Fall 2020 Capital Improvement Program (CIP) Worksessions

Capital Improvement Project Updates

November 16, 2020

AGENDA

Item	Duration
Public Comment Period	15 mins
Interdepartmental Flood Strike Team Update	45 mins
Waterfront Flood Mitigation Project Update	30 mins
IT Infrastructure Project Update	30 mins
Public Comment Period	continued

Flood Program Update

Yon Lambert

Department of Transportation and Environmental Services, Director

City Manager Appointments from Nine Departments

Data Collection

Enhanced Communications

Legislative Advocacy

Project Acceleration & Reprioritization

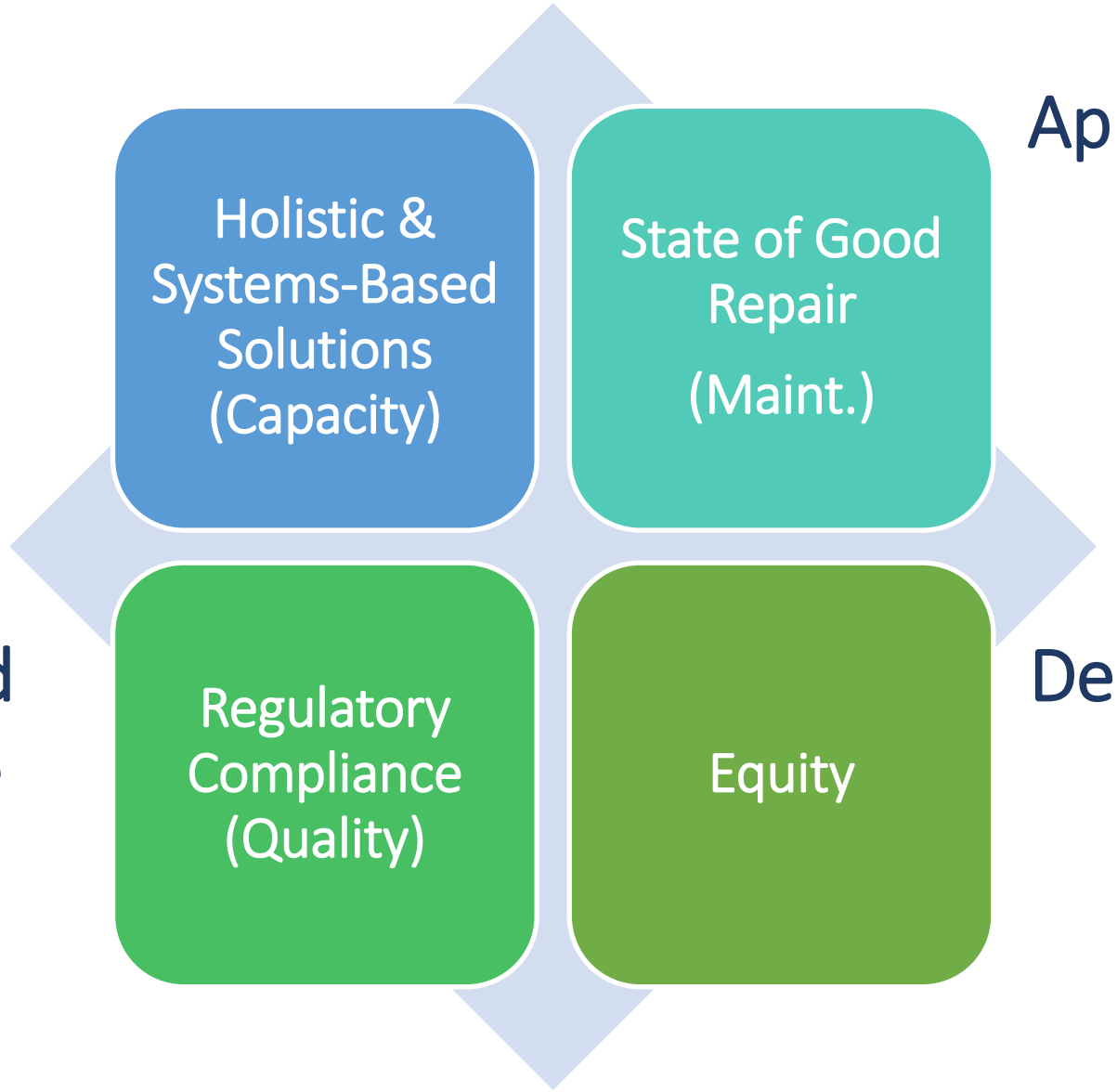
Expanded Early Warning Programs

Community Engagement & Technical Assistance

Principles to Address High-Risk Flooding Areas

Balance of Urgency & Affordability

Apply CIP Project Process



Reflect Shared Public-Private Approach

Design Approach Ongoing/ Building Resiliency

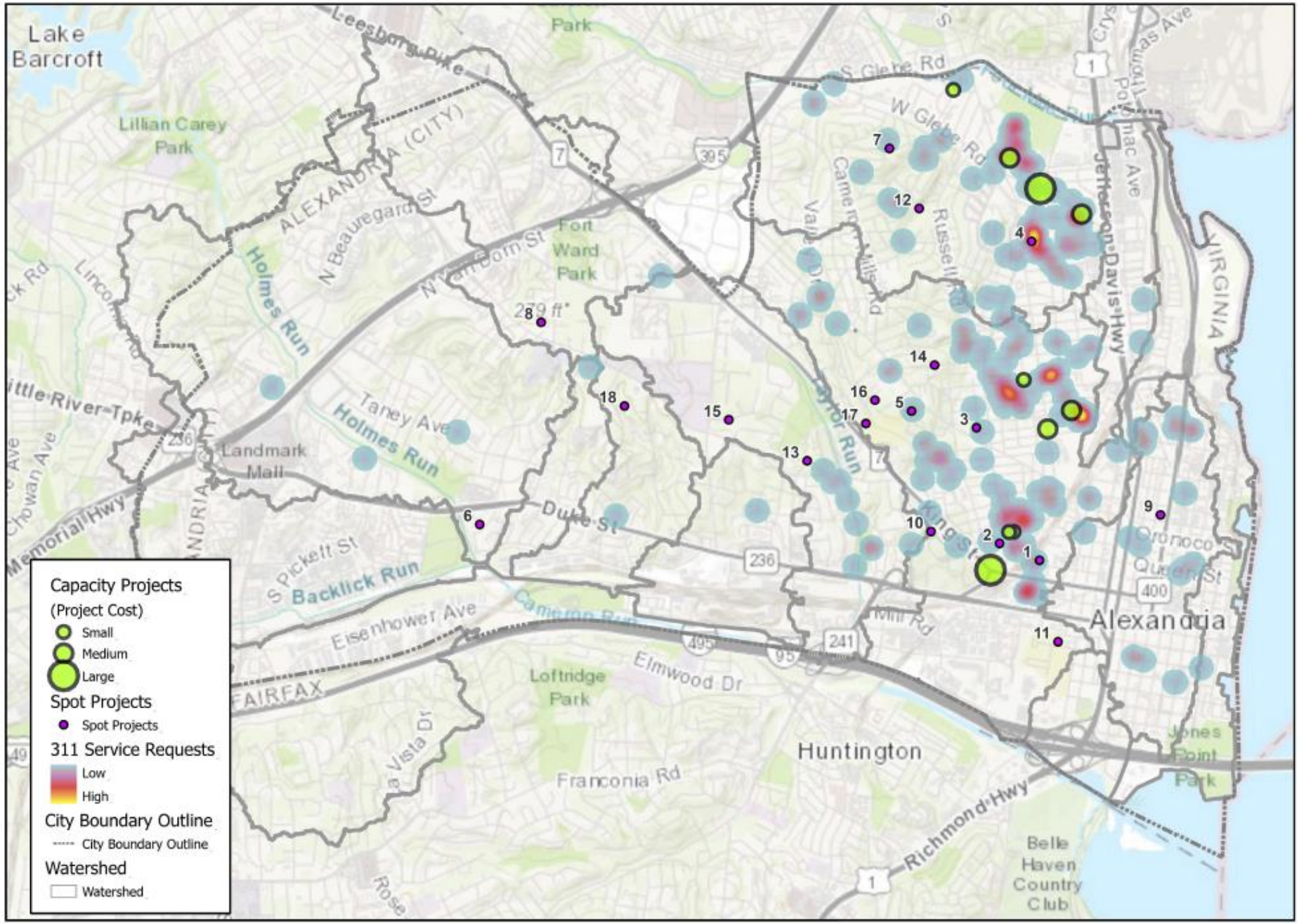
SWU Fee Increase Scenario:

Council Guidance to be Aggressive & Accelerate Project Delivery

Flood Mitigation Element	Increase Scenario
Capacity Projects (~9, including funds for Hooffs Run Culvert)	Increase to ~$110 million/10 years (+400%)
Spot Projects (currently 3-5/year)	Increase by ~$2 million (+3-6 projects/year)
Channel Maintenance	Increase by ~$500,000 annually
State of Good Repair	Increase by ~$1 million annually
Technical Assistance & Public-Private Partnership Grants	New $300,000 to $500,000 annually
Staffing Capacity	~10 new (engineers, planners, operators)

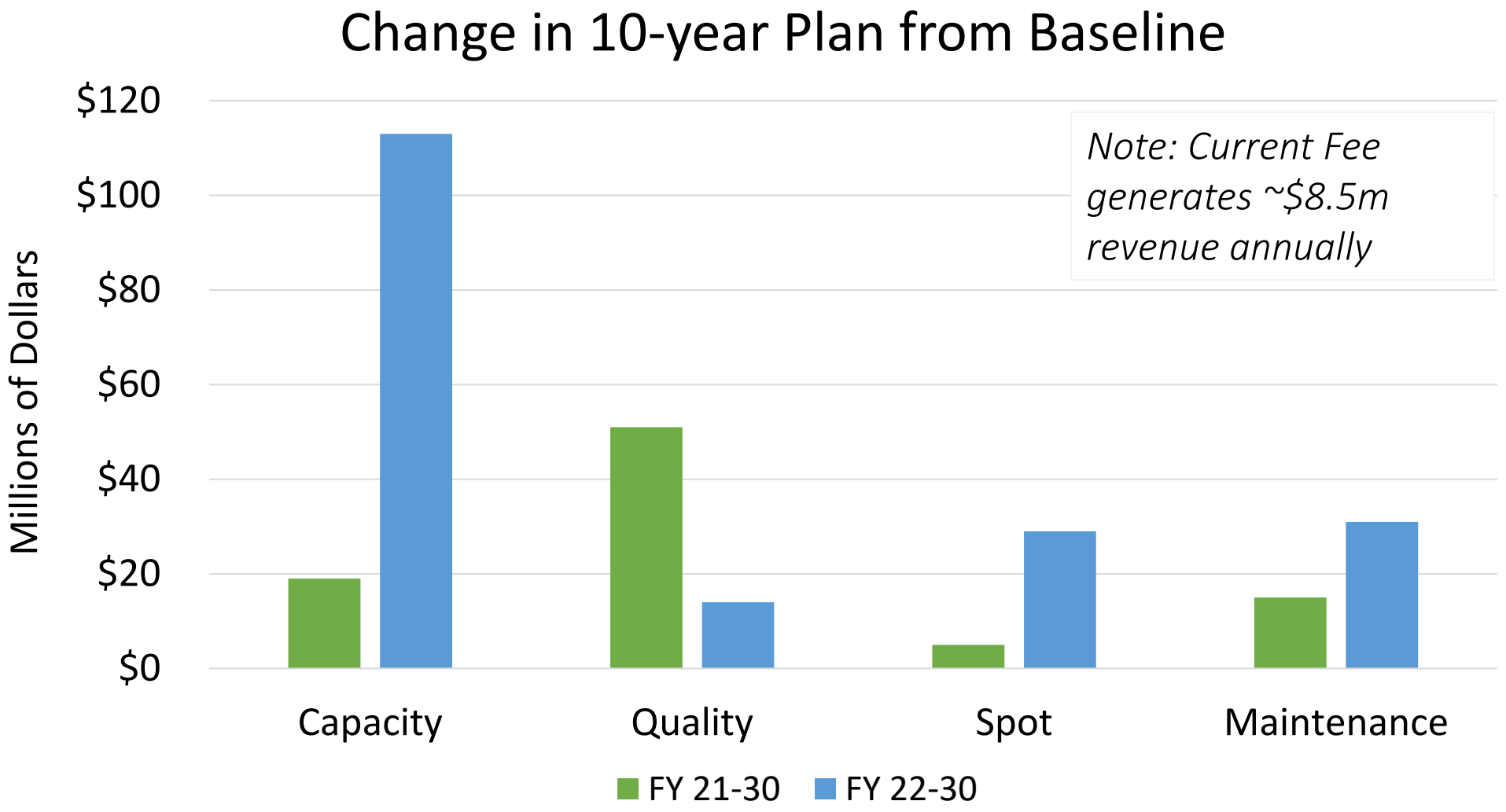
Increase in FY2022 + steady increases over 10 years

Capacity and Spot Capital Projects



For illustrative purposes only

Increase Scenario: Spending Difference with Increase in FY 2022 (+steady 3% ongoing)



SWU Fee Rate Increase Impacts in FY2022

Residential Property Impacts

Residential Properties	Current Fee	Fee Increase
Typical Single-Family	$140	$280
Large Single-Family	$234	$468
Townhome	$59	$118
Condominium	$39	$78

Non-Residential Property Impacts

Non-Residential Properties	Current Fee Range* **calculated by impervious area*	Fee Increase (Range)
Apartment Building	$7,000 to $65,000	$14,000 to $131,000
Retail Building	$3,000 to $6,000	$6,000 to $12,000
Church	$1,300 to $15,000	$2,600 to $30,000
Non-Profit Organization	$300 to $12,000	$600 to $24,000

Sanitary Sewer Fee-Funded Efforts to Reduce Infiltration & Inflow and Basement Back-ups

Asset Renewal Program (I&I)

- $33 million programmed over 10 years
- Inspections start January; rehabilitation in late 2021/early 2022
- Start in areas where sewer back-ups have occurred (Four Mile Run and Commonwealth sewer sheds)

Combined Sewer System Rehab

- Separation of sanitary sewers from combined sewers in areas of sewer back-ups
- Potential project list ready in December
- Initial design 2021, construction in 2022

Legal / Legislative Actions

Public-Private Grant Program

- ✓Sufficient authority to proceed with pilot
- ✓Program parameters/principles:
  - ~$5,000 cap, 50% match (with some equity considerations)
  - Retroactive to July 2019
  - Proof of damage to principal structure

Legislative Package

- ✓Seeking additional State authority via the City's legislative agenda
  - Subcommittee
  - Enabling legislation

Updated Communication & Early Warning Tools

Communication

- Update Alex311 to make it more user friendly for flood issues
- Develop a one-stop shop landing page for flooding
- Hold community/neighborhood meetings
- Provide technical support

Early Warning

- Expand/update rain and stream gauge network
- Expand ‘warning signs’ and ‘early warning’ system
- Explore real-time stream gauge dashboard

FLOOD-READY ALEXANDRIA

Flood-Ready Alexandria is an initiative to address flooding in our community. Minimizing flooding is a shared public-private responsibility, and the City is committed to working with residents and businesses to mitigate the impacts of flooding and build community resiliency.

