

Cover Letter and Introduction

Congress Street Bridge Lighting Project

John Powell

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Resume of Project Manger

John Powell

Education

Master of Science in Visual Studies Massachusetts Institute of Technology, 1989

Master of Arts, 3-D Massachusetts College of Art, 1986

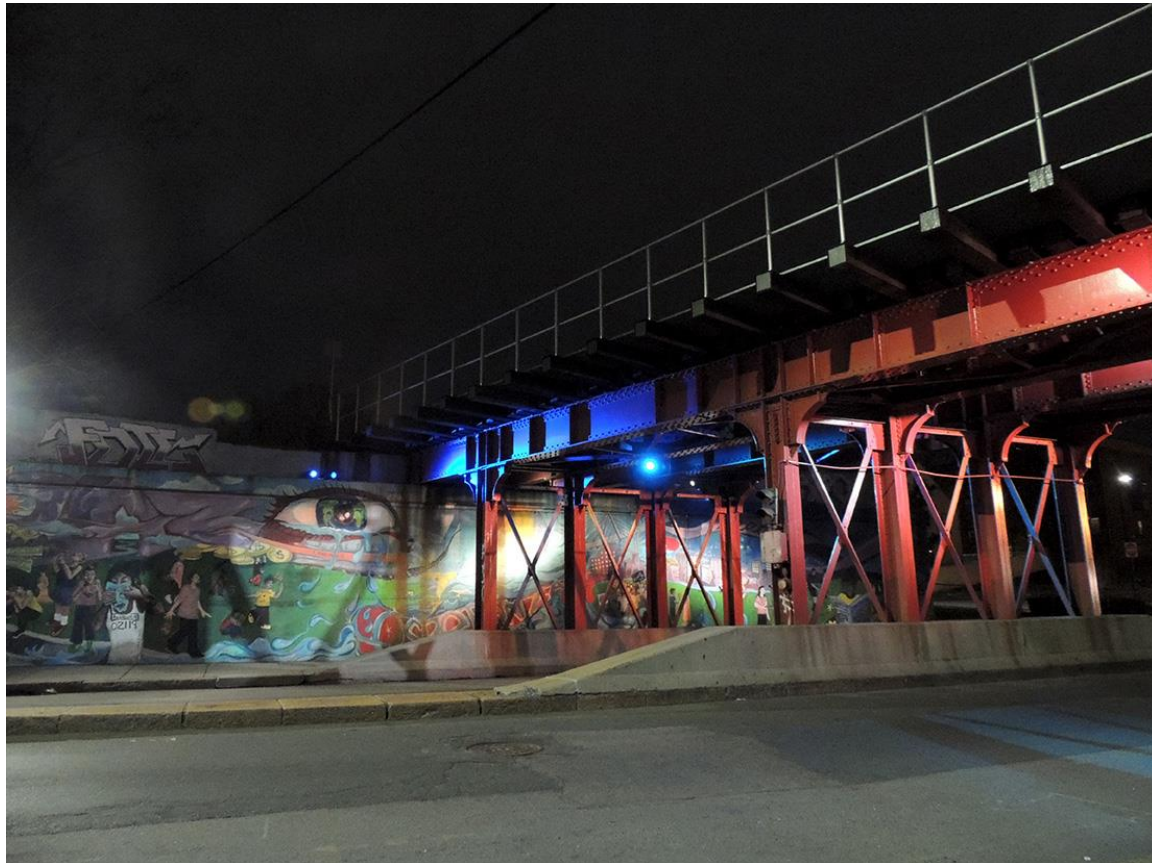
Work Experience

John Powell is the owner and operator of Light Time in Space, an S Corporation specializing in the design and installation of works of public art with light. LTiS was incorporated in Massachusetts in 1993. Projects have been completed for New Balance, the Denver Performing Arts Complex, New Hampshire DOT, Massachusetts DOT and the City of Boston among many other public and private agencies. Working with the Charles River Conservancy, the River St, Weeks footbridge, Anderson and Western Avenue bridges were illuminated by Mr. Powell between 2001 and 2005. The Evelyn Moakley or New Northern Avenue bridge crossing Fort Point Channel was lit for the Browne Fund, City of Boston in 2002, the Old Northern Avenue bridge for the City of Boston in 2014. The most recent bridge is the Uphams Corner underpass in Dorchester for the Dudley Square Neighborhood Initiative. Each of these and many others have been designed and managed from conception to completion by John Powell.

John Powell fact sheet

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Uphams Corner bridge lighting, at the Uphams Corner T stop, commissioned by the Boston Foundation through the Dudley Square neighborhood Initiative and the Design Studio for Social Intervention

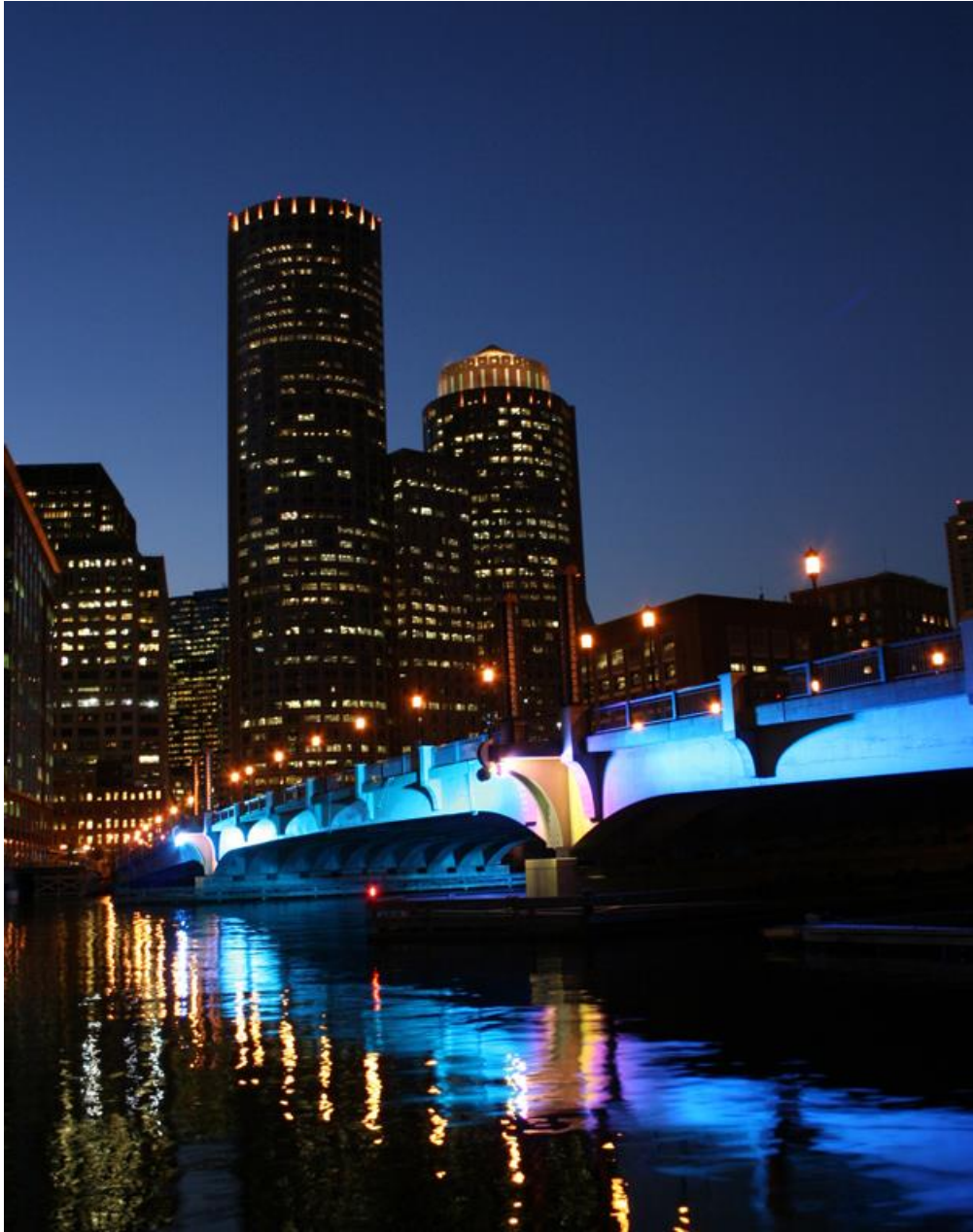
2015, October



MEMORIAL BRIDGE PORTSMOUTH NH
DESIGNER JOHN POWELL
CITY OF PORTSMOUTH AND NH AND KITTERY ME
COMMITTEE TO LIGHT THE MEMORIAL BRIDGE
PHOTO-LUMENPULSE, INC



OLD NORTHERN AVENUE BRIDGE, BOSTON, 2014
CITY OF BOSTON, DEPT OF PUBLIC WORKS AND LIGHTBOSTON
DESIGNER: JOHN POWELL



Evelyn Moakley Bridge – Browne Fund, City of Boston



Weeks Footbridge crossing the Charles River. Working with Luminous Technologies in Woburn, MA and the Charles River Conservancy in 2008 the first bridge crossing the Charles River to be lit with purpose built LED fixtures



Harvard Business School, I-lab building – 2014, projections



2015 – with Neil Leonard, Play the Building – for the opening of the new dormitory and Studio building at Berklee College of Music

References

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November 27, 2016

Greetings:

I work with light as an active part of the built environment—I see light as part of the fundamental structure of a bridge or street or building. Light is a tool we can use to make our built environment complete. This is my approach to lighting and how I approach the challenge of illuminating the Congress Street Bridge

The Congress Street Bridge is a fragile piece of Boston's rapidly changing infrastructure. This crossing of the Fort Point Channel has become a gateway to a completely new Boston; a part of Boston once made up of warehouses, fish piers and abandoned barges. A fantasy of history mixed with a practical solution to crossing an obsolete waterway carries thousands of pedestrians and vehicles to this glittering land of newly built Fan Pier. This is the present day Congress Street Bridge that Mayor Curly authorized in 1926. Once a single span bascule draw bridge, now fixed, its structure and mechanism decorative. The counter weight cage has become an aerie hovering over the now fixed roadway.

At pedestrian level, the early 20th century mechanical structure of the bridge is bold and always a surprise, half embedded in the sidewalk, safety gates held back from closing the roadway by heavy cast iron cogs; all this mechanism at eyelevel, nothing hidden. The bridge tender's house and barracks currently replaced by a 20th century fantasy of 18th century political protest. All this is good for the tourist trade. The Tea Party Museum is well lit, the replica ships stand out on the water, if a few hundred yards from the original location of the action. The sidewalk on the bridge and road way all carry adequate if uninspired lighting. The existing lighting is a mix of LED, metal halide and sodium vapor. The lighting was more true to mark in the '90's when it was made up of 250 watt tungsten lanterns and mercury vapor flood lights outlining the lonely Danish coastal trade schooner masquerading as an 18th century British ship sloop.

The Fisher, Marantz, Stone lighting concept for the Congress Street Bridge was innovative for its time and the rapidly changing lighting market of 2004. The current Tea Party Museum obscures a good third of the downstream side of the Congress Street Bridge necessitating at least some rethinking of this approach to the decorative lighting of the Bridge. The incredible and remarkable changes in lighting methods and instruments over the last ten years present this project with great opportunities, not the least of which is the redesign of the lighting for the counter weight cage. This large and elegant structure standing over the Bridge and the Tea Party Museum could be transformed into a three dimensional work of art in light by the use of LED webs and current programming technology. The electronic sign board at the Convention Center managed by the George Fife and Boston Cyberarts is a good model for how to turn this part of the Bridge into a model of contemporary lighting. The counter weight cage could become an electronic three dimensional gateway to the Sea Port District.

The unique way the roadway and sidewalk wrap themselves around the wrought iron structure of the bridge proved open space where powerful LED lighting can be embedded and thus surround the exposed structure of the bridge with light. The open structure of the roadway trestle leading up to the lift mechanism is another opportunity for lighting. Under deck lighting floats the structure over the water. The Fisher, Marantz, Stone lights on the face of the bridge, converted to LED façade lighting can illuminate the beams supporting the roadway along with the individual pylons carrying the newly restored lanterns. Radio frequency controlled LED 'lightbulbs' simply replacing the current CFL lights in the lanterns will add another dimension of light and color to the Bridge.

The current hand box and control box locations on the bridge in the sidewalk and on the South Boston side of the bridge provide straightforward replacement potential of existing lighting elements; existing sites for installation of lighting within the counter weight cage make installation of lighting in this part of the bridge straightforward. Current control systems provided by manufacturers of LED decorative lighting systems are applicable to existing cable chases and conduit runs on the bridge. LED lighting technology requires smaller capacity conductors to provide the same or brighter lighting. By controlling actual color output and balance, even greater energy savings can be realized. Electronic control and patterning allows for unique use of the new lighting – allowing for the integrating of the Bridge lighting with the Tea Party Museum when the Tea Party lighting has been upgraded to match the newly lit Congress Street Bridge. Washes of color and modified intensity could define the Fort Point water sheet surrounding the Bridge and the Tea Party Museum in a way never possible in the past.

Over the past several years I have worked closely with Dennis Nigro at Dagle Electrical Construction. He is an experienced and competent project manager. He and his construction team have come to understand how I design and specify specific lighting installations. Dagle Electrical Construction has extensive experience working public work projects in Boston.

John Powell

Answers to stated tasks:

- 1) Background Review—I have worked in Boston since 1984, maintaining a business at 38 Thayer Street from that date until 1993, when I relocated to Allston within the City of Boston. The Congress Street Bridge along with the other bridges crossing Fort Point Channel has always been a structure of interest to me. Using discarded street lights borrowed from Boston Street Lighting, I have temporarily illuminated all the bridges crossing Fort Point, the Lechmere and four bridges crossing the Charles River between 1989 and 2003. Since that time, most of my work has been permanent.
- 2) The original decorative lighting on the Congress Street Bridge the cast iron lanterns installed on top of the piers that support the approach trestle roadway. Over the years from 1930 to the present miscellaneous safety and task lighting has been added and removed – a the time of the rebuilding of the bridge, the decorative lanterns were restored, and compact fluorescent “ lamps’ replaced the original 250 watt incandescent lamps. Various metal halide based lights have been added to enhance safety along the sidewalks – none of this lighting was part of the Fisher Marantz Stone lighting study other than the decorative lanterns. The subsequent lighting on the new Tea Party Museum and ships was also not a part of the FMS study lighting design. In my conceptual design I have included the Tea Party Museum and the Tea Party ships. I am particularly interested in incorporating the counterweight tower into the overall design as a design feature that will offer a unique three dimensional programed lighting design that will hover over the roadway and serve as an entrance portal to the Fort Point Channel and Sea Port districts. The bascule truss structure is unique in that it’s above and below the sidewalk structure allows

pedestrians to see the water beneath the bridge. This provides an opportunity to illuminate the underside of the bridge. Floating the bridge on the channel makes the Fort Point Channel water sheet part of the illumination project. This effectively ‘spreads the bridge’ over the water and makes it more a part of the channel. It also makes the truss an active part of the bridge by uniting the roadway with the structure. Keeping the “points of light” on the face of the bridge from the FMS design creates a visual mechanism to unite disparate parts of the bridge structure with the Tea Party Museum and the historic ships moored there.

This design is based on the use of contemporary programmable LED lighting to create both full color and white light illumination on the bridge for complete seasonal and celebration illumination. LED illumination is also cost effective, being on the average approximately 80% more efficient than incandescent and around 60% more efficient in producing direct light from power supplied than metal halide or compact fluorescent lighting instruments. The efficiencies do not end with simple installation – electronic control systems allow close to infinite manipulation and control of light output, color mixing and light timing. All instruments specified by Light Time in Space are manufactured by Lumenpulse, a lighting company with its US headquarters based in Boston. All Lumenpulse products are DLC listed fixtures compatible with Eversource rebate potential. All Lumenpulse fixtures are compatible with Coast Guard decorative lighting guidelines.

- 3) Dagle Electrical Construction’s, Project Manager, Dennis Nigro is someone I have worked closely with for over five years. Dagle Electrical Construction has electrical engineers and electrical design professionals on staff familiar with Boston Public Works electrical construction requirements. Both schematic and practical position location plans will be provided. Examples of Lumenpulse lighting instruments suitable for this installation are providing at the end of this document.

The consultant if chosen will meet with the all stakeholders and make himself and his project manager, Dennis Nigro for all meetings. A unit cost breakdown will be provided for all stages of construction and installation. The required programs for lighting controls will be provided.

A comprehensive maintenance plan for all lighting instruments and control systems with suggested periodic inspection and maintenance procedures outlined will be developed with the Department of Public Works, City of Boston. The contractor will maintain adequate insurance (see attached rider).

Respectfully submitted

John Powell
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