

London Borough of Brent

Civic Centre Project

Delivery Options Evaluation Report

May 2008

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Executive Summary

In March 2008, members approved the procurement and delivery of a new Civic Centre for Brent in the Wembley Regeneration Area. As part of this decision, members were asked to note a number of options available for procuring a new Civic Centre and were informed that a further report would be brought to the Executive recommending a procurement option and requesting approval to go out to tender.

The purpose of this paper is to recommend to the Project Board a design and build procurement for the new Civic Centre. It contains information relating to each of the procurement routes and details the methodology behind the evaluation process.

1. Introduction

1.0 The delivery options

In March 2008, members were asked to note three broad options being considered to procure the building of the new civic centre. These were:

- Self build;
- Developer-led; or
- Partnering.

It was subsequently agreed that the options were too broad in scope to enable effective evaluation. A total of six options were identified and discussed by the procurement sub group. These were:

- Traditional construction procurement;
- Design and build;
- Turnkey;
- Partnering;
- PPP; and
- Management procurement.

It was agreed by the procurement sub group that traditional construction procurement, design and build and turnkey would be subject to the delivery options evaluation and scoring process. The remaining three (partnering, PPP and management procurement) would be discounted from the process and a paper produced to justify this exclusion. This paper has been appended to the report (see Appendix 3)

The table below provides a basic description of each option.

Option	Basic Description		
Options to be evaluated			
1. Traditional Construction Procurement ¹	Fully designed project by the London Borough of Brent		
2. Design and build	Partially designed project by the London Borough of Brent, then design completed by the contractor		
3. Turnkey ²	Fully designed project by the developer		
Options to be discounted			
4. Partnering	Fully or partial design with specialist contract (PPC2000 or NEC). Partnering is a procurement approach rather than a procurement route.		
5. PPP	Turnkey with private sector funding		
6. Management contracting	All design and construction by employer		

1.1 Procurement strategy

The decision on which delivery option best suits the Council's needs should be guided by an overarching strategy and a reasoned assessment of the Council's vision and objectives in relation to the project. The three key factors in relation to any construction project of this kind are as follows:

- Time (speed or certainty of completion date); •
- Cost (price level or cost certainty); and •
- Quality (functionality and performance). •

These three factors are interdependent and are often in tension with one another. It is rare for time, cost and quality to be equal in either importance or impact on construction projects of this size. It is proposed that a detailed procurement strategy is presented to Members outlining the priorities of officers in relation to this project.

¹ This option was described as 'self build' in the March 08 Executive Report. ² This option was described as 'developer led' in the March 08 Executive Report.

2. Recommendations

2.1 The Project Board agree to follow a design and build procurement.

2.2 The Project Board agree that this route be presented to the Executive and Council for approval

2.3 The Project Board note that a procurement strategy based on a design and build route for the Civic Centre project is to be presented to the Executive and Council for approval.

3. Description of the options

3.1 Traditional construction procurement

3.1.1 Programme

The design and build phases follow one another in programme if progressing using a traditional construction procurement. This can mean that the duration of projects is relatively long, when compared to other methods of procurement which can involve a degree of overlap between the design and construction phases.

Appendix 1 contains a draft timeline showing the key phases of a traditional construction procurement mapped against the Council's completion date of 01/01/13. The length of the project using this method has been estimated at 60 months. Based on this analysis the Council will be required to look for savings on this timeline in order to reach the target completion date of 01/01/13 using this procurement route.

3.1.2 Design functionality

Form of Appointments (design team):

Conventionally the Employer appoints the design team under the standard contract forms of their professional bodies Appointment terms, conditions and services. For example:

- Architect: RIBA Standard Form of Agreement;
- Structural Engineer: IstrucE Form of Appointment;
- Cost Consultant: RICA Appointment Doc;
- Project Manager: APM Form of Appointment;
- Environmental/Services Engineer: ICE Form of appointment;
- CDM Coordinator: APS Form of appointment; and
- etc for each member of the team.

Design Control and Approvals:

A full team of Consultants is appointed by the Employer to prepare a complete design (fully resolved to RIBA Stage G) that is then tendered to Main contractors. Design control is therefore the full responsibility of the Client, the contractor is then appointed to deliver the clients' design, exactly as drawn, scheduled and specified. The contractor prices a lump sum contract to deliver the works exactly as drawn, scheduled and specified.

Style of Client Brief (Extent and Quantum)

As the design team are in direct consultation with the client and under their full management, there is a specific period of design development during which an outline brief can be developed into the final full design. Each stage of production should be signed off but as the design is iterative the Employer has opportunity to tweak his brief, debate and agree design options and develop the design with the design team.

However, as common sense defines, the more information available to a design team at the outset, theoretically the more rapidly the design can be developed. It is not a requirement of have an Output or Input specification of any type. Often a schedule of areas is sufficient.

Architect and Design Team Reporting: (Who to):

The Architect/Contract administrator is responsible for the design and majority of administrative duties. They are the single point of contact to the client body for any un-named consultants. As a Lead Consultant, the architect/contract administrator manages the design team and produces stage information for sign-off by the client.

Typical features of this procurement:

- Development of full design can take a long time;
- Variation to the tendered design is usually expensive;
- Risk is balanced so the client can be more exposed than other procurement routes;
- The client gets exactly what they want. (As long as they know what they want at the right time!);
- Lump sum contract;
- The council will be anticipating the precise way in which the building will function and operate therefore a high benefit to end-user;
- Quality is managed throughout the construction process through performance payments and activities of clerk of works ensuring the outcome meets the expectation of the client's requirements; and
- Timescale can be affected if there are disputes during the course of delivery extending the project delivery period.

The proportion of large construction projects (£20M+) that use this procurement route is LOW

Typical Form of Building Contract:

JCT Standard Building Contract.

3.1.3 Risk

Traditional procurement can aid clients who wish to minimise their exposure to the risks of overspend, delays or design failure. The contractor is obliged to complete the works within the contract period under a traditional procurement. However the overall programme for the project (design and construction) may be longer than for other routes as the design and construction are separate sequential processes. The exposure to risk will increase where the design phase is rushed, where unreasonable time targets are set or where the tender documents are not fully completed.

Financial risk

Once the design process is complete, certainty over the construction costs relating to the project can be obtained. This

should minimise the financial uncertainty relating to a project delivered through this procurement route. However, construction costs are only certain if the timescales for completion are realistic and predictable and if no changes are made to the design of the building once construction commences.

The time needed for the project overall under traditional procurement routes tend to be relatively longer than that of other procurement methods. Given the tight timescales for completion of this project, the risk of missing the target completion date could be greater than under other procurement routes.

The Council is responsible setting aside sufficient risk and contingency monies to cover the whole of the project, as this element is not transferred to the contractors.

Risk management

Risk management under a traditional procurement route would be the responsibility of the Council. Therefore the Council would need to assure itself that all possible risks and hazards are identified and where possible costed and satisfy itself that it was able to manage those risks internally. The Council should consider whether it has sufficient capacity, capability and resource set aside internally to manage the risk associated with the project under this method of procurement.

3.1.4 Legal

a) The main feature of this procurement method is that the design process is separate from construction, and full documentation is required before the contractor can be invited to tender for carrying out the works. Specific features of this approach include:

- Given the Council's status as a contracting authority, the appointment of a contractor would have to be made following an OJEU compliant tender process.
- Full documentation is necessary for tendering purposes, including that from any specialist sub-contractors, and adequate time is needed for the preparation of this.
- The Client has control over design, specified quality and standards etc through his appointed consultants. Generally there is no design responsibility imposed on the contractor. (The contractor may however assume responsibility for the design of certain specific areas - for example, mechanical and electrical services.)
- The number of external consultants to be appointed by the Client to make up its design team will, of course, depend upon the level of internal resources available to the Client. On a project such as this, it is envisaged that the following disciplines would be required as a minimum:
 - architect
 - CDM co-ordinator
 - environmental consultant
 - structural engineer
 - quantity surveyor
 - mechanical and electrical engineer
 - acoustic consultant
 - utilities consultant

Depending on whether the Client had sufficient resource to manage the team of external consultants, it may also be desirable to appoint a project manager to administer the project and manage the interface both between consultants and between the consultants and the contractor.

- Depending upon the existence of any consultant framework arrangements available to the Council, each
 consultant will need to be procured in compliance with EU regulations (on the assumption that thresholds are
 likely to be exceeded).
- Given that design and construction are separate sequential processes under this approach, the overall
 programme for the project may be relatively long.
- The Client enjoys reasonable certainty on construction cost because the design of the works will be, in the main, complete at the point of entry into the contract and therefore a contract sum figure is known at the outset - although this may need to be adjusted later to deal with, for example, Client variations or loss and expense events.
- It is likely that the Client would need to appoint a professional consultant to act as an independent contract administrator. This may be the Client's retained architect or independent project manager (as above).
- Although making design decisions before work has commenced may appear to bring a measure of inflexibility, changes or variations are possible during construction of the work. Any change or variation (and its effects on programme etc) will be measured and valued in accordance with the contract.
- Administrative matters relating to valuations and payments rest in the hands of the Client's retained consultants (i.e. contract administrator and quantity surveyor).
- The contractor is obliged to complete the works within the contract period, although the date for completion may need to be revised to take into account any delay events for which the contractor is not responsible.
- This_route is the most risky for the Council in terms of retention of potential liability for defects, delay or disruption because the Council is the employer of the building contractor and the professional team which means the Council has to manage the interface between them.

b) The traditional lump sum approach in terms of cost, design and quality is a relatively low risk procurement option for the Client but the time needed for the project overall is likely to be (relatively) longer than that for other procurement methods. It is also a procurement method that on balance requires greater Client involvement given the "split" of responsibilities between design and construction (although this can, to an extent, be addressed via the appointment of an external project manager if required). By extension, it also needs to be borne in mind that, should a defect arise in the project (either during or post construction), the Client is required to establish whether the cause is related to design (for which one or a number of consultants may be responsible) or related to construction (for which the contractor is responsible) or both. Contrast this with the single point responsibility assumed by the contractor under the design and build or turnkey approaches (see options 2 and 3 below).