Page updated on November 10, 2020 at 10:00 AM

Flooding in Alexandria

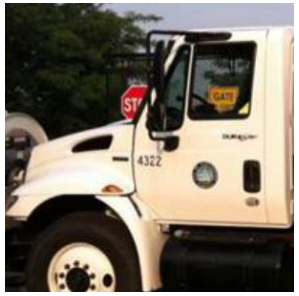
The City has a long history of flooding, including coastal flooding and flash flooding. Recently, the City has experienced more frequent and severe flash flood events. This section provides information on the history of flooding in Alexandria.

- Background & History
- Flood Reports in Alexandria
- FEMA 100-Year Floodplain
- Sign Up For Alerts

What You Can Do

Mitigating the impacts of flooding in our community is a shared responsibility between government, residents, and businesses. Learn more about what you can do to prevent and/or mitigate flooding on your property.

- Assess Your Flooding Situation
- Purchase Flood Insurance
- Flood-Proof Your Property
- Prevent Sewer Backups
- Report Issues to Alex311
- Be Prepared



What the City is Doing

The City is responsible for serving 165,000 residents over 15 square miles and has a multi-pronged effort to mitigate flooding in the community.

- Policies
- Programs
- Projects
- Maintenance
- Community Outreach & Technical Assistance
- Early Warning & Emergency Response

Additional Resources

There is a wealth of information available across the City website related to flooding and water quantity. Please refer to these additional resources as needed.

- Glossary
- Frequently Asked Questions – FAQs
- Stream Gauges
- SewerViewer

Update on the Hooffs Run Culvert

- Project start November 16
- Duration 4-6 months
- W Walnut to Duke Street
- Advance notice and ongoing community outreach

Next Steps

- Consider SWU fee changes in January 2021
- Implement immediate recommendations (using FY 2021 funds):
  - Early warning & Communications
  - State of good repair
  - Spot improvements
- Consider Phase 2 tasks
  - Federal legislation
  - Review of regulations and policies
  - Design standard

Waterfront Flood Mitigation

Terry Suehr, PE, PMP, DBIA

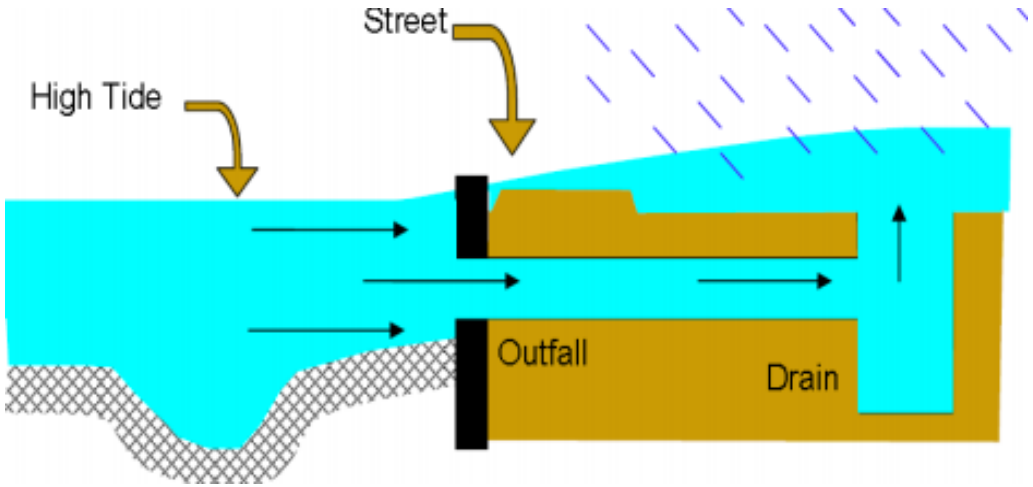
Department of Project Implementation, Director

Vision for the Waterfront

- Waterfront Small Area Plan – Council adopted January 21, 2012
- Core Area Phasing and Implementation – Council adopted January 25, 2015
  - Primary Goals:
    - Address nuisance flooding
      - Significantly reduce frequency of flood impacts from Potomac River
      - Mitigate storm sewer capacity issues
      - Mitigate high tide backing-up water onto streets
    - Ensure public access to the entire Waterfront
      - Create continuous pedestrian access along the entire Waterfront
      - Create engaging outdoor public amenities and event space

Challenges with Existing Conditions and Infrastructure

- Must overcome four sources of flooding:
  - Potomac River overtopping the bulkhead
  - Capacity issues and backup in existing storm sewers:
    - High-tide events preventing stormwater outfall
    - Undersized pipes for current rates of runoff
    - Sunny day flooding
  - Direct rainfall and stormwater runoff
  - Climate Change - More intense storms

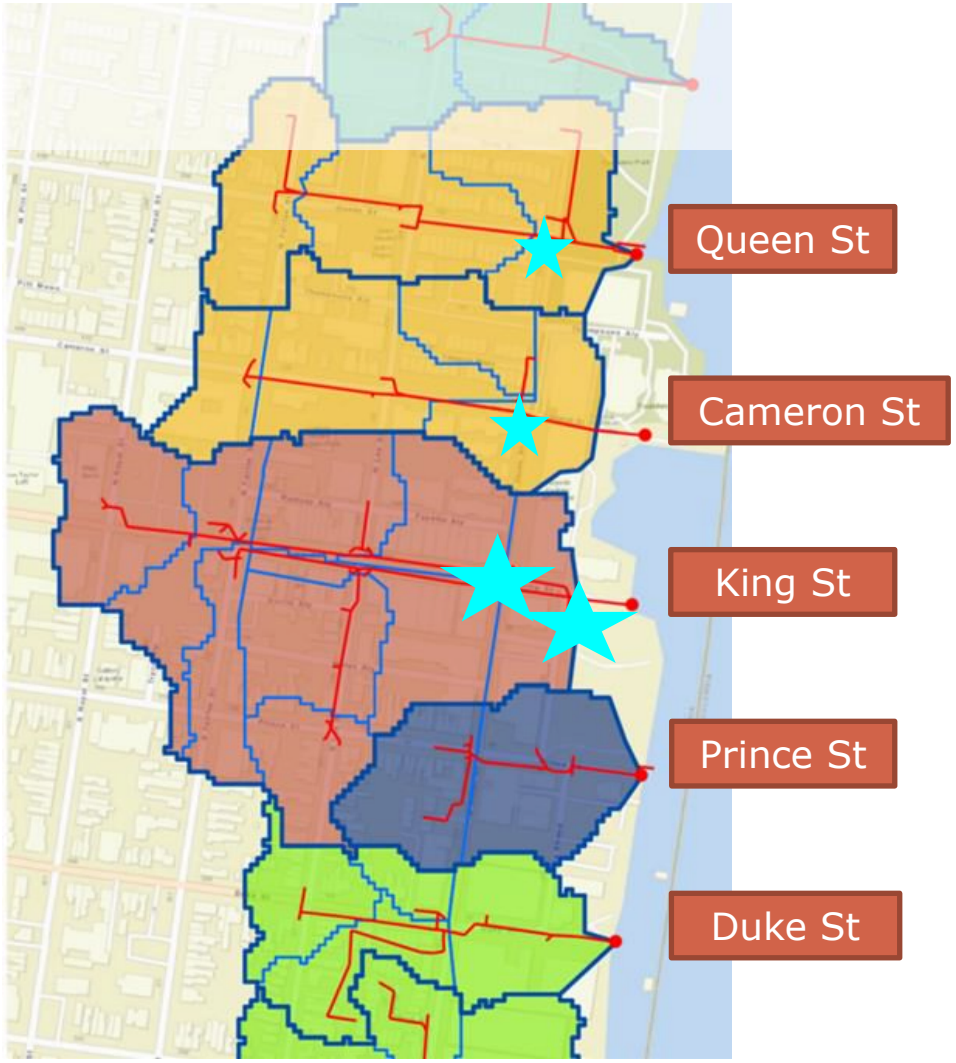


New Approaches and Opportunities

- Concepts developed a decade ago and **rely entirely on grey infrastructure**.
- **Best practices in resiliency have changed**, from philosophy of "evacuating" to "embracing" the water.
  - Intercept, retain, then drain
  - Resiliency
  - Water as an asset and amenity – not just a liability
- **Previously planned approach is very costly**

