

# Stormwater Management Zoning Study

Planning Commission – Zoning Committee

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January 17, 2023

# Policy Alignment

# Reducing flood risk by increasing resiliency

## Catalysts:

- Increasingly intense storms
- Minimal capacity in existing SWM system, including limited overland relief
- Development patterns that pre-date modern stormwater management practices

## Response – Flood Resilient Arlington:

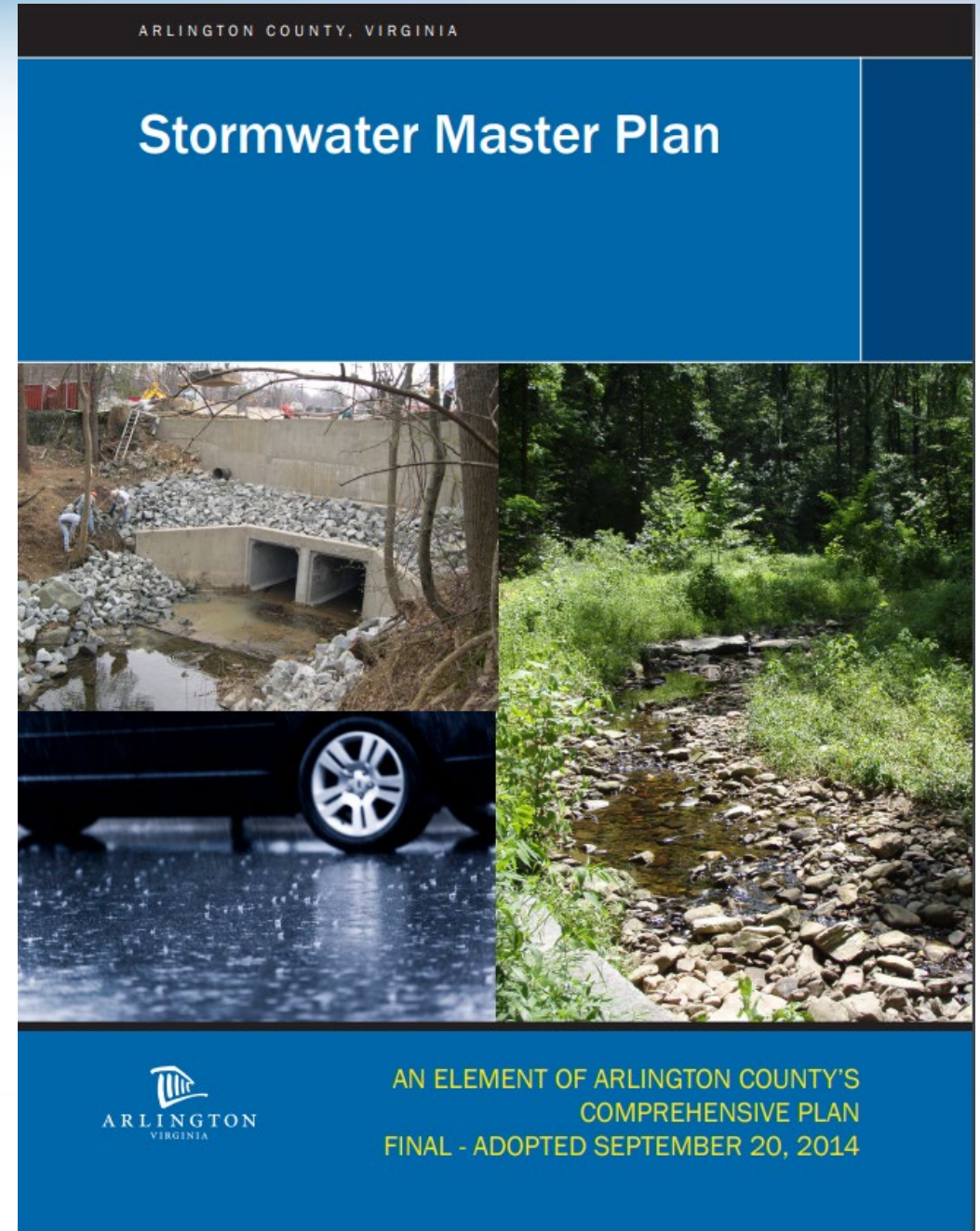
- New types and locations for capacity projects
- Increased analytics and data assessment
- Increased SWM requirements for development
- Increased investment in the program through bonds and CIP
- Considering conversion to a SWM utility
- Voluntary property acquisition
- Floodproofing outreach



# Additional Policies

## 2014 Stormwater Master Plan

- Strategy 1: Reduce flooding risks to public and private property
- Strategy 2: Maintain and upgrade stormwater infrastructure
- Strategy 4: Improve existing stormwater management facilities and construct new facilities
- Strategy 9: Initiate climate adaptation and resilience planning





