

# Huntington Levee

Community Meeting

Department of Public Works and Environmental Services



July 22, 2015

# Agenda

- I. Project Background
- II. Design Updates
- III. Community Amenities
- IV. Environmental Design
- V. Flood Modeling Results
- VI. Permitting
- VII. Community Outreach
- VIII. Questions

# Project Background

- **June 2006** -160 homes were flooded from a storm event
- **2009** – US Army Corps of Engineers (USACE) completed a study to evaluate flood damage reduction measures in the Huntington Community



# Project Background

- **November 6, 2012** – Fairfax County voters approved stormwater bond referendum to fund design and construction of flood damage reduction measures proposed by the USACE
- **June 2013** – Fairfax County awarded the levee design contract to ARCADIS
- **November 2013** – ARCADIS submitted the Phase I design package to Fairfax County
  - Survey, Geotechnical Investigation, Wetland Delineation, and Conceptual Design
- **January 2014** – Fairfax County and Huntington Community reach consensus on conceptual design features

# Project Background

- **July 2014** – ARCADIS completed Hydraulic and Hydrologic Modelling for Cameron Run
- **September 2014** – ARCADIS submitted Schematic (30%) Design package to Fairfax County
- **October 2014** - Fairfax County conducted Value Engineering Workshop
- **December 2014** – ARCADIS began Design Development (60%) phase
- **December 2014** – Geotechnical Report submitted for Permitting
- **January 2015** – ARCADIS completed the Interior Drainage Analysis

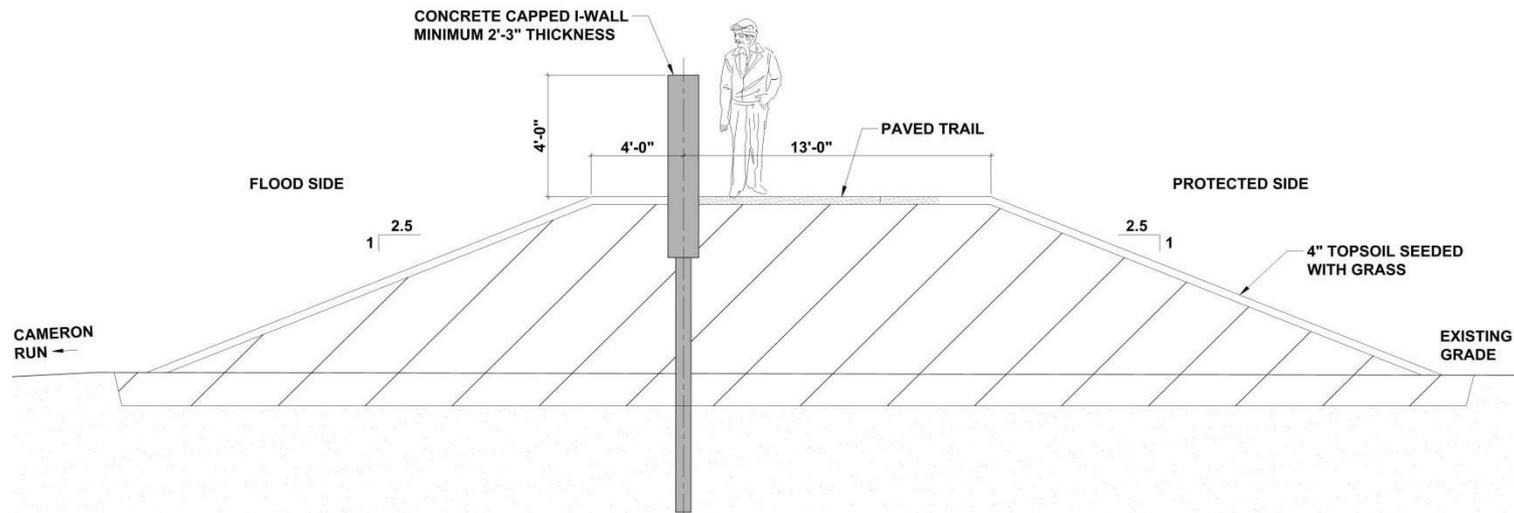
# Project Background

- **March 2015** – ARCADIS submitted plans for site permitting
- **June 2015** – ARCADIS submitted Design Development (60%) Design package to Fairfax County
- **July 2015** – Design review by Fairfax County and US Army Corps of Engineers

