Clandon Park

International Design Competition

Jonathan Louth Architects | Gensler

CHAPTER THREE

Clandon Park Open Tour, April 2017

Relevant Experience

LET'S TALK ABOUT WHAT WE'VE DELIVERED BEFORE...

The following pages include two case studies, one provided by the Lead Consultant, Jonathan Louth Architects, the other by Gensler. We have chosen these projects because they show the range of experience which the design team has to offer. Jonathan Louth Architects has a long history of working in conservation and heritage and has built relationships with key consultants in this area; whilst Gensler, as a global architecture and design firm can offer modern and visitor experience expertise drawing in inspiration and knowledge from our a variety of different sectors. Together, they have extensive knowledge of working with complex client and stakeholder groups as well as understanding when to retain, conserve, adapt or change. The design team look forward to working closely with the Trust and are committed to developing a solution which exceeds yours and your existing and new members expectations.

ROMAN CATHOLIC DIOCESE OF SOUTHWARK METROPOLITAN CATHEDRAL OF ST GEORGE

RELEVANCE TO CLANDON PARK

This series of works over the 17 year period that Jonathan Louth Architect's has been involved is relevant to Clandon Park because:

- A similar complexity of statutory and non-statutory consultations and public advocacy for the Trustees during negotiations and at cultural event
- liaison with agencies and tenants for their occupancy and development of their facilities in the estate
- There is a similar mix of staff, volunteers, friends and visitors therefore we appreciate the balance needed for visitors and operations
- Events and conferences take place on the promises therefore we understand the design implications of such events programmes
- A similar range of functions from administration, through quiet visits, to social and civic functions, with management of safety and security matters
- Artists and donors are engaged with regularly, similar to that of the National Trust
- Consulting archives, archaeological records and visual evidence to assess significance and interpolate technical solutions for the heritage and the environment
- Caring for historic, bomb/fire damaged fabric with modern restructuring and services, with on-going structural monitoring
- Duties and projects range from restoration and conservation of the fabric, including reconstruction, through adaptation and insertion of new fabric for fresh purposes, including development, alteration and extension of the historic building
- Identifying, proposing and preparing programmes of works and budgets, budget control and reporting systems, including certifying sub-contractor payments
- Consideration of life cycle, maintenance and repair requirements

Client: *Zoë McMillan, Chairman of the Cathedral Fabric Advisory Committee; Paul McCallum [former Finance Director, The Metropolitan Police]*
Email: *zoe.mcmillan51@gmail.com; Paul.McCallum@finance-rcdsouthwark.org*
Tel: *020 7638 1659; 020 7960 2509*
Location: *Southwark, London, UK*
Completion Date: *Ongoing*
Budget: *2003-2016: £5,135,100; 2017-2020: 1,434,413; 2017-2020: £9,039, 583 (deferred to 2019-2023 period for 175yr Jubilee)*
Duration: *A 17 year long association to date, first as honorary advisor in 2000 then, since 2003, as Cathedral Architect: and currently a new 4-year approved plan in progress for 2017-2020.*

Left: Remodelled facade of Amigo Hall with new elevated lift shaft, stone work derived from the Bapistery, and Jonathan Louth Architect's stainless steel 'Archbishop's Gates'

Opposite page: Archival records used for identifying crack patterns between old and new fabric; and paint and mortar/stone analysis results prior to specifying fresh material

Below: Sub-division of Amigo Hall community threatre into meetings rooms below and new upper storey diocesan hall, renovated Robert Sharp's 1940 ceiling

WORKING WITH THE CLIENT & INTEGRATION OF MODERN DESIGN PRACTICES

Appointment for:

- Heritage architect, project designer and lead consultant for the buildings and precincts of the estate. Apart from Romero House, which lies outside his remit, Jonathan has restored, conserved, reconstructed, adapted, inserted or altered all parts of the estate for contemporary purposes.

Role for:

- liaison and management of direct trades, artists and craftspeople;
- appointment and contract administration of main / sub-contractors.

