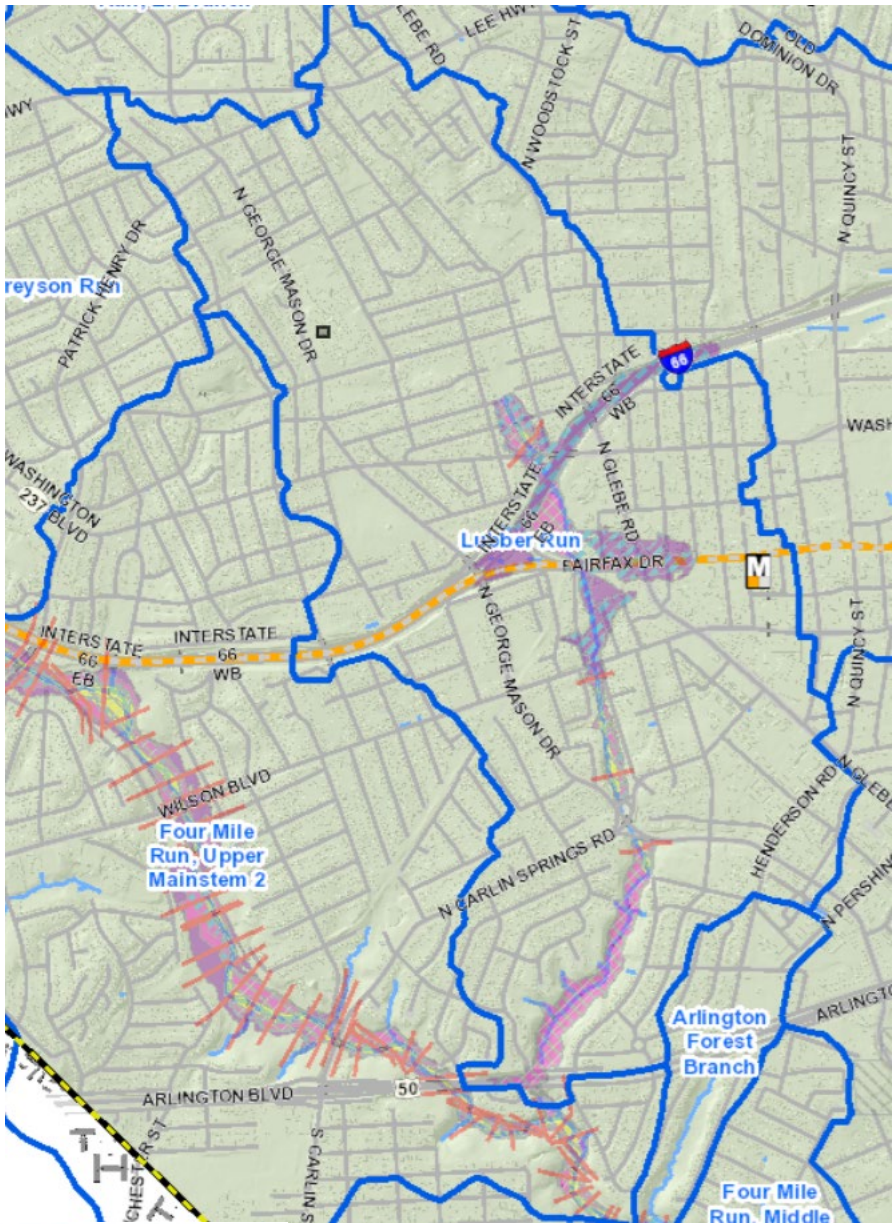


# Lubber Run Storm Water Group and Civic Associations

March 23, 2022



# Speakers

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**Aileen Winqvist**

**Stormwater Communications Manager**

**703-228-3610**

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**Demetra McBride**

**Bureau Chief, Office of Sustainability**

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**Elizabeth Thurber, P.E.**

**Stormwater Infrastructure Program Manger**

**Floodplain Manager**

**571-289-2498**

**[Ethurber@arlingtonva.us](mailto:Ethurber@arlingtonva.us)**

# Agenda

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## **A. Letter to County Board**

- 1. Remediation of Flood Issues Waycroft-Woodlawn and John M. Langston areas
- 2. Erosion Control & Channel Maintenance
- 3. Continue Effort to Remove Homes from FEMA Floodplain
- 4. Adoption of New Regulations related to drainage for New Development
- 5. Improvements to Under Capacity Storm Drains and Provision of Overland Relief
- 6. Need for Prioritization and Funding

## **B. 4600 N Fairfax Dr.**

## **C. Community Meeting for Potential Woodlawn Park Detention Facility**

# A. Letter to County Board

**From:** [dsmith41@gmail.com](mailto:dsmith41@gmail.com)  
**To:** [County Manager](#); [County Board](#); [Christen Dorsey](#); [Cristofolini](#); [John Vasar](#); [Matt de Ferranti](#); [Takis Karanotis](#); [Libby Sorensen](#); [Doretha McRider](#); [Miss Moore](#); [Elizabeth Theobald](#); [Aileen Wingo](#); [Sara Emanuel](#)  
**Cc:** [kellydelia@aol.com](mailto:kellydelia@aol.com); [afcaores@gmail.com](mailto:afcaores@gmail.com); [wilma@wilma.com](mailto:wilma@wilma.com); [info@ballstoncivic.org](mailto:info@ballstoncivic.org); [johnson15@horzmail.com](mailto:johnson15@horzmail.com); [president@bluemontcivic.org](mailto:president@bluemontcivic.org); [hcc19@aol.com](mailto:hcc19@aol.com)  
**Subject:** Lubber Run Watershed Group - request for immediate attention  
**Date:** Friday, March 11, 2022 6:43:37 AM

## EXTERNAL EMAIL

March 11, 2022

Dear County Board Chair Cristol, Arlington County Board Members and County Manager Schwartz,  
Our civic leadership group is writing today to highlight critical stormwater-related issues in Arlington County. These issues create significant costs, safety concerns, aggravation, and heartache for many citizens.

