HMS Parliament

Concept Proposals for a Temporary Floating UK Parliament

September 2017

Architect:	Studio Octopi
Marine Engineer:	Beckett Rankine
Structural Engineer:	Expedition
Naval Architect:	Houlder
Quantity Surveyor:	Jackson Coles
Risk Management:	Securewest International

Concept

In 1963, three new diesel Woolwich Ferries were launched.

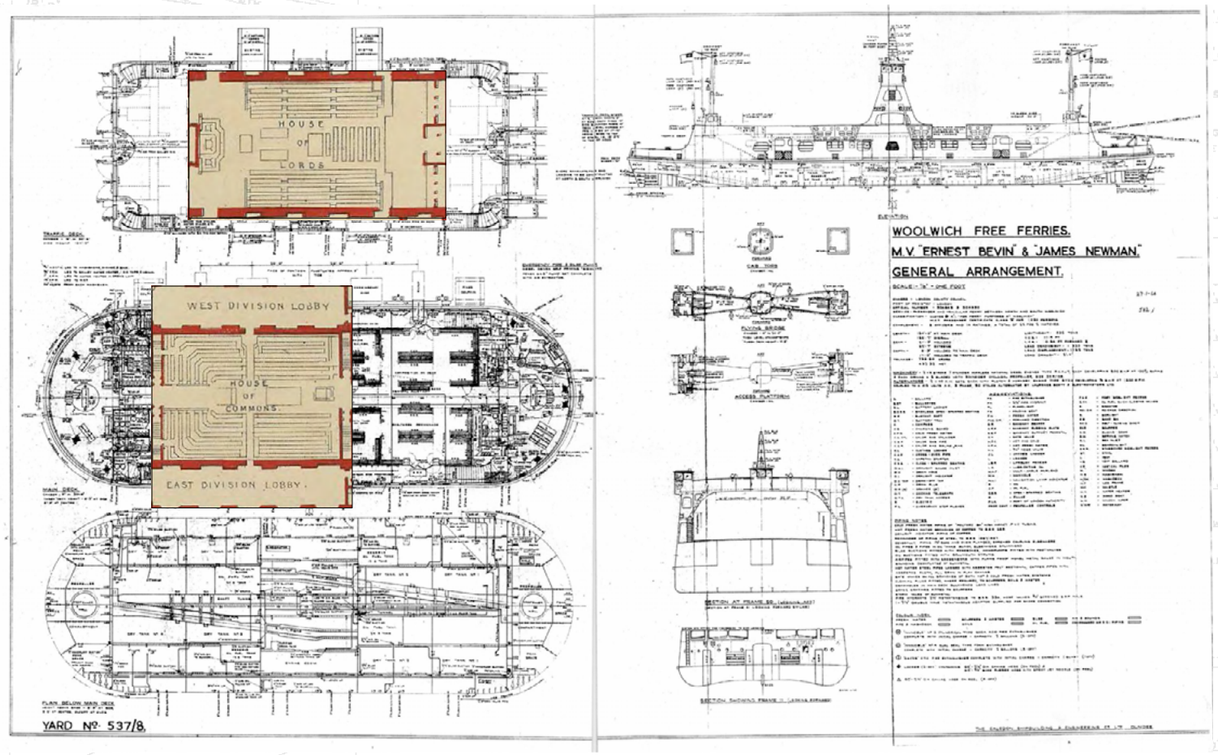
In 2018 these TfL owned ferries will be decommissioned.

What if these ferries could become the pontoons to support a temporary Parliament on the Thames?

In Spring 2017 Tim Beckett of Beckett Rankine (marine engineers) sent Studio Octopi (architects) and Expedition (structural engineers) a scaled drawing of each chamber superimposed on a Woolwich Ferry.

The fit was perfect.

Since then the team has been working with naval architects, cost consultants and security consultants to develop concept designs for the reuse of the ferries. The proposals are achievable and a clear demonstration of a sustainable response to relocating Parliament. The proposals are substantially cheaper than any of the other publicised options for a temporary Parliament and have been subject to a preliminary consultation with the Port of London Authority (PLA).



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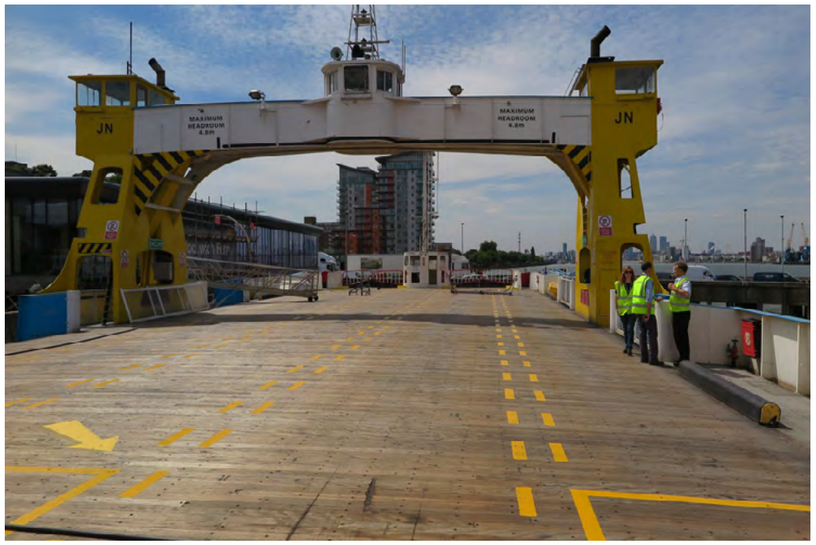
Woolwich Ferries

Set for decommissioning in 2018, these TfL owned ferries have been serving the River Thames for 54 years.