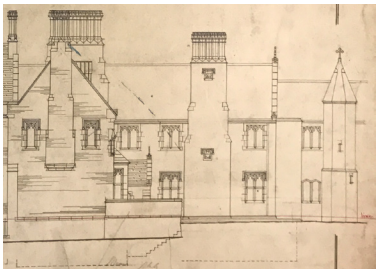
Client representative to:

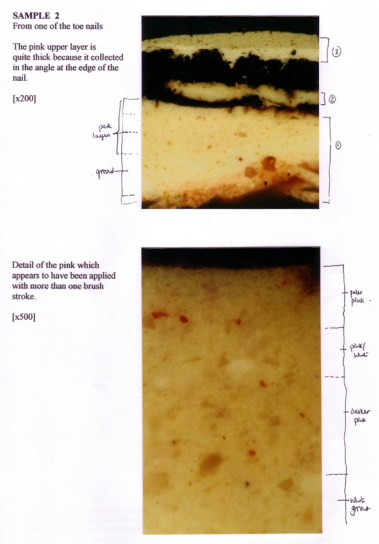
- co-consultants, technical specialists;
- insurance brokers, donors / agencies who fund or undertake construction & installations on the estate.

All projects start from analysis and feasibility, even arising from unforeseen failure: the cathedral team comes together first with diocesan / parish representatives so objective are common. Before the scope and budget are finalized, projects move through research, testing and analysis for heritage and technical matters, consulting archives and engaging with consultants and specialists. The findings (history, archaeology, materials etc.) are vital for successful discussions with consent authorities at application stage.

For development projects, our clergy, local councillors (and MP) meet, including senior planning authority and Historic England personnel. The Dean and architect take feasibility findings through Historic Churches Committee procedures for informal advice prior to furthering schemes. The Trustees (Archbishop's Council) will normally authorize development projects. They delegate technical projects to the Cathedral fabric advisory committee, before specifications/tenders progress.

For installations (such as a new shrine) full-scale mock-ups are often created inside cathedral, for committees to visit and debate. 3-D imagery, useful as a design tool, is distributed for further comment before details are committed to working drawings.





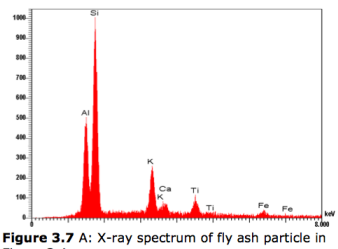


Figure 3.7 A: X-ray spectrum of fly ash particle in Figure 3.4.

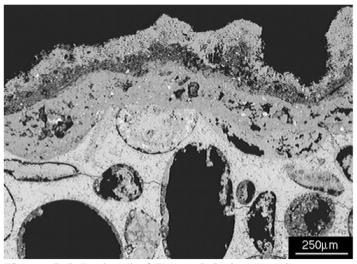


Figure 3.9 B: detail of Figure 3.8 showing three distinct surface layers. All were composed principally of gypsum, the differences appeared to be due to impurities. The gypsum has replaced, or partly-replaced, the ooliths.

It is important to know first who the users are and what the business plan will be, prior to seeking Trustee, HLF or other funds. Previous development projects have foundered during feasibility for being a single monolith demanding extensive enabling works and / or complete construction before hand-over, without following proper assessment of occupancy, demand & need: my own schemes tend to start with retaining significant earlier work, and only then to demolish / extend / construct in phases, maintaining some beneficial use and selectively offering early, partial hand-over.

APPROACH TO DESIGN

We negotiated the ecclesiastical exemption to include the Amigo hall, which clarifies jurisdiction for consents and relief from VAT. We engaged with the "Taking Stock" surveys (Historic England for the Diocese) and with the listing entries (most recently for Archbishop's House) so that the descriptions give us and future advisors clear direction. Our proposals always respect those assessments of significance so consents are agreed more smoothly.

We forged consensus that 'retention' works - restoration / conservation - closely match original materials, yet have developed a stylistic progression from Pugin's Gothic via Walters and Craze into compatible yet identifiably C21st details for 'change' projects. Insertions and adaptations, being clearly of the current period, use contemporary materials.

Wherever possible, we operate a construction management methodology, so that a principal contractor doing masonry / leadwork does not take a mark-up on a specialist tradespersons who is independently using the scaffold and canteen doing stained glass / bells.

In discussion with the specialists samples of workmanship & materials are prepared on-site before tender, firstly checking the scope of work so our specifications and tender descriptions accurately reflect the task, and secondly available as quality/cost yardsticks for tenderers to inspect and price without risk.

Specialists are normally retained from advice to contract stage, whether named or as direct trades, depending on the contract procedures.

For Amigo hall refurbishments, the colour / composition of 1940s materials was matched for new segments.

