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The Potteries and Surrounding Areas Presentation Support Notes

COTAC Insight 3

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<p>COTAC Insight 3: The Potteries and Surrounding Areas:</p> <p>In this illustrated support presentation the following questions will be considered in relation to The Potteries and Surrounding Areas:</p> <ul style="list-style-type: none"> • What is special and why? • Is appearance and space important? • How does a building work? • What needs to be thought about? • How does what we do affect the heritage?  <p>Lower LHS Image courtesy of The Potteries Museum & Art Gallery, Stoke-on-Trent</p>	<h3>1 The Potteries</h3> <p>We cannot all be experts in the reasons why <i>The Potteries</i> developed in the way that it did. But, this knowledge might be sourced in local archives, field museums like Gladstone Pottery Museum, Middleport Pottery and Heritage Centre, and at the Scheduled Ancient Monument of Shirley’s Bone and Flint Mill (Etruria Industrial Museum).</p>
<p>What is special and why?</p> <ul style="list-style-type: none"> • Recognition of the significance of the industrial past is growing. • The integration of civic, religious, industrial and residential needs • The degree of change and loss increases that awareness 	<h3>2 Considering What is Special</h3> <p>Local libraries and museums are also helpful, especially where previous publications and historic photographic records may be available. More importantly, real up-to-date and relevant information can be found on and in the buildings and structures themselves!</p> <p>But when investigating them on the ground, particularly those in a deteriorated condition, care needs to be exercised to ensure access permission is achieved in advance, and appropriate health and safety requirements are observed and adhered to.</p>
 <p>Top LHS Image: © Warrillow Collection, Keele University Library Lower LHS Image: Ken Cubley Lower RHS Image: B. S. Jeuda</p>	<h3>3 The Industrial Impact</h3> <p>Over a 200-year period, specific styles of buildings and structures were established in <i>The Potteries</i>. This involved the distinctive sinuous bottle shaped ovens and kilns and formally fronted courtyard factories.</p> <p>Utilitarian industrial building shapes also emerged alongside associated canal and railway infrastructure. Combined they created a definitive regional character and social identity.</p>
 <p>Top LHS Image: Historic England Top RHS Image courtesy of The Potteries Museum & Art Gallery, Stoke-on-Trent Centre LHS Image: Barry, J. Bridgwood Lower Centre Image: © Warrillow Collection, Keele University Library</p>	<h3>4 Bottle Ovens and Kilns</h3> <p>Top left courtyard factory circa 1920 Middle left, Rosslyn Works (Gladstone) Bottom left, Factory clutter range of ovens and kilns</p> <p>Top, large image, Hanley circa 1930’s Bottom middle, Part of original Wedgwood factory, Etruria Bottom right, Muffle kiln</p>



Images: Barry J. Bridgwood

5 Former Town Halls of the Six Towns of the Potteries

The Six Towns of The Potteries of Stoke-on-Trent: Burslem (considered the Mother Town), Tunstall, Hanley, Fenton, Stoke-Upon-Trent and Longton, established identities in a manner that was both independent and cohesive. These key characteristics prevailed throughout the ages.

Each had its own market and/or Town Hall. In consequence, there is a positive legacy in the quality and grandeur of the civic and other institutional buildings across the region. Currently, this is partly offset by the challenge of keeping them alive and in continued beneficial community use.



Images: Barry J. Bridgwood

6 Formal Fronted Factory Buildings

Top left, Hudson and Middleton pottery
 Top middle, formal frontage of pottery factory, Normacot/Longton
 Top right, Emma Bridgwater pottery, Hanley
 Middle left and central image, Aynsley Pottery, Longton

Bottom left, Enoch Wood pottery, Burslem
 Middle right, Burgess and Leigh pottery (Burleigh Ware) Middleport
 Bottom right, Former Sydney Works, Longton




Images: Barry J. Bridgwood
 Lower RHS Image: Bethesda Archive

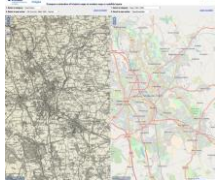
7 Religion and The Potteries


The Potteries and its neighbouring Principality of Wales was an area strong in the formation of various non-conformist Dissenter chapels. Creating a significant movement away from strict Anglicanism, orators, such as John Wesley, regularly visited and greatly influenced the emerging desire for change.


In combination with the established church the dissenter-inspired subdivisions resulted in the construction of numerous religious buildings during the 19th C. But, as congregations dwindled, many have since fallen into disuse and been repurposed.

Top left, St. John's church, Burslem
 Middle left, St. James' the Less, Longton
 Bottom left, St. John's, Hanley
 Top right, The Bethesda Chapel, Hanley
 Bottom right, interior of Bethesda Chapel

 <p>Images: Barry J. Bridgwood</p>	<p>8 Workers Housing</p> <p>Top left, Fenton terraced housing Top right, Fenton terraced housing Bottom left, Mill workers housing, Leek Bottom right, terraced housing, Stone</p>
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 <p>Reproduced by permission of the National Library of Scotland</p>	<p>9 Map comparison on growth of The Potteries 1900 to 2000</p> <p>Along with developments in public transport, and a desire to employ a healthier workforce, it was not until the late 19th C that improved housing began to be built. And, with an increase in wealth from its industries, a sense of local civic pride also evolved and developed.</p> <p>This self-esteem influenced the design and quality of late 19th and early 20th centuries civic buildings - such as the Wedgwood Institute; Fenton Library, Police Station and Town Hall; Burslem School of Art, and Stoke-Upon-Trent Free Library. Influenced by this, other commercial buildings responded although, currently, modern retrofitted shopfronts do not always respect original intentions.</p>
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<p>Is appearance and appeal important?</p> <p>The remaining industrial structures support the regions identity Appreciating building shapes and forms aid that visual recognition The integrated use of building materials</p>  <p>Image: Barry J. Bridgwood</p>	<p>10 What is there to See</p> <p>The quality of the built environment is part of an area's attractiveness as a place to live, work and enjoy leisure time. Consequently, it is essential to conserve what remains of heritage value as this can bring benefit to the local economy through investment and add to the quality of life.</p> <p>The City of Stoke-on-Trent has over 200 list entries (at 2018). With some entries involving a number of buildings, over 250 structures are protected. In addition, local authorities also identify heritage assets of specific interest and importance.</p>
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 <p>Images: Barry J. Bridgwood Lower LHS: Phil Rowley</p>	<p>11 The Shape of Bottle Ovens and Kilns</p> <p>Top left, Contained twin stacks within a building Top right, Gladstone buildings from car park Bottom left, Close coupled oven, Longton/Normacot Bottom middle, two calcining kilns, Hanley Bottom right, A hovel oven at Gladstone</p>
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Images: Barry J. Bridgwood

12 Brick is the principal building material

Top left, high fired red clay bricks, Hanley
 Top middle, window detail, Phoenix Works, Longton
 Bottom left, Hollington stone in Ashlar work, Caverswall
 Bottom middle, Possibly Longton Hall brickwork
 Right, Typical 'back-alley' behind terraced housing, Leek

How does a building work?

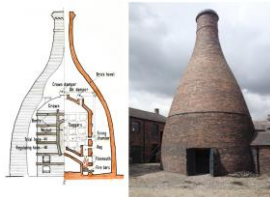
Different operational needs determine the required size and scale
 Various manufacturing processes determined shapes and form
 Collectively the internal building processes were symbiotic in results



13 Building ovens and kilns

required specialist brick-laying skills and specifically manufactured bricks to accommodate their distinctive shape and form. There are several variant on the basic bottle oven shape. Hovel ovens as the 'generic' type updraught and downdraught types, along with Muffle kilns and calcining kilns. All are unique in form and construction built, usually, without drawings but specific to the job in hand.

Within them, the productive output and wealth of The Potteries emerged that relied upon the shape of the structure and the craftsmanship involved.

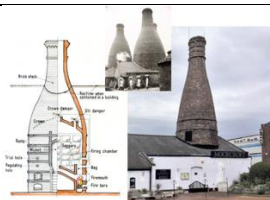


Images: Barry J. Bridgwood

14 Updraught Oven

The outer (bottle shaped) brick shell is referred to as the *hovel* and is there to ventilate smoke and fumes from the firing process. Most hovels were built through the skill and experience of the bricklayer, with the inside and bottom brick courses of the inner *firing chamber* invariably laid using clay, not mortar.

Left, section drawing of a updraught oven
 Right, A hovel oven at Gladstone Pottery Museum



Images: Barry J. Bridgwood
 Top Centre

15 Stack Oven

Reinforced with iron bands or *bonts*, the inner firing chamber was where the pottery was fired. As internal firing temperatures could vary from one area of the chamber to another, placing an individual stack (*bung*) of *saggars* that contained the pottery wares in the chamber was a skilled operation.

Left section drawing of a close coupled *cone* or *stack* oven
 Right, Moorcroft (disused) *skeleton* oven at Moorcroft, Burslem
 Inset, Ovens with workers carrying saggars – possibly former Wedgwood factory, Etruria



Images: Barry J. Bridgwood
Top RHS

16 The Firing Chamber

Whilst the pottery production process required a range of workers with very different skills, all of them contributed to the production of ceramics.

Perhaps, the most essential were the *hovel oven firemen* who worked in extremely hot conditions to feed and control the firing process, using eye and experience as a bad firing could lose a whole factory production/batch of ware.

Supporting them, their co-workers, the *saggars makers* and *saggars placers* prepared the pottery for firing. *Saggars* are containers made from a specific form of fireclay known as *saggars marl*.

These containers held and protected the pottery wares during firing within the inner chamber.

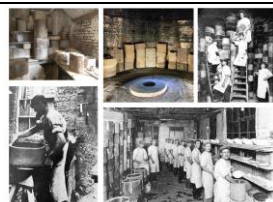
Top left, Hovel oven inner firing chamber, showing domed floor and saggars

Top right, Partially demolished hovel with inner firing chamber remaining

Bottom left, Updraught oven firing area, Middleport Pottery

Bottom middle, Fire mouth of inner firing chamber

Bottom right, *Wicket* entrance to inner firing chamber



Top LHS + Centre Image: Barry J. Bridgwood
Lower LHS Image courtesy of The Potteries
Museum & Art Gallery, Stoke-on-Trent
Top + Lower RHS Image courtesy of Mrs Lillian
Spencer

17 The Skill and Role of the Workers

Production demands across the various industries from the 19th and in to the early 20th centuries in *The Potteries* was labour intensive.

At its height, an estimated 10,000 were employed in the iron and steel industry with the pottery factories employing a further 20,000.

Top left, *Saggars* formers in *Saggars maker's* workshop, Gladstone Pottery Museum

Bottom left, *Saggars Maker* at work

Top middle, inside an inner firing chamber

Top right, *Saggars Placers* at work

Bottom right, *Placers* filling *saggars*



Images: Barry J. Bridgwood

18 Images from former Shirley's Bone and Flint Mill, Etruria, and Cheddleton Mill

Top left, Grinding building housing, engine house and calcining kiln - Trent & Mersey canal in the foreground

Top right, tub grinding room

Bottom left, steam driven beam engine

Bottom middle, bevel gear at Cheddleton

Right middle, overhead drive shaft at Cheddleton

Bottom right, drive shaft on the floor below the tub grinders at Shirley's



Image: Barry J. Bridgwood

What needs to be thought about?

What various processes were carried out simultaneously
Regular material and energy supplies were critical to success
Sourcing, transporting and distributing methods were essential

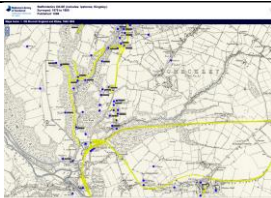
19 The Need for Change

Until the mid-20th C *The Potteries* used coal to fire its bottle ovens and kilns. As a result, sulphurous fumes polluted the area and created a dramatic negative effect on the visual appearance of buildings; contaminating and blackening brick and stonework, in addition to creating a health hazard for the population.

The Clean Air Act of 1956 led to manufacturers abandoning and demolishing many brick-built ovens and kilns. By 1963 coal firing was completely forbidden. Factories also closed under a flood of cheap foreign imports during the 1980's. By the 1970's iron and steel production at Shelton Bar was in serious decline, with the last rolled-steel production line closing in 2000.

The Beeching cuts of 1963 decimated the railway network and the miner's strikes of the 1970's and 1980's resulted in many pits closing.

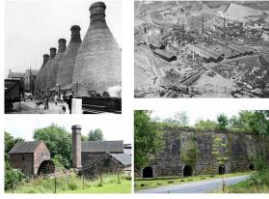
Following such a dramatic physical and psychological impact, the area deteriorated and its importance dwindled. In consequence, much was destined to change.



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20 Map image of Froghall area showing quarries, collieries, shafts, tramways etc.

From late 18th C to early 20th C the diversity of industries expanded rapidly, and the region's population grew exponentially. This generated an ever-increasing demand for the supply of manufacturing and building materials and their associated craft skills.



Top LHS Image: © Warrillow Collection, Keele University Library
 Top RHS Image: Historic England
 Lower Images: Barry J. Bridgwood

21 The industrial heritage of The Potteries also includes the more utilitarian and functional necessities of steel plants, excavated pits and coal mines.

Given readily accessible sources of coal and clays, bricks and tiles could be easily and cheaply manufactured. Inevitably, they became the basic materials of choice for building purposes. Building mortar was also required and a source of limestone from nearby quarries, such as Caldron Low, met demand. But limestone cannot be used for building purposes without being processed. *Quicklime* was produced by burning or calcining raw limestone in limekilns, such as at Froghall and Consall.

The process involved repeatedly filling the kiln with alternating layers of limestone and coal. By burning the limestone at a high temperature (to drive off carbon dioxide) the quicklime steadily fell to the bottom of the kiln.

Top left, five hovel ovens at Twyford's factory, Cliffe Vale
 Top right, Shelton Bar steelworks 1930/40's
 Bottom left, twin waterwheels at Cheddleton Flint and Bone Mill
 Bottom right, Lime kilns at Froghall



Top LHS Image: R. Knight
 Bottom LHS Image courtesy of The Potteries Museum & Art Gallery, Stoke-on-Trent
 RHS Image: Historic England

22 What was found below ground facilitated and supported The Potteries and its Industries.

The coal provided fuel to fire its iconic bottle shaped ovens and kilns, furnaces and factories. The clay created ceramic, brick and tile industries. Limestone and ironstone provided ore for iron and steel production. Lime kilns produced quicklime for mortar and for liming land to improve the agriculture. The geology determined where mines and quarries could be located. Little was wasted. The discarded coal mine clays provided raw material for brick and tile making - the basic materials for a large 19th C factory and house building programme. Building stone was less well used by comparison.

Many of the local coal mines incorporated their own brickworks, although independent brickyards were also set up; each supplying demand using beehive kilns and, latterly, tunnel kilns for firing purposes.

Top left, Berry Hill marl hole and mine waste slag heap
 Bottom Left, Daisy Bank marl hole during use
 Right, Daisy Bank marl hole during back-filling – probably with pottery waste (*shraff*)



Map data © 2018 Google

23 Part Map of the English Canal Network

The combined geology, geography, and surrounding landscape produced a unique set of circumstances that determined how the region developed. In the late 18th C canals started to be constructed to speed up and reduce the cost of transport.

The rapidly developing markets for pottery ware in Europe was serviced via canals and rivers to Hull and to America through Liverpool.

More than 2,000 miles of canals and navigable river systems in the UK linked with *The Potteries*



Images: Barry J. Bridgwood
Lower LHS Image: A. H. Body

24 The Canal Network

Each canal left significant features on the landscape

Top left, Froghall tunnel (Caldon canal) with its reduced headroom
Top right, Caldon canal at Hanley, (close to Emma Bridgewater factory)

Bottom left, 'Legging it' through the first Harecastle Tunnel, Kidgrove

Bottom right, Trent & Mersey canal, bridge and horse tunnel, Stone



Images: Barry J. Bridgwood

25 The Canals and Leisure

With routes pre-determined by the natural geography and ground levels, both the canal system and later railway network had a limited choice in the directions they could take.

Along the flat level stretches of the canal routes these are interspersed with locks, towpaths, bridges, warehouses, lock-keeper's cottages, mile-posts, and infrastructure although the system is now solely used for pleasure purposes

Top left, Etruria Industrial Museum: junction of the Trent & Mersey and the Caldon Canal

Bottom left, Lock keeper's cottage and lock junction of Leek Branch and Caldon Canal

Top right and bottom right, locks and bridge on the Trent & Mersey at Stone



Images: Barry J. Bridgwood

26 Landscape Features

The historic and feverish industrial activity in the region had to be served by an adequate transport network and structure. Initially relying on packhorse transport along ill-formed tracks, this was followed by the construction of toll and turnpike roads.

But neither adequately accommodated the ever-increasing demand for raw material supplies and the production output from the area's industries.

Top left, tramway incline section at Froghall en-route to Caldon Low

Bottom left, tramway winding/braking machine foundations, Froghall

Bottom right, Tramway, flat or *plane* (horse drawn) section en-route to Caldon Low

Top right, Leek branch weir overflow, sluice and drain, Longsdon – the Leek Branch is linked to Trent & Mersey via the Caldon canal



27 Railway, Tramway and Canal Architecture at Froghall

Insets, top left Bolton Copper Works

Coloured map of Froghall

Bottom right, wharf building (now Hetty's Tea Rooms), Froghall

Reproduced by permission of the National Library of Scotland

How does what we do affect the heritage?

Environmental legislation had demanded change
Modern developments have quickly overtaken the past
An appreciation of the physical loss results in new initiatives
Heritage is now presented to the tourist



Image: Barry J. Bridgwood

28 External Influences

Although early factories and their labour-intensive demands created the need for workers to be housed adjacent to their workplace, this resulted in poor working and living conditions. The Factories Act of 1819 was an initial, but poor, attempt aimed at improving working conditions.

The later 1833 Act took a tougher stand against the exploitation of children and adults. But it was not until the 1864 Factory Act Extension Act identified pottery factories as a specific health risk that general improvements in working condition had a positive effect. Then, the life expectancy of a male worker was 47 years.

The 1864 Act also addressed child labour, limiting the working hours to ten per day, and resulted in the construction of purpose-built schools. The final demise of *The Potteries* and its supporting coal mining was triggered by the Clean Air Act of 1956. A significant consequence was that the health of the population started to show great improvement.



Top + Lower LHS Images: Source unknown
 Top RHS Image: Kurt Hutton
 Lower RHS Image courtesy of The Potteries Museum & Art Gallery, Stoke-on-Trent

29 Industrial Atmosphere of The Potteries

Until the mid-20th C *The Potteries* used coal to fire its bottle ovens and kilns. As a result, sulphurous fumes polluted the area and created a dramatic negative effect on the visual appearance of buildings; contaminating and blackening brick and stonework, in addition to creating a health hazard for the population.

The Clean Air Act of 1956 led to manufacturers abandoning and demolishing many brick-built ovens and kilns. By 1963 coal firing was completely forbidden. Factories also closed under a flood of cheap foreign imports during the 1980's.

By the 1970's iron and steel production at Shelton Bar was in serious decline, with the last rolled-steel production line closing in 2000.

The Beeching cuts of 1963 decimated the railway network and the miner's strikes of the 1970's and 1980's resulted in many pits closing.

Top left, probably Longton
 Bottom left, prior to the 1956 Clean Air Act, Longton
 Top right, Barlow Street, Longton 1946
 Bottom right, Wharf Street, Longton (now Bridgewood Street)



LHS Image courtesy of The Gladstone Pottery Museum, Stoke-on-Trent
 Top RHS Image: Ken Cubley
 Bottom RHS Image: Barry J. Bridgwood

30 Decline

Imposed environmental and economic conditions inevitably created the circumstances for physical decline, redundancy and demolition.

Left, Bottle kiln in process of demolition. Simply and safely effected from an external elevated hoist by dislodging and pushing the brick courses down into the bottle shape, ca. 1969
 Top right, Abandoned railway line, platforms and buildings at Hanley Station on the old Loop Line
 Bottom right, Redundant tramway track, Froghall



Images: Barry J. Bridgwood

31 Changing Attitudes, Economics and Fashions

The porcelain and ceramics industry took its earliest influence from pottery produced in, and imported from, the Far East. *The Potteries* developed its own porcelain production methods during the late 18th and 19th centuries to the point where it became pre-eminent in the field. But, by the mid 20th C in an ironic twist, it was further affected by cheap Far-Eastern imports that it had, in its early days, sought to out compete.

By the mid to late 20th C employment was in rapid free fall across all areas. Familiar structures fell into disrepair, becoming the subject of demolition and clearance. Nothing of any significance emerged to replace the lost industrial base.

Top left, three downdraught ovens (former Acme Marls) Bournes Bank, Burslem

Top right, former mill building, Leek, in the process of being converted to residential use

Bottom left, former pottery factory, Longton

Bottom right, Former Mill building, Leek: converted to alternate use



Images: Barry J. Bridgwood

32 Dealing with Redundancy

The acceptance of redundant and derelict buildings and sites can become so common-place that a tendency to ignore them can develop. Compounded by the lack of maintenance, structural abuse, vandalism, graffiti and additional socially-based problems, total loss often results from a related lack of finance and willingness to commit.

Heritage museums provide an essential reminder of the past to the present, as seen at the Gladstone Pottery Museum, Middleport Pottery and Heritage Centre, and Shirley's Flint Mill at Etruria, amongst others. The once derelict Gladstone Pottery factory was saved in 1971. Completely refurbished and repaired it is now a superb museum facility run by the City of Stoke-on-Trent Museum Service. It has extensive pottery industry displays of active and historical processes for those wanting to gain a greater knowledge and understanding of the industry.

Top left, skeleton oven at Moorcroft factory, Burslem

Bottom left, Churnet Valley Railway, Heritage steam line, Froghall and Kingsley

Right, Gladstone Potteries Museum courtyard