



PROJECT PROCUREMENT AND DELIVERY GUIDANCE

**Using Two Stage Open Book
and Supply Chain Collaboration**

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Introduction



Cabinet Office

The [Government Construction Strategy \(2011\)](#) set out to achieve savings in construction procurement of up to 20%. Reforming procurement practices to effect behavioural and cultural change underpins this effort. The Industrial Strategy for Construction ([Construction 2025](#)) re-emphasises Government's continuing commitment to this effort. The context to this initiative has been set out in "New Models of Procurement – Introduction to the Guidance".

Three new models of construction procurement (Cost Led Procurement; Integrated Project Insurance; Two Stage Open Book) have been trialled. Guidance for each describes the '*how to*' in adopting the model to aid clients in the public sector, bringing together best practice and behaviours of leading practitioners to help generate savings being sought by Government. If clients and suppliers want to achieve the same level of outcomes demonstrated by the trial projects, then the steps and techniques set out in the guidance will help them to achieve this.

Through evolution rather than revolution, these models offer the potential to achieve efficiency gains that can be released for reinvestment, create new employment and industry activity, make projects more affordable and fundable, and make the UK construction industry more competitive.



King's College London Centre of Construction Law and Dispute Resolution (part of the Dickson Poon School of Law) has analysed the outcomes of UK Government Trial Projects testing whether the procurement and delivery models known as Two Stage Open Book and Supply Chain Collaboration generate cost savings and other improved value. The processes, activities and outcomes described in this Guidance reflect strong evidence that Two Stage Open Book and Supply Chain Collaboration, implemented separately or together, can have a significant, positive impact on project costs and other outcomes if led by a Client committed to creating an Integrated Team and if supported by clear contractual processes for the early conditional appointment of Tier 1 Contractors and Tier 2/3 Subcontractors and Suppliers.

This Guidance has been prepared by Professor David Mosey, Director of the King's College London Centre of Construction Law and Dispute Resolution and consultant to Trowers & Hamlins LLP, who gratefully acknowledges the support and contributions of the Trial Projects Delivery Group, the Trial Projects Support Group, Constructing Excellence and the Academic Partners.

1. Two Stage Open Book and Supply Chain Collaboration: Executive Summary – What is different?

1.1 This Guidance

The purpose of this Guidance is to assist Clients, Consultants, Tier 1 Contractors and Tier 2/3 Subcontractors and Suppliers to understand and adopt a successful, consistent approach to the procurement and delivery models known as Two Stage Open Book and Supply Chain Collaboration.

These procurement and delivery models can be implemented separately or together, and are based on the evidence of savings and other improved value obtained through the Trial Projects programme.

This Guidance describes the features, processes and techniques that are required for the successful use of Two Stage Open Book and/or Supply Chain Collaboration, and can be used by Clients and their Integrated Teams as the basis for further briefing, training and support when procuring and delivering any project or programme of work.

A glossary of terms used in this Guidance is set out in [Annex 1](#) and a list of other relevant publications and guidance is set out in [Annex 2](#).

1.2 What is Two Stage Open Book?

Two Stage Open Book is a system of preconstruction phase project processes governed by the early appointment of a full project team.

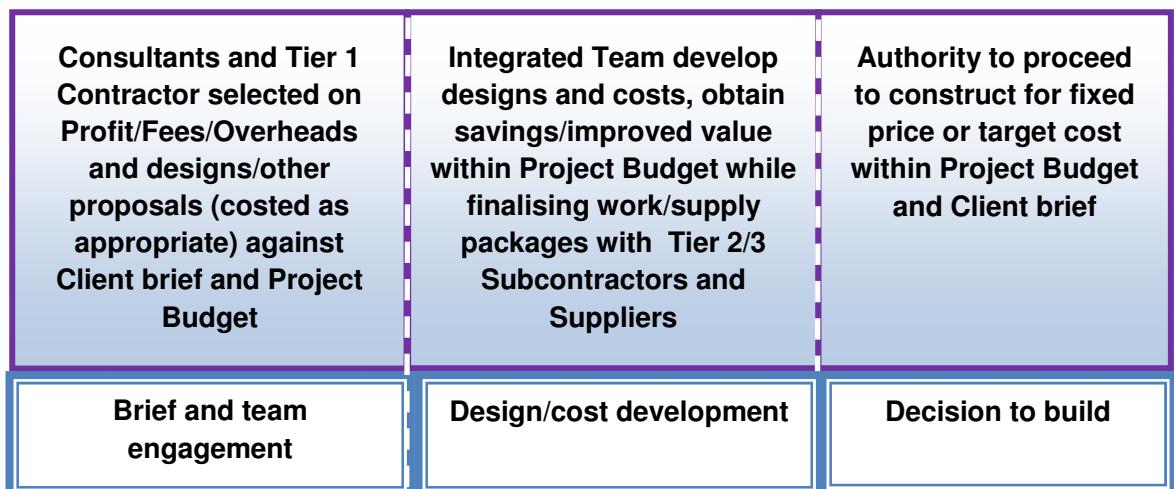
The Two Stage Open Book model sees the Client invite prospective team members, whether for a single project or under a framework or alliance, to bid for a project on the basis of an outline brief and cost benchmark. A number of Tier 1 Contractors and Consultant teams compete for the contract in a first stage, with bidders being chosen based on their capacity, capability, stability, experience and strength of their supply chain plus their profit/fees/overheads and their other costed proposals as appropriate. The successful Tier 1 Contractor and Consultant team are appointed to work up detailed proposals on the basis of an Open Book cost that meets the Client's stated outcomes and cost benchmark as a second stage.

The Two-Stage Open Book model reduces industry bidding costs, enables faster mobilisation and provides the opportunity for Clients to work earlier with a single Integrated Team testing design, cost and risk issues ahead of start on site following full project award at the end of the second stage.

At the heart of this model is a systematic approach to early Tier 1 Contractor and Tier 2/3 Subcontractor/Supplier engagement, with deadlines for their design and risk contributions during the Preconstruction Phase, and with an agreed fixed price and clear risk profile before the Client authorises the Construction Phase.

Two Stage Open Book, as summarised in [Flowchart 1](#), comprises a set of Client-led processes designed to develop an Integrated Team through which the Tier 1 Contractor and Tier 2/3 Subcontractors and Suppliers are appointed early in order to make the maximum contributions to improved design, costing, risk management and programming of the work/supply packages comprising a project or programme or work. The processes governing these early contributions are put in place under conditional, preconstruction phase appointments of the Consultants and Tier 1 Contractor following a new EU procurement or under an existing framework or alliance.

Flowchart 1 – Summary of Two Stage Open Book



1.3

What is Supply Chain Collaboration?

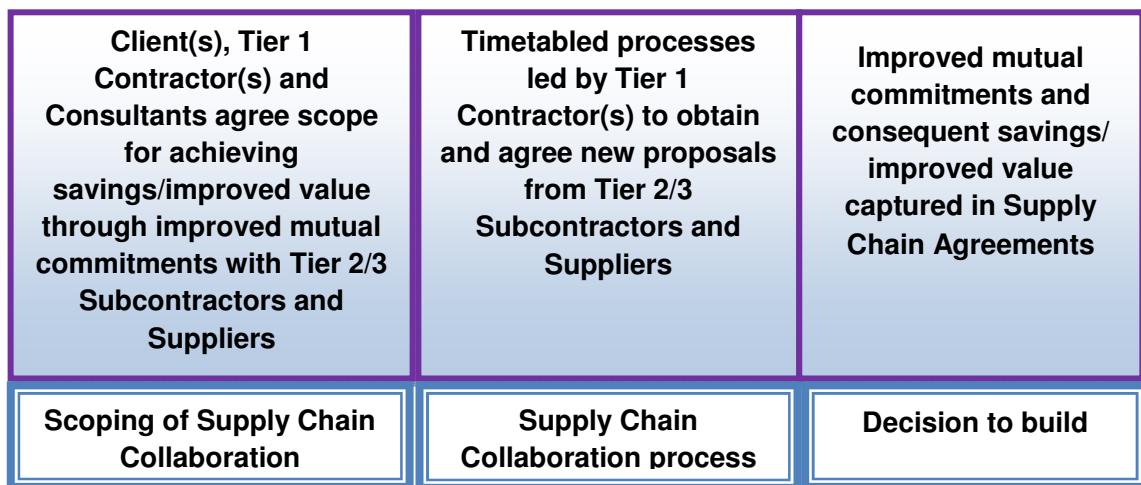
Supply Chain Collaboration is a system of Client-led improvement processes that examine specific work/supply packages in order to help ensure that existing frameworks, alliances and long-term contracts achieve savings and improved value in the delivery of public sector projects and programmes of work.

It does **not** require a new procurement and can be implemented at any time under any framework, alliance or long-term contract that includes provision for improvement and that separates Tier 1 Contractor fee/profit/overheads from other costs.

Supply Chain Collaboration, as summarised in [Flowchart 2](#), uses processes equivalent to Two Stage Open Book by which one or more Clients and one or more Tier 1 Contractors review together their existing Tier 2/3 Subcontractors and Suppliers and establish whether improved mutual commitments in relation to particular work/supply packages will generate further savings and improved value. Supply Chain Collaboration secures transparency and continuity of costs combined with higher levels of integration. The

processes governing this joint work are put in place under a new EU procurement or under an existing framework, alliance or long-term contract.

Flowchart 2 – Summary of Supply Chain Collaboration



1.4 What are the fundamental requirements of Two Stage Open Book and Supply Chain Collaboration?

1	Client Commitment – To early creation of an Integrated Team including Consultants, Tier 1 Contractor(s) and Tier 2/3 Subcontractors and Suppliers (Section 3)
2	Demonstrable Benefits - Of the new processes to Client(s), Tier 1 Contractor(s) and Tier 2/3 Subcontractors and Suppliers (Section 3)
3	EU Compliance – By a new EU procurement process or under an existing framework, alliance or long-term contract (Section 4)
4	Agreed Activities – Throughout the Preconstruction Phase of Two Stage Open Book/Supply Chain Collaboration, describing step by step the roles and contributions of Consultants, Tier 1 Contractor(s) and Tier 2/3 Subcontractors and Suppliers in relation to each work/supply package, as preconditions to the Client granting authority for the Construction Phase of the project to proceed (Sections 5 and 6)
5	Governance and Continuity – Appropriate individuals representing the Client and other Integrated Team members, briefed, trained and working together to overcome and challenge any delay or disruption to agreed Two Stage Open Book/Supply Chain Collaboration processes (Section 7.1)
6	Collaborative Culture – Agreed activities to build mutual trust and confidence and eliminate adversarial or opportunistic behaviours (Section 7.2)
7	Conditional Contracts – Early Preconstruction Phase appointments of Consultants and Tier 1 Contractor(s) (and where possible Tier 2/3 Subcontractors and Suppliers) to undertake clearly specified Two Stage Open Book/Supply Chain Collaboration activities, with their Construction Phase appointments strictly conditional on meeting the project brief, Project Budget and other agreed preconditions (Sections 7.3, 7.4 and 7.5)
8	Preconstruction Phase Timetable – Commitment to binding deadlines for all Preconstruction Phase activities governing joint design, costing, risk management and programming under Two Stage Open Book/Supply Chain Collaboration (Section 7.6)
9	Open Book Costs - Agreement of fees/profit/overheads of Consultants and of Tier 1 Contractor(s) (and where possible of Tier 2/3 Subcontractors and Suppliers), so that cost savings do not erode margins (Section 8)

10	Guidance and Case Studies – Use of evidence as to what Two Stage Open Book/Supply Chain Collaboration can achieve and how they should be implemented
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1.5 **What are the proven benefits of Two Stage Open Book and Supply Chain Collaboration?**

1	Cost Savings – Of up to 20%, transparently agreed without eroding margins (Sections 8.2 and 8.3)
2	Cost Competition and Control – Robust, competitive processes to select Consultants, Tier 1 Contractor(s) and Tier 2/3 Subcontractors and Suppliers, for the whole project/programme of work and for each work/supply package, with ongoing cost controls and regular Project Budget reconciliations (Sections 8.6 and 8.7)
3	Improved Design – Systematic evaluation and early incorporation of innovations and other design proposals from Tier 1 Contractor(s) and Tier 2/3 Subcontractors and Suppliers (Section 9.1) and a natural fit with the objectives, relationships and processes that underpin Building Information Modelling (Section 11.2)
4	Risk Management – Preconstruction Phase contributions by all Integrated Team members to identify and reduce/eliminate risks (Section 9.2)
5	Time Management – Agreement of clear, binding deadlines at all stages, and new opportunities for Tier 1 Contractors and Tier 2/3 Subcontractors and Suppliers to propose time savings (Section 9.3)
6	Extended Warranties – Early evaluation of extended warranties offered by prospective Tier 2/3 Subcontractors and Suppliers (Section 9.4) and a natural fit with Government Soft Landings (Section 11.3)
7	Sustainable Solutions – Early evaluation of more sustainable materials and working methods proposed by prospective Tier 2/3 Subcontractors and Suppliers (Section 9.5)
8	Stakeholder Consultation – Increased opportunities to consult end-users and other third parties, and to take their views into account (Section 10.1)
9	Appointment of SMEs and Local/Regional Businesses – A unique opportunity for joint assessment by the Client(s) and Tier 1 Contractor(s) of particular benefits offered by SMEs and local/regional businesses in relation to particular work/supply packages (Section 10.2)
10	Employment and Skills Commitments – The ability to measure and improve the agreed employment and skills commitments of Tier 1 Contractors and Tier 2/3 Subcontractors and Suppliers (Section 10.3)

2. Trial Projects – The story so far

"Our vision is that these trials will reap evidence based on efficiencies in construction procurement, setting the standard for best practice and becoming business as usual for government procurements." [Construction 2025]

2.1 Government Construction Strategy and Construction 2025

The Trial Projects programme is testing three new procurement and delivery models. These models are consistent with the objectives in the Government Construction Strategy and the ambitions of the Industrial Strategy for Construction, *Construction 2025*. Details of the new models were set out in the report of the Procurement/Lean Client Task Group which recognised early contractor involvement, integration and transparency as "*critical factors that will drive innovation and remove waste, securing knowledge transfer and corresponding growth opportunities*".