# Public Spaces Master Plan (PSMP)

## Factors for evaluating zoning:

- Historical park development
  - Numerous parks are located within RPAs, flood risk areas, and other environmentally sensitive areas
  - Zoning flexibility is needed to avoid park development in these areas
- Population growth
  - Demand for public space continues to increase
  - Will increasingly be met using smaller, more efficiently-designed spaces
- Emerging trends in park design
  - Multipurpose, flexible, responsive to residents' needs
  - Strong desire for a variety of activities; zoning flexibility helps DPR respond quickly to changing needs





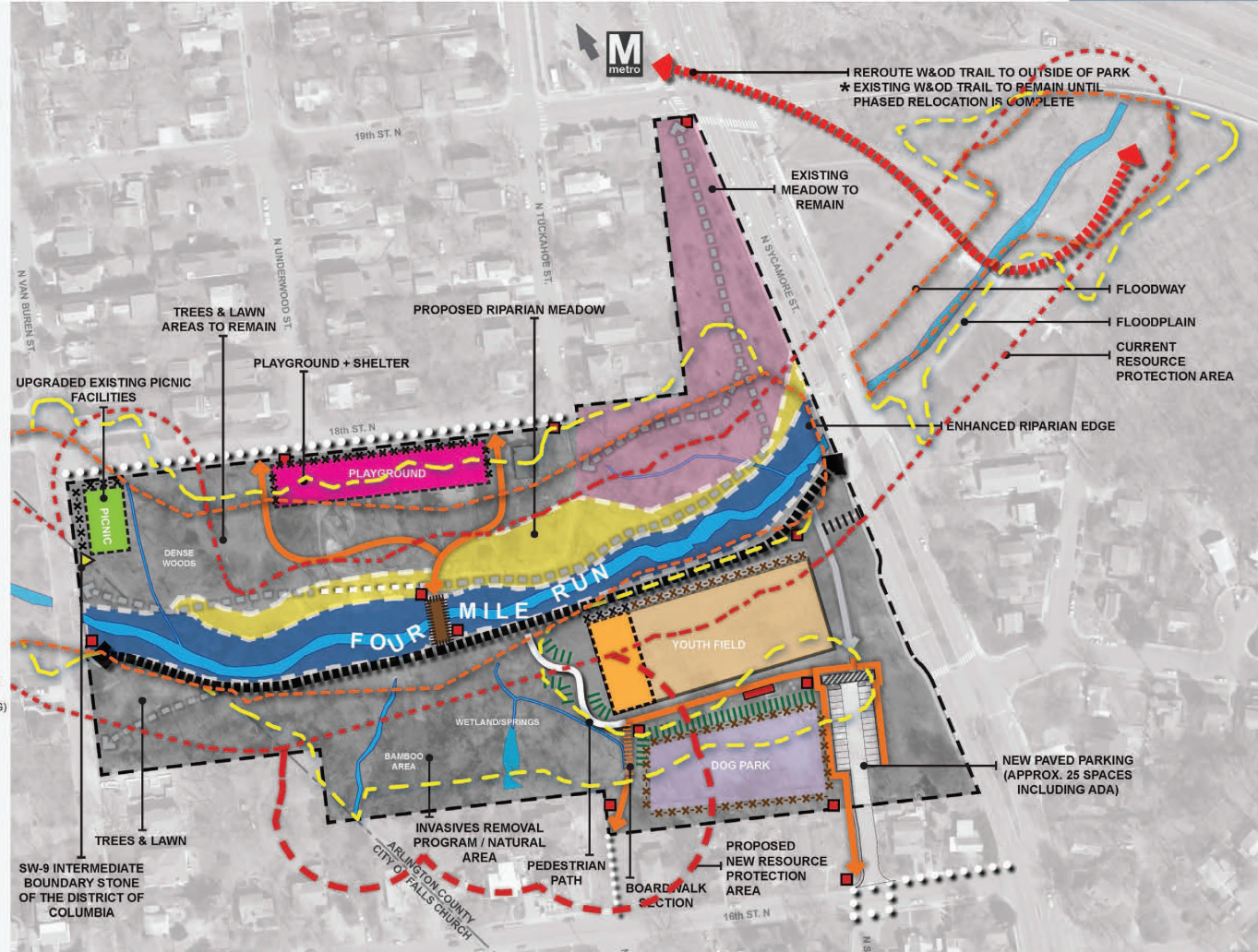
# Case Study: Banneker Park

## Framework Plan - Stormwater Overlay

### LEGEND

-  PARK BOUNDARY
-  SW-9 INTERMEDIATE BOUNDARY STONE OF THE DISTRICT OF COLUMBIA
-  FURNISHINGS (SIGN / TRASH / ETC)
-  BRIDGE
-  UPGRADED STAIRS
-  EXISTING PATH - PAVED
-  EXISTING PATH - NATURAL SURFACE
-  EXISTING FENCE
-  NEW FENCE
-  EXISTING MEADOW
-  PROPOSED YOUTH FIELD EXPANSION
-  PROPOSED PLAYGROUND LOCATION
-  PROPOSED UPGRADED PICNIC FACILITIES
-  EXISTING DOG PARK
-  PROPOSED 6' PAVED PATH
-  PROPOSED 6' BOARDWALK PATH
-  PROPOSED VEGETATION
