

= Chelsea Bridge =

Chelsea Bridge is a bridge over the River Thames in west London , connecting Chelsea on the north bank to Battersea on the south bank . There have been two Chelsea Bridges , on the site of what was an ancient ford .

The first Chelsea Bridge was proposed in the 1840s as part of a major development of marshlands on the south bank of the Thames into the new Battersea Park . It was a suspension bridge intended to provide convenient access from the densely populated north bank to the new park . Although built and operated by the government , tolls were charged initially in an effort to recoup the cost of the bridge . Work on the nearby Chelsea Embankment delayed construction and so the bridge , initially called Victoria Bridge , did not open until 1858 . Although well @-@ received architecturally , as a toll bridge it was unpopular with the public , and Parliament felt obliged to make it toll @-@ free on Sundays . The bridge was less of a commercial success than had been anticipated , partly because of competition from the newly built Albert Bridge nearby . It was acquired by the Metropolitan Board of Works in 1877 , and the tolls were abolished in 1879 .

The bridge was narrow and structurally unsound , leading the authorities to rename it Chelsea Bridge to avoid the Royal Family 's association with a potential collapse . In 1926 it was proposed that the old bridge be rebuilt or replaced , due to the increased volume of users from population growth , and the introduction of the automobile . It was demolished during 1934 ? 1937 , and replaced by the current structure , which opened in 1937 .

The new bridge was the first self @-@ anchored suspension bridge in Britain , and was built entirely with materials sourced from within the British Empire . During the early 1950s it became popular with motorcyclists , who staged regular races across the bridge . One such meeting in 1970 erupted into violence , resulting in the death of one man and the imprisonment of 20 others . Chelsea Bridge is floodlit from below during the hours of darkness , when the towers and cables are illuminated by 936 feet (285 m) of light @-@ emitting diodes . In 2008 it achieved Grade II listed status . In 2004 a smaller bridge , Battersea Footbridge , was opened beneath the southern span , carrying the Thames Path beneath the main bridge .

= = Background = =

The Red House Inn was an isolated inn on the south bank of the River Thames in the marshlands by Battersea fields , about one mile (1 @. @ 6 km) east of the developed street of the prosperous farming village of Battersea . Not on any major road , its isolation and lack of any police presence made it a popular destination for visitors from London and Westminster since the 16th century , who would travel to the Red House by wherry , attracted by Sunday dog fighting , bare @-@ knuckle boxing bouts and illegal horse racing . Because of its lawless nature , Battersea Fields was also a popular area for duelling , and was the venue for the 1829 duel between the then Prime Minister the Duke of Wellington and the Earl of Winchelsea .

The town of Chelsea , on the north bank of the Thames about three miles (4 @. @ 8 km) west of Westminster , was an important industrial centre . Although by the 19th century its role as the centre of the British porcelain industry had been overtaken by the West Midlands , its riverside location and good roads made it an important centre for the manufacture of goods to serve the nearby and rapidly growing London .

The Chelsea Waterworks Company occupied a site on the north bank of the Thames opposite the Red House Inn . Founded in 1723 , the company pumped water from the Thames to reservoirs around Westminster through a network of hollow elm trunks . As London spread westwards , the former farmland to the west became increasingly populated , and the Thames became seriously polluted with sewage and animal carcasses . In 1852 Parliament banned water from being taken from the Thames downstream of Teddington , forcing the Chelsea Waterworks Company to move upstream to Seething Wells .

Since 1771 , Battersea and Chelsea had been linked by the modest wooden Battersea Bridge . As London grew following the advent of the railways , Chelsea began to become congested , and in

1842 the Commission of Woods , Forests , and Land Revenues recommended the building of an embankment at Chelsea to free new land for development , and proposed the building of a new bridge downstream of Battersea Bridge and the replacement of Battersea Bridge with a more modern structure .

= = = Battersea Park = = =

In the early 1840s Thomas Cubitt and James Pennethorne had proposed a plan to use 150 @, @ 000 tons of rocks and earth from the excavation of the Royal Victoria Dock to infill the marshy Battersea Fields and create a large public park to serve the growing population of Chelsea . In 1846 the Commissioners of Woods and Forests purchased the Red House Inn and 200 acres (0 @. @ 81 km²) of surrounding land , and work began on the development that would become Battersea Park . It was expected that with the opening of the park the volume of cross river traffic would increase significantly , putting further strain on the dilapidated Battersea Bridge .