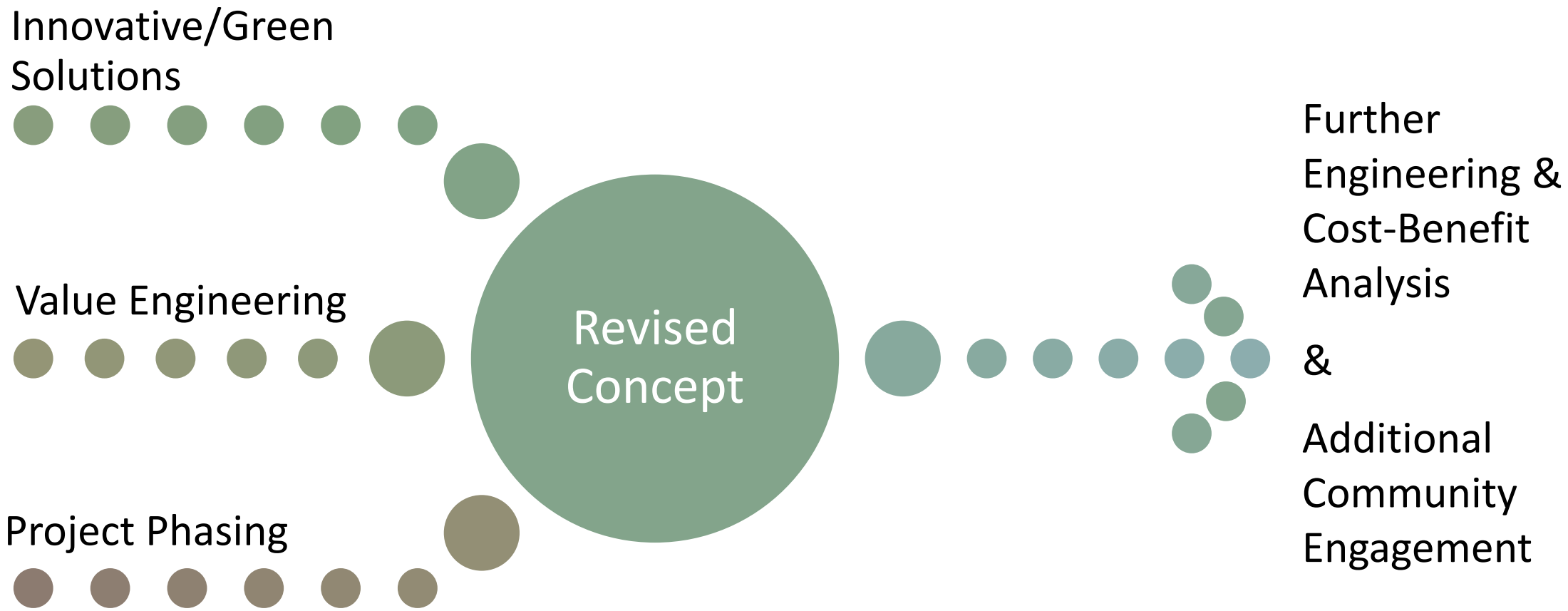
Detailed Analysis of Challenges and Opportunities

In depth modeling shows the greatest challenge with runoff occurs around King Street