Recent surveys show that whilst their engines are worn-out, their hulls are in excellent condition.



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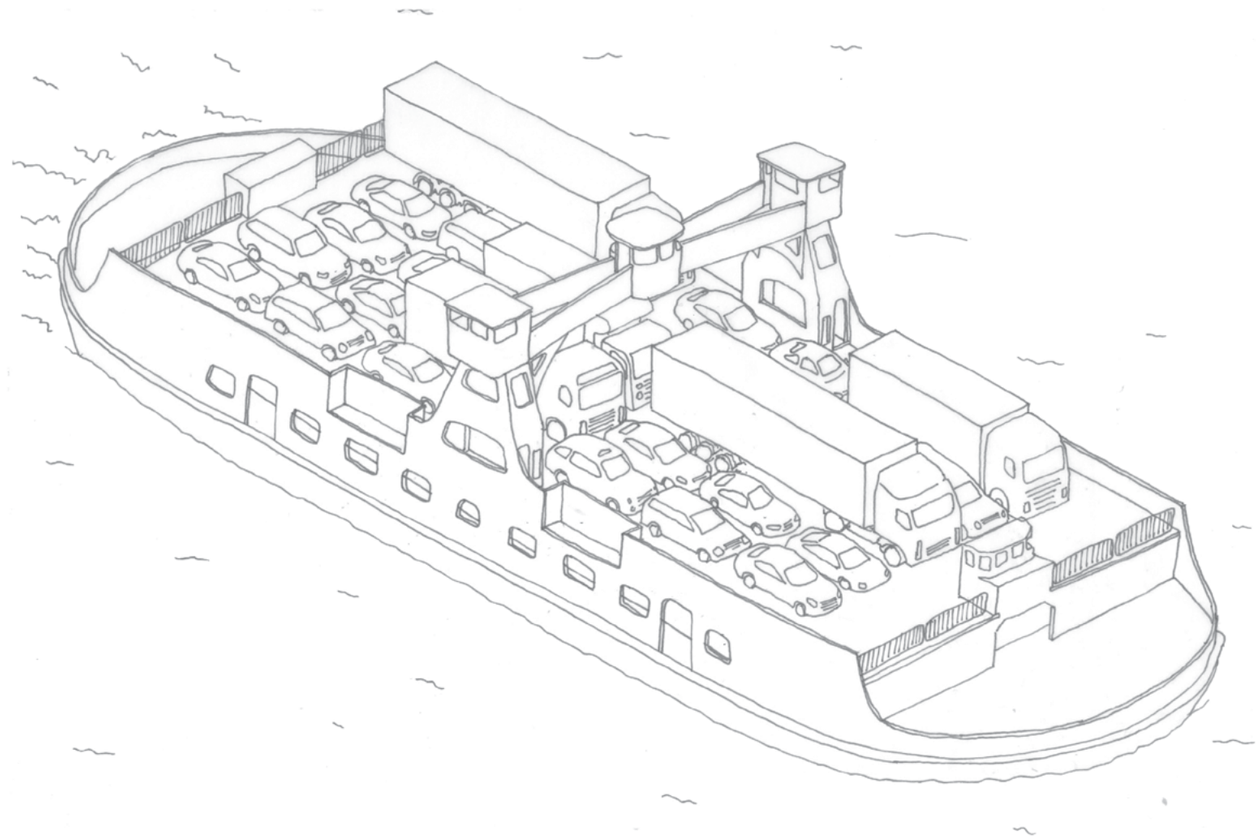
Design Concept
Car ferries 1963 - 2018



- Woolwich Ferries (3no.) in action.
- Due to be decommissioned October 2018.

