



**ROUTE 120 (NORTH GLEBE ROAD) OVER PIMMIT RUN
BRIDGE REHABILITATION
ARLINGTON COUNTY
PROJECT NO. 0120-000-870, P101; UPC 114105
PROJECT NO. 0120-000-867, B623; UPC 111691**

www.virginiadot.org/glebeoverpimmit

Shahrad Behboodi, PE – Project Manager, Structure & Bridge

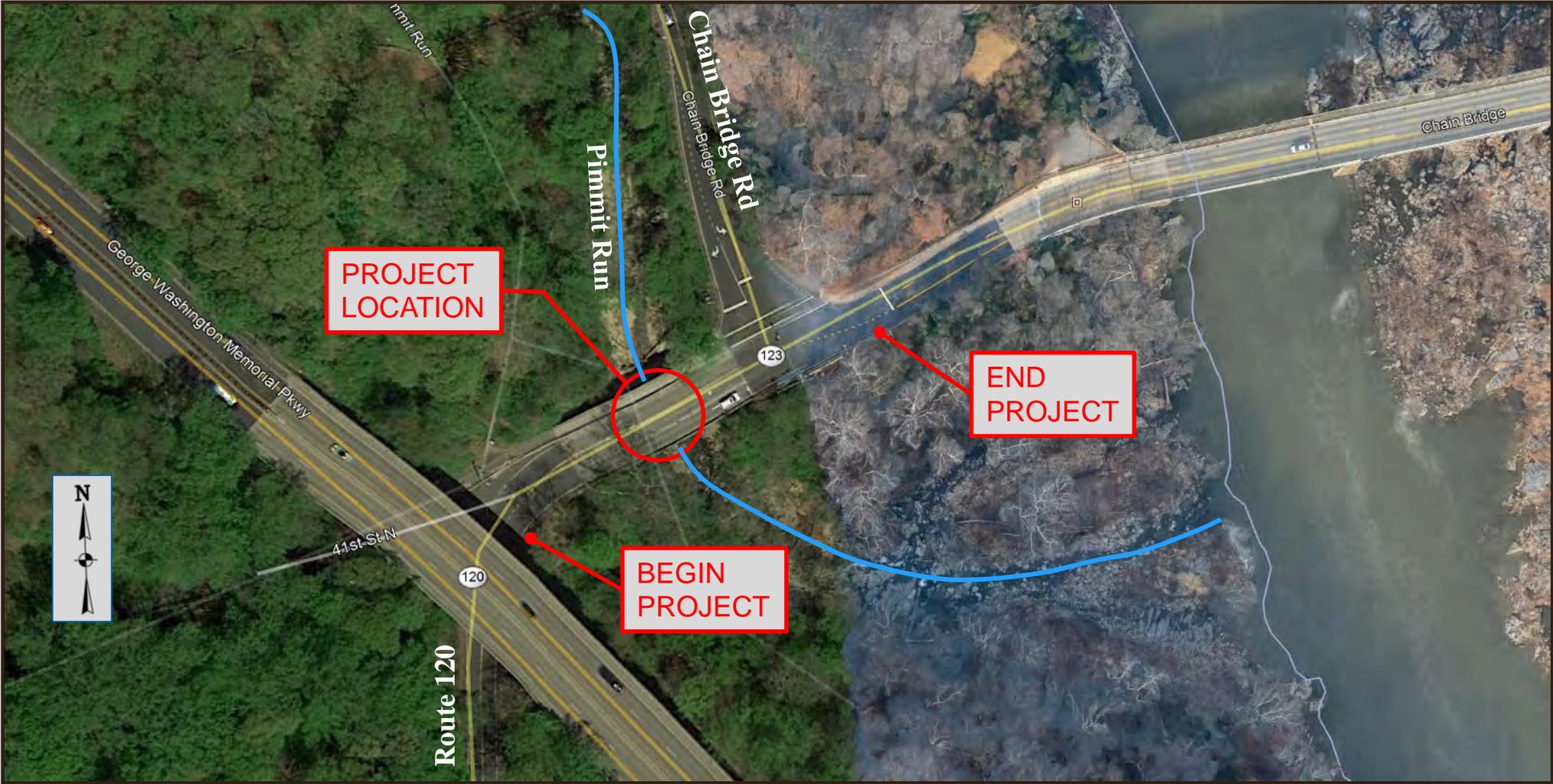
