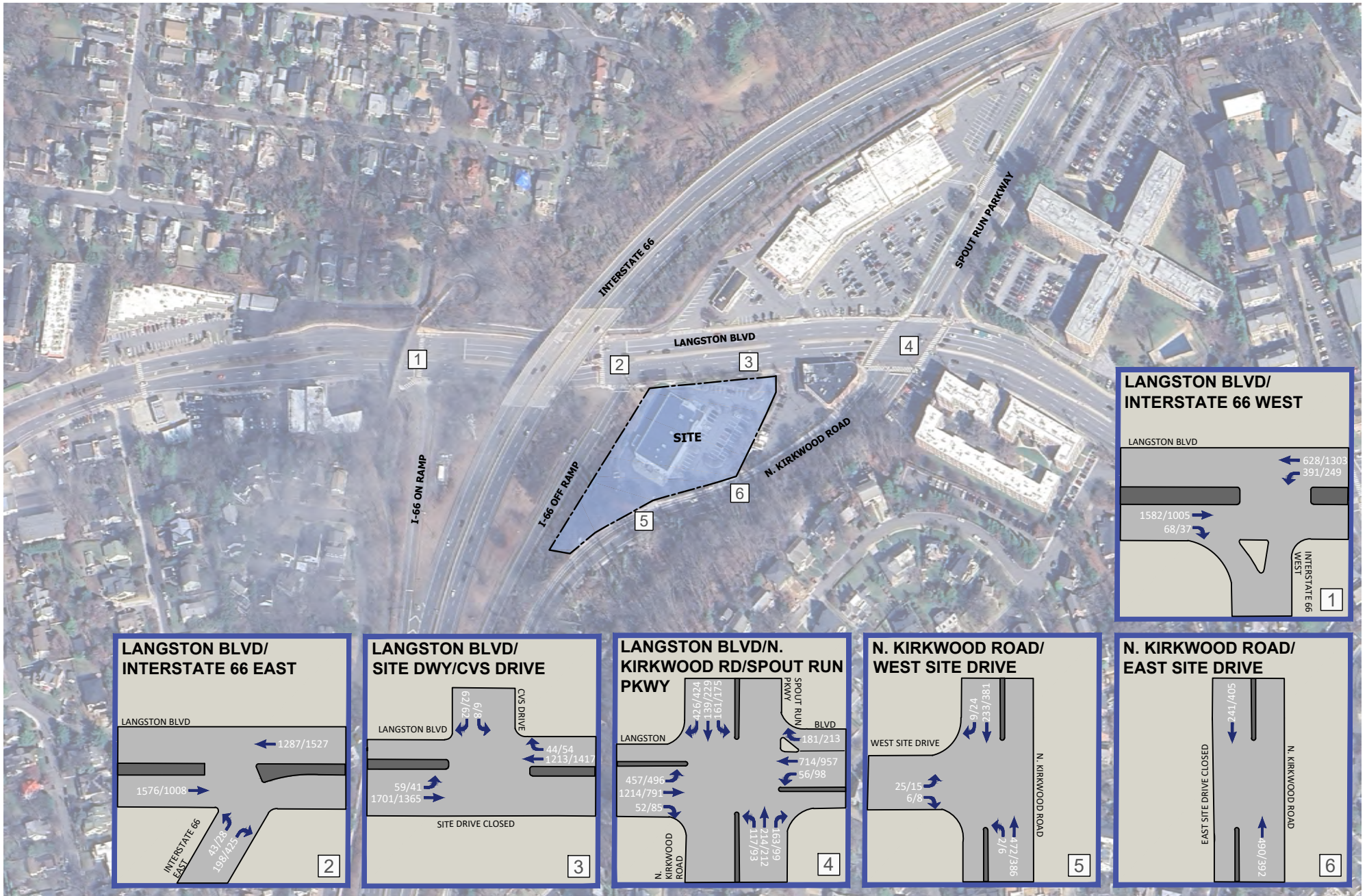


Figure 7-1
Future Peak Hour Traffic Forecasts with Development

AM PEAK HOUR
 PM PEAK HOUR
 000 / 000

3130 Langston Boulevard
 Arlington, Virginia



Table 7-1
 3130 Langston Boulevard
 Future Conditions with Development Intersection Level of Service Summary¹

Approach/ Lane Group	Existing Conditions (2024)				Future Conditions without Development (2028)				Future Conditions with Development (2028)			
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
	LOS	Delay (s)	LOS	Delay (s)	LOS	Delay (s)	LOS	Delay (s)	LOS	Delay (s)	LOS	Delay (s)
1. Langston Boulevard / I-66 On Ramp - Signalized												
EBTR	B	11.5	A	4	B	11.8	A	4.1	B	12	A	4.2
WBL	D	35.8	A	1.8	D	37.2	A	1.9	D	37.0	A	2.0
WBT	<u>A</u>	<u>0.1</u>	<u>A</u>	<u>4.4</u>	A	0.1	A	4.5	A	0.1	A	4.6
Overall	B	11.1	A	4.0	B	12.7	A	4.1	B	12.9	A	4.2
2. Langston Boulevard / I-66 Off Ramp - Signalized												
EBT	A	3.6	A	3.6	A	4.7	A	3.6	A	4.7	A	3.6
WBT	A	6.6	A	3.0	A	6.6	A	3.1	A	6.6	A	3.1
NBL	C	23.8	D	44.6	C	23.9	D	44.6	C	23.9	D	44.6
NBR	<u>A</u>	<u>4</u>	<u>A</u>	<u>4.1</u>	A	4	A	4.1	A	4	A	4.1
Overall	A	5.6	A	3.7	A	5.7	A	3.8	A	5.7	A	3.8
3. Langston Boulevard / Site Dwy / CVS Dwy - Unsignalized												
EBL	B	10.6	B	11.2	B	10.7	B	11.3	B	10.7	B	10.7
EBTR	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0
WBLTR	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0
NBLTR	A	8.9	B	10.1	A	9.0	B	10.1	DWY CLOSED		DWY CLOSED	
SBLTR	B	10.2	B	13.5	B	10.2	B	13.6	B	10	B	12.6
4. N Kirkwood Rd / Spout Run Pkwy / Langston Boulevard - Signalized												
EBL	D	43.2	F	184.7	D	51.5	F	208.3	D	52.6	F	208.4
EBTR	B	12.4	A	7.1	B	12.8	A	7.2	B	25.8	A	7.3
WBL	C	34.5	C	27.7	D	36.4	C	28.7	D	37.7	C	30.1
WBT	C	25.9	C	23.2	C	26.4	C	23.6	C	26.6	C	23.6
WBR	C	22.9	B	19.5	C	23.3	B	19.7	C	23.5	B	19.7
NBL	D	35.7	C	34.3	D	35.3	C	34.2	D	35.6	C	34.2
NBTR	D	36.4	C	33.4	D	36.1	C	33.2	D	36.0	C	32.8
SBL	E	69.3	D	54.3	E	71.1	E	55.8	E	73.2	E	55.4
SBT	C	34.4	C	34.7	C	34.1	C	34.5	C	33.9	C	34.9
SBR	<u>C</u>	<u>34.5</u>	<u>C</u>	<u>34.5</u>	C	34.2	C	34.7	C	34.0	C	34.7
Overall	C	27.8	D	44.7	C	29.1	D	48.0	C	29.4	D	47.8
5. N Kirkwood Rd / West Site Dwy - Unsignalized												
EBLT	A	0.0	A	0.0	A	0.0	O	0.0	DWY CLOSED		DWY CLOSED	
WBLTR	A	0.0	A	0.0	A	0.0	A	0.0	DWY CLOSED		DWY CLOSED	
SBLR	A	9.3	B	10.2	A	9.4	B	10.3	DWY CLOSED		DWY CLOSED	
6. N Kirkwood Rd / East Site Dwy - Unsignalized												
EBLT	A	0.0	A	0.3	A	0.0	A	0.3	A	0.0	A	0.2
WBTR	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0
SBLR	B	11.6	B	13.4	B	11.7	B	13.6	B	13.7	B	13.9

Note(s):

1. Capacity analysis based on Highway Capacity Manual methodology, using Synchro 11.



Table 7-2
 3130 Langston Boulevard
 Future Conditions with Development Intersection Queuing Summary ^{1, 2, 3}

Approach / Lane Group	Storage Length (ft)	Existing Conditions (2023)				Future Conditions without Development (2026)				Future Conditions with Development (2026)			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		50th Percentile	95th Percentile	50th Percentile	95th Percentile	50th Percentile	95th Percentile	50th Percentile	95th Percentile	50th Percentile	95th Percentile	50th Percentile	95th Percentile
1. Langston Boulevard / I-66 On Ramp - Signalized													
EBT	-	139	186	54	105	143	192	57	110	143	192	59	112
WBL	185	82	#240	74	141	94	#242	3	5	101	#249	3	5
WBT	-	0	0	0	0	0	0	79	147	0	0	81	150
NBR	-	0	0	0	0	-	-	-	-	-	-	-	-
SBLTR	-	0	0	0	0	-	-	-	-	-	-	-	-
2. Langston Boulevard / I-66 Off Ramp - Signalized													
EBT	-	100	351	46	161	0	104	47	165	0	104	47	165
WBT	-	265	246	48	167	5	271	49	175	5	271	49	176
NBL	-	13	27	18	33	13	28	18	34	13	28	18	34
NBR	-	0	30	0	45	0	31	0	45	0	31	0	46
3. Langston Boulevard / N Site Dwy / CVS Dwy - Unsignalized													
EBL	-	-	7	-	5	-	7	-	5	-	7	-	5
EBTR	-	-	0	-	0	-	0	-	0	-	0	-	0
WBLTR	-	-	0	-	0	-	0	-	0	-	0	-	0
NBLTR	-	-	0	-	0	-	0	-	0	DWY CLOSED		DWY CLOSED	
SBLTR	-	-	7	-	12	-	7	-	12	-	7	-	11
4. N Kirkwood Rd / Spout Run Pkwy / Langston Boulevard - Signalized													
EBL	500	217	#399	~314	#529	228	~340	~340	#552	229	~339	~339	#553
EBTR	-	170	198	88	54	174	92	92	55	174	93	93	55
WBL	250	28	#91	42	0	29	44	44	#123	30	47	47	#136
WBT	-	132	195	165	#117	137	171	171	252	138	171	171	252
WBR	165	0	52	0	246	0	0	0	53	0	0	0	53
NBL	100	62	100	51	85	62	52	52	87	69	52	52	89
NBTR	-	114	140	90	111	115	92	92	113	118	91	91	113
SBL	135	106	170	108	165	108	110	110	170	108	110	110	170
SBTR	-	76	115	125	170	78	127	127	173	79	132	132	180
SBR	-	0	73	42	132	0	46	46	140	0	46	46	140
5. N Kirkwood Rd / West Site Dwy - Unsignalized													
EBLT	-	-	0	-	0	-	0	-	0	DWY CLOSED		DWY CLOSED	
WBLTR	-	-	0	-	0	-	0	-	0	DWY CLOSED		DWY CLOSED	
SBLR	-	-	0	-	0	-	0	-	0	DWY CLOSED		DWY CLOSED	
6. N Kirkwood Rd / East Site Dwy - Unsignalized													
EBLT	-	-	0	-	1	-	0	-	1	-	0	-	0
WBTR	-	-	0	-	0	-	0	-	0	-	0	-	0
SBLR	-	-	1	-	5	-	1	-	5	-	6	-	4

Note(s):

1. ~ Volume exceeds capacity, queue is theoretically infinite.
2. # 95th percentile volume exceeds capacity, queue may be longer.
3. Volume for 95th percentile queue is metered by upstream signal.



SECTION 8

TRANSPORTATION MANAGEMENT PLAN

A Transportation Management Plan (TMP) will be required to ensure users of the site are familiar with and use the multimodal transportation options available to them. The project site's location makes it a prime location for multimodal commuting given its excellent transit, pedestrian, and bicycle facilities discussed herein.

The elements of the TMP as described herein will be customized to meet the needs of this site given its location and surrounding multimodal environment. The goal of the TMP is to ultimately reduce the reliance on single occupancy vehicle trips and encourage alternative modes of transportation. The TMP will be developed and implemented to meet the needs of the proposed development and support the objectives of the Arlington County TDM program. The implementation of a TMP will influence the travel behavior of residents, visitors, employees, and users of the site by reducing peak hour vehicle-trips, parking demand, promote use of alternative transportation modes and maximize the use of the multimodal transportation facilities available.

At the time of Final Site Plan for the site, the Developer agrees to obtain the approval of the County Manager or his designee for such plan prior to the issuance of the First Certificate of Occupancy (CO) for the building. Upon approval of the TMP by the County Manager, the Developer agrees to implement all elements of the plan with assistance, when appropriate, by agencies of the County. The Developer agrees that all individual elements of the TMP will be operational prior to issuance of the First Partial Certificate of Occupancy for Tenant Occupancy. All dollar denominated rate will be adjusted for inflation by the U.S. Department of Labor, Bureau of Labor Statistics Consumer Price Index (CPI) Inflation Calculator from the date of site plan approval by the County Board.

The TMP will include a schedule and details of implementation, and continued operation of the elements in the plan. The location of the site and its proximity to public transportation allow for a TMP that may include, but not be limited to, the following strategies.

Participation and Funding

1. Establish and maintain an active, ongoing relationship with Arlington Transportation Partners (ATP), or successor entity, at no cost to the developer, on behalf of the property owner.
2. Designate and keep current a member of building management as Property Transportation Coordinator (PTC) to be primary point of contact with the County and undertake the responsibility for coordinating and completing all Transportation Management Plan (TMP) obligations, as directed by applicable adopted Site Plan Conditions. The PTC shall be trained, to the satisfaction of Arlington County Commuter Services (ACCS), to provide transit, bicycle, walk, rideshare and other



information provided by Arlington County intended to assist with transportation to and from the site.

3. Contribute annually to ACCS, or successor, to sustain direct and indirect on-site and off-site services in support of TMP activities. Payment on this commitment shall begin as a condition of issuance of the First Partial Certificate of Occupancy for Tenant Occupancy for each respective building or phase of construction, or as directed by applicable adopted Site Plan Conditions. Subsequent payments shall be made annually.

Facilities and Improvements

1. Provide in the lobby or lobbies, a transportation information display(s), the number, content, design, and location of will be approved by ACCS. The developer agrees that the required transportation information displays will meet the Arlington County Neighborhood Transportation Information Display Standards in effect on the date of the site plan approval, or equivalent as approved by the County Manager.
2. Comply with requirements of Site Plan conditions to provide bicycle parking/storage facilities, a Parking Management Plan (PMP), and a Bicycle Facilities Management Plan, if required.
3. Bus stops, shelters, and/or bikeshare stations on the sidewalk within 50 feet of the site will be maintained free of snow, ice, trash, and debris. A minimum six (6) foot wide path, clear of snow and ice, to the main entrance of the building will be maintained for bus stops and bikeshare stations.

Promotions, Services, Policies

1. Prepare, reproduce and distribute, in digital or hard copy, materials provided by Arlington County, which includes site-specific transit, bicycle, walk, and rideshare related information, to each new office, retail, property management, or maintenance employee, from initial occupancy through the life of the site plan. These materials shall be distributed as a part of prospective tenant marketing materials, as well as communications associated with lease signing, on-boarding, or similar activities.
2. Provide one time, per person, to each new office, retail, property management, or maintenance employee, whether employed part-time or full-time, directly employed or contracted, who begins employment in the building throughout initial occupancy, the choice of one of the following:
 - Metro fare on a SmarTrip card or successor fare medium
 - A one-year bikeshare membership
 - A one-year carshare membership



3. The County Manager may approve additions to, or substitution of one or more of these choices with a comparable transportation program incentive, as technology and service options change, if he/she finds that an incentive shall be designed to provide the individual with an option other than driving alone in a personal vehicle, either by removing a barrier to program entry, such as a membership cost, or by providing a similar level of subsidized access to a public or shared transportation system, program or service.
4. Provide, administer, or cause the provision of a sustainable commute benefit program for each on-site property management, maintenance and hotel employee. This commute benefit program shall offer, at a minimum, a monthly pre-tax transit benefit or a monthly subsidized/direct transit benefit.
5. Provide, under a “transportation information” heading on the Developer and property manager’s websites regarding this development:
 - Links to the most appropriate Arlington County Commuter Services and/or external transportation-related web page(s). Confirmation of most appropriate link will be obtained from ACCS.
 - A description of key transportation benefits and services provided at the building, pursuant to the TMP.

Performance and Monitoring

1. During the first year of start-up of the TMP and on an annual basis thereafter, the Developer shall submit an annual report, which may be of an online, or e-mail variety, to the County Manager, describing completely and correctly, the TDM related activities of the site and changes in commercial tenants during each year.
2. The Developer agrees to conduct and/or participate in, a transportation and parking performance monitoring study at two (2) years, five (5) years, and each subsequent five (5) years (at the County’s option), after issuance of the First Partial Certificate of Occupancy for Tenant Occupancy. The County may conduct the study or ask the owner to conduct the study (in the latter case, no reimbursement payment shall be required). As part of the study, a report shall be produced as specified by the County. The study may include, building occupancy rates, average vehicle occupancy, average garage occupancy for various days of the week and times of day, parking availability by time of day, average duration of stay for short term parkers for various days of the week and times of day, pedestrian traffic, a seven-day count of site-generated vehicles traffic, and/or a voluntary mode-split survey.

The building owner and/or operator shall notify, assist, and encourage building occupants and visitors on site to participate in mode-split surveys which may be of an on-line or email variety.



SECTION 9 CONCLUSIONS AND RECOMMENDATIONS

The conclusions and recommendations of this study are as follows:

1. The site is well-served by a multimodal transportation system that includes interstate, arterial, collector, and local streets; a connected network of sidewalks with ramps and pedestrian countdown heads; bicycle facilities; and numerous bus lines providing easy access to the nearby Metrorail stations, and other points of interests.
2. The three (3) signalized study intersections currently operate at overall acceptable LOS “C” or better during the AM and PM peak hours. Some individual movements or approaches operate at or near capacity.
3. In the future without and with redevelopment, the three (3) signalized study intersections would experience minor increases in delay as a result of nearby development and regional growth but would continue to operate generally consistent to existing conditions.
4. Upon completion, the proposed development is expected to generate 42 AM peak hour trips (11 in and 31 out), and 49 PM peak hour trips (30 in and 19 out). It would generate 4 more AM peak hour trips and 55 fewer PM peak hour trips when compared to the existing office and retail uses. The site is expected to generate 87 AM peak hour person trips and 102 PM peak hour person trips. This includes 33 AM and 39 PM transit trips and 6 AM and 7 PM active trips.
5. The proposal will be redeveloped in accordance with the Langston Boulevard Plan and will include multimodal improvements to both Langston Boulevard and N. Kirkwood Road. These improvements will include a new separated bike lane along Langston Boulevard as recommended in the Master Transportation Plan and Langston Boulevard Plan.
6. The proposal will consolidate site access to a single driveway on N. Kirkwood Road and will include the closure of Langston Boulevard driveway which will allow for an improved multimodal environment along the site’s frontage.
7. The proposal will meet the bicycle and vehicular parking requirements.
8. The implementation of a Transportation Management Plan (TMP) will encourage the use of other non-auto modes of transportation including walking, bicycling and public transit as alternative to single occupancy vehicles and minimize the project’s vehicular traffic impacts.



3130 LANGSTON BOULEVARD

Multimodal Transportation Assessment Technical Appendix

August 9, 2024



Appendix A

Scoping Agreement



SCOPE OF WORK MEETING FORM
3130 Langston Boulevard
Multimodal Transportation Assessment Base Assumptions

Contact Information	
Consultant Name:	Mike Pinkoske, PTP
Tele:	703.761.2790
E-mail:	pinkoske@vika.com
Developer/Owner Name:	Rooney Properties, LLC
Tele:	Cassie Guy 571.297.4904
E-mail:	CGuy@RooneyPropertiesLLC.com

Project Information	
Project Name:	3130 Langston Boulevard
Project Location: The site location is shown on Attachment 1 .	<p>The Property is located in the southeast quadrant of the Langston Boulevard / Interstate 66 Eastbound off ramp and just west of the Langston Boulevard / N. Kirkwood Road intersection. Currently, the site is improved with a single-story brick Walgreen pharmacy with drive-through and associated surface parking. Access to the site is provided via one curb cut on Langston Boulevard and two curb cuts on N. Kirkwood Road.</p> <p>The Property consists of approximately 73,251 square feet or 1.68 acres of land area. The Property is identified as Arlington County RPC No. 15-012-041 and is currently located within an existing C-2 Zoning District.</p>
Project Description: See Attachment 2 for a copy of the concept plan.	<p>As proposed, the site would be rezoned with a General Land Use Plan (GLUP) amendment and redeveloped in accordance with the Langston Boulevard Plan. The existing building and surface parking would be razed and redeveloped with a mixed-use multifamily residential building with approximately 276 units and space for ground floor retail and/or equivalent (2,256 SF).</p> <p>To minimize traffic impacts along Langston Boulevard the existing driveway would be closed and the two driveways on N. Kirkwood Road would be consolidated. The site would be served by two loading/trash berths and approximately 340 parking spaces.</p> <p>Streetscape improvements consistent with the Langston Boulevard Plan and Master Transportation Plan would be constructed along Langston Boulevard and N. Kirkwood Road. Modifications to the existing median on N. Kirkwood</p>

SCOPE OF WORK MEETING FORM

3130 Langston Boulevard

Multimodal Transportation Assessment Base Assumptions

	Road are proposed to facilitate turning movements into and out of the parking garage and the closure of the northern site driveway and existing median.	
Proposed Use / Trip Generation See Table 1 for the Multimodal Trip Generation	<p>Existing Pharmacy/Drugstore with Drive-Through – 11,661 SF</p> <p>Proposed Multifamily – 276 units Ground floor amenity / retail equivalent (10,571 SF + 2,256 SF)</p> <p>The proposal <i>does not meet</i> VDOT Chapter 870.</p>	<u>Proposed ITE Land Use(s)</u> Multifamily - 221

Traffic Impact Analysis Assumptions

Study Period	Existing Year: <u>2024</u>	Build-out Year: <u>2028</u>	Design Year: <u>N/A</u>		
Study Area Boundaries (Attach map) See Attachment 1	North: Spout Run Parkway	South: N. Kirkwood Road			
	East: Langston Boulevard	West: Langston Boulevard			
Consistency With Comprehensive Plan	The Property is guided by two principal planning policy documents, the GLUP and the Langston Boulevard Plan (2023). The proposal has been developed in coordination with these planning documents.				
Available Traffic Data (Historical, forecasts)	<p>New weekday AM and PM peak hour traffic counts (vehicular, pedestrian and bikes) will be collected as part of the MMTA.</p> <p><u>Estimated VDOT 2022 Average Daily Traffic (ADT):</u> Langston Boulevard – 26,000 Spout Run Parkway – 15,000 N. Kirkwood Street – 7,200</p>				
Trip Distribution See Attachment 1 <i>*Final site distributions will be confirmed based on existing traffic data.</i>	Road Name: Langston Boulevard	North:	South:	East: 20%	West: 15%
	Road Name: Spout Run Parkway	North: 25%	South:	East:	West:
	Road Name: N. Kirkwood Street	North:	South: 20%	East:	West:
	Road Name: Interstate 66	North:	South:	East:	West: 20%

SCOPE OF WORK MEETING FORM
3130 Langston Boulevard
Multimodal Transportation Assessment Base Assumptions

Annual Vehicle Trip Growth Rate:	To account for planned development outside the immediate study area a growth rate of 0.5 percent will be used, compounded annually.	Peak Period for Study	Weekday AM & PM
Study Intersections See Attachment 1	1. Langston Blvd / I-66 WB On-ramp	4. Existing site driveways (3) & one (1) future site driveway	
	2. Langston Blvd / I-66 EB Off-ramp	5.	
	3. Langston Blvd / N. Kirkwood Rd / Spout Run Pkwy		
Trip Adjustment Factors	Internal Reduction: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Reduction:	Pass-by allowance: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Reduction:	
Software Methodology	Synchro version 11.1 software will be used for intersection analysis.		
Improvement(s) Assumed	Site frontage improvements described above (Project Description).		
Background Traffic Studies Considered	Langston Boulevard Study Arlington County needs assessment of the Custis Trail (ongoing).		
Plan Submission	<input checked="" type="checkbox"/> 4.1 Site Plan Submission <input type="checkbox"/> Form Based Code Use Permit <input type="checkbox"/> Preliminary/Sketch Plan		
Additional Issues to be Addressed	<input checked="" type="checkbox"/> Queuing analysis <input type="checkbox"/> Actuation/Coordination <input type="checkbox"/> Weaving analysis <input type="checkbox"/> Merge analysis <input checked="" type="checkbox"/> Bike/Ped Accommodations <input checked="" type="checkbox"/> Intersection(LOS) <input checked="" type="checkbox"/> TDM Measures <input checked="" type="checkbox"/> See Arlington County MMTA Matrix for additional details.		
Site Forecast Assumptions	As noted above final site distributions will be confirmed based on existing traffic data.		

SCOPE OF WORK MEETING FORM
3130 Langston Boulevard
Multimodal Transportation Assessment Base Assumptions

ADDITIONAL NOTES:

- See Arlington County MMTA Scoping Addendum (attached) for **Compact MMTAs** that includes additional multimodal requirements/details to be included in the MMTA that are not specifically outlined herein.
- This 4.1.2 Site Plan proposal does **not** trigger VDOT 870 trip thresholds of 5,000 total daily trips.
- The study will include a discussion regarding the directions of approach for the site trips.
- Weekday peak hour counts will be conducted from 7am to 10am and from 4pm to 7pm.
- Field measured PHF's will be used if between 0.85 and higher, if lower, a 0.85 PHF will be used. For future conditions a PHF of 0.92 or higher will be used.
- Level of service calculations for existing and future conditions without and with development shall be in accordance with the Highway Capacity Manual (HCM) 2010 methodologies, as computed by Synchro 11 software. Typical Synchro parameters to be utilized in this analysis will be consistent with VDOT's TOSAM and Arlington County standards.
- Study will include a comprehensive discussion of the multimodal transportation options available in the vicinity of the site including Metrorail, bus, capital bikeshare, bikes, and pedestrians consistent with the Arlington County MMTA Scoping Addendum (attached) for **Compact MMTAs**.
- Study will include a comprehensive discussion of the safety analysis of the site, including crash data and summary tables consistent with the Arlington **County MMTA** Scoping Addendum (attached) for compact MMTAs.
- Include discussion and calculation of person trips generated by the proposal broken out into the various mode shares based on census data.

SIGNED: 
Applicant or Consultant

DATE: 6/28/2024

PRINT NAME: Michael Pinkoske, PTP
Applicant or Consultant

SIGNED: _____
Local Government Representative

DATE: _____

PRINT NAME: _____
Local Government Representative

Study Intersections
% Directional Distribution



15%

1

2

SITE

3

25%

20%

20%

20%

INTERSTATE 66

LANGSTON BOULEVARD

N. KIRKWOOD ROAD

SPOUT RUN PARKWAY

ATTACHMENT 2

LANGSTON BLVD - ROUTE 29/211
(VARIABLE WIDTH PUBLIC ROW)

NOTE:
ARCHITECTURAL PLANS, INTERNAL PARKING LAYOUTS, PERSPECTIVES, ELEVATIONS AND SECTIONS ARE CONCEPTUAL AND SUBJECT TO REVISION IN FINAL DEVELOPMENT PLAN AND SITE PLAN APPLICATIONS. BUILDING DESIGN AND MATERIALS ARE SUBJECT TO CHANGE.

ROUTE 66 OFF-RAMP
(VARIABLE WIDTH PUBLIC ROW)

GFA : 28,633 S.F.
NFA : 27,686 S.F.

FOOTPRINT
56,030 S.F.

NFA : 4,331 S.F.
GFA : 4,737 S.F.

1 3RD FLOOR LEVEL
1/16" = 1'-0"

1/16" = 1'-0"
0' 4' 8' 16' 32' 64'

dcs
DESIGN
DAVIS
CARTER
SCOTT LLC
Architecture
Interior Architecture
Land Planning
8614 Westwood Center Dr.
Suite 800
Tysons, Virginia 22182
P 703.556.9275
F 703.821.8976
www.dcsdesign.com

ROONEY
PROPERTIES

Rooney Properties LLC
3330 Washington Blvd
UNIT 220
Arlington, VA 22201
P 703.204.1400
https://rooneyproperties.com

PRINT DATE	05/07/2024
ISSUE DATE	
REVISION DATE	

PROJECT TITLE
3130 LANGSTON BOULEVARD
ARLINGTON, VA 22201
4.1 CONCEPT SUBMISSION
PROJECT NO. 322158.00

DRAWING TITLE
3RD FLOOR LEVEL

DRAWN BY RM
QC CHECKED BY RV
CA REVIEWED BY

DRAWING NUMBER
A-05

Urban, Ltd. - M:\VF\322158.00\01_Drawings\05_CAD\07_Sheets\322158.00 - A1-A7_Floor plans.dwg [A-05] May 13, 2024 - 1:08pm rmahter

The applicant is responsible for entering the relevant information and submitting this Addendum plus a completed VDOT Pre-Scope Form 7.08 to Arlington County and VDOT as required by Arlington County's Administrative Regulations 4.1/4.2 and Virginia State Code. The completed form shall be submitted to appropriate County and VDOT staff at least 3 days in advance of the scoping meeting to finalize study details and requirements.

CONTACT INFORMATION

Consultant Name:	Michael Pinkoske
Tele:	703.761.2790
Email:	pinkoske@vika.com
Developer/Owner Name:	Cassie Guy
Tele:	571.297.4904
Email:	CGuy@RooneyPropertiesLLC.com

PROJECT INFORMATION

Project Name:	3130 Langston Boulevard	Site Plan/SPLN #:	N/A
Project Location:	Arlington, County		

ESTIMATED TRIP GENERATION FOR PROPOSED DEVELOPMENT – PM PEAK HOUR

(Project may excluded up to 10,000 square feet of ground floor locally serving retail in trip generation estimates for scoping)

Mode	PM Peak Hour			Daily Total
	In	Out	Total	
Total Person Trips	<u>63</u> ppl/hr	<u>39</u> ppl/hr	<u>102</u> ppl/hr	<u>1,525</u> ppl
- Auto Trips	<u>30</u> veh/hr	<u>19</u> veh/hr	<u>49</u> veh/hr	<u>1415</u> veh
- Transit Trips	<u>24</u> ppl/hr	<u>15</u> ppl/hr	<u>39</u> ppl/hr	<u>580</u> ppl
- Bike Trips	<u>2</u> ppl/hr	<u>1</u> ppl/hr	<u>3</u> ppl/hr	<u>33</u> ppl
- Walk Trips	<u>2</u> ppl/hr	<u>2</u> ppl/hr	<u>4</u> ppl/hr	<u>66</u> ppl

MULTIMODAL TRANSPORTATION ASSESSMENT (MMTA) REQUIRED STUDY SCOPE

(Specific scoping requirements identified in later sections below, scoping ranges provided as guidance and exact scope to be agreed upon conclusion of scoping meeting)

MMTA Study Level	Overview	Compact	Standard	Comprehensive
Vehicle Trip Range (PM) Peak Hour	<input type="checkbox"/> 0 - 15 veh/hr	<input checked="" type="checkbox"/> 16 - 50 veh/hr	<input type="checkbox"/> 51 - 175 veh/hr	<input type="checkbox"/> 176+ veh/hr

MMTA Study Level	Overview <input type="checkbox"/> 0 - 15 veh/hr	Compact <input checked="" type="checkbox"/> 16 - 50 veh/hr	Standard <input type="checkbox"/> 51 - 175 veh/hr	Comprehensive <input type="checkbox"/> 176+ veh/hr
BACKGROUND				
Existing transportation facilities (general)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Existing Walk, Bike and Transit Scores	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Historical Transportation Census Data for the site		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
MULTIMODAL TRANSPORTATION FACILITIES ASSESSMENT				
Transit Studies and Maps to Include				
Service Map	<input type="checkbox"/> ¼ mile	<input checked="" type="checkbox"/> ¼ mile	<input type="checkbox"/> ½ mile	<input type="checkbox"/> > ½ mile
Locations accessible by transit in 15min and 30min of travel time		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bus stop inventory and amenity review			<input type="checkbox"/>	<input type="checkbox"/>
Transit ridership history (Metrorail)			<input type="checkbox"/>	<input type="checkbox"/>
Pedestrian Studies and Maps to Include				
Existing pedestrian facilities	<input type="checkbox"/> Site frontage ¹	<input checked="" type="checkbox"/> 2 block radius	<input type="checkbox"/> ¼ mile	<input type="checkbox"/> ½ mile
Master Transportation Plan and sector plan sidewalk recommendation review	<input type="checkbox"/> Site frontage ¹	<input checked="" type="checkbox"/> 2 block radius	<input type="checkbox"/> ¼ mile	<input type="checkbox"/> ½ mile
Locations accessible by 10, 20, 30 min walk		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pedestrian routes to key neighborhood destinations within ¼ mile		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bicycle Network Studies and Maps to Include				
Existing and future bicycle facilities maps within ½ mile	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Master Transportation Plan recommendations within ½ mile		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Locations accessible by 10, 20, 30 min bike ride		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bicycle Level of Traffic Stress within ½ mile		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Existing and proposed bike parking (On street visitor spaces and secure bike parking with development.)		<input checked="" type="checkbox"/> Site frontage ¹	<input type="checkbox"/> Site frontage ¹	<input type="checkbox"/> 2 Block radius
Shared Mobility				
Maps and summary tables for bike share, car share, scooters, others		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SAFETY				
Crash history review and analysis Summary of the most recent 3 years of data along Langston Boulevard, Spout Run Parkway & N. Kirkwood Street		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
OTHER				
Street Cross Sections (Existing and Proposed)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Transportation Demand Management (TDM) proposal/recommendations.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Curb space inventory/On-street parking review		<input checked="" type="checkbox"/> Site Frontage ¹	<input type="checkbox"/> 2 Block radius	<input type="checkbox"/> ¼ mile

¹ Site frontage including opposite side of street.

ADDITIONAL TRANSPORTATION STUDY/SUBMISSIONS

Additional Transportation Studies	<input type="checkbox"/> VDOT Chapter 870 Traffic Study. (See completed VDOT Form 7.08 attached.)	<input checked="" type="checkbox"/> N/A
	<input type="checkbox"/> Multimodal Micro Simulation of Transportation Network Identify study limits and attachment with study scoping details.	

DATA COLLECTION

Pedestrian and Bike Count Locations	<input checked="" type="checkbox"/> At Traffic Impact Study intersections. (See completed VDOT Form 7.08 attached.)	<input checked="" type="checkbox"/> N/A
	<input type="checkbox"/> Additional pedestrian or bicycle counts required: Enter additional count locations and/or periods here.	

NOTES AND ASSUMPTIONS

Planned Multimodal Network Changes² <ul style="list-style-type: none"> Roadway Transit Pedestrian Bicycle <p style="font-size: small; margin-top: 10px;">Not associated with proposed development.</p>	Streetscape and roadway improvements envisioned in the Plan Langston Boulevard Plan. Modification to Upton Street.
Additional Notes or Assumptions	

SIGNED: DATE: _____

May 15, 2024

Applicant or Consultant
 PRINT NAME: Michael Pinkoske, PTP
 Applicant or Consultant

SIGNED: DATE: _____

Click or tap to enter a date.


Arlington County Representative
 PRINT NAME: Printed Name Here
 Arlington County Representative

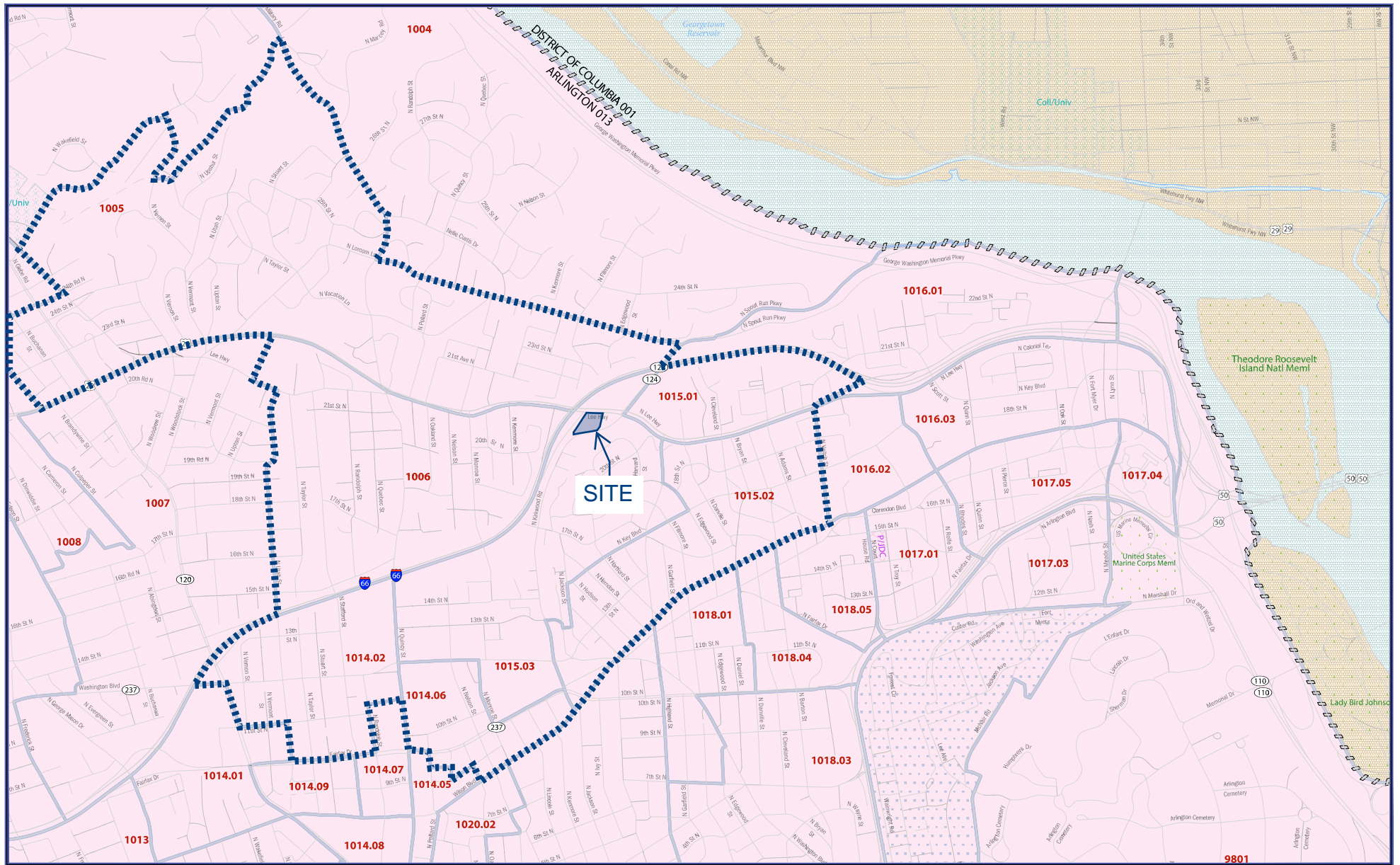
² Planned improvements not associated with proposed development.

Appendix B

Multimodal Information



Means of Transportation to Work by Vehicles Available		
Note: The table shown may have been modified by user selections. Some information may be missing.		
DATA NOTES		
TABLE ID:	B08141	
SURVEY/PROGRAM:	American Community Survey	
VINTAGE:	2022	
DATASET:	ACSDT5Y2022	
PRODUCT:	ACS 5-Year Estimates Detailed Tables	
UNIVERSE:	Workers 16 years and over in households	
MLA:	U.S. Census Bureau. "Means of Transportation to Work by Vehicles Available." American Community Survey, ACS 5-Year Estimates Detailed Tables, Table B08141, 2022, https://data.census.gov/table/ACSDT5Y2022.B08141?text=B08141&t=Transportation&g=1400000U551013100500,51013100600,51013101402,51013101406,51013101500,51013101502,51013101503&y=2022 . Accessed on June 20, 2024.	
FTP URL:	None	
API URL:	https://api.census.gov/data/2022/acs/acs5	
USER SELECTIONS		
TOPICS	Transportation	
GEOS	Census Tract 1015.03; Arlington County; Virginia; Census Tract 1015.02; Arlington County; Virginia; Census Tract 1015, Arlington County, Virginia; Census Tract 1005; Arlington County; Virginia; Census Tract 1006; Arlington County; Virginia; Census Tract 1014.06; Arlington County; Virginia; Census Tract 1014.02; Arlington County; Virginia	
VINTAGES	2022	
EXCLUDED COLUMNS	None	
APPLIED FILTERS	None	
APPLIED SORTS	None	
PIVOT & GROUPING		
PIVOT COLUMNS	None	
PIVOT MODE	Off	
ROW GROUPS	None	
VALUE COLUMNS	None	
WEB ADDRESS	https://data.census.gov/table/ACSDT5Y2022.B08141?text=B08141&t=Transportation&g=1400000U551013100500,51013100600,51013101402,51013101406,51013101500,51013101502,51013101503&y=2022	
TABLE NOTES		
	Although the American Community Survey (ACS) produces population, demographic and housing unit estimates, the decennial census is the official source of population totals for April 1st of each decennial year. In between censuses, the Census Bureau's Population Estimates Program produces and disseminates the official estimates of the population for the nation, states, counties, cities, and towns and estimates of housing units for states and counties.	
	Information about the American Community Survey (ACS) can be found on the ACS website. Supporting documentation including code lists, subject definitions, data accuracy, and statistical testing, and a full list of ACS tables and table shells (without estimates) can be found on the Technical Documentation section of the ACS website. Sample size and data quality measures (including coverage rates, allocation rates, and response rates) can be found on the American Community Survey website in the Methodology section.	
	Source: U.S. Census Bureau, 2018-2022 American Community Survey 5-Year Estimates	
	Data are based on a sample and are subject to sampling variability. The degree of uncertainty for an estimate arising from sampling variability is represented through the use of a margin of error. The value shown here is the 90 percent margin of error. The margin of error can be interpreted roughly as providing a 90 percent probability that the interval defined by the estimate minus the margin of error and the estimate plus the margin of error (the lower and upper confidence bounds) contains the true value. In addition to sampling variability, the ACS estimates are subject to nonsampling error (for a discussion of nonsampling variability, see ACS Technical Documentation). The effect of nonsampling error is not represented in these tables.	
	Workers include members of the Armed Forces and civilians who were at work last week.	
	Several means of transportation to work categories were updated in 2019. For more information, see: Change to Means of Transportation.	
	The 2018-2022 American Community Survey (ACS) data generally reflect the March 2020 Office of Management and Budget (OMB) delineations of metropolitan and micropolitan statistical areas. In certain instances, the names, codes, and boundaries of the principal cities shown in ACS tables may differ from the OMB delineation lists due to differences in the effective dates of the geographic entities.	
	Estimates of urban and rural populations, housing units, and characteristics reflect boundaries of urban areas defined based on 2020 Census data. As a result, data for urban and rural areas from the ACS do not necessarily reflect the results of ongoing urbanization.	
	Explanation of Symbols:- The estimate could not be computed because there were an insufficient number of sample observations. For a ratio of medians estimate, one or both of the median estimates falls in the lowest interval or highest interval of an open-ended distribution. For a 5-year median estimate, the margin of error associated with a median was larger than the median itself.N The estimate or margin of error cannot be displayed because there were an insufficient number of sample cases in the selected geographic area. (X) The estimate or margin of error is not applicable or not available.median- The median falls in the lowest interval of an open-ended distribution (for example "2,500-")median+ The median falls in the highest interval of an open-ended distribution (for example "250,000+").** The margin of error could not be computed because there were an insufficient number of sample observations.*** The margin of error could not be computed because the median falls in the lowest interval or highest interval of an open-ended distribution.**** A margin of error is not appropriate because the corresponding estimate is controlled to an independent population or housing estimate. Effectively, the corresponding estimate has no sampling error and the margin of error may be treated as zero.	
COLUMN NOTES		
	None	



C:\PROJECTS\8574\TRANSPORTATION\CADD\8574B GRAPHICS.DWG

Census Tracts

 3130 Langston Boulevard
Arlington, Virginia

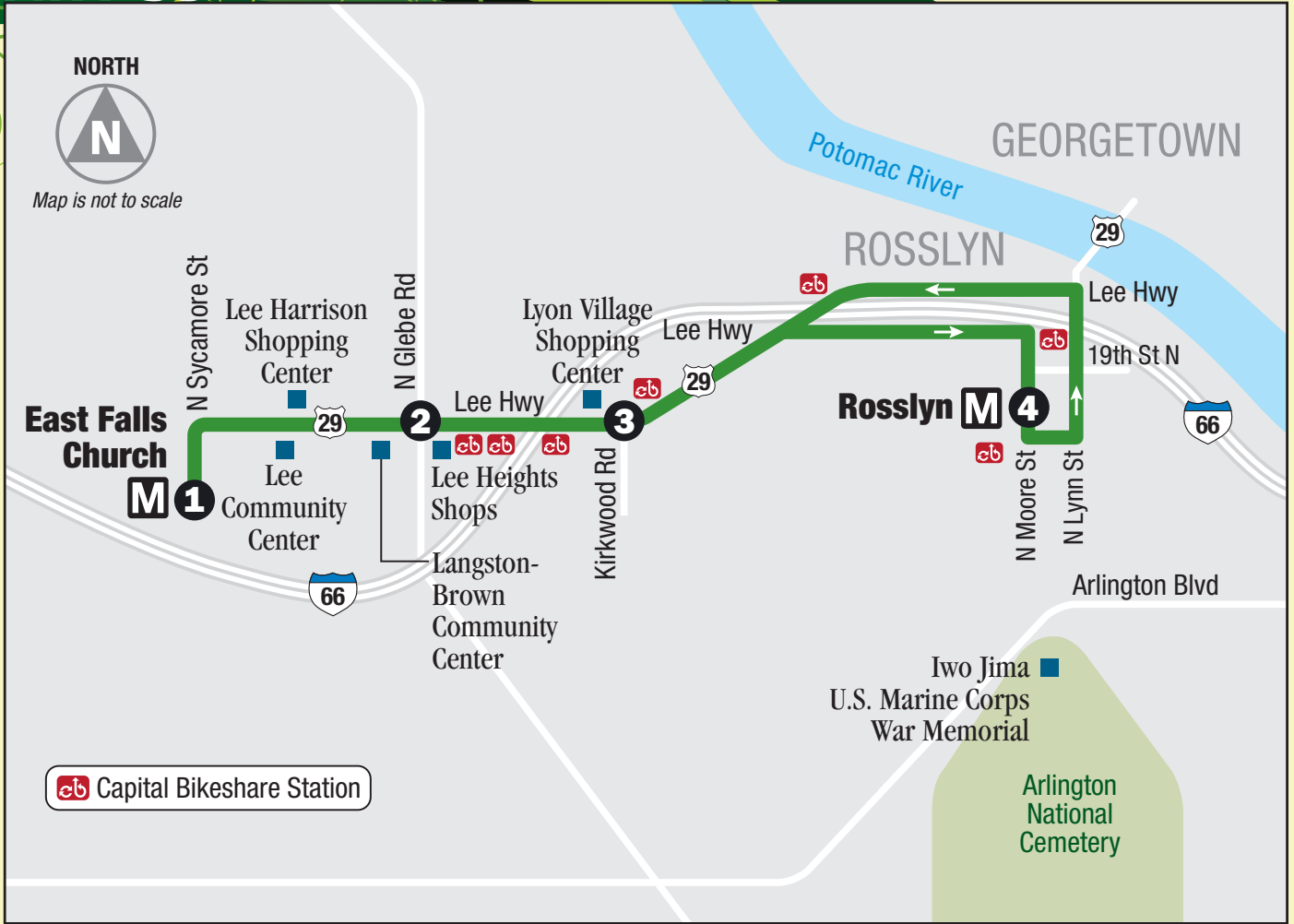


Label	Census Tract 1005; Arlington County, Virginia		Census Tract 1006; Arlington County, Virginia		Census Tract 1014.02; Arlington County, Virginia		Census Tract 1014.06; Arlington County, Virginia		Census Tract 1015.02; Arlington County, Virginia		Census Tract 1015.03; Arlington County, Virginia		Census Tract 1015; Arlington County, Virginia		Total	
	Estimate	Margin of Error	Estimate	Margin of Error	Estimate	Margin of Error	Estimate	Margin of Error	Estimate	Margin of Error	Estimate	Margin of Error	Estimate	Margin of Error	Estimate	Percentage
Total:	2,373	±265	1,720	±231	1,706	±242	2,357	±295	2,046	±321	1,216	±340	5,336	±382		16754
No vehicle available	49	±46	6	±10	57	±46	673	±221	154	±94	0	±13	447	±179		
1 vehicle available	359	±131	623	±195	799	±148	1,092	±256	819	±222	413	±186	2,454	±396		
2 vehicles available	1,471	±233	817	±239	625	±159	530	±218	838	±307	455	±148	1,794	±408		
3 or more vehicles available	494	±177	274	±114	225	±81	62	±25	188	±68	348	±98	641	±221		
Car, truck, or van - drove alone:	1,189	±249	923	±183	566	±144	504	±178	620	±193	420	±149	2,091	±319		6313
No vehicle available	31	±30	0	±13	0	±13	0	±13	0	±13	0	±13	21	±32		37.60%
1 vehicle available	138	±69	283	±156	208	±75	260	±121	230	±151	78	±63	912	±229		
2 vehicles available	754	±201	457	±161	305	±119	213	±125	274	±134	193	±70	812	±238		
3 or more vehicles available	266	±151	183	±82	53	±47	31	±44	116	±122	149	±128	346	±169		
Car, truck, or van - carpooled:	159	±87	78	±55	20	±24	68	±108	81	±81	31	±32	133	±74		
No vehicle available	0	±13	0	±13	0	±13	0	±13	0	±13	0	±13	0	±17		570
1 vehicle available	39	±46	47	±45	20	±24	0	±13	0	±13	14	±24	32	±36		
2 vehicles available	120	±69	31	±38	0	±13	68	±108	64	±78	0	±13	52	±44		
3 or more vehicles available	0	±13	0	±13	0	±13	0	±13	17	±30	17	±21	49	±42		
Public transportation (excluding taxicab):	134	±66	205	±99	352	±98	561	±171	507	±180	301	±191	2,082	±336		4162
No vehicle available	18	±24	0	±13	6	±19	189	±116	100	±75	0	±13	384	±162		24.80%
1 vehicle available	35	±41	70	±56	156	±60	303	±135	234	±119	137	±158	1,034	±273		
2 vehicles available	61	±48	98	±60	140	±69	89	±81	173	±131	99	±66	556	±245		
3 or more vehicles available	20	±23	37	±54	50	±44	0	±13	0	±13	65	±77	108	±72		
Walked:	18	±17	96	±65	168	±104	266	±107	101	±66	47	±48	308	±113		1002
No vehicle available	0	±13	0	±13	0	±13	154	±72	0	±13	0	±13	42	±41		5.98%
1 vehicle available	7	±11	32	±38	88	±51	53	±63	35	±36	0	±13	116	±73		
2 vehicles available	9	±13	49	±45	14	±16	59	±54	40	±37	36	±46	115	±69		
3 or more vehicles available	0	±13	15	±18	66	±92	0	±13	26	±40	11	±18	35	±42		
Taxicab, motorcycle, bicycle, or other means:	134	±65	96	±59	36	±23	16	±26	86	±58	17	±23	298	±155		4.08%
No vehicle available	0	±13	0	±13	14	±15	0	±13	0	±13	0	±13	0	±17		683
1 vehicle available	45	±36	46	±46	0	±13	16	±26	34	±37	17	±23	220	±139		
2 vehicles available	79	±61	31	±25	22	±19	0	±13	52	±49	0	±13	78	±69		
3 or more vehicles available	10	±16	19	±21	0	±13	0	±13	0	±13	0	±13	0	±17		
Worked from home:	741	±149	322	±144	354	±153	322	±210	651	±190	400	±150	424	±157		4024
No vehicle available	0	±13	0	±10	37	±41	330	±193	54	±60	0	±13	0	±17		24.02%
1 vehicle available	95	±63	145	±68	127	±127	460	±167	131	±67	167	±83	140	±77		
2 vehicles available	448	±128	151	±109	144	±70	101	±71	235	±103	127	±84	181	±123		
3 or more vehicles available	198	±79	20	±25	56	±49	31	±45	76	±75	106	±112	103	±78		

East Falls Church-Lee Highway-Rosslyn

Effective August, 2020

ART 55



ART 55 FARES	Cash Fare	Fare w/ SmarTrip Card	Transfers Using SmarTrip Card*	
			ART to Metrorail or Metrorail to ART	ART to ART or ART to/from Metrobus
Adults	\$2.00	\$2.00	50¢ discount	Free
Senior Citizens (ages 65+)	\$1.00	\$1.00	50¢ discount	Free
People w/ Disabilities (w/WMATA ID or Medicare card)	\$1.00	\$1.00	50¢ discount	Free
K-12 Students (w/school ID)	\$1.00	K-12 students receive the \$1.00 student fare only when paying with cash, a green iRide token or a Student iRide SmarTrip card. Transfer costs between ART and other transit systems may vary for using the Student iRide SmarTrip card.		

*TRANSFERS MUST BE MADE WITHIN 2 HOURS.

Regular Fares can also be paid with a 7 Day Regional Bus Pass (loaded on SmarTrip), a gold ART token, or a green iRide token. You can buy tokens or purchase SmarTrip cards and add value or a 7 day pass to them at any Commuter Store or Mobile Commuter Store, or online at commuterdirect.com.

TARIFAS ART 55	Tarifa Regular	Tarifa con SmarTrip	Transbordos usando tarjeta SmarTrip*	
			ART a Metrorail o Metrorail a ART	ART a ART o ART a/desde Metrobus
Adultos	\$2.00	\$2.00	50¢ de descuento	gratis
Adultos mayores (65 años a más)	\$1.00	\$1.00	50¢ de descuento	gratis
Personas con discapacidad (con identificación WMATA o tarjeta Medicare)	\$1.00	\$1.00	50¢ de descuento	gratis
Estudiantes jardín a 12 grado (con ID estudiante)	\$1.00	Estudiantes desde jardín infante hasta 12 grado pagan tarifa de estudiante de \$1 en ART cuando pagan en efectivo, con tarjeta iRide SmarTrip color verde o iRide token color verde. Costo de transbordos entre ART y otros servicios de transporte pueden variar con tarjeta iRide SmarTrip.		



*TRANSBORDOS DEBEN HACERSE DENTRO DE DOS HORAS.

Las tarifas regulares también se pueden pagar con un Pase de Bus Regional de 7 Días (cargado en SmarTrip), un token dorado ART o un token verde iRide. Puede comprar pases o tarjetas SmarTrip y cargarles dinero o un pase de 7 días en cualquier tienda Commuter Store o Mobile Commuter Store, o en Internet en commuterdirect.com (en inglés).

