Paul Croft

King’s Gardens, Southport
King’s Gardens, Southport: Project overview

Summary

The Crick Smith consultancy were commissioned by Sefton Council to undertake architectural paint analysis of the historic buildings and structures situated on the seafront (surrounding the Marine Lake) within King’s Gardens, Southport.

The objective of this action-based research and analysis, undertaken by Paul Croft, was to help inform the decision making process for the repair and restoration of these historic structures by providing a picture of their decorative appearance from initial construction to present day.

The Gardens were developed in stages between the early 1880s and the 1930s, and this research provided the opportunity to re-present the structures in an authentic way, acknowledging the rich heritage of the site.

Academic: Paul Croft
Site analysis

The research examined a variety of structures including:

- 8 cast iron shelters (1911/12)
- The Bowling Club Pavilion (1937)
- The sewage pumping station (1951)
- The ‘Arts & Crafts’ shelter (1911/12)
- The Marine Lake Café (pre 1902)
- Former Ladies’ toilet (pre 1902 and extended in the 1920’s)
- The Venetian Bridge (1930)
- The Lakeside post and rail iron fence (1913)
- 12 Edwardian iron balustrade lamp columns (1913)
- 16 Edwardian iron freestanding lamp columns (1913)
- 18 freestanding iron lamp columns (1930)
- 10 balustrade iron lamp columns (1930)
- 30 iron lamp columns on the Venetian Bridge (1930)
- Low railing on former sea wall (nineteenth century).
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Sampling

The collaborative research client stipulated the 14 structure types requiring extensive paint sampling resulting in approximately 100 samples.

The sample sites were carefully selected to include those areas with heavy paint build up (i.e. structures that have not been previously stripped) and in locations that were broadly representative of the individual structures. Samples were removed using battery powered dental drills and sharp blades. This ensured a complete sample containing early primer coats and paint schemes. All samples were carefully labelled and bagged individually on-site ready for analysis.

The removed samples were examined under a low powered optical microscope and cut into approximately 3mm sections ready to be mounted in a line and set into clear polyester resin blocks. Great care was taken to ensure the bagged sample labels were accurately transferred to the locations in the resin blocks.

The mounted samples were viewed under a high powered binocular microscope using simulated daylight (to highlight: primer coats, paint colour and dirt layers) and ultra-violet fluorescence (to highlight: paint type (lead, zinc or alkyd) and varnish layers.

Academic: Paul Croft
**Paint analysis**

Many of the samples show evidence of various green paints, layers dating from the early twentieth century to the 1930s. Structures were generally painted dark green with some features picked out in paler greens or cream to provide contrast and enhance architectural details. Such paint schemes were evident at the Marine Lake Café, the post and rail fence, the Ladies’ toilet and the Arts & Crafts Shelter.

A notable exception to this green paint scheme was the Venetian Bridge which, although a largely timber construction was clearly intended to be presented as a stone structure, hence its pale stone paint colour scheme.
Paint analysis

The Edwardian lamp columns were stripped soon after the Second World War prior to a new paint scheme being applied. The paint cross section shown was removed from a concealed area and shows fragmented early schemes at the base of the image. This was a key sample which helped to demonstrate the continuity of the earliest paint colours across the site. The darker greens at the base of the image date to the Edwardian period with the subsequent paler greens dating to the 1930’s.

Extract from Crick Smith’s King’s Garden report (2011)
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Paint analysis and historical research

This image shows a detail from a colour postcard dated to 1959 with a high level contrast. The 1930’s freestanding lamp columns are clearly visible uniformly painted in the blue/grey identified as scheme 17 (the first alkyd oil paint scheme).

Alkyd paints were introduced soon after WW2, when linseed oil and the solvents used were in scarce supply, with the synthetic polymers that replaced the earlier more traditional paint formulations coming into common use by the mid 1950’s.

The transition from the use of traditional lead and zinc paints to the use of alkyds has provided a useful datum throughout this research exercise when dating the paint layers.

Academic: Paul Croft
Collation of paint analysis

The paint analysis collation reveals three distinct phases:

1) A nineteenth century scheme of white lead and zinc oil paints. These were uncovered on the oldest structures – the railings on the former sea wall.

2) A ‘green phase’ which started in the early twentieth century with all structures being painted dark green with some features picked out in paler greens or cream.

3) From the mid 1950s to early 1960s a conscious decision was made to brighten up the appearance of the structures with the introduction of a red and cream scheme and later the blue and white scheme present today.

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**Scheme Chart: Marine Lake Cafe & Lakeside post and rail fence**

<table>
<thead>
<tr>
<th>Scheme 1: white akyd oil paint with undercoat</th>
<th>Scheme 2: white akyd oil paint with undercoat</th>
<th>Scheme 3: white akyd oil paint with undercoat</th>
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</thead>
<tbody>
<tr>
<td>Scheme 24 (current scheme as seen today)</td>
<td>White akyd oil paint with undercoat</td>
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<td>Scheme 23</td>
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<td>Scheme 21</td>
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<td>Scheme 20 (1st post PWS scheme)</td>
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<td>Scheme 19</td>
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<td>Scheme 14</td>
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<td>Scheme 13 (1st post 1930)</td>
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<td>Scheme 12</td>
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**SUBSTRATE** | **TIMBER** | **CAST IRON** | **STONE**

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Overview

The eight cast iron shelters were significant to the overall project. They are of historical significance (dated to 1911-2 and Grade 2 listed). These shelters will be central to the visitor experience in the restored gardens.
King’s Gardens, Southport: The cast iron structures

Sampling and analysis

The Iron Structures were sampled in multiple locations (as indicated on the diagram).

Analysis of the paint samples showed the structures had been aggressively stripped back, meaning the majority of the samples showed only modern alkyd paints.

One decorative spandrel sample showed evidence of the ‘green scheme’ connecting with evidence of this paint scheme from other structures across the site. There was enough evidence now to extrapolate a credible idea of the original decorative scheme.
Chartered architects Lloyd Evans Pritchard proposed paint schemes for the cast iron shelters. This scheme was based fully on Croft’s research report. The architectural presentation (left) quotes the report’s findings verbatim and includes the photomicrograph of the paint samples, indicating the presence of the ‘green scheme’.

The restoration work will be completed by March 2014. Sefton Council are planning an official opening around July 2014, which will coincide with the 101st anniversary of the gardens being opened by King George V.