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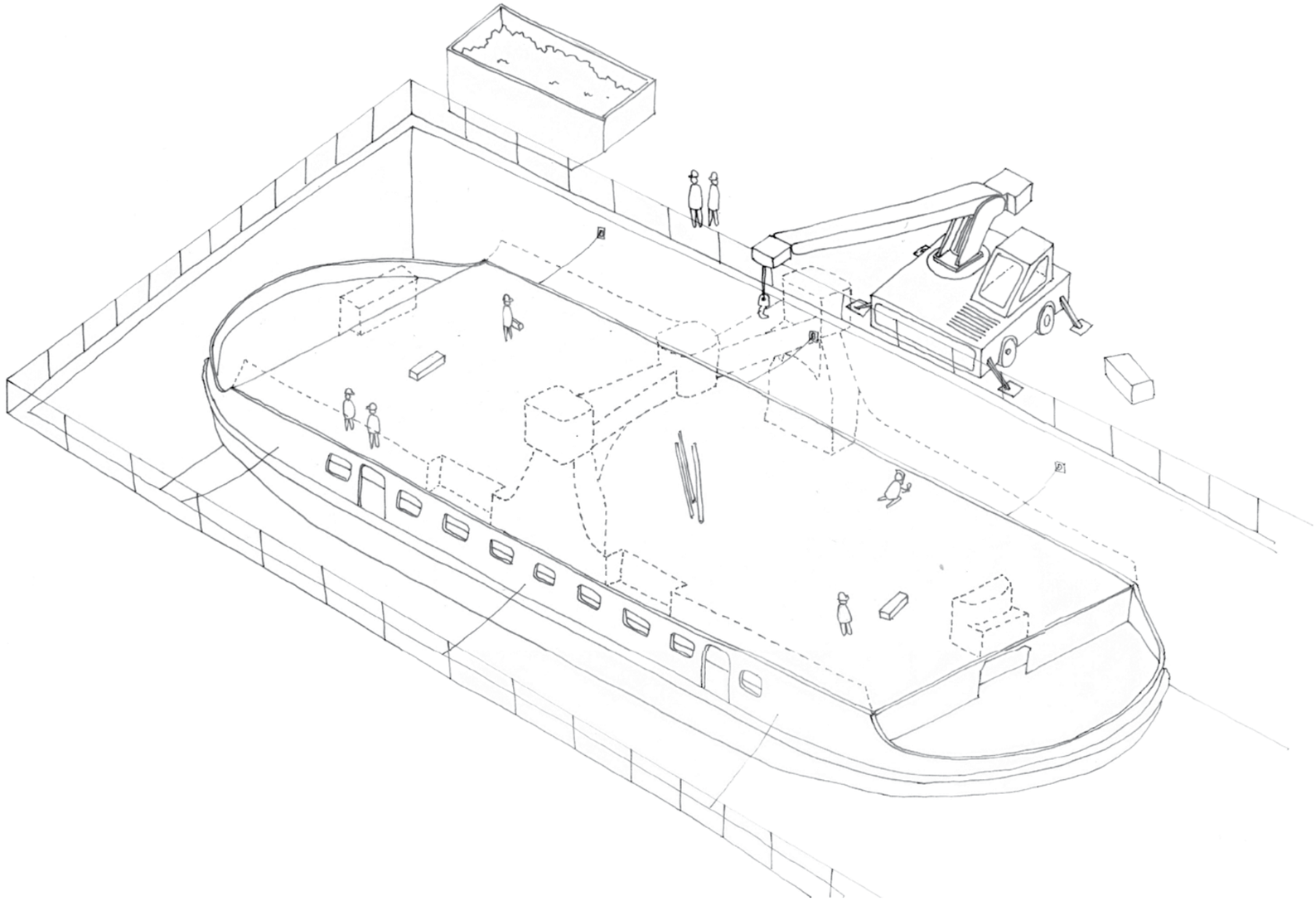
Dry dock works



- Ferries towed from Woolwich to a dry dock.
- Ferries are stripped back to a bare hull and all excess machinery removed.
- Additional buoyancy is added by boxing out the hull ends.
- Local strengthening and attachments for superstructure support.
- New mechanical plant is fitted.

