16th St. NW Bridge over Piney Branch Parkway Rehabilitation

Public Information Meeting

October 24, 2017

District Department of Transportation

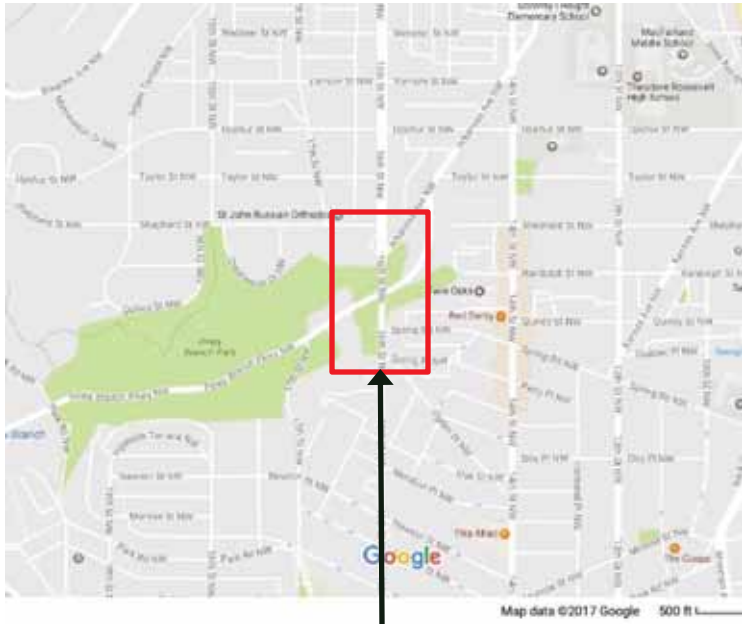
Agenda

- Opening Remarks
- Project Overview
- Closures and Detours
- Q&A/Discussion

Project Overview

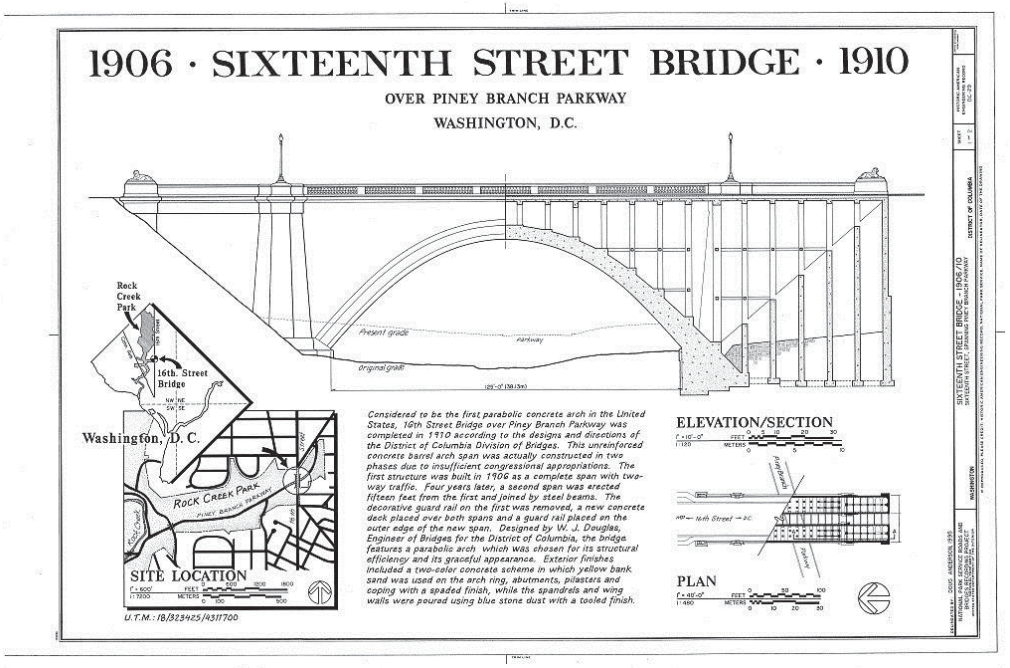
Rehabilitation of 16th St. NW over Piney Branch Parkway

