TATE MODERN SWITCH HOUSE

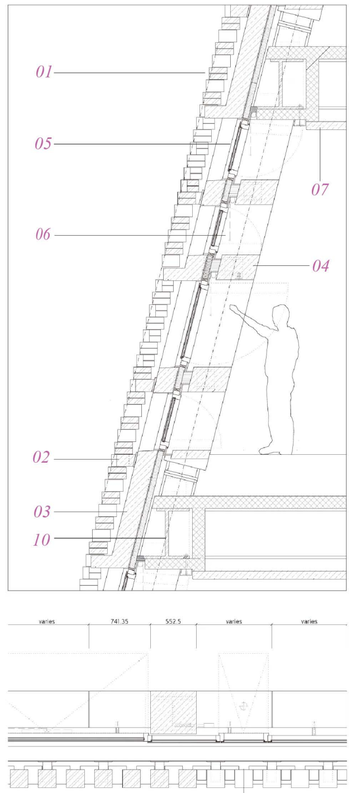
herzog & de meuron / london, united kingdom / construction completed june 17, 2016

PROJECT OVERVIEW

The *Tate Modern Switch House* (or Blavatnik Building, as it was renamed in 2017) is the southern extension of the Tate Modern art gallery in London, England, overlooking the River Thames. Constructed in 2016 with designs from Herzog and De Meuron, the building explores a slanted, pyramid-like structure that juxtaposes raw and refined materials to create a stark balance of industrial and twenty-first century architecture. Rising from the framework of the now defunct Bankside Power Station, the Switch House sits atop three large, underground oil tanks, refurbished to provide gallery space and structural support. The building's facade largely employs a slanted perforated brick lattice; this masonry technique provides a light-permeable screen that allows for the building to be naturally lit from the fourth floor upwards, and additionally acts as a rain shield for the precast concrete frame that makes up the majority of the structure. The square top of the Switch Houses central tower is rotated, distorting the established 'pyramid' shape and creating diagonal creases on the edges of the building's four facades. The Switch House provides the Tate Modern with 242,100 sq ft of additional space, and has been in continuous use for exhibition, performance, and education purposes since its opening.

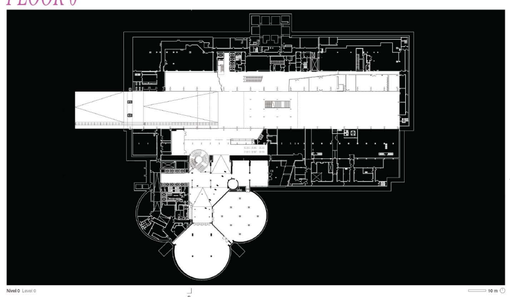
MATERIAL

The *Tate Modern Switch House* maintains a staunch commitment to simplistic materiality, with the large of construction efforts highlighting precast concrete, brick, and structural steel. A total of 336,000 bricks are held together at a consistent slant and various angles by means of elastomer joints, resin joints, and stainless steel pins. Steel corbels support the bricks roughly every seven courses. The employed 'bricks' are actually four standard bricks bonded into pairs with mortar and stacked two high. Concealed behind the brick facade is a large precast concrete and structural steel load bearing system containing a system of embedded windows.. The windows are both UV-proof and fade resistant, and make-up nearly two-thirds of the wall structure behind the exterior masonry. The glass on the top floor of the Switch House is not directly connected to the outer wall, but recedes into a terrace that offers visitors views of the Thames and St. Paul's Cathedral. The building was originally envisioned as a series of stacked glass boxes, but brick masonry was selected to blend the existing structure with the new construction. This commitment to simple materiality allows the envelope and form of the building to be placed into focus, and creates a dynamic contrast between advanced technique and basic material.

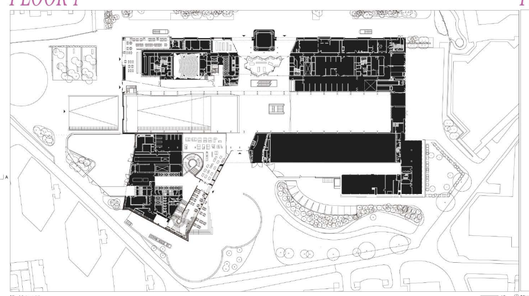


01 PCC encapsulated steel structure
02 PCC corbel
03 PCC cladding panel
04 PCC omnia celing plank
05 brick
06 type A glazing, aluminium framed captive
07 type B glazing, aluminium framed captive
08 blinds
09 PCC fixing bracket
10 structural steel