Typical features of this approach include:

- Through its appointment of the design team, the Client retains full control over design and issues of quality and required performance.
- It is a relatively flexible approach which allows the Client the benefit of developing requirements and ideas, albeit at a cost.

- Early certainty of overall contract price contractors tender on the basis of fixed designs.
- Given the sequential nature of design and construction under this approach, this method can lead to a longer project duration from concept to completion.
- Responsibility for design, construction and required performance lies with a number of different parties. In the event of a defect, then depending upon the cause of that defect, the Client is not able to look to one party only to remedy the defect or assume responsibility for it.
- Greater Client involvement in the management of its own consultant team may be required.

3.1.5 Finance

This is probably the most commonly used method of procurement and it is suitable for:

- All clients, including those clients inexperienced in construction projects;
- Complex projects and projects where functionality is a prime objective;
- Time predictability; and
- Cost certainty.

However, this is not suitable for fast track projects, where deadline and speed of completion of a primary factor.

The client designs and prepares tender documents. Tenders are invited from main contractors who provide a lump sum price for the work. The client remains responsible for providing information throughout, to the completion of the project.

A traditional procurement route has the following general characteristics:

- The Council will know the lump sum costs before committing however, these can be undermined by a lack of information at the tendering stage or a large number of variations throughout the project;
- A contracted date for completion will be included however; the tender can only take place once the design is complete. Incomplete information can lead to delays in starting the construction programme;
- The Council retains control over the design team and quality is easier to assure, although the design risk lies with the Council and higher costs are incurred at the design stage where the risks to project failure are highest.
- The Council is capable of obtaining the best contract price for the full scope of works because of the greater level of competition;
- Change during the design and construction process is relatively easy. However, traditional procurement does
 not lend itself to accommodating changes to the design of the building after construction has commenced and
 results in high variation costs;
- The Council would be required to project manage a team of external consultants and contractors. If such
 management capacity could not be found internally, the Council may wish to consider recruiting externally to fill
 these posts; and
- No risk premiums are charged to the Council as part of the contract sum. The Council is required to assess and manage its own risks. Sums should be set aside to specifically address project risk.

This strategy is a low-risk option for clients who wish to minimise their exposure to the risks of overspend, delays or design failure. However, the exposure to risk will increase where the design phase is rushed, where unreasonable time targets are set, where the tender documents are not fully completed or where the Council has insufficient management capacity to manage the contractors appropriately.

The separation of the construction contractor from the design can mean missed opportunities for contractor or specialist contractor to input.

3.2 Design and build

3.2.1 Programme

This approach involves the overlapping of design and construction and therefore can lead to a shorter project duration.

Appendix 1 contains a draft timeline showing the key phases of a design and build procurement mapped against the Council's completion date of 01/01/13. The length of the project using this method has been estimated at 47 months and is therefore considered to take the least amount of time.

3.2.2 Design functionality

Form of Appointments (design team):

Typically as procurement option 1 with assignment of design and/or novation of design team (or agreement to new design team) at pre determined stage to the Main Contractor who completes the design and Development under a design and build form of contract.

Design Control and Approvals:

Consultants are appointed directly by the client to a pre-determined stage of the design process.

Discussion over this stage can be held but it generally expected that the RIBA plan of work stages B,C,D and E be completed. This design work represents approx 40-50% of the overall design work and forms what becomes known as the 'Employers Requirements' (ER).

At completion of the Employers Requirements the project (completion of the design and construction) is tendered to Main Contractors experienced in this work. At tender return it is convention for the Contractor to submit his financial offer and schedules of construction works as 'Contractors Proposals'.

Once appointed the design is assigned to him formally (so he accepts full responsibility for the design work done to that point) and the Main Contractor then completes the design and constructs the building as Contractor-Client.

The employer has specific control over the design for a limited period during which the information is usually developed to (recommendation is RIBA Plan of Work Stage E).

Once in Contract the client has only the information supplied as Employers Requirements to challenge any variant proposal by the contractor. A clients' representative (team) will review the Contractors Proposals and make sure they meet the Employers Requirements. This is the primary control mechanism during contract other than site inspections.

Style of Client Brief (Extent and Quantum)

This can vary enormously dependant on the priority of the client, over time/quality/cost. A stage D/E design proposal is often supplemented by a detailed materials specification. If the client wants more certainty over quality of construction, the information delivered as Employers Requirements should be more detailed.

Architect and Design Team Reporting: (Who to):

The design team under the first stage of design (40-50%) reports to the client through design workshops and stage reports.

After that the contractor assumes the role of Client-Employer to designers who then report to him.

The Contractor reports on progress to the Employer. It is convention for the Employer to have an Employers Agent and cost Consultant to advise through this stage.

Potential Impacts to End User (Design):

Errors in the ERs can flow into the Contractors Proposals

Change can be difficult to estimate/expensive.

The client gets mostly what they want. (As long as they know what they want at the right time!)

Lump sum contract.

Contractor on board earlier so program can be reduced.

Few relationships to manage leading to reduced admin cost and an enforceable 'guarantee'

Potential Impacts to Quality (Design):

Quality is difficult to manage beyond the definition of the design in the ERs

Contractors' inputs can reveal cost benefits of the market place.

The proportion of large construction projects (£20M+) that use this procurement route is HIGH

Typical Form of Building Contract:

JCT D&B, JCT Major Works.

3.2.3 Risk

Design and build procurement is considered to be a lower risk route for Council, when compared to the traditional procurement route, as responsibility for the majority of the design and all of the construction lies with the contractor. This method of procurement has the advantage that it shields the Council from the costs associated with mitigating risks. However this route may increase the risk that the quality of work does not meet the Council's aspirations. If the original brief is not precise and the specification offered by the contractor vague, there may be a temptation for the contractor to reduce standards in order to save costs.

Financial risk

Design and build procurements lend themselves more readily to allowing contractors to start on site before the design is completely finished. Some certainty over project costs can be obtained once the design and build contract is let. This is usually part way through the design process and therefore earlier than under traditional procurement methods.

Risk management

Risk will be valued into the price of the contract by the contractor. The risk premiums are usually thought to increase the cost on the project by approximately 10% - 20%. The Council should seek to validate these figures by conducting a valuation of risk to ensure that this premium is an accurate reflection of the level of risk on the project. As the risk is

transferred to the contractor the Council does not control the risk monies and any savings made would increase the contractors return. The Council should identify and cost its risk identification and monitoring processes to ensure and key risks are effectively managed and a reasonable price is obtained for this transfer.

3.2.4 Legal

a) This is a method where the contractor is responsible for undertaking both the design and construction of the work in return for a lump sum price. There are variants on this option depending upon the degree to which initial design is included in the Client's brief. In this report, the option referred to as "Design and Build" assumes the Council will procure some early design work to be novated to a developer and the option referred to in this report as "Turnkey" assumes the developer will appoint its own architect for most of the design work.

- The appointment of a contractor can often be procured by two-stage tendering process, thus retaining a competitive element. As with the traditional method, any appointment will need to be made in compliance with OJEU.
- The Client's requirements can range from purely outline to a fully worked up scheme design. Adequate time
 must be allowed for the Client's requirements to be prepared to the appropriate level and (depending on the
 Client's own internal resources) the Client will usually need to appoint external consultants to undertake this
 process. (The number of consultants to be appointed will depend upon the extent to which the Client is
 prepared to leave the design and design development of the project to the contractor.) The contractor must be
 given adequate time to prepare his proposals, together with an analysis of his tender figure.
- The Client has control over the design of the works insofar as that design is included in his requirements, but, once the contract is let, the Client gives up direct control over the development of the contractor's detailed design. The contractor assumes responsibility for design at this point and usually appoints his own consultants to formulate a design or to develop the design in the Client's requirements as necessary.
- Once the contractor has been appointed and assumed responsibility for design, the decision must be made as
 to the future role of the Client's consultants. When the contractor uses an in-house design team to develop the
 design for construction purposes, the original designers (and quantity surveyor) might be retained by the Client
 to monitor standards and supervise payments. Alternatively, the original designers might be "novated" to the
 contractor, leaving only the quantity surveyor to give cost advice to the Client and/or the "Employer's Agent" to
 act as the Client's representative on the project. (In a design and build context, the Client's representative is
 known as the Employer's Agent.).

Difficulty with Design and Build as opposed to Turnkey

- Difficulties often arise when Clients fail to realise that novated consultants no longer have duties to perform for them. In practical terms, the consultants are no longer employed by the Client and are therefore no longer able to represent the Client's best interests, monitor the quality of construction or deal with payments. These duties must be left to others, such as the Employer's Agent. With due advance planning, however, most potential issues can be anticipated. Depending on the extent of the design responsibility included in the contract and the contractors own professional indemnity insurance cover, the consultants may be required to enter into collateral warranty or third party rights agreements protecting the Client against damages arising out of design based failures. It is arguable however that the novation approach may increase cost given that the contractor is likely to attach a risk premium to the assumption of responsibility for the work undertaken by the Client's consultants prior to novation.
- Because design and construction is likely (under this procurement process), to proceed in parallel, it may be possible for the overall programme of the project to be shortened; the extent to which this is so will depend on the extent to which the contractor is responsible for the design and for design development.

