

LISTED BUILDING CONSENT APPLICATION

Store Street Aqueduct Ashton Canal Manchester

Injection of Polyurethane resin grouting to combat leakage



November 2019

Canal & River Trust

Submission by Judy Jones BA(Hons) MA IHBC, Heritage Advisor

OVERVIEW

This statement has been prepared to support a Listed Building application by the Canal & River Trust for the Injection of Polyurethane resin grouting to combat leakage through the Aqueduct walls.

This statement aims to provide supporting information about the historic character of the Aqueduct, the methodology of the proposal and to address the relevant impact of the intervention on this designated asset.

Store Street Aqueduct is a Grade II* Listed structure.

LOCATION OF THE DEVELOPMENT

The Aqueduct is located on the Ashton Canal in Manchester, and carries the canal across Store Street.

Easting 385014
Northing 398116

DESCRIPTION OF PROPOSED DEVELOPMENT

The Listed Building application concerns the following –

- **Injection of Polyurethane resin grouting to combat leakage**

APPLICANT

Canal & River Trust

STATEMENT PREPARED BY

Prepared by:

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Background history of the Ashton Canal

The Grade 2* listed Aqueduct is situated on the Ashton Canal, and crosses Store Street in Manchester.

The Ashton Canal was promoted to carry coal from the mines of Ashton and Oldham to Manchester. In 1792 an Act of Parliament was lodged to create a company to be called the Manchester, Ashton-under-Lyne and Oldham Canal, with the original scheme completed in 1796, running from a large basin behind what is now Piccadilly Station in Manchester, and climbing gradually eastwards via 18 locks to Fairfield, Droylesden.

In the first half of the 19th century the Ashton Canal prospered, traffic being so great that the company started to convert the locks into double (twin) locks, although they only completed the two Fairfield locks, 17 and 18. However, the coming of the Railway Age saw a loss of trade for the canals. In 1848, the railway, now the Manchester, Sheffield and Lincolnshire Railway, bought the Ashton, Peak Forest and Macclesfield Canals in order to feed goods into their railway system.

The canal continued to be utilised for the transport of substantial amounts of coal and other products until the early 20th century, but during this period many of the mines served closed whilst the other main trade of textiles was also in steep decline, this being illustrated by the drop in goods carried on the Ashton Canal, which fell from 50,000 tons in 1933 to just 7 tons in 1955.

The various branches of the Ashton Canal closed in sections between 1932 and 1962, and due to the drop in trade it appeared that the Ashton Mainline would follow rapidly after these closures. However, in 1964, the Peak Forest Canal Society was formed and, with the Inland Waterways Association, fought to keep the Peak Forest and Ashton Canals open and to restore them.

Following discussions between the relevant local authorities and the Canal Societies in 1971 the canal was given a reprieve and restoration was approved, over the next two years with volunteer help and mechanical plant, the whole canal was cleared and restored, finally being re-opened for navigation during 1974.

Since then, the use of the canal network for leisure has developed and the Ashton Canal is an important link in the Cheshire Ring.

The Aqueduct itself was built in 1798 by Benjamin Outram and is a Grade II* listed building. It is built on a skew of 45° across Store Street, and is believed to be the first major aqueduct of its kind in Britain and the oldest still in use.

During the 19thC Store Street and the wider area of Ancoats became established as part of the industrial infrastructure of Manchester. Prior to this the area was probably outlying agricultural land, but with the advent of the canals and the emergence of new industries such as textiles, iron, steel and leather Store Street became an industrial hub.

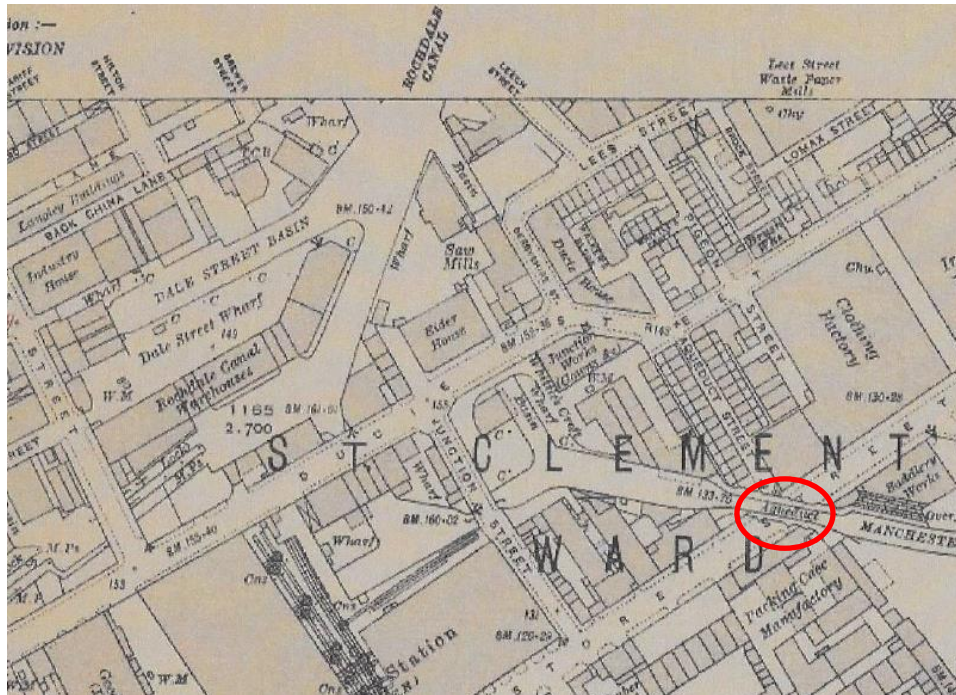
1894



1923



1935



1946



Significance of the Heritage Asset

The National Planning Policy Framework (NPPF) 2012 provides the Government's national planning policy of the conservation of the historic environment, in respect of information requirements it sets out that:

'In determining applications, local planning authorities should require an applicant to describe the significance of any assets affected, including any contribution made by their setting. The level of detail should be proportionate to the assets' importance and no more than is sufficient to understand the potential impact of the proposal on their significance'

It is therefore accepted that in order for the LPA to consider this application it is necessary for the applicant to provide a detailed description and justification of the works.

Assessment of significance

The April 2008 'Conservation Principles Policies and Guidance', published by English Heritage (now Historic England), states that 'understanding the significance of places is vital' and that 'articulating the values and significance ... is necessary to inform decisions about the future '

The English Heritage/Historic England guidance describes a range of inter-related 'heritage values' that may be attached to historic places, arranged in four groups:

- Evidential value: the potential of a place to yield evidence about past human activity;
- Historical value: the ways in which past people, events and aspects of life can be connected through a place to the present – it tends to be illustrative or associative;
- Aesthetic value: the ways in which people draw sensory and intellectual stimulation from a place; and
- Communal value: the meanings of a place for the people who relate to it, or for whom it figures in their collective experience of memory.

The Aqueduct has **Historical value**, as it forms part of the historic national canal network and is believed to be the first major aqueduct of its kind in Britain and the oldest still in use.

It forms part of what is known as the Cheshire Ring. It is a busy cruising waterway and therefore must feature in the memory of those who live, work and not least cruise in the locality. Therefore is of both **Evidential and Communal value**.

Statutory List Description

The Aqueduct is designated Grade 2* and its listed description is as follows –

SJ8498 STORE STREET 698-1/17/413 Store Street Aqueduct

*GV II**

Canal aqueduct. c.1794-99. Coursed squared sandstone. Straight aqueduct approx.70m long, crossing Store Street at approx.45 degrees, with skewed semi-elliptical archway (the soffit now rendered), with 6 triangular buttresses (like cutwaters with refuges) on the north side and 4 on the south side; radiating voussoirs to the arches, 2 bands on the south side and one on the north side, coped parapets. Probably one of the earliest canal aqueducts with a skewed arch.



Reasoning for the proposed works

During the past 2 years, water leakage has been apparent from the Aqueduct (please refer to photomontage). The water exits down the wing walls and is evident from Store Street. As well as needing to stem the leakage of water from the canal system, the leaked water could cause a hazard.

The Trust have been successfully using Polyurethane Grout for a number of years to seal leaks on locks, aqueducts and embankments. This method of grouting causes minimal disturbance to the structures. The grout is injected directly into the leakage paths where it reacts with water and slowly expands. It is carried along the leak paths until it seals them following expansion. The grout expands into the voids and then sets, acting as both a waterproof barrier and a void filler. Whilst this is a permanent solution, the grout can easily be removed as it forms a stiff foam like material that can be cut out and removed with hand tools.



Proposed design

The trough of the Aqueduct is constructed in concrete.

The grouting to tackle the leakage will be a Polyurethane resin grout, injected within the towpath. This can be done while the canal is still in water. The process of resin injection involves drilling vertical injection points immediately behind the Aqueduct wall and then subsequently injecting polyurethane. On contact with water this changes from a liquid to a soft closed cell foam that expands into any voids and should stem the leakage.

The resins used are harmless to the environment and if spilled into water change to their solid state and can be captured with a net or small boom. Any grout residue left on masonry can be easily be removed with a stiff brush leaving no residue on the surface of the stone.

Grouting with tackle 18m (East side) and 5m (Westside). The drilling and grout injection will be into the tow path surface behind the aqueduct wall, not through the stone fabric face. The setts in the towpath will be carefully lifted and reinstalled to their original pattern following the grout injection.

In addition there *may* be 48m gap repair between coper and concrete channel lining. It is proposed to use cement grout here if required, as the Polyurethane resin grout may well address the leakage fully, and the additional cement grout may not be necessary.

A meeting on 27th June 2019 on site with John Whyard, MCC Conservation Officer minuted the discussion as follows -

‘the traditional and proposed new (*grouting*) methodologies had pros and cons. In brief, the proposed approach is not a traditional like-for-like repair but would - as I understand it - have had the benefits of:

- (a) Being far more limited in scope and requiring far less intervention on this Grade II* listed building.
 - (b) Using a grouting product that would only act to fill voids without displacing existing fabric.
 - (c) Potentially being reversible insofar as it can readily be removed from built fabric it touches.'
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PHILOSOPHY AND APPROACH TO CREATING AN ACCESSIBLE DEVELOPMENT

The principle behind the scheme is to repair the Aqueduct to enable it to function correctly. The leakage through the walls onto the access paths will be reduced and therefore improve public safety by reducing the scope for injury.

KEY ACCESS ISSUES

The body of works will improve access for canal users as it should increase the reliability and safety of this section of the canal.

COMMITMENT TO MAINTAINING A RELEVANT DESIGN AND ACCESS STATEMENT

It is confirmed that the issue of access will be considered throughout the development and constructional phases of this project.

CONCLUSION

In conclusion it is considered that the proposed grouting of the Aqueduct will substantially reduce leakage without adversely affecting any historic fabric, and with no visual impact. These works will have a neutral effect on the special character of the Grade2* asset. It is therefore respectfully requested that this application is approved.