Consequently , in 1846 an Act of Parliament authorised the building of a new toll bridge on the site of an ancient ford exactly one mile (1 @. @ 6 km) downstream of Battersea Bridge . The approach road on the southern side was to run along the side of the new park , while that on the northern side was to run from Sloane Square , through the former Chelsea Waterworks site , to the new bridge . Although previous toll bridges in the area had been built and operated by private companies , the new bridge was to be built and operated by the government , under the control of the Metropolitan Improvement Commission , despite protests in Parliament from Radicals objecting to the Government profiting from a toll @-@ paying bridge . It was intended that the bridge would be made toll @-@ free once the costs of building it had been recouped .

= = Victoria Bridge (Old Chelsea Bridge) = =

Engineer Thomas Page was appointed to build the bridge , and presented the Commission with several potential designs , including a seven @-@ span stone bridge , a five @-@ span cast iron arch bridge , and a suspension bridge . The Commission selected the suspension bridge design , and work began in 1851 on the new bridge , to be called the Victoria Bridge .

= = = Design and construction = = =

Page 's design was typical of suspension bridges of the period , and consisted of a wrought iron deck and four 97 @-@ foot (30 m) cast iron towers supporting chains , which in turn supported the weight of the deck . The towers rested on a pair of timber and cast iron piers . The towers passed through the deck , meaning that between the towers the road was seven feet (2 @. @ 1 m) narrower than on the rest of the bridge . Although work had begun in 1851 delays in the closure of the Chelsea Waterworks , which only completed its relocation to Seething Wells in 1856 , caused lengthy delays to the project , and the Edinburgh @-@ made ironwork was only transported to the site in 1856 .

Victoria Bridge was 703 feet (214 m) long with a central span of 333 feet (101 m) , and the roadway was 32 feet (9 @. @ 8 m) wide with a 7 @-@ foot @-@ 6 @-@ inch (2 @. @ 29 m) footpath on either side , making a total width of 47 feet (14 m) . Large lamps were set at the tops of the four towers , which were only to be lit when Queen Victoria was spending the night in London . The central span was inscribed with the date of construction and the words " Gloria Deo in Excelsis " (" Glory to God in the Highest ") . It took seven years to build , at a total cost of £ 90 @, @ 000 (about £ 8 @. @ 17 million in 2016) . The controversial tolls were collected from octagonal stone tollhouses at each end of the bridge .

As with the earlier construction of nearby Battersea Bridge , during excavations workers found large quantities of Roman and Celtic weapons and skeletons in the riverbed , leading many historians to conclude that the area was the site of Julius Caesar 's crossing of the Thames during the 54 BC invasion of Britain . The most significant item found was the Celtic La Tène style bronze and enamel

Battersea Shield , one of the most important pieces of Celtic military equipment found in Britain , recovered from the riverbed during dredging for the piers .

= = = Opening = = =

On 31 March 1858 Queen Victoria , accompanied by two of her daughters and en route to the formal opening of Battersea Park , crossed the new bridge and declared it officially open , naming it the Victoria Bridge ; it was opened to the public three days later , on 3 April 1858 . The design met with great critical acclaim , particularly from the Illustrated London News .

Shortly after its opening , concerns were raised about the bridge 's safety . Following an inspection by John Hawkshaw and Edwin Clark in 1861 , an additional support chain was added on each side . Despite the strengthening there were still concerns about its soundness , and a weight limit of 5 tons was imposed . At the same time , the name was changed from Victoria Bridge to Chelsea Bridge , as the government was concerned about the reliability of suspension bridges and did not want a potential collapse to be associated with the Queen .

Although reasonably well used , it was unpopular with the public , who objected to being obliged to pay tolls to use it . On 4 July 1857 , almost a year before the bridge 's opening , a demonstration against the tolls attracted 6 @, @ 000 residents . Concerns were raised in Parliament that poorer industrial workers in Chelsea , which had no large parks of its own , would be unable to afford to use the new park in Battersea . Bowing to public pressure , shortly after the bridge opened Parliament declared it free to use for pedestrians on Sundays , and in 1875 it was also made toll @-@ free on public holidays . Additionally , because the main lights were only turned on when Queen Victoria was staying in London , it was poorly used at night . Despite this , the new Battersea Park was extremely popular , particularly the sporting facilities ; on 9 January 1864 the park staged the world 's first official game of association football .

