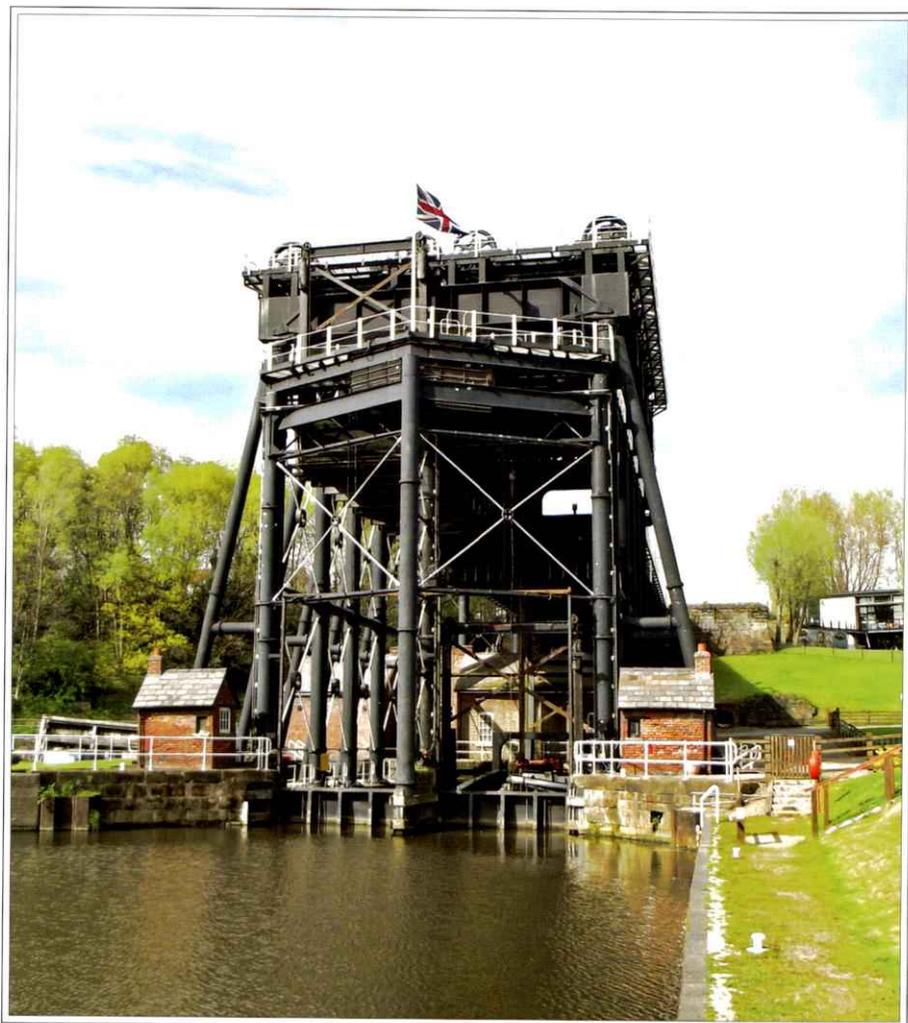


**A GUIDE TO THE  
INDUSTRIAL ARCHAEOLOGY OF  
C H E S H I R E**



**MICHAEL NEVELL AND DAVID GEORGE**

**Association for Industrial Archaeology**

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Each gazetteer has a letter and number that relates to the location map at the beginning of each section and the index. Each record also gives a site's name followed by a location. This is often quite general for reasons of space, but a National Grid Reference is given to aid accurate location.

The abbreviation LI, LII\* and LIII refers to a site's listed building status, and SAM indicates a Scheduled Ancient Monument.

NOTE: The inclusion of sites in the gazetteer should not imply automatic public access. Whenever in doubt, it is always courteous to ask permission to enter a site.

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## ASSOCIATION FOR INDUSTRIAL ARCHAEOLOGY

This book is being published to mark the AIA's 2014 Conference at the University of Chester. The AIA was established in 1973 to promote the study of industrial archaeology and encourage improved standards of recording, research, conservation and publication. It aims to support individuals and groups involved in the study and recording of past industrial activity and the preservation of industrial monuments, to represent the interests of industrial archaeology at national level, to hold conferences and seminars, and to publish the results of research. The Association is a voluntary one. It publishes the *Industrial Archaeology Review*, the leading international journal on industrial archaeology, which is sent twice yearly to members, together with the quarterly *Industrial Archaeology News*. Further details may be obtained from the AIA Liaison Officer, AIA Office, The Ironbridge Institute, Ironbridge Gorge Museum, Coalbrookdale, Telford, TF8 7DX.

## CBA NORTH WEST INDUSTRIAL ARCHAEOLOGY PANEL

The origins of the CBA North West Industrial Archaeology Panel lie in the late 1970s and early 1980s when the Association for Industrial Archaeology and the Council for British Archaeology set up a network of regional industrial archaeology panels across Britain. The membership of these new bodies was voluntary and designed to include both professional and amateur archaeologists, museum specialists, and business people. At the time it was felt that such a broad cross-section would allow the panels to address the twin issues of preservation and record. The current CBA North West Panel maintains that spread of interests and publishes an occasional e-newsletter, *Industrial Archaeology North West*, sponsors an annual regional industrial archaeology conference, and provides a forum for industrial archaeology matters within the region.

FRONT COVER ILLUSTRATION: Anderton Boat Lift; a general view from below (see 5.81); Photo: Michael Nevell

BACK COVER: The varied industrial heritage of Cheshire: details, from left to right, *top row*: 1.06, 5.29, 3.35; *middle row*: 3.33, 4.17, 3.13 and *bottom row*: 4.30, 5.80, 4.25. See the Gazetteer entry for information on these sites.

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# A GUIDE TO THE INDUSTRIAL ARCHAEOLOGY OF CHESHIRE

MICHAEL NEVELL AND DAVID GEORGE



3.13: Daneinshaw Mill, see page 30.

## AN INTRODUCTION TO THE INDUSTRIAL ARCHAEOLOGY OF CHESHIRE

### MODERN CHESHIRE AND THE SCOPE OF THE CURRENT GUIDE

Modern Cheshire is the product of a series of local government reorganisations between 1974 and 2010. The historic county included the Wirral peninsula in the west, Altrincham in the north and Dukinfield, Hyde, Mottram-in-Longdendale, Stalybridge and Stockport in the north-east. In 1974 these areas were hived off to Merseyside and Greater Manchester but the towns of Warrington and Widnes, historically within Lancashire, were added to the truncated county. Runcorn and Widnes were merged to form the Borough of Halton. Further re-organisation of the county in 1998 turned Halton and Warrington into unitary authorities, leaving six districts under the county: Chester District, Congleton, Crewe & Nantwich, Ellesmere Port & Neston, Macclesfield, and Vale Royal. In 2009 the county was abolished and replaced by two unitary authorities: Cheshire West & Chester, and Cheshire East, although Halton and Warrington remained within the wider shared services of the old 1974 county boundaries. This is the geographical area covered by the current guide.

The complex local government changes of the late 20th and early 21st century do not reflect the industrial character of the county. Topographically, Cheshire sits at a crossroads between north-south movement from the Midlands to North West England and east-west travel between northern Wales and eastern England. The major barriers are the Pennines to the east, the River Mersey and its estuary to the north, and the River Dee and its estuary in the west. The Mid Cheshire Ridge, a series of low sandstone hills rising to 227m at Raw Head near Peckforton, runs north to south between Frodsham and Grindley Brook near Whitchurch. Whilst the maritime nature of the county is not immediately obvious its coastal connections have had a profound influence on the development of its industrial transport networks. The river valleys of the region, the Bollin, Dane, Dee, Gowy and Weaver, have also played a major role in industrialisation and the distribution of industry within the county. In order to understand how industry developed in Cheshire, its geography needs to be looked at as a whole for each industry. Consequently, the following guide is divided thematically by industries rather than topographically. These categories cover the main industries of Cheshire during the 18th to 20th centuries: chemicals, corn milling, engineering, minerals, textiles (both cotton and silk) and transport.

The most important of these, in terms of employment, landscape change and national influence, was mechanised textile manufacturing. Over 250 textile mill sites were established in Cheshire between

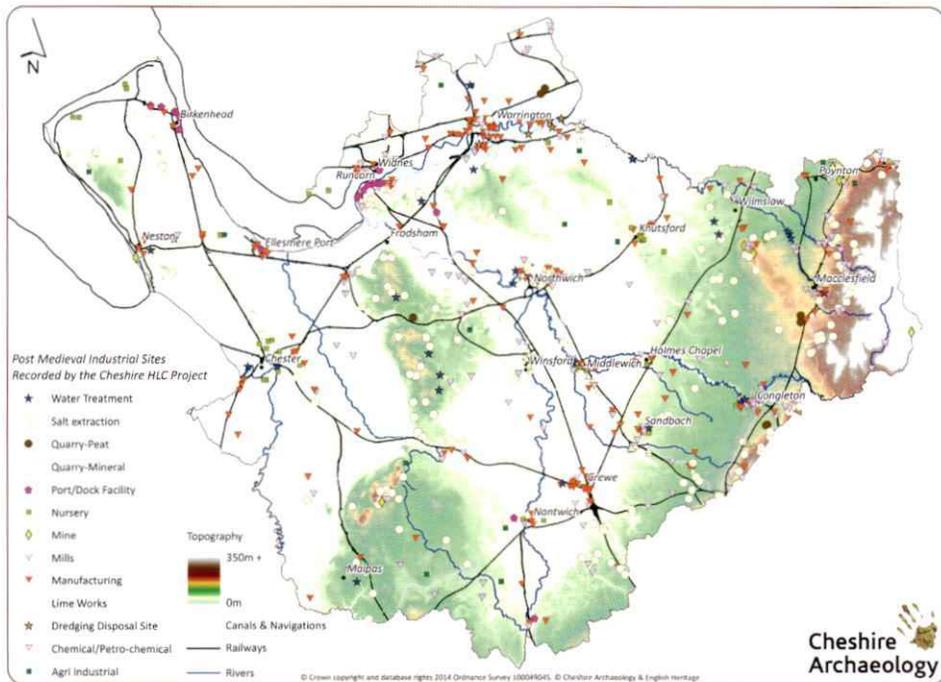
1744 and 1940. Apart from outliers, in places such as Chester (Albion Cotton Mill on the Chester Canal was rebuilt several times in the 19th century and is now a hotel although some fabric of the original mill may remain), Nantwich, Northwich and Warrington, the county's textile mills were in eastern Cheshire. The majority of these sites were silk mills, for throwing and later spinning, although there is a significant group of early water-powered cotton spinning mills and late 19th century fustian mills. For many years the two branches of the textile industry swapped production sites as the boom and bust cycles seldom coincided, thus allowing mills to be converted. The 18th and 19th centuries saw the medieval market towns of Congleton and Macclesfield transformed into silk mill towns. Congleton's population grew from 3,861 in 1801 to 12,344 in 1861 whilst Macclesfield's population grew from 8,743 in 1801 to a peak of 37,514 in 1881. Employment in both towns was dominated by the textile industry. The only true cotton town in eastern Cheshire was Bollington, which developed from a group of scattered farmsteads in the late 18th century into a cotton town of 5,439 people by 1861. Its development was arrested by the cotton famine of 1861-65 (the lack of cotton available from the USA due to the American Civil War of that period). The lifting of silk import taxes in 1860 also saw the industry decline in Congleton, which turned to fustian production, a type of cotton cloth, in the 1860s and 1870s and in the mid-20th century to artificial fibres. These changes allowed the town to continue as a textile production centre during the 20th century. Macclesfield, which had a period as a significant cotton spinning town between 1790 and 1820, continued to flourish as a silk manufacturing and silk textile design centre in the late 19th century and during the 1920s and 1930s when import duties once more favoured the British silk industry. It diversified into artificial fibre production, particularly rayon, from the 1930s, allowing it to remain as a significant textile manufacturing centre until the late 20th century.

The transport archaeology of Cheshire is of equal importance to that of the textile industry, and is better preserved. The outstanding monument, literally, is the Anderton Boat Lift. This two-phase hydraulic structure from the 1870s and 1900s allowed canal boats loaded with salt or coal to be lifted and lowered the 15m (50 feet) from the River Weaver up to the level of the Trent and Mersey Canal. Yet, the industrial archaeology remains of transport are much more extensive than this single site. Chester was founded by the Romans in the AD 70s as a strategic military port on the coast and retained its strategic importance in the medieval period. Though Chester built ships and exported a variety of goods, including cheese and mill stones, into the 18th century the silting of the Dee Estuary crippled the port. A number of quays were built along the northern side of the estuary as it silted, including that at Parkgate near Neston. This small port became a popular coastal resort with regular passenger sailings to Ireland in the 17th and 18th centuries. Like Chester to the south-east the silting of the Dee estuary ended its role as a port and the former quayside is now bordered by a huge salt marsh.

The need to export goods through the Mersey estuary led to the construction of an extensive canal network across the county between the 1750s and the 1830s. Indeed, canal building in Britain is marked at its beginning and at its end by two major engineering works which both travel across northern Cheshire. The Bridgewater Canal, opened as far as Manchester in 1761 and extended to Runcorn in 1773, heralded the birth of the industrial canal and led to the development of a national canal network. The Manchester Ship Canal opened in 1894 from Salford to Eastham Locks north-west of Ellesmere Port transformed that city into an inland port 88km from the sea, and marked the final flourish of industrialised water transport. It also helped to boost chemical production along its lower reaches between Ellesmere Port and Warrington, oil superseding cotton as the most valuable cargo on the canal after



5.80: Acton Bridge, on the Weaver Navigation



1950. Ellesmere Port grew enormously after 1894 from 8,657 in 1881 to 82,206 in 1981, with the chemical and car manufacturing industries as the main drivers.

The railway network, built between the 1830s and the 1890s, was equally extensive and most of the lines survive in use. A notable exception is the line of the Macclesfield, Bollington and Marple Railway, opened in 1869 and closed in 1970. The trackbed through Poynton and Macclesfield is now a footpath known as the Middlewood Way. Yet since Cheshire was a transport crossroads there are few great stations, Chester being the most notable. Crewe emerged as a new railway town, with a population of 40,000 by 1871, manufacturing and maintaining railway engines for a variety of companies, although little of the extensive works now survive.

The turnpike road system is the most fragmentary of all the industrial transport networks. The most common survivals are road bridges and roadside way makers. Very few tollbooths survive, a result of the county's continuing role as a transport crossroads which led to constant rebuilding and widening of road routes throughout the 20th century. Though not included in the present gazetteer the construction of the M53, M56 and M6 in the 1960s and 1970s emphasised the county's continuing role as a crossroads. Probably the best known, or notorious, element of this network within Cheshire is the high-level



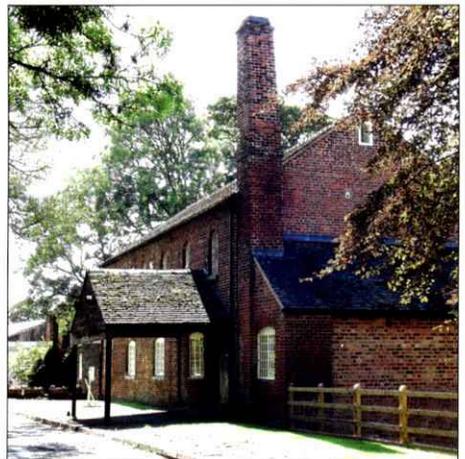
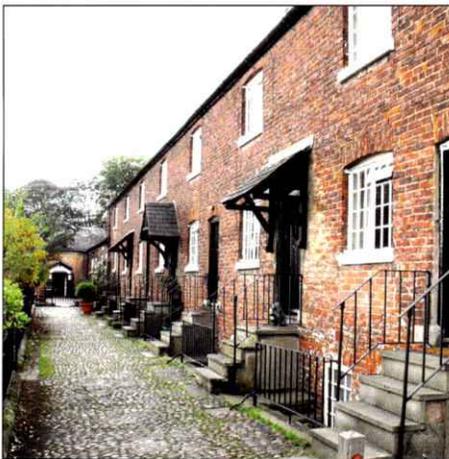
6.14: At Warrington, spanning the Mersey, is one of the three remaining transporter bridges in Britain.

The wall viaducts that cross the River Mersey east of Warrington. These routes provide a cross-section through Cheshire's landscape and industrial history.

Large-scale stone quarrying and mineral mining are almost as early as salt production, both being begun by the Romans. The earliest remains can be found in Chester, where evidence for a Roman quarry can still be seen at the southern end of the medieval Dee Bridge. Roman copper mining remains can also be seen both above and below ground at Alderley Edge. The most prominent quarrying remains can be found along the Mid Cheshire ridge and to the east of Bollington at Kerridge. Later mineral mining was focussed on the coal industry in the 18th and 19th centuries, with the main activity over the extension of the Lancashire coalfield which ran as far south as Macclesfield. Although very little of this industry can now be seen, significant remains from the 19th century survive at Poynton. Another lost industry not well represented by upstanding remains is mineral processing. Cheshire enjoyed a brief period in the 17th and 18th centuries as a centre of iron processing and production which included nail-making, plates for salt pans, and wire-making. This was localised in northern Cheshire around Lymm and Warrington, and along the Cheshire/Staffordshire border where six blast furnaces were built during this period supplying the markets in both counties. Like the copper and brass industries of Congleton and Macclesfield these sites only survive in place-names. In the late 19th and 20th century engineering manufacture became a significant feature of Crewe (trains and cars), and Ellesmere Port (cars), whilst Chester also developed a small engineering sector.

The close connection between the development of salt production and transport is demonstrated by the success of the Weaver Navigation. The main goods transported were salt, going out of the county, and coal coming in to fuel the salt and later chemical industries. In the years 1759 to 61 42,113 tons of salt were carried along the Navigation and 13,533 tons of coal. During the years 1843-45 558,506 tons of salt and 154,699 tons of coal were carried by the Navigation. These figures reflect the more than fifteen-fold increase during the 19th century in salt production as the industry supplied the soap and chemical manufactories of Merseyside, Runcorn, Warrington and the Wirral. Salt was essential for the production of alkali, which was produced in Northwich, Runcorn, Warrington and Widnes, and in turn alkali was vital to soap and glassmaking. Thus, soap and alkali industries emerged along the Mersey valley in Liverpool, St Helens, Runcorn, Warrington and Widnes because of their easy access to Cheshire salt. This became one of the chief centres of the British chemical industry during the 20th century, the alkali towers, ovens and furnaces dominating the valley landscape around Northwich and Winnington, and the estuary coast from Ellesmere Port to Runcorn. Yet only a few thousand people were ever employed in the salt industry, unlike the textile or engineering sectors.

The legacy of the salt industry lies not just in the few sites still working in the early 21st century nor in the Lion Salt Works, the last open-pan salt works in Britain, but also and perhaps primarily in the landscape changes it brought about. The Weaver valley, north of Northwich, has been altered by brine and salt extraction. A number of flashes, large areas of water, the result of subsidence from rock mining and



2.10: *The Old Mill, at Congleton, silk mill with leat and water wheel by James Brindley; dating from the 1750s it was demolished in 2003.*



*opposite below:*  
left, 3.35: *Oak Cottages at the textile village of Styal and right, 1.03: Brereton Park Mill*

pumping, still occupy the valley floor in Marston. Even in urban areas the effects of brine extraction can be seen. In Northwich the technique of timber-framed building was revived in the late 19th century in order to offset the subsidence of the river valley through the town. Many timber-framed structures with brick wall infilling can still be seen across the town.

Yet Cheshire remains a rural county, characterised perhaps by its cheese, exported to London from the port of Chester as early as the late 17th century and which has seen a revival in artisan production in recent decades. This rural character is captured in c.140 surviving corn mills. Most of these were rebuilt in the 18th and early 19th centuries to meet the production needs of the growth in agricultural production from the large Cheshire estates who were cashing in on the booming industrial towns of the county. Many have been converted to homes since the 1960s. Amongst these survivors are two small but notable groups of structures. Firstly, three 17th century water-powered corn mills with significant timber fabric (Higher Huxley Mill, Nether Alderley, and Stretton Mill). Secondly, eight 18th and early 19th century tower windmills, the last remains of a once common industrial building-type across the county.

## **CHESHIRE AND INDUSTRIALIZATION**

Cheshire's role in the industrialisation of Britain, that is the shift from a rural, agrarian, society to an urban-based manufacturing one, was very significant. Firstly, it was one of the earliest places in the country to build silk mills, in the 1740s. Secondly, the success of the Bridgewater Canal in the 1760s and 1770s drove the building of the canal network, with Cheshire emerging as an important transport hub. Finally, the availability of rock salt meant that the county became the home of the British chemical industry in the 19th and 20th centuries.

Of these changes the most important was the development of the textile mill. Since the silk throwing industry was factory-based by the 1740s the silk manufacturing belt from Macclesfield and Congleton, through Leek to Derby can lay claim to being one of the heartlands of the Industrial Revolution. The building of mills such as Button Mill and Old Mill marked the emergence of the factory system in England, whereby the production processes were carried out consecutively in one structure by powered machines. In turn these machines were maintained and managed by a regular, semi-skilled, workforce seven-days-a-week for regular, albeit piecework, wages all year round. This offered the average farm labourer a far better living standard than the agricultural cycle could provide in the 18th century. Furthermore, these early silk mills had a long-term impact on the design and function of textile mills across all the branches of the textile industry, but particularly on cotton mills. Early examples of water-powered cotton spinning mills using Arkwright's pioneering water-frame, housed in mills very like the early silk factories, survive across eastern Cheshire from the 1780s and 1790s. Indeed, the county contains the best preserved water-powered cotton spinning mill in Britain: Quarry Bank. Thus, the two most important types of textile mill development, the silk and cotton mills, can be traced along the leafy lanes and winding hilly streets of eastern Cheshire.

It is easy to get carried away with the impact of these national trends, thus overlooking the changes in the local Cheshire landscape. The biggest of these was urbanisation. A direct consequence for the

county was the growth of new urban settlements and the expansion of existing older market towns. In the 19th century the new towns of Bollington, Crewe, Ellesmere Port, Runcorn and Winsford emerged as significant manufacturing centres for a variety of industries. Crewe was once a small village, but when it was adopted as the company town for the Grand Junction Railway, its population rocketed. The railway companies responsible for the engineering works also provided housing, schools and churches. Ellesmere Port developed initially as a small town through its role as the port for the Shropshire Union Canal. The canal port was well used throughout the 19th century, despite competition from the railways. Later, Ellesmere Port became an important interchange with the Manchester Ship Canal, which was opened in 1894.

This late 18th and 19th century urbanisation has left some substantial remains in existing towns as well. In Macclesfield the industrial suburb of Park Green, south of the parish church and west of the river, developed around a series of textile mills in the first half of the 19th century. It is also still possible to find court housing from the mid-19th century in Macclesfield, off Townley Street, although this has been upgraded to meet early 21st century standards of urban cleanliness. Earlier silk weavers' cottages (workshop dwellings) can be found in many parts of Macclesfield and Congleton as well as in the smaller settlements of Lymm, Sandbach and Wilmslow. There are also some significant industrial villages across the county at Langley, Poynton, Styal, and Winnington. Port Sunlight in Bebington now lies just over the border in the Wirral. However, its development as a garden village from the 1890s to 1930s by the Lever brothers influenced national housing design in the first half of the 20th century.

The city of Chester itself had a significant industrial suburb beyond the eastern walls between Foregate Street and the canal. In amongst the breweries, cotton mills, corn milling and metalworking were hundreds of industrial workers' houses. Some of this 19th century back-to-back and terraced housing was excavated in the mid-1990s (Hamilton Place and Herbert's Court) and again in the 2000s (The Bars). The poor build-quality, overcrowding and lack of sanitation parallel the better known examples in such industrial cities as Glasgow, London, Manchester and Salford.

Chester had once been the chief manufacturing centre in the county. Its port status in the 16th to 18th centuries encouraged ship building and sail making, but there were also bell founders, brick makers, clay pipe manufacturers, ironmongers, glovers, potters, shoemakers, tailors and weavers. There were also many people involved in agricultural processing such as brewers, skinners and tanners. However, in the late 18th and early 19th centuries the city was eclipsed by the new industrial manufacturing centres at Congleton, Macclesfield and Warrington, and its role as a port was overtaken by the rise of Liverpool. Chester's population may have doubled between 1801 and 1861, from 15,052 to 31,110, but by that date Birkenhead, Macclesfield and Stockport were all larger. The new industrial towns came to dominate the Cheshire landscape and this is still reflected in the size of the chief urban areas in the 21st century. Warrington is the largest urban settlement with a population of over 200,000, with Chester (c.90,000), Crewe (c.71,000), Ellesmere Port (c.61,000), Macclesfield (c.56,000) and Northwich (c.45,000) being the next largest towns.

## **RECORDING AND PRESERVING CHESHIRE'S INDUSTRIAL ARCHAEOLOGY**

Perhaps the first Cheshire industrial site to be consciously treated as heritage and thus saved for future generations was Quarry Bank Mill. In 1939 it, and the surrounding estate, was donated by Alexander Carlton Greg to the National Trust, although the mill remained in production until 1959. Nether Alderley Mill followed a few years later. This quaint water-powered corn mill with fabric from the 16th century had closed in 1939 but in 1950 it too was given to the National Trust, by the landowner Major J A Shelmerdine. Working around this time on the economic history of Cheshire was the noted economic historian and Crewe-born William Henry Chaloner. He published a number of articles and monographs on Cheshire industrial subjects including a 1950 monograph on the early industrial history of Crewe and an article on Cheshire's iron masters during the late 17th and early 18th centuries.

However, proper study of Cheshire's industrial archaeology had to await the 1960s. The first generation of North West industrial archaeologists included J Harold Norris, a champion of Cheshire's industrial remains. A surveyor, auctioneer and valuer with a family firm in Manchester he joined the Lancashire and Cheshire Antiquarian Society in 1961. He served on the council alongside two other significant local pioneers of the discipline: Owen Ashmore and Victor Tomlinson. Norris was also a founder member of the Manchester Region Industrial Archaeology Society in 1965. He was the first to study the remains of the county's extensive water-powered corn mills and the article he published in 1966, in the *Trans-*

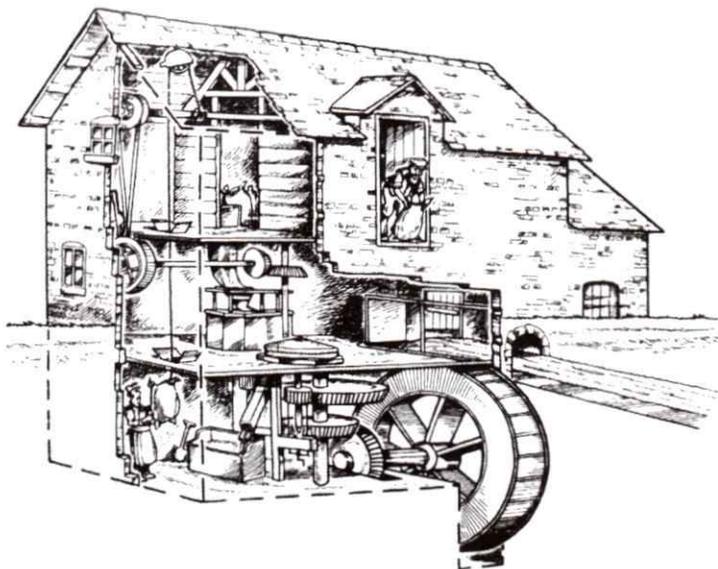
actions of the Lancashire and Cheshire Antiquarian Society, is the first serious archaeological study of Cheshire's industrial remains. The first extensive list of industrial archaeology sites within Cheshire was undertaken by Rhys Williams, county archaeologist and Oliver Bott, conservation officer, in the 1970s. The 1980s saw an upsurge in interest in the county's industrial archaeology, beginning with the publication in 1982 of Owen Ashmore's guide to the industrial archaeology of the post-1974 county. Further awareness of the importance of the county's industrial archaeology was raised by the closure of the Anderton Boat lift due to corrosion in 1983. More positive was the purchase by Vale Royal Borough Council in 1986 of the Lion Salt Works which had just closed, thus avoiding its demolition, whilst in 1989 the Anson Engine Museum opened in Poynton. Most importantly, the East Cheshire Textile Mill Survey was undertaken, although it would be 1993 before it was finally published.

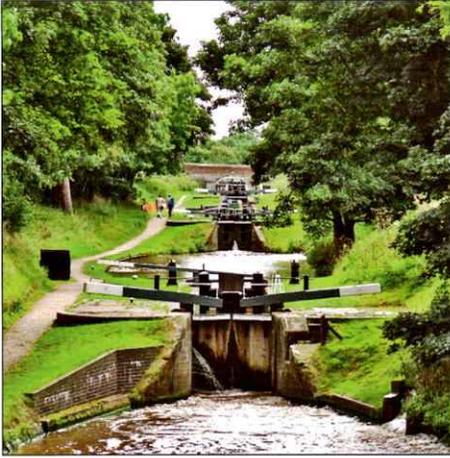
The 1990s saw the emergence of developer-funded archaeological work and a gradual increase in the excavation of archaeological sites in the county. The detailed survey and excavation of the water- and steam-power systems at Quarry Bank Mill for the National Trust probably marked the first time such features had been systematically excavated in Cheshire. It thus presaged the focus of developer-funded work on industrial sites in the North West in the 21st century. In the mid- to late 1990s Grosvenor Museum archaeologists excavated workers' housing in Chester, the first time this had happened in Cheshire and again a foretaste of the way in which such houses would be dealt with in later years. Chester Archaeology Society also undertook the excavation, over several seasons, of the cheese warehouse on Sealand Road in Chester. Another pioneering survey in the 1990s was the Cheshire historic town survey, undertaken between 1997 and 2002. Controversially for the time this included studies of the towns in the 18th, 19th and 20th centuries and thus their industrial archaeology. This material is now available online.

Yet, the threats to Cheshire's industrial archaeology are ably illustrated by the contrasting stories of two textile mills. Quarry Bank Mill, built in 1784 and the oldest working water-powered Arkwright-style mill in Britain, was donated to the National Trust as a working mill in 1939, thus retaining the integrity of the buildings. Although commercial production ceased in 1959 the mill is now a working museum. The Old Mill, Congleton, was one of the oldest textile mills in Britain and it was partially demolished in 1939. The remaining two storeys, heavily altered but including an intact 1830s beam engine house, remained in use until in 2003 planning permission was granted to demolish the remaining structures. The archaeological dig associated with this redevelopment recorded the wheelpit and water system built to the designs of James Brindley, in the process emphasising the archaeological importance of the site. This, however, did not stop apartments being built on the mill remains.