### BACKGROUND

In the fall of 2021, the **Lubber Run Watershed Group (LRWG)** was formed by the presidents of six civic associations within the Lubber Run watershed: Arlington Forest, Ballston-Virginia Square, Bluemont, GlebeWood, JM Langston, and Waycroft-Woodlawn. This group was modeled after the Torreyson Run Watershed Citizen Task Force that organized in 2019 following the widespread flooding and devastation in Westover caused by the July 8, 2019, rainstorm. The LRWG is supported by the Arlington County Civic Federation and the aforementioned Civic Associations. The goal of the LRWG is to identify stormwater-related concerns within the Lubber Run watershed and to provide input to various county organizations and staff to ensure mitigation projects are prioritized and funded.

### THE LUBBER RUN WATERSHED

Lubber Run watershed has been identified in the 2013-4 Stormwater Master Plan and since as one of the top watersheds in need of priority attention as a matter of County policy.<sup>1</sup> Based upon data gathered by our members, we believe that a multi-faceted solution will be required. As we approach the definitional stages of the 2023-2032 CIP planning, the LRWG requests that you budget for the solutions for the issues identified below:

- Remediation of flood issues in the Waycroft-Woodlawn/John M Langston area of the Lubber Run Watershed** – from the Virginia Hospital to the Ballston Pond - to include funding of new stormwater pipes along public right of ways and a new detention vault placed within Woodlawn Park. While the detention facility will be of great help to downstream portions of Lubber Run and beyond, upstream solutions to flooding are still needed.
- Erosion control and channel maintenance along Lubber Run** – the creek banks along N. Abingdon and Lubber Run Park are eroding at a very fast pace due to the high rate and volume of water that is jettisoned out of the quarter mile aggregation and acceleration tunnel running from the Ballston Pond to Wilson Boulevard. We believe the fast-moving water likely increases sediment in the water, creates an MS4 (municipal separate storm system) key concern, and causes property loss. This effort may include procurement of property, stream bank reinforcement, tree maintenance, tree and debris removal from the stream, and clarification of easements and access points.
- Continued effort to prevent homes along N. Abingdon, N. Albermarle, and Wilson Blvd from being moved into a 100-year flood zone by FEMA.** This could include LOMR updates, additional analysis, and further pond or stream work (including daylighting) to reduce flows coming out of the Ballston Pond.

4. **Adoption of new regulations and/or better enforcement of existing regulations to curtail the impacts of above ground stormwater as well as underground water flows caused by development.** These measures must include improved stormwater impact analysis and public communication for future projects both public and private. Consideration should be given to providing financial relief to people whose homes are already affected by water issues from building.

5. **Improvements to under capacity storm drains and addition of new overland relief within the watershed** as called out as part of the January 23, 2013, Stormwater Capacity Analysis for Lubber Run Watershed<sup>3</sup>.

### NEED FOR PRIORITIZATION, FUNDING

LRWG is aware that many stormwater mitigation projects are not being completed due to lack of prioritization and funding. The funding issues must be resolved expeditiously to prevent further harm to our residents. At present, many residents are paying a very high price for the development that has occurred in Arlington over the past 75+ years, which is now exacerbating our stormwater issues.

As noted within Arlington County websites, development decisions allowed for gullies, streams, and floodplains to be filled in or paved over<sup>2</sup>. Streams were undergrounded<sup>3</sup>, and today the Lubber Run watershed is 46% impervious<sup>3</sup> with development driving a continuous degradation to pervious soils. Within Lubber Run watershed we have residents who are routinely flooded out near the Virginia Hospital Center.

Residents along Lubber Run may soon have their properties re-categorized as being within a 100-year flood plain – driving massive reduction in property value and requiring expensive flood insurance. Other citizens have routine basement flooding caused by uphill construction.

All these concerns are coming at a very high societal cost, as new development externalizes the costs associated with increased stormwater runoff. Unfortunately, these costs are ultimately borne by those located downstream. We are not opposed to these projects per se, but fairness would seem to dictate that County government work to ensure that new development fully mitigates the harm it causes.

Please remember: the West has their fires; we have our floods. For the reasons discussed above, Lubber Run watershed issues require your immediate attention and we are anxious to work with you and the County staff on solutions that should work for everyone.

Thank you for your consideration.

Sincerely,

Esther Bowring, President, Arlington Forest CA  
Jim Rosen, President, Ballston-Virginia Square CA  
Laura Kirkconnell, President – Bluemont CA  
Wilma Jones Killgo, President JM Langston CA  
Laura Johnson, President GlebeWood CA  
Diane Kelly, President Waycroft-Woodlawn CA  
John Ford, ACCF Public Services and Stormwater Chair  
David R. Smith, LRWG Chair

<https://www.arlingtonva.us/Government/Programs/Sustainability-and-Environment/Stormwater/Stormwater-Capacity-Improvements>

<sup>2</sup> <https://storymaps.arcgis.com/stories/d0bb906589d144e5939281b60160b588>

<sup>3</sup> <http://arlingtonva.s3.amazonaws.com/wp-content/uploads/sites/31/2014/02/DES-Storm-Sewer-Capacity-Lubber-Run-Report.pdf>

