



		requirements.		
EA3.9	Impact assessments of the proposed design and construction methodology on adjacent structures	To provide assessment of risk associated to existing adjacent structures and mitigation measures to be employed to bring these to a tolerable limit.	The Consultant	To end of Stage 3
EA3.10	User safety analysis report	A report that reviews the safety performance of similar crossings, the requirements for the crossing and the risks to crossing users, rivers users, crossing staff and third parties to demonstrate that risks will be as low as reasonably practicable.	The Consultant	To end of Stage 3
EA3.11	Crime and disorder study	A study to identify requirements for the design to mitigate the impacts of crime and disorder on the users and operators of the crossing and the resilience of the crossing.	The Consultant	To end of Stage 3
EA3.12	Cyber security study	To identify requirements for the final design based upon The Employer and Centre for the Protection of National Infrastructure standards and guidance.	The Consultant	To end of Stage 3
EA3.13	Final AIPs for the single option	Developed Structural and Electrical and Mechanical AIPs for the single design option.	The Consultant	Partial Stage 4
EA3.14	Provide design support throughout	Provide design support throughout the commission and in work streams as required.	The Consultant	Partial Stage 4
EA3.15	Provide resources to support discussions with land owners on design matters.	Provide resources/plans to support discussions with land owners on design matters.	The Consultant	Partial Stage 4
EA4	Deliverable	Definition	Responsibility	
EA4.1	Provide resources to support stakeholder	Provide resources to support stakeholder meetings on design matters.	The Consultant	To end of



	meetings on design matters			Stage 3
EA4.2	Support meetings with community and or key stakeholders on the proposed design	Support meetings with community and or key stakeholders on the proposed design.	The Consultant	Partial Stage 4
EA5	Deliverable	Definition	Responsibility	
EA5.1	Produce employers works information for Design & Build tender	Provide support to The Employer in producing documentation for a future Design and Build (D&B) contract.	The Consultant	Partial Stage 4
EA6	Deliverable	Definition	Responsibility	
EA6.1	Estimate Report	Report detailing the whole life cost of all the elements of the scheme over 120 year lifecycle including construction, land, operation, maintenance and renewals (refer to Section 4).	The Consultant	To end of Stage 3