# Project Background

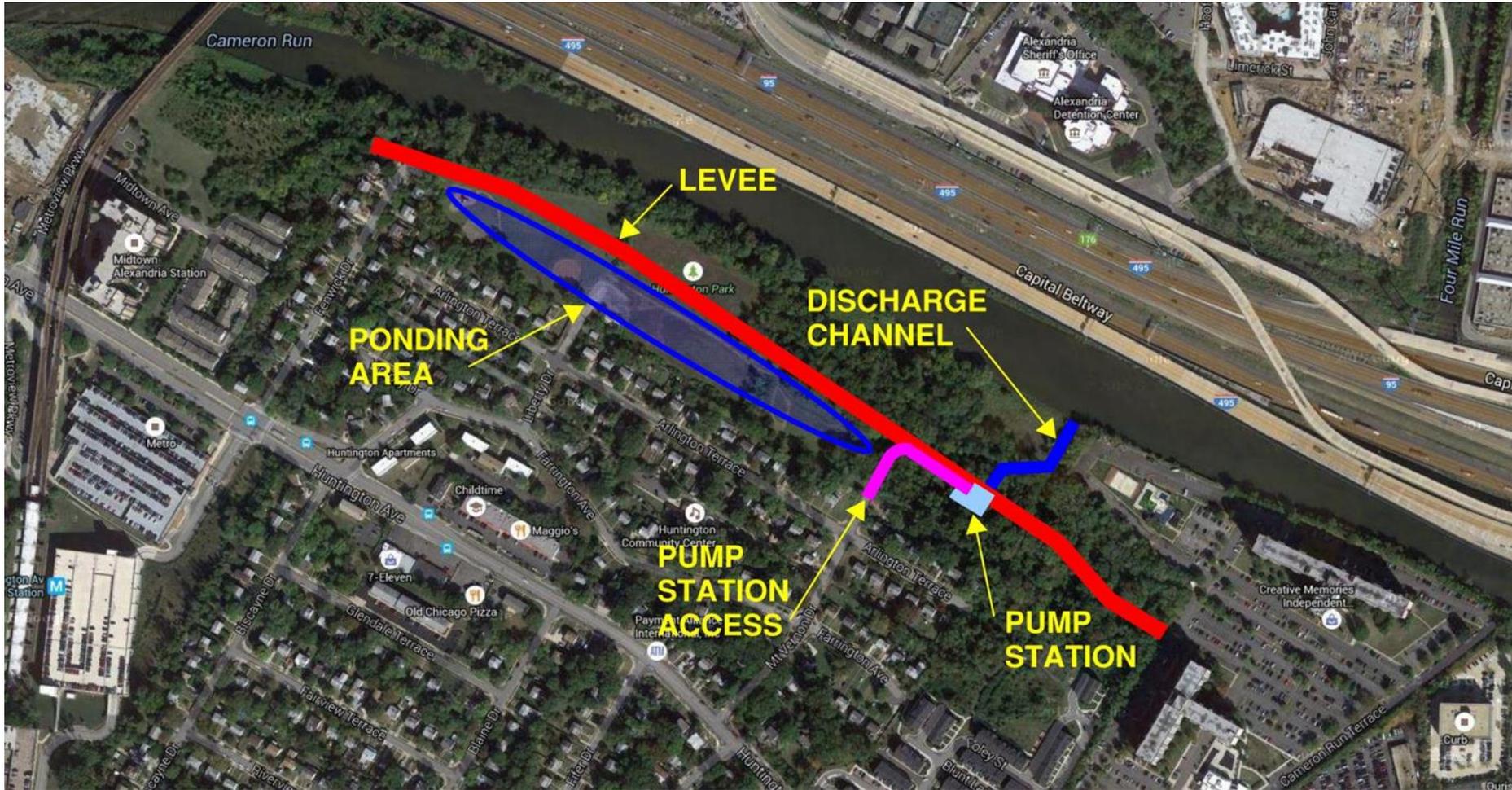
## Key Design Features

- Earthen Levee/I-Wall Combination
- Collection Drains
- Pump Station
- Stormwater Diversion



# Project Background

## Levee System



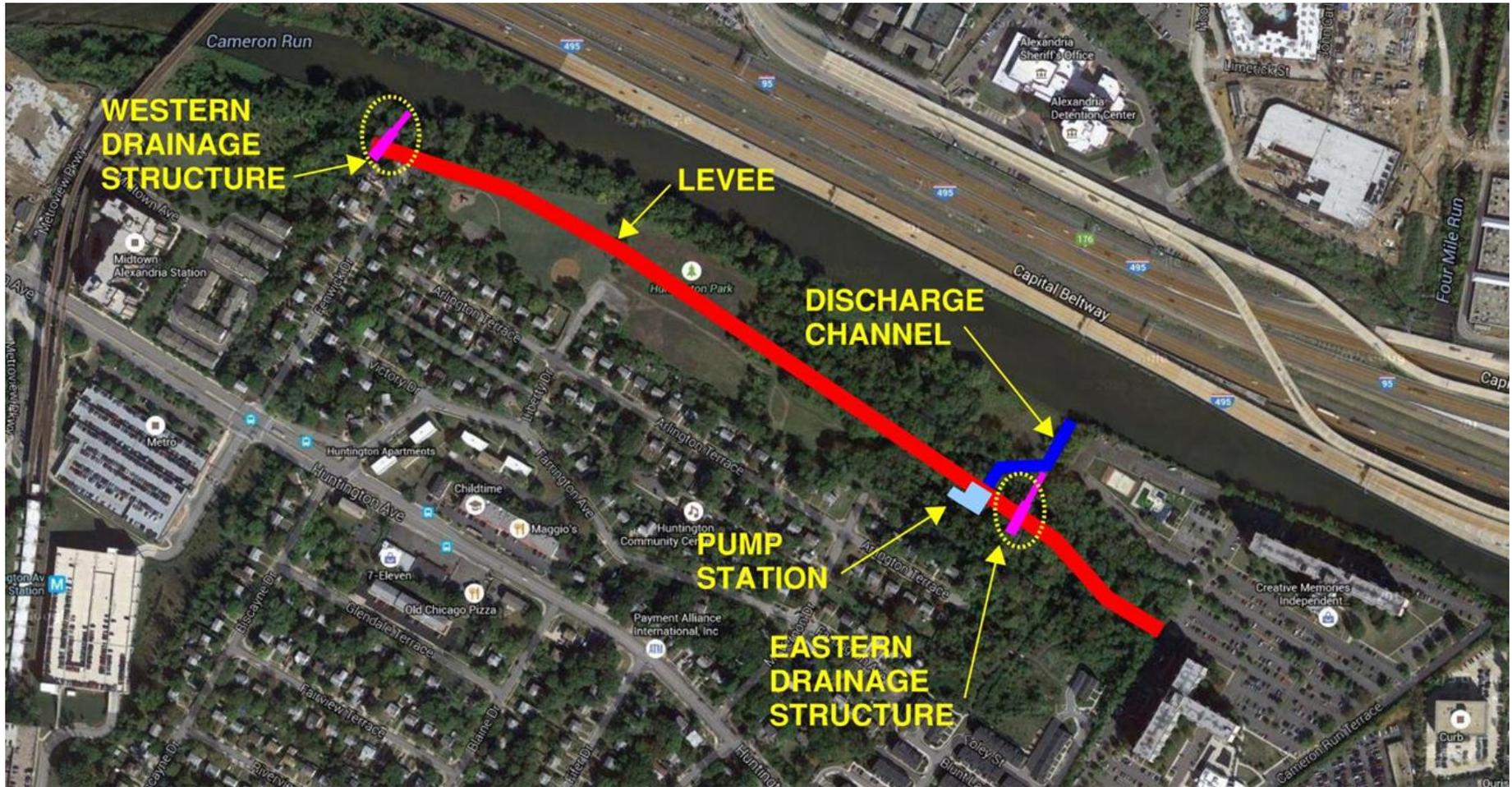
# Design Updates

## Key Design Updates since January 2015

1. Drainage Structures through Levee Deleted
2. Added Low Flow Pumping System
3. Open Channel

# Design Updates

## Design Update #1: Delete Drainage Structures



# Design Updates

## Design Update #1: Drainage Structures Deleted

- Flap Gate Reliability Concern
- Sedimentation
- Improved Drainage
- Eliminates Penetrations of Levee