= = = Abolition of tolls = = =

In 1873 the privately owned Albert Bridge , between Chelsea and Battersea bridges , opened . Although Albert Bridge was not as successful as intended at luring customers from Chelsea Bridge and soon found itself in serious financial difficulties , it nonetheless caused a sharp drop in usage of Chelsea Bridge . In 1877 the Metropolis Toll Bridges Act was passed , which allowed the Metropolitan Board of Works (MBW) to buy all London bridges between Hammersmith and Waterloo bridges and free them from tolls . Ownership of Chelsea Bridge was transferred to the MBW in 1877 at a cost of £ 75 @, @ 000 (about £ 5 @. @ 99 million in 2016) , and on 24 May 1879 Chelsea Bridge , Battersea Bridge and Albert Bridge were declared toll free by the Prince of Wales in a brief ceremony , after which a parade of Chelsea Pensioners marched across the bridge to Battersea Park .

By the early 20th century , Chelsea Bridge was in poor condition . It was unable to carry the increasing volume of traffic caused by the growth of London and the increasing popularity of the automobile ; between 1914 and 1929 use of the bridge almost doubled from 6 @, @ 500 to 12 @, @ 600 vehicles per day . In addition , parts of its structure were beginning to work loose , and in 1922 the gilded finials on the towers had to be removed because of concerns that they would fall off . Architectural opinion had turned heavily against Victorian styles and Chelsea Bridge was now deeply unpopular with architects ; former President of the Royal Institute of British Architects Reginald Blomfield spoke vehemently against its design in 1921 , and there were few people supporting the preservation of the old bridge . In 1926 the Royal Commission on Cross @-@ river Traffic recommended that Chelsea Bridge be rebuilt or replaced .

= = New Chelsea Bridge = =

In 1931 the London County Council (LCC) proposed demolishing Chelsea Bridge and replacing it with a modern six @-@ lane bridge at a cost of £ 695 @, @ 000 (about £ 42 @. @ 6 million in 2016

) . Because of the economic crisis of the Great Depression the Ministry of Transport refused to fund the project and the LCC was unable to raise the funds elsewhere . However , in an effort to boost employment in the Battersea area , which had suffered badly in the depression , the Ministry of Transport agreed to underwrite 60 % of the costs of a cheaper four @-@ lane bridge costing £ 365 @, @ 000 (about £ 22 @. @ 4 million in 2016) , on condition that all materials used in the building of the bridge be sourced from within the British Empire .

= = = Design and construction = = =

In 1934 a temporary footbridge which had previously been used during rebuilding works on Lambeth Bridge was moved into place alongside Chelsea Bridge , and demolition began . The new bridge , also called Chelsea Bridge , was designed by LCC architects G. Topham Forrest and E. P. Wheeler and built by Holloway Brothers (London) . Much wider than the older bridge at 64 feet (20 m) wide , it has a 40 @-@ foot (12 m) wide roadway and two 12 @-@ foot (3 @. @ 7 m) wide pavements cantilevered out from the sides of the bridge . Uniquely in London , Chelsea Bridge is a self @-@ anchored suspension bridge , the first of the type to be built in Britain . The horizontal stresses are absorbed by stiffening girders in the deck itself and the suspension cables are not anchored to the ground , relieving stress on the abutments which are built on soft and unstable London clay . The piers of the new bridge were built on the site of the old bridge 's piers , and are built of concrete , faced with granite above the low @-@ water point . Each side of the bridge has a single suspension cable , each made up of 37 17 ? 8 @-@ inch (23mm) diameter wire ropes bundled to form a hexagonal cable . As was agreed with the Ministry of Transport , all materials used in the bridge came from the British Empire ; the steel came from Scotland and Yorkshire , the granite of the piers from Aberdeen and Cornwall , the timbers of the deck from British Columbia and the asphalt of the roadway from Trinidad .

Because the self @-@ anchored structure relies on the roadway itself to absorb stresses , the suspension cables could not be installed until the roadway was built ; however , until the cables were in place the roadway could not be supported . To resolve this problem , Topham had the roadway built in sections , supported on very tall barges . The barges were floated into place at low tide , and the rising tide was used to lift the sections above the height of the piers . As the tide ebbed , the roadway dropped into place .

