



Piccadilly Gardens

Ecue Lighting Control System
Technical Submission (DRAFT)

Revision: 0

Date: 10/01/2023

Project Ref: 4638

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Revision History

Revision	Date	Details
0	10/01/2023	Initial submission for review & comment

Contents

1. INTRODUCTION & SCOPE	4
2. GENERAL SYSTEM DESCRIPTION.....	5
3. LIGHTING CONTROL PANEL	6
4. CONTROL STRATEGY.....	7
5. FIXTURE OVERVIEW.....	8
6. EMERGENCY LIGHTING	10

1. **INTRODUCTION & SCOPE**

The purpose of this document is to describe the working operation of the lighting control for Piccadilly Gardens.

2. **GENERAL SYSTEM DESCRIPTION**

The lighting control system is based exclusively on the DMX protocol. The system comprises of a single lighting control panel situated in a location to be agreed. From this enclosure, various DMX cables will be taken out to connect into DMX decoders which will in turn feed the lighting.

We are proposing a web-based system allowing the end user dynamic and simple selection over fixtures/banks of fixtures. For this to happen, we need to agree on a strategy for connecting the lighting control system to either a wireless access point, a local network, or 4G router. The preference is for there to be a local network that the client manages. A 4G router will require ongoing management and a contract with a data network. Studiotech can manage this as part of a maintenance contract. A wireless access point is very simple but limited in terms of range.

3. **LIGHTING CONTROL PANEL**

The lighting control panel will comprise of the below devices:

- **Ecue Control Server**
- **Ecue DMX distribution devices** – Providing DMX to all fixtures
- **Wireless access point** – Provides wireless connection to enable commissioning to take place
- **Network switch** – Provides common network connection across devices
- **Power supplies** – Provides low voltage power to ecue devices.

Enclosure size is to be confirmed following agreed finalised design but is expected to be around 500mm x 400mm x 300mm.

4. **CONTROL STRATEGY**

The emphasis of this system is user flexibility and simplicity.

As part of our works, we will complete commissioning in line with client's requirements. For all lighting, this will allow us to set precise dimming values over the fixtures. We can then programme these settings to run automatically without any user involvement. To enable flexibility, we can include a variety of pre-programmed scenes that can be dynamically selected by the client as and when required.

On a typical day, the lighting will be programmed to run static white lighting. However, on special event days/occasions, some of the lighting will be programmed to display more colourful and dynamic lighting.

For the colour change lighting, in line with client's requirements, we will programme a variety (maximum of 8No. scenes currently included, more can be provided on request at an additional cost) of scenes such as colour fades and general day to day scenes. Furthermore, we will programme in key calendar dates such as Valentine's Day, St Patrick's Day. These will be scheduled to run automatically by our system but can also be selected dynamically by the client. Finally, we will offer a colour wheel to enable exact colour selection.

Given the city centre location and the proximity of vehicles to the lighting, we understand the certain colours will need to be avoided. All scenes will be individually programmed and then demonstrated to various stakeholders, including Transport for Greater Manchester, to ensure these create no distractions to vehicle users. No lighting scenes will be uploaded without prior approval from relevant stakeholders. Furthermore, all lighting is dimmable down to 1%, so we can complete light level surveys to determine the level of light that is most desirable from an impact perspective, but that also ensures no distractions are caused.

The section below will detail the standard operation of lighting control within the elements.

5. **FIXTURE OVERVIEW**

INGROUND UPLIGHTER

OVERVIEW

These white light fixtures will be controlled via the panel mounted DMX Gateway. The DMX Gateway controls a DMX decoder that is in turn powered via a 24V PSU.

All fixtures will be switched/dim in unison so the DMX decoders will be given a common address.

SHOPFRONT LIGHTING

OVERVIEW

These white light fixtures will be controlled via the panel mounted DMX Gateway. The DMX Gateway controls a DMX decoder that is in turn powered via a 24V PSU.

All fixtures will be switched/dim in unison so the DMX decoders will be given a common address.

WALL MOUNTED COLOUR CHANGE LIGHTING

OVERVIEW

The colour change fixtures will be controlled via the panel mounted DMX Gateway. The DMX Gateway controls a DMX decoder that is in turn powered via a 24V PSU.

The exact design for the colour changing is yet to be confirmed but it's currently assumed that each 'star' will be individually controlled, and all nodes within that star will be controlled together. So, each star can be controlled independently from one another. The nodes associated to each star can operate independently of that star, but will operate in unison with the other nodes within each star.

CONTROL

Day to day control will be driven by the automatic scene controller that will run any of the 8 preprogrammed scenes as managed by the scene scheduler.

Manually driven scene selection will also be possible via the client interface

Override control of all the lighting will be available from the client interface (please see below).

INTERFACE OVERRIDE

The lighting will have the following controls available via the client interface

Override buttons for the white lighting will have 5 dimming levels: 100%, 75%, 50%, 25% and OFF

When an override is selected this will override the currently running scene until the next scheduled trigger. For the colour change lighting, we will include a colour wheel and buttons enabling selection over pre-programmed scenes. We have included some examples below of Valentine's Day and St Patrick's Day but this is flexible to suit client demands.

Inground
Lighting

100%

75%

50%

25%

OFF

Shopfront
Lighting

100%

75%

50%

25%

OFF

Colour Change
Wall Lighting

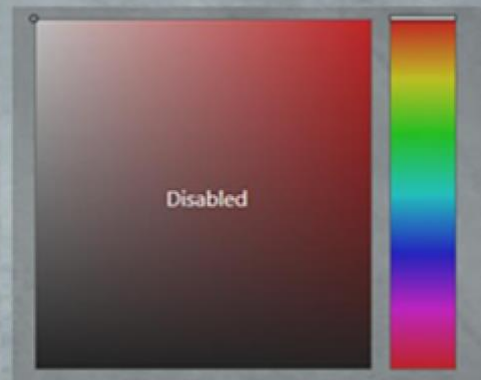
Scene 1

Valentines Day

St Patricks Day

Colour Picker

OFF



6. **EMERGENCY LIGHTING**

We have made no allowance for emergency lighting within our proposal.