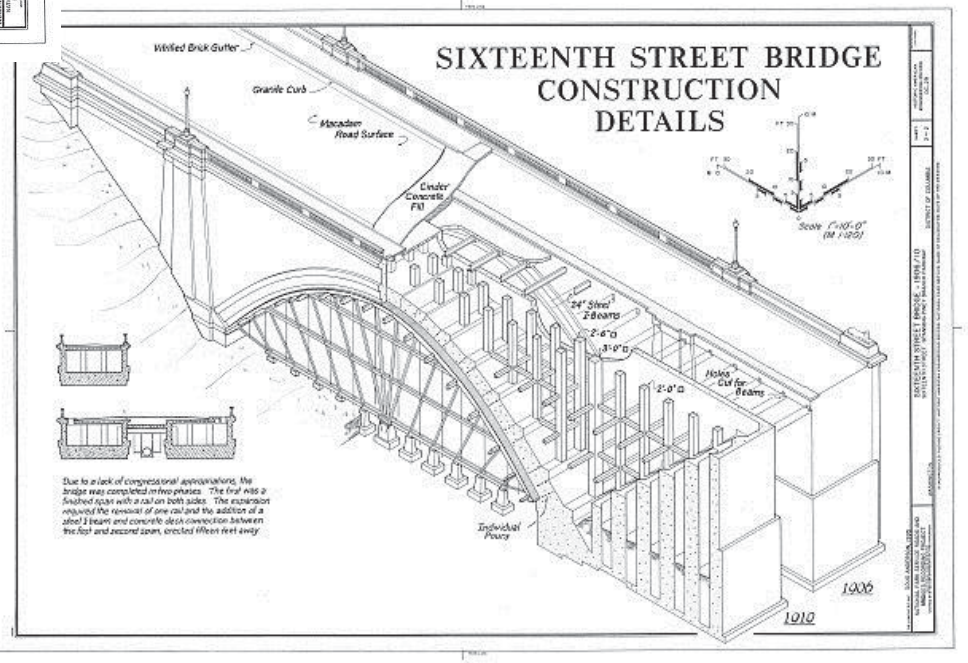
- Single span, closed spandrel deck arch bridge
- Dual arches connected with steel beams
- Built in 1906 and 1910, rehabilitated in 1992
- First parabolic concrete arch bridge in the United States
- Carries five lanes of 16th NW (2 NB lanes, 2 SB lanes, 1 Reversible)



Project Location

Project Overview





Project Overview-Photographs of Existing Site

Project Overview

- Schedule
  - Final Design, Permitting, and Approvals: Dec. 2017
  - Advertise: March 2018
  - Begin Construction: Sep. 2018

Project Overview-Stakeholders

- General Public
- Interest Groups
- Advisory Neighborhood Commissions
- Agency Stakeholders
  - National Park Service
  - US Park Police
  - FHWA
  - DOEE, DC Water, PEPCO, WGL, CFA, SHPO

Scope

- Replacement of Pedestrian Fence
- Upgrade Bridge Lighting
- Abutments Slope Improvement
- Replacement of NW Approach Guardrail
- Concrete Repairs
- Sculpture Restoration
- Signal Upgrade
- Addition of SWM Biofiltration Planters

Fencing

Existing Fence

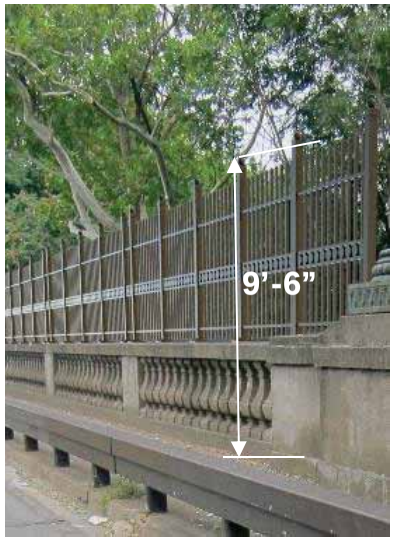
- Installed prior to 1992 rehabilitation

Fencing

Recommended Alternative

Aerial View

Driver View



Bridge Lighting

- Existing lighting was installed after 1992 rehabilitation
- The existing lighting closely matches the original three globe street light design installed in 1906 and 1910
- Current rehabilitation recommendations include sandblasting, cleaning, and repainting fixture.
- Conversion to LED would consist of a retrofit kit to be installed within the existing globes.
- Based on the following information, the possibility of LED retrofit will be confirmed:
  - Top of existing pole dimensions
  - Make, model and dimensions of existing globe

1906&1910 **Bet. 1910 &1992** **After 1992**

Slope Stabilization

Existing Slope Condition

All slopes of the bridge have little vegetation and exposed tree roots. Many areas show signs of erosion.