-  FOUR MILE RUN TRAIL (RESURFACED 12' WIDE)
-  W&OD TRAIL RELOCATED BEYOND PARK LIMITS
-  PRIORITY FUTURE DES IMPROVEMENTS 16TH & 18TH ST (ADA SIDEWALK / CROSSWALK / PARKING)
-  FUTURE DES IMPROVEMENTS N. TUCKAHOE (ADA PATH / CROSSWALK)
-  PROPOSED PEDESTRIAN PATH
-  PROPOSED NATURAL MOWED PATH
-  ENHANCED RIPARIAN EDGE
-  PROPOSED RIPARIAN MEADOW

NOTE: SPECIFIC UPGRADES TO AMENITIES ARE DEPENDENT ON COST ESTIMATE STUDIES AND PROJECT FUNDING



## BENJAMIN BANNEKER PARK FRAMEWORK PLAN

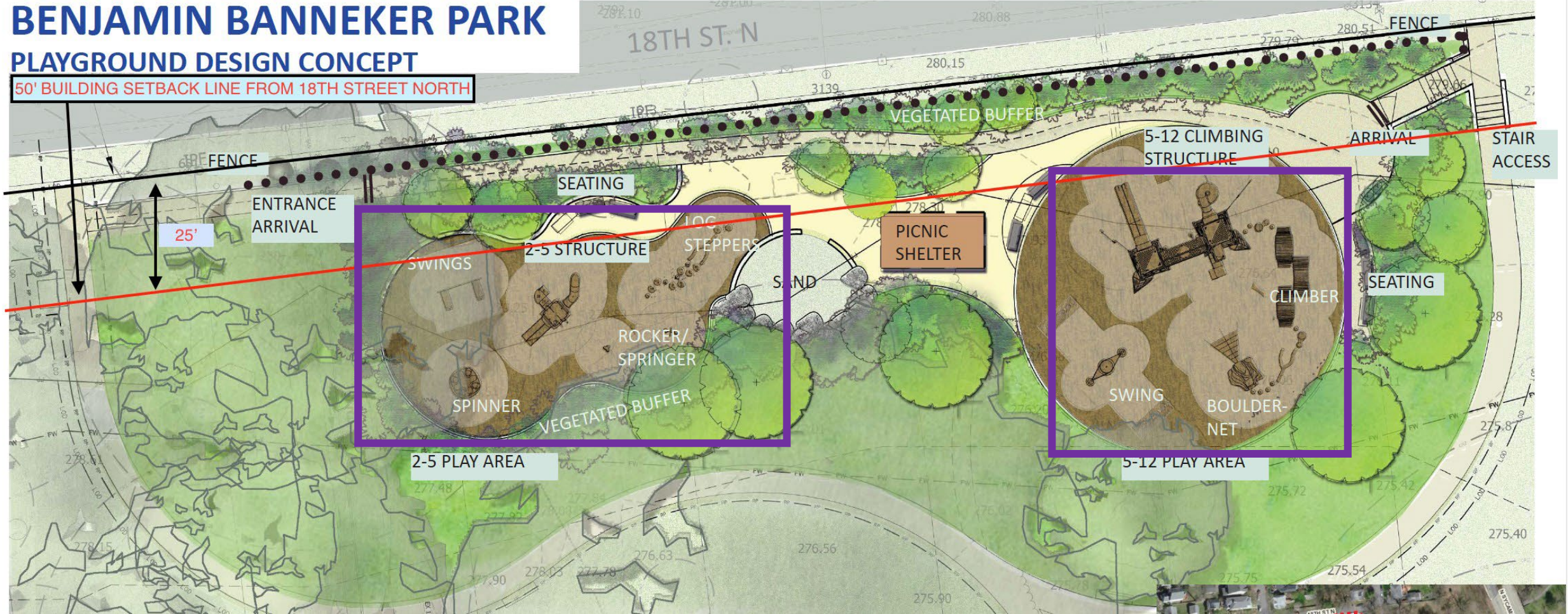




# Case Study: Banneker Park

## BENJAMIN BANNEKER PARK PLAYGROUND DESIGN CONCEPT

50' BUILDING SETBACK LINE FROM 18TH STREET NORTH





# PSMP Implementation

## Action Plan Recommendation:

- **1.5.10.** – Review and consider updating the County’s zoning regulations related to parks and public spaces in S-3A” and “P-S” districts, and other County codes as needed, related to setbacks, athletic field and other lighting, parking and parking options, dog parks and dog runs, signage, height, water features, fencing and temporary use of public and private property as public space.
- Identified as a priority recommendation in the County Board Guidance