3. EXISTING INFORMATION

3.1. Work Undertaken to Date

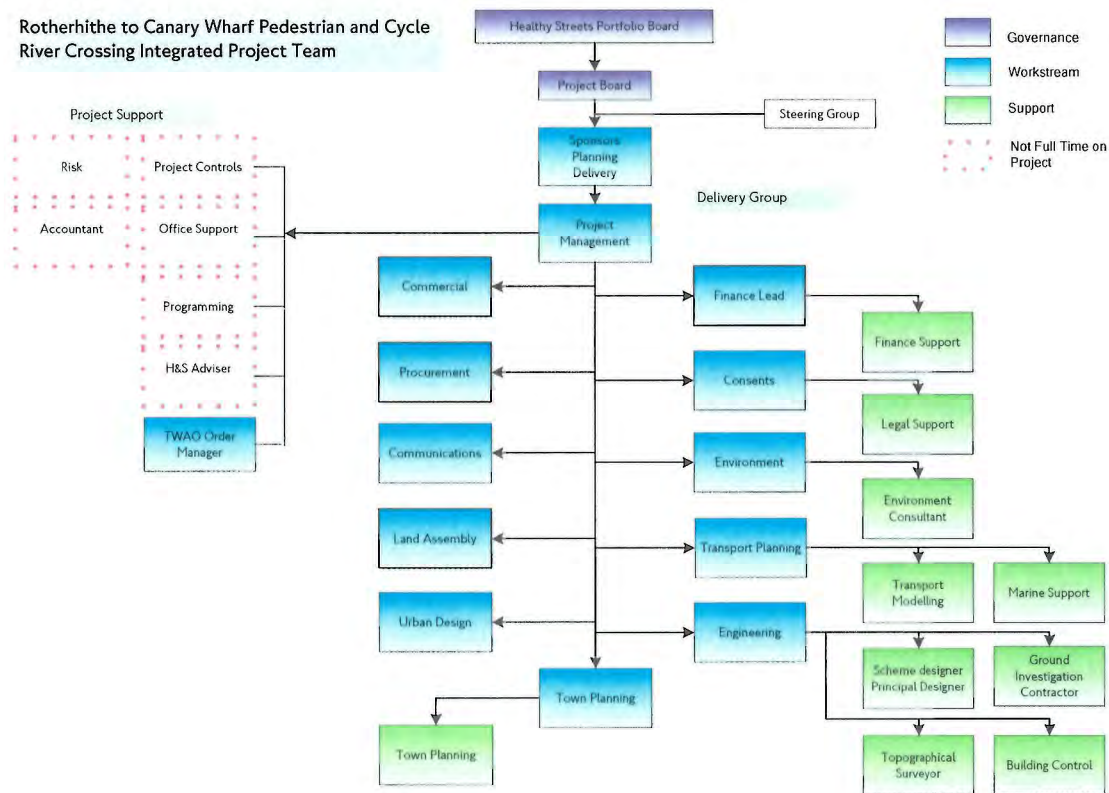
- 3.1.1 The concept of a river crossing in this area first emerged around a decade ago, under plans to develop Greenways for the 2012 Olympic and Paralympic Games. Work previously led by Sustrans resulted in a series of feasibility studies.
- 3.1.2 The work lead by Sustrans has been reviewed by the Employer for background, but the Employer has undertaken its own feasibility studies and reached its own independent conclusions regarding the need for a crossing in this area and the options for delivery.
- 3.1.3 Due to the proposed location of the Crossing, the bridge structure will tend to be an opening bridge as the River Thames is navigable at this point and cannot restrict access further up the Thames to St Katherine's Dock and the Pool of London; this impacts on the design and the Consultant will need to carry out further work to determine the design parameters for the Crossing.
- 3.1.4 Negotiations and approvals from the Port of London Authority will be required for the Crossing. This includes approval of how the Crossing is operated to allow boats and ships through. The period and number of openings per day could have an impact on the usage (and is subject to further work by The Employer to identify the optimal requirements for the design).
- 3.1.5 The Employer has employed Arcadis (engaged in quarter 1, 2017) to undertake initial optioneering work in order to afford the Employer a greater understanding of the constraints in this location for a cycle and pedestrian crossing via a bridge and the various bridge forms that would satisfy the constraints. This work has helped to inform the current public consultation. Further work by Arcadis in conjunction with the results of the public consultation will allow the Employer to reach a decision on the single preferred option by Spring 2018. This commission will build on this earlier work.
- 3.1.6 The Rotherhithe to Canary Wharf Crossing Bridge Options Study by Arcadis (November 2017) including Appendices is provided and referenced in Annex A to this document. This excludes documents or statements which contain anything the Employer deems to be commercially sensitive or for which the Employer does not own the copyright/has other licencing issues. The Study with Appendices (Annex A) and all other documents referenced in Annex B to E are for context and do not indicate any decisions on a final solution for the project. This work is subject to further evaluation by the Employer to determine a single preferred design option. This will consider multiple other factors including TfL's own assurance, stakeholder requirements and the outcomes of the current public consultation.

At the commencement of the commission the Employer will provide further information on the single option evaluation exercise and any decisions made by the Employer on a single preferred option. The Consultant is to validate the information for technical adequacy of the single option in order to progress the design to concept design stage.



3.2 Organisational Structure

Figure 1-2 Organisational structure for the project illustrating the Employers Team in relation to the Support Teams



3.3 Related Commissions

- 3.3.1 The following work streams have already been commissioned separately from this work. The Consultant shall work collaboratively with the Employer and other consultants to integrate work streams and understand the issues that will influence a successful design suitable to support a TWAO application.

Initial Technical Scoping

- 3.3.2 The Employer is currently working with Arcadis on the initial technical scoping for the project. The technical scoping consultant is providing the following:

- Establishing constraints
- Technical scoping
- Preparing the performance requirements

This work is expected to run until February 2018.

Land and property

- 3.3.3 The land and property commission will be delivered by the Employer from internal resources supplied separately to this commission.
- 3.3.4 The Consultant will be required to support the Employer from a design perspective by providing plans and supporting meetings.



Legal Support

- 3.3.5 Bircham Dyson Bell and K&L Gates have been appointed as external legal advisers on the project, advising on all legal aspects including (without limitation) Planning, Environment, Land, Procurement, Construction, and Commercial matters.