1.06: Cutaway drawing of Bunbury Mill, showing milling machinery and drive from the waterwheel.

Cheshire Historic Environment Record



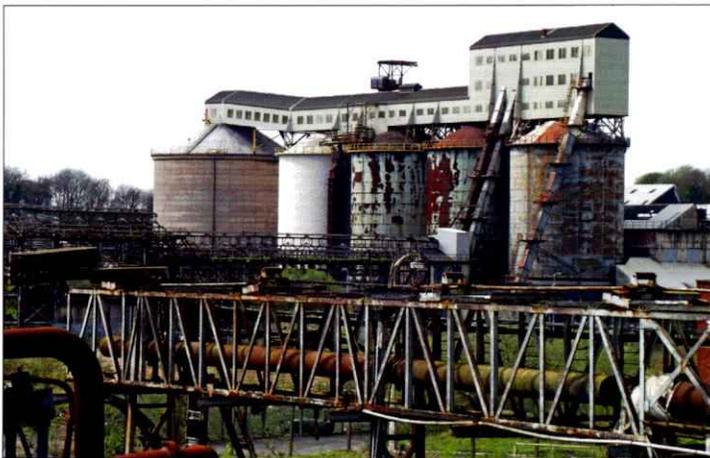


5.03: The Audlem locks, a flight of 15 on the Birmingham and Liverpool Canal.

Ashmore also survive. There are, though, some high areas of loss, the worst area being in Warrington where 55% of the sites recorded by Ashmore have gone. The industrial towns of Congleton, Crewe, and Macclesfield have loss rates of 30%, 36% and 13% respectively. It is tempting to see the overall low loss rate as a reflection of the continuing rural character of the county resulting in a lower level of development compared with Greater Manchester and Lancashire since 1982. However, the booming towns of Crewe, Warrington and Winsford caution against such a conclusion, as they have the highest loss rates in the county. One of the most significant recent losses was the fine late 18th century Park Green Mill (also known as Frosts Mill) in Macclesfield, burnt down in 2011.

Industrial archaeology as a discipline has changed greatly since 1982 and many new sites have been identified and recorded for the current study, fustian mills being a notable area of new research. Key sites have been excavated and others conserved, and the major industry, textiles, studied and recorded in detail. However, understanding Cheshire's place in the Industrial Revolution is still by no means complete and industrial archaeology is one the best ways of exploring the nationally important remains' of the county's contribution to industrialisation.

Another measure of the continuing pressures on the industrial archaeology of the county can be gauged from an analysis of the survival rate of the sites listed by Owen Ashmore in his 1982 Cheshire gazetteer. Between 2011 and 2014 the current authors revisited these sites. Of the 427 entries he recorded 90 have been demolished, an overall loss rate of 20%. This is much lower than the heavily urbanised area of Greater Manchester, studied by the authors in 2000 for that year's AIA conference in Manchester, where the loss rate was 40%. It is also better than the 30% rate of loss in Lancashire, also studied by the current authors for the 2007 AIA conference in Preston. Some industries survive well, with more than 90% of the canal and railway infrastructure recorded by Ashmore surviving into the second decade of the 21st century (the major losses were amongst railway stations and warehouses). Over 80% of corn mills and over 70% of textile mills recorded by

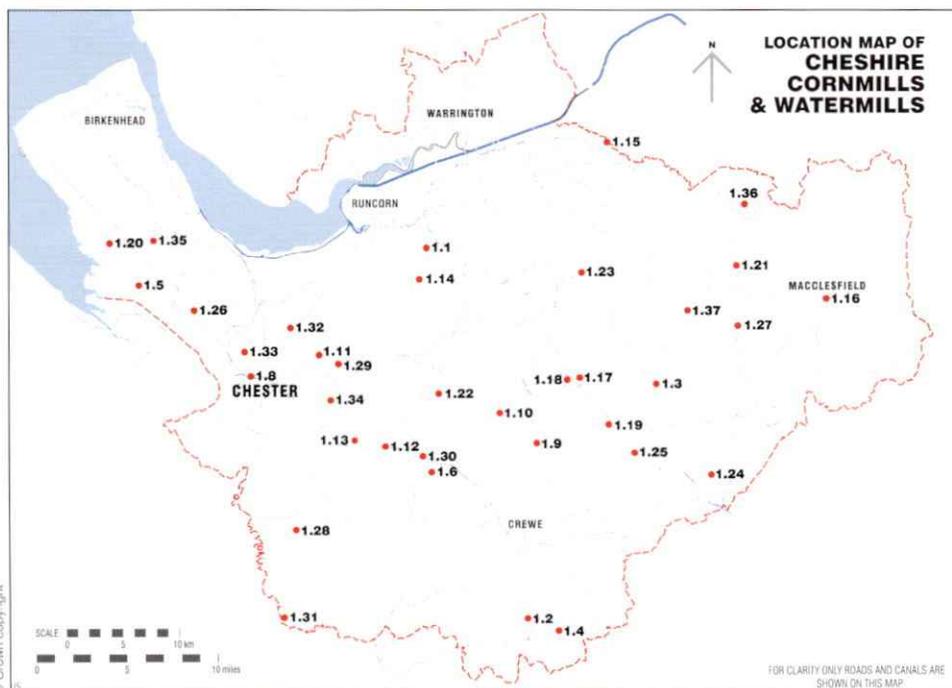


4.25: Works at Winnington for the production of soda from local salt, established in 1873 by John Brunner and Ludwig Mold.

## 1: CORNMILLS AND WATERMILLS

Mechanised corn milling is Cheshire's second oldest industry, after salt production. The county has over 350 corn milling sites, of which around 150 were built between 1700 and 1850. 18 water-powered corn mills are listed in the Domesday Survey of 1086 and Burdett's map of historic Cheshire, published in 1777, shows 140 water- and wind-powered milling sites in the historic county. The blockades of the Napoleonic wars of the 1790s and 1800s brought about a boom in the market for home-grown grain which might account for this upsurge in sites in the county, including the new technology of the tower windmill. The arrival of steam-powered mills built in towns along canals complemented the existing rural network. The network of rural railways and the stimulus they gave to dairy farming started the decline in rural milling in favour of larger roller mills at ports like Birkenhead and major urban centres such as Chester and Macclesfield. However, the removal of the preferential taxes of the corn laws in 1849, the invention of roller milling and the arrival of cheap grain from overseas, increased this rate of change leading to the closure of many water-powered corn mills. The new road transport of the early 20th century killed off the remaining rural sites. Most windmills had ceased to work by 1900 and the majority of water-powered corn mills by the 1930s. Norris' survey of surviving Cheshire corn mills in the 1960s caught these abandoned sites before most were lost or converted to other uses.

The earliest of the working mills in 21st century Cheshire is Nether Alderley Mill, which has fabric going back to the 16th century. The mill was expanded and rebuilt in 18th and 19th century, a reminder that such sites were functional buildings which were frequently rebuilt and their machinery and equipment modernised. The stone three-storey structure of Nether Alderley is terraced into the dam embankment and has a long single-pitched roof giving it a unique appearance in the county. The upper storey is partially timber-framed. The two working waterwheels sit one above the other and there is a third redundant wheel pit. This mill also has a surviving brick-built drying kiln of the 18th century, adjoining to the south. It is now run as a museum by the National Trust

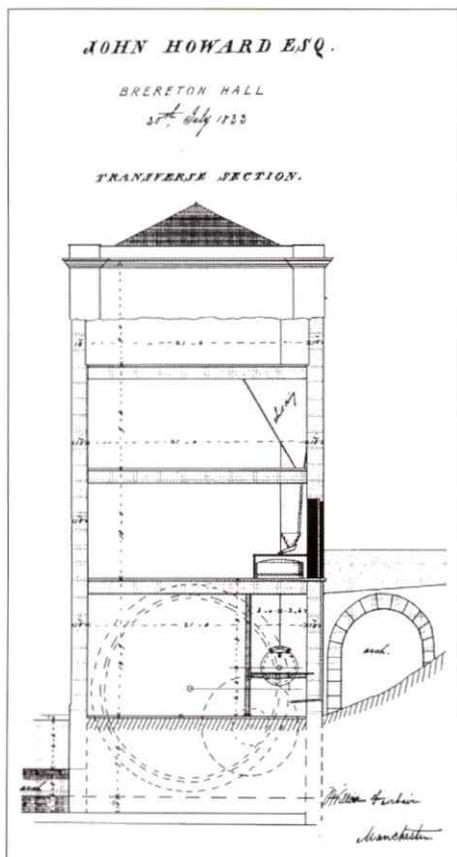


Stretton Mill dates from the 17th and 18th century and was originally thatched. It has two waterwheels in timber and iron, one external and overshot, and a second, low-breast shot, internally. Each drives two sets of stones. It is now run as a museum by Cheshire West and Chester. The only other timber-framed mill in Cheshire is Higher Huxley Mill.

Bunbury Mill was rebuilt around 1850 and is typical of the development of mill technology in the mid-19th century. A three-storey brick structure, which rises above the mill dam, it retains its gearing and line shafting run from a single iron overshot waterwheel and an iron wallower wheel. This now runs a roller mill, whilst to the east is a drying kiln with the drying floor composed of perforated floor tiles. The mill is now maintained and run by a local trust.

The introduction of roller milling is reflected on several sites, such as the mills at Bosley and Little Bollington, both having tall multi-storey processing blocks, although each remained water-powered. Steam-powered urban corn mills can still be seen at the Old Steam Mill in Chester and at Macclesfield, the Union flour mill, both by the canal. These sites reflect the decline of small-scale rural milling in the face of the larger, more efficient urban corn mills of the late 19th and early 20th centuries.

Windmills were once a prominent feature of the Cheshire landscape. Although concentrated in western Cheshire and the Wirral, such sites were built across the county and as far east as Macclesfield. A few towers survive in west Cheshire, although these are either converted to residences or ruinous. Ravensmoor Windmill at Burland on the Wirral has a fine tapering early 19th century tower. The best preserved Cheshire windmill is Gibbett Windmill at Saughal. This brick-built tower structure was erected in 1784 and retains its boat-shaped cap and has restored sails, echoing the windmill designs of south-west



above: 1.6: The drive machinery at Bunbury Mill powered by an overshot wheel.

left: 1.3, Section drawing through the tall watermill at Park Mill dated 1833

### 1.1 ACTON MILL

SJ 578 747

Four-storey, brick-built mill with slate roof converted to house. 18th century and extended in 1874. Two overshot waterwheels in wood and iron, spur wheels and two sets of machinery with millstones. Wheels are 11 feet (3.3m) and 12 feet (3.6m) in diameter. Penstock and pond to the east also survive.

### 1.2 AUDLEM, HANKLOW MILL

SJ 659 451

LII

Four-storey, brick-built structure with cast-iron columns and brick barrel vaulting to upper floors. Vaulting similar in design to that used by Jesse Hartley at Albert Docks in Liverpool in the 1840s. Machinery gone and converted into a residence.

### 1.3 BRERETON, PARK MILL

SJ 773 658

LII\*

Three storey, brick-built, structure of the early 19th century terraced into the dam in a gothic style. The top floor windows have Gothic tracery. Loading bay to top floor on the road (dam) side. On the River Croco. Houses a high breast shot Fairbairn suspension waterwheel of 18 feet diameter installed c.1833. Supplemented in 1890 by a horizontal Foden steam engine for which a square-section chimney survives at the north-eastern end. Stones survive on the middle floor. Converted to a residence.

### 1.4 BUERTON WINDMILL

SJ 685 440

LII

Four-storey brick-built tapering tower windmill of the late 18th or early 19th century. Remains of a timber cap. Ruinous

### 1.5 BURTON WINDMILL

SJ 313 745

LII

Only the lowest eight courses of the circular tower surrounding the post-mill survive. Built in 1771.

### 1.6 BUNBURY MILL

SJ 575 581

LII

Three storey brick and slate-roof building rebuilt in 1850, though the site goes back to at least 1290. Restored in 1971 and now run by a village trust. Mill wheel and machinery are complete. Overshot wheel is 10 feet 6 inches (3.15m) in diameter and in the middle of the mill. Internal drying kiln. Earlier gable-end wheelpit. Open to the public.

### 1.7 BURLAND, RAVENSMOOR WINDMILL

SJ 623 530

LII

Four storey, brick-built, tapering tower windmill. Early 19th century and now converted to a resi-



1.06: Bunbury Mill.

below: 1.07: Ravensmoor Mill, Burland

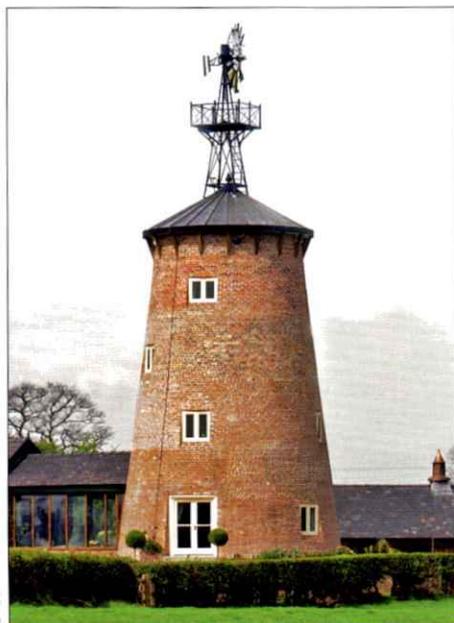
dence and again using wind-power - to drive a water pump.

### 1.8 CHESTER STEAM MILL

SJ 413 666

LII

A flour mill on Cow Lane Wharf, on the southern side of the canal. Brick-built three, five and six storey buildings. Milled flour from grain imported through Ellesmere Port. Originally powered by a Boulton and Watt beam engine of 1782, remains of which have been partially excavated. Now offices and apartments. There is an associated four storey brick-built Georgian warehouse with covered hoist used to house animal feedstuffs until the 1970s.



### 1.9 CHURCH MINSHULL MILL

SJ 667 608

Four storey brick-built mill from the 18th century with two breastshot waterwheels on the River Weaver. Last used in 1958 to generate electricity for the village.

### 1.10 DARNHALL MILL

SJ 634 632

LII

Four storey brick-built, mill with a datestone of 1829. Two loading doors on the west front. Inside are two overshot waterwheels of 12 feet 6 inches (3.75m) diameter. The great spur wheel survives along with two sets of stones. Site first mentioned in 1299 when nearby Vale Royal Abbey held the rights.

### 1.11 GREAT BARROW MILL

SJ 475 684

19th century three storey brick-built mill reduced by one storey and converted to a house. Pond to the rear.

### 1.12 HORTON, BATE'S MILL

SJ 533 603

Three-storey brick and stone built mill near to the Shropshire Union canal. External loading door visible. It has a single breast shot waterwheel of 14 feet (4.2m) diameter. Converted to a house.

### 1.13 HUXLEY HIGHER MILL

SJ 505 608

LII

Three storey brick- and stone-built mill with upper storey partly in timber on the riverside. 17th and 18th century fabric. External waterwheel gone but inside two pairs of French stones, hurst frame, and wooden gearing including the spur wheel inscribed '1811 T Littler' remains. Private farm although a public footpath runs across the mill pond site and leat. Private residence.



### 1.14 KINGSLEY MILL

SJ 563 750

Four storey 17th century structure with 19th century brick additions. Overshot wheel of 18 foot (5.4m) diameter was in the centre of the mill, only the pit remains. Loading hoist visible in roof. Still in use as a farm feed mill.

### 1.15 LITTLE BOLLINGTON MILL

SJ 730 871

LII

Large five storey, square-plan brick-built, estate corn mill built c.1860 on the River Bollin. Cast-iron columns support a wooden floor internally. Water-powered although only the brick head race survives. On a medieval site. Timber weir visible to the east. Converted to flats.

### 1.16 MACCLESFIELD, UNION FLOUR MILL

SJ 924 734

LII

Five-storey, 17 by 3 bays, brick-built, steam-powered roller cornmill on the western bank of the Macclesfield Canal. Built around 1830. Internally there are two rows of cast-iron columns supporting timber beams and brick arches. There is an



above, 1.15: Cornmill at Little Bollington  
left, 1.14: Kingsley Mill



1.16: Union Flour Mill,  
Macclesfield

engine house bay at the western end. A clerestorey was added to the roof of the mill when it was converted into offices. Built by Swanick & Fitton in the 1880s and taken over in 1898 by Hovis. Between 1906 and 1910 milling was transferred to Trafford Park but the printing of bags and publicity material was still carried out at Macclesfield until reverting to cornmilling in 1940.

**1.17 MIDDLEWICH, KINDERTON MILL**

SJ 705 664

**LII**

Three-storey brick and stone-built structure with heavy stone buttress, ball finials and chamfered mullions on the western, front, elevation. Has a datestone of 1609 inside the mill. Internally there were two overshot waterwheels removed in 1963 and no other gear survives. Used as a workshop.

**1.18 MIDDLEWICH,  
STANTHORNE MILL**

SJ 694 661

**LII**

Four-storey brick-built structure of the 18th century on the River Wheelock. Contained two

low breastshot waterwheels running five pairs of stones. Converted to a residence. Corn drying kiln survives. Earliest record of a mill on this site is 1350.

**1.19 MOSTON MILL**

SJ 731 622

Three-storey, brick-built, structure of c.1828 on east bank of the canal. Wheel and machinery gone but notable for being driven by water from the Trent & Mersey Canal taken from an overflow weir. Water returned to the canal below the lock.

**1.20 NESTON WINDMILL**

SJ 289 781

**LII**

Four storey brick-built tapering tower windmill. Mid-18th century. Wooden boat-shaped cap but no sails. Now a residence.

**1.21 NETHER ALDERLEY MILL**

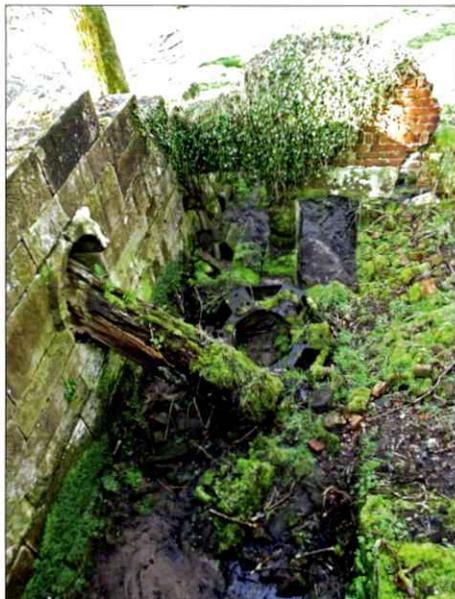
SJ 843 762

**II\***

Four-storey stone and timber cornmill terraced into the dam. 16th to 19th century fabric. 18th century brick drying kiln to the south. Main mill building



1.17: Kinderton Mill,  
Middlewich



### 1.22 OULTON MILL

SJ 580 650

LII

Four storey, brick-built mill terraced into the mill dam. 18th and 19th century fabric with a dated iron plaque of 1781. Formerly had two waterwheels. In use as a store.

### 1.23 PLUMLEY, HOLFORD MILL

SJ 707 756

Ruinous brick mill on the Peover Eye off Long Lane but with machinery remaining visible. Two wheelpits at either end of the mill. Visible remains include in the south pit a wooden wheel axle and iron pit wheel. In north pit a wooden wheel axle and timber spokes. Bypass channel to the north can also be seen. There was a drying kiln to the north.

### 1.24 RODE HEATH, RODE MILL

SJ 822 578

Three-storey, brick-built, structure. Wheel and machinery removed but a square-section chimney survives for the flue from an auxiliary steam engine at the southern end of the mill.

### 1.25 SANDBACH MILL

SJ 754 598

Three-storey brick structure rebuilt in 1872. Overshot waterwheel of 10 feet (3m) diameter. Drying kiln at one end of the mill. Earliest record of a mill on this site is 1432.

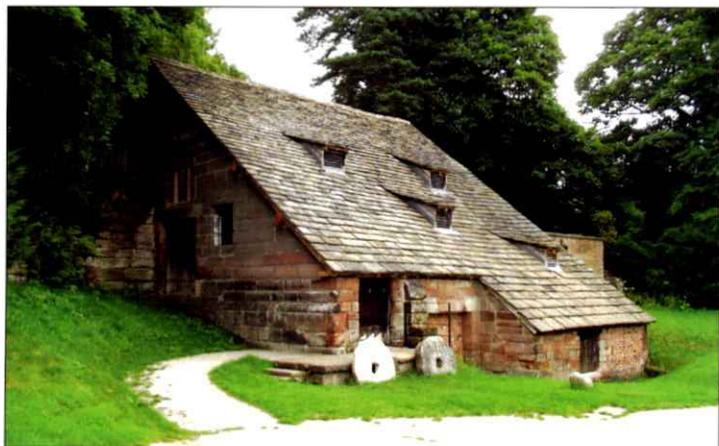
### 1.26 SAUGHALL, GIBBETT WINDMILL

SJ 363 722

LII

Four storey tapering tower mill, brick-built, with four patent sails (copies) and a wooden boat shaped cap. Much altered by the insertion of new windows. Built in 1784 and restored as a residence in 1971.

houses two overshot waterwheels, one above the other, of 12 feet (3.6m) and 13 feet (3.9m) diameter. Both drive pairs of stones on the middle floor. Machinery is from 1850 and 1871. Restored 1967-70 and in 2012-13. Below is the wheelpit for a third wheel. Also notable for 18th and 19th century graffiti. Abutting the mill to the south is an 18th century brick-built corn dryer. Most unusual design of all the Cheshire cornmills, with a single-pitch, stone-flagged, roof and terraced into the stone mill dam. National Trust property open to the public.



above left, 1.23: Holford Mill, Plumley

left, 1.21: Nether Alderley Mill  
right, 1.30: Tilston Mill



above, 1.26: Gibbett Windmill, Saughall  
right, 1.28: Stretton Cornmill

### 1.27 SIDDINGTON MILL

SJ 844 709

LII

Four-storey, brick-built, structure with a slate roof of the 1850s. On the Capesthorpe estate in a gothic style. Cast-iron penstock leads to the wheel pit where there was a water-turbine. Drying kiln. Now converted to offices.

### 1.28 STRETTON MILL

SJ 454 530

LII\*

Two storey timber and stone mill of the 16th to 19th centuries, formerly thatched. Site first recorded in 1351. Inscriptions of 1654 and 1712 inside. Restored in 1975-8 by Cheshire County Council. It has two waterwheels. West external overshot waterwheel of 10 feet (3m) diameter. East wheel internal is 14 feet (4.2m) diameter and breast shot and dates from 1852. Each still drive two sets of stones. Mill pond to the south and mill is terraced into the dam. Run by Cheshire West Museums. Open to the public.



### 1.29 TARVIN MILL

SJ 490 676

19th century three storey brick-built mill now used as an engineering works. Machinery gone.

### 1.30 TILSTON MILL

SJ 566 594

Three-storey brick building with a slate roof. It had two waterwheels. Converted to a house. The mill adjoins a lock on the Shropshire Union Canal by which the tail race runs.

### 1.31 THREAPWOOD WINDMILL

SJ 443 452

LII

Brick-built three-storey tapering tower wind mill, early 18th century. Cap and tail gone. Now ruinous with the remains of the mechanism fallen inside the tower.

### 1.32 TRAFFORD MILL

SJ 450 708

LII

Three storey brick and slate mill, 19th century, on an earlier site on the River Gowy. Two low breastshot waterwheels of 16 feet (4.8m) and 18 feet (5.4m) diameter. Spur wheels and French burr stones also survive dated 1883. Drying kiln to the east.

### 1.33 UPTON-BY-CHESTER, DEAN'S WINDMILL

SJ 409 688

LII

Five storey, brick-built, tapering tower windmill. Built around 1775. Cap gone. Now a residence.

### 1.34 WAVERTON, WALK MILL

SJ 484 643

Three storey brick and slate roofed building with external waterwheel. 19th century mill largely rebuilt in 2008. The leat is taken from the River Gowy. Only commercially working water-powered mill in Cheshire.

### 1.35 WILLASTON WINDMILL

SJ 327 784

LII

Five-storey brick-built, tapering tower windmill built in 1805. 18.3m high. Wooden boat-shaped cap with iron cross for mounting sails. Brick chimney for flue of steam engine installed c.1870. Some machinery remains. Residence by 1962.

### 1.36 WILMSLOW, BOLLIN CORNMILL

SJ 849 814

Four storey brick-built, mid-19th century mill building. Now used as offices. Overshot waterwheel, 12 feet (3.6m) in diameter, removed in 1955. Partial remains of the long tailrace from a weir on the Bollin run for over 800m to the east.



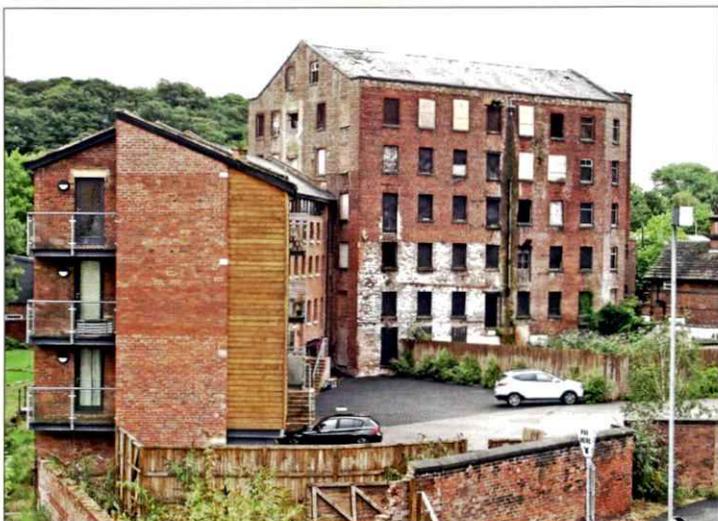
1.36: Bollin Mill, Wilmslow

### 1.37 WITHINGTON, BATE MILL

SJ 800 723

LII

Two-storey, brick-built, mill straddling a stream on twin arches for wheelpit and by-pass. 13 feet 6 inches (4.05m) diameter low breastshot waterwheel with wooden spokes and paddles. 18th and 19th century fabric.



2.02: Brook Mills, Congleton, see following Chapter

## 2. TEXTILES I: SILK MILLS

### INTRODUCTION

*For map showing distribution of Silk and Cotton mills, see page 27*

Eastern Cheshire was one of the chief centres of hand and factory silk production in England from the late 17th to the mid-20th centuries. With Leek in north-eastern Staffordshire and the silk mills of Derby and the Derwent Valley it formed the western end of a silk manufacturing belt that supplied the textile merchants of London. This was somewhat extraordinary since raw silk had to be imported from the eastern Mediterranean and China via Italy and France. The thread which makes up the cocoon of the silk moth can be up to 900m long from any individual cocoon, but 2-3,000 cocoons are required to make 450gm of silk. For thousands of years silk throwing was the process by which this raw silk thread was wound to form a skein, then twisted, doubled, and twisted again. The reeling stage followed. In doubling, the threads from one or more bobbins were wound together. Thrown silk could be wound on to cones or made into hanks for dyeing. Tram was yarn with a slight twist and was suitable for the weft, whereas organzine had a greater twist and was therefore stronger and more suitable for the warp. Mechanised silk spinning was introduced in the early 19th century as an alternative process. It used the short fibres or sometimes waste silk and the machinery was based on the throstle frame used in the cotton spinning industry. Mechanically, silk spinning involved continuous drawing, twisting and winding actions.

Silk-covered buttons were manufactured in Macclesfield from the mid-16th century and in Congleton by the 17th century. Initially, silk cloth was supplied to the home-based button makers by the Congleton and Macclesfield button merchants, who sourced the material from the markets in London and Flanders (Belgium and Holland). By the mid-17th century yarn preparation, hand silk throwing and hand silk weaving were all taking place in Congleton and Macclesfield.

The big change in production came with the establishment of mechanised silk throwing techniques. Italian methods of winding and throwing organzine were introduced into Britain by John Lombe in 1718 (by espionage) and successfully demonstrated at his water-powered silk mill in Derby in 1721. When his patent expired in 1732 Lombe's designs were used to build a number of silk mills across the north midlands, including Cheshire. The earliest one in eastern Cheshire was built in 1743. This was the small water-powered Button Mill erected in Macclesfield at the top of Pickford Street by Charles Roe, a button merchant. The first silk mill in Congleton was established in 1755, with water-power systems designed and installed by James Brindley. The last standing remains of this nationally important mill were demolished as recently as 2003. A reduction of the duty on Chinese raw silk in 1749 encouraged further mill building and by 1765 seven mills had been built in England using Lombe's designs; four of these were in Cheshire (including Stockport). None of these early mills survive, although since the building form was influenced by the processes it housed their early design, of long, narrow, multi-storey manufacturing blocks, had a significant impact on later textile mill design throughout Britain.

There are good examples surviving in Cheshire from the late 18th century and 1820s building booms in silk throwing mills. These silk mills showed limited classical influences such as shallow projecting central bays topped by a pediment and a clock as at Dane Mill in Congleton and Regency Mill in Macclesfield. Internally, they often had cast-iron columns supporting wooden beams and floors, whilst the power source remained water. Steam power became common as a supplementary source in Congleton and Macclesfield mills from the 1800s and all of the new mills built in those towns after 1828 had steam power. The last water-powered factory was Primrose Vale Mill.

The peak of the industry in Congleton was the mid-19th century when over 50 mills were working and in 1851 around one third of the working population were employed in it. 101 mill sites were built in Macclesfield between 1743 and 1940 and by 1830 nearly half the town's working population were working in the textile industry. The early to mid-19th century mills were steam-powered and often four or five storeys high, as at Stonehouse Mill in Congleton or Victoria Mill in Macclesfield although they still used cast-iron columns to support wooden beams and floors. Increasingly, these mill complexes added other manufacturing processes such as weaving and finishing, as at the George Street mill site in Macclesfield.