# Types of Stormwater Management Facilities

# Underground detention vault

- Example – Cardinal Elementary School





# Underground detention vault

- Example – Cardinal Elementary School





# Overland relief measures

- Examples – swales, drainage flow paths





# Flood walls



Four Mile Run



Long Branch



# Detention ponds



Wet pond



Dry pond



# Pumping stations

- Examples shown are wastewater pumping stations

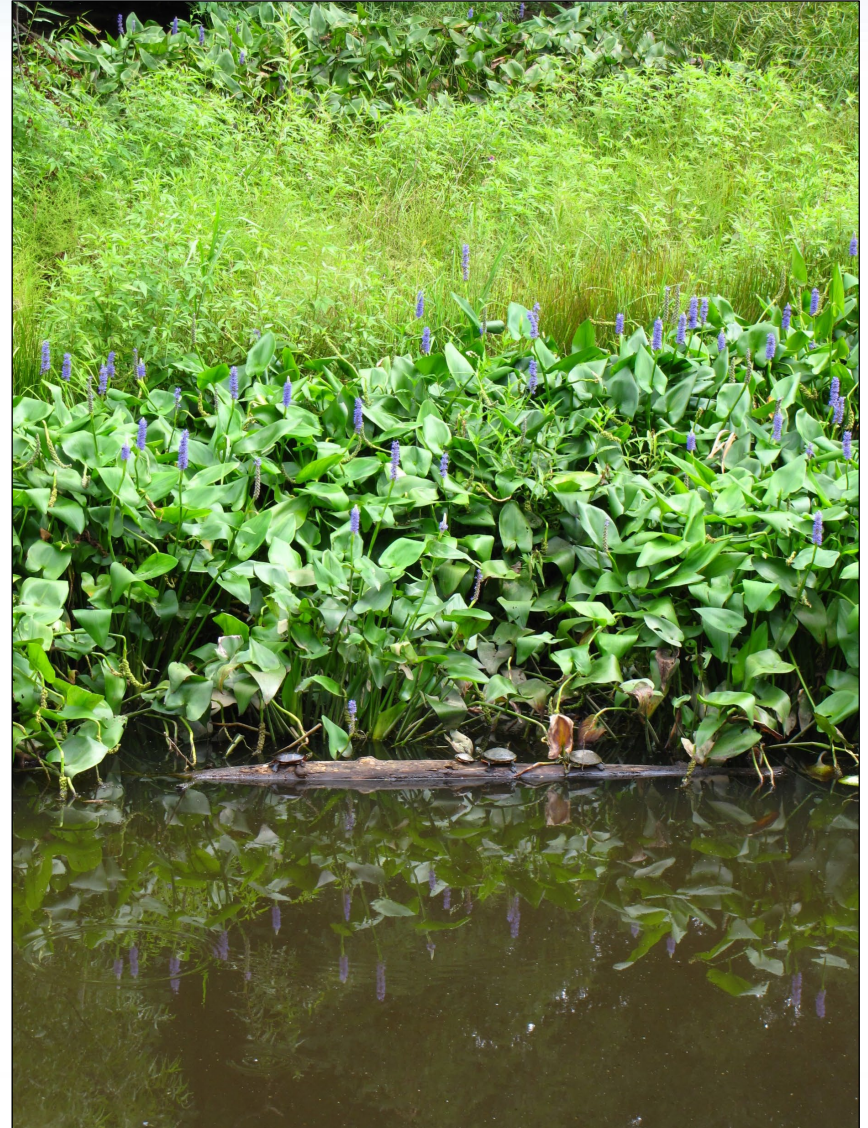




# Additional stormwater management facilities



A "green street" on Larrimore St



Sparrow Pond stormwater treatment facility



# Current Zoning

# Utilities use category

- Public utilities referenced in Article 12 in the public, civic and institutional use category
- Two categories of utilities
  - *Major utilities*: serving the general community, may have on-site personnel
  - *Minor utilities*: serving a limited area, with no on-site personnel

## K. Utilities

### 1. Characteristics

Public or private infrastructure serving a limited area with no on-site personnel (minor utility) or the general community and may have on-site personnel (major utility).

### 2. Examples

#### (a) Minor

Examples of minor utilities include lift stations; public transit facilities, including bus shelters, bike share stations; stormwater retention and detention facilities; traction power stations; and water and wastewater pump stations.

#### (b) Major

Examples of major utilities include electrical generating plants and substations; electrical transmission facilities; incinerators; stormwater pumping station; telephone exchanges; television and radio broadcasting transmitters; static transformer stations; commercial and public utility radio towers; water and wastewater treatment plants; water storage facilities; railroads and railroad right-of-way and tracks.