Reaction: County is always grateful for input from constituents

# #1. Remediation of Flood Issues

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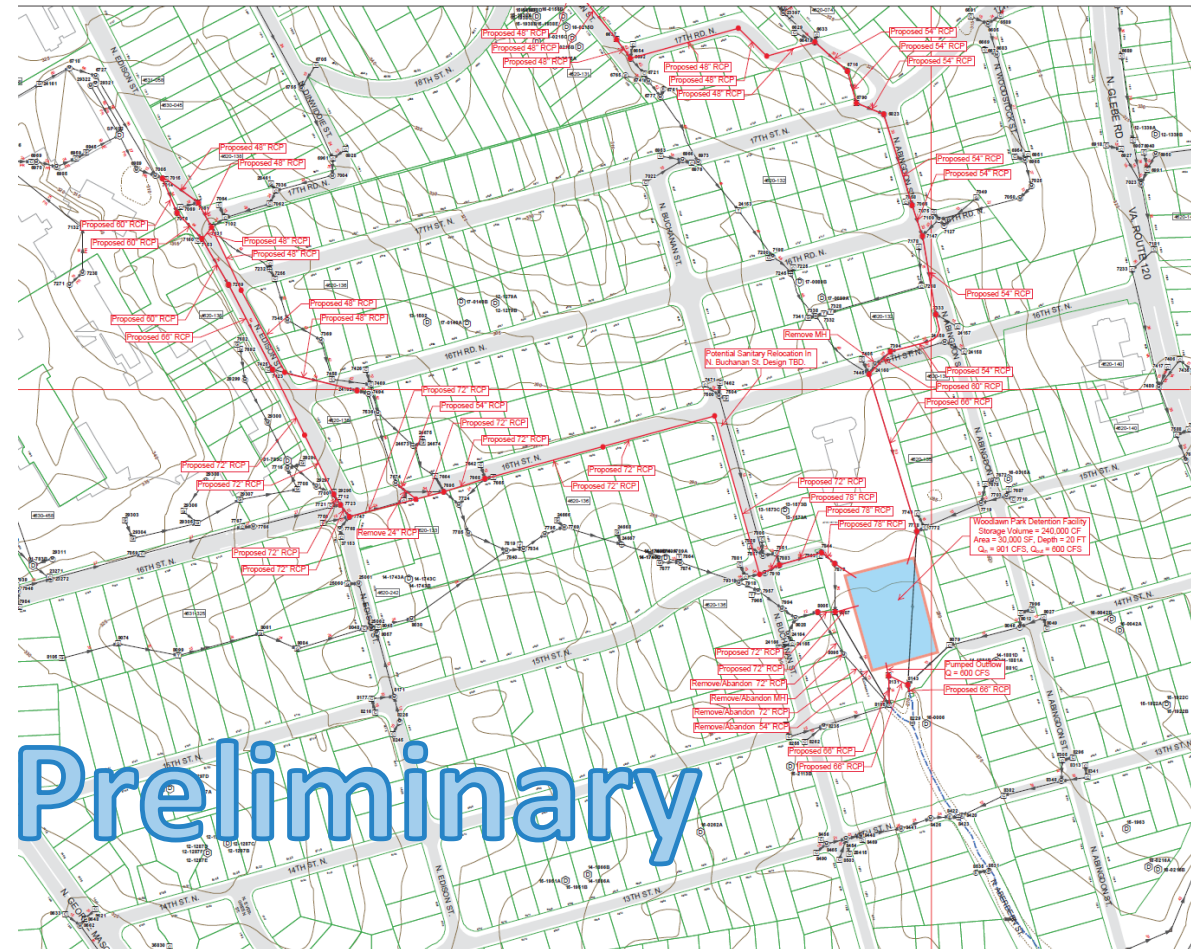
**Remediation of flood issues in the Waycroft-Woodlawn/John M Langston area of the Lubber Run Watershed** – from the Virginia Hospital to the Ballston Pond - to include funding of new stormwater pipes along public right of ways and a new detention vault placed within Woodlawn Park. While the detention facility will be of great help to downstream portions of Lubber Run and beyond, upstream solutions to flooding are still needed.

# Currently working on analysis of entire watershed to determine solutions to flooding

- Detention sites evaluated
- Pipe upgrades evaluated
- Will address updated Capacity Study – Also RAMP
- 10-year design storm for piped system/100-year overland relief path being evaluated

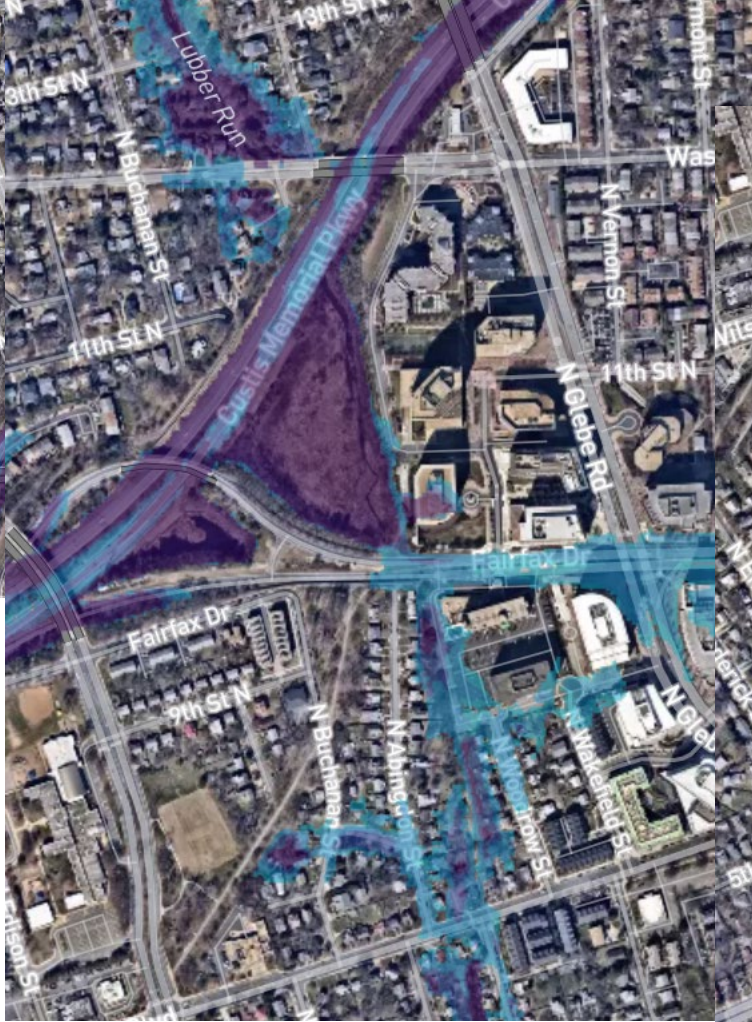
## N. Buchanan St. Flooding Solutions

Progress since last meeting:  
Policy issues regarding overland relief are still in process