- There can be reasonable certainty as to outturn cost because a contract sum is known at the outset. As long
 as the Client refrains from ordering changes or variations to the works during the construction period, the
 contractor is obliged to complete the project for the contract sum.
- As noted, it is possible for the Client to order changes to the design or specification during the construction process, but this can be expensive.
- Unlike the traditional procurement approach, there is unlikely to be an independent contract administrator. Rather, the Client will appoint an agent to administer the provisions of the contract on its behalf (i.e. the Employer's Agent) as noted above.
- As with the traditional procurement approach, completion within the contract period is an obligation on the contractor although the Client may have to accept a later completion date if a delay event occurs for which the contractor is not responsible.
- The turnkey route would provide the most clarity of responsibility for potential defects, delays or disruption in
 construction as the developer is a "one stop shop" with overall responsibility for delivering the entire project.
 Retention of potential liability for defects, delay or disruptions. This same principle applies to a design and build
 contract except that where the Council has developed some initial design through architects it has employed
 itself, the issue of potential liability for design defects would need to be covered off in the terms of novation of
 the Council's architects to the design and build contractor.

b) In terms of cost and time, the design and build approach is a relatively low risk procurement option for the Client but there may be uncertainty over design and quality, particularly if insufficient attention is paid initially in the preparation of the Client's requirements and the checking of the contractor's proposals.

c) In terms of risk management, it is often perceived as one of the principal advantages of design and build that a contractor assumes single point responsibility for all design and construction risk (subject to the terms of the particular contract).

Typical features of this approach include:

- Responsibility for design, construction and required performance of the project lies entirely with the contractor

 this allows the Client a simple position in the event of any defect in design and/or construction.
- Early certainty of overall contract price is obtained.
- This approach involves the overlapping of design and construction and therefore can lead to a shorter project duration.
- Once appointed the contractor assumes responsibility for design from that point its price will have been based on a particular design and level of design development. As such any changes in design required by the Client after signing the contract can be expensive and difficult to evaluate.
- There is always a risk with regard to quality of work. If the original brief is not precise and the specification offered by the contractor vague, there may be a temptation for the contractor to reduce standards.
- If the Client's design team is novated then a conflict of interest can arise. With novation, it is arguable that the premium paid to the contractor for taking the risk is paid irrespective of whether or not the risk materialises.

• Following novation, the Client may be required to appoint other consultants to check the work of the contractor, thereby increasing the cost of the project.

3.2.5 Finance

The most common form of design and build, and the variant we have focused on within this paper is where the Council's design team prepares the Output Specification based on the Councils requirements for the performance of the civic centre. Tenders are then invited that include design proposals, specifications and a lump sum price. The design will be developed by the contractor and the works will be completed, usually for a fixed price. The contractor has to develop an outline design based on the Council's output specification and assign a detailed price to this design. This makes tendering more expensive with a higher risk for the contractor than the traditional approach.

This method of procurement involves the contractor being made responsible for design as well as construction. This procurement route can be more suitable for:

- All clients, including inexperienced clients and those requiring distance from the project;
- Cost certainty; and
- Fast track delivery

However, this is not suitable for an uncertain or developing brief or a project with complex building requirements.

The general characteristics of the Design and Build procurement route are:

- Cost certainty is secured early on, however, as the contractor assumes greater financial risk this will be reflected in an increased contract price;
- Contract completion dates are fixed at an early stage. The tender period is longer, as is the time between the signing of the contract and the start of the on-site construction works;
- There is less risk of price rises during the design development stage, but the Council has less control over the design and quality of the civic centre. Changes at the design or construction stage can be expensive and give an entitlement to extensions in the project length;
- The Council has a single contact point for both the design and construction aspects of the project. This
 approach should place less pressure on the internal resources of the Council, when compared to the
 traditional procurement route. There will be no need for an independent contract administrator but an
 employers agent will need to be appointed to administer the provisions of the contract on the Council's behalf.;
- All major risks lie with the contractor, however the Council should consider taking out design liability insurance to cover any risks within the project; and
- Using the Design and Build procurement the contractor drives the project with an emphasis on price, generally at the expense of quality.

Design and build methods of procurement usually involve paying the contractor a risk premium. Risk premiums typically range between 10% to 20% of the build cost. Whilst this approach protects the client from unforeseen costs and gives the client a budget that, provided variations are kept to a minimum, is set at the outset. However, if quantified risks do not come to fruition, the developer can increase his profit margin on the project by the value of any unspent premiums.

3.3 Turnkey

3.3.1 Programme

This approach involves the overlapping of design and construction and therefore can lead to a shorter project duration.

Appendix 1 contains a draft timeline showing the key phases of a turnkey procurement mapped against the Council's completion date of 01/01/13. The length of the project using this method has been estimated at 51 months. This is slightly longer than for a design and build. This is largely due to the procurement process being more complicated under a turnkey route. A turnkey method of procurement invites developer-consortia to bid for the contract. This consortia will include an architect, cost consultant and financial consultants rather than a simply design team as under a design and build.

3.3.2 Design functionality

Form of Appointments:

Employer has one contract - with the Developer.

We are unaware of any 'standard' off the shelf contracts- presume bespoke contracts to be drafted.

The Developer then appoints his own design team how he wishes and subsequently a Main Contractor.

Design Control and Approvals:

Under this route the client has very limited management responsibility. The responsibility for the development of the design, control of programme delivery and administration of building contracts rest with the developer. The Employer relies heavily on his own brief or output specification to monitor the; Functional, Operational and Qualitative aspects of the building as proposed by the Developer

The Developer, when tendering for the work/ offering his financial proposal will normally respond to the Specification (known as the 'Output' Spec) with an 'Input' Specification that expands the clients' requirements into a financial offer for the complete project which often includes a design proposal. The clients' team then approves the Input Specification as far as it meets the clients' requirements

The Developer can choose his own form of procurement for the building construction but would commonly use the Design and Build route.

The Employer will be kept informed of progress but would not have control to influence the selection of the Main Contractor or detailed design aspects.

Style of Client Brief (Extent and Quantum)

This route requires the most developed and detailed specification work up front as it is the only control document in the contract.

An output specification is typically developed (with or without drawn information).

This typically can take up to 5 months to produce

Architect and Design Team Reporting: (Who to):

To the employer for the production of the Specification.

From the Developer to the Employer once appointed

From design team and Main contractor to Developer-Client during design and construction

Employer needs a monitoring role in upholding the Output Specification requirements.

Typical features of this procurement:

- The low control over design could be perceived as a high risk to the client getting what they anticipated;
- If the Output Specification is developed enough the building should deliver the clients operational and functional needs. If not then the building is developed running the risk that it does not met end user requirements;
- Low control once tender is accepted;
- Lump sum contract;
- Lower risk to client over cost and timescale;
- Design Expectation may not be met, describing in words the need for quality and landmark status is subjective; and
- No control over design only functional and operational requirements.

Typical Form of Building Contract:

JCT D&B or JCT Major Projects Form

Percentage of Large (20M+) Construction projects that use this procurement route: Medium

3.3.3 Risk

Turnkey procurements are generally regarded as a low risk option for the client as responsibility for all of the design and all of the construction lies with the contractor. Therefore they share a similar risk profile to design and build procurements. All risks are transferred to the contractor, as this is factored into the overall price.

Financial risk

Certainty over project costs can be obtained once the turnkey contract is let. This will be prior to the start of the design process and therefore earlier than both the design and build and traditional routes. However the contract sum for a turnkey solution will be relatively high as it will include a risk premium and a developer's profit. Any variations to the design or construction will be expensive as it will include developer's fees as well as the more general fees.

Risk management

Turnkey procurements, like design and build shift risk away from the client to the contractor. Under this form of procurement, the contractor provides the Council with a single point of responsibility for all design and construction risk. Significantly, this is perceived as the highest risk from a political viewpoint as the entire budget is committed prior to the design of the building.

Client capacity

Turnkey procurements should place less pressure of the clients internal resources than traditional procurements. However, there is an expectation that the output specification produced by the Council will be of a high standard with fully completed detailed schedules. The quality of the design and build of the civic centre will be dependent on the effectiveness of the employer's agent and the quality of the contractor.

3.3.4 Legal

See Design and Build section 2.2.4 above.

3.2.5 Finance

A turnkey procurement is a variant of design and build. The client has the design prepared to concept or scheme design stage and the contractor takes on 'finishing off' the design and construction. The turnkey (or developer) procurement method requires the contractor to undertaking both the design and construction of the work in return for a lump sum price.

Reasonable certainty as to outturn cost can be established very early on in the project; before the design process commences. However, if any changes are made to the design of the building, additional charges will be incurred. These charges generally include a premium to account for developer costs

In addition to the points raised in design and build the general characteristics of the turnkey procurement route are:

- The Council is required to commit its full resources before the design of the building is known. This design is the responsibility of the contractor and will be driven by the quality of the output specification generated by the Council;
- Project costs are generally paid at key milestones and can be more easily spread over the life of the project;
- The fees incurred on this procurement route include a developer's profit. These can be typically 10% 20% of the overall project costs.
- A turnkey approach to the delivery of the Civic Centre project should place little pressure on the internal resources of the Council and therefore the need to back fill existing staff posts should be minimal; and
- Turnkey procurement are considered to be relatively expensive forms of procurement as they transfer the
 majority of the management and risk for the project to the contractor at the earliest stage. Using the turnkey
 procurement means that developer will drive all aspects of the project with an emphasis on price, generally at
 the expense of quality.