2.2 Two Stage Open Book/Cost Led Procurement/Integrated Project Insurance/Supply Chain Collaboration

The new procurement and delivery models comprise:

- Two Stage Open Book
- Cost Led Procurement
- Integrated Project Insurance

At the heart of each of these delivery models are early contractor involvement, collaborative working and transparency.

In addition to the three new models, the Procurement/Lean Client Task Group also supported Supply Chain Collaboration as an additional set of Client-led processes designed to improve value through joint working under existing contracts.

Common features of Two Stage Open Book, Cost Led Procurement, Integrated Project Insurance and Supply Chain Collaboration include:

- Provision by the Client of a clear definition of its expected functional outcome from one or more projects;
- Identification of typical current costs based on available data including benchmarking, with the expectation that a challenging cost ceiling will be achieved and then further reduced through continuous improvement over a series of projects;

- High levels of supply chain integration, coupled with innovation supported by appropriate relationships and behaviours between Client and industry;
- Systems designed to reduce considerably the traditional commercial risk of project procurement, execution and commissioning.

2.3 Selecting a Procurement and Delivery Model

At the point of preparing a business case for any project or programme or work and developing this into a project brief, a Client will need to decide whether to adopt Two Stage Open Book, Cost Led Procurement or Integrated Project Insurance based on the commitments required, the benefits offered and the Client's own requirements and objectives.

A Client decision to adopt Supply Chain Collaboration can be included in a Client business case for a new programme of work, under any procurement or delivery model, or can be implemented under one or more existing frameworks, alliances or long-term contracts.

This Guidance focuses on Two Stage Open Book and Supply Chain Collaboration. Separate guidance describes the Client-led processes relevant to Cost Led Procurement and Integrated Project Insurance.

Two Stage Open Book and Supply Chain Collaboration can be implemented separately or can be combined. Also, where appropriate, Two Stage Open Book can be designed to follow Cost Led Procurement or can be combined with Integrated Project Insurance. Supply Chain Collaboration can also be applied to projects and programmes of work that have been procured through other procurement and delivery models.

A Client will need to assess its own capability to implement Two Stage Open Book and/or Supply Chain Collaboration. Client decision-making processes and assessment of capability can be supported by adopting the recommendations set out in the Infrastructure Routemap.

2.4 The Trial Projects

The Trial Projects programme has been implemented by Cabinet Office with Client and industry governance provided by the Trial Projects Delivery Group and Trials Project Support Group. Individual Trial Projects have also been supported by Constructing Excellence, working with independent Project Mentors and Academic Partners, and the recorded savings have been subject to audit and verification.

Evidence from the Trial Projects has shown significant savings of up to **20%** achieved through Two Stage Open Book and Supply Chain Collaboration (see Section 8 and Annex 5) in addition to significant savings achieved through procurement. The Trial Projects have also demonstrated how Two Stage Open Book and Supply Chain Collaboration have achieved measurable improvements in design, risk management, time management, warranties, sustainable solutions, stakeholder consultation, appointment of SMEs and

local/regional businesses, and employment and skills commitments (see Sections 9 and 10). These results bear out the proposition of the Procurement/Lean Client Task Group that "*The Government will secure dramatic benefits and value for money for tax payers if it can consistently apply these models across the central government and, if possible, the wider public sector.*"

2.5 Do the Trial Projects establish anything new?

There have been many previous examples of public sector and private sector clients using processes that in varying degrees correspond to Two Stage Open Book and Supply Chain Collaboration. The Trial Projects programme demonstrates in controlled conditions by reference to contemporary evidence that a Client-led approach to these processes, supported by clear Preconstruction Phase contractual commitments, will create successful Integrated Teams, will generate significant savings and improved value for Clients (see Sections 4.6, 8, 9 and 10), and will also create benefits for Tier 1 Contractors and Tier 2/3 Subcontractors and Suppliers (see Sections 3.7, 3.8 and 4.6).

The first round of Trial Project Case Studies, published in July 2013 in respect of Two Stage Open Book and Supply Chain Collaboration, were updated as Final Case Studies in July 2014 and comprise:

- Ministry of Justice, Cookham Wood, new build young offenders institution
- Hackney Homes and Homes for Haringey, Supply Chain Management Group (SCMG), joint housing programme
- Surrey County Council, Project Horizon, highways programme.

The second round of Trial Project Case Studies in respect of Two Stage Open Book and Supply Chain Collaboration comprise:

- Hampshire County Council/Surrey County Council/West Sussex County Council/Reading Borough Council, Property Services Cluster Schools Programme-Interim Case Study
- Liverpool City Council/SCAPE, Archbishop Beck School-Interim Case Study
- ConnectPlus, M25 Framework (with particular focus on the Intelligent Client – see Section 11.1)-approved in principle
- Ministry of Justice, North Wales Prison (also trialling Building Information Modelling – see Section 11.2)-Outline Case Study
- Circle Housing Group, Capital and Reactive Alliance Programme-Outline Case Study.

All the Trial Project Case Studies are demonstrating savings and other improved value far in excess of comparable single stage project procurement and delivery processes, including reduced procurement time/costs and reduced outturn costs, improved designs, extended warranties, improved recycling, new opportunities for SMEs and local/regional businesses and improved commitments to employment and skills (see sections 4.6, 8, 9 and 10, as well as details in each of the Trial Project Case Studies).

The Trial Project Case Studies are published at (www.gov.uk/government/publications/construction-procurement-trial-projects-background) and certain of them are summarised in [Annex 3](#). Their outcomes have been independently analysed and audited, and extracts are quoted throughout this Guidance.

Please refer to the [blue boxes](#) in this Guidance which are direct quotes from Trial Project Case Studies. These illustrate how central and local government clients have approached Two Stage Open Book and Supply Chain Collaboration, and describe the savings and other improved value that they have achieved.

2.6 Additional Trial Projects and Updated Guidance

As the Trial Projects programme continues, additional Case Studies in respect of Two Stage Open Book and Supply Chain Collaboration will reveal new challenges, solutions and techniques. These will be captured in future updates to this Guidance.

As Two Stage Open Book and Supply Chain Collaboration are adopted across Central Government and the wider public sector, feedback will be obtained from Clients and their Integrated Teams, and again this feedback will inform future updates to this Guidance.

2.7 Replicability of Trial Projects

The Trial Projects demonstrate how to obtain the maximum benefits from Two Stage Open Book and Supply Chain Collaboration, and their work forms the basis for this Guidance.

If Clients, Consultants, Tier 1 Contractors and Tier 2/3 Subcontractors and Suppliers want to achieve the same level of outcomes demonstrated by the Trial Projects, then the steps and techniques set out in the Guidance adopted as a whole will help them to achieve this. This is because the outcomes demonstrated in the Trial Projects are a result of the whole process of the model rather than selection of certain elements.

The Clients leading the Trial Projects have used processes and systems that are easily adaptable to any project or programme of work. In addition, certain of the Trial Projects describe initiatives that are themselves expressly intended to be available for adoption by other public sector clients in particular sectors.

Additional benefits have been demonstrated where a group of Clients have aggregated the use of Two Stage Open Book and/or Supply Chain Collaboration on their respective projects so as to establish a consistent approach to a significant programme of work, as

illustrated for example by the SCMG Trial Project and the Property Services Cluster Schools Programme. Significant benefits can also be obtained where the lessons learned on one project can lead directly to improved practices on subsequent projects, as illustrated for example by the Archbishop Beck , Cookham Wood and North Wales Prison Trial Projects.

Hackney Homes and Homes for Haringey (SCMG) – "The SCMG systems are easily replicable by any local authorities or housing associations under new procurements and also under current frameworks and long-term contracts that contain processes for continuous improvement".

Surrey, Project Horizon – "Surrey's vision is to demonstrate that the same techniques as those used on Project Horizon can achieve comparable savings and benefits for the SE7 group members and for other local authorities through creation of a Supply Chain Collaboration Toolkit pursuant to the Highways Maintenance Efficiency Programme. This Toolkit was launched in June 2014, using lessons learned on Project Horizon to provide the basis for other highway authorities to achieve comparable savings and improved value."

3. Key Features/Processes and Team Benefits

3.1 The limits of single stage procurement

For so long as any project or programme of work remains in the hands of the Client and its Consultants alone, many design, cost, risk and programme assumptions remain theoretical.

Under single stage selection and appointment of a Tier 1 Contractor, the Client has little early contact with the proposed Tier 1 Contractor or with Tier 2/3 Subcontractors and Suppliers and no opportunity to test in a controlled way whether designs, costs, risk and programme assumptions are correct or can be improved by their contributions.

3.2 Why adopt Two Stage Open Book?

Two Stage Open Book creates processes that enable a Client to review and test all assumptions as to design, cost, risk and programme at an early stage, working in conjunction with the Tier 1 Contractor and the Tier 2/3 Subcontractors and Suppliers during the Preconstruction Phase of the project. This review and testing creates new opportunities to achieve savings and improved value in the project as a whole and in specific work/supply packages. It takes place transparently and methodically within specified timescales under Conditional Contracts, and therefore remains entirely within the Client's control.

If the Two Stage Open Book processes are planned and set out in a binding Preconstruction Phase Timetable, they avoid any delays in delivery of the project or programme of work and often lead to significant time savings.

Ministry of Justice, Cookham Wood – "Ministry of Justice have created a collaborative culture so as to bring together the consultants, tier 1 and tier 2 contractors at the earliest stage and to develop cost savings, innovations and improved efficiency prior to start on site".

3.3 Why adopt Supply Chain Collaboration?

Over the life of a framework/alliance/long-term contract, additional savings and improved value can be achieved through the Supply Chain Collaboration processes by revisiting the original design, cost, risk and programme assumptions made by any Tier 1 Contractor. Through Supply Chain Collaboration one or more Clients work jointly with one or more Tier 1 Contractors to test and review firstly whether improved mutual commitments can be achieved, in conjunction with activities that generate additional integration, information and innovation, and secondly whether these improved mutual

commitments and activities can secure savings and other improved value in specific work/supply packages and in the programme of work as a whole.

If the Supply Chain Collaboration processes are planned and set out a binding Preconstruction Phase Timetable, they avoid delays in delivery of the programme of work and often lead to significant time savings.

Surrey, Project Horizon – "Surrey County Council has worked successfully with its tier 1 contractor Kier and tier 2/tier 3 supply chain members Aggregate Industries and Marshall Surfacing to achieve substantial savings, improved quality and an integrated team culture".

3.4 Key Features and Processes of Two Stage Open Book

The ways in which Two Stage Open Book generates additional integration, information and innovation are illustrated in [Flowchart 3](#), together with links to each stage of the OGC Gateways and the RIBA Plan of Work.

