

Bridgeton Cross

Exterior Lighting Design Proposal

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1. Overview.



Bridgeton Cross and Shelter as it appears today.



An impression of the proposed lighting design.

Bridgeton Cross sits astride a complex convergence of roadways, best defined by the cast iron shelter that is the centrepiece of the local urban landscape.

Originally laid out by the City Improvement Trust in 1866, most of the buildings at Bridgeton Cross were built at different times over the next thirty-five years, and as such lack a complete architectural coherence.

The cast iron shelter (also known as “The Umbrella”) is a fitting and intricate tribute to Bridgeton and the surrounding areas industrial heritage, especially to the famous Arrol’s Ironworks of Dunn Street, Dalmarnock (although it was manufactured elsewhere).

The landscaping and street furniture surrounding the shelter is not in as good condition as the structure itself, and has been left out of this lighting design.

The proposed Lighting Design would seek to enhance the cast iron shelter, whilst leaving room for future development of the Bridgeton Cross precinct.

This would be achieved by following the ironwork circles with light in the interior shelter apex, up-lighting the perimeter of the shelter to catch the cast-iron columns and filigree detailing, and spot-lighting the cupola Glasgow city badge, clock face, and finial.

An integral and unusual feature of the lighting design is to “reflect” the classical ironwork of the shelter by tracing a series of ellipses in light on the floor of the shelter. This serves as a link from the industrial to the modern age in Bridgeton, combining an historical and a modern day context for Bridgeton Cross, encouraging a dialogue between the designs of the ironwork and the fabric of the new lighting design.

2. Interior Ironwork Circles.

The interior ironwork circles, at the top of the centre pillar of the shelter under the canopy, would be lit with side-emitting fibre optic cables that follow the inside diameter of the ironwork.

This would accentuate the ironwork design when viewed directly, and the “circles of light” would collectively act as a reflected light source from the underside of the canopy, providing a pleasant light within the shelter.

The fibre optic cables would reach the canopy via discreet trunking along the central pillar, and the light generators would be located beneath the shelter in what is assumed were public amenities. This would provide secure and accessible housing for the generators.



The ironwork traced in side-emitting fibre optic

3. Circles on the Shelter Floor.

The ellipses depicted would be ground mounted into the shelter floor.

They would either be side emitting fibre optic cables or bespoke LED fittings embedded in resin.

4. Perimeter Up-Lighters.

The up-lighting arrangement would follow the outside of the shelter in a circular pattern, set in a granite sett banding.

These fittings would shine light up the supporting columns and cast light into the ironwork detailing between the columns.

The fittings proposed would be in-ground fibre optic end-points, fed from fibre optic cables arrayed out from the centre of the shelter, below the surface in PVC pipe ducting.

It is envisaged that the shelter would be re-surfaced, possibly in a tinted concrete to compliment the shelter roof, when all of the ground works including part (3) above have been installed.

The fibre optic generators could be located below the shelter with the generators installed for the

Interior Ironwork Circles.

5. Cupola

The cupola, including the Glasgow city badge, the clock face, and the finial, would be spot-lit.

This would be achieved with the use of small fittings secreted at the lip of the roof behind the arched cornice protrusion in the centre of each roofing section.

The fittings would be either low voltage electronic transformer halogen, or fittings utilising the CDM-TC capsule metal halide lamp with remote control gear, in a warm colour temperature.

This would be determined following a survey of the shelter (allowing better prediction of lux levels) and by site testing.

The fittings would be required to be colour matched to the red-tiled roof.

6. Conclusion

The Bridgeton Cross precinct itself would benefit greatly from re-landscaping, to focus the paving and street-furniture cohesively around the landmark pavilion.

Re-landscaping of the precinct would also allow for re-instatement of lamp standards as street lighting, styled in the same period as the pavilion, but fitted with modern light sources and optics.

These new lamp posts could also provide lighting positions for spotlights that could pick out some of the architectural details on surrounding buildings, thus broadening the lighting scheme as mentioned in the design brief.

All of the lighting positions proposed lie within the shelter area, ensuring any future works at Bridgeton Cross will not disturb the current proposed lighting design.

The type and position of fittings, especially the fibre optic fittings, is intended to be easily maintained and both highly vandal resistant and vandal deterrent.

As much of the accessible lighting systems proposed are fibre optic, they have inherent advantages over other lighting techniques.

The "generators" or lamp sources for the fibre optic cables are remote from the light emitting part of the system. This means there is no electricity in the cables and thus they are inherently safe and electrically impervious to water ingress, a distinct advantage if the system is vandalised.

The in-ground fibre optic end points are also cold to touch compared to other in-ground lighting techniques, so there is no risk of burning.

The generators may be housed in one location, reducing the amount of mains electricity distribution and cabling required for the design, and making lamp changes for the design particularly convenient, safe, and quick.

The exact specification for the lighting design would be developed with thorough site testing to evaluate the method, suitability, quantities, and manufacturers of components for the design.

The lighting design as presented will bring light to the Bridgeton Cross shelter and positively enhance the local environment.