Environment

- 3.3.6 The environment work stream is not part of this commission. Mott MacDonald has been procured to:
- a. To provide environmental and sustainability support in the development of the design of the Rotherhithe to Canary Wharf Crossing
 - b. To undertake the Environmental Impact Assessment process
 - c. To support the project team to support the submission of consent application and associated licences

Further Commissions

- 3.3.7 The following work streams will be commissioned separately from this work. The Consultant shall work collaboratively with the Employer and other consultants to integrate work streams and understand the issues that will influence a successful design suitable to support a TWAO application.

Town Planning

- 3.3.8 The town planning work stream is being led by the Employer and is not part of this commission. External support is being procured separately from this commission to supplement the Employer's team and provide additional expertise.

Transport Planning

- 3.3.9 The transport planning commission will be procured separately to this commission. The primary aims of the commission are:
- a. To carry out local modelling in form of the specific junction and/or microsimulation modelling.
 - b. To prepare a Transport Assessment and associated documents to support the powers application.
 - c. To provide Transport Planning advice in the development of the design of the Rotherhithe to Canary Wharf crossing.

Marine

- 3.3.10 A marine support consultant will be procured separately to this commission to:
- a. Provide and analyse vessel tracking data
 - b. Provide Navigational Risk Assessments for the pier locations and bridge type
 - c. Lead on the approvals process with the Port of London Authority



- 3.3.11 The Consultant will be required to support the marine consultant and work with the marine consultant to establish the final river constraints (bridge deck height above high water spring tide, location of piers, operating parameters and approvals)

Ground Investigation

- 3.3.12 A Ground Investigation contractor will be procured separately by the Employer to carry out ground investigations along the route of the single preferred option.
- 3.3.13 The Consultant will be required to:
- a. Schedule all geotechnical and geo-environmental laboratory tests on receipt of the draft engineering logs
 - b. Provide qualified geotechnical and geo-environmental resource to the project

Building Control

- 3.3.14 A building control consultant will be procured separately by the Employer.

Constructability

- 3.3.14 A constructability consultant will be procured separately by the Employer.



4. SPECIFICATION AND STANDARDS

Standards

- 4.1 The Consultant is to use their reasonable knowledge and experience of bridge construction, engineering, architecture, highways, mechanical, electrical, urban realm and other multi disciplinary services bearing in mind the nature, scale, location and other considerations associated with this structure for the specifications and standards required.

Cost Estimate Specification

4.2 Purpose

- 4.2.1 The Consultant is to produce estimates for the works forming the Rotherhithe to Canary Wharf crossing including all temporary and permanent works costs, Employer costs, land and legal fees, licence fees, charges, statutory costs, compensations and the like. The outline/reference design estimate is to include:
- a. An estimate and estimate summary in the format set out within the Employers' Estimate Template, a copy will be supplied by the Employer at the start of the Commission;
 - b. A supporting detailed bill of quantities;
 - c. An estimate report;
 - d. All supporting information necessary to demonstrate the derivation of the estimate, including take-off sheets, quotations, assumptions and the like;
 - e. Presenting the estimate to the Employer, including preparing any presentation material to enable the estimate, its basis and its preparation to be fully understood and evaluated.

4.3 Summary Estimate

- a. The estimate is to be prepared using the Employers' Estimate Template, a copy will be supplied by the Employer at the start of the Commission;
- b. The estimate should be set out in accordance with the Employers' Cost Feedback Structure; a copy will be supplied by the Employer at the start of the Commission.

4.4 Bill of Quantities

- 4.4.1 The Consultant is to prepare a full Bill of Quantities for the works at a level appropriate to the level of design information available. The following describes requirements for the bill:
- a. The bill should be measured and presented in a manner consistent with the Cost Feedback Structure and the Estimate Template. (Note: the estimate template may be subject to change. Prior to populating the template, the Consultant should check with the Employer to ensure that the latest version of the template is used);
 - b. It should utilise a recognised method of measurement (e.g. MCHW for highways or CESMM4 for civil/structural engineering works) for detailed measurements where



insufficient detail is available within the Cost Feedback Structure. However, all detailed measurement should fit within the overall cost feedback structure and all items forming each high level cost feedback structure item should be clearly identifiable;

- c. Each item should have a cost breakdown/ method of measurement code representing its classification within the method of measurement;
- d. It should incorporate all elements required for the works whether shown within the design information or not. The design team shall be consulted during the preparation of the bill of quantities to ensure that the full extent of works is understood;
- e. It should be fully quantified and reflect the requirements of the project. Where necessary, the Consultant shall engage with appropriate specialists to properly interpret all the data available and ensure that quantities accurately reflect the works required.

