The industrial development of Charlton Riverside: highlights of a heritage scoping study

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Introduction

In September 2016, working with regeneration architects 'We Made That', I researched the fascinating, largely industrial, history of the Thames riverside at Charlton. The commission was awarded jointly by the Greater London Authority and the Royal Borough of Greenwich (RBG), in advance of the area's development as an 'opportunity site' in the London Plan, with a projected capacity for 3,000–5,000 new homes. Anticipating the potential threat to unknown historic assets, a definitive record was required.[1]

Charlton Riverside was low-lying marshland progressively drained for agriculture and then adopted for industrial use in the late 19th and early 20th century. The fortunes of large industrial occupiers declined in the late 20th century and today evidence of this history is fragmentary. On large areas of land firms such as G A Harvey's, Siemens, Charlton Ropes and United Glass Bottles have been replaced by retail and distribution sheds, as well as new roads and car parking. Despite this, interesting pockets of historic buildings remain, notably at the river's edge and within the former Siemens complex. Additionally, the earliest movement routes identified on site can be traced, with ancient tracks and roads still in use.

An overview of the study area

The study area lies on the south bank of the Thames where the river straightens from its double curve around Greenwich Peninsula into the straight channel known as Woolwich Reach. The area is a quadrilateral bounded on the north by just over a mile of waterfront, on the west by Angerstein's Wharf and connecting railway (now the Tarmac aggregate terminal), to the east by Warspite Road and to the south by Woolwich Road. The area is commonly referred to as 'New Charlton', being a later development within the parish boundaries of the historic village that clusters on the hill around the church. The site features a number of significant local landmarks and, in the Thames Barrier, an engineering structure of regional (and national) significance. The Barrier's main control buildings, visitor centre, café and embanked esplanade, along with small ribbon park (Barrier Gardens), were developed from 1974 and operational by 1984. A second amenity feature is the riverside walkway which runs from the west as far the Barrier, the designated start/end of the Thames Path. The walkway continues inland into the site of the former Woolwich Royal Naval Dockyard. The Dockyard site, with its own rich history, lies outside the study area but consideration was given to the surviving features that lend historic character to the area, specifically the listed Steam Factory buildings from the 1840s–50s.

Current condition

To the casual observer, the area's heritage assets appear few in number. The riverside is largely defined by light industrial and 'out of town' retail sheds. The Angerstein and Murphy's ballast wharfs dominate the western fringe on a closed site. As well as using the rail connection, an intensive lorry operation takes materials in and out for 22 hours a day (approximately 1 lorry a minute turns into the terminal from Bugsby's way). The same road also serves the large Sainsbury's distribution centre that has operated since the early 1970s. This very heavily trafficked and busy part of the site is adjacent to an arterial road (dating from the 1980s) that forms a direct link from the Blackwall Tunnel to Woolwich and the A2. South of this road (Bugsby's Way) and the predominant use is out of town style retail and car parks. To

the east, the arterial road turns south along an ancient road alignment, Anchor & Hope Lane, to reach Woolwich Road. East of Anchor & Hope Lane the site is almost exclusively industrial usage. A small group of Edwardian houses on Anchor & Hope Lane remains as a legacy of industrial employment.

The eastern end of the site contains its most significant architectural heritage, largely composed in a group to the north east corner. Now named the Westminster Trading Estate, the group of late 19th and early 20th century buildings represents the legacy of one of the area's biggest former industries and employers, the Siemens Telegraph Cable Works. From 1863 until 1967 the Charlton site of this international engineering business focused on a wide range of telecommunications, and was at the forefront of communications technology throughout this time, including during both World Wars.

Previous research and protection measures

RBG has one of the oldest, and most out of date, statutory listing surveys in London, undertaken 45 years ago and issued in 1973, at a time when industrial and Victorian heritage was far less valued than today; in consequence, the heritage features of Charlton Riverside have been little considered by today's heritage designation standards and 'listing coverage' is poor. The area's coverage by Pevsner's Buildings of England researched in the 1970s and published in 1983, does not consider the Riverside area at all. For the eastern third of the site, this paucity of research is resolved by inclusion in the excellent *Survey of London: Woolwich* (2012).[2] However, this has not been followed up with any consideration of heritage features for statutory listing.

Between the Angerstein Wharf railway and Warspite Road there are no statutorily listed buildings. Only one building appears on the local list of heritage assets: a former administration building for Siemens at 17–19 Bowater Road. The site does not contain or abut any of the adopted RBG Conservation Areas and in consequence does not benefit from any change management strategy that recognises its built heritage. As a result of our study, proposals for two conservation areas and a number of recommendations for listing buildings were made to the Borough.

John Smith's *History of Charlton*[3] was an invaluable reference source in the preparation of this study, which also drew upon resources at the Greenwich Heritage Centre Archive and the Port and River archive at the Museum of London Docklands.