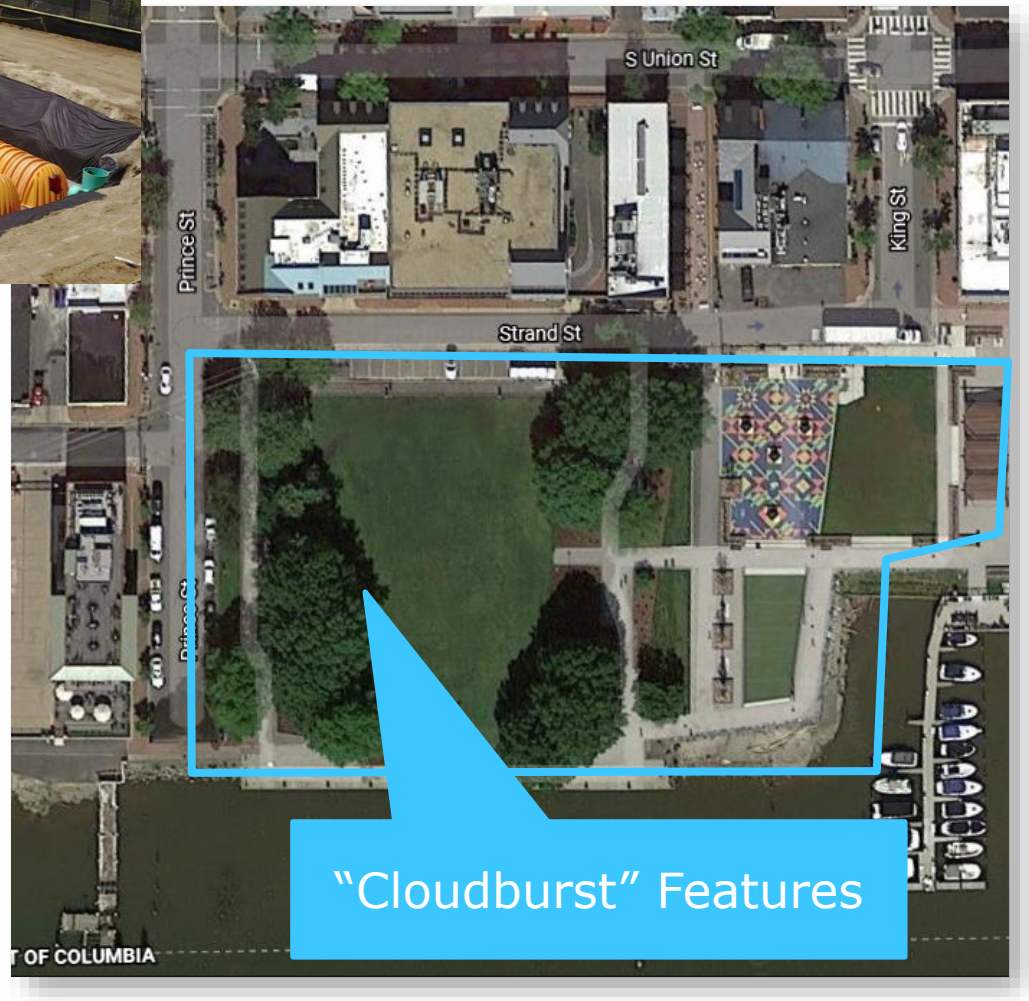


Areas of most severe ponding

New Approaches and Opportunities – Multiple Strategies



Reimagined Landscape Infrastructure as Public Amenity



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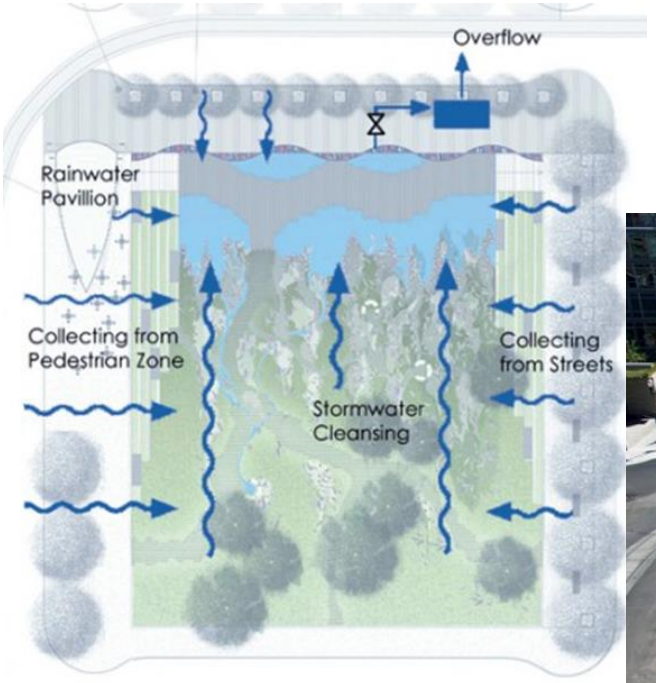


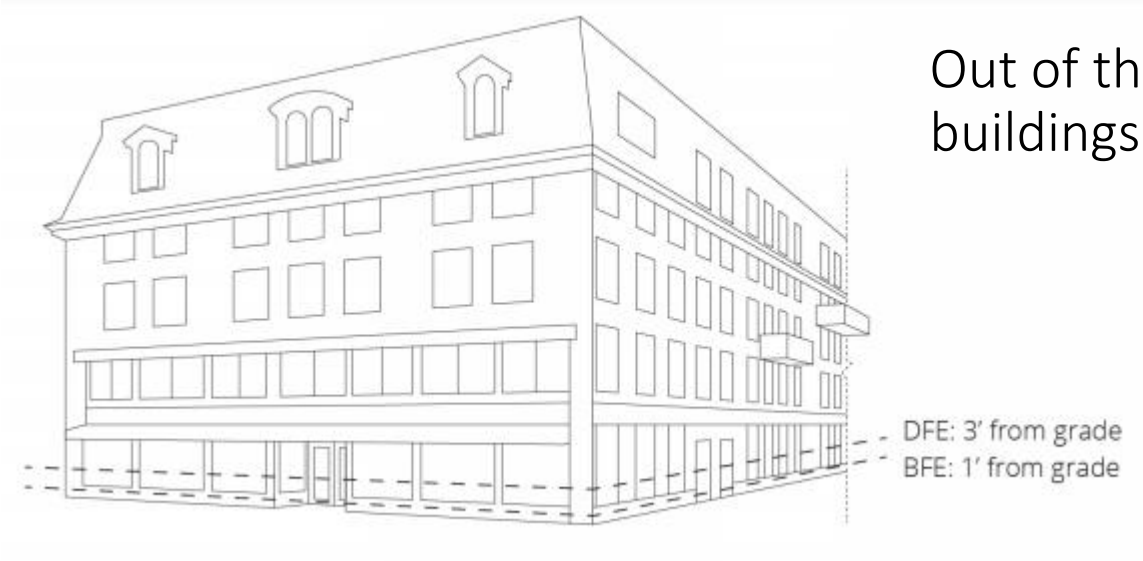
Tanner Springs Park in Portland Oregon

Photos sourced: https://www.urbangreenbluegrids.com/projects/tanner-springs-park-portland-oregon-us/
https://ramboll.com/projects/germany/tanner-springs-park

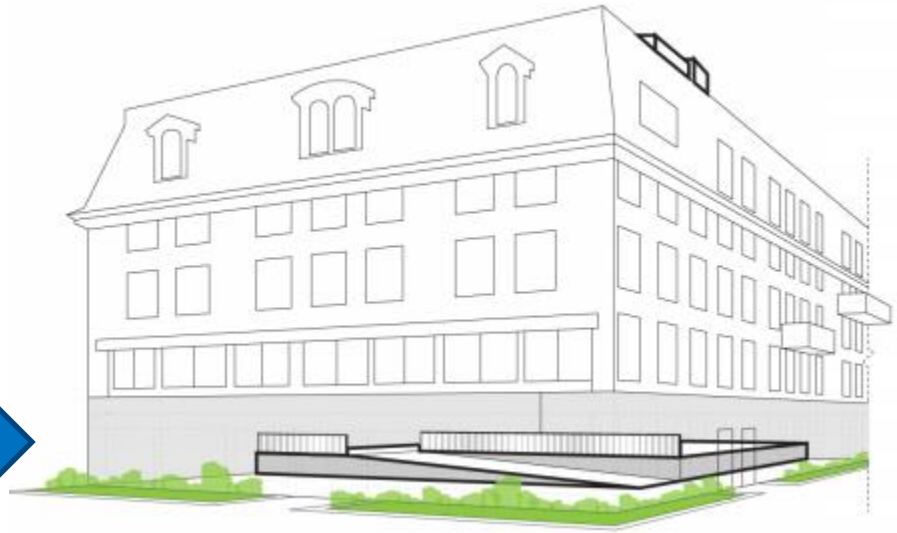
INNOVATIVE/GREEN SOLUTIONS

Combination of Permeable Pavements & Underground Storage may provide some relief from sewer capacity issues and/or reduce size of pump stations