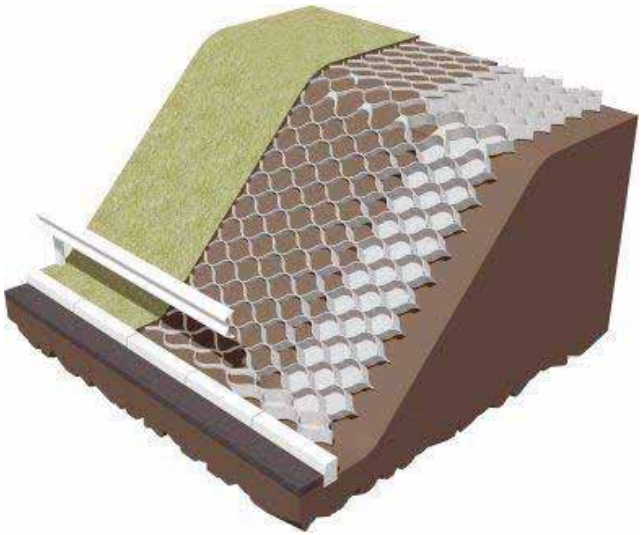
Slope Stabilization

Proposed Solutions

Vegetated Cellular Confinement: *extent of excavation from 6”to 8”*

EviroGrid

TYPAR GEOCELL GS



Guardrail

Existing Timber Railing

Guardrail-replacement alternatives

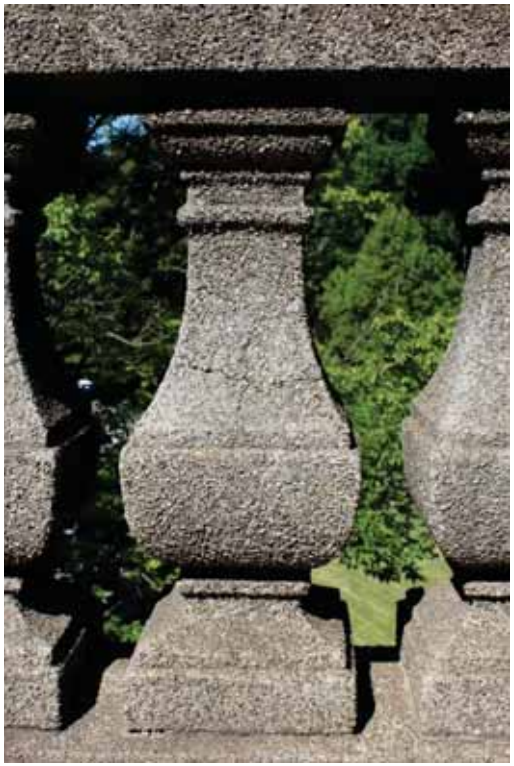
FLH Steel-Backed Timber Guardrail (FLH Std. 617-60, 61, & 67)