Reminder to understand flood risk using available all available sources

Note Trend is to increase awareness of true flood risk



# Inundation Zones

FloodFactor.com



# Inundation Zones - RAMP

Note: multiple analyses indicate similar inundation zones and flooding areas – FEMA, Floodfactor.com, RAMP and Stormwater Capacity Study

Progress since last meeting:  
Maps are being used internally  
to inform multiple policy efforts

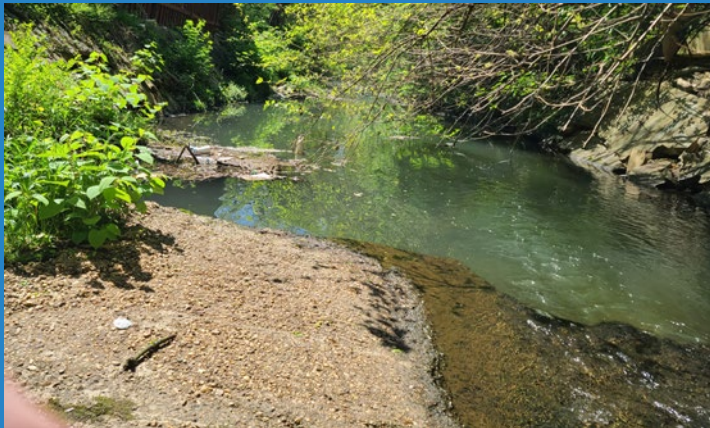


# #2. Erosion Control & Channel Maintenance

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**2. Erosion control and channel maintenance along Lubber Run** – the creek banks along N. Abingdon and Lubber Run Park are eroding at a very fast pace due to the high rate and volume of water that is jettisoned out of the quarter mile aggregation and acceleration tunnel running from the Ballston Pond to Wilson Boulevard. We believe the fast-moving water likely increases sediment in the water, creates an MS4 (municipal separate storm system) key concern, and causes property loss. This effort may include procurement of property, stream bank reinforcement, tree maintenance, tree and debris removal from the stream, and clarification of easements and access points.

# Erosion in Lubber Run Channel



Acknowledgment that erosion is occurring

Current Budget has no funding for any significant channel Maintenance

There are multiple other channels that also need Maintenance. To-date, no prioritization analysis has been completed.

Consideration for new funding will be part of upcoming budget processes (starting Fall 2021)

- Cannot go into details so early in the process
- No decisions on any aspects of CIP have been made yet