INNOVATIVE/GREEN SOLUTIONS

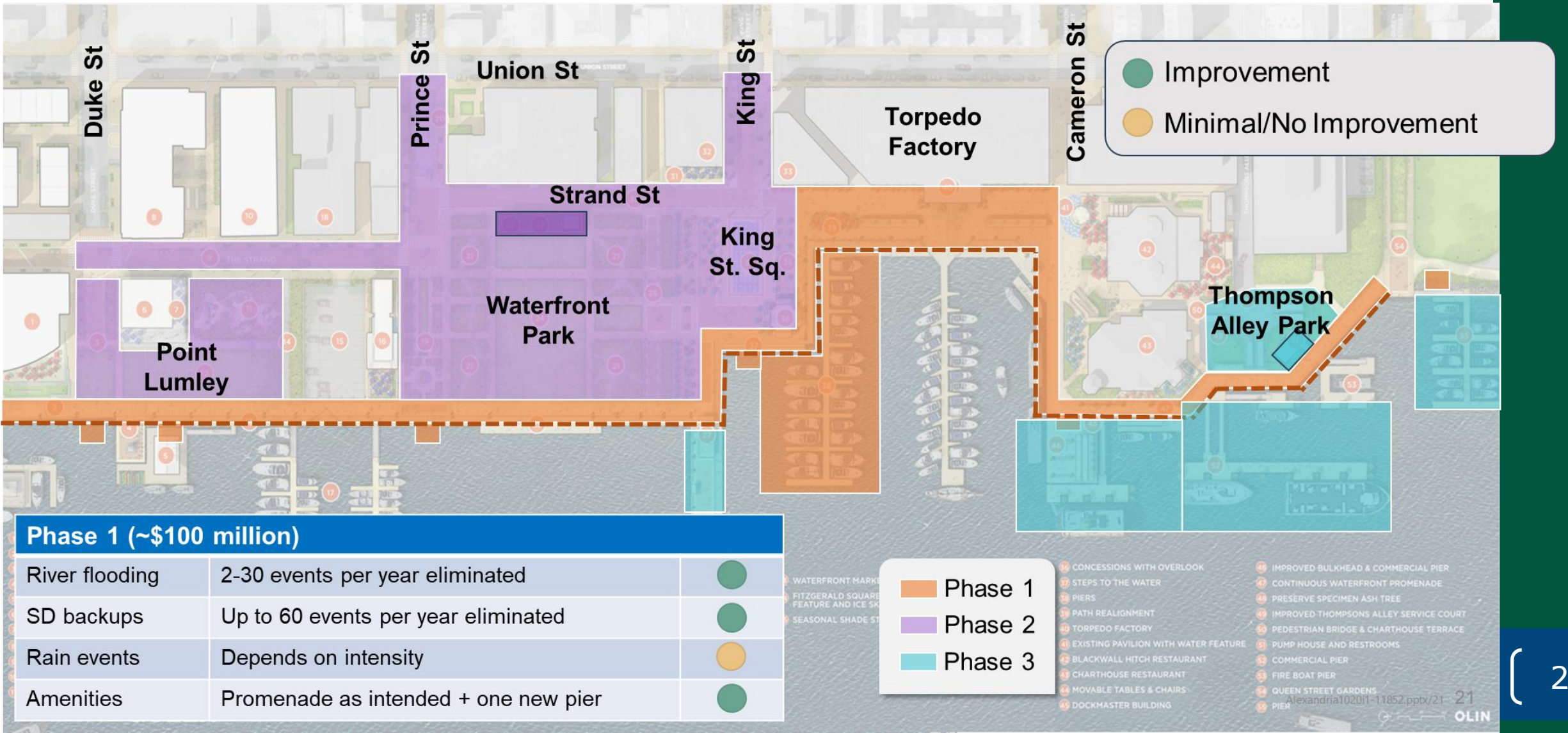


Out of the box thinking – Flood proofing, raising buildings during restoration or redevelopment



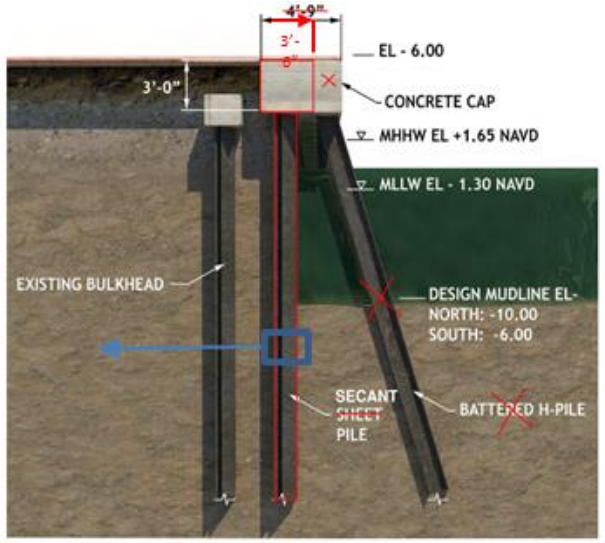
PROJECT PHASING – BASELINE PROJECT – 2014 OLIN PLAN

PROJECT PHASING – **MULTIPLE SCENARIOS** UNDER REVIEW



Phase 1 (~$100 million)		
River flooding	2-30 events per year eliminated	
SD backups	Up to 60 events per year eliminated	
Rain events	Depends on intensity	
Amenities	Promenade as intended + one new pier	

VALUE ENGINEERING



Revisit Bulkhead

Reuse/repair existing bulkhead; structural requirements for support elements

Optimize & Downsize

Stormwater sewer system and pump Stations

Rethink Scope

Planned parks, landscape materials, and amenities

Next Steps

- Waterfront Commission – Subcommittee Formation (underway)
  - Balance priorities and cost-benefits
- Target Resiliency and Best Practices for stormwater management
- Value engineering solutions
- Phasing to meet City funding ability
- Reduce costs
- Addressing nuisance flooding
- Early impact solutions

Potential Early Impact Solutions

CheckMate® UltraFlex™ Inline Check Valve

Proposed CIP Budget – no overall change – Approved Waterfront FY22 Budget is $102M

	Current Budget	Proposed Budget
FY22	$102.0M	$22.0M • Owner-Advisor Support / Design Oversight • Planning and Procurement • Rapid Deployment Control Measures • Design Services
FY23		$36.8M • Design Services • Construction Services • Oversight and Project Administration
FY24		$43.2M • Design Services • Construction Services • Oversight and Project Administration
Total	**$102M**	**$102M**

Anticipated Process schedule*

1. Public Input – Scope of work aligned to priorities
2. PDB RFP development: present – Early-2022
   - Cost validation
   - Criteria development to qualify PDB
   - Industry outreach
   - Updates to Council and Waterfront Commission
3. PDB procurement: Late 2021 – Early 2022
4. PDB phase 1 (design): Late 2022-2023
5. Negotiate GMP: Late 2023-2024
6. PDB phase 2 (construction): Begin late 2023-early 2024
7. Site Construction: mid-2024 through mid 2027

*Subject to change to accommodate community feedback and civic engagement or changes to CIP funding schedule

Information Technology Services

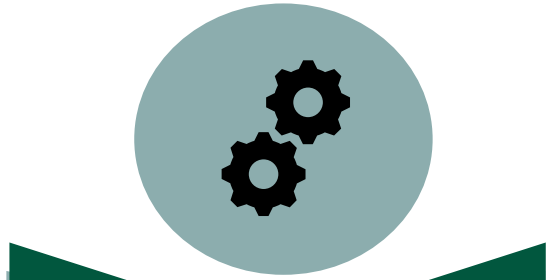
Vanetta Pledger

Chief Information Officer/Director

Discussion Areas

- Modernization and State of Good Repair
  - Alexandria Justice Information System (AJIS)
  - Cybersecurity
  - Municipal Fiber
  - Digital Government Services