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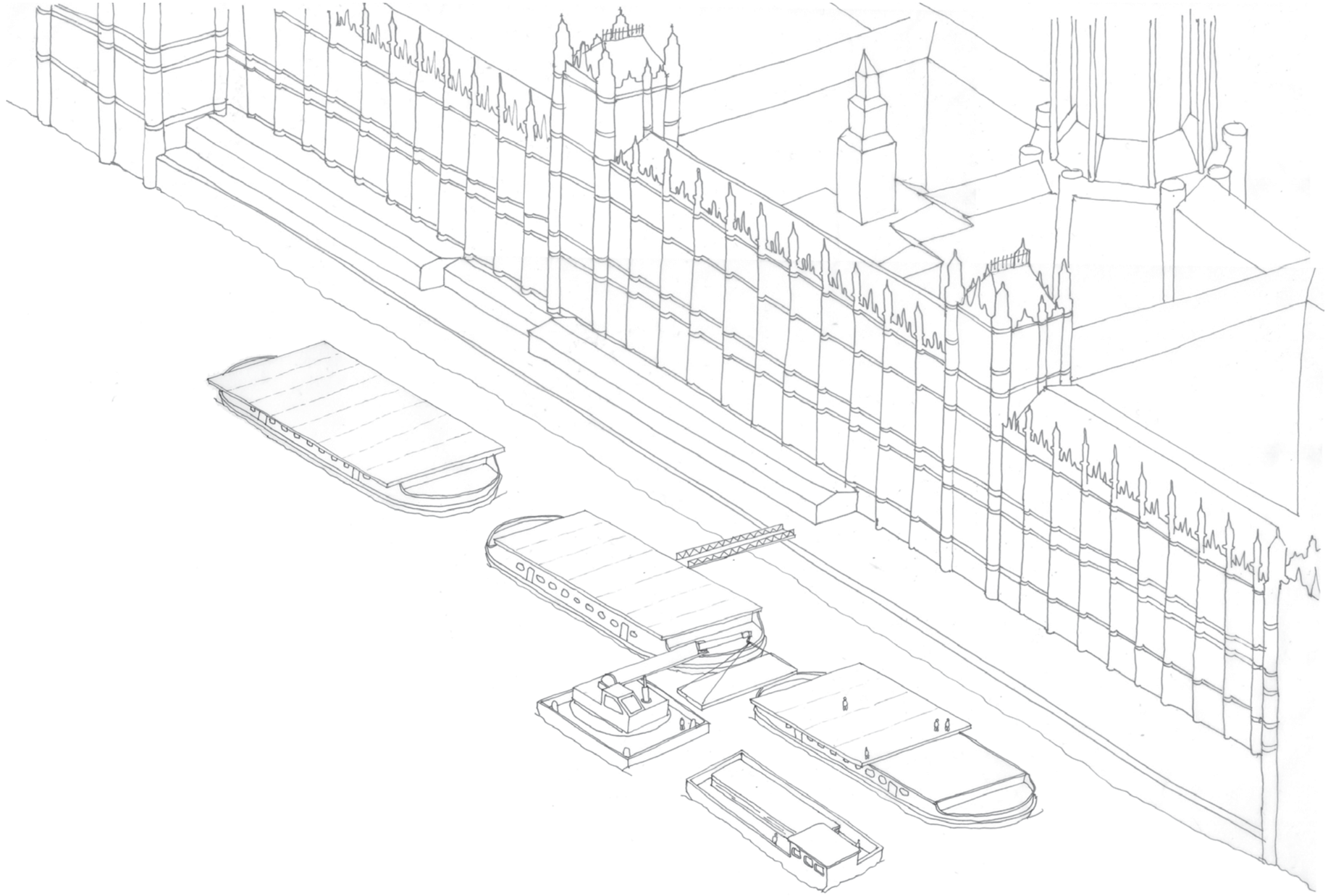
Ferries positioned



- Ferries are towed into position outside the Palace of Westminster.
- Ferries secured to mooring piles.
- New decks are built on top of the hulls.

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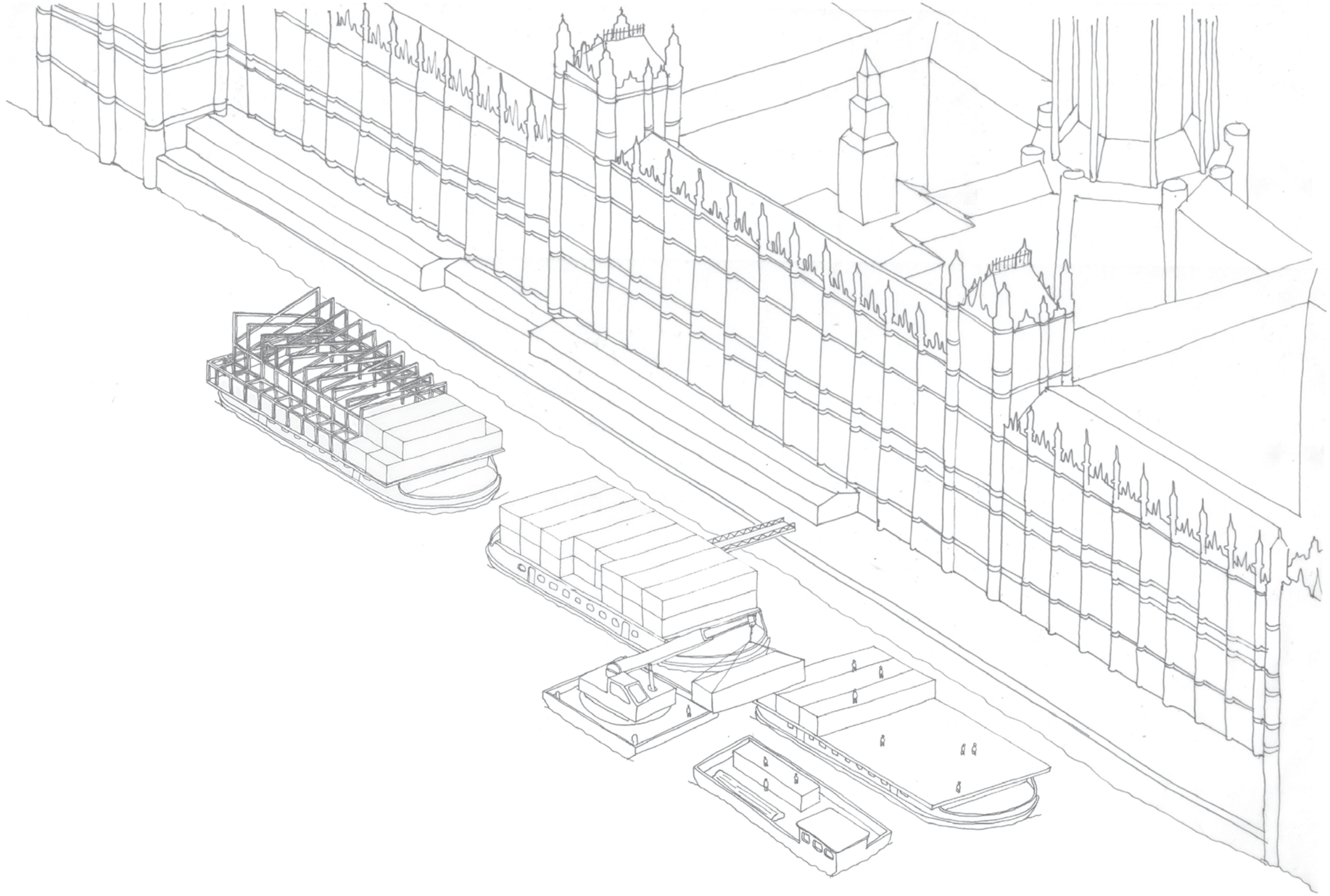
Construction on site