July, 2020



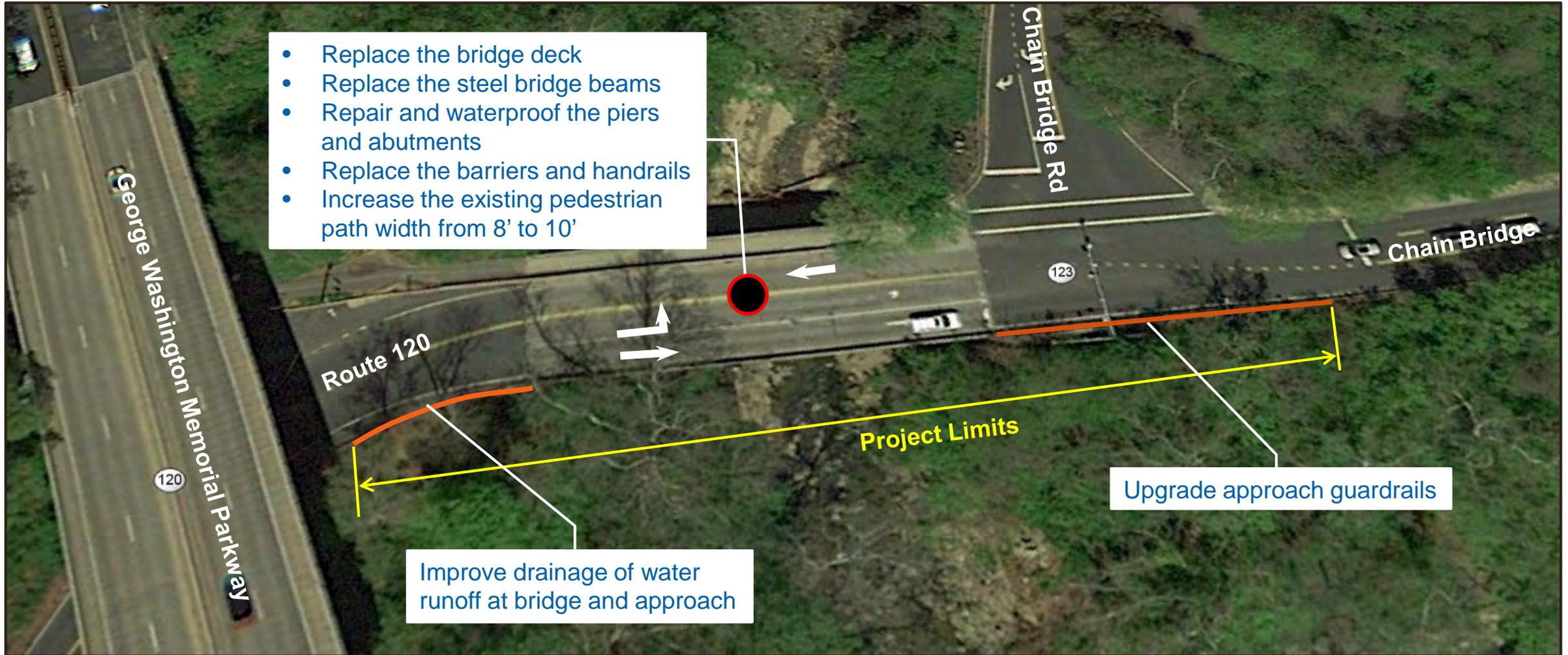
AGENDA

- **Project Location and Overview**
- **Existing Bridge Description**
- **Existing Condition and Proposed Work**
- **Proposed Traffic Control/Accelerated Bridge Construction Approach**
- **Anticipated Project Schedule and Cost**
- **Questions and Answers**