### PUBLIC (P) DISTRICTS PRINCIPAL USE TABLE

Use Category	Specific Use Types	S-3A	S-D	P-S	Use Standards
KEY: P = allowed by-right; U = requires use permit approval; S = requires site plan approval; Blank cell = not permitted					
Public, Civic and Institutional Use Categories (§12.2.4)					
Utilities, Major (See §12.2.4.K)	Electrical generating plants and substations			P	
	Wastewater treatment plants			P	
	Water storage facilities			P	
	All other major utilities	U		U	§12.4.9
Utilities, Minor (See §12.2.4.K)	Bus shelters; bike share stations	U		U	§12.4.4
	Wastewater pump stations			P	
	Water pump station			P	



### RESIDENTIAL (R) DISTRICTS PRINCIPAL USE TABLE

Use Category	Specific Use Types	R-20	R-10	R-10T	R-8	R-6	R-5	R15-30T	R2-7	Use Standards
KEY: P = allowed by-right; U = requires use permit approval; S = requires site plan approval; Blank cell = not permitted										
Public, Civic and Institutional Use Categories (§12.2.4)										
Utilities, major (See §12.2.4.K)	All major utilities	U	U	U	U	U	U	U	U	§12.4.9
Utilities, minor (See §12.2.4.K)	Bus shelters; bike share stations	U	U	U	U	U	U	U	U	
	All other minor utilities	P	P	P	P	P	P	P	P	

# Setbacks

- “No building or structure, or addition thereto, other than walls or fences, shall encroach into a required yard or court...”
  - *Structure* – “Anything constructed or erected that requires location on the ground or attached to something having a location on the ground.”
- Setbacks for S-3A zoning district (most public lands are zoned S-3A):

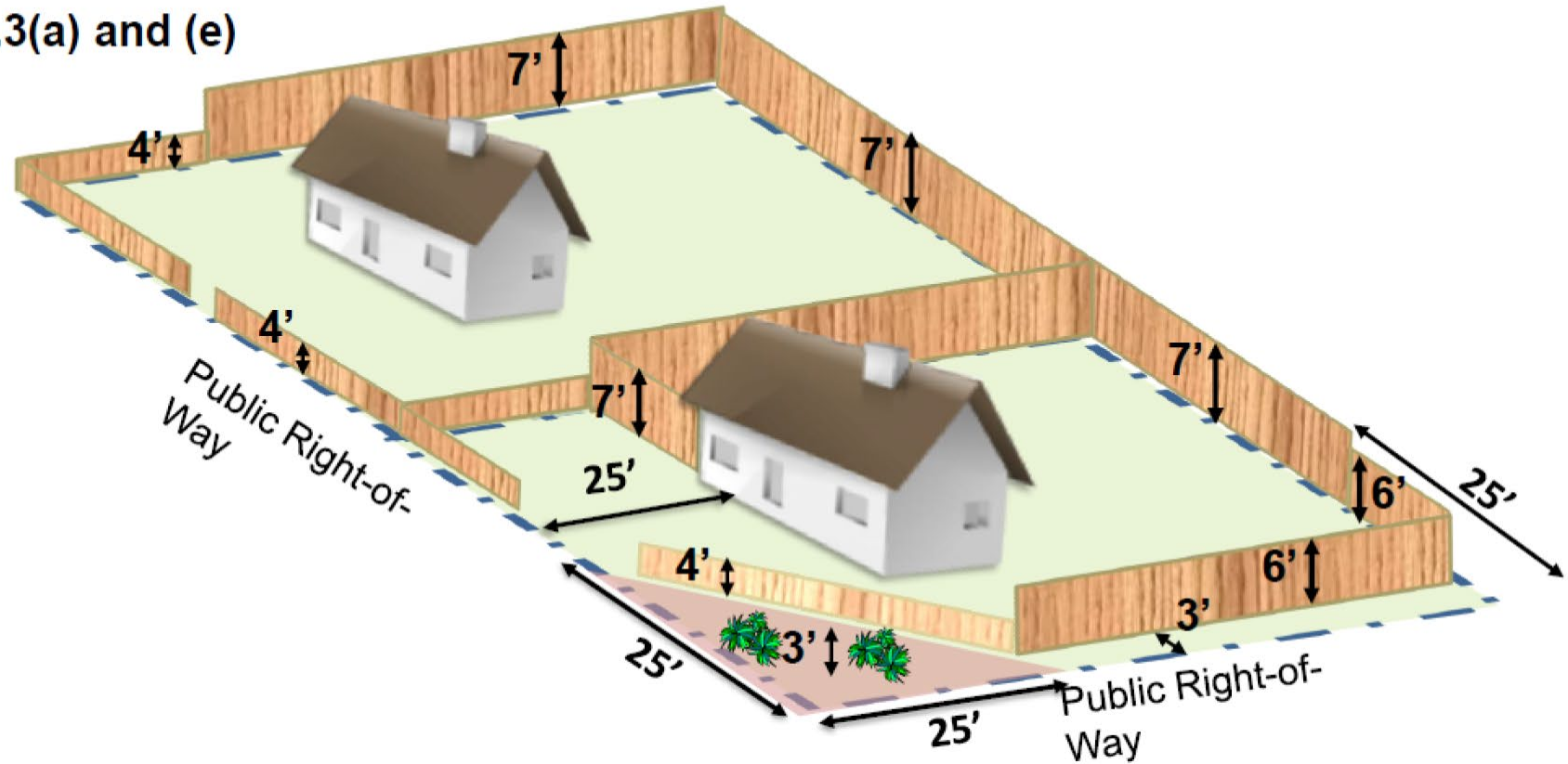
Front yard setback	Whichever is greater: <b>50 ft.</b> from the street centerline, or <b>25 ft.</b> from the front lot line
Side and rear yard setback	<u>Structures below 25 ft. in height:</u> <b>10 ft.</b> <u>Structures above 25 ft. in height:</u> <b>10 ft.</b> , plus an <b>additional 1 ft.</b> setback for every 2.5 ft. in building height above 25 ft. or fraction thereof <u>Interior lots, rear yard only:</u> <b>25 ft.</b>