4.4.2 Measurement used to prepare the bill of quantities should always use the most accurate available information. Where marked dimensions are not provided on drawings, electronic measurements from a BIM model or directly from CAD should be used wherever these are available.

4.4.3 A clear audit trail should be provided of the production of all measurement including the transfer from the measurement to the summary of the quantities in the bill of quantities. A quality assurance check should be carried out to demonstrate that the measurement has been cross checked by an independent checker (see also section 4.7, below).

4.5 Source Information

4.5.1 The information upon which the estimate is based should be appropriate to the Employers' Pathway stage for which the estimate is being prepared (Stage 3 for the principal estimate being sought via this specification).

4.5.2 As a minimum, the Consultant should ensure it has all of the "core" products required for the Pathway stage (EA3 Deliverables), in order to inform the estimate. The Consultant should work with other members of its design team and other members of the wider project team to obtain this information.

4.5.3 In the event that the Consultant uses its best efforts to obtain the correct information but that elements of the information remain unavailable, due account of the level of information available should be taken in the preparation of the estimate and, in particular, in the assessment of risk and estimating uncertainty. The level of information available should be stated within the estimate report and any concerns or advice regarding the suitability of the estimate for the proposed Employers' Pathway stage should also be stated.

4.6 Estimating

4. Consultant is to provide an estimate for the works based upon the bill of quantities. The estimate is to:



- a. Have a base date of as agreed with the Employer;
- b. Reflect accurate current prices, based upon;
- c. Quotations and other advice from contractors, subcontractors and other industry specialists;
- d. Known, accurate, industry data;
- e. Outturn costs of comparable projects;
- f. Any other information which may more accurately inform current pricing.

4.6.2 The prices shall take account of prevailing market and economic conditions. Where it is anticipated that plant, materials or other resources will be obtained from outside the United Kingdom, this shall include taking account of appropriate currency exchange rates.

4.6.3 The estimate is to include all direct and indirect construction costs and all Employers' costs including design and other consultancy costs, all project management costs, all compensation payments and statutory undertakers' costs, appropriate allowance for risk, contingency and uncertainty and any other costs needed to deliver the works.

4.7 Risk

4.7.1 A robust allowance for risk and uncertainty shall be included within the estimate and shall be appropriate to the level of information available to inform the estimate. The risk and uncertainty allowance is to be prepared in consultation with Employers' risk managers and shall follow appropriate guidance from them.

4.8 Life Cycle Cost

4.8.1 In addition to the capital cost estimate, the Consultant is to prepare a Life Cycle Cost assessment for the scheme.

4.8.2 The Life Cycle Cost assessment should assume a lifespan of 120 years for the asset. The assessment should include all capital and subsequent costs including operation, maintenance and renewals of all elements of the scheme.

4.8.3 The Consultant shall ensure that appropriate input is provided by asset managers and other key stakeholders within the Employers' organisation and shall co-ordinate this activity.

4.9 Estimate Report

4.9.1 The estimate is to be accompanied by a report that should fully explain the background to the estimate, its context and the methodology used in its creation. As a minimum it shall include:

- a. Details of the scheme being delivered
- b. A summary of the estimate (in the form set out in the Employers' Estimate Template)



- c. A comparison between the current cost estimate and the previous cost estimate for the proposed option under the main construction elements on an elemental basis and commentary on the source of these changes
- d. Details of all drawings, specifications, reports and other documents used in the preparation of the estimate
- e. Details of all estimator's allowances made in the estimate, the reason for which each allowance has been made and the rationale for the quantum of each allowance
- f. A full list of all assumptions made in the preparation of the estimate, qualifications to the estimate and exclusions from the estimate
- g. Analysis of the estimate including details of key repeatable work items and proportions of the overall cost represented by each cost category
- h. Details of the source of cost data for the items (e.g. previous projects, known rates, quotations, etc.)
- i. Benchmarking of the estimate against previous similar projects and against known rates for various work types and repeatable work items
- j. Estimate of the Life Cycle Cost for the scheme, in accordance with section 4.8, above, and details of how this has been calculated

4.10 Personnel

- 4.10.1 Personnel involved in the preparation of the estimate will be appropriately experienced and qualified for the work being undertaken. The Consultant will provide copies of proposed estimators' CV's to the Employer for agreement prior to their working on the project.