For developing the hall, the scale of the 1958 cathedral baptistery and clerestorey pilasters was reflected in the raising of a new lift shaft and remodeled elevations.

For the cathedral parapets, the mortar mixes and sand colours from 1848, 1894, 1958/63/66 were analysed and matched to the strength/absorption of each period of parapet masonry. A segment of repointing was undertaken and timed and re-measured in advance.

For the new Jubilee Holy Door, a stone profile was replicated from the 1966 Baptistery so the visual balance either side of the West Porch would be ensured.

The involvement for Blessed Romero of an artist of international standing (who had known the assassinated archbishop personally) to decorate the cross raised the profile of the Trust's work immeasurably. The insertion was approved prior to Fernando Llort's commission through a full-size mock-up with different scale options. I then travelled with the donor to El Salvador to brief him in person.

A toolkit of data surveys has been commissioned, periodic datum levels (retro-station readings) and high resolution photography (crack comparison) for a 5-yearly check on progressive movement in the Nave arcade.

Left: Romero Shrine - full size mock up for client and donor consultation with finished shrine decorated by Fernando Llort

Below: Matching mortar mixes and cleaning samples to existing materials

Below & opposite: New stone work and masonry repair techniques

STAKEHOLDER ENGAGEMENT

Jonathan Louth has experience in visitor and stakeholder consultations, school and community vision days, consultation and presentation events. Examples of processes which have been undertaken include:

- A continuing briefing, resources packs, information for staff and volunteers with the Diocesan schools/college visits to take the project into the learning environment
- The chance to Cathedral staff and related consultants and apprentices to see the site (at times through remote cameras but, when safe, at times on the site or scaffold)
- The chance to visit craftspeople at work, in on-site buildings, artist's days and other events
- A covered space for study and learning days, careers and recruitment days for the firms and businesses engaged on the project
- A rolling capture and visualised record of visitor and stakeholder comments and cathedral newsletter inserts.

ADDRESSING THE SITE

We are gradually improving the demarcation between

- Technical site maintenance under the Parish's Site & Facilities Manager (SFM), and
- Accredited intervention in the listed fabric under the Cathedral architect

Term contractors undertake maintenance for equipment and systems direct for the SFM but refer any work affecting the fabric / services systems to the architect (in case consents would be required).

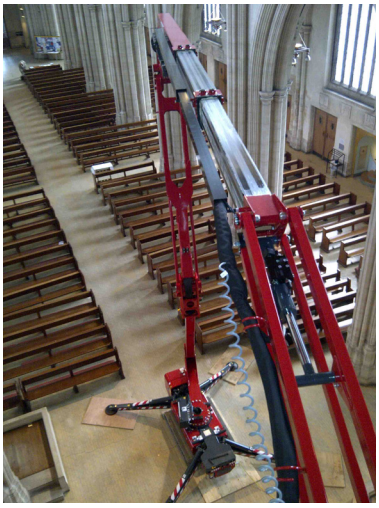
There is a spreadsheet of maintenance and periodic inspections, categorized with the expertise required from volunteer to accredited practitioner.

A compact manual of materials, colours and fixtures has enabled cathedral staff to arrange redecoration etc. in the administrative/clergy accommodation direct with the site team.

A closer regard for the distribution and isolation of services should have been given when we took over the previous architect's re-servicing proposals, since subsequently tracing zones/delinking circuits has been laborious.

In retrospect, a voltage, current & impedance analysis should have been undertaken throughout the estate prior to re-wiring the organ in 2011, for example, as subsequent issues with the instrument and other electronic systems are muddled by uncertainty about the consistency of supply voltage or earth leakage.

A drive to simplify control and maintenance systems is underway, so the cathedral staff and volunteers are more self-sufficient (out-of-hours and weekends especially).



The correct choice of mobile and static access equipment often impacts on the financial viability of the works (left). Cathedral staff are being trained to operate mobile equipment.

Bespoke fixing brackets & mounting frames for CCTV, monitors, loudspeakers, etc. need to take account of rapidly changing models / size of replacement equipment, lest they become redundant: electronic equipment needs to be out of day-to-day reach of petty thieves.