Development of the area

Development of the River Thames at this point east of London was dominated by the activities of the Navy at Greenwich and, downstream, the Royal Naval Dockyard and Royal Arsenal at Woolwich. The stretch of river between these points, including the Greenwich Marsh and Charlton Marsh, remained largely without significant building development until the 19th century.

Early development

Drainage and cultivation of the marshes began on the land closest to Greenwich from Tudor times; the Charlton Marsh was late to be drained, certainly at the riverside, the boundary between the Greenwich and Charlton parishes being defined by an embankment called 'Lambardes Wall' (now Lombard's Wall). This was constructed by William Lambarde, a local landowner, c.1555 to protect his manor east of Greenwich from flooding. This early boundary is marked on Skinner's Plan of 1746 and Tithe Maps of Charlton and Greenwich parishes (Figures 1 and 2).

The boundary is still marked at its northern end by the road bearing its name; the southern continuation of the road to meet Woolwich Road has been covered by recent retail development. A 19th century shop that marks the corner of Lombard's Wall still stands by the new M&S/Sainsbury's superstore.

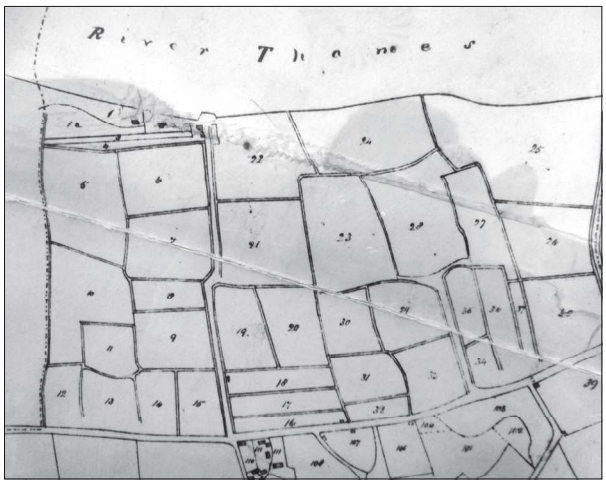


Figure 1. Skinner's Plan, 1746. Greenwich Heritage Centre Archive
Figure 2. Tithe map of Charlton and Greenwich parishes. Greenwich Heritage Centre Archive

A number of other historic routes cross the area. Smith suggests that the Lower Woolwich Road may have been a route in Roman times, following the line of the river but sitting on firm ground above the riverside marsh. There is no evidence that a colony existed at Charlton Village at the time of the Roman departure, though remains of a Roman camp adjacent to modern Maryon Park were first excavated in the late 19th century. Charlton Village had been established by Saxons by the end of the tenth century, and a route from the settlement on the hill was established to access river transportation and fishing. Called the Great Manor Way, much later it became Anchor & Hope Lane. The riverside pub at the head of this roadway seems to have existed from the 17th century, as payment of rent by the landlords appears in the records of Charlton House (built 1604). Drainage and cultivation of the marsh is evident in the 18th century as fields are allotted to tenants on tithe maps.

Increased cultivation required new access routes, and two more are seen on maps by the start of the 19th century. These are Harden's Manor Way (named for Sam Hardin, a local farmer) and the Middle Manor Way (now Penhall Road). All are visible on the Tithe Plan of 1839, along with drainage ditches between fields and – an important new arrival – the ropeworks developed next to the Anchor & Hope by William Ayles, who had served his apprenticeship at the well-known Enderby's manufactory in Greenwich.

Ayles constructed a rope walk and tar kettleshop that, upon his death in 1862, continued as a family business until 1908. This enterprise is significant as the first of the industries that were to transform Charlton Riverside, and as a precursor of the larger Charlton Ropeworks further down Anchor & Hope Lane.

Industrial development

The riverside was increasingly adopted for industrial purposes during the 19th century due to a convergence of factors: the proximity to existing manufacturing centres at Greenwich and Woolwich, with their specialisms in boatbuilding, armaments and other military requirements; a source of raw materials in the sand and gravel pits below Charlton Hanging Wood; easy access to the river at a time when London's existing docks and wharfs were struggling to accommodate growing traffic; and developments in road, ship and rail transportation.

In the late 1830s the marshland leading back from the river front was little developed. A Thames Navigation Plan of c.1839 shows a group of buildings including the Anchor & Hope Inn, the Ayles ropeworks and a small dock or boatyard.

Figure 3. The Anchor & Hope. Author

The Anchor & Hope was one of the earliest beer houses in Charlton dating from the 16th century and owned by the Lords of the Manor (Charlton House). It was sited where the earliest route from the village met the river.