The key features and processes of Two Stage Open Book are as follows:

- The Client invites Consultants and Tier 1 Contractors to bid for a project or programme of work in response to a project brief, concept design and Project Budget cost ceiling;
- The Client selects the Consultants and Tier 1 Contractor (and any early approved Tier 2/3 Subcontractors and Suppliers) on the basis of their appropriate skills, approach, capacity, capability, stability, experience and the strength of their supply chain;
- The winning team works up a set of design and other proposals on the basis of Open Book costs that meet the Client's stated outcomes and cost parameters, going to the market for Tier 2/3 Subcontractors and Suppliers (to the extent not previously selected) in relation to specific work/supply packages, and appointing them according to processes, costs and criteria that are fully transparent to the Client;
- Early engagement of the Tier 1 Contractor and Tier 2/3 Subcontractors and Suppliers under collaborative and transparent processes enables the Client to develop greater confidence in the Integrated Team members, and in the information and innovation they offer, before they are authorised to commence the Construction Phase of the project;
- The Client authorises start on site when the Integrated Team have built up designs in accordance with the project brief, and have finalised a fixed price or target cost within the Client's Project Budget comprising the Tier 1 Contractor's fees/profit/overheads and the Open Book costs of each work/supply package;

- Joint working during the Preconstruction Phase encourages all Integrated Team members to share knowledge and focus on driving out unnecessary cost and risk rather than on commercial negotiation of price and scope, also to focus on innovation rather than adverse traditional practices such as quoting the cheapest price and then relying on recovery of additional amounts during construction.

3.5 Key Features and Processes of Supply Chain Collaboration

The key features and processes of Supply Chain Collaboration are as follows:

- One or more Clients and one or more Tier 1 Contractors agree an organised and timetabled process under new or existing frameworks/alliances/long-term contracts to review and seek improvement in the relationships and commitments established with Tier 2/3 Subcontractors and Suppliers;
- The Client(s) and Tier 1 Contractor(s) seek improved, consistent specifications for specific work/supply packages and identify the maximum scope and duration of prospective Tier 2/3 Subcontractor and Supplier appointments;
- Through workshops, clear Enquiry Documents, negotiations and post-selection detailed discussions, existing and proposed Tier 2/3 Subcontractors and Suppliers are invited to offer savings and other improved value in return for improved Client/Tier 1 Contractor commitments.

3.6 Benefits for Clients

Two Stage Open Book and Supply Chain Collaboration create additional opportunities for a Client to obtain, evaluate and accept proposals for savings and other improved value. Through the Trial Projects, these proposals have generated the results summarised in Sections 8, 9 and 10 that include:

- Significant, transparent cost and time savings;
- Improvements in the quality of design and construction;
- Successful project planning, risk management and problem resolution;
- Extended warranties and more sustainable solutions;
- Stakeholder engagement and new opportunities for SMEs and local/regional businesses, plus increased employment/training commitments.

The means by which a Client obtains proposals for savings and improved value include:

- Proposals submitted as part of early Tier 1 Contractor selection that can then be tested against any alternatives and improvements during the Preconstruction Phase, before a final Client decision needs to be made as to their affordability and suitability;

- Proposals invited and evaluated when reviewing and/or retendering specific work/supply packages with Tier 2/3 Subcontractors and Suppliers;
- Proposals developed by the Integrated Team before and after Tier 2/3 Subcontractor and Supplier selection, before the Construction Phase is authorised to proceed.

Through the above processes, the Client will obtain the benefit of new intellectual capital generated by innovative contributions from all members of the Integrated Team. It will also have the maximum opportunities to learn in detail what matters most to the Tier 1 Contractor and to each Tier 2/3 Subcontractor and Supplier in how they go about their work, and what steps can be taken to improve the ordering and organisation of this work so as to maximise the opportunities for savings and other improved value.

Ministry of Justice, Cookham Wood - "A fully integrated team have worked to a tight timescale to commence delivery on site of a new build Young Offenders Institution that to date has exceeded cost saving targets".

3.7 Benefits to Tier 1 Contractors

The Trial Projects have demonstrated that Two Stage Open Book and Supply Chain Collaboration each create unique opportunities for Tier 1 Contractors to influence design, cost, risk and programming through joint work with the Client and Consultants during the Preconstruction Phase of a project or programme of work. These include:

- Early appointment of the Tier 1 Contractor under a Conditional Contract that creates a stable basis for Preconstruction Phase activities leading up to authority for the project to commence on site;
- Open Book costing combined with prior agreement of the Tier 1 Contractor's fees/profit/overheads to ensure that agreed cost savings do not erode margins;
- Joint working during the Preconstruction Phase that enables the Tier 1 Contractor to influence robust programming and early risk management activities, so that the project proceeds to the Construction Phase on an agreed basis supported by maximum information.
- Creation of an environment in which Tier 1 Contractors can demonstrate savings and other improved added value in order to obtain additional work, contract extensions and other agreed incentives such as shared savings.

Surrey, Project Horizon – "Kier, with support from Surrey County Council, ran an agreed process to select tier 2 subcontractors and tier 3 suppliers and to create an integrated team for a five year £100m programme of capital highways and repairs work" – "Additional savings beyond the first 15% will be shared between Surrey, Kier, Marshall Surfacing and Aggregate Industries".

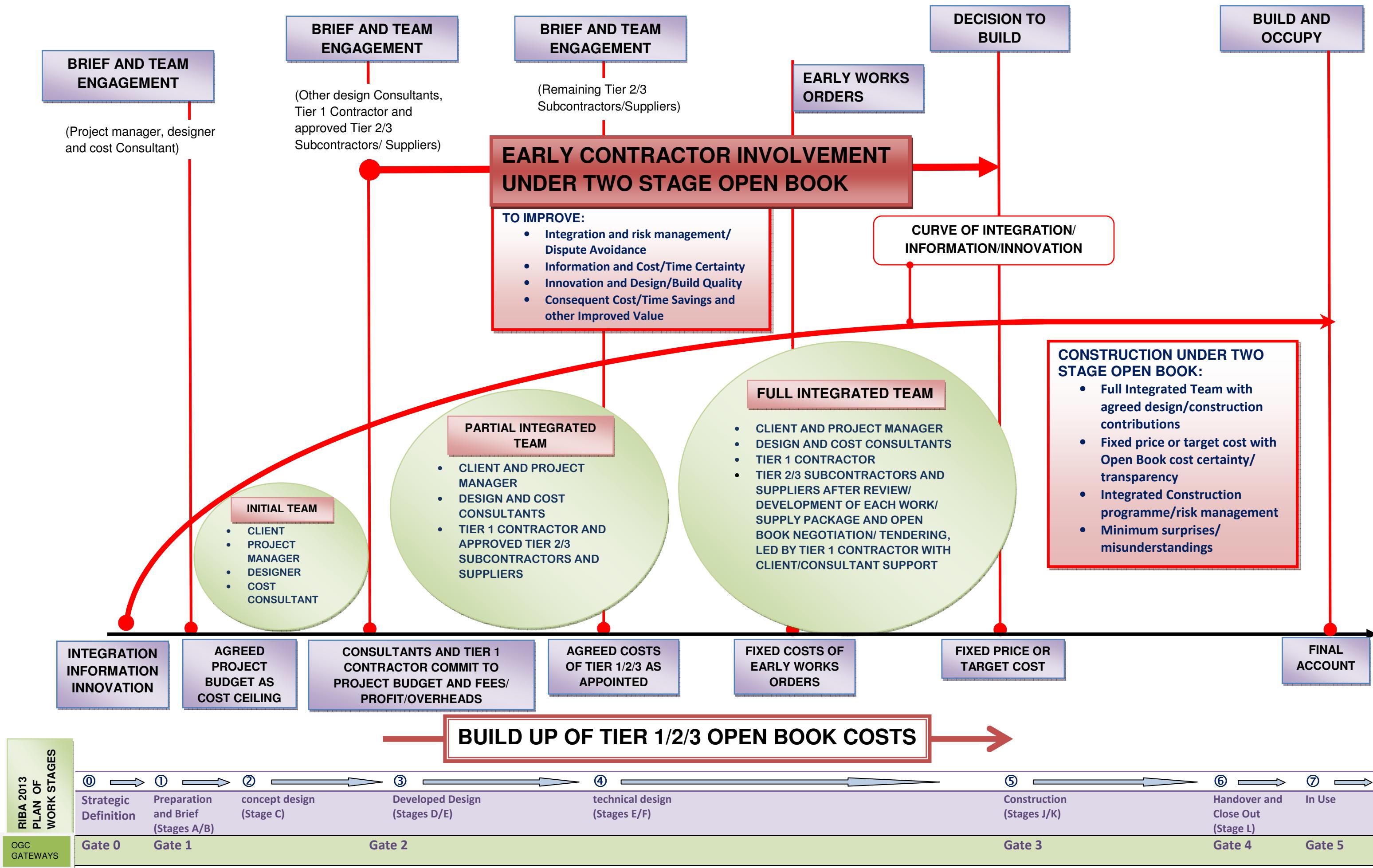
3.8 Benefits to Tier 2/3 Subcontractors and Suppliers

The Trial Projects have demonstrated that Two Stage Open Book and Supply Chain Collaboration strengthen and improve commercial relationships between Tier 1 Contractors and their Tier 2/3 Subcontractors and Suppliers. These systems, supported by direct Client involvement, bring significant benefits to Tier 2/3 Subcontractors and Suppliers as they give rise to:

- An improved bidding process where the Tier 1 Contractor has already been conditionally appointed, so that a bidding Tier 2/3 Subcontractor or Supplier has a significant chance of success (say one in 3), compared to a single stage process where it bids to a Tier 1 Contractor that is itself still bidding to the Client (say as one of 6) with a much reduced chance of success for the Tier 2/3 Subcontractor or Supplier (approximately one in 18);
- A better understanding of the project/programme of work through direct dialogue with the Client and Tier 1 Contractor and an opportunity to achieve competitive advantage by demonstrating proposals for improved design/risk management/ programming, and additional benefits such as extended warranties and employment/skills commitments;
- The opportunity to win larger amounts of work for longer periods than the Tier 1 Contractor(s) originally anticipated;
- The opportunity in Preconstruction Phase discussions to influence directly the approach taken by the Client and/or Tier 1 Contractor to any aspect of the project or programme, so as to improve efficiency and reduce risk in delivery of the Tier 2/3 Subcontractor or Supplier work/supply package.

Hackney Homes and Homes for Haringey (SCMG) – "Through the SCMG systems, new lines of client contact are established with tier 2 and tier 3 supply chain members at an early stage in the preconstruction process so that they can make maximum contributions to design, resident consultation, surveying and programming and can work in conjunction with the client and tier 1 contractors"

UNCLASSIFIED FLOWCHART 3 – TWO STAGE OPEN BOOK – INTEGRATION, INFORMATION AND INNOVATION



4. Procurement Questions and Answers

4.1 EU Compliance

Two Stage Open Book and/or Supply Chain Collaboration can be implemented through any new EU procurement process or under existing frameworks, alliances and long-term contracts.

It is important to emphasise that inclusion of Two Stage Open Book and/or Supply Chain Collaboration in the procurement of a single project, framework, alliance or long-term contract can be compliant with EU Procurement Regulations and can be established pursuant to any EU procurement procedure (Open, Restricted, Negotiated or Competitive Dialogue). In order to ensure that EU procurement is not an obstacle to any aspect of Two Stage Open Book or Supply Chain Collaboration, it is essential that:

- The Consultants and Tier 1 Contractor are appointed pursuant to an EU-compliant process, either at the time of introducing Two Stage Open Book and/or Supply Chain Collaboration, or under a prior framework, alliance or long-term contract that permits Two Stage Open Book or Supply Chain Collaboration;
- The criteria governing selection of the Tier 1 Contractor are appropriate to establish most economically advantageous tender and to support the Two Stage Open Book and/or Supply Chain Collaboration models; and
- The Tier 1 Contractor leads the selection/review process for all Tier 2/3 Subcontractors and Suppliers in relation to their work/supply packages, and Client involvement in that selection/review process does not amount to nomination or naming of Tier 2/3 Subcontractors and Suppliers.

4.2 EU Procurement and Conditional Contracts

Two Stage Open Book requires the use of Conditional Contracts under which implementation of agreed preconstruction phase activities lead to Unconditional Contracts when the Client is willing to authorise commencement of construction on site. In the absence of Conditional Contracts governing Preconstruction Phase activities, a separate contract would need to be created for the Construction Phase which could break the continuity of the original Preconstruction Phase contract award and give rise to the risk of an EU procurement challenge (see also Sections 7.3 and 7.4).