ART 55

Monday - Friday Eastbound

Lunes-Viernes
Dirección Este

	East Falls Church 	Lee Highway & Glebe Rd	Lee Highway & Kirkwood Rd	Rosslyn 
	1	2	3	4
	5:00	5:09	5:15	5:30
	5:15	5:24	5:30	5:45
	5:30	5:39	5:45	6:00
	5:45	5:54	6:00	6:15
	5:57	6:06	6:12	6:27
	6:12	6:21	6:27	6:42
	6:24	6:33	6:39	6:54
	6:36	6:45	6:51	7:06
	6:48	6:57	7:03	7:18
	7:00	7:09	7:15	7:30
	7:12	7:21	7:27	7:42
	7:24	7:33	7:39	7:54
	7:36	7:45	7:51	8:06
	7:48	7:57	8:03	8:18
	8:00	8:09	8:15	8:30
	8:12	8:21	8:27	8:42
	8:24	8:33	8:39	8:54
	8:36	8:45	8:51	9:06
	8:48	8:57	9:03	9:18
	9:00	9:09	9:15	9:30
	9:15	9:24	9:30	9:37
	9:30	9:39	9:45	9:52
	9:45	9:54	10:00	10:07
	10:00	10:09	10:15	10:22
	10:15	10:24	10:30	10:37
	10:30	10:39	10:45	10:52
	10:45	10:54	11:00	11:07
	11:00	11:09	11:15	11:22
	11:15	11:24	11:30	11:37
	11:30	11:39	11:45	11:52
	11:45	11:54	12:00	12:07
	12:00	12:09	12:15	12:22
	12:15	12:24	12:30	12:37
	12:30	12:39	12:45	12:52
	12:45	12:54	1:00	1:07
	1:00	1:09	1:15	1:22
	1:15	1:24	1:30	1:37
	1:30	1:39	1:45	1:52
	1:45	1:54	2:00	2:07
	2:00	2:09	2:15	2:22
	2:15	2:24	2:30	2:37
	2:30	2:39	2:45	2:52
	2:45	2:54	3:00	3:07
	2:57	3:06	3:12	3:21
	3:09	3:18	3:24	3:33
	3:21	3:30	3:36	3:45
	3:33	3:42	3:48	3:57
	3:45	3:54	4:00	4:09
	3:57	4:06	4:12	4:21
	4:09	4:18	4:24	4:33
	4:21	4:30	4:36	4:45
	4:33	4:42	4:48	4:57
	4:45	4:54	5:00	5:09
	4:57	5:06	5:12	5:21
	5:09	5:18	5:24	5:33
	5:21	5:30	5:36	5:45
	5:33	5:42	5:48	5:57
	5:45	5:54	6:00	6:09
	5:57	6:06	6:12	6:21
	6:09	6:18	6:24	6:33
	6:21	6:30	6:36	6:45
	6:36	6:45	6:51	7:00
	6:51	7:00	7:06	7:15
	7:06	7:15	7:21	7:28
	7:21	7:30	7:36	7:43
	7:36	7:45	7:51	7:58
	8:06	8:15	8:21	8:28
	8:36	8:45	8:51	8:58
	9:06	9:15	9:21	9:28
	9:36	9:45	9:51	9:58
	10:06	10:15	10:21	10:28
	10:36	10:45	10:51	10:58
	11:06	11:15	11:21	11:28
	11:36	11:45	11:51	11:58
	12:06	12:15	12:21	12:28
	12:48	12:57	1:03	1:10



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ART 55

Monday - Friday Westbound

Lunes-Viernes
Dirección Oeste

	Rosslyn 	Lee Highway & Spout Run Pkwy	Lee Highway & Glebe Rd	East Falls Church 
	4	3	2	1
	5:35	5:43	5:50	5:59
	5:50	5:58	6:05	6:14
	6:05	6:13	6:20	6:29
	6:20	6:28	6:35	6:44
	6:32	6:40	6:47	6:56
	6:44	6:52	6:59	7:08
	6:56	7:04	7:11	7:20
	7:08	7:16	7:23	7:32
	7:20	7:28	7:35	7:44
	7:32	7:40	7:47	7:56
	7:44	7:52	7:59	8:08
	7:56	8:04	8:11	8:20
	8:08	8:16	8:23	8:32
	8:20	8:28	8:35	8:44
	8:32	8:40	8:47	8:56
	8:44	8:52	8:59	9:08
	8:56	9:04	9:11	9:20
	9:11	9:19	9:26	9:35
	9:26	9:34	9:41	9:50
	9:41	9:49	9:56	10:05
	9:56	10:04	10:11	10:20
	10:11	10:19	10:26	10:35
	10:26	10:34	10:41	10:50
	10:41	10:49	10:56	11:05
	10:56	11:04	11:11	11:20
	11:11	11:19	11:26	11:35
	11:26	11:34	11:41	11:50
	11:41	11:49	11:56	12:05
	11:56	12:04	12:11	12:20
	12:11	12:19	12:26	12:35
	12:26	12:34	12:41	12:50
	12:41	12:49	12:56	1:05
	12:56	1:04	1:11	1:20
	1:11	1:19	1:26	1:35
	1:26	1:34	1:41	1:50
	1:41	1:49	1:56	2:05
	1:56	2:04	2:11	2:20
	2:11	2:19	2:26	2:35
	2:26	2:34	2:41	2:50
	2:41	2:49	2:56	3:05
	2:56	3:04	3:11	3:20
	3:11	3:19	3:26	3:35
	3:26	3:34	3:42	3:51
	3:38	3:46	3:54	4:03
	3:50	3:58	4:06	4:15
	4:02	4:10	4:18	4:27
	4:14	4:22	4:30	4:39
	4:26	4:34	4:42	4:51
	4:38	4:46	4:54	5:03
	4:50	4:58	5:06	5:15
	5:02	5:10	5:18	5:27
	5:14	5:22	5:30	5:39
	5:26	5:34	5:42	5:51
	5:38	5:46	5:54	6:03
	5:50	5:58	6:06	6:15
	6:02	6:10	6:18	6:27
	6:14	6:22	6:30	6:39
	6:26	6:34	6:42	6:51
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	7:05	7:13	7:21	7:30
	7:20	7:28	7:35	7:44
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	7:50	7:58	8:05	8:14
	8:05	8:13	8:20	8:29
	8:35	8:43	8:50	8:59
	9:05	9:13	9:20	9:29
	9:35	9:43	9:50	9:59
	10:05	10:13	10:20	10:29
	10:35	10:43	10:50	10:59
	11:05	11:13	11:20	11:29
	11:35	11:43	11:50	11:59
	12:05	12:13	12:20	12:29
	12:35	12:43	12:50	12:59
	1:15	1:23	1:30	1:39



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PM Times

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ART 55

Saturday Eastbound

Sábado
Dirección Este

	East Falls Church 	Lee Highway & Glebe Rd	Lee Highway & Kirkwood Rd	Rosslyn 
	1	2	3	4
5:45	5:54	6:01	6:08	
6:05	6:14	6:21	6:28	
6:25	6:34	6:41	6:48	
6:45	6:54	7:01	7:08	
7:05	7:14	7:21	7:28	
7:25	7:34	7:41	7:48	
7:45	7:54	8:01	8:08	
8:05	8:14	8:21	8:28	
8:25	8:34	8:41	8:48	
8:45	8:54	9:01	9:08	
9:05	9:14	9:21	9:28	
9:25	9:34	9:41	9:48	
9:45	9:54	10:01	10:08	
10:05	10:14	10:21	10:28	
10:25	10:34	10:41	10:48	
10:45	10:54	11:01	11:08	
11:05	11:14	11:21	11:28	
11:25	11:34	11:41	11:48	
11:45	11:54	12:01	12:08	
12:05	12:14	12:21	12:28	
12:25	12:34	12:41	12:48	
12:45	12:54	1:01	1:08	
1:05	1:14	1:21	1:28	
1:25	1:34	1:41	1:48	
1:45	1:54	2:01	2:08	
2:05	2:14	2:21	2:28	
2:25	2:34	2:41	2:48	
2:45	2:54	3:01	3:08	
3:05	3:14	3:21	3:28	
3:25	3:34	3:41	3:48	
3:45	3:54	4:01	4:08	
4:05	4:14	4:21	4:28	
4:25	4:34	4:41	4:48	
4:45	4:54	5:01	5:08	
5:05	5:14	5:21	5:28	
5:25	5:34	5:41	5:48	
5:45	5:54	6:01	6:08	
6:05	6:14	6:21	6:28	
6:25	6:34	6:41	6:48	
6:45	6:54	7:01	7:08	
7:05	7:14	7:21	7:28	
7:25	7:34	7:41	7:48	
7:45	7:54	8:01	8:08	
8:15	8:24	8:31	8:38	
8:45	8:54	9:01	9:08	
9:15	9:24	9:31	9:38	
9:45	9:54	10:01	10:08	
10:15	10:24	10:31	10:38	
10:45	10:54	11:01	11:08	
11:15	11:24	11:31	11:38	
11:45	11:54	12:01	12:08	
12:15	12:24	12:31	12:38	



Bold Shaded
numerals are
PM Times

Números
sombreados
en negrita son
horas PM

ART 55

Saturday Westbound

Sábado
Dirección Oeste

	Rosslyn 	Lee Highway & Spout Run Pkwy	Lee Highway & Glebe Rd	East Falls Church 
	4	3	2	1
6:15	6:24	6:32	6:42	
6:35	6:44	6:52	7:02	
6:55	7:04	7:12	7:22	
7:15	7:24	7:32	7:42	
7:35	7:44	7:52	8:02	
7:55	8:04	8:12	8:22	
8:15	8:24	8:32	8:42	
8:35	8:44	8:52	9:02	
8:55	9:04	9:12	9:22	
9:15	9:24	9:32	9:42	
9:35	9:44	9:52	10:02	
9:55	10:04	10:12	10:22	
10:15	10:24	10:32	10:42	
10:35	10:44	10:52	11:02	
10:55	11:04	11:12	11:22	
11:15	11:24	11:32	11:42	
11:35	11:44	11:52	12:02	
11:55	12:04	12:12	12:22	
12:15	12:24	12:32	12:42	
12:35	12:44	12:52	1:02	
12:55	1:04	1:12	1:22	
1:15	1:24	1:32	1:42	
1:35	1:44	1:52	2:02	
1:55	2:04	2:12	2:22	
2:15	2:24	2:32	2:42	
2:35	2:44	2:52	3:02	
2:55	3:04	3:12	3:22	
3:15	3:24	3:32	3:42	
3:35	3:44	3:52	4:02	
3:55	4:04	4:12	4:22	
4:15	4:24	4:32	4:42	
4:35	4:44	4:52	5:02	
4:55	5:04	5:12	5:22	
5:15	5:24	5:32	5:42	
5:35	5:44	5:52	6:02	
5:55	6:04	6:12	6:22	
6:15	6:24	6:32	6:42	
6:35	6:44	6:52	7:02	
6:55	7:04	7:12	7:22	
7:15	7:24	7:32	7:42	
7:35	7:44	7:52	8:02	
7:55	8:04	8:12	8:22	
8:15	8:24	8:32	8:42	
8:45	8:54	9:02	9:12	
9:15	9:24	9:32	9:42	
9:45	9:54	10:02	10:12	
10:15	10:24	10:32	10:42	
10:45	10:54	11:02	11:12	
11:15	11:24	11:32	11:42	
11:45	11:54	12:02	12:12	
12:15	12:24	12:32	12:42	
12:45	12:54	1:02	1:12	



Bold Shaded
numerals are
PM Times

Números
sombreados
en negrita son
horas PM

ART 55

Sunday Eastbound

Domingo
Dirección Este

	East Falls Church 	Lee Highway & Glebe Rd	Lee Highway & Kirkwood Rd	Rosslyn 
	1	2	3	4
6:20	6:29	6:36	6:43	
6:50	6:59	7:06	7:13	
7:20	7:29	7:36	7:43	
7:50	7:59	8:06	8:13	
8:20	8:29	8:36	8:43	
8:50	8:59	9:06	9:13	
9:20	9:29	9:36	9:43	
9:50	9:59	10:06	10:13	
10:20	10:29	10:36	10:43	
10:50	10:59	11:06	11:13	
11:20	11:29	11:36	11:43	
11:50	11:59	12:06	12:13	
12:20	12:29	12:36	12:43	
12:50	12:59	1:06	1:13	
1:20	1:29	1:36	1:43	
1:50	1:59	2:06	2:13	
2:20	2:29	2:36	2:43	
2:50	2:59	3:06	3:13	
3:20	3:29	3:36	3:43	
3:50	3:59	4:06	4:13	
4:20	4:29	4:36	4:43	
4:50	4:59	5:06	5:13	
5:20	5:29	5:36	5:43	
5:50	5:59	6:06	6:13	
6:20	6:29	6:36	6:43	
6:50	6:59	7:06	7:13	
7:20	7:29	7:36	7:43	
7:50	7:59	8:06	8:13	
8:20	8:29	8:36	8:43	
8:50	8:59	9:06	9:13	
9:20	9:29	9:36	9:43	
9:50	9:59	10:06	10:13	
10:20	10:29	10:36	10:43	
10:50	10:59	11:06	11:13	
11:20	11:29	11:36	11:43	



Bold Shaded
numerals are
PM Times

Números
sombreados
en negrita son
horas PM

ART 55

Sunday Westbound

Domingo
Dirección Oeste

	Rosslyn 	Lee Highway & Spout Run Pkwy	Lee Highway & Glebe Rd	East Falls Church 
	4	3	2	1
6:50	7:00	7:08	7:17	
7:20	7:30	7:38	7:47	
7:50	8:00	8:08	8:17	
8:20	8:30	8:38	8:47	
8:50	9:00	9:08	9:17	
9:20	9:30	9:38	9:47	
9:50	10:00	10:08	10:17	
10:20	10:30	10:38	10:47	
10:50	11:00	11:08	11:17	
11:20	11:30	11:38	11:47	
11:50	12:00	12:08	12:17	
12:20	12:30	12:38	12:47	
12:50	1:00	1:08	1:17	
1:20	1:30	1:38	1:47	
1:50	2:00	2:08	2:17	
2:20	2:30	2:38	2:47	
2:50	3:00	3:08	3:17	
3:20	3:30	3:38	3:47	
3:50	4:00	4:08	4:17	
4:20	4:30	4:38	4:47	
4:50	5:00	5:08	5:17	
5:20	5:30	5:38	5:47	
5:50	6:00	6:08	6:17	
6:20	6:30	6:38	6:47	
6:50	7:00	7:08	7:17	
7:20	7:30	7:38	7:47	
7:50	8:00	8:08	8:17	
8:20	8:30	8:38	8:47	
8:50	9:00	9:08	9:17	
9:20	9:30	9:38	9:47	
9:50	10:00	10:08	10:17	
10:20	10:30	10:38	10:47	
10:50	11:00	11:08	11:17	
11:20	11:30	11:38	11:47	
11:50	12:00	12:08	12:17	

Bold Shaded
numerals are
PM Times

Números
sombreados
en negrita son
horas PM

How to use this timetable

- Use the map to find the stops closest to where you will get on and off the bus.
- Select the schedule (Weekday, Saturday, Sunday) for when you will travel. Along the top of the schedule, find the stop at or nearest the point where you will get on the bus. Follow that column down to the time you want to leave.
- Use the same method to find the times the bus is scheduled to arrive at the stop where you will get off the bus.
- If the bus stop is not listed, use the time shown for the bus stop before it as the time to wait at the stop.
- The end-of-the-line or last stop is listed in ALL CAPS on the schedule.

Cómo Usar este Horario

- Use este mapa para localizar las paradas más cercanas a donde se subirá y bajará del autobús.
- Seleccione el horario (Entre semana, sábado, domingo) de cuando viajará. A lo largo de la parte superior del horario, localice la parada o el punto más cercano a la parada en la que se subirá al autobús. Siga esa columna hacia abajo hasta la hora en la que desee salir.
- Utilice el mismo método para localizar las horas en que el autobús está programado para llegar a la parada en donde desea bajarse del autobús.
- Si la parada del autobús no está listada use la hora que se muestra en la parada anterior como la hora de espera en la parada.
- El final de la ruta o la última parada del autobús aparece en letras MAYÚSCULAS en el horario.

English-Español

Effective 12-17-23

3F,Y

Langston Boulevard - McPherson Square Line

metrobus



Serves these locations-
Brinda servicio a estas ubicaciones

- East Falls Church station
- Lee Heights (3Y)
- Waverly Hills (3Y)
- Cherrydale (3Y)
- Rosslyn (3Y)
- Farragut West station (3Y)
- Farragut North station (3Y)
- McPherson Sq station



www.wmata.com

Information Anytime 202-637-7000 TTY 202-962-2033



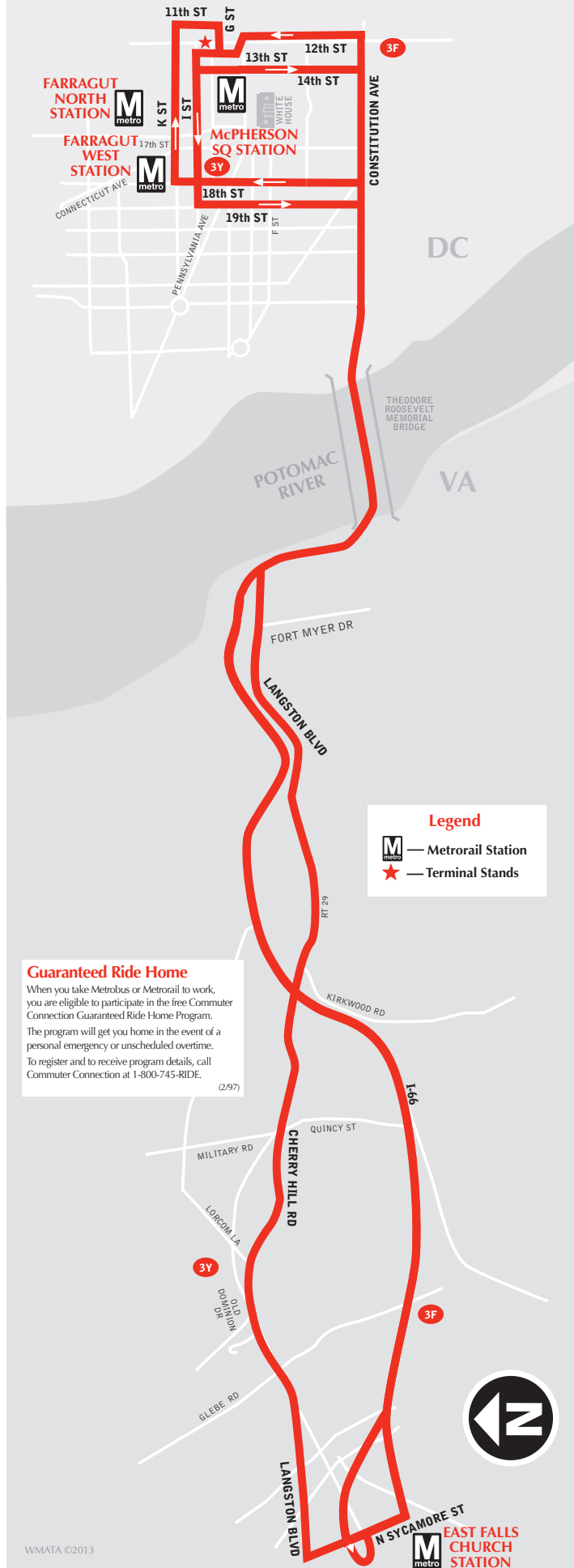
**Washington
Metropolitan Area
Transit Authority**

*A District of Columbia,
Maryland and Virginia
Transit Partnership*

3F,Y

Langston Boulevard-McPherson Square Line


For route and schedule information
Call 202-637-7000
www.wmata.com



Guaranteed Ride Home
When you take Metrobus or Metrorail to work, you are eligible to participate in the free Commuter Connection Guaranteed Ride Home Program. The program will get you home in the event of a personal emergency or unscheduled overtime. To register and to receive program details, call Commuter Connection at 1-800-745-RIDE.

▶ **Eastbound To McPherson Square station**


Monday thru Friday — De Lunes a viernes

Route Number	East Falls Church 	Langston Blvd. & Glebe Rd.	Langston Blvd. & Kirkwood Rd.	Langston Blvd. & Fort Myer Dr. (Rosslyn)	18 th St. & Pennsylvania Ave. NW	K & 17 th Sts. NW (Farragut North & Farragut West)	13th & G Sts. NW
AM Service — Servicio matutino							
3Y	5:45	5:54	6:02	6:09	6:17	6:22	6:32
3Y	6:10	6:19	6:27	6:34	6:42	6:47	6:57
3Y	6:35	6:44	6:52	6:59	7:07	7:12	7:22
3Y	7:00	7:11	7:21	7:29	7:40	7:45	7:55
3Y	7:25	7:36	7:46	7:54	8:05	8:10	8:20
3Y	7:50	8:01	8:12	8:21	8:33	8:39	8:49
3Y	8:20	8:31	8:42	8:51	9:03	9:09	9:19
PM Service — Servicio vesertino							
3F	4:57	-	-	-	-	-	5:27
3F	5:27	-	-	-	-	-	5:57
3F	5:57	-	-	-	-	-	6:27

On five Federal holidays, Juneteenth, Columbus Day, Veterans' Day, Martin Luther King, Jr. Day, and Presidents' Day, this route will have no service. Esta ruta no prestará servicio durante los cinco días festivos de Juneteenth, Columbus Day, Veterans Day, Martin Luther King Jr. Day, y Presidents' Day.

▶ **Westbound To East Falls Church station**

Monday thru Friday — De Lunes a viernes

Route Number	13th & H Sts. NW	19th & F Sts. NW	Langston Blvd. & Fort Myer Dr. (Rosslyn)	Langston Blvd. & Spout Run Pkwy.	Langston Blvd. & Glebe Rd.	EAST FALLS CHURCH 
AM Service — Servicio matutino						
3F	6:35	-	-	-	-	6:55
3F	6:59	-	-	-	-	7:19
3F	7:24	-	-	-	-	7:44
3F	7:57	-	-	-	-	8:17
PM Service — Servicio vesertino						
3Y	4:15	4:24	4:30	4:37	4:46	4:52
3Y	4:45	4:54	5:00	5:07	5:16	5:22
3Y	5:15	5:24	5:30	5:37	5:46	5:52
3Y	5:45	5:55	6:02	6:10	6:13	6:18
3Y	6:15	6:22	6:29	6:38	6:48	6:53
3Y	6:45	6:52	6:59	7:08	7:18	7:23

On five Federal holidays, Juneteenth, Columbus Day, Veterans' Day, Martin Luther King, Jr. Day, and Presidents' Day, this route will have no service. Esta ruta no prestará servicio durante los cinco días festivos de Juneteenth, Columbus Day, Veterans Day, Martin Luther King Jr. Day, y Presidents' Day.

Appendix C

Peak Hour Vehicular & Pedestrian Counts Drop-off Queues

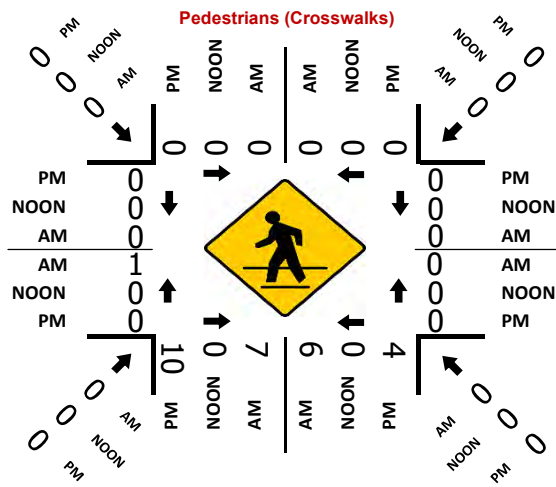
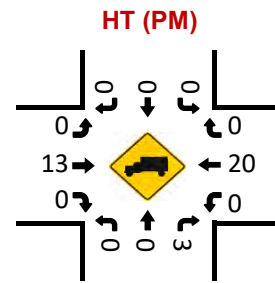
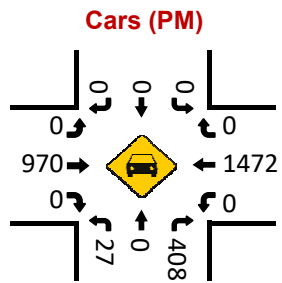
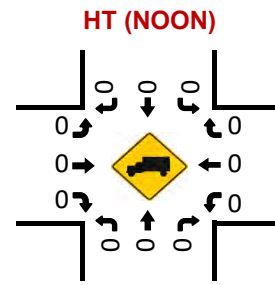
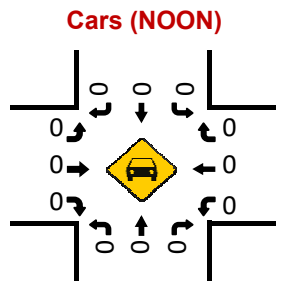
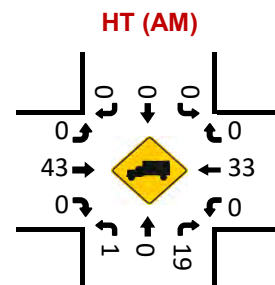
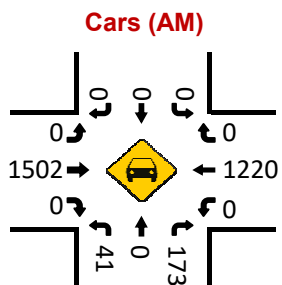
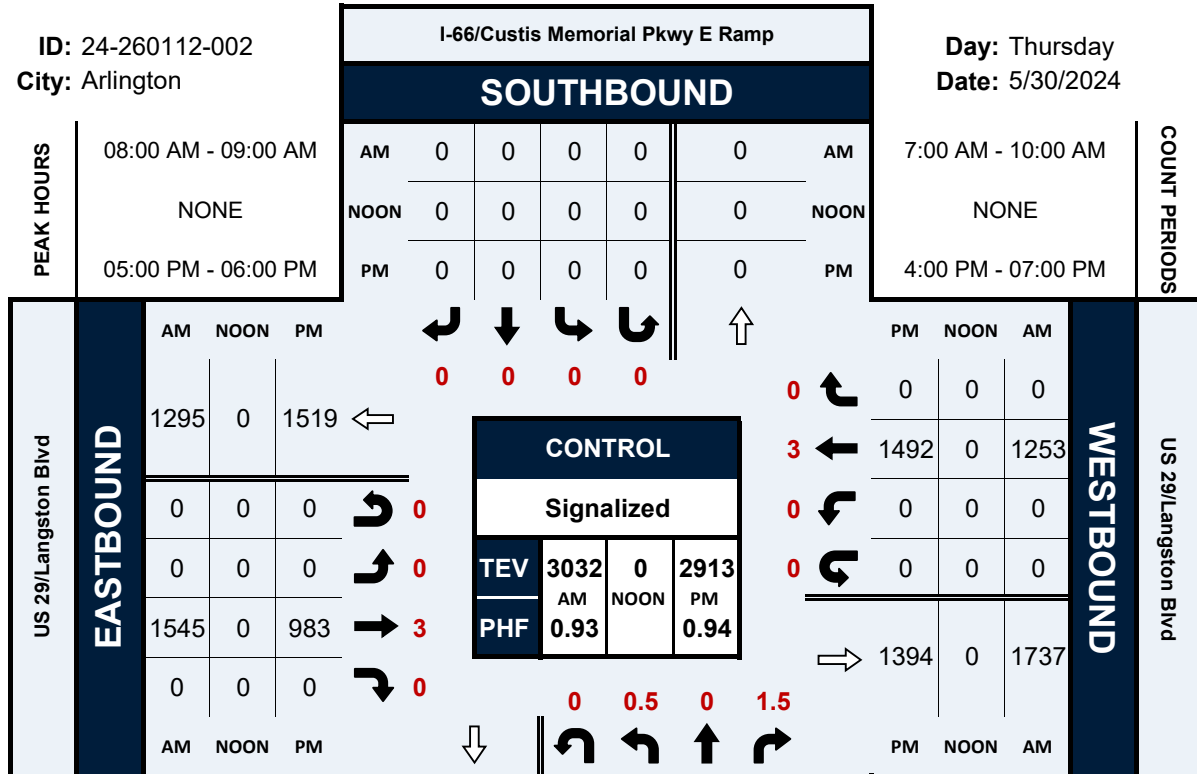


I-66/Custis Memorial Pkwy E Ramp & US 29/Langston Blvd

Peak Hour Turning Movement Count

ID: 24-260112-002
City: Arlington

Day: Thursday
Date: 5/30/2024

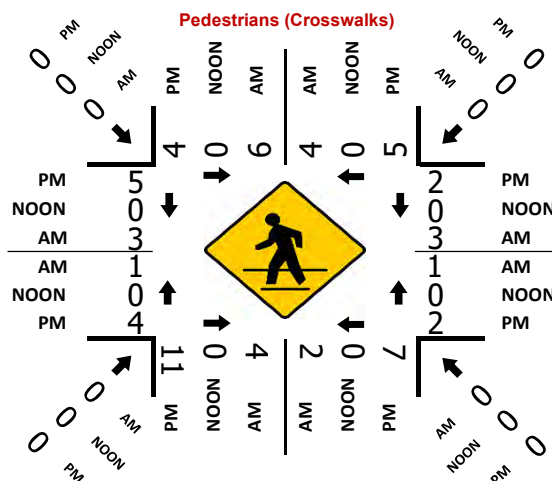
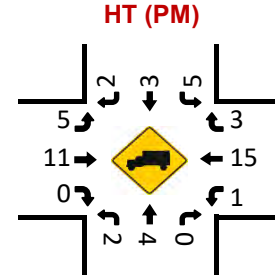
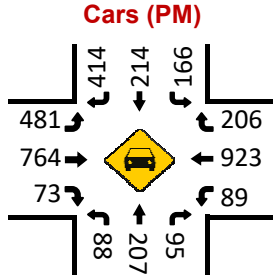
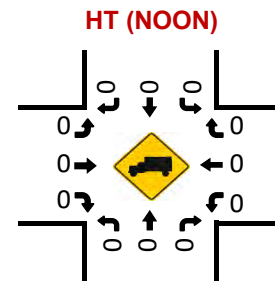
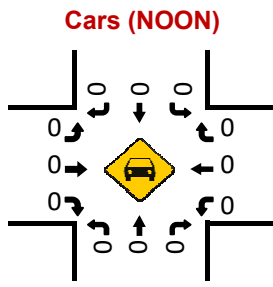
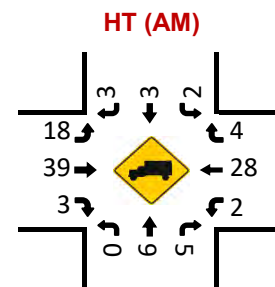
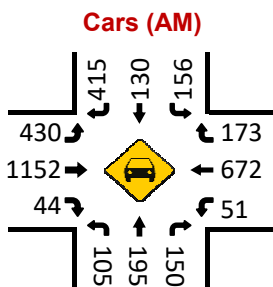
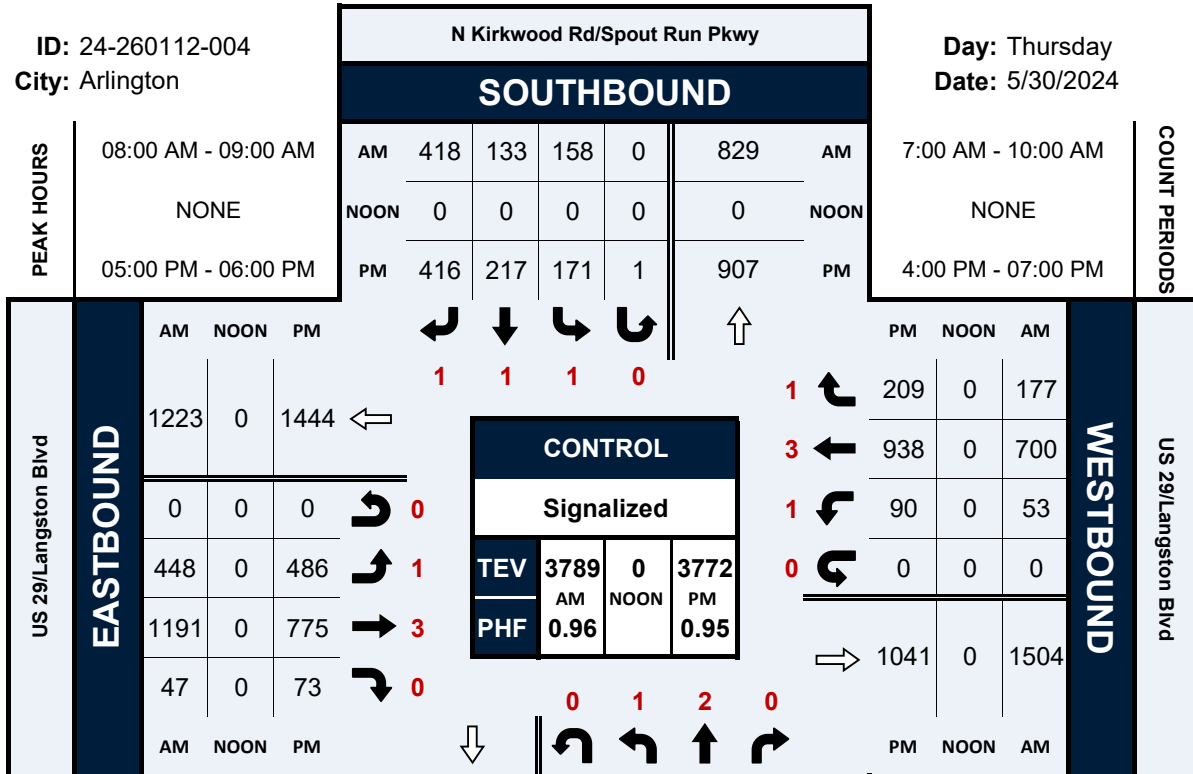


N Kirkwood Rd/Spout Run Pkwy & US 29/Langston Blvd

Peak Hour Turning Movement Count

ID: 24-260112-004
City: Arlington

Day: Thursday
Date: 5/30/2024

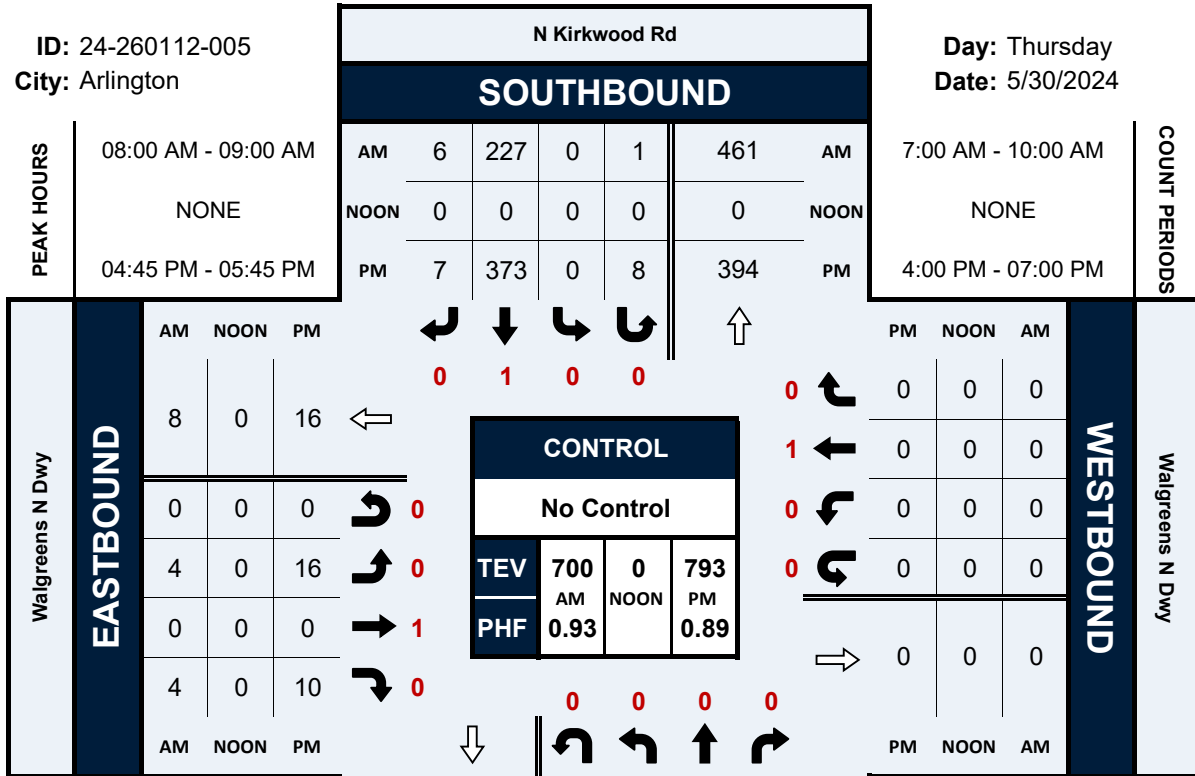


N Kirkwood Rd & Walgreens N Dwy

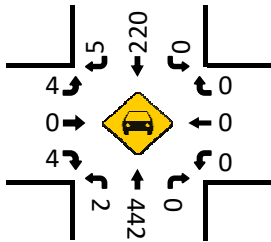
Peak Hour Turning Movement Count

ID: 24-260112-005
City: Arlington

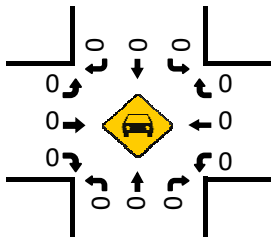
Day: Thursday
Date: 5/30/2024



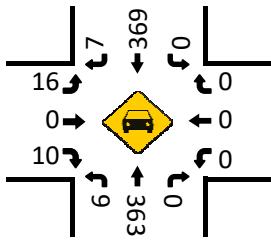
Cars (AM)



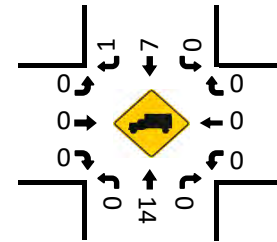
Cars (NOON)



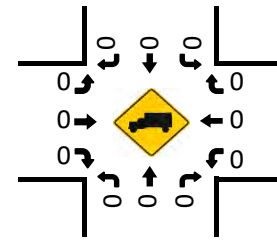
Cars (PM)



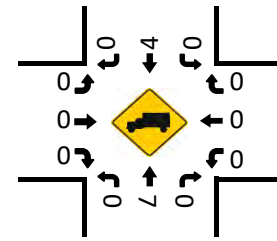
HT (AM)



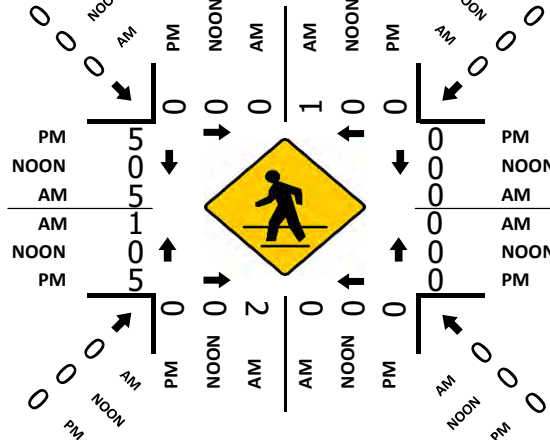
HT (NOON)



HT (PM)

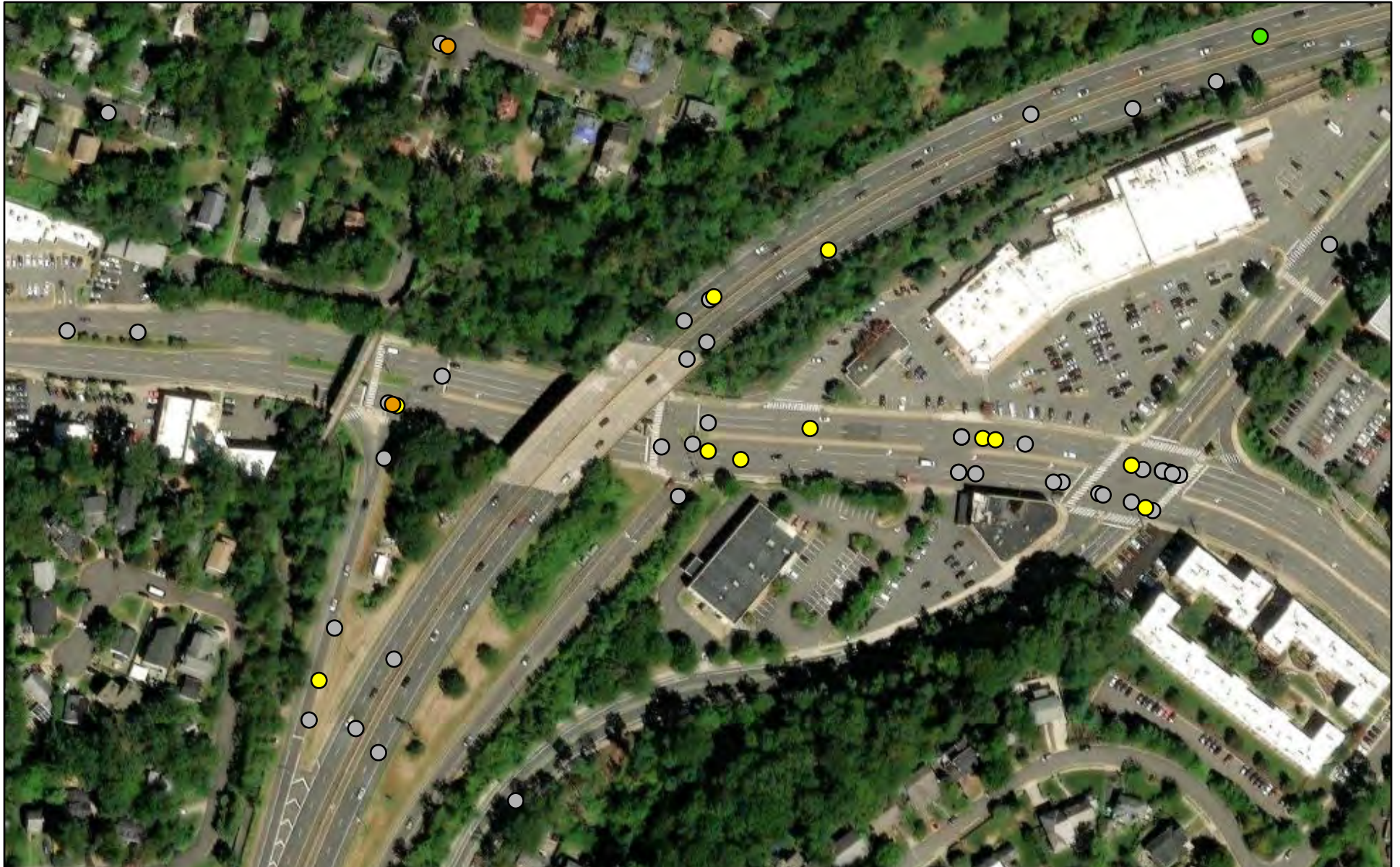


Pedestrians (Crosswalks)



Longitude	Latitude	Object ID	Document Number	Crash Year	Crash Date	Crash Time	Crash Severity	Persons Injured	Pedestrians Killed	Pedestrians Injured	Vehicle Count	Collision Type	Relation to Roadway	Work Zone Related	First Harmful Event	First Harmful Event Location	Intersection Analysis	VDOT District	Physical Jurisdiction	FAC
-77.0983285	38.89615425	767543	223455058	2022	2022/12/10 05:00:00+00	20:25	PDO, Property Damage Only	0	0	0	2	2, Angle	9, Within Intersection	2, No	20, Motor Vehicle In Transport	1, On Roadway	VDOT Intersection	9, Northern Virginia	000, Arlington County	4-Two-Way Divided
-77.0998111	38.89614969	942807	231105378	2023	2023/04/20 04:00:00+00	13:05	A, Severe Injury	2	0	0	2	2, Angle	9, Within Intersection	2, No	20, Motor Vehicle In Transport	1, On Roadway	VDOT Intersection	9, Northern Virginia	000, Arlington County	4-Two-Way Divided
-77.09978936	38.89614513	763701	220115048	2022	2022/01/10 05:00:00+00	21:05	B, Visible Injury	2	0	0	2	2, Angle	9, Within Intersection	2, No	20, Motor Vehicle In Transport	1, On Roadway	VDOT Intersection	9, Northern Virginia	000, Arlington County	4-Two-Way Divided
-77.09657729	38.89625712	776058	220655122	2022	2022/03/06 05:00:00+00	11:39	PDO, Property Damage Only	0	0	0	2	1, Rear End	1, Main-Line Roadway	2, No	20, Motor Vehicle In Transport	1, On Roadway	VDOT Intersection	9, Northern Virginia	000, Arlington County	4-Two-Way Divided
-77.09653398	38.89599596	853523	222635352	2022	2022/09/20 04:00:00+00	18:48	PDO, Property Damage Only	0	0	0	2	2, Angle	9, Within Intersection	2, No	20, Motor Vehicle In Transport	1, On Roadway	VDOT Intersection	9, Northern Virginia	000, Arlington County	4-Two-Way Divided
-77.09838254	38.89600619	984590	233575123	2023	2023/12/23 05:00:00+00	9:52	PDO, Property Damage Only	0	0	0	2	2, Angle	9, Within Intersection	2, No	20, Motor Vehicle In Transport	1, On Roadway	VDOT Intersection	9, Northern Virginia	000, Arlington County	4-Two-Way Divided
-77.09831204	38.89608047	851543	221275063	2022	2022/05/07 04:00:00+00	1:10	PDO, Property Damage Only	0	0	0	2	2, Angle	8, Non-Intersection	2, No	20, Motor Vehicle In Transport	1, On Roadway	VDOT Intersection	9, Northern Virginia	000, Arlington County	4-Two-Way Divided
-77.09830902	38.89597802	945879	231965080	2023	2023/07/15 04:00:00+00	8:05	B, Visible Injury	2	0	0	2	2, Angle	1, Main-Line Roadway	2, No	20, Motor Vehicle In Transport	1, On Roadway	VDOT Intersection	9, Northern Virginia	000, Arlington County	4-Two-Way Divided
-77.09815683	38.89594633	847495	222145269	2022	2022/08/01 04:00:00+00	15:16	B, Visible Injury	2	0	0	2	2, Angle	Intersection Related - Within 150	2, No	20, Motor Vehicle In Transport	1, On Roadway	VDOT Intersection	9, Northern Virginia	000, Arlington County	4-Two-Way Divided
-77.0984504	38.89581235	953344	232785433	2023	2023/10/03 04:00:00+00	17:19	PDO, Property Damage Only	0	0	0	2	1, Rear End	Intersection Related - Within 150	2, No	20, Motor Vehicle In Transport	1, On Roadway	VDOT Intersection	9, Northern Virginia	000, Arlington County	1-One-Way Undivided
-77.09782133	38.89606097	865070	230025345	2023	2023/01/02 05:00:00+00	20:24	B, Visible Injury	2	0	0	2	2, Angle	Intersection Related - Within 150	2, No	20, Motor Vehicle In Transport	1, On Roadway	VDOT Intersection	9, Northern Virginia	000, Arlington County	4-Two-Way Divided
-77.09710537	38.89602857	929955	232645394	2023	2023/09/21 04:00:00+00	17:11	PDO, Property Damage Only	0	0	0	2	3, Head On	1, Main-Line Roadway	2, No	20, Motor Vehicle In Transport	1, On Roadway	VDOT Intersection	9, Northern Virginia	000, Arlington County	4-Two-Way Divided
-77.0971156	38.89589768	1011073	240135006	2024	2024/01/12 05:00:00+00	17:00	PDO, Property Damage Only	0	0	0	2	2, Angle	Intersection Related - Outside 150	2, No	20, Motor Vehicle In Transport	1, On Roadway	VDOT Intersection	9, Northern Virginia	000, Arlington County	4-Two-Way Divided
-77.0970314	38.89602314	792892	220185198	2022	2022/01/18 05:00:00+00	8:00	B, Visible Injury	2	0	0	2	2, Angle	Intersection Related - Within 150	2, No	20, Motor Vehicle In Transport	1, On Roadway	VDOT Intersection	9, Northern Virginia	000, Arlington County	4-Two-Way Divided
-77.097036	38.89589385	880446	230785219	2023	2023/03/17 04:00:00+00	S	PDO, Property Damage Only	0	0	0	2	1, Rear End	B, Driveway, Alley-Access - Relate	2, No	20, Motor Vehicle In Transport	1, On Roadway	VDOT Intersection	9, Northern Virginia	000, Arlington County	4-Two-Way Divided
-77.0969419	38.89601833	803016	222345389	2022	2022/08/22 04:00:00+00	14:35	B, Visible Injury	2	0	0	2	2, Angle	1, Main-Line Roadway	2, No	20, Motor Vehicle In Transport	1, On Roadway	VDOT Intersection	9, Northern Virginia	000, Arlington County	4-Two-Way Divided
-77.09679914	38.89600554	901028	231585138	2023	2023/06/07 04:00:00+00	10:25	PDO, Property Damage Only	0	0	0	2	4, Sideswipe - Same Direction	8, Non-Intersection	2, No	20, Motor Vehicle In Transport	1, On Roadway	VDOT Intersection	9, Northern Virginia	000, Arlington County	4-Two-Way Divided
-77.09666332	38.89586438	984059	230815147	2023	2023/03/22 04:00:00+00	9:04	PDO, Property Damage Only	0	0	0	3	1, Rear End	9, Within Intersection	2, No	20, Motor Vehicle In Transport	1, On Roadway	VDOT Intersection	9, Northern Virginia	000, Arlington County	4-Two-Way Divided
-77.09662424	38.89585966	761237	223635391	2022	2022/12/29 05:00:00+00	16:51	PDO, Property Damage Only	0	0	0	2	1, Rear End	9, Within Intersection	2, No	20, Motor Vehicle In Transport	1, On Roadway	VDOT Intersection	9, Northern Virginia	000, Arlington County	4-Two-Way Divided
-77.09645133	38.89582117	762449	220885240	2022	2022/03/29 04:00:00+00	15:14	PDO, Property Damage Only	0	0	0	2	2, Angle	9, Within Intersection	2, No	20, Motor Vehicle In Transport	1, On Roadway	VDOT Intersection	9, Northern Virginia	000, Arlington County	4-Two-Way Divided
-77.09643213	38.89581683	927858	232075371	2023	2023/07/26 04:00:00+00	16:35	PDO, Property Damage Only	0	0	0	2	2, Angle	9, Within Intersection	2, No	20, Motor Vehicle In Transport	1, On Roadway	VDOT Intersection	9, Northern Virginia	000, Arlington County	4-Two-Way Divided
-77.09629772	38.89578644	988795	232575174	2023	2023/09/14 04:00:00+00	9:47	PDO, Property Damage Only	0	0	0	2	2, Angle	9, Within Intersection	2, No	20, Motor Vehicle In Transport	1, On Roadway	VDOT Intersection	9, Northern Virginia	000, Arlington County	4-Two-Way Divided
-77.09619374	38.89575517	753046	220995108	2022	2022/04/03 04:00:00+00	12:12	PDO, Property Damage Only	0	0	0	2	2, Angle	9, Within Intersection	2, No	20, Motor Vehicle In Transport	1, On Roadway	VDOT Intersection	9, Northern Virginia	000, Arlington County	4-Two-Way Divided
-77.09629343	38.89592714	901107	232365327	2023	2023/08/24 04:00:00+00	14:27	B, Visible Injury	1	0	0	2	2, Angle	1, Main-Line Roadway	2, No	20, Motor Vehicle In Transport	1, On Roadway	VDOT Intersection	9, Northern Virginia	000, Arlington County	4-Two-Way Divided
-77.09623847	38.89590696	890668	230855341	2023	2023/03/26 04:00:00+00	19:48	PDO, Property Damage Only	0	0	0	2	3, Head On	1, Main-Line Roadway	2, No	20, Motor Vehicle In Transport	1, On Roadway	VDOT Intersection	9, Northern Virginia	000, Arlington County	4-Two-Way Divided
-77.09614716	38.89590321	833956	220805204	2022	2022/03/17 04:00:00+00	16:44	B, Visible Injury	1	0	0	2	2, Angle	9, Within Intersection	2, No	20, Motor Vehicle In Transport	1, On Roadway	VDOT Intersection	9, Northern Virginia	000, Arlington County	4-Two-Way Divided
-77.09614716	38.89590321	929949	233205235	2023	2023/11/16 05:00:00+00	11:55	PDO, Property Damage Only	0	0	0	2	2, Angle	9, Within Intersection	2, No	20, Motor Vehicle In Transport	1, On Roadway	VDOT Intersection	9, Northern Virginia	000, Arlington County	4-Two-Way Divided
-77.09611301	38.89589689	891322	233465473	2023	2023/12/11 05:00:00+00	12:34	B, Visible Injury	2	0	0	2	2, Angle	9, Within Intersection	2, No	20, Motor Vehicle In Transport	1, On Roadway	VDOT Intersection	9, Northern Virginia	000, Arlington County	4-Two-Way Divided
-77.09611301	38.89589689	998225	240435043	2024	2024/02/11 05:00:00+00	23:25	PDO, Property Damage Only	0	0	0	2	2, Angle	9, Within Intersection	2, No	20, Motor Vehicle In Transport	1, On Roadway	VDOT Intersection	9, Northern Virginia	000, Arlington County	4-Two-Way Divided
-77.09609583	38.89589372	1010362	240885313	2024	2024/03/28 04:00:00+00	16:48	PDO, Property Damage Only	0	0	0	2	2, Angle	9, Within Intersection	2, No	20, Motor Vehicle In Transport	1, On Roadway	VDOT Intersection	9, Northern Virginia	000, Arlington County	4-Two-Way Divided
-77.09607895	38.89589027	775362	223505435	2022	2022/12/16 05:00:00+00	15:30	PDO, Property Damage Only	0	0	0	2	2, Angle	9, Within Intersection	2, No	20, Motor Vehicle In Transport	1, On Roadway	VDOT Intersection	9, Northern Virginia	000, Arlington County	4-Two-Way Divided
-77.09606197	38.89588681	933863	231405102	2023	2023/05/20 04:00:00+00	10:19	PDO, Property Damage Only	0	0	0	2	2, Angle	9, Within Intersection	2, No	22, Bicycle	1, On Roadway	VDOT Intersection	9, Northern Virginia	000, Arlington County	4-Two-Way Divided

3130 Langston Boulevard Crash Data - VDOT



8/8/2024

Crash Data - CrashData Basic

- A. Severe Injury
- B. Visible Injury
- C. Nonvisible Injury



PDO. Property Damage Only

World Imagery

Low Resolution 15m Imagery

High Resolution 60cm Imagery

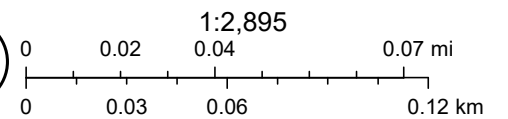
High Resolution 30cm Imagery

Citations

60cm Resolution Metadata



Maxar, Microsoft



Appendix D

LOS Descriptions



Level of Service for Signalized Intersections

Level of service for signalized intersections is defined in terms of delay, which is a measure of driver discomfort and frustration, fuel consumption, and lost travel time. Specifically, level-of-service (LOS) criteria are stated in terms of the average stopped delay per vehicle for a 15-min analysis period. The criteria are given in Exhibit 16-2. Delay may be measured in the field or estimated using procedures presented later in this chapter. Delay is a complex measure and is dependent on a number of variables, including the quality of progression, the cycle length, the green ratio, and the v/c ratio for the lane group in question.

LOS A describes operations with very low delay, up to 10 sec per vehicle. This level of service occurs when progression is extremely favorable and most vehicles arrive during the green phase. Most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.

LOS B describes operations with delay greater than 10 and up to 20 sec per vehicle. This level generally occurs with good progression, short cycle lengths, or both. More vehicles stop than with LOS A, causing higher levels of average delay.

Exhibit 16-2. Level-of-Service Criteria for Signalized Intersections

LEVEL OF SERVICE	STOPPED DELAY PER VEHICLE (SEC)
A	≤ 10.0
B	> 10.0 and ≤ 20.0
C	> 20.0 and ≤ 35.0
D	> 35.0 and ≤ 55.0
E	> 55.0 and ≤ 80.0
F	> 80.0

LOS C describes operations with delay greater than 20 and up to 35 sec per vehicle. These higher delays may result from fair progression, longer cycle lengths, or both. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant at this level, though many still pass through the intersection without stopping.

LOS D describes operations with delay greater than 35 and up to 55 sec per vehicle. At level D, the influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high v/c ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.

LOS E describes operations with delay greater than 55 and up to 80 sec per vehicle. This level is considered by many agencies to be the limit of acceptable delay. These high delay values generally indicate poor progression, long cycle lengths, and high v/c ratios. Individual cycle failures are frequent occurrences.

LOS F describes operations with delay in excess of 80 sec per vehicle. This level, considered to be unacceptable to most drivers, often occurs with oversaturation, that is, when arrival flow rates exceed the capacity of the intersection. It may also occur at high v/c ratios below 1.0 with many individual cycle failures. Poor progression and long cycle lengths may also be major contributing causes to such delay levels.

Source: [Highway Capacity Manual, 2000](#). Transportation Research Board, National Research Council

Level of Service Criteria for Stop Sign Controlled Intersections

The level of service criteria are given in Table 17-2. As used here, control delay is defined as the total elapsed time from the time a vehicle stops at the end of the queue until the vehicle departs from the stop line; this time includes the time required for the vehicle to travel from the last-in-queue position to the first-in-queue position, including deceleration of vehicles from free-flow speed to the speed of vehicles in queue.