Silk weaving was not mechanised until the mid-19th century, and even then specialist fabrics remained

woven by hand until the 20th century. Thus, the workshop dwellings known locally as silk weavers' cottages, or garret houses, were once numerous in many of the industrial towns and villages of eastern Cheshire. From the 1790s Congleton and Macclesfield began broad-loom silk weaving in these workers' garrets. Usually these were built in rows of three or four dwellings, and sometimes as pairs or long rows (as at Paradise Street in Macclesfield). Occasionally the top floor garret ran across three or more cottages as in Townley Street. The main period of construction was from the introduction of mechanised silk throwing into Cheshire, in the 1740s, to the mid-19th century when mechanised silk weaving became common. Examples survive in Knutsford, Lymm, Sandbach and Wilmslow, and sometimes attached to isolated mills as at Langley, but the largest concentrations are to be found in Congleton and Macclesfield. From 1820 the Jacquard loom was introduced to weave complex patterns. This coincided with the application of steam power to weaving. In the 1830s, 1840s and 1850s many mills in the two towns added single-storey weaving ranges to their complexes.

The British silk industry declined after the 1860 Cobden Treaty with France removed trade barriers, thereby allowing the import of cheaper goods. In Congleton this brought an end to mass-silk production. Thus, by 1886 the number of working silk mills was down to 22 and there were just seven left in 1910. However, the textile industry in the town survived by moving to fustian production (see Chapter 3). The industry in Macclesfield, however, revived, helped by a shift to artificial silk fibres such as rayon after 1920 and mills were still being built into the 1930s. Many silk mills in eastern Cheshire went over to artificial fibre production in the 20th century, but even this industry declined in the late 20th century. Some silk production can still be found in eastern Cheshire beyond the confines of the museum. Berisfords, founded in 1858 as specialists in ribbon production, continued making silk labels in Congleton into the 21st century.

**2.1 CONGLETON,  
BERESFORD MILL, WILLOW STREET**  
SJ 865 631

A large silk ribbon mill of the early 20th century. Western range is brick-built, three storeys, 30 by 16 bays with a flat roof. The main, angled, entrance has stone surrounds and gates with the monogram 'B' inscribed. To the east (rear) is a long range of single-storey weaving sheds with a two storey four bay brick-built processing building at the end of 10 by 22 bays.

**2.2 CONGLETON,  
BROOK MILL, BROOKSIDE ROAD**  
SJ 858 632

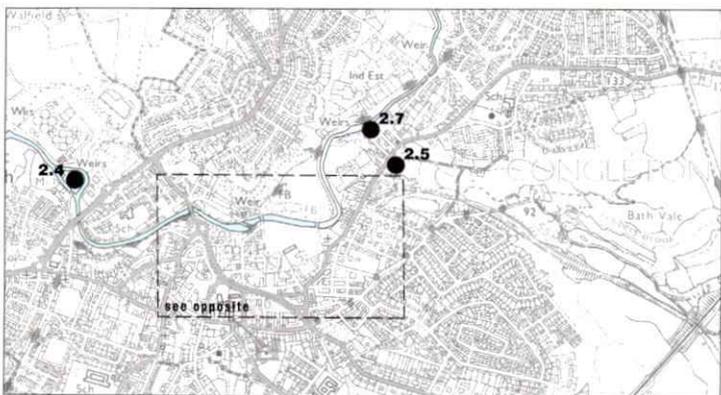
**LII**

Steam-powered, five-storey, red-brick silk spin-

ning mill with a stair tower, privy tower and a flat roof, eight by six bays. Interior has two rows of cast-iron columns supporting wooden beams. Built in 1835. Adjoins Stonehouse Mill, a cotton spinning mill of 1785 which lies to the west later converted to silk.

**2.3 CONGLETON,  
DANE BRIDGE MILL, MILL LANE**  
SJ 858 624

Silk processing mill of 1875 on the southern side of the River Dane. Brick-built with stone ground floor, three storeys, four bays by 16 bays. Inside cast-iron columns support wooden beams and floors. Ruinous.



## 2.4 CONGLETON, DANE MILL, BROADHURST LANE

SJ 854 634

Early 19th century silk mill situated in a bend of the River Dane from which it was powered via a weir and leat. Brick-built, four storey, hipped-roof mill. The main range is 24 bays long with a central wheelhouse under the pedimented central four bays. 10 bay western wing. Inside it has cast-iron columns supporting wooden beams and floors. A row of brick terraced housing nearby may have been millworkers' cottages. Now business units.

## 2.5 CONGLETON, DANE SHAW MILL, BUGLAWTON

SJ 866 635

Early 19th century silk mill on the northern bank of Dane in Shaw Brook. Two storey, 10 bay, brick range on the eastern side of Brook Street. At the northern end is a tall three storey steam engine house of 2 by 2 bays, with a flat roof and a round-headed window in the southern elevation.

## 2.6 CONGLETON, EDWARD MILL

SJ 865 631

Silk processing mill of 1924, which replaced an earlier mill on this site. Brick-built, three-storeys, flat-roofed with large rectangular windows.

## 2.7 CONGLETON, FLINT MILL & TEXTILE COMMUNITY, BUGLAWTON

SJ 865 636

LII

Late 18th century silk mill on the southern bank of the Dane, fed from a weir and leat to the north. Sandstone to ground floor and brick upper structure, five storeys, five by five bays. A later stone range to the east is three storeys and 13 bays long. External waterwheel of 18 feet (5.4m) diameter on the river side, which worked until 1973. Later used as a flint grinding mill. The textile village to the south, associated with Throstles



2.6: Edward Mill, Congleton, a 1924 replacement.

Nest Mill and Lower Daneinshaw Mill is nearly all demolished except for two rows of five and four two-up-two-down brick-built and rendered cottages from early 19th century on the western side of Havannah Street.

## 2.8 CONGLETON, LOWER PARK STREET MILL

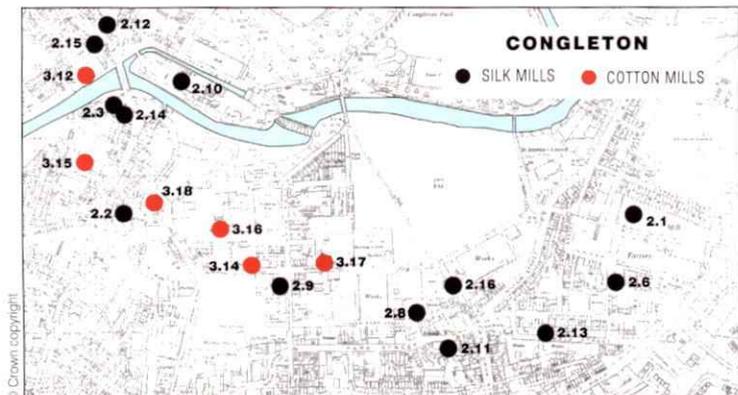
SJ 862 630

Brick-built, silk mill of two storeys, 14 by one bays and a rear three-storey wing of 1870s. Two-bay, two storey, early 20th century extension to the rear (north), a flat-roofed block to the north of four by four bays and a seven bay single storey brick weaving shed with north-light roofs and a two storey preparation and warehouse block (known as Century Mill) of the early 20th century to the north-west.

## 2.9 CONGLETON, MEADOW MILL, PARK ROAD

SJ 860 631

Built 1860 as a silk throwing mill but converted to fustian cutting by 1867. Main, earliest, southern wing three storeys, 14 by three bays with gabled roof. Completely rebuilt when it was converted to offices in the late 20th century, but rear western single storey brick workshop survives.





2.10: Rubble remains from the 2003 demolition of the Old Mill, Congleton; see also illustration on page 5. below, 2.13: Spindle Street Mill, Congleton

### 2.10 CONGLETON, OLD MILL

SJ 859 632

One of the great lost industrial monuments of Britain. The original water-powered silk throwing mill was built in 1752-55 on the northern bank of the River Dane by John Clayton and William Pattison. The leat system and waterwheel were designed and installed by James Brindley. The largest silk throwing mill of its day. The original eastern wing was five storeys high and 29 by three bays long. It had a central wheelhouse in a slightly projecting central five bays that was pedimented. This design influenced Cheshire textile mills for the next 100 years. It was extended in 1830 to the west by 19 bays in the same style and a steam engine was added. The site was partially demolished in 1939 and the remaining two storeys were demolished in 2003. The wheel pit was excavated in that year. The weir on the Dane to the east and the tail race by Dane Bridge to the west survive.



### 2.11 CONGLETON, PARK MILL, PARK STREET

SJ 862 630

Three storeys, 16 by three bays, brick-built with a rendered front. Interior has cast-iron columns supporting wooden beams and floors. Built in 1825 by Charles Townley, a silk throwster. Extensively rebuilt in the late 20th century.

### 2.12 CONGLETON, SALFORD MILL

SJ 858 634

LII

Overlooking the River Dane on the northern bank. Brick-built, 11 bays long, four storeys with a central pediment and a clock on the southern elevation. Hipped slate roof. Early 19th century.

### 2.13 CONGLETON, SPINDLE STREET MILL

SJ 864 630

Two and three storeys, brick-built silk mill of the mid-19th century. 18 by four bays with a rear (northern) privy tower. The engine and boiler house at the western end partially survives at ground floor level with stone window surrounds. From 1924 it was used for fustian cutting.

### 2.14 CONGLETON, MILL STREET, SILK WEAVERS COTTAGES

SJ 858 632

A row of four, three-storey, weavers' cottages. Brick-built with top storey multi-light loom shops each with five lights with horizontal sliding casement, except for the south one which only has three lights. Early 19th century.

### 2.15 CONGLETON, ROOD HILL, SILK WEAVERS COTTAGES

SJ 857 634

A row of three, three-storey, weavers' cottages. Brick-built with top storey multi-light loom shops each with three lights with horizontal sliding casements; early 19th century. At the junction of Royle Street on the western side of Rood Hill.

### 2.16 CONGLETON, VICTORIA MILL, FOUNDRY BANK

SJ 863 630

Silk mill of 1858. Brick-built, four storeys, 12 bays long and steam powered. Internally it has cast-iron columns supporting wooden beams and floors. Weaving sheds of 13 bays to the east were a later addition.

### 2.17 KNUTSFORD, SILK MILL (FREEMASONS ARMS), SILK MILL STREET

SJ 751 786

LII

Part of a silk mill of 1754, brick-built, three storeys,

2:20: New Mill,  
Bridge Street,  
Macclesfield



five by two bays. Two entrances in the southern elevation each with pedimented surrounds. Inside there are wooden beams and floors. Converted into three dwellings in 1818 (later ridge and gable chimneys) and a public house in the 1890s.

### **2.18 MACCLESFIELD, ALBION MILL, LONDON ROAD**

SJ 920 725

**LII**

Four storey, silk mill from 1843. Brick-built on rubble foundations 15 bays long with the central five bays projecting slightly. Six storeys with a hipped roof and a four-bay wing to the east. Interior has cast-iron columns supporting timber beams and floors. Erected for Thomas Heapy.

### **2.19 MACCLESFIELD, ALMA MILL, CROMPTON ROAD**

SJ 911 736

**LII**

Brick-built, three storey, silk weaving mill from 1823 with a Welsh slate roof. Early 20th century additions to the rear (east and south) have a flat roof. Privy tower on the south elevation of the 19th century range. Inside cast-iron columns carry timber beams and floors. 1871 engine house is gone.

### **2.20 MACCLESFIELD, BRIDGE STREET NEW MILL**

SJ 914 733

Steam powered silk throwing mill, added in the 1930s to the 19th century site, remains of which survive to the rear (north and east) in the form of weaving sheds. Two storeys, brick-built, wide windows, flat-roofed, with an Art Deco stone surround entrance on the corner of Bridge Street and Union Street. Internally, floors are supported by steel beams.

### **2.21 MACCLESFIELD, BROWN STREET MILL**

SJ 914 732

**LII**

Brick-built, four-storey, seven- and eleven-bay silk mill of c.1840. Has a hipped roof and a pedimented doorway. Rear privy tower. Chimney to the rear on Statham Street where there is an internal engine house. Interior has cast-iron columns supporting timber beams and a king-post roof.

### **2.22 MACCLESFIELD, BYRONS (WILSHAW) MILL, LONDON ROAD**

SJ 920 724

Four storey silk mill built c.1850-60. Red brick on stone rubble basement, 15 by four bays with the central five bays advanced and corner pilasters. Hipped roof with moulded brackets below the cornice. Stair tower on the rear eastern elevation. Rear engine house projecting from the centre of the mill. Inside cast-iron columns support timber beams and wooden floors.

below, 2.21: Brown Street Mill, Macclesfield





### 2.23 MACCLESFIELD, CHARLOTTE STREET MILL

SJ 919 734

Steam powered silk mill built around 1840 on the western side of the street. Brick-built, five stories with a circular stair tower. Inside there are cast-iron columns supporting wooden beams and floors.

### 2.24 MACCLESFIELD, GEORGE STREET MILL

SJ 920 734

Large silk mill complex of 1820, 1875, 1885 and 1946, flanked by Pickford Street to the north, George Street to the west, Townley Street to the south and the railway and river to the east. Earliest Alma Mill range of 1820 has four storeys. George Street Mill of 1875 has three-storeys, 13-bays and L-shaped plan. 1885 range is four storeys, and eleven bays. This later range housed powered Jacquard looms. Weaving sheds added in the early 20th century. Welsh slate roof. Interior has cast-iron columns carrying timber beams and steel framing. On the site of 1769 Townley Street Mill.

LII

### 2.25 MACCLESFIELD, LITTLE STREET MILL

SJ 915 738

LII

Integrated silk mill encompassing a throwing mill, dye-house, warehouse, manager's house and weavers' cottages. The buildings span the period 1804 and 1909 to mid-20th century. 1804 range is brick-built, three storeys, and seven bays long. 1909 range is two storeys and seven bays long. 19th century domestic buildings are on Little Street. Mill ranges have cast-iron columns supporting wooden beams and floors and king- and queen-post roofs. To the south is a stone-built dye-house. Horse and steam powered.

### 2.26 MACCLESFIELD OLD SUNDAY SCHOOL HERITAGE CENTRE, ROE STREET

SJ 916 734

Built 1813-14. Brick-built, four storeys and ten by three bays. Central flat pediment of four bays topped by a stone inscription. Twin neo-classical entrances each with Tuscan columns. Interior has wooden beams and floors. Chapel on the top floor and school rooms below. Similar in design to contemporary silk mills.

### 2.27 MACCLESFIELD, OXFORD ROAD MILL

SJ 909 735

On the eastern side of the road is a silk mill of the early 19th century. Brick-built, four and three storey range three by 13 bays. Pitched slate roof over queen-post trusses. Latrine tower on north-east. Internally, cast-iron columns support wooden beams and floors. Nine bay weaving shed to the rear (east). Three storey, brick-built, flat-roofed, mid-19th century range on the northern side of Cottage Street. Single storey brick offices to the north with a terracotta name plaque reading 'J. Dunkerly & Son. Limited.'



2.28: Paradise Mill, Park Lane, Macclesfield

2.29: The remains of Park Green Mill, Macclesfield



## 2.28 MACCLESFIELD, PARADISE MILLS, PARK LANE

SJ 918 732

LII

Multi-phase silk mills, now a museum. The southern range is five storeys, brick-built, and is 8 bays long. Built 1822-4. The rear (east) has a privy tower and an elliptical stair tower. The later central range is formed by a projecting three bays five storeys high with a tall stone surround doorway on the ground floor from c.1930. The northern range dates from 1862 with 13 bays long and four storeys high and a flat roof. To the rear (east) is a square-section chimney. Now a museum with working textile machinery which includes hand-operated jacquard looms on which are produced ties and scarves. Adjacent is a silk machinery museum housed in the old school of art building. This has a series of exhibits which demonstrate the processes of silk production including throwing, reeling and weaving.

## 2.29 MACCLESFIELD, PARK GREEN WAREHOUSE

SJ 919 732

LII

The scar of the loss to fire of the beautiful Park Green Mill, built in 1785 as a water-powered silk throwing mill with a central projecting pedimented wing, still frames the rear (east) of this public open space. Here the eastern stone and brick wall fronting the River Bollin and cellars can still be seen. To the north lies the listed two and three storey 1880 chapel, converted to a mill-cum-warehouse-cum-offices in 1946. The Mill Lane range to the south was partly lost to fire in the 1970s although earlier buildings survive to the north. On the eastern side of the River Bollin is a brick-built engineering workshop associated with the mill site.

## 2.30 MACCLESFIELD, PARK MILL, HOBSON STREET

SJ 917 728

LII

Silk weaving mill, one and two storeys, brick-built from 1853. The street frontage is one storey of 11

2.31: Regency Mill, Macclesfield (see next page)



bays whilst the rear western wing is two storeys with 19 bays with a chimney at the north-west corner and a projecting engine house. Inside cast-iron columns support timber beams.

### **2.31 MACCLESFIELD, REGENCY MILL, CHESTER ROAD**

SJ 909 736

**LII**

Brick-built silk throwing, weaving and dyeing mill of c.1820. Four storey, 17-bays with a central pedimented five bays containing a clock. Hipped, slate roof. Stair tower, engine house and five-bay weaving sheds to the rear (south).

### **2.32 MACCLESFIELD, ST GEORGE'S STREET MILL**

SJ 918 731

**LII**

Small-scale silk throwing mill of c.1840 with 20th century alterations. Brick-built with a Welsh slate roof, three storeys and six bays long. Inside there are wooden beams and floors and in the roof a king-post trusses.

### **2.33 MACCLESFIELD, SUNDERLAND STREET MILL**

SJ 919 736

Water-powered silk throwing mill built in 1769 by Pearson and Hordern. Brick-built with wooden beams and floors it originally had five storeys and 11 bays, with a waterwheel fed from the Bollin. Extended southwards by 12 bays in the early

19th century when steam power was added, but reduced to three storeys in early 20th century. Steam power added in 1804 and the brick-built engine house of three storeys and two by three bays survives on Sunderland Street. The site lies on the eastern side of the street next to the later railway station. It is the oldest surviving mill in Macclesfield, although this fact is well hidden by its current use and the clutter of later buildings.

### **2.34 MACCLESFIELD, THORP STREET MILL**

SJ 920 739

**LII**

On the south-eastern bank of the River Bollin is a three storey, 13 bay brick-built silk mill. Built around 1825. Former engine house and chimney to the rear (north-west). Inside cast-iron and wooden columns support timber beams and wooden floors. Queen-post trusses in the roof.

### **2.35 MACCLESFIELD, VICTORIA MILLS, MILL LANE**

SJ 920 730

**LII**

Large, multi-phase, silk mill, in brick with a Welsh slate roof, built c.1830-40. The northern range is four storeys high with 13 bays with a projecting privy tower and a northern projecting range. The southern mill range is five storeys high and 14 bays long. Chimney-base in south-eastern corner. Interior has cast-iron columns supporting wooden beams and floors.

### **2.36 MACCLESFIELD, WOOD STREET MILL**

SJ 916 734

The first powered silk throwing mill in Macclesfield, built in 1900. Brick-built, two-storey building with very large windows and a pitched-roof of 12 by five bays. Cast-iron columns support wooden beams and floors. Enlarged in 1909 with a flat roof two storey extension on Pickford Street by a Stott & Sons design. This used a steel frame and columns to support steel beams. The roof trusses were also in steel.

### **2.37 MACCLESFIELD, WEAVERS' COTTAGES, NOS 56 & 58 MILL LANE**

SJ 920 730

**LII**

Pair of three storey brick-built, cottages with an attic with a row of continuous clerestorey windows with small panes. On the eastern side of the road, built around 1850, the ground floor is dominated by a late Victorian shop front.



2.35: Victoria Mills, Macclesfield



2.37: Weavers' cottages in Mill Lane, Macclesfield; on the left, showing the late 19th century shopfront

### 2.38 MACCLESFIELD, WEAVERS' COTTAGES, PARADISE STREET

SJ 914 733

The best surviving example of domestic workshops in Cheshire. Row of 17 cottages on the north and 15 on the south built uphill in steps. Three-light windows with small panes on the top, workshop, floors. Early 19th century. Other examples are on Bond Street, Catherine Street, Crompton Road, Crossall Street and Newton Street.

### 2.39 MACCLESFIELD, WEAVERS' COTTAGES, TOWNLEY STREET

SJ 918 733

Row of three, brick-built, weavers' cottages, early 19th century. Top floor workshop spans all three cottages and is accessed from Townley Street via a doorway in the middle of the façade. Office on the first floor leads up to the attic workshop. Loading door at attic level from the rear (south) from Court No. 1. Here survives four, two-up-two-down, brick-built court houses from the 1850s accessed via an alleyway.



2.38: Weavers' cottages, Townley Street, Macclesfield

### 2.40 SUTTON, LANGLEY PRINT WORKS & RESERVOIRS

SJ 941 713

Silk-printing works founded in the 1820s by William and John Smith. Later taken over by Whiston's, but closed in 1964. The site has been recently built upon although the print works survives in road names. The mill reservoir is extant to the south-east. Further to the east are Bottoms (SJ 946 716) and Teggsnose (SJ 947 718) reservoirs built in 1850 and 1871 to regulate the flow of the River Bollin feeding the mills in Langley and nearby Macclesfield.

### 2.41 WHELOCK MILL

SJ 752 594

Steam powered silk mill built in 1809. Rear engine house, though, has gone. Brick-built, three storeys, 14 by two bays, mill with a short rear (northern) warehouse wing. Interior had wooden floors and beams. The site was greatly expanded to the west and south in the early 20th century for boot and shoe polish manufacture by ZAN (see 4.28)

#### INTRODUCTION

Cotton manufacturing was introduced into eastern Cheshire in the mid-18th century through the domestic production of yarn and cloth, although in north-eastern Cheshire, which is closer to Manchester, probate records indicate domestic production from the late 17th century. The mechanisation of cotton spinning through water-power reached eastern Cheshire in the 1780s with water-powered mills being built in the upland valleys of the county in areas such as Kettleshulme, Rainow and Wildboardclough east of Macclesfield. Here were plentiful streams where the best sites, and more importantly the water rights, were not already occupied by cornmills.

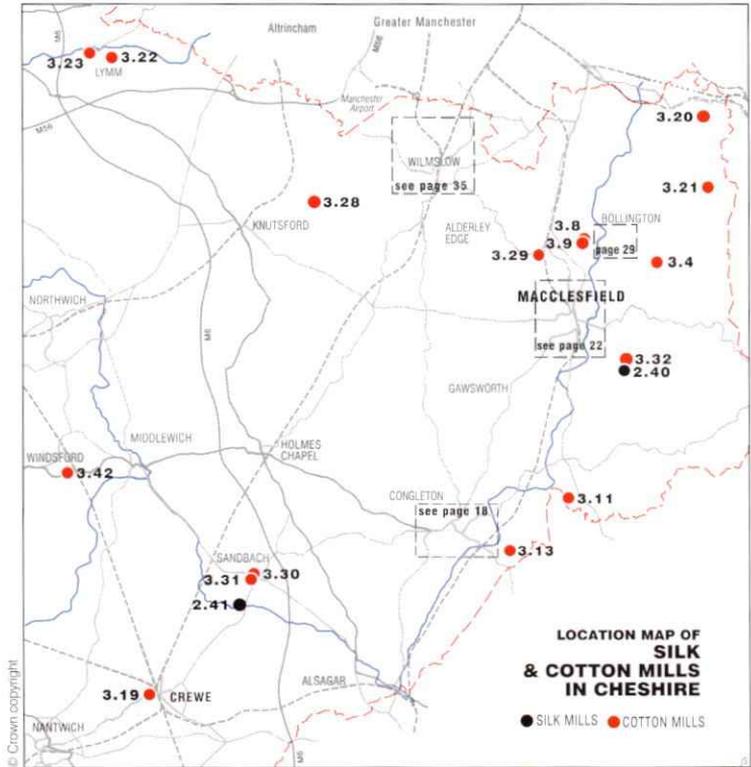
This first generation of cotton factory building saw 40 cotton spinning mills established by 1800, mostly in the eastern half of the county. This compared with around 26 silk mills by the same date. Of this first generation of Arkwright-style mills the best preserved is Quarry Bank Mill, established in 1784 by Samuel Gregg, an Irish linen merchant, working in the family business in Belfast and Manchester. Other early rural survivals include Daneinshaw from 1784 and Gin Clough Mill, built in 1794 and extended in 1827. The long, narrow, multi-storey plan of the silk mill is repeated at these sites and some, like Daneinshaw and Quarry Bank also have shallow projecting bays topped with a pediment.

In the late 18th century cotton manufacturing was widely spread with water-powered spinning mills built in Bosley, Chester, Disley, Holmes Chapel, Nantwich, Northwich, Rainow, Sandbach, Sutton and Warrington. Wilmslow enjoyed a brief period, at the end of the 18th and beginning of the 19th century, as a cotton mill village. There were six cotton mills here by 1805 strung along the River Bollin, although only Quarry Bank now survives. However, the sites of Carrs Mill and Mobberley Mill have been excavated. Some of these rural sites had their own factory villages such as Styal at Quarry bank and the early 19th century Lowerhouse Mill west of Bollington.

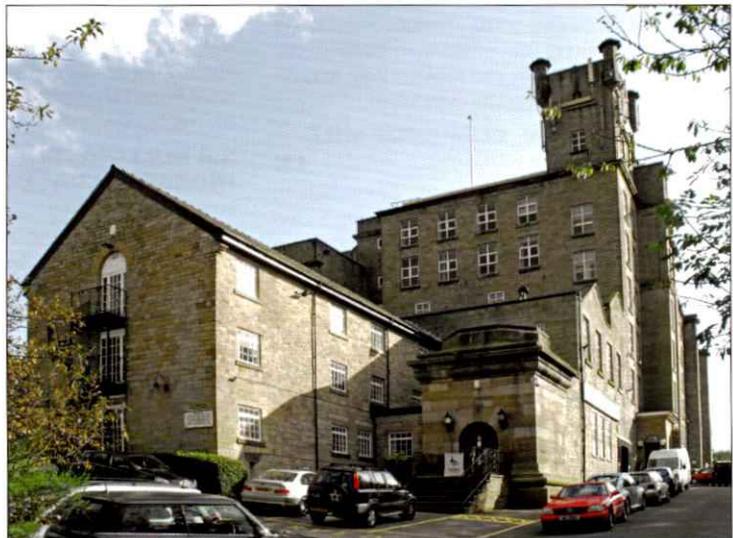
By the time the first cotton mills were built in Congleton and Macclesfield, both were already well-established silk mill towns. The earliest mill in Macclesfield was Sunderland Mill on Pickford Street from 1784 and the modified building still survives. Other early cotton mills in the town are Pickford Street and Sunderland mills. In Congleton, Stonehouse Mill is the sole early survivor.

In the 19th century cotton production in eastern Cheshire was focussed in three urban areas: Bollington, Congleton and Macclesfield, encouraged by the proximity of the cotton mills of Manchester and Stockport to the north and the Derwent Valley mills to the east and the arrival of the Macclesfield Canal in 1831 which provided a source of regular coal supply. Few cotton mills were built in Congleton and Macclesfield in the early to mid-19th century and this is reflected in an absence of surviving mill sites from this period.





right, 3.01:  
The Adelphi Mill,  
Bollington



far left, 3.02: Clarence  
Cotton Mill, Bollington  
left, 3.05: Ingersley  
Cotton Mill, Bollington

Bollington was the chief cotton town of eastern Cheshire in the 19th century, with 21 mill sites by the mid-19th century. The town developed along the Harrop Brook and River Dean where there are a number of late 18th century cotton spinning mill sites. Some of these sites provided yarn for the Nottingham lace industry. The arrival of the Macclesfield Canal in 1831 led to a boom in steam powered mill building led by the chief mill-owning family, the Swindells, with several large mills erected on the banks of the canal at Adelphi and Clarence. The town's population also boomed in this period. Ingersley Vale Mill was converted to textile finishing in the mid-19th century and is a notable, but rare, survival of this branch of the textile industry in Cheshire.

Late 18th and early 19th century fustian workshop dwellings were built in Congleton, Lymm, Sandbach, Warrington, and Wilmslow and are almost identical to cotton and silk weavers' cottages with three storeys and a top-floor workshop.

In general few cotton mills were built in Cheshire after the cotton famine of 1861-65 but a notable exception is Congleton. Between 1860 and 1950 fustian cutting, to create a velvet type of pile, was Congleton's dominant factory industry and many firms took over the empty spinning and throwing mills. The fustian process involved cutting through the loops of various types of fabric, but usually cotton, with a razor-sharp blade to create the distinctive 'high pile' required to produce velvet, moleskin and corduroy. Small-scale factory production started in the mid-century with the introduction of larger cutting machines. The hand-cutting of fustian cloth which was also known as velvet continued until full mechanisation of the industry in the mid-20th century. Over ten fustian mills were built in Congleton during the 1870s and the 1900s. These were typically long, narrow, structures of two or three storeys with wooden beams and floors such as Meadow and Riverside mills. Fustian factories were built in the late 19th century in Wilmslow and Winsford, each with a single surviving example, and in Middlewich, Sandbach and Warrington (all now gone).

### **3.1 BOLLINGTON, ADELPHI MILL**

SJ 930 772

On the western side of the Macclesfield Canal. Built in 1856 by George Swindells. Stone built, six storeys, nineteen bays along the canal. Stair and water tower rises above the north-western corner. Six bay extension to the south. Fire proof internal structure of cast-iron pillars and brick barrel vaulting on the ground floor. Upper floors have timber beams supported by cast-iron columns. Engine house and stone octagonal chimney base at the northern end along with stone-built three storey cotton warehouse (with iron roof trusses) and offices also of 1856. It had its own wharf.

### **3.2 BOLLINGTON, CLARENCE MILL**

SJ 934 781

On the eastern side of the canal. Stone-built in 1834 by Martin Swindles and steadily expanded until 1877. A canteen was added in the 1930s. Five storeys high with 51 bays along the canal. Oldest range in the centre with an internal structure of cast-iron pillars and beams. Later extensions of 1854 and the Stott Building of 1871 have double brick arches supported by cast-iron columns. Galloway engine installed in 1877 and circular brick chimney at eastern end survives. Corner pilasters and projecting stair tower on canal side along with canal loading bays. Produced yarn for the Nottingham lace trade

### **3.3 BOLLINGTON, DEFIANCE MILL, QUEEN ST**

SJ 937 780

On Harrop Brook. Built around 1800 as a water powered mill. Four storey, stone built, just two-by-two bays remain. Converted to apartments.

### **3.4 BOLLINGTON, GIN CLOUGH MILL**

SJ 958 764

On Gin Clough, a tributary of the River Dean in Rainow east of the town. 1794 water powered cotton spinning, then silk throwing and later a saw mill. Extended in 1827. Stone-built, three-storey, six-bay, structure with a stone flag roof. Boiler house and two storey workshop attached. Possibly the highest mill in Cheshire at c.280m AOD.

### **3.5 BOLLINGTON, INGERSLEY VALE MILL**

SJ 943 772

Built on the river Dean in the hills around Rainow south-east of Bollington. Built 1801 as a cotton spinning mill, the stone core is twelve bays long and three storey high with a central projecting stair tower. Datestone of 1809 on the stair tower by Edward Collier. A huge tall rectangular wheelhouse sits at the western end of the mill. This housed a 56ft (17m) diameter overshot wheel fed by an iron lade spanning the road from the embanked leat. Converted to bleaching and dyeing in the 1850s. Range of late 19th and early 20th century associated single storey buildings to the north and south.

### **3.6 BOLLINGTON, INGERSLEY VALE MILL LEAT**

SJ 943 770 to SJ 943 772

Embanked leat for Ingersley Vale Mill running from a weir at the southern end of Clough Pool on the Dean northwards along the western side of the valley for 230m.

### **3.7 BOLLINGTON, LOWER MILL**

SJ 938 777

Originally built by George Antrobus in 1792 as a water-powered cotton spinning mill. Lower Mill became a paper mill at the end of the 19th century and is now occupied by 20th century multi-storey brick buildings and chimney. A four storey stone fragment of 19th century mill structure survives.

### **3.8 BOLLINGTON, LOWERHOUSE MILL**

SJ 922 777

**LII**

Stone-built, four storey, fireproof, water powered mill begun by George Antrobus in 1811. 74m long and 13m wide and 23-bays long. Lies on the River Dean west of the town. Taken over in 1832 by Samuel Greg of Quarry Bank Mill. Engine house and boiler house at southern end, wheelhouse at northern end. Internally, cast-iron columns support wooden beams. Staircase tower. Later three storey building to the West end and weaving shed to the east. Associated textile village.

### **3.9 BOLLINGTON, LOWERHOUSE VILLAGE**

SJ 921 776

Textile village built by George Antrobus for the nearby mill. Long Row is a terrace of 24 two storey four roomed cottages. Backyards with privies. Moss Brow has rows of five and eight similar cottages. Library of 1862 in gothic style and in the same style from the same date Abbots Close, six two storey stone cottages.

### **3.10 BOLLINGTON, RAINOW MILL**

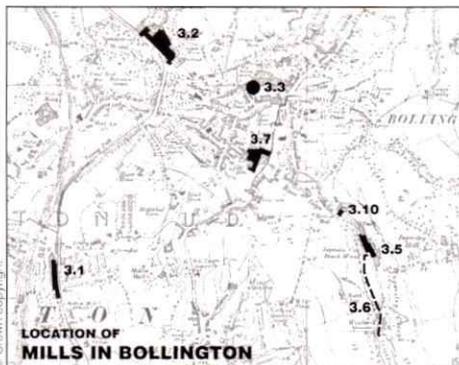
SJ 941 774

On the River Dean on the south-eastern edge of Bollington. Late 18th century, stone-built, three storey cotton spinning water-powered mill.

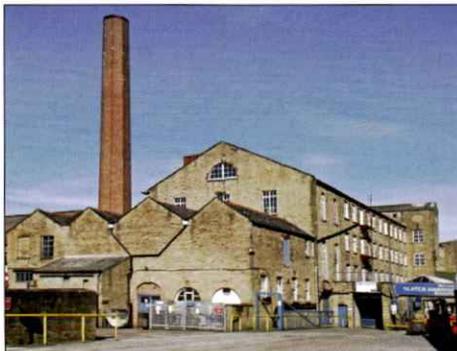
### **3.11 BOSLEY, DANWOOD MILLS**

SJ 914 648

Originally two corn milling sites, the Higher and Lower Works, both were leased by Charles Roe in 1766 for copper rolling and hammering. The Higher Works was converted to cotton spinning around 1803 when the site was rented by the Berresford family. Around 1861 the Higher Works became a cornmill again, later using roller mills, and in 1933 a wood treatment site, a function it



still has. The Lower Works (also known as Bridge Mills; SJ 913 651) was the second cornmill site to the north. It was re-used for water powered silk throwing in the early 19th century but by 1850 it was being used for wood turning. Adjacent to the later 20th century piping and tanks at the Lower Works is a two storey stone range of the early 19th century fronting the road and probably associated with silk throwing. The earliest remains at the Higher Works are a row of eight, two storey, stone cottages built by Roe in the 1760s on the opposite side of the road from the works. A later row of four, three storey, brick-built cottages, was added to the south. These have long top-floor three-light windows that seem to be weaving workshops and are probably contemporary with the cotton spinning phase. Within the Higher Works amongst the 20th century tanks, towers and pipework is a five storey brick tower with 'Dane Wood Mills' picked out in white. This probably dates from its rebuilding as a cornmill in the 1860s. Parallel with the eastern river bank are the remains of a long brick-built range of c.12 by three bays of at least three storeys. This is probably the early 19th century cotton spinning mill. North of this is a range



3.07: Lower Mill, Bollington



3.15: Providence Mill, Congleton

of two-storey stone-built workshops and offices. In the late 19th century a narrow gauge railway connected the site with a wharf on the nearby Macclesfield Canal to the north-west.

**3.12 CONGLETON,  
BRIDGE MILL, ROYLE STREET.**

SJ 858 633

Fustian cutting mill on the northern bank of the River Dane. Brick-built, three storey range of the 1870s, 11 bays long. Later 20th century three storey, three bay, flat-roofed, concrete and steel-framed range to the west.

**3.13 CONGLETON, DANEINSHAW  
(MARTIN'S) MILL, MILL LANE**

SJ 883 619 see page 1 for illustration

Water-powered cotton-spinning mill from 1784 built by Richard Martin. Later converted to silk throwing. Brick-built, three storeys with basement, 20 bays long, with central two bays projecting slightly, and pedimented with a clock. Projecting bay contained the wheelhouse. Hipped roof and inside cast-iron columns supporting wooden beams and floors. Adjoining mill pond fed by a leat from the Rive Dane, to the east of Congleton. Now apartments.

**3.14 CONGLETON,  
FAIR MILL, WORRALL STREET**

SJ 860 631

Fustian cutting mill of the 1870s. Brick-built, two storeys, one by 21 bays with a eastern staircase bay. Wooden beams support wooden floors.

**3.15 CONGLETON,  
PROVIDENCE MILL, ROPE WALK**

SJ 858 632

Fustian cutting mill of two storeys built in 1913. Brick-built, 13 by one bays. End staircase bay at the eastern gable. Internally, wooden beams support wooden floors. Now apartments.

**3.16 CONGLETON, RIVERSIDE MILL**

SJ 860 631

Fustian cutting mill of 1878-87. Brick-built, three storeys, 19 by three bays, with a central projecting gabled bay and a clock tower (both late 20th century additions). Eastern wing of 16 by three bays. Internally, wooden beams support wooden floors. Now offices.



3.16: Riverside Mill, Congleton



above, 3.18: Stonehouse Green Mill, Congleton  
right, 3.17: Shephard's Mill, Congleton

### 3.17 CONGLETON, SHEPHARD'S MILL, WORRALL ST

SJ 861 631

Fustian cutting mill of three storeys, was 24 by one bays now 20 bays long, brick-built, fustian cutting mill. Built in the 1870s. Internally, wooden beams support wooden floors. Now apartments and heavily altered.

### 3.18 CONGLETON, STONEHOUSE GREEN MILL, PRINCES STREET

SJ 857 630

LII

Stone built cotton spinning mill, later a silk throwing and weaving mill. Originally water powered. Irregular layout with two four-storey blocks each four bays wide and nine bays long, with a stair tower and privy tower. Interior has timber floors and king- and queen-post roof trusses. These follow the eastern side of the brook. Built in 1785 by George and William Reade and expanded in the early 19th century. Steam introduced by 1821. Adjoins the 1835 Brook Mill to the east.



### 3.19 CREWE, CWS CLOTHING FACTORY, CAMM ROAD

SJ 706 548

Brick-built, four-storey, factory begun in 1887 by the Marmion Clothing Company. Bought by CWS in 1917 and extended in 1937-38. Two storey yellow brick range fronting Camm Street (1887). There are also roof lights for the cutting table floor and deep windows for the sewing rooms. To the rear (north) is the 1930s extension, a tall seven bay building.

### 3.20 DISLEY, MUSLIN ROW, BUXTON OLD ROAD

SJ 982 839

A row of five sandstone-built, two-unit, two storeys, former weavers' cottages with a Kerridge stone-slate roof and ridge chimneys. Late 18th century.



3.21: Lumbhole  
(Grove) Mill,  
Kettleshulme  
(see next page)

David George

### 3.21 KETTLESHULME, LUMBHOLE (GROVE) MILL

SJ 988 804

LII\*

Stone-built, water powered cotton spinning, candlewick mill, of three storeys and nine bays built 1797-8 and rebuilt 1825-35. Queen-post roof trusses and a stair tower. Still contains a combined power system of c.1830 comprising A Bateman and Sherrett steam engine, with a Cornish boiler, and a 26 feet (7.8m) diameter suspension waterwheel still in situ. Gas retort house of the same period.

### 3.22 LYMM, NOS. 1 TO 7 WOODLAND AVENUE, FUSTIAN COTTAGES

SJ 691 866

LII

A terrace of four three-storey, one bay, cottages built for fustian cutters. Early 19th century. They are in brick, the brickwork of No 1 is rendered, the rest are painted; all have slate roofs and sash windows. A single fustian cutting loft formed the attic though this has been sub-divided. Ridge chimneys. Northern cottage extensively rebuilt.

### 3.23 LYMM, NOS. 11 TO 19 CHURCH ROAD, FUSTIAN COTTAGES

SJ 678 871

A terrace of five three-storey, one bay, cottages built for fustian cutters. Early 19th century. They are in brick with slate roofs, and have sash windows. A single fustian cutting loft formed the attic though this has been sub-divided. The eastern gable has external stair access.

### 3.24 MACCLESFIELD, CROMPTON ROAD MILL

SJ 911 736

LII

Steam-powered cotton spinning mill of 1823 later used for silk weaving. Built by Watters & Lund. Brick-built five storey mill with 12 bays. Loading doors to upper floors. Privy tower. Three bay wing to the south. Internally, it has slim cast-iron columns supporting timber beams.

### 3.25 MACCLESFIELD, LOWER HEYES MILL

SJ 919 743

Cotton spinning, water-powered, mill of 1784. Weaving sheds for cotton added in 1867. Steam powered in the 19th century with a later rope-race. Only the 17 bay weaving shed, with north-light roofs, and a smaller block by the river to the west, survives but in a ruinous condition.

### 3.26 MACCLESFIELD, PICKFORD STREET MILL

SJ 918 734

Cotton spinning mill built 1789-1804 at the western, top end, of the street. Brick-built, four-storeys, partially reduced to three, seven bay range facing Pickford Street and a seven bay rear (western) wing. Internally there are wooden beams and floors. Used for silk production by 1804 and later steam powered.

### 3.27 MACCLESFIELD, SUNDERLAND MILL, PICKFORD STREET

SJ 919 735

Cotton spinning mill built at the junction of Pickford Street and Sunderland Street. Brick-built, four



opposite left, 3.27:  
Sunderland Mill,  
Macclesfield  
opposite right, 3.30:  
Village Weavers'  
Cottages, Prestbury

3.23: Fustian Cutters'  
cottages in Lymm



storeys built in 1783-4. L-shaped plan with 11 by 12 bays. Interior has cast-iron columns supporting wooden beams and floors. The fourth storey is a later addition. Now known, confusingly, as Pickford Street Mill

### 3.28 MOBBERLEY, OLD CREPE MILL

SJ 789 796

A former cornmill, in 1812 the building was converted to weaving cotton by the Chapman family, and around 1820 it was enlarged for water-powered cotton spinning. Steam engine added in the 1850s. Converted to silk production in the mid-1860s, specialising in the production of crepe. Closed and demolished around 1891. Only the brick-built two-storey mill house survives. Excavated in 2001. Nearby at Hall Bank are three and four storey, one bay, brick-built workers' cottages of the 19th century.

### 3.29 PRESTBURY, NOS. 1-4 THE VILLAGE WEAVERS' COTTAGES

SJ 900 768

LII

Four, three-storey, weavers' cottages. Brick-built on a curve with a Kerridge stone-slate roof. Top floor horizontal windows. Now four houses, they form a curved rectangular block. Early 19th century.

### 3.30 SANDBACH, WEAVERS COTTAGES, NOS. 6-10 MARKET SQ.

SJ 759 608

A row of three cottages on the northern side of the market place. Three storey, brick built, one bay wide. Gable chimney. Top floor of the northern two each have long, four-light, horizontal windows to the weaving workshop. Late 18th century.

### 3.31 SANDBACH, TOWN MILL, HIGH STREET

SJ 758 608

Four storey, brick-built, steam-powered cotton spinning mill. Built in 1825 for W Lowndes. Three by 12 bays with a 20th century toilet wing on the



southern elevation, where the engine and boiler-house stood. Inside cast-iron columns support wooden beams and floors.

### 3.32 SUTTON, 5-10 MAIN ROAD, LANGLEY, WEAVERS' COTTAGES

SJ 943 716

A row of six brick-built weavers' cottages. Three storeys, one bay wide, with top floor workshops shown by three-light casement windows. Built around 1810. 40 two storey, two-up-two-down, cottages can be seen to the west on Main Road forming several rows. All were built to house the workforce at the three mills in the village. The textile village had a Methodist Chapel and a mechanics' institute.

### 3.33 STYAL, QUARRY BANK MILL

SJ 834 830

LII\*

The best-preserved working water-powered cotton spinning mill in Britain spectacularly located in a steeply sided, wooded, river valley. The large cotton spinning mill complex was founded by Samuel Greg in 1784. The buildings span the period 1784 to 1860 and sit on the eastern bank of the River Bollin. To the south is a complex series of weirs and reservoirs supplying water to the mill. South-east of the mill is a mill manager's house, warehouse, offices, gas holder and gas retort house. Immediately north of the mill is the late 18th century brick-built Apprentice House. The mill complex comprises a central and northern 1784 range of 12 bays and five storeys. The middle range of six bays and five storeys dates from 1796. Southern projecting range of seven bays built 1817-21 to house a new suspension waterwheel 32 feet (9.6m) in diameter. Northern engine house and boiler house range, always supplemental, added in 1830s, whilst to the west weaving sheds were added in the 1840s. Inside the wooden beams and floor are supported by



3.33: Quarry Bank Mill,  
Styal

David George

cast-iron columns. The ground floor has three wheel pits, two of which are visible, and one of which housed a water turbine from the 1890s. Contains working automatic mules, and looms run by water and steam power. Now a museum run by the National Trust.

### 3.34 STYAL, APPRENTICE HOUSE

SJ 837 832

LII

Built in 1790 to house up to 100 girls and boys indentured to work at the Quarry Bank Mill. Three storeys, brick-built, with a double span roof. The house was divided between boys and girls sides.

### 3.35 STYAL TEXTILE VILLAGE

Centred SJ 835 835

The original hamlet dates to the late medieval village with several farmhouses which have timber-framed sections. The main new houses were built around by the Greg family in the 1820s and 1830s these early farmhouses, north of Quarry Bank Mill. Double row of brick-built, two-up-two-down cottages (Oak Cottages) accessed by steps with allotments in front and yards and privies behind. Most have cellars which were originally let separately. There was also a shop. At the western

end of the row is a school built in the 1820s and beyond that is a Unitarian chapel, built in 1822-3. There was also a Methodist Chapel converted from a barn in 1833. North of these two rows are a further row of four, three-storey, houses and Nos. 29-39 Oak cottages, a single row of two-up-two-down brick cottages. In the 1860s Nos. 41-44 Oak Cottages and Nos 1-4 and 20-23 Farm Fold were built.

### 3.36 WILMSLOW, CARRS MILL

SJ 844 817

Site of water-powered cotton spinning built c.1792, and run by Ralph Bower, on the northern bank of the River Bollin. Converted to silk throwing in the 1830s and then to a laundry in the 1890s. Burnt down in 1923. Brick-built, ten by three bays, with a central waterwheel external on the southern elevation. This replaced by a water turbine. Foundations of the southern elevation and weir can still be seen in the river bank. Excavated in 2004.

### 3.37 WILMSLOW, FUSTIAN MANAGER'S HOUSE, 15 MANCHESTER ROAD

SJ 848 813

LII

Built 1792 for Lord Stamford. Three storeys, brick-built, with a symmetrical front with a glazed fanlight above the panelled door. Used as a manager's house by the Deardens, fustian cutting manufacturers.

### 3.38 WILMSLOW, FUSTIAN COTTAGES, 19-23 MANCHESTER ROAD

SJ 849 813

LII

Terrace of three fustian cutters' cottages. Built in 1792 and restored in 1982. Brick-built, three and four storeys with Welsh slate roof. Brick ware-



3.41: Weavers' Cottages at Wilmslow

house to the rear now rebuilt. Developed by the Dearden family.

**3.39 WILMSLOW, FUSTIAN MILL, HAWTHORN STREET**

SJ 842 809

Fustian cutting shop, brick-built, two-storey. Elevations have tall large windows. Welsh slate roof. Nine by three bays with pedimented brick gables. Interior has wooden beams and floors. Built around 1900 by Mr Clare and later run by the Platt family from 1910. Now known as Pembroke House, and converted to apartments.

**3.40 WILMSLOW, WEAVERS' COTTAGE, 31 MANCHESTER ROAD**

SJ 850 813

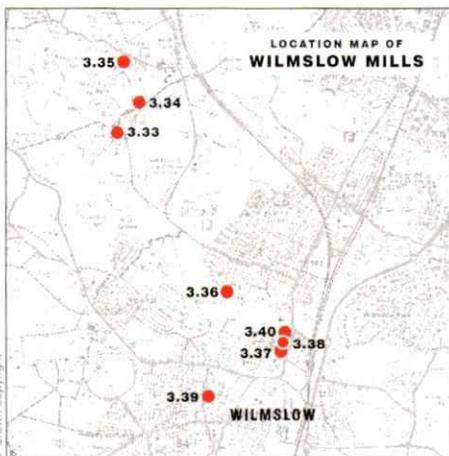
LII

Handloom weavers' cottage, late 18th century with 20th century alterations. Three storeys and one bay wide. Three-light wooden casement to former weaver loft. Now used as a shop.

**3.41 WILMSLOW, WEAVERS' COTTAGES, STATION ROAD**

SJ 848 812

A row of four brick built, three-storey, weavers' cottages, each one bay wide on the northern side of the road. Top floor workshops had three-light casement windows, as does the middle floor. There is a blocked taking-in door in the eastern gable. Early 19th century.



**3.42 WINSFORD, FUSTIAN MILL, DIERDEN STREET**

SJ 666 660

Brick-built, two-storey Fustian Mill of the 1880s and 1890s. 13 by four bays, with a double pitch Welsh slate roof. Now used as a warehouse. Inside wooden beams support wooden floors.



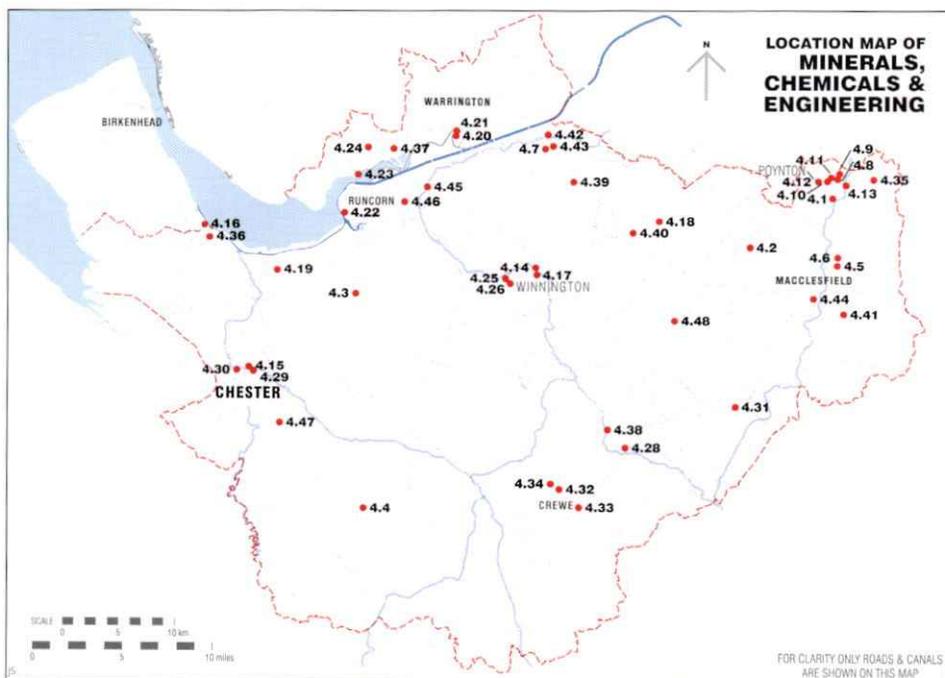
3.38: Fustian cutters' cottages at Manchester Road, Wilmslow

## 4: MINERALS, CHEMICALS & ENGINEERING

Cheshire's oldest industry is salt production. The historic process was done by boiling the naturally occurring brine from the springs of the Weaver Valley so that evaporation would produce salt crystals. Salt was used in the preservation of food stuffs and the curing process of leather. Later, in the 19th century, it became one of the principle ingredients for the soap, glass and alkali manufacturing industries and the Weaver Navigation the main export route. Its exploitation in Cheshire was thus central to the development of the 19th and 20th century British chemical industry.

Although the natural brine springs of the Weaver Valley were exploited in the Iron Age, Roman and Medieval periods, mass production did not start until the early 18th century. The discovery of rock salt around 1690 and the development of the Weaver Navigation after 1720 cemented Northwich's primary manufacturing position. Until the late 19th century manufacturing was done on large, iron, open salt pans, heated by several furnaces from below. The only surviving example is the Lion Salt Works, at Marston north of Northwich, which closed in 1981. Here are several ranges of timber buildings with brick foundations housing the salt pans and salt stores. Timber was used to lessen the corrosive impact of the salt-laden atmosphere on the structures. The site lies by the canal, which supplied the coal needed for the furnaces, and was renovated by Cheshire West and Chester Council. Winsford emerged as the centre of the industry in the late 19th century when brine pumping replaced mining. Water was circulated through boreholes sunk into the salt deposits and brought back to the surface as a brine solution from which the salt could be evaporated, or used directly in the chemical industry. British Salt at Middlewich, which is the only works left in the town, uses a vacuum process developed in the early 20th century to boil the brine under pressure whilst Meadowbank Mine in Winsford continues to mine salt.

The Leblanc process for making soda (sodium carbonate) from salt in the 1820s led to the growth of a chemical industry either side of the Mersey Estuary. Though the first works was in Liverpool in 1822, St Helens and Widnes were the focus of the industry because of the ready availability of coal via the Sankey Canal and the Mersey. Spike Island at Widnes, now the home of Catalyst, the chemical museum, has



4.08: Displayed stationary engine at the entrance to the Anson Engine Museum



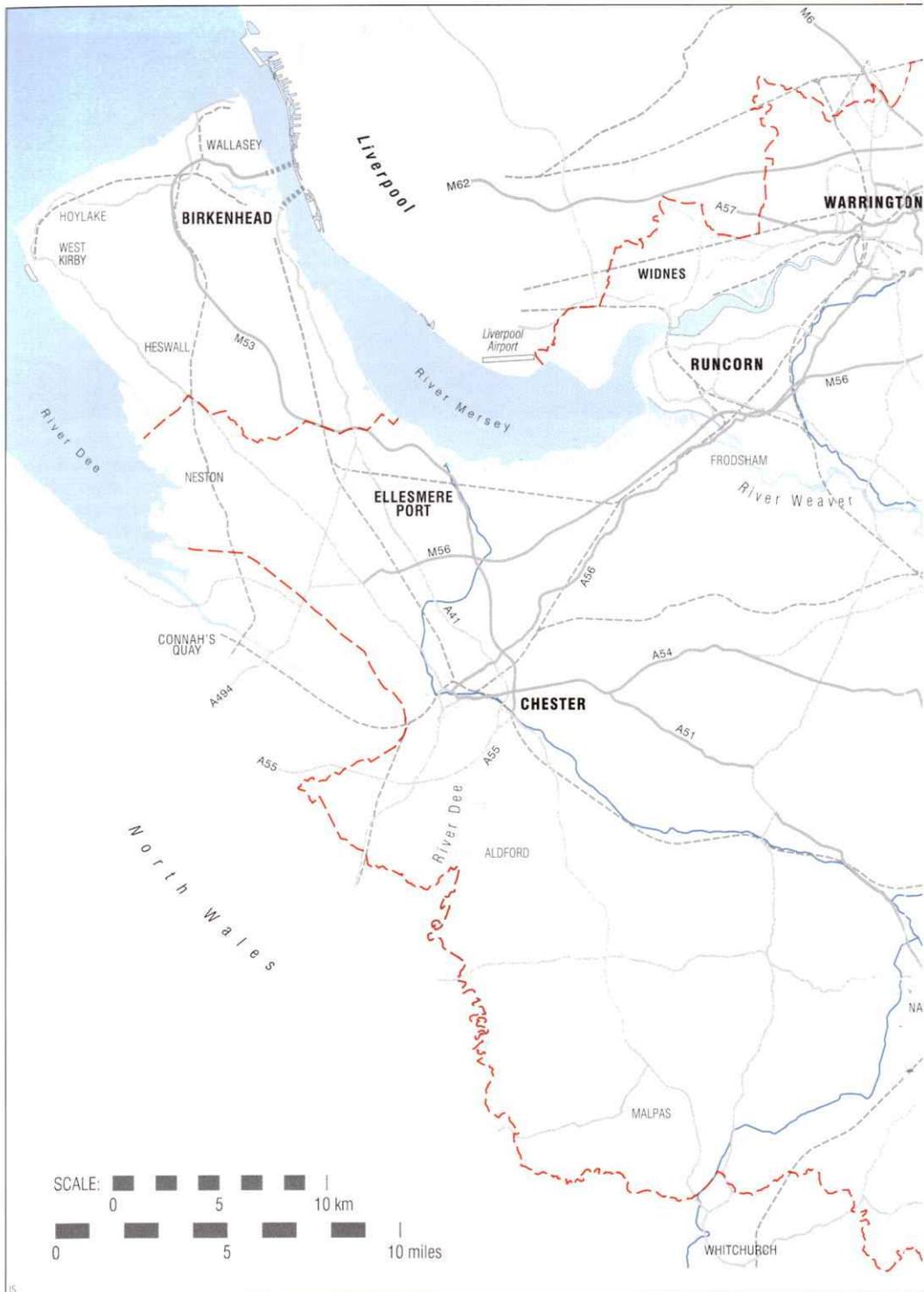
remains of this industry including the 1860 process building erected by John Hutchinson, the remains of pyrites kilns, the bases of acid towers and the canal basin. The Solvay process developed by Ernest Solvay in 1863 replaced the Leblanc method. It used towers in which carbon dioxide was blown through a solution of common salt saturated with ammonia. The resultant sodium bicarbonate was heated in furnaces to produce soda. Works using this process were established at Widnes and Winnington by J T Brunner and Ludwig Mond. In 1897 the Castner-Kellner Company began production at Runcorn using an electrolysis production method for creating soda. The demand for alkalis was led by the soap industry which produced products initially for the textile finishing industries and later for home use. Salt in the form of soda was the main ingredient in soap manufacture. A soap manufacturing plant was built at Bank Quay in Warrington by Joseph Crosfield in 1815. There is still a chemical works on this site. The most famous of the North West soap works, established at Port Sunlight by William Hesketh Lever in 1888, is now just over the border in the Wirral.

All the alkali producing sites became part of ICI in the 20th century. The early 21st century industry is focussed in just a few areas. North of Northwich the Tata Works (formerly ICI) at Marston and Winnington survive in production, whilst a salt mine also survives at Winsford. 20th century chemical developments also reflected the rise of the oil economy. An oil refinery at Stanlow, Ellesmere Port, remains in use along with its storage depot at Eastham by the Manchester Ship Canal.

#### **QUARRYING AND MINERAL MINING**

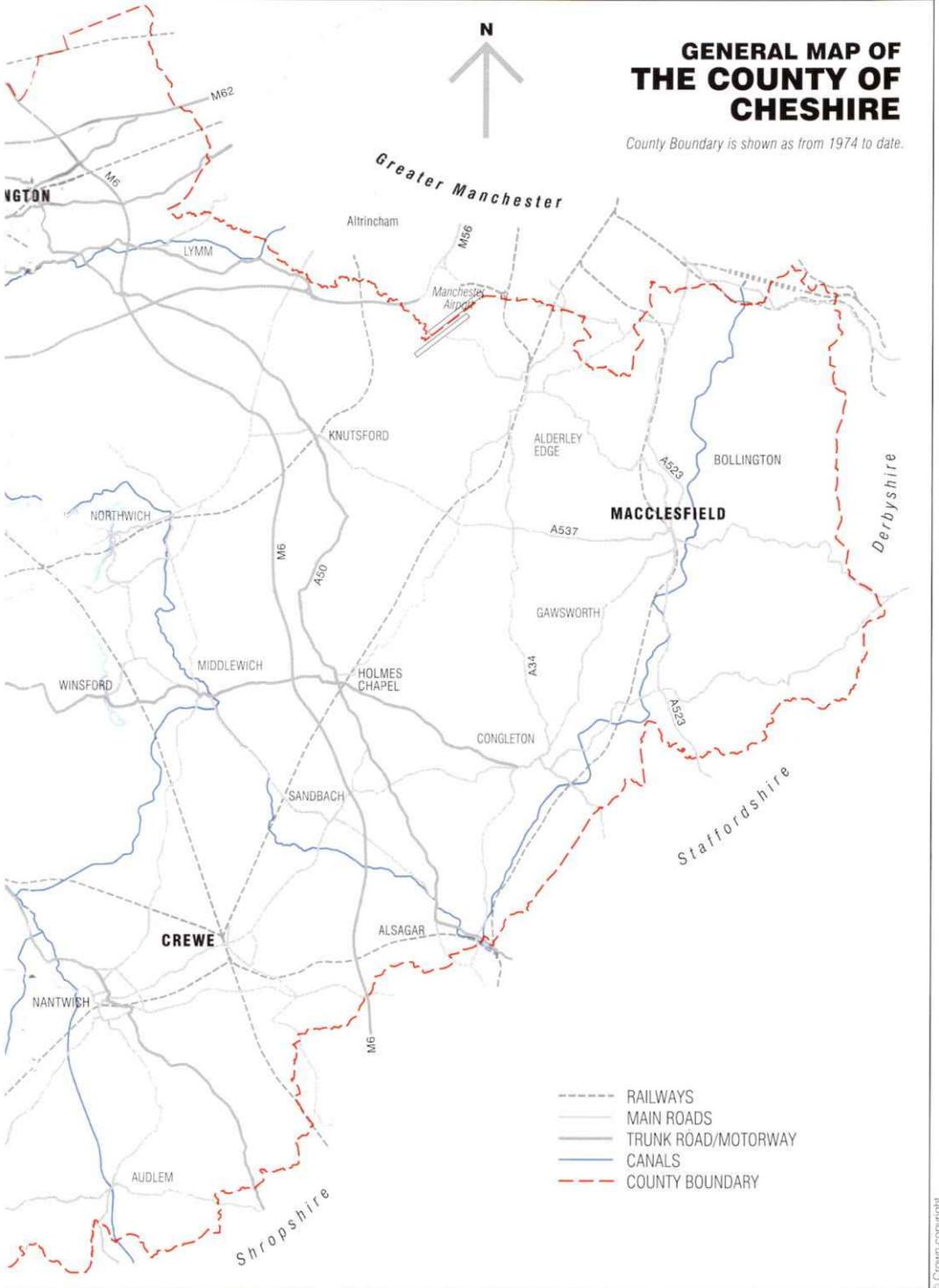
Quarrying rivals salt and corn milling in its antiquity in the county. The Romans were probably the first people to exploit sandstone for building. A quarry used by the Romans can still be seen at the southern end of the medieval Dee Bridge on the bank of the River Dee at Handbridge in Chester. In the medieval period quarries along the central Cheshire ridge supplied building material for Vale Royal Abbey and Chester Castle. Later in the 19th century the Helsby Quarries supplied stone for public buildings including the Liverpool Customs House and dock buildings in both Birkenhead and Liverpool. The Kerridge Quarries east of Bollington developed in the 18th and 19th centuries. The Macclesfield Canal allowed this material to be used in building many of the mills and public buildings of Manchester and its satellite cotton towns. Smaller local quarries were used for building stone for houses, farm buildings and walls wherever stone outcrops in Cheshire.

Since prehistoric times minerals have been exploited, most notably the copper deposits at Alderley Edge in eastern Cheshire. The peak period of exploitation here was the 18th and 19th centuries. A vein of copper occurs along the eastern edge of the Bickerton Hills. This was mined on and off from the 17th century onwards. Charles Roe established a copper works in Macclesfield in 1758 processing ore from nearby Alderley Edge and later the Parys Mountain in Anglesey. He also had copper works at Bosley and Eaton, but these too have gone. A windmill was used for grinding the ore at Macclesfield. The works closed in 1801 and only the street names (Copper Street, Calamine Street) and the occasional block of waste slag in a wall hint at its presence.



# GENERAL MAP OF THE COUNTY OF CHESHIRE

County Boundary is shown as from 1974 to date.



A southern extension of the Lancashire coalfield runs down the eastern edge of Cheshire, from Poynton through Bollington to south of Macclesfield. The collieries around Poynton were begun by the local landowners, the Warren family, in the 17th and 18th centuries. The main expansion was after 1791 when George Warren bought the township of Worth. From 1832 onwards the collieries were directly managed by Lord Vernon. These produced 250,000 tons of coal annually at their peak. The mines closed in 1935 when there were still 115 miners employed. Houses for mine workers were also built by the Vernons including Worth Clough and New Town cottages of 1873-4. There was a network of tramways serving these pits with early 19th century lines from Lord and Lady Pits along Black Road northwards to the A34, and from Quarry Pit eastwards to Nelson Pit and the Macclesfield canal. A larger network of standard gauge colliery railways was built after the opening of the Manchester & Birmingham Railway through the township in 1845. Many of these lines now survive as footpaths. There was also a small colliery at Neston on the western coast of the Wirral exploiting an outlier of the north-east Wales coalfield. However, nothing now remains of the Denhall Colliery (SJ 289 763) which operated from c.1850 to 1928.

## ENGINEERING & UTILITIES

Engineering developed in Cheshire as a supply industry for the textile industry, in the late 18th century and then for the railway industry from the 1840s. Warrington was an 18th and 19th century centre for wire production and machine manufacture but virtually nothing remains now of this industry. In Chester the survival of the Lead Works and its shot tower is a reminder of the city's role as a manufacturing centre in the late 18th and 19th centuries. Crewe emerged as a completely new railway maintenance and locomotive manufacturing town after 1840. Never as big as Swindon, the town nevertheless retains a significant amount of railway-built housing. Although the Deviation Works is largely demolished the Gresty Road Works remains in use for railway maintenance. In the 20th century motor manufacturing became a significant employer. Factories were established at Crewe by Rolls Royce, Ellesmere Port by Vauxhall and at Sandbach by Foden. Although the Foden's site has been recently completely demolished the other two sites survive in production.

In terms of utilities the landscape of Cheshire is dominated, literally, by some fine late 19th and 20th century water towers, several of which have been converted into residence as at Congleton and High Legh. There are also a number of mid- to late 19th century water reservoirs for domestic and industrial supply along the western Pennine fringes north of Poynton and east of Macclesfield. Finally, mid-20th century engineering achievements include Fiddlers Ferry power station, which dominates the lower Mersey valley at Warrington and the Daresbury Laboratory for nuclear physics research dominated by its tall concrete testing tower 61m high, built 1974-8. The most famous piece of Cheshire engineering, and one which can be seen from the M6, and the hills to the north and east of Cheshire, is arguably the Jodrell Bank Radio telescope near Lower Withington, built in the years 1952-7.

## MINERALS

### 4.1 ADLINGTON COLLIERY TRAMROAD & WHARF, WOOD LANE

SJ 935 820

Embankment for colliery tramroad running south-east from the colliery site (SJ 935 820) to a wharf on the Macclesfield Canal (SJ 938 817; now next to the Lyme View Marina). The Miners' Arms on Wood Lane North is a reminder of the coal mining activity on this area.

### 4.2 ALDERLEY EDGE COPPER MINES SAM

Extensive surface and subsurface remains covering a square kilometre of the sandstone ridge relating to copper, lead and cobalt ore extraction and processing from the local Bunter and Keuper sandstones. Remains span the Early Bronze Age to the early 20th century. Principle sites west of

Macclesfield Road are West Mine (SJ 849 775) where there was opencast working, now filled in, and a cobalt ore-treatment works and Wood Mine; and east of the road Pillar Mine and Doc Mine near Stormy Point where there are entrances in to the mines visible (SJ 861 778); Church Quarry behind the Wizard Pub with a stone built powder house, the remains of firing channels on the quarry walls and a short gallery that is accessible from the quarry; and Engine Vein Mine (SJ 861 775), where there are four capped shafts and two adit entrance from a long cleft in the rock. The remains of Early Bronze Age pits line the rock face and are visible as curved areas with pecking marks. This mine contains the remains of a Roman period gallery and vertical, square-section, mine shaft, the top of which contained a coinhoard deposited around 337 AD. The Prehistoric and Roman remains are concentrated east of Macclesfield Road. Documented working from the 1690s to 1919.



Macclesfield silk mill owner Charles Roe (who also had a copper works in the town) operated on the Edge from 1755 until 1771 probably around Engine Vein before transferring his interest to Parys Mountain on Anglesey, North Wales. James Mitchell and the Alderley Edge Mining Company exploited West and Wood Mines between 1857 and 1878. Peak output of 15,000 tons of copper per annum. Early 20th century working to extract cobalt ore took place around West Mine. Site in the hands of the National Trust.

#### 4.3 ALVANLEY CLIFF QUARRIES, ALVANLEY

SJ 510 735

Several sandstone quarries with working faces visible. These supplied the stone to build Chester Castle. Now largely covered in trees. Accessible from the nearby Sandstone Trail.

#### 4.4 BICKERTON HILL COPPER MINES

SJ 517 543

Surface earthworks of the shafts and pithead buildings (demolished in the 1930s) for the copper mines, started in 1697. Last worked by Edmund Spargo & Sons of Liverpool in 1906. A stone, square-section engine house chimney, now listed, survives at Gallantry Bank. Nearby the entrance to an adit can be seen.



4.06: Kerridge Hill Quarries; above, looking down the incline under a bridge and left, view from the entrance

#### 4.5 BOLLINGTON LIME KILN

SJ 939 760

LII

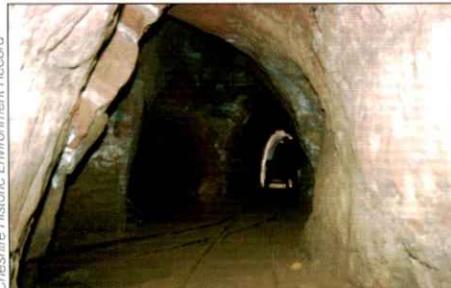
Bottle-shaped late 18th century lime or potash kiln in sandstone rubble and built into the hillside. A rectangular draw hole is accessed from the eastern side of Windmill Lane. The top of the pot is accessed from the hillside.

#### 4.6 KERRIDGE HILL QUARRIES, BOLLINGTON

Centred SJ 940 766

LII

A very important industry in eastern Cheshire in the 18th and 19th centuries, supplying stone for public buildings, churches, industrial buildings, setts, kerb-stones and roof flags. The quarries are located on the western side of Kerridge Hill and run for c.2km south of Bollington. There was a wharf on the eastern side of the Macclesfield Canal (SJ 931 768) from which a tramway, built 1830-4, gave access to the hill. The incline can still be seen running beneath Victoria Bridge on Windmill Lane (SJ 937 767) where it is a public footpath. The incline was powered by a stationary steam engine on the eastern side of the road, although nothing can now be seen. A short distance to the north is a circular stone chimney (now listed), Clayton Tower, with a castellated parapet by the



4.02: Alderley Edge Copper Mines, left, showing the lode, visible at the surface, above, a railway junction at Hough level.

side of the road, which has the appearance of a ventilation shaft. It appears to be a folly built in the 19th century by William Clayton, colliery owner, who built nearby Endon House and Endon Hall. There is still one working quarry.

#### **4.7 LYMM OLD QUARRY**

Centred SJ 679 863

The gorge along Bradley Brook in Lymm was commercially quarried in the 18th and 19th centuries, with stone being used to help built the Bridgewater Canal. Although part of the gorge was dammed for the Lymm Corn Mill (demolished in 1935) remains of sandstone quarry faces can still be seen, as can stone-built houses around the village.

#### **4.8 POYNTON, THE ANSON ENGINE MUSEUM**

SJ 940 836

Built on the site of the Anson Pit. This voluntary-run museum houses a fine collection of stationary steam engines from across Britain. It also holds extensive paper archives of a number of 19th and 20th century engineering companies from North West England. Amongst the displays is a large diorama of the Poynton coalfield.

#### **4.9 POYNTON, LADY'S INCLINE**

SJ 920 839 to SJ 945 834

Standard gauge colliery incline, single track, opened in 1857. It ran from East Yard and its junction with Prince's Incline (see 4.12), to Lord and Lady Pits. By 1872 it had been extended over Worth Clough by bridge, where brick abutments survive, eastwards to Anson Pit and joined the Marple and Macclesfield Railway (opened in 1864) near Nelson Pit. Closed in 1936. Now preserved as a footpath for part of its length.



#### **4.10 POYNTON, LADY PIT PUMPING ENGINE HOUSE, MIDDLEWOOD ROAD**

SJ 930 834

Two storey, brick-built, colliery engine pumping house. Built 1875 and equipped with Big Ned – a Cornish pumping engine, which operated from 1875 until closure in 1935. The adjacent engine winding house survived as a water tower until it was demolished in 1955, and was the last pit to close in the area.

#### **4.11 POYNTON, PETRE BANK COTTAGES, MIDDLEWOOD ROAD**

SJ 933 836

A row of 16 two-storey brick-built cottages with stone sills and lintels, front gardens and rear yards. Central pedimented range with a date stone that reads '1815'. Built by the Warren family to house miners and their families. The local dialect name 'Petre Bank' means 'Pear Tree Bank', and the bank referred to a sand bank behind and to the north of the cottages.

*top, 4.11: Petre Bank  
Cottages  
right, 4.10: Lady Pit  
engine house, Poynton*



right, 4.14: The site of Adelaide Salt Works  
below, 4.15: Chester Lead Works



#### 4.12 POYNTON, PRINCE'S INCLINE

SJ 920 839 to SJ 947 839

The colliery standard gauge railway is now a footpath that can be followed on embankments and cutting from the centre of Poynton (where the East Yard was) in the west to a wharf on the Macclesfield canal in the east. Originally rope-worked it was converted for steam locomotive use in 1889. It passes a single storey brick-built mining office, stables and workshop building for the colliery estate at SJ 929 840. The stone, concrete and brick remains of the western Canal Pit (SJ 946 839) can be seen by the canal. Closed in 1936.

#### 4.13 POYNTON, REFORM PIT WINDING ENGINE HOUSE

SJ 947 831

A two storey brick and stone mid-19th century colliery winding engine house with the remains of a square-section chimney on the northern side. The site was known as Longchimney but since it was converted to a residence it is now known as Hilltop Cottage.

### CHEMICALS

#### 4.14 ADELAIDE SALT WORKS

SJ 671 757

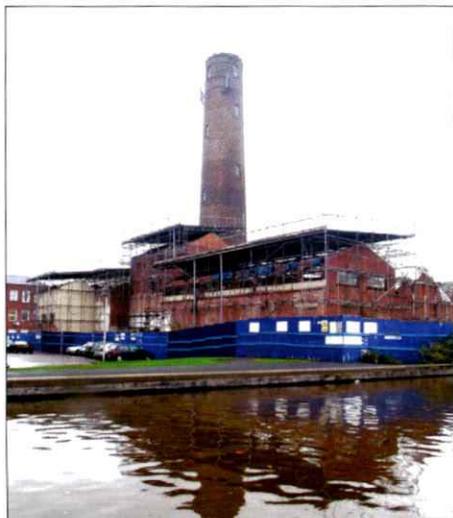
The site of this salt works is marked by a flash, a large open area of water, the result of a collapse of the mine in 1928 due to subsidence. This can be seen on the western side of Ollershaw Lane (B5075) north of the Lion Salt Works.

#### 4.15 CHESTER LEAD WORKS

SJ 415 667

LII

This complex lies on the northern bank of the Chester Canal in the city. Built by Walker Parker & Company of Masborough, near Sheffield, in 1800 to produce lead musket shot for the army during the Napoleonic wars. Used for smelting lead and making lead pipes and shot. The lead originally came from Flintshire. The lead shot tower, brick-built, survives. Process buildings, including a paint mill and red lead ovens, surround its base. The 1783 patent for making lead, which Walkers bought, involved the molten lead passing through a sieve at the top of the tower and falling 150 feet under gravity into a tank of water at the bottom, becoming spherical during the fall. The only remaining historic shot tower in Britain.





4.17: Lion Salt Works; above, an open salt pan, and right, exterior view

#### 4.16 EASTHAM OIL STORAGE DEPORT, THE WIRRAL

SJ 374 796

Built on the western bank of the Manchester Ship Canal in the 1950s, close to the Elizabeth II Dock. The site is dominated by tall, circular, oil stores and stores oil processed at the Stanlow Refinery to which it is connected by a pipeline. Now straddles the border between Chester West and the Wirral.

#### 4.17 LION SALT WORKS, MARSTON LII\* & SAM

SJ 671 754

This complex is the only surviving open-pan salt works in Cheshire. Founded in 1894 by Henry Ingram Thompson, in an area of large numbers of open-pan works, it closed in the 1986. It had four shallow iron pans where brine, pumped from wells on the site, was evaporated by heat from coal-fired furnaces. A pan house, drying room and offices survive. The Trent and Mersey Canal runs along the northern side of the site and the works had its own railway sidings. Underwent extensive restoration between 2013 and 2015. Owned and run by Cheshire West Museums.

#### 4.18 MOBBERLEY, RAJAR PHOTOGRAPHY WORKS

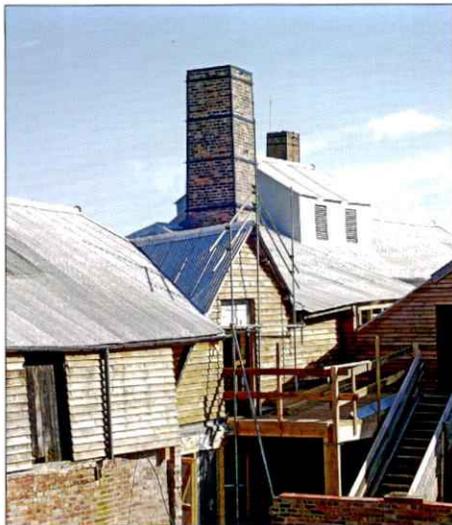
SJ 780 799

Founded by R A Brookes and J A Watson to produce photographic papers and materials, of which the offices survive. Taken over by Ilford in 1928. Produced photographic papers and powders. The original factory production site has been demolished and rebuilt but the offices of 1903 survive on Town Lane, where there is a commemorative tablet.

#### 4.19 STANLOW OIL REFINERY, ELLESMERE PORT

Centred SJ 440 755

First built in 1924 on the southern side of the Manchester Ship Canal, and on the eastern bank



Cheshire-Historic Environment Record

of the River Gow, as a s bitumen plant. Railway station established in 1940. In the 1970s an oil pipeline was built from Amlwch on Anglesey to the refinery, although this was closed in the 1980s. It was replaced by a pipeline from the Tranmere Oil Terminal. One of the largest oil refineries in the UK it can process 12 million tonnes annually and store up to two million tonnes of crude oil and associated products. The site is dominated by large storage tanks, refinery structures and tall chimneys

#### 4.20 WARRINGTON, BANK QUAY FOUNDRY

SJ 598 875

Founded in 1834 the foundry made parts for the Conwy and Britannia (Mena) tubular bridges on the Chester & Holyhead Railway in the 1840s. Currently a long single storey shed with five pitched roofs occupies the site which lies west of the railway in a bend of the River Mersey..

#### 4.21 WARRINGTON, CROSFIELD'S SOAP WORKS

SJ 599 880

The works were started in 1814 by Joseph Crosfield on the site of an iron foundry and wire works. Coal came from the collieries at Haydock and Parr to the north, soda from St Helens and Widnes and salt from central Cheshire. In the 1880s there were 23 soap pans in use. Alkali was manufactured using the Leblanc process. It also produced sodium silicate. From 1907 to 1929 the plant also made cement using waste calcium carbonate from the conversion of sodium carbonate



4.21: Crosfield's Soap Works at Warrington below, 4.22: An air view showing the extent of the West Point Works in Runcorn

to sodium hydroxide. The first transporter bridge was built as part of this development. Taken over by Brunner, Mond & Co Ltd in 1911 and by Lever Brothers Ltd in 1919. Most of the south bank site consisted mainly of oil extraction plant on the west side, and the oil hydrogenation plant on the east side (Vegetable Butter). This was the UK's first plant making margarine from vegetable oils by Sabatier-Senderens hydrogenation process. The current factory dates from the early to mid-20th century.

#### 4.22 RUNCORN, WESTON POINT CHEMICAL WORKS

Centred SJ 500 805

Originally established as the Castner-Kellner Works in 1896 to make caustic soda by the electrolysis of brine. To the north is site of the former Salt Union factory built in 1911 to manufacture salt using the vacuum evaporation process. Both sites were later taken over by ICI and in 2014 were being run by Ineos. The current complex continues to manufacture salt from brine pumped along a pipe from central Cheshire, and manufactures alkalis, chlorine, chlorine compounds and fluorine compounds. Little of either original works survive, and the site is dominated by mid to late 20th century process buildings and chimneys. The former mid-20th century ICI office and laboratories are now the Heath Business and Technical Park.

#### 4.23 WIDNES, CATALYST MUSEUM & SPIKE ISLAND

SJ 512 841

LII

The chemical museum is housed in a Gossage Tower, a square four storey processing structure for manufacturing alkalis built around 1860 by John Hutchinson with offices for his alkali busi-

ness. Later used as the headquarters of Gossage Soap Company. The museum collection concentrates on the salt-based chemical industries of Merseyside, South Lancashire and Cheshire. The social history collection focusses on Runcorn and Widnes.

#### 4.24 WIDNES, SEWER VENT TOWER

SJ 522 865

LII

Built around 1893. This chimney-like structure is a sewer ventilation shaft, built in decorated red brick with a blue brick plinth with a projecting cap and corbel support, approximately 30 feet (9m) high. It is the last survivor of a system of sewer vents whose purpose was to remove the effluent from chemical manufacture.

#### 4.25 WINNINGTON, BRUNNER MOND WORKS

Centred SJ 642 745

Begun in 1873 by John Brunner and Ludwig Mond, this site used the Solvay Ammonia recovery process for the production of soda using the local salt supplies. It became part of ICI in 1926 and is now owned and run by Tata Chemicals. It played



Cheshire Historic Environment Record

a part in developing the manufacture of polythene in the 1930s for use in radar. The remains are extensive and include two large Solvay plants with prominent drying towers at the main works and Wallerscote Works. To the east, opposite the Anderton Boat Lift, survives the soda-crystal plant. South of this are the works offices, Mond House, of two and three stories in brick built in 1899. Remains of the railway sidings can also be seen on the southern side of the complex.

#### 4.26 WINNINGTON MODEL VILLAGE

Centred SJ 648 742

A factory village of two-storey brick-built terraces with front gables, porches, and outdoor privies, and semi-detached houses built between 1875 and 1900 by the Brunner Mond company for its employees. The streets were named after prominent works' personnel, thus: Bond Street (30 terraced houses and five pairs of later 'semis'), Dyar Terrace (row of 11 terraces with 'semis' at the western end), Faraday Road (85 terraces), Henning Street (33 terraces), Solvay Road (113 houses). There is also a row of managers' houses dated 1875. The larger houses along Winnington Lane (8 'semis') and to the south in Appleton Street (31 terraces), Moreton Street (64 terraces) and Moss Road (37 terraces) were added in the 1890s.

#### 4.27 WINSFORD ROCK SALT MINE

SJ 651 684

The oldest working mine in Britain and the last one to work in Cheshire. Opend in 1844. The solid veins of underground rock salt were discovered here in the 17th century. The Triassic rock salt, or halite, at Winsford is arranged in seams some 25m thick, sometimes mixed with bands of Keuper Marl. The two workable seams are 130-220m below the surface, with the purest salt in the deepest part of the seam. Five shafts have been dug on the site and three remain in operation. Each

is topped by a tower clad in metal housing the lifting systems and each has double lifts. Shaft 4 doubles as a ventilation shaft.

#### 4.28 WHEELOCK, ZAN ENTERPRISES

SJ 750 594

A four storey brick building of 12 bays, five deep, with a two storey range of offices adjacent on the northern side of the canal. The site manufactured shoe polish.

### ENGINEERING & UTILITIES

#### 4.29 CHESTER WATER WORKS, TARVIN ROAD, BROUGHTON

SJ 419 666

LII

Brick water tower, boiler house and pumping station, partly disused, built in 1851-53 by F L Bateman, consultant engineer to the Chester Waterworks Company. Tower raised in 1884 and 1913. English bond brick with ashlar and tooled sandstone ashlar dressings, some darker brick dressings, and slate roof coverings to pitched roofs. Powered with a Cornish boiler. Retains diesel engines and pumps.

#### 4.30 CHESTER, WESTMINSTER COACH & MOTOR CAR WORKS, NORTHGATE

SJ 404 664

All that survives of this early motor car works is an elaborate two storey terracotta façade with three arches in striped brick and Ruabon terracotta dated 1914 for the Westminster Coach and Motor Car Works company. However, this is a rebuild of a 1902 structure for the carriage-builders J A Lawton & Co that was burnt down on July 1st 1910. Cars were sold on the site until the 1970s, and a new library was built behind the façade in 1981-4.

46



4.26: Winnington Model Village



4.28: Zan Enterprises, Wheelock



4.30: The decorative façade of an early motor showroom in Chester

#### 4.31 CONGLETON, TOWER HILL WATER TOWER

SJ 848 632

LI I  
Built 1881 by William Blackshaw. Cylindrical in red and yellow brick with bands of blue brick. Of three stages, each with semi-circular headed openings with continuous head bands, arched over openings.

#### 4.32 CREWE, DEVIATION ENGINEERING WORKS, WISTASTON ROAD

SJ 703 555

Built from 1867 inside the loop when Chester & Holyhead line was diverted from the Old works. Long ranges of railway workshops of which two single storey, brick-built, shops and a two storey brick warehouse of the late 19th century are all that survive of this large works on the northern side of the road from the original works. Railway housing of the late 19th century identified by patterned brickwork and pointed gables can be found along the southern side of Wistaston Road.

#### 4.33 CREWE, GRESTDY ROAD WORKS

SJ 709 542

On the eastern side of the Gresty Road are two late 19th century single storey, brick-built, railway engineering shops with roof vents and a three storey brick-built railway works building with tall windows and prominent roof vents, still in railway use. Next door is an engine men's barracks, brick-built, with four storeys and projecting side wings, now occupied by the YMCA.

#### 4.34 CREWE, ROLLS ROYCE/BENTLEY FACTORY

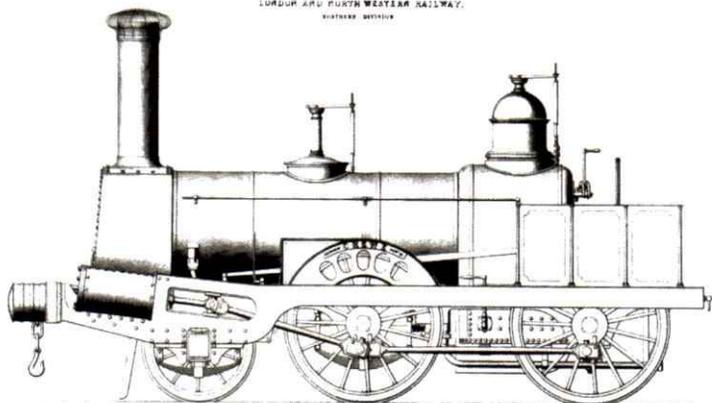
SJ 684 564

Work started on three bays of the main shops in July 1938. Eight bays were completed and a two storey, flat-roofed, art deco-style, main office block (which survives) early in 1939. Sited north of the railway. Altogether there were 35 main sections and the assembly area was 240ft by 30ft. Installation of the machinery was done on a bay-by-bay basis on concrete floors. The first Merlin aero-engine was complete 10 months after



4.33: Railway engineering workshop at Crewe

GOODS-LOCOMOTIVE BY ALEXANDER ALLAN, CREWE,  
FOR THE  
LONDON AND NORTH WESTERN RAILWAY,  
NORTHERN DIVISION



4.33: A Crewe Locomotive of the 1840s:

'GOODS-LOCOMOTIVE BY ALEXANDER ALLAN, CREWE FOR THE LONDON AND NORTH WESTERN RAILWAY, NORTHERN DIVISION'

below, left: 4.37: Fidler's Ferry Power Station below, 4.44: Burgess' engineering works opposite, Knutsford old water tower

the start of operations. In 1946 the factory was switched to the production of Rolls Royce and Bentley cars. In 2002 the business was sold to VW who continue the Bentley line and house a small display of historic marques.

#### 4.35 DISLEY, BOLLINHURST & HORSE COPPICE DAMS

SJ 972 836

Horse Coppice Dam is an earth dam 178m long and 18.3m high built under the terms of the Stockport District Waterworks Act 1863 in Lyme Park. Designed by James Simpson. To the east is the Bollinhurst earth dam, 245m long and 17m high, built around 1873 also under the terms of the Stockport District Waterworks Act 1863. The valve shaft is located in the reservoir and is reached by a long access bridge.

#### 4.36 ELLESMERE PORT, VAUXHALL CAR FACTORY

SJ 380 786

This was a £30 million development in line with regional policy and the first car came off the line in June 1964. The projected workforce was to

be 7,000. Full-height steel-framed workshops were built with brick cladding. By the completion of Phase 3 in 1970 there were 3.75 million sq ft of facilities. Of the three main blocks, two are devoted to sub-assemblies and one to a parts store. The third block contains the body shop and final assembly.

#### 4.37 FIDLER'S FERRY POWER STATION

SJ 543 863

Coal-fired power station located on the north bank of the River Mersey, between Widnes and Warrington. Built 1971-3. Has eight cooling towers 112.8m high, four each side of the turbine hall, plus a 201.2m high central chimney. Four 500MW generating units provide the power station's 2,000MW output. It burns 16,000 tonnes of bituminous coal every day. Operated by Scottish and Southern Energy (SSE).

#### 4.38 FODEN'S WORKS, SANDBACH

SJ 735 611

Begun by Edwin Foden in 1887 to make steam traction engines and steam wagons. Post-1918



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it expanded into van, lorry and the production of tipping bodies of 3 to 6 tons. Overtypes and vertical boilers were both produced. Later models had pneumatic tyres and electric lighting. From 1931 diesel-powered vehicles were produced including PSV types. E.R.F. was an off-shoot of Foden's, known as the Sun Works, and was established by E.R.Foden in 1933 to build diesel engine lorries with Gardner or Rolls Royce engines. Site closed in 1980s and demolished in 2013. Only the brick boundary wall survives. In 1985 a Foden Museum opened in the former sports hall. The pioneer traction engine, steam wagon and diesel lorry once on display are now at the Science Museum in London.

**4.39 HIGH LEGH,  
WATER TOWER, WARRINGTON ROAD**  
SJ 704 834

Octagonal concrete water tower with eight tall pilasters supporting the deep water tank. Built 1938. Converted into a residence.

**4.40 KNUTSFORD, OLD WATER  
TOWER, MOBBERLEY ROAD**  
SJ 757 789

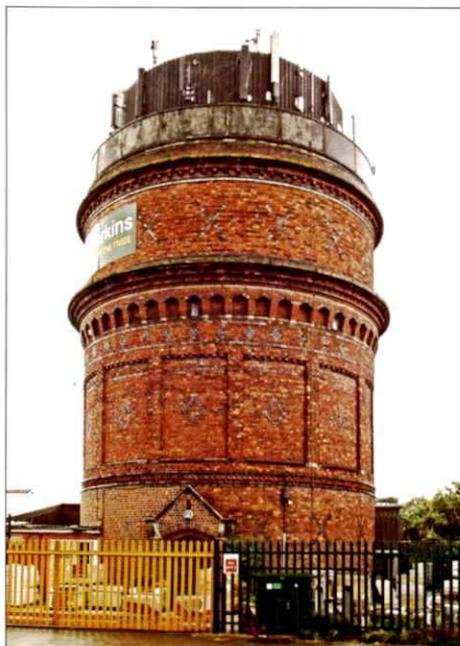
Red-brick round tower. Circular tank supported below a string course by brickwork with tall rectangular panels.

**4.41 LANGLEY, BOTTOMS DAM**  
SJ 944 716

Built in the Bollin Valley under the terms of the Macclesfield Borough Waterworks Act 1849, together with a nearby subsidiary dam. Slightly higher in the valley is the adjoining Teggs Nose Reservoir, built in 1871. The dam is 181m long and 11.6m high. The subsidiary dam is 114m long. Teggs Nose Reservoir is similar in size to Bottoms Reservoir. Bottoms Dam is an earth dam with a shallow impervious puddle clay layer beneath it (the cut-off) to stop seepage through the foundations.

**4.42 LYMM SLITTING MILL, LYMM**  
SJ 682 875

A water powered mill used for slitting wrought iron bars to produce nails recorded in 1720, although the site could be 17th century. Made barrel hoops for a gunpowder factory at Thelwall. It was converted to a woollen textile mill around 1800 but demolished in 1835. Visible remains include the millpond, stone dam, curved weir, wheel pit, and the foundations of the forge, furnace and rolling shops. Excavated between 1968 and 1973 by the Lymm and District Historical Society and the North Cheshire Archaeological Group, and again by Oxford Archaeology in 2005-6.



**4.43 LYMM,  
WATER TOWER, TOWER LANE**

SJ 686 866

LII

Octagonal sandstone tower, 110 feet high with the tank at the top, c. 1880. Converted to a residence.

**4.44 MACCLESFIELD,  
E R BURGESS, LOWE STREETS**  
SJ 919 730

One storey brick-built range with north-light roof of the early 20th century and to the north an earlier two storey brick range. Formerly part of Brunswick Silk Mill. Engineering works and foundry making latterly machines and trays for the baking industry.

**4.45 RUNCORN,  
DARESBUY LABORATORY**

SJ 575 830

Daresbury Laboratory for nuclear physics research was established in 1962 on the eastern bank of the Bridgewater Canal and is now a science business park. The concrete office buildings and laboratories are dominated by the tall concrete tower 61m high, built 1974-8. Closed in 1993 this housed the Van Der Graaf particle accelerator. The form of the tower was dictated by the need to arrange the equipment in a linear sequential fashion, hence the ribbed tower with a drum at the top.

#### 4.46 RUNCORN, NORTON WATER TOWER

SJ 553 816

LII

Red sandstone circular tower 30m high and 25m across. Engineered by George Deacon and Thomas Hawkesley. 650,000 gallon cast iron tank at the top supported by ten pilasters with



4.12: Prince's Incline at Poynton, now a footpath

round-headed arches. Built between 1881 and 1892 on the water pipeline between Lake Vyrnwy in North Wales and Liverpool to act as a balancing reservoir in the process of supplying water to Runcorn and Liverpool.

#### 4.47 SAIGHTON, WATER TOWER, CHAPEL LANE

SJ 442 619

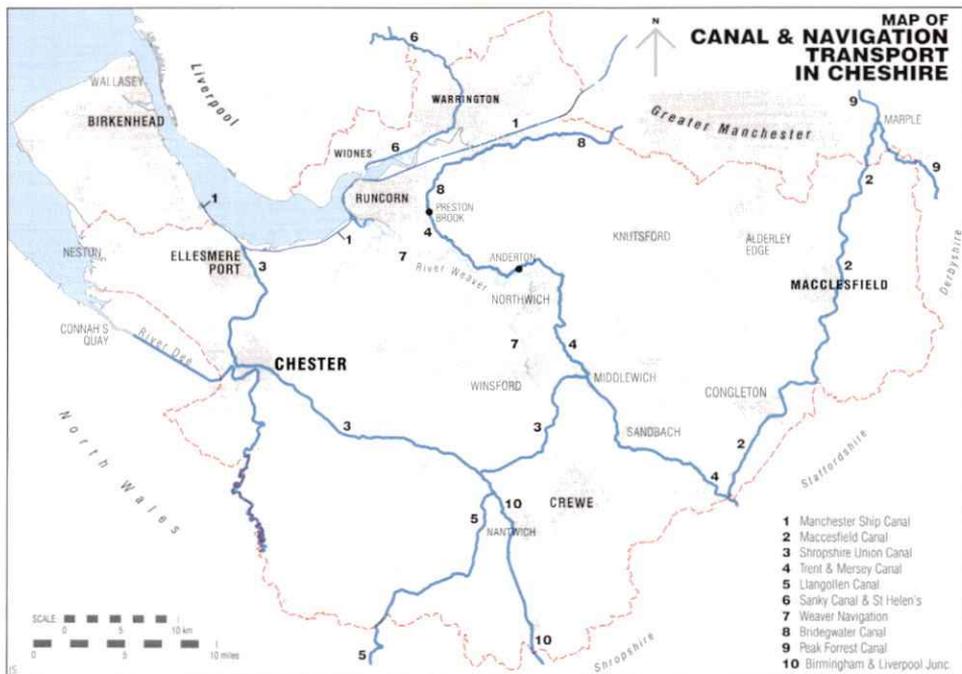
LII

Built 1870. Three stage machicolated tower with battered angle buttresses in red sandstone. Round-headed doorway with hoodmould. Moulded string at first floor and paired loopholes on the second floor.

#### 4.48 WITTINGTON, LOVELL RADIO TELESCOPE, JODRELL BANK

SJ 794 711

Lovell Radio Telescope is a 'new sculpture of wire and welded bits of metal' according to Pevsner. Built in 1952-7 and upgraded several times it has a circular bowl 76m in diameter and supporting lattice triangles 55m high. This is the largest steerable radio telescope in the world.



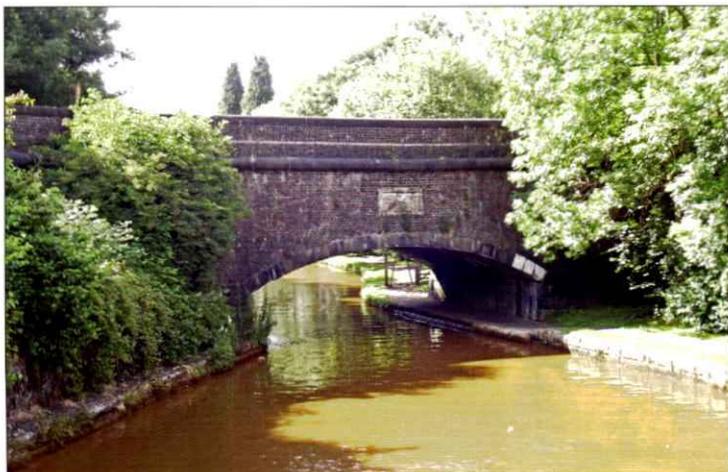
## 5: PORTS, RIVER NAVIGATIONS AND CANALS

Chester has been a port since Roman times and survived in this role until the 19th century. As the Dee started to silt harbour facilities were developed along the Wirral coast to the north-west of the city: Shotwick, Burton, Neston and Parkgate were all short-lived answers to this long-term problem. The New Cut dug in 1737 attempted to improve access to the estuary by diverting the Dee's course west of the city to the Welsh bank of the estuary. In the late 18th century exports included coal, cheese, flax, iron, lead and tallow, whilst hemp was one of the main imports. Ultimately, Chester could not compete with the geographical advantages of Liverpool on the northern side of the Mersey estuary and the failure to stop the silting of the Dee estuary meant that during the 18th century Liverpool became the North West's chief port.

Two transport acts in the 1720s helped to promote industry in the county. The Weaver Navigation improved the course of the River Weaver between Winsford Bridge and Frodsham Bridge under an Act of 1720. The first phase was completed by 1740 with 12 sets of wooden locks. After 1760 the locks were deepened, widened and rebuilt in brick and stone, with further improvements in the mid-19th century and again in the late 19th century when hydraulic swing bridges were installed between Frodsham and Nantwich. These improvements played a major part in the development of Northwich as the commercial centre of the salt industry. The Act for the Mersey and Irwell Navigation was passed in 1721. Eight sets of locks were built between Warrington and Manchester with quays in the two towns and the improvements were completed by 1736. The navigation was further improved in the 1790s with new cuttings and locks helping Warrington to develop as a major port and industrial centre in the 19th century.

The first coal canal of the industrial age was the Sankey Canal. It ran from St Helens south to the Mersey estuary along the western bank of the Sankey Brook. When built in 1757-9 it ran to Great Sankey on the River Mersey but was extended westwards to Fiddlers Ferry in 1762 and again to Spike Island at Widnes in 1833. The section from the Warrington border with Merseyside at Newton-le-Willows, beneath the Sankey viaduct on the Liverpool to Manchester Railway, is now largely dry.

The Bridgewater Canal was the first arterial industrial canal in Britain. The initial stretch, built between 1759 and 1761 by the Duke of Bridgewater, enabled coal to be transported cheaply from the Duke's mines at Worsley to the growing industrial town of Manchester. The c.48km extension of the Bridgewater Canal to Runcorn in 1773 gave access to the sea and stimulated the development of agriculture along its route with wharves at Heatley, Lymm, Preston Brook and Stockton Heath. As a contour canal the main structural features along its length are embankments and aqueducts over river valleys and roads. The two lines of locks at Runcorn were filled in the 1960s although the original 1773 flight can still be traced.



5.75: Pool Lock aqueduct taking the Macclesfield Canal over the Trent & Mersey  
see page 62

The Trent and Mersey Canal was built between 1766 and 1777 by James Brindley and Hugh Henshall. It meets the Bridgewater at the Preston Brook tunnel and close by is the most famous canal monument in Cheshire – the Anderson Boat Lift. This was built in 1875 to haul salt and coal boats between the canal and the Weaver Navigation up the valley escarpment. It replaced earlier coal and salt shuts.

The Shropshire Union began as the Chester Canal in 1779 and initially ran from the River Dee in the city to Ellesmere on the Mersey Estuary, which it reached in 1795. The engineer was William Jessop. In 1801 the River Dee tidal lock was added. A later broad branch, opened in 1833, connected it with the Trent and Mersey at Middlewich, whilst branches linking it to the Birmingham and Liverpool Junction Canal and the Vale of Llangollen and the Pontcysyllte Viaduct over the River Dee were opened in 1835.

The Macclesfield Canal was one of the last narrow canals to be built, opening in 1831. It was built to serve the mills and mines of eastern Cheshire and linked the Peak Forest Canal in the north with the Trent and Mersey in the south. Telford was employed to survey the c.42km route which includes an impressive series of locks and pounds at Bosley. The Kidsgrove junction with the Trent and Mersey Canal is one of the hidden gems of the Cheshire canal network for here is a flyover junction. Crossing the Trent and Mersey on a fine aqueduct close to Red Bull Wharf, it then follows the line of that canal for nearly 1km before meeting it at a stone footbridge. Telford needed to design three sets of new locks on the Trent and Mersey in order to make the two canal levels meet.

The Manchester Ship Canal crosses northern Cheshire and was opened in 1894. It canalised the course of the River Mersey from Warrington to Carrington, and then the River Irwell to Manchester. Its line includes some dramatic industrial structures, including hydraulic swing bridges, high level railway viaducts and high level road suspension bridges. West of Runcorn the ship canal is divided from the estuary by a long embankment to its sea exit at Eastham Locks on the Wirral. The opening of the canal marked the end of the ports at the Runcorn terminus of the Bridgewater Canal and at Warrington. It also cut off Ellesmere Port's direct access to the estuary.

The ship canal thus marked a radical change in the way the waterways of Cheshire functioned in the early 20th century. The decline of canal trade and the conversion of these waterways to leisure use in the mid-20th century completed this change, creating in the process the tourist attraction of the Cheshire Ring: the circular canal route covering central and eastern Cheshire.

## 5.1 NESTON QUAY

SJ 286 767

Built by the city of Chester in the mid-16th century as the New Quay (later known as the old Quay). Abandoned in the late 17th century. Stone wall and steps still visible.

## 5.2 PARKGATE

SJ 277 782

Situated 12km north-west of Chester on the eastern side of the Dee estuary. A mercantile and packet port founded in 1758. The packet plied four times a week to Dublin, Parkgate being one of only two English ports for the Irish capital at

that time. This service ceased in 1830. The port comprised a long sandstone quay (still visible opposite the George Hotel), a customs house and a ferry house. Due to regular sailings the place became a fashionable resort in the 18th century for sea bathing, the facilities including the Mostyn Hotel, later a school, and now converted to apartments, and many 18th century houses and hotels on the front. By 1850 Parkgate had been largely deserted by the sea trade because it had been replaced by ports such as Connahs Quay (1793) and Holyhead in Anglesey, the latter having a direct rail link with Chester.

5.2: Parkgate port opposite, 5.6: Bridgewater House, New Quay, Runcorn far right, 5.8: the original flight of locks on the Bridgewater Canal in Runcorn



## BIRMINGHAM AND LIVERPOOL JUNCTION CANAL

### 5.3 AUDLEM LOCKS

SJ 659 416 to SJ 654 440

A flight of 15 locks along the Birmingham and Liverpool Junction canal covering 2.4km between Kinsell farm and Moss Hall bridge. All brick-built with masonry coping, double lower gates with gate paddles, and single upper gates with ground paddles. Cast-iron mileposts by two locks.

### 5.4 AUDELM WHARF

SJ 658 435

Two-storey, brick-built, lock keeper's houses, jib cranes and a converted canal warehouse, also built in brick.

### 5.5 AUDLEM, WEAVER AQUEDUCT

SJ 653 443

On the Birmingham & Liverpool Junction Canal in Audlem. Single-arch, brick-built, canal bridge built into a long, steep, embankment.

## BRIDGEWATER CANAL

### 5.6 RUNCORN, BRIDGEWATER HOUSE, NEW QUAY

SJ 504 831

LII

Three-storey, double-depth, classical style mansion of c.1772. Twin staircase to stone Doric doorcase with open pediment. Stone bands to first and second floors. Occasional residence of the Duke of Bridgewater and later offices of the Bridgewater Canal. This bustling canal port which saw 100 years of steady expansion was killed off by the building of the Manchester Ship Canal. At its height there were over a dozen buildings from warehouses and offices to clay bins and grain stores. The Old Dock and Old Basin of the 1770s lie to the south-west but were filled in the mid-20th century.



### 5.7 RUNCORN, BRIDGEWATER TIDAL DOCK AND LOCK, NEW QUAY

LII

SJ 504 831

Tidal dock and retaining walls to lock, from 1772. Sandstone blocks with some repairs in brick and concrete. Trapezoidal dock opening originally into the Mersey at its southern end, but now into the Manchester Ship Canal.

### 5.8 RUNCORN, BRIDGEWATER OLD LOCKS

SJ 504 831 to SJ 509 829

The line of the original flight of ten locks in staircase pairs raising 21.3m is now a public footpath. Built 1772-3. The remains of the stone locks can still be seen, as can some of the pounds to the north. The lowest tidal lock into the River Mersey survives (see above). The line of the New Locks, built 1825-27 to the south (SJ 502 829 to SJ 509 829), is now completely removed and built upon.

### 5.9 RUNCORN, BRIDGEWATER FENTON, AND ALFRED DOCKS, NEW QUAY

Centred SJ 500 826

An extension of the Old Basin, Alfred Dock (183m long) was built in 1860 and Fenton Dock (also 183m long) was built in 1875. Both are still in use. The 1.75km-long Runcorn & Weston Canal, built by the Bridgewater Canal in 1853-9, linked the Old Quay docks with the Mersey & Irwell navigation docks at Weston Point from the New Locks. This is filled in except for the southern 700m section to its junction with the Mersey & Irwell Navigation at Weston Point (SJ 494 817 to SJ 495 810).



### 5.10 PRESTON BROOK WHARF

SJ 568 805

At the junction of the Trent and Mersey and the Bridgewater canals. Built c.1830 by the canal company. Three storey brick warehouse 15 bays by 2 bays, aligned lengthwise to the canal, hipped slate roof. Roadside, which has two taking-in doors, has two storeys, but canal side, which has three loading bays with remains of catheads, has three storeys. Loading bay in eastern gable. Rectangular windows with stone sills and ornamental stone lintels, iron frames with small panes. Internally cast iron columns carry the timber floor and the roof has massive beams. Projecting wooden loading bay supported on cast iron pillars on canal front has been rebuilt in timber. Now converted to flats

### 5.11 APPLETON, AQUEDUCT, LUMB BROOK ROAD

SJ 622 860

LII

Aqueduct of 1770 carrying the Bridgewater Canal on a semi-circular segmental arch over a diagonal culvert. Stone-built with red brick lining, slightly concave, with battered abutments.

### 5.12 GRAPPENHALL, STANLEY LUNT ACCESS ROAD BRIDGE

SJ 636 864

A fine late 18th century brick-built access bridge. Humped-back.

### 5.13 GRAPPENHALL AQUEDUCT, HALF ACRE LANE

SJ 654 871

LII

Largely brick aqueduct of 1770 carrying the Bridgewater Canal over the road on a segmental arch. Parapet to the towpath.

### 5.14 STATHAM BARSBANK LANE AQUEDUCT

SJ 673 873

LII

Stone aqueduct of 1770 carrying the Bridgewater Canal on a semi-circular segmental arch over lane. Curved brick parapet.

### 5.15 LYMM, AQUEDUCT, BRIDGEWATER STREET

SJ 682 873

LII

Brick and stone-built segmental arch erected c.1769. Curved and battered stone abutments. A raised pavement under the archway and the roadway runs in a 27m long tunnel.

### 5.16 LYMM, HEATLEY WHARF WAREHOUSE

SJ 705 873

LII

Built c.1870 by the canal company. Three-storey, five bay brick-built warehouse, whitewashed,

pitched roof, three-storey loading opening on east end wall. It has round-headed windows typical of late 18th century warehouses on the Bridgewater.

## CHESTER & ELLESMERE CANAL (NOW SHROPSHIRE UNION)

### 5.17 ELLESMERE PORT

SJ 405 772

The northern terminus of the Chester, later the Shropshire Union Canal, where it descends through broad and narrow locks to link with the River Mersey and the Manchester Ship Canal. Ellesmere Port is a basin which houses stables, workshops, and a foundry. Although Telford's warehouse was destroyed by fire in 1970, other surviving buildings include the large island warehouse with a type 1 internal loading area with a steam engine pump house attached, an iron shed, clay and grain warehouses and the Manchester Ship Canal Offices. The site has been developed as the Boat Museum and the National Canal Archive and is now part of the Waterways Trust. It houses a collection of narrow boats, flats, compartment or box boats, five tugs, wide barges and maintenance craft. There are indoor and outdoor displays with the usual shop, cafe and visitor facilities.

### 5.18 ELLESMERE PORT ISLAND GRAIN WAREHOUSE

SJ 406 773

LII

Built 1871 by the canal company. Island Grain Warehouse is a large rectangular, two storey, brick building with three aisles, 15 bays long, six loading openings on the north-eastern front, main area of the Boat Museum. Brown brick with blue





5.17: Ellesmere Port

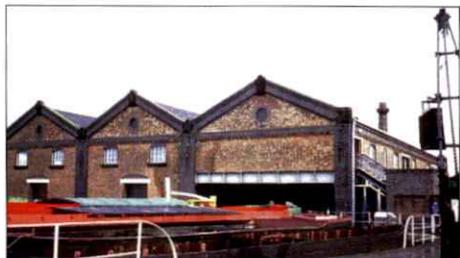
brick projecting piers and bands on the north-west, north-east and south-eastern sides. Grey slate roof with three parallel ridges terminating in gables at the south-east and north-west of the building. The first floor of the south-western bay is carried over a covered loading bay, through which one arm of the canal passes with cast-iron columns supporting walls over the loading bay. Internal floors are supported by cast-iron columns and wooden beams.

### 5.19 ELLESMERE PORT, CHINA CLAY SHED

SJ 405 773

LII

Built 1846 by the canal company. China Clay and Bone Ash Warehouse is built on an island formed by the canal, the basin and an arm of the canal. It has a single storey, double-depth plan with red and blue brick walls and a slate roof. Circular openings filled with cast iron wheel grilles, with radiating spokes on gable pediments. The warehouse was used for the storage of china clay, shipped by coaster from Cornwall, then transported by narrow boat to the Potteries. Bone ash, for bone china, was similarly stored and transported.



### 5.20 CHESTER, DRY DOCK AND BASIN

SJ 399 667

Chester wharf has two canal arms with the dry dock on the western bank of the western arm. Built 1798, single dock with stone stepped sides, and wooden gates at the northern end, covered by a hipped slate roof supported by cast-iron pillars. Taylor's boatyard with a slipway lies to the south of the dry dock and was built and maintained by the Shropshire Union Co for its carrying fleet. The canal is linked to the river Dee by a short arm west of the wharf via a tidal basin so that craft could remain afloat. The original stone lock has been rebuilt. A brick-built roving bridge crosses the eastern arm south of the dry dock and beyond this is a new basin surrounded by apartments. A blue plaque the eastern bridge pier commemorates the canal conservation work of L T C Rolt.

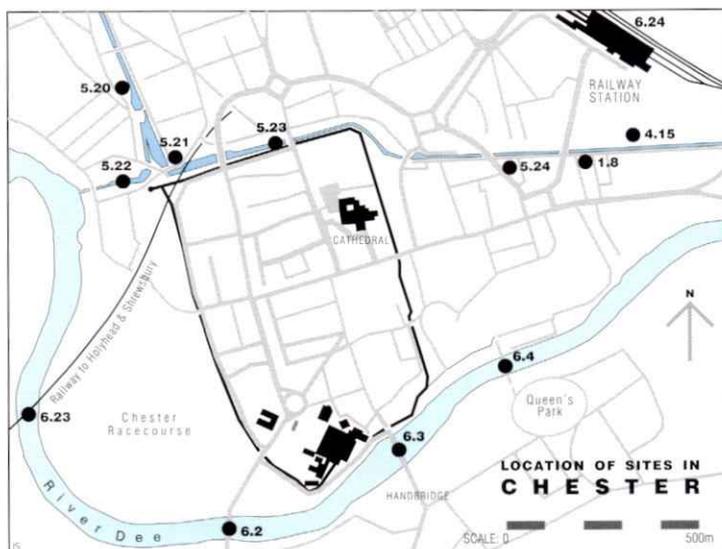
### 5.21 CHESTER, TELFORD'S WAREHOUSE, TOWER WHARF

SJ 401 667

Built c.1830 by the Shropshire Union Canal. Brick-built, warehouse of three bays by nine bays with a hipped, slate roof. Road side is three storeys but



*below, left to right,  
5.16: Heartley Wharf,  
Lymm  
5.18: Warehouses at  
Ellesmere Port  
5.20: Dry dock and basin  
at Chester*



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the canal side (which has stone quoins) is four storeys, the bottom storey being occupied by a boat loading arm which runs past the southern and eastern elevations. It has loading bay doors in the western canal elevation. Originally a rectangular structure, a short western two storey brick wing with a central pediment was later added to the north as canal offices. This runs out over the canal so that the lower level forms an extension of the canal loading arm, which stands on brick arches on stone piers. A packet service formerly conveyed passengers to Ellesmere Port and Liverpool prior to 1840.

### 5.22 CHESTER, NORTH GATE LOCKS

SJ 402 666

Originally a staircase of five locks covering 457m negotiates a change of level. These were reduced to a flight of three locks in the 1790s (nos. 41 to 43). The lock chambers are cut from the natural sandstone and there is a fall of over 30 feet. The double gates have ground paddles except at the bottom gates. There is an iron footbridge at the lower end of each lock. The western end is crossed by the Dee Viaduct.

### 5.23 CHESTER, BRIDGE OF SIGHS

SJ 403 667

The canal passes through a deep sandstone gorge, with the Roman city walls on the southern





above: 5.23: Chester Canal 'Bridge of Sighs' at Northgate, Chester

right: 5.28: Canal Warehouse at Bunbury Wharf

side. A footbridge over the canal provided a route from the city jail to a chapel, where the last rites were performed, whilst a stone road bridge takes the Northgate road across the canal.

#### **5.24 CHESTER, GRIFFIN'S CORN MILL WAREHOUSE**

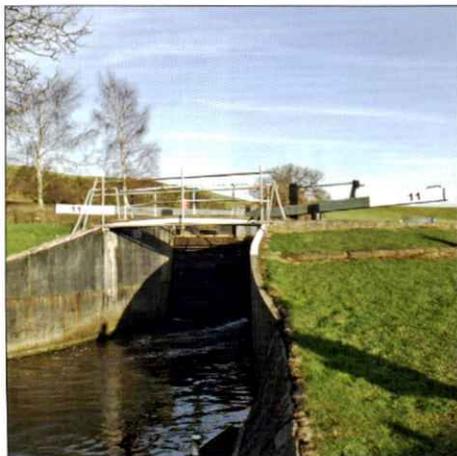
SJ 409 666

On the northern bank of the canal is a corn mill warehouse of c.1830. Brick-built, five stories with attics and seven bays long. Two canal-side loading bays can be seen in the southern elevation. A square-section brick chimney lies behind. This was the site of the Albion Cotton Mill in the early 19th century which closed in the 1820s.

#### **5.25 CHESTER, CHEMISTRY LOCK, JAMIESON CLOSE**

SJ 421 666

Lock No. 39 on the Chester Canal is a stone-built pound lock with a by-pass weir from which the



surplus water passes under the former lockkeepers cottage (two storeys, brick-built). A naphtha factory stood on the southern bank of the canal, hence the name.

#### **5.26 CHESTER, TARVIN LOCK & HUT**

SJ 426 664

A brick- and stone-built pound lock with double wooden gates at either end and cast-iron footbridge at the lower western end. It gives a rise of 8 feet 4 inches and forms No.38 on the Chester Canal. A single-storey circular brick building located next to the lock was a lengthman's hut. It was occupied by the man who looked after this stretch of the canal and the towpath.

#### **5.27 BEESTON IRON LOCK**

SJ 554 599

Lock no. 33 was constructed by Telford in 1827-8. The sides are of cast-iron plates and there are double iron gates at the upper end. The old line of the canal is visible to the north of the lock.

#### **5.28 BUNBURY LOCKS CANAL WAREHOUSE**

SJ 578 590

Built c.1880 by canal company. Two storey, three bays by one bay, machine-brick warehouse in EGW bond. Large central loading bay doors to first and second floors on the northern canal side, with stone steps to first floor. Bull-nosed corners at south-western and south-eastern corners. Single loading bay door on the roadside, southern elevation. Internally the floors are wooden supported by two transverse beams. On southern side of the Shropshire Union Canal by the locks.

5.27: Telford's cast-iron lock No 30, on the Chester Canal at Beeston

## MACCLESFIELD CANAL

### 5.29 ADLINGTON RYLE'S WHARF & BRIDGE

SJ 932 803

Where the Booth Green to Pott Shrigley road crosses the canal is situated Ryle's Wharf. This was a stoneyard served from Brett Quarries near Kerridge. Fine stone road bridge over the canal to the south.

### 5.30 BOLLINGTON PALMERSTON STREET AQUEDUCT

SJ 933 779

Palmerston Street Aqueduct, a tall stone-built single arched structure approached along high embankments. Dates from 1831.

### 5.31 BOLLINGTON GRIMSHAW LANE AQUEDUCT

SJ 930 774

Aqueduct over Grimshaw Lane at SJ 930 774. Dates from 1831.

### 5.32 BOLLINGTON, LOWER HOUSE

SJ 931 769

A dry dock served by a tramway from the Endon and Kerridge Hill quarries. A marina now occupies the site.

### 5.33 MACCLESFIELD WHARF

SJ 924 734

On the western side of the canal is a former coal wharf with a canal office off Union Road. Steam-powered corn mill to the north. Served until 1885 by packet boat to and from Manchester.

### 5.34 CONGLETON, CAST IRON AQUEDUCT

SJ 867 622

One of three cast-iron aqueducts designed by



Thomas Telford in Cheshire. Dates from 1830. Cast-iron arch in six sections, iron trough and railings, five iron plates on each side of the trough.

### 5.35 CONGLETON WHARF

SJ 866 622

Warehouse built c.1831 by canal company. Three-storey, brick-built warehouse, of seven bays by one bay. Square windows with segmental brick arches and stone sills. Pitched slate roof, and central loading openings on the canal front (in bay four). Central loading bay on the road side with a pediment above. Single span with wooden floors supported by posts.



above, 5.29: Road bridge over the Macclesfield Canal  
left, 5.36: The twelve lock flight at Bosley Locks.

### **5.36 BOSLEY LOCKS**

SJ 905 670 to SJ 908 655

This flight of 12 locks descends from the summit level, where there is the Bosley reservoir. They comprise double sets with stone walls, double gates at each end, gate paddles on lower ground gates and ground paddle on the upper gates. Iron footbridges run across the lower ends. Rectangular, stone-built side pounds with overflow weirs were used to conserve the water supply. Nearby is the Dane Aqueduct

### **5.37 NEWBOLD ASTBURY, WATERY LANE AQUEDUCT**

SJ 853 603

Single arch, sandstone structure with curved side walls. The road runs in a tunnel beneath the canal 27m long.

## **MANCHESTER SHIP CANAL**

### **5.38 ELLESMERE EMBANKMENT**

SJ 387 791 to SJ 439 770

Running along the southern bank of the River Mersey to the west and east of Ellesmere Port is an embankment 5,670m long separating it from the Manchester Ship Canal. Two cast-iron syphons 3.7m in diameter allow the River Gowy under the canal (SJ 429 770). At Mount Manisty (SJ 393 789) is an artificial hill formed from the spoil from the canal cutting.

### **5.39 RUNCORN, OLD QUAY LOCK**

SJ 514 833

Lock connecting the Ship Canal with the River Mersey.

### **5.40 RUNCORN OLD QUAY SWING BRIDGE**

SJ 520 832

**LII**

1894 swing bridge. Steel segmented arched riveted structure with lattice parapet, cross braces and bracing across carriageway at high level. Hydraulic system on the south bank buildings including a brick-built engine house with two Crossley diesel engines and pumps, an accumulator tower, and control building.

### **5.41 MOORE LANE SWING BRIDGE**

SJ 578 853

A steel-girder swing bridge, with a brick-built hydraulic engine house, control tower and accumulator tower over the ship canal.

### **5.42 LOWER WALTON, CHESTER ROAD SWING BRIDGE**

SJ 604 861

1894 swing bridge. Steel segmented arched riveted structure with lattice parapet, cross braces

and bracing across carriageway at high level. Hydraulic system on the north bank buildings including a brick-built engine house

### **5.43 WARRINGTON, STOCKTON HEATH SWING BRIDGE**

SJ 614 864

1894 swing bridge. Steel segmented arched riveted structure with lattice parapet, cross braces and bracing across carriageway at high level. Hydraulic system on the north bank buildings including a brick-built engine house

### **5.44 WARRINGTON, KNUTSFORD SWING BRIDGE**

SJ 629 870

1894 swing bridge. Steel segmented arched riveted structure with lattice parapet, cross braces and bracing across carriageway at high level. Hydraulic system on the north bank buildings including a brick-built engine house

### **5.45 WARRINGTON, LATCHFORD LOCKS**

SJ 637 873

Large lock of 183m by 20m and a second smaller lock of 107m by 14m. Gates are operated hydraulically from a control tower and accumulator tower by the southern lock.

## **MERSEY & IRWELL NAVIGATION**

### **5.46 RUNCORN, OLD QUAY**

SJ 514 832

Developed in the early 19th century at western end of the Runcorn & Latchford Canal (opened in 1804 and now mostly lost). This lay on the southern bank of the River Mersey, east of the current road and rail bridges across the river. Once a focus for shipbuilding and maintenance, the tidal lock and old basin of 1804, tidal basin (1822-6), lower basin (1822-6) and graving dock (1870s) have been filled and built upon by apartments. Part of the stone-built entrance to the western dock survives.

### **5.47 BIRCH WOOD, RUNCORN & LATCHFORD CANAL**

SJ 563 849 to SJ 596 865

Opened in 1804 as a short-cut to Warrington, the canal ran along the southern bank of the Mersey from the Old Quay in Runcorn to Latchford, south of Warrington, where it re-joined the river. Most of the line was destroyed with the building of the Manchester Ship Canal, but stretches in water and as earthworks survive across Morton Marsh north of Moore and Higher Walton.



#### **5.48 WARRINGTON, HOWLEY QUAY**

SJ 617 882

Developed in the early 19th century on the northern bank of the river east of the town centre. A single ruinous brick warehouse of the 19th century, later converted into a garage, survives.

#### **5.49 WOOLSTON NEW CUT**

SJ 654 888 to SJ 628 888

Completed in 1821, and 2.4km long, now filled in and used as a footpath. Brick sidewalls visible. Remains of Paddington Lock and Martinscroft Lock at either end of the cut.

#### **5.50 BUTCHERSFIELD CANAL**

SJ 676 891 to SJ 681 889

329m long cut, now on the northern side of the Manchester Ship Canal but still in water. Built in the 1760s to by-pass a triple bend in the river. Entered through a pair of locks at the western end. Later cut of the 1820s to the west.

### **SANKY CANAL**

#### **5.51 WINWICK QUAY**

SJ 595 918

Dry dock with stepped sandstone walls on the west bank of the canal.

#### **5.52 BEWSEY LOCK**

SJ 593 897

Abandoned 1750s lock with masonry sides, recesses and anchors for gate pivots, iron bollards. Now crossed by a wooden swing bridge with iron bracing.

#### **5.53 GREAT SANKEY BRIDGES**

SJ 585 876

The original 1759 terminus of the canal where it joined the Sankey Brook c.700m north of the River Mersey. The industrial activity in this area focussed on boat building, rope making, coal wharves and lime kilns though there is now very little to see. There are a number of swing bridges along the line in this area.

5.55: Mersey Locks on the Sankey Canal

#### **5.54 FIDDLERS FERRY LOCK**

SJ 561 865

1761 lock connecting the canal with the River Mersey. Stone side walls and double gates. Iron road bridge at northern end.

#### **5.55 WIDNES, MERSEY LOCKS & OLD DOCK (LII)**

SJ 513 842

East lock with restored gates, one of pair of locks where the Sankey Canal joins the River Mersey at Spike Island built in 1833 with later alterations and repairs. The locks control a difference in water level of 3.6m between canal and river level. Constructed of large timber with massive posts and rails. Old Dock for vessels of up to 300 tons, also of 1833, lies immediately to the east.

### **SHROPSHIRE UNION & LLANGOLLEN CANAL**

#### **5.56 WARDLE, BARBRIDGE CANAL JUNCTION**

SJ 613 570

This is where the Middlewich branch (opened 1833) and the original Chester Canal meet the main line of the Shropshire Union Canal. There is a very fine stone-built roving bridge, of curved plan, over the Middlewich branch just where it joins the main line.

#### **5.57 HURLESTON JUNCTION**

SJ 627 553

This is the junction of the main line of the Shropshire Union canal with the Llangollen branch, the latter being opened in 1805. There is a flight of four locks west of the junction.

#### **5.58 NANTWICH BASIN**

SJ 639 528

On the southern side of the canal. There is a brick-built tollhouse and a wharf cottage. There is also a single-arched brick-built humped bridge with iron rubbing posts.

#### **5.59 NANTWICH CAST IRON AQUEDUCT**

SJ 643 526

One of three cast-iron aqueducts designed by Thomas Telford in Cheshire. Carries the canal over the road between Nantwich and Chester. Span of 8.8m and headroom of 4.6m. Each side of the aqueduct is constructed of 1.8m square flanged cast-iron plates bolted together. Six cast-iron arches with curved brick side walls and sandstone piers. There are cast-iron railings 4m high. Dates from 1830.



### 5.60 MIDDLEWICH, NEWTON AQUEDUCTS

SJ 697 658

This blue-brick single arch aqueduct carries the canal over the A530 west of the town and then after an embankment of c.100m to the west a second aqueduct carries the canal over the River Wheelock.

### 5.61 WHELOCK WHARF WAREHOUSES

SJ 750 592

Two canal warehouses either side of the road bridge. Three storey brick-built warehouse on the southern side of the Trent and Mersey Canal, west of the road bridge, with blocked loading doors on the canal side. East of the bridge there is a combined three storey brick-built house and warehouse with several taking-in doors.

## TRENT & MERSEY CANAL

### 5.62 PRESTON BROOK TUNNEL

SJ 574 788 to SJ 570 799

1,133m long with no towpath. Partly rock-cut and partly brick-lined. Opened in 1777. The northern end of the tunnel marks the junction with the Bridgewater canal and here lies Preston Brook Wharf.

### 5.63 BARTON TUNNEL

SJ 624 753 to SJ 628 752

523m long. No towpath. Opened in 1777.

### 5.64 BARNTON, SALTERSFORD TUNNEL

SJ 629 748 to SJ 635 747

387m long. No towpath. Opened in 1777.

### 5.65 BARNTON, MILEPOST TO REAR OF NOS. 32-34 RUNCORN ROAD

SJ 637 747

Cast iron canal milepost painted black and white. Dated "R & D Stone 1819" on the shaft. Circular post with moulded head and embossed letters

LII

### 5.61: Wheelock Wharf, Shropshire Union Canal

on two convex tablets below: "Shardlow 86 miles" and "Preston Brook 6 miles".

### 5.66 MIDDLEWICH LOCKS

SJ 707 666

A flight of three locks. Stone built each with wooden lock-end bridges. There is a stone-built dry dock off the middle lock.

### 5.67 MIDDLEWHICH WHARF

SJ 705 662

Here is a brick-built canal warehouse of c.1870 by the Trent & Mersey Cana Company. Three-storey, brick-built, warehouse, whitewashed, pitched roof, three-storey loading opening on east end wall.

### 5.68 MIDDLEWICH JUNCTION

SJ 707 656

This marks the junction of the Trent & Mersey and the Middlewich branch of the Shropshire Union Canal opened in 1833. The stone-built Kings Lock lies to the south of the junction, whilst to the west is Wardle Lock where there is a stone footbridge with a date of 1829.

### 5.69 WHELOCK LOCKS

SJ 751 593

Two sets of double locks with brick walls and double wooden gates. Footbridge on cast-iron brackets at the lower ends

### 5.70 BETCHON LOCKS

SJ 777 584 to SJ 761 592

Series of double locks between Hassall and Malkins Bank. The double gates have gate paddles at the lower end. With ground paddles at the upper end. Brick sides and masonry copings. Footbridge on cast-iron brackets at the lower ends.

### 5.71 BETCHON, CHELLSHILL AQUEDUCT

SJ 796 579

Single arch, brick-built aqueduct over the road with curved sides and stone quoins to the arch.

### 5.72 RODE HEATH, THURLWOOD LOCKS

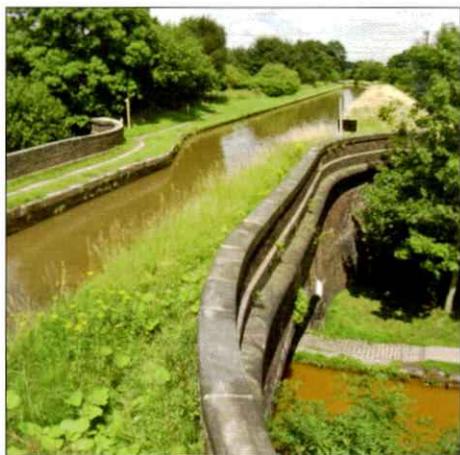
SJ 801 576

Two sets of double locks with brick sides and masonry coping. Double gates at lower end and single gates at the upper end.

### 5.73 ALSAGER, SNAPE'S AQUEDUCT

SJ 810 565

Single arch, brick and stone aqueduct. Curved plan with brick buttresses on the northern side. Carries the canal over the old line of the A50 east of the 21st century road alignment.



### 5.74 CHURCH LAWTON, RED BULL WHARF

SJ 828 551

The wharf lies at the junction of the Hall Green Branch of the Trent & Mersey opened in 1831 to join the Macclesfield Canal. The warehouse was built c.1850 by the canal company. Three-storey, five bays by one bay. Square windows with segmented brick arches and stone sills. Inside is a King post supporting a pitched roof. Separate crane on the canal tow path. Recently restored as offices for the Waterways Board.

### 5.75 CHURCH LAWTON, POOL LOCK AQUEDUCT & CANAL JUNCTION LII

SJ 830 549

This marks the junction of the Hall Green Branch of the Macclesfield Canal and the Trent & Mersey and Cheshire's border with Staffordshire. The Hall Green Branch crosses the Trent and Mersey on a brick- and stone-built aqueduct of curved plan.



above, 5.78: Swingbridge control tower on the Weaver Navigation at Sutton

left, 5.75: Macclesfield Canal crossing the Trent & Mersey Canal

The aqueduct has the following inscription 'Pool Lock Aqueduct MDCCCXXVIII'. This crosses west of the Red Bull double locks, No. 42. East of the aqueduct the two canals run side-by-side for c.400m to the east before meeting at Harding's Wood, east of another set of double locks (No. 43). This was an area of intensive industrial activities with lime kilns and a foundry on the northern bank of the Trent & Mersey, and coal pits on the southern bank.

## WEAVER NAVIGATION

### 5.76 RUNCORN, WESTON POINT DOCKS

Centred SJ 494 817

Developed at the northern end of the River Weaver Canal (SJ 514 797 to SJ 495 810), opened in 1810. The canal line is still in water and ends at the north with the docks. These include the northern-most, Delamere Dock (1865-70 and which has a connection to the Manchester Ship Canal), the middle



5.77: Frodsham Quay

Tollemache Dock (built 1885 now merged with the Delamere), and the southern Old Basin (274m long with remains of entrance lock to the Mersey at the north). The New Basin of 1850-56 to the west is now filled.

### **5.77 FRODSHAM QUAY**

SJ 531 784

To the south of the railway viaduct on the eastern bank lies a quay with a series of brick-built one and two storey warehouses. Former ship building yard and slate wharf.

### **5.78 SUTTON, WEAVER SWING BRIDGE**

SJ 534 788

The lowest swing road bridge on the Weaver Navigation built to the design of Eric Leader Williams. All-steel construction with a single arched span pivoted on a central set of rollers. The original wooden, single-storey, control room survives. Other swing road bridges of a similar style can be found at Nantwich, Northwich and Winnington. The Northwich examples swing from one end.

### **5.79 DUTTON LOCKS**

SJ 587 769

One of the original 18th century wooden lock sites on the navigation. Doubled in the 1830s and rebuilt in the late 19th century. Brick and stone with double wooden gates.

### **5.80 ACTON SWING BRIDGE LII**

SJ 601 761

LII

Electrically operated swing bridge carrying the A49 over the Weaver Navigation. Built in 1932. Pivoted in the centre, single steel lattice arch.

### **5.81 ANDERTON BOAT LIFT (LI)**

SJ 647 753

LI

One the most striking monuments on the British Canal network, and inspiration for the Falkirk

Wheel (built 2002) that links the Forth & Clyde Canal and the Union Canals. First phase built 1872-5 by the Weaver Navigation to link the Navigation with the Trent & Mersey Canal on the eastern bank of the Weaver and so increase the transshipment of coal and salt. Designed by Edwin Clark of Clark Stansfield & Clark of Westminster. Operated hydraulically with two wrought-iron caissons working side by side within an iron framework, the iron rams moving vertically. Lifts boats 15.2m (50 ft). Each caisson weighs 240 tons with water and the lift works by removing water from the lower caisson. Converted to electric drive in a second phase of works in the years 1903 to 1908 which saw the removal of the rams, and the installation of a new framework, pulleys and counterweights. A wrought iron aqueduct 50m (162ft) long connects the top of the lift with canal to the east. Before 1872 the Navigation and the canal were linked by a tramroad and vertical chutes along the terrace edge. These were excavated in the 1990s.

### **5.82 NORTHWICH, TOWN BRIDGE**

SJ 657 737

Crosses the Navigation west of the town centre. Arched, steel girder swingbridge built in 1899. Electrically driven turning on roller bearings. Timber control house with slate roof on the north-western side. Designed by J A Saner, engineer to the Navigation and built by Handyside of Derby. The Navigation meets the River Dane in a wide basin south of the bridge.

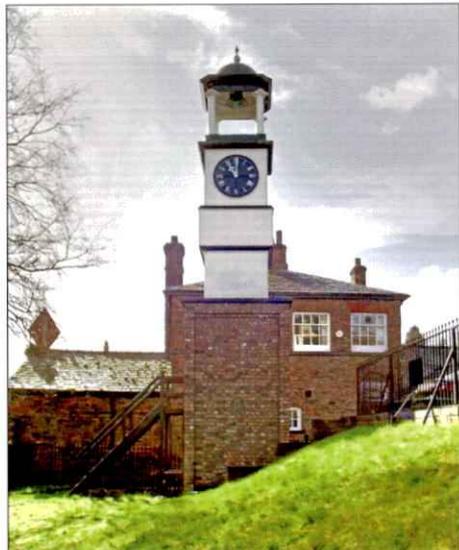
### **5.83 NORTHWICH, HAYHURST SWING BRIDGE**

SJ 656 738

Arched, steel girder swingbridge built in 1898, a year earlier than Town Bridge, now carrying Chester Way. Electrically driven turning on roller bearings. Timber control house with slate roof and iron road gates lies at the western end.



5.83: Hayhurst Swing Bridge on the Weaver Navigation



5.84: Clocktower and Offices of the Weaver Navigation

### 5.84 NORTHWICH WHARF & WEAVER NAVIGATION OFFICES

SJ 656 735

LII

The former headquarters of the Weaver Navigation on Navigation Road is still used by British Waterways Trust. One- and two-storey, five bay, brick-building (offices and counting house) with a pediment and hipped roof, Built in 1826. To the east is a tall clock tower which has a cupola built in 1830. Opposite is a row of possible navigation housing – Cephos Terrace, a row of seven houses built in 1857. A boat maintenance yard



5.85: Northwich, Castle Dockyard

survives south of the offices and contains a quay, two long single storey warehouse, weighbridge and cranes.

### 5.85 NORTHWICH CASTLE DOCKYARD

SJ 656 732

Boatyard on the eastern side of Navigation Road behind mid-20th century workshops and Navigation House. 19th century dock on the western bank of the navigation still in use for boat maintenance.

### 5.86 NORTHWICH, HUNT'S LOCKS

SJ 656 729

South of the town centre is a large double lock 85m long with masonry side walls, capstans for operating the wooden gates by a chain drive and windlass for the ground paddles. A single storey brick-built tollhouse and a two-storey brick lock keepers cottage survive on the eastern bank. The old river course lies to the east, where the Hunt's Lock Sluice, stone-built, can be seen just north of the railway viaduct. On the island is a dry dock. On the eastern bank is the Dock Road Pumping Station. The old river course is crossed by an iron swing footbridge south of the viaduct.

### 5.86 NORTHWICH, DOCK ROAD PUMPING STATION

SJ 657 732

Octagonal, brick-built, single storey pumping station with crenallations surrounding a flat roof; early 20th century. Tall, round-headed, windows. On the eastern side of the old course of the River Weaver.

### 5.87 DAVENHAM, VALE ROYAL LOCKS

SJ 640 704

Double locks of the late 19th century, 67m long replaced earlier locks of 1778 and before that 1732.

### 5.88 WINSFORD, NEW BRIDGE

SJ 652 687

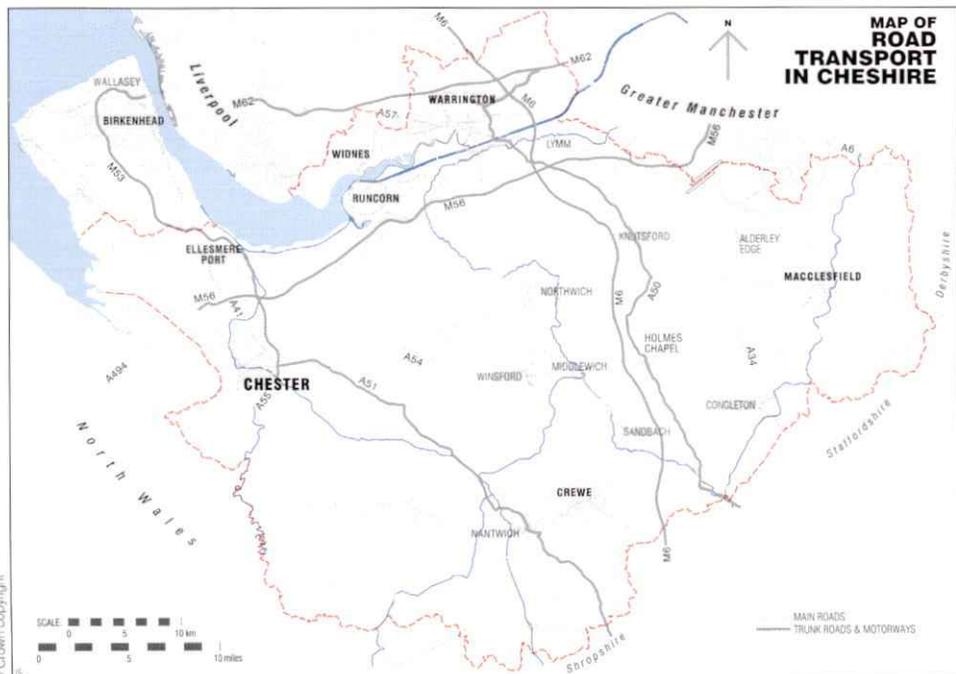
Iron swing bridge of 1897 between the west bank and the lock island. Turns on roller bearings on a circular track. Operated by a capstan-driven shaft and cogwheel gearing. Small brick control house.

## 6: ROADS, RAILWAYS AND AIR

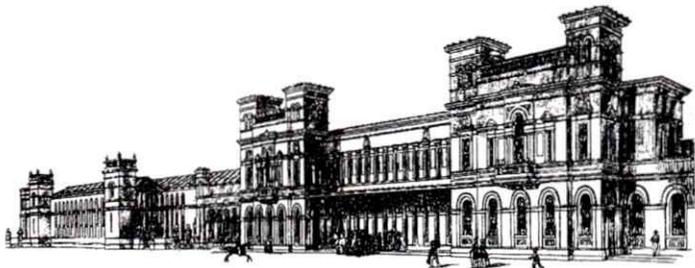
The road and rail industrial archaeology of Cheshire reflects its role as a geographical crossroads. The earliest bridge in Cheshire still in use is the medieval Dee Bridge in Chester, whilst late medieval salt routes radiate from the Weaver Valley, although these only survive as place-names. However, it wasn't until the 18th century that the road network was substantially improved. The earliest Turnpike Trust was a short length on the Chester to Whitchurch Road in 1705. This was followed by the Buxton to Manchester road through Disley in 1724, Church Lawton to Cranage in 1734 and Nantwich to Chester in 1743. This network was mostly complete by 1820, with two major types of route. Through-routes from London to Chester and North Wales, Manchester and Warrington and local routes for carriers, merchants and passengers with Chester in particular acting as a transport hub and others including Congleton, Macclesfield, Middlewich, Nantwich, Northwich and Warrington. In other words, the emerging 18th century industrial centres of Cheshire were a major driver of these transport developments.

The physical remains of this network are limited by constant rebuilding in the late 19th and 20th centuries. Bridges survive in numbers, such as the single-span Grosvenor Bridge over the Dee west of Chester castle, the stone bridge over the Weaver at Winnington, or the cast-iron road bridge over the Mersey in Warrington. Late 19th and early 20th century road structures can be seen along the line of the Manchester Ship Canal, and the transporter bridge at Warrington is a lucky and breath-taking survival – unlike its lost bigger brother at Runcorn. The long steel arch of the mid-20th century Widnes to Runcorn road-bridge is, though, a reminder of the grandeur of this river crossing. Yet turnpike booths, as at Delamere and Sutton, are much rarer, whilst cuttings and embankments are harder to find due to the frequent rebuilding. The most common industrial monument along the road network is the more than 100 stone and cast-iron roadside distance markers, such as mileposts, milestones and fingerpost signs.

Initially, in the 1830s and 1840s the railway merely traversed Cheshire, rather like the major turnpike routes. Later in the 19th century the county developed commuter zones for Liverpool to the north-west



6.24: Chester Station,  
Francis Thompson,  
architect, 1848



and Manchester to the north-east. As Chester was the major city in the county it has a station worthy of its status, but elsewhere the best station architecture is to be found along the rural railway lines. Crewe, despite owing its existence to the railways, has a set of late 19th century station buildings, now masked by 20th century changes. There are also several signal boxes surviving along the county's railway network.

Ignoring the Liverpool to Manchester Railway, which only brushes the northern edge of the region, admittedly on the impressive Sankey Viaduct, the earliest railway through the area was the Grand Junction Railway (GJR). This was built to link Birmingham with the Liverpool to Manchester Railway north of Warrington and was opened in 1837. Its north-south route through Cheshire took it through Crewe which was developed by the company as a railway town. The GJR built engineering works here between 1840 and 1843, and later workers' housing. It became an important junction where four railways met: the Grand Junction Railway (1837), the Chester & Crewe Railway (C&CR, 1840), the Manchester & Birmingham Railway (M&BR, 1842), and the North Staffordshire Railway (NSR, 1858). The London & North Western Railway (LNWR) formed in 1846 took over the GJR, M&BR and the C&CR, amongst others, turning the line from Crewe to Warrington into part of the main west coast route from London to Glasgow.

Remains of a number of colliery tramways and later standard gauge railways can still be seen at Poynton. These, though, did not begin to develop until the 1830s and were linked to the main line system after 1845.

The development of a commuter network of railways began in the late 1840s. Lines linked Altrincham and Stockport (both no longer in the county) with Manchester in the 1840s and 1850s, whilst Chester was connected to Birkenhead and Liverpool in the 1850s and 1860s. The main east-west route through the county was the Altrincham to Chester line, opened in 1863 by the Cheshire Lines Committee. This was a joint undertaking of the Manchester, Sheffield and Lincolnshire Railway, Great Northern Railway and the Midland Railway.

The great river valleys of the Bollin, Dee, Gowy, Mersey, and Weaver all had to be crossed by long embankments and tall viaducts. Thus, the county had some spectacular early railway bridges from the 1830s and 1840s in both stone and brick. It also has a group of later railway viaducts of the early 1890s when the building of the Manchester Ship Canal led to major rebuilding work on the lines crossing the new canal, particularly to the south of Warrington.

Cheshire was peripheral to the 20th century development of air travel. Hooton Park Aerodrome north of Chester near Ellesmere Port, but now on the Wirral border, was developed during the First World War. After 1918 it served as Liverpool's airport until Speke opened in 1933. Though closed in 1957 an early hangar survives on the site. Manchester Airport straddles the modern border between East Cheshire and the city, and although the site goes back to the 1930s only the second runway built in the 1990s is now in Cheshire. Broughton Aerodrome in Hawarden west of Chester is just over the border in North Wales. It dates to the Second World War and is now an aircraft production site, building wings for the Airbus series. Woodford Aerodrome is another site now straddling a border, in this case between East Cheshire and Stockport. Begun in 1924, the site manufactured and maintained planes until 2011, but continues to house a heritage centre telling the story of the AVRO and Hawker

### 6.1 ALDFORD, EATON HALL IRON BRIDGE

SJ 417 601

Thomas Telford-style iron bridge with lozenge-shaped lattice-spandrels. Crosses the River Dee on the Duke of Westminster's estate, for whom it was built in 1824 close to the old ford. 46m span and 5.2m wide carriageway consisting of four L-section ribs cast in several sections. Bridge has the cast-iron names of the following engineers: William Crosley (surveyor), William Stuttle (clerk of works), William Stuttle Jnr (founder) and William Hazledine (contractor). On private land.

### 6.2 CHESTER, GROSVENOR BRIDGE

SJ 401 655

Single-span masonry road bridge that rises 12.6m above the River Dee west of Chester Castle. 200 feet (60m) long, carriageway 24 feet (7.2m) wide. Designed by Thomas Harrison and built in the years 1827-34. Stone from the Peckforton area. At the northern end of the bridge lies the remains of a small hydro-electric power station by the City in 1913 on the site of a medieval cornmill. Two arched openings for the turbines can still be seen on the river bank.

### 6.3 CHESTER OLD DEE BRIDGE

SJ 406 657

Masonry bridge of the 14th century built by Henry de Snedleston, mason and surveyor to Edward the Black Prince over the River Dee. Five arches springing from piers with broad cutwaters. Eastern footway added in 1826.

### 6.4 CHESTER, QUEENS PARK SUSPENSION BRIDGE

SJ 410 660

Original suspension bridge of 1860 was rebuilt by the City in 1923 with two steel ropes supported the deck, each anchored to rock. Links the city with Victorian suburb of Queen's Park south of the river.

### 6.5 DELAMERE TOLLHOUSE

SJ 541 687

On the Chester-Northwich turnpike east of Kelsall. A single storey, brick, Gothic-style, building with three bays, a hipped slate roof, and two chimney stacks. Early 19th century.

### 6.6 FRODSHAM BRIDGE

SJ 530 784

19th century road bridge where the A50 crosses the River Weaver. Sandstone with three segmental arches.

### 6.7 LYME GREEN, ROBIN LANE TOLLHOUSE

SJ 916 707

Single-storey, brick-built, hexagonal tollhouse with hipped roof and ridge chimney. Early 19th century with later single-storey extension to the east. At the junction of Robin Lane on the eastern side of the A523.

### 6.8 LYMM, ROAD MILEPOST, BOOTH'S HILL ROAD

SJ 671 870

LII

Cast-iron with plate with a convex top between raised shoulders and a central column of placenames with a mileage column to each side: '16 to Stockport 16; 7 to Altrincham 7; 4 to Warrington 4; 15 to Manchester 15'. Cast on the stem is the maker's name Bellhouse; the address and design number could not be read. A milepost of the former turnpike from Warrington to Altrincham, opened in 1821.

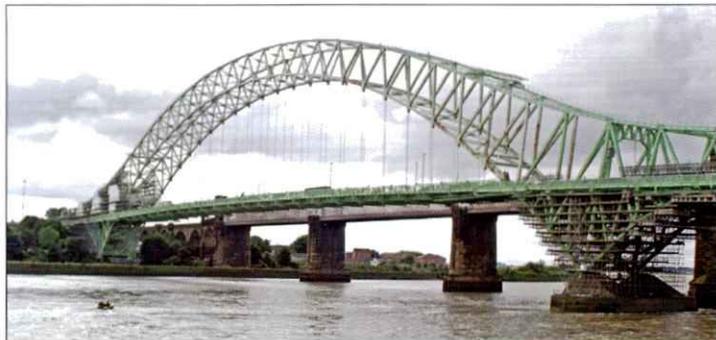
### 6.9 MACCLESFIELD, GARAGE & WORKSHOPS, BUXTON ROAD

SJ 924 734

1930s motor garage showroom on southern side of the canal. Single-storey showroom with clock tower, brick-built but rendered and all in Art Deco style. Later mid-20th century workshops to the rear (south) on Union Road.



6.9: Motor showrooms  
and later workshops in  
Macclesfield



6.10: Runcorn Road Bridge below, 6.18: Road bridge at Warrington

### 6.10 RUNCORN ROAD BRIDGE

SJ 508 835

LII\*

Skewed steel-arched bridge crossing the Manchester Ship Canal, 22.9m high and 76.2m long. Main span of Runcorn Bridge is the longest steel arch in Britain, at 330m. Deck is of reinforced concrete supported on steel beams, suspended from the arch by 48 wire ropes set at 12m intervals. Renamed the Silver Jubilee Bridge in 1977, this bridge replaced a transporter bridge of 1905 on the site. Used by A533 to link Runcorn and Widnes. Built by Mott Hay & Anderson 1956-1961.

### 6.11 WALTON, CANAL ROAD BRIDGE CHESTER ROAD (LII)

SJ 587 847

Brick-built road bridge with stone dressings. Single arch with curved abutments over the Bridgewater Canal, built in 1770.

### 6.12 WALTON, LEA CANAL BRIDGE

SJ 600 851

LII

Brick-built road bridge with stone dressings. Single arch with quadrant abutments over the Bridgewater Canal, built in 1770.

### 6.13 WARRINGTON BRIDGE

SJ 606 878

Sixth bridge on this site over the Mersey at Warrington, which is still tidal at this point. First British bridge to commence construction that incorporated reinforced concrete hinges in its design. Built by Alfred Thorne & Sons and Considered Constructions Ltd 1909 to 1915, 134 feet (40.2m) long reinforced concrete parabolic ribs, carriageway 80 feet (24m) wide built in two sections

### 6.14 WARRINGTON, CROSFIELD'S TRANSPORTER BRIDGE

SJ 597 877

LII

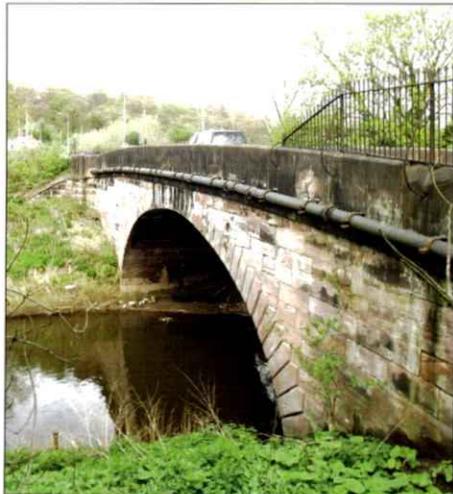
One of only three remaining transport bridges in Britain. Built to transport chemicals and goods

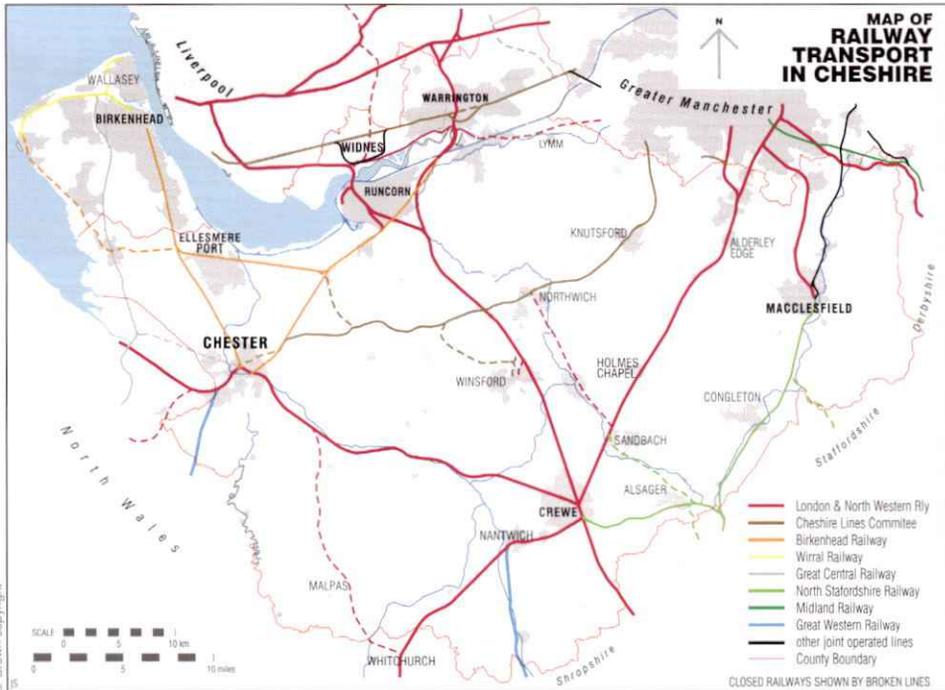
between the west and east Crofield Chemical Works. Built 1914-15 by William Henry Hunter, replacing a 1907 transporter bridge. 30 feet (9m) wide with 22.8m clearance. Bridge's towers on both banks built on mass concrete cellular caissons. Double steel cantilevers on each tower support a central 200 feet (60m) span of riveted mild steel plates and angle iron. The travelling car, or platform, was originally built for rail traffic of up to 18 tons, but it was modified in 1940 so that it could also take road traffic. In 1950, the bridge's load-carrying capacity was increased to 30 tons and the overall length of the structure was increased to 102m.

### 6.15 WARRINGTON, ACKERS ROAD BRIDGE

SJ 623 868

High level road bridge across the Ship Canal. Brick pillars at either end support a cantilevered steel structure.





### 6.16 WARBURTON ROAD BRIDGE

SJ 695 901

High level steel lattice road bridge approached on tall embankments from the north and south. Built in 1894 to cross the Manchester Ship Canal. Same design as Ackers Road bridge with brick pillars at either end supporting a cantilevered steel structure.

### 6.17 WIDNES, TRANSPORTER BRIDGE POWER HOUSE

SJ 511 837

Small red sandstone rectangular building built on three levels in 1901. Twin steeply pitched slate

LII



6.20: Bollington Viaduct

hipped roofs, with ridge terminal finials, now over-covered with green. Upper storey, at former bridge level. Closed in 1961 and now used as an Electricity Board Sub-Station.

### 6.18 WINNINGTON, ROAD BRIDGE

SJ 642 748

Single span stone arched road bridge. Crosses the old line of the River Weaver.

## RAILWAYS

### 6.19 BARROW RAILWAY STATION

SJ 469 701

Typical Cheshire lines Committee station building. Brick-built, two storeys with two gables facing the platform, a canopy supported by cast-iron pillars and with ornamental woodwork. Opened 1874-5 but closed in 1953, though the line remains open.

### 6.20 BOLLINGTON VIADUCT

SJ 930 779

The line of the Macclesfield, Bollington and Marple Railway is carried over the broad valley of the River Dean through the town on a stone-built viaduct with 22 arches. Built in 1869.



### 6.21 BOLLINGTON, RAILWAY WAREHOUSE

SJ 929 773

Brick-built, single storey, railway warehouse of three by 15 bays. Built around 1869 in railway sidings behind Adelphi Mill connecting with the Macclesfield, Bollington and Marple Railway.

### 6.22 BOSLEY STATION

SJ 914 647

Built for the North Staffordshire Railway's North Rode to Uttoxeter line. Opened in 1849. Line closed in 1964 but the single storey brick-built station building survives.

### 6.23 CHESTER DEE VIADUCT

SJ 397 658

Built in 1847 on the line to Holyhead as a cast-iron bridge. After collapse rebuilt with three steel-lattice girders over the river of 30m lengths. On the north-eastern side approached across the Chester Canal and the Roodee on a brick-built viaduct of 48 arches.

### 6.24 CHESTER RAILWAY STATION

SJ 412 670

LII\*

Designed in the Venetian style by Francis Thompson and opened in 1848 for the Chester



& Holyhead Railway built by Robert Stephenson. Symmetrical stone façade of 30.5m with a pair of small square towers at each end, a central towered range over the booking hall, and behind seven platforms under a cast-iron glazed series of roofs.

### 6.25 CHELFORD STATION

SJ 814 749

On the Manchester and Birmingham Railway, opened in the 1840s. The station is a little later and typical of many on the line being built in a vernacular revival style. It has a single storey, red brick waiting and booking room (with blue brick banding) and a two storey station master's house adjoining to the east. Now offices.

### 6.26 CONGLETON TRAMWAY

SJ 865612 to SJ 866 584

Earthwork remains of a colliery tramway built around 1807. Ran from Moss Road across the ridge of Mow Cop to Stonetrough colliery at Wolstanton in northern Staffordshire.

### 6.27 CONGLETON VIADUCT

SJ 896 657

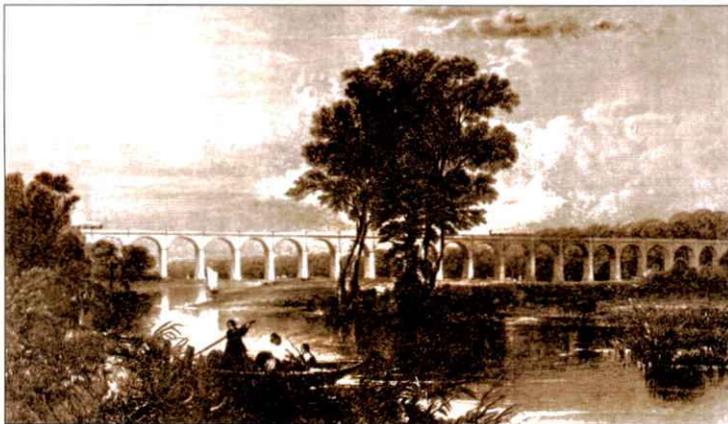
Brick-built 20 arch viaduct over the Dane Valley at a height of 33.5m. On the Congleton to Macclesfield line, opened in 1849.



top left, 6.21: Railway warehouse at Bollington  
top right, 6.25: Chelford Station  
left, 6.28: The interior of Crewe railway station

6.31: The Dutton railway viaduct over the River Weaver

Cheshire Historic Environment Record



### 6.28 CREWE RAILWAY STATION

SJ 710 547

Begun by the Grand Junction Railway in 1837. The present station was developed by the LNWR in 1895-1906. It comprises two multi-storey brick buildings which enclose two through platforms with later canopies. The interior faces of the offices have patterned brickwork and double-bay windows for waiting and refreshment rooms. At the north, station end, of Gresty Road is a terrace of three-storey LNWR managers' housing with steep wooden boarded gables. The Heritage Centre is housed in a signal box to the north of the station and has special open days.

### 6.29 CREWE, ENGINEMEN'S BARRACKS

SJ 709 541

On the eastern side of the Gresty Road is a row of enginemen's barracks. Brick-built, three storeys,

fifteen bays long with cross-wings at either end. These were built in 1897 to accommodate train crews while waiting for their shift. Now occupied by YMCA.

### 6.30 DISLEY TUNNEL

SJ 978 852 to SJ 944 862

On the Midland railway, opened in 1902. The tunnel is 3,474m long with a series of stone-built air shafts along the line, including two on Disley golf course.

### 6.31 DUTTON RAILWAY VIADUCT

SJ 582 765

Sandstone viaduct of 20 arches each 19.2m high carrying the Crewe-Warrington line across the River Weaver. On the Grand Junction railway. Built by George Stephenson and Joseph Locke in the late 1830s.



6.29: Enginemen's Barracks at Crewe



### 6.32 FRODSHAM RAILWAY STATION

SJ 518 779

On the Birkenhead, Lancashire & Cheshire Junction Railway line from Chester to Warrington. Opened in 1850. Brick-built, two-storey, building with stone details. This is one of two notable station sites on the branch line. The other, to the north, is Warrington Bank Quay which was originally on the Grand Junction Railway, now the west coast mainline. Here, the central platforms are supported by cast-iron columns and wrought-iron brackets under the canopies. Other buildings have been rebuilt in yellow brick.

### 6.33 FRODSHAM, WEAVER VIADUCTS

SJ 530 784

Carries the Warrington to Chester line over the River Weaver and the Weaver Navigation. Over the navigation the brick viaduct it has a central arch of iron beams now re-enforced with a concrete deck. Between is an embankment c.300m long. The line then crosses the Weaver valley on a tall viaduct of 21 stone arches with iron arches over the river and navigation. Built 1850 by the Birkenhead, Lancashire & Cheshire Junction railway.

### 6.34 GLAZEBROOK STATION

SJ 695 925

Brick-built one and two storey station building by CLC. Built in a vernacular revival style. The southern building has a single-storey waiting room and booking hall flanked by two-storey crosswings with pitched and gabled roofs. Cast-iron verandah fronts the platform.

### 6.35 GRANGE GREEN VIADUCT

SJ 589 856

A tall steel viaduct with brick piers over the Manchester Ship Canal. Approached from the north-east and south-west by multiple track lines on substantial embankments.

### 6.36 HALTON, SIGNAL BOX

SJ 509 825

LII

Two storey signal box. Brick-built blind ground-floor locking room and a steel-framed first-floor operating room with five windows overlooking the tracks to the east. Built in 1940 for the London Midland Scottish railway to Air Raid Precautions specifications.

### 6.37 HELSBY STATION

SJ 486 757

Two storey, stone-built, station with Dutch-style gables. Built in the 1860s. At the junction to the Birkenhead Lancashire & Cheshire Junction Railway (opened in 1850), the line from Hooton (opened in 1863) and CLC line from Northwich (opened in 1869).

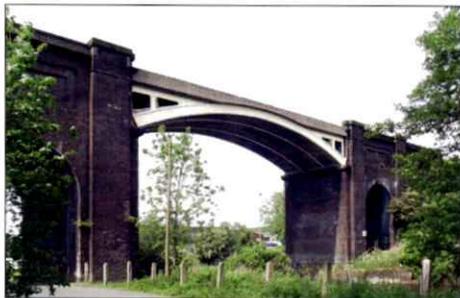
### 6.38 HARTFORD, VALE ROYAL VIADUCT

SJ 643 706

Stone-built, five-arch, viaduct across the River Weaver. On the Grand Junction Railway, and



top left, 6.31: Dutton railway viaduct from the air  
top right, 6.33: Viaduct over the Weaver valley at Frodsham  
left, 6.41: Signal Box at Moberley Station



opened in 1837. There is a 1,463m long cutting west of the station.

### **6.39 HOLMES CHAPEL VIADUCT**

SJ 773 678

23-arch viaduct across the River Dane. Brick arches and piers sit on stone plinths. Designed by G W Buck and opened in 1842 on the Manchester & Birmingham Railway line.

### **6.40 KNUTSFORD STATION**

SJ 754 784

Opened by the Cheshire Lines Committee in 1863 and rebuilt in the late 19th century. The south-side one- and three-storey buildings are brick-built with Gothic detailing. The northern platform buildings are in a similar style.

### **6.41 MOBBERLEY, RAILWAY STATION & SIGNAL BOX**

SJ 778 813

A Cheshire Lines Committee railway station with two railway houses adjacent. Two storey timber signal box with gearing on the ground floor and control box on the first floor.

### **6.42 NEWTON-LE-WILLOWS, SANKEY VIADUCT, LIVERPOOL & MANCHESTER RAILWAY**

SJ 568 947

The first major viaduct of the railway era. Nine 50ft semi-circular masonry arches in brick with stone facings. Stands 21m above Sankey Brook and Sankey Canal. Each splayed pier rests on c.200 timber piles, some of which are 9m long. Pilasters extend up the face of the piers to form part of the parapets. The design of the viaduct is reminiscent of earlier designs for canal aqueducts.

### **6.43 NORTHWICH, WEAVER VIADUCT**

SJ 663 734 to SJ 655 730

One of the most dramatic railway viaducts in Cheshire crossing the broad valley of the Weaver south of where it meets the River Dane in the town centre. 50-arches, all skewed, cross both rivers for a distance of 950m on stone piers with

brick inside the arches and iron spans up to 18m above the valley. Opened in 1869 by the CLC for the Northwich-Helsby line.

### **6.44 NORTON, HALTON TUNNEL**

SJ 555 811 to SJ 544 799

1,830m-long tunnel built by the Birkenhead, Lancashire & Cheshire Junction Railway east of Runcorn town centre. Opened in 1850.

### **6.45 PEOVER EYE VIADUCT**

SJ 797 723

Brick-built, ten-arch, viaduct. Arches 13m high. Opened in 1842 on the Manchester & Birmingham Railway.

### **6.46 POYNTON RAILWAY STATION**

SJ 911 837

The original station was at Lostock Terrace on London Road South, built by the Manchester and Birmingham Railway in the 1840s. The present station dates from 1887 built by the Macclesfield, Bollington and Marple Railway (1869-1971) and is now situated on the footpath known as the Middlewood Way.

### **6.47 RUNCORN RAIL BRIDGE**

SJ 504 845 to SJ 507 827

**LII**

Built 1863-8 to carry the London & North Western Railway across the River Mersey at Runcorn Gap to a design by William Baker. Crosses the river on three main spans each of 93m, formed by pairs of wrought iron double-web lattice girders, supported by two sandstone stone piers and sandstone abutments founded 13.7m below water level. It carries double rail tracks and has a cantilevered footway on its east side. Approached on a long series of brick arches from the north (Widnes) and the south (Runcorn). Lies west of the road bridge.

### **6.48 WARRINGTON, LATCHFORD RAILWAY VIADUCT**

SJ 632 872

Crosses at an angle the Manchester Ship Canal more than 20m above the water. Built by the LNWR in 1894 but now dis-used. The central steel arch lattice span is support by tall brick piers at either end and the line is approached on tall embankments from the north and south.

### **6.49 WIDNES, HOUGH GREEN RAILWAY STATION**

SJ 485 864

**LII**

Built in 1872 in brown brick with slate roof, one storey waiting room with bays and cross-wings. The platform canopy has a three arched fascia with dagger, trefoil and diamond in quatrefoil motifs supported on four cast iron columns.

## 6.50 WIDNES, NORTH RAILWAY STATION, VICTORIA AVE

SJ 512 871

LII

Built 1872 with brown brick walls with sandstone plinth and slate roof and alternate treble courses of

plain and shaped slates and with lead roll ridges. Single storey, eight bays with end cross wings. Platform canopy has a three arched fascia with dagger, trefoil and diamond in quatrefoil motifs, supported on four cast iron octagonal columns.



David George

6.52: An Avro 'York' plane about to land at Woodford Aerodrome

### AIR

## 6.51 HOOTON PARK AERODROME

SJ 390 786

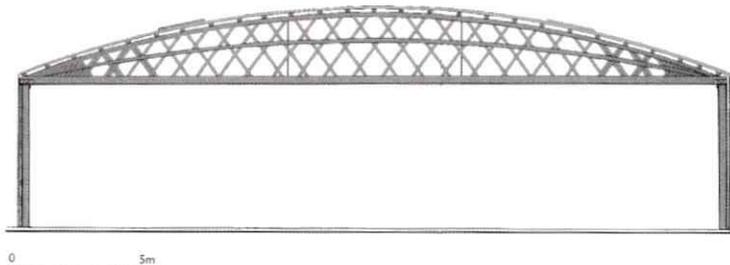
The War Department built three double aircraft hangars in 1917 on this site. Each had a series of Belfast Roof trusses. The airfield was allocated to fighter squadrons of the RFC which were equipped with Sopwith and AVRO flying machines. Post-1918 the airfield was purchased by a Mr G A Dawson and a flying club was formed which also served as Liverpool's airport until Speke opened in 1933. An aircraft called the Comper Swift was also assembled here. In 1936 Auxiliary Airforce 610 Squadron was formed here and the aerodrome became No. 7 Auxiliary Airforce Unit. In 1941 a concrete runway was built. The aerodrome was closed in 1957 but there is a small presence in one hangar of aircraft preservationists. The other hangars are in ruins.

*below, 6.51: Suggested reconstruction of the Hangar at Hooton Park*

## 6.52 WOODFORD AERODROME AND FACTORY

SJ 895 825

The aerodrome was begun in 1925 when the AVRO Aeroplane Company lost the use of Alexandra Park in Manchester. A flight office and one hangar were transferred. Woodford became part of the shadow factory scheme in 1938 and was developed as a 750,000 square feet (225,000m<sup>2</sup>) manufacturing facility. A series of workshops were aligned along the northern edge of the aerodrome and at right-angles to the tarmac apron. A headquarters building was erected facing the main road on the northern side with services to the rear of the factory. There were two tarmacked runways in the form of a cross. The Lancaster Bomber and later the civil 748 jet airliner were assembled here and the NIMROD was serviced here. The site straddles the Greater Manchester/East Cheshire boundary. The site was closed in 2012 by BAe and is being redeveloped. It will, however, continue to house an AVRO Heritage Centre.

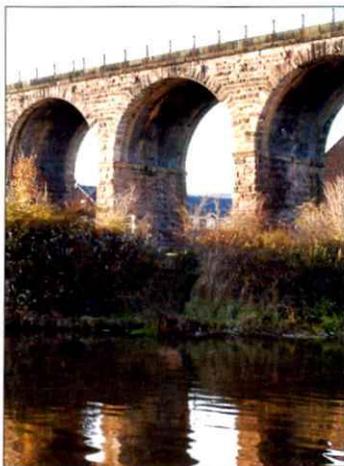


## FURTHER READING

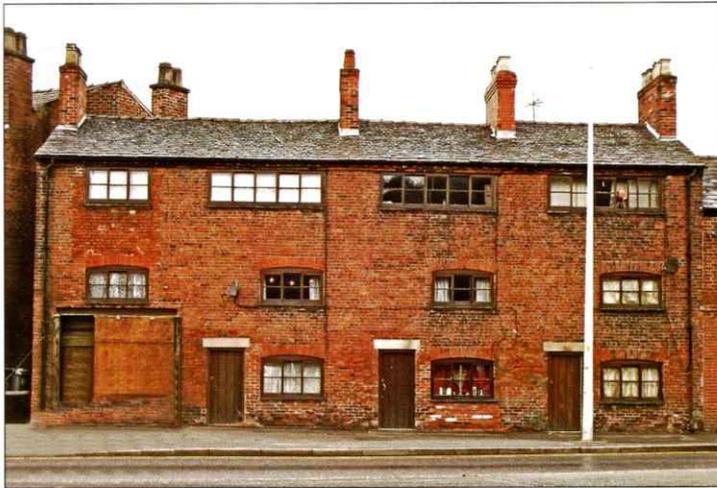
- Ashmore O The Industrial Archaeology of North-west England. Manchester University Press, 1982.
- Aspinall P & Hudson D Ellesmere Port: the making of an industrial borough. Didsbury, 1982.
- Awtry B G 'The charcoal ironmasters of Lancashire and Cheshire', Transactions of the Historic Society of Lancashire & Cheshire volume 109, 1958.
- Bott O J P 'Cormmill Sites in Cheshire 1066-1850, Part 4', Cheshire History No. 14, 1984.
- Bott, O & Williams R Man's Imprint on Cheshire. Cheshire County Council, 1975.
- Boon P The Silk Industry in Congleton, 2013.
- Bonson T Driven by the Dane. Nine Centuries of Water Power in South Cheshire and North Staffordshire. Midland Wind and Watermills Group, 2003.
- Bush S The Silk Industry. Princes Risborough: Shire Album, second edition, 2000.
- Calladine A & Fricker J East Cheshire Textile Mills. Royal Commission on the Historical Monuments of England, London, 1993.
- Carrington P The English Heritage book of Chester. London, 1994.
- Chaloner W H 'The Cheshire activities of Mathew Boulton and James Watt, of Soho near Birmingham 1776-1817', Transactions of the Lancashire & Cheshire Antiquarian Society LXI., 1994.
- Chaloner W H Palatinate Studies: Chapters in the Social and Industrial History of Lancashire and Cheshire. Manchester: Chetham Society, 1992.
- Cheshire County Women's Institutes A History of Mobberley Village, 1973.
- Collens J & Penney S 'Excavation at Anderston Basin, Cheshire', Archaeology North West, No.1, 11-13, 1991.
- Collins P & Stratton M British Car Factories, 1993.
- Collins L Macclesfield Silk Museums – A Look at the Collections, 2000.
- Cornwell E L Commercial Road Vehicles, 1960.
- Craft M Museums and Historic Buildings in Lancashire & Cheshire. Historic Society of Lancashire & Cheshire and the Lancashire and Cheshire Antiquarian Society, 1964.
- Crosby A A History of Cheshire. Chichester: Phillimore, 1996.
- Davies C S A History of Macclesfield. Manchester, 1961.
- Farnie D A Manchester Ship Canal and the Rise of the Port of Manchester. Manchester University Press, 1980.
- Ferguson A Cheshire Airfields in the Second World War, 2008.
- Fielding A P & Fielding A M Open Pan Salt Making in Cheshire, a Memoir by Tom Lightfoot. Lion Salt Works Trust Research Report No. 1, 2000.
- Fielding A P & Fielding A M 'The Salt Industry. Shire Publications, 2006.
- Fletcher M 'Old Mill, Congleton, Cheshire – Brindley's Grand Design?' Industrial Archaeology Review 30.1, 49-70, 2008.
- Foster C F Capital and Innovation: How Britain Became the First Industrial Modern Nation. A Study of the Warrington, Knutsford, Northwich and Frodsham Area 1500-1780. Arley Hall Press, 2004.
- Greville R F & Greville M D Chronology of the Railways of Cheshire. Caterham, 1973.
- Hadfield C & Biddle G The Canals of North West England. Volumes 1 & 2. David & Charles, Newton Abbot, 1970.
- Hardie D W F A History of the Modern British Chemical Industry, 1966.
- Hartwell C, Hyde M, Hubbard E & Pevsner N The Buildings of England Cheshire. London & New York: Yale University Press, 2011.
- Hawkin W R 'Excavations at Frodsham Salt Works'. Cheshire Past No.1, 22, 1992.
- Hearlock J & Jones C Silver by the Ton. 1879-1979, 1982.
- Holmes H Avro – the History of an Aircraft Company, 1994.
- Hughes H Chronicle of Chester – 200 years 1775-1975, 1975.
- Macclesfield Canal Society The Macclesfield and Upper Peak Forest Canal, 2000.
- McNeill R 'Two 12th century Wich Houses in Nantwich Cheshire', Medieval Archaeology Vol XXVII, 1983.
- Nevell M & Fielding A P (eds) Brine in Britannia. CBA North West, Lion Saltworks Trust & UMAU, 2005.
- Nevell M & Wyke T Bridgewater 250. The Archaeology of the World's First Industrial Canal. Salford University, 2012.
- Norris H J 'The Water-powered Cormmills of Cheshire', Transactions of the Lancashire & Cheshire Antiquarian Society vol 75-6, 1969.
- Palmer M, Nevell M & Sissons M Industrial Archaeology: A Handbook. York: Council for British Archaeology, 2012.
- Phillips A D M & Phillips C B A New Historical Atlas of Cheshire. Chester: Cheshire County Council & Cheshire Community Council Publications Trust, 2002.
- Phillips C B & Smith J H Lancashire and Cheshire from AD 1540. London: Longmans, 1994.
- Rochester, Lady 'Salt in Cheshire', Manchester Memoirs Volume 135, 1-11, 1997.
- Rolls Royce Motors Rolls Royce. Fifty Years at Crewe, 1988.
- Shercliffe W H 'The Macclesfield Canal. Its Economic Importance to North-east Cheshire', Transactions of the Lancashire & Cheshire Antiquarian Society vol. 83, 1985.
- Smith D B A Georgian Gent and Company: the Life and Times of Charles Roe. Landmark Publishing, 2005.
- Stobart J The First Industrial Region: North West England, c.1700-1760. Manchester University Press, 2004.
- Thacker W Vauxhalls Come to the Port, 2010.
- Timberlake, S & Prag AJNW, (eds.) The Archaeology of Alderley Edge: Survey, Excavation and Experiment in an Ancient Mining Landscape. Oxford: British Arch. Reports, 2005.
- Taylor R Pioneers of Calico Printing on the Cheshire Derbyshire Border. New Mills Local History Society, 2009.
- Vale D 'Connecting Manchester to the sea: The origins and early years of the Mersey and Irwell Navigation', Transactions of the Lancashire & Cheshire Antiquarian Society vol 100, 51-68, 2004.
- Warrander, K Bollin Valley. From Macclesfield to the Ship Canal. Wilmslow: Willow Publishing, 2013.
- Wilkes, S Regency Cheshire. London: Robert Hale, 2009.

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6.43: A near-kilometre long stone viaduct bridges the valley over the River Weaver and the River Dane on 50 arches. Built by Cheshire Lines Committee and completed in 1869 it still serves the direct Chester to Manchester route.



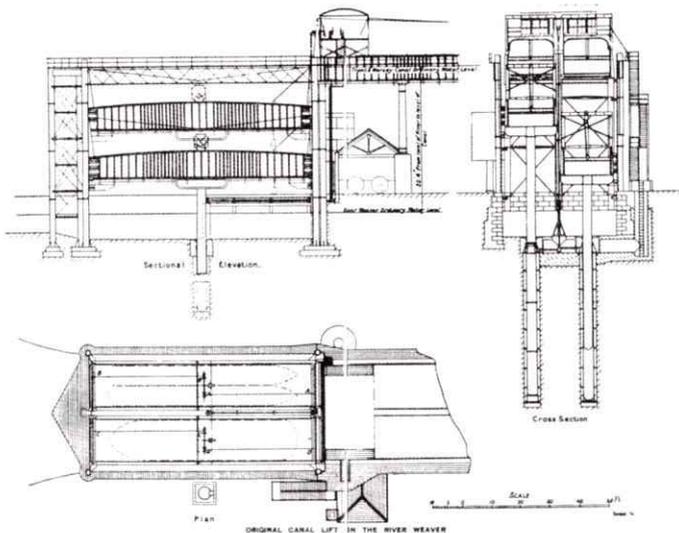
top right, 2.14: Silk weavers' cottages with the typical well lit top floor loom shops of the early 19th century  
 right, 5.81: Original drawing of the Anderton Boat Lift, used to move barges between the Weaver Navigation and the Trent & Mersey Canal some 50 feet (15m) above.



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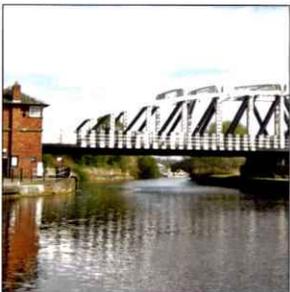
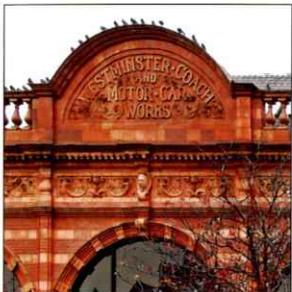
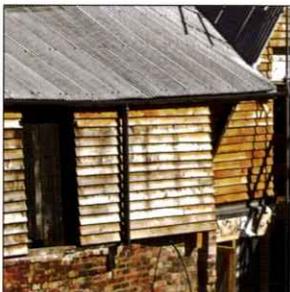
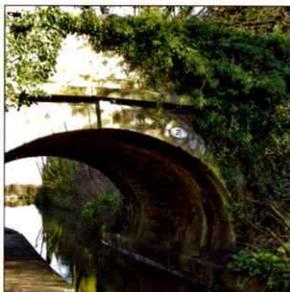
However, the selection of sites for inclusion here, and the editing and text writing was undertaken by Michael Nevell and David George. The photographs were taken by Michael Nevell unless otherwise stated.



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