The procurement and contract structures of three Trial Projects are set out in the flowcharts in [Annex 3](#).

4.3 EU Procurement and Supply Chain Collaboration

Supply Chain Collaboration is not itself a Client procurement, does not involve Client nomination or naming of Tier 2 Subcontractors/Suppliers, and therefore does not require the Client to undertake separate EU procurement processes additional to its procurement of the Tier 1 Contractor(s) with which it undertakes the joint Supply Chain Collaboration processes.

4.4 Allocation of Design and Construction Responsibilities

A Client procuring an individual project, framework, alliance or long-term contract will make its own decisions as to how roles and responsibilities for design and construction are best allocated between its in-house team and its Consultants, Tier 1 Contractor and Tier 2/3 Subcontractors and Suppliers, for example through:

- Consultant (or in-house) led design, with or without parts of the project or programme of work designed by the Tier 1 Contractor;
- Design and build entirely or partly by the Tier 1 Contractor;
- Management contracting by the Tier 1 Contractor;
- Construction management by omitting the Tier 1 Contractor and directly appointing Tier 2/3 Subcontractors and Suppliers with a Consultant construction manager.

Two Stage Open Book and/or Supply Chain Collaboration can be integrated with any of these options. However, it is the single stage selection and appointment procedures traditionally associated with these options that need to be amended in order to benefit from the joint Preconstruction Phase processes that are fundamental to Two Stage Open Book and Supply Chain Collaboration (see Sections 5 and 6).

4.5 Is Two Stage Open Book the same as "Two Stage Design and Build"?

"*Two Stage Design and Build*" describes a model that may have certain features of Two Stage Open Book. The "*two stage*" aspect of "*Two Stage Design and Build*" has not previously been formulated into a stable, consistent procurement and delivery model, and that is what the Trial Projects and this Guidance are designed to achieve.

The "*design and build*" aspect of "*Two Stage Design and Build*" relates to allocation of design and construction responsibilities and is one of a number of options with which Two Stage Open Book can be integrated (see Section 4.4.).

4.6 Procurement Time and Cost Savings under Two Stage Open Book/Supply Chain Collaboration

The Trial Projects have provided evidence of significant time and cost saving for Clients and bidders in an EU procurement process through use of Two Stage Open Book and Supply Chain Collaboration. For example:

- Clients can set a shorter procurement process for the Tier 1 Contractor, because the first stage of Two Stage Open Book procurement takes place in advance of completion of designs and there is no requirement to price all work/supply packages prior to Tier 1 Contractor selection;
- Tier 1 Contractors can save significant costs in the reduced time spent by their bid managers and estimators, because by reason of the second stage competitive process there is no requirement to price all work/supply packages at the point of the first stage bids, and therefore no requirement to obtain full pricing at the first stage from prospective Tier 2/3 Subcontractors and Suppliers.

Hackney Homes and Homes for Haringey (SCMG) – Analysis by a Tier 1 Contractor showed that "Bid costs on a procurement supported by Two Stage Open Book under SCMG were far lower than the bid costs they incurred under a comparable single stage procurement, specifically £719 per £1 million of turnover (under SCMG) as against £4,808 per £1 million of turnover (under the comparable traditional bid). "

5. Two Stage Open Book – Step by Step

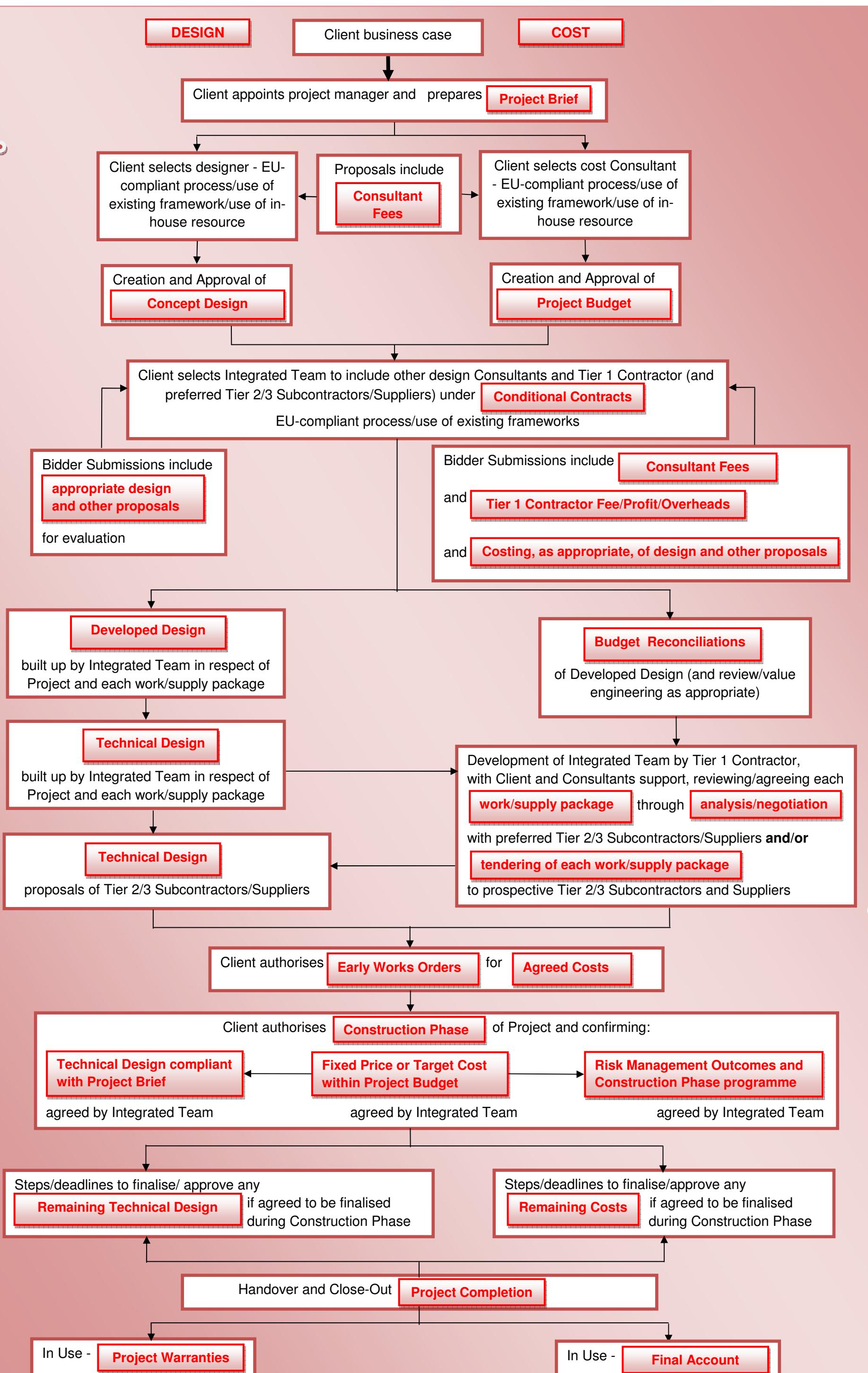
The stages of Two Stage Open Book are set out in [Flowchart 4](#) and are summarised below (the terms concept design, developed design and technical design being those used in the RIBA 2013 Plan of Work):

- The Client prepares a business case for its proposed project and develops this into a project brief that forms the basis for selection of a designer and cost Consultant (either in-house or pursuant to a new EU-compliant procedure or under an existing framework/alliance/long-term contract);
- The selected designer creates a concept design and the selected cost Consultant creates a Project Budget, in each case for Client approval;
- The Client issues the project brief, approved concept design and Project Budget to prospective Consultants and Tier 1 Contractors, and invites proposals that will form the basis for their appointment under Conditional Contracts (pursuant to new EU-compliant procedures or under existing frameworks/alliances/long-term contracts);
- Bidder submissions from prospective Tier 1 Contractors and Consultants include appropriate design and other project proposals for evaluation, as well as Consultant fees and Tier 1 Contractor fees/profit/overheads – and, where appropriate, the costing of Tier 1 Contractor proposals and of work/supply package proposals from preferred Tier 2/3 Subcontractors and Suppliers;
- The selected Integrated Team, comprising the Client, Consultants and Tier 1 Contractor together with any provisionally approved Tier 2/3 Subcontractors and Suppliers, carries out agreed Preconstruction Phase activities under the terms of their Conditional Contracts and in accordance with a Preconstruction Phase Timetable, including build-up of developed design in respect of the project and each work/supply package, together with Project Budget reconciliations for Client approval;
- As developed design is approved, subject to review and value engineering as appropriate, the Integrated Team then builds up the technical design in respect of the project and each work/supply package for Client approval;
- The Tier 1 Contractor issues approved developed design or technical design (dependent on the extent of design proposals invited) to any provisionally approved Tier 2/3 Subcontractors and Suppliers for particular work/supply packages and creates a business case for review/development/finalisation of their work/supply package and costs and for Client approval;

- The Tier 1 Contractor issues approved developed design or technical design (dependent on the extent of design proposals invited) with an Enquiry Document approved by the Client to prospective Tier 2/3 Subcontractors and Suppliers for each remaining work/supply package and invites them to submit tenders comprising proposals and costs for that work/supply package;
- As successive Tier 2/3 Subcontractors and Suppliers are selected, the expanded Integrated Team finalises the technical design, confirms the components of the agreed costs for the project, and develops a Construction Phase programme;
- The expanded Integrated Team undertakes joint risk management activities so as to minimise any risk contingencies quoted by the Tier 1 Contractor and so as to establish a robust and acceptable basis for the Construction Phase of the project to proceed;
- If required, the Client authorises Early Works Orders to be undertaken by agreed Integrated Team members for agreed costs in advance of the Construction Phase of the project;
- When technical design and costs and a Construction Phase programme have been sufficiently developed, supported by acceptable conclusion to agreed risk management activities, the Client confirms that the conditions set out in the Conditional Contracts have been satisfied and authorises the Integrated Team to undertake the Construction Phase of the project on the basis of:
 - Technical design compliant with the project brief and agreed by the Integrated Team;
 - Fixed price or target cost within the Project Budget and agreed by the Integrated Team;
 - A risk management position agreed by the Integrated Team;
 - A Construction Phase programme agreed by the Integrated Team.