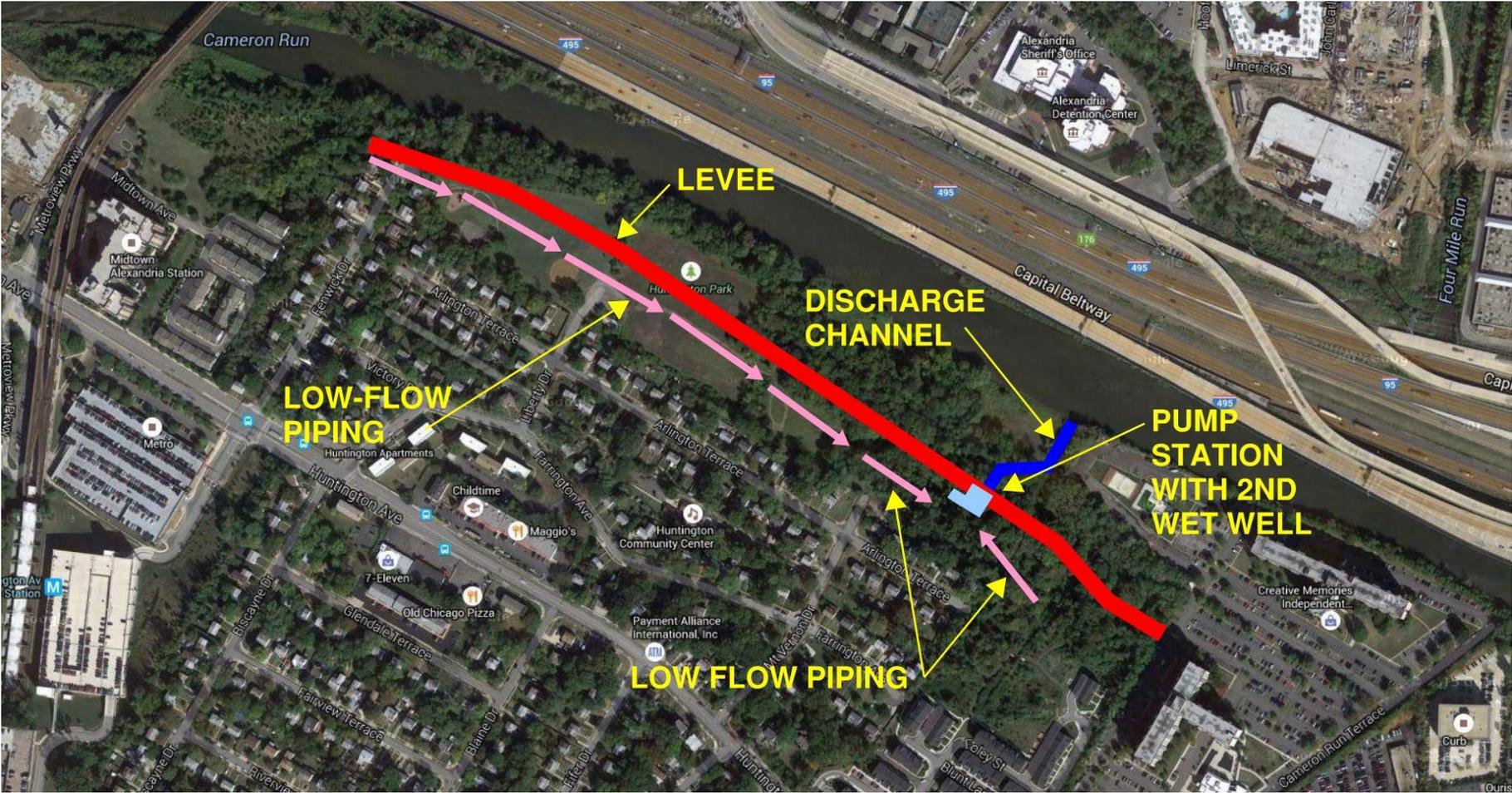
# Design Updates

## **Design Update #2 – Low Flow Pumping System**

- Required as part of Design Update #1
- Improved Drainage

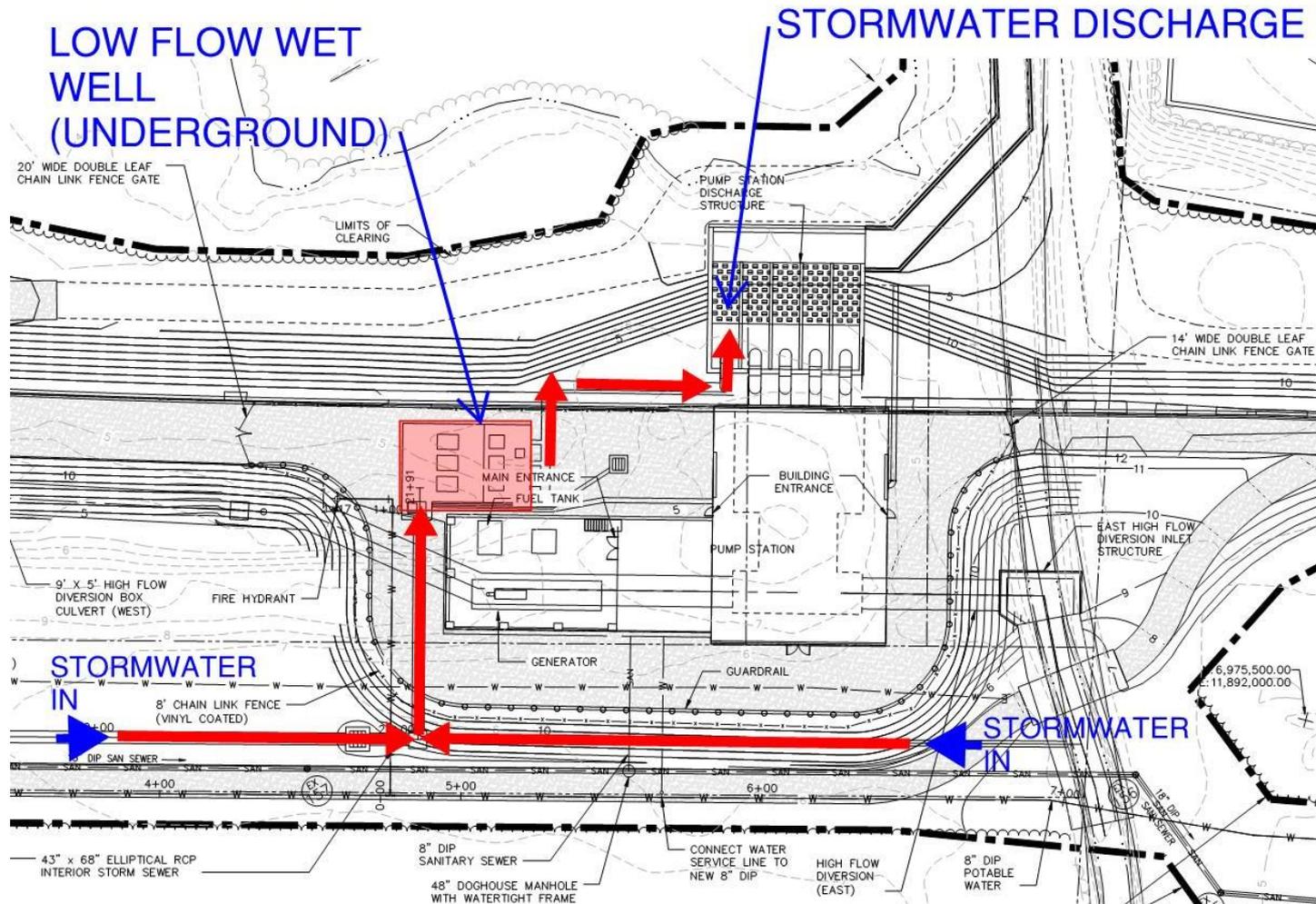
# Design Updates

## Design Update #2– Low Flow Pumping System