- All construction materials and elements are transported up the River Thames by barge and lifted into position.
- The two chambers to be constructed from steel and timber frames.
- Volumetric modular construction for all other spaces – prefabricated in factories to minimise construction time and waste, whilst ensuring high quality.

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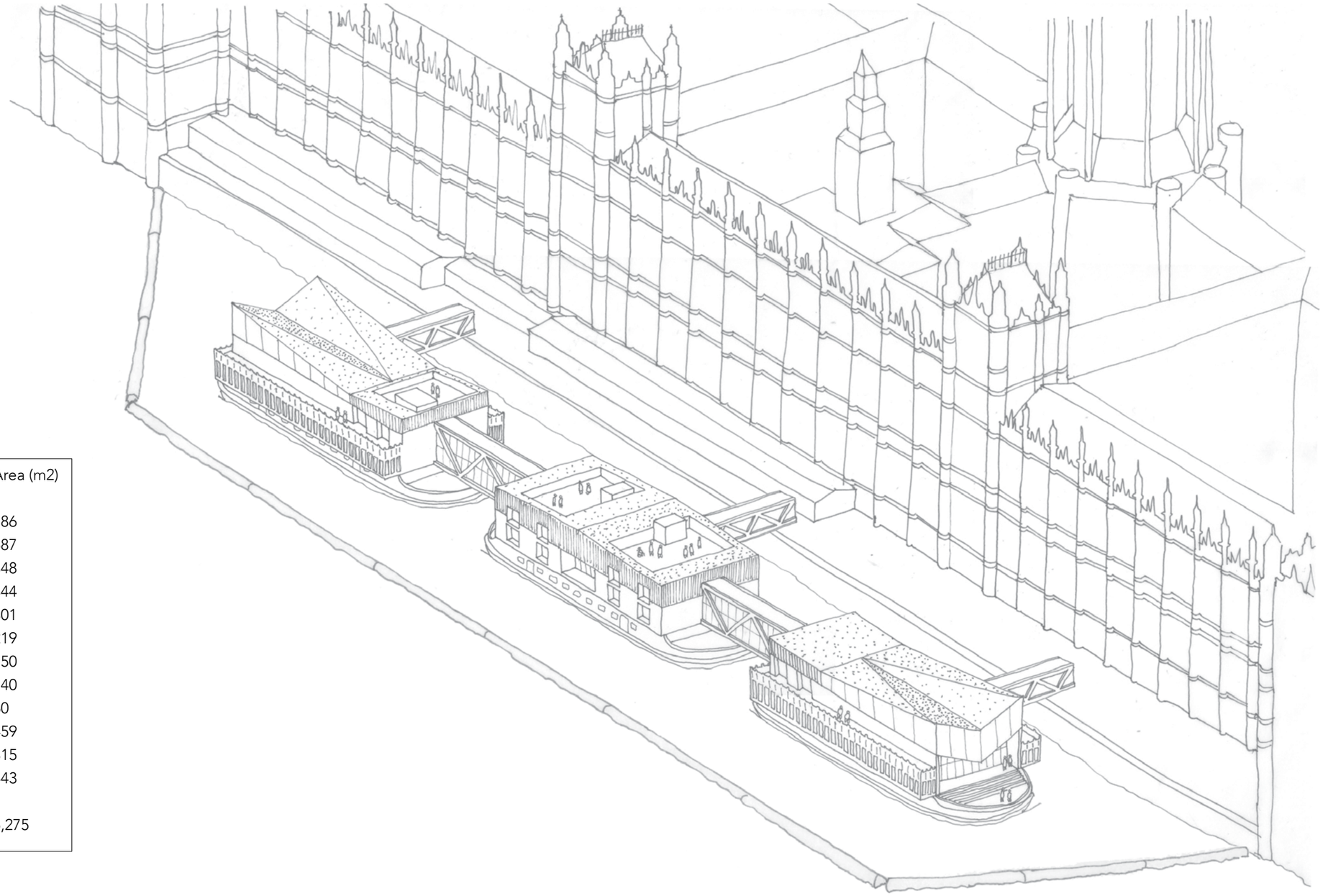
Complete 2019