Its riverside site meant it was one of the pubs that traditionally served the ferrymen and lightermen operating on the Thames. The current building (Figure 3) dates from 1899 and was built by Hoare Bros Ltd (of Red Lion Brewery, East Smithfield) who had entered into a lease with the owners, the Maryon Wilson Estate, in 1874. Its eye-catching cupola and veranda befit its riverside location and its role as a landmark for shipping. The pub also had its own private causeway and jetty when the greater proportion of its customers arrived by boat. The building suffered severe damage when the nearby United Glass Bottle Works received a direct hit from a V1 flying bomb in June 1944, but was repaired and renovated under the War Damage Act.

Figure 4. Evidence of shipbreaking on the foreshore below the Anchor & Hope pub. Author

Castle's shipbreaking operation

The foreshore in front of the pub can be accessed at low tide by stairs – one of only two places this is possible at Charlton – and here can be found some of the most interesting evidence of industrial activity at the Riverside (Figure 4).

Henry Castle & Son, shipbreakers, (founded 1838) moved here from Rotherhithe, in about 1860. The Royal Naval Dockyard downstream contracted with Castle's to dispose of many Admiralty ships. Some of the most famous wooden battleships were dismantled on Charlton riverside, including the *Duke of Wellington* (Flagship of the Baltic Fleet in the Crimean War), the *Impregnable*, the *Caledonian*, the steel *Ajax* and iron *Alexandria*. Castle's also operated from Longs Wharf (next to Siemens), where half an acre was needed for cutting up and sale of ships' timbers. Customers for the reclaimed timber included the builders of Liberty's department store, whose Tudor style premises off Regent Street was famously constructed from timbers bought from Castle's. The Charlton site continued to 1933 and that at Long's Wharf to 1938.

In recent years, the Thames Discovery Programme conducted by Museum of London Archaeological Service (MOLA) has explored the Anchor & Hope foreshore.[4] At low tide, a large number of timbers can still be examined; in most cases MOLA has linked them to actual ships known to have been broken up here, and it has been possible to identify the structural purpose of each timber member through reference to historic shipbuilding practice. The site has furthered understanding of the construction of 19th century warships, and is considered to be one of the most important maritime archaeological sites in the country.

Figure 5. Corys' boatbuilders,1889. Courtesy of the PLA Collection/Museum of London

Boatbuilding & Corys' (Figure 5)

The boatyard shown in the 1839 plan is probably that of WR Cunis. Boatbuilding, repair and marine industries came to characterise much of the riverfront until the mid-20th century. Of all the boatyards the most prominent was William Cory & Sons. Cory had already been associated with the transportation of coal on the Thames for 30 years by the time William Cory & Sons Ltd was established in 1838. The firm's operations at Charlton Riverside had two distinct facets.

Colliers brought coal to London which had to be unloaded into lighters to reach riverside wharfs. Corys' operated the riverway lighters that took coal from the large ships. William Cory's sons William (Jnr) and Richard realised that unloading colliers on the river itself meant they could avoid dock dues payable to the London Docks. In 1862, they obtained and converted a floating raft, *Atlas 1*, for the transhipment of coal in the middle of the Thames off Charlton. Winning a legal challenge from Thames Conservancy in the High Court, they expanded the operation with the purpose built *Atlas 2* in 1866, and by the 1870s Cory & Sons was handling more than half the seaborne coal brought into London (one and a half million tonnes). *Atlas 1* was replaced by the larger *Atlas 3* in 1898, and the company continued to prosper until World War 1. A legacy of this time is the building of 'Atlas' and 'Derrick' Gardens c.1908 to house workers in two squares of terraced maisonettes, still standing today.

Corys' other main business was barge building and repair. In 1873 they established barge-building premises at Charlton in yards previously occupied by WR Cunis Ltd. The company expanded into iron barges in the 1890s (partly as a result of a long strike by shipwrights) and the absorption of other companies led to a network of wharfs and installations in the Thames and Medway areas owned by Corys'. The distinctive black diamond logo became a familiar sight on its fleet of vessels. The larger sheds on the riverfront today date from the expansion of the bargebuilding works in 1911.

The Charlton works are probably unique in being a boat repair facility in continuous use on the same site by the same owners since the 1870s. A site visit (November 2016) confirmed that further buildings from earlier periods of the firm's history were still extant. The dry docks/ boat slips of c.1911 are still