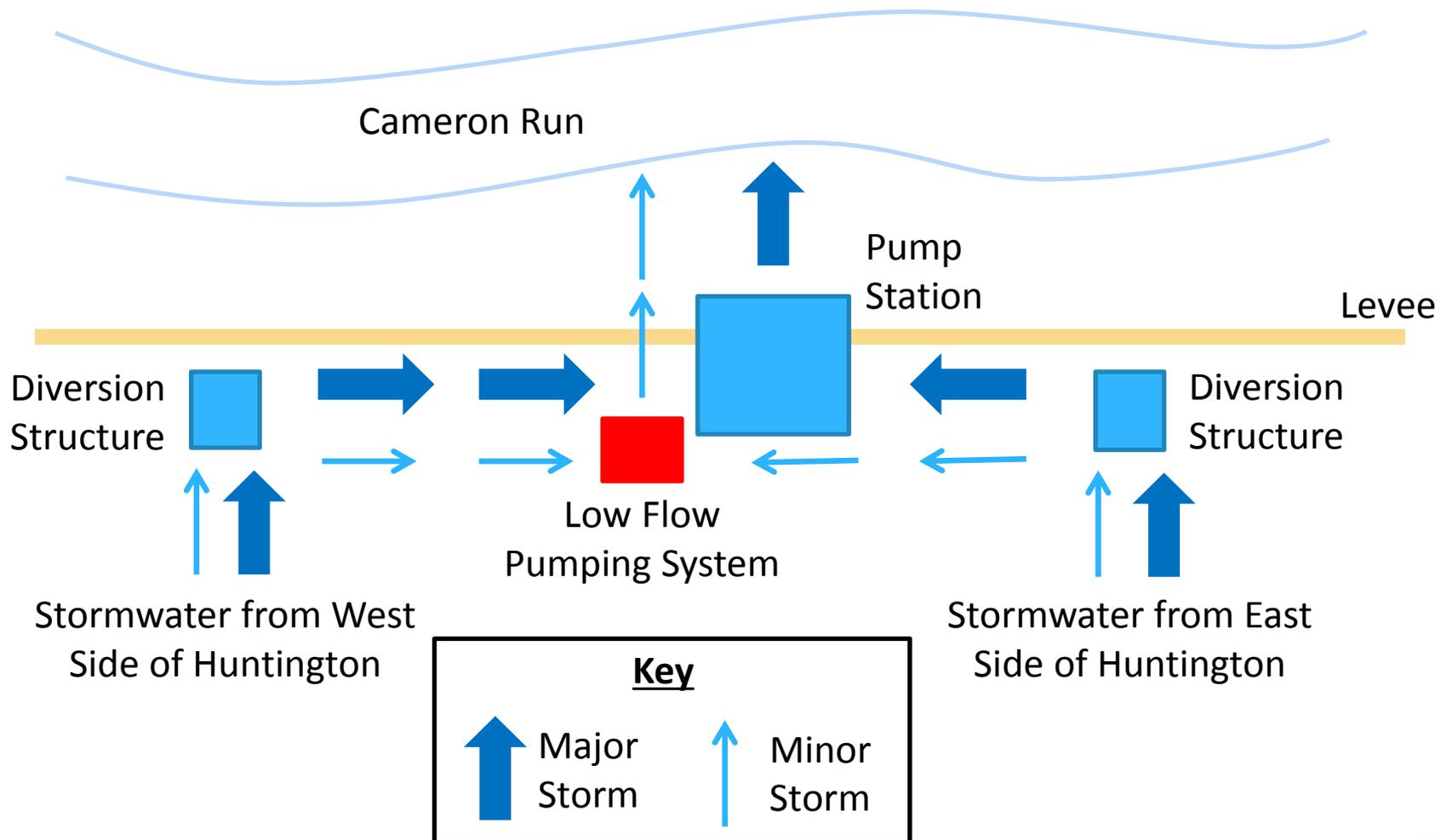
# Design Updates

## Design Update #2– Low Flow Pumping System



# Design Updates

## Design Updates #1 and #2



# Design Updates

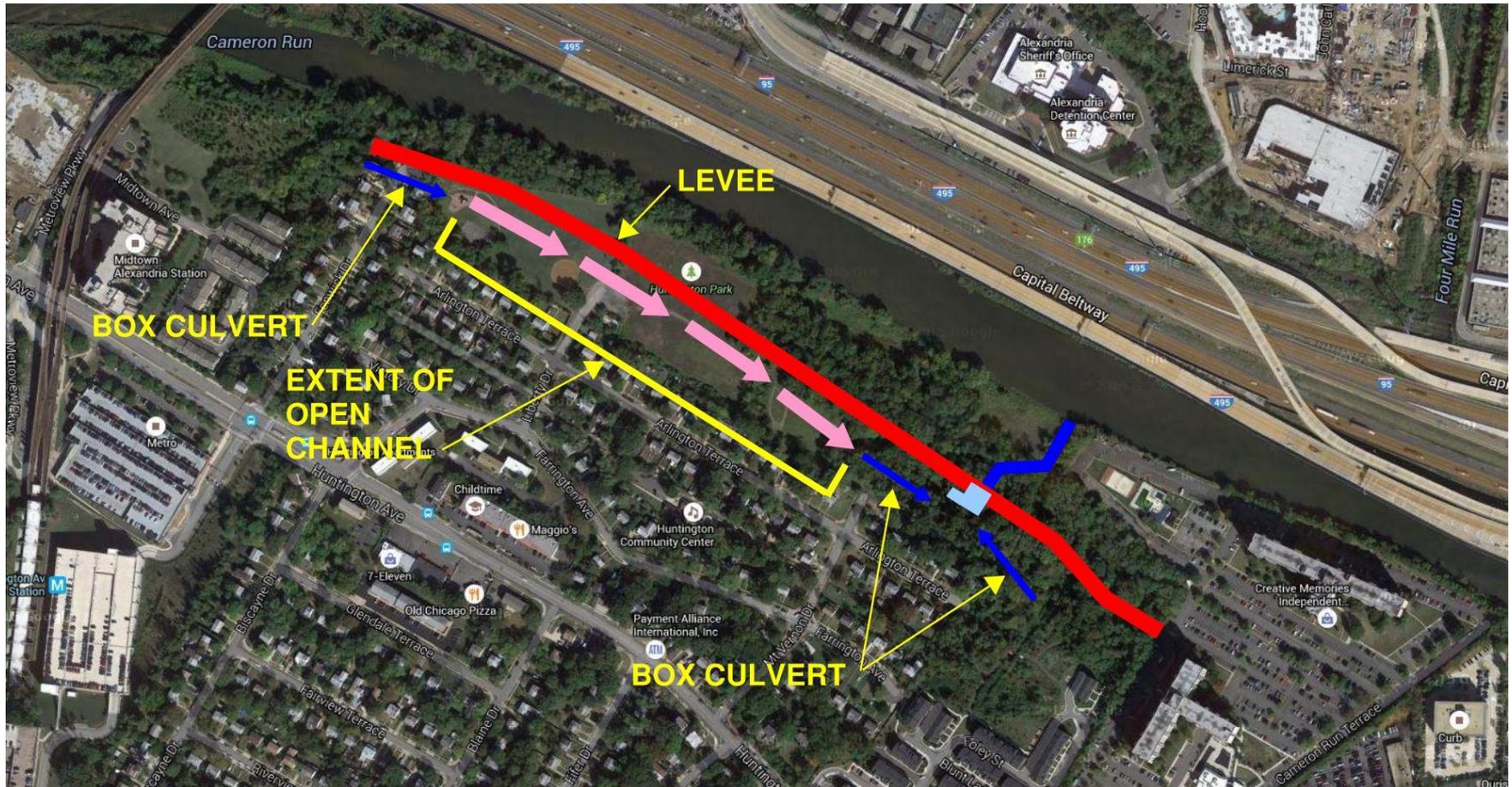
## Design Update #3: Open Channel Design:

- Deleted Long Section of Box Culvert
  - Safety
  - Maintenance
- Overland Flow for Major Storm
- Improved Maintenance
- Improved Sloping



# Design Updates

## Design Update #3: Open Channel Design:



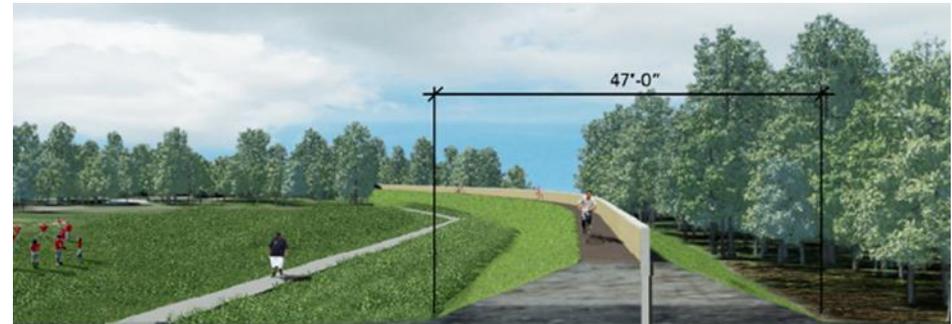
# Community Amenities

- Ponding Area:

