CSBLP Community Meeting Agenda

- Introductions
- Context for Lighting Project
- Initial Concept Designs
- Open Discussion
Hartranft Lighting Design – Project team

Andrea Hartranft
Principal

Paula Ziegenbein
Sr. Consultant

Kim Daley
Senior Designer

Klara Boyer
Designer
**Firm profile**

- Internationally recognized, award winning lighting design firm with......
  - Over 30 years experience on 1000+ diverse commercial lighting projects
  - WBE with offices in North Carolina, Maryland and Massachusetts
  - Architectural engineering, electrical engineering, architectural backgrounds
  - Ability to realize large scale, complex lighting solutions
  - Creative, thoughtful consideration given to sustainable project design
  - Historic preservation & municipal experience
  - Lighting design, controls design, daylight design, photometric calculations & studies, energy efficiency & lighting life cycle cost analysis

- Actively engaged in lighting industry associations – IALD, IESNA, DLF, WILD, Light Boston
Project experience

Interactive Design

• Anacostia Water Tower (not yet built)
  • Howeler & Yoon Architecture
  • Tower will be visible from Downtown DC
  • Tower is designed to be a living machine
  • Changes to lighting may inform community regarding water quality, rainfall, river safety
  • Design required to meet stakeholder approval
    • Cultural Arts Commission
    • Historic Preservation Board
    • DC office of planning
    • Local community
Jacobs Engineering Group – Project team

Peter Vasiliou, PE
Manager – Traffic Engineering

Ray Walsh, PE
Sr. Electrical Engineer

David Massenzio, PE
Structural Engineer

Mario Rif
Electrical Engineer
Jacobs Engineering Group – Firm profile

• Who we are …
• Diverse engineering consulting services:
  • Buildings & transportation infrastructure
  • Planning and consulting
  • Program/Construction management
  • 60+ years in business
  • 200+ staff in New England offices
  • Full complement of design disciplines including civil, structural, geotechnical, mechanical, electrical
Jacobs Engineering Group Inc.

Lighting/Electrical

8 electrical engineers in New England
Street & Bridge Lighting Experience

• Tobin Bridge – Electrical & Lighting
• Longfellow Bridge – Electrical & Lighting
• Edward Everett Square – Lighting
• MassDOT Braga Bridge Lighting Study
• MassDOT Fall River Route 79 Lighting
• MassDOT Lowell Connector Lighting
Congress Street Bridge

- Congress Street Bridge is one of four existing bridges across the Fort Point Channel connecting Downtown Boston and the South Boston Waterfront
- Completed in 1930, rehabbed in 2008
- Historic single-leaf, Strauss multiple-trunnion bascule bridge
- No longer operational

Image: Historic American Engineering Record (HAER No. MA-38-34)
Illuminating Boston: The Diamond Necklace Report

- 2000 report issued by the City of Boston and LIGHT Boston for “a vision of downtown Boston at night”
- Identified 25 downtown landmarks for enhanced nighttime illumination, including the Fort Point Channel
- Specific recommendations for the Congress Street Bridge Lighting Project include:
  - “Remove and restore the major lanterns that crown [its] piers…[which] should be lit…and the massive counterweight strongly uplit.”
  - “Strongly light the Boston Tea Party Ships [& Museum]…”

Image: “Illuminating Boston: The Diamond Necklace Project,” City of Boston and LIGHT Boston
Congress Street Bridge Lighting Project

• In 2003, Fisher Marantz Stone developed concept lighting plan
• Funding for bridge lighting project secured through Article 80 and Ch. 91 licenses for nearby redevelopments, namely Atlantic Wharf
• Changes in lighting technology and urban fabric since 2003

Images: Fisher Marantz Stone, Congress Street Bridge Concept Lighting Design
Congress Street Bridge Lighting Project RFP

• Focus of RFP:
  ▪ Implementation of “Illuminating Boston: The Diamond Necklace Project”
  ▪ Use aesthetic lighting enhancements to reveal and reinforce historic functions and cultural significance of bridge
  ▪ Improve and enliven the atmosphere of the bridge
  ▪ Enhance public’s access to and enjoyment of the city’s waterfront

Congress Street Bridge Lighting Project Draft Schedule

- Concept design: April 2017
- Preliminary design: July 2017
- Public comment & permitting: Spring/summer 2017
- Final design: September 2017
- Installation: Fall/winter 2017
- Boston Tea Party Reenactment: December 16
Our approach

Respectful
Responsive
Realizable
Link to Congress St. Bridge Video

https://youtu.be/DSeWPU23Ag4
Design concepts
Design concepts
Design concepts
Design concepts

• Traffic indication
Design concepts

• Traffic indication
Design concepts

• Traffic indication
Design concepts

• Events
Design concepts

- User input
  - Awareness
  - Favorite color
  - Motion
Design concepts

• User input
• Awareness
• Favorite color
• Motion
Design concepts

- Retrofit lanterns with Type III LED
- Replace nostalgic Edison filament LED
Realization

• Design review with respective stakeholders to gain necessary approvals
• Combined design and engineering skillsets to realize concepts
  • Capabilities to meet aesthetic requirements of respective stakeholders
  • Photometric calculations and studies to ensure lanterns perform as good as if not better than present
  • Able to furnish complete construction documents for contractor bid
  • Close proximity to job site
• Budgetary product and construction costs obtained
  • Design concepts as shown are within budget target
A long term plan

• LED life cycles of 50,000 hours for color changing lighting
  • @ typical operating cycles of 6 hour/day ~ 22 years
• LED life cycles of 100,000 hours for lanterns
  • @ typical operating cycles of 12 hours/day ~ 22 years
• All LED luminaires to have replaceable drivers and LED light sources
• Consider extended warranty on luminaires
• Consider long term plan for 3rd party programming of light shows