4. Evaluation of the options

This section details the methodology underpinning the evaluation and the results of the scoring process.

4.1 The evaluators

The following officers were selected by the Project Director to take part in the evaluation of the delivery options:

- Richard Barrett (Head of Property and Asset Management);
- Candace Bloomfield (Deputy Head of Procurement);
- Kobina Hughes (Joint Head of Contracts)
- Daniel Kwashie (Head of Technical Services)
- Phil Newby (Director of Policy and Regeneration);
- Terry Osbourne (Borough Solicitor);
- Anna Woda (Civic Centre Project Director); and
- James Young (Deputy Head of Property and Asset Management).

The evaluators met on Wednesday 16th April 2008 to discuss the delivery options and evaluation criteria. They received a briefing paper compiled by the consultant team and sought clarity on a number of points from the consultants. They then met on Tuesday 22nd April 2008 to complete the evaluation matrix (see Appendix 2).

4.2 Assessment categories

The civic centre consultant team met on the 12th March 2008 to discuss the delivery options evaluation. In attendance at this meeting were representatives from Trowers and Hamlins (legal advisors), Sherlock Consultancy (real estate advisors), Consarc Architects (architectural advisors and joint project leads) and Sector Projects (financial advisors and joint project leads).

At this meeting, the three key areas of assessment were agreed. These were;

- Cost.
- Design functionality; and
- Risk.

It was agreed that these categories would be equally important in the delivery options evaluation and therefore would be equally weighted.

At this meeting, detailed criteria for the assessment were also discussed. These criteria would sit within one of the three categories and would be scored and weighted as part of the evaluation process.

4.3 Assessment criteria

It was agreed that all consultants would produce a list of suggested sub criteria by the 20th March 2008. These criteria were received from all parties and a complete list of suggestions compiled. Duplicate criteria were removed from the list and a revised list collated by Sector Projects. This revised list was then presented to the procurement sub group

on the 9th April 2008 for review. Following the proposal to remove weightings from the draft evaluation matrix (see below) and second revised list was produced. This is attached in Appendix 2.

Below is a brief explanation of each criterion which is intended to assist evaluators in the scoring process.

Cost

Affordability

Is the Council able to afford this option? In a fixed budget scenario this selection should focus on whether the Council will be able to meet its objectives and vision using this procurement route, or will the cost of fees and risk be too great to deliver a viable solution?

Maximum Cost Certainty

The Council fixes the price of the civic centre project at the earliest possible opportunity.

Variation Cost Impact

The Councils needs to consider its ability to generate an output specification that will not change through the life of the project. This should specify its requirements for the design and functionality of the building. Each option has a different cost associated with changes required once the project has begun.

Value for Money

In a fixed budget scenario this looks at the wider impact of the cost on the specific elements of the building and compares this to the overall project objectives and vision.

Design functionality

Control over design process

Which procurement route gives the Council the best or sufficient influence and control authority over the design development of the Civic Centre?

Brief Requirements

Which procurement allows the Council to most readily or adequately meet the briefing requirements of that route?

Quality of Construction

Which route gives the Council adequate confidence that the quality of construction can be defined and controlled so that the building construction quality meets the aspiration for reasonable longevity and robustness?

Quality of Design

Which route enables the Council to be most reasonably assured that its aspirations for a building of Civic quality, urban realm pride and landmark status can be achieved?

Functionality/Operational Requirements

Which route will allow the Council sufficient influence or comment over the layout and function of the building to ensure that the building meets flexibility for future use and meet the predicted Operational requirements or facilities management needs?

Risk

Overrun

Which option gives the Council the most control over the length of the project? This should be considered both in terms of time-line of the project (see Appendix 1) and the ability of the contractors in the procurement route to extend the time span as a result of Council led variations.

Overspend

Which option gives the Council the greatest control and mitigation against potential overspend on the project? This should be considered in terms of overall risk transfer but also should consider additional costs such as variation and additional fees.

Under-deliver/poor quality (design or function)

Which procurement route best provides the Council the ability to deliver a high quality design that meets its functional requirements?

Client Capacity to Mange Risk

How capable is the Council of putting stringent risk management procedures in place to manage and mitigate risk throughout the project? This should be considered in terms of resource commitment of the Council and ability of those involved to adequately manage risk within the overall budget.

Extent of risk transfer

What is the risk appetite of the Council (in terms of officers and members) and how should the Council define what is important regarding risk? This should be considered in terms of whether transferring and paying for the transfer of construction risk is most important, or the transfer of the vision and objectives takes precedent.

4.4 Weighting

At the meeting of the procurement sub group on the 9th April 2008, a detailed discussion took place between Council officers and consultants to the project on whether to weight the assessment criteria. Attendees to the meeting were divided over whether weighting would be beneficial to the evaluation process or whether it would over-complicate the decision making process. It was decided that the consultants should look at the weightings again with a view to removing the weightings if possible.

In response to these discussions, the lead consultants to the project have decided to simplify the weighting process. It is proposed that each assessment criteria will be equally weighted within the three categories. However in order to make this decision feasible, the lead consultants have revisited the assessment criteria in an attempt to ensure that each criterion is of equal importance.

Evaluators are asked to review the revised delivery options evaluation matrix and suggest amendments if necessary.

4.5 The scoring process

Evaluators were given a copy of the evaluation matrix after the delivery options briefing on Wednesday 16th April. They were asked to score the matrix prior to the next meeting of the evaluators on Tuesday 22nd April.

The matrix required each evaluator to assign a score of 0 to 10 to each criterion. 0 was to be used when an objective was not met at all and 10 where an objective was met in full. Each of the evaluator's results were then combined and a total score for each option calculated at the meeting on Tuesday 22nd April.

4.6 The results

Seven of the eight evaluators scored the design and build route as their preferred option. Total scores across the routes were as follows:

- Option 1: Traditional route 778
- Option 2: Design and build route
 858
- Option 3: Turnkey route 655

The following table gives a detailed breakdown of the scores:

	Delivery options			
	1. 2.		3.	
	Traditional	Design/build	Turnkey	
	Score	Score	Score	
1. Cost				
Affordability	60	59	49	
Maximum cost certainty	35	55	66	
Variation cost impact	53	48	38	
Value for money	64	60	42	
Suitability of partnering	38	57	30	
Sub Total	250	279	225	
2. Design functionality				
Control over design process	75	61	26	
Brief requirements	52	51	33	
Quality of construction	68	58	33	
Quality of design	71	62	26	
Functionality / operational requirements	71	59	37	
Sub Total	337	291	155	
3. Risk				
Overrun (time)	26	64	60	
Overspend (financial)	33	57	68	
Under-deliver/poor quality (design or function)	64	58	36	
Client capacity to manage risk	40	50	50	
Extent of risk transfer	28	59	61	
Sub Total	191	288	275	
TOTAL	778	858	655	

It was agreed that Design and Build should be put forward to the Board as the preferred choice.

- 4.7 This Delivery Options evaluation report was presented to the Civic Centre Project Board at its meeting on 6th May 2008 and the process the Project Team used to reach its conclusions described. The various routes to procurement were discussed and Board members were asked to test, scrutinise and challenge the findings and recommendations of the Project Team.
- 4.8 The Civic Centre Project Board endorsed the recommendation to proceed with the design and build route and this will now be put to Members for agreement.

5. Conclusion and next steps

A procurement strategy paper will be prepared for presentation to the Council Executive in June 2008. This paper will ask members to approve the design and build procurement.

A further paper will be presented to the Executive in July 2008 setting out a detailed plan for the approach to tendering the contract. This will include the use of competitive dialogue, the application of a partnering approach to contractual arrangements and design team novation. Approval will be sought to tender for a design team and a main contractor.

Appendix 1: Procurement timelines

This appendix sets out draft timelines for each of the four proposed delivery options. This timelines are indicative only as they are based on a number of assumptions.

Common assumptions

- We have assumed a mid case scenario for our analysis of time taken for all procurement routes.
- We have assumed that the completion date will be 01/01/13.
- All timescales include an element for member approval, but we would look to the Council for clarification on this point.
- We have assumed that the master plan is subject to initial planning approval by August 08, subject to MAKE and Quintain's timetable being met. Delays to this approval have not been factored into the projects timescales.
- The construction phase of the critical path will take the same amount of time whichever delivery option is pursued
- We have assumed a two month period from receipt of tenders to award of contract. This is based on a half way point between award of contract for commercial builds (one month) and the amount of time tender prices are generally held by contractors (three months)
- We have extended the statutory planning period of thirteen weeks to five months to account for the size of the project. However this five month deadline will only be met if there is support for the project, if the planners are well briefed and the project is not called in as a result of public consultation or for GLA approval.
- We have assumed that the Council will procure and undertake separately the fit out of the building. To do this, the Council must define in their contract with the developer what is included within Category A (typically what the developer provides as part of the office space³) and within Category B (what is typically excluded from the contract⁴).

- the building fabric and primary services;
- raised floors;
- suspended ceilings;
- extension of the mechanical and electrical services above the ceiling from the riser across the lettable space;
- finishes to the internal face of the external and core walls; and
- blinds.

