= Hulme Arch Bridge =

The Hulme Arch Bridge in Hulme , Manchester , England , supports Stretford Road as it passes over Princess Road , and is located at grid reference SJ838968 . The construction of the bridge formed part of the regeneration of the Hulme district of Manchester , both by re @-@ establishing the former route of Stretford Road , which had been cut into two halves by the construction of Princess Road in 1969 , and by providing a local landmark . The location was previously occupied by a footbridge .

The bridge consists of a deck supported by cables from a single arch that spans the bridge diagonally . The design was selected in June 1995 , with construction running between May 1996 and April 1997 . It was opened on 10 May 1997 by Alex Ferguson .

= = History = =

Stretford Road was divided into two halves in 1969 by the construction of Princess Road . A footbridge was subsequently constructed , crossing Princess Road at the same place as the road previously ran . As part of the regeneration of the Hulme district , it was decided to construct a new bridge to rejoin the two sections of the road , and also to provide a local landmark .

The design of the bridge was selected via a two @-@ staged , closed design competition , commissioned by Hulme Regeneration Ltd and Manchester City Council . The first stage of the competition was held in March 1995 , and had six entries . The winning design was selected in June 1995 , and was from architects Chris Wilkinson Architects , with the structural engineer being Ove Arup & Partners . The reference for the design of the bridge was Eero Saarinen 's Gateway Arch in St. Louis , Missouri , USA .

= = Design = =

The bridge consists of a 50 metres (160 ft) bridge deck of three 17 by 17 m (56 by 56 ft) steel and concrete decking segments covered with tarmac . The deck is supported by twenty @-@ two 51 mm diameter spiral steel cables originating from both sides of a 25 metres (82 ft) high arch . The parabolic arch is made of six prefabricated trapezoid steel box sections , and spans the bridge diagonally . The bridge is illuminated at night . The arch varies between 1 @.@ 6 metres (5 @.@ 2 ft) wide by 1 @.@ 5 metres (4 @.@ 9 ft) deep at the bases to 3 metres (9 @.@ 8 ft) wide and 0 @.@ 7 metres (2 @.@ 3 ft) deep at the top . It is supported by a pair of 8 @.@ 5 by 6 @.@ 5 by 5 @.@ 5 m (27 @.@ 9 by 21 @.@ 3 by 18 ft) concrete blocks , which bear most of the weight of the bridge . The deck is supported by piled abutments , which incorporate areas for bearing and expansion joint inspection and maintenance . The arch is kept in shape by a number of internal stiffeners and diaphragms , with the top section filled with concrete . To minimise internal rust , the lower sections of the arch were coated with a vapour corrosion inhibitor , with portholes with removable covers inserted into the arch so that the inside can have additional coats applied in the future .

= = Construction = =

The three sections of decking were assembled on the broad central reservation of Princess Road , and were craned into position over a weekend when Princess Road was closed . The decking was temporarily supported by trestles until the arch was ready . The six sections of the arch were welded together on site into two halves before being lifted into position during a second weekend . The cables were connected on third weekend . The bridge was formally opened on 10 May 1997 by Alex Ferguson in a ceremony including the Lord Mayor of Manchester and Tony Wilson . The ceremony was concluded by them being driven over the bridge in a Rolls @-@ Royce Silver Ghost , and was followed by a street festival .

The bridge has been described by the structural engineers as " a perfect example of how

imaginative design combined with leading @-@ edge engineering technology can be used to create a landmark structure which captures the public 's imagination . " In 1997 the bridge was shortlisted for the British Construction Civil Engineering Award . In 1998 , the bridge received four awards : the RIBA Award for Architecture , a Structural Steel Design Awards Commendation , a Civic Trust Award Commendation and the Institute of Civil Engineers Merit Award .