# Fencing

## PLACEMENT, SETBACK, & MAXIMUM HEIGHT FOR FENCES AND WALLS AND WALLS

Section 3.2.6.A.3(a) and (e)



# Implications

1. Stormwater management facilities don't have a clear path to approval on public lands
  - Ex. Cardinal Elementary use permit amendment
2. Setback standards prohibit most structures within setbacks
  - Above-ground features for stormwater management facilities
  - Most everything that's installed in a public space is considered a *structure* (ex. benches, shade structures, basketball poles/hoops, planters, light poles, dugouts, play equipment)
3. Fencing along public rights-of-way can't adequately secure the public use
  - 4' height does not prevent access to a stormwater management facility
  - 4' height does not meet sport court needs (ex. basketball court, diamond field)



# Zoning Options

# Stormwater Management on Public Lands

- Permit stormwater management facilities as a by-right use on public lands
  - Add “All other public utilities” row to the Public districts use table
  - Move *stormwater pumping station* from “major utilities” to “minor utilities” in Article 12

PUBLIC (P) DISTRICTS PRINCIPAL USE TABLE					
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# Setbacks

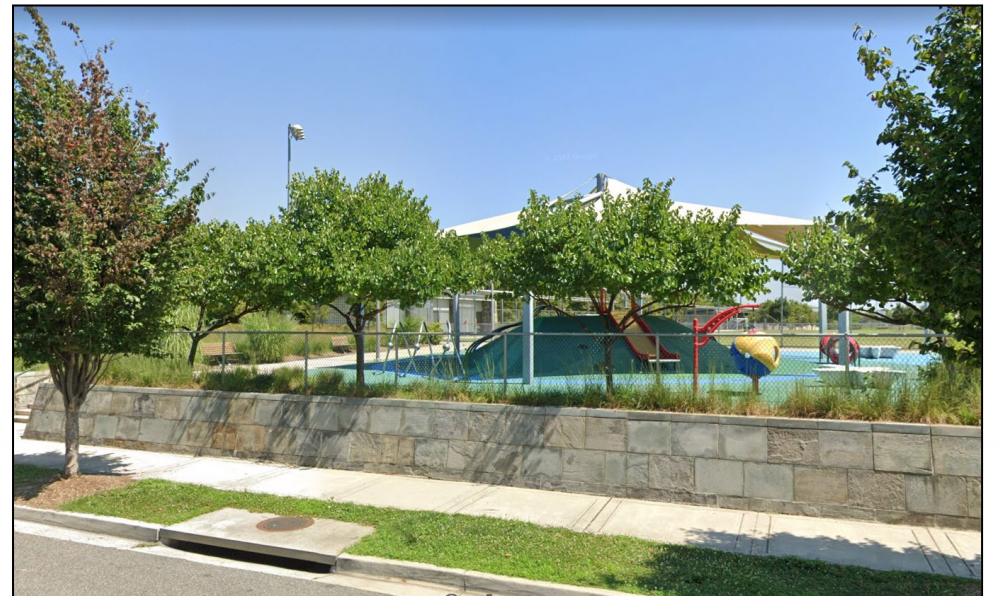
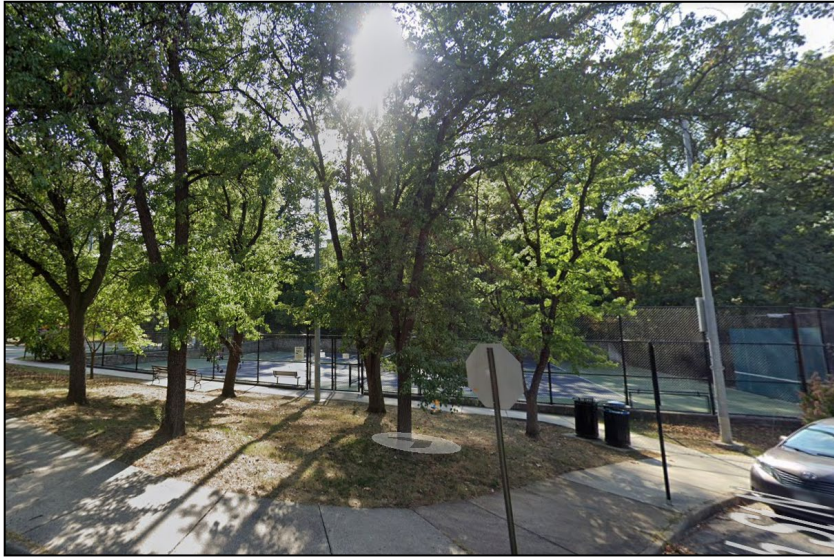
- Permit stormwater management facilities to encroach into yard and street setbacks
- Permit accessory structures for public spaces to encroach into street setbacks
  - Tables, benches, seatwalls, and other forms of seating
  - Decorative gateway features, such as fence piers and arbors, used to define entrances to the public space;
  - Bicycle racks;
  - Trash and recycling receptacles;
  - Bollards, planters, and similar decorative design features;
  - Structures using sailcloth or similar woven materials to provide shade;
  - Performance stages;
  - Pedestrian/trail lighting, not to exceed 15 feet in height;
  - Athletic or small game courts, such as basketball hoops and netting and/or backstops for tennis/pickleball; and,
  - Structures associated with athletic fields, such as dugouts without overhead structures