The recently built Battersea Power Station then dominated most views of the area , so it was decided that the bridge 's appearance was unimportant . Consequently , in contrast to the heavily ornamented 1858 bridge , the new bridge has a starkly utilitarian design and the only ornamentation consists of two ornamental lamp posts at each entrance . Each features a gilded galleon on top of a coat of arms . The outward facing sides of all four posts show the LCC coat of arms of the Lion of England , St George 's Cross and the barry wavy lines representing the Thames ; the inward faces on the south side show the dove of peace of the Metropolitan Borough of Battersea , that on the northwest corner shows the winged bull , lion , boars ' heads and stag of the Metropolitan Borough of Chelsea , and that on the northeast corner the portcullis and Tudor roses of the Metropolitan Borough of Westminster .

The new bridge was completed five months ahead of schedule and within the £ 365 @, @ 000 budget . It was opened on 6 May 1937 by the Prime Minister of Canada , William Lyon Mackenzie King , who was in London for the coronation of King George VI and Queen Elizabeth .

= = = Temporary wartime bridge = = =

Two years after the bridge 's opening the Second World War broke out . Because of their close proximity to Chelsea Barracks it was expected that enemy bombers would target the three road bridges in the area , and a temporary bridge was built parallel to Chelsea Bridge . As with the four other temporary Thames bridges built in this period , it was built of steel girders supported by wooden stakes ; however , despite its flimsy appearance it was a sturdy structure , capable of supporting tanks and other heavy military equipment . As it turned out , no enemy action took place

in the area , and all three bridges survived the war undamaged . The temporary bridge was dismantled in 1945 .

== Motorcycle gangs ==

Beginning in the 1950s Chelsea Bridge became a favourite meeting place for motorcyclists , who would race across the bridge on Friday nights . On 17 October 1970 a serious confrontation took place on Chelsea Bridge between the Essex and Chelsea chapters of the Hells Angels , and rival motorcycle gangs the Road Rats , Nightingales , Windsor Angels and Jokers . Around 50 people took part in the fight ; weapons used included motorcycle chains , flick knives and at least one spiked flail . One member of the Jokers was shot with a sawn @-@ off shotgun and fatally wounded , and 20 of those present were sentenced to between one and twelve years imprisonment .

== Present @-@ day ==

In the 1970s Chelsea Bridge was painted bright red and white , prompting a number of complaints from Chelsea F.C. fans that Chelsea Bridge had been painted in Arsenal colours . In 2007 it was redecorated in a less controversial red , blue and white colour scheme . Chelsea Bridge is now floodlit from beneath at night and 936 feet (285 m) of light @-@ emitting diodes strung along the towers and suspension chains , intended to complement the illuminations of the nearby Albert Bridge . Although motorcyclists still meet on the bridge , following complaints from residents about the noise their racing has been curtailed .

Chelsea Bridge was declared a Grade II listed structure in 2008 , providing protection to preserve its character from further alteration . Battersea Park still retains Cubitt and Pennethorne 's original layout and features , including a riverfront promenade , a formal avenue through the centre of the park and multiple animal enclosures .

On the eastern side of the bridge at the southern end a major new residential development of 600 homes called Chelsea Bridge Wharf has been built , as part of long term plans to regenerate the long @-@ derelict former industrial sites around Battersea Power Station .

== Battersea Footbridge ==

To link the new developments around Battersea Power Station to Battersea Park , in 2004 a new curved footbridge was built beneath the southern end of Chelsea Bridge . The footbridge was built offsite in four sections , transported by road to the King George V Dock where it was assembled , and the completed structure floated down the river and hoisted into position . It is planned that once the riverfront in the area has been opened to the public , following the completion of the rebuilding of Battersea Power Station into a commercial development , the new bridge will form part of the Thames Path . The new bridge curves out from the bank , overhanging the river bank by 33 feet (10 m) , and cost £ 600 @, @ 000 to build .

== CS8 Cycle Superhighway ==

Chelsea Bridge is now a major component of the CS8 Cycle Superhighway from Wandsworth to Westminster , with a mandatory blue cycle lane painted in both directions on the bridge . However , the cycle lanes do not cover the whole length of the bridge , forcing cyclists to ride in traffic when entering the bridge from Chelsea .