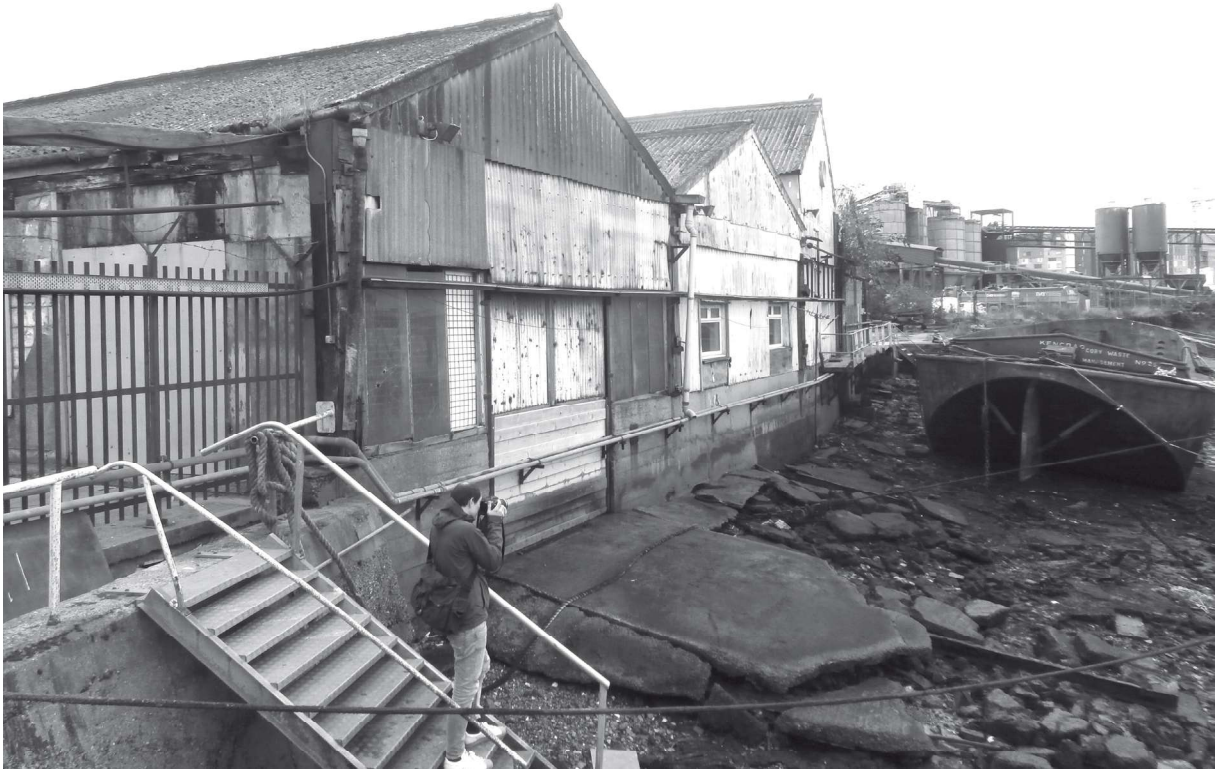


Figure 6. Corys' 2017. Author

operational, steel framed with steel truss roofs, and presenting blank brick gable ends to the roadway. To the west of the boat slips are a range of timber framed sheds of earlier date. The type and style of the framing is exactly that of a shed that appears in a photograph of the barge works dated 1889. On evidence of the photograph, this shed is at least of this date and may date from Corys' arrival in 1873 (Figure 6).

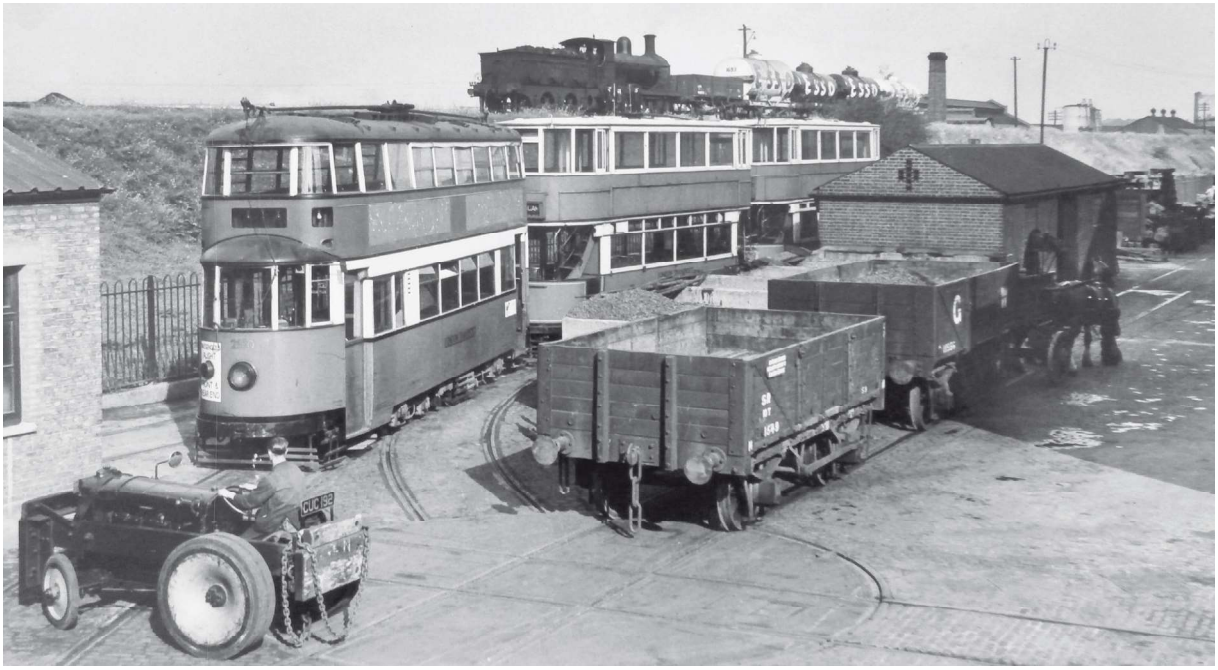
Mid Nineteenth Century developments: roads and railways