4.11 Quality Assurance

- 4.11.1 Before the estimate is issued to the Employer, a Quality Assurance (QA) by full internal review should be carried out by the Consultant. The QA process should be made visible, once completed and it should include the estimate being signed by the reviewers noted below.
- 4.11.2 The estimate is to be checked to ensure it is free from arithmetic errors (including formula errors in spreadsheets) and that quantity measures are correct.
- 4.11.3 The estimate shall be reviewed by a senior member of the Consultant staff (experienced in the type of work to be reviewed) who needs to be satisfied the estimate has been prepared and checked by suitably skilled staff. Final review and sign-off will be provided by a minimum of two directors.
- 4.11.4 The reviewers' signatures shall be taken to indicate that they believe the estimate to be accurately measured, appropriately priced and therefore represents a realistic assessment of the most likely project cost and that the product is thoroughly auditable.



4.12 Sign-off

- 4.12.1 Following completion of the consultant's own QA processes, the estimate should be signed-off by appropriate members of the Employers' project team, including the Project Manager, the lead commercial manager, the estimator, the estimating manager and the sponsor, in accordance with the Employers' Pathway procedures and estimating guidance.

4.13 Communication

- 4.13.1 The Consultant will provide updates on the progress on the production of the cost estimate at intervals of no more than one week.

4.14 Option Costings and Ad-hoc Advice

- 4.14.1 As part of the scope, the Consultant is required to prepare costings to inform option refinement and may also be requested to provide other estimating support to the project. Unless specifically requested, neither an estimate report nor a presentation will be required to describe these costings. They should also be undertaken to a level of detail that reflects the level of information available and timescales required for completion. However, the same principles of using the best available data shall apply to these ad-hoc exercises as to the detailed outline/reference design estimate and these shall also be checked and their quality assured to a similar standard.



5 CONSTRAINTS ON HOW THE CONSULTANT IS TO PROVIDE THE SERVICES

5.6 Quality

5.6.1 Quality Management System

5.6.1.1 The Consultant will establish a quality management system for all parts of this commission.

5.6.2 *Quality Policy Statement and Quality Plan*

5.6.2.1 The Consultant will provide a Quality Policy Statement and Quality Plan for this commission.

5.7 Health and Safety Requirements

5.7.1 Upon completion of the Engineering and Architectural Services Contract" the current appointed Principal Designer will discharge their duty of Principal Designer in line with Regulation 11 under the Construction Design Management Regulations 2015, to the newly appointed Design and Build contractor for the 'Rotherhithe to Canary Wharf Project.

5.7.2 The Consultant warrants to the Employer that it is fully aware of the provisions of Regulation 11 ("Duties of Principal designers") of the CDM Regulations 2015 and that it possesses the skills, knowledge and experience and level of resources to meet (and shall meet) the requirements of Regulation 11.

5.7.3 At the start of this commission, formal roles/appointments under CDM will be formally defined and agreed with the Project Manager, Employer and the Employer's HSE team for confirmation of all CDM/HSE documentation that the Consultant will deliver as part of this commission.

5.7.4 The Consultant complies with the CDM Regulations 2015 and at all times co-operates, so far as is reasonably practicable, with all parties having health and safety responsibilities on this Project or in respect of the Works for the effective discharge of those responsibilities.

5.7.5 The Consultant uses all reasonable skill, care and diligence to comply with his obligations and duties as a Principal Designer as defined and specified in the CDM Regulations 2015.

5.7.6 The Consultant notifies its personnel and the Employer of any health and safety hazards that exist or that may arise in connection with providing the Services of which the Consultant is aware or ought reasonably to be aware.

5.7.7 The Consultant undertakes that all its personnel and those of its Sub-consultants comply with all of the Employer's policies and standards that are relevant to providing the Services, including those relating to occupational health and safety, security, business ethics, work place harassment, drugs and alcohol and illegal substances and any other office based or on site regulations specified by the Employer for personnel working at TfL.