Concrete Repairs

Example railing post and light pole base defects

Concrete Repairs

Example baluster defects



Concrete Repairs

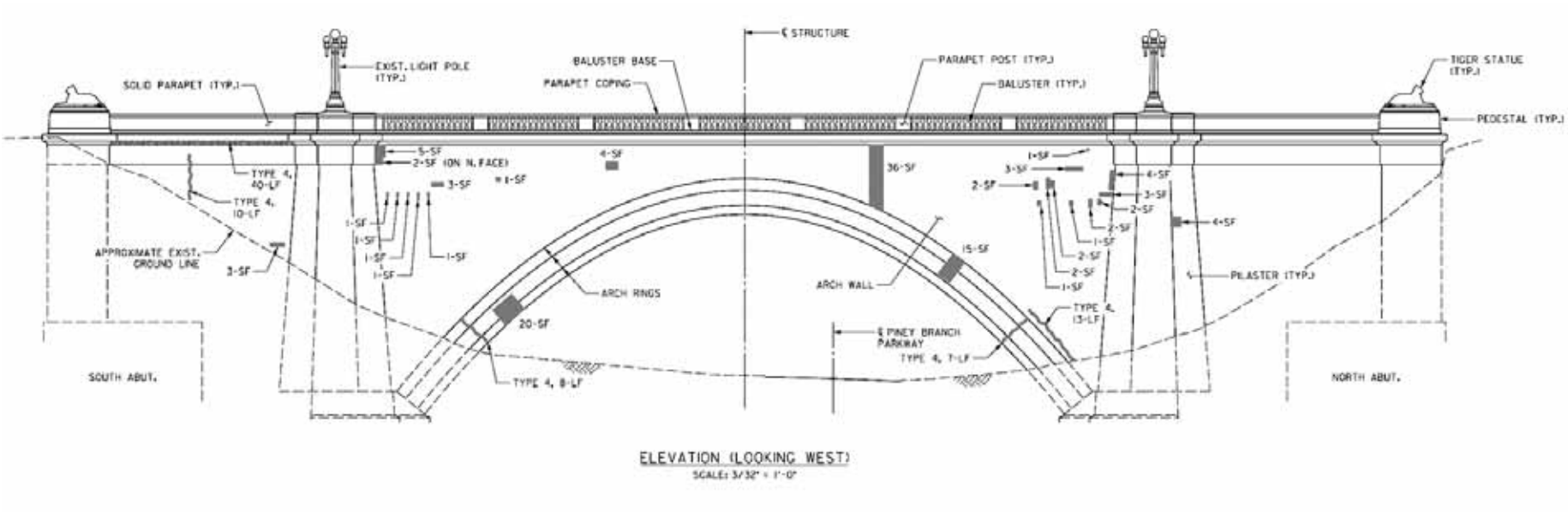
Example pedestal defects

Concrete Repairs

- Concrete repairs to be performed to spandrel walls, arches, columns/struts, deck, curb, and railing and statue pedestals.
- Railing coping, balusters, and pedestals to be replaced and repointed as needed.
- Special Provisions developed to provide specific requirements for:
    - Cleaning of bridge surfaces
    - Matching of color, aggregate shape and texture of repairs to historic concrete
    - Mockups of cleaning, concrete removal, patch/crack repairs, and repointing
- Exterior and Interior repair details