The average total delay for any particular minor movement is a function of the service rate or capacity of the approach and the degree of saturation. . . .

Table 17-2. Level of Service Criteria for TWSC Intersections

LEVEL OF SERVICE	AVERAGE CONTROL DELAY (sec/veh)
A	≤ 10
B	> 10 and ≤ 15
C	> 15 and ≤ 25
D	> 25 and ≤ 35
E	> 35 and ≤ 50
F	> 50

Average total delay less than 10 sec/veh is defined as Level of Service (LOS) A. Follow-up times of less than 5 sec have been measured when there is no conflicting traffic for a minor street movement, so control delays of less than 10 sec/veh are appropriate for low flow conditions. To remain consistent with the AWSC intersection analysis procedure described later in this chapter, a total delay of 50 sec/veh is assumed as the break point between LOS E and F.

The proposed level of service criteria for TWSC intersections are somewhat different from the criteria used in Chapter 16 for signalized intersections. The primary reason for this difference is that drivers expect different levels of performance from different kinds of transportation facilities. The expectation is that a signalized intersection is designed to carry higher traffic volumes than an unsignalized intersection. Additionally, several driver behavior considerations combine to make delays at signalized intersections less onerous than at unsignalized intersections. For example, drivers at signalized intersections are able to relax during the red interval, where drivers on the minor approaches to unsignalized intersections must remain attentive to the task of identifying acceptable gaps and vehicle conflicts. Also, there is often much more variability in the amount of delay experienced by individual drivers at unsignalized than signalized intersections. For these reasons, it is considered that the total delay threshold for any given level of service is less for an unsignalized intersection than for a signalized intersection. . . .

LOS F exists when there are insufficient gaps of suitable size to allow a side street demand to cross safely through a major street traffic stream. This level of service is generally evident from extremely long total delays experienced by side street traffic and by queueing on the minor approaches. The method, however, is based on a constant critical gap size - that is, the critical gap remains constant, no matter how long the side street motorist waits. LOS F may also appear in the form of side street vehicles' selecting smaller-than-usual gaps. In such cases, safety may be a problem and some disruption to the major traffic stream may result. It is important to note that LOS F may not always result in long queues but may result in adjustments to normal gap acceptance behavior. The latter is more difficult to observe on the field than queueing, which is more obvious.

Source: Highway Capacity Manual, 2000. Transportation Research Board, National Research Council

Appendix E

Existing Conditions Synchro Worksheet





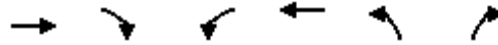
Lane Group	EBT	WBL	WBT
Lane Group Flow (vph)	1618	379	913
v/c Ratio	0.67	0.86	0.20
Control Delay	12.1	37.3	0.1
Queue Delay	0.0	0.0	0.0
Total Delay	12.1	37.3	0.1
Queue Length 50th (ft)	139	82	0
Queue Length 95th (ft)	186	#240	0
Internal Link Dist (ft)	451		351
Turn Bay Length (ft)		185	
Base Capacity (vph)	2411	481	4679
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.67	0.79	0.20

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

3130 Langston Boulevard
1: I-66 On Ramp & Lee Hwy.

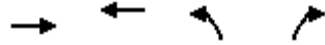
2024 AM Peak Existing



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑		↙	↑↑↑		
Traffic Volume (vph)	1551	67	379	913	0	0
Future Volume (vph)	1551	67	379	913	0	0
Ideal Flow (vphpl)	1750	1750	1650	1775	1900	1900
Grade (%)	-3%			3%	0%	
Total Lost time (s)	7.5		7.5	7.5		
Lane Util. Factor	0.91		1.00	0.91		
Frbp, ped/bikes	1.00		1.00	1.00		
Flpb, ped/bikes	1.00		1.00	1.00		
Frt	0.99		1.00	1.00		
Flt Protected	1.00		0.95	1.00		
Satd. Flow (prot)	4706		1513	4679		
Flt Permitted	1.00		0.11	1.00		
Satd. Flow (perm)	4706		179	4679		
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	1551	67	379	913	0	0
RTOR Reduction (vph)	8	0	0	0	0	0
Lane Group Flow (vph)	1610	0	379	913	0	0
Confl. Peds. (#/hr)		64	64		2	
Confl. Bikes (#/hr)		2				
Turn Type	NA		pm+pt	NA		
Protected Phases	2		1	6		
Permitted Phases			6			
Actuated Green, G (s)	28.1		47.5	55.0		
Effective Green, g (s)	28.1		47.5	55.0		
Actuated g/C Ratio	0.51		0.86	1.00		
Clearance Time (s)	7.5		7.5	7.5		
Vehicle Extension (s)	0.2		2.0	0.2		
Lane Grp Cap (vph)	2404		443	4679		
v/s Ratio Prot	0.34		c0.18	0.20		
v/s Ratio Perm			c0.55			
v/c Ratio	0.67		0.86	0.20		
Uniform Delay, d1	10.0		13.3	0.0		
Progression Factor	1.00		1.65	1.00		
Incremental Delay, d2	1.5		13.9	0.1		
Delay (s)	11.5		35.8	0.1		
Level of Service	B		D	A		
Approach Delay (s)	11.5			10.6	0.0	
Approach LOS	B			B	A	

Intersection Summary

HCM 2000 Control Delay	11.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	55.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	71.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Lane Group	EBT	WBT	NBL	NBR
Lane Group Flow (vph)	1545	1253	42	192
v/c Ratio	0.40	0.33	0.18	0.16
Control Delay	4.6	6.5	20.0	2.1
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	4.6	6.5	20.0	2.1
Queue Length 50th (ft)	0	4	13	0
Queue Length 95th (ft)	100	265	27	30
Internal Link Dist (ft)	351	246	341	
Turn Bay Length (ft)			275	
Base Capacity (vph)	3841	3818	513	1217
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.40	0.33	0.08	0.16
Intersection Summary				

3130 Langston Boulevard
2: I-66 Off Ramp & Lee Hwy.

2024 AM Peak Existing



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑			↑↑↑	↘	↗
Traffic Volume (vph)	1545	0	0	1253	42	192
Future Volume (vph)	1545	0	0	1253	42	192
Ideal Flow (vphpl)	1775	1775	1775	1775	1700	1700
Lane Width	12	12	12	12	12	14
Grade (%)	-3%			0%	-4%	
Total Lost time (s)	6.0			5.0	8.5	6.0
Lane Util. Factor	0.91			0.91	1.00	0.95
Frpb, ped/bikes	1.00			1.00	1.00	1.00
Flpb, ped/bikes	1.00			1.00	1.00	1.00
Frt	1.00			1.00	1.00	0.85
Flt Protected	1.00			1.00	0.95	1.00
Satd. Flow (prot)	4764			4694	1615	1464
Flt Permitted	1.00			1.00	0.95	1.00
Satd. Flow (perm)	4764			4694	1615	1464
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	1545	0	0	1253	42	192
RTOR Reduction (vph)	0	0	0	0	0	68
Lane Group Flow (vph)	1545	0	0	1253	42	124
Confl. Peds. (#/hr)		56	56		2	
Heavy Vehicles (%)	2%	3%	2%	2%	2%	2%
Bus Blockages (#/hr)	9	0	9	9	0	0
Turn Type	NA			NA	Prot	Perm
Protected Phases	2			6	4	
Permitted Phases						2
Actuated Green, G (s)	35.6			36.6	4.9	35.6
Effective Green, g (s)	35.6			36.6	4.9	35.6
Actuated g/C Ratio	0.65			0.67	0.09	0.65
Clearance Time (s)	6.0			5.0	8.5	6.0
Vehicle Extension (s)	2.0			2.0	2.0	2.0
Lane Grp Cap (vph)	3083			3123	143	947
v/s Ratio Prot	c0.32			0.27	c0.03	
v/s Ratio Perm						0.08
v/c Ratio	0.50			0.40	0.29	0.13
Uniform Delay, d1	5.1			4.2	23.4	3.7
Progression Factor	0.80			1.48	1.00	1.00
Incremental Delay, d2	0.4			0.4	0.4	0.3
Delay (s)	4.5			6.6	23.8	4.0
Level of Service	A			A	C	A
Approach Delay (s)	4.5			6.6	7.6	
Approach LOS	A			A	A	

Intersection Summary

HCM 2000 Control Delay	5.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	55.0	Sum of lost time (s)	14.5
Intersection Capacity Utilization	71.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

3130 Langston Boulevard
 3: N. Site Dwy/CVS Dwy & Lee Hwy.

2024 AM Peak Existing



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	59	1670	0	0	1180	44	0	0	1	6	0	62
Future Volume (Veh/h)	59	1670	0	0	1180	44	0	0	1	6	0	62
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	59	1670	0	0	1180	44	0	0	1	6	0	62
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)		326			265							
pX, platoon unblocked	0.90			0.84			0.90	0.90	0.84	0.90	0.90	0.90
vC, conflicting volume	1224			1670			2243	3012	557	1878	2990	415
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	850			1150			1209	2067	0	801	2043	0
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	92			100			100	100	100	97	100	94
cM capacity (veh/h)	704			510			109	44	916	231	46	973
Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	WB 3	NB 1	SB 1			
Volume Total	59	668	668	334	295	590	339	1	68			
Volume Left	59	0	0	0	0	0	0	0	6			
Volume Right	0	0	0	0	0	0	44	1	62			
cSH	704	1700	1700	1700	510	1700	1700	916	758			
Volume to Capacity	0.08	0.39	0.39	0.20	0.00	0.35	0.20	0.00	0.09			
Queue Length 95th (ft)	7	0	0	0	0	0	0	0	7			
Control Delay (s)	10.6	0.0	0.0	0.0	0.0	0.0	0.0	8.9	10.2			
Lane LOS	B							A	B			
Approach Delay (s)	0.4				0.0			8.9	10.2			
Approach LOS								A	B			
Intersection Summary												
Average Delay			0.4									
Intersection Capacity Utilization			65.3%		ICU Level of Service				C			
Analysis Period (min)			15									



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	448	1238	53	700	177	105	359	158	133	418
v/c Ratio	0.91	0.43	0.41	0.40	0.27	0.40	0.51	0.86	0.33	0.66
Control Delay	47.9	13.8	42.5	27.7	5.7	36.8	37.1	75.2	33.8	8.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.9	13.8	42.5	27.7	5.7	36.8	37.1	75.2	33.8	8.1
Queue Length 50th (ft)	217	170	28	132	0	62	114	106	76	0
Queue Length 95th (ft)	#399	198	#91	195	52	100	140	170	115	73
Internal Link Dist (ft)		185		533			445		1180	
Turn Bay Length (ft)	500		250		165	100		135		
Base Capacity (vph)	490	2902	130	1748	650	367	981	259	572	727
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.91	0.43	0.41	0.40	0.27	0.29	0.37	0.61	0.23	0.57

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

3130 Langston Boulevard
4: N Kirkwood Rd/Spout Run Pkwy & Lee Hwy.

2024 AM Peak Existing

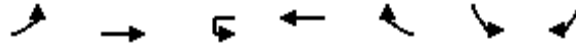


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑		↘	↑↑↑	↗	↘	↑↑		↘	↑	↗
Traffic Volume (vph)	448	1191	47	53	700	177	105	204	155	158	133	418
Future Volume (vph)	448	1191	47	53	700	177	105	204	155	158	133	418
Ideal Flow (vphpl)	1650	1700	1750	1650	1700	1750	1650	1750	1750	1650	1750	1700
Lane Width	12	13	12	13	12	13	12	12	13	11	11	11
Grade (%)		0%			-4%			0%			0%	
Total Lost time (s)	7.0	6.5		6.5	6.5	6.5	7.0	7.0		7.0	7.0	7.0
Lane Util. Factor	1.00	0.91		1.00	0.91	1.00	1.00	0.95		1.00	1.00	1.00
Frbp, ped/bikes	1.00	0.99		1.00	1.00	0.95	1.00	0.99		1.00	1.00	0.96
Flpb, ped/bikes	1.00	1.00		0.98	1.00	1.00	0.98	1.00		0.99	1.00	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.94		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1533	4594		1539	4641	1433	1502	2841		1476	1658	1313
Flt Permitted	0.28	1.00		0.21	1.00	1.00	0.67	1.00		0.48	1.00	1.00
Satd. Flow (perm)	455	4594		347	4641	1433	1063	2841		751	1658	1313
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	448	1191	47	53	700	177	105	204	155	158	133	418
RTOR Reduction (vph)	0	3	0	0	0	110	0	0	0	0	0	315
Lane Group Flow (vph)	448	1235	0	53	700	67	105	359	0	158	133	103
Confl. Peds. (#/hr)	32		73	73		32	31		12	12		31
Confl. Bikes (#/hr)			1			1						3
Heavy Vehicles (%)	2%	2%	2%	5%	2%	4%	2%	3%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	9	9	0	0	0	0	2	0	0	0	0
Parking (#/hr)								0	0			
Turn Type	pm+pt	NA		Perm	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases	5	2			6			8			4	
Permitted Phases	2			6		6	8			4		4
Actuated Green, G (s)	69.4	69.4		41.4	41.4	41.4	27.1	27.1		27.1	27.1	27.1
Effective Green, g (s)	69.4	69.4		41.4	41.4	41.4	27.1	27.1		27.1	27.1	27.1
Actuated g/C Ratio	0.63	0.63		0.38	0.38	0.38	0.25	0.25		0.25	0.25	0.25
Clearance Time (s)	7.0	6.5		6.5	6.5	6.5	7.0	7.0		7.0	7.0	7.0
Vehicle Extension (s)	3.0	0.2		0.2	0.2	0.2	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	492	2898		130	1746	539	261	699		185	408	323
v/s Ratio Prot	c0.17	0.27			0.15			0.13			0.08	
v/s Ratio Perm	c0.40			0.15		0.05	0.10			c0.21		0.08
v/c Ratio	0.91	0.43		0.41	0.40	0.12	0.40	0.51		0.85	0.33	0.32
Uniform Delay, d1	13.1	10.2		25.3	25.2	22.4	34.7	35.8		39.6	34.0	33.9
Progression Factor	1.77	1.17		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	20.1	0.4		9.2	0.7	0.5	1.0	0.6		29.8	0.5	0.6
Delay (s)	43.2	12.4		34.5	25.9	22.9	35.7	36.4		69.3	34.4	34.5
Level of Service	D	B		C	C	C	D	D		E	C	C
Approach Delay (s)		20.6			25.8			36.2			42.2	
Approach LOS		C			C			D			D	
Intersection Summary												
HCM 2000 Control Delay			27.8									C
HCM 2000 Volume to Capacity ratio			0.93									
Actuated Cycle Length (s)			110.0						20.5			
Intersection Capacity Utilization			104.2%									G

Analysis Period (min) 15
c Critical Lane Group



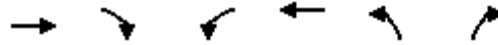
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↔		↕	
Traffic Volume (veh/h)	0	463	232	0	0	2
Future Volume (Veh/h)	0	463	232	0	0	2
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	463	232	0	0	2
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)			671			
pX, platoon unblocked	0.96				0.96	0.96
vC, conflicting volume	232				695	232
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	172				657	172
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	1341				410	832
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	463	232	2			
Volume Left	0	0	0			
Volume Right	0	0	2			
cSH	1341	1700	832			
Volume to Capacity	0.00	0.14	0.00			
Queue Length 95th (ft)	0	0	0			
Control Delay (s)	0.0	0.0	9.3			
Lane LOS			A			
Approach Delay (s)	0.0	0.0	9.3			
Approach LOS			A			
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			34.4%	ICU Level of Service		A
Analysis Period (min)			15			



Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations		↕		↕		↕	
Traffic Volume (veh/h)	2	456	1	227	6	4	4
Future Volume (Veh/h)	2	456	1	227	6	4	4
Sign Control		Free		Free		Stop	
Grade		0%		0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	2	456	0	227	6	4	4
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type		None		None			
Median storage (veh)							
Upstream signal (ft)				525			
pX, platoon unblocked	0.95		0.00			0.95	0.95
vC, conflicting volume	233		0			690	230
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol	162		0			645	159
tC, single (s)	4.1		0.0			6.4	6.2
tC, 2 stage (s)							
tF (s)	2.2		0.0			3.5	3.3
p0 queue free %	100		0			99	100
cM capacity (veh/h)	1342		0			413	839
Direction, Lane #	EB 1	WB 1	SB 1				
Volume Total	458	233	8				
Volume Left	2	0	4				
Volume Right	0	6	4				
cSH	1342	1700	554				
Volume to Capacity	0.00	0.14	0.01				
Queue Length 95th (ft)	0	0	1				
Control Delay (s)	0.0	0.0	11.6				
Lane LOS	A		B				
Approach Delay (s)	0.0	0.0	11.6				
Approach LOS			B				
Intersection Summary							
Average Delay			0.2				
Intersection Capacity Utilization			35.4%		ICU Level of Service		A
Analysis Period (min)			15				



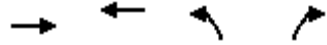
Lane Group	EBT	WBL	WBT
Lane Group Flow (vph)	1016	243	1276
v/c Ratio	0.29	0.53	0.36
Control Delay	4.4	5.9	4.9
Queue Delay	0.0	0.0	0.3
Total Delay	4.4	5.9	5.1
Queue Length 50th (ft)	54	3	74
Queue Length 95th (ft)	105	5	141
Internal Link Dist (ft)	451		351
Turn Bay Length (ft)		185	
Base Capacity (vph)	3558	753	3537
Starvation Cap Reductn	0	0	1393
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.29	0.32	0.60
Intersection Summary			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑		↙	↑↑↑		
Traffic Volume (vph)	980	36	243	1276	0	0
Future Volume (vph)	980	36	243	1276	0	0
Ideal Flow (vphpl)	1750	1750	1650	1775	1900	1900
Grade (%)	-3%			3%	0%	
Total Lost time (s)	7.5		7.5	7.5		
Lane Util. Factor	0.91		1.00	0.91		
Frbp, ped/bikes	0.99		1.00	1.00		
Flpb, ped/bikes	1.00		0.99	1.00		
Frt	0.99		1.00	1.00		
Flt Protected	1.00		0.95	1.00		
Satd. Flow (prot)	4702		1502	4679		
Flt Permitted	1.00		0.27	1.00		
Satd. Flow (perm)	4702		427	4679		
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	980	36	243	1276	0	0
RTOR Reduction (vph)	2	0	0	0	0	0
Lane Group Flow (vph)	1014	0	243	1276	0	0
Confl. Peds. (#/hr)		64	64		2	
Confl. Bikes (#/hr)		2				
Turn Type	NA		pm+pt	NA		
Protected Phases	2		1	6		
Permitted Phases			6			
Actuated Green, G (s)	75.6		85.0	75.6		
Effective Green, g (s)	75.6		85.0	75.6		
Actuated g/C Ratio	0.76		0.85	0.76		
Clearance Time (s)	7.5		7.5	7.5		
Vehicle Extension (s)	0.2		2.0	0.2		
Lane Grp Cap (vph)	3554		464	3537		
v/s Ratio Prot	0.22		c0.05	0.27		
v/s Ratio Perm			c0.40			
v/c Ratio	0.29		0.52	0.36		
Uniform Delay, d1	3.8		1.3	4.1		
Progression Factor	1.00		1.00	1.00		
Incremental Delay, d2	0.2		0.5	0.3		
Delay (s)	4.0		1.8	4.4		
Level of Service	A		A	A		
Approach Delay (s)	4.0			4.0	0.0	
Approach LOS	A			A	A	

Intersection Summary

HCM 2000 Control Delay	4.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	53.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Lane Group	EBT	WBT	NBL	NBR
Lane Group Flow (vph)	983	1492	27	411
v/c Ratio	0.25	0.38	0.16	0.32
Control Delay	4.9	4.0	39.4	1.7
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	4.9	4.0	39.4	1.7
Queue Length 50th (ft)	46	48	18	0
Queue Length 95th (ft)	161	167	33	45
Internal Link Dist (ft)	351	246	341	
Turn Bay Length (ft)			275	
Base Capacity (vph)	3948	3917	546	1283
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.25	0.38	0.05	0.32
Intersection Summary				



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑			↑↑↑	↘↘	↗
Traffic Volume (vph)	983	0	0	1492	27	411
Future Volume (vph)	983	0	0	1492	27	411
Ideal Flow (vphpl)	1775	1775	1775	1775	1700	1700
Lane Width	12	12	12	12	12	14
Grade (%)	-3%			0%	-4%	
Total Lost time (s)	6.0			5.0	8.5	6.0
Lane Util. Factor	0.91			0.91	1.00	0.95
Frpb, ped/bikes	1.00			1.00	1.00	1.00
Flpb, ped/bikes	1.00			1.00	1.00	1.00
Frt	1.00			1.00	1.00	0.85
Flt Protected	1.00			1.00	0.95	1.00
Satd. Flow (prot)	4764			4694	1615	1464
Flt Permitted	1.00			1.00	0.95	1.00
Satd. Flow (perm)	4764			4694	1615	1464
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	983	0	0	1492	27	411
RTOR Reduction (vph)	0	0	0	0	0	93
Lane Group Flow (vph)	983	0	0	1492	27	318
Confl. Peds. (#/hr)		56	56		2	
Heavy Vehicles (%)	2%	3%	2%	2%	2%	2%
Bus Blockages (#/hr)	9	0	9	9	0	0
Turn Type	NA			NA	Prot	Perm
Protected Phases	2			6	4	
Permitted Phases						2
Actuated Green, G (s)	81.2			82.2	9.3	81.2
Effective Green, g (s)	81.2			82.2	9.3	81.2
Actuated g/C Ratio	0.77			0.78	0.09	0.77
Clearance Time (s)	6.0			5.0	8.5	6.0
Vehicle Extension (s)	2.0			2.0	2.0	2.0
Lane Grp Cap (vph)	3684			3674	143	1132
v/s Ratio Prot	0.21			c0.32	c0.02	
v/s Ratio Perm						0.22
v/c Ratio	0.27			0.41	0.19	0.28
Uniform Delay, d1	3.4			3.6	44.4	3.4
Progression Factor	1.00			0.73	1.00	1.00
Incremental Delay, d2	0.2			0.3	0.2	0.6
Delay (s)	3.6			3.0	44.6	4.1
Level of Service	A			A	D	A
Approach Delay (s)	3.6			3.0	6.6	
Approach LOS	A			A	A	

Intersection Summary

HCM 2000 Control Delay	3.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	14.5
Intersection Capacity Utilization	53.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	41	1327	5	0	1384	54	0	0	2	8	0	62
Future Volume (Veh/h)	41	1327	5	0	1384	54	0	0	2	8	0	62
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	41	1327	5	0	1384	54	0	0	2	8	0	62
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)		326			265							
pX, platoon unblocked	0.86			0.95			0.88	0.88	0.95	0.88	0.88	0.86
vC, conflicting volume	1438			1332			1935	2850	445	1937	2825	488
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	945			1183			1254	2289	254	1257	2261	0
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	93			100			100	100	100	93	100	93
cM capacity (veh/h)	622			560			101	32	712	107	33	934
Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	WB 3	NB 1	SB 1			
Volume Total	41	531	531	270	346	692	400	2	70			
Volume Left	41	0	0	0	0	0	0	0	8			
Volume Right	0	0	0	5	0	0	54	2	62			
cSH	622	1700	1700	1700	560	1700	1700	712	496			
Volume to Capacity	0.07	0.31	0.31	0.16	0.00	0.41	0.24	0.00	0.14			
Queue Length 95th (ft)	5	0	0	0	0	0	0	0	12			
Control Delay (s)	11.2	0.0	0.0	0.0	0.0	0.0	0.0	10.1	13.5			
Lane LOS	B							B	B			
Approach Delay (s)	0.3				0.0			10.1	13.5			
Approach LOS								B	B			
Intersection Summary												
Average Delay			0.5									
Intersection Capacity Utilization			51.7%		ICU Level of Service				A			
Analysis Period (min)			15									



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	486	848	90	938	209	90	306	172	217	416
v/c Ratio	1.34	0.30	0.42	0.48	0.29	0.42	0.42	0.79	0.52	0.71
Control Delay	189.1	7.8	33.6	25.1	4.8	36.3	33.2	59.8	36.3	13.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	189.1	7.8	33.6	25.1	4.8	36.3	33.2	59.8	36.3	13.7
Queue Length 50th (ft)	~314	88	42	165	0	51	90	108	125	42
Queue Length 95th (ft)	#529	54	#117	246	52	85	111	165	170	132
Internal Link Dist (ft)		185		533			445		1180	
Turn Bay Length (ft)	500		250		165	100		135		
Base Capacity (vph)	364	2804	213	1935	720	307	1047	309	600	691
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.34	0.30	0.42	0.48	0.29	0.29	0.29	0.56	0.36	0.60

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

3130 Langston Boulevard
4: N Kirkwood Rd/Spout Run Pkwy & Lee Hwy.

2024 PM Peak Existing



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑↑		↘	↑↑↑	↗	↘	↑↑		↘	↑	↗
Traffic Volume (vph)	486	775	73	90	938	209	90	211	95	172	217	416
Future Volume (vph)	486	775	73	90	938	209	90	211	95	172	217	416
Ideal Flow (vphpl)	1650	1700	1750	1650	1700	1750	1650	1750	1750	1650	1750	1700
Lane Width	12	13	12	13	12	13	12	12	13	11	11	11
Grade (%)		0%			-4%			0%			0%	
Total Lost time (s)	7.0	6.5		6.5	6.5	6.5	7.0	7.0		7.0	7.0	7.0
Lane Util. Factor	1.00	0.91		1.00	0.91	1.00	1.00	0.95		1.00	1.00	1.00
Frbp, ped/bikes	1.00	0.99		1.00	1.00	0.95	1.00	0.99		1.00	1.00	0.96
Flpb, ped/bikes	1.00	1.00		0.96	1.00	1.00	0.98	1.00		0.99	1.00	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.95		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1535	4532		1517	4641	1435	1509	2895		1476	1658	1315
Flt Permitted	0.21	1.00		0.32	1.00	1.00	0.54	1.00		0.55	1.00	1.00
Satd. Flow (perm)	334	4532		513	4641	1435	850	2895		856	1658	1315
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	486	775	73	90	938	209	90	211	95	172	217	416
RTOR Reduction (vph)	0	8	0	0	0	122	0	0	0	0	0	251
Lane Group Flow (vph)	486	840	0	90	938	87	90	306	0	172	217	165
Confl. Peds. (#/hr)	32		73	73		32	31		12	12		31
Confl. Bikes (#/hr)			1			1						3
Heavy Vehicles (%)	2%	2%	2%	5%	2%	4%	2%	3%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	9	9	0	0	0	0	3	0	0	0	0
Parking (#/hr)								0	0			
Turn Type	pm+pt	NA		Perm	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases	5	2			6			8			4	
Permitted Phases	2			6		6	8			4		4
Actuated Green, G (s)	64.8	64.8		43.8	43.8	43.8	26.7	26.7		26.7	26.7	26.7
Effective Green, g (s)	64.8	64.8		43.8	43.8	43.8	26.7	26.7		26.7	26.7	26.7
Actuated g/C Ratio	0.62	0.62		0.42	0.42	0.42	0.25	0.25		0.25	0.25	0.25
Clearance Time (s)	7.0	6.5		6.5	6.5	6.5	7.0	7.0		7.0	7.0	7.0
Vehicle Extension (s)	3.0	0.2		0.2	0.2	0.2	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	366	2796		213	1935	598	216	736		217	421	334
v/s Ratio Prot	c0.18	0.19			0.20			0.11			0.13	
v/s Ratio Perm	c0.64			0.18		0.06	0.11			c0.20		0.13
v/c Ratio	1.33	0.30		0.42	0.48	0.15	0.42	0.42		0.79	0.52	0.49
Uniform Delay, d1	16.8	9.4		21.7	22.4	19.0	32.7	32.6		36.6	33.6	33.4
Progression Factor	1.18	0.72		1.00	1.00	1.00	1.01	1.01		1.00	1.00	1.00
Incremental Delay, d2	165.0	0.3		6.0	0.9	0.5	1.3	0.4		17.7	1.1	1.1
Delay (s)	184.7	7.1		27.7	23.2	19.5	34.3	33.4		54.3	34.7	34.5
Level of Service	F	A		C	C	B	C	C		D	C	C
Approach Delay (s)		71.8			22.9			33.6			38.8	
Approach LOS		E			C			C			D	
Intersection Summary												
HCM 2000 Control Delay			44.7									D
HCM 2000 Volume to Capacity ratio			1.21									
Actuated Cycle Length (s)			105.0						20.5			
Intersection Capacity Utilization			107.5%									G

Analysis Period (min) 15
c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	
Traffic Volume (veh/h)	0	378	383	0	0	4
Future Volume (Veh/h)	0	378	383	0	0	4
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	378	383	0	0	4
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)	671					
pX, platoon unblocked	0.91				0.91	0.91
vC, conflicting volume	383				761	383
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	275				690	275
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	99
cM capacity (veh/h)	1174				375	696
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	378	383	4			
Volume Left	0	0	0			
Volume Right	0	0	4			
cSH	1174	1700	696			
Volume to Capacity	0.00	0.23	0.01			
Queue Length 95th (ft)	0	0	0			
Control Delay (s)	0.0	0.0	10.2			
Lane LOS			B			
Approach Delay (s)	0.0	0.0	10.2			
Approach LOS			B			
Intersection Summary						
Average Delay			0.1			
Intersection Capacity Utilization			30.2%	ICU Level of Service	A	
Analysis Period (min)			15			



Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations		↕		↕		↕	
Traffic Volume (veh/h)	9	370	8	373	7	16	10
Future Volume (Veh/h)	9	370	8	373	7	16	10
Sign Control		Free		Free		Stop	
Grade		0%		0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	9	370	0	373	7	16	10
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type	None		None				
Median storage (veh)							
Upstream signal (ft)				525			
pX, platoon unblocked	0.90		0.00			0.90	0.90
vC, conflicting volume	380		0			764	376
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol	257		0			684	254
tC, single (s)	4.1		0.0			6.4	6.2
tC, 2 stage (s)							
tF (s)	2.2		0.0			3.5	3.3
p0 queue free %	99		0			96	99
cM capacity (veh/h)	1178		0			371	708
Direction, Lane #	EB 1	WB 1	SB 1				
Volume Total	379	380	26				
Volume Left	9	0	16				
Volume Right	0	7	10				
cSH	1178	1700	454				
Volume to Capacity	0.01	0.22	0.06				
Queue Length 95th (ft)	1	0	5				
Control Delay (s)	0.3	0.0	13.4				
Lane LOS	A		B				
Approach Delay (s)	0.3	0.0	13.4				
Approach LOS			B				
Intersection Summary							
Average Delay			0.6				
Intersection Capacity Utilization			34.0%	ICU Level of Service	A		
Analysis Period (min)			15				

Appendix F

2028 Future Conditions without Development Synchro Worksheet





Lane Group	EBT	WBL	WBT
Lane Group Flow (vph)	1650	385	625
v/c Ratio	0.69	0.86	0.13
Control Delay	12.4	37.9	0.1
Queue Delay	0.0	0.0	0.0
Total Delay	12.4	37.9	0.1
Queue Length 50th (ft)	143	94	0
Queue Length 95th (ft)	192	#242	0
Internal Link Dist (ft)	451		351
Turn Bay Length (ft)		185	
Base Capacity (vph)	2400	482	4679
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.69	0.80	0.13

Intersection Summary

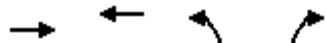
95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑		↙	↑↑↑		
Traffic Volume (vph)	1582	68	385	625	0	0
Future Volume (vph)	1582	68	385	625	0	0
Ideal Flow (vphpl)	1750	1750	1650	1775	1900	1900
Grade (%)	-3%			3%	0%	
Total Lost time (s)	7.5		7.5	7.5		
Lane Util. Factor	0.91		1.00	0.91		
Frbp, ped/bikes	1.00		1.00	1.00		
Flpb, ped/bikes	1.00		1.00	1.00		
Frt	0.99		1.00	1.00		
Flt Protected	1.00		0.95	1.00		
Satd. Flow (prot)	4706		1513	4679		
Flt Permitted	1.00		0.11	1.00		
Satd. Flow (perm)	4706		179	4679		
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	1582	68	385	625	0	0
RTOR Reduction (vph)	8	0	0	0	0	0
Lane Group Flow (vph)	1642	0	385	625	0	0
Confl. Peds. (#/hr)		64	64		2	
Confl. Bikes (#/hr)		2				
Turn Type	NA		pm+pt	NA		
Protected Phases	2		1	6		
Permitted Phases			6			
Actuated Green, G (s)	28.0		47.5	55.0		
Effective Green, g (s)	28.0		47.5	55.0		
Actuated g/C Ratio	0.51		0.86	1.00		
Clearance Time (s)	7.5		7.5	7.5		
Vehicle Extension (s)	0.2		2.0	0.2		
Lane Grp Cap (vph)	2395		445	4679		
v/s Ratio Prot	0.35		c0.19	0.13		
v/s Ratio Perm			c0.56			
v/c Ratio	0.69		0.87	0.13		
Uniform Delay, d1	10.2		13.4	0.0		
Progression Factor	1.00		1.65	1.00		
Incremental Delay, d2	1.6		15.0	0.1		
Delay (s)	11.8		37.2	0.1		
Level of Service	B		D	A		
Approach Delay (s)	11.8			14.2	0.0	
Approach LOS	B			B	A	

Intersection Summary

HCM 2000 Control Delay	12.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	55.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	72.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Lane Group	EBT	WBT	NBL	NBR
Lane Group Flow (vph)	1576	1278	43	196
v/c Ratio	0.41	0.33	0.18	0.16
Control Delay	4.8	6.5	20.0	2.1
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	4.8	6.5	20.0	2.1
Queue Length 50th (ft)	0	5	13	0
Queue Length 95th (ft)	104	271	28	31
Internal Link Dist (ft)	351	246	341	
Turn Bay Length (ft)			275	
Base Capacity (vph)	3841	3818	513	1218
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.41	0.33	0.08	0.16
Intersection Summary				



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑			↑↑↑	↘↘	↗
Traffic Volume (vph)	1576	0	0	1278	43	196
Future Volume (vph)	1576	0	0	1278	43	196
Ideal Flow (vphpl)	1775	1775	1775	1775	1700	1700
Lane Width	12	12	12	12	12	14
Grade (%)	-3%			0%	-4%	
Total Lost time (s)	6.0			5.0	8.5	6.0
Lane Util. Factor	0.91			0.91	1.00	0.95
Frpb, ped/bikes	1.00			1.00	1.00	1.00
Flpb, ped/bikes	1.00			1.00	1.00	1.00
Frt	1.00			1.00	1.00	0.85
Flt Protected	1.00			1.00	0.95	1.00
Satd. Flow (prot)	4764			4694	1615	1464
Flt Permitted	1.00			1.00	0.95	1.00
Satd. Flow (perm)	4764			4694	1615	1464
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	1576	0	0	1278	43	196
RTOR Reduction (vph)	0	0	0	0	0	69
Lane Group Flow (vph)	1576	0	0	1278	43	127
Confl. Peds. (#/hr)		56	56		2	
Heavy Vehicles (%)	2%	3%	2%	2%	2%	2%
Bus Blockages (#/hr)	9	0	9	9	0	0
Turn Type	NA			NA	Prot	Perm
Protected Phases	2			6	4	
Permitted Phases						2
Actuated Green, G (s)	35.6			36.6	4.9	35.6
Effective Green, g (s)	35.6			36.6	4.9	35.6
Actuated g/C Ratio	0.65			0.67	0.09	0.65
Clearance Time (s)	6.0			5.0	8.5	6.0
Vehicle Extension (s)	2.0			2.0	2.0	2.0
Lane Grp Cap (vph)	3083			3123	143	947
v/s Ratio Prot	c0.33			0.27	c0.03	
v/s Ratio Perm						0.09
v/c Ratio	0.51			0.41	0.30	0.13
Uniform Delay, d1	5.1			4.2	23.4	3.7
Progression Factor	0.83			1.48	1.00	1.00
Incremental Delay, d2	0.4			0.4	0.4	0.3
Delay (s)	4.7			6.6	23.9	4.0
Level of Service	A			A	C	A
Approach Delay (s)	4.7			6.6	7.6	
Approach LOS	A			A	A	


















Intersection Summary

HCM 2000 Control Delay	5.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	55.0	Sum of lost time (s)	14.5
Intersection Capacity Utilization	72.1%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

3130 Langston Boulevard
 3: N. Site Dwy/CVS Dwy & Lee Hwy.

Background 2028 AM Peak Existing

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	59	1704	0	0	1204	44	0	0	1	6	0	62
Future Volume (Veh/h)	59	1704	0	0	1204	44	0	0	1	6	0	62
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	59	1704	0	0	1204	44	0	0	1	6	0	62
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type												
		None			None							
Median storage (veh)												
Upstream signal (ft)												
		326			265							
pX, platoon unblocked	0.89			0.84			0.89	0.89	0.84	0.89	0.89	0.89
vC, conflicting volume	1248			1704			2285	3070	568	1913	3048	423
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	862			1169			1216	2095	0	799	2071	0
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	91			100			100	100	100	97	100	94
cM capacity (veh/h)	693			498			107	42	910	230	44	969
Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	WB 3	NB 1	SB 1			
Volume Total	59	682	682	341	301	602	345	1	68			
Volume Left	59	0	0	0	0	0	0	0	6			
Volume Right	0	0	0	0	0	0	44	1	62			
cSH	693	1700	1700	1700	498	1700	1700	910	756			
Volume to Capacity	0.09	0.40	0.40	0.20	0.00	0.35	0.20	0.00	0.09			
Queue Length 95th (ft)	7	0	0	0	0	0	0	0	7			
Control Delay (s)	10.7	0.0	0.0	0.0	0.0	0.0	0.0	9.0	10.2			
Lane LOS	B							A	B			
Approach Delay (s)	0.4				0.0			9.0	10.2			
Approach LOS								A	B			
Intersection Summary												
Average Delay			0.4									
Intersection Capacity Utilization			65.3%		ICU Level of Service				C			
Analysis Period (min)			15									



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	457	1263	54	714	181	107	366	161	136	426
v/c Ratio	0.95	0.44	0.43	0.41	0.28	0.40	0.51	0.87	0.33	0.66
Control Delay	54.7	14.2	44.8	28.3	5.7	36.4	36.7	76.0	33.5	8.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.7	14.2	44.8	28.3	5.7	36.4	36.7	76.0	33.5	8.0
Queue Length 50th (ft)	228	174	29	137	0	62	115	108	78	0
Queue Length 95th (ft)	#421	202	#95	200	53	102	143	175	117	74
Internal Link Dist (ft)		185		533			445		1180	
Turn Bay Length (ft)	500		250		165	100		135		
Base Capacity (vph)	482	2878	125	1723	646	366	981	256	572	732
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.95	0.44	0.43	0.41	0.28	0.29	0.37	0.63	0.24	0.58

Intersection Summary

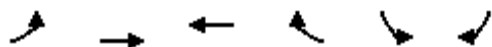
95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

3130 Langston Boulevard
4: N Kirkwood Rd/Spout Run Pkwy & Lee Hwy.

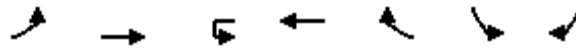
Background 2028 AM Peak Existing

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	457	1215	48	54	714	181	107	208	158	161	136	426
Future Volume (vph)	457	1215	48	54	714	181	107	208	158	161	136	426
Ideal Flow (vphpl)	1650	1700	1750	1650	1700	1750	1650	1750	1750	1650	1750	1700
Lane Width	12	13	12	13	12	13	12	12	13	11	11	11
Grade (%)		0%			-4%			0%			0%	
Total Lost time (s)	7.0	6.5		6.5	6.5	6.5	7.0	7.0		7.0	7.0	7.0
Lane Util. Factor	1.00	0.91		1.00	0.91	1.00	1.00	0.95		1.00	1.00	1.00
Frbp, ped/bikes	1.00	0.99		1.00	1.00	0.95	1.00	0.99		1.00	1.00	0.96
Flpb, ped/bikes	1.00	1.00		0.98	1.00	1.00	0.98	1.00		0.99	1.00	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.94		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1533	4594		1540	4641	1433	1503	2841		1477	1658	1313
Flt Permitted	0.27	1.00		0.21	1.00	1.00	0.67	1.00		0.48	1.00	1.00
Satd. Flow (perm)	443	4594		338	4641	1433	1060	2841		743	1658	1313
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	457	1215	48	54	714	181	107	208	158	161	136	426
RTOR Reduction (vph)	0	3	0	0	0	114	0	0	0	0	0	319
Lane Group Flow (vph)	457	1260	0	54	714	67	107	366	0	161	136	107
Confl. Peds. (#/hr)	32		73	73		32	31		12	12		31
Confl. Bikes (#/hr)			1			1						3
Heavy Vehicles (%)	2%	2%	2%	5%	2%	4%	2%	3%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	9	9	0	0	0	0	2	0	0	0	0
Parking (#/hr)								0	0			
Turn Type	pm+pt	NA		Perm	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases	5	2			6			8			4	
Permitted Phases	2			6		6	8			4		4
Actuated Green, G (s)	68.9	68.9		40.9	40.9	40.9	27.6	27.6		27.6	27.6	27.6
Effective Green, g (s)	68.9	68.9		40.9	40.9	40.9	27.6	27.6		27.6	27.6	27.6
Actuated g/C Ratio	0.63	0.63		0.37	0.37	0.37	0.25	0.25		0.25	0.25	0.25
Clearance Time (s)	7.0	6.5		6.5	6.5	6.5	7.0	7.0		7.0	7.0	7.0
Vehicle Extension (s)	3.0	0.2		0.2	0.2	0.2	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	485	2877		125	1725	532	265	712		186	416	329
v/s Ratio Prot	c0.18	0.27			0.15			0.13			0.08	
v/s Ratio Perm	c0.41			0.16		0.05	0.10			c0.22		0.08
v/c Ratio	0.94	0.44		0.43	0.41	0.13	0.40	0.51		0.87	0.33	0.32
Uniform Delay, d1	14.6	10.6		25.9	25.7	22.8	34.3	35.4		39.4	33.6	33.6
Progression Factor	1.75	1.16		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	25.9	0.5		10.5	0.7	0.5	1.0	0.6		31.7	0.5	0.6
Delay (s)	51.5	12.8		36.4	26.4	23.3	35.3	36.1		71.1	34.1	34.2
Level of Service	D	B		D	C	C	D	D		E	C	C
Approach Delay (s)		23.0			26.4			35.9			42.4	
Approach LOS		C			C			D			D	
Intersection Summary												
HCM 2000 Control Delay			29.1									C
HCM 2000 Volume to Capacity ratio			0.96									
Actuated Cycle Length (s)			110.0						20.5			
Intersection Capacity Utilization			105.0%									G

Analysis Period (min) 15
c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	
Traffic Volume (veh/h)	0	472	237	0	0	2
Future Volume (Veh/h)	0	472	237	0	0	2
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	472	237	0	0	2
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)	671					
pX, platoon unblocked	0.95			0.95	0.95	
vC, conflicting volume	237			709	237	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	176			670	176	
tC, single (s)	4.1			6.4	6.2	
tC, 2 stage (s)						
tF (s)	2.2			3.5	3.3	
p0 queue free %	100			100	100	
cM capacity (veh/h)	1336			402	827	
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	472	237	2			
Volume Left	0	0	0			
Volume Right	0	0	2			
cSH	1336	1700	827			
Volume to Capacity	0.00	0.14	0.00			
Queue Length 95th (ft)	0	0	0			
Control Delay (s)	0.0	0.0	9.4			
Lane LOS			A			
Approach Delay (s)	0.0	0.0	9.4			
Approach LOS			A			
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			34.8%	ICU Level of Service	A	
Analysis Period (min)			15			



Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations		↕		↕		↕	
Traffic Volume (veh/h)	2	465	1	232	6	4	4
Future Volume (Veh/h)	2	465	1	232	6	4	4
Sign Control		Free		Free		Stop	
Grade		0%		0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	2	465	0	232	6	4	4
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type		None		None			
Median storage (veh)							
Upstream signal (ft)				525			
pX, platoon unblocked	0.95		0.00			0.95	0.95
vC, conflicting volume	238		0			704	235
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol	165		0			658	162
tC, single (s)	4.1		0.0			6.4	6.2
tC, 2 stage (s)							
tF (s)	2.2		0.0			3.5	3.3
p0 queue free %	100		0			99	100
cM capacity (veh/h)	1336		0			405	835
Direction, Lane #	EB 1	WB 1	SB 1				
Volume Total	467	238	8				
Volume Left	2	0	4				
Volume Right	0	6	4				
cSH	1336	1700	545				
Volume to Capacity	0.00	0.14	0.01				
Queue Length 95th (ft)	0	0	1				
Control Delay (s)	0.0	0.0	11.7				
Lane LOS	A		B				
Approach Delay (s)	0.0	0.0	11.7				
Approach LOS			B				
Intersection Summary							
Average Delay			0.2				
Intersection Capacity Utilization			35.9%		ICU Level of Service		A
Analysis Period (min)			15				



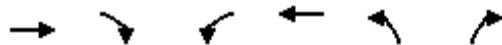
Lane Group	EBT	WBL	WBT
Lane Group Flow (vph)	1037	245	1302
v/c Ratio	0.29	0.54	0.37
Control Delay	4.6	6.2	5.1
Queue Delay	0.0	0.0	0.3
Total Delay	4.6	6.2	5.4
Queue Length 50th (ft)	57	3	79
Queue Length 95th (ft)	110	5	147
Internal Link Dist (ft)	451		351
Turn Bay Length (ft)		185	
Base Capacity (vph)	3542	747	3521
Starvation Cap Reductn	0	0	1363
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.29	0.33	0.60
Intersection Summary			



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑		↙	↑↑↑		
Traffic Volume (vph)	1000	37	245	1302	0	0
Future Volume (vph)	1000	37	245	1302	0	0
Ideal Flow (vphpl)	1750	1750	1650	1775	1900	1900
Grade (%)	-3%			3%	0%	
Total Lost time (s)	7.5		7.5	7.5		
Lane Util. Factor	0.91		1.00	0.91		
Frbp, ped/bikes	0.99		1.00	1.00		
Flpb, ped/bikes	1.00		0.99	1.00		
Frt	0.99		1.00	1.00		
Flt Protected	1.00		0.95	1.00		
Satd. Flow (prot)	4702		1502	4679		
Flt Permitted	1.00		0.26	1.00		
Satd. Flow (perm)	4702		417	4679		
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	1000	37	245	1302	0	0
RTOR Reduction (vph)	2	0	0	0	0	0
Lane Group Flow (vph)	1035	0	245	1302	0	0
Confl. Peds. (#/hr)		64	64		2	
Confl. Bikes (#/hr)		2				
Turn Type	NA		pm+pt	NA		
Protected Phases	2		1	6		
Permitted Phases			6			
Actuated Green, G (s)	75.3		85.0	75.3		
Effective Green, g (s)	75.3		85.0	75.3		
Actuated g/C Ratio	0.75		0.85	0.75		
Clearance Time (s)	7.5		7.5	7.5		
Vehicle Extension (s)	0.2		2.0	0.2		
Lane Grp Cap (vph)	3540		459	3523		
v/s Ratio Prot	0.22		c0.05	0.28		
v/s Ratio Perm			c0.40			
v/c Ratio	0.29		0.53	0.37		
Uniform Delay, d1	3.9		1.3	4.2		
Progression Factor	1.00		1.00	1.00		
Incremental Delay, d2	0.2		0.6	0.3		
Delay (s)	4.1		1.9	4.5		
Level of Service	A		A	A		
Approach Delay (s)	4.1			4.1	0.0	
Approach LOS	A			A	A	
Intersection Summary						
HCM 2000 Control Delay			4.1		HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.53			
Actuated Cycle Length (s)			100.0		Sum of lost time (s)	15.0
Intersection Capacity Utilization			54.1%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						



Lane Group	EBT	WBT	NBL	NBR
Lane Group Flow (vph)	1003	1522	28	419
v/c Ratio	0.25	0.39	0.16	0.33
Control Delay	4.9	4.2	39.5	1.7
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	4.9	4.2	39.5	1.7
Queue Length 50th (ft)	47	49	18	0
Queue Length 95th (ft)	165	175	34	45
Internal Link Dist (ft)	351	246	341	
Turn Bay Length (ft)			275	
Base Capacity (vph)	3947	3916	546	1285
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.25	0.39	0.05	0.33
Intersection Summary				



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑			↑↑↑	↘↘	↗
Traffic Volume (vph)	1003	0	0	1522	28	419
Future Volume (vph)	1003	0	0	1522	28	419
Ideal Flow (vphpl)	1775	1775	1775	1775	1700	1700
Lane Width	12	12	12	12	12	14
Grade (%)	-3%			0%	-4%	
Total Lost time (s)	6.0			5.0	8.5	6.0
Lane Util. Factor	0.91			0.91	1.00	0.95
Frbp, ped/bikes	1.00			1.00	1.00	1.00
Flpb, ped/bikes	1.00			1.00	1.00	1.00
Frt	1.00			1.00	1.00	0.85
Flt Protected	1.00			1.00	0.95	1.00
Satd. Flow (prot)	4764			4694	1615	1464
Flt Permitted	1.00			1.00	0.95	1.00
Satd. Flow (perm)	4764			4694	1615	1464
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	1003	0	0	1522	28	419
RTOR Reduction (vph)	0	0	0	0	0	95
Lane Group Flow (vph)	1003	0	0	1522	28	324
Confl. Peds. (#/hr)		56	56		2	
Heavy Vehicles (%)	2%	3%	2%	2%	2%	2%
Bus Blockages (#/hr)	9	0	9	9	0	0
Turn Type	NA			NA	Prot	Perm
Protected Phases	2			6	4	
Permitted Phases						2
Actuated Green, G (s)	81.2			82.2	9.3	81.2
Effective Green, g (s)	81.2			82.2	9.3	81.2
Actuated g/C Ratio	0.77			0.78	0.09	0.77
Clearance Time (s)	6.0			5.0	8.5	6.0
Vehicle Extension (s)	2.0			2.0	2.0	2.0
Lane Grp Cap (vph)	3684			3674	143	1132
v/s Ratio Prot	0.21			c0.32	c0.02	
v/s Ratio Perm						0.22
v/c Ratio	0.27			0.41	0.20	0.29
Uniform Delay, d1	3.4			3.7	44.4	3.5
Progression Factor	1.00			0.75	1.00	1.00
Incremental Delay, d2	0.2			0.3	0.2	0.6
Delay (s)	3.6			3.1	44.6	4.1
Level of Service	A			A	D	A
Approach Delay (s)	3.6			3.1	6.6	
Approach LOS	A			A	A	


















Intersection Summary

HCM 2000 Control Delay	3.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	14.5
Intersection Capacity Utilization	54.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

3130 Langston Boulevard
3: N. Site Dwy/CVS Dwy & Lee Hwy.

Background 2028 PM Peak Existing

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	41	1354	5	0	1412	54	0	0	2	8	0	62
Future Volume (Veh/h)	41	1354	5	0	1412	54	0	0	2	8	0	62
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	41	1354	5	0	1412	54	0	0	2	8	0	62
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)		326			265							
pX, platoon unblocked	0.86			0.95			0.88	0.88	0.95	0.88	0.88	0.86
vC, conflicting volume	1466			1359			1971	2904	454	1974	2880	498
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	959			1205			1268	2329	255	1272	2301	0
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	93			100			100	100	100	92	100	93
cM capacity (veh/h)	611			548			98	30	709	104	31	929
Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	WB 3	NB 1	SB 1			
Volume Total	41	542	542	276	353	706	407	2	70			
Volume Left	41	0	0	0	0	0	0	0	8			
Volume Right	0	0	0	5	0	0	54	2	62			
cSH	611	1700	1700	1700	548	1700	1700	709	487			
Volume to Capacity	0.07	0.32	0.32	0.16	0.00	0.42	0.24	0.00	0.14			
Queue Length 95th (ft)	5	0	0	0	0	0	0	0	12			
Control Delay (s)	11.3	0.0	0.0	0.0	0.0	0.0	0.0	10.1	13.6			
Lane LOS	B							B	B			
Approach Delay (s)	0.3				0.0			10.1	13.6			
Approach LOS								B	B			
Intersection Summary												
Average Delay			0.5									
Intersection Capacity Utilization			51.7%		ICU Level of Service				A			
Analysis Period (min)			15									



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	496	865	92	957	213	92	312	175	221	424
v/c Ratio	1.39	0.31	0.44	0.50	0.30	0.43	0.42	0.80	0.52	0.72
Control Delay	211.6	8.0	34.8	25.5	4.8	36.4	33.0	61.2	36.1	14.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	211.6	8.0	34.8	25.5	4.8	36.4	33.0	61.2	36.1	14.4
Queue Length 50th (ft)	~340	92	44	171	0	52	92	110	127	46
Queue Length 95th (ft)	#552	55	#123	252	53	87	113	170	173	140
Internal Link Dist (ft)		185		533			445		1180	
Turn Bay Length (ft)	500		250		165	100		135		
Base Capacity (vph)	357	2790	209	1921	718	304	1047	306	600	691
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.39	0.31	0.44	0.50	0.30	0.30	0.30	0.57	0.37	0.61

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

3130 Langston Boulevard
4: N Kirkwood Rd/Spout Run Pkwy & Lee Hwy.

Background 2028 PM Peak Existing

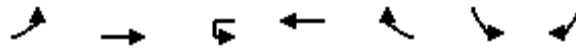


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↕↕↕		↘	↕↕↕	↗	↘	↕↕		↘	↕	↗
Traffic Volume (vph)	496	791	74	92	957	213	92	215	97	175	221	424
Future Volume (vph)	496	791	74	92	957	213	92	215	97	175	221	424
Ideal Flow (vphpl)	1650	1700	1750	1650	1700	1750	1650	1750	1750	1650	1750	1700
Lane Width	12	13	12	13	12	13	12	12	13	11	11	11
Grade (%)		0%			-4%			0%			0%	
Total Lost time (s)	7.0	6.5		6.5	6.5	6.5	7.0	7.0		7.0	7.0	7.0
Lane Util. Factor	1.00	0.91		1.00	0.91	1.00	1.00	0.95		1.00	1.00	1.00
Frbp, ped/bikes	1.00	0.99		1.00	1.00	0.95	1.00	0.99		1.00	1.00	0.96
Flpb, ped/bikes	1.00	1.00		0.97	1.00	1.00	0.98	1.00		0.99	1.00	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.95		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1535	4533		1519	4641	1435	1509	2895		1476	1658	1315
Flt Permitted	0.20	1.00		0.32	1.00	1.00	0.53	1.00		0.54	1.00	1.00
Satd. Flow (perm)	322	4533		504	4641	1435	842	2895		847	1658	1315
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	496	791	74	92	957	213	92	215	97	175	221	424
RTOR Reduction (vph)	0	8	0	0	0	125	0	0	0	0	0	250
Lane Group Flow (vph)	496	857	0	92	957	88	92	312	0	175	221	174
Confl. Peds. (#/hr)	32		73	73		32	31		12	12		31
Confl. Bikes (#/hr)			1			1						3
Heavy Vehicles (%)	2%	2%	2%	5%	2%	4%	2%	3%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	9	9	0	0	0	0	3	0	0	0	0
Parking (#/hr)								0	0			
Turn Type	pm+pt	NA		Perm	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases	5	2			6			8			4	
Permitted Phases	2			6		6	8			4		4
Actuated Green, G (s)	64.5	64.5		43.5	43.5	43.5	27.0	27.0		27.0	27.0	27.0
Effective Green, g (s)	64.5	64.5		43.5	43.5	43.5	27.0	27.0		27.0	27.0	27.0
Actuated g/C Ratio	0.61	0.61		0.41	0.41	0.41	0.26	0.26		0.26	0.26	0.26
Clearance Time (s)	7.0	6.5		6.5	6.5	6.5	7.0	7.0		7.0	7.0	7.0
Vehicle Extension (s)	3.0	0.2		0.2	0.2	0.2	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	359	2784		208	1922	594	216	744		217	426	338
v/s Ratio Prot	c0.18	0.19			0.21			0.11			0.13	
v/s Ratio Perm	c0.66			0.18		0.06	0.11			c0.21		0.13
v/c Ratio	1.38	0.31		0.44	0.50	0.15	0.43	0.42		0.81	0.52	0.51
Uniform Delay, d1	17.4	9.6		22.1	22.7	19.2	32.5	32.5		36.6	33.4	33.4
Progression Factor	1.18	0.72		1.00	1.00	1.00	1.01	1.01		1.00	1.00	1.00
Incremental Delay, d2	187.9	0.3		6.7	0.9	0.5	1.4	0.4		19.2	1.1	1.3
Delay (s)	208.3	7.2		28.7	23.6	19.7	34.2	33.2		55.8	34.5	34.7
Level of Service	F	A		C	C	B	C	C		E	C	C
Approach Delay (s)		80.5			23.3			33.4			39.2	
Approach LOS		F			C			C			D	
Intersection Summary												
HCM 2000 Control Delay			48.0									D
HCM 2000 Volume to Capacity ratio			1.25									
Actuated Cycle Length (s)			105.0						20.5			
Intersection Capacity Utilization			108.2%									G