6 TIMING, PROGRAMME AND COMPLETION

6.1 Programme

The current programme is illustrated below:

• Consultant Award	Mar 2018
• Concept Design	May 2018
• Final Consultation	August 2018
• TWAO Consent Application	May 2019
• Order Public Inquiry	Nov 2019
• TWAO Decision	Sept 2020

6.2 Dates for the programme milestones are to be determined by the overall project strategy, which is currently being finalised. It should also be noted that the programme dates may be subject to change at any point during the project lifecycle.

6.3 Information to be shown on the Programme

6.3.1 In collaboration with the Employer, the Consultant will develop a programme for the engineering and architectural work streams that is consistent with, and supports, the main project programme. The programme shall be reported in MS Project format and completed in sufficient detail to allow the Employer to establish progress and risk before work commences.

6.4 Format of the Programme

6.4.1 The Consultant shall identify in the programme when the proposed commencement and duration of individual tasks (i.e. baseline studies, all surveys, evidence gathering etc.) The programme shall identify key interfaces with other project areas. The Consultant shall report progress of the programme on a 4 week period or on a period to be agreed with the Employer. Early identification of programme slippage shall be communicated to the Employer as soon as it is identified and before any slippage occurs. This shall be recorded through the TfL contract management administration system: 'ASITE'.

6.4.2 The Consultant shall work collaboratively with the project team to ensure that the Engineering and Architectural work stream dovetails with all aspects of the environmental programme. The programme shall include consideration of the potential time-lag from engineering freeze dates to co-ordinate the preparation of supporting information required for the TWAO application.



7 OTHER INFORMATION REQUIRED BY THE CONDITIONS OF CONTRACT

7.1 Form of Documentation for Retention

- 7.1.1 All 3D, 4D and other electronically held data in connection with this contract is to be held by the Consultant for 7 years following the completion of the project.

7.2 Rights to Material

7.2.1 *Employer's Use of Material*

The Employer may use the material provided by the Consultant for the following purposes:

- Design
- Construction
- Future maintenance, repair and renewal
- Public exhibitions
- Stakeholder engagement
- Future procurement
- Training

7.2.2 *The Consultant's Use of Material*

- 7.2.3 The Consultant may not use the material prepared for this contract for any other purposes unless prior agreement from the Employer is given.

7.3 Transfer of Rights

- 7.3.1 The Consultant grants a royalty free 'non-exclusive' licence to the Employer to use the material prepared by the consultant for the purpose of publicity, construction, operation, maintenance, reinstatement and repair, of the Rotherhithe to Canary Wharf River Crossing project.

7.4 Parent Company Guarantee

The Employer reserves the right to request a Parent Company Guarantee from the Consultant.. If required, this will be as per the Call off Conditions of Contract.



APPENDIX A - VISION AND PRINCIPLES

TfL Design Vision & Design Principles

Date: 28 June 2017

Version: Revision 1

This document will be revised to take on board additional design work, appreciation of constraints and stakeholder engagement as the project progresses.

1. Design Vision

The Design Vision sets the ambition for how urban design, public realm design and architecture will define the Scheme's eventual form and the experience of using the bridge. It sits within the Sponsor's Requirements for the project.

The extent to which the design vision is achieved will contribute directly to the success of the consents process, the quality of the user experience and the impact on local people. All urban design, public realm and architecture design work should contribute to achieving this design vision while maintaining value for money.

Design Vision

The ambition is to create a piece of high quality piece of civic design that ties the walking and cycle networks together on both sides of the river; enabling, promoting and celebrating active travel in line with the Mayor's Healthy Streets Vision.

The bridge will be an elegant, coherent and memorable addition to the cityscape when viewed from the riverside, the water and elevated locations such as tall buildings and aircraft; as well as from the crossing itself. It will also enable visitors and residents to enjoy new and spectacular views of the city skyline from the bridge.

The landings and associated connections will be sensitively integrated into the existing local context and streetscape in a way that enhances the full range of existing properties and businesses; and public and private space.

As a piece of public realm, the design will reinforce the existing sense of place and identity, linking existing neighbourhoods and centres and unlocking the growth and liveability potential of the area.

The bridge will be an enjoyable, safe and comfortable new route and experience for all, and in turn enable and promote the enjoyment of the public realm.

The crossing will expertly link the two sides of the river; and together with a set of complementary measures completed separately, will integrate with the local and strategic active travel networks. The result will be a walking and cycling that is more attractive for all users and all trips in this area, including links with public transport networks.



2. The Design Principles

The Design Principles sit below the Design Vision, articulating how the Vision should be achieved.