⁴ Category B completes the fit-out to the occupier's specific requirements. It can typically comprise the following:

- installation of cellular offices;
- enhanced finishes;
- conference/meeting room facilities;
- reception area;
- enhanced services / specialist lighting;

³ There is no standard definition for category A fit-out – it can vary between different developers. Typically, category A is what the developer provides as part of the rentable office space and usually comprises the following:

LBB Civic Centre Project Critical Path

Delivery Option 1: Traditional





60 months in total

LBB Civic Centre Project Design Team Selection Delivery Option 1: Traditional

8 months



Delivery Option 2: Design and build

Specific Assumptions as follows:

- That tenderers provide part Stage C designs as part of the tender process. This means that the Stage C design phase reduces from approximately four months to two months;
- That five to six developers will respond to the invitation to tender;
- The design and build procurement will cover the following primary lots; and
 - Architect
 - Structural engineer
 - Services/environmental engineers
 - Cost consultants
- Other smaller lots will be drawn from the framework and will include;
 - Landscape
 - BREEAM assessors
 - Highways consultants
 - Acoustic engineers
 - Surveys as required
 - Planning consultants (if required)
 - Other ad hoc services

LBB Civic Centre Project **Critical Path**

47 months in total



LBB Civic Centre Project Design Team Selection Delivery Option 2: Design and build

8 months



Delivery Option 3: Turnkey

Specific Assumptions as follows;

- That the developer will under a two-stage design and build internal tendering process. The Council will have no influence over this process but will be kept informed of progress; and
- That five to six developers will respond to the invitation to tender.

LBB Civic Centre Project **Critical Path**

51 months in total

Delivery Option 3: Turnkey



LBB Civic Centre Project Design Team Selection Delivery Option 3: Turnkey

10-12 months



Appendix 2: Evaluation Matrix

		Delivery options		
		1.	2	3
	Possible score	Traditional	 Design/build	Turnkev
		Score	Score	Score
1. Cost				
Affordability	10			
Maximum cost certainty	10			
Variation cost impact	10			
Value for money	10			
Suitability of partnering	10			
2. Design functionality				
Control over design process	10			
Brief requirements	10			
Quality of construction	10			
Quality of design	10			
Functionality / operational requirements	10			
3. Risk				
Overrun (time)	10			
Overspend (financial)	10			
Under-deliver/poor quality (design or function)	10			
Client capacity to manage risk	10			
Extent of risk transfer	10			
TOTAL				

Appendix 3: Discounted options

A number of procurement options were discounted from the evaluation process by the procurement sub-group were discounted. These were as follows:

- Partnering. Partnering was seen as a procurement approach rather than a procurement route which would be considered once the preferred delivery option was selected;
- PPP/PFI. These options were discounted from the process because the Council did not need private finance structures to deliver the project. PFI also would involve an application for credits which are unlikely to be granted; and
- Management contracting. This option was discounted primarily because of the high risk associated with price uncertainty. Under this form of procurement, cost is not defined until all construction packages are let and this form of procurement tends to be used only by those employers who are experienced in this form of procurement.

The implications of these options are considered more fully below.

1. Partnering

Partnering is a philosophically different and contemporary approach to the construction industry. Its central tenet is to share risk and reward on a truly collaborative platform. It was created out of the John Egan report to Government in 1998/2002. The Egan Agenda has several core values aimed at streamlining the design and construction process and eliminating the adversarial environment common in construction. Through collaboration, the Employer becomes joined in the design and decision-making process and all designers, clients and contractors share in risk and reward.

Design functionality

Form of Appointments (design team):

Engineering and Construction Contract-(EEC) Contract Suites or their precursor NEC suite or the PPC 2000 suite or the JCT Constructing Excellence Contract.

Key principle is the back-to-back nature of the overall contracts set, so common terms, conditions and terminology is applied across the board.

Design Control and Approvals:

All contract parties; consultants and client agree activities, key milestones, KPI's and Outputs. Design Control is managed through a master program held by the Contract Administrator who can then liaise with the client body to communicate issues.

Changes to Master program or cost affected by design variation are identified by consultants under their own subprogram and communicated via an early warning systems to pass on to the whole consultant and client body. This is then evaluated and impact assessed as either a compensation event or reprogrammed to mitigate impact. Risk is shared across the supply chain, from client, consultant, and contractor to sub-contractor.

The essence of this form of partnering is mutual trust and cooperation

Style of Client Brief (Extent and Quantum)

The quantum of information supplied as a client brief can vary in detail/scope as the project is developed collaboratively.

Architect and Design Team Reporting: (Who to):

All consultants report to the Lead Designer.

Lead Designer reports to Employers Agent or Employer

Main Contractor (who can be appointed on a D&B style form of delivery or any other as defined by Employer) reports to Project manager who in turn reports to Employer.

Advantages/Disadvantages to End User (Design):

Shared management and control over risk and reward

Early warning systems are designed to raise issues early, resolve and move forward without dispute over compensation or time. Engages all in problem resolution.

Employer is inextricably linked into the design team with clearly defined responsibilities Risk and reward profiles can be set at outset for all incentivising the team to innovate A significant amount of management required of client

Typical Form of Building Contract:

NEC or PPC or JCT Constructing Excellence Contract as defined by Employer Percentage of Large (20M+) Construction projects that use this procurement route: Unknown but highly supported by Government: Olympics Delivery Programme, Cross rail, Housing Associations, Schools

Risk

The risks associated with a partnering procurement route depend on the nature of the partnering arrangement. The risk profile will lie most closely with the procurement route that the contract most closely reflects.

Risk management

Partnering contracts such as the PPC2000 require the parties to work together to analyse and manage risks in the most effective way. This is based on the premise of sharing or apportioning risks according to which one of the parties is most able to manage the risk.

Client capacity

All parties may use the advice of the Partnering Adviser individually or collectively subject to reaching agreement on costs and the Partnering Adviser's duty of care.

Legal

Partnering is a procurement approach or methodology rather than a procurement route. It would be possible therefore to adopt a partnering approach for either the Design and Build or the Turnkey options.

Partnering has developed as a set of collaborative management techniques necessary to bring about the cultural change in the construction industry envisages by the Egan Report. In order to measure up to the full range of practical challenges that arise during the course of the design, supply and construction process, partnering teams are encouraged to ensure that the new collaborative culture is fully embedded in all project procedures in place of the adversarial alternatives.

To do this, cultural change clearly is intended to be combined with clear, robust and fully integrated techniques for bringing together and holding together the project team. It is fundamental for all team members to understand what each other have agreed to do and when they will do it in order to translate the new culture into a sustainable means of achieving improved results.

Early appointment of Contractors

It is often maintained that there are significant benefits to be derived from the early appointment of the Contractor via the contribution of their practical experience in such areas as:

- Developing the design, with particular reference to 'build ability';
- Value engineering;
- Participating in risk management;
- Developing the construction phase programme; and
- Agreeing key performance indicators and incentive arrangements where appropriate.

Clarity of Risks and Responsibilities

An integrated project team can avoid wasted time and cost caused by duplication and can assist in avoiding the likelihood of claims and disputes. Clarity of consultant, contractor and sub-contractor's risks and responsibilities is key to achieving this.

If the services for each consultant are appended to the contract, the parties should have the opportunity to check for the integration of their respective works and services.

Key features of a partnering approach tend to include:

- a team based multi-party approach;
- an integrated design/supply/construction process;
- recognition of the Egan objectives, possibly with monitoring against KPIs;
- supply chain partnering on an open book basis;'
- an early warning system for problems;
- a collaborative timetable;
- incentives for efficiencies and shared savings;
- equitable risk management and sharing; and
- non-adversarial problem resolution.

Finance

From a financial context the implications are based on the most closely followed procurement route. However, there is a distinct difference in using partnering in that the Council, if it chooses, can shared the risks and rewards of the project with the contractor. In doing this there is a greater incentive for both parties to get it right first time.

The basis of the collaborative approach is that any savings made on the project are split on a pre-agreed contractual basis. However, any overruns or increased costs are also split between the client and the contractor. This is considered a more equitable method of working together. Problems and issues are generally brought to the table and dealt with in a timely manner by all parties

The Council must invest a significant amount of internal resource in order to fully quantify the split of risk and rewards, to ensure it is getting a fair deal. It must also assess where it feels it is best able to take on additional risk, or where the transfer of risk to one of its partners is more appropriate.

Other aspects of partnering that should be considered are:

- The degree of certainty over the construction cost payable under a partnering arrangement depends very much on the form of contract employed. Under a PPC2000 form of contract, payment by the client to the contractor under a partnering method of procurement tends to be on the basis of an Agreed Maximum Price. This is prepared on the basis of agreed amounts for the Contractor's profit, central office overheads and site overheads;
- Bidding costs for both public and private sector parties are usually high compared with traditional methods of contracting. Many partnering arrangements are complex, and the need for lengthy procurement processes and complex contract documentation will have a significant effect on costs;
- Payments under a partnering arrangement may have a significant, ongoing effect on operations budgets and the nature of the partnering arrangement should be scrutinised to evaluate the involvement of the partner after the construction and fit out phase is complete;
- Strong risk management and mitigation procedures by both the Council and the Contractor can result in significant savings on the overall project. The Council can chose to recycle these savings to other corporate

priorities or enhance the specification or quality of the civic centre

2. PFI/PPP

PFI (Private Finance Initiative) is one form of Public Private Partnership - the latter phrase, PPP encompassing a number of partnership options for service delivery. PFI/PPP may be particularly relevant for capital intensive projects.