Angerstein's Wharf

John Angerstein, MP for Greenwich, amongst other business interests in the area, built a branch railway from the South Eastern Railway at Charlton to the Riverside in 1851. The spoil from the construction of the Blackheath railway tunnel was reputedly used to form the embankment. From the outset the line has been exclusively dedicated to freight, and survives as the current Angerstein Wharf branch serving the ballast wharf (Figure 7).

Glenton's Sand and Ballast Railway/the Charlton Ropes Railway

In 1840 Lewis Glenton, a contract haulier of sand and chalk from the pits of the Charlton Valley, was granted permission by the Lower Road Trust to build a narrow gauge railway over the turnpike from the pits to a new riverside ballast wharf, and this opened in 1841. The South Eastern Railway extension from Greenwich arrived in 1849 and crossed over the ballast railway at the Ransom Road bridge which still stands. The pits were exhausted by the early 20th century and the tracks fell into disuse. However, the rail alignment was re-appropriated along part of its length by Charlton Ropes when they built their new works in Anchor & Hope Lane (from 1914) using a narrow gauge railway system to transport flax and hemp from the river, new rails being laid for their exclusive use. Though abandoned since the 1960s, significant sections of this system still remain visible, inset into concrete roadways around the site (Figure 8).



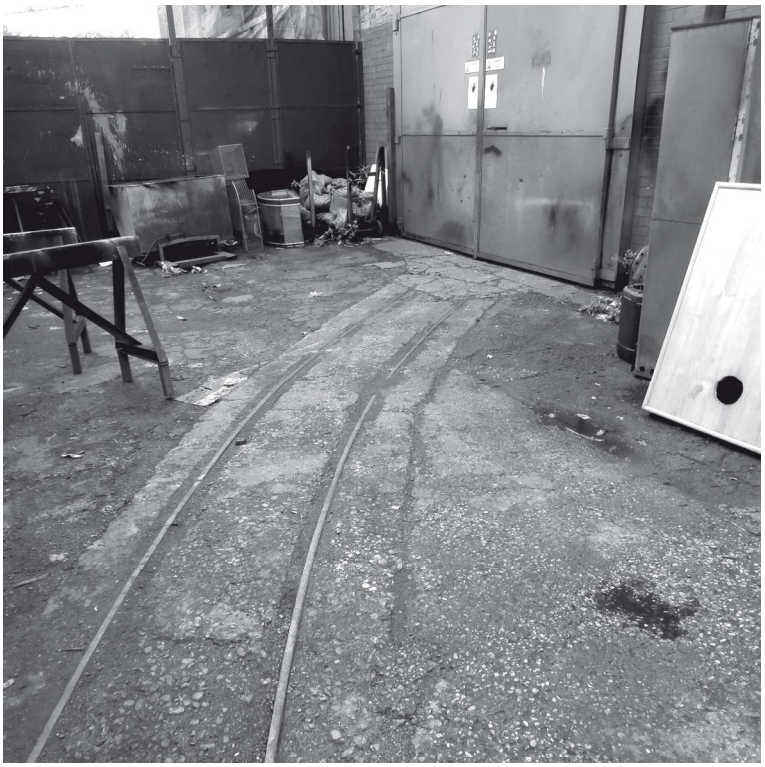


Figure 7. Tram repair depot and rail connection to Angerstein's Wharf, 1938. Greenwich Heritage Centre Archive

Figure 8. Remains of narrow-gauge ropeworks railway, 2017. Author

East of the site: Siemens Brothers (Figure 9)

Apart from a few independent wharfs, the eastern part of the site was dominated by a single company between 1863 and 1967: Siemens Brothers' Telegraph and Telephone Works. Werner and Karl Wilhelm (later William) Siemens invented a method to insulate telegraph wires with gutta-percha (a rigid natural latex). William Siemens brought the technology to London as an agent and after five years trading in Millbank the operation moved, in 1863, to the Charlton/Woolwich border. The larger premises allowed the firm to begin making and shipping its own cable. The brothers were joining a growing trend for telecommunications industries on the lower Thames; Enderby's Wharf at Greenwich had produced the earliest transatlantic submarine cables several years before and another cable factory at North Woolwich was established in 1859. The Siemens' enterprise, at the forefront of technological advancement, was an immediate success and secured contracts for the Indo-European Telegraph (1869–71) and the Platino-Brasileiera cable (1873) from England to South America.

Figure 9. Siemens Bowater Road c. 1900. Siemens Collection/Greenwich Heritage Centre Archive

The orders for thousands of miles of cable required expansion of both workforce and premises. Two to four storey workshops and warehouses for the refinement and storage of gutta-percha and rubber, engine and boiler sheds, offices and landing sheds, were all built between 1870–4. Some of these buildings still survive on Bowater Road. In 1881 Siemens took a 99 year lease on their existing land and added to it; by 1884 the company was producing one major Atlantic cable every year, and the firm's own cable laying ship, the Faraday, moored at their wharf.

By the 20th century the world's telegraphic network was virtually complete and the firm began to make telephone cables and associated technology. The future development of the site lay away from the river, access to which became less important as the cable business declined. Three large new buildings of five and six storeys arrived after 1910; the Rubber Shops (1911) for the making rubber coated copper wire cable, the offices at 17–21 Bowater Road (1911), and the telephone equipment factory (1912) with a single storey engineering shed behind. The former two buildings survive.

In 1916 the British Government expropriated the company's controlling German interest so that it effectively became entirely British. Most of its work at this time was directly or indirectly government or allied contracts, field telephone cable being a major contribution to the war effort.

After the First World War, telephone apparatus and cable making were the main activities. In 1930, to replace the 'candlestick' form, Siemens introduced what would become the ubiquitous 'neophone' – a semi-pyramidal Bakelite base with a handset. At first these were exclusively made for the GPO by Siemens. Submarine cable work transferred to Telcon at Greenwich. Corporate relations with Germany were severed once again as the Second World War loomed.

German air attacks heavily damaged the works between September 1940 and the flying bombs of 1944. The earliest block of 1865 was destroyed, and there were 27 separate occasions of serious damage. Special wartime work included the loop of sweep cable designed to explode magnetic bombs in the

Figure 10. Wagons on Durham Wharf,1930. Courtesy of the PLA Collection/Museum of London

Clyde, and the high pressure pipe for pumping petrol under the sea, part of Operation Pluto (Pipeline Under the Ocean) in 1944; the Siemens pipe was only 2 inches in diameter but 35 miles long.

In 1954 Siemens was taken over by Associated Electrical Industries Group (AEI), later to be further amalgamated into the General Electric Group (GEC). With capacity elsewhere to take on the remaining work, the decision was made to close the Woolwich works in early 1968, with the loss of around 6000 jobs. This was a great blow to the area, along with the part closure of the nearby Royal Arsenal. Purchased by the Greater London Council, many of the more substantial buildings around Bowater Road saw new use as lettable trading estate. Today, buildings predominantly of the 1870s–1890s line the north side of Bowater Road, while those to the south date from 1913–1937.

Other Twentieth Century developments

The map of 1902 shows that much of New Charlton remained undeveloped with allotments and market gardens covering the drained marshes. The gathering pace of industrial development meant that this would change completely in the forty years leading up to the Second World War.[5]

United Glass Bottle Works

Glass bottle making began at Charlton on land behind the Anchor & Hope pub in 1907. Glassmaking was a local industry dating back to Tudor times, with the availability of sand at seams in Woolwich and Plumstead. Skills and raw materials were now exploited for modern production facilities established at Charlton. United Glass Bottles (UGB) Ltd, of St Helens, developed and expanded the site in 1920, with American machinery and four large furnaces. Sand was still extracted from the Charlton pits at this date and coal for firing brought in via Durham's Wharf. Later, Dutch and Belgian sand was imported by sea as well, while the products from the factory left via a complex network of railway tracks connecting to the Angerstein Wharf branch. Production was diverse and included all manner of commercial requirements including milk bottles.

During the Second World War, UGB produced 4 million blood transfusion bottles, millions of water sterilisation outfits for British troops, Molotov cocktails issued to the Home Guard and London's entire milk bottle supply. In the postwar world, the introduction of the NHS and increased demand for medical

Figure 11. Durham Wharf, 2017. Author

and prescription ware gave a boost to production, 220 million glass bottles being produced annually. In the late 1960s, competition from plastics and rising costs made the manufacture of glass at Charlton unviable, with higher wages, power and other overhead costs in London. In October 1966 United Glass announced the plant was to close, and the site sold in September 1967 for a Sainsbury's distribution depot.

Durham Wharf

Durham Wharf was built in the early 20th century for transhipment of goods – mainly coal and sand – to the network of railway sidings serving the eastern part of Charlton Riverside (Figures 10 and 11). The rails embedded in the wharf and the jetty approaches are the last remains of the formerly extensive connecting sidings in the area. The wharf is in reasonably good structural condition despite the last recorded use being by Corys' in the 1970s. Remarkably, both the small locomotives operated by UGB were preserved and are now on the Ribble Steam Railway.