Schedule of Areas	Area (m2)
Committee Rooms	786
Offices	587
Public Balconies & Terraces	348
Public Circulation	344
Secure Circulation	301
Central Hall	219
Viewing Galleries	150
Members' Lobby	140
Peers' Lobby	60
Voting Lobbies	459
House of Commons Chamber	315
House of Lords Chamber	443
Gross Internal Area	5,275

- HMS Parliament is surrounded by an exclusion boom.
- All waste removal and deliveries are via the river.
- An expressive timber roof brings light into the chambers.
- Views from the chamber allow dynamic vistas of the Thames.
- Whilst also giving passers by a view of democracy in action.

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Engineering

Each ferry will carry up to 1100T, significantly more than in their original operation, but this has been reviewed by specialist marine engineers, and results in an acceptable increase in maximum draft and hull stress.

The team have developed and assessed lightweight framing solutions to provide the accommodation within an acceptable increase in the ferries' loading.

The offices will be prefabricated from steel and timber lightweight modules that can be constructed to the highest quality standards in factories, transported and craned directly onto the ferry hulls from barges for rapid assembly. These modules will come fully-clad and would be designed to be demounted and redeployed after Parliament's use.

The Lords and Commons chambers will be formed from elegantly expressed hybrid steel and timber framed construction all erected on the ferries. Again, these will be detailed to permit dismantling and future reuse as a community or school assembly building.

Piling in the River Thames

Expressed timber framed construction

Off-site prefabricated modules

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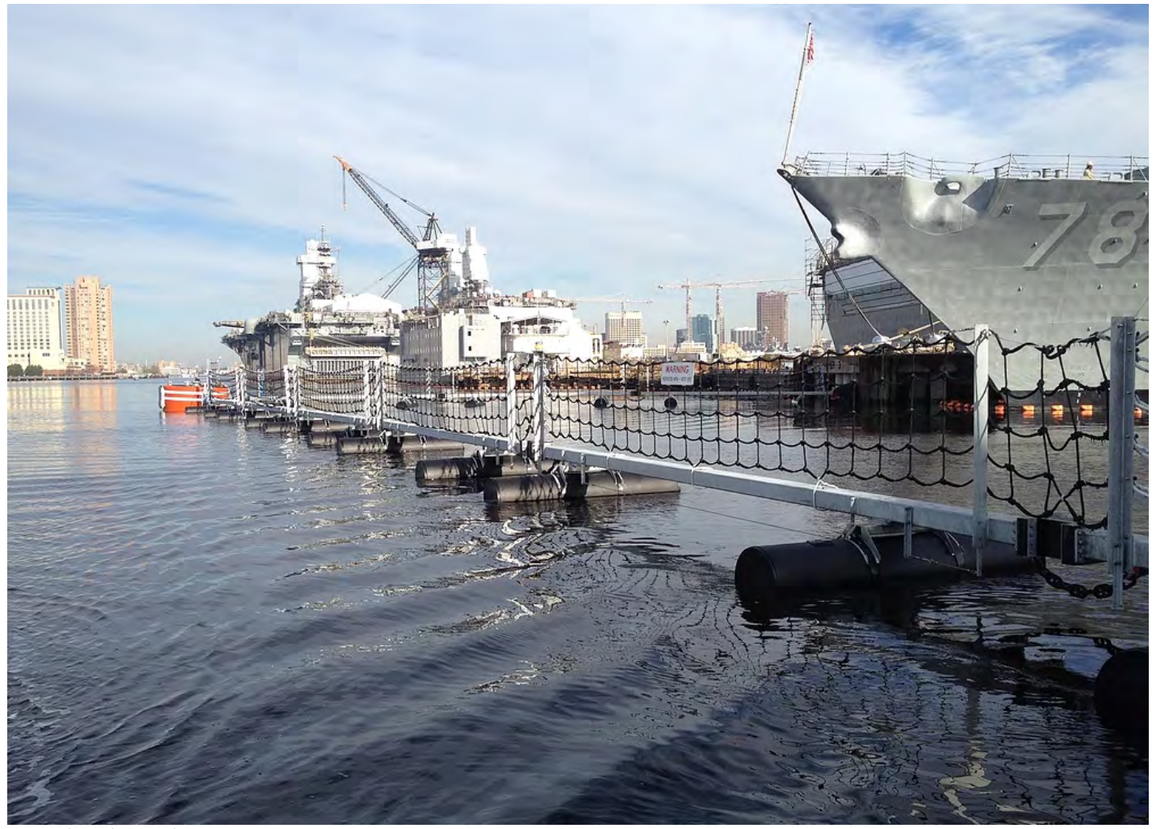
Security

Securewest International (Risk Management) recommend that the security plan for HMS Parliament be an extension of the current physical and information security plan/measures for the Houses of Parliament.