## EASEMENTS

Still problematic in some locations

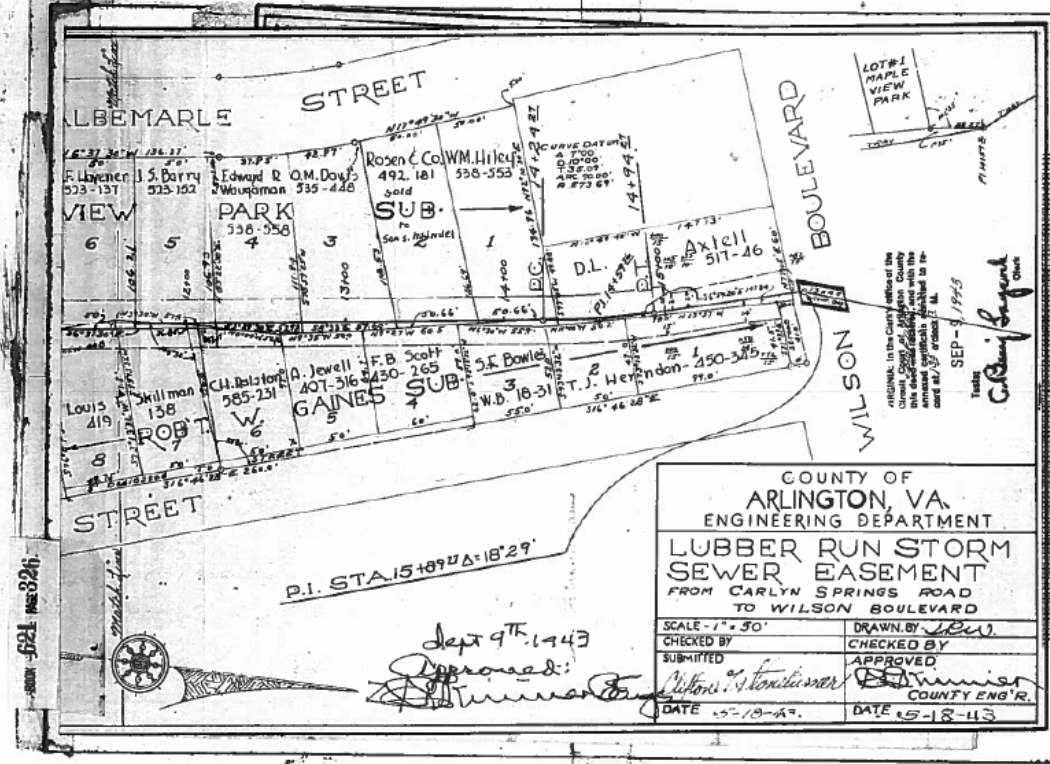
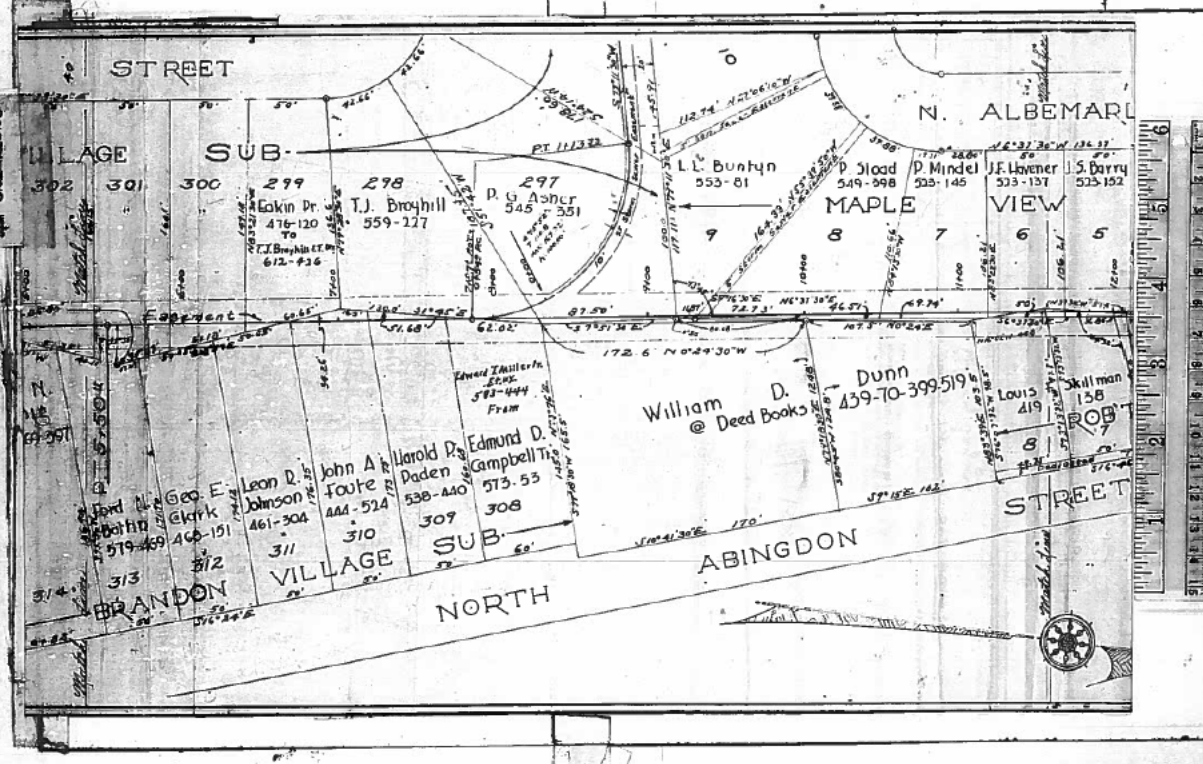
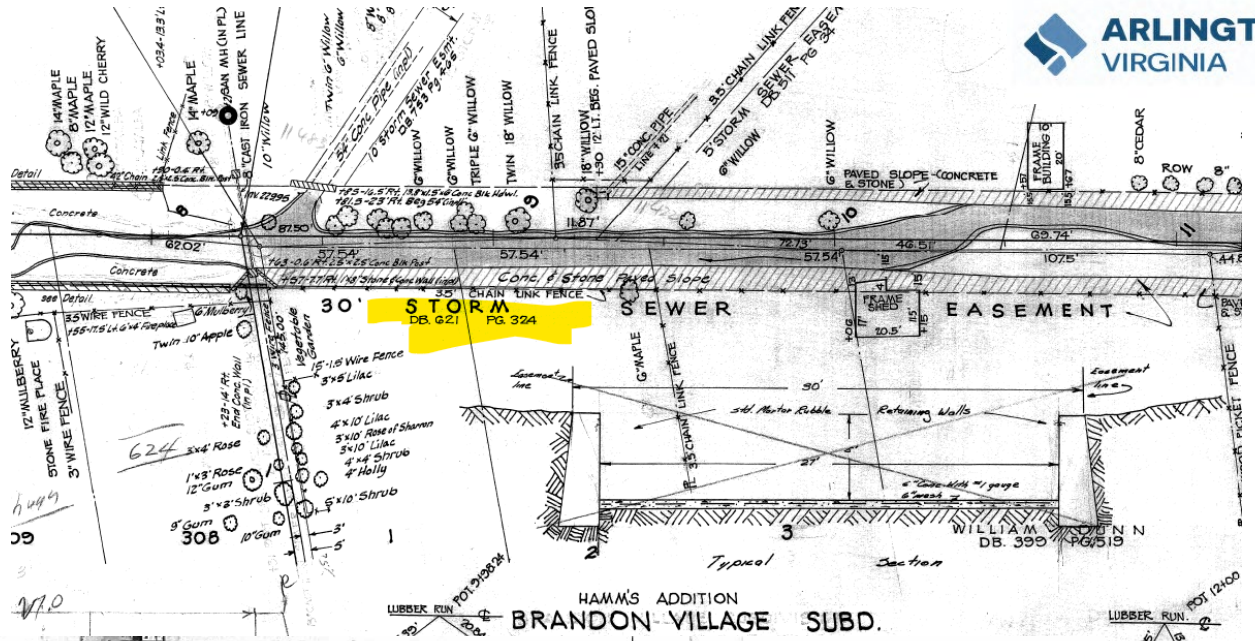
No good access to channel