Analysis Period (min) 15
c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Volume (veh/h)	0	386	391	0	0	4
Future Volume (Veh/h)	0	386	391	0	0	4
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	386	391	0	0	4
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)	671					
pX, platoon unblocked	0.91				0.91	0.91
vC, conflicting volume	391				777	391
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	281				705	281
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	99
cM capacity (veh/h)	1166				366	689
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	386	391	4			
Volume Left	0	0	0			
Volume Right	0	0	4			
cSH	1166	1700	689			
Volume to Capacity	0.00	0.23	0.01			
Queue Length 95th (ft)	0	0	0			
Control Delay (s)	0.0	0.0	10.3			
Lane LOS				B		
Approach Delay (s)	0.0	0.0	10.3			
Approach LOS				B		
Intersection Summary						
Average Delay				0.1		
Intersection Capacity Utilization				30.6%	ICU Level of Service	A
Analysis Period (min)				15		



Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations		↕		↕		↕	
Traffic Volume (veh/h)	9	377	8	381	7	16	10
Future Volume (Veh/h)	9	377	8	381	7	16	10
Sign Control		Free		Free		Stop	
Grade		0%		0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	9	377	0	381	7	16	10
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type	None		None				
Median storage (veh)							
Upstream signal (ft)				525			
pX, platoon unblocked	0.90		0.00			0.90	0.90
vC, conflicting volume	388		0			780	384
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol	263		0			699	260
tC, single (s)	4.1		0.0			6.4	6.2
tC, 2 stage (s)							
tF (s)	2.2		0.0			3.5	3.3
p0 queue free %	99		0			96	99
cM capacity (veh/h)	1170		0			362	701
Direction, Lane #	EB 1	WB 1	SB 1				
Volume Total	386	388	26				
Volume Left	9	0	16				
Volume Right	0	7	10				
cSH	1170	1700	445				
Volume to Capacity	0.01	0.23	0.06				
Queue Length 95th (ft)	1	0	5				
Control Delay (s)	0.3	0.0	13.6				
Lane LOS	A		B				
Approach Delay (s)	0.3	0.0	13.6				
Approach LOS			B				
Intersection Summary							
Average Delay			0.6				
Intersection Capacity Utilization			34.4%	ICU Level of Service	A		
Analysis Period (min)			15				

Appendix G

2028 Future Conditions with Development Synchro Worksheet





Lane Group	EBT	WBL	WBT
Lane Group Flow (vph)	1650	391	628
v/c Ratio	0.69	0.87	0.13
Control Delay	12.5	38.6	0.1
Queue Delay	0.0	0.0	0.0
Total Delay	12.5	38.6	0.1
Queue Length 50th (ft)	143	101	0
Queue Length 95th (ft)	192	#249	0
Internal Link Dist (ft)	451		351
Turn Bay Length (ft)		185	
Base Capacity (vph)	2388	482	4679
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.69	0.81	0.13

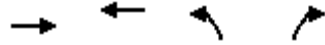
Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

3130 Langston Boulevard
1: I-66 On Ramp & Lee Hwy.

Total Future 2028 AM Peak

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑		↘	↑↑↑		
Traffic Volume (vph)	1582	68	391	628	0	0
Future Volume (vph)	1582	68	391	628	0	0
Ideal Flow (vphpl)	1750	1750	1650	1775	1900	1900
Grade (%)	-3%			3%	0%	
Total Lost time (s)	7.5		7.5	7.5		
Lane Util. Factor	0.91		1.00	0.91		
Frbp, ped/bikes	1.00		1.00	1.00		
Flpb, ped/bikes	1.00		1.00	1.00		
Frt	0.99		1.00	1.00		
Flt Protected	1.00		0.95	1.00		
Satd. Flow (prot)	4706		1513	4679		
Flt Permitted	1.00		0.11	1.00		
Satd. Flow (perm)	4706		180	4679		
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	1582	68	391	628	0	0
RTOR Reduction (vph)	8	0	0	0	0	0
Lane Group Flow (vph)	1642	0	391	628	0	0
Confl. Peds. (#/hr)		64	64		2	
Confl. Bikes (#/hr)		2				
Turn Type	NA		pm+pt	NA		
Protected Phases	2		1	6		
Permitted Phases			6			
Actuated Green, G (s)	27.8		47.5	55.0		
Effective Green, g (s)	27.8		47.5	55.0		
Actuated g/C Ratio	0.51		0.86	1.00		
Clearance Time (s)	7.5		7.5	7.5		
Vehicle Extension (s)	0.2		2.0	0.2		
Lane Grp Cap (vph)	2378		451	4679		
v/s Ratio Prot	0.35		c0.19	0.13		
v/s Ratio Perm			c0.55			
v/c Ratio	0.69		0.87	0.13		
Uniform Delay, d1	10.3		13.5	0.0		
Progression Factor	1.00		1.64	1.00		
Incremental Delay, d2	1.7		15.0	0.1		
Delay (s)	12.0		37.0	0.1		
Level of Service	B		D	A		
Approach Delay (s)	12.0			14.2	0.0	
Approach LOS	B			B	A	
Intersection Summary						
HCM 2000 Control Delay			12.9	HCM 2000 Level of Service		B
HCM 2000 Volume to Capacity ratio			0.93			
Actuated Cycle Length (s)			55.0	Sum of lost time (s)		15.0
Intersection Capacity Utilization			72.5%	ICU Level of Service		C
Analysis Period (min)			15			
c Critical Lane Group						



Lane Group	EBT	WBT	NBL	NBR
Lane Group Flow (vph)	1576	1287	43	198
v/c Ratio	0.41	0.34	0.18	0.16
Control Delay	4.8	6.5	20.0	2.1
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	4.8	6.5	20.0	2.1
Queue Length 50th (ft)	0	5	13	0
Queue Length 95th (ft)	104	271	28	31
Internal Link Dist (ft)	351	246	341	
Turn Bay Length (ft)			275	
Base Capacity (vph)	3841	3818	513	1218
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.41	0.34	0.08	0.16
Intersection Summary				



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑			↑↑↑	↘↘	↗
Traffic Volume (vph)	1576	0	0	1287	43	198
Future Volume (vph)	1576	0	0	1287	43	198
Ideal Flow (vphpl)	1775	1775	1775	1775	1700	1700
Lane Width	12	12	12	12	12	14
Grade (%)	-3%			0%	-4%	
Total Lost time (s)	6.0			5.0	8.5	6.0
Lane Util. Factor	0.91			0.91	1.00	0.95
Frpb, ped/bikes	1.00			1.00	1.00	1.00
Flpb, ped/bikes	1.00			1.00	1.00	1.00
Frt	1.00			1.00	1.00	0.85
Flt Protected	1.00			1.00	0.95	1.00
Satd. Flow (prot)	4764			4694	1615	1464
Flt Permitted	1.00			1.00	0.95	1.00
Satd. Flow (perm)	4764			4694	1615	1464
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	1576	0	0	1287	43	198
RTOR Reduction (vph)	0	0	0	0	0	70
Lane Group Flow (vph)	1576	0	0	1287	43	128
Confl. Peds. (#/hr)		56	56		2	
Heavy Vehicles (%)	2%	3%	2%	2%	2%	2%
Bus Blockages (#/hr)	9	0	9	9	0	0
Turn Type	NA			NA	Prot	Perm
Protected Phases	2			6	4	
Permitted Phases						2
Actuated Green, G (s)	35.6			36.6	4.9	35.6
Effective Green, g (s)	35.6			36.6	4.9	35.6
Actuated g/C Ratio	0.65			0.67	0.09	0.65
Clearance Time (s)	6.0			5.0	8.5	6.0
Vehicle Extension (s)	2.0			2.0	2.0	2.0
Lane Grp Cap (vph)	3083			3123	143	947
v/s Ratio Prot	c0.33			0.27	c0.03	
v/s Ratio Perm						0.09
v/c Ratio	0.51			0.41	0.30	0.14
Uniform Delay, d1	5.1			4.2	23.4	3.7
Progression Factor	0.83			1.46	1.00	1.00
Incremental Delay, d2	0.4			0.4	0.4	0.3
Delay (s)	4.7			6.6	23.9	4.0
Level of Service	A			A	C	A
Approach Delay (s)	4.7			6.6	7.6	
Approach LOS	A			A	A	

Intersection Summary

HCM 2000 Control Delay	5.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	55.0	Sum of lost time (s)	14.5
Intersection Capacity Utilization	72.5%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR			
Lane Configurations	↵	↑↑↑	↑↑↑↵		↵↵				
Traffic Volume (veh/h)	59	1707	1213	44	6	62			
Future Volume (Veh/h)	59	1707	1213	44	6	62			
Sign Control		Free	Free		Stop				
Grade		0%	0%		0%				
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00			
Hourly flow rate (vph)	59	1707	1213	44	6	62			
Pedestrians									
Lane Width (ft)									
Walking Speed (ft/s)									
Percent Blockage									
Right turn flare (veh)									
Median type		None	None						
Median storage (veh)									
Upstream signal (ft)		326	265						
pX, platoon unblocked	0.89				0.89	0.89			
vC, conflicting volume	1257				1922	426			
vC1, stage 1 conf vol									
vC2, stage 2 conf vol									
vCu, unblocked vol	870				806	0			
tC, single (s)	4.1				6.8	6.9			
tC, 2 stage (s)									
tF (s)	2.2				3.5	3.3			
p0 queue free %	91				98	94			
cM capacity (veh/h)	688				261	969			
Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	WB 3	SB 1	
Volume Total	59	569	569	569	485	485	287	68	
Volume Left	59	0	0	0	0	0	0	6	
Volume Right	0	0	0	0	0	0	44	62	
cSH	688	1700	1700	1700	1700	1700	1700	782	
Volume to Capacity	0.09	0.33	0.33	0.33	0.29	0.29	0.17	0.09	
Queue Length 95th (ft)	7	0	0	0	0	0	0	7	
Control Delay (s)	10.7	0.0	0.0	0.0	0.0	0.0	0.0	10.0	
Lane LOS	B							B	
Approach Delay (s)	0.4					0.0			10.0
Approach LOS							B		
Intersection Summary									
Average Delay			0.4						
Intersection Capacity Utilization			43.8%	ICU Level of Service			A		
Analysis Period (min)			15						



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	457	1266	56	714	181	117	377	161	139	426
v/c Ratio	0.95	0.44	0.45	0.42	0.28	0.44	0.52	0.88	0.33	0.65
Control Delay	55.7	14.4	46.1	28.5	5.7	37.3	36.7	77.9	33.4	7.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.7	14.4	46.1	28.5	5.7	37.3	36.7	77.9	33.4	7.9
Queue Length 50th (ft)	229	174	30	138	0	69	118	108	79	0
Queue Length 95th (ft)	#421	202	#98	200	53	111	147	#178	119	74
Internal Link Dist (ft)		185		533			588		1180	
Turn Bay Length (ft)	500		250		165	100		135		
Base Capacity (vph)	480	2865	124	1712	642	365	981	251	572	732
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.95	0.44	0.45	0.42	0.28	0.32	0.38	0.64	0.24	0.58

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

3130 Langston Boulevard
4: N Kirkwood Rd/Spout Run Pkwy & Lee Hwy.

Total Future 2028 AM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	457	1214	52	56	714	181	117	214	163	161	139	426
Future Volume (vph)	457	1214	52	56	714	181	117	214	163	161	139	426
Ideal Flow (vphpl)	1650	1700	1750	1650	1700	1750	1650	1750	1750	1650	1750	1700
Lane Width	12	13	12	13	12	13	12	12	13	11	11	11
Grade (%)		0%			-4%			0%			0%	
Total Lost time (s)	7.0	6.5		6.5	6.5	6.5	7.0	7.0		7.0	7.0	7.0
Lane Util. Factor	1.00	0.91		1.00	0.91	1.00	1.00	0.95		1.00	1.00	1.00
Frbp, ped/bikes	1.00	0.99		1.00	1.00	0.95	1.00	0.99		1.00	1.00	0.96
Flpb, ped/bikes	1.00	1.00		0.98	1.00	1.00	0.98	1.00		0.99	1.00	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.94		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1533	4590		1540	4641	1433	1503	2841		1477	1658	1313
Flt Permitted	0.27	1.00		0.21	1.00	1.00	0.67	1.00		0.47	1.00	1.00
Satd. Flow (perm)	441	4590		337	4641	1433	1057	2841		727	1658	1313
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	457	1214	52	56	714	181	117	214	163	161	139	426
RTOR Reduction (vph)	0	3	0	0	0	114	0	0	0	0	0	318
Lane Group Flow (vph)	457	1263	0	56	714	67	117	377	0	161	139	108
Confl. Peds. (#/hr)	32		73	73		32	31		12	12		31
Confl. Bikes (#/hr)			1			1						3
Heavy Vehicles (%)	2%	2%	2%	5%	2%	4%	2%	3%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	9	9	0	0	0	0	2	0	0	0	0
Parking (#/hr)								0	0			
Turn Type	pm+pt	NA		Perm	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases	5	2			6			8			4	
Permitted Phases	2			6		6	8			4		4
Actuated Green, G (s)	68.6	68.6		40.6	40.6	40.6	27.9	27.9		27.9	27.9	27.9
Effective Green, g (s)	68.6	68.6		40.6	40.6	40.6	27.9	27.9		27.9	27.9	27.9
Actuated g/C Ratio	0.62	0.62		0.37	0.37	0.37	0.25	0.25		0.25	0.25	0.25
Clearance Time (s)	7.0	6.5		6.5	6.5	6.5	7.0	7.0		7.0	7.0	7.0
Vehicle Extension (s)	3.0	0.2		0.2	0.2	0.2	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	483	2862		124	1712	528	268	720		184	420	333
v/s Ratio Prot	c0.18	0.28			0.15			0.13				0.08
v/s Ratio Perm	c0.41			0.17		0.05	0.11			c0.22		0.08
v/c Ratio	0.95	0.44		0.45	0.42	0.13	0.44	0.52		0.88	0.33	0.32
Uniform Delay, d1	14.9	10.7		26.3	25.9	23.0	34.5	35.3		39.4	33.4	33.4
Progression Factor	1.74	1.16		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	26.6	0.5		11.4	0.8	0.5	1.1	0.7		33.9	0.5	0.6
Delay (s)	52.6	12.9		37.7	26.6	23.5	35.6	36.0		73.2	33.9	34.0
Level of Service	D	B		D	C	C	D	D		E	C	C
Approach Delay (s)		23.4			26.7			35.9			42.7	
Approach LOS		C			C			D			D	
Intersection Summary												
HCM 2000 Control Delay			29.4									C
HCM 2000 Volume to Capacity ratio			0.96									
Actuated Cycle Length (s)			110.0						20.5			
Intersection Capacity Utilization			105.7%									G

Analysis Period (min) 15
c Critical Lane Group

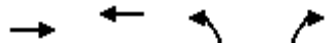


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↔		↘	↘
Traffic Volume (veh/h)	2	472	233	9	25	6
Future Volume (Veh/h)	2	472	233	9	25	6
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	2	472	233	9	25	6
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)			668			
pX, platoon unblocked	0.95				0.95	0.95
vC, conflicting volume	242				714	238
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	177				673	173
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				94	99
cM capacity (veh/h)	1330				399	828
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	474	242	31			
Volume Left	2	0	25			
Volume Right	0	9	6			
cSH	1330	1700	444			
Volume to Capacity	0.00	0.14	0.07			
Queue Length 95th (ft)	0	0	6			
Control Delay (s)	0.0	0.0	13.7			
Lane LOS	A		B			
Approach Delay (s)	0.0	0.0	13.7			
Approach LOS			B			
Intersection Summary						
Average Delay			0.6			
Intersection Capacity Utilization			36.4%	ICU Level of Service		A
Analysis Period (min)			15			



Lane Group	EBT	WBL	WBT
Lane Group Flow (vph)	1042	249	1303
v/c Ratio	0.30	0.55	0.37
Control Delay	4.7	6.4	5.2
Queue Delay	0.0	0.0	0.3
Total Delay	4.7	6.4	5.5
Queue Length 50th (ft)	59	3	81
Queue Length 95th (ft)	112	5	150
Internal Link Dist (ft)	451		351
Turn Bay Length (ft)		185	
Base Capacity (vph)	3529	747	3508
Starvation Cap Reductn	0	0	1349
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.30	0.33	0.60
Intersection Summary			

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑		↘	↑↑↑		
Traffic Volume (vph)	1005	37	249	1303	0	0
Future Volume (vph)	1005	37	249	1303	0	0
Ideal Flow (vphpl)	1750	1750	1650	1775	1900	1900
Grade (%)	-3%			3%	0%	
Total Lost time (s)	7.5		7.5	7.5		
Lane Util. Factor	0.91		1.00	0.91		
Frbp, ped/bikes	0.99		1.00	1.00		
Flpb, ped/bikes	1.00		0.99	1.00		
Frt	0.99		1.00	1.00		
Flt Protected	1.00		0.95	1.00		
Satd. Flow (prot)	4702		1503	4679		
Flt Permitted	1.00		0.26	1.00		
Satd. Flow (perm)	4702		415	4679		
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	1005	37	249	1303	0	0
RTOR Reduction (vph)	2	0	0	0	0	0
Lane Group Flow (vph)	1040	0	249	1303	0	0
Confl. Peds. (#/hr)		64	64		2	
Confl. Bikes (#/hr)		2				
Turn Type	NA		pm+pt	NA		
Protected Phases	2		1	6		
Permitted Phases			6			
Actuated Green, G (s)	75.0		85.0	75.0		
Effective Green, g (s)	75.0		85.0	75.0		
Actuated g/C Ratio	0.75		0.85	0.75		
Clearance Time (s)	7.5		7.5	7.5		
Vehicle Extension (s)	0.2		2.0	0.2		
Lane Grp Cap (vph)	3526		461	3509		
v/s Ratio Prot	0.22		c0.05	0.28		
v/s Ratio Perm			c0.40			
v/c Ratio	0.29		0.54	0.37		
Uniform Delay, d1	4.0		1.3	4.3		
Progression Factor	1.00		1.00	1.00		
Incremental Delay, d2	0.2		0.7	0.3		
Delay (s)	4.2		2.0	4.6		
Level of Service	A		A	A		
Approach Delay (s)	4.2			4.2	0.0	
Approach LOS	A			A	A	
Intersection Summary						
HCM 2000 Control Delay			4.2	HCM 2000 Level of Service		A
HCM 2000 Volume to Capacity ratio			0.54			
Actuated Cycle Length (s)			100.0	Sum of lost time (s)		15.0
Intersection Capacity Utilization			54.3%	ICU Level of Service		A
Analysis Period (min)			15			
c Critical Lane Group						



Lane Group	EBT	WBT	NBL	NBR
Lane Group Flow (vph)	1008	1527	28	425
v/c Ratio	0.26	0.39	0.16	0.33
Control Delay	4.9	4.2	39.5	1.7
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	4.9	4.2	39.5	1.7
Queue Length 50th (ft)	47	49	18	0
Queue Length 95th (ft)	165	176	34	46
Internal Link Dist (ft)	351	246	341	
Turn Bay Length (ft)			275	
Base Capacity (vph)	3947	3916	546	1286
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.26	0.39	0.05	0.33
Intersection Summary				



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑			↑↑↑	↘	↗
Traffic Volume (vph)	1008	0	0	1527	28	425
Future Volume (vph)	1008	0	0	1527	28	425
Ideal Flow (vphpl)	1775	1775	1775	1775	1700	1700
Lane Width	12	12	12	12	12	14
Grade (%)	-3%			0%	-4%	
Total Lost time (s)	6.0			5.0	8.5	6.0
Lane Util. Factor	0.91			0.91	1.00	0.95
Frbp, ped/bikes	1.00			1.00	1.00	1.00
Flpb, ped/bikes	1.00			1.00	1.00	1.00
Frt	1.00			1.00	1.00	0.85
Flt Protected	1.00			1.00	0.95	1.00
Satd. Flow (prot)	4764			4694	1615	1464
Flt Permitted	1.00			1.00	0.95	1.00
Satd. Flow (perm)	4764			4694	1615	1464
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	1008	0	0	1527	28	425
RTOR Reduction (vph)	0	0	0	0	0	96
Lane Group Flow (vph)	1008	0	0	1527	28	329
Confl. Peds. (#/hr)		56	56		2	
Heavy Vehicles (%)	2%	3%	2%	2%	2%	2%
Bus Blockages (#/hr)	9	0	9	9	0	0
Turn Type	NA			NA	Prot	Perm
Protected Phases	2			6	4	
Permitted Phases						2
Actuated Green, G (s)	81.2			82.2	9.3	81.2
Effective Green, g (s)	81.2			82.2	9.3	81.2
Actuated g/C Ratio	0.77			0.78	0.09	0.77
Clearance Time (s)	6.0			5.0	8.5	6.0
Vehicle Extension (s)	2.0			2.0	2.0	2.0
Lane Grp Cap (vph)	3684			3674	143	1132
v/s Ratio Prot	0.21			c0.33	c0.02	
v/s Ratio Perm						0.22
v/c Ratio	0.27			0.42	0.20	0.29
Uniform Delay, d1	3.4			3.7	44.4	3.5
Progression Factor	1.00			0.76	1.00	1.00
Incremental Delay, d2	0.2			0.3	0.2	0.6
Delay (s)	3.6			3.1	44.6	4.1
Level of Service	A			A	D	A
Approach Delay (s)	3.6			3.1	6.6	
Approach LOS	A			A	A	

Intersection Summary

HCM 2000 Control Delay	3.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	14.5
Intersection Capacity Utilization	54.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations	↵	↑↑↑	↑↑↑↵		↵↵			
Traffic Volume (veh/h)	41	1365	1417	54	8	62		
Future Volume (Veh/h)	41	1365	1417	54	8	62		
Sign Control		Free	Free		Stop			
Grade		0%	0%		0%			
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Hourly flow rate (vph)	41	1365	1417	54	8	62		
Pedestrians								
Lane Width (ft)								
Walking Speed (ft/s)								
Percent Blockage								
Right turn flare (veh)								
Median type		None	None					
Median storage (veh)								
Upstream signal (ft)		326	265					
pX, platoon unblocked	0.86				0.88	0.86		
vC, conflicting volume	1471				1981	499		
vC1, stage 1 conf vol								
vC2, stage 2 conf vol								
vCu, unblocked vol	964				1278	0		
tC, single (s)	4.1				6.8	6.9		
tC, 2 stage (s)								
tF (s)	2.2				3.5	3.3		
p0 queue free %	93				94	93		
cM capacity (veh/h)	608				130	929		
Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	WB 3	SB 1
Volume Total	41	455	455	455	567	567	337	70
Volume Left	41	0	0	0	0	0	0	8
Volume Right	0	0	0	0	0	0	54	62
cSH	608	1700	1700	1700	1700	1700	1700	545
Volume to Capacity	0.07	0.27	0.27	0.27	0.33	0.33	0.20	0.13
Queue Length 95th (ft)	5	0	0	0	0	0	0	11
Control Delay (s)	11.3	0.0	0.0	0.0	0.0	0.0	0.0	12.6
Lane LOS	B							B
Approach Delay (s)	0.3				0.0			12.6
Approach LOS								B
Intersection Summary								
Average Delay			0.5					
Intersection Capacity Utilization			45.0%		ICU Level of Service			A
Analysis Period (min)			15					



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	496	876	98	957	213	93	311	175	229	424
v/c Ratio	1.39	0.31	0.48	0.50	0.30	0.44	0.42	0.80	0.54	0.72
Control Delay	211.6	8.0	36.4	25.5	4.8	36.8	32.7	61.0	36.7	14.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	211.6	8.0	36.4	25.5	4.8	36.8	32.7	61.0	36.7	14.4
Queue Length 50th (ft)	~339	93	47	171	0	52	91	110	132	46
Queue Length 95th (ft)	#553	55	#136	252	53	89	113	170	180	140
Internal Link Dist (ft)		185		533			588		1180	
Turn Bay Length (ft)	500		250		165	100		135		
Base Capacity (vph)	357	2782	206	1921	718	296	1046	306	600	691
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.39	0.31	0.48	0.50	0.30	0.31	0.30	0.57	0.38	0.61

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

3130 Langston Boulevard
4: N Kirkwood Rd/Spout Run Pkwy & Lee Hwy.

Total Future 2028 PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	496	791	85	98	957	213	93	212	99	175	229	424
Future Volume (vph)	496	791	85	98	957	213	93	212	99	175	229	424
Ideal Flow (vphpl)	1650	1700	1750	1650	1700	1750	1650	1750	1750	1650	1750	1700
Lane Width	12	13	12	13	12	13	12	12	13	11	11	11
Grade (%)		0%			-4%			0%			0%	
Total Lost time (s)	7.0	6.5		6.5	6.5	6.5	7.0	7.0		7.0	7.0	7.0
Lane Util. Factor	1.00	0.91		1.00	0.91	1.00	1.00	0.95		1.00	1.00	1.00
Frpb, ped/bikes	1.00	0.99		1.00	1.00	0.95	1.00	0.99		1.00	1.00	0.96
Flpb, ped/bikes	1.00	1.00		0.97	1.00	1.00	0.98	1.00		0.99	1.00	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.95		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1535	4518		1519	4641	1435	1510	2892		1476	1658	1315
Flt Permitted	0.20	1.00		0.31	1.00	1.00	0.52	1.00		0.55	1.00	1.00
Satd. Flow (perm)	322	4518		499	4641	1435	820	2892		848	1658	1315
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	496	791	85	98	957	213	93	212	99	175	229	424
RTOR Reduction (vph)	0	10	0	0	0	125	0	0	0	0	0	250
Lane Group Flow (vph)	496	866	0	98	957	88	93	311	0	175	229	174
Confl. Peds. (#/hr)	32		73	73		32	31		12	12		31
Confl. Bikes (#/hr)			1			1						3
Heavy Vehicles (%)	2%	2%	2%	5%	2%	4%	2%	3%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	9	9	0	0	0	0	3	0	0	0	0
Parking (#/hr)								0	0			
Turn Type	pm+pt	NA		Perm	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases	5	2			6			8			4	
Permitted Phases	2			6		6	8			4		4
Actuated Green, G (s)	64.5	64.5		43.5	43.5	43.5	27.0	27.0		27.0	27.0	27.0
Effective Green, g (s)	64.5	64.5		43.5	43.5	43.5	27.0	27.0		27.0	27.0	27.0
Actuated g/C Ratio	0.61	0.61		0.41	0.41	0.41	0.26	0.26		0.26	0.26	0.26
Clearance Time (s)	7.0	6.5		6.5	6.5	6.5	7.0	7.0		7.0	7.0	7.0
Vehicle Extension (s)	3.0	0.2		0.2	0.2	0.2	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	359	2775		206	1922	594	210	743		218	426	338
v/s Ratio Prot	c0.18	0.19			0.21			0.11			0.14	
v/s Ratio Perm	c0.66			0.20		0.06	0.11			c0.21		0.13
v/c Ratio	1.38	0.31		0.48	0.50	0.15	0.44	0.42		0.80	0.54	0.51
Uniform Delay, d1	17.4	9.7		22.4	22.7	19.2	32.7	32.5		36.5	33.6	33.4
Progression Factor	1.18	0.72		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	187.9	0.3		7.7	0.9	0.5	1.5	0.4		18.8	1.3	1.3
Delay (s)	208.4	7.3		30.1	23.6	19.7	34.2	32.8		55.4	34.9	34.7
Level of Service	F	A		C	C	B	C	C		E	C	C
Approach Delay (s)		80.0			23.5			33.2			39.1	
Approach LOS		E			C			C			D	
Intersection Summary												
HCM 2000 Control Delay			47.8									D
HCM 2000 Volume to Capacity ratio			1.25									
Actuated Cycle Length (s)			105.0						20.5			
Intersection Capacity Utilization			108.5%									G

Analysis Period (min) 15
c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	
Traffic Volume (veh/h)	6	386	381	24	15	8
Future Volume (Veh/h)	6	386	381	24	15	8
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	6	386	381	24	15	8
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)	668					
pX, platoon unblocked	0.90				0.90	0.90
vC, conflicting volume	405				791	393
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	285				714	272
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				96	99
cM capacity (veh/h)	1151				357	691
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	392	405	23			
Volume Left	6	0	15			
Volume Right	0	24	8			
cSH	1151	1700	429			
Volume to Capacity	0.01	0.24	0.05			
Queue Length 95th (ft)	0	0	4			
Control Delay (s)	0.2	0.0	13.9			
Lane LOS	A		B			
Approach Delay (s)	0.2	0.0	13.9			
Approach LOS			B			
Intersection Summary						
Average Delay			0.5			
Intersection Capacity Utilization			35.1%	ICU Level of Service	A	
Analysis Period (min)			15			



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7/24/2024

CONCEPTUAL SITE PLAN

The information discussed in this report is reflective of staff comments only and should not be considered the official position of the County Manager, Arlington County Board, and/or of any Arlington County commission or committee. Staff comments are not intended to reflect the sum total of all policy issues, and staff reserves the right to provide additional comments as the subject special exception application completes the public review process. All special exception applications are subject to the standards set forth in the Arlington County Zoning Ordinance and relevant guidance from sector plans, area plans, and other adopted policy documents, and require approval by the County Board. Please contact the Planning Division Project Manager for clarification of the comments.

Project ID: SPLC24-00006
Alternate ID: SPLC24-00006
Project Name: 3130 Langston Boulevard

KEY PROJECT COMMENTS

For Site Plan Application:

- Please ensure that 3D renderings for adjacent sites are consistent with the images shown in the Langston Boulevard Area Plan (LBAP), and also clearly and accurately depict what is labelled.
- Please provide a density analysis with an eventual site plan application that breaks down the density based on use and enumerates the amount of proposed additional density.
- Please begin the conversation with the Planning and Housing Divisions on the contribution for on-site affordable housing units in exchange for the proposed GLUP amendment.
- Please provide an analysis of the buildable area for the site plan so staff can adequately evaluate against the LBAP guidance.
- This site is in an area with significant stormwater-related challenges. Please review whether an overland relief area is needed with DES staff. Please also provide Resource Protection Area (RPA) information with the site plan application.
- Please provide information with the site plan application that speaks to how the project will meet LBAP biophilic design guidelines.

Preliminary Policy Implications:

- The LBAP recommends a 5,000-sf public space on site, and it appears from the information provided that what is proposed is somewhat less than that amount. Please be prepared to show a public space as recommended by the plan, with sufficient details including size, or be prepared to provide a justification for this plan deviation for further review.
- The LBAP recommends a 10-ft stepback above the building base along the Langston Boulevard frontage. Please adjust plans to provide this stepback in full or provide justification for this plan deviation.



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- As proposed, the applicant will need to request a modification of Zoning standards for the proposed number of loading spaces. In addition, standard site plan conditions require a minimum of one 40 ft-deep loading space to accommodate larger vehicles.
- Please work with staff to meet recommended tree canopy coverage guidelines on the subject site.

Project and Document Comments

Department	Comment ID	Sheet	Reviewer	Comment	Comment Response
CIP - DPR - Planner Reviewer	DPR-Plan-1	L-01 LA CONCEPT	WGONZAL EZ	<p>Plan Langston Blvd - Pg. 117 - Area 5 (West) Public Space Network Map</p> <p>calls for a minimum 5,000 sq. ft. public space to be situated on the site - Plaza / Park Hybrid [combination of plaza and park experiences + amenities]</p> <p>The proposed parklet size based on the provided scale does not meet the min. 5,000 sq. ft. and measures roughly at 2,400 sq. ft.</p> <p>The surrounding green space buffer shown including greenways and storm water greenways do not count towards the proposed public space minimum sq. ft.</p> <p>Please show a contiguous public space with the minimum 5,000 sq. ft. size requirement in future submissions.</p>	<p>The plans now show the addition of a dog run that will be connected to and expand the area of the public park space. The total square footage of the land area of this public park will meet the 5,000 s.f. requirement.</p>



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CPHD Comprehensive Planning	CPHD- COMP1	3130 Langston Concept Plan Set 5-20-24 lr	NALFONSO -AHMED	Staff does not recommend showing the massing of potential surrounding development in the 3D diagrams for the Site Plan submittal. The building forms depicted in the Conceptual Plan's 3D diagrams are not in line with the 3D illustrations in the Langston Boulevard Area Plan and can cause confusion in the community about what is appropriate and/or may be expected in the future. Another option is to insert the massing from the 3D model that was created for Langston Boulevard for consistency.	The plans no longer include the massing of potential surrounding development.
CPHD Comprehensive Planning	CPHD- COMP2	A10	NALFONSO -AHMED	LB: Please show dimension from build to line to center line of roadway.	Dimension shown on sheet C-08.
CPHD Comprehensive Planning	CPHD- COMP3	A10	NALFONSO -AHMED	Kirkwood: Please show dimension from build to line to centerline of roadway.	Dimension shown on sheet C-08.
CPHD Comprehensive Planning	CPHD- COMP4	A10	NALFONSO -AHMED	Page 161 of LB Plan: "In Area 5 West, along the Langston Boulevard and Spout Run Parkway frontages...above the 7th floor should step back from the façade of the podium at least 10 feet." The concept plan shows a small stepback along Langston Boulevard above the 3rd story (and up to the 12 story). Staff recommends adjusting the stepback to 10 feet, if practical, to create a similar pedestrian scale along	The Applicant has worked closely with its architect to attempt to meet this guidance. The purpose of the building layout and design as shown is to shift as much density as possible towards that portion of the site bordering I-66 and Langston Boulevard and away from the Lyon Village community. Adding a step back would force the Applicant to move density closer to the Lyon Village community. Given the type of construction for this project, a 10-foot setback of the tower along Langston Boulevard would be very difficult to do



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				Langston Boulevard. No concern with setback along Kirkwood Road.	especially if we were to consider a 10-foot setback at the 7th floor level. The amount of additional steel, structural challenges and the lack of stacking would make the project cost prohibitive.
CPHD Comprehensive Planning	CPHD-COMP5	A02	NALFONSO -AHMED	It is unclear what the proposed setback is along N. Kirkwood Road. Staff recommends the Applicant show the dimension from build-to-line to center line of the road. The Applicant should also consider providing door yards for the ground floor units to provide additional spaces for landscaping and privacy.	Dimension shown on sheet C-08 The unit entries have been setback off the sidewalk with stoop-like steps and terraced planters serving to give relief to the façade and individualizing the front door experience. Setting the units back further would affect the traffic flow of the garage and result in a significant loss of parking.
CPHD Comprehensive Planning	CPHD-COMP6	A02	NALFONSO -AHMED	Langston Boulevard: Staff will defer to DES for their direction, but preliminarily recommends the Applicant conduct an operational study to identify whether the Plan's recommended cross section for Langston Boulevard (east of Spout Run) is feasible at this location (west of Spout Run). It is unclear what the proposed setback is along Langston Boulevard, however, it appears to be greater than 59 feet from the center line of the road. Staff recommends the	Dimension shown on sheet C-08 Dimension shown on sheet C-08



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				<p>Applicant show the dimension from build-to-line to center line of the road</p> <p>Staff requests the Applicant acknowledge the Plan's recommendations for improvements under the I-66 overpass and explain if/how they plan to address those recommendations.</p> <p>The Applicant should be prepared to indicate how the site plan application will be consistent with the recommendations for ground floor priority areas, including appropriate locations for building amenity/retail/retail equivalent uses that do not hinder achievement of the primary frontages to support pedestrian and bicycle-based activities</p>	<p>The applicant acknowledges the Plan's recommendations and is reviewing how it can address those recommendations related to area under the I-66 overpass.</p> <p>Priority ground floor spaces have been placed along the entire extent of Langston Boulevard frontage to promote pedestrian and bicycle activities.</p>
CPHD Comprehensive Planning	CPHD-COMP7	A02	NALFONSO -AHMED	<p>Along Kirkwood: While the 50 feet wide setback applies mostly to the property to the east, the Pawn Shop, this site may also need to provide space for overland relief. This should be evaluated by the DES team to determine if additional setback along Kirkwood Road is necessary along with more specific flood resilient design.</p>	<p>Acknowledged. An overland relief path has been maintained along the property line with the Pawn Shop site to allow any floodwater that is ponding at the upstream end of the culverts under Kirkwood Road to proceed toward Langston Blvd. and ultimately down Spout Run Parkway.</p>
CPHD Current Planning	CPHD-CURR-1	A02	PSCHULZ	<p>Spaces fronting Langston Boulevard should follow the interior and exterior design standards for "Gold"</p>	<p>A minimum of 65% transparency has been achieved (actual approx. 71%). Greater than 15' clear height has been achieved for</p>



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				streets from the Arlington Retail Plan. 65% transparency between 2-10 feet above grade; interior clear height of at least 15 feet; minimum 20 foot depth; direct access to service corridors for deliveries and trash removal; consider noise mitigation.	the NE corner retail space. A service pathway and egress corridor is directly behind this space.
CPHD Current Planning	CPHD-CURR-2		PSCHULZ	To what Zoning District do you propose to rezone?	C-O-2.5
CPHD Current Planning	CPHD-CURR-3		PSCHULZ	To what GLUP category do you propose to re-GLUP? Be aware that a change in GLUP triggers ACZO 15.5.8.H. Negotiate Affordable Housing Contribution jointly with Aaron Shriber and the Housing Division. This is in addition to the Affordable Housing requirements of 15.5.8.A-G. and any on-site affordable housing you may offer in order to earn additional density above the limit of the proposed zoning district.	Medium O-A-H. The Applicant has reached out to Aaron Shriber to begin a dialogue on this topic.
CPHD Current Planning	CPHD-CURR-4	A17 MATRIX	PSCHULZ	When filing site plan, need to know the proposed Zoning District and the permitted maximum density in that district. Calculate how much additional density you are requesting over the maximum density permitted by the proposed Zoning District (if indeed you are asking for additional density over that permitted by the proposed zoning district). Please be	Acknowledged.



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				cognizant some zoning districts calculate residential density by units per acre (not FAR). Calculate commercial density and residential density separately. You cannot count the same site area twice for the purposes of calculating mixed-use density.	
CPHD Current Planning	CPHD- CURR-5	A02	PSCHULZ	Can you move the townhouses back to create planted dooryards between the sidewalk and building facades?	The unit entries have been set back off the sidewalk with stoop-like steps and terraced planters serving to give relief to the façade and individualizing the front door experience. Setting the units back further would affect the traffic flow of the garage and result in a significant loss of parking.
CPHD Current Planning	CPHD- CURR-6	A02	PSCHULZ	<p>Loading and trash spaces do not look like they meet our standards (no measurements). At least one loading space must be 40 feet in length. Be advised the staff and the County Board will not support deviations from the standard. Our standard site plan condition for loading and trash spaces states:</p> <p>Interior Loading Spaces (Footing to Grade Permit) The Developer agrees to obtain approval from the Zoning Administrator of drawings showing compliance with this condition prior to the issuance of the Footing to Grade Permit. The Developer agrees</p>	Two interior loading spaces shall be provided: 1 @ 40' and 1 @ 25' loading spaces - both 12' wide have been provided. The clear height at these spaces is >20'.



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				<p>that all loading spaces shall be in the interior of the building and shall also comply with the following requirements:</p> <p>A. Minimum 12-foot clear width, including entrances, and minimum 14-foot clear height, however, any loading dock to be used for trash removal shall have a minimum interior height clearance of 15 feet.</p> <p>B. At least one loading space shall have a minimum 40-foot clear length.</p>	
CPHD Current Planning	CPHD-CURR-7	A02	PSCHULZ	<p>There should be three (3) loading spaces according to the Zoning Ordinance: 1 (1) loading space for the retail/retail equivalent; and two (2) for the residential use. Staff does not support reductions in the loading standards.</p>	<p>Two loading spaces have been provided. The limited frontage on Kirkwood and tight parking conditions do not allow for a 3rd loading space. The proposed two loading spaces will be managed and shared between the residential building and the retail/retail equivalent uses.</p>
CPHD Current Planning	CPHD-CURR-8	A01	PSCHULZ	<p>Can the bike storage be immediately off the street, or on the main level?</p>	<p>The design intent is for bike storage to be in the lower level, saving ground level spaces for more active amenities. The resident bike storage is immediately adjacent to the service elevator off the rear lobby. Visitor bike parking spaces will be provided along Langston Boulevard.</p>



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CPHD Current Planning	CPHD- CURR-10	A06	PSCHULZ	From Langston Plan, p. 161: Along Langston Boulevard in this area stories above the 7th story should step back from podium facade at least 10 feet. When filing your site plan, please prepare an exhibit that demonstrates compliance.	The Applicant has worked closely with its architect to attempt to meet this guidance. The purpose of the building layout and design as shown is to shift as much density as possible towards that portion of the site bordering I-66 and Langston Boulevard and away from the Lyon Village community. Adding a step back would force the Applicant to move density closer to the Lyon Village community. Given the type of construction for this project, a 10-foot setback of the tower along Langston Boulevard would be very difficult to do especially if we were to consider a 10-foot setback at the 7th floor level. The amount of additional steel, structural challenges and the lack of stacking would make the project cost prohibitive.
CPHD Current Planning	CPHD- CURR-11	L-01 LA CONCEPT	PSCHULZ	P. 169 of the Langston Plan: 25% of the buildable area should be private open space. When filing plan, please verify (do not include parklet, which will be public).	Acknowledged. Private and public open space has been indicated on the plan set.
CPHD Current Planning	CPHD- CURR-12	L-01 LA CONCEPT	PSCHULZ	Consider a dog run in the rooftop private space.	A dog run has been provided at the ground level.
CPHD Current Planning	CPHD- CURR-13	A17 MATRIX	PSCHULZ	Please bring the compact space percentage down to 15% or below.	For the required parking spaces, the proportion of compact spaces will be 15% or less. Any additional compact spaces are being provided in excess of the required parking minimum.



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CPHD Current Planning	CPHD- CURR-14		MPFEIFFER	The concept plan indicates that the size of the proposed courtyard space is 10,880 SF and the roof deck is an additional 2,082 SF, for a total of 12,962 SF. The Applicant should provide more detailed information in the site plan application showing the extent and amount of buildable area and how it compares with the Plan's guidance.	Additional information on both terrace and podium, as well as the ground level, has been indicated on the plan set.
CPHD Current Planning	CPHD- CURR-15		MPFEIFFER	The Conceptual Plan lacks definition about the size of the proposed public space, however, it appears to be significantly smaller than 5,000 sf. If the Applicant proposes something less, a clear rationale should be provided along with a description of an alternative to offset this deviation from the Plan's guidance. Staff recommends adding a sidewalk along the west facade facing the public space and evaluating the opportunity for providing a crosswalk to Kirkwood Park at that location.	Additional information on both terrace and podium, as well as the ground level, has been indicated on the plan set. A sidewalk has been added along the west facade.
CPHD Urban Design	CPHD-UD-1	3130 Langston Concept Plan Set 5-20-24 lr	KKRIDER	Drawings should be corrected as the views include proposed and not just existing.	Acknowledged.
CPHD Urban Design	CPHD-UD-2	L-01 LA CONCEPT	KKRIDER	Make sure columnar trees are a minimum 10ft. away from the building facade	Acknowledged - all trees have been placed a minimum 10 feet away from building façade.

CPHD Urban Design	CPHD-UD-3	L-01 LA CONCEPT	KKRIDER	Provide an alternative description of the area described as a 'parklet' as the term is commonly associated with the conversion of a parking space to a public seating area. Consider ways to mitigate noise from the adjacent interstate highway. Consider making this area a POPS - Privately Owned Public Space	The park area has been labeled as a plaza / park hybrid per the Langston Boulevard Area Plan. This area is going to be a POPS and is labeled as such.
CPHD Urban Design	CPHD-UD-4	L-01 LA CONCEPT	KKRIDER	Consider a sidewalk connection along west facade to accommodate dog walking and access to the small park near Kirkwood.	A sidewalk connection from Langston Blvd. to the dog park on the western facade has been provided. See sheet C-08
CPHD Urban Design	CPHD-UD-5	A11	KKRIDER	If these are to be treated as existing views, the proposal should not be included	Acknowledged.
CPHD Urban Design	CPHD-UD-6	L-01 LA CONCEPT	LSHAUB	Please confirm that existing mature trees in the "parklet" area will be preserved.	The existing trees being saved have been included in the plaza/park hybrid area.
CPHD Urban Design	CPHD-UD-7	L-01 LA CONCEPT	KKRIDER	Consider green roof opportunity at corner	Other green roof areas have been provided - this space is being utilized for other private open space opportunities.
CPHD Urban Design	CPHD-UD-8	A15	LSHAUB	Potential area for greenroofs in this location. Please show any upper level amenities and planting	Amenities and planting have been shown on the upper level podium.
CPHD Urban Design	CPHD-UD-9	L-01 LA CONCEPT	LSHAUB	Will the corner park and open plaza area be considered public?	Yes, the park at grade will be public, the upper podium will be private.
CPHD Urban Design	CPHD-UD-10	L-01 LA CONCEPT	LSHAUB	Continue to develop corner and intersection where bike/ped and traffic is crossing. This is a heavily trafficked area. How will bike cross over ped areas near neighboring driveway entrance.	The intersection at the 66 off-ramp and Langston Blvd. has been reconfigured to more safely accommodate pedestrian and bike traffic. Bike traffic will be directed south along the eastern facade to avoid the narrow sidewalk at the existing pawn



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					shop. See sheet C-08.
CPHD Urban Design	CPHD-UD-11	L-01 LA CONCEPT	KKRIDER	Consider a greater setback for the townhomes facing Kirkwood. This would allow a small green space, opportunities for stormwater management and a bit more privacy for the units.	Please see response to CPHD- CURR-5.
CPHD Urban Design	CPHD-UD-12	A08	KKRIDER	Consider additional fenestration on the exposed end wall of the townhouses. On the pool deck side, perhaps a nature or green wall to introduce more biophilic design elements	The applicant has considered but determined not to add additional fenestration. For proposed landscape plans including biophilic design, see Sheet L-100.
DES DSB Planning	DES-PLN-1		JGABOR	Currently there are no planned County transportation projects adjacent to the project site. As the projects moves forward staff will confirm if any projects have been initialed and the impacts.	Acknowledged.
DES DSB Planning	DES-PLN-2		JGABOR	There is a signal reconstruction project at Kirkwood and Langston Blvd. Construction anticipated to start this summer.	Acknowledged.
DES DSB Planning	DES-PLN-3		JSKIM	Langston Blvd. frontage requires VDOT approval for design changes. - Contact VDOT's Northern Virginia Permit Office (or the appropriate office as identified by VDOT) for a review of preliminary plans before submission of plans for a 2nd round	Acknowledged and understood.



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				<p>of reviews by Arlington County. Provide supporting documentation of the meeting, any comments/requirements identified by VDOT, a list of meeting participants and a summary of next steps that applicant may take to engage VDOT prior to County Board approval and CEP approval. When the applicant provides a response to comments letter to VDOT please provide a copy as a part of the 4.1 supporting documents for the project.</p> <p>- The applicant is responsible for coordinating and obtaining all required VDOT approvals and ensuring that VDOT and Arlington County comments do not conflict.</p>	
DES DSB Planning	DES-PLN-4		JSKIM	<p>Recommend WSS utility meeting prior to Preliminary Plan submission. Reach out to Jane Kim to schedule the meeting.</p>	Ongoing. A meeting will likely be scheduled after the first submission
DES DSB Planning	DES-PLN-5		JSKIM	<p>Currently there are no planned County transportation projects adjacent to the project site. As the projects moves forward staff will confirm if any projects have been initialed and the impacts.</p>	Acknowledged and understood.
DES DSB Planning	DES-PLN-6		JSKIM	<p>Arlington County has information regarding the stormwater conditions on and around your site. Email dcommerford@arlingtonva.us with your "project name - permit # - Request for stormwater information" in the subject line and I will provide</p>	Acknowledged. We have received the information from DES and also met briefly with them to understand the relevant HGL values to use for any storm drain calculations.



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				our records.	
DES DSB Planning	DES-PLN-7		JSKIM	All proposed transformers to be underground; if above ground, must be adequately screened from public ROW	An underground transformer vault will be located on Langston Blvd. See sheet C-08.
DES DSB Planning	DES-PLN-8		JSKIM	Standard site plan condition requires all existing utility poles around the site vicinity to be undergrounded	Understood. See sheet C-08 for utility pole and overhead lines that are to be removed or undergrounded.
DES DSB Planning	DES-PLN-9		JSKIM	Please show RPA information as applicable. If there is an RPA on site, reach out to Jane Kim to schedule a meeting with applicable DES staff.	RPA information is shown on sheet C-01 and C-08. Additionally, we have met with Arlington County staff to clarify our request for redevelopment within the RPA. We are preparing a Site-Specific RPA plan to refine/confirm the exact location of the RPA and will work with DES staff to work through the CBORC to gain approval of our proposed project.
DES DSB Planning	DES-PLN-10		JSKIM	The project site is outside of the "Off-Street Parking Guidelines for Multi-Family Residential Projects..." therefore parking ratios set by ZO; justification required for modifications.	Acknowledged.
DES Green Building	DES-GB-1		VKIECHEL	Please provide a narrative summarizing how the development intends to align with the Sustainability and Resiliency goals of the 2023 Langston Boulevard Area Plan with respect to	We have incorporated a design that will increase environmental resilience and sustainability with a biophilic landscape design that will effectively manage our stormwater while also reducing the urban heat island effect with limited



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				decarbonization and energy efficiency improvements, minimization of impervious surface, incorporation of renewables and clean backup power technologies, and more.	imperviousness. We will make the site more resilient as we orient and build to a ensure safe conveyance of floodwaters and minimize risk to our residents. We propose to develop this site with a building that will reduce energy demand and emissions and will work with our residents to promote transit in an effort to align with the Sustainability and Resiliency Goals of the Langston Area Plan.
DES Green Building	DES-GB-2		VKIECHEL	Please clarify if the project intends to seek bonus density through the County's Green Building Incentive Policy.	Yes.
DES Green Building	DES-GB-3		PROMAN	Plan Langston Blvd recommends 5% coverage of non-tree vegetation, i.e. green roofs, walls, terraces. Please provide detail as to how the project will implement non-tree vegetation on-site.	Acknowledged; a narrative on these items has been added to the plan set.
DES Transportation Planning	DES-TP-1	L-01 LA CONCEPT	ABULLOCK 1	For the proposed median opening on Kirkwood Rd, it appears this is designed to only allow NB left turns from Kirkwood into the driveway, and not left turns out of the driveway and onto Kirkwood. Is the driveway proposed as right-out only? Please confirm.	The median opening has been designed to accommodate both left & right turns out of the garage. See sheet C-08.



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DES Transportation Planning	DES-TP-2	L-01 LA CONCEPT	ABULLOCK 1	At the east end of the site along Langston Blvd, can the space between where the proposed streetscape ends and the property line is be shown as transition space, merging the proposed sidewalk and cycle track back to the existing sidewalk to the east? Pedestrians and bicyclists will need to be able to seamlessly navigate from the proposed streetscape section to the existing sidewalk to the east until that property redevelops.	This location will all be paved. Pedestrians and cyclists will have sufficient space to transition to the existing sidewalk within the neighboring property.
DES Transportation Planning	DES-TP-3	L-01 LA CONCEPT	ABULLOCK 1	At the corner of Langston Blvd and the I-66 off-ramp, a curb ramp needs to be provided that meets PROWAG and is wide enough to serve bicyclists as well as pedestrians.	Acknowledged and understood. This intersection has been reconfigured. See sheet C-08 and C-10.
DES Transportation Planning	DES-TP-4	L-01 LA CONCEPT	ABULLOCK 1	Is any use planned in the 5' building zone along Langston Blvd? Or is this intended to be solely shy space for door swing, etc.?	The 5' building zone will include planter beds, door swings and balcony projections.
DES Transportation Planning	DES-TP-5	L-01 LA CONCEPT	KCALKINS	Where will PUDO be accommodated on site? There are no apparent curbside spaces available for this. Consider integrating this on the Kirkwood frontage.	Two to Three PUDO spaces will be provided on Kirkwood near the secondary lobby. See sheet C-08.



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DPR Urban Forestry	DPR-UF-1	L-01 LA CONCEPT	JPORTUHO NDO	Street trees are shown on renderings but make sure to provide sufficient street trees on Langston Blvd. The Langston Boulevard Area Plan adopted in December 2023 mandates the site to maximize tree canopy in the public-right-of-way by providing street trees at the minimum rate of one for every 30 feet along any property line abutting public right-of-way while also meeting soil volume requirements.	Street trees are now 30' on center.
DPR Urban Forestry	DPR-UF-2	L-01 LA CONCEPT	JPORTUHO NDO	The Langston Boulevard Area Plan mandates that on sites where the maximum building height is 7 stories or greater, the recommended tree canopy coverage on individual sites should be at least 35%, at least half of which should contain an understory of non-tree vegetation or understory trees. Page VII https://www.arlingtonva.us/files/sharedassets/public/v/3/projects/documents/plan-langston-blvd/lb-final-plan-_adopted-2-2-24_high-res.pdf	Canopy coverage calculations have been added to the plan set and illustrate a 35% canopy coverage for the site.
DPR Urban Forestry	DPR-UF-3	L-01 LA CONCEPT	JPORTUHO NDO	A bus stop is located on your project, incorporate principles of biophilic design and green infrastructure as the transportation network is improved and modified as part of the Langston Boulevard Plan.	Biophilic design principles narrative has been added to the plan set.



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DPR Urban Forestry	DPR-UF-4	L-01 LA CONCEPT	JPORTUHO NDO	Explore tree protection measures for trees outside of the construction footprint, especially in the existing screening canopy adjacent to Route 66 and large trees in the parklet area. Any native conserved trees can contribute to the canopy cover.	Tree protection measures have been added to the plan set.
DPR Urban Forestry	DPR-UF-5	L-01 LA CONCEPT	JPORTUHO NDO	Increase planting strip width to 6 feet on North Kirkwood Road per the recommendations of the Langston Plan.	The sidewalk has been widened in lieu of the planting strip.
DPR Urban Forestry	DPR-UF-6	L-01 LA CONCEPT	JPORTUHO NDO	Columnar trees do not provide the same amount of canopy cover as regular cultivars. Can regular tree cultivars be planted in this area? If not, plan for canopy credit reduction for the proposed trees. https://www.arlingtonva.us/files/sharedassets/public/v/5/forestry/master-list.pdf	Regular cultivars will be planted on site.
Fire Prevention	FP-1	A02	GKARL	Indicate which side will be used to meet aerial access requirements.	Langston and Kirkwood will be utilized to meet aerial access requirements. See Sheet C-11.
Fire Prevention	FP-2	A02	GKARL	Show proposed location of fire department connections and hydrants.	Proposed fire hydrants and fire department connections are shown. See Sheet C-08 & C-11.



8/8/2024

Nick Richardson
VIKA

Re: 3130 Langston Blvd redevelopment

Dear Nick,

Davis Utility Consulting has performed preliminary load calculations for the 3130 Langston Blvd project in Arlington, VA. Based on the current tabulations for the site we anticipate the following:

Below Grade Vault

1. (1) 2500 kVA transformer
 - a. House Service 4000A, 277/480 and Retail Service 1000A, 277/480 switch gears
2. (1) 1500kva transformer
 - a. Residential 1 Service (175 units) 4000A, 120/208 switch gear
3. (1) 1000kva transformer
 - a. Residential 2 Service (97 units) 3000A, 120/208 switch gear
4. (1) VFI Switch

The below-grade vault is estimated at 77' long x 16.5' wide x 17' tall (inside dimension). The physical space required for these devices are calculated with 10' minimum clearance in the front, and minimum 4' on the sides and back. These dimensions and devices will need to be confirmed with Dominion Energy Virginia. Please let me know if you additional information.