Concrete Repairs

Example spandrel wall repairs



LEGEND

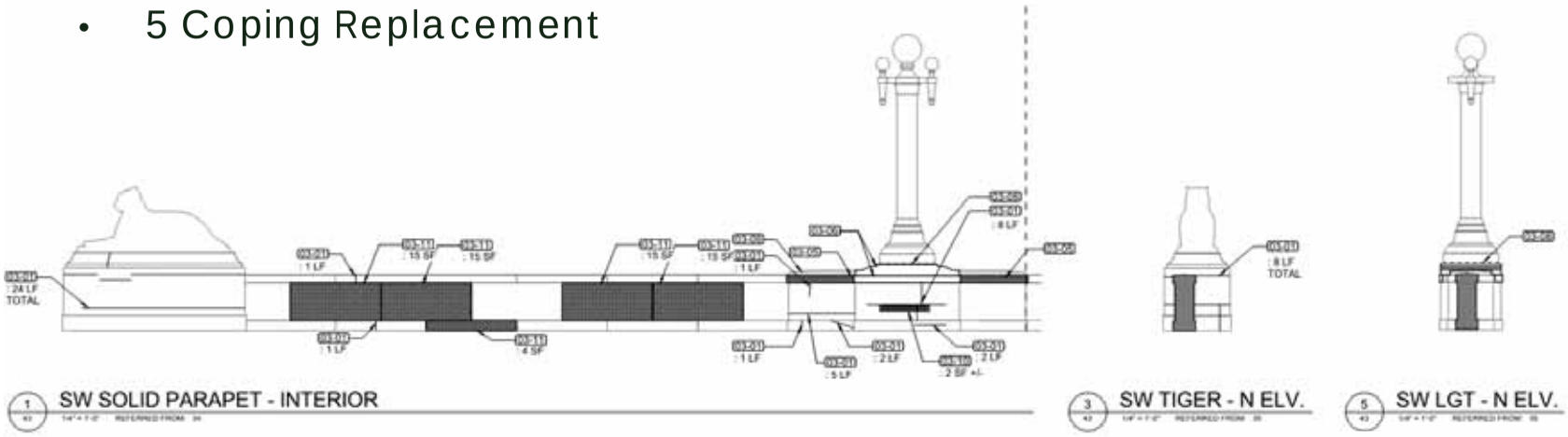
TYPE 2 REPAIR

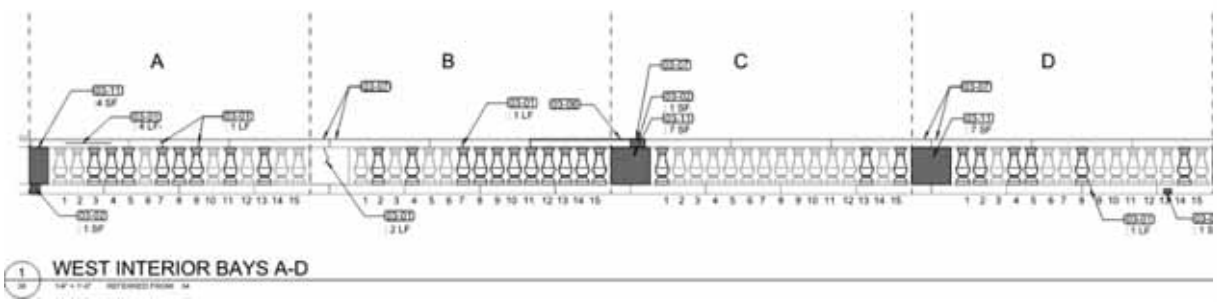
TYPE 4 REPAIR

Concrete Repairs

Example railing repairs

- 117 Baluster Replacement
- 5 Coping Replacement





KEYNOTES - MASTER

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Key Value	Keynote Text
03-01	PROVIDE CRACK REPAIR. SEE DETAILS 5 AND 6 / 44.
03-02	PROVIDE PATCH REPAIR. SEE DETAILS 1 AND 2 / 44.
03-03	END OF PATCH REPAIR WITH SCOPE OF WORK ALREADY NOTED ON ANOTHER DRAWING.
03-04	PROVIDE PATCH REPAIR WITH PIN. SEE DETAIL 3 / 44.
03-05	PARTIALLY REPLACE UNIT FROM FINISH FACE TO CENTERLINE OF UNIT TO MATCH EXISTING SIZE PROFILE AND TEXTURE.
03-06	REPLACE ENTIRE UNIT MATCHING EXISTING SIZE, PROFILE, AND TEXTURE.
03-07	REMOVE EXISTING CONCRETE PATCH AND CUT OFF EMBEDDED ANCHOR MINIMUM 1" BELOW SURFACE. PROVIDE PATCH. SEE DETAIL 4 / 44 OF EXISTING CONDITION.
03-08	PROVIDE SEALANT BETWEEN METAL LIGHT POLE AND CONCRETE BASE.
03-09	REMOVE AND RESET EXISTING CONCRETE UNIT.
03-10	REMOVE HEAVY WHITE CARBONATE BUILDUP. SCRAPE AND ABRADE TO REMOVE BUILDUP AS NECESSARY.
03-11	REMOVE ENTIRE DETERIORATED FACE AND PROVIDE PATCH REPAIR. SIMILAR TO DETAIL 1 AND 2 / 44.

Sculpture Restoration

- Cleaning of sculptures
- Application of protective wax coating
- Methods and procedures for cleaning and waxing provided in the CONDITION ASSESSMENT for the BRONZE TIGERS Report

Proposed Addition of SWM Bioretention Planters

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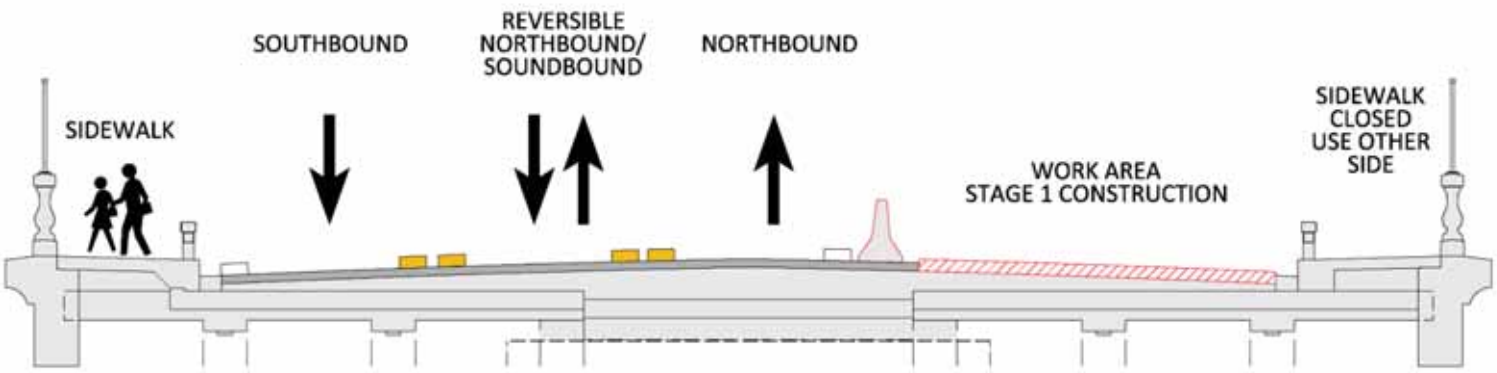
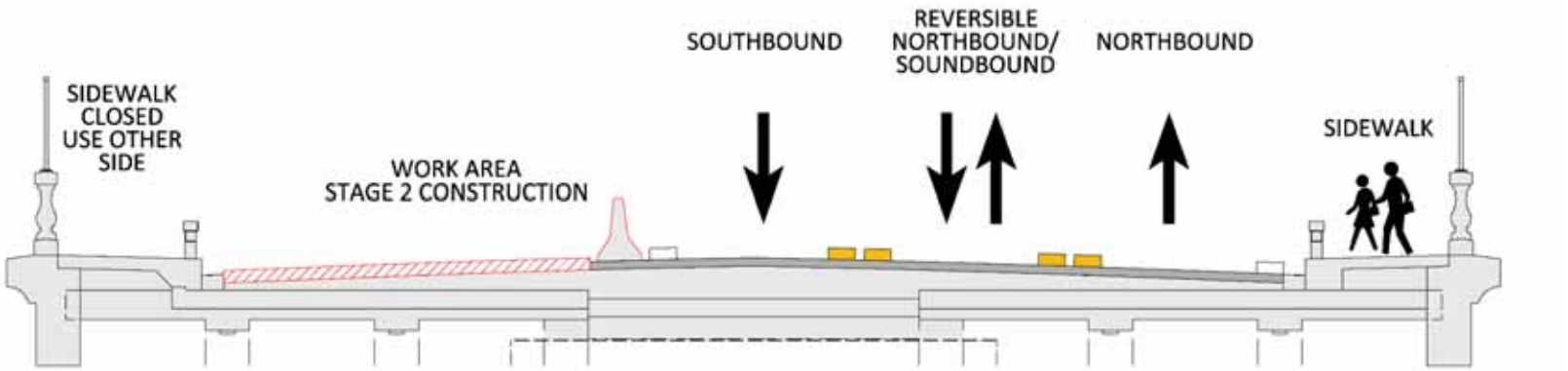
Detours and Closures

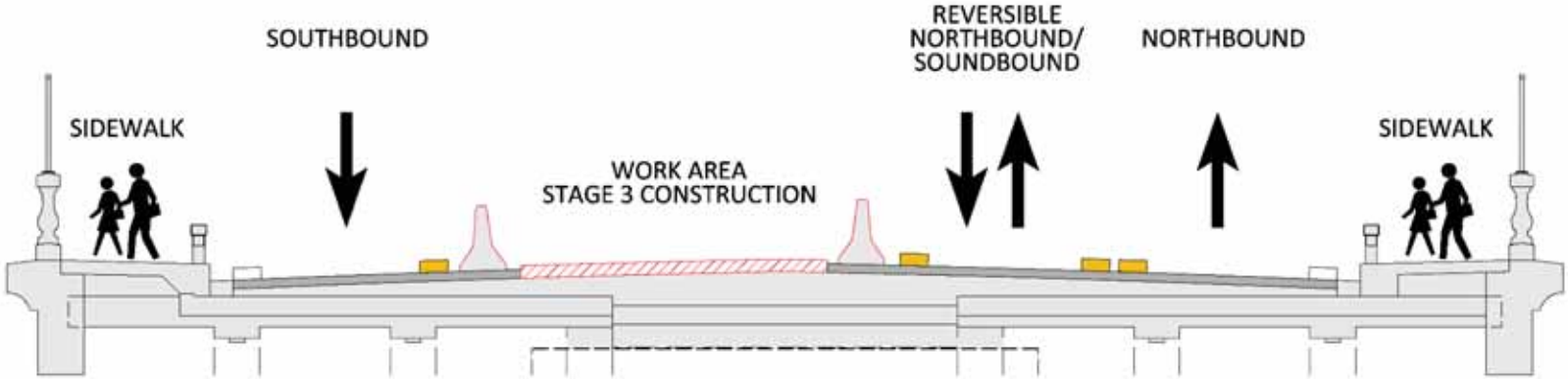
16th Street NW

- Construction will require full-time lane closures on the bridge
- Two lanes closed at a time (4 Construction Stages)
  - Morning Peak: Two SB Lanes, One NB Lane
  - All Other Times: Two NB Lanes, One SB Lane
  - Pedestrian detours during Stages 1 and 2



Detours and Closures





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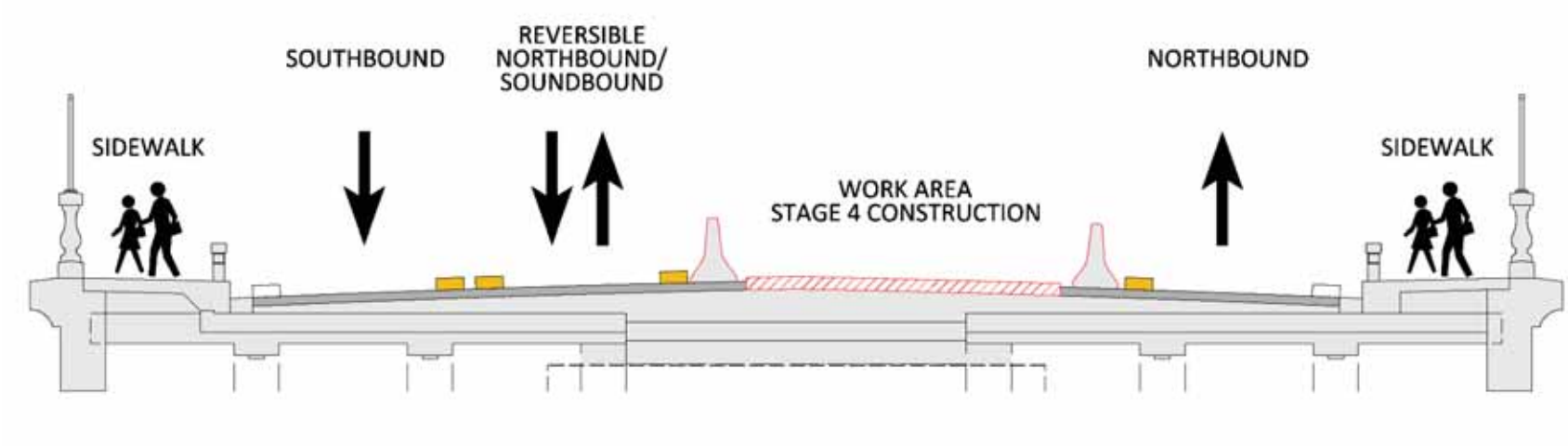
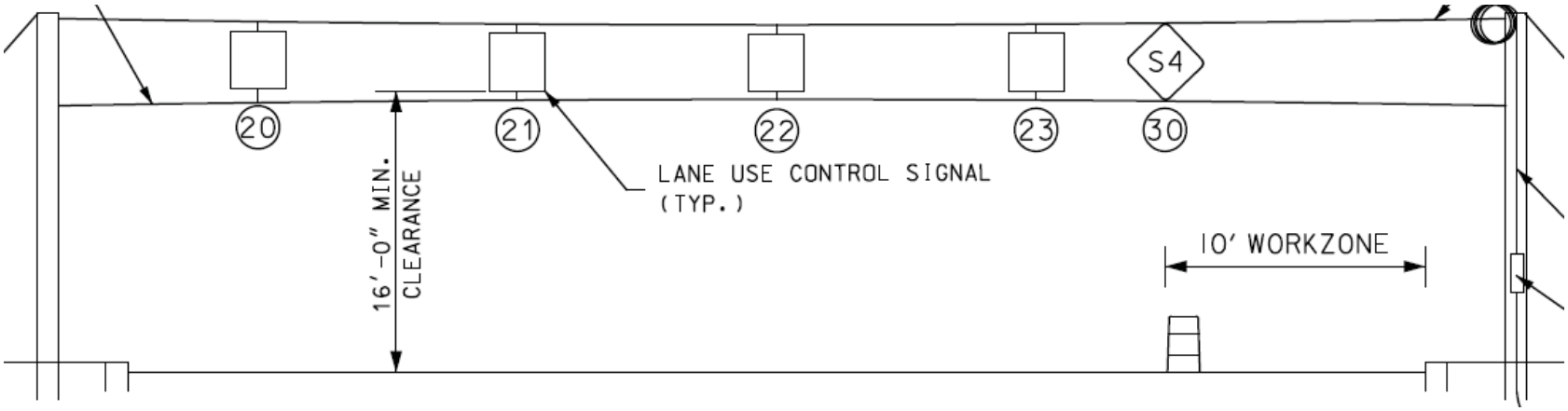


Detours and Closures

16th Street NW

- Adjust Signal timings to improve traffic flow on 16th Street
- Parking restrictions between Spring Road and Oak Street during construction
- Temporary overhead lane control signals for reversible operation



