

THE «BOWIE» FOOTBRIDGE IN EUROPACITY

Ana ORTEGA

Civil Engineer (ICCP)

XC ingeniería estructural

Lausanne, Switzerland

ana.ortega@ciccp.es

Luis PÉREZ TATO

Civil Engineer (ICCP)

SD ingénierie Lausanne

Lausanne, Switzerland

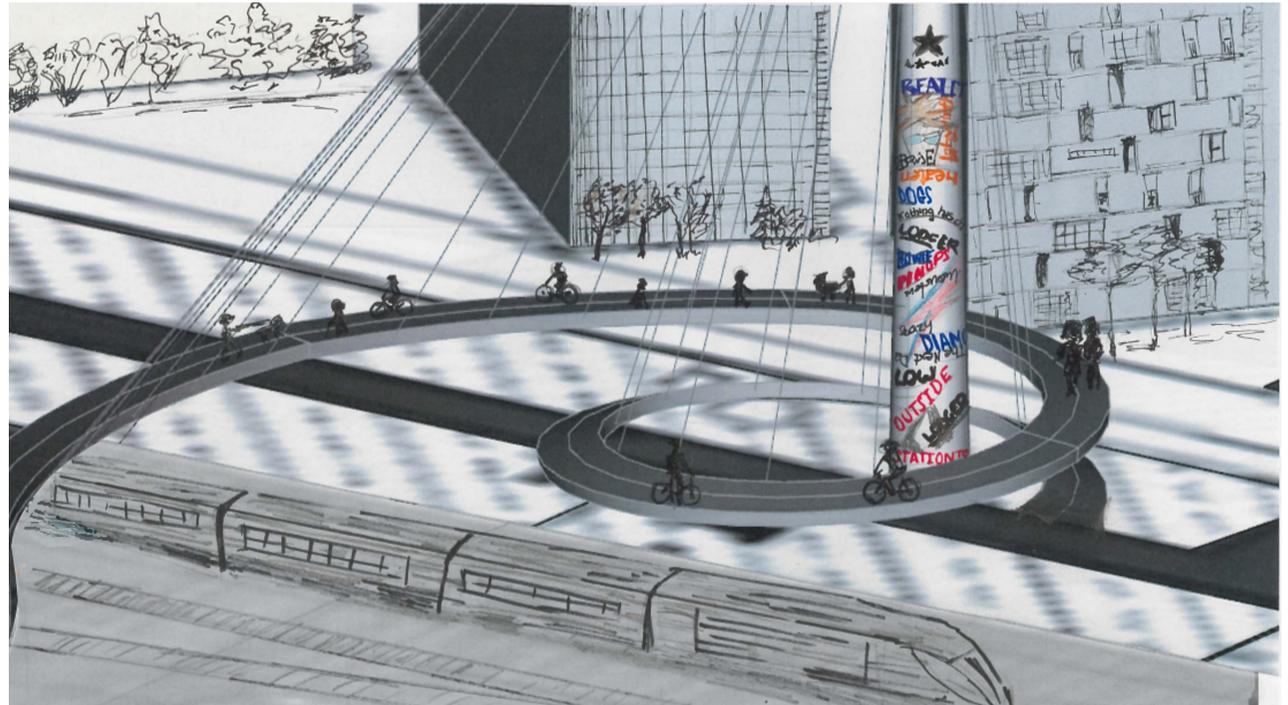
l.pereztato@ciccp.es

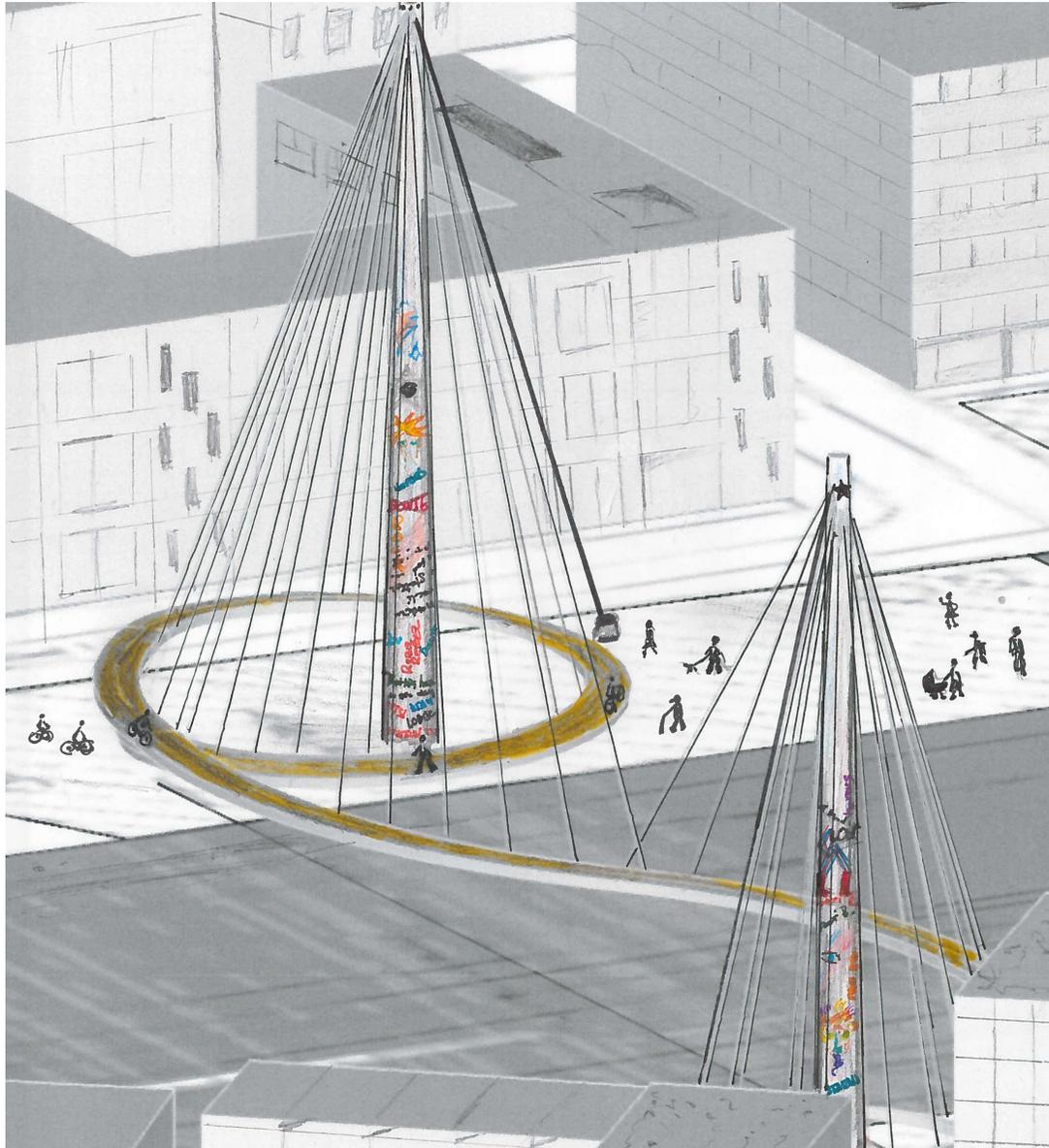
Walking or taking a bike ride while inspirational messages emerge, *Modern Love*, *Space Oddity*, *Dancing in the Street*, *Drive-in Saturday*, *God Bless the Girl*, *It's hard to be a saint in the city*, ...

Commuting to work, the train jolting and scraping and screeching back into motion before reaching the station, and daydreaming about *Soul Train*, *Talking Heads*, *Station to Station*, *The Man who Sold the World*, *Where Are We Now*, ...

David Bowie was, and remains to be, a unique presence in contemporary culture. Through continual reinvention, he has inspired and influenced on generations of musicians, writers, artists and designers. He was, moreover, thoroughly linked to Berlin, the city where he lived in the period 1976-79 while producing «Low», «Heroes» and «Lodger», the Berlin trilogy.

In his own words, «For many years Berlin had appealed to me as a sort of sanctuary-like situation. It was one of the few cities where I could move around in virtual anonymity.».





The Bowie bridge harmonizes with the hybrid combination of built development and landscape, park and urban space, interspersed with areas of water, that confers its special character to the city of Berlin and to Europacity in particular. The footbridge, at the heart of this modern urban environment in development, is intended to solve all the pedestrian and cycling flows between quarters Moabit and Mitte, crossing the tracks emerging from the central station.