Charlton Ropeworks Ltd

The Charlton Ropeworks were built to the east of Anchor & Hope Lane in 1914, with a 300ft by 100ft 'walk' covered by north-light sheds. Ropemaking began in earnest after a short period as an Ordnance Depot during the First World War. After becoming part of British Ropes Group in 1924 new buildings were added to the site, which became the principal fibre rope factory, serving shipping, railway and fishing industries. Synthetic fibres and wire rope production began in the 1920s and 30s. Wartime output included cables for Mulberry Harbours. The firm was successful in the postwar market with development of synthetic fibre ropes. The ropeworks maintained a river wharf until the 1960s, linked to the rest of the site by the dedicated narrow gauge railway already described.

Latterly Bridon Ropes, the works closed in 1985. Despite the complete redevelopment of the lower southern part of the site, a significant number of buildings from the formerly extensive works still stand, and can be identified from plans showing the site's history. These include the Copper Mill (1937), Hemp Store (c1950), Manilla Mill (built 1914, extended 1937), and traces of the ropeway rails are partially exposed under tarmac (Figure 14). Trolleys using these rails were integral to the rope binding process,

Figure 13. Interwar building of J Stone & Co, 2017. Author

twisting multiple fibres into rope as they travelled from one end of the track to the other. As such, they are some of the last remaining traces of industrial processes at Charlton.

J Stone & Co

J Stone & Co was founded as an engineering works by Josiah Stone in Deptford in 1831, making copper nails, rivets and fasteners used in the construction of wooden vessels. The firm's reputation as marine engineers grew and in 1884 the manufacture of propellers in manganese-bronze commenced, an alloy superior to conventional cast iron. 'Stone's Bronze Propellers' were used by shipping companies and navies throughout the world; over half the Royal Navy Fleet in the First World War had them fitted. Demand lead to the purchase of land for new foundries at Charlton in 1916.

Between the wars Stones produced 'Heliston' and 'Novoston' design propellers and introduced new magnesium-based alloys for aviation castings. The large foundry on the river was joined by the Charlton Jubilee Foundries (named for the 1935 Jubilee of King George V). The firm was renowned for the manufacture of propellers for some of the world's most famous ships: Cunard's *Queen Mary* and *Queen Elizabeth*, the *Normandie* and the *Empress of Britain*. The propellers for the *Queen Mary* weighed 35 tons and had a diameter of 20 feet. The mould weighed over 100 tons and the cast bronze took ten days to cool. The finished propellers then had to be taken by road to Surrey Docks for onward transhipment to the Clyde.

The firm's contribution to the Second World War effort cannot be overstated. Taking the lead in the development of light metal castings for aircraft frames and engines, the company had to devise highly mechanised foundry processes to overcome labour shortages. Resources were further stretched by extensive bomb damage – at one point nearly half the works were roofless – and in an attack on 20 March 1941 one third of the buildings were destroyed. 24 hour production never stopped for any length of time however; at the end of the war it was estimated the Charlton foundries had supplied 22,000 propellers to the Royal and Merchant Navies.

Postwar the firm underwent significant expansion and mergers with firms in Birkenhead and Glasgow to be the largest manufacturer of propellers and marine equipment in the world. The former drawing office and senior management building overlooking the river at the end of Anchor & Hope Lane dates from the high water mark in the company's fortunes. Approximately 1200 people worked at Charlton, enjoying amenities that included the sports field, a local landmark.

The tide turned in the mid-70s when the oil crisis, uncompetitive pricing and a worldwide shipping recession led to a rapid fall in fortune. Successful areas of business were sold to help cash flow, by the 1980s much of the business had gone, and only Stone Foundries & Fasteners – no longer engaged in the marine business – remained.

Figure 14. Ropeway rails under tarmac, 2017. Author

Stone Foundries today

The Jubilee Foundry complex is of great interest as the last group of buildings from the inter-war period industries at Charlton Riverside to survive; it is debatable whether another heavy industrial building of this date is in its original use anywhere in Greater London, and a foundry must be unique. The current operators pointed out that the commissioning of a light-metal casting foundry for the aviation sector at that time clearly anticipates the outbreak of World War Two and the building is thus of not only local but national and even international significance.

The Foundry consists of a number of large steel framed sheds fronted by an office building that also contains the X-ray facilities used to test each completed casting before dispatch. While the industrial areas have been subject to change reflecting updated processes, the circulation spaces retain much of their as-built, inter-war character, including a hallway with high quality decorative finishes. Details include hardwood panelling and integrated wood fittings; reception booth, original banquette seating, doors and surrounds, hardwood dado to stairs, a steel balustrade with 'streamline' curves and hardwood handrail, original bronze electrical fittings, stained glass panels to doors and characterful Pilkington glass block tall window lighting the upper stair landing. It is a delightful original interior, and a unique survival at Charlton (Figure 13).