Insufficient width

Progress since last meeting: Still working on CIP

# Easements

## EASEMENTS for Channel



COUNTY OF ARLINGTON, VA.  
ENGINEERING DEPARTMENT

**LUBBER RUN STORM SEWER EASEMENT**  
FROM CARLYN SPRINGS ROAD TO WILSON BOULEVARD

SCALE - 1" = 50'	DRAWN BY <i>SPW</i>
CHECKED BY <i>[Signature]</i>	CHECKED BY <i>[Signature]</i>
SUBMITTED BY <i>[Signature]</i>	APPROVED BY <i>[Signature]</i>
DATE 12-18-42	DATE 12-18-43

Approved: *[Signature]* Sept 9th 1943

DATE 12-18-42

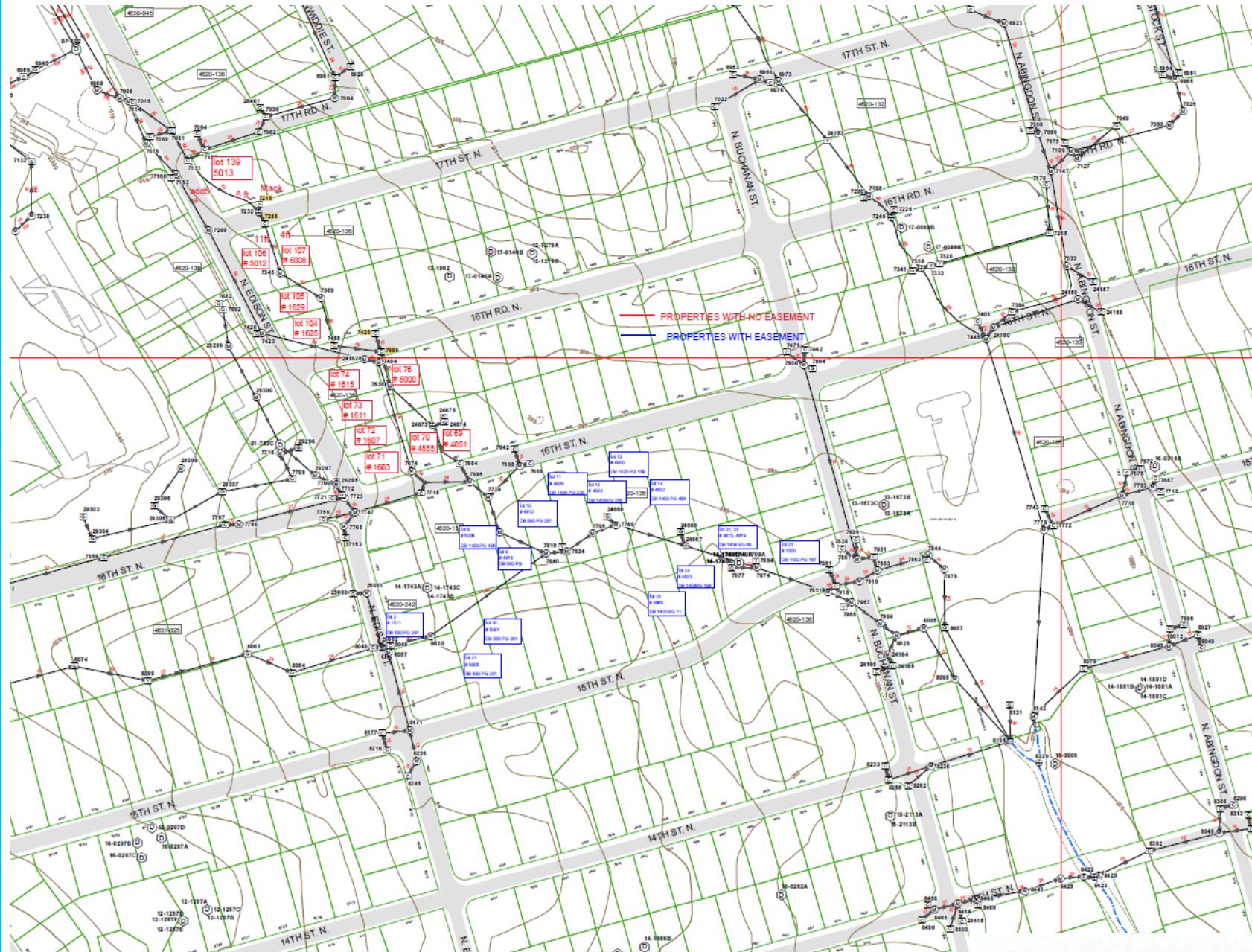
# Easements

Maintenance – current funding is not adequate

EASEMENTS – see previous slide  
Still problematic in some locations

No good access to channel  
Insufficient width

Progress since last meeting:  
Policy issues are in process



# 3. Continue Effort to Remove Homes from FEMA Floodplain

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## FEMA Floodplain Map Update

**3. Continued effort to prevent homes along N. Abingdon, N. Albermarle, and Wilson Blvd from being moved into a 100-year flood zone by FEMA.** This could include LOMR updates, additional analysis, and further pond or stream work (including daylighting) to reduce flows coming out of the Ballston Pond.

Note that working with FEMA is not easy and they are very conservative in their approach to flood risk.

# Status of FEMA Appeals



IN REPLY REFER TO: APPEAL RES

January 31, 2022

Mr. Matt de Ferranti  
Chairman, Arlington County Board  
2100 Clarendon Blvd, Suite 302  
Arlington, Virginia 22201

Community: Arlington County, Virginia  
Community No.: 515520

Dear Mr. de Ferranti:

This is in response to two letters dated October 18, 2021 from Elizabeth L. Thurber, P.E., Stormwater Infrastructure Program Manager, Department of Environmental Services, Arlington County, appealing the proposed Base (1-percent-annual chance) Flood Elevations (BFEs) and Special Flood Hazard Area (SFHA) boundary for Lubber Run and Gulf Branch, as presented on the Preliminary Flood Insurance Rate Map (FIRM) and in the Preliminary Flood Insurance Study (FIS) report for the Arlington County, Virginia and Unincorporated Areas, dated September 18, 2020. Please note that your request is considered an appeal because it satisfied the data requirements defined in Title 44, Chapter 1, Part 67 of the Code of Federal Regulations (44 CFR Part 67), and was submitted during the 90-day appeal period for the aforementioned Preliminary FIRM and FIS report.

The following scientific and/or technical data were submitted in support of this request:

1. Lubber Run :

FEMA received an appeal regarding the preliminary floodplain mapping of the reach of Lubber Run bounded by N. Carlin Springs Road and Wilson Boulevard, depicted on Preliminary FIRM panels 51013C0038D and 51013C0076D. The flood hazard data on the FIRMs are derived from a redelineation of the effective flood hazard data. A revised mapping of floodplain is proposed. "The basis for this appeal is the use of new field run topographic survey data, photographic data, the incorporation of this data in the digital terrain model, and an analysis that computes new water surface elevations and Special Flood Hazard Area (SFHA) boundaries based on the new, more accurate data."

**Response:** We have determined that the Preliminary FIRM and FIS report, dated September 18, 2020, should not be revised based on the submitted data. The submitted data has several deficiencies that would need to be addressed before FEMA can incorporate the revised flood hazard data into the FIS. Some of the deficiencies that were identified during an initial assessment are as follows:

- The submitted topographic data appears to be corrupted and can not be read by HEC RAS nor GIS platforms. The submitted report refers to the County's digital terrain, but no information has been provided as to the data source, date of collection, or accuracy of the elevation dataset.

## Lubber Run Appeal was not accepted by FEMA

See letter dated Jan. 31, 2022

Result is not unexpected (very difficult to win Appeals)

## Next step: LOMR

May be two: 1. Using Existing Q

2. Updated Q from Ballston Pond

Why Two? Obtain approval of existing conditions model, which is easier approval. Reducing Q from pond will be more complex and will entail pond routings and as-builts from pond

Currently working with Consultant on Scope of Work

Note that one of the Appeals was accepted (Four Mile Run near border with Falls Church)

FEMA will issue revised FIRM and FIS and a new review period starts. No schedule yet. No dates for Letter of Final Determination.

# Update of County Floodplain Ordinance

Required within 6 months of Letter of Final Determination

New Ordinance must conform to the minimum standards of the NFIP (National Flood Insurance Program)

State of Virginia has developed a model ordinance which meets NFIP minimum requirements, so must conform with that.

Proposed Ordinance must be reviewed and approved by VA DCR and FEMA

Proposed Ordinance must be adopted by County Board

Note FEMA accepted one Appeal

No schedule yet for revised FIRM and Letter of Final Determination

Revised Preliminary FIRM may be issued as soon as April

Currently working with County Building and Zoning Officials regarding the proposed changes

# Potential Changes to County Floodplain Ordinance

(per model ordinance)

**Note: All items listed are only draft and not final**

Regulation of uses within the 0.2% annual probability flood zone (500 year) – restriction on locating specific types of facilities in this flood zone – such restrictions are new to Arlington County

- Restricted uses are emergency services, medical services, government records storage facilities.
- Would require a special exception

Increase residential freeboard from 12 inches to 18 inches for construction of lowest floor elevation (includes basement) above BFE

Increase non-residential freeboard from 12 inches to 18 inches for lowest floor elevation (includes basement) above BFE

- Can floodproof to two feet instead of one foot

Accessory Structures more strictly regulated

Accessory Dwelling units more strictly regulated

Broaden and increase the authority of the Floodplain Administrator

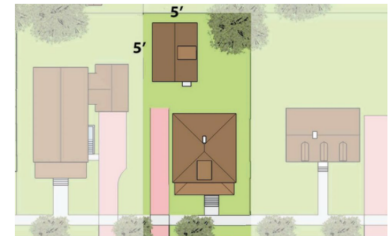
## Appurtenant or 'Accessory Structure'

- **Structure Size** - the footprint of the structure can be no greater than 600 square feet in area
- **Characteristics** –
  - Not be used for human habitation
  - Be useable only for parking of vehicles or limited storage
  - Be constructed with flood damage-resistant materials below the base flood elevation
  - Be constructed and placed to offer the minimum resistance to the flow of floodwaters
  - Be anchored to prevent flotation
  - Have electrical service and mechanical equipment elevated to or above the base flood elevation



## Accessory Dwelling Unit - 750 sq. ft. or less

- **Structure size** - the footprint can be no bigger than 750 square feet in area.
- **Occupancy** – it can house no more than three people.
- **Characteristics include** – a separate entrance, its own kitchen and bathroom, and must pass a fire-safety regulation inspection.





# Flood Insurance Rate Map Update Schedule

## Subject to Change

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9/18/20: Preliminary maps released

October 2020: County notify property owners

11/18/20: Public meeting

11/19 -12/19/20: 30 day general comment period begins after public meeting – the County submitted comments on several areas, including Abingdon St.

July 2021: 90 day technical appeal period will begin approximately in July 2021. Property owner can submit data to appeal or revise floodplain designation.

January 2022: FEMA accepted one appeal; rejected two

Spring 2022: FEMA will be issuing new preliminary maps so we will share a revised schedule when received.

# #4. Development Controls

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**Adoption of new regulations and/or better enforcement of existing regulations to curtail the impacts of above ground stormwater as well as underground water flows caused by development.** These measures must include improved stormwater impact analysis and public communication for future projects both public and private. Consideration should be given to providing financial relief to people whose homes are already affected by water issues from building.