FLOOR 0



FLOOR 1



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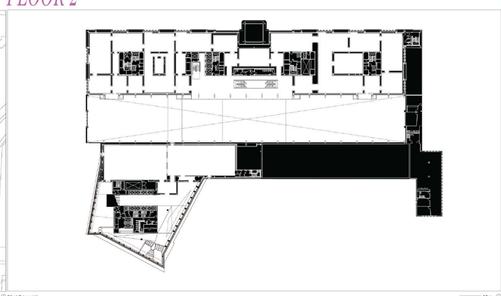
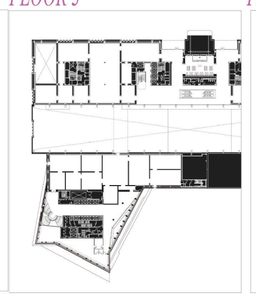
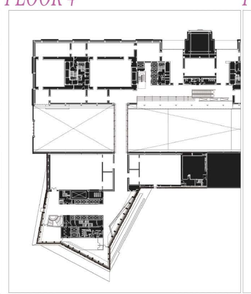


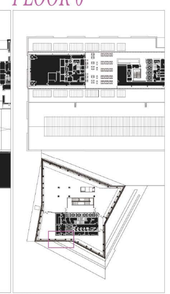
FLOOR 3



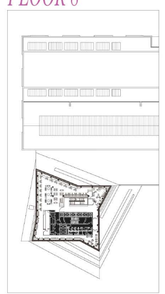
FLOOR 4



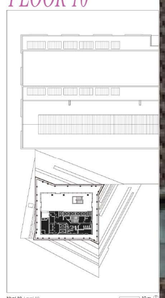
FLOOR 6



FLOOR 8



FLOOR 10



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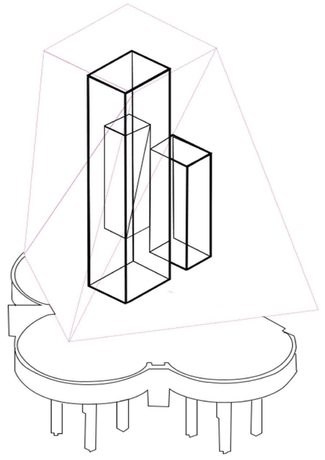
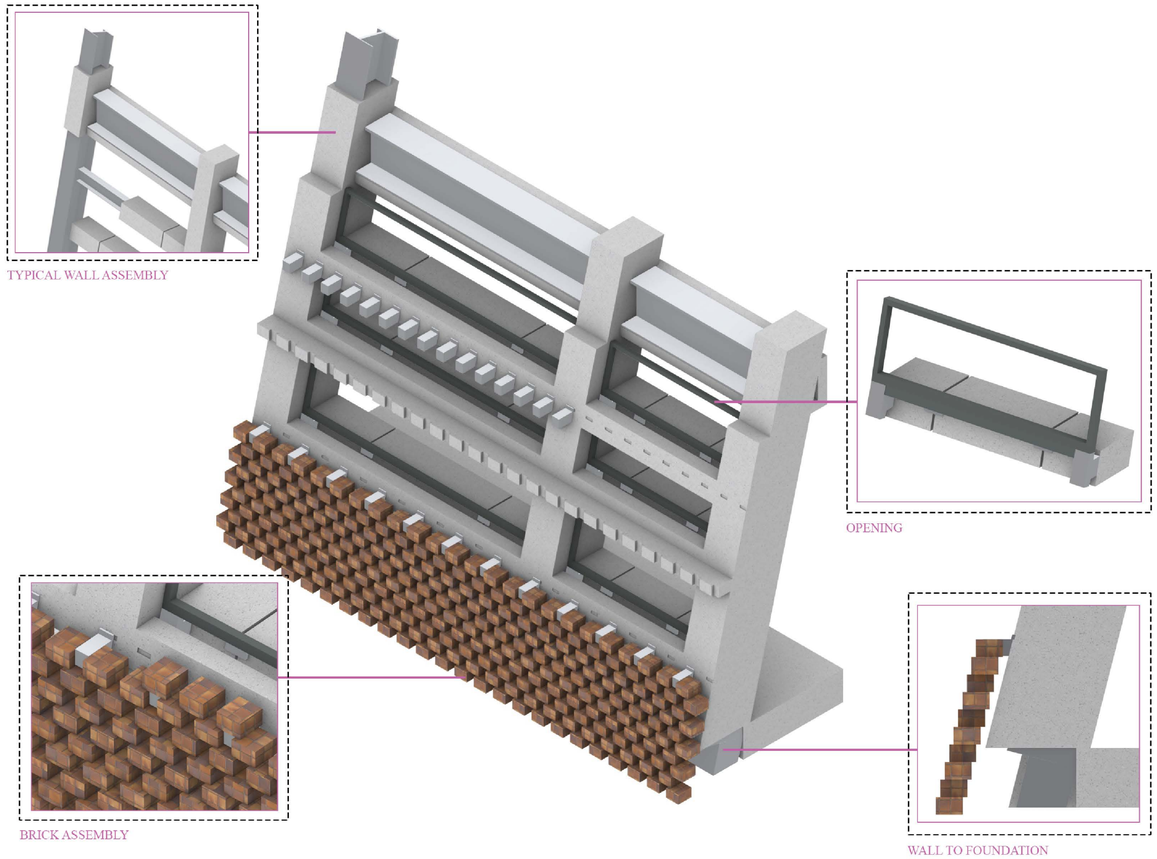
CONTEXT