APPROACH TO SUSTAINABILITY

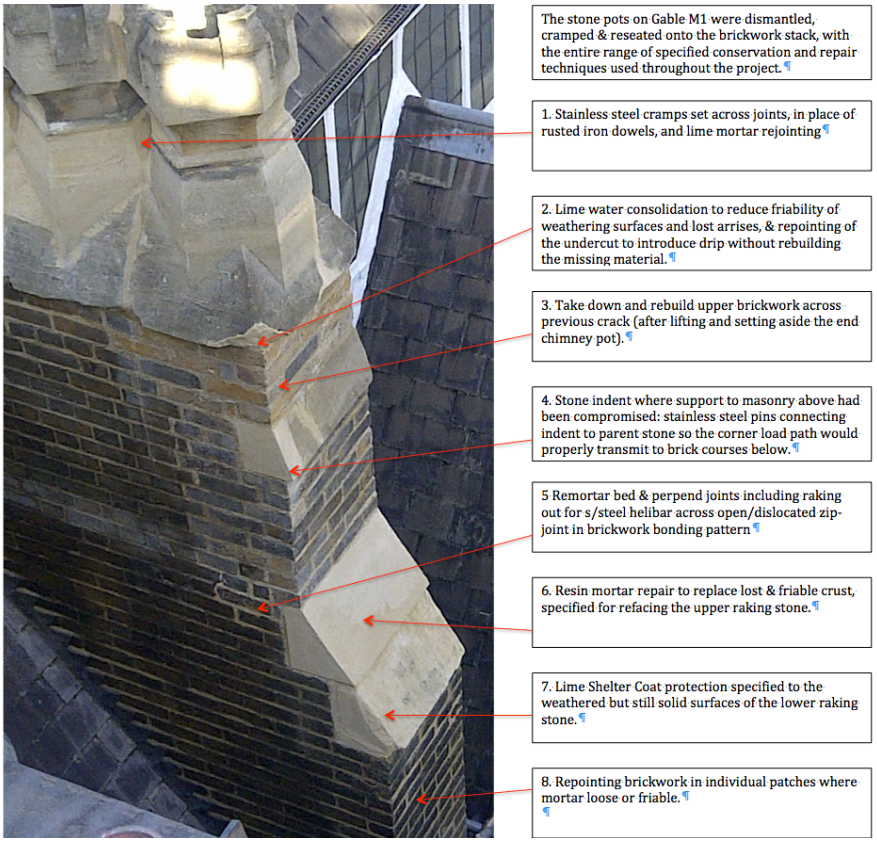
Subject to keeping the rain and damp out, traditional construction of the estate gives relatively ideal 'massive' conditions for sustainable stable environmental conditions.

Gas and electricity arrive in whole site intakes with sub-main distribution/sub-metering for each of the buildings to take advantage of negotiated supply tariffs. External daylight and temperature sensors are linked to the on-off lighting and boiler input/flow temperatures respectively.

Options for reduced energy consumption are being implemented in tandem with works as they progress, dividing heat / hot water supply between dispersed modular boilers, allowing separate programming. Where several buildings run from the new energy centre, the pumps and circuits are divided on separate programmers. Remote monitoring is being installed to respond to alerts and performance reductions. Interlinking valves allow heat from one boiler into the circuit of another: heat can be shared between buildings if any one systems fails.

Power and lighting distribution circuits have been renewed over 20 years, with programmable light settings: the fixtures (including luminaries) are gradually being uprated in turn, in response to the development of LED and low voltage technology.

We have embarked on assessment of roofs suited to green/sedum blankets and use of solar/photovoltaic panels. Elsewhere in the diocese (new developments beyond the cathedral), we are advising Trustees on the feasibility of earth-sheltered, earth-tube, ground source thermal options in new developments. Some lessons will in time become applicable to the cathedral estate.



THE BROAD

Gensler played an integral role in realising this striking new home for The Broad Art Foundation and the Broad family's extensive and personal collection of post-war and contemporary art. The design envisioned by Diller Scofidio + Renfro (DS+R) required numerous complex solutions, and Gensler's role as Executive Architect went beyond the standard responsibilities. Working extremely closely with DS+R and the other consultants, Gensler delivered a spectacular building which establishes Los Angeles in California as one the top four art destinations in the world.

RELEVANCE TO CLANDON PARK

Like Clandon Park, the purpose of this building is to not only develop a meaningful and intriguing visitor experience but conserve and maintain a valuable cultural asset. Elements in The Broad such as the cavernous ground floor interior, which starts the visitor's journey up a 105 foot escalator leading to the vast third floor gallery; or the windows which offer tantalizing hints of the vault, highlight the design team's ability to deliver an interesting visitor experience whilst maintaining core functions of storage and conservation for the collection. The vault feature was treated and delivered in a similar quality to the rest of the building, it was not a feature to be hidden away but a space of meticulous, methodical perfection; almost becoming an art installation itself. A combination of design, delivery and engineering expertise has produced a substantial feature.

