

street lighting. the first town in Scotland to have gas acknowledge Paisley's heritage as 20 minutes, has been added to lighting, which changes colour every as the templates. Architectural ceutury methods with the originals Iron Co. Ltd using traditional 19th were cast by the Ballantine Bo'ness These very ornate tabrications ductile iron facia panels and parapets. road surfacing and the casting of new construction of a new deck slab and 26 metre long steel plate girders, steelwork, installation of two new cleaning and painting of the existing McLeod. The works comprised blast were built in 2008 by Messrs. RJ the returbishment works, which Rentrewshire Council designed

to its original Victorian splendour. determined that it should be returned the bridge and its prominent location refurbishment. The historic nature of condition and in need of major was in a weakened and dilapidated Paisley's road network, the bridge After many years as a crucial link in

Bridge Co Ltd of Motherwell. Glasgow and Messrs. The Brandon Messrs. James Young Limited of responsible for the work were

with buckle plates. The Contractors the addition of four steel Pratt girders In 1910 it was further widened by pecame known as Abercorn Bridge. parapets and facia panels and it buckle plates supporting cast iron six wrought iron lattice girders and of Abercorn Foundry Paisley using improved by Hanna Donald & Wilson Water. In 1881, it was widened and Sneddon Street over the White Cart old Sneddon Bridge, it carried Old Originally a stone bridge, known as

Abercorn Bridge - 1881



concrete abutments and wingwalls. slab supported on piled, reinforced with a reinforced concrete deck "I" beams acting compositely proprietary pre-stressed concrete span of 22 metres and comprises It has a single, slightly skewed clear the A726 over the White Cart Water. and carries the eastbound lanes of 1979 as part of the inner ring road, Niddry Street Bridge was built in

Viddry Street Bridge - 1979





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Provost Anne Hall producing this publication. We hope you enjoy reading it.

. vrotsih n γ bom ban tasizan s $^{\prime}$ yslsis $^{\prime}$ a n $^{\prime}$ betwe hali town centre. These structures are inextricably linked to the town and bridge the are added — shirt in the building the building of a supering shirt of greek of the added over the years. Even as we move into the 21st century, another structure centre is surrounded by a ring road which has required further crossings to be The Piazza Shopping Centre now straddles a length of the Cart, while the town

Renfreushire Council would like to thank the Institution of Civil Engineers for

structures sprung up across the river, reflecting the transition to the modern age. wentury advanced, the mills gradually became part of Paisley's past – but new industrialising town grew along the banks of the White Cart Water. As the 20th Many of the bridges featured in this publication were built in this era, as the rapidly-

spread its name worldwide.

by the whiring of milis weaving the Paisley-patterned material which helped humble beginnings, by the middle of the 19th century the town was soundiracked the town centre is a monument to that history, right up to the present day. From Paisley is a troubly to drouten shi ban – tend broad and gaol a thin awot a si yelsing



Gilmour Street Bridge - c. 1840

This bridge is a single span wrought iron girder bridge with a span of 18.2 metres, which carries the Ayr and Gourock lines over Gilmour Street at Paisley Gilmour Street Station. The bridge also supports the station platforms and the listed façade. Originally constructed circa 1840 as a two track structure for Glasgow & Paisley Joint Railway, it was widened circa 1890 to accommodate four tracks and additional platforms.

The structure has hollow abutments, which are currently let as business



Piazza Shopping Centre - c. 1970

The Piazza Shopping Centre, Paisley is a 1970s shopping complex built over the river Cart. It was developed in 1968 with an extension in 1975. The Centre was subsequently refurbished in the 1990s. It provides a covered single level shopping centre extending to 135,000 square feet of retail and 117,000 square feet of office accommodation.



St James' Bridge - c.1882

This is a two span masonry segmental square arch structure, which carries Gauze Street over the White Cart Water. The bridge has been widened downstream by the addition of a two span reinforced concrete arch. The clear span of both arches is 14.1 metres and the rise to the crown is four metres. The arch abutments and spandrel walls are constructed of squared sandstone masonry, whilst the abutments for the widened section are in mass concrete.

The original structure was a three span bridge, which was rebuilt several times before being transformed into a two span Italianate structure to match the style of the then (1882) newly built Town Hall on the east bank of the river. The bridge has semi-circular cut waters, extended up to form pedestrian refuges. The north side of the bridge is hidden by the Piazza shopping centre, constructed in the 1970's



Seedhill Bridge – 1876

During the 19th Century, Anchor Mills was fundamental to Paisley's leading role in the manufacture of cotton thread. The footbridge, which is a category B listed structure, was constructed to provide access for the mill workers over the White Cart Water to J & J Clark's Anchor Mills.

The form of the bridge is a bowstring truss, probably constructed in wrought iron, with a span of approximately nine metres. After World War II, the bridge was unused and fell into disrepair. In 2006 the bridge was removed by crane for restoration by Heritage Engineering Ltd of Shettleston. The refurbished bridge was relocated a short distance east of its original position to minimise disturbance to local residents and raised by approximately one metre to provide increased flood capacity.

It forms part of the £12M regeneration and restoration of the A listed finishing mill and Anchor Mill complex.



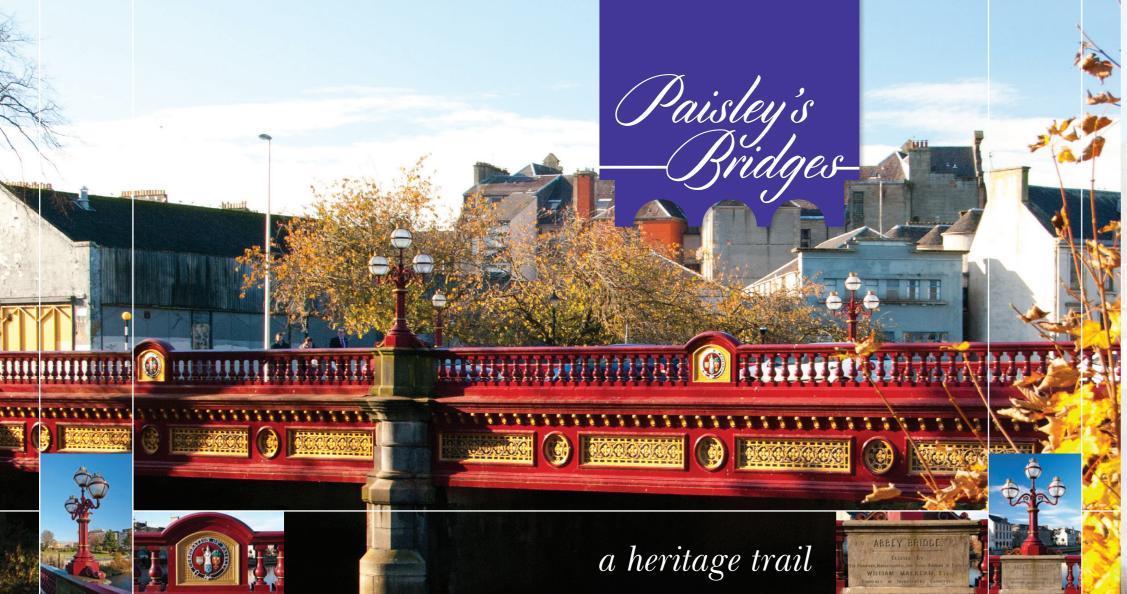
Anchor Mills Bridge - 2004

In 2004, as part of the regeneration of the Anchor Mills site, a new road bridge was constructed over the White Cart Water to provide access to Morrisons superstore and Anchor Mills Housing Development.

The bridge is 16.65 metres wide between parapets and has a single skew span between abutment faces of 29 metres. It comprises six steel plate girders with a composite concrete deck integral with reinforced concrete abutments and cantilever wingwalls, founded on rock. The abutments and wingwalls are faced with brick.

The bridge was constructed by Mackenzie Construction using extensive cofferdams for the abutments, and pre-casting for the parapets







Abbey Bridge - 1879

This ornate Grade B listed bridge carries Bridge Street over the White Cart Water. It was constructed in 1879 and widened in 1933. It has two spans each of 16.5 metres supported on masonry faced concrete abutments and a central masonry pier. The superstructure consisted of 6 steel plate girders and two wrought iron Warren truss girders supporting each footpath. In 2009 the bridge was refurbished by Raynesway Construction Ltd. The historic nature of the bridge and its strategic location in the town adjacent to Paisley Abbey demanded that the bridge be returned to its original Victorian splendour.

The Works comprised the replacement of the truss girders with fabricated steel plate girders, blast cleaning and painting of the existing beams and the provision of new parapet and facia castings in ductile iron, using the original cast iron castings as templates.

As part of the work an architectural lighting system has been provided, which allows programmed colour variations.



Hammill's Bridge – 1973

The bridge, which was opened in 1973, is a single span structure, which carries the A761 Mill Street over the White Cart Water. It was designed by W.A. Fairhurst & Partners and constructed by McKean (Glasgow) Ltd. The bridge has an effective span of 56.4 metres and comprises an in-situ, post-tensioned, cellular, concrete deck cantilevering from massive post-tensioned, piled concrete abutments, supporting a central suspended span formed from pre-cast, pre-tensioned concrete "I" beams. The central span, which is 15.2 metres long, is supported on rubber bearings on "half-joints". The deck is divided by a central longitudinal void into two individual bridges, which are linked by transverse top and bottom reinforced concrete slabs.

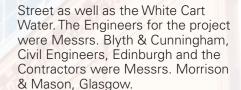
The profile of the bridge was dictated by the need to provide adequate flood flow conveyance for the river, whilst simultaneously keeping the carriageway as low as possible to avoid obstructing views of the nearby Abbey.



Gilmour Street Station - c. 1840

Gilmour Street Station was originally built with two through platforms for the Glasgow & Paisley Joint Railway, which was formed from the Glasgow, Paisley, Kilmarnock and Ayr Railway & the Glasgow, Paisley and Greenock Railway operating between Glasgow Bridge Street Station and Paisley. The station was built on a sandstone viaduct with a twostorey gothic frontage facing County Square to match the now demolished County buildings. It opened on 14 July 1840 to serve the Glasgow, Paisley, Kilmarnock and Ayr Railway The Glasgow, Paisley and Greenock Railway services did not start until March 1841. The engineers for the joint railway were Messrs.Locke & Errington and the Contractor was William Mackenzie. The architect was likely to have been Sir William Tite.

By the late 1880's the station was found to be inadequate and was expanded to four platforms, two for the GPK&R and two for the GP&GR, with the lines separating to the east of the station. New wrought iron bridges were built to carry the lines over Moss Street, Gilmour Street, Smithhills Street, and Wallneuk



The station was electrified as part of the 1967 Inverclyde and Ayrshire Coast Lines and is thought to be the first British station to acquire an overall roof, which was completed in May 2012, and was recognised at the National Railway Heritage Awards.



Underwood Road Viaduct - 1840

This railway underbridge, which is a grade B listed building, carries the Glasgow, Paisley and Greenock line over Underwood Road on a high skew of 60°.

It comprises three masonry arches the central arch being wider than the outer arches.









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Acknowledgements

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Paisley's Sridges **Greenock Road** Niddry St Weir St Glasgow Road GILMOUR STREET STATION **Paisley Gilmour St** Gauze St Paisley Town Hall 150m Cotton St Paisley Abbey Paisley Town Hall ***** Inverclyde Railway Seedhill Rd Walking Route White Cart Water Mill St Roads Lonend 1. Niddry Street Bridge - 1979 Thread St 2. Abercorn Bridge - 1881 3. Gilmour Street Bridge - c. 1840 4. Piazza Shopping Centre - c. 1970 5. St James' Bridge - c. 1882 6. Abbey Bridge - 1879 7. Hammill's Bridge - 1973 8. Seedhill Bridge - 1876 9. Anchor Mills Bridge - 2004 10. Gilmour Street Station - c. 1840 11. Underwood Road Viaduct - 1840