# Fencing

- Permit fencing for stormwater management facilities up to 8' in height
  - Must maintain 3' setback from right-of-way
- Permit fencing for public spaces up to 8' in height
  - May encroach into the 3' setback from right-of-way
- Flood walls
  - Maximum height: **14'**
  - May encroach into the 3' setback from right-of-way
- Editorial reformat for better clarity in administration



# Fencing





# Pumps and Generators

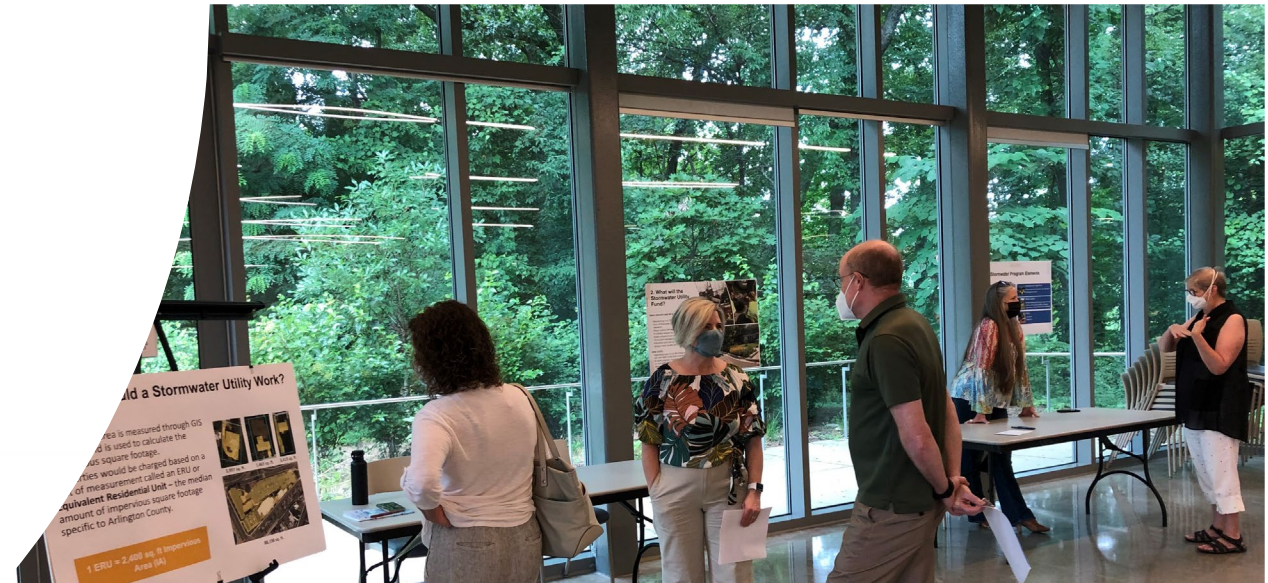
- Pumps must be enclosed or below ground
  - May encroach into a required setback
- Generators must be enclosed
  - May encroach into the 3' setback from right-of-way
- Generators must maintain setbacks
  - Without screening (fence/vegetation): No encroachment into front yard, 8' side setback, 10' rear setback
  - With screening: 8' front setback, 5' side setback, 8' rear setback
- County Board may modify through use permit
  - Board could also modify maximum flood wall height