We wish to apply the approach shown on this project to Clandon Park, by using learnings from The Broad, we would like to show slices of its history including the fire damage but also showcase conservation in action and what that entails.

Client: *Deborah Kanter, General Counsel at the Broad foundation*
Email: *dkanter@broadfoundation.org*
Tel: *Not Available*
Location: *Los Angeles, California, US*
Completion Date: *Sept 2015*
Budget: *USD140m*
Duration: *Five years*

Entry to the museum via the cavenous ground floor, to the left is the esculator to the third floor gallery

Inside the third-floor gallery, where the esculator and lift enter into almost illuminous space

WORKING WITH THE CLIENT

The Broads (philanthropists and art collectors, Eli and Edythe Broad), are not just art collectors they are art lovers. Their devotion to art is at the very heart of The Broad Museum. As part of the design team, it was important to understand the commitment and loyalty of not only the Broads but the staff; all who felt passionately and talked romantically about the pieces in the collection. As the Executive Architect on this project, we had to uphold the values of the Broads, the employees of the museum and also the Design Architect. To do this successfully, we worked intimately with the engineers and contractors to ensure quality of delivery and resolve any design challenges as they occurred on site.

The intentions of The Broad differ somewhat from other museum and gallery objectives. The Broad's vast collection contains over 2,000 pieces of some of the most well-known 20th century artists. This presented a paradox in the design brief. How could a space be created which both emphasised the institution's public presence whilst also expressing storage and archive spaces which are typically hidden from public view? The 'veil and vault' concept was borne out of need to deliver just that. The 'vault' is a concrete body which forms the core of the building, dedicated to providing storage, laboratories, curatorial spaces and offices whilst the 'veil', a porous envelope that wraps the whole building, creates a dappled interior which not only shields the artwork from the sun but offers visitors glimpses to the outside.

The project not only entailed Diller Scofidio + Renfro in collaboration with Gensler but some 40 consultants, all specialists, working in disciplines such as lighting, security, art storage, audio/visual infrastructure and MEP. Although the scale of The Broad is larger than Clandon Park and offered different design and delivery challenges, Gensler is well-versed in dealing with complex client and design teams, resolving design and on-site concerns effectively to deliver a product of extraordinary quality.

APPROACH TO DESIGN

The Broad sits along the Grand Avenue in Los Angeles, adjacent to the distinctive Frank Gehry Walt Disney Concert Hall, which was also worked on by David Pakshong, Project Director on The Broad, prior to joining Gensler. With the Museum of Contemporary Art and High School #9 by Coop Himmelb(l)au also near, it was important that this new addition complimented the architecturally significant streetscape and connected with the surrounded area.

Gensler worked with the Design Architect to make sure that it was delivered to exacting standards and the quality of the delivery didn't compromise the aspirations of the client nor the building in situ. The Broad fits in yet stands out amongst the city's most prestigious structures, visually inverting the qualities of its imposing next-door neighbour. It establishes its own unique identity in a way that harmonises with the neighbourhood.

Additionally, in front of the museum is a new 24,000 sq ft public plaza. This new public space is planted with 100-year-old Barouni olive trees and is surrounded by new restaurants, bars and shops, drawing visitors to the area. It was important to the design team that public realm complimented the museum and its values, offering a small buffer to the surrounding hardscape. It creates a public space for picnics, outdoor films, performances and educational events. The landscaping delivered by the team offers some critical green space for the Avenue and the green infrastructure being implemented across the city.

With The Broad now open and operating, Grand Avenue has been transformed into a prime cultural destination.

STAKEHOLDER ENGAGEMENT

We have developed a very successful process for enabling participation by users, clients, and government constituents to facilitate the most efficient and successful outcomes for all stakeholders. Through facilitated workshops, site visits, interviews, and research, we examine both quantitative aspects such as space allocation, density, and efficiency and qualitative aspects, including collaboration, image, and identity.

Communication, collaboration, and anticipation on their own are all certainly important to leading a successful design process that delivers the highest level of achievement, but it is the integration of all three that makes the difference. We are very passionate about the possibilities and look forward to the teams' successful integration resulting in a fulfilling and rewarding experience that meets the project goals and objectives.

Joanne Heyler, Founding Director and Chief Curator has been at The Broad for over 20 years and knows the art collection at the gallery thoroughly, selecting each piece for exhibitions taking place. It was therefore important that the design and delivery of The Broad was significant, subtle and complimentary to Heyler's curation; and her motivations for communicating the story of the art to the visitors.

One of the key features of the design is its accessibility; not only is it free but accessible to all. It was important to coordinate with key focus groups throughout the delivery to ensure that these accessibility needs were met. This principle continues out into the public realm.

During the design process with DS+R, The Broad invited the public to preview the design. This presented an interesting challenge. The distinct façade – a perforated 'veil' was viewed as embossed and only partially porous. To amend this, the design evolved using an airy, cellular exoskeleton structure made up of 2500 glass-fiber-reinforced concrete (GFRC) panels and 650 tons of steel lifts that span across the block-long gallery, providing natural daylight.

The Broad museum also includes a three-storey partly subterranean garage. As Executive Architect, it was our role alongside the contractor, to work with the City's utilities providers to make sure systems were maintained and potential risks avoided.

Additionally, Gensler worked with the design team to coordinate with the Los Angeles City Council, including the various municipality departments, to expedite appropriate building permits and ensure building regulations were met.

Due to the complexity of the project, there were a large number of structural engineers involved and collaboration with earthquake specialists. The façade had to be designed and built in such a way that it could withstand earthquakes, not uncommon to California. Along Grand Avenue the veil goes beneath street level to sit upon an earthquake-safe rocker. This method was determined through workshops and modelling meetings which tested design solutions for this significant task.

During the design process, lighting studies were held with the curatorial team and exhibition specialists to understand the amount of light allowed into the galleries. This had to be limited to preserve the artwork. The unusual perforated façade provides filtered natural daylight and incorporates the outdoor environment into the visitors' experience.

ADDRESSING THE SITE

The third-floor gallery is vast. At 35,000 sq ft it offers a column free space as requested by the client. This offers the museum a flexible exhibition space. The design team worked extremely closely with the contractors to deliver this column free space; learnings from this can been used in subsequent projects which require this vast, flexible space.

Inside the vault, where the collection is stored

Inside the retail shop at The Broad

View of the administration offices for the committed Broad staff

During the design process, challenges arose from the fabrication and design of the perforated façade. Working with the client, the contractors and manufacturers, Gensler helped resolve the structural challenges

The vault component of the building, a 21,000 sq ft repository housing the Broad's collection when not on display, is located at the centre of the structure. Rather than hiding it away as is typical with museums, the design team took a similar approach to that of the British Library, putting it partially on show.

The vault itself required extensive mechanical and electrical systems to keep it cool and has extra capacity for further art additions. Putting the vault on display like this, shows that visitors are interested in seeing the often 'hidden' side of museum and gallery workings.

Gensler is currently working with DS+R on a modern art museum in New York due to open in 2019. Having previously worked together so well, the design team are looking to continue this collaboration and use the learnings from The Broad on other ongoing projects.

The approach which Gensler took as Executive Architect on the building, was so valued by the client, it led to further commissions on some of the interior spaces such as the retail experience and administration areas. By listening to the client and adapting the way we work, as well as showcasing our ability to understand how a building operates behind the scenes, and how to create experiences which support revenue generation, we have developed a symbiotic relationship built on rapport and mutual respect.

APPROACH TO SUSTAINABILITY

The Broad achieved LEED Gold certification. Initially with a brief to achieve a Silver rating, the design team delivered to a higher sustainability standard than expected. Key features include electric car charging stations, bike parking spaces, rooftop drainage routes to street level gardens that filter run-off and high-efficiency plumbing fixtures that reduce indoor water use by 40%.

Mindful in the design and delivery of the project was the public realm and access to public transport; the museum is conveniently located near the new Metro Regional Connector station. Clear access and wayfinding from this station via a wide stair and elevator places visual emphasis on accessing the museum through public transport rather than private vehicles.

The subterranean car parking, could offer additional collection storage as the city edges towards a sustainable transport system (potentially including the use of driverless cars). The car parking also offers spaces for electric cars and bicycles.

The key feature of the veil design concept and then through its delivery, is to service the interior space and offer long-term economic sustainability to the museum because the collection is protected from direct sunlight. Unlike many galleries which are windowless, the veil offers an alternative solution to this issue. The 310 meticulously shaped skylights filter diffuse the northern daylight, enabling the artworks to be viewed as the artist intended.