Sincerely,

David Graham –Manager

Davis Utility Consulting



DAVIS
CARTER
SCOTT Ltd

LEED MF MIDRISE v4 CHECKLIST

3130 Langston Blvd

322158.00

8/7/2024

ADDRESS: 3130 Langston Blvd, Arlington, VA 22201

LEED for Homes: Multifamily Midrise v4

Yes	Targeted	?	No	INTEGRATIVE PROCESS		2 Points
	2			Credit 1	Integrative Process	2
0	2	0	0			

Yes	Targeted	?	No	LOCATION AND TRANSPORTATION (8 pts req'd w/ EA)		15 Points
Y				Pre 1	Floodplain Avoidance	Req'd
				Credit 1	LEED for Neighborhood Development Location-or-	15 -OR-
	8			Credit 2	Site Selection	8
3				Credit 3	Compact Development	3
2				Credit 4	Community Resources	2
1			1	Credit 5	Access to Transit	2
6	8	0	1			

Yes	Targeted	?	No	SUSTAINABLE SITES		7 Points
Y				Pre 1	Construction Activity Pollution Prevention	Req'd
Y				Pre 2	No Invasive Plants	Req'd
	2			Credit 1	Heat Island Reduction	2
	3			Credit 2	Rainwater Management	3
	2			Credit 3	Nontoxic Pest Control	2
0	7	0	0			

Yes	Targeted	?	No	WATER EFFICIENCY (3 pts required)		12 Points
Y				Pre 1	Water Metering	Req'd
	6	2	4	Credit 1	Total Water Use -or-	12 -OR-
				Credit 2	Indoor Water Use	6
				Credit 3	Outdoor Water Use	4
0	6	2	4			

Yes	Targeted	?	No	ENERGY & ATMOSPHERE (8 pts required w/ LT)		37 Points
Y				Pre 1	Minimum Energy Performance	Req'd
Y				Pre 2	Energy Metering	Req'd
Y				Pre 3	Education of Homeowner, Tenant, or Building Manager	Req'd
	11	13	6	Credit 1	Annual Energy Use	30
	2	3		Credit 2	Efficient Hot Water Distribution System	5
	2			Credit 3	Advanced Utility Tracking	2
0	15	16	6			

Yes	Targeted	?	No	MATERIALS & RESOURCES		9 Points
Y				Pre 1	Certified Tropical Wood	Req'd
Y				Pre 2	Durability Management	Req'd
	1			Credit 1	Durability Management Verification	1
	1	4		Credit 2	Environmentally Preferable Products	5
	2		1	Credit 3	Construction Waste Management	3
0	4	4	1			

Yes	Targeted	?	No	INDOOR ENVIRONMENTAL QUALITY (3 pts required)		18 Points
Y				Pre 1	Ventilation	Req'd
Y				Pre 2	Combustion Venting	Req'd
Y				Pre 3	Garage Pollutant Protection	Req'd
Y				Pre 4	Radon Resistant Construction	Req'd
Y				Pre 5	Air Filtering	Req'd
Y				Pre 6	Environmental Tobacco Smoke	Req'd
Y				Pre 7	Compartmentalization	Req'd
	1		2	Credit 1	Enhanced Ventilation	3
			2	Credit 2	Contaminant Control	2
	1		2	Credit 3	Balancing of Heating and Cooling Distribution Systems	3
		3		Credit 4	Enhanced Compartmentalization	3
	2			Credit 5	Enhanced Combustion Venting	2
	1			Credit 6	Enhanced Garage Pollutant Protection	1
	2	1		Credit 7	Low-Emitting Products	3
	1			Credit 8	No Environmental Tobacco Smoke	1
0	8	4	6			

Yes	Targeted	?	No	INNOVATION IN DESIGN		6 Points
Y				Pre 1	Preliminary Rating	Preliminary LEED meeting and action plan. Req'd
		1		Credit 1.1	Innovation in Design	Install EV charging stations for 2% of parking spaces. 1
	1			Credit 1.2	Innovation in Design	EPDs, Specify 20+ products with EPDs. 1
	1			Credit 1.3	Innovation in Design	HPDs, Specify 20+ products with HPDs. 1
		1		Credit 1.4	Innovation in Design	Light pollution reduction. 1
		1		Credit 1.5	Innovation in Design	Bird-friendly design. 1
1				Credit 2	LEED Accredited Professional	1
1	2	3	0			

Yes	Targeted	?	No	REGIONAL PRIORITY		4 Points
	1			Credit 1.1	Regional Priority	Site Selection (8 pts min) 1
	1			Credit 1.2	Regional Priority	Community Resources (2 pts min) 1
			1	Credit 1.3	Regional Priority	Access to Transit (2 pts min) 1
	1			Credit 1.4	Regional Priority	Rainwater Management (3 pts min) 1
0	3	0	1			

Yes	Targeted	?	No	PROJECT TOTALS		110 Points Possible
7	55	29	19	Certified 40 to 49 Points Silver 50 to 59 Points Gold 60 to 79 Points Platinum 80+ Points		
62				= Total Points Estimated		

IMPORTANT: LEED points shown represent our professional opinion of credit achievability. Credits are awarded by USGBC/GBCI only and are the result of collaborative effort and decisions by all team members. DCS cannot guarantee any LEED points or specific level of certification.

LEED for Homes: Multifamily Midrise v4

Credit	Subject	Yes	Tar- geted	?	No	Total Possible	Requirements	Exemplary Performance (+1 Point)	Action By	Action Items/Comments

IP-Integrative Process (2 possible points)

Credit 1	Integrative Process		2			2	<p><u>Option 1: Integrative Project Team (1 pt)</u> a) Include req'd team members. b) Involve team members in multiple phases. c) Conduct monthly meeting. AND/OR <u>Option 2: Design Charrette (1 pt)</u> a) Conduct one full-day workshop w/ project team. AND/OR <u>Option 3: Trades Training (1 pt)</u> a) Conduct 8 min. hours LEED training for: plumbing, mechanical, insulation, framing, and air sealing trades.</p>	N/A	ARCH	Option 1: Integrative Project Team (ARCH, MEP, LEED) and Option 2: Design Charrette
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LT-Location and Transportation (15 possible points)

Pre 1	Floodplain Avoidance	Y				Req'd	Do not build on land within flood hazard area.	N/A	OWNR	Project is previously developed and exempt.
Credit 1	LEED for Neighborhood Development Location -or-				0	15	Locate project within a LEED for Neighborhood Development project.	N/A	OWNR	Not applicable. Cannot be combined with LT Credits 2-5.

Credit 2	Site Selection	8				<p><u>Option 1: Sensitive Land Protection</u> Path 1 - Previously developed (4 pts) Path 2 - Avoidance of sensitive land (3 pts)</p> <ol style="list-style-type: none"> 1) Prime Farmland 2) Parkland 3) Floodplain 4) Habitat for treated species 5) Wetlands w/i 50 ft 6) Water bodies w/i 100 ft <p>AND/OR</p> <p><u>Option 2: Infill Development (2 pts)</u> a) At least 75% of land within 1/2 mile is previously developed</p> <p>AND/OR</p> <p><u>Option 3: Open Space (1 pt)</u> a) Locate w/i 1/2 mile or create publicly available open space</p> <p>AND/OR</p> <p><u>Option 4: Street Network (1 pt)</u> a) Locate in high intersection density area ($\geq 90/\text{sq mi}$)</p> <p>AND/OR</p> <p><u>Option 5: Bicycle Network & Storage (1 pt)</u> a) Locate near bicycle network. b) Provide bicycle storage.</p>		OWNER	<p><u>Option 1: Sensitive Land Protection</u> - Path 1 - Previously developed (4 pts) <u>Option 2: Infill Development (2 pts)</u> <u>Option 3: Open Space (1 pt)</u> - Lyon Village Park <u>Option 5: Bicycle Network & Storage (1 pt)</u> - Custis Trail - Bike storage will be provided.</p>
Credit 3	Compact Development	3			3	<p>Construct building that meets dwelling unit per acre of buildable land density requirements below:</p> <p>$\geq 30 \text{ DU/acre} = 1 \text{ pt}$ $\geq 55 \text{ DU/acre} = 2 \text{ pt}$ $\geq 80 \text{ DU/acre} = 3 \text{ pt}$</p>		ARCH	276 dwelling units / 1.68 acres = 164 DU/acre

Credit 4	Community Resources	2			2	<p>Locate w/i 1/2 mi walking distance of the following community use establishments: 4-7 uses = 1pt 8-11 uses = 1.5 pts ≥12 uses = 2 pts</p> <p>Include at least 2 Categories: - Food Retail (Supermarket, produce market, etc) - Community Retail (Clothing, Convenience, Pharmacy, etc) - Services (Restaurant, bank, gym, salon, laundry, dry cleaner) - Civic and Community Facilities (Child care, rec center, schools, place of worship, library, police/fire station, etc)</p> <p>No more than 2 of same establishment type.</p>	20+ uses for EP	ARCH	12+ Community Establishments: CVS (Pharmacy) The Italian Store (Food market) Lyon Village Community House (Community Center) Lyon Village Park Starbucks (Coffee shop) BGR Burgers (Restaurant) Arlington Family Dental Center (Medical) Giant (Grocery) The Block Oven (Restaurant) Method Fitness (Gym) Hair Cuttery (Hair care) VINCI School (Elem School) Little Ambassadors Academy (Child care)
Credit 5	Access to Transit	1		1	2	<p>a) Locate entry w/i 1/4 mile walking distance of bus, streetcar, or informal transit stops. 72 min. weekday 40 min. weekend = 1 pt 144 min. weekday 108 min. weekend = 1.5 pts 360 min weekday 216 min. weekend = 2 pts OR Locate entry w/i 1/2 mile walking distance of bus rapid transit, rail stations, or ferry terminals. 24 min. weekday = 1 pt 40 min. weekday = 1.5 pts 60 min. weekday = 2 pts</p> <p>b) Meet both weekday and weekend trip frequency minimums.</p>	N/A	ARCH	Bus stops for Routes 3Y (13 weekday, 0 weekend), ART55 (151 weekday, 70 weekend) w/i 1/4 mile. Clarendon Metro is too far at 0.6 miles away.
Total:		6	10	0	1				

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LEED for Homes: Multifamily Midrise v4

Credit	Subject	Yes	Tar- geted	?	No	Total Possible	Requirements	Exemplary Performance (+1 Point)	Action By	Action Items/Comments

SS-Sustainable Sites (7 Possible Points)

Pre 1	Construction Activity Pollution Prevention	Y				Req'd	For site larger than 1 acre, confirm to erosion and sedimentation requirements of the 2012 US EPA Construction General Permit.		CIVIL	E&SC Plan will be provided.
Pre 2	No Invasive Plants	Y				Req'd	Introduce no invasive plants into the landscape.		LAND	No invasive plants will be used.
Credit 1	Heat Island Reduction		2			2	For sites where 50% (1 pt) or 75% (2 pts) of all hardscape and roofs meet one of the following: a) Shading: shaded by trees or plantings (after 10 yrs growth) b) ENERGYSTAR roofing c) Vegetated roofing d) Open pavers e) High SR: Pavers with 3 yr SR ≥0.28 or initial SR ≥0.33		LAND ARCH	High SRI and vegetated roof will be provided, as well as shading from street trees and high SR pavers where possible.
Credit 2	Rainwater Management		3			3	CASE 1: Low Impact Development Percentage of lot area, including area under roof, that is permeable or can direct water to on-site catchment or filtration device*: 50-64% = 1 pt 65-79% = 2 pts 80-100% = 3 pts *Devices must handle 100% of runoff from 2-yr, 24-hr storm. OR CASE 2: NPDES Projects (non municipal storm sewer) 95th percentile storm = 2 pts 98th percentile storm = 3 pts		CIVIL	Case 1: LIDs will be implemented to control at least 80% of runoff.

Credit 3	Nontoxic Pest Control					<p>1) Implement IPM Plan (Reqd)</p> <p>2) Up to 2 pts, each additional +0.5 pt EP up to 1 EP:</p> <ul style="list-style-type: none"> - Steel mesh barrier termite control system (1 pt) - Physical termite barrier system (1 pt) - Below grade walls: solid concrete, masonry w/ bond beam, or concrete filled block (0.5 pt) - Post-tension slabs (0.5 pt) - Borate treatment of wood framing (0.5 pt) - Non-wood structural elements (0.5 pt) - Ports/openings at slab plumbing penetrations (0.5 pt) - Registered termite bait system (0.5 pt) - 6"+ space btw landscape grade/nonmasonry siding (0.5 pt) - Seal cracks/joints/penetrations, install pest screens at all openings >1/4 inch (0.5 pt) - Water discharge points 24"+ from foundation (0.5 pt) - 18"+ btwn plantings and exterior wall (0.5 pt) 		<p>The following will be implemented:</p> <p>IPM Plan (Reqd)</p> <ul style="list-style-type: none"> - Below grade walls: solid concrete (0.5 pt) - Non-wood structural elements (0.5 pt) - 6"+ space btw landscape grade/nonmasonry siding (0.5 pt) - Water discharge points 24"+ from foundation (0.5 pt)
		2	2				<p>OWNER</p> <p>ARCH</p>	
Total:		0	7	0	0			

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LEED for Homes: Multifamily Midrise v4

Credit	Subject	Yes	Tar- geted	?	No	Total Possible	Requirements	Exemplary Performance (+1 Point)	Action By	Action Items/Comments

WE-Water Efficiency (12 Possible Points)

Pre 1	Water Metering	Y				Req'd	Install water meter for entire building or submeter each unit.		MEP	Whole building water meter will be provided.
Credit 1	Total Water Use -or-		6	2	4	12	PERFORMANCE PATH Calculate total water use using Water Reduction Calculator (indoor) and WaterSense Tool (outdoor). Reduce from baseline by:		MEP	Target 35% reduction. Cannot be combined Credits 2 & 3.
Credit 2	Indoor Water Use					6	PRESCRIPTIVE PATH Install qualified low-flow/low-flush indoor plumbing fixtures.		MEP	N/A. Use Total Water Performance Path above.
Credit 3	Outdoor Water Use					4	PRESCRIPTIVE PATH Reduce area of turf grass by planting native or adaptive plants instead: <60% turf, >25% native = 1 <40% turf, >50% native = 2 <20% turf, >75% native = 3 <5% turf, >75% native = 4		MEP	N/A. Use Total Water Performance Path above.
Total:		0	6	2	4					

LEED for Homes: Multifamily Midrise v4

Credit	Subject	Yes	Tar- geted	?	No	Total Possible	Requirements	Exemplary Performance	Action By	Action Items/Comments
								(+1 Point)		

EA-Energy and Atmosphere (37 Possible Points)

Pre 1	Minimum Energy Performance	Y					Req'd		MEP	Min. 10% energy saving over ASHRAE 90.1-2010 Appendix G required. EnergyStar MFHR or Commissioning also required.
Pre 2	Energy Metering	Y					Req'd		MEP	Electric submeters provided for each unit. Gas meter (if used) will be provided for whole building.
Pre 3	Education of Homeowner, Tenant, or Building Manager	Y					Req'd		GC OWNR	O+M Manual and Walkthrough will be provided.
Credit 1	Annual Energy Use		11	13	6	30			MEP	Savings targets: 20% Energy Reduction = 5 points 14% GHG Reduction = 2 points Home Size Adjustment = 4.5 points Minimum 20% energy savings req'd in Arlington. 24-28% energy savings required for bonus density. 29-34% required for add'l 5% savings option.
Credit 2	Efficient Hot Water Distribution System		2	3		5			MEP	R-4 insulation to be provided on all domestic HW piping. (2 pts).

Credit 3	Advanced Utility Tracking		2			2	<p>Option 1. Electric and Water (1 pt): Meet one:</p> <ul style="list-style-type: none"> - Units: permanent energy-monitoring system at 1-hr interval - or- - Irrigation: irrigated area 1,000sf+ w/ submeter <p>AND/OR</p> <p>Option 2. Third Party Utility Reporting (1 pt): Meet one:</p> <ul style="list-style-type: none"> - Share utility data with USGBC (via EnergyStar) - 50% of unit owner share utility data with USGBC for 1 year 	+1 EP for metering 4 end uses (i.e. space heating, DHW, lighting, plug loads)	MEP	<p>Irrigation submeter to be provided.</p> <p>Dominion can likely aggregate energy data for all units for this location.</p>
		Total:	0	15	16	6				

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LEED for Homes: Multifamily Midrise v4

Credit	Subject	Yes	Tar- geted	?	No	Total Possible	Requirements	Exemplary Performance	Action By	Action Items/Comments
								(+1 Point)		

MR-Materials and Resources (9 Possible Points)

Pre 1	Certified Tropical Wood	Y				Req'd	All wood on project must be: a) Non-tropical b) Reused or Reclaimed or c) FSC Certified	---	ARCH	No tropical wood will be used.
Pre 2	Durability Management	Y				Req'd	Required moisture control measures: 1) Use non-paper faced backer board at all bathtubs and showers. 2) Use water-resistant flooring at all kitchens, bathrooms, laundry rooms, spa areas. No carpet. 3) Use water-resistant flooring w/i 3 feet of entry from outdoors. No sheet carpet. 4) At tank water heaters, install pan and drain, pan and auto shut-off device, or slope floor to drain. AND 5) At conventional clothes dryers, exhaust directly to outdoors.	---	GC	Design will comply with moisture control measures.
Credit 1	Durability Management Verification		1			1	ENERGY STAR for Homes v3: Water Management System Builder Checklist verified by Green Rater.		ARCH	Project will follow ENERGYSTAR for Homes: Water Management System Builder Checklist.
Credit 2	Environmentally Preferable Products		1	4		5	OPTION 1: LOCAL PRODUCTION and/or OPTION 2: ENVIRONMENTALLY PREFERABLE PRODUCTS		ARCH GC	
Credit 3	Construction Waste Management		2		1	3	Reduce total construction waste or divert from landfill a large proportion of waste generated during construction.		ARCH GC	75% min. CWM diversion rate. Refer to CIR 10479.

Total: 0 4 4 1

LEED for Homes: Multifamily Midrise v4

Credit	Subject	Yes	Tar- geted	?	No	Total Possible	Requirements	Exemplary Performance	Action By	Action Items/Comments
								(+1 Point)		

IEQ-Indoor Environmental Quality (18 Possible Points)

Pre 1	Ventilation	Y				Req'd	Meet the following requirements and comply with ASHRAE 62.2-2010: 1) LOCAL EXHAUST i) Exhaust kitchens and baths to outdoors. ii) Use EnergyStar labeled fans. 2) WHOLE HOUSE MECHANICAL VENTILATION i) Provide OA to each unit per ASHRAE 62.2-2010. ii) Meet maximum allowable sound levels. AND 3) COMMON AREAS i) Meet ASHRAE 62.2-2010 minimum requirements.	---	MEP	OA must be ducted to each unit. MEP to provide ASHRAE 62-2010 ventilation calcs for units and common spaces.
Pre 2	Combustion Venting	Y				Req'd	1) Do not install unvented combustion appliances 2) Install CO monitor on each floor. 3) Install closing doors at all fireplaces and woodstoves. AND 4) Meet requirements for space- and water-heating equipment that use combustion.	---	ARCH	No unvented combustion appliances. CO monitor in each unit.
Pre 3	Garage Pollutant Protection	Y				Req'd	1) Place all AHUs and ductwork outside of garage. AND 2) Tightly seal shared surfaces in conditioned spaces above and next to garage spaces.	---	MEP	Project will comply.
Pre 4	Radon Resistant Construction	Y				Req'd	CASE 1: NEW CONSTRUCTION In high-risk radon zones, design and build with radon-resistant construction techniques. OR CASE 2: RENOVATION a) Radon Testing or b) Install active radon ventilation system.	---	ARCH GC	Not applicable to Arlington, not Radon Zone 1.
Pre 5	Air Filtering	Y				Req'd	1) AIR FILTERS: Install MERV 8+ filters on all recirculating conditioning systems. 2) OA AIR FILTERS: Install MERV 6+ filters on all mechanically supplied OA systems w/ at least 10 ft of ductwork. 3) PRESSURE DROP: Design ductwork and central blower to account for pressure drop across filter. AND 4) HOUSINGS: Housings must be air-tight to prevent bypass or	---	GC	Project will comply.

Pre 6	Environmental Tobacco Smoke	Y				Req'd	Prohibit smoking in all common areas of the building and within 25ft of doors, windows, and air intakes. Communicate policy with signage and lease agreements.	---	GC	Project will comply.
Pre 7	Compartmentalization	Y				Req'd	Compartmentalize each dwelling unit to minimum leakage: 1) Seal penetrations. 2) Seal vertical chases. 3) Weather-strip doors to common hallways 4) Weather-strip exterior doors and operable windows. AND 5) Perform blower door tests to demonstrate maximum leakage rate (0.23 cfm/sf of enclosure area @ 50 Pa).	---	MEP	Project will comply.
Credit 1	Enhanced Ventilation		1		2	3	Requirements Option 1. Enhanced Local Exhaust (1 point) Use one of the following strategies in every bathroom with a shower, bathtub, or spa (i.e., half-baths are exempt): - an occupancy sensor; - an automatic humidistat controller; - a continuously operating exhaust fan; or - a delay timer that operates the fan for at least 20 minutes. AND/OR Option 2. Enhanced Whole-House Ventilation (2 points) Install a balanced whole-house ventilation system (not just exhaust only or supply only) that meets the minimum ventilation requirements of ASHRAE Standard 62.2-2010, Sections 4 and 7, or local equivalent whichever is more stringent. Program the system such that it does not exceed the standard's requirements by more than 10%. For multifamily buildings, meet the above requirements for all in-unit residential spaces in both options 1 and 2.		MEP	An Option 1 strategy will be provided.
Credit 2	Contaminant Control				2	2	OPTION 1: WALK-OFF MATS (0.5 pt) OPTION 2: SHOE REMOVAL AND STORAGE (0.5 pt) OPTION 3: PREOCCUPANCY FLUSH (0.5 pt) and/or OPTION 4: AIR TESTING (1 pt)		ARCH	Not pursuing.
Credit 3	Balancing of Heating and Cooling Distribution Systems		1		2	3	CASE 1: FORCED AIR SYSTEMS Option 1: Multiple Zones (1 pt) Option 2: Supply Air-Flow Testing (1 pt) Option 3: Pressure Balancing (1 pt) CASE 2: RADIATIVE SYSTEMS Option 1: Multiple Zones (1pt) Option 2: Room-by-Room Controls (2 pts)		ARCH	Average unit size <1200 sf automatically comply with Option 1: Multiple zones.
Credit 4	Enhanced Compartmentalization				3	3	Perform blower door tests to demonstrate maximum leakage rate (0.15 cfm/sf of enclosure area @ 50 Pa).		RATER	Required for Arlington bonus density.
Credit 5	Enhanced Combustion Venting		2			2	OPTION 1: No Fireplaces or Woodstoves or OPTION 2: Enhanced Combustion Venting Measures		ARCH	No combustion fireplaces or wood-stoves. (2 pts)

Credit 6	Enhanced Garage Pollutant Protection		1			1	OPTION 1: Exhaust Fan w/ Controls in Garage or OPTION 2: Detached Garage or No Garage		MEP	Garage exhaust fans will meet ASHRAE 62.1-2010 requirements and provide continuous exhaust or CO sensor triggered exhaust.
Credit 7	Low-Emitting Products		2	1		3	Provide low emitting products for 90% of a component category below: a) Paints and coatings (0.5 pt) b) Adhesives and sealants (0.5 pt) c) Flooring (0.5 pt) d) Insulation (0.5 pt) e) Composite wood products (1 pt)		ARCH MEP	Low emitting materials will be specified for a) thru d).
Credit 8	No Environmental Tobacco Smoke		1			1	Prohibit smoking throughout the building including dwelling units. Provisions for enforcement must be included.		OWNR	Entire bldg and site shall be no smoking.
Total:		0	8	4	6					

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LEED for Homes: Multifamily Midrise v4

Credit	Subject	Yes	Tar- geted	?	No	Total Possible	Requirements	Exemplary Performance (+1 Point)	Action By	Action Items/Comments

IO-Innovation and Design Process (6 Possible Points)

Pre 1	Preliminary Rating	Y			Req'd					
						Preliminary LEED meeting and action plan.	---		ARCH	Project will comply.
Credit 1.1	Innovation in Design			1		1	Install EV charging stations for 2% of parking spaces.	---	ARCH	4% EV charging stations and 15% EV ready required for Arlington bonus density.
Credit 1.2	Innovation in Design		1			1	EPDs, Specify 20+ products with EPDs.	---	ARCH	Project will comply.
Credit 1.3	Innovation in Design		1			1	HPDs, Specify 20+ products ith HPDs.	---	ARCH	Project will comply.
Credit 1.4	Innovation in Design			1		1	Light pollution reduction	---	ARCH	Required for Arlington bonus density.
Credit 1.5	Innovation in Design			1		1	Bird-friendly design	---	ARCH	Required for Arlington bonus density.
Credit 2	LEED Accredited Professional	1				1	At least 1 principal participant of the project team shall be a LEED AP with a specialty appropriate for the project.	---	ARCH	Project will comply.
Total:		1	2	3	0					

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LEED for Homes: Multifamily Midrise v4

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								(+1 Point)		

RP-Regional Priority (4 Possible Points)

Credit 1.1	Regional Priority	1				1	Site Selection (8 pts min)	---	ARCH	
Credit 1.2	Regional Priority	1				1	Community Resources (2 pts min)	---	ARCH	
Credit 1.3	Regional Priority				1	1	Access to Transit (2 pts min)	---	ARCH	
Credit 1.4	Regional Priority		1			1	Rainwater Management (3 pts min)	---	ARCH	
Total:		2	1	0	1					

Certified 40 to 49 Points	Silver 50 to 59 Points	Gold 60 to 79 Points	Platinum 80 Points and Above
Grand Total: 9	53	29	19

OVERALL SHEET INDEX:

ARCHITECTURE:

- A-00 COVER
- A-01 PROJECT INFORMATION/TABULATIONS
- A-01.1 LEED SCORECARD
- A-02 PARKING LOWER LEVEL (LL) FLOOR PLAN
- A-03 GROUND LEVEL P1 FLOOR PLAN
- A-04 LEVEL P2 FLOOR PLAN
- A-05 2ND LEVEL P3 FLOOR PLAN
- A-06 3RD FLOOR PLAN
- A-07 4TH FLOOR PLAN
- A-08 5TH THRU 11TH FLOOR PLANS
- A-09 12TH FLOOR PLAN
- A-10 ROOF PLAN
- A-11 BUILDING ELEVATIONS
- A-12 BUILDING ELEVATIONS
- A-13 ENLARGED ELEVATIONS
- A-14 ENLARGED ELEVATIONS
- A-15 ENLARGED ELEVATIONS
- A-16 CONCEPT - VIEWS
- A-17 CONCEPT - VIEWS
- A-18 CONCEPT - VIEWS
- A-19 CONCEPT - VIEWS
- A-20 EXISTING MASSING
- A-21 BUILDING SECTIONS
- A-22 BUILDING SECTIONS
- A-23 SITE SECTION

CIVIL:

- C-01 CERTIFIED SURVEY
- C-02 REZONING PLAT
- C-02A PUBLIC EASEMENT EXHIBIT
- C-03 ENCROACHMENT EXHIBIT
- C-04 TREE INVENTORY PLAN
- C-05 TREE INVENTORY AND REPLACEMENT PLAN
- C-06 AERIAL CONTEXT PLAN
- C-07 OVERALL CONTEXT PLAN
- C-08 PLOT AND LOCATION PLAN
- C-09 PRESENTATION PLAN
- C-10 STRIPING AND MARKING PLAN
- C-11 FIRE LANE MARKING PLAN
- C-12 EXISTING STREET SECTIONS
- C-13 PROPOSED STREET SECTIONS
- C-14 PRE-SWM
- C-15 POST-SWM
- C-16 PROP. SWM PLAN
- C-17 STORMWATER MANAGEMENT COMPUTATIONS
- C-18 STORMWATER MANAGEMENT COMPUTATIONS
- C-19 STORMWATER MANAGEMENT COMPUTATIONS
- C-20 AUTOTURN EXHIBIT

LANDSCAPE:

- L-001 GENERAL NOTES
- L-100 ILLUSTRATIVE PLAN
- L-101 MATERIALS PLAN - GROUND LEVEL
- L-102 MATERIALS PLAN - PODIUM & ROOF LEVEL
- L-201 OPEN SPACE PLAN - GROUND LEVEL
- L-202 OPEN SPACE PLAN - PODIUM & ROOF LEVEL
- L-301 SOILS PLAN - GROUND LEVEL
- L-302 SOILS PLAN - PODIUM & ROOF LEVEL
- L-303 SOIL VOLUME TABULATIONS
- L-401 PLANTING PLAN - GROUND LEVEL
- L-402 PLANTING PLAN - PODIUM & ROOF LEVEL
- L-403 PLANT SCHEDULE AND 20 YEAR CANOPY WORKSHEET
- L-406 COUNTY LANDSCAPE PLAN NOTES
- L-501 DETAILS - HARDSCAPE
- L-502 DETAILS - HARDSCAPE
- L-511 DETAILS - FURNISHINGS
- L-512 DETAILS - FURNISHINGS
- L-521 DETAILS - LIGHTING
- L-531 DETAILS - WALLS
- L-541 DETAILS - CUSTOM
- L-551 DETAILS - FENCES
- L-601 DETAILS - PLANTING ON GRADE
- L-602 DETAILS - PLANTING ON STRUCTURE

4.1 SITE PLAN SUBMISSION - AUGUST 9, 2024



RPC #15-012-041

3130 LANGSTON BLVD.

ARLINGTON COUNTY, VIRGINIA

OWNER CONSULTANT
ROONEY PROPERTIES, LLC.
3330 WASHINGTON BLVD, SUITE 220
ARLINGTON, VA 22201
CASSIE GUY
CGUY@ROONEYPROPERTIESLLC.COM

ARCHITECTURAL
DCS DESIGN
8614 WESTWOOD CENTER DRIVE, SUITE 800
TYSONS, VA 22182
STEPHEN SAFF
SSAFF@DCSDESIGN.COM

LEED/SUSTAINABILITY
DCS DESIGN
8614 WESTWOOD CENTER DRIVE, SUITE 800
TYSONS, VA 22182
KATHY LAWSON
KLAWSON@DCSDESIGN.COM

CIVIL ENGINEER
VIKA VIRGINIA, LLC.
8180 GREENSBORO DRIVE, SUITE 200
TYSONS, VIRGINIA 22102
ROBERT COCHRAN
COCHRAN@VIKA.COM

LANDSCAPE ARCHITECT
LAND DESIGN, INC.
200 S. PEYTON ST
ALEXANDRIA, VA 22310
ANDREA CROSSETT
ACROSSETT@LANDDESIGN.COM

LAND USE ATTORNEY
VENABLE LLP
600 MASSACHUSETTS AVE, NW.
WASHINGTON, DC 20001
ZACHARY WILLIAMS
ZGWILLIAMS@VENABLE.COM

TRANSPORTATION ENGINEER
VIKA VIRGINIA, LLC.
8180 GREENSBORO DRIVE, SUITE 200
TYSONS, VIRGINIA 22102
MIKE PINKOSKE
PINKOSKE@VIKA.COM



VIKA NUMBER VV8574A
SHEET A-00

CONCEPT SUMMARY

Multifamily apartment building with less than 136' of height and 276 units, including 12 maisonette units, ground floor retail and retail equivalent uses and building amenities. 10 Residential Stories in metal frame over 3 Level plus 1 below grade level podium building with cast-in-place concrete parking structure.

(Parking Structure Sprinklered and Ventilated)

BUILDING HEIGHT PER ZONING DEFINITION <136'-0"
(Measured from average site elevation to highest point of roof surface)

	BELOW PODIUM	ABOVE PODIUM
CONSTRUCTION TYPE	Type IA Construction	Type IB Construction
SPRINKLER SYSTEM	NFPA 13	NFPA 13

BUILDING USES:

Apartment Units	R-2 Residential
Residential Lobby / Amenities	A-3 Assembly
Leasing, Business Center, Mail Room	B - Business
Package Room, Storage Room	S-1 Storage (Moderate Hazard)
Parking Garage	S-2 Storage (Low Hazard)

AMENITY AREAS:

Indoor Amenities:	SQ. FT.
L1 Lobby Main	1,787
L1 2nd Lobby	931
L1 Amenities	8,221
L3 Amenities	1,650
LL Bike room	2,118
L1 Dog spa	661
L12 Party Room	988
Total	16,356

Gross floor area: Gross floor area is the sum of the area of the horizontal surface of the several floors of a building measured from the exterior faces of exterior walls, to include all floor area not defined as gross parking area.

Gross parking area: The sum of the ground surface area actually used for parking spaces and the area of the horizontal surface of the floor(s) of a building, measured from the exterior faces of exterior walls, devoted to off-street parking, loading and maneuvering space including all corridors, air shafts, elevators, stairwells and toilets incidental thereto, but not including area devoted to permitted and accessory uses other than parking and loading.

Private open space:	SQ. FT.
L3 Courtyard	18,814
L12 Roof Deck	1,981
Total	20,795

Site buildable area= 56,949.50

Minimum private open space required, 25% of the buildable area = 14,237.38 SQ. FT.
Private open space provided 20,795 SQ. FT.
36.51%

BUILDING AREA CALCULATION

	Level	SQUARE FOOTAGE				Basements	Floor Elevation
		Residential	Amenities/ Retail Equivalent	Retail/ Retail Equivalent	Parking / Building Service		
BELOW PODIUM (CONCRETE)	Parking LL	7,188			48,842	56,030	168'-170'
	Ground Level P1	14,617	7,292	5,320	36,093	56,030	180'
	Level P2	12,801			43,229	56,030	192'
	Level P3	16,901			39,129	56,030	202'
ABOVE PODIUM (METAL FRAME)	3RD Floor	33,376				33,376	213'
	4TH Floor	28,622				28,622	222.79'
	5TH Floor	28,622				28,622	232.58'
	6TH Floor	28,622				28,622	242.37'
	7TH Floor	28,622				28,622	252.16'
	8TH Floor	28,622				28,622	261.95'
	9TH Floor	28,622				28,622	271.74'
	10TH Floor	28,622				28,622	281.53'
	11TH Floor	28,622				28,622	291.32'
	12TH Floor	26,589				26,589	301.11'
	Roof (HP)						313.69'
	SUBTOTALS		340,448	12,612		167,293	513,061
		353,060			167,293	513,061	
		353,060					
		343,880					

TOTAL GFA 353,060
Density Exclusions 9,180
GFA with Density Exclusions 343,880
2,100 SF at P2 open to below (Retail area)
1,074 SF at P2 open to below (Loading spaces)
677 SF at P2 Open to below (Generator room)

Density Exclusions

Lower Level	Ground Level	Level P2	Level P3	Floors 3-11	Floor 12
Building Service 2,948	Stairs (2) 20	Stairs (3) 30	Stairs (3) 30	Stairs (4) 30	Stairs (4) 40
Bike Storage 2,118	Trash 33	Trash 33	Trash 33	Trash 33	Trash 33
Elevator Lobby 324	Unit Vents (9) 36	Unit Vents (12) 36	Unit Vents (12) 36	Unit Vents (26) 44	Unit Vents (25) 104
Telecom 180				per floor 177	
Main Elec Room 558					
Water Pump Room 689					
Em Elec Room 150					
Storage 221					
Total 7,188	20	99	107	177	173

BIKE STORAGE SUMMARY

Note 1: Exterior bicycle racks are to be used for visitors. Refer to landscape and civil drawings for their locations, type, and quantities.

Type	Ratio	Required
Class II or III Visitor (See note 1)	1/50 units: 2/10k sf	8
Resident	1/2.5 units	111
Class I Retail	1 per 25,000	1
Total		120

BIKE STORAGE PROVIDED - TYPE CLASS 1 (INTERIOR ROOM)

Level	Total provided	Vertical	Horizontal
Parking LL (Residents)	115	75	40
		65.22%	34.78%
P1 (Retail)	2	2	

UNIT MATRIX SUMMARY

Unit Name	Unit Area Net (**)	Total Units	Total Area (Net)	Percent	Levels													
					Ground Level P1	P2	P3	3RD	4TH	5TH	6TH	7TH	8TH	9TH	10TH	11TH	12TH	
Maisonettes 2L-2 Bed	1,564	6	9,384	2.17%	6													
Maisonettes 2L-2 Bed	1,403	6	8,418	2.17%			6											
Studio S1	588	9	5,292	3.26%				1	1	1	1	1	1	1	1	1	1	
Studio S2	588	1	588	0.36%														1
1 Bed A1	756	75	56,700	27.17%				12	14	5	5	5	5	5	5	5	5	14
1 Bed A2	692	63	43,596	22.83%						9	9	9	9	9	9	9	9	
1 Bed A3	820	1	820	0.36%				1										
1 Bed A4	817	1	817	0.36%														1
1 Bed A5	693	1	693	0.36%				1										
1 Bed + Den AD1	966	10	9,660	3.62%				1	1	1	1	1	1	1	1	1	1	1
1 Bed + Den AD2	989	1	989	0.36%				1										
1 Bed + Den AD3	968	9	8,712	3.26%					1	1	1	1	1	1	1	1	1	1
1 Bed + Den AD4	890	2	1,780	0.72%				1	1									
2 Bed B1	1,075	14	15,050	5.07%						2	2	2	2	2	2	2	2	2
2 Bed B2	1,134	24	27,216	8.70%				3	4	2	2	2	2	2	2	2	2	3
2 Bed B3	1,285	14	17,990	5.07%						2	2	2	2	2	2	2	2	2
2 Bed B4	1,201	9	10,809	3.26%				1	1	1	1	1	1	1	1	1	1	1
2 Bed B5	1,120	10	11,200	3.62%				1	1	1	1	1	1	1	1	1	1	1
2 Bed B6	1,272	9	11,448	3.26%					1	1	1	1	1	1	1	1	1	1
2 Bed B7	1,344	5	6,720	1.81%				2	2									1
2 Bed B8	1,347	4	5,388	1.45%														
2 Bed B9	1,117	1	1,117	0.36%				2	2									
2 Bed B10	1,096	1	1,096	0.36%					1									
Total		276	255,483	100.00%	100.00%	6	3	12	23	26	26	26	26	26	26	26	26	24

925.66 AVG. AREA*
76.52% Efficiency net/gross

(*) Excludes circulation and service core
(**) Excludes balconies
2 LEVEL UNITS (12 TOTAL)

Unit type	# of units	Area	Avg.	% units
Maisonettes	12	17,802	1483.50	4.35%
Studio	10	5,880	588.00	3.62%
1 Bed + 1 BedDen	163	123,767	759.31	59.06%
2 Bed	91	108,034	1187.19	32.97%
Total	276	255,483	925.66	100.00%

Studio Total	3.62%
1 Bed Total	59.06%
2 Bed total	37.32%
Total	100.00%

PARKING TABULATION

PARKING REQUIRED PER ZONING

Total residential units	276
Retail sf	5,320

Use	Ratio per zoning	Total required
Residential	1.125 for first 200du	225
	1 for du > 200	76
Retail	1/250 sf	22
TOTAL REQUIRED		323

Standard Site Plan Conditions - Compact Spaces:
The number of compact spaces counted toward the total number of required spaces, exclusive of those required for retail, shall not exceed 15% of the total required spaces. Required spaces for retail shall not be compact. Spaces provided in excess of the required total may be either standard or compact.

PARKING PROVIDED

Parking Structure	Elevation	Level	Total Number of Spaces provided (Includes Accessible)	Type of parking provided		Accessible parking spaces		
				Standard Size (8'-6"x18'-0")	Compact Size (8'-0"x15'-0")	Total	HC Std	HC Van
	168'-170'	Parking LL	101	93	8	2	2	
	180'	Ground Level P1	53	52	1	4	2	2
	192'	Level P2	87	65	22	2	2	
Surface Parking	202'	Level P3	90	68	22	2	2	
	SUBTOTALS		331	278	53	10	8	2
			EXTRA SPACES	8				

of Standard size spaces provided Proposed for residential 256 Includes 7 Handicap and 2 Van spaces
Proposed for retail 22 Includes 1 Handicap space
Total Standard size parking space provided 278

of Compact size spaces provided (residential only) 15% of the required parking parking space from extra spaces provided 8
Total compact parking space provided 53

Spaces/unit less retail parking sf per space 1.12 505.42

LOADING SPACE SUMMARY

Required:	
Residential	2
Retail	1
TOTAL:	3
Provided:	
Loading space at 12' x 25' >15' clear hei	1
Loading space at 12'x40' >15' clear hei	1
TOTAL:	2

3130 Langston Boulevard Density and Zoning Tabulations

Overall Density Tabulations

Total Site Area (SF)	73,254
Total Site Area (Acres)	1.68
Total GFA (SF)	343,880.00
Total Density (FAR)	4.69

Residential Density Share

Total Residential Units	276.00
Total Residential GFA	331,268.00
Residential Density (UN/AC)	164.12
Residential Density (FAR)	4.52

Net Buildable Area (SF)	56,949.50
Total Ground Floor Coverage (SF)	56,030.00
Total Ground Floor Coverage (%)	98.39%
Total Tower Coverage (SF)	28,622.00
Total Tower Coverage (%)	50.26%

Retail Density Share

Total Retail GFA (SF)	12,612.00
Retail Density (FAR)	0.17

Zoning Tabulations

Site Area Allocation	
Residential Site Area (SF)	70,567.37
Residential Site Area (AC)	1.62
Retail Site Area (AC)	2,686.63
Retail Site Area (AC)	0.06

Base Density

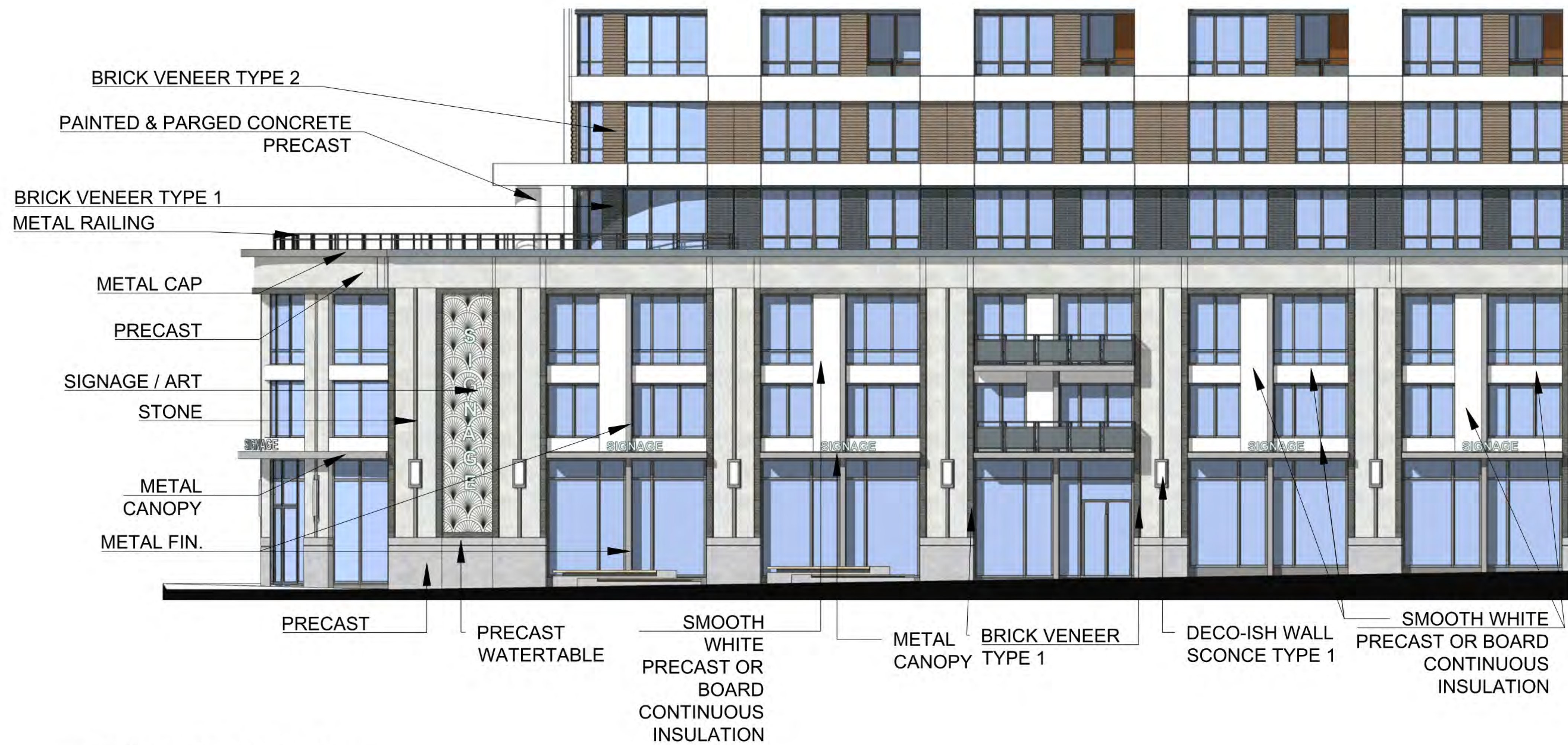
Residential @ 115 UN/AC (Units)	186.00
Residential (SF GFA)	223,245.83
Retail @2.5 FAR (SF GFA)	6,716.58

Green Building Bonus @ 0.25 FAR

Residential (Units)	14.00
Residential (SF GFA)	17,641.84
Retail (SF GFA)	671.66

Remaining Bonus

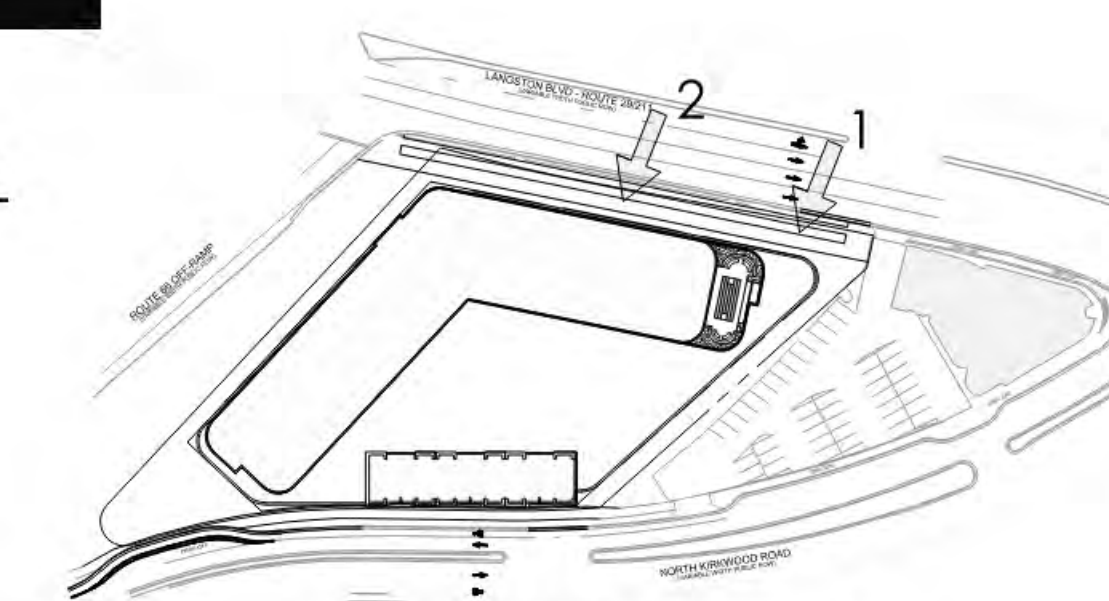
Residential (Units)	76.00
Residential (SF GFA)	90,380.



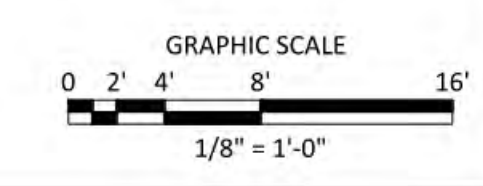
1 ENLARGED ELEVATION
1/8"=1'-0"



2 ENLARGED ELEVATION
1/8"=1'-0"



NOTE: ARCHITECTURAL PLANS, INTERNAL PARKING LAYOUTS, PERSPECTIVES, ELEVATIONS AND SECTIONS ARE SUBJECT TO REVISION IN SITE PLAN APPLICATIONS. BUILDING DESIGN AND MATERIALS ARE SUBJECT TO CHANGE.



dcs
DESIGN
DAVIS
CARTER
SCOTT LLC
Architecture
Interior Architecture
Land Planning
3614 Westwood Center Dr.
Suite 800
Tysons, Virginia 22192
P 703.556.9275
F 703.821.4976
www.dcsdesign.com

COMMONWEALTH OF VIRGINIA
DOUGLAS N. CARTER
Lic. No. 3435
08/12/2024

ROONEY
PROPERTIES
Rooney Properties LLC
3330 Washington Blvd
UNIT 220
Arlington, VA 22201
P 703.204.1400
https://rooneypropertiesllc.com/

PRINT DATE	08/09/2024
ISSUE DATE	
REVISION DATE	

PROJECT TITLE	3130 LANGSTON BOULEVARD ARLINGTON, VA 22201
4.1 SITE PLAN	
PROJECT NO.	32158.00

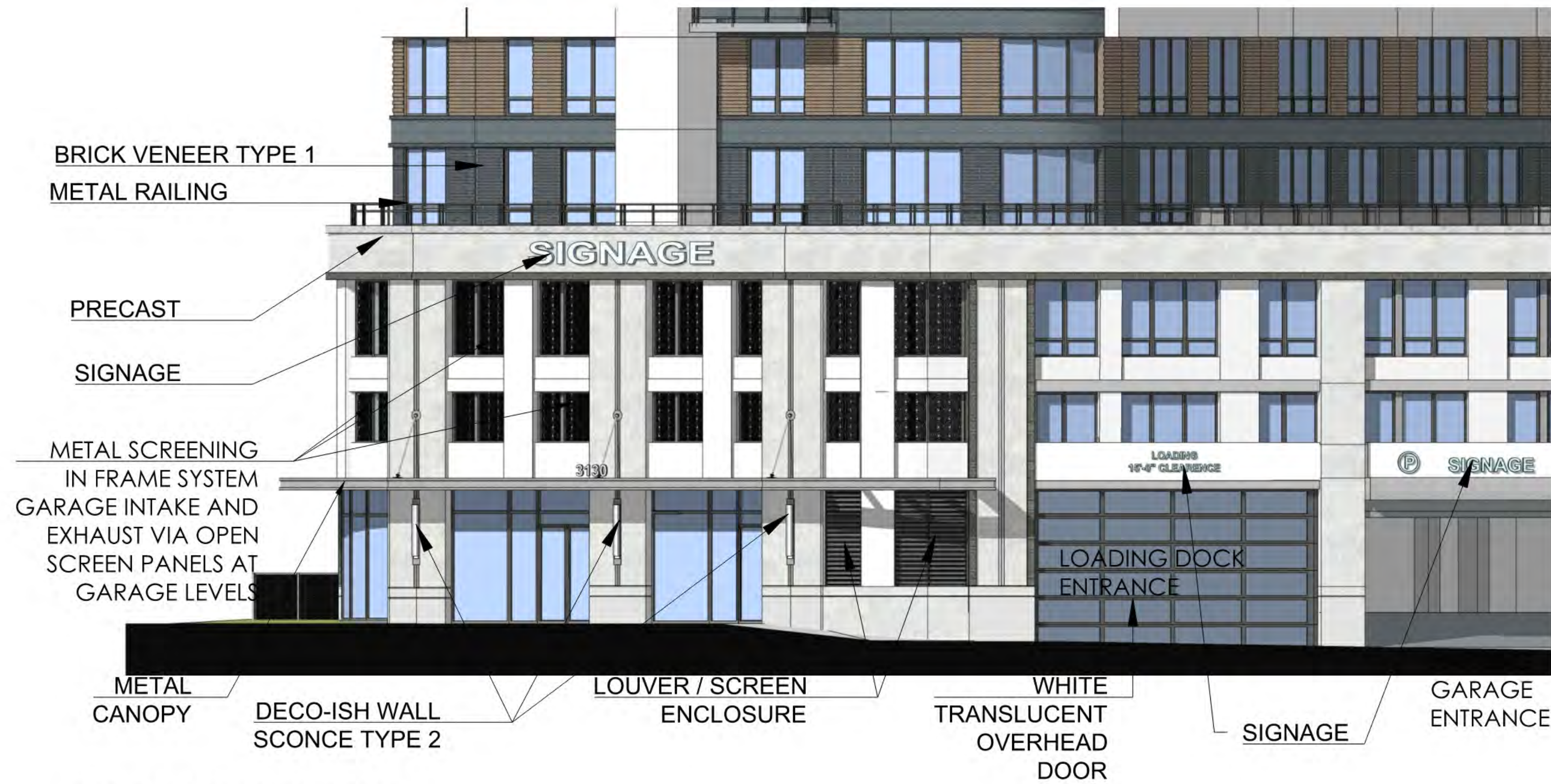
ENLARGED ELEVATIONS

DRAWN BY	RM
QC CHECKED BY	RV
CA REVIEWED BY	RRV

DRAWING NUMBER
A-13

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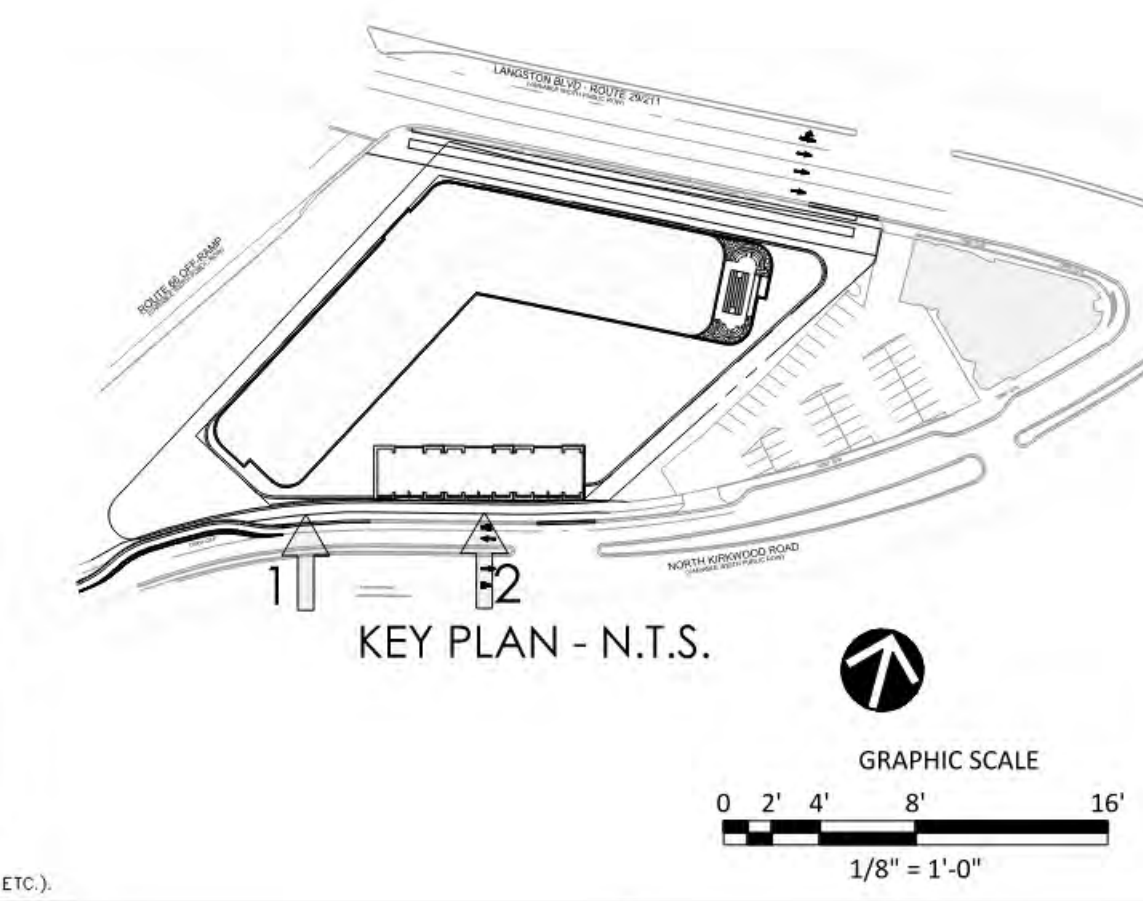