Aim of the design principles

Provide a consistent, agreed and supported design direction for the urban design, architecture and public realm elements of the project.

Objectives of the design principles

- Ensure stakeholder support for the approach to urban design, architecture and public realm in a way that directly affects the outcome of the consents process
 - Ensure that the delivered Scheme is of high quality, has the intended impact on walking and cycling in the area and is delivered to Healthy Streets principles
-

The principles, should steer the design team, generate support and demonstrate commitment to the design approach. To achieve this they must evolve through the process to incorporate stakeholder aspirations and respond to constraints while maintaining consistency with the design vision.

As a result, there will be different versions of the design principles to:

1. Steer the RIBA stage 2 design
2. Engage with stakeholders and the public
3. Feed into the Invitation to Tender for the Design and Build Contractor
4. Steer into the RIBA stage 3 design
5. The consents application

The initial design principles have been developed by considering best practice, TfL guidance and policy and discussions with TfL's functional specialists. Subsequent versions will incorporate appropriate stakeholder aspirations and requirements of the consenting authority. They will also take into account any additional constraints identified as a result of further design work.

The design principles are not a brief or set of requirements, but a commitment to follow a certain design direction that aims to achieve Scheme Objectives, stakeholder aspirations and best practise design in the most effective way.



A. SPAN ARCHITECTURE / STRUCTURE

1. Main span

These principles guide the approach to the height, massing, type and visual appearance of the main span of the crossing.

Wording from design vision:

The bridge will be an elegant, coherent and memorable addition to the cityscape when viewed from the riverside, the water and elevated locations such as tall buildings and aircraft; as well as from the crossing itself. It will also enable visitors and residents to enjoy new and spectacular views of the city skyline from the bridge.

	Title	Text
1.1	Height	The full height of the structure, in all modes of operation, should be determined by the engineering and shipping requirements and the need to limit the overall impact on townscape and visual amenity. Where possible the tallest elements should be located to limit their impact on sensitive uses such as the views from people's homes.
1.2	Deck Height	The height of the deck, while needing to be acceptable to the Port of London Authority in terms of shipping impacts, should be determined by the need to minimise the length and impact of the span and landings and provide as direct and convenient a walking and cycling connection as possible.
1.3	Massing	The design of the structure should protect the sense of openness of the river; avoid creating significant areas of shade in the public realm and other existing uses. Particular consideration should be given to the impact of the mass on existing sensitive uses and the ecology of the river.
1.4	Architectural style	The architecture of the structure including its dynamic form should be simple, elegant and coherent and adapt to the specific context at each of the landings.
1.5	Structures in the intertidal zone	The design of supporting columns should include careful consideration of the intertidal zone so that the structure has a coherent aesthetic.
1.6	Appearance at night	The appearance of the crossing at night should be an integral part of the design and should carefully balance the need for a positive appearance after dark with the impact on residents and marine life.



B. LANDINGS

2. Townscape and development

These principles guide how the landings of the crossing should integrate with the existing townscape context, residents and businesses.

Wording from design vision:

The landings and associated connections will be sensitively integrated into the existing local context and streetscape in a way that enhances the full range of existing properties and businesses; and public and private space.

	Title	Text
2.1	Integration with existing townscape	The landings must integrate appropriately with the context and enhance rather than compete with adjacent existing and committed development.
2.2	Relationship with existing developments and uses	The design of the landings should fully take into account existing uses and privacy, in particular limiting overlooking of the internal and external private spaces of adjacent developments.
2.3	Relationship to future developments and uses	The design of the landings should consider future development opportunities. Where possible they should be developed collaboratively with the promoters of such developments to ensure that objectives of the Scheme are optimized. This could involve a phased, temporary or adaptable approach to the landing and onward connections if such an approach leads to enhanced walking and cycling connections.

3. Landscape and public realm

These principles guide how the landings of the crossing should integrate with the existing public realm, landscape and sense of place.

Wording from design vision:

As a piece of public realm, the design will reinforce the existing sense of place and identity, linking existing neighbourhoods and centres and unlocking the growth and liveability potential of the area.

	Title	Text
3.1	Impact on existing public realm quality	The design of the landings should consider and mitigate any overshadowing or severance of existing routes, spaces or public realm.
3.2	Impact on existing the local amenity of	The design of the landings should protect or enhance the local amenity value of public spaces. Where existing