In essence, PFI/PPP transforms the public sector from being the owner and the operator of an asset to a purchaser of a service. In a PFI/PPP transaction, a private sector provider is given responsibility for designing, building, financing and operating assets from which a public service is delivered. Using the PFI/PPP method, local authorities can, it is maintained, achieve long-term benefits from the expertise of the private sector and investment in the delivery of public facilities and services. The overriding objective of a Private Finance Initiative scheme is to create a structure in which value for money is optimised, through private sector innovation and management skills, through the "build ability" advantages from linking the issues of design, build and operation, through the efficient allocation of risk and through the "whole life" approach to service delivery.

The procurement methods outlined above envisage the design and construction of the project and its eventual maintenance and operation being separate activities carried out by different parties. Under the PFI/PPP approach, the responsibility for design, construction and operation rest with the single service provider who is contracted to deliver the service to agreed standards and subject to a performance related payment mechanism.

The level of control can be exercised by the Client over the design of the project will again, depend upon the level of detail of its requirements. Although PFI/PPP specification documents tend to be "output" based, the public sector client will usually retain a significant involvement in the development and finalisation of the design of the project, albeit that the grounds upon which the public sector client may object to any design will be objective and limited to issues such as a failure to achieve the output specification etc.

As noted above, the service provider will be responsible for the successful operation of the building and its entitlement to payment will be dependent upon the building achieving the required performance standards. Our understanding is that the Council is also keen to ensure that the completed building meets its design life requirements. One of those performance standards may of course relate to the design life of the various constituent parts of the building. The service provider's maintenance responsibilities will be fixed by reference to a lifecycle plan, with that plan reflecting the stipulated design life requirements. Prior to the expiry of any maintenance period, "hand-back" surveys would be carried out to determine that the asset has been maintained as required and that the design life requirements are still sustainable.

3. Management procurement

There are two forms of "management procurement" contract: Management Contracts and Construction Management Contracts. Both are forms of contractual arrangement whereby the contractor is paid a fee to manage the building of a project on behalf of the Client. They are contracts to manage, procure and supervise the construction process, rather than contracts to actually build out the project. They tend to be used by very experienced property developers.

• Management Contracts provide for the Management Contractor to procure and appoint works contractors to undertake the required packages and to administer their contracts. Despite appointing them however, the Management Contractor is not liable for a breach by the works contractors, provided that the Management Contractor has complied with the particular requirements of its Management Contract.

• Under Construction Management, the appointment of works contractors (in a Construction Management context known as 'trade contractors') is made directly by the Client. The Construction Manager's services will include the obligation to administer the contracts, but contractually there is no nexus been Construction Manager and trade contractors.

• The nature of both forms of management procurement is similar to traditional procurement, in that designs and specifications will be provided by the Client to the Management Contractor / Construction Manager. Design responsibility will rest with the Client and the consultants it employs or which (if so instructed) a Management Contractor employs.

• Alongside any design appointments the Client will also be likely to appoint a Contract Administrator and Quantity Surveyor. The former will administer the Management Contract, both will be required to co-operate with the Management Contractor on issues such as programme, construction methods and cost plans.

• Where either a Management Contract or Construction Management contract is used, the construction of the development is split into the Pre-Construction Period and Construction Period. Early appointment of the Management Contractor / Construction Manager underpins integration of the Management Contractor / Construction Manager with the members of the professional team. Once it is practicable to do so the Management Contractor / Construction Manager will progress to the Construction Period. During the Construction Period the Management Contractor / Construction Manager will manage, organise, supervise and secure the carrying out of the project planned during the Pre-Construction Period.

• Under both procurement methods, the Management Contractor / Construction Manager will be paid a 'Management Fee' for its Services along with an amount required for site management and preliminary costs. Sub-contract prices will be calculated on the basis of tenders received.

• As with Traditional and Design & Build procurements, the selection and appointment of the Management Contractor / Construction Manager would have to be undertaken in compliance with the EU Procurement Regulations. In addition, given that the Management Contractor / Construction Manager is carrying out a service only, the individual works or trade packages may also need to be advertised, where their anticipated value exceeds the threshold.

• Early sub-contractor involvement is possible as early works packages could be let and administered by the Management Contractor / Construction Manager while full designs are being developed by the Client and its design team.

a) In terms of time, the management procurement approach has the advantage of possible early completion given that the early works packages can be commissioned whilst the design is still conceptual. However, it is a perceived disadvantage of this approach that it does not provide for any cost certainty at the outset of the project.

b) The Client assumes a major role itself in directing the project – only the management of contracts once created lies with the Management Contractor / Construction Manager. This method means that the risk in terms of performance under works or trade contracts lies with the Client (rather than on a design and build or turnkey contract procurement for example, where the contractor would take the risk entirely).

Advantages

• The Client retains control of design throughout, providing designs to the Management Contractor / Construction Manager only once satisfactorily completed.

• Early Management Contractor / Construction Manager involvement can lead to greater efficiencies in terms of time (commencing early works before full designs are ready) and efficiency (Management Contractor or Construction Manager's experience assisting the design process).

• There should be less risk in terms of cost as prospective works and trade contractors are tendering on the basis of completed designs.

Disadvantages

• May be more expensive, with an additional layer of 'management fees' on top of the design team fees, construction costs etc. Also the Management Contractor / Construction Manager has an incentive to obtain tenders from only established sub-contractors with reliable records. This may come at a price whereas the Client may prefer a cheaper option (at least in some areas of the works) having less guarantee of workmanship quality or finishing on time.

• The procurement structure does not take any of the risk away from the Client. In the absence of any negligence by the Management Contractor or Construction Manager, the Client's rights of recourse for non-performance will be against the Sub-Contractor direct.

• With Construction Management, as the Client remains involved in the appointment of trade contractors there is a need to remain 'hands on'. This will require a degree of experience "in-house" and the capacity to be involved in the day to day progress of the works.

Appendix 4: Report on possible procurement options



London Borough of Brent

New Civic Centre Project – Report on possible procurement options for discussion at Procurement Subgroup

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A Introduction

The Council is considering which procurement method it may employ for the design and construction of it's new civic centre project.

A number of factors will determine the choice of procurement method. A particular client's policies, available resources, organisational structure and preferred contractual arrangements will all need to be taken into account. The Council will no doubt be familiar with the cost, quality and time "triangle". If these three factors are kept in balance, with appropriate quality being achieved at an acceptable price in a reasonable timescale, the triangle would appear equilateral - with equal weight or emphasis being given to each factor. If, however, particular circumstances dictate that one of the factors must take precedence, the other two will "suffer" or carry less weight or emphasis.

If quality is of paramount importance, adequate time must be allowed for the design and specification to be perfected, and the cost could rise on both counts. If speed of completion is paramount, quality and cost may both have to suffer. If lowest cost is the priority, time may not be prejudiced but quality could suffer.

The effect of these different priorities is relative. There is no reason why, with proper planning and management, those elements with a lower priority cannot be adequately controlled.

A key decision when selecting a procurement method is based on the manner on which the detailed design is to be progressed. For example, by following a traditional procurement (see B1 below) or management procurement route (see B3 below), the design team will develop the design, whereas with design and build procurement (see B2 below) the design team may only prepare a design brief, the design itself being completed by the contractor.

The level of control over design must however be weighed against the fact that each procurement method has a different time, cost and quality scenario.

B Procurement methods

This report considers four possible procurement options. The essential features of each are set out below:

1 Traditional procurement (Council led)

- a The main feature of this procurement method is that, (as noted above), the design process is separate from construction, and full documentation is required before the contractor can be invited to tender for carrying out the works. Specific features of this approach include:
 - Given the Council's status as a contracting authority, the appointment of a contractor would have to be made following an OJEU compliant tender process.
 - Full documentation is necessary for tendering purposes, including that from any specialist sub-contractors, and adequate time is needed for the preparation of this.

- The Client has control over design, specified quality and standards etc through his appointed consultants. Generally there is no design responsibility imposed on the contractor. (The contractor may however assume responsibility for the design of certain specific areas for example, mechanical and electrical services.)
- The number of external consultants to be appointed by the Client to make up it's design team will, of course, depend upon the level of internal resources available to the Client. On a project such as this, it is envisaged that the following disciplines would be required as a minimum:
 - architect
 - CDM co-ordinator
 - environmental consultant
 - structural engineer
 - quantity surveyor
 - mechanical and electrical engineer
 - acoustic consultant
 - utilities consultant

Depending on whether the Client had sufficient resource to manage the team of external consultants, it may also be desirable to appoint a project manager to administer the project and manage the interface both between consultants and between the consultants and the contractor.

- Depending upon the existence of any consultant framework arrangements available to the Council, each consultant will need to be procured in compliance with EU regulations (on the assumption that thresholds are likely to be exceeded).
- Given that design and construction are separate sequential processes under this approach, the overall programme for the project may be relatively long.
- The Client enjoys reasonable certainty on construction cost because the design of the works will be, in the main, complete at the point of entry into the contract and therefore a contract sum figure is known at the outset although this may need to be adjusted later to deal with, for example, Client variations or loss and expense events.
- It is likely that the Client would need to appoint a professional consultant to act as an independent contract administrator. This may be the Client's retained architect or independent project manager (as above).
- Although making design decisions before work has commenced may appear to bring a measure of inflexibility, changes or variations <u>are</u> possible during construction of

the work. Any change or variation (and its effects on programme etc) will be measured and valued in accordance with the contract.