1 ENLARGED ELEVATION
1/8"=1'-0"



2 ENLARGED ELEVATION
1/8"=1'-0"

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P 703.556.9275
F 703.821.4976
www.dcsdesign.com

COMMONWEALTH OF VIRGINIA
DOUGLAS N. CARTER
Lic. No. 3435
ARCHITECT
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ROONEY
PROPERTIES
Rooney Properties LLC
3330 Washington Blvd
UNIT 220
Arlington, VA 22201
P 703.204.1400
https://rooneypropertiesllc.com/

PRINT DATE	08/09/2024
ISSUE DATE	
REVISION DATE	

PROJECT TITLE
3130 LANGSTON BOULEVARD
ARLINGTON, VA 22201

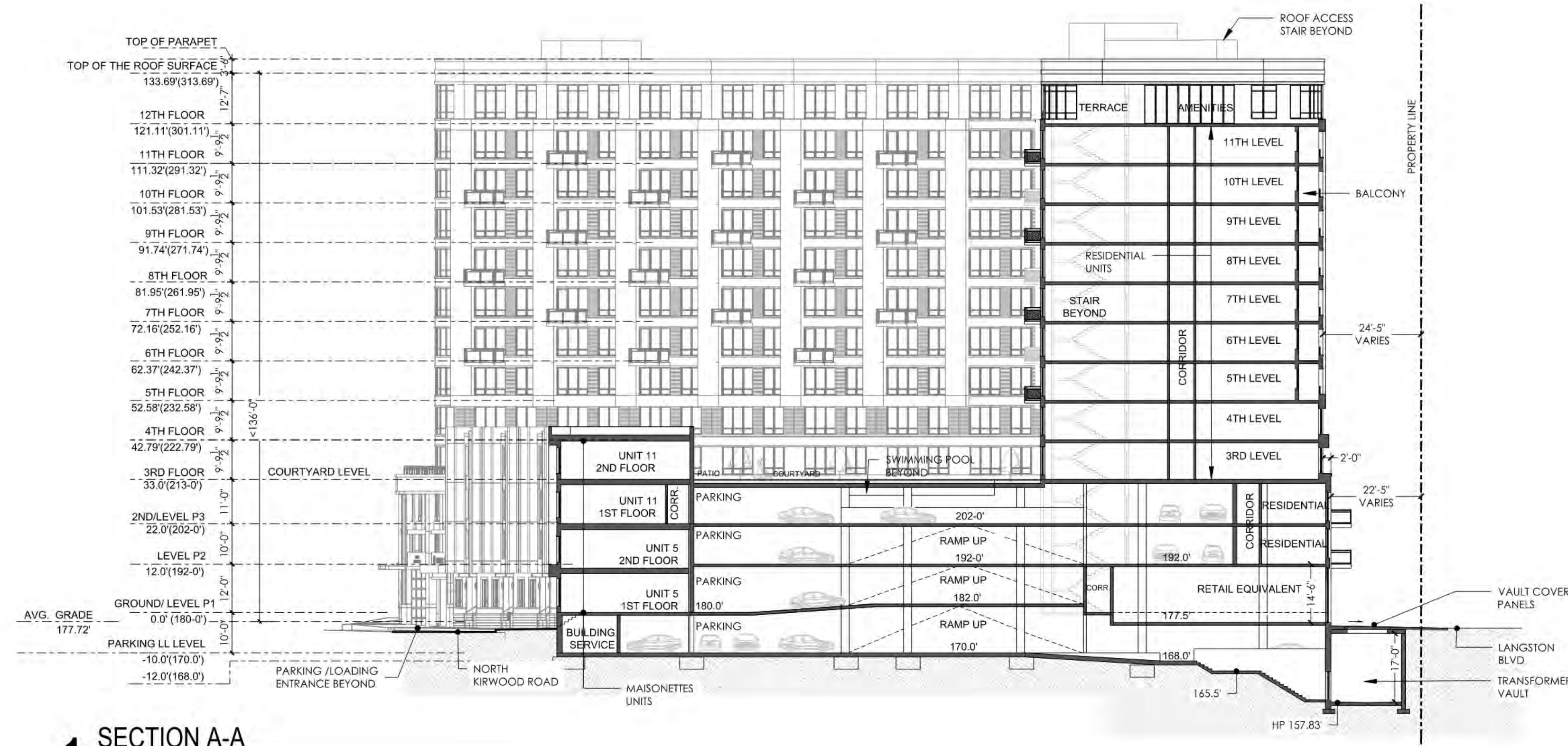
4.1 SITE PLAN
PROJECT NO. 322158.00

DRAWING TITLE
ENLARGED ELEVATIONS

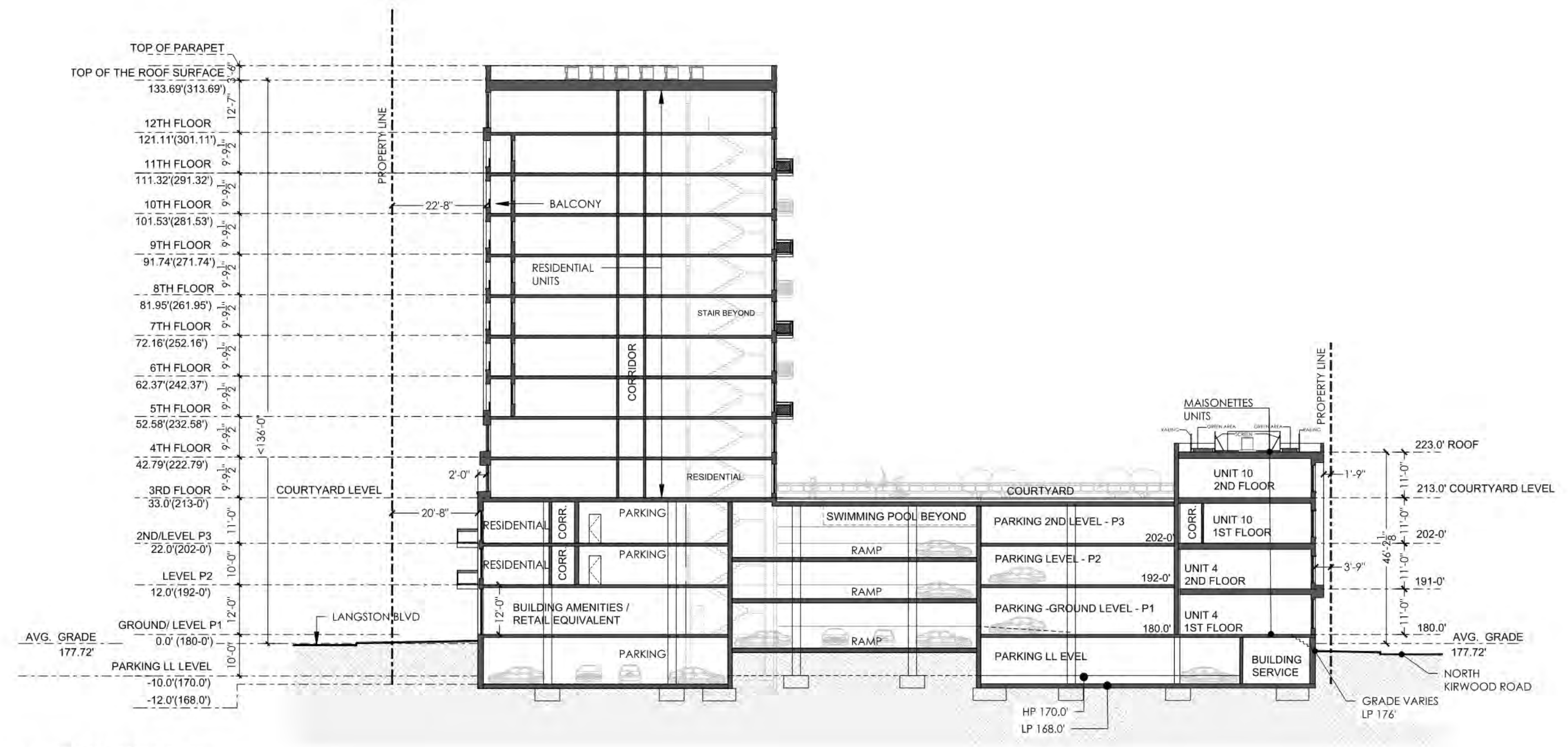
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QC CHECKED BY RV
CA REVIEWED BY RRV

DRAWING NUMBER
A-14

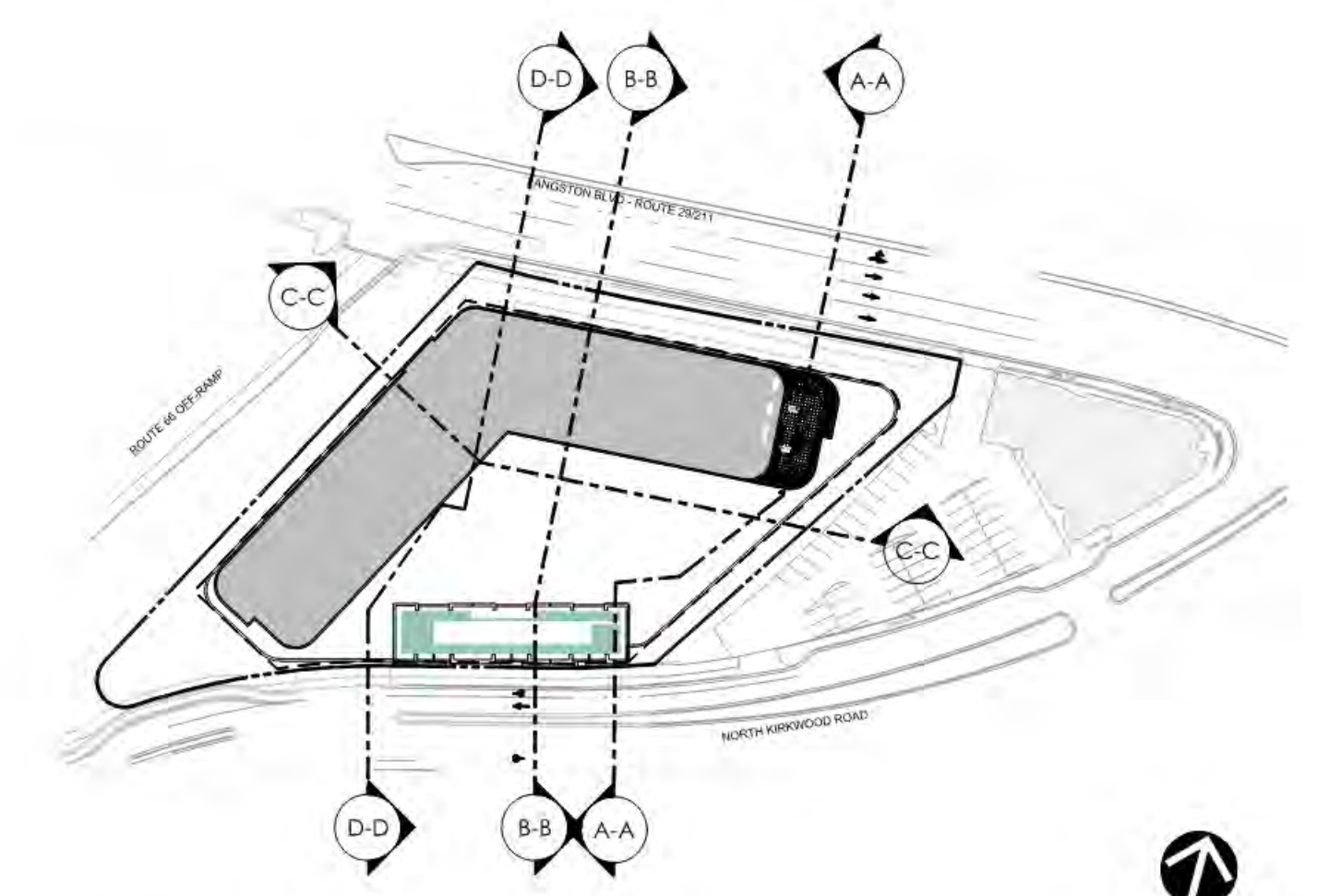
NOTE: ARCHITECTURAL PLANS, INTERNAL PARKING LAYOUTS, PERSPECTIVES, ELEVATIONS AND SECTIONS ARE SUBJECT TO REVISION IN SITE PLAN APPLICATIONS. BUILDING DESIGN AND MATERIALS ARE SUBJECT TO CHANGE.



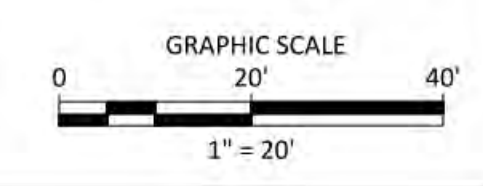
1 SECTION A-A
1"=20'-0"



2 SECTION B-B
1"=20'-0"



KEY PLAN



PRINT DATE	08/09/2024
ISSUE DATE	
REVISION DATE	

PROJECT TITLE
3130 LANGSTON BOULEVARD
ARLINGTON, VA 22201

4.1 SITE PLAN

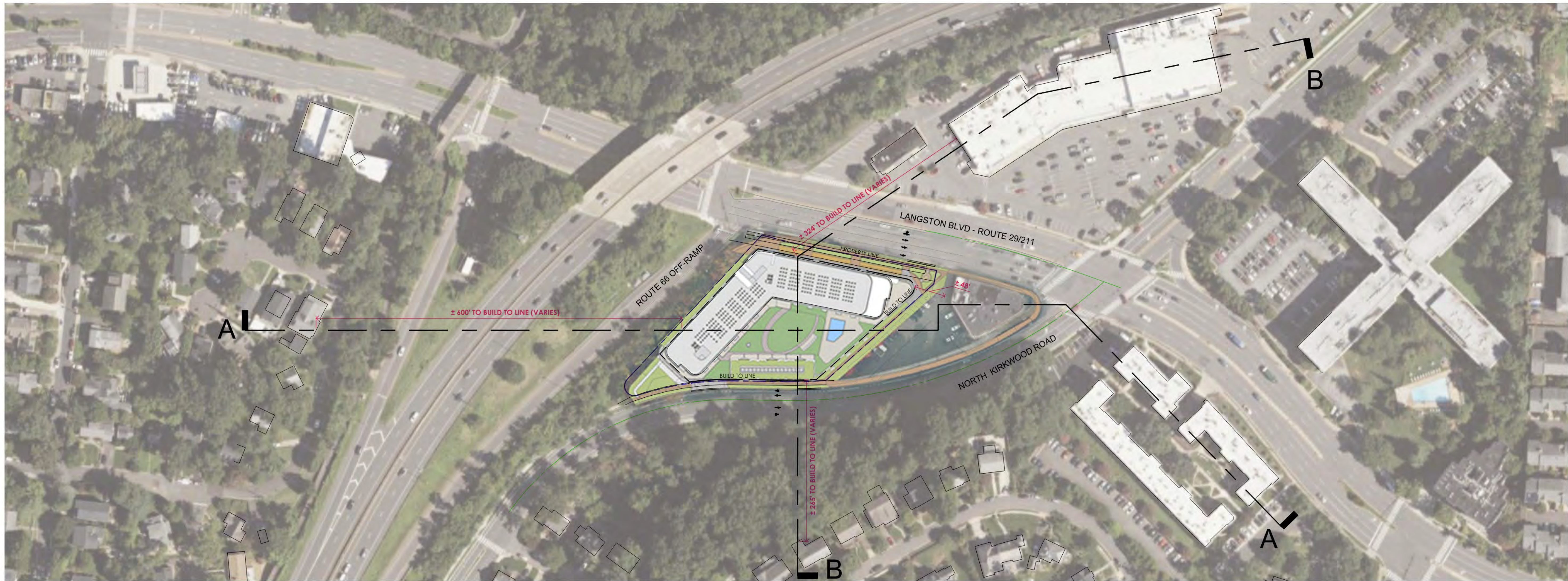
PROJECT NO. 32158.00

DRAWING TITLE
BUILDING SECTIONS

DRAWN BY RM
QC CHECKED BY RV
CA REVIEWED BY RRV

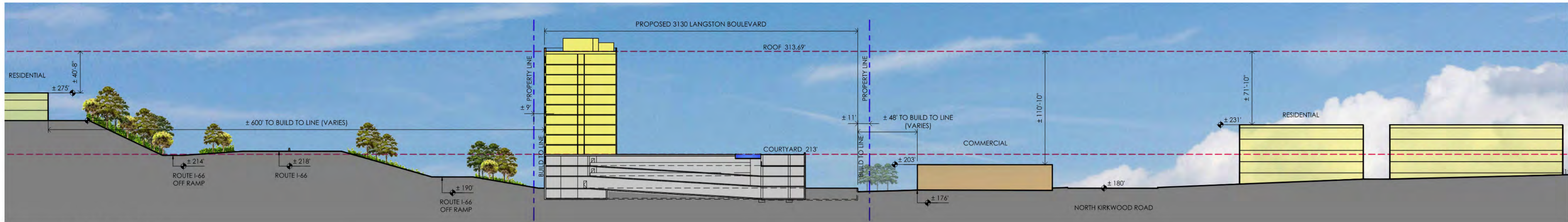
DRAWING NUMBER
A-21

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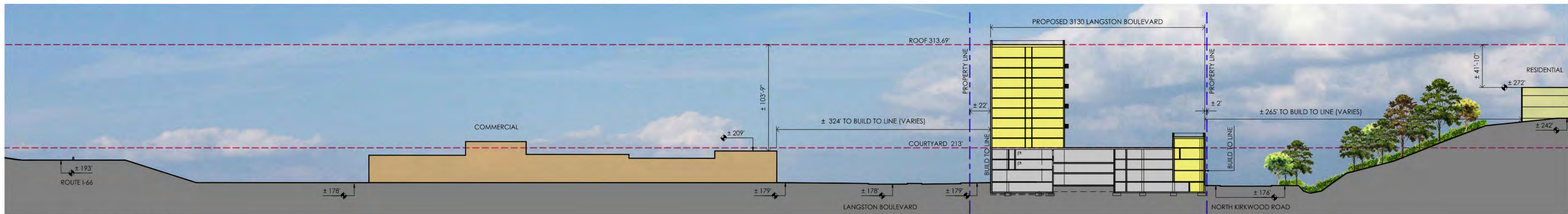


NOTE: ARCHITECTURAL PLANS, INTERNAL PARKING LAYOUTS, PERSPECTIVES, ELEVATIONS AND SECTIONS ARE SUBJECT TO REVISION IN SITE PLAN APPLICATIONS. BUILDING DESIGN AND MATERIALS ARE SUBJECT TO CHANGE.

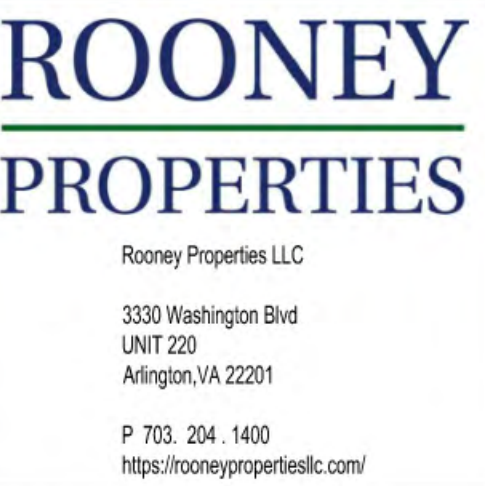
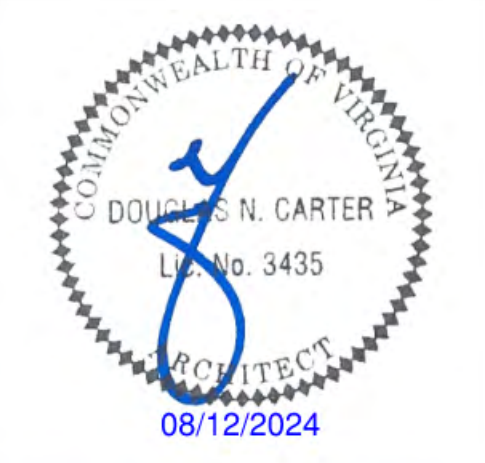
KEY PLAN
NTS



1 SECTION A-A
NTS



2 SECTION B-B
NTS



PRINT DATE	08/09/2024
ISSUE DATE	
REVISION DATE	

PROJECT TITLE
3130 LANGSTON BOULEVARD
ARLINGTON, VA 22201

4.1 SITE PLAN
PROJECT NO. 32158.00

DRAWING TITLE
SITE SECTIONS

DRAWN BY RM
QC CHECKED BY RV
CA REVIEWED BY RRV

DRAWING NUMBER
A-23

Urban, Ltd. - N:\UF\322158.00\01_Drawings\05_CAD\07_Sheets\322158.00 - A-23 SITE SECTIONS.dwg [A-23 SITE SECTION] August 12, 2024 - 7:50am mather



VIKA VIRGINIA, LLC
 8180 Greensboro Dr, Suite 200
 Tysons, VA 22102
 703.442.7800 | vika.com

Our Site Set on the Future.

PLAN STATUS DATE

4.1 SITE PLAN SUBMISSION 08/09/2024

POST-APPROVAL SHEET STATUS DATE

PROFESSIONAL SEAL



3130 LANGSTON BOULEVARD
 4.1 SITE PLAN
 ARLINGTON COUNTY, VIRGINIA

TREE INVENTORY AND REPLACEMENT PLAN

DRAWN BY: PNN
 DESIGNED BY: NPK
 DATE ISSUED: 08/09/2024
 DWG. SCALE: N/A
 VIKA NO.: VV8574A
 SHEET NO.: C-05

Tree No.	Species	Size	CRZ	Field Condition	Species Rating	Disturbed Area Within CRZ	Canopy Position	Total Score	Status	Invasive Species	Replacement Trees Requirement	Tree Replacement Totals For All Trees Inventoried (FOR INFORMATION ONLY)	Existing Tree Condition Observations
		*DBH (in)	R (ft)	%		%							
729	Quercus phellos, Willow Oak	15.3	16	0.75	0.75	100.0%	Dominant	8.6	Remove	NO	2	2	NO APPARENT BIOTIC ISSUES OBSERVED. GOOD COLOR, VIGOR VITALITY & STRUCTURE. DEADWOOD AT LOWER CANOPY. ROOT GIRDLING.
709	Quercus phellos, Willow Oak	15.7	16	0.75	0.75	100.0%	Dominant	8.8	Remove	NO	2	2	NO APPARENT BIOTIC ISSUES OBSERVED. GOOD COLOR, VIGOR VITALITY & STRUCTURE. DEADWOOD AT LOWER CANOPY.
710	Quercus phellos, Willow Oak	20.6	21	0.63	0.75	100.0%	Dominant	9.7	Remove	NO	2	2	NO SEVERE BIOTIC ISSUES OBSERVED. GOOD COLOR, VIGOR & VITALITY. FAIR/GOOD (F/G) STRUCTURE. DEADWOOD IN CANOPY. INVASIVE ENGLISH IVY POPULATED IN CRZ. INVASIVE VINE FROM GRADE TO CANOPY.
711	Zelkova serrata, Zelkova	27.0	27	0.63	0.75	100.0%	Dominant	12.8	Remove	NO	3	3	NO SEVERE BIOTIC ISSUES OBSERVED. GOOD COLOR, VIGOR & VITALITY. FAIR/GOOD (F/G) STRUCTURE. ENGLISH IVY (EI) POPULATED AT GRADE IN CRITICAL ROOT ZONE AND FROM GRADE TO CANOPY. MULTI-STEM TRUNK UNION W/ LOW ANGLE "V" CONNECTIONS. DEADWOOD POPULATED W/ FUN.
712	Acer rubrum, Red Maple	9.6	10	0.60	0.70	100.0%	Codominant	4.0	Remove	NO	1	1	NO SEVERE BIOTIC ISSUES OBSERVED. GOOD COLOR, VIGOR & VITALITY. ASYMMETRIC CANOPY WITH DEADWOOD. ROOT GIRDLING AT GRADE. UPPER TRUNK STEM HAS AN APPROX ~12' LEAN.
713	Zelkova serrata, Zelkova	25.0	25	0.65	0.75	0.0%	Dominant	12.2	Preserve	NO	0	3	NO SEVERE BIOTIC ISSUES OBSERVED. GOOD COLOR, VIGOR & VITALITY. FAIR/GOOD STRUCTURE. DEADWOOD IN CANOPY. ENGLISH IVY (EI) POPULATED AT GRADE IN CRITICAL ROOT ZONE AND FROM GRADE TO CANOPY. MULTI-STEM TRUNK UNION W/ LOW ANGLE "V" CONNECTIONS.
714	Quercus phellos, Willow Oak	24.0	24	0.75	0.75	100.0%	Dominant	13.5	Remove	NO	3	3	NO APPARENT BIOTIC ISSUES OBSERVED. GOOD COLOR, VIGOR, VITALITY & STRUCTURE. TREE SHOWS ROOT GIRDLING.
715	Tsuga canadensis, Dwarf Weeping Hemlock	18.0	0	0.00	0.60	#DIV/0!	Dominant	0.0	Remove	NO	0	0	TREE - 715 IS DEAD.
716	Zelkova serrata, Zelkova	34.7	35	0.62	0.75	26.5%	Dominant	16.1	Preserve	NO	0	4	NO SEVERE BIOTIC ISSUES OBSERVED. GOOD COLOR, VIGOR & VITALITY. FAIR/POOR (F/P) STRUCTURE. MULTI-STEM TRUNK UNION W/ LOW ANGLE "Y" & INCLUDED BAR/DEADWOOD IN CANOPY & INVASIVE ENGLISH IVY FROM GRADE TO UPPER TRUNK STEM. T-717 W/ EXTREM INVASIVE ENGLISH IVY & WILD GRAPE FROM GRADE TO CANOPY. TREE WITH SIGNIFICANT DEADWOOD & POOR SCAFFOLD BRANCHING.
717	Pyrus calleryana, Callery Pear	8.3	9	0.10	0.50	0.0%	Codominant	0.4	Preserve	YES	0	0	T-718 SHOWS DECLINE. EXISTING INVASIVE ENGLISH IVY FROM GRADE TO CANOPY. ~25' UPPER CANOPY LEAN. POOR SCAFFOLD BRANCHING & LOW CANOPY RATIO. FAIR/POOR STRUCTURE.
718	Pyrus calleryana, Callery Pear	6.7	8	0.28	0.50	0.0%	Codominant	1.1	Preserve	YES	0	1	T-719 W/ V-POOR STRUCTURE. INVASIVE ENGLISH IVY FROM GRADE TO CANOPY. ~20' UPPER CANOPY TRUNK STEM LEAN. V-POOR CANOPY RATION & SCAFFOLD BRANCHING.
719	Pyrus calleryana, Callery Pear	3.8	8	0.23	0.50	0.0%	Intermediate	0.4	Preserve	YES	0	0	NO SEVERE BIOTIC ISSUES OBSERVED. GOOD COLOR, VIGOR & VITALITY. FAIR/GOOD SCAFFOLD BRANCHING. LOW CANOPY RATIO.
719.1	Prunus serotina, Black Cherry	5.8	8	0.60	0.55	0.0%	Codominant	1.9	Preserve	NO	0	1	T-720 IS IN DECLINE W/ SIGNIFICANT DEADWOOD IN CANOPY. POOR CANOPY RATIO & SCAFFOLD BRANCHING. ~15' LEAN. EXFOLIATING BARK ON TRUNK STEM.
720	Robinia pseudoacacia, Black Locust	12.7	13	0.18	0.55	0.0%	Codominant	1.3	Preserve	NO	0	0	T-720 W/ EXTREM INVASIVE ENGLISH IVY EMBEDDED INTO TRUNK STEM. EXFOLIATING BARK. LOW CANOPY RATIO & POOR SCAFFOLD BRANCHING. DEAD STEM AT ROOT CROWN.
721	Robinia pseudoacacia, Black Locust	9.0	9	0.50	0.55	0.0%	?	2.5	Preserve	NO	0	1	T-722 IS DEAD.
722	Robinia pseudoacacia, Black Locust	11.3	0	0.00	0.55	#DIV/0!	Codominant	0.0	Preserve	NO	0	0	T-723 W/ EXTREM INVASIVE ENGLISH IVY FROM GRADE TO CANOPY. EXFOLIATING BARK ON TRUNK STEM AT GRADE. V-LOW CANOPY RATIO. POOR SCAFFOLD BRANCHING.
723	Robinia pseudoacacia, Black Locust	12.0	12	0.10	0.55	0.0%	Codominant	0.7	Preserve	NO	0	0	T-724 W/ EXTREM EMBEDDED ENGLISH IVY FROM GRADE TO CANOPY. TREE IS TOPPED. TREE IS DEAD.
724	Robinia pseudoacacia, Black Locust	14.0	0	0.00	0.55	#DIV/0!	Codominant	0.0	Preserve	NO	0	0	EXTREM EMBEDDED ENGLISH IVY FROM GRADE TO UPPER CANOPY. TREE W/ V-LOW CANOPY RATIO.
724.1	Robinia pseudoacacia, Black Locust	12.5	13	0.00	0.55	0.0%	Codominant	0.0	Preserve	NO	0	0	T-724.2 IS DEAD WITH ~20' LEAN.
724.2	Robinia pseudoacacia, Black Locust	7.0	0	0.00	0.55	#DIV/0!	Codominant	0.0	Preserve	NO	0	0	T-725 W/ EXTREM EMBEDDED ENGLISH IVY FROM GRADE TO CANOPY. TREE IS DEAD.
725	Robinia pseudoacacia, Black Locust	16.0	0	0.00	0.55	#DIV/0!	Codominant	0.0	Preserve	NO	0	0	T-726 W/ EXTREM EMBEDDED ENGLISH IVY FROM GRADE TO CANOPY. V-POOR CANOPY RATIO.
726	Robinia pseudoacacia, Black Locust	14.7	15	0.15	0.55	0.0%	Codominant	1.2	Preserve	NO	0	1	T-727 WITH SEVERE EMBEDDED INVASIVE ENGLISH IVY VINES FROM GRADE TO CANOPY. FAIR/POOR SCAFFOLD BRANCHING & CANOPY RATIO.
727	Catalpa speciosa, Catalpa	11.2	12	0.35	0.55	0.0%	Codominant	2.2	Preserve	YES	0	1	T-728 CANOPY W/ V-SEVERE INVASIVE WILD GRAPE VINE. V-POOR SCAFFOLD BRANCHING & CANOPY RATIO.
728	Pyrus calleryana, Callery Pear	3.5	8	0.15	0.50	0.0%	Intermediate	0.3	Preserve	YES	0	0	NO APPARENT BIOTIC ISSUES OBSERVED. GOOD COLOR, VIGOR, VITALITY AND STRUCTURE. TREE WITH SLIGHT CANOPY DEADWOOD.
730	Quercus phellos, Willow Oak	12.4	13	0.73	0.75	100.0%	Dominant	6.8	Remove	NO	2	2	NO APPARENT BIOTIC ISSUES OBSERVED. GOOD COLOR, VIGOR, VITALITY AND STRUCTURE. TREE WITH SLIGHT CANOPY DEADWOOD.
731	Quercus phellos, Willow Oak	15.8	16	0.70	0.75	100.0%	Dominant	8.3	Remove	NO	2	2	NO APPARENT BIOTIC ISSUES OBSERVED. GOOD COLOR, VIGOR, VITALITY AND STRUCTURE. TREE WITH SLIGHT CANOPY DEADWOOD.
732	Pyrus calleryana, Callery Pear	3.5	8	0.15	0.50	0.0%	Intermediate	0.3	Preserve	YES	0	0	T-732 W/ VERY SEVERE INVASIVE WILD GRAPE VINE IN CANOPY. ASYMMETRIC CANOPY W/ V-POOR SCAFFOLD BRANCHING & CANOPY RATIO.
732.1	Pyrus calleryana, Callery Pear	4.7	8	0.20	0.50	0.0%	Intermediate	0.5	Preserve	YES	0	0	T-732.1 W/ V-SEVERE INVASIVE WILD GRAPE VINE IN CANOPY. V-POOR SCAFFOLD BRANCHING & LOW CANOPY RATIO. ASYMMETRICAL CANOPY.
733	Pyrus calleryana, Callery Pear	4.4	8	0.30	0.50	0.0%	Intermediate	0.7	Preserve	YES	0	0	T-733 W/ VERY POOR SCAFFOLD BRANCHING. TREE W/ ~18' LEAN. INVASIVE GRAPE VINE THROUGH CANOPY.
734	Catalpa speciosa, Catalpa	10.5	11	0.55	0.45	0.0%	?	2.6	Preserve	YES	0	1	NO SEVERE BIOTIC ISSUES OBSERVED. GOOD COLOR, VIGOR & VITALITY. FAIR/GOOD STRUCTURE. TREE W/ MULTI-TRUNK STEM UNION AT ~5F. ASYMMETRICAL CANOPY W/ DEADWOOD.
735	Pyrus calleryana, Callery Pear	8.0	8	0.45	0.50	0.0%	Intermediate	1.8	Preserve	YES	0	1	NO SEVERE BIOTIC ISSUES OBSERVED. ASYMMETRICAL CANOPY. TREE W/ MULTI-TRUNK STEM UNION AT ~3F. ASYMMETRICAL CANOPY.
736	Pyrus calleryana, Callery Pear	3.0	8	0.35	0.50	0.0%	Intermediate	0.5	Preserve	YES	0	0	T-736 W/ V-POOR CANOPY STRUCTURE. & RATIO. POOR SCAFFOLD BRANCHING. INVASIVE HONEYSUCKLE UP & INTO CANOPY.
737	Pyrus calleryana, Callery Pear	5.0	8	0.35	0.50	0.0%	Intermediate	0.9	Preserve	YES	0	0	NO SEVERE BIOTIC ISSUES OBSERVED. INVASIVE ENGLISH IVY POPULATED IN CRZ & FROM GRADE TO MID-CANOPY. POOR CANOPY STRUCTURE & RATIO.
738	Pyrus calleryana, Callery Pear	5.2	8	0.50	0.50	0.0%	Intermediate	1.3	Preserve	YES	0	1	NO SEVERE BIOTIC ISSUES OBSERVED. GOOD COLOR, VIGOR & VITALITY. FAIR/POOR STRUCTURE/VERY ASYMMETRICAL CANOPY W/ INVASIVE VEG. POOR CANOPY RATIO.
739	Pyrus calleryana, Callery Pear	3.0	8	0.30	0.50	0.0%	Intermediate	0.5	Preserve	YES	0	0	T-739 WITH SEVERE INVASIVE VEG IN CANOPY & VERY POOR STRUCTURE. POOR CANOPY RATIO. TREE W/ ~20' LEAN.
740	Fagus grandifolia, American Beech	11.0	11	0.53	0.80	0.0%	Dominant	4.7	Preserve	NO	0	1	NO SEVERE BIOTIC ISSUES OBSERVED. GOOD COLOR, VIGOR & VITALITY. SEVERE INVASIVE VINE EMBEDDED INTO TRUNK STEM FROM GRADE TO CANOPY.
741	Pyrus calleryana, Callery Pear	3.0	8	0.30	0.50	100.0%	Suppressed	0.5	Remove	YES	0	0	T-741 HAS POOR CANOPY STRUCTURE. VERY POOR CANOPY RATIO. INVASIVE VINE THROUGH CANOPY. TRUNK STEM W/ ~22' LEAN.
											EXISTING TREE REPLACEMENT SUBTOTAL	17	

Tree No.	Species	Size	CRZ	Field Condition	Species Rating	Disturbed Area Within CRZ	Canopy Position	Total Score	Status	Invasive Species	Replacement Trees Requirement	Tree Replacement Totals For All Trees Inventoried (FOR INFORMATION ONLY)	Existing Tree Condition Observations
		*DBH (in)	R (ft)	%		%							
742	Pyrus calleryana, Callery Pear	4.0	8	0.30	0.50	100.0%	Suppressed	0.6	Remove	YES	0	0	T-742 WITH VERY POOR CANOPY STRUCTURE. INVASIVE VEG THROUGH CANOPY. TREE WITH ~32' LEAN. V-POOR CANOPY RATIO & W/ INVASIVE VEG.
743	Fagus grandifolia, American Beech	17.0	17	0.68	0.80	0.0%	Dominant	9.2	Preserve	NO	0	2	NO APPARENT BIOTIC ISSUES OBSERVED. GOOD COLOR, VIGOR, VITALITY & STRUCTURE. SEVER INVASIVE HONEYSUCKLE ROOTED IN CRZ. SLIGHT DEADWOOD IN CANOPY.
744	Acer rubrum, Red Maple	15.5	16	0.66	0.70	100.0%	Dominant	2.3	Remove	NO	1	1	NO SEVERE BIOTIC ISSUES OBSERVED. GOOD COLOR, VIGOR VITALITY & STRUCTURE. INVASIVE VEG AT LOW TRUNK STEM.
745	Zelkova serrata, Zelkova	10.5	11	0.68	0.75	100.0%	Codominant	5.4	Remove	NO	2	2	NO APPARENT BIOTIC ISSUES OBSERVED. GOOD COLOR, VIGOR, VITALITY & STRUCTURE. SIGNIFICANT ROOT GIRDLING AT GRADE.
746	Zelkova serrata, Zelkova	17.5	18	0.65	0.75	100.0%	Codominant	8.5	Remove	NO	2	2	NO APPARENT BIOTIC ISSUES OBSERVED. GOOD COLOR, VIGOR, VITALITY & STRUCTURE. TREE W/ SIGNIFICANT CANOPY PRUNING. EMBEDDED ENGLISH IVY AT LOW TRUNK STEM.
747	Zelkova serrata, Zelkova	12.4	13	0.68	0.75	100.0%	Codominant	6.3	Remove	NO	2	2	NO APPARENT BIOTIC ISSUES OBSERVED. GOOD COLOR, VIGOR, VITALITY & STRUCTURE. SLIGHT CANOPY DEADWOOD. ROOT GIRDLING AT GRADE.
748	Zelkova serrata, Zelkova	11.4	12	0.68	0.75	100.0%	Codominant	4.1	Remove	NO	1	1	NO APPARENT BIOTIC ISSUES OBSERVED. GOOD COLOR, VIGOR, VITALITY & STRUCTURE. INVASIVE ENGLISH IVY AT LOW TRUNK STEM.
749	Quercus phellos, Willow Oak	16.0	16	0.75	0.75	100.0%	Dominant	9.0	Remove	NO	2	2	NO APPARENT BIOTIC ISSUES OBSERVED. GOOD COLOR, VIGOR, VITALITY & STRUCTURE.
750	Zelkova serrata, Zelkova	10.0	10	0.70	0.75	100.0%	Dominant	5.3	Remove	NO	2	2	NO APPARENT BIOTIC ISSUES OBSERVED. GOOD COLOR, VIGOR, VITALITY & STRUCTURE. SLIGHT CANOPY DEADWOOD. ROOT GIRDLING AT GRADE. EXPOSED CRZ AT GRADE.
751	Quercus phellos, Willow Oak	16.8	17	0.75	0.75	100.0%	Dominant	9.5	Remove	NO	2	2	NO APPARENT BIOTIC ISSUES OBSERVED. GOOD COLOR, VIGOR, VITALITY & STRUCTURE.
752	Zelkova serrata, Zelkova	14.0	14	0.70	0.75	100.0%	Dominant	7.4	Remove	NO	2	2	NO APPARENT BIOTIC ISSUES OBSERVED. GOOD COLOR, VIGOR, VITALITY & STRUCTURE. SLIGHT CANOPY DEADWOOD. ROOT GIRDLING AT GRADE. MULTI-TRUNK STEM UNION AT ~10F.
753	Acer rubrum, Red Maple	14.8	15	0.67	0.70	100.0%	Codominant	6.9	Remove	NO	2	2	NO APPARENT BIOTIC ISSUES OBSERVED. GOOD COLOR, VIGOR & VITALITY. LOW TO MODERATE CANOPY RATIO. ROOT GIRDLING AT GRADE. FAIR/GOOD SCAFFOLD BRANCHING.
754	Acer rubrum, Red Maple	13.0	13	0.70	0.70	100.0%	Dominant	6.4	Remove	NO	2	2	NO APPARENT BIOTIC ISSUES OBSERVED. GOOD COLOR, VIGOR, VITALITY & STRUCTURE. NO ROOT FLAIR AT GRADE. SLIGHT CANOPY DEADWOOD.
755	Acer rubrum, Red Maple	12.8	13	0.72	0.70	100.0%	Dominant	6.5	Remove	NO	2	2	NO APPARENT BIOTIC ISSUES OBSERVED. GOOD COLOR, VIGOR, VITALITY & STRUCTURE. ROOT GIRDLING AT GRADE.
756	Acer rubrum, Red Maple	13.3	14	0.70	0.70	100.0%	Dominant	1.5	Remove	NO	1	1	NO APPARENT BIOTIC ISSUES OBSERVED. GOOD COLOR, VIGOR, VITALITY & STRUCTURE. ROOT GIRDLING AT GRADE. SLIGHT DEADWOOD.
757	Prunus x yedoensis, Yoshino Cherry	10.4	11	0.59	0.55	100.0%	Intermediate	3.4	Remove	NO	1	1	T-757 SHOW STRESS. LOW LEAF CANOPY DENSITY. ROOT GIRDLING AT GRADE. POOR SCAFFOLD BRANCHING.
758	Prunus x yedoensis, Yoshino Cherry	10.5	11	0.58	0.55	100.0%	Intermediate	3.3	Remove	NO	1	1	NO APPARENT BIOTIC ISSUES OBSERVED. GOOD COLOR, VIGOR, VITALITY & STRUCTURE. ROOT GIRDLING AT GRADE.
759	Pyrus calleryana, Callery Pear	7.4	8	0.70	0.50	100.0%	Intermediate	2.6	Remove	YES	1	1	NO APPARENT BIOTIC ISSUES OBSERVED. GOOD COLOR, VIGOR, VITALITY & STRUCTURE. NO ROOT FLAIR.
760	Acer rubrum, Red Maple	16.0	16	0.68	0.70	100.0%	Dominant	1.9	Remove	NO	1	1	NO SEVERE BIOTIC ISSUES OBSERVED. GOOD COLOR, VIGOR, VITALITY & STRUCTURE. SIGNIFICANT ROOT GIRDLING AT GRADE. SLIGHT CANOPY DEADWOOD.
761	Acer rubrum, Red Maple	15.7	16	0.70	0.70	100.0%	Dominant	7.7	Remove	NO	2	2	NO APPARENT BIOTIC ISSUES OBSERVED. GOOD COLOR, VIGOR, VITALITY & STRUCTURE. ROOT GIRDLING AT GRADE.
762	Prunus x yedoensis, Yoshino Cherry	7.6	8	0.67	0.55	100.0%	Intermediate	2.8	Remove	NO	1	1	NO SEVERE BIOTIC ISSUES OBSERVED. GOOD COLOR, VIGOR & VITALITY. FAIR/GOOD STRUCTURE & SCAFFOLD BRANCHING. SLIGHT CANOPY DEADWOOD. NO ROOT FLAIR.
763	Prunus x yedoensis, Yoshino Cherry	12.0	12	0.69	0.55	100.0%	Intermediate	4.6	Remove	NO	1	1	NO APPARENT BIOTIC ISSUES OBSERVED. GOOD COLOR, VIGOR, VITALITY & STRUCTURE. ROOT GIRDLING AT GRADE.
764	Pyrus calleryana, Callery Pear	12.0	12	0.68	0.50	100.0%	Codominant	4.1	Remove	YES	1	1	NO APPARENT BIOTIC ISSUES OBSERVED. GOOD COLOR, VIGOR, VITALITY & STRUCTURE. MULTI-STEM UNION AT ~7F. NO ROOT FLAIR AT GRADE.
765	Zelkova serrata, Zelkova	8.2	9	0.68	0.75	100.0%	Intermediate	4.2	Remove	NO	1	1	NO SEVERE BIOTIC ISSUES OBSERVED. GOOD COLOR, VIGOR, VITALITY & STRUCTURE. ROOT GIRDLING AT GRADE W/ EXPOSED CRZ AT GRADE.
766	Quercus phellos, Willow Oak	18.0	18	0.75	0.75	100.0%	Dominant	10.1	Remove	NO	3	3	NO APPARENT BIOTIC ISSUES OBSERVED. GOOD COLOR, VIGOR, VITALITY & STRUCTURE. CANOPY WITH DEADWOOD AND LOW CANOPY RATIO.
											EXISTING TREE REPLACEMENT SUBTOTAL	36	
											EXISTING TREE REPLACEMENT GRAND TOTAL	53	
											EXISTING TREE REPLACEMENT FOR ALL TREES INVENTORIED	71	

DBH = Diameter at Breast Height (measured 4.5 feet above existing grade or as noted)

* = Diameter measurement as recorded at the root crown where tree has a codominant, or multi-stem trunk which precludes a measurement at 4.5 ft above existing grade.

Critical Root Zone (CRZ): For trees with < 8" caliper trunk stem, CRZ shall be 8-ft radius around the trunk of the tree. Those trees with > 8" caliper trunk stem, for each 1" diameter trunk stem at breast height equals 1-ft of CRZ diameter. CRZ for trees

Conditions Ratings provided as percentages as based on methods outlined in the 9th edition of the "Guide for Plant Appraisal", published by the International Society of Arboriculture.

Q:\Projects\8574A\DATA\Landscape & Trees\Langston Blvd Tree Inventory (2024.08.02).xlsx|Sheet1

NOTES:

- THE SUBJECT PROPERTY IS IDENTIFIED ON ARLINGTON COUNTY TAX MAP AS REAL PROPERTY CODE (RPC) #15012041 AND IS ZONED C-2.
- THE SUBJECT PROPERTY IS LOCATED IN ZONE X-NOT SHADED (AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN), ZONE X-SHADED (AREAS OF 0.2% ANNUAL CHANCE FLOOD, AREAS OF 1% ANNUAL CHANCE FLOOD WITH AVERAGE DEPTHS OF LESS THAN 1 FOOT OR WITH DRAINAGE AREAS LESS THAN 1 SQUARE MILE, AND AREA PROTECTED BY LEVEES FROM THE 1% ANNUAL CHANCE FLOOD), AND ZONE AE (SPECIAL FOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD, BASE FLOOD ELEVATIONS DETERMINED) AS SHOWN ON THE FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAP (FIRM) NUMBER 51013C0038C, COMMUNITY PANEL 515620 038 C, FOR ARLINGTON COUNTY, DATED AUGUST 19, 2013.
- THE SUBJECT PROPERTY HAS DIRECT VEHICULAR ACCESS TO AND FROM NORTH KIRKWOOD STREET, AS SHOWN HEREON.
- THERE IS NO OBSERVED EVIDENCE OF WETLANDS FIELD DELINEATION ON THE SUBJECT PROPERTY.
- A PORTION OF THE SUBJECT PROPERTY IS LOCATED WITHIN A RESOURCE PROTECTION AREA (RPA) PER ARLINGTON COUNTY STREAMS, WATERSHEDS AND RESOURCE PROTECTION AREAS MAP DATED 2007.
- THE SUBJECT PROPERTY IS NOT LOCATED IN A HISTORIC DISTRICT PER ARLINGTON COUNTY LOCAL HISTORIC SITES AND DISTRICTS MAP ACCESSED 10/12/2022.
- THE AVERAGE SITE ELEVATION TAKEN AT THE PERIMETER IS 177.72'.
- PROPOSED GRADING AND UTILITIES SHOWN HEREON ARE SUBJECT TO CHANGE WITH FINAL ENGINEERED SITE PLAN.
- PROPOSED BUILDINGS, DOOR LOCATIONS, FINISHED FLOOR ELEVATIONS AND ELEVATOR LOCATIONS ARE SUBJECT TO CHANGE WITH FINAL ENGINEERED SITE PLAN.
- TELECOMMUNICATION SERVICES WILL BE DETERMINED BY THE OWNER AT FINAL ENGINEERED SITE PLAN. A BELOW GRADE MEET ME TELECOMMUNICATION VAULT WILL BE PROVIDED FOR FUTURE CONNECTIONS. LOCATION SHOWN ON THIS APPLICATION IS APPROXIMATE AND IS SUBJECT TO CHANGE AT FINAL ENGINEERED SITE PLAN.
- DRY UTILITY RELOCATIONS WILL BE COORDINATED AT TIME OF FINAL ENGINEERED SITE PLAN.
- SEE OVERALL CERTIFIED SURVEY ON SHEET C-01 FOR SITE AREA AND DENSITY INFORMATION.

AREA TABULATION:

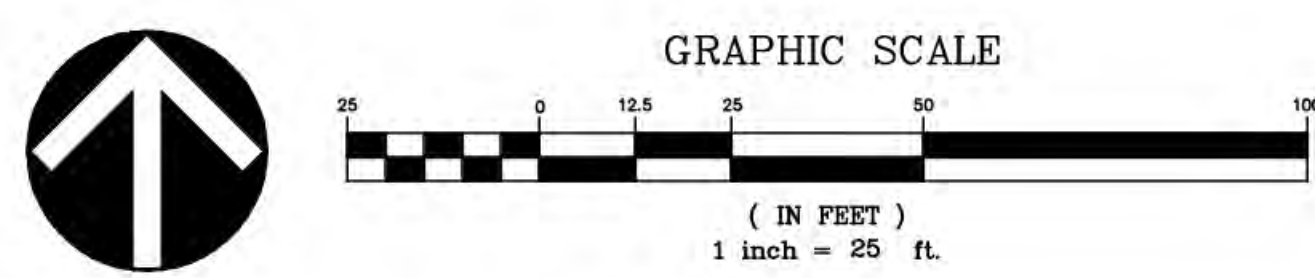
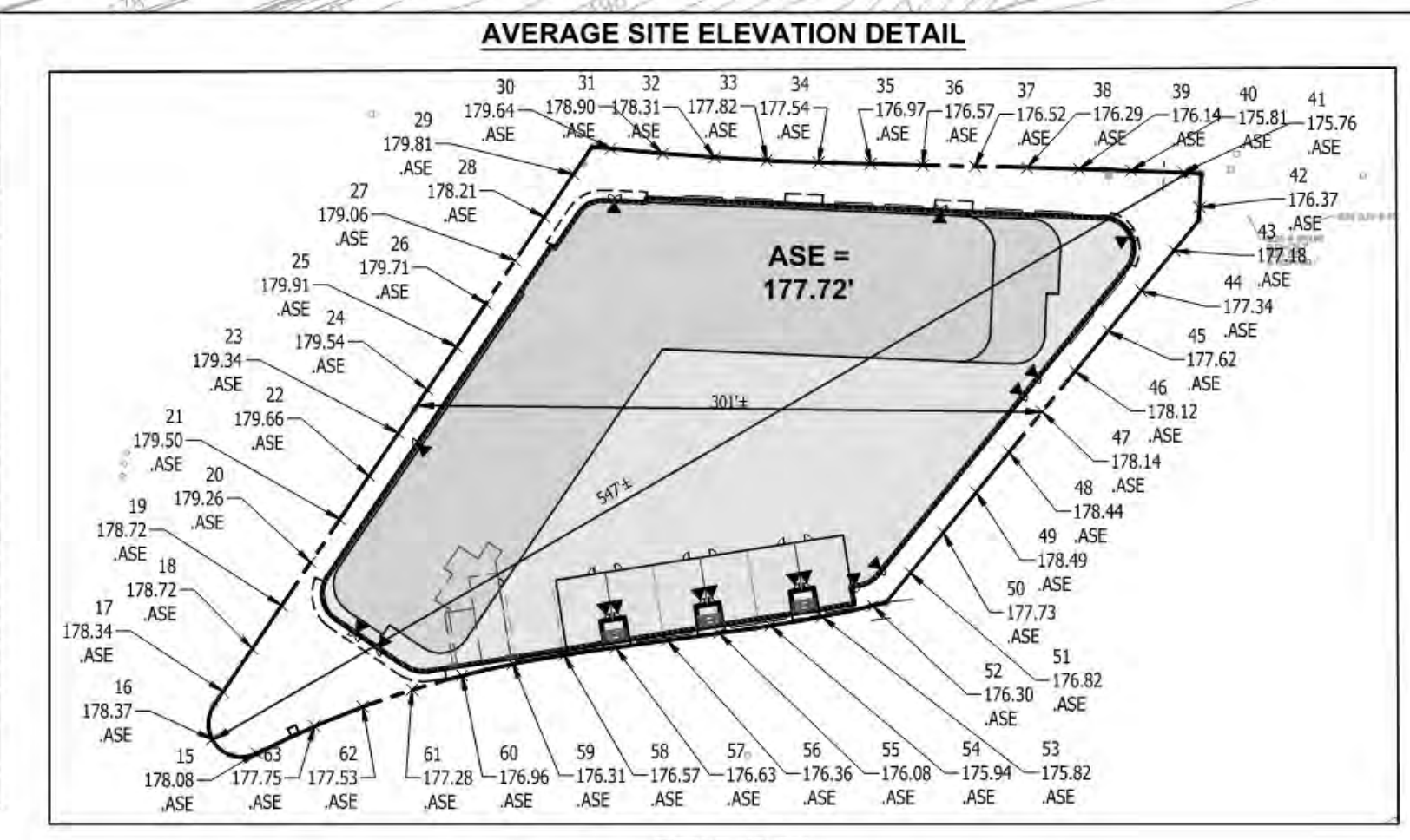
RPC 15-012-041 73,254 SF OR 1.68168 AC

COVERAGE TABULATION

ZONE	AREA	COVERAGE%
C-2	73,254 S.F. OR 1.68168 AC	56,030 S.F. 76.5%

LEGEND

- PROPOSED BUILDING AT GRADE
- PROPOSED BUILDING OVERHANG ABOVE
- PROPOSED BUILDING CANOPY
- PROPOSED LIMITS OF GARAGE
- PROPOSED PEDESTRIAN ENTRANCE



VIKA VIRGINIA, LLC
 8180 Greensboro Dr., Suite 200
 Tysons, VA 22102
 703.442.7800 | vika.com
 Our Site Set on the Future.