Modernization Goals



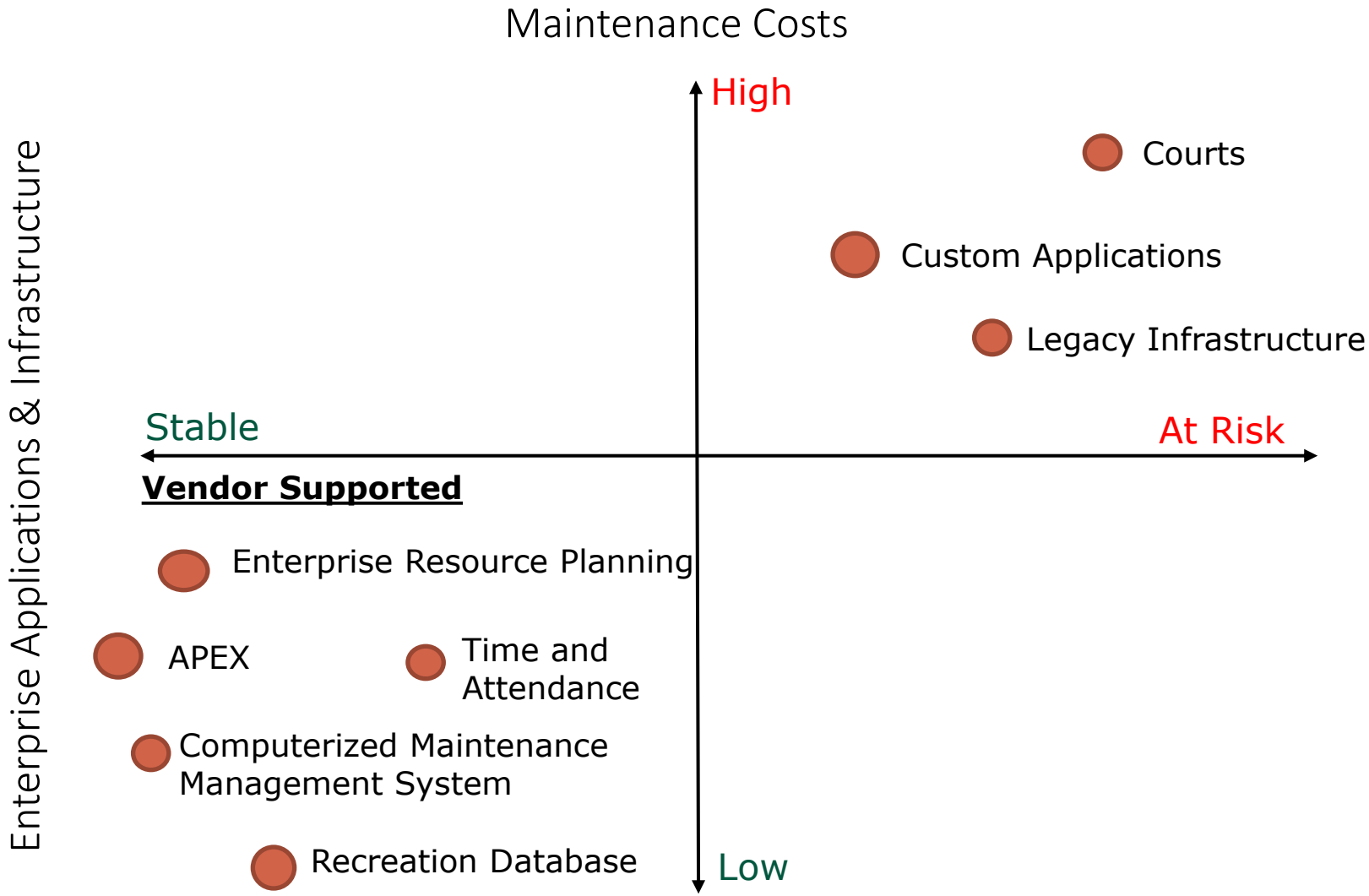
Infrastructure Investments

Cybersecurity

Digital Government Services

Modernization

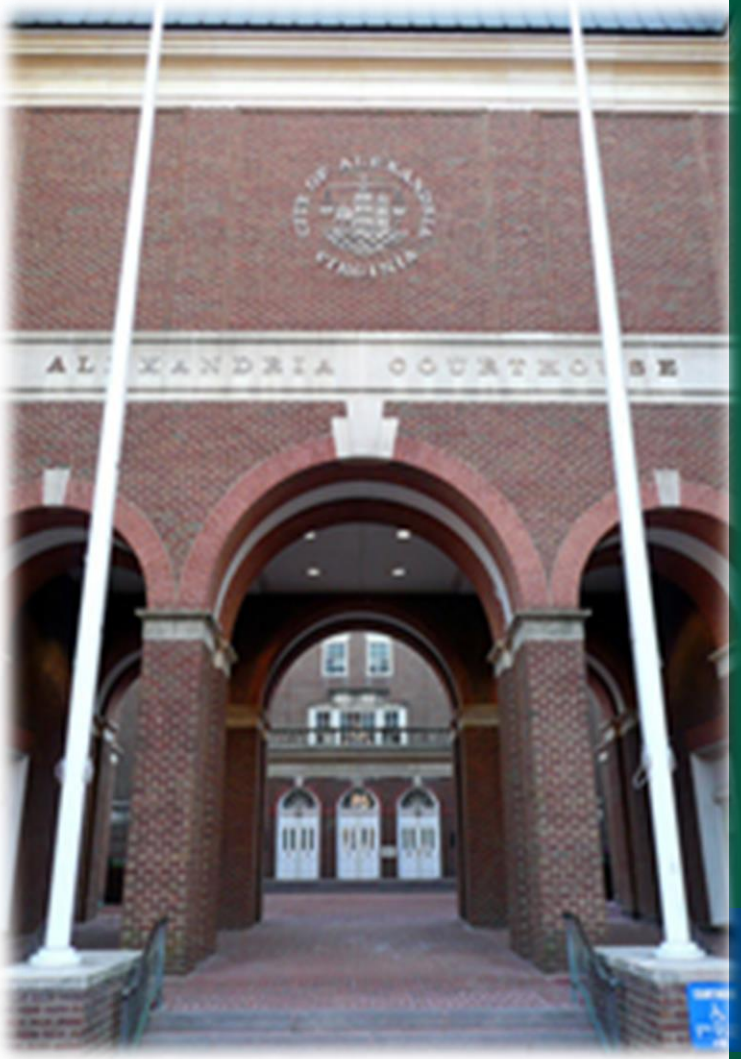
Replacing legacy systems allows the City to stay current with the vendors' lifecycle and reduces risks



Alexandria Justice Information System (AJIS)

- Commonwealth of Virginia Court Case Management System
  - Signed Memo of Understanding
  - Initiated data conversion analysis

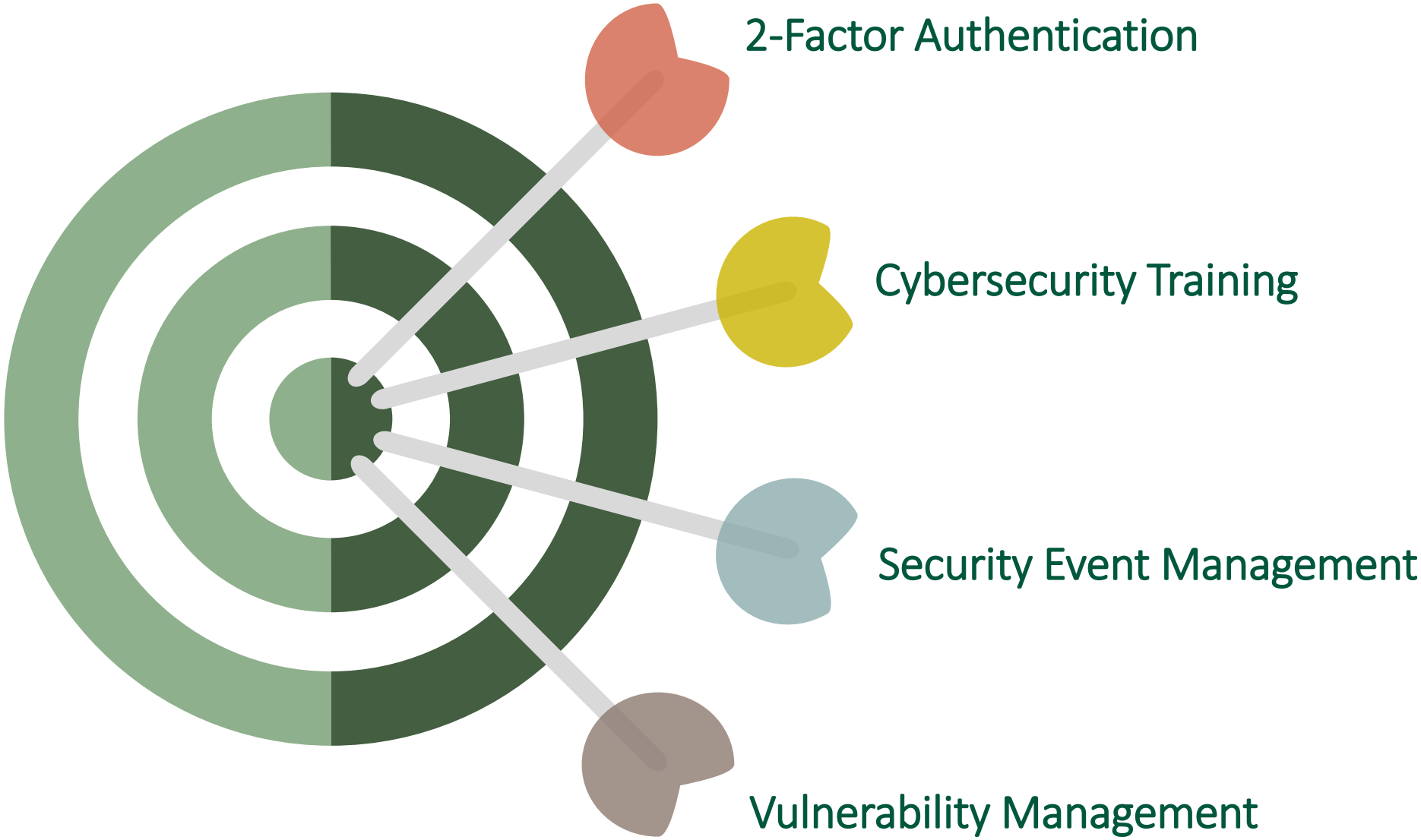
- Third-party Vendor Engagement for RFP Development
  - Request For Proposal development - Underway