Detours and Closures

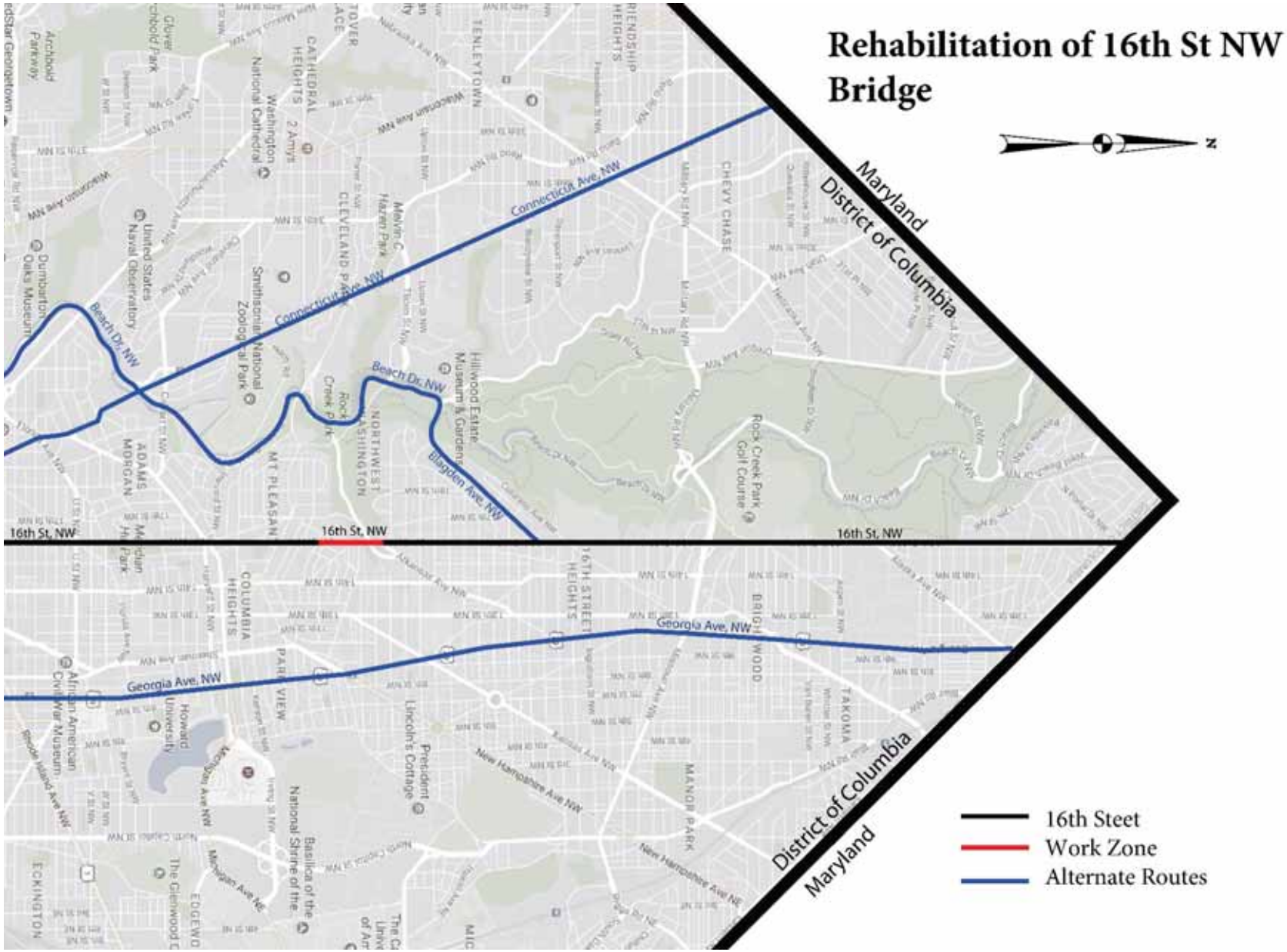
16th Street NW

- Alternate Routes:
  - Georgia Avenue
  - Connecticut Avenue
    - Via Military Road/Nebraska Avenue
  - Beach Drive
    - Lower Section of Beach Drive Construction will be complete before this construction begins

Piney Branch Parkway

- Off-Peak / Temporary lane closures along Piney Branch
- Single lane closures with flagging operations
- Work hours limited to minimize traffic impacts

Detours and Closures



Q&A

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