PLAN STATUS

PLAN STATUS	DATE
4.1 SITE PLAN SUBMISSION	08/09/2024

POST-APPROVAL SHEET STATUS

POST-APPROVAL SHEET STATUS	DATE



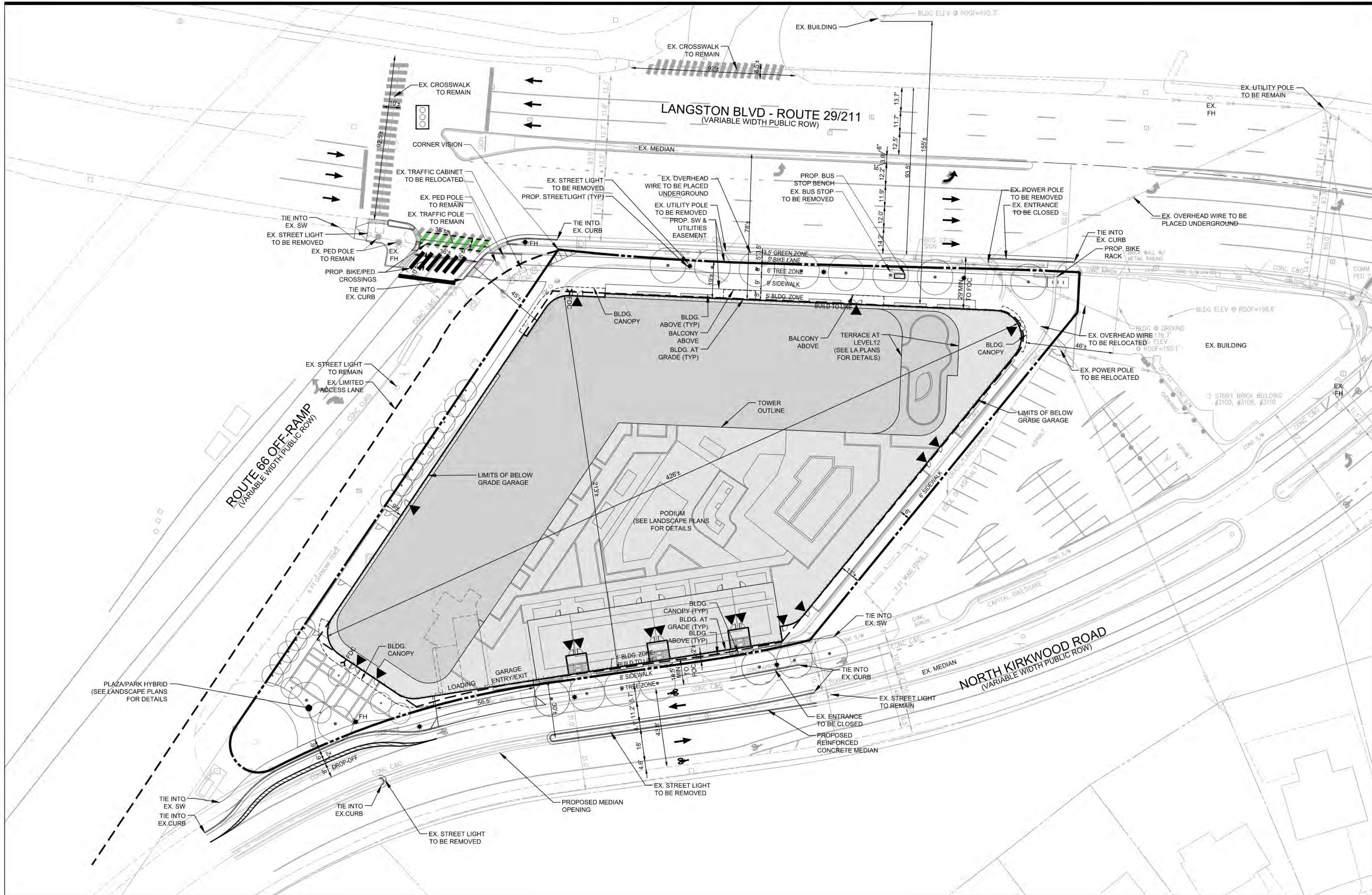
3130 LANGSTON BOULEVARD
 4.1 SITE PLAN
 ARLINGTON COUNTY, VIRGINIA

PLOT AND LOCATION PLAN

DRAWN BY:	
DESIGNED BY:	
DATE ISSUED:	08/09/2024
DWG. SCALE:	1" = 25'
VIKA NO.:	VV8574A
SHEET NO.:	C-08



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PLAN STATUS	DATE
4.1 SITE PLAN SUBMISSION	08/09/2024

POST-APPROVAL SHEET STATUS	DATE

PROFESSIONAL SEAL

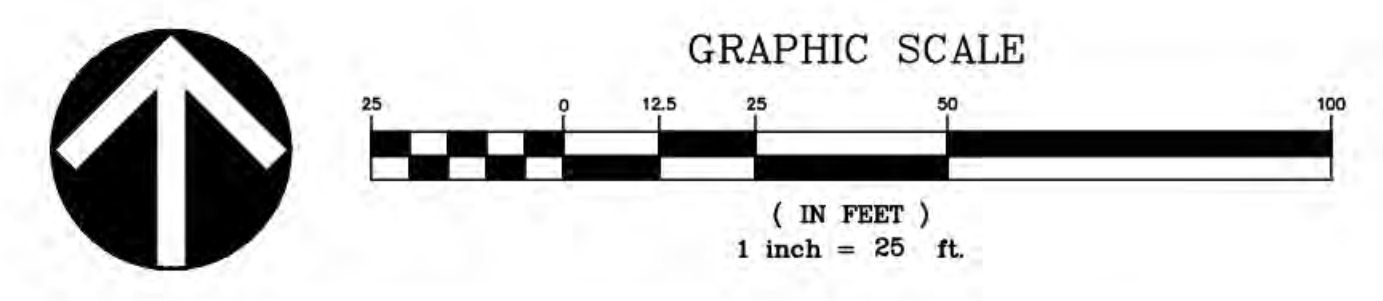


3130 LANGSTON BOULEVARD
 4.1 SITE PLAN
 ARLINGTON COUNTY, VIRGINIA

STRIPING AND MARKING PLAN

LEGEND

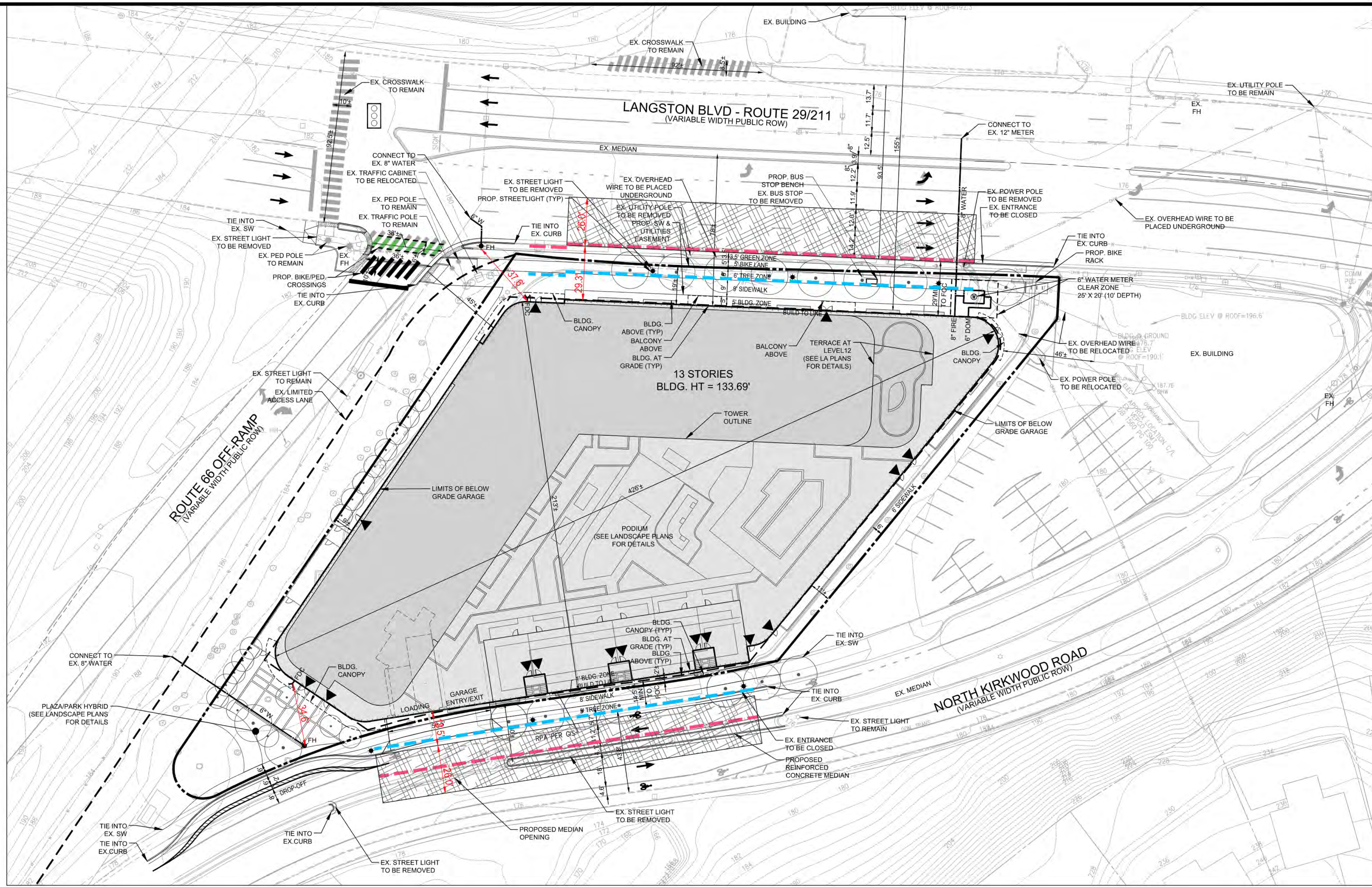
	PROPOSED BUILDING AT GRADE
	PROPOSED BUILDING OVERHANG ABOVE
	PROPOSED BUILDING CANOPY
	PROPOSED LIMITS OF GARAGE
	PROPOSED PEDESTRIAN ENTRANCE





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PLAN STATUS	DATE
4.1 SITE PLAN SUBMISSION	08/09/2024

POST-APPROVAL SHEET STATUS	DATE

PROFESSIONAL SEAL

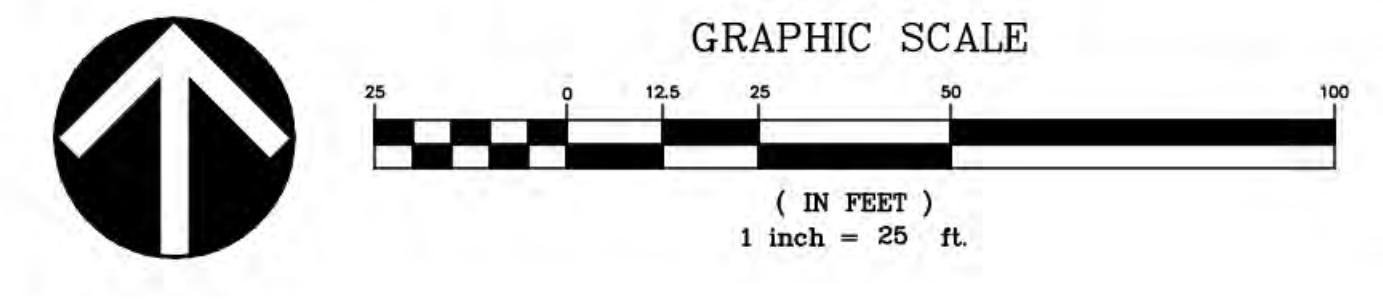


3130 LANGSTON BOULEVARD
 4.1 SITE PLAN

ARLINGTON COUNTY, VIRGINIA

FIRE LANE MARKING PLAN

LEGEND	
	AERIAL FIRE APPARATUS ACCESS AREA (6% SLOPE OR LESS)
	PROPOSED BUILDING AT GRADE
	PROPOSED BUILDING OVERHANG ABOVE
	PROPOSED BUILDING CANOPY
	PROPOSED LIMITS OF GARAGE
	PROPOSED PEDESTRIAN ENTRANCE
	EXISTING SIGNALIZED INTERSECTION
	EXISTING TREE
	PROPOSED STREET TREE
	PROPOSED WATER LINE
	PROPOSED FIRE DEPARTMENT CONNECTION (FDC)
	PROPOSED FIRE HYDRANT
	15' PROPOSED BUILDING OFFSET
	30' PROPOSED BUILDING OFFSET



DRAWN BY:	
DESIGNED BY:	
DATE ISSUED:	08/09/2024
DWG. SCALE:	1" = 25'
VIKA NO.:	VV8574A
SHEET NO.:	C-11

LANGSTON BLVD - ROUTE 29/211
(VARIABLE WIDTH PUBLIC ROW)

3130 LANGSTON BOULEVARD

THE PROJECT CONSISTS OF A SERIES OF STREET LEVEL, PODIUM AND ROOF LEVEL SPACES, WHICH CREATE AMENITY ZONES FOR BUILDING RESIDENTS AND COMMUNITY MEMBERS. THESE AREAS PROVIDE OPPORTUNITIES FOR BIOPHILIC DESIGNS THAT CONNECT PEOPLE TO NATURE AND ALLOW LIGHT AND AIR INTO DWELLINGS.

6 DESIGN PRINCIPLES OF BIOPHILIA:

1. GREEN ENVELOPE
2. NATURE-INSPIRED FORMS & SHAPES
3. LIGHT
4. ORGANIC PATTERNS & PROCESSES
5. HUMAN RELATIONSHIPS TO NATURE
6. SENSORY EXPERIENCES

GREEN ENVELOPE:

THE SPACE DESIGN PROVIDES A "GREEN ENVELOPE" ON ALL SIDES THAT BENEFITS FROM A LANDSCAPE PALETTE THAT INCLUDES GROUNDCOVERS, SHRUBS, AND TREES TO MAXIMIZE VERTICAL GREEN EXPOSURE AND VISUAL / TACTILE ACCESSIBILITY.

ELEMENTS OF URBAN AND STREETScape DESIGN INCLUDE ALL NATURAL MATERIALS SUCH AS WOOD ON BENCHES (HIGH CONTACT, SENSE OF TOUCH) AND PLANTER WALLS WITH SEATING (HIGH CONTACT, SENSE OF SMELL).

NATURE-INSPIRED FORMS & SHAPES:

THE PUBLIC SPACE GEOMETRY REFLECTS AN ORGANIC ORGANIZATIONAL APPROACH, THAT GENTLY GUIDES PEDESTRIAN ACCESS AND WALKABILITY OF THE OVERALL SPACE.

LIGHT:

THE DESIGN AND LAYOUT ALLOW NATURAL LIGHT TO PERMEATE THROUGHOUT.

ORGANIC PATTERNS & PROCESSES:

NATURAL COMPONENTS OF THE DESIGN, SUCH AS TREES, WILL CONTRIBUTE TEXTURAL RICHNESS WITH INTERESTING BARK, LEAF AND BRANCH PATTERNS, AND COLORS DURING VARIOUS SEASONS REFLECTING CYCLICAL NATURAL PROCESSES.

HUMAN RELATIONSHIPS TO NATURE:

THE MOST BASIC CONNECTION THAT HUMANS HAVE WITH NATURE IS WITH THE VEGETATIVE ENVIRONMENT. DIVERSE PLANT PALETTES REMIND US OF EXPANSIVE OPEN FIELDS, WOODED AREAS, AND OTHER DESIRABLE NATURE SETTINGS.

THE PLANT PALETTE ENVISIONED FOR THE PROJECT INTENDS TO BRING A TRUE CONNECTION VIA PLANT SELECTIONS THAT ARE NATIVE, HAVE SEASONAL INTEREST, AND SUPPORT URBAN HABITAT SUCH AS POLLINATORS.

SENSORY EXPERIENCES:

CONNECTIONS TO OUR LIVING ENVIRONMENTS ARE THROUGH SENSORY EXPERIENCES

- TOUCH: TEXTURAL DESIGN VIA HARDSCAPE / LANDSCAPE ELEMENTS.
- SIGHT: VIEWS ARE INTERNALLY AND EXTERNALLY FOCUSED, DELIBERATELY ORCHESTRATED BY THE LOCATION AND PLACEMENT OF BENCHES.
- SMELL: BREEZY SPACES CARRIES SCENTS FROM GRASSES AND OTHER PLANTS MOVING IN THE WIND.
- SOUND: THE RUSTLING OF TREE LEAVES IN THE WIND, AS WELL AS THE TREE CANOPY, AND OTHER DESIGN FEATURES MITIGATING NOISE FROM THE OVERALL NEIGHBORING ACTIVITY.

ROUTE 66 OFF-RAMP
(VARIABLE WIDTH PUBLIC ROW)

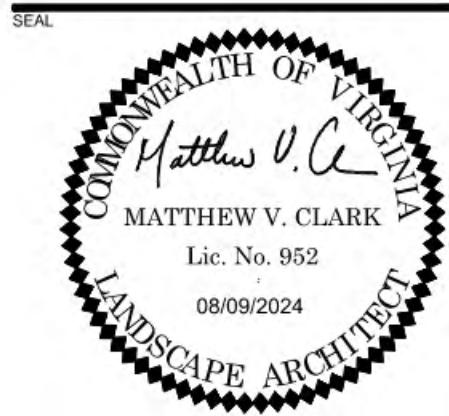
PROPOSED DOG RUN AREA
(PRIVATELY OWNED PUBLIC)
INCLUDED IN THE 5,000 SF OF THE PLAZA / PARK HYBRID AREA

12TH FLOOR TERRACE
(PRIVATE)
3RD FLOOR PODIUM AREA
(PRIVATE)
PROPOSED GREEN ROOF AREA

PLAZA / PARK HYBRID AREA PER THE LANGSTON BOULEVARD AREA PLAN
5,000+ SF
(PRIVATELY OWNED PUBLIC)

EXISTING TREE TO BE PRESERVED. ROOT PRUNING AND TREE PROTECTION MEASURES TO BE UTILIZED

NORTH KIRKWOOD ROAD
(VARIABLE WIDTH PUBLIC ROW)



3130 LANGSTON BOULEVARD

ROONEY PROPERTIES, LLC
3130 LANGSTON BOULEVARD
ARLINGTON, VA 22201

LANDDESIGN PROJ.# 2024074

REVISION / ISSUANCE

NO.	DESCRIPTION	DATE
1	4.1 SITE PLAN SUBMISSION	08/09/2024

DESIGNED BY: GC
DRAWN BY: JM
CHECKED BY: AC

SCALE: NORTH (VCB 83)
VERT: N/A
HORZ: 1"=20'
0 10 20 40'

ILLUSTRATIVE PLAN

SHEET NUMBER

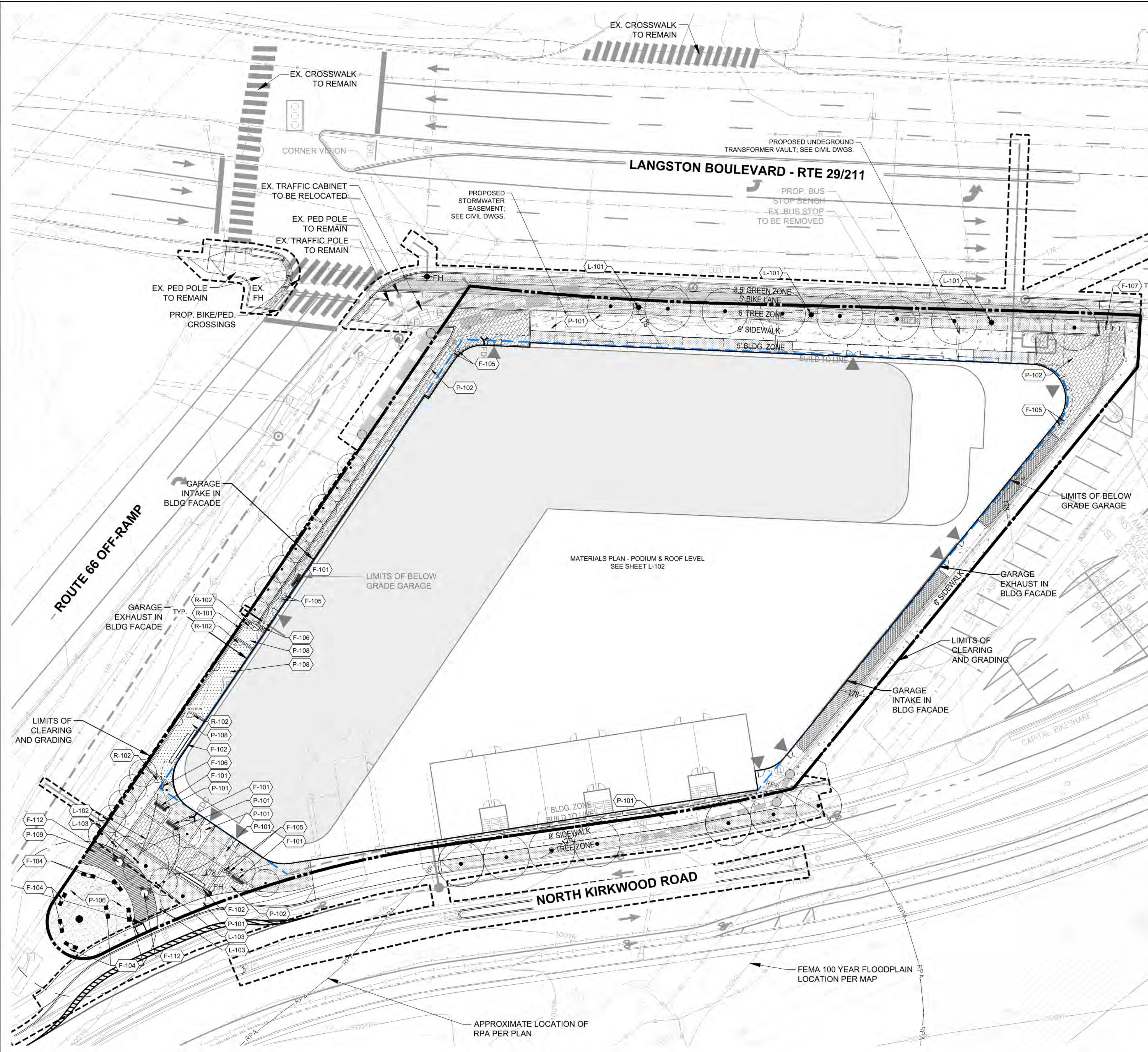
L-100

REFERENCE NOTES SCHEDULE

SYMBOL	FURNISHINGS DESCRIPTION	DETAIL
F-101	BENCH - TYPE 1	1/L-511
F-102	BENCH - TYPE 2	2/L-511
F-104	BISTRO TABLE AND CHAIRS	3/L-504
F-105	TRASH + RECYCLING	5/L-511
F-106	PET WASTE STATION	6/L-511
F-107	BIKE RACK	7/L-511
F-112	PICNIC TABLE	4/L-511
SYMBOL	LIGHTING & ELECTRICAL DESCRIPTION	DETAIL
L-101	STREETLIGHT - COUNTY STANDARD	1/L-521
L-102	STRING LIGHTS	2/L505
L-103	PATH LIGHT	3/L505
SYMBOL	PAVING & CURBS DESCRIPTION	DETAIL
P-101	CONCRETE PAVING	1/L-501
P-102	UNIT PAVERS - TYPE 1	8/L-511
P-106	DECOMPOSED GRANITE	6/L-501
P-108	SYNTHETIC LAWN	8/L-501
P-109	DECK	9/L-501
SYMBOL	RAILINGS & FENCES DESCRIPTION	DETAIL
R-101	FENCE - TYPE 1	1/L-551
R-102	GATE - TYPE 1	3/L-551

LEGEND

[Pattern]	PLANT BED
[Pattern]	BIORETENTION PLANT BED
[Pattern]	LAWN



3130 LANGSTON BOULEVARD

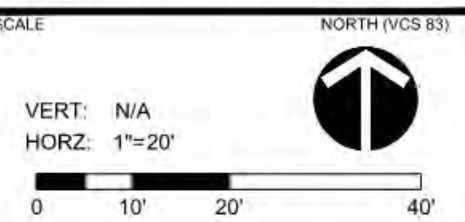
ROONEY PROPERTIES, LLC
3130 LANGSTON BOULEVARD
ARLINGTON, VA 22201

LANDDESIGN PROJ# 2024074

REVISION / ISSUANCE

NO.	DESCRIPTION	DATE
1	4.1 SITE PLAN SUBMISSION	08/09/2024

DESIGNED BY: XX
DRAWN BY: XX
CHECKED BY: XX



MATERIALS PLAN - GROUND LEVEL

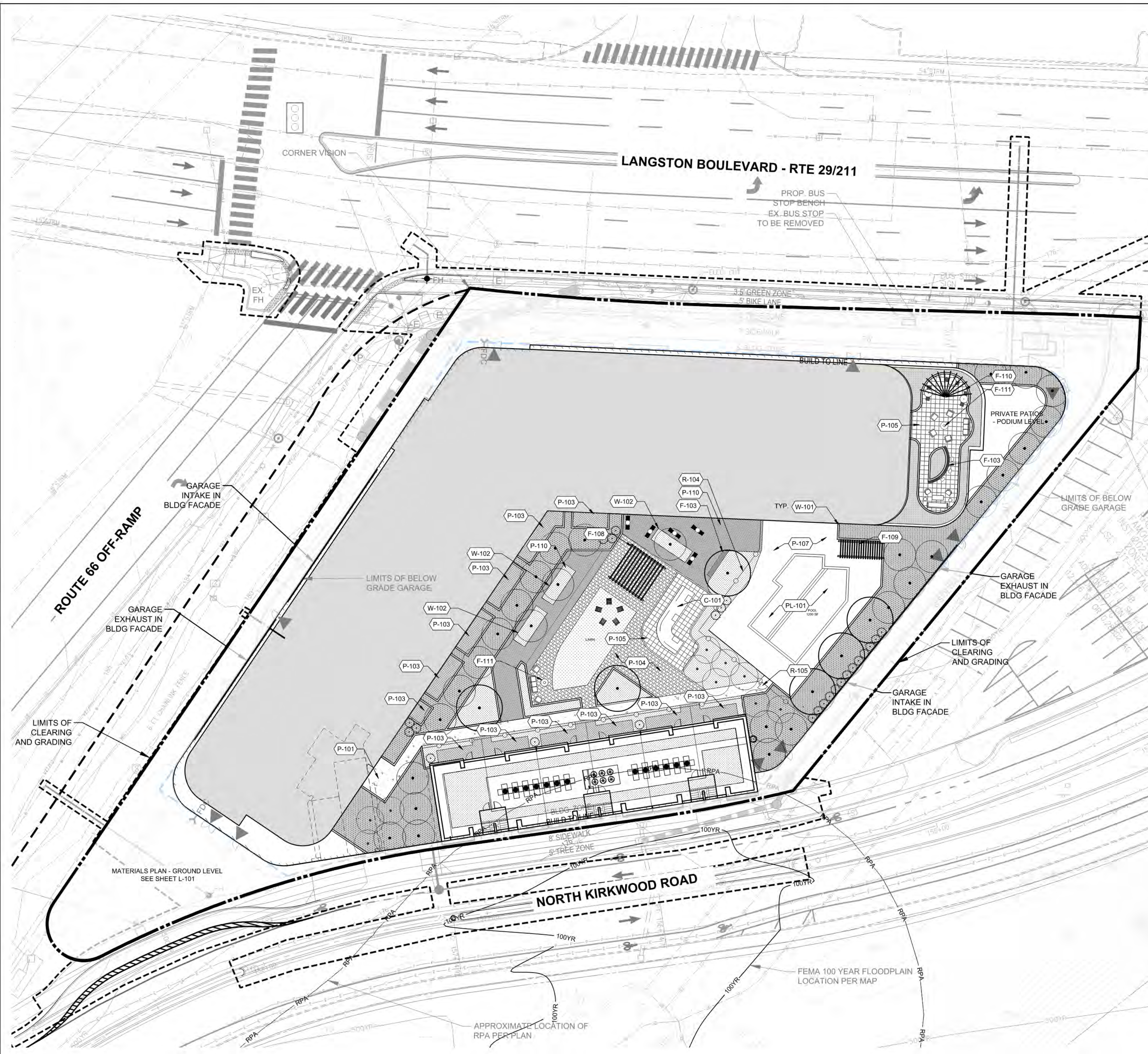
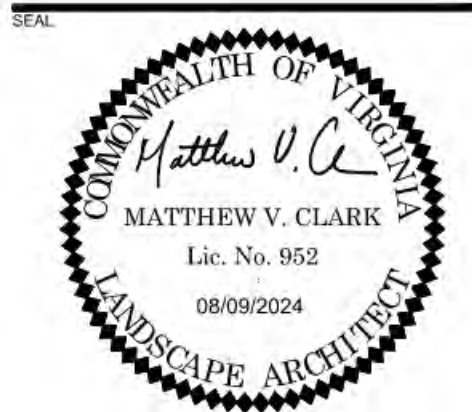
SHEET NUMBER

L-101

REFERENCE NOTES SCHEDULE

SYMBOL	CUSTOM DESCRIPTION	DETAIL
(C-101)	GRILL STATION	1/L-541
FURNISHINGS		
(F-103)	BENCH - TYPE 3	3/L-511
(F-108)	SHADE STRUCTURE - TYPE 1	8/L-511
(F-109)	SHADE STRUCTURE - TYPE 2	9/L-511
(F-110)	SHADE STRUCTURE - TYPE 3	1/L-512
(F-111)	FIRE ELEMENT	2/L-504
PAVING & CURBS		
(P-101)	CONCRETE PAVING	1/L-501
(P-103)	UNIT PAVERS - TYPE 2	3/L-501
(P-104)	UNIT PAVERS - TYPE 3	4/L-501
(P-105)	UNIT PAVERS - TYPE 4	5/L-501
(P-107)	POOL DECK	7/L-501
(P-110)	DECK - ON STRUCTURE	1/L-502
POOL		
(PL-101)	POOL	/
RAILINGS & FENCES		
(R-104)	FENCE - TYPE 2	2/L-551
(R-105)	GATE - TYPE 2	4/L-551
WALLS & STAIRS		
(W-101)	BIORETENTION WALL	1/L-531
(W-102)	METAL PLANTER WALL	2/L-531
LEGEND		
(Symbol)	PLANT BED	
(Symbol)	BIORETENTION PLANT BED	
(Symbol)	LAWN	

NOTE: UNREFERENCED MOVEABLE FURNISHINGS FOR REFERENCE ONLY. SITE FURNISHINGS TO BE FINALIZED AT TIME OF CONSTRUCTION.



PROJECT
3130 LANGSTON BOULEVARD
ROONEY PROPERTIES, LLC
3130 LANGSTON BOULEVARD
ARLINGTON, VA 22201

LANDDESIGN PROJ.# 2024074

REVISION / ISSUANCE		
NO.	DESCRIPTION	DATE
1	4.1 SITE PLAN SUBMISSION	08/09/2024

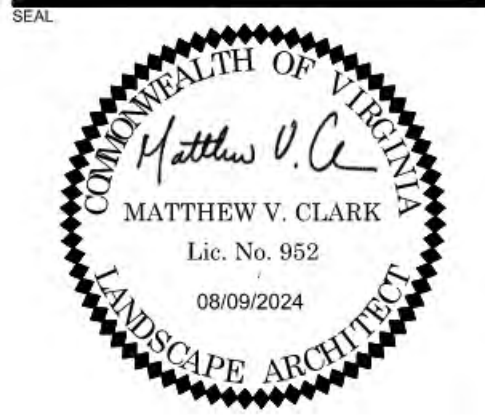
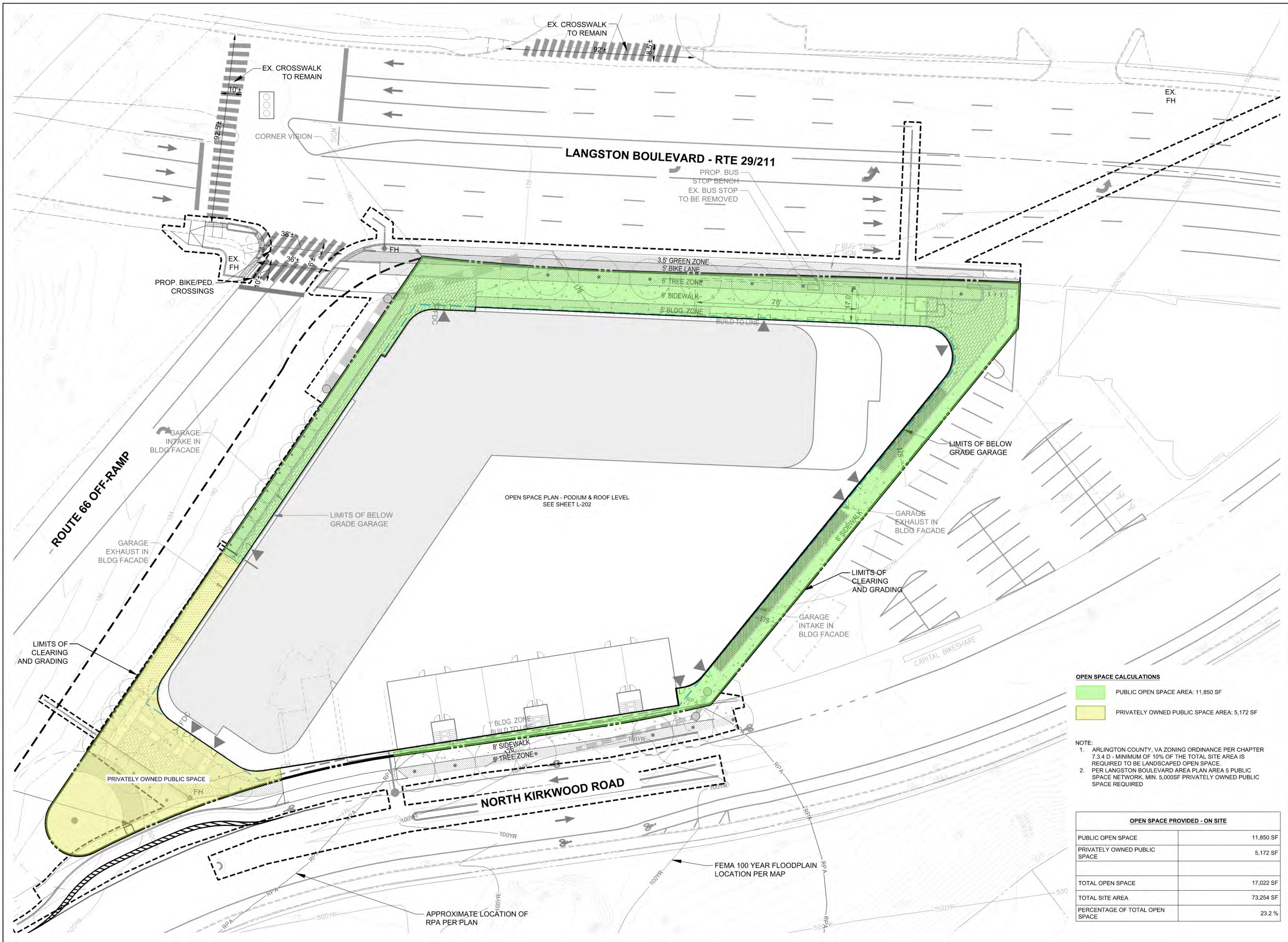
DESIGNED BY: GC
DRAWN BY: JM
CHECKED BY: AC

SCALE: NORTH (NCS 93)

VERT: N/A
HORZ: 1"=20'

SHEET TITLE
MATERIALS PLAN - PODIUM & ROOF LEVEL

SHEET NUMBER
L-102



3130 LANGSTON BOULEVARD

ROONEY PROPERTIES, LLC
3130 LANGSTON BOULEVARD
ARLINGTON, VA 22201

LANDDESIGN PROJ.# 2024074

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NO.	DESCRIPTION	DATE
1	4.1 SITE PLAN SUBMISSION	08/09/2024

OPEN SPACE CALCULATIONS

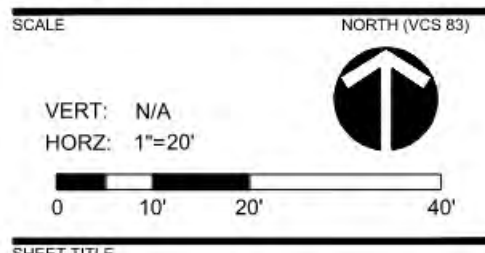
- PUBLIC OPEN SPACE AREA: 11,850 SF
- PRIVATELY OWNED PUBLIC SPACE AREA: 5,172 SF

NOTE:

- ARLINGTON COUNTY, VA ZONING ORDINANCE PER CHAPTER 7.3.4 D - MINIMUM OF 10% OF THE TOTAL SITE AREA IS REQUIRED TO BE LANDSCAPED OPEN SPACE
- PER LANGSTON BOULEVARD AREA PLAN AREA 5 PUBLIC SPACE NETWORK, MIN. 5,000SF PRIVATELY OWNED PUBLIC SPACE REQUIRED

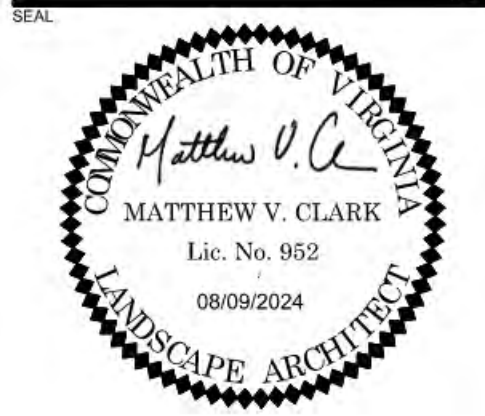
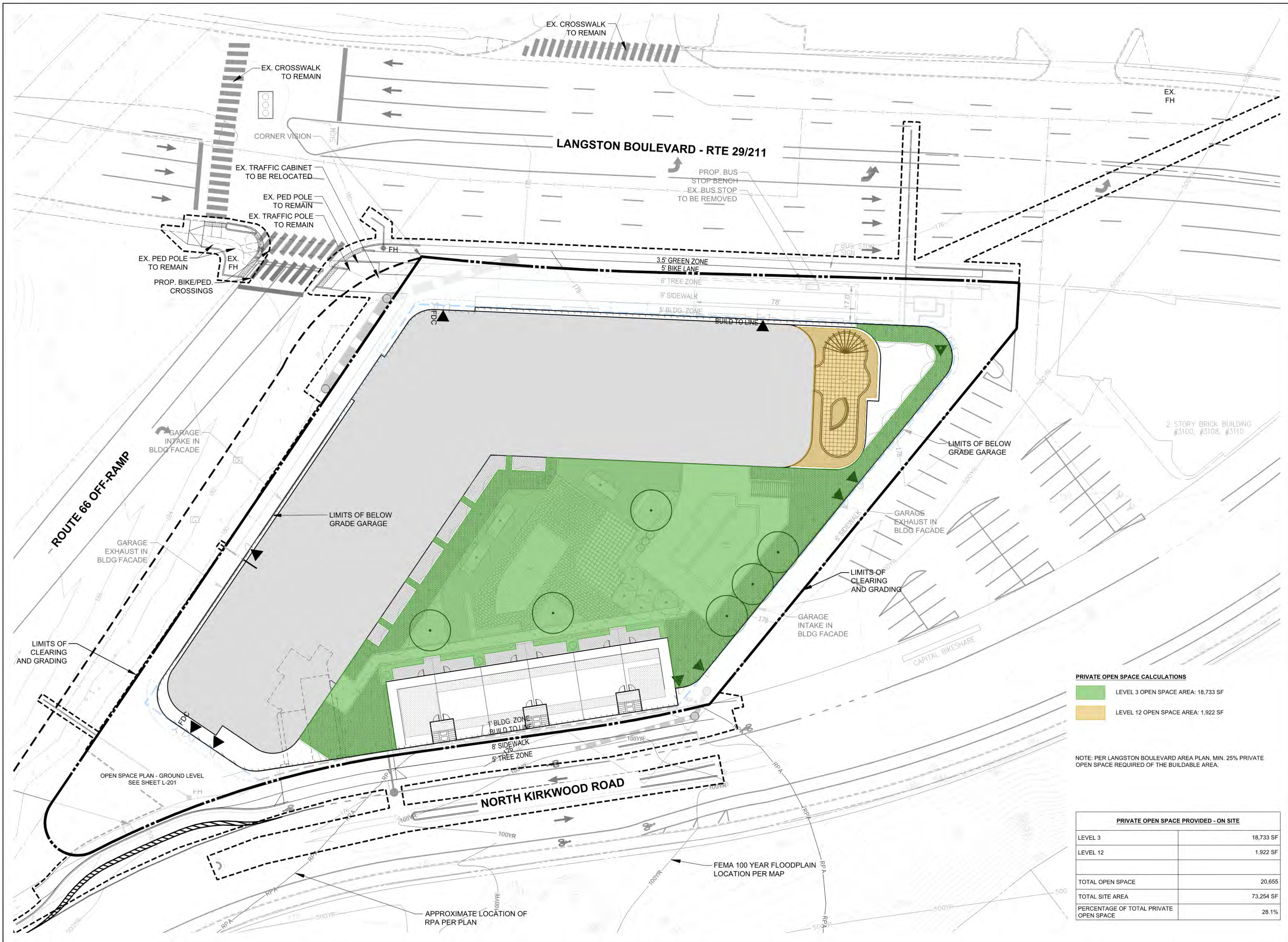
OPEN SPACE PROVIDED - ON SITE	
PUBLIC OPEN SPACE	11,850 SF
PRIVATELY OWNED PUBLIC SPACE	5,172 SF
TOTAL OPEN SPACE	17,022 SF
TOTAL SITE AREA	73,254 SF
PERCENTAGE OF TOTAL OPEN SPACE	23.2 %

DESIGNED BY: GC
DRAWN BY: JM
CHECKED BY: AC



OPEN SPACE PLAN - GROUND LEVEL

SHEET NUMBER **L-201**



3130 LANGSTON BOULEVARD

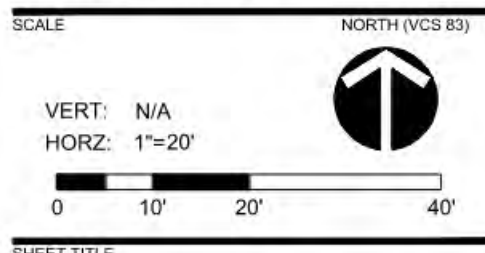
ROONEY PROPERTIES, LLC
3130 LANGSTON BOULEVARD
ARLINGTON, VA 22201

LANDDESIGN PROJ.# 2024074

REVISION / ISSUANCE

NO.	DESCRIPTION	DATE
1	4.1 SITE PLAN SUBMISSION	08/09/2024

DESIGNED BY: GC
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CHECKED BY: AC



OPEN SPACE PLAN - PODIUM & ROOF LEVEL

SHEET NUMBER




PRIVATE OPEN SPACE CALCULATIONS

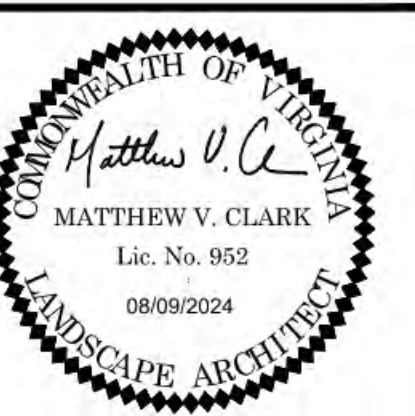
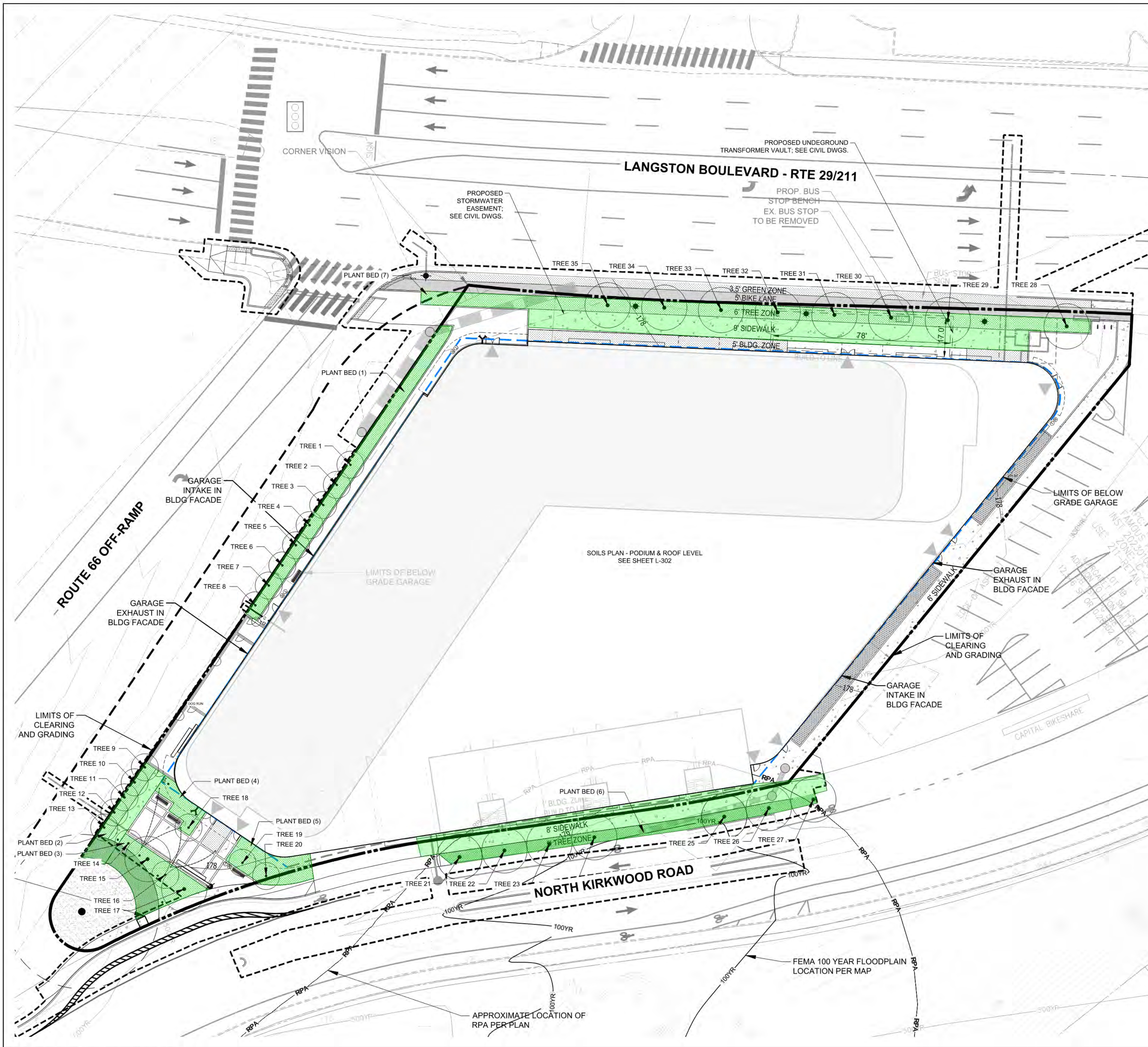
- LEVEL 3 OPEN SPACE AREA: 18,733 SF
- LEVEL 12 OPEN SPACE AREA: 1,922 SF

NOTE: PER LANGSTON BOULEVARD AREA PLAN, MIN. 25% PRIVATE OPEN SPACE REQUIRED OF THE BUILDABLE AREA.

PRIVATE OPEN SPACE PROVIDED - ON SITE	
LEVEL 3	18,733 SF
LEVEL 12	1,922 SF
TOTAL OPEN SPACE	20,655
TOTAL SITE AREA	73,254 SF
PERCENTAGE OF TOTAL PRIVATE OPEN SPACE	28.1%

LEGEND

-  PLANT BED
-  BIORETENTION PLANT BED
-  EXTENTS OF UNCOMPACTED SOIL PANEL



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ROONEY PROPERTIES, LLC
3130 LANGSTON BOULEVARD
ARLINGTON, VA 22201

LANDDESIGN PROJ.# 2024074

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NO.	DESCRIPTION	DATE
1	4.1 SITE PLAN SUBMISSION	08/09/2024

DESIGNED BY: GC
DRAWN BY: JM
CHECKED BY: AC

SCALE: NORTH (VCB 83)

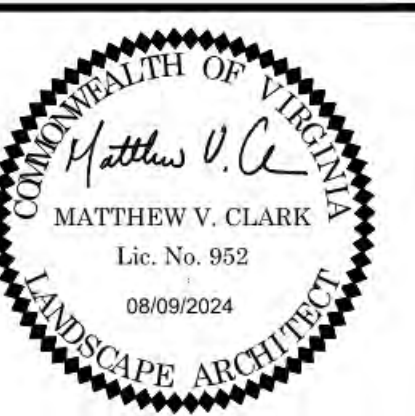
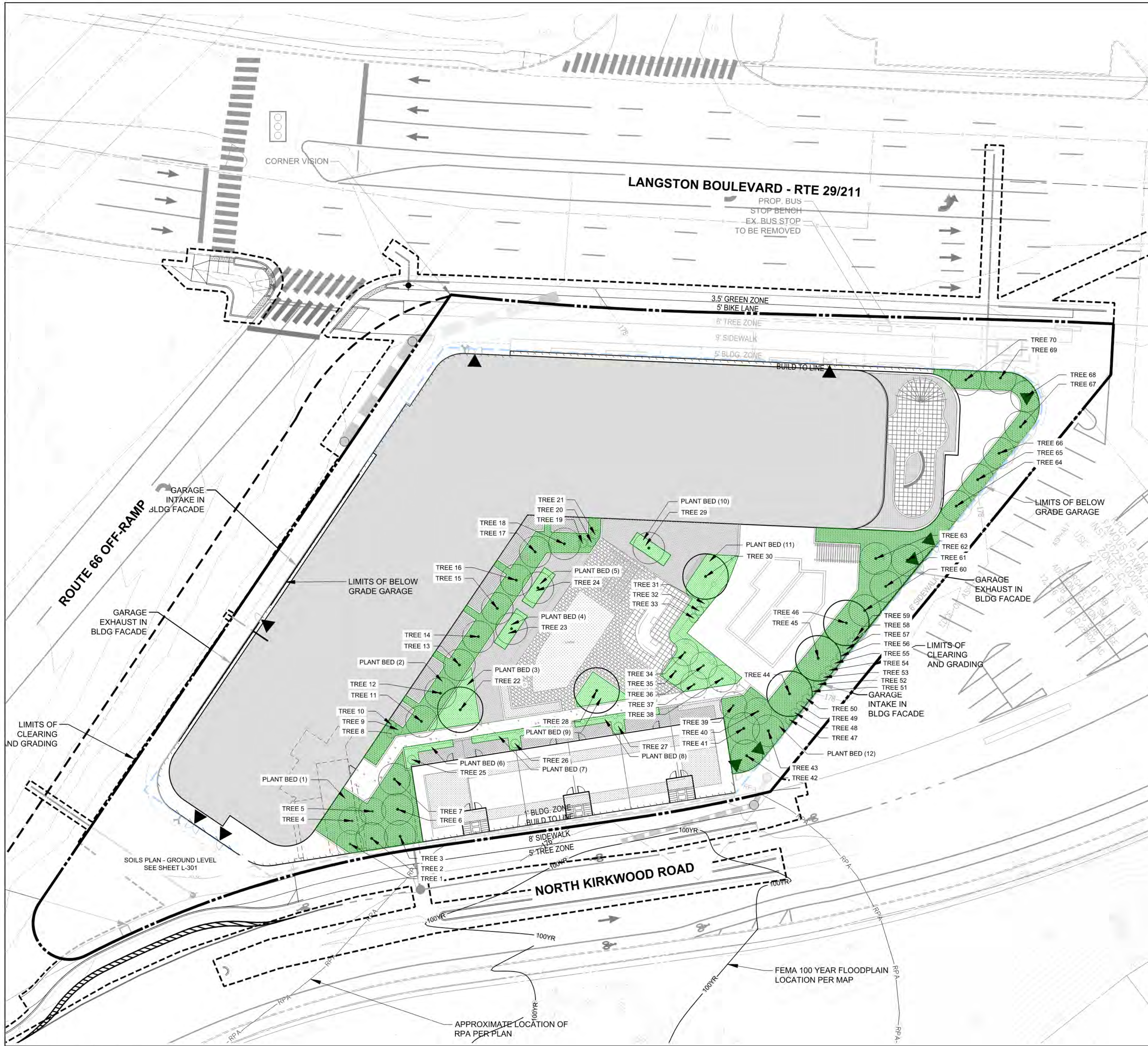
VERT: N/A
HORZ: 1"=20'

SHEET TITLE
SOILS PLAN - GROUND LEVEL

SHEET NUMBER
L-301

LEGEND

	PLANT BED
	BIORETENTION PLANT BED
	LAWN
	EXTENTS OF UNCOMPACTED SOIL



3130 LANGSTON BOULEVARD

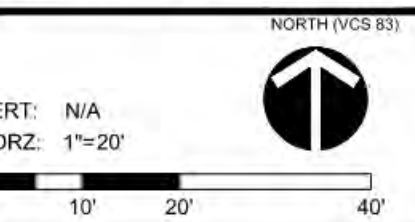
ROONEY PROPERTIES, LLC
3130 LANGSTON BOULEVARD
ARLINGTON, VA 22201

LANDDESIGN PROJ.# 2024074

REVISION / ISSUANCE

NO.	DESCRIPTION	DATE
1	4.1 SITE PLAN SUBMISSION	08/09/2024

DESIGNED BY: GC
DRAWN BY: JM
CHECKED BY: AC



SHEET TITLE
SOILS PLAN - PODIUM & ROOF LEVEL

SHEET NUMBER
L-302



NOTE: OR CLIENT/COUNTY APPROVED EQUAL.

1 CONCRETE PAVING
L-501 PICTORIAL

NTS



NOTE: OR CLIENT/COUNTY APPROVED EQUAL.

4 UNIT PAVERS - TYPE 3
L-501 PICTORIAL

NTS



NOTE: OR CLIENT/COUNTY APPROVED EQUAL.

7 POOL DECK
L-501 PICTORIAL

NTS



NOTE: OR CLIENT/COUNTY APPROVED EQUAL.

2 UNIT PAVERS - TYPE 1
L-501 PICTORIAL

NTS



NOTE: OR CLIENT/COUNTY APPROVED EQUAL.

5 UNIT PAVERS - TYPE 4
L-501 PICTORIAL

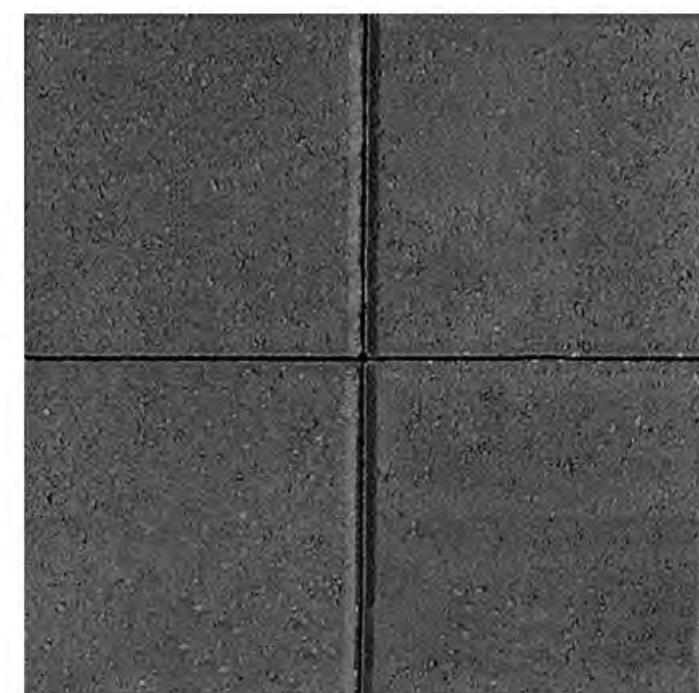
NTS



NOTE: OR CLIENT/COUNTY APPROVED EQUAL.

8 SYNTHETIC LAWN
L-501 PICTORIAL

NTS



NOTE: OR CLIENT/COUNTY APPROVED EQUAL.

3 UNIT PAVERS - TYPE 2
L-501 PICTORIAL

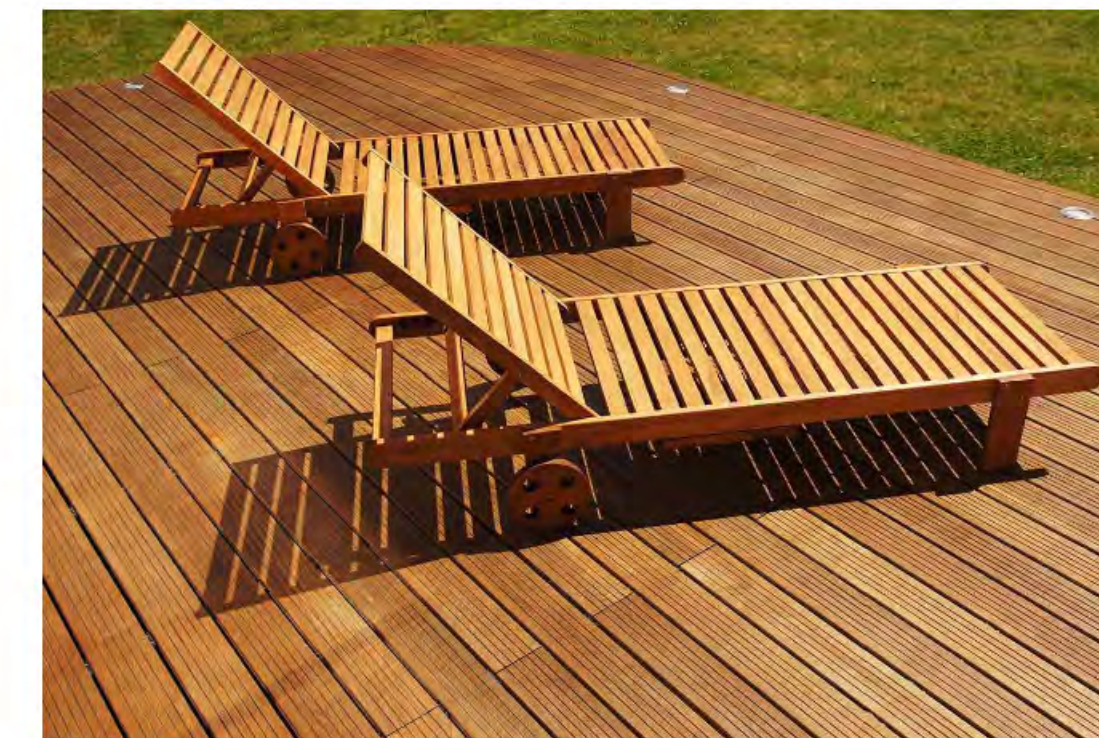
NTS



NOTE: OR CLIENT/COUNTY APPROVED EQUAL.