PROJECT LOCATION



PROJECT OVERVIEW



EXISTING BRIDGE

VIEW LOOKING SOUTHWEST FROM THE INTERSECTION OF CHAIN BRIDGE ROAD AND ROUTE 120

VIEW OF THE EXISTING BRIDGE OVER PIMMIT RUN LOOKING NORTH

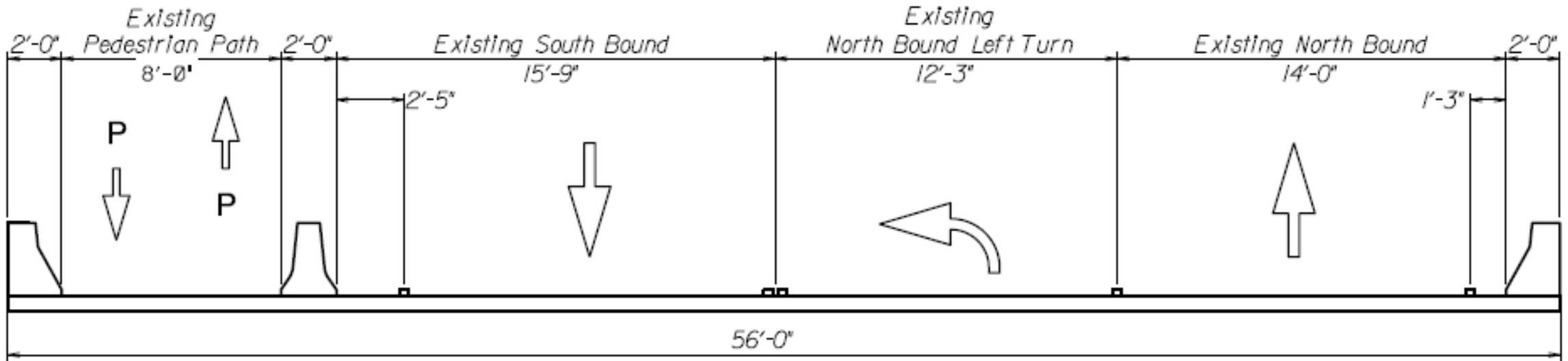


EXISTING BRIDGE DESCRIPTION

- Existing bridge was built in 1973. Beams repainted in 1993
- Bridge length = 160'-2" (three spans). Bridge roadway width = 42'-0"
- Roadway Classification: Other Principal Arterial
- Average Daily Traffic = 13,000 vehicles



EXISTING BRIDGE TYPICAL SECTION



EXISTING CONDITION & PROPOSED WORK

BRIDGE DECK



Numerous potholes in bridge deck deteriorating surface
Condition Rating of 5 of 9 (Fair)