The bridge shapes up minimal material resistance to the flowing movement between public circulation spaces; it is laid out in curves whose radii are drawn by the compass movement of centrifugal forces.

Continuing the public path at a gradient of 6% ramp until it reaches a height of 7 m and then bringing it down to the starting level again, the bridge originates a strip 147 m long. By curving the ramps helically, in opposite senses of rotation one another, that strip is condensed into a compact form that, from bird's eye view, can resemble the shape of a penny-farthing bicycle.

Technically, the structure is a cable-stayed curved bridge. Due to its S-shaped plan, the deck has been totally hung from two pylons, organizing the cable-stays in two fans that lends the system a spatial configuration and special relevance.

FOOT BRIDGE 2017 Berlin

A cantilevered concrete-steel composite deck is adopted. Seizing the property of the circular girders, that can resist torsion by in plane bending, the deck is only suspended at its inner edges. The axial force in the lower chord of the curved girder and the horizontal projection of the axial force in the cable provide counter-moment to the external load.

The pylons are located on the islands enclosed by the helical ramps. Since the structure is only partially balanced, a self-anchorage is designed to limit undesired bending moments in the towers. The direction of the back-stay is resolved using the resistant layout defined by the force polygon, and, as a result of the enforcement to be anchored in public space, the pylons are eccentric positioned in those islands. The truncated-cone shape of the steel towers will be the surface for the graffiti-like Bowie's messages expression.