Alexandria Justice Information System (AJIS)

- Procurement:
  - Jail Management System
  - Commonwealth Attorney System
  - Warrant Management System
  - Data Exchange Hub
- Estimated cost of systems investment and implementation $12M-$14M
- Estimated 2-3 years replacement process following vendor(s) selection

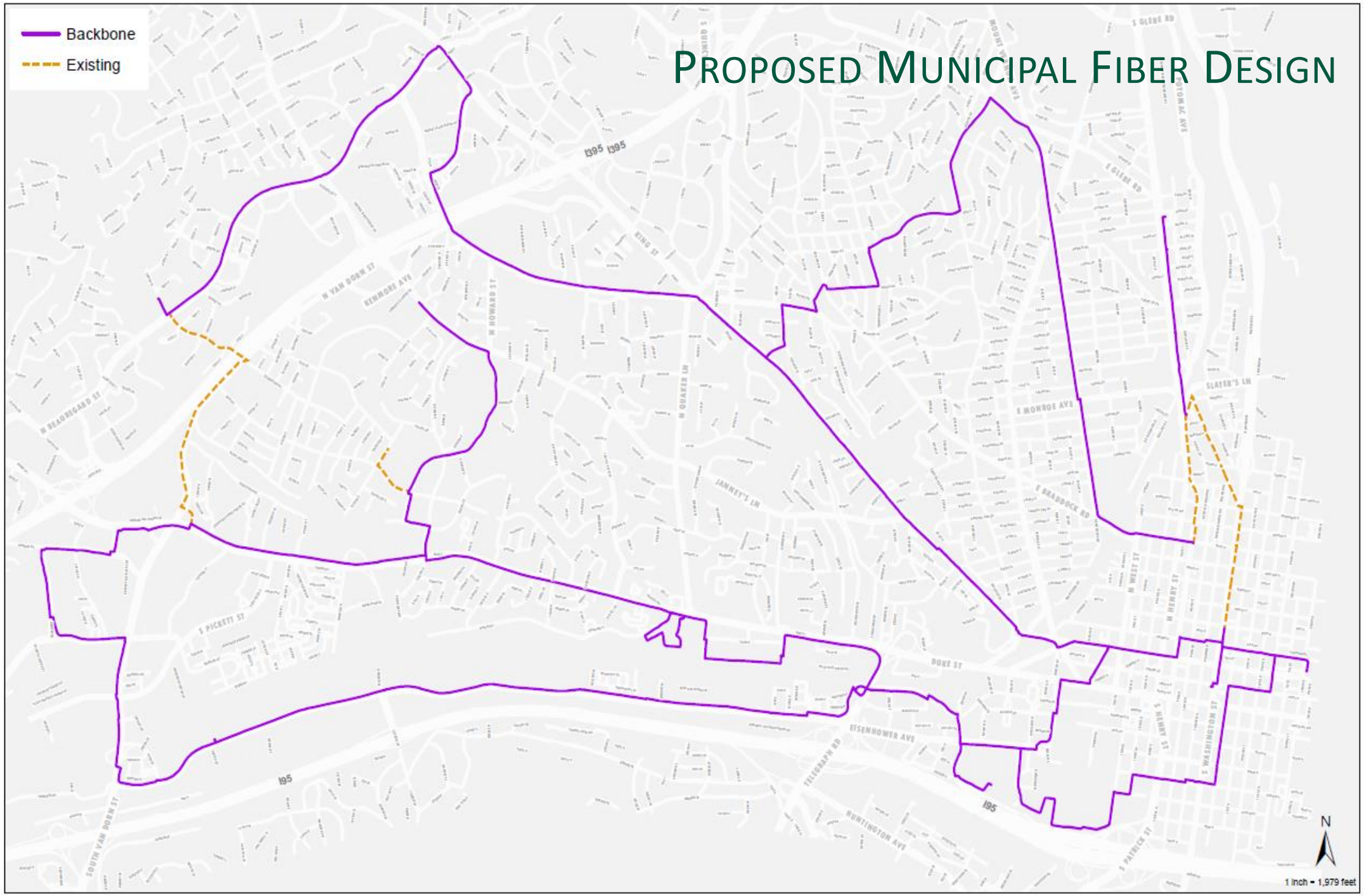
Cybersecurity Investments



Cybersecurity Framework

Capability	Description
Identify	Develop the organizational understanding to manage cybersecurity risk to systems, assets, data, and capabilities. (e.g. Two-factor authentication)
Protect	Develop and implement safeguards to ensure protection of the City's assets. (e.g. Continuously phishing staff)
Detect	Utilize tools and develop methods to identify the occurrence of a cybersecurity event. (e.g. Vulnerabilities, event logging and altering)
Respond	Establish protocols to rapidly address detected cybersecurity events. (e.g. Automated notifications of suspicious activity or quarantine)
Recover	Develop and maintain plans for resilience and to restore any capabilities or services that were impaired due to a cybersecurity event. (e.g. Cloud)

Proposed Municipal Fiber Design



Municipal Fiber Current Status

- City's **Municipal Network Project** will connect approximately **90** City facilities including schools and libraries. The network will include **40 miles** of **2-2" conduits**

- Work completed to date:
  - Issued Invitation to Bid (ITB) Nov 8, 2019
  - Cancelled ITB Feb 19, 2020
  - Industry Analysis
    - Extend construction timeline from 2 years to 4 years
    - Define conduit location variances

- Next steps:
  - ITB Issuance and refine construction budget

Digital Government Services

Remote workforce

Cybersecurity

Virtual contact centers

Collaboration

Digital Government Services – COVID-19 Response

Housing Rental Assistance

Connectivity for remote 911 dispatching

Virtual Public Engagement

Extended Wireless Access for Schools and Community

Fall Worksessions Agenda

- **Thursday, October 29, 2020**
  - CIP Overview
  - Project Updates – Public Facilities
- **Monday, November 16, 2020**
  - Flood Strike Team Progress Update
  - Project Updates – Waterfront Flood Mitigation
  - Project Updates – IT Infrastructure
- **Tuesday, November 17, 2020**
  - Joint City Council & School Board Worksession on School Capital Program

QUESTIONS/DISCUSSION