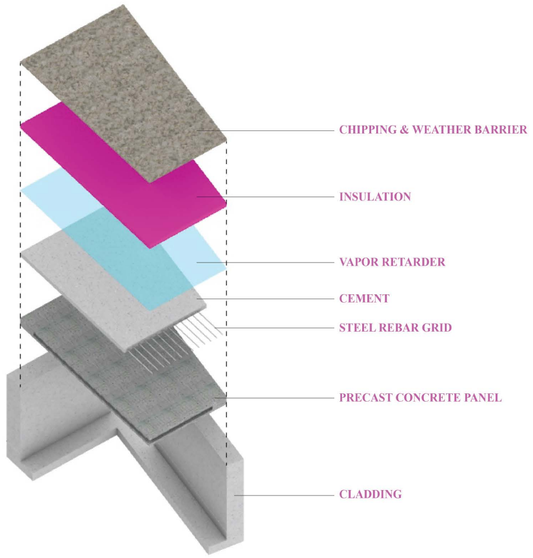
The Tate Modern Switch House was constructed as a response to the developing trends of modern art both at large and centralized in London. The director of Tate Modern, Nicholas Serota, found modern art installations to be confined by the spaces in the existing turbine hall and declared a need for more open gallery space to emphasize the large-scale dynamism of the newest wave of modern artwork. Located on the River Thames in the Bankside district, the Switch House was constructed as a response to surrounding developments. Following the establishment of the Tate Modern as a Bankside institution in 2000, the neighborhood was revitalized with a wave of public activity and pro-art mantra. As with many developments of this level, a rise in activity surrounding the area and an ever-increasing fear of gentrification lead the director of the Tate Modern to reach out to architects Jacques Herzog and Pierre de Meruon (who designed the original Tate Modern) to construct an expansion. While few specific considerations were made to address the building's enclosure system, the employed masonry serves to shield the concrete and steel from rain. Additionally the viewing-deck on the tenth floor was placed to provide a view of the surrounding vistas.

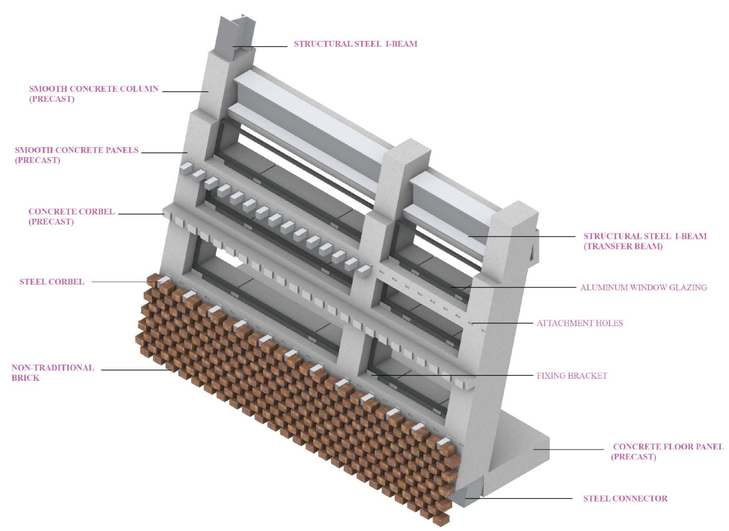




PERSONAL STATEMENT

Our interest in the Tate Modern Switch House originated from its unique envelope – specifically its focus on shape and form – and the unique masonry elements utilized. Our initial explorations revealed to us a wall composition we found to be both intriguing and challenging with its precast concrete structure arranged at varying angles (the wall section we chose to represent being 14°). Initially we found ourselves curious as to the qualities of the brick exterior that allowed it to follow the consistent slope and dramatic corners of the Switch Houses load bearing structure without compromising structural integrity, and found ourselves enveloped in the system of steel and precast concrete corbels that support the masonry elements. The perforated pattern of the masonry, especially in the corners of the wall, creates a pattern mimicking that of a gear's teeth. While not originally an avenue we intended to explore, the textbook Tate Modern Building a Museum for the 21st Century revealed to us a swathe of information relating to the building's development, and its many iterations including that of a nearly entirely glass structure and an outdoor piazza. Part of our initial interest in the Switch House stemmed from its use of precast concrete, as we intended to use a quick drying cement to mimic this in our model; however, these plans were quickly thwarted by time, money, and a lack of familiarity with concrete. Ultimately the process of researching the Switch House helped each of us to learn a great deal about precast concrete and masonry construction technique, project management, and the development of a scale model attempting to imitate the material of an existing structure.





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