- **Proposed work: Replace the entire bridge deck and supporting beams**

EXISTING CONDITION & PROPOSED WORK

BRIDGE RAILINGS

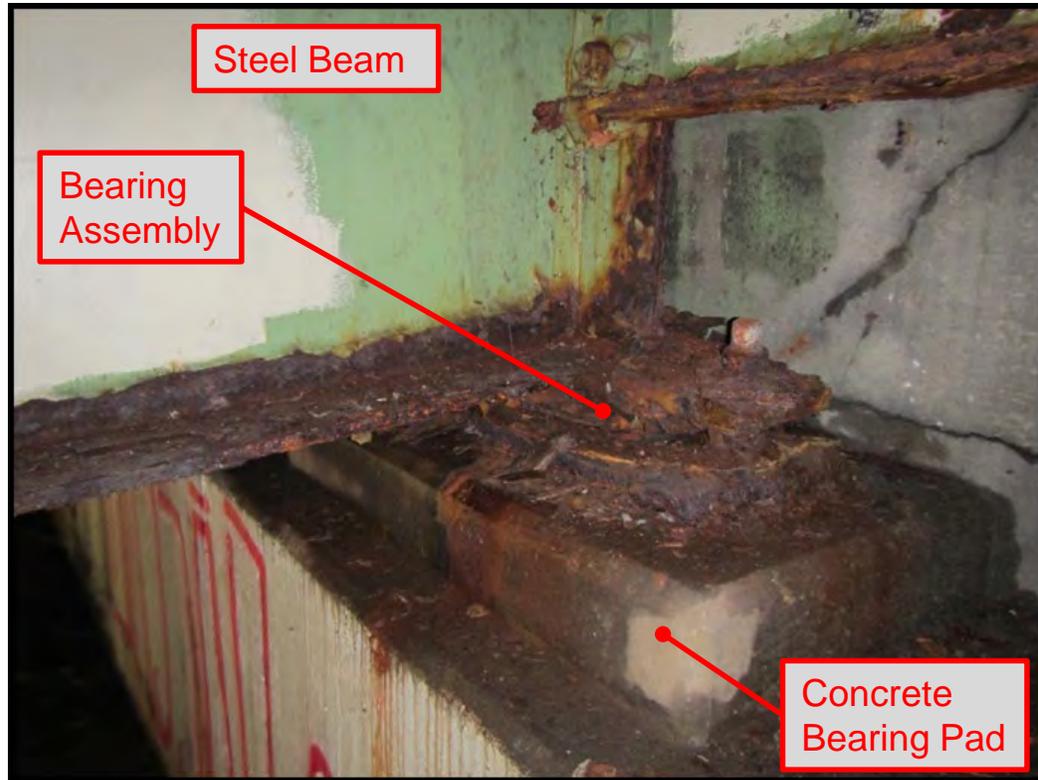


Damaged and misaligned handrails

➤ **Proposed work: Replace the barriers and handrails**

EXISTING CONDITION & PROPOSED WORK

BEAMS AND BEARINGS



Heavily corroded beams and bearings

Condition Rating 4 of 9 (Poor, Structurally Deficient)

- **Proposed work: Replace bearings and steel beams supporting the deck**

EXISTING CONDITION & PROPOSED WORK

BRIDGE ABUTMENTS AND PIERS



Abutments/Piers exhibit deteriorated concrete and exposed reinforcing bars
Condition Rating 5 of 9 (Fair)

➤ **Proposed work: Concrete will be repaired and receive waterproofing coating**

EXISTING CONDITION & PROPOSED WORK

DRAINAGE

No Drainage Provisions to Collect Pavement Runoff

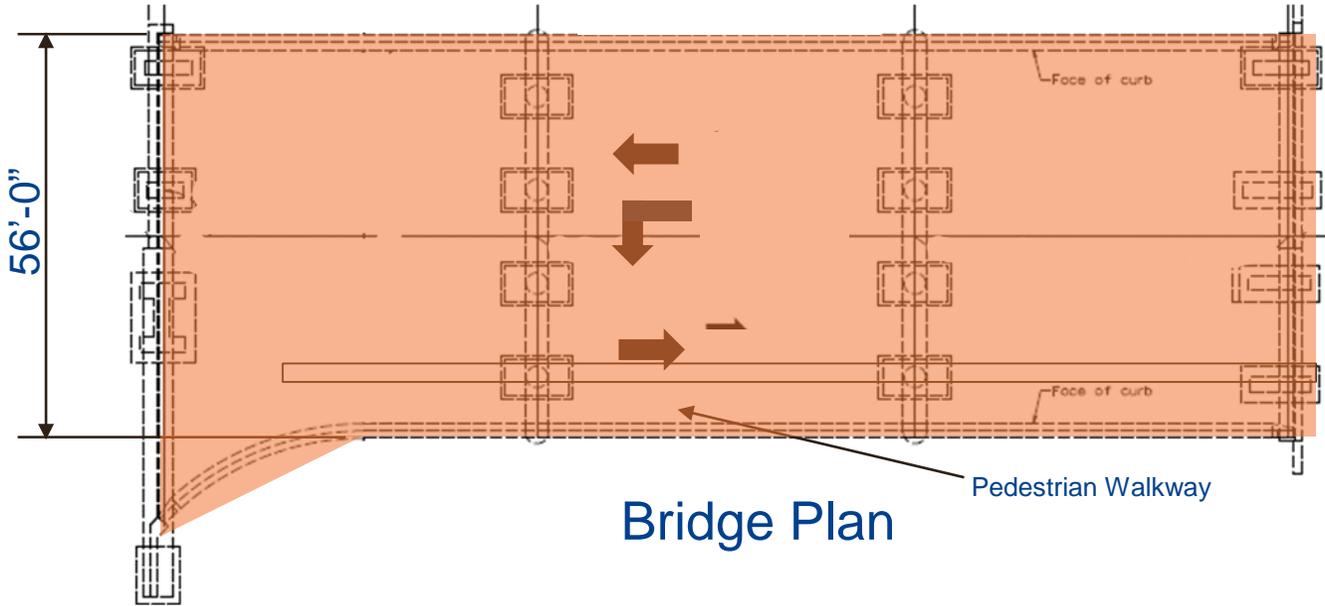


Soil Erosion

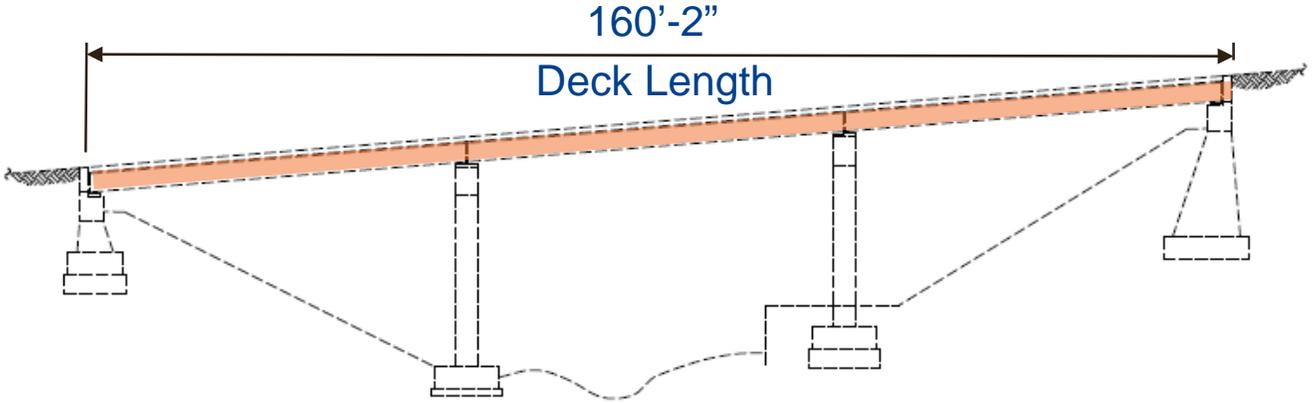
Erosion at southwest approach due to lack of drainage inlet to collect water

➤ **Proposed work: Install drainage inlet; build retaining wall**

PROPOSED DECK AND BEAM REPLACEMENT



Bridge Plan



Elevation

ACCELERATED BRIDGE CONSTRUCTION

- **In order to efficiently replace the bridge deck and beams, Accelerated Bridge Construction (ABC) techniques will be used**
- **Prefabricated beam/deck slab units (fabricated off-site) will be placed and connected together**
- **Benefits**
 - **Reduces traffic impacts and reduces onsite construction time**
 - **Improves constructability and work-zone safety by eliminating traffic from the work zone**

ACCELERATED BRIDGE REPLACEMENT

Example of use of Prefabricated deck/beam units for ABC replacement



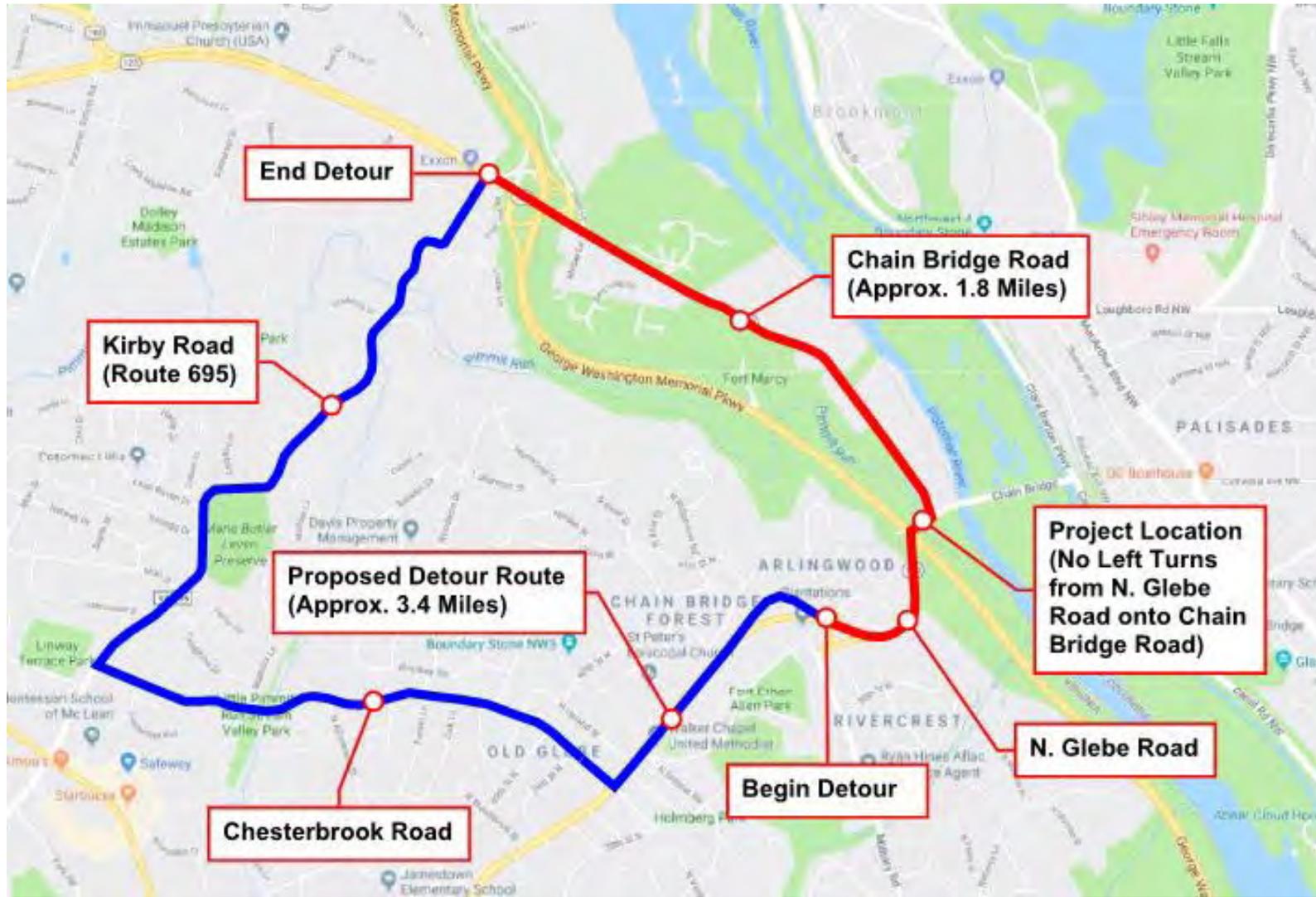
- Prefabricated beam/deck slab unit delivered by truck

- Prefabricated units placed side-by-side and connected to form the new bridge structure/riding surface

PROPOSED MAINTENANCE OF TRAFFIC

- **The proposed ABC approach will limit the closure of the road and duration of work to a very minimal timeframe as opposed to that required for staged construction**
- **The bridge will be closed entirely and traffic will be detoured around the site for an estimated 9-day period as opposed to a much longer period of detour required for conventional construction methods**

PROPOSED DETOUR



ANTICIPATED SCHEDULE AND COST

Anticipated Schedule:

Construction

Advertisement for Construction: **Fall/Winter 2020**

Begin Construction: **Spring 2021**

Construction Completion: **Fall 2021**

Estimated Project Costs:

Total Cost: **\$9.5 million** (PE and Construction)

Preliminary Engineering**\$ 1.0 million**

Construction**\$ 8.5 million**

This project is being funded with State of Good Repair (SGR) funds

THANK YOU

QUESTIONS & COMMENTS

Send comments via email or comment form until August 7th to:

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meetingcomments@vdot.virginia.gov