The aim of the building and continuing aspirations of the museum is to be a top tier eco-conscious, efficient and sustainable museum.

USE OF MODERN DESIGN

The veil is made up of an assembly of 2,500 glass-fibre-reinforced concrete (GFRC) panels; this is lifted at the point of entry to offer clear wayfinding and implementation of urban design best practices. Furthermore, an oculus is forms the central 'dimple' in the façade. It was a design and engineering challenge to make sure this façade worked and could be delivered. Using seismic coding and modelling and 3D visualisations helped make this honeycomb effect a reality.

The design team explored two options for the veil element; case concrete or concrete clad steel. Working with the engineering firms and fabricators, a tubular steel web encased in hollow glass-fibre reinforced-concrete (GFRC) panels were developed which met the seismic codes required. This was completed through the use of CATIA (BIM) models; 3D visualisations of the veil to determine how it would work both structurally and visually.

Supporting these 3D visualisations were the use of prototyping of large-scale mock-ups – these were used by the design team to critique the finish and effect of these panels in real life. Similarly, on conservation projects, smaller scale mock ups might be produced and compared with the original to maintain the visual character which the design team are aspiring to.

However, this had visual and structural implications on the building. Having developed a solution which could be fabricated and delivered, the design team worked with the structural engineers to strengthen the main building structure so as not to rely on the façade structure. Further evolutions of the façade were made to mitigate some of the aesthetic concerns raised during public consultation.

"The veil has a design intent that very few people would understand. There is a design component, a fabrication component, an engineering component and a materials component. Everyone brings their expertise to the table."

DAVID PAKSHONG, PROJECT DIRECTOR, GENSLER

Detail of the 'veil from inside the museum

Entry to the museum via the cavenous ground floor

Detail of the 'veil' facade cladding

In the design and delivery of this project, it was important that accessibility and wayfinding were held in the highest regard and integrated throughout the project, inside and out. Having an inclusive environment is fundamental to modern design practices. Within the plaza outside, sidewalks are widened and planting provides valuable shade to pedestrians, they are also designed in a way to encourage interaction with the building, enticing the visitor in and out of the building. Once inside, the space guides users through the different spaces from the almost cave-like formations of the ground floor, along the long narrow escalator or space capsule-like lift to the bright and spacious third floor gallery. Each space, inviting the user to share the quality of the design and delivery with others.

The building is likened to the improbable juxtapositions seen in insertion of the escalator in Perugia, Italy where the visitor rises to the city's upper precinct through archaeological ruins.

Construction techniques employed for sections of the building were challenging to deliver, one example includes the concrete pouring of the slab for a space with no vertical columns. 200 trucks delivered cement overnight, during an 11-hour shift the cement was poured; metal pole supports were later removed to reveal the vast column-free space.

Support will then come from metal chords (post-tension cables) that run through the slab. They stretch from the overhang, passing through pre-cut tubes in the slab to an anchor at the centre of the building. From there they are pulled tight to minimize the weight of the concrete. "If you didn't have them, then you would have to make the slab even thicker, but that would have been essentially impossible to build." David Pakshong, Project Director on The Broad, Gensler.

Gensler meticulously guided The Broad design into alignment with construction, systems, code and budget parameters whilst preserving the original concept.

As winner of the World Architecture News award for best Civic Buildings, the judging panel commented: "the quality and control of light is intriguing and innovative", and "environmentally it's very clever, it brings in very nicely the light into the building and into the different spaces."

THE TEAM

Philippe Pare, now working in London was involved in the project whilst based in Gensler's Los Angeles office. He has a deep understanding of how to develop interior solutions which work for the staff and visitor but also match the values and vision of the client. Additionally, by choosing this design team, the Trust has access to a whole range of expertise from across the world, including the project team for The Broad. Others on the proposed team such as Nigel Lea and Irene Georgakis have substantial experience with the UK and working on historic buildings and settings.

Jonathan Louth Architects

Arthur's Mission
30 Snowsfields
London
SE1 3SU
Tel +44 (0) 20 7596 6628

www.jonathanlouth.co.uk

Gensler

Aldgate House
33 Aldgate High Street
London EC3N 1AH
United Kingdom
Tel +44 (0)20 7073 9600
Fax +44 (0)20 7539 1917

www.gensler.com