- Administrative matters relating to valuations and payments rest in the hands of the Client's retained consultants (i.e. contract administrator and quantity surveyor).
- The contractor is obliged to complete the works within the contract period, although the date for completion may need to be revised to take into account any delay events for which the contractor is not responsible.
- b The traditional lump sum approach in terms of cost, design and quality is a relatively low risk procurement option for the Client but the time needed for the project overall is likely to be (relatively) longer than that for other procurement methods. It is also a procurement method that on balance requires greater Client involvement given the "split" of responsibilities between design and construction (although this can, to an extent, be addressed via the appointment of an external project manager if required). By extension, it also needs to be borne in mind that, should a defect arise in the project (either during or post construction), the Client is required to establish whether the cause is related to design (for which one or a number of consultants may be responsible) or related to construction (for which the contractor is responsible) or both. Contrast this with the single point responsibility assumed by the contractor under the design and build approach (see 2 below).

2 Design and Build/Turn key etc – (Contractor/Developer led)

- a This is a method where the contractor is responsible for undertaking both the design <u>and</u> construction of the work in return for a lump sum price. There are variants on this option depending upon the degree to which initial design is included in the Client's brief.
 - The appointment of a contractor can often be procured by two-stage tendering process, thus retaining a competitive element. As with the traditional method, any appointment will need to be made in compliance with OJEU.
 - The Client's requirements can range from purely outline to a fully worked up scheme design. Adequate time must be allowed for the Client's requirements to be prepared to the appropriate level and (depending on the Client's own internal resources) the Client will usually need to appoint external consultants to undertake this process. (The number of consultants to be appointed will depend upon the extent to which the Client is prepared to leave the design and design development of the project to the contractor.) The contractor must be given adequate time to prepare his proposals, together with an analysis of his tender figure.
 - The Client has control over the design of the works insofar as that design is including in his requirements, but, once the contract is let, the Client gives up direct

control over the development of the contractor's detailed design. The contractor assumes responsibility for design at this point and usually appoints his own consultants to formulate a design or to develop the design in the Client's requirements as necessary.

- Once the contractor has been appointed and assumed responsibility for design, the decision must be made as to the future role of the Client's consultants. When the contractor uses an in-house design team to develop the design for construction purposes, the original designers (and quantity surveyor) might be retained by the Client to monitor standards and supervise payments. Alternatively, the original designers might be "novated" to the contractor, leaving only the quantity surveyor to give cost advice to the Client and/or the "Employer's Agent" to act as the Client's representative on the project. (In a design and build context, the Client's representative is known as the Employer's Agent.)
- Difficulties often arise when Clients fail to realise that novated consultants no longer have duties to perform for them. In practical terms, the consultants are no longer employed by the Client and are therefore no longer able to represent the Client's best interests, monitor the quality of construction or deal with payments. These duties must be left to others, such as the Employer's Agent. With due advance planning, however, most potential issues can be anticipated. Depending on the extent of the design responsibility included in the contract and the contractors own professional indemnity insurance cover, the consultants may be required to enter into collateral warranty or third party rights agreements protecting the Client against damages arising out of design based failures. It is arguable however that the novation approach may increase cost given that the contractor is likely to attach a risk premium to the assumption of responsibility for the work undertaken by the Client's consultants prior to novation.
- Because design and construction is likely (under this procurement process), to proceed in parallel, it may be possible for the overall programme of the project to be shortened; the extent to which this is so will depend on the extent to which the contractor is responsible for the design and for design development.
- There can be reasonable certainty as to outturn cost because a contract sum is known at the outset. As long as the Client refrains from ordering changes or variations to the works during the construction period, the contractor is obliged to complete the project for the contract sum.
- As noted, it is possible for the Client to order changes to the design or specification during the construction process, but this can be expensive.

- Unlike the traditional procurement approach, there is unlikely to be an independent contract administrator. Rather, the Client will appoint an agent to administer the provisions of the contract on its behalf (i.e. the Employer's Agent) as noted above.
- As with the traditional procurement approach, completion within the contract period is an obligation on the contractor although the Client may have to accept a later completion date if a delay event occurs for which the contractor is not responsible.
- b In terms of cost and time, the design and build approach is a relatively low risk procurement option for the Client but there may be uncertainty over design and quality, particularly if insufficient attention is paid initially in the preparation of the Client's requirements and the checking of the contractor's proposals.
- c In terms of risk management, it is often perceived as one of the principal advantages of design and build that a contractor assumes single point responsibility for all design and construction risk (subject to the terms of the particular contract).

Management procurement

3

- a There are two forms of "management procurement" contract: Management Contracts and Construction Management Contracts. Both are forms of contractual arrangement whereby the contractor is paid a fee to manage the building of a project on behalf of the Client. They are contracts to manage, procure and supervise the construction process, rather than contracts to actually build out the project.
 - Management Contracts provide for the Management Contractor to procure and appoint works contractors to undertake the required packages and to administer their contracts. Despite appointing them however, the Management Contractor is not liable for a breach by the works contractors, provided that the Management Contractor has complied with the particular requirements of its Management Contract.
 - Under Construction Management, the appointment of works contractors (in a Construction Management context known as 'trade contractors') is made directly by the Client. The Construction Manager's services will include the obligation to administer the contracts, but contractually there is no nexus been Construction Manager and trade contractors.
 - The nature of both forms of management procurement is similar to traditional procurement, in that designs and specifications will be provided by the Client to the Management Contractor / Construction Manager. Design responsibility will rest with the Client and the consultants it employs or which (if so instructed) a Management Contractor employs.

- Alongside any design appointments the Client will also be likely to appoint a Contract Administrator and Quantity Surveyor. The former will administer the Management Contract, both will be required to co-operate with the Management Contractor on issues such as programme, construction methods and cost plans.
- Where either a Management Contract or Construction Management contract is used, the construction of the development is split into the Pre-Construction Period and Construction Period. Early appointment of the Management Contractor / Construction Manager underpins integration of the Management Contractor / Construction Manager with the members of the professional team. Once it is practicable to do so the Management Contractor / Construction Manager will progress to the Construction Period. During the Construction Period the Management Contractor / Construction Manager, supervise and secure the carrying out of the project planned during the Pre-Construction Period.
- Under both procurement methods, the Management Contractor / Construction Manager will be paid a 'Management Fee' for it's Services along with an amount required for site management and preliminary costs. Sub-contract prices will be calculated on the basis of tenders received.
- As with Traditional and Design & Build procurements, the selection and appointment
 of the Management Contractor / Construction Manager would have to be undertaken
 in compliance with the EU Procurement Regulations. In addition, given that the
 Management Contractor / Construction Manager is carrying out a service only, the
 individual works or trade packages may also need to be advertised, where their
 anticipated value exceeds the threshold.
- Early sub-contractor involvement is possible as early works packages could be let and administered by the Management Contractor / Construction Manager while full designs are being developed by the Client and it's design team.
- b In terms of time the management procurement approach has the advantage of possible early completion given that the early works packages can be commissioned whilst the design is still conceptual. However, it is a perceived disadvantage of this approach that it does not provide for any cost certainty at the outset of the project.
- The Client assumes a major role itself in directing the project only the <u>management</u> of contracts once created lies with the Management Contractor / Construction Manager. This method means that the risk in terms of performance under works or trade contracts lies with the Client (rather than on a design and build procurement for example, where the contractor would take the risk entirely).

C Advantages / Disadvantages

We understand that the ability to retain control over the design process is important to the Council. This issue is not one that can be looked at in isolation however. One procurement method may afford greater design control than another, but there will usually be a "trade-off" in terms of cost, time, risk etc.

The following are a summary of the advantages and disadvantages of the three procurement methods discussed above, starting with their flexibility in terms of design:

1 Traditional Procurement

1.1 Advantages

- Through its appointment of the design team, the Client retains full control over design and issues of quality and required performance.
- It is a relatively flexible approach which allows the Client the benefit of developing requirements and ideas, albeit at a cost.
- Early certainty of overall contract price contractors tender on the basis of fixed designs.

1.2 Disadvantages

- Given the sequential nature of design and construction under this approach, this method can lead to a longer project duration from concept to completion.
- Responsibility for design, construction and required performance lies with a number of different parties. In the event of a defect, then depending upon the cause of that defect, the Client is not able to look to one party only to remedy the defect or assume responsibility for it.
- Greater Client involvement in the management of its own consultant team may be required.

2 Design and Build

2.1 Advantages

- Responsibility for design, construction and required performance of the project lies entirely with the contractor this allows the Client a simple position in the event of any defect in design and/or construction.
- Early certainty of overall contract price is obtained.
- This approach involves the overlapping of design and construction and therefore can lead to a shorter project duration.

2.2 Disadvantages

- Once appointed the contractor assumes responsibility for design from that point its price will have been based on a particular design and level of design development. As such any changes in design required by the Client after signing the contract can be expensive and difficult to evaluate.
- There is always a risk with regard to quality of work. If the original brief is not precise and the specification offered by the contractor vague, there may be a temptation for the contractor to reduce standards.
- If the Client's design team is novated then a conflict of interest can arise. With novation, it is arguable that the premium paid to the contractor for taking the risk is paid irrespective of whether or not the risk materialises.
- Following novation, the Client may be required to appoint other consultants to check the work of the contractor, thereby increasing the cost of the project.

3 Management Procurement

3.1 Advantages

- The Client retains control of design throughout, providing designs to the Management Contractor / Construction Manager only once satisfactorily completed.
- Early Management Contractor / Construction Manager involvement can lead to greater efficiencies in terms of time (commencing early works before full designs are ready) and efficiency (Management Contractor or Construction Manager's experience assisting the design process).
- There should be less risk in terms of cost as prospective works and trade contractors are tendering on the basis of completed designs.