UNCLASSIFIED FLOWCHART 4 – Two Stage Open Book – Step by Step

DEADLINES FOR ALL ACTIVITIES UNDER BINDING PRECONSTRUCTION PHASE TIMETABLE



JOINT RISK MANAGEMENT ACTIVITIES AND DEVELOPMENT OF ROBUST CONSTRUCTION PHASE PROGRAMME

6. Supply Chain Collaboration – Step by Step

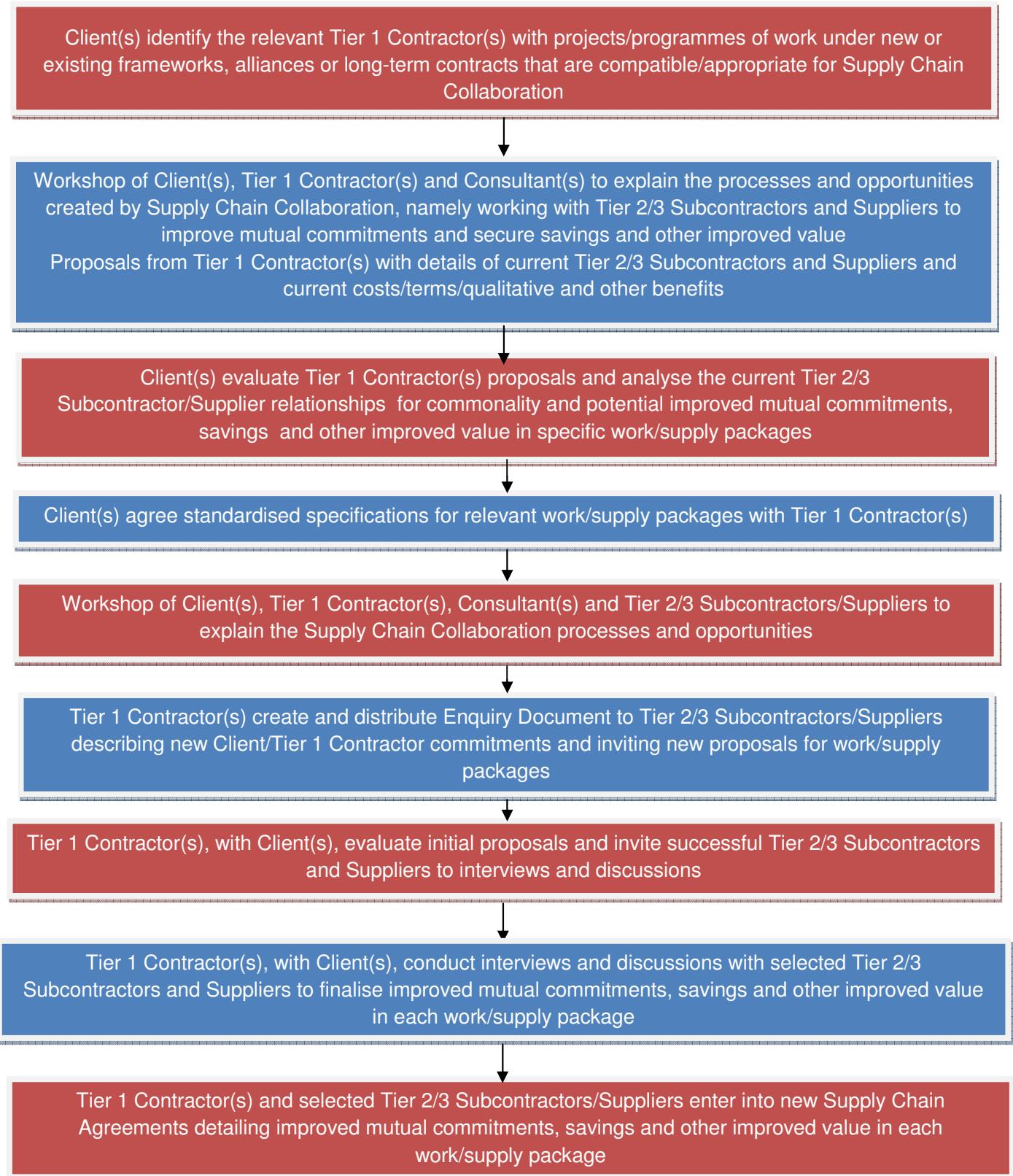
The stages of Supply Chain Collaboration are set out in [Flowchart 5](#) and are summarised below:

- One or more Clients identify one or more Tier 1 Contractors in relation to programmes of work that are compatible in terms of timing, scope and location;
- The Client(s) and Tier 1 Contractor(s), with Consultant(s) as appropriate, agree to undertake Supply Chain Collaboration activities and check that the terms of their respective frameworks/alliances/long-term contracts permit such activities;
- The Client(s) conduct workshops with a Tier 1 Contractor(s) and Consultant(s) to examine current relationships with Tier 2/3 Subcontractors and Suppliers, including their terms and duration, the scope and nature of each work/supply package, the current agreed costs, the added value currently provided and whether the fees/profits/overheads paid to Tier 1 Contractors are or can be separately identified;
- These workshops and related due diligence robustly challenge current Tier 1 Contractor(s) practices and identify potential scope for improvements that should generate savings and improved value in specific work/supply packages - by way of additional and more consistent work awarded by the Client(s) and/or by Tier 1 Contractor(s), greater integration of Tier 1 Contractor(s) relationships with Tier 2/3 Subcontractors and Suppliers, sharing of information among Tier 1 Contractors, improved working arrangements and encouragement of innovation by all parties;
- The outputs of these workshops and related due diligence are recorded and agreed so as to establish a starting point for Supply Chain Collaboration, with agreed objectives in respect of the potential for savings and improved value;
- Where there are inconsistencies in specifications for work/supply packages used by different Clients or different Tier 1 Contractors, these are reconciled wherever possible in order to establish a common basis for Supply Chain Collaboration;
- Where different Tier 2/3 Subcontractors and Suppliers are used by different Tier 1 Contractors, a common list is agreed of those Tier 2/3 Subcontractors and Suppliers that meet the needs of relevant Clients and Tier 1 Contractors in relation to work/supply packages forming part of their respective projects/programmes;
- Tier 2/3 Subcontractors and Suppliers are invited to attend one or more workshops at which the Client(s), Tier 1 Contractor(s) and Consultant(s) explain

the Supply Chain Collaboration process and the opportunities to which it gives rise, and at which Tier 2/3 Subcontractors and Suppliers are invited to offer their views and contributions;

- The Client(s) and Tier 1 Contractor(s) create and agree an Enquiry Document for issue in relation to each work/supply type to relevant Tier 2/3 Subcontractors and Suppliers describing new commitments in respect of:
 - Prospective common specifications;
 - Prospective increased duration of work/supply packages;
 - Prospective increased scope of work/supply packages;
 - Proposed incentives;
 - Expected savings;
 - Expected improved value.
- Tier 2/3 Subcontractors and Suppliers are invited to submit proposals for evaluation that form the basis for more detailed discussions led by the Tier 1 Contractor(s) with active support and participation by the Client(s);
- Proposals received from selected Tier 2/3 Subcontractors and Suppliers, and agreed in subsequent detailed discussions, are included in new Supply Chain Agreements entered into by the Tier 1 Contractor(s) and each relevant Tier 2/3 Subcontractor and Supplier and approved by the Client(s), setting out the new mutual commitments that form the basis to capture agreed savings and improved value in each work/supply package.

Flowchart 5 - Sequence of Supply Chain Collaboration Activities



7. Techniques for Success using Two Stage Open Book and/or Supply Chain Collaboration

7.1 Client leadership and governance

Any approach to procurement or delivery of a project or programme of work depends in part on the attitude adopted by the individuals who lead and comprise an Integrated Team. The Trial Projects have demonstrated that Two Stage Open Book and/or Supply Chain Collaboration can and should be led by Client officers, supported by leadership from representatives of other team members in a contractual governance system that enables commitment and full participation by all members of the Integrated Team. This requires:

- Agreement of key individuals, plus appropriate provisions to ensure continuity, plus a forum for consultation with agreed terms of reference;
- Training and support for Client officers and other members of the Integrated Team, using this Guidance to ensure clear and consistent understanding of the Two Stage Open Book and/or Supply Chain Collaboration processes;
- Other active steps to create and sustain a collaborative culture (see Section 7.2).

Ministry of Justice, Cookham Wood – "*Leadership has been shown by individuals appointed by the client, architect, tier 1 main contractor and tier 2 key subcontractors so as to embed new behaviours*"

Client officers and representatives of other Integrated Team members need the right level of knowledge, experience and commitment to the processes of Two Stage Open Book and/or Supply Chain Collaboration, including:

- The available time and personal commitment to support the processes of Two Stage Open Book and/or Supply Chain Collaboration;
- A full understanding of this Guidance and the Trial Project Case Studies;
- The ability to adapt the recommendations set out in this Guidance and apply them to the procurement and delivery of their own project or programme of work;
- The delegated authority and capability to make prompt decisions in accordance with the agreed Preconstruction Phase Timetable.

Hackney Homes and Homes for Haringey (SCMG) – "*The SCMG relationships and structures are sustained by training and support to embed a collaborative culture*"

Achieving continuity in the key individuals engaged on a project or programme of work is a challenge that it is important to tackle, along with clear delegated authority in relation to the processes and activities comprising Two Stage Open Book and/or Supply Chain Collaboration. The accumulated knowledge, trust and goodwill achieved by any individual is difficult to retain if that individual disappears from the Integrated Team.

Clear contractual provisions stating who is authorised to do what, and on what grounds they can be replaced, will assist the integration of the team, as will a clear understanding as to who is entitled to call a meeting of the key individuals and what decision-making powers they have as a group. Non-adversarial governance that enables consensus is important during the Preconstruction Phase, for example to maintain progress and build up joint agreed information, and is also important during the Construction Phase, for example to ensure that the information accumulated through Two Stage Open Book and/or Supply Chain Collaboration is used properly as a transparent basis for resolving problems and avoiding potential disputes (see Section 9.2).

In agreeing the training and support required for Client officers and representatives of other Integrated Team members, this Guidance should be the starting point for establishing a clear understanding as to:

- What induction process will be used for any individual involved in the Two Stage Open Book and/or Supply Chain Collaboration processes;
- The means by which that induction and other activities will test levels of knowledge and experience and determine the need for further training;
- Who should undertake any induction and further training.

In order to combine assessment of capability and progress with development of the Integrated Team, early kick-off meetings and regular independent gateway reviews provide valuable insights and opportunities to identify the need for additional training and support if required.

7.2 Collaborative culture in place of adversarial behaviours

The Trial Projects have demonstrated that the development of a successful Integrated Team through Two Stage Open Book and/or Supply Chain Collaboration depends on new processes and activities during the Preconstruction Phase, and that is also depends on the creation of a new collaborative culture that endures throughout the life of each project and eliminates adversarial, opportunistic behaviour by any Integrated Team member.

The Client needs to take the lead in demonstrating its commitment to creating and supporting an Integrated Team with a collaborative culture, and is entitled to expect that other Integrated Team members will demonstrate a corresponding commitment.

Surrey, Project Horizon – "required personal leadership and the recognition of different stakeholder interests in client and contractor organisations who need to be identified, consulted and persuaded to adopt a new and bolder approach"

A collaborative culture is motivated firstly by Two Stage Open Book and/or Supply Chain Collaboration being in the best interests not only of the Client, but also of Tier 1 Contractors and Tier 2/3 Subcontractors and Suppliers (see Sections 3.6, 3.7 and 3.8). It will be essential to communicate to all members of the Integrated Team that it is in their commercial interests to act in a manner that is consistent with achieving successful outcomes to the agreed objectives of Two Stage Open Book and/or Supply Chain Collaboration.

Surrey, Project Horizon – "Two Stage Open Book enabled a culture of collaborative working at all levels of the supply chain as well as the creation of integrated project teams with better defined roles for individuals employed by the client, Tier 1 contractor and Tier 2/3 supply chain members"

In order to encourage a collaborative culture in implementation of the Trial Projects, Clients have, for example, organised facilitated workshops and the co-location of staff so as to build mutual trust and confidence and to discourage adversarial, opportunistic behaviour. Clients adopting Two Stage Open Book and/or Supply Chain Collaboration should agree with their Consultants, Tier 1 Contractors and Tier 2/3 Subcontractors and Suppliers at an early stage the active steps they will take to create, embed and sustain a culture of collaborative working at all levels of seniority and in all activities affecting the project or programme of work.

Workshops, co-location and other techniques that encourage collaborative behaviour are not a substitute for the processes of Two Stage Open Book or Supply Chain Collaboration. They are an essential means to ensure that these procurement and delivery models achieve their agreed results.

7.3 Conditional Contracts and Two Stage Open Book

Two Stage Open Book requires the creation of early Conditional Contracts governing the Preconstruction Phase appointment of the Consultants, the Tier 1 Contractor and successive Tier 2/3 Subcontractors and Suppliers.

The purposes of early Conditional Contracts are to establish contractual commitment to the Preconstruction Phase activities (see Section 5) and for this purpose:

- To stabilise the Client relationship with the Tier 1 Contractor on terms equivalent to the early appointments of Consultants, so as to create a robust and properly balanced Integrated Team;
- To make clear that all early appointments are conditional and that all Preconstruction Phase activities are preconditions to the Client granting authority for the Construction Phase of the project to proceed;

- To describe the sequential stages of design development, the identification and costing of work/supply packages and the steps to achieve appointment and integration of Tier 2/3 Subcontractors and Suppliers;
- To establish and agree the sequence of joint risk management activities and the build-up of a Construction Phase programme;
- To spell out the Open Book cost model and the prohibition of hidden discounts or rebates from Tier 2/3 Subcontractors and Suppliers;
- To embed a contractually binding Preconstruction Phase Timetable so as to drive progress and avoid delay in commencement of the Construction Phase of the project;
- To establish the basis for consistent terms of appointment for Tier 2/3 Subcontractors and Suppliers.

The Procurement/Lean Client Task Group Report recommended adoption of a collaborative contract to govern Two Stage Open Book, Cost-led Procurement or Integrated Project Insurance, and identified JCT Constructing Excellence, NEC3 Option C and PPC2000 as suitable project contract forms.

In each case, they recommend that these contracts should have an "*absolute minimum of amendments, with no changes to risk allocation or payment terms except where they are improved*" and that effort should be taken "*to avoid the use of liquidated damages, retentions, parent company guarantees and performance bonds*".

