



Downtown Auckland, New Zealand

# Viaduct Harbour bright nights seawall lighting project

Viaduct Harbour Holdings Limited wanted to illuminate the sea walls of the Eastern viaduct marina wharf, using a band of light to underline Auckland's entertainment precinct and draw the eye to the restaurants above.

In keeping with the location they wanted the lighting to be vibrant and exciting, without detracting from the harbour setting.

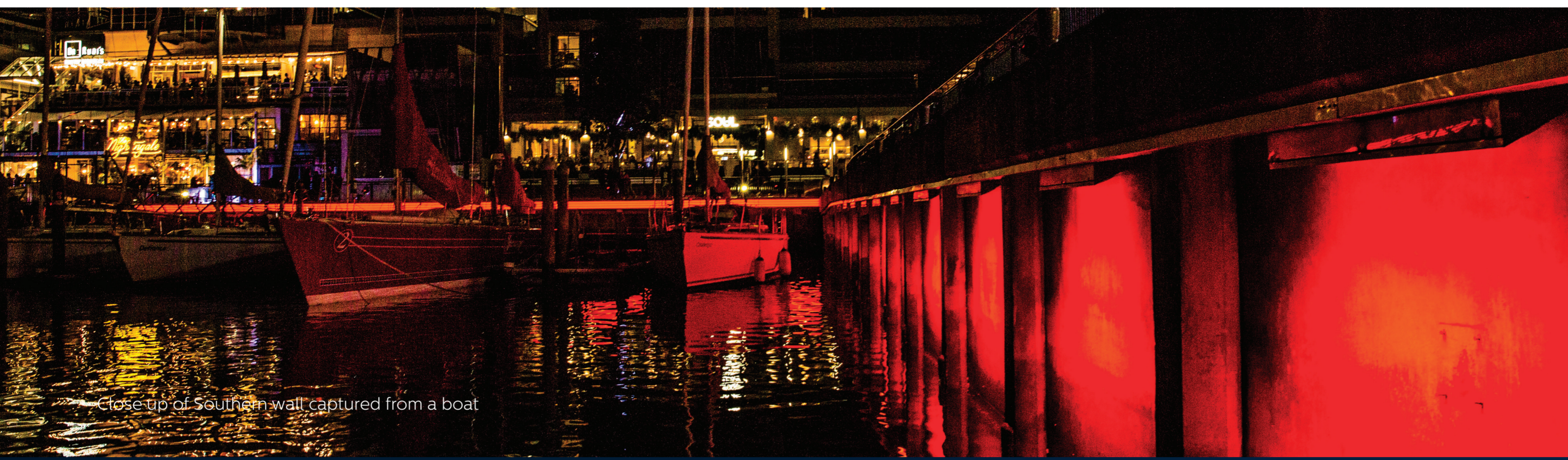
Despite the harsh marine environment, the solution had to be fully-functional for at least ten years.

## A triple challenge

Much was asked of a limited budget. The area to be illuminated was over 250 meters long. The south wall of the harbour was made up of segments so it wasn't possible to do a continuous band of light. The eastern wall of the viaduct basin was heavily obstructed by cables, gangways and other infrastructure, so a wash of light would not work there.

Another challenge was the customer's requirement for the installation to be changeable RGBW with responsive colour and movement possibilities. It needed to be adapted for local celebrations and events, and be rapidly re-programmed from anywhere with regular content updates in order to remain fresh. It also needed to provide high-quality white light.

However the greatest challenge was the location. The selected luminaires would need to survive sea air, salt spray and even partial immersion, and still have a satisfactory light output in ten years' time.