- Native Grasses, Mowed 1-3 times per Year
- Trail in Ponding Area

- Connection to Existing Trail

- Playground Upgrade in Farrington Park



# Environmental Design

## Envision

- Rating System for Infrastructure Projects
- Bronze Level
- Similar to LEED
  
- 5 Categories:
  - Quality of Life
  - Leadership
  - Resource Allocation
  - Natural World
  - Climate and Risk



# Flood Modelling Results

## 100-year Stormwater Ponding



Some Street Flooding, but Water Surface Elevation Below Structures

# Flood Modelling Results

## 25-year Stormwater Ponding



Some Street Flooding, but Water Surface Elevation Below Structures

# Flood Modelling Results

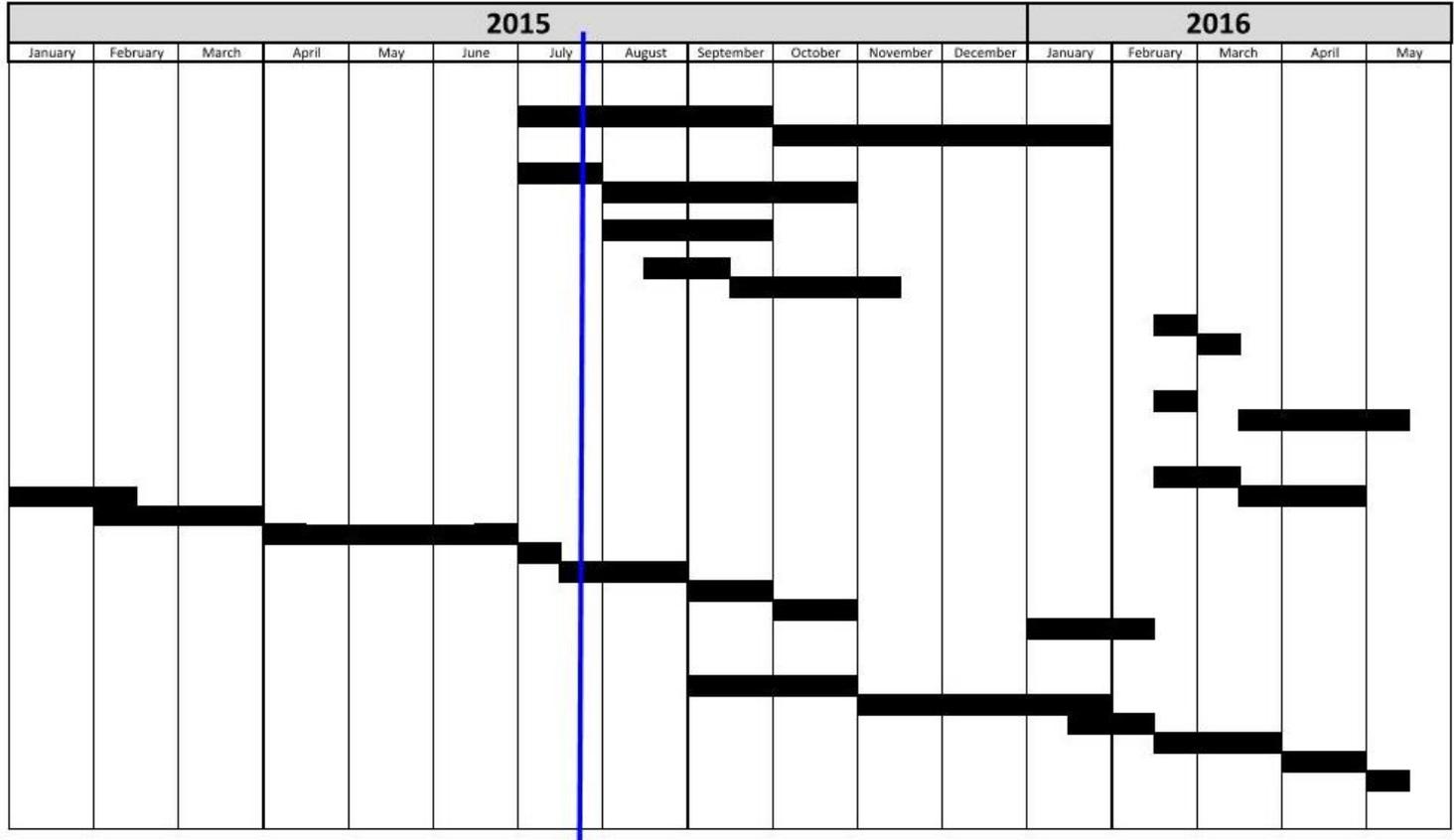
## 10-year Stormwater Ponding



Some Street Flooding, but Water Surface Elevation Below Structures

# Permitting Update

FEMA  
 Wetlands  
 DEQ  
 Land Disturbance  
 VDOT  
 Stormwater  
 Site Permit  
 Building Permit