Hackney Homes and Homes for Haringey (SCMG) – ensured that "PPC2000 has been used with minimum amendments to the published form and with no liquidated damages, retentions, general liability or performance bonds."

Conditional Contracts are essential in order for Client and other Integrated Team members to have a clear understanding of their Preconstruction Phase activities and/or the preconditions to any entitlement to undertake the Construction Phase of a project or programme of work.

In creating a Conditional Contract, the Client needs to make clear from the outset whether it has the right to Change any Integrated Team member, in what circumstances that right arises and what consequent rights and obligations arise in respect of the prior contributions of any Integrated Team member that is not entitled to undertake the Construction Phase of a project.

PPC2000 establishes a single Conditional Contract governing both the Preconstruction Phase and Construction Phase of a project, describing joint design and cost development and creation of consistent Tier 2/3 Subcontractor and Supplier appointments in line with the Two Stage Open Book processes set out in this Guidance. It describes joint risk management activities and agreement of a Construction Phase programme, plus other listed preconditions to the Client authorising commencement of the Construction Phase of the project. Following

satisfaction of these preconditions and agreement of a fixed price or target cost, the same contract then governs the Construction Phase.

JCT Constructing Excellence and NEC3 Option C are Construction Phase contracts that can also be adapted for use as Preconstruction Phase contracts, but they are not Conditional Contracts and unlike PPC2000 they do not describe processes for Preconstruction Phase design development, Tier 2/3 Subcontractor and Supplier appointments, joint risk management or agreement of a Construction Phase programme. Additional drafting is required to set out these processes, and for a JCT Constructing Excellence or NEC3 Option C contract to operate as a Conditional Contract linking the Preconstruction Phase to the award of another JCT Constructing Excellence or NEC3 Option C contract governing the Construction Phase. As a result, certain Trial Project clients (such as Property Services Cluster and Archbishop Beck projects as referred to in Section 2.5) have drafted their own bespoke preconstruction phase agreements for use with JCT or NEC Construction Phase Contracts.

Ministry of Justice, Cookham Wood – "adopted the PPC2000 standard form of contract (with minimum amendments) to define its processes for Early Contractor Involvement (ECI) under Two Stage Open Book."

7.4 Frameworks and Two Stage Open Book

The Preconstruction Phase Processes of Two Stage Open Book can also be set out in a framework rather than in the individual project contract, and this enables Clients to use their preferred standard form contract for the Construction Phase. Although initially attractive to Clients, this approach raises questions which need to be considered very carefully:

- Does the inclusion of Preconstruction Phase activities affect the legal status of a framework, for example turning it into a services contract?
- Does the framework permit any uncertainty as to whether a Conditional Contract has been created governing Preconstruction Phase activities, for example as to exactly what preconditions need to be satisfied for an Integrated Team appointed to a specific project to be entitled to proceed with the Construction Phase of that project?
- Does the framework describe the steps governing early appointment of Tier 2/3 Subcontractors and Suppliers for a specific project, so as to support creation of a full Integrated Team?
- Do the Preconstruction Phase activities set out in the framework reflect **all** the recommendations in this Guidance, for example using a binding Preconstruction Phase Timetable to clarify all agreed activities and deadlines?
- Is the Client's preferred Construction Phase contract a collaborative form of contract that is consistent with **all** the recommendations in this Guidance?

Having considered these questions, Clients may conclude that a separate Conditional Contract, such as PPC2000 described in Section 7.3, provides a clearer foundation for Two Stage Open Book.

7.5 Conditional Contracts and Supply Chain Collaboration

Supply Chain Collaboration requires incorporation of equivalent Conditional Contract provisions in a framework/alliance/long-term contract so as to establish early contractual commitments to the required Supply Chain Collaboration activities. It also requires the creation of Supply Chain Agreements recording the new mutual commitments agreed between the Tier 1 Contractor(s) and Tier 2/3 Subcontractors and Suppliers (see Section 6).

Supply Chain Collaboration processes can be incorporated in any framework/ alliance/long-term contract where its provisions permit, including the JCT, NEC3 and TPC2005 long-term contracts. The TPC2005 long-term contract has the advantage of a Two Stage Open Book mobilisation phase and also provides for timetabled processes to govern business cases, tenders and volume supply agreements in respect of Tier 2/3 Subcontractors and Suppliers in line with the Supply Chain Collaboration processes set out in this Guidance.

Surrey, Project Horizon – "used the TPC2005 standard form of contract which describes the processes for Two Stage Open Book procurement and Supply Chain Collaboration."

7.6 Preconstruction Phase Timetable

All projects are subject to time constraints, and a challenge in adopting Two Stage Open Book or Supply Chain Collaboration is to create a limited period of time during which to implement agreed Preconstruction Phase activities without causing a delay in commencement of the Construction Phase.

The Trial Projects have demonstrated that Two Stage Open Book and Supply Chain Collaboration processes give rise to time savings rather than delays, and in each case have used a contractually binding Preconstruction Phase Timetable to ensure that Integrated Team members meet agreed deadlines for all Preconstruction Phase activities.

Hackney Homes and Homes for Haringey (SCMG) – used "programmed design, risk management, costing and progressing activities undertaken during the early conditional appointment of an integrated team to seek additional savings and improved value"

A sample Preconstruction Phase Timetable is set out in [Annex 4](#).

7.7 Clear Roles and Responsibilities

Two Stage Open Book and Supply Chain Collaboration both require Integrated Team members to adapt their traditional roles and responsibilities in order to undertake new Preconstruction Phase activities. These new activities are summarised throughout this Guidance and need to be spelled out in the Preconstruction Phase Timetable, and when scoping of the roles and

responsibilities of the Client, Consultants, Tier 1 Contractor and Tier 2/3 Subcontractors and Suppliers.

7.8 Long-term Relationships

Two Stage Open Book can be applied to a single project or a programme of work. Supply Chain Collaboration can only be applied to a programme of work. Both will reward the Client and other Integrated Team members to a greater extent if linked to long-term relationships so that:

- Joint commitment to the new processes is replicated and can become business as usual;
- Tier 1 Contractors and Tier 2/3 Subcontractors and Suppliers are incentivised by the prospect of a continued pipeline of work;
- Clients can expect and measure continuous improvement;
- All Integrated Team members can capture lessons learned and pass them on from project to project.

Ministry of Justice, Cookham Wood – "created an EU-compliant framework within which early contractor involvement is an established system. Over the course of successive projects, framework contractors build up designs and solutions that they know will meet MoJ specifications, and are able to transfer these from one project type to another."

Clients will set their own performance indicators to govern the award of work under their frameworks/alliances/long-term contracts. The benefit of Two Stage Open Book and Supply Chain Collaboration is that their processes provide the machinery to increase the prospect of Integrated Team members meeting and exceeding performance indicator targets.

Supply Chain Collaboration can be undertaken at agreed intervals during a framework/alliance/long-term contract governing repair and maintenance work, in order to create the maximum opportunities for continuous improvement, for performance targets to be met and for consequent contract extensions to be granted.

Surrey, Project Horizon was "A joint client/main contractor initiative leading to creation of new long-term relationships with Tier 2 and Tier 3 supply chain members and the development of integrated project teams. Its objective is to bring the Surrey local roads network to its optimal state, to reduce operating costs and provide wider economic benefits."

8. Costs and Cost Savings under Two Stage Open Book and/or Supply Chain Collaboration

8.1 Budgeting

In order to obtain the most benefit from Two Stage Open Book and/or Supply Chain Collaboration, it is important for a Client to establish an appropriate Project Budget as a cost ceiling for each project, taking into account the current marketplace and the impact of inflation.

Cabinet Office have developed benchmarks for a wide range of construction and engineering projects implemented by central government and the wider public sector (see [Annex 5](#)). These should enable a Client to identify, by reference to its business case and project brief, what a project should cost and whether it can reasonably expect to achieve procurement and delivery of that project within its Project Budget cost ceiling.

8.2 Costs and Cost Savings under Two Stage Open Book

Two Stage Open Book enables the Client to establish accurately the costs of any project and to identify opportunities for agreement of significant cost savings in conjunction with other improved value (as demonstrated in the Trial Project Case Studies). It requires the following cost processes:

- Early commitment of the Consultants and Tier 1 Contractor to deliver the project within the Project Budget cost ceiling and to seek cost savings;
- Open Book agreement of the fees payable to Consultants and the fees/profit/overheads payable to the Tier 1 Contractor, so that costs can be analysed and savings achieved without eroding margins;
- Agreement of amounts payable to the Tier 1 Contractor as fees during the Preconstruction Phase;
- Establishment through agreed activities (see Section 5) of the costs payable to each Tier 2/3 Subcontractor and Supplier in relation to each work/supply package and, where appropriate, Open Book agreement of their respective fees/profit/overheads;
- Build-up of the accurate and transparent costs of each work/supply package, with opportunities for these costs to be reconciled with the Project Budget cost ceiling and for all Integrated Team members to propose cost savings;

- Prior Client approval of the costs of any Early Works Orders;
- Client approval, and agreement of the Integrated Team, to a fixed price or target cost, supported by a full transparent breakdown of costs, prior to authorising the Construction Phase of the project to proceed.

Ministry of Justice, Cookham Wood – achieved "a cost saving of **20%**" through:

- *Joint working by Interserve with Tier 2 Subcontractors in developing innovative proposals at the point of selection*
- *Further joint working by Interserve and its Tier 2 subcontractors with the client and its Consultants throughout the contractual preconstruction appointment*
- *Additional information provided at the point of selection and throughout the preconstruction phase through the use of BIM ."*

8.3 Costs and Cost Savings under Supply Chain Collaboration

Supply Chain Collaboration enables the Client(s) and Tier 1 Contractor(s) to re-examine the costs of particular works, goods and materials and to identify opportunities for agreement of significant cost savings in conjunction with other improved value (as demonstrated in the Trial Project Case Studies). It requires the following cost processes:

- Transparent identification of the costs payable to Tier 2/3 Subcontractors and Suppliers as previously agreed by the Tier 1 Contractor(s) pursuant to new or existing framework(s)/alliance(s)/long-term contract(s);
- Separate agreement of the fees/profit/overheads payable to the Tier 1 Contractor(s), so that costs can be analysed and savings achieved without eroding margins;
- Agreement of amounts payable to any Tier 1 Contractor(s) as fees for leading the Supply Chain Collaboration processes;
- Establishment, through agreed activities (see Section 6), of the savings resulting from prospective award of a greater scope of work or a longer duration of work or any other improved commitments or changes in working practices;
- Conclusion of Supply Chain Agreements between the Tier 1 Contractor(s) and Tier 2/3 Subcontractors and Suppliers that establish the terms on which lower costs are payable and improved value is offered.

Surrey, Project Horizon – achieved **12%** of its cost savings through:

- *"Elimination of duplicated roles in an integrated team*
- *Visibility and continuity of pipeline of work through larger scale, longer term work offered to Kier by Surrey and in turn to Marshalls Surfacing and Aggregate Industries*
- *Advance planning of work on each annual cycle*
- *Prompt payment of Marshall Surfacing and Aggregate Industries by Kier*
- *Closer involvement in the design and planning of individual tasks within the programme*
- *Availability of storage facilities in depots ."*

8.4 Breakdown of Savings

It is not always possible to sub-divide the savings achieved through Two Stage Open Book and Supply Chain Collaboration, but specific examples of how certain amounts were saved are set out in each of the Trial Project Case Studies. Certain savings are achieved in conjunction with the improved value described in Sections 9 and 10.

A detailed breakdown of other savings attributable to Two Stage Open Book and Supply Chain Collaboration was provided in the Surrey Project Horizon Case Study where the following savings were offered by a Tier 2/3 Subcontractor/Supplier against previous rates:

- Involvement in developing continuity of work - 2%
- Agreed minimum annual volume of work – 5%
- Agreed minimum size of individual Works Orders – 2%
- Prompt payment by Tier 1 Contractor – 1%
- Availability of storage facilities at Client depot – 2%

Achievement of these savings was not an automatic or formulaic process. It was the result of carefully planned adoption of all the Two Stage Open Book and Supply Chain Collaboration processes set out in this Guidance. By this means, the Client, Tier 1 Contractor and Tier 2/3 Subcontractors and Suppliers established what amounts and type of work, and what revised working practices, would enable the listed savings to be offered. These were then captured in an alliance underpinning mutual commitment to collaborative working.