G A Harvey

Harvey's manufactured water tanks and linings, gutterings, and other galvanised products. The firm moved to Woolwich Road from Lewisham in 1911, building a new works on 22 acres of former market gardens. World War One was a boom time, as the firm specialised in munitions. In the 1920s and 30s, as the firm diversified into furniture and building products, the factory expanded along Woolwich Road. Anticipating moving to a war production footing, further land was bought in 1937 and engineering sheds erected.

War work from 1939 engaged over 3000 people making aircraft parts, flame throwers, petrol and air filters, jerrycans, gas mask gauzes, and – notably – screens and perforated steel plates for the Mulberry Harbour installations. The harbours were assembled in the drained East India Dock.

Skills and innovations honed during the war were subsequently utilised across a spectrum of products fulfilling postwar markets: Harvey Office Furniture, domestic water tanks, perforated sheet metalwork and gauzes, tanks and fractionating columns for the chemical and oil industries. A familiar sight in 1950s Charlton was large and unusual loads leaving Harvey's by transporter lorry or river barge.

The 1970s saw fluctuating order books and attendant cashflow and labour problems, assets were sold off including land parcels for – amongst other things – the new approach road to the Blackwall Tunnel (Bugsby's Way). Most of the plant had been closed by the early 80s.

Johnsen & Jorgensen (Flint Glass)

Johnsen & Jorgensen Ltd first built premises from August 1920 on the riverside at Thames Wharf for the import and distribution of glassware made in Scandinavia. The company diversified into the manufacture of glass on site and subsequently specialised in tubular glass and plastic enclosures used in pharmaceutical, cosmetic and food industries. A large manufacturing and warehouse complex was complemented by wharfs for shipment of raw materials; one L-shaped jetty from this period still stands as well as new offices from the mid 1960s.

'Tramatorium'

Penhall Road became the location for a unique chapter in London's transport history when it was selected by the London Transport Executive for the disposal and scrappage of the remaining fleet of 830 London trams between 1950 and 1953. A connection from the tramlines of Woolwich Road was made to almost a mile of sidings linked by a specially constructed traverser platform. Upon the phasing out of routes from Battersea in the west to Abbey Wood in the east, trams were brought from all across South London to await scrappage by George Cohen & Co at a rate of one per day. Vehicles were stripped of usable fittings, tipped off their tracks and their timber bodies set on fire, the metal parts being salvaged. The operation provided much interest for local people for over two years.

Conclusion

Charlton Riverside area has been under-served by research into its history and built environment legacy. With the participation of a number of experts in particular research fields, our original report and this article have redressed the balance and identified numerous features of historic value, while also recording some significant losses. With the changes to the area anticipated by the forthcoming masterplan, it is imperative that the few remaining legacy buildings, street patterns and other features identified in this report receive consideration and – where merited – rigorous protection. As already described, the surviving buildings tell stories that are variously of local, national, and – particularly pertaining to the telecommunications and wartime narratives – international significance. The report recommends the creation of two separate conservation areas, at the Thames Barrier/Siemens site and at the Anchor & Hope riverside, and a number of statutory or local listing recommendations for individual buildings.

Acknowledgements

I want to thank the following for their help in preparing the report: Holly Lewis and colleagues at 'We Made That'; Dr. Mary Mills, Greenwich Industrial History Society; Peter Guillery, Survey of London; Andrew Turner for information on Charlton Ropeworks; Chris Francis, former Stone's employee; Joyce Lowman, local resident; Elliot Wragg, MOLA Thames Discovery Programme; Jonathan Partington, Greenwich Heritage Centre; Philip Binns, Greenwich Conservation Group; Carol Kenna, Charlton Society; Julian Watson, Greenwich Historical Society.

The author

James Hulme has 20 years' experience researching built environment issues, including historical development, for architects, planners and local authorities. Trained as an architectural historian, he was a longstanding director of the Prince's Foundation for the Built Environment, and now runs interpretation programmes for heritage bodies including the National Trust.

Notes and references

1 The full, illustrated report can be accessed at http://www.royalgreenwich.gov.uk/downloads/file/3464/charlton_riverside_employment_heritage_study_-_chapters_3_and_4

2 Saint, A and Guillery, P (2012) *Survey of London 48: Woolwich*. Yale University Press.

3 Smith J G (1970, 1975, 1986) *History of Charlton*, Volumes 1–3. Privately published, Vol 1 1970, Vol 2 1975, Vol 3 1986

4 A full account of the archaeological survey and findings is given in Wragg, E, 'Stone Wharf, Anchor and Hope Lane, Charlton, London Borough of Greenwich, SE7. An archaeological assessment and watching brief report'. Thames Discovery Programme, London http://archaeologydataservice.ac.uk/archives/view/greylit/details.cfm?id=29047&det=y

5 A useful and profusely illustrated account of industrial development in the area is given in Mills, M, *Greenwich and Woolwich at Work*. Sutton Publishing, 2002.