Policy discussions are underway

Stormwater is providing input to multiple policy efforts, including Plan Langston Blvd.

# Langston Boulevard Planning District

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Stormwater modelling was completed to assist this effort

Currently working with the planning team to identify opportunities and areas of need

Some detention opportunities have been identified

Link to the planning effort documents and contacts to planners:

[Plan Langston Boulevard – Official Website of Arlington County Virginia Government \(arlingtonva.us\)](https://www.arlingtonva.us/planlangstonblvd)

## CONTACT US

[planlangstonblvd@arlingtonva.us](mailto:planlangstonblvd@arlingtonva.us)

### Coordinator

Natasha Alfonso-Ahmed  
703-228-3691

### Communications & Engagement

Rachel LaPiana  
703-228-0059



# Flooding Concerns Related to Single Family Home Construction

Help for landowners – currently no program in place

## Improve Regulations

- LDA 2.0
- Update IDF curves per RAMP recommendations
- Flood Resilient Design Guidelines Manual – currently under development
- Drainage Maintenance plans and responsibility
  - Clarify responsibility
  - Currently County can only maintain if in public right of way or if in recorded easements
    - County attempts to obtain easements
    - Issues with width required for easements
    - Voluntary acquisition at this time
    - Inlets on private property (even if in public easement) should be kept free and clear of debris by landowners

## EASEMENTS

Still problematic in some locations

No good access to channel

Insufficient width

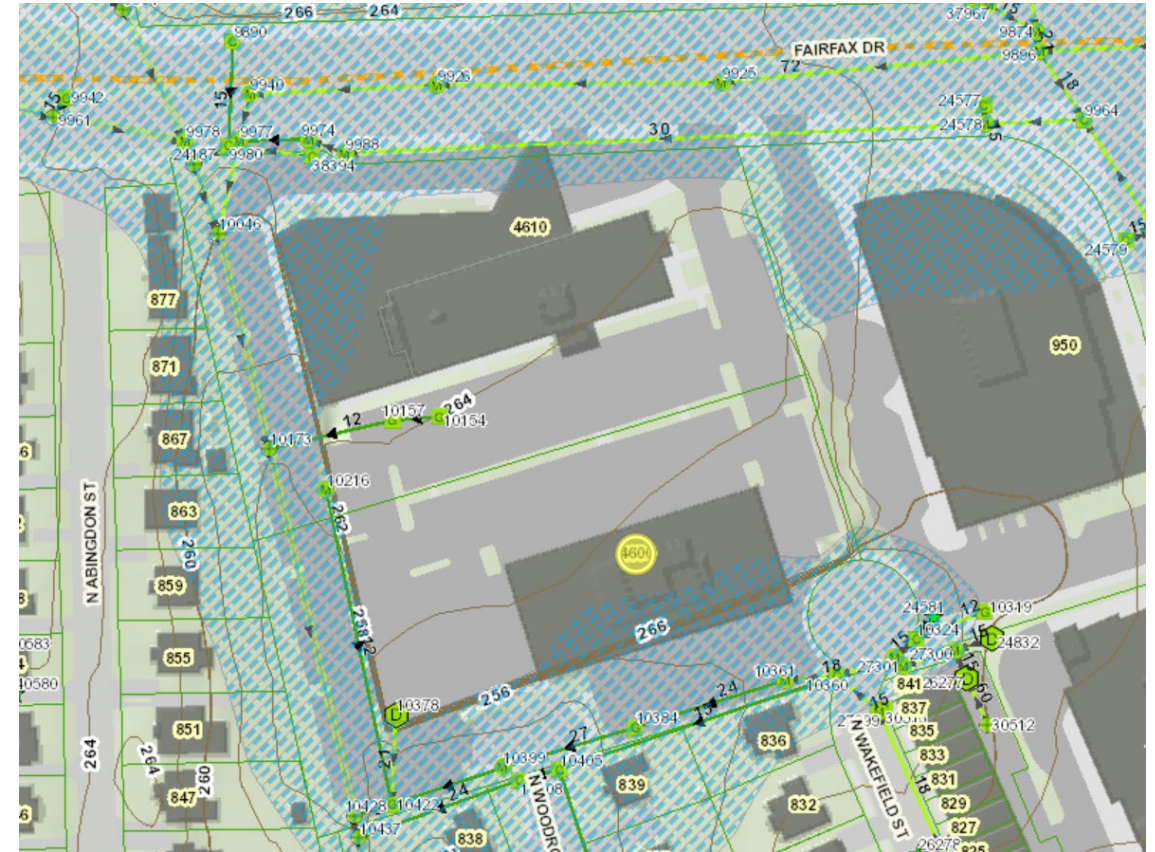
Site Plans for Commercial Properties



# 4600 N. Fairfax Drive



Utility Map



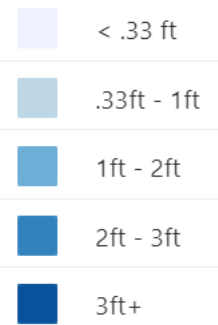
FEMA Effective 500 year

# 4600 N. Fairfax Drive



FEMA Preliminary 500 year

# 4600 N. Fairfax Drive - RAMP info



Baseline 100 yr



2040 100 yr



2070 100 year

# 4600 N. Fairfax Drive - RAMP info

2070 500 year

- < .33 ft
- .33ft - 1ft
- 1ft - 2ft
- 2ft - 3ft
- 3ft+





# #5. System upgrades from Stormwater Master Plan

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5. **Improvements to under capacity storm drains and addition of new overland relief** within the watershed as called out as part of the January 23, 2013, Stormwater Capacity Analysis for Lubber Run Watershed 3.

CIP planning is still underway

# Questions?

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