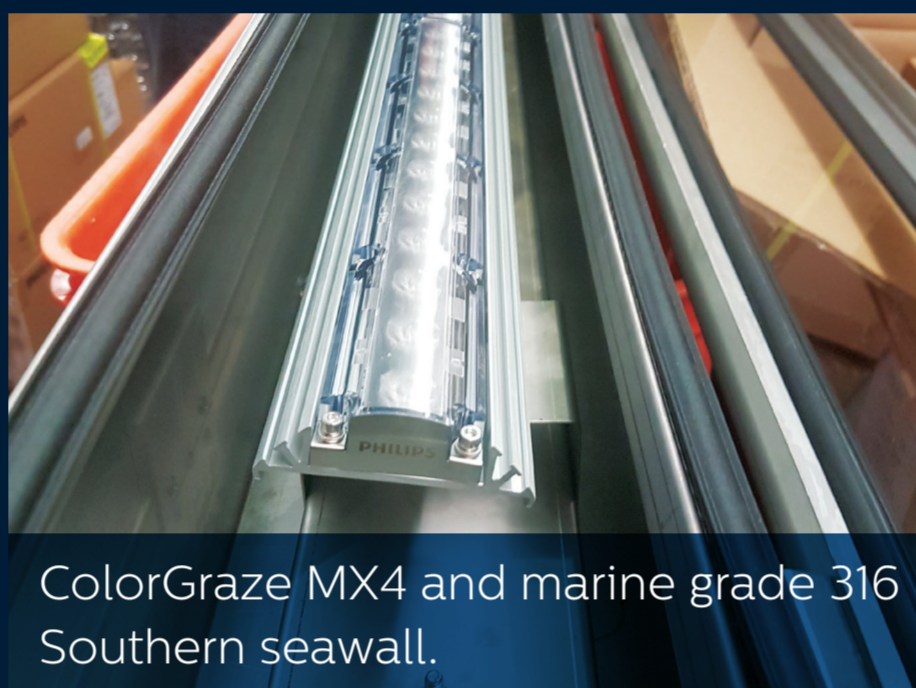


Close up of Southern wall captured from a boat

## Project trials – in office and on-site



iColor Flex mounted behind diffusing screens on the Eastern wall.



ColorGraze MX4 and marine grade 316 housing trials and installation on Southern seawall.



## State of the art technology. Kiwi ingenuity.

For the western wall, Philips iColor Flex LMX Gen2, a direct view system, was mounted on stainless steel plates and overlaid with a customised diffusing screen. This resulted in individual nodes not being visible, and allowing for seamless light movement.

For the southern wall the luminaire chosen was the Philips ColorGraze MX4 Powercore from Color Kinetics, an IP66 fitting made of high-quality aluminium with a low copper content to withstand the marine location.

For the south wall each segment of the wall was treated as a frame. To avoid the wall looking flat and featureless, the interior of each frame was washed with carefully-directed light that used a gradation in intensity across the surface to provide interest and contrast.

The distance from luminaire to sea surface changed by more than two meters with every tide, so extra night trials were undertaken to check light distribution at the tidal extremes. The choice of light distribution was complicated by reflectance from the sea surface.

Over 100 man-hours were spent on site testing beam angles, and color response, in various combinations of 0°-axis and 90°-axis distributions.

When the luminaire configuration was finalised a waterproof secondary housing was designed and built locally from marine-grade 316 stainless steel with a glass lens, and the luminaire was mounted and sealed inside this. Site trials were repeated to ensure there were no heat issues and the housing did not affect the light distribution or the “soft” beam edges.

Lighting designer Angus Muir was commissioned to design the creative content for the initial launch, recently concluded Matariki celebrations, and subsequent shows. The installation is controlled by a Pharos Lighting Controller while the Philips ActiveSite gateway monitors the health of the system. Being cloud-based the system can be programmed from the wharf side to observe the results in real time, or it can be changed from anywhere in the world if necessary. It sends real-time fault alerts, allowing a rapid response if maintenance is ever needed.



View of Southern Seawall from local restaurants

## Vibrant cityscape. Engaged visitors.

The result is a simple, attractive and effective lighting project that is entirely appropriate for its surroundings. It has been designed with care to avoid upward light, and to enhance reflections, while delivering the vibrancy and flexibility that the client desired. The client has a solution that was within their budget and will survive in the harsh marine environment for many years to come. This project has helped to enhance an already attractive and popular Auckland destination. and has gathered much positive media coverage since the launch night.

## Acknowledgements

### Client

Angela Bull, CEO,  
Viaduct Harbour  
Holdings Ltd

### Philips Lighting New Zealand

Geoff Lewthwaite

### Angus Muir Design

Angus Muir

### Chris Huff Technical Ltd

Chris Huff

### Electrical contractor

Empire Electrical  
Services Ltd

### Photography

Stephen Langdon  
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## Letter of consent

### VIADUCT HARBOUR

28 August 2017

#### Philips Lighting New Zealand

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#### Viaduct Harbour – Bright Nights Seawall Lighting

We embarked on **Viaduct Harbour – Bright Nights Seawall Lighting** project as we saw it as a wonderful opportunity to invest in the city and in the waterfront experience for all Aucklanders and visitors to Auckland. We were excited by the opportunity to work with Philips latest light technology and award-winning designer Angus Muir to create a beautiful, permanent art show that would light up the Viaduct Harbour and shine a light on Auckland's waterfront in a way that can be shared with the thousands of people who flock here every year.

Angus Muir's award winning studio has designed the light show installation and will be involved along the journey as he creates new 'light shows' throughout the year that suit the season, occasions and mood of the City.

Philips was an essential technical partner making the vision come alive with their Colour Kinetics LED lighting system.

We love being able to celebrate events in Auckland like Matariki, Emirates Team New Zealand's America's Cup win and Fashion Week by working with Angus Muir to create new light shows; and our ambition is that turning on the lights at Viaduct Harbour will be the start of an annual Bright Nights festival.

We wanted to surprise and delight visitors to the Viaduct with the lighting effects and we have had great feedback. I wish Philips Lighting New Zealand and Angus Muir Design all the very best for 2017 IES Lighting Design Awards.

Yours faithfully

Angela Bull  
Chief Executive

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