Initial security considerations have been taken into account by the design team in drawing up the concept, reflected in the employment of a boom, no low level external access and other structural measures. As the next step a full threat based approach would be utilised by our specialist security team Securewest International, in cooperation with government security agencies, to review current threats and identify, analyse and treat new physical threats presented. These would be considered in 3 physical dimensions: air, surface and subsurface.

The security plan will dovetail with the engineering design to enable day to day business, yet provide appropriate, scalable security measures and evacuation and/or reinforcement in the event of an incident.



Typical exclusion boom

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Costs

Jackson Coles (cost consultants) have costed the HMS Parliament design concepts.

HMS Parliament's approach offers considerable cost savings on previous floating UK Parliament proposals.

The construction cost equates to just over half the sqm cost of the previous proposals released in 2016.

1.0 EXECUTIVE SUMMARY

These costs have been prepared as part of a report assessing the feasibility of temporarily relocating UK parliament on to three decommissioned Woolwich ferries.

2.0 COSTS

Ref.	Description	Qty	Unit	Rate	Total
A	Marine Civils Works				
1	Monopiles to support the floating structures.	1	item	720,000	720,000
2	Bankseat to support the landward end of the linkspan.	1	item	230,000	230,000
3	A group of piles (6No 610 dia approx) to support the bankseat for the access brow.				Included
4	Linkspan connecting the shore with the floating structures.	1	item	440,000	440,000
5	Link bridges between the floating structures.	1	item	1,650,000	1,650,000
6	Boom to exclude small vessel access.	1	item	770,000	770,000
7	Dredging to prevent the floating structures from bottoming out.	1	item	660,000	660,000
8	Allowance for mobilisation, demobilisation, overheads & profit	1	item	1,110,000	1,110,000
B	Ship strip out and renovation				
1	Purchase of ships	3	nr	40,000	120,000
2	Towage to dry dock and to mooring	6	nr	15,000	90,000
3	Removal of everything above the vehicle deck	3	nr	30,000	90,000
4	Removal of internal items (engines etc)	3	nr	60,000	180,000
5	Fabrication bouyancy boxes	6	nr	215,000	1,290,000
6	Fitting of buoyancy boxes	6	nr	180,000	1,080,000
7	New decks and house side each end	3	nr	120,000	360,000
8	Steelwork seats and infills	3	nr	30,000	90,000
9	Shotblast clean and paint hull	3	nr	60,000	180,000
10	Yard services / dry dock / miscellaneous	3	nr	380,000	1,140,000
C	Above deck works / ancillary costs				
1	Construction works	5,275	m2	7,000	36,925,000
2	Fit out				Included
3	Extra over allowance for transport of materials and logistical challenges of working on water				Included
4	Extra over for water cranes mobilisation / demobilisation	2	nr	110,000	220,000
5	Extra over for water crane hire	26	wks	23,500	611,000
6	Cladding and roof to linkspan / link bridges	1,600	m2	500	800,000
7	Utilities connections	1	item	750,000	750,000
8	Works on shore side	1	item	500,000	500,000
	Subtotal				*50,006,000*
D	Contingency	10%		50,006,000	5,000,600
	TOTAL				*55,010,000*

3.0 BASIS

Studio Octopi drawings
- 3D views received 29/08/17
- GAs SK101 and SK102 rev - received 29/08/17
- Area schedule dated 05/09/17

Expedition drawings
- Sketch EXP-SK-00 2/A dated 21/08/17

Costs
- Houlder shipyard costs received 07/09/17
- Beckett Rankine marine civils and crane costs received 07/09/17

4.0 ASSUMPTIONS

- Prices at current day levels for purposes of appraisal assumed to be conducted at Net Present Value.
- All works assumed to be procured via a single stage competitive tender.
- Specification to be commensurate with the expectations of a modern parliament building but with the limited life expectancy of the construction taken in to consideration.
- Pre-fabricated construction assumed to be used to minimise dry dock time / logistical issues with construction on water.
- Spoil from dredging not contaminated.
- Access to be maintained via the palace.

5.0 EXCLUSIONS

5.1 BUDGET
- VAT.
- Professional, design, survey and legal fees.
- Site acquisition costs and fees - assumed that landing will be on the grounds of the Palace.
- Planning costs including fees, section 106, section 278 and CIL.
- Building control fees.
- Rights associated with use of the Thames.
- Finance costs.
- Capital allowances and other incentives.
- Loose furniture and equipment.
- Move costs.

5.2 SCOPE
- Specialist security measures.
- Blast resistance / bullet proof glazing and the like.

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Why HMS Parliament?

