Central Avenue over Fall Creek

Rehabilitation of Central Avenue
Historic Stone Arch

March 7, 2018
Historic Context

City Beautiful Movement
Historic Context

George Kessler and the Indianapolis Park & Boulevard System
Historic Context

Emerichsville Bridge, 1908
College Avenue Bridge, 1907
Delaware Street Bridge, 1924
Capitol Avenue Bridge, 1911
Meridian Street Bridge, 1927
30th Street Bridge, 1910s

Indianapolis Bridges
Central Avenue Bridge

1920s
Central Avenue Bridge

2016
Environmental Process

“Select” Bridge as designated in the Indiana Historic Bridge Inventory

Section 4(f) Alternatives Analysis:

A. No Build/Do Nothing

B. Rehabilitation for Continued Vehicular Use (concrete arches) Meeting the Secretary of Interior’s Standards for Rehabilitation

C. Rehabilitation for Continued Vehicular Use (stone arches) Meeting the Secretary of Interior’s Standards for Rehabilitation
Environmental Process

Consulting Parties:
State Historic Preservation Officer (SHPO)
Indiana Landmarks
Historic SPANs Taskforce
Destination Fall Creek
City of Indianapolis Parks and Recreation Department
Indianapolis Historic Preservation Commission
Dr. James Cooper
Environmental Process

- Crashworthy Bridge Railing in front of sidewalk.
- Environmental Commitment historic railing must be 6 in. taller than new railing.
Environmental Process

Mitigation- College Avenue
The Engineer’s Perspective

- Inspection/Testing
- Design
- Construction
- Lesson Learned
Bridge Inspection

• LOTS OF MEASURING....
Bridge Inspection
Bridge Inspection

- Already some deficiencies.
Bridge Inspection

• Span A Underside
Bridge Inspection

- Span B Underside
Bridge Inspection

• Span C Underside
Bridge Inspection

• Damage to Historic Railing
Bridge Inspection

- Took cores of the foundation to verify its integrity
Bridge Design

Revised Scope of Work:

- Foundations in need of replacement
Bridge Design

• Bridge foundation or wedding cake?
Bridge Design

- Cast in Place Arches with a Precast Alternative
Bridge Design

• It’s a life size puzzle....
Bridge Design

• Water and salt infiltration a major contributor to deterioration of existing bridge.
• Drainage a major focus of design
• Entire Deck and Sidewalk Concrete
• Waterproofing Membrane
• Drains within arch fill
Bridge Design
Bridge Design

• College Avenue became part of Contract
Bridge Design

College Avenue Scope of Work:

- Hydro demolition and Bridge Deck Overlay.
- Foundation Unknown, scour protection.
- Drains on bridge deck. Outlet at high point of arch.
Construction

• Project let to ICC in November 2016 (formerly Illinois Constructors) for $6.2 million

• Engineer’s Estimate $6.9 million for College and Central Avenue

• Construction funding 80% INDOT, 20% Indy DPW
Construction

- Pre-Construction Meeting on Thursday, January 12th, 2017.
- Contractor planned to finish College first, then close Central in the Summer 2017.
Construction
Construction
Construction
Construction
Construction
Construction

- Contractor had to alter their schedule. Work on Central first.
- Contractor had to rethink their demolition plan.
- Part of detour route was utilizing Fall Creek Parkway. Lanes closed along Fall Creek due to Citizens work.
- Worked quickly to update detour route.
Construction

- The demolition.... Or careful deconstruction...

May 2017
Construction

June 15, 2017
Construction

August 31st, 2017
Construction

Demolition of Span A
Construction

Piles at End Bent
Construction

Piles at Pier
Construction

- Abutment #1 and Pier #2 poured in February.
- Finish Pier #3 and Abutment #4 in March.
- Place Pre-Cast Arch Beams in April.
- Anticipated completion date November 2018.
Construction
Lessons Learned

• Working on rehabilitation of 30th St. Bridge