# Community Engagement

# Engagement Practices for Public Projects

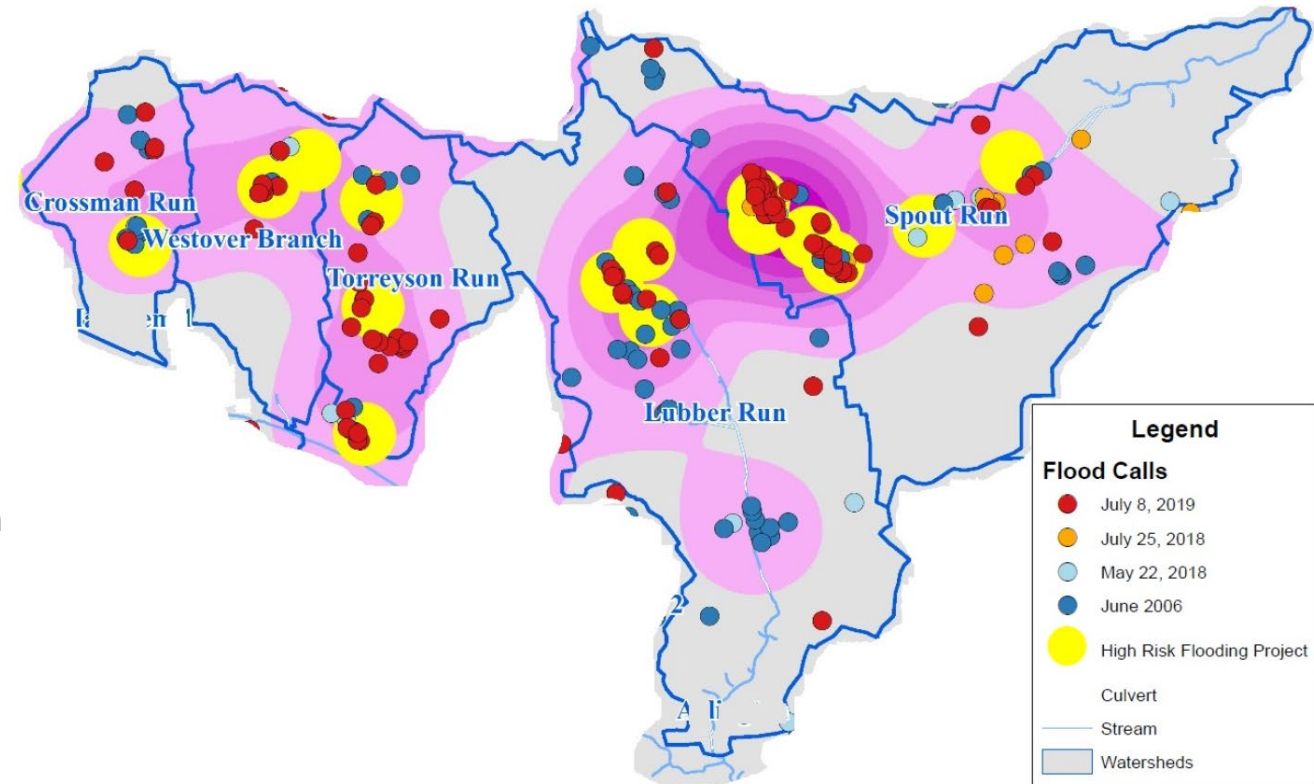
- Stormwater management facilities are preceded by tailored public participation processes
  - DES utilizes the [Six-Step Public Engagement Guide for Capital Projects](#)
- Most improvements within public spaces also are informed by public outreach
  - Notification, meetings, and/or community planning process
- Program-level review as part of County Board's Capital Improvement Plan (CIP) process
- Zoning amendments would **not** change current engagement practices





# Engagement to Date

- [Stormwater Management Zoning Study Website](#)
- **September – November:** Mention of study to critical watershed stakeholder groups
  - Crossman Run
  - Lubber Run
  - Spout Run
  - Torreyson Run
  - Westover Branch
  - West Columbia Pike
- **October – November:** Presentations to boards/commissions
  - Climate Change, Energy and Environment Commission (C2E2)
  - Public Spaces Master Plan Implementation Advisory Committee (PSMP IAC)
  - Park and Recreation Commission (PRC)
- **December 14<sup>th</sup> – Virtual Public Meeting**



# Feedback from Engagement

- Role of public lands in stormwater management
  - Importance of having stormwater management facilities on public lands
  - Proportion/burden that public spaces should absorb to manage watershed-level stormwater management
  - Concerns about reductions in usable public space in parks with the installation of a stormwater management facility
- Schedule/location/type of future stormwater management facilities
  - Desire for overland relief to be natural appearance using a variety of vegetation
- Public engagement is critical for stormwater management projects
  - Residents should have clear points of contact during construction
- Progress needed for review of zoning for additional topics cited in PSMP Action Plan beyond setbacks and fencing



# Schedule

- ✓ **January 17** (tent.) - Zoning Committee (ZOCO) of the Planning Commission
- **January/February** - Additional briefings/updates, as necessary, with other boards/commissions
- **February 2023** - Request to Advertise (RTA) for County Board
- **March 2023** - Planning Commission and County Board action

# Stormwater Management Zoning Study

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