- LOCATION	Maintains the physical link with the Palace of Westminster
- SUSTAINABLE	Repurposes redundant public infrastructure
- AFFORDABLE	Less than £20m per vessel
- DELIVERABLE	Ferries available mid 2018 with 12 month conversion and installation period
- SECURE	Protected by a vessel exclusion boom and linked to Palace of Westminster security cordon
- TEAM	Award winning, highly experienced, British team of architects, engineers, maritime and security experts

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Team

Studio Octopi
Architects

Studio Octopi was established in 2003 by James Lowe and Chris Romer-Lee. Their studio is in Waterloo.
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The practice's work spans many sectors, including arts, schools, leisure, commercial and private houses. Working on a broad spectrum of projects provides a fertile hub of collaboration, experimentation and experience. Recently projects include London's largest artist residency, Delfina Foundation, refurbishment of Bradfield College's 1000 seat amphitheatre and Thames Baths, proposals for a naturally filtered, floating swimming pool for central London.
-
Studio Octopi has achieved notable success for creating inventive and considered architecture. The practice is committed to creating responses that are appropriate to the social, cultural and historic context of a given location.
-
The practice's work and thinking has been widely published in the UK and global press. The Directors have spoken at major conferences and events (including TEDx) most notably for their work on Thames Baths and passion for increasing access to underused urban waterways.

Beckett Rankine
Marine Engineers

Beckett Rankine is the UK's leading specialist maritime consulting engineers. Based in Westminster they work worldwide but have particular expertise on the tidal Thames where they have been responsible for delivering over 200 projects.
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River Thames projects include 15 new passenger piers, the London Eye and numerous river frontage works. They have also worked on the Woolwich Ferry berths designing upgrades for the fenders and linkspans.
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Beckett Rankine's current workload includes design of five Thames Tideway Tunnel sites within the river, the Nine Elms to Pimlico Bridge, new passenger piers at Wandsworth, Battersea Power Station and Silvertown and the Illuminated River project for lighting the 15 central London bridges.
-
Beckett Rankine is adept at obtaining statutory consents for construction work in the Thames; they have a detailed knowledge of the consenting requirements and have excellent working relationships with the Port of London Authority, Environment Agency and Marine Management Organisation.

Expedition Engineering
Structural Engineers

Expedition Engineering is an award-winning structural and civil engineering design practice based out of a central London studio in Shad Thames. They have twice won the Institution of Structural Engineers Supreme Award for Structural Engineering Excellence.
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The practice specialises in architecturally significant and technically challenging projects: working on cultural projects as well as bridges, skyscrapers, airports, headquarters buildings, commercial and residential developments in London and internationally. They have collaborated with many of the world's leading architects and designers on such projects.
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Expedition prides itself on the quality of its team; many are experts in their field, working at the cutting edge of engineering design. The practice has experience of working on many projects crossing and adjacent to the Thames, including residential developments in Greenwich, works to several wharfs, the Emirates Airline London Cable Car and the Diamond Jubilee Footbridge in Battersea as well as the proposals for the floating London River Park.

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Team (contd.)

Houlder
Naval Architects

The name Houlder has been at the forefront of the UK's marine sector for over a hundred and fifty years. Operating initially as the Houlder Brothers' Shipping Line, it has now become a key member of the UK shipbuilding, marine engineering and naval architecture supply chain working across the passenger transport, offshore energy and defence industries.
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As an independent consultancy with City of London headquarters, Houlder also has a proven track record of success on the River Thames. Examples include replacing the masts on HMS Belfast, support to Thames Clippers, RNLI and the Port of London Authority and design and construction of floating impact protection structures at the London Eye.
-
Houlder is a corporate member of the Royal Institution of Naval Architects (RINA) and, in recent years, has been named a Sunday Times' Fast Track company and the British Engineering Excellence Awards' Design Team of the Year.

Jackson Coles
Quantity Surveyors

We are an independent and comprehensive Construction Consultancy, established for over 35 years, with offices in London and Milton Keynes. We collaborate with Clients, Developers, Investors, Planners and Architects to bring their visions to life however complex.
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We offer Cost Consultancy, Project Management, Building Surveying, CDM and Monitoring. Past projects include many notable and unusual schemes such as Brockholes with its floating structures, as well as Museums and gallery spaces often Heritage Lottery and Arts Council England Funded.
-
We have been involved in many recent award winning schemes including two recent Stirling Prize winners.

Securewest International
Risk Management

Securewest International is a market leader in the provision of bespoke security risk management solutions to the shipping, offshore, port and corporate sectors.
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With over 30 years' experience, Securewest has pioneered best practice and developed products that mitigate risk, minimise probability and vulnerability across our client's exposure to physical, material and reputational risk.
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This has included floatels, port side security for numerous US terminals, International Ship and Port Facility Code (ISPS) assessments for the Nigerian Maritime Administration and a study to deliver a detailed plan for a comprehensive, ISPS compliant, integrated security solution for a new International Sea Trade Port.

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HMS Parliament

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