6 DECOMPOSED GRANITE
L-501 PICTORIAL

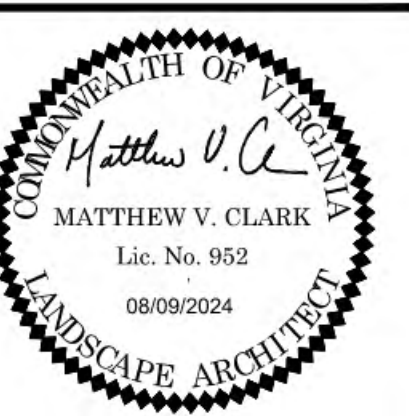
NTS



NOTE: OR CLIENT/COUNTY APPROVED EQUAL.

9 DECK
L-501 PICTORIAL

NTS



3130 LANGSTON BOULEVARD

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3130 LANGSTON BOULEVARD
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NO.	DESCRIPTION	DATE
1	4.1 SITE PLAN SUBMISSION	08/09/2024

DESIGNED BY: XX
DRAWN BY: XX
CHECKED BY: XX

SCALE: NORTH (VCS 83)

VERT: N/A
HORZ:

SHEET TITLE

DETAILS - HARDSCAPE

SHEET NUMBER

L-501



NOTE: OR CLIENT/COUNTY
APPROVED EQUAL.

1 DECK - ON STRUCTURE

L502 PICTORIAL

NTS



3130 LANGSTON BOULEVARD

ROONEY PROPERTIES, LLC
3130 LANGSTON BOULEVARD
ARLINGTON, VA 22201

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NO.	DESCRIPTION	DATE
1	4.1 SITE PLAN SUBMISSION	08/09/2024

DESIGNED BY: GC
DRAWN BY: JM
CHECKED BY: AC

SCALE: NORTH (VCB 80)

VERT: N/A
HORZ:

SHEET TITLE

DETAILS - HARDSCAPE

SHEET NUMBER

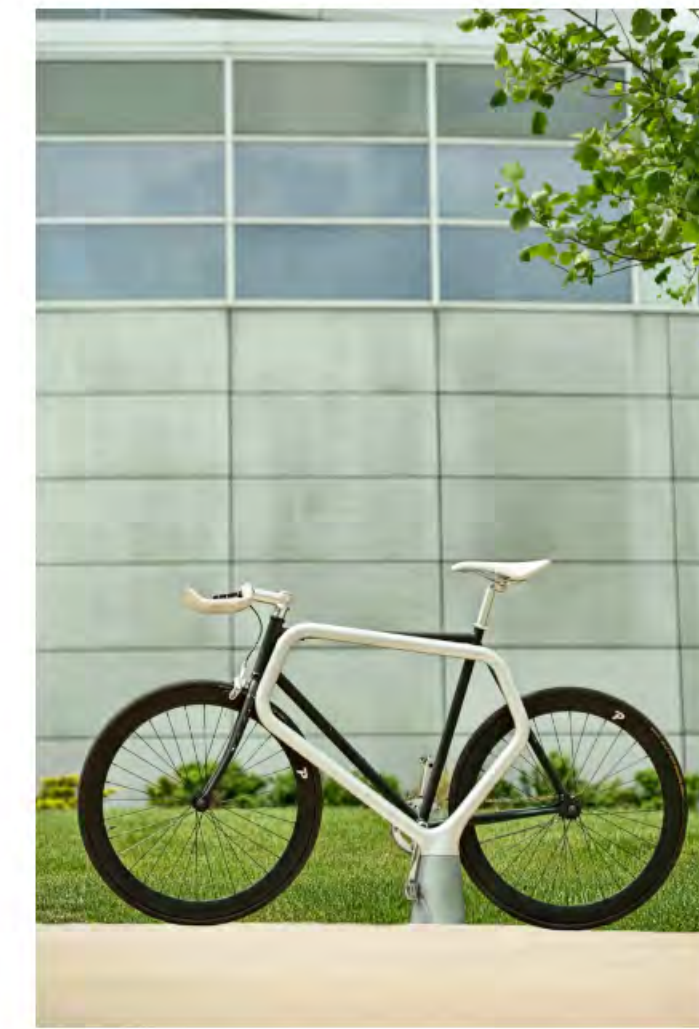
L-502



NOTE: OR CLIENT/COUNTY APPROVED EQUAL.



NOTE: OR CLIENT/COUNTY APPROVED EQUAL.



NOTE: OR CLIENT/COUNTY APPROVED EQUAL.

1 BENCH - TYPE 1
L-511 PICTORIAL

NTS

4 PICNIC TABLE
L-511 PICTORIAL

NTS

7 BIKE RACK
L-511 PICTORIAL

NTS



NOTE: OR CLIENT/COUNTY APPROVED EQUAL.



NOTE: OR CLIENT/COUNTY APPROVED EQUAL.



NOTE: OR CLIENT/COUNTY APPROVED EQUAL.

2 BENCH - TYPE 2
L-511 PICTORIAL

NTS

5 TRASH + RECYCLING
L-511 PICTORIAL

NTS

8 SHADE STRUCTURE - TYPE 1
L-511 PICTORIAL

NTS



NOTE: OR CLIENT/COUNTY APPROVED EQUAL.



NOTE: OR CLIENT/COUNTY APPROVED EQUAL.



NOTE: OR CLIENT/COUNTY APPROVED EQUAL.

3 BENCH - TYPE 3
L-511 PICTORIAL

NTS

6 PET WASTE STATION
L-511 PICTORIAL

NTS

9 SHADE STRUCTURE - TYPE 2
L-511 PICTORIAL

NTS



3130 LANGSTON BOULEVARD

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3130 LANGSTON BOULEVARD
ARLINGTON, VA 22201

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1	4.1 SITE PLAN SUBMISSION	08/09/2024

DESIGNED BY: GC
DRAWN BY: JM
CHECKED BY: AC

SCALE: NORTH (VCS 83)

VERT: N/A
HORZ: N/A

SHEET TITLE

DETAILS - FURNISHINGS

SHEET NUMBER

L-511



NOTE: OR CLIENT/COUNTY APPROVED EQUAL.

1 SHADE STRUCTURE - TYPE 3

L-512 PICTORIAL

NTS



NOTE: OR CLIENT/COUNTY APPROVED EQUAL.

2 FIRE ELEMENT

L-512 PICTORIAL

NTS



NOTE: OR CLIENT/COUNTY APPROVED EQUAL.

3 BISTRO TABLE + CHAIRS

L-512 PICTORIAL

NTS



3130 LANGSTON BOULEVARD

ROONEY PROPERTIES, LLC
3130 LANGSTON BOULEVARD
ARLINGTON, VA 22201

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SCALE: NORTH (VCS 83)

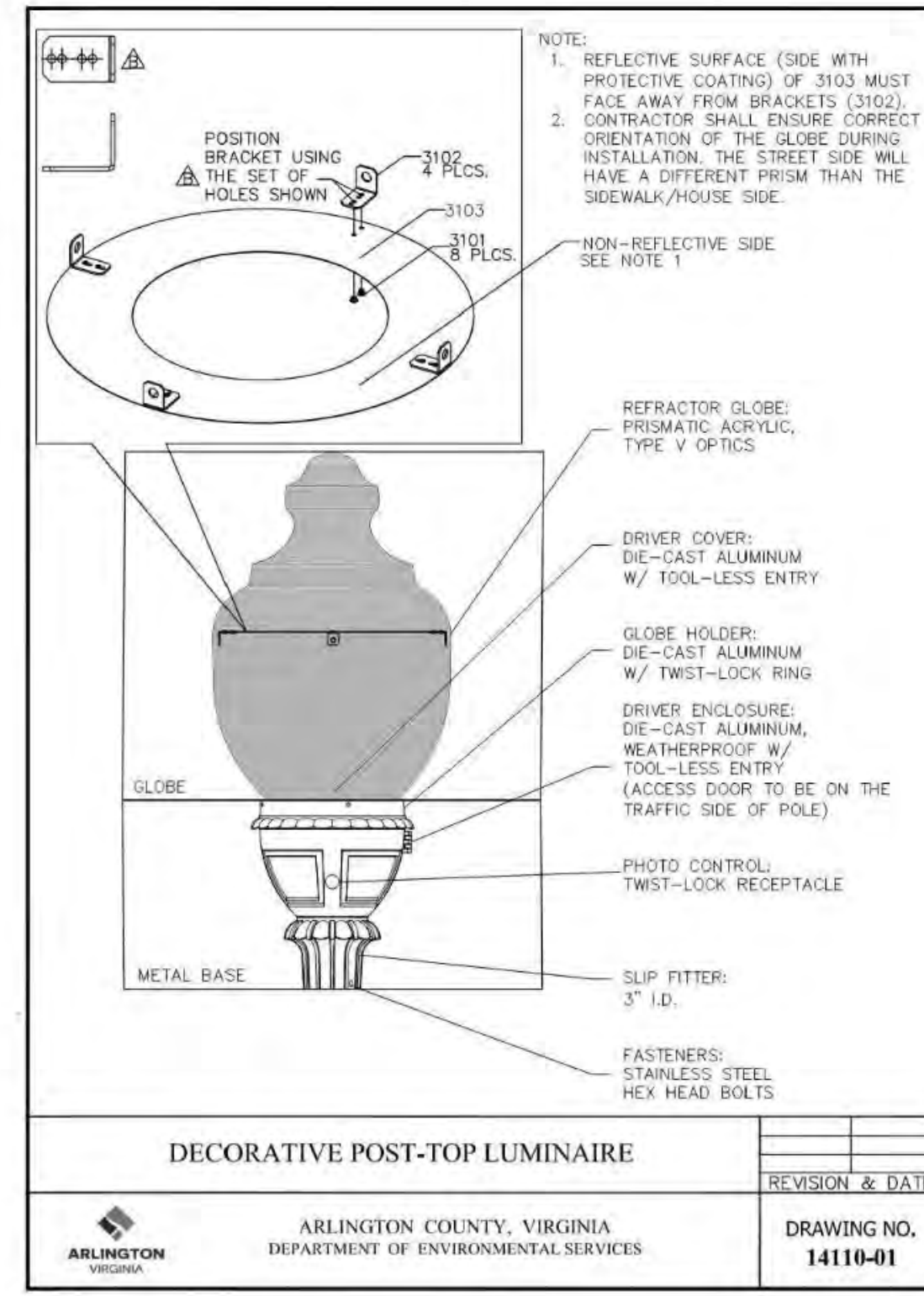
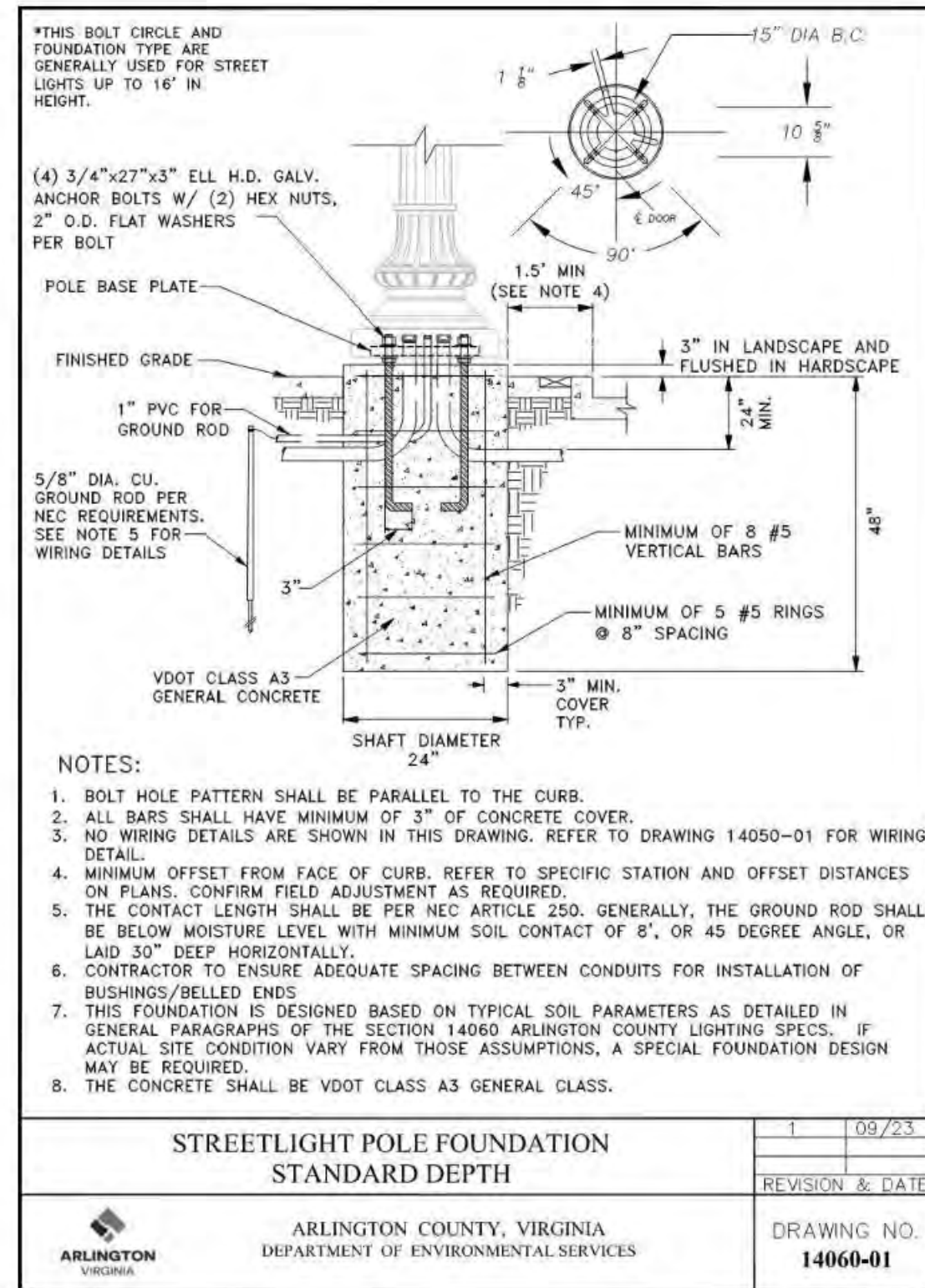
VERT: N/A
HORZ: N/A

SHEET TITLE

DETAILS - FURNISHINGS

SHEET NUMBER

L-512



NOTE: OR CLIENT/COUNTY APPROVED EQUAL.

2 STRING LIGHTS
L-521 PICTORIAL

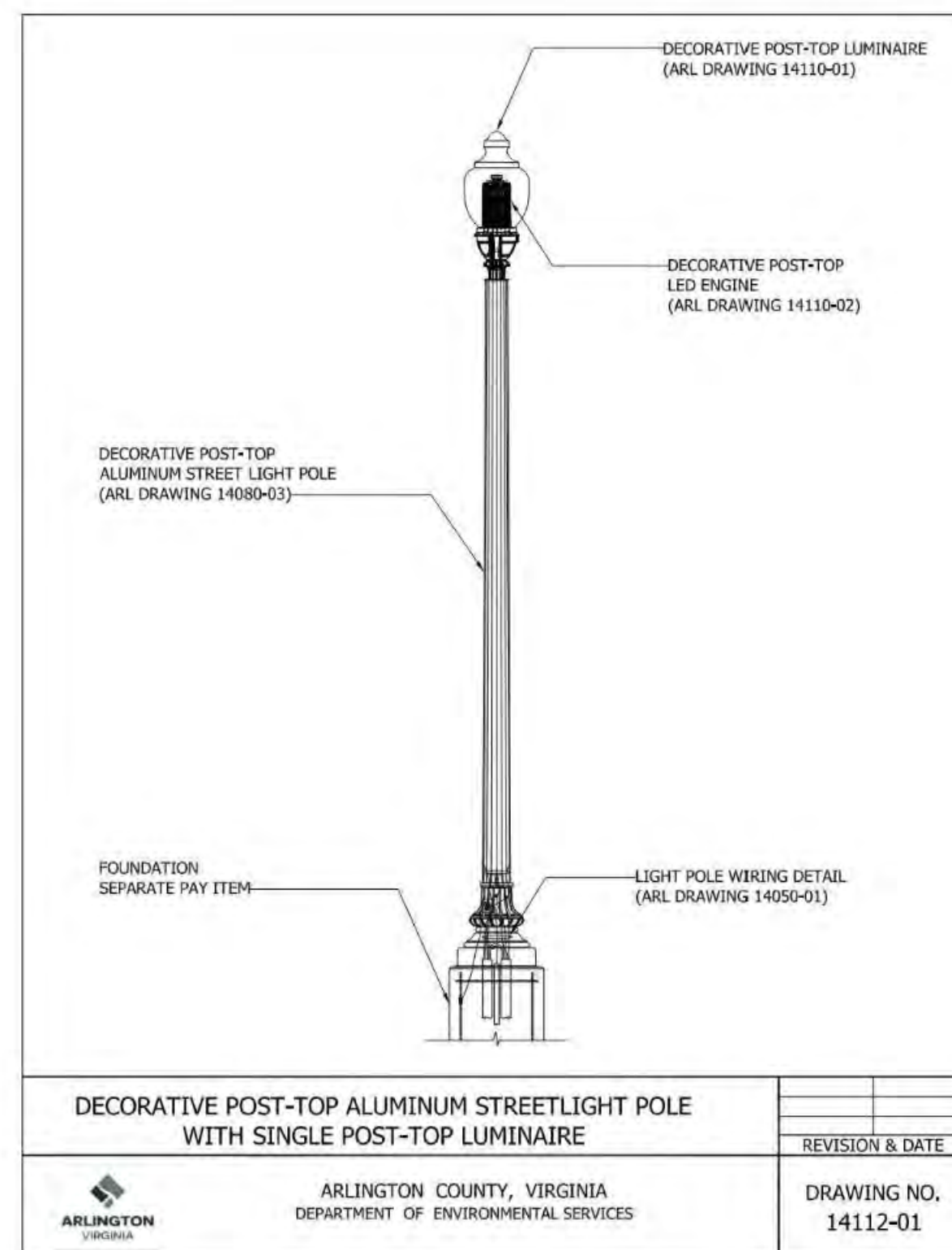
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NOTE: OR CLIENT/COUNTY APPROVED EQUAL.

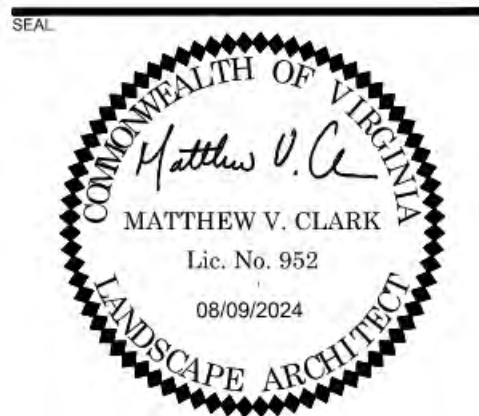
3 PATH LIGHT
L-521 PICTORIAL

NTS



1 STREETLIGHT - COUNTY STANDARD
L-521 PICTORIAL

NTS



3130 LANGSTON BOULEVARD

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3130 LANGSTON BOULEVARD
ARLINGTON, VA 22201

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1	4.1 SITE PLAN SUBMISSION	08/09/2024

DESIGNED BY: GC
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CHECKED BY: AC

SCALE: NORTH (VCS 8)

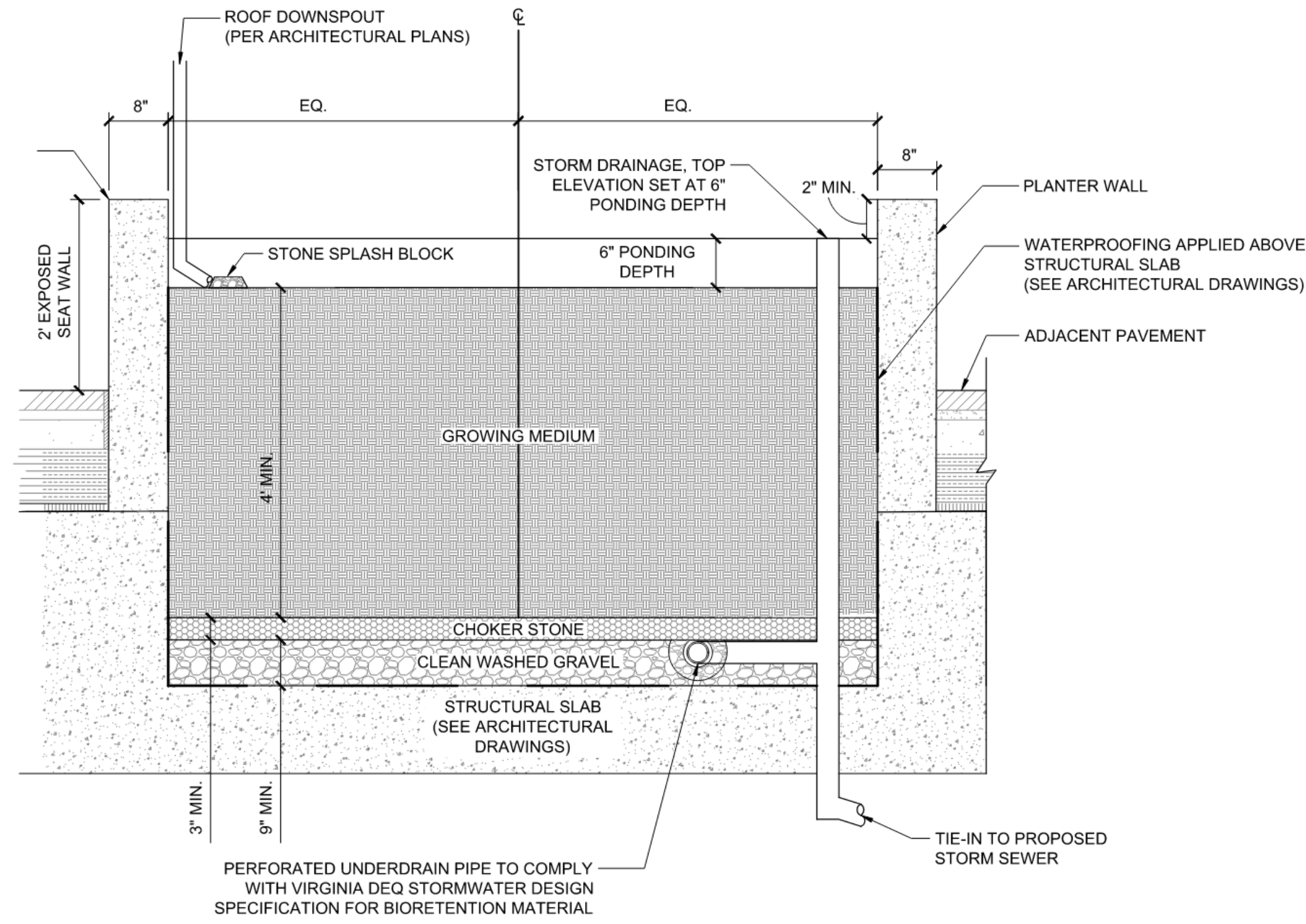
VERT: N/A
HORZ:

SHEET TITLE

DETAILS - LIGHTING

SHEET NUMBER

L-521



1 BIORETENTION WALL
SECTION

1" = 1'



PROJECT

3130 LANGSTON BOULEVARD

ROONEY PROPERTIES, LLC
3130 LANGSTON BOULEVARD

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SCALE: NORTH (VCS 83)

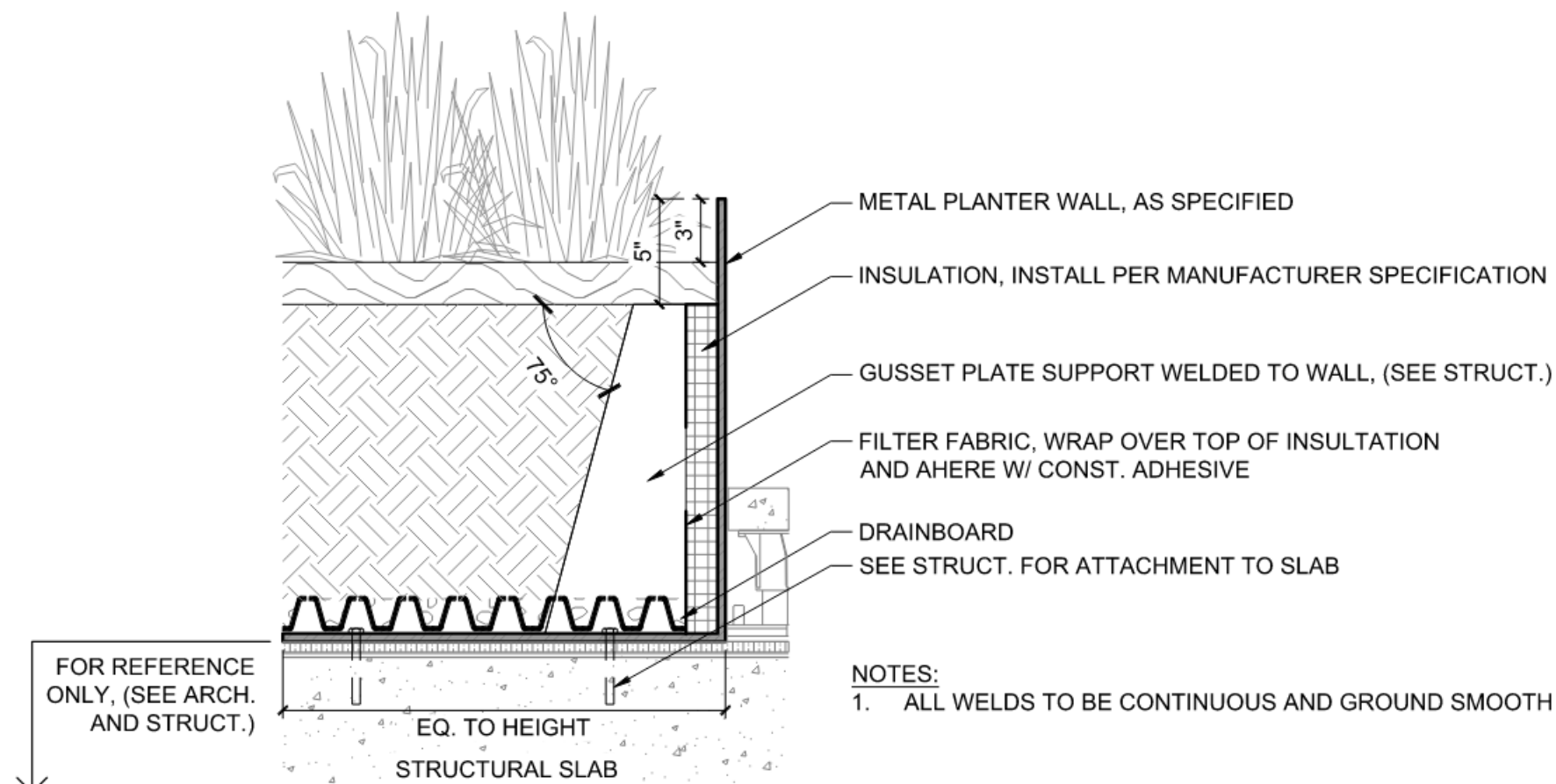
VERT: N/A
HORZ: AS NOTED

SHEET TITLE

DETAILS - WALLS

SHEET NUMBER

L-531



2 METAL PLANTER WALL
SECTION

1 1/2" = 1'-0"



NOTE: OR CLIENT/COUNTY
APPROVED EQUAL.

1 GRILL STATION
L-541 PICTORIAL

NTS



**3130 LANGSTON
BOULEVARD**

ROONEY PROPERTIES, LLC
3130 LANGSTON BOULEVARD
ARLINGTON, VA 22201

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DESIGNED BY: GC
DRAWN BY: JM
CHECKED BY: AC

SCALE: NORTH (VCS 83)

VERT: N/A
HORZ:

SHEET TITLE

DETAILS - CUSTOM

SHEET NUMBER

L-541



NOTE: OR CLIENT/COUNTY APPROVED EQUAL.



NOTE: OR CLIENT/COUNTY APPROVED EQUAL.

1 FENCE - TYPE 1
L-551 PICTORIAL

NTS

4 GATE - TYPE 2
L-551 PICTORIAL

NTS



NOTE: OR CLIENT/COUNTY APPROVED EQUAL.

2 FENCE - TYPE 2
L-551 PICTORIAL

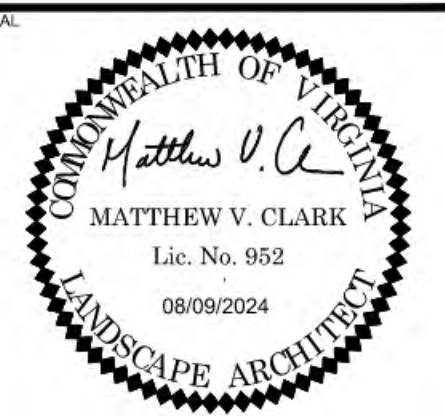
NTS



NOTE: OR CLIENT/COUNTY APPROVED EQUAL.

3 GATE - TYPE 1
L-551 PICTORIAL

NTS



3130 LANGSTON BOULEVARD

ROONEY PROPERTIES, LLC
3130 LANGSTON BOULEVARD
ARLINGTON, VA 22201

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DESIGNED BY: GC
DRAWN BY: JM
CHECKED BY: AC

SCALE: NORTH (VCS 80)

VERT: N/A
HORZ:

SHEET TITLE

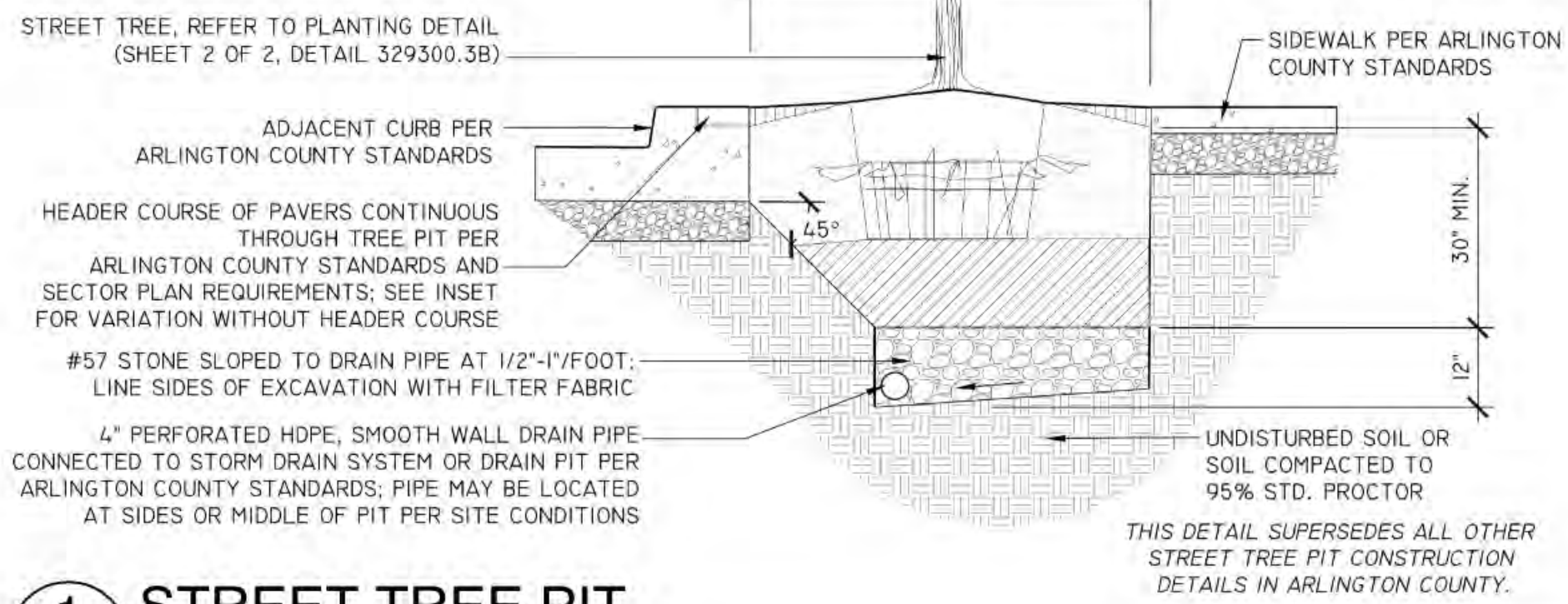
DETAILS - FENCES

SHEET NUMBER

L-551

NOTES

1. TREE GRATES MAY ONLY BE USED UPON APPROVAL OF ARLINGTON COUNTY URBAN FORESTER.
2. REFER TO DETAIL 329300.5 FOR GENERAL STREET TREE PLANTING NOTES.
3. INSTALL RAILING, RAISED CURB, OR BORDER PER APPROVED PLANS.



1 STREET TREE PIT

L-601 SECTION 1/2" = 1'-0"

NOTES

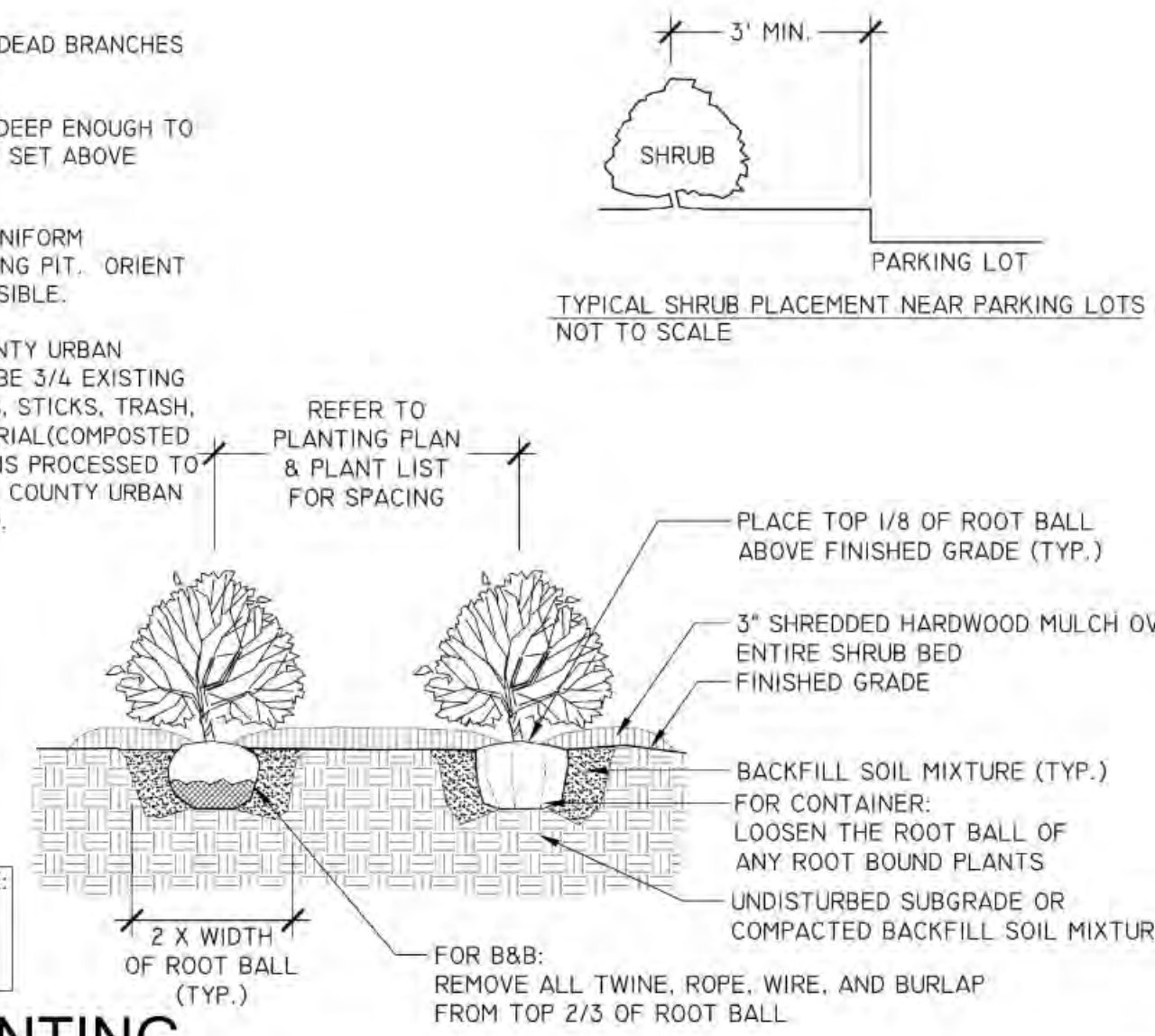
1. AT PLANTING PRUNE ONLY BROKEN OR DEAD BRANCHES PER ANSI 300 STANDARD.
2. PLANTING PIT/TRENCH SHALL BE DUG DEEP ENOUGH TO ALLOW AT LEAST 1/8TH OF ROOT BALL TO SET ABOVE EXISTING GRADE.
3. SET PLANTS IN ERECT, STABLE, AND UNIFORM POSITIONS IN THE CENTER OF THE PLANTING PIT. ORIENT BEST FACE OF PLANT TO BE THE MOST VISIBLE.
4. UNLESS OTHERWISE DIRECTED BY COUNTY URBAN FORESTER, BACKFILL SOIL MIXTURE WILL BE 3/4 EXISTING SOIL CLEANED OF DEBRIS (GRAVEL, ROCKS, STICKS, TRASH, ETC.) AND MIXED WITH 1/4 ORGANIC MATERIAL (COMPOSTED BARK, LEAF MOLD, OR OTHER PLANT DEBRIS PROCESSED TO A POINT OF DECAY AND APPROVED BY THE COUNTY URBAN FORESTER. PEAT MOSS MAY NOT BE USED).
5. CONTRACTOR SHALL REMOVE EXCESS SOIL & DEBRIS FROM SITE.
6. DO NOT PLACE MULCH IN CONTACT WITH STEM OF SHRUBS.

THIS DETAIL SUPERSEDES ALL OTHER SHRUB PLANTING DETAILS IN ARLINGTON COUNTY.

ALL PLANTS MUST BE WATERED TWICE: ONCE AT INSTALLATION AND AGAIN WITHIN 48-HOURS OF INSTALLATION, PER THE SPECIFICATIONS.

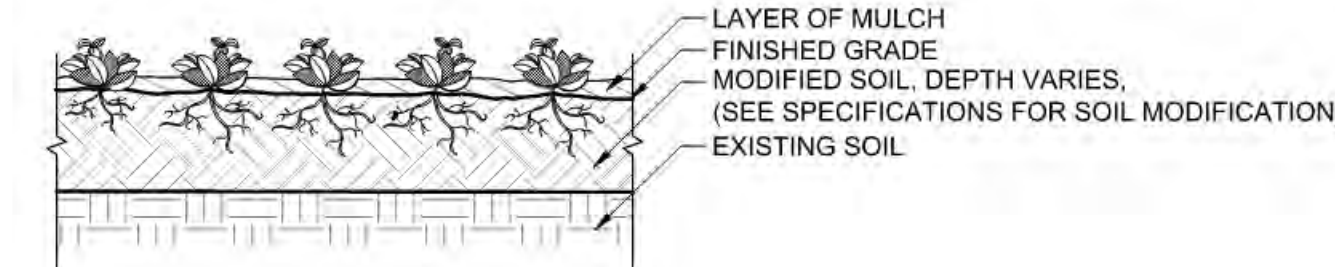
4 SHRUB PLANTING

L-601 SECTION NTS 1/2" = 1'-0"



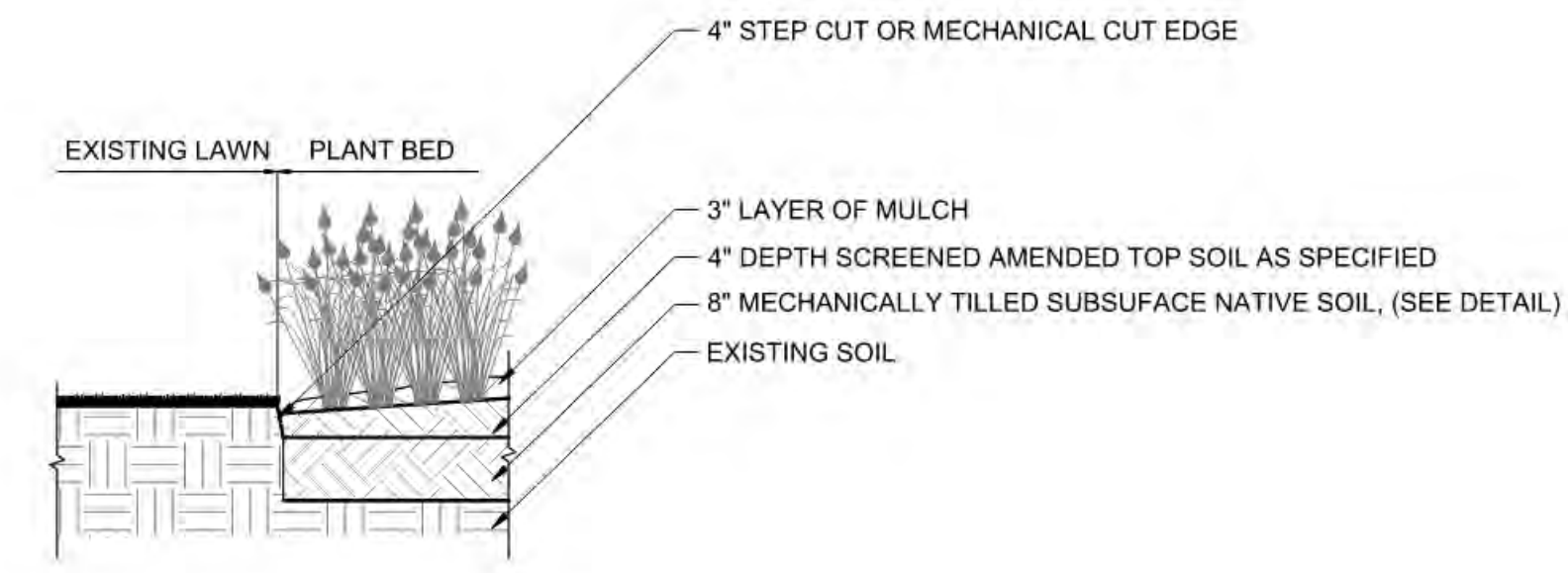
PLANT SPACING CHART

SPACING "D"	ROW "A"	PLANTS / S.F.
6" O.C.	5.20" O.C.	4.61
8" O.C.	6.93" O.C.	2.60
10" O.C.	8.66" O.C.	1.68
12" O.C.	10.40" O.C.	1.15
15" O.C.	13.00" O.C.	0.73
18" O.C.	15.60" O.C.	0.51
24" O.C.	20.80" O.C.	0.29



5 GROUNDCOVER SPACING - TRIANGULAR

L-601 SECTION 1/2" = 1'-0"

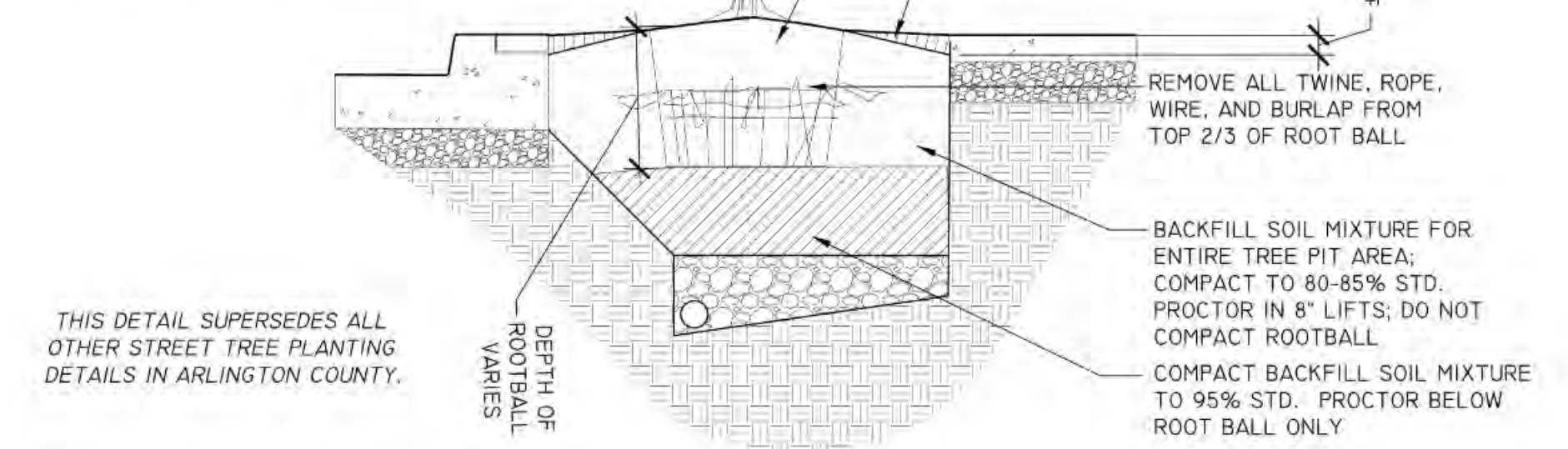


7 STEEL CUT EDGE

L-601 SECTION 1/2" = 1'-0"

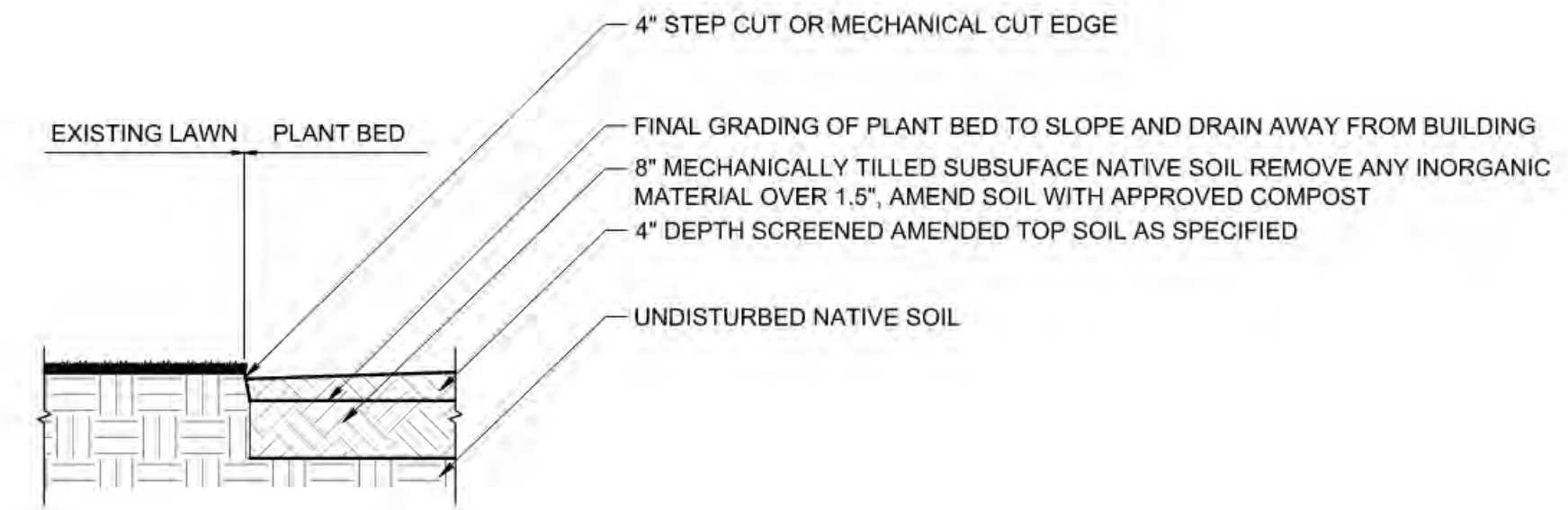
NOTES

1. REFER TO STREET TREE PIT DETAIL (329300.3A) FOR PIT CONSTRUCTION AND INFORMATION ON ADJACENT PAVEMENTS, CURB, AND DRAINAGE.
2. REFER TO DETAIL 329300.5 FOR GENERAL TREE PLANTING NOTES.
3. MOUND SOIL ABOVE SIDEWALK GRADE TO ALLOW FOR SOIL TO SETTLE OVER TIME.



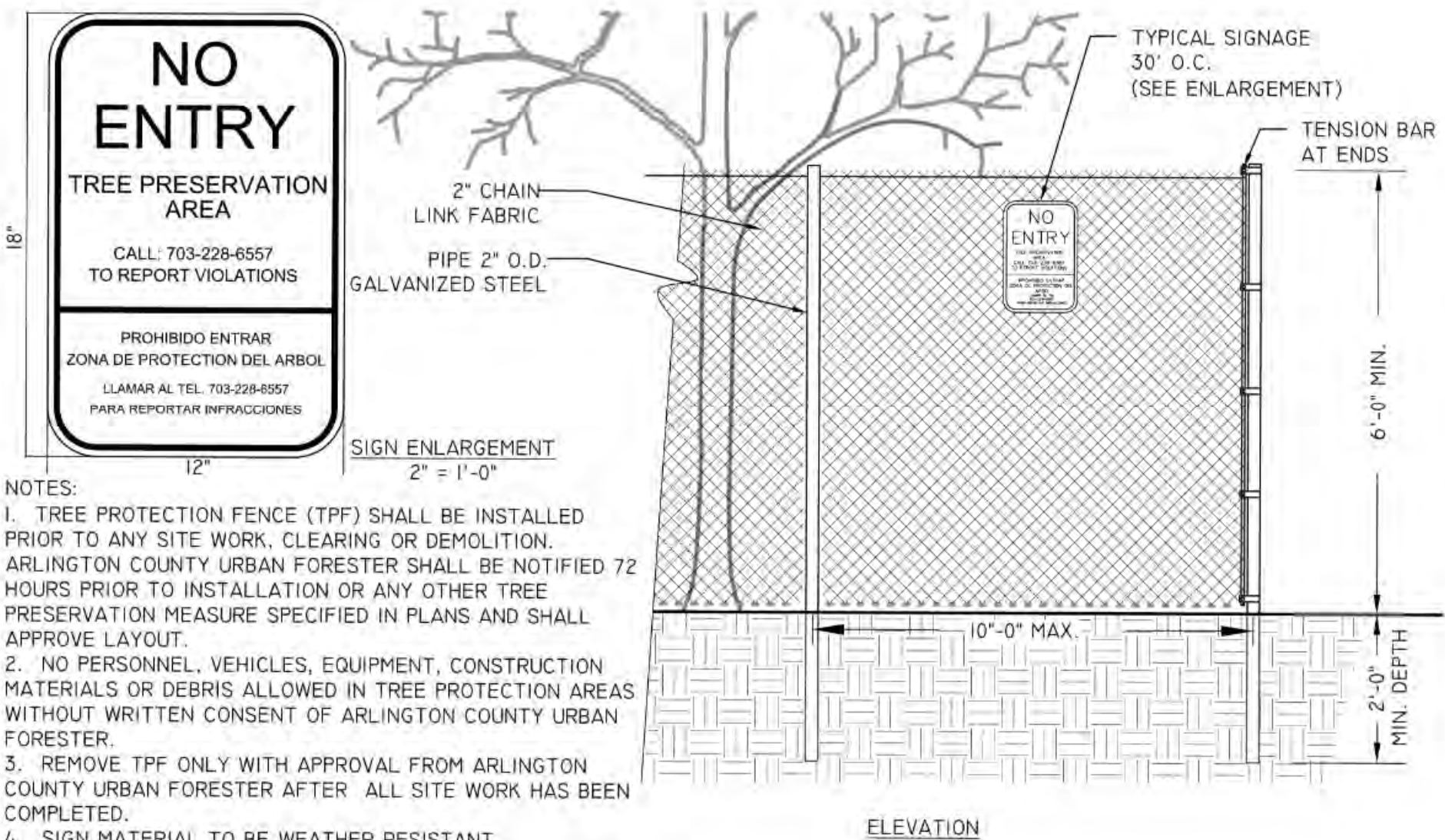
2 TREE PLANTING

L-601 SECTION 1/2" = 1'-0"



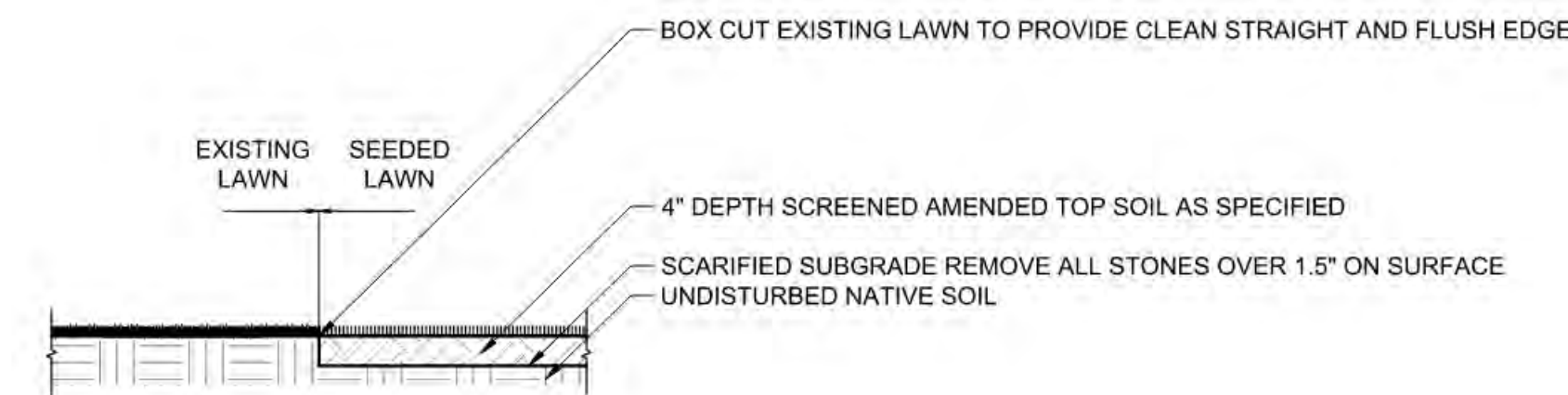
8 BED PREP

L-601 SECTION 1/2" = 1'-0"



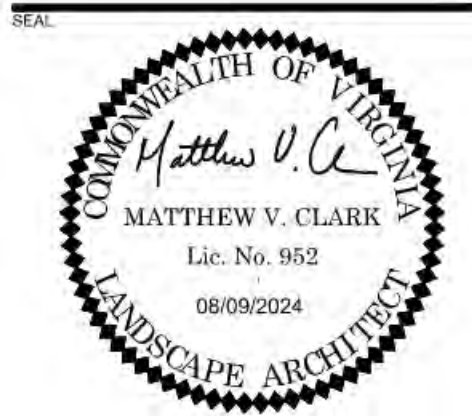
3 PROTECTION FENCE

L-601 SECTION 1/2" = 1'-0"



6 SEEDED LAWN

L-601 SECTION 1/2" = 1'-0"



3130 LANGSTON BOULEVARD

ROONEY PROPERTIES, LLC
3130 LANGSTON BOULEVARD
ARLINGTON, VA 22201

LANDDESIGN PROJ.# 2024074

REVISION / ISSUANCE

NO.	DESCRIPTION	DATE
1	4.1 SITE PLAN SUBMISSION	08/09/2024

DESIGNED BY: XX
DRAWN BY: XX
CHECKED BY: XX

SCALE: NORTH (VCB 93)
VERT: N/A
HORZ:

SHEET TITLE
DETAILS - PLANTING ON GRADE

SHEET NUMBER

L-601