# Schedule

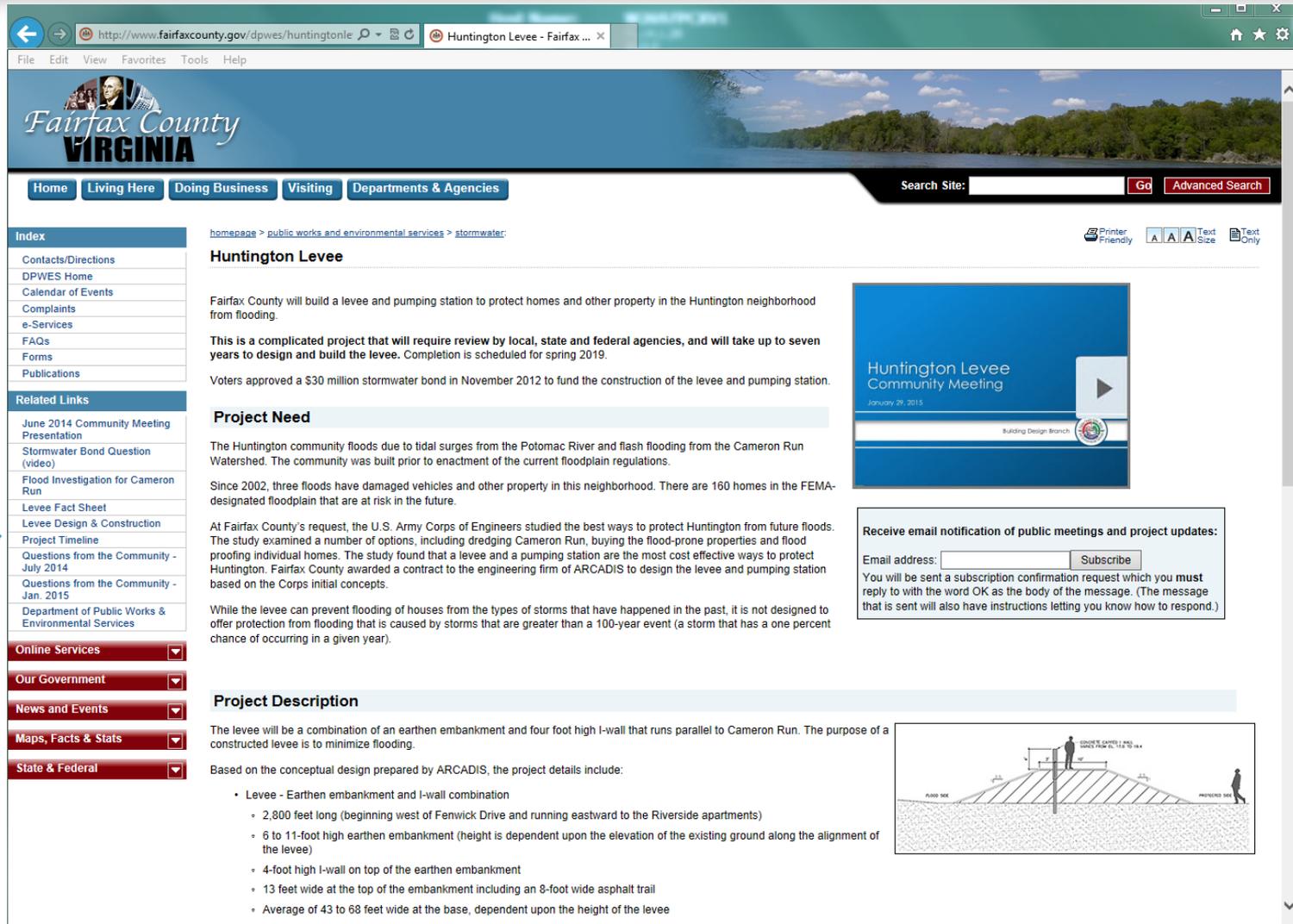
- **Next Steps**

- Complete 60% Design Review – August 2015
- Begin Construction Documents Phase – Late August 2015
- Second Site Plan Permit Submission – Late August/ September 2015
- CLOMR Submission – August 2015
- Construction Documents 50% Submission – October 2015
- Construction Documents 100% Submission – January 2016
- Bid Documents – May 2016
- Advertise/ Bid / Contract – Fall 2016
- Notice of Award to Contractor – December 2016

# Schedule

- **Phase II (January 2014-Winter 2017)**
  - ✓ Schematic Design (30%)
  - ✓ Design Development (60%)
    - Permitting (began March 2015)
    - Land Acquisition (began September 2014)
    - Construction Documents (100%)
    - Bidding
- **Phase III (Winter 2017-Spring 2019)**
  - Construction

# Community Outreach



http://www.fairfaxcounty.gov/dpwes/huntingtonle

Huntington Levee - Fairfax ...

File Edit View Favorites Tools Help

Fairfax County VIRGINIA

Home Living Here Doing Business Visiting Departments & Agencies

Search Site:  Go Advanced Search

Printer Friendly Text Size Text Only

homepage > public works and environmental services > stormwater:

## Huntington Levee

Fairfax County will build a levee and pumping station to protect homes and other property in the Huntington neighborhood from flooding.

This is a complicated project that will require review by local, state and federal agencies, and will take up to seven years to design and build the levee. Completion is scheduled for spring 2019.

Voters approved a \$30 million stormwater bond in November 2012 to fund the construction of the levee and pumping station.

### Project Need

The Huntington community floods due to tidal surges from the Potomac River and flash flooding from the Cameron Run Watershed. The community was built prior to enactment of the current floodplain regulations.

Since 2002, three floods have damaged vehicles and other property in this neighborhood. There are 160 homes in the FEMA-designated floodplain that are at risk in the future.

At Fairfax County's request, the U.S. Army Corps of Engineers studied the best ways to protect Huntington from future floods. The study examined a number of options, including dredging Cameron Run, buying the flood-prone properties and flood proofing individual homes. The study found that a levee and a pumping station are the most cost effective ways to protect Huntington. Fairfax County awarded a contract to the engineering firm of ARCADIS to design the levee and pumping station based on the Corps initial concepts.

While the levee can prevent flooding of houses from the types of storms that have happened in the past, it is not designed to offer protection from flooding that is caused by storms that are greater than a 100-year event (a storm that has a one percent chance of occurring in a given year).

### Project Description

The levee will be a combination of an earthen embankment and four foot high I-wall that runs parallel to Cameron Run. The purpose of a constructed levee is to minimize flooding.

Based on the conceptual design prepared by ARCADIS, the project details include:

- Levee - Earthen embankment and I-wall combination
  - 2,800 feet long (beginning west of Fenwick Drive and running eastward to the Riverside apartments)
  - 6 to 11-foot high earthen embankment (height is dependent upon the elevation of the existing ground along the alignment of the levee)
  - 4-foot high I-wall on top of the earthen embankment
  - 13 feet wide at the top of the embankment including an 8-foot wide asphalt trail
  - Average of 43 to 68 feet wide at the base, dependent upon the height of the levee

### Huntington Levee Community Meeting

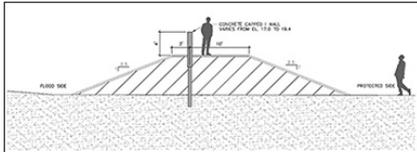
January 29, 2015

Building Design Branch

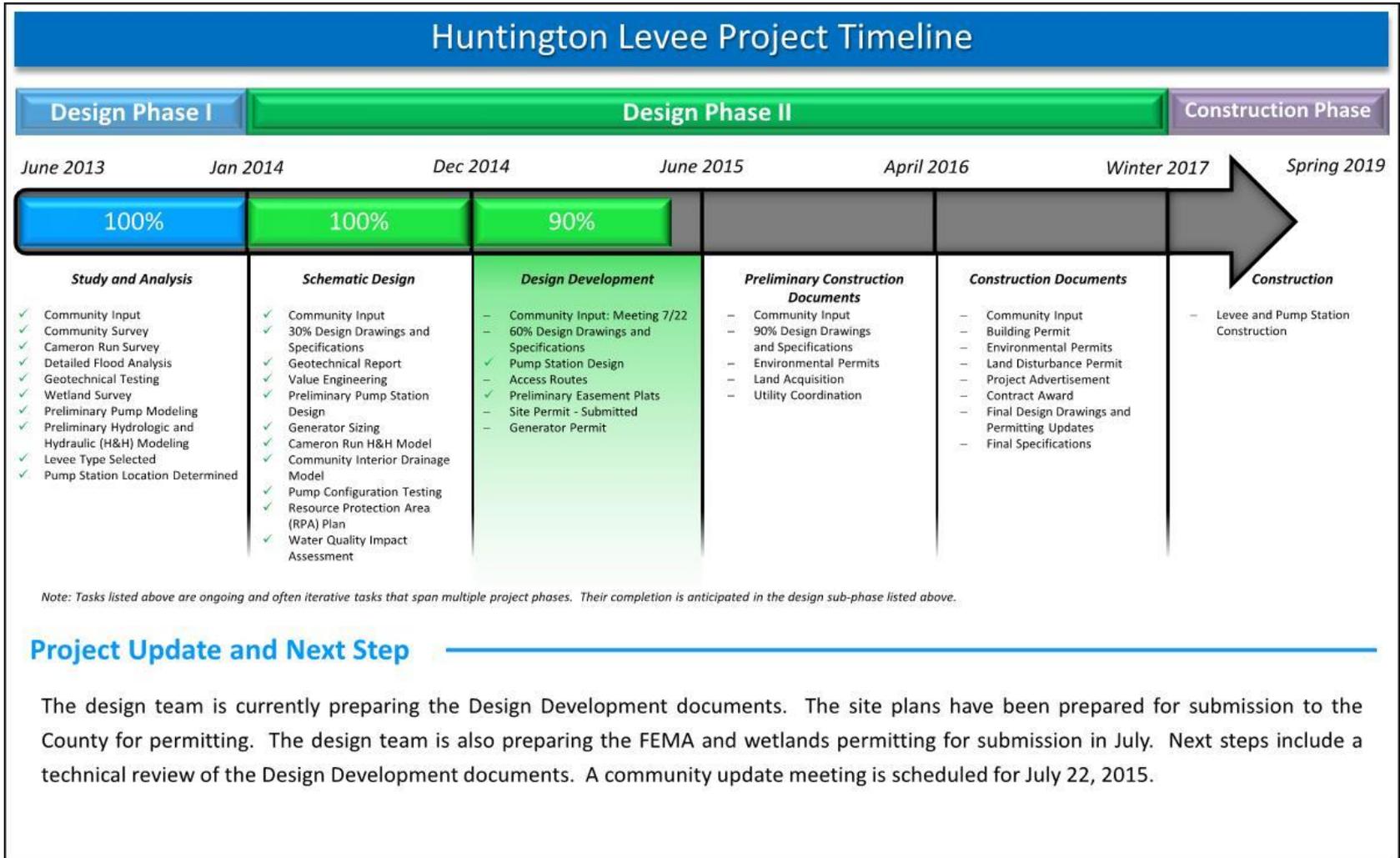
Receive email notification of public meetings and project updates:

Email address:

You will be sent a subscription confirmation request which you must reply to with the word OK as the body of the message. (The message that is sent will also have instructions letting you know how to respond.)



# Community Outreach



## Project Update and Next Step

The design team is currently preparing the Design Development documents. The site plans have been prepared for submission to the County for permitting. The design team is also preparing the FEMA and wetlands permitting for submission in July. Next steps include a technical review of the Design Development documents. A community update meeting is scheduled for July 22, 2015.

# Community Outreach

## Community Meetings

- Bi-annually
- Important Milestones
- Next Community meeting – January 2016
  - Updates on Permitting
  - Updates on Interior Channel

# Community Outreach

- Contact Information – Huntington Levee Project
  - Phone #: 703-324-5800
  - Email address: [HuntingtonLevee@fairfaxcounty.gov](mailto:HuntingtonLevee@fairfaxcounty.gov)
- Contact Information – Stormwater Questions
  - Phone #: 703-324-5821
  - Email address: [SWPDmail@fairfaxcounty.gov](mailto:SWPDmail@fairfaxcounty.gov)
- Huntington Levee Website:  
[www.fairfaxcounty.gov/dpwes/huntingtonlevee](http://www.fairfaxcounty.gov/dpwes/huntingtonlevee)

To request this document in an alternate format call 703-324-5800, TTY 711.



HUNTINGTON LEVEE PROJECT

JULY 2015

FIGURE 1