3.2 Disadvantages

- May be more expensive, with an additional layer of 'management fees' on top of the design team fees, construction costs etc. Also the Management Contractor / Construction Manager has an incentive to obtain tenders from only established sub-contractors with reliable records. This may come at a price whereas the Client may prefer a cheaper option (at least in some areas of the works) having less guarantee of workmanship quality or finishing on time.
- The procurement structure does not take any of the risk away from the Client. In the absence of any negligence by the Management Contractor or Construction Manager, the Client's rights of recourse for non-performance will be against the Sub-Contractor direct.

• With Construction Management, as the Client remains involved in the appointment of trade contractors there is a need to remain 'hands on'. This will require a degree of experience "inhouse" and the capacity to be involved in the day to day progress of the works.

D Forms of Contract

The particular form of contract which the Council ultimately adopts will be driven by the procurement methodology selected. The Council has stated its desire to achieve design control and in this regard, aside perhaps from the specific JCT Design and Build contract, all the standard forms have sufficient flexibility to provide this.

The Council's decision will no doubt be influenced by its overall procurement strategy, what it's particular goals are (i.e. does it wish to procure the project on the basis of partnering principles for example) and it's appetite for risk.

The following is a very brief overview of some of the established "standard form" contracts:

1 Overview

1.1 **JCT**

The JCT suite of contracts is arguably the best known set of standard forms. The JCT05 suite comprises a wide range of main contract and sub-contract forms. The JCT range has specific contracts to deal with each of the procurement methods outlined above. JCT does not publish complementary forms of consultant appointment.

1.2 **NEC**

The NEC 2nd Edition contracts are well-established and used by a significant number of clients for the procurement of programmes of capital works. The NEC3 suite has recently been published and comprises a complementary set of main contracts, sub-contracts and professional services appointments with a partnering option for incorporation in each if desired. Although it is less well-known than the 2nd Edition, NEC3 covers a number of items not previously dealt with and thus is more appropriate for inclusion in this comparison.

1.3 **PPC**

The PPC2000 ACA Standard Form of Contract for Project Partnering is a multi-party form of project contract that can be entered into by the Client, the main contractor, the Client's design team (and other professional advisers) and any principal design sub-contractors. PPC is aimed at providing a foundation and route map for the partnering process and can be applied for any type of partnering project.

2 Key Features

In terms of what we understand to be the Council's priorities some of the principal issues are outlined below.

2.1 Control of Design

Each of the standard forms of contract allow the Client control over design depending on how the Client wishes to use them.

- 2.1.1 The JCT range of contracts are sufficiently wide ranging to cater each of the procurement methods described above. As discussed in Section B of this report, both Traditional procurement and Management procurement afford the Client greater controls over design and design development. This is to be contrasted with Design and Build where the Client transfers the risk of design and design development to the Contractor at the point of contract.
- 2.1.2 NEC3 allows flexibility of design. As the appointment of consultants remains with the Client throughout, design control can also be retained by the Client. The NEC contract allows the Client to specify how much design responsibility lies with the contractor this could of course extend to total responsibility if that is what the Client requires.
- 2.1.3 PPC2000 also allows flexibility of design. Where the Client wishes to retain control over design and design development, then the Consultant Partnering Team members will continue to work for the Client direct and will lead on design development prior to construction on site. PPC2000 does however have a design and build option under which the Contractor assumes single-point responsibility for both design and construction risk with responsibility for the design team being transferred to the Contractor in a similar way as exists under the JCT Design & Build form.

2.2 Early appointment of Contractors

It is often maintained that there are significant benefits to be derived from the early appointment of the Contractor via the contribution of their practical experience in such areas as:

- Developing the design, with particular reference to 'build ability';
- Value engineering;
- Participating in risk management;
- Developing the construction phase programme; and
- Agreeing key performance indicators and incentive arrangements where appropriate.
- 2.2.1 JCT05 itself does not provide for main contractor or sub-contractor appointment prior to commencement of the construction phase. This can however easily be achieved through a separate bespoke pre-construction phase agreement.

- 2.2.2 NEC3 does not itself provide for early main contractor or sub-contractor appointment, but the main contractor or sub-contractor could sign a separate NEC Professional Services Contract to deliver these "pre-construction" services.
- 2.2.3 PPC2000 provides for early main contractor and sub-contractor appointment to undertake a series of pre-construction phase activities including design development, surveys and value engineering as set out above.

2.3 Clarity of Risks and Responsibilities

An integrated project team can avoid wasted time and cost caused by duplication and can assist in avoiding the likelihood of claims and disputes. Clarity of consultant, contractor and subcontractor's risks and responsibilities is key to achieving this.

- 2.3.1 JCT05 is clear as to the risks, roles and responsibilities taken on by the Client and main contractor and any sub-contractors/sub-consultants, and how these interact with other consultants. It does not itself clarify the roles and responsibilities of consultants as there is no equivalent form of consultant appointment; other standard forms do however exist which can complement the standard JCT form.
- 2.3.2 NEC3 clarifies the role and responsibilities of the client and main contractor (under its main contracts), of sub-contractors/sub-consultants (under its sub-contracts) and of consultants (under its consultant appointments). For the main contractor, sub-contractors and consultants to be clear on each others roles is dependent on each of them seeing the other's contracts with the Client.
- 2.3.3 PPC2000 seeks to clarify the roles and responsibilities of the Client, main contractor, subcontractors/sub-consultants and consultants under a single form of multi-party contract supplemented as necessary by specialist sub-contracts. The services for each consultant is appended to the contract. It is anticipated that, given that parties are signatories to the same contract, they have the opportunity to check for the integration of their respective works and services.

E PFI/PPP

PFI (Private Finance Initiative) is one form of Public Private Partnership⁵ - the latter phrase, PPP encompassing a number of partnership options for service delivery. PFI/PPP may be particularly relevant for capital intensive projects.

In essence, PFI/PPP transforms the public sector from being the owner and the operator of an asset to a purchaser of a service. In a PFI/PPP transaction, a private sector provider is given responsibility for designing, building, financing and operating assets from which a public service is delivered. Using the

⁵ PFI is the term usually used for a Public Private Partnership which has central government funding via PFI credits.

PFI/PPP method, local authorities can, it is maintained, achieve long-term benefits from the expertise of the private sector and investment in the delivery of public facilities and services. The overriding objective of a Private Finance Initiative scheme is to create a structure in which value for money is optimised, through private sector innovation and management skills, through the "build ability" advantages from linking the issues of design, build and operation, through the efficient allocation of risk and through the "whole life" approach to service delivery.

The procurement methods outlined above envisage the design and construction of the project and its eventual maintenance and operation being separate activities carried out by different parties. Under the PFI/PPP approach, the responsibility for design, construction and operation rest with the single service provider who is contracted to deliver the service to agreed standards and subject to a performance related payment mechanism.

The level of control can be exercised by the Client over the design of the project will again, depend upon the level of detail of its requirements. Although PFI/PPP specification documents tend to be "output" based, the public sector client will usually retain a significant involvement in the development and finalisation of the design of the project, albeit that the grounds upon which the public sector client may object to any design will be objective and limited to issues such as a failure to achieve the output specification etc.

As noted above, the service provider will be responsible for the successful operation of the building and its entitlement to payment will be dependent upon the building achieving the required performance standards. Our understanding is that the Council is also keen to ensure that the completed building meets its design life requirements. One of those performance standards may of course relate to the design life of the various constituent parts of the building. The service provider's maintenance responsibilities will be fixed by reference to a lifecycle plan, with that plan reflecting the stipulated design life requirements. Prior to the expiry of any maintenance period, "hand-back" surveys would be carried out to determine that the asset has been maintained as required and that the design life requirements are still sustainable.

F Design Life

As noted above we understand that the Council is also interested in exploring means by which any contractors selected to design and/or construct its Civic Centre are incentivised to ensure that the building will have longevity.

In a non PFI/PPP context it would be difficult to incentivise designers and contractors to ensure such longevity in a standard commercial build. Key Performance Indicators, profit sharing regimes, penalties and the like are useful tools to monitor performance in terms of time or cost, or quality where there is some form of ongoing performance. However the issue of whether the building has been adequately designed to have longevity is finite – it either has or it has not – although this will only be discovered some years after the procurement process.

As Client the Council could stipulate in its design specification that the Civic Centre must have, for example, a roof which will last 50 years without need of substantial repair. The industry standard is for

designers and contractors to accept liability for any failure of design (or in the contractor's case any failure to carry out the construction work) for a period of 12 years after the completion of their Services/the works. Both designers and contractors would ordinarily resist any attempt to extend their liability beyond these limits. This would mean that after the 12 year period they would have no liability in the event that a fault in design or construction necessitated substantial repairs before the requested 50 year period was up.

There are two possible approaches to extend the designers and contractor's liability to cover such an extended period. The first is simply to agree a longer liability period with the selected designer/contractor. If possible at all commercially, this would undoubtedly come with an increase in the designer/contractor's price to cover the risk they would be taking on.

A second approach could be to offer the design and construction of the Civic Centre to contractors on condition that they accept a separate (but linked) maintenance obligation in respect of the completed building for a stipulated period in a manner similar to that outlined above in relation to PFI/PPP. Whilst the contractor would be entitled to payment for the provision of standard repairs and maintenance, any repairs required due to a failure of design and/or construction would be undertaken at the contractor's risk. Furthermore, in line with the PFI/PPP principles outlined above, the Contractor may be required to carry out a hand-back survey prior to the exploration of the maintenance period. The purpose of the survey would be to verify that the asset has been maintained in accordance with any lifecycle plan and that any design life requirements applying to any parts of the asset were still sustainable.

Trowers & Hamlins 25 February 2008