8.5 Particular Cost Models

Two Stage Open Book and/or Supply Chain Collaboration can be implemented in conjunction with any cost model, including fixed prices, target costs, schedules of rates

and bills of quantities. The choice of cost model should be governed by the features and circumstances of each project and programme of work.

Successful Two Stage Open Book and Supply Chain Collaboration are both dependent on the chosen cost model identifying separately the fees/profit/overheads payable to a Tier 1 Contractor, so as to establish a transparent Open Book basis for the review and agreement of underlying costs.

It may also be possible to extend this Open Book model to Tier 2/3 Subcontractors and Suppliers where appropriate, and separately to identify their respective fees/profit/overheads and underlying costs.

To the extent that costs are distinguished from fees/profit/overheads, the Integrated Team can ensure that savings do not erode agreed margins and other income.

8.6

Two Stage Open Book, Supply Chain Collaboration and Cost Competition

It is important to emphasise that Two Stage Open Book and Supply Chain Collaboration enable and support rigorous competition in respect of all aspects of the cost of a project or programme of work.

At the point of selection of the Consultants and Tier 1 Contractor, Two Stage Open Book provides the basis for a transparent competitive process in respect of their fees/profit/overheads, and any other components of the project for which it is appropriate to test costing, such as risk contingencies and the provisional cost of particular proposals submitted. Evaluation of fees/profit/overheads and such other costs needs to be balanced appropriately against evaluation of qualitative proposals and the proven ability of the Consultants and Tier 1 Contractor to deliver the project/programme within the Project Budget cost ceiling.

At the point of selection of Tier 2/3 Subcontractors and Suppliers, Two Stage Open Book provides the basis for further transparent competition based on accurate costing and additional qualitative proposals.

Supply Chain Collaboration provides the basis for transparent cost competition, additional to those conducted at the point of selection of the Tier 1 Contractor(s), in order to test the ability of Tier 2/3 Subcontractors and Suppliers to offer savings against previously agreed costs in return for increased scope and/or duration of work and/or the agreement of more favourable business and working conditions.

8.7

Cost Controls under Two Stage Open Book

In order to create and maintain effective cost controls throughout a project, Clients implementing Two Stage Open Book need to implement regular reconciliation of designs and other proposals with the Project Budget, allowing the opportunity for redesign or value engineering in order to avoid cost overruns on work/supply packages. They also need to decide:

- The extent, if any, to which certain work/supply packages can or should be suitable for a Tier 1 Contractor to develop a business case for self-delivery and the extent to which these packages should be costed (at least provisionally) at the point of Tier 1 Contractor selection;
- The extent, if any, to which any elements of a project can or should be sufficiently designed at the point of Tier 1 Contractor selection to be costed (at least provisionally) as part of Tier 1 Contractor evaluation, and/or so as to enable the provisional selection of preferred Tier 2/3 Subcontractors and Suppliers;
- The breakdown of fees/profit/overheads at the point of Tier 1 Contractor selection so as to provide evidence of value, and the potential for future flexibility (for example, so as to enable finalisation of preliminaries/site overheads in line with design development and selection of Tier 2/3 Subcontractors and Suppliers and/or so as to support target cost);
- The basis for sub-dividing work/supply packages and the extent to which it is appropriate to extend Open Book separation of fees/profit/overheads to Tier 2/3 Subcontractors and Suppliers;
- The extent to which Tier 2/3 Subcontractors and Suppliers can provisionally be approved in line with the Tier 1 Contractor's recommendations and the activities required to create a business case that finalises accurate and competitive costs for their respective work/supply packages during the Preconstruction Phase;
- The timing for tendering all other work/supply packages to be awarded to Tier 2/3 Subcontractors and Suppliers and the basis for establishing accurate and competitive costs;
- The extent, if any, to which the cost of certain work/supply packages should be treated as provisional sums and finalised by the Tier 1 Contractor tendering to prospective Tier 2/3 Subcontractors and Suppliers after commencement of the Construction Phase.

8.8 Cost Questions and Answers

- **What is the role of the cost consultant?**

Cost consultants must work as part of the Integrated Team, developing their understanding of Tier 2/3 Subcontractor and Supplier costs and contributing to the build-up of transparent, accurate cost information within an appropriate Client Budget, also monitoring closely the design development process and contributing to ideas for cost savings and other improved value.

- **Fixed price or target cost?**

Two Stage Open Book and/or Supply Chain Collaboration provide the building blocks for a fixed price that is supported by accurate, transparent costs, competitively tested and within the Project Budget.

Use of a target cost approach to pricing in conjunction with Two Stage Open Book or Supply Chain Collaboration is an option to incentivise the Integrated Team if they agree that there may be Construction Phase cost overruns and savings in respect of all or part of the costs established through the Two Stage Open Book or Supply Chain Collaboration processes. The target cost approach takes effect through agreement of a formula for sharing all or part of such overruns and savings.

- **Why a pre-agreed Project Budget cost ceiling?**

Early conditional appointment of the Tier 1 Contractor needs to reflect its ability and commitment to deliver a project/programme of work within the Client's stated financial limits.

- **What about Consultant fees?**

Consultant fees are for agreement by the Client, but it is preferable that they incentivise cost savings and therefore are not calculated as a percentage of other project costs.

- **Are discounts and rebates permissible?**

Hidden Tier 2/3 Subcontractor and Supplier discounts and rebates are a major obstacle to Open Book pricing and the creation of a collaborative culture, and any discount or rebate is only permissible if agreed by the Client in advance.

- **How detailed should a cost breakdown be?**

The Client will need to ensure that the Tier 1 Contractor breaks down work/supply packages and underlying costs to the extent appropriate to reveal the maximum opportunities for savings and improved value proportionate to the size and complexity of the project.

- **What about risk contingencies?**

Tier 1 Contractors should quote any risk contingencies at the point of selection so that joint risk management activities during the Preconstruction Phase can seek ways to reduce or eliminate the need for these risk contingencies.

- **What about provisional sums?**

To the extent that the Client is willing to authorise commencement of the Construction Phase without complete cost certainty, a provisional sum can be subject to later Two Stage Open Book processes as an effective means to finalise competitive and transparent costs of work/supply package during the Construction Phase.

8.9 **Distinguishing Savings achieved through Procurement, Two Stage Open Book and Supply Chain Collaboration**

Certain Trial Projects show additional savings attributable to the EU procurement process used for selection of the Tier 1 Contractors.

Hackney Homes and Homes for Haringey (SCMG) – "The cost savings achieved include **16.5%** by Hackney on its 2010 framework/alliance procurement."

Surrey, Project Horizon – "Surrey achieved savings of **16%** at the point of selecting Kier in 2011, against prices previously paid for comparable works."

Other Trial Projects show savings entirely attributable to Two Stage Open Book processes.

Ministry of Justice, Cookham Wood – "Taking into account value indicators of similar projects, cost savings achieved (as analysed by the Client and cost consultant Sweett Group) show cost savings of **20%** from the rate of £2,910 per square metre anticipated for a comparable project and the rate of £2,332 per square metre achieved in relation to Cookham Wood by the time of establishing the agreed maximum price."

Trial Projects have also shown savings that are in part attributable to the Preconstruction Phase processes under Two Stage Open Book, and that are enhanced where these activities are combined with Supply Chain Collaboration processes.

Hackney Homes and Homes for Haringey (SCMG) – achieved "Reduced Tier 2/Tier 3 costs (averaging **14%**) offered in return for clarification of work throughput, improved client briefs and simplification of pricing under basket rates, greater visibility of the forward pipeline of work and establishment of common Supply Chain Agreements securing prompt payment and an open forum for resolution of problems ."

8.10 What about inflation and other market pressures?

Although the Trial Projects have demonstrated substantial cost savings, it is recognised that inflation and other market pressures, nationally or in certain sectors or regions, will mean that cost savings are not always available.

In these circumstances, Two Stage Open Book and/or Supply Chain Collaboration offer the systematic means to preserve stable relationships with Tier 1 Contractors and Tier 2/3 Subcontractors and Suppliers by reference to agreed profit/fees/overheads and, through agreed activities (see Sections 5 and 6), to mitigate unavoidable cost increases while analysing the potential for other cost savings and improved value.

9. Improved Value Under Two Stage Open Book and/or Supply Chain Collaboration

In addition to greater cost certainty and demonstrable cost savings, the Trial Projects have demonstrated how Two Stage Open Book and/or Supply Chain Collaboration can generate other improved value for projects and programmes of work:

9.1 Improved Design

Two Stage Open Book and/or Supply Chain Collaboration can be combined with any allocation of design responsibility (see Section 4.4). Although this Guidance refers to an in-house or Consultant designer appointed to prepare a concept design based on the Client's project brief as the basis for Tier 1 Contractor selection, and for other design Consultants to be selected at the same time as the Tier 1 Contractor, there may be flexibility in this sequence dependent on the requirements of the relevant project. However, it is fundamental to Two Stage Open Book and Supply Chain Collaboration that early appointment of the Tier 1 Contractor is structured in a way that extracts the maximum design contributions from the Tier 1 Contractor and from Tier 2/3 Subcontractors and Suppliers.

This Guidance, including [Flowchart 2](#), refers to design stages as defined in the new RIBA Plan of Work and also for ease of reference the previous RIBA Plan of Work. At all stages, designers are expected to design to the Client's Budget and to work with other Integrated Team members to achieve cost savings and other improved value, including through value engineering where appropriate.

Ministry of Justice, Cookham Wood – "To address the need for lighting to be indestructible in the Education block, EMCOR provided a bespoke alternative lighting proposal. This solution reduced the amount of trunking and ensured that lighting was located in the centre of the rooms, achieving a significant cost saving and a better lighting solution."

Hackney Homes and Homes for Haringey (SCMG) – obtained "Subcontractor/supplier innovations in proposed new materials and development of specifications, such as future-proofing green roofs at no additional cost and upgrading windows from Grade C to Grade A at no additional cost."

9.2

Risk Management

Two Stage Open Book and Supply Chain Collaboration create a platform for the Integrated Team to identify risks at an early stage, and to agree and implement actions during the Preconstruction Phase that clarify and seek to reduce or eliminate such risks. This prevents any Integrated Team member gambling on unknown matters and avoids wasteful risk pricing and the dumping of risk down the supply chain. Instead, Two Stage Open Book and Supply Chain Collaboration both provide a means to price more accurately any risks that cannot be eliminated and/or to share such risks as agreed.

Hackney Homes and Homes for Haringey (SCMG) – achieved "*Reduced risks, cost savings and time savings through accelerated constructor/supply chain briefing process.*"

Joint analysis of risks by Integrated Team members during the Preconstruction Phase enables them to agree the least risky approach and the most effective allocation of responsibilities.

Surrey, Project Horizon – achieved "*Improved quality control through joint risk assessments and integrated team agreement of appropriate surface treatments and monitoring work on site.*"

Where problems arise that might otherwise escalate into disputes, the additional information shared among Integrated Team members through Two Stage Open Book and Supply Chain Collaboration provides a stable basis for non-adversarial dispute resolution if combined with a non-adversarial governance system (see Section 7.1).

Hackney Homes and Homes for Haringey (SCMG) – resolved "*potential disputes with the benefit of full cost and time information plus the motive to retain long-term relationships.*"

9.3

Time Management

Two Stage Open Book and Supply Chain Collaboration processes provide the discipline and clarity that enable the Client to expect effective time management by all Integrated Team members. Commitment to a binding Preconstruction Phase Timetable (see Section 7.6 and Annex 4) sets agreed deadlines for all Two Stage Open Book and/or Supply Chain Collaboration activities, including the build-up and agreement of a Construction Phase programme.

Proposals from Integrated Team members adopted on the Trial Projects have included time savings and consequent cost savings.

Ministry of Justice, Cookham Wood – "Collaboration between Interserve and its specialist SSC resulted in a pre-cast volumetric cell proposal for the construction of the project. As a result, the construction programme was reduced from 50 to 44 weeks with a saving of £85,000 in time-related site overheads."

Hackney Homes and Homes for Haringey (SCMG) – achieved "Time savings, such as through quicker build-up of prices leading to earlier start on site and reduced client/consultant time/costs." "I don't know any other London borough that has managed to carry out so much work in so short a time."

Surrey, Project Horizon – achieved "Lean programming of individual tasks leading to time savings."

Collaborative working through Two Stage Open Book has also included steps taken by the Tier 1 Contractors and Tier 2/3 Subcontractors and Suppliers to recover Construction Phase delays.

Ministry of Justice, Cookham Wood – "Due to adverse inclement weather conditions, the project fell behind programme on site, but collaboration between Interserve and SSC has brought construction back on programme."

9.4 **Extended Warranties**

Two Stage Open Book and Supply Chain Collaboration establish new lines of communication between the Client and Tier 2/3 Subcontractors and Suppliers, and through improved integration, information and innovation create the opportunity for extended warranties to be offered on particular work/supply packages.

Hackney Homes and Homes for Haringey (SCMG) – obtained "Availability of extended warranties above industry standards, managed by suppliers/installers, such as windows warranted for 30 years."

Surrey, Project Horizon – achieved "Improved whole life value including agreement of ten year warranty for material and pavement design." "Analysis of the first eight months of work on site showed 96% of all schemes delivered with a ten year supplier warranty."

9.5 **Sustainable Solutions and Carbon Efficiency**

New opportunities are created by Two Stage Open Book and Supply Chain Collaboration for Integrated Team members jointly to examine and develop design, cost, risk and

programme and for Clients to make a fully informed assessment as to their options in respect of sustainable solutions. This can include a systematic approach to implementing the recommendations of the Infrastructure Carbon Review in finding economical lower carbon solutions.

The new lines of communication and the additional time created for joint working on the Trial Projects have led to Integrated Team members offering more sustainable solutions that are practical and affordable within the Client's Project Budget.

Hackney Homes and Homes for Haringey (SCMG) – achieved "*Improved repairs and maintenance through, for example, self-cleaning glass on high rise blocks*" and "*More sustainable solutions including external wall insulation*"

Surrey, Project Horizon – achieved "*Innovation through collaborative working, for example to increase recycling and reduce landfill.*"

10. Local Benefits under Two Stage Open Book and/or Supply Chain Collaboration

A significant challenge for public sector clients is to reconcile the constraints of the EU Procurement Regulations with their wish to benefit the regional and local economy through close engagement with stakeholders, SMEs and local/regional businesses, and through the support of apprenticeships and other employment and skills commitments.

Two Stage Open Book and Supply Chain Collaboration both offer systems that enable Clients and Integrated Teams to focus on these issues in a manner that is EU-compliant and that addresses legitimate local and regional interests.

10.1 Stakeholder Consultation

The creation of an Integrated Team early in the Preconstruction Phase enables more productive consultation with stakeholders, including end-users and interested third parties. Two Stage Open Book and Supply Chain Collaboration increase the time and opportunity to take their needs and wishes into account.

Ministry of Justice, Cookham Wood – A combination of Two Stage Open Book and BIM provided "*improved design coordination and change management at an early stage prior to construction, including liaison with the governor of HMYOI Cookham Wood.*"

Hackney Homes and Homes for Haringey (SCMG) – "*New lines of client contact are established with the Tier 2 and Tier 3 supply chain members at an early stage in the preconstruction process so that they can make maximum contributions to design, resident consultation, surveying and programming.*"

Surrey, Project Horizon – "*Improved stakeholder satisfaction through better communications with Surrey's members and with residents as regards access and delegated authority, for example allowing Kier to alter diversions.*" "*Analysis of the first eight months of work on site showed over 50 complimentary letters received from residents and Council members.*"

10.2 Appointment of SMEs and Local/Regional Businesses

Where SMEs and/or local/regional businesses have not been selected as Tier 1 Contractors or Consultants , Two Stage Open Book and Supply Chain Collaboration provide systems during the Preconstruction Phase to ensure that selection of Tier 2/3 Subcontractors and Suppliers takes account of the particular benefits that SMEs and

local/regional businesses may offer in terms of cost, quality, sustainability and other relevant factors. This is a major breakthrough for central and local government clients and other public sector clients who wish to support the local/regional economy. Trial Project Case Studies such as SCMG, Archbishop Beck School, Project Horizon and North Wales Prison demonstrate how these benefits can be obtained.

Hackney Homes and Homes for Haringey (SCMG) – established "*Early joint appointment of comprehensive range of SME Tier 2 and Tier 3 supply chain members*" and created "*New opportunities for SME subcontractors and suppliers.*"

10.3 Employment and Skills Commitments

It is important that any Client initiative to improve employment and skills opportunities through project procurement and delivery is clear, measurable and EU-compliant. Using detailed proportionate benchmarks such as those set out in the CITB Client-Based Approach, the Trial Projects have demonstrated that Two Stage Open Book and Supply Chain Collaboration both create the means to establish clear employment and skills commitments by Tier 1 Contractors and Tier 2/3 Subcontractors and Suppliers, and then go on to explore how these commitments can be improved through collaborative working between Integrated Team members.

Hackney Homes and Homes for Haringey (SCMG) – "*Additional employment and skills opportunities for individuals, for example 46 new apprenticeships over the first 18 months of the Hackney programme, plus establishment of the Building Lives Training Academy where apprentices who have got NVQ Level 1 are engaged by constructors/specialists according to demand of ongoing work so as to achieve NVQ Level 2 after 15/18 months.*"

Surrey, Project Horizon – "*Improved apprentice commitments by Kier, Marshall Surfacing and Aggregate Industries, supplementing employment and skills commitments already agreed by Surrey and Kier under an employment and skills plan in accordance with the CITB Client-Based Approach .*"

11. Two Stage Open Book, Building Information Modelling and other Government Initiatives

The Trial Projects have demonstrated that Two Stage Open Book is a natural fit with the following related government initiatives:

- Intelligent Client
- Building Information Modelling
- Government Soft Landings
- Project Bank Accounts

Ministry of Justice, Cookham Wood – "The Cookham Wood Trial Project combines collaborative working under Two Stage Open Book with the adoption of BIM, Project Bank Accounts and Government Soft Landings."

11.1 Intelligent Client

Two Stage Open Book has enabled and supported Intelligent Client behaviours and consequent benefits. For example:

Ministry of Justice, Cookham Wood – "Ministry of Justice has demonstrated the characteristics of a mature client through establishing an EU compliant framework within which early contractor involvement is an established system".

Surrey, Project Horizon – "has achieved development of intelligent client capacity for Surrey County Council with increased customer focus".

11.2 Building Information Modelling

Savings and improvements have been achieved through the adoption of Building Information Modelling combined with the use of Two Stage Open Book. Together, they support the creation and integration of innovative designs with the benefit of early contributions from the Tier 1 Contractor and Tier 2/3 Subcontractors and Suppliers. Level 2 Building Information Modelling has been trialled successfully in conjunction with Two Stage Open Book on the Cookham Wood project and the Property Services Cluster Schools Programme, and is also being trialled on the North Wales Prison project.

Ministry of Justice, Cookham Wood – "Two Stage Open Book has been greatly enhanced through the use of BIM for designs developed and costed at the point of team selection and those developed, prior to and during construction. Examples of innovation achieved through Building information Modelling (BIM) include:

- Improved design coordination and change management at an early stage prior to construction, including liaison with the Governor of HMYOI Cookham Wood, who praised the benefits of a "walk through of the buildings highlighting views into and out of areas that normally I couldn't do until completion"
- Development by Arup and EMCOR of a model for service ducts and cell risers as Ministry of Justice had to be satisfied that these could be serviced by repair and maintenance engineers without reference to a computer. It is expected that this will result in whole life benefits
- BIM: Planet FM agreeing COBIE Drop 4 will make further data available to FM database and will allow more efficient repairs and maintenance that in turn should save Ministry of Justice money.

11.3 Government Soft Landings

The Trial Projects have demonstrated that Two Stage Open Book is not restricted to the Construction Phase of a new build or refurbishment capital project. It will also support greater integration, information and innovation for the purpose of ongoing repair and maintenance consistent with Government Soft Landings. Government Soft Landings was trialled informally on the Cookham Wood project, and is also being trialled on the North Wales Prison project.

Ministry of Justice, Cookham Wood – "For collaboration to span both the capital build activities and the ongoing maintenance and operation of the facility is in line with the Government Soft Landings strategy."

11.4 Project Bank Accounts

The Open Book costing that is fundamental to Two Stage Open Book (see section 8.2) enables the Client to assess the cost savings that may be derived from a Project Bank Account, as these savings can be identified separately in the costs quoted to the Tier 1 Contractor by each Tier 2/3 Subcontractor and Supplier in respect of each work/supply package. A Project Bank Account was trialled on the Cookham Wood project and is also being trialled on the North Wales Prison project.

12. Two Stage Open Book and/or Supply Chain Collaboration – Obstacles and Solutions

12.1 Are Two Stage Open Book and Supply Chain Collaboration too complicated?

The Trial Projects and this Guidance demonstrate that Two Stage Open Book and Supply Chain Collaboration are not complicated procurement and delivery models. Each of them creates a manageable logical sequence for project planning and the build-up of an Integrated Team who have the benefit of maximum transparent information in readiness for start on site.

12.2 If Two Stage Open Book and Supply Chain Collaboration are so good, why is everyone not using them already?

Many processes similar to Two Stage Open Book and Supply Chain Collaboration have been adopted by public and private sector Clients, but these have not previously been tested and described in a way that creates consistent procurement and delivery models. This Guidance describes how a step by step Client-led contractual approach will enable and support the wider adoption of Two Stage Open Book and Supply Chain Collaboration.

12.3 Should we wait to adopt Two Stage Open Book or Supply Chain Collaboration in our next Procurement/Contract Award Cycle?

It is worthwhile for a Client to check its current frameworks/alliances/long-term contracts as these may already contain procedures or objectives that permit Two Stage Open Book and/or Supply Chain Collaboration.

12.4 Are Two Stage Open Book and Supply Chain Collaboration only suitable for a particular type or size of project or programme of work?

The Trial Projects demonstrate that potential benefits of Two Stage Open Book are not limited to any particular type of construction or engineering project.

Two Stage Open Book can be applied to an individual project or a programme of work whereas Supply Chain Collaboration is designed to be applied only to a programme of work.

Both Two Stage Open Book and Supply Chain Collaboration are likely to deliver proportionately greater savings and improved value if applied to a larger programme of work.

12.5 Is Two Stage Open Book riskier than a single stage procurement/delivery approach?

If properly structured in accordance with this Guidance, Two Stage Open Book does not create additional risks for the Client or any Integrated Team member. On the contrary, it uses Preconstruction Phase processes, including joint risk management activities, to build the maximum shared information that will minimise risks and priced risk contingencies, and that will create transparency and consensus to assist in problem resolution.

12.6 Can we adopt Two Stage Open Book after the grant of planning permission?

Preconstruction Phase processes can still create savings and improved value after the grant of planning permission. However, the later in the Preconstruction Phase that the Tier 1 Contractor and Tier 2/3 Subcontractors and Suppliers are appointed, the greater the risk that the Client and Consultants will lose the benefit of their contributions to the design/cost/risk management/programming of the project.

12.7 Do we need additional Consultant advice?

The Trial Projects have been led by Client officers rather than external Consultants. Clients on Trial Projects have benefitted from periodic training, mentoring and independent gateway reviews, but otherwise additional Consultant support should not be required by reason of adopting Two Stage Open Book or Supply Chain Collaboration.

12.8 Will our Consultants object to Two Stage Open Book or Supply Chain Collaboration?

Consultants may recommend departures from Two Stage Open Book or Supply Chain Collaboration and may favour their own variant approaches to project procurement and delivery. It is important for Clients to establish a leading role and to ensure that their Consultants accept and understand a stable, consistent Client-led approach to Two Stage Open Book and Supply Chain Collaboration as described in this Guidance.

12.9 Will Tier 1 Contractors share information regarding their fees/profit/overheads?

For Tier 1 Contractors to preserve their fees/profit/overheads while working in an Integrated Team that is seeking to save costs and achieve other improved value, it is essential that such fees/profit/overheads are identified and agreed in advance. The Trial Projects have demonstrated that Tier 1 Contractors are willing to adopt this approach.

12.10 Will Tier 1 Contractors share information regarding their Tier 2/3 Subcontractors and Suppliers?

For the Client to build an Integrated Team, it is essential for Tier 1 Contractors to recognise that they do not have confidential relationships with Tier 2/3 Subcontractors and Suppliers and that the Client has a legitimate involvement in their selection and in maximising their contributions to a project or programme of work. The Trial Projects have demonstrated that Tier 1 Contractors are willing to adopt a flexible approach in sharing information and in finalising relationships with Tier 2/3 Subcontractors and

Suