



King St. (Route 7) over I-395 Bridge Rehabilitation

November 9, 2016

Brian Morrison, P.E.

NOVA District Project Manager

(703) 259-2606

Brian.Morrison@vdot.virginia.gov

Purpose & Agenda

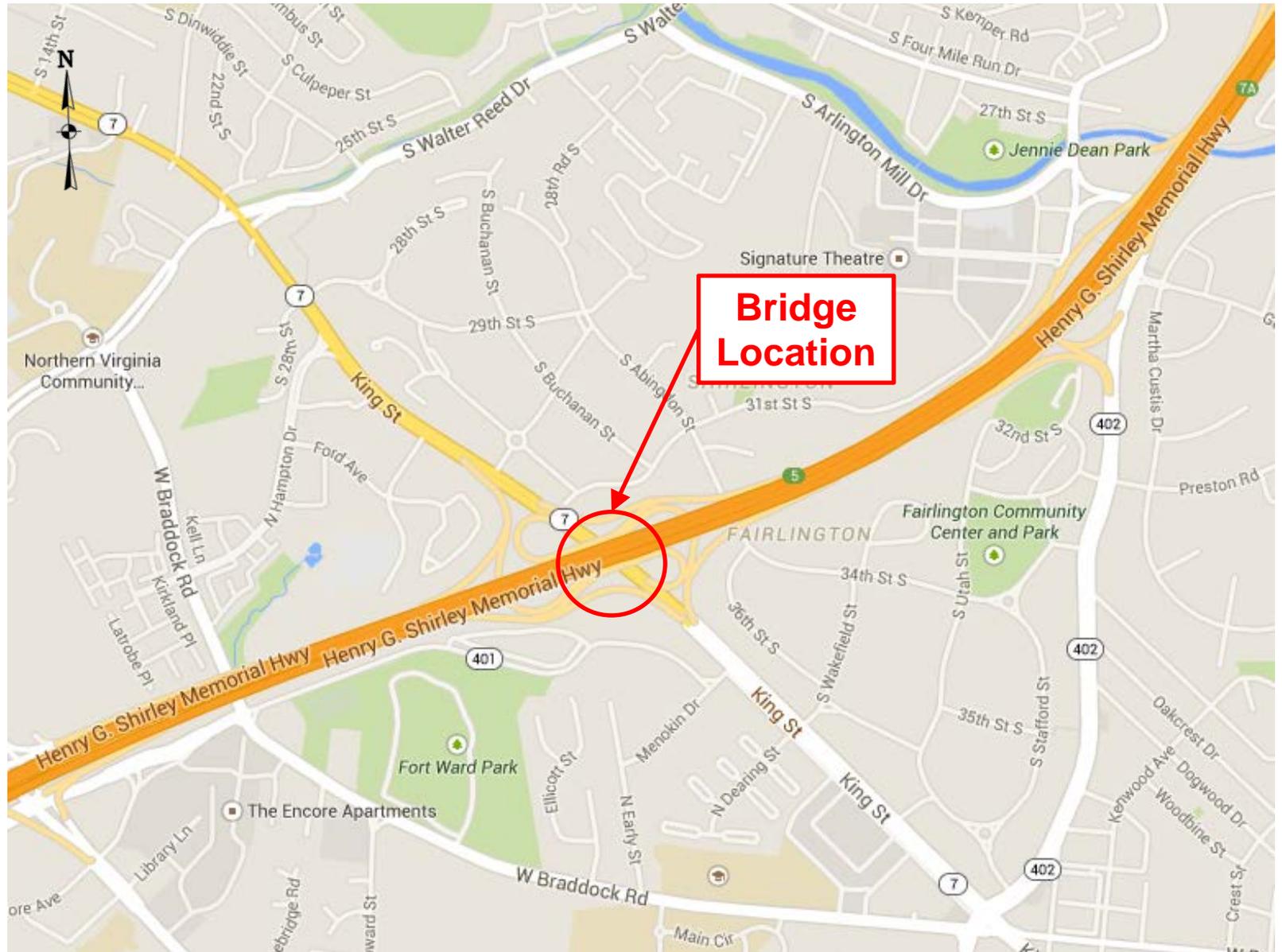
Purpose

Review the project with community stakeholders & obtain feedback for preparing the final design

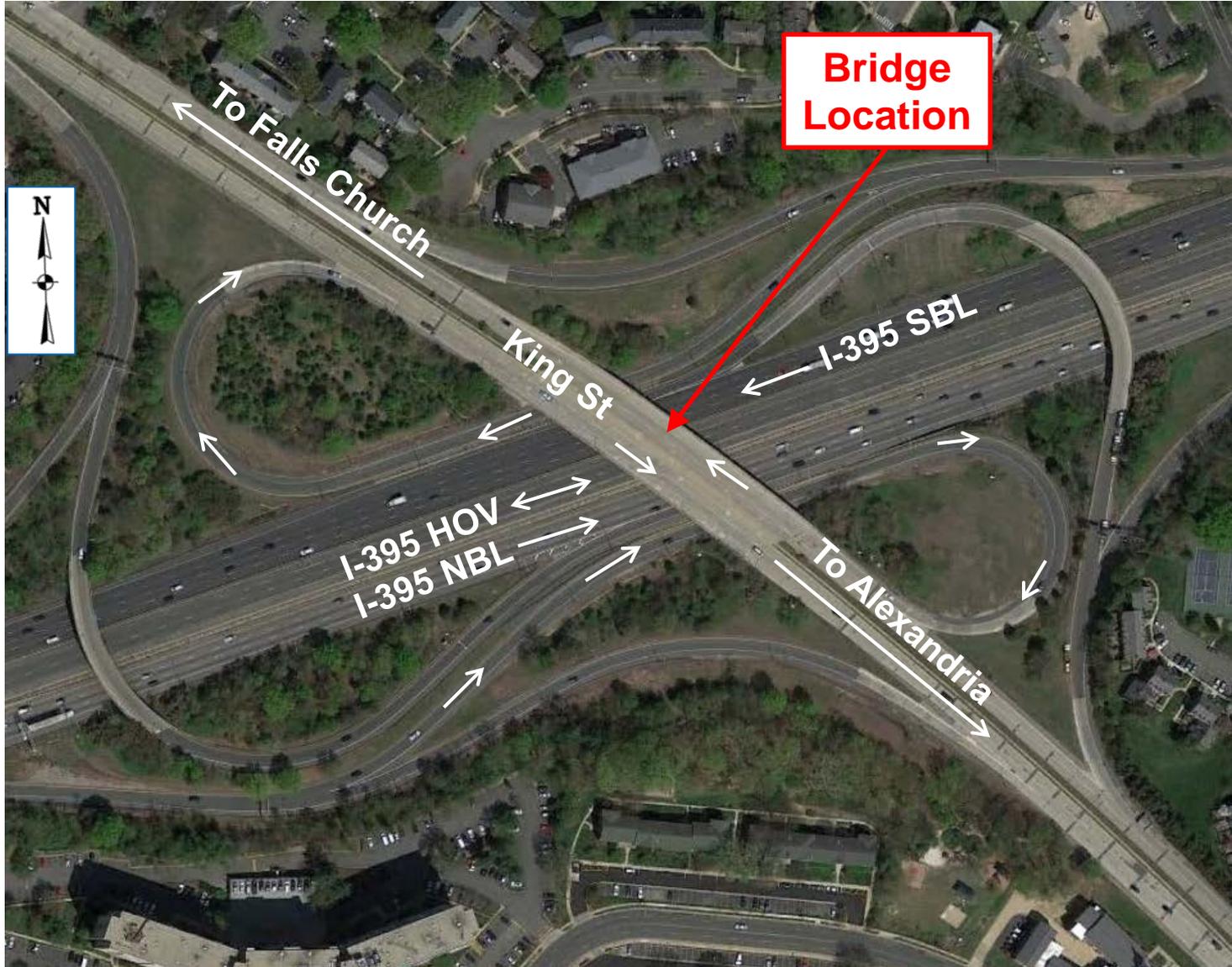
Agenda

- Existing Condition Summary
- Scope of Repair Work
- Stages of Construction for Superstructure Work
- Stages of Construction for Substructure Repair Work
- Safety Improvements
- Cost and Schedule

Location Map



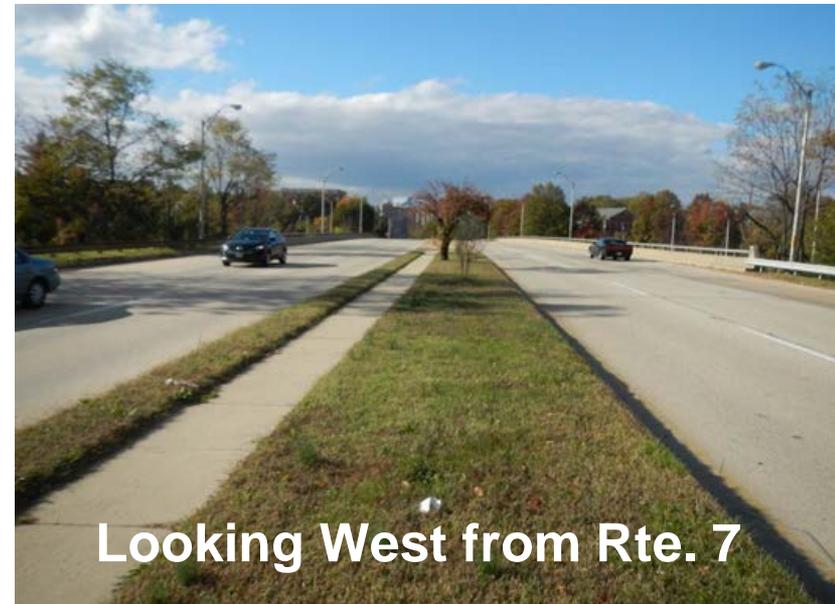
Aerial Map



Existing Bridge



- Built in 1970
- 5 spans totaling 410-feet in length
- Rolled steel girders on a curved alignment
- 6 lanes of traffic with raised median
- Deck CR 6 (Good)
- Superstructure CR 5 (Fair)
- Substructure CR 4 (Poor)
- Classified as Structurally Deficient



Existing Bridge Deck Condition



Existing Superstructure Condition



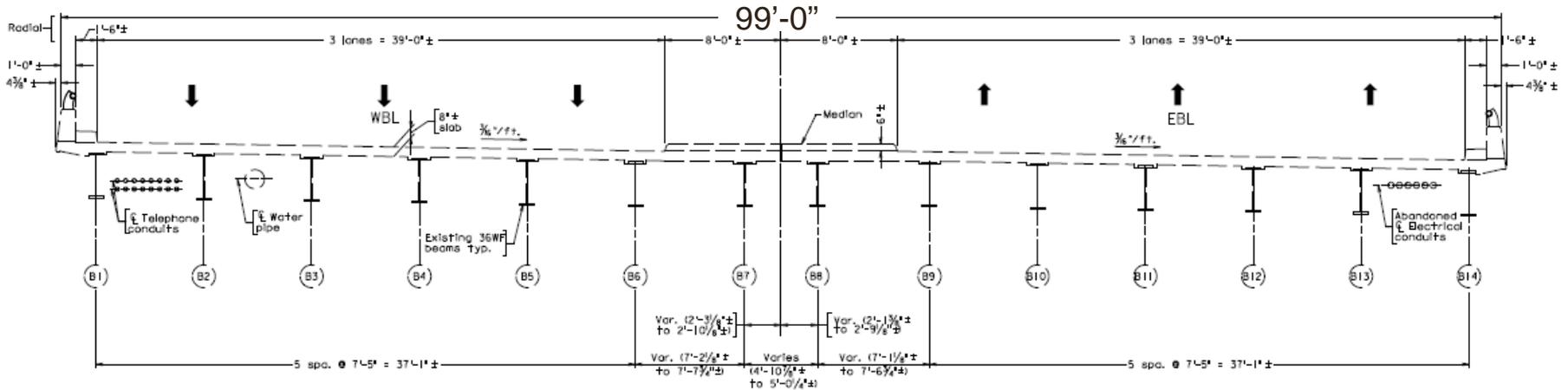
Existing Substructure Condition



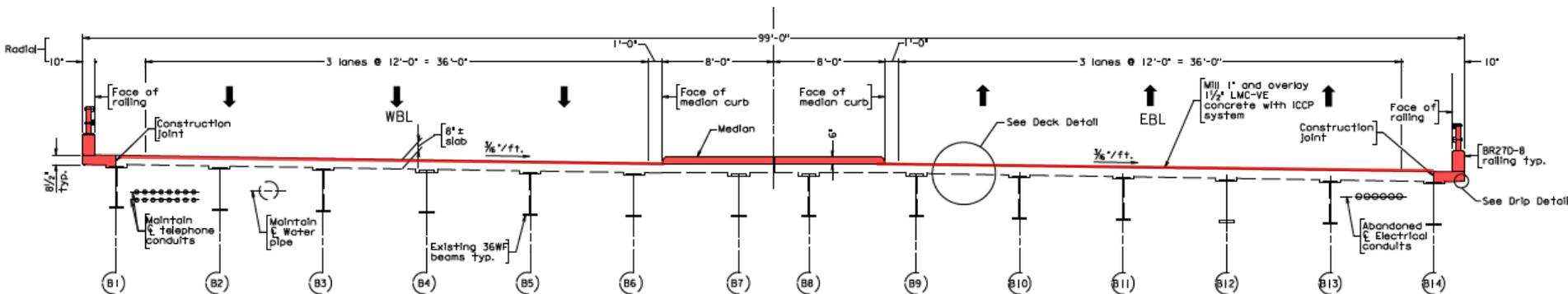
Scope of Bridge Repair Work

- Replace the existing bridge railings.
- Repair Bridge Deck including closing of the Bridge deck expansion joints at all piers and reconstructing deck expansion joints at the abutments.
- Mill Bridge deck and install Impressed Current Cathodic Protection (ICCP) System with concrete overlay.
- Clean and paint Steel beams. Replace all bearing assemblies.
- Repair deteriorated concrete in pier caps, bearing pedestals, pier columns and abutments.
- Install Impressed Current Cathodic Protection (ICCP) System in all pier caps.
- Treat all pier columns and abutments with Electrochemical Chloride Extraction (ECE).
- Minor bicycle and pedestrian improvements

Transverse Section



Existing Bridge

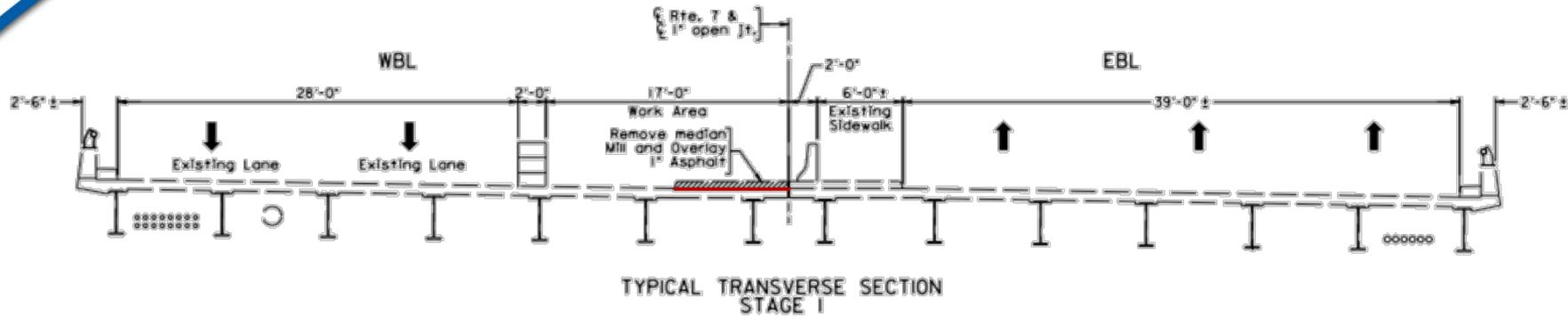


Proposed Bridge (2'-0" increase in shoulder width on each side)

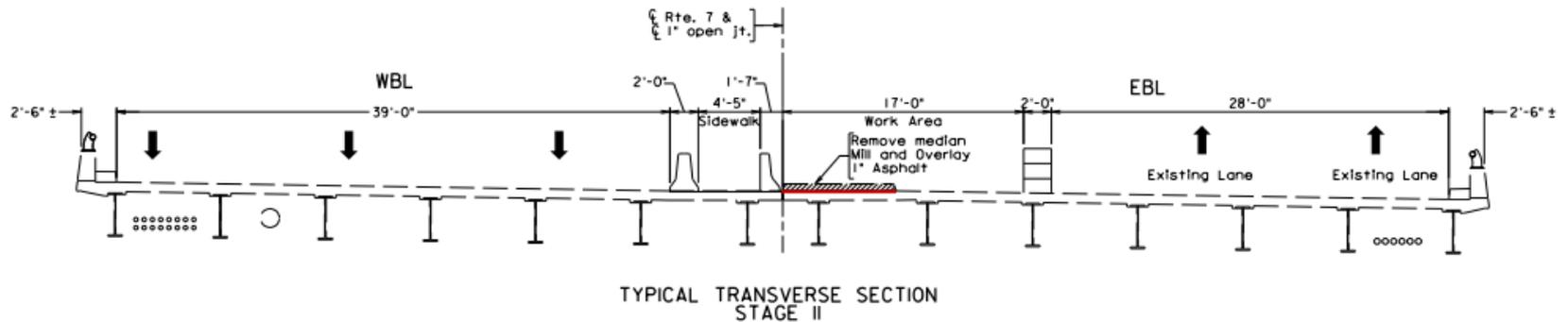
Legend:

- Existing Structure
- Proposed Structure

Bridge Railing Replacement



- Stage I - Remove raised median (WBL) during night time closures. (Estimated Duration: 4 nights)



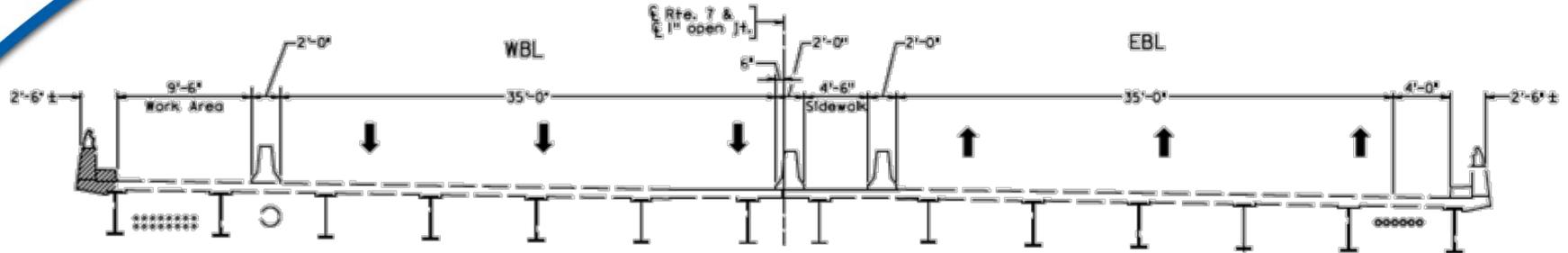
- Stage II - Remove raised median (EBL) during night time closures. (Estimated Duration: 4 nights)

LEGEND

- Existing Structure
- Part of Existing Structure to be Removed
- Structure under construction
- Completed Structure

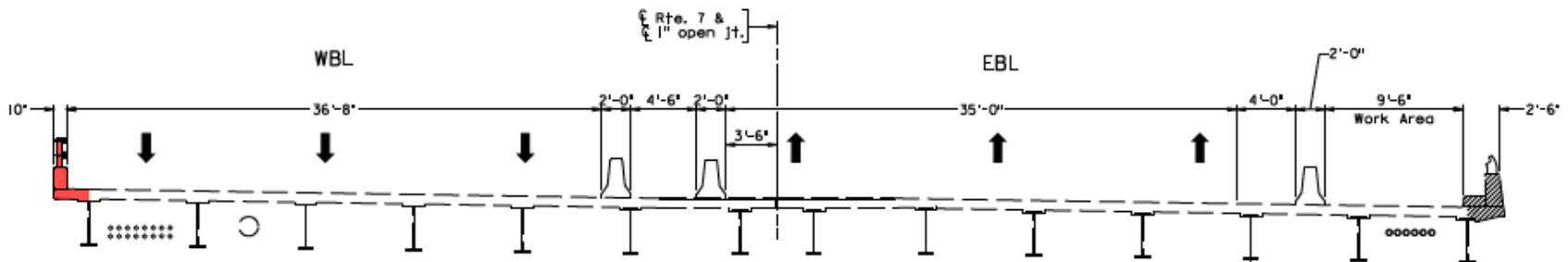
Full traffic capacity (pedestrian and vehicles) will be maintained for Stages I through IV during peak hours

Bridge Railing Replacement



TYPICAL TRANSVERSE SECTION
STAGE III

- **Stage III - Replace WBL railing by shifting traffic lanes to right.**
(Estimated Duration: 6 weeks)



TYPICAL TRANSVERSE SECTION
STAGE IV

- **Stage IV - Replace EBL railing by shifting traffic lanes to left.**
(Estimated Duration: 6 weeks)

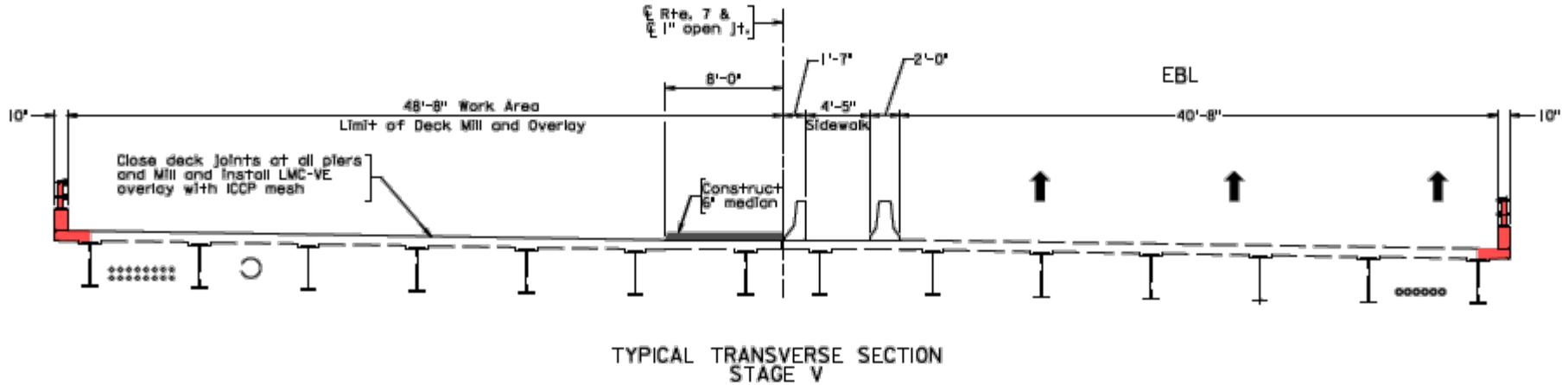
LEGEND

- Existing Structure
- Part of Existing Structure to be Removed
- Structure under construction
- Completed Structure

Full traffic capacity (pedestrian and vehicles) will be maintained for Stages I through IV during peak hours

Bridge Deck Repairs

Deck Joint Closure/Reconstruction, Mill & Overlay with ICCP System

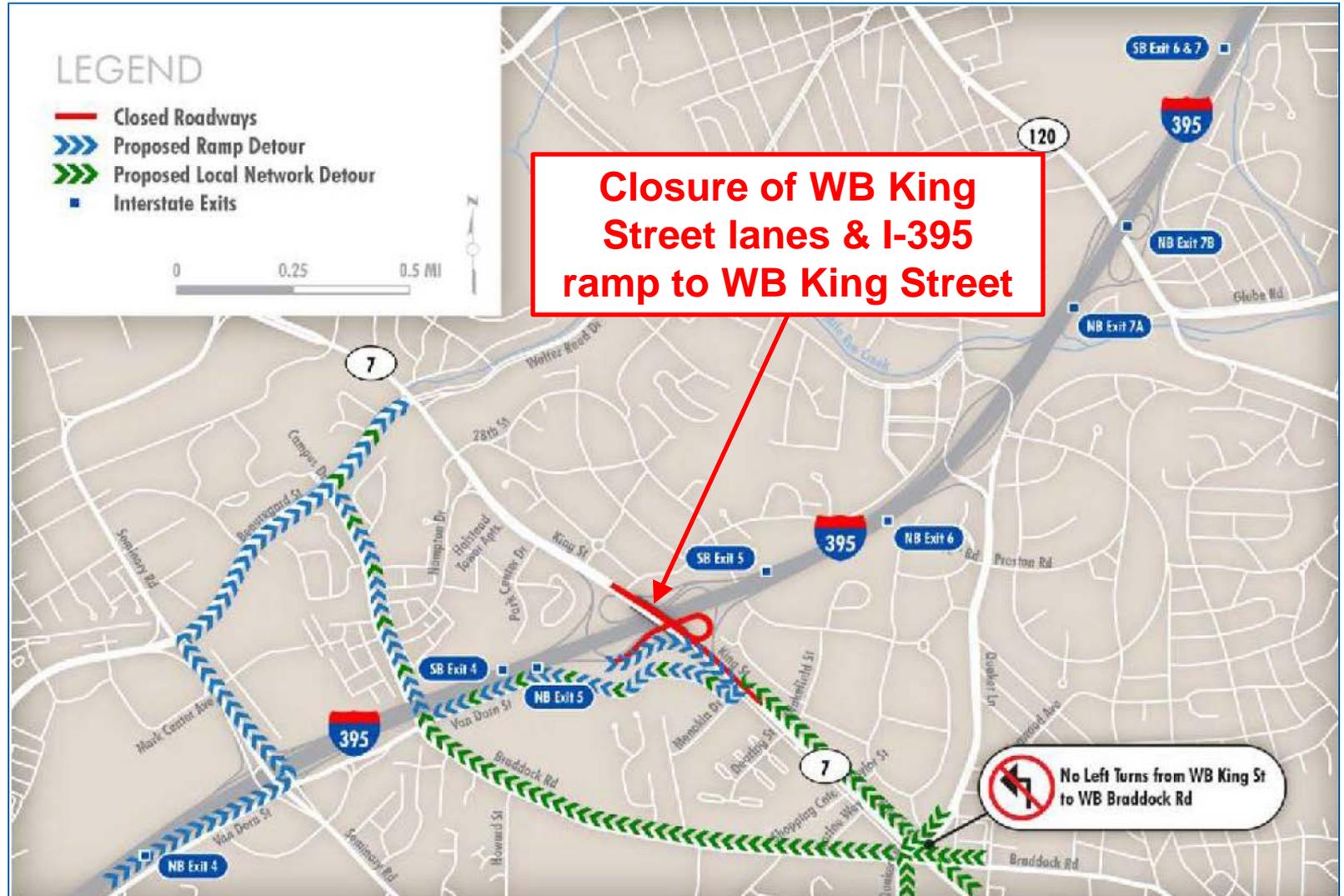


- **Stage V – Close King Street westbound lanes & I-395 ramp to westbound King Street to traffic for multiple weekends for deck joint closure/reconstruction, and deck Mill & Overlay with ICCP System.**
(Estimated Duration: 5 weekends)

LEGEND

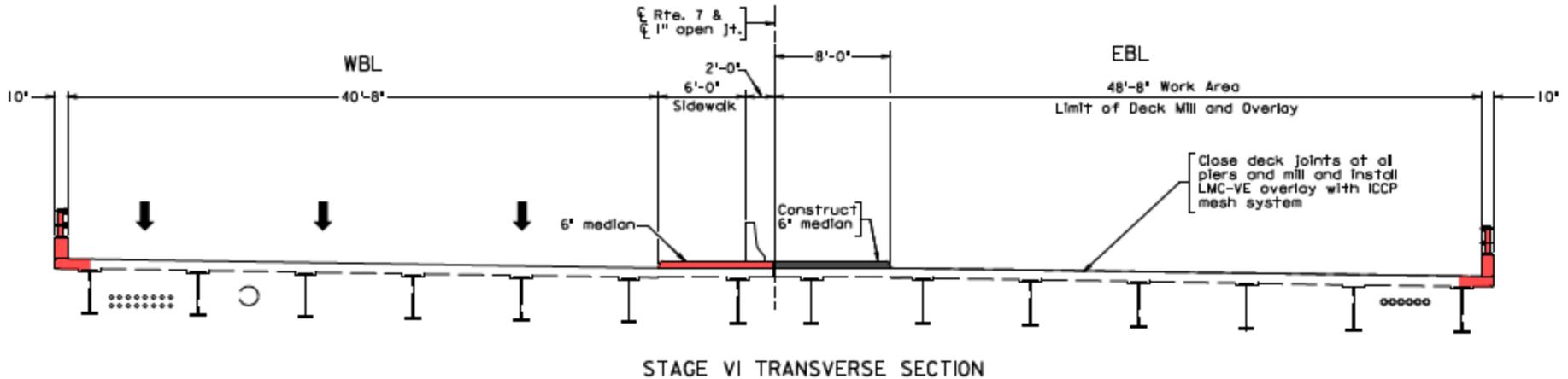
- Existing Structure
- Part of Existing Structure to be Removed
- Structure under construction
- Completed Structure

Construction Detour (King St. WBL Roadway Closure)



Bridge Deck Repairs

Deck Joint Closure/Reconstruction, Mill & Overlay with ICCP System



- **Stage VI – Close King Street eastbound lanes & I-395 ramp to eastbound King Street to traffic for multiple weekends for deck joint closure/reconstruction, and deck Mill & Overlay with ICCP System.**
(Estimated Duration: 5 weekends)

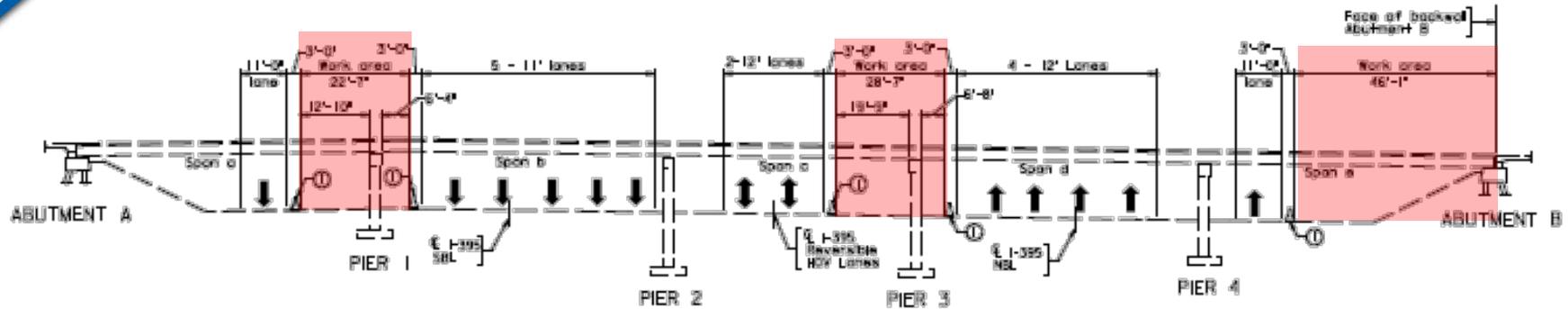
LEGEND

- Existing Structure
- Part of Existing Structure to be Removed
- Structure under construction
- Completed Structure

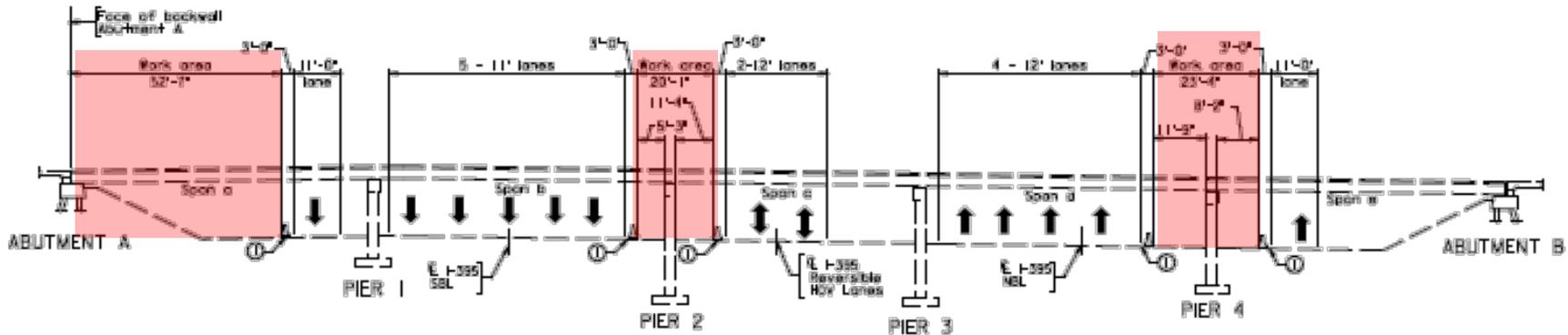
Construction Detour (King St. EBL Roadway Closure)



Substructure Repair Work (I-395 Lane Shifts and Shoulder Closures)



Work Areas at Piers 1, 3 and Abutment B



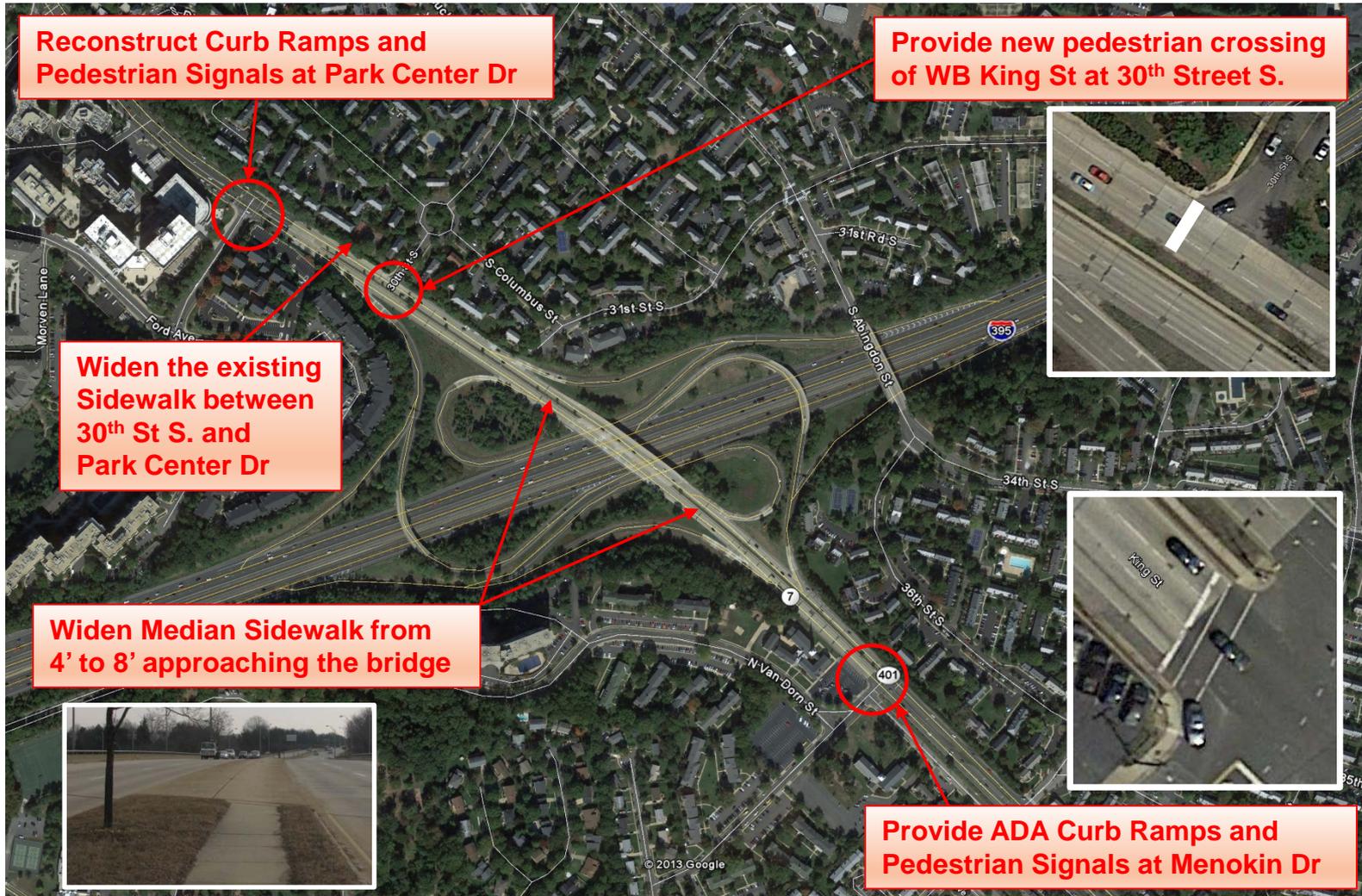
Work Areas at Abutment A, Pier 2 and Pier 4

- Estimated Duration: 25 days for each Abutment
- 50 days for each Pier
- 120 days for ECE curing period (No MOT)
- 4 night time lane and shoulder closures for demobilization

Bicycle & Pedestrian Improvements

- Replacement of bridge railings will increase outside shoulder widths to 4'-0" which allows future on road bike accommodation.
- Reconstruct existing 4'-0" wide median sidewalk to an 8'-0" wide sidewalk centered in the median.
- Provide ADA-compliant curb ramps and pedestrian signals at Menokin Drive connecting the median sidewalk to the sidewalk on the south side of King Street.
- Provide a new pedestrian crossing of westbound King Street at the existing 30th Street South intersection, including a potential HAWK (High-intensity Activated Crosswalk) or coordinated traffic signal.
- Widen the existing sidewalk along westbound King Street between 30th Street South and Park Center Drive.
- Reconstruct the curb ramps and pedestrian signals at the King Street / Park Center Drive intersection.
- Upgrade the existing roadway lighting system to current standards.

Bicycle & Pedestrian Improvements



Environmental and Cultural Resources Summary

- Anticipate project will meet NEPA criteria for a Programmatic Categorical Exclusion in accordance with 23 CFR 771.117



AMERICAN ASSOCIATION OF
STATE HIGHWAY AND
TRANSPORTATION OFFICIALS

AASHTO
THE VOICE OF TRANSPORTATION



Cost and Schedule

Costs

- Engineering \$1.4 Million
- Construction \$10.4 Million (unfunded)
- Total \$11.8 Million

Schedule

- Final Design Fall 2016 to Summer 2017
- Public Information Meeting could occur in Winter 2017
- Advertise Project as early as October 2017 if construction funding becomes available
- Construction: 20 to 24 months (8 to 9 months for top side King St. Work)

QUESTIONS & COMMENTS

Send comments via email or comment form until December 9th to:

Brian Morrison, P.E.
NOVA District Project Manager
(703) 259–2606
Brian.Morrison@vdot.virginia.gov

Project website:

http://www.virginiadot.org/projects/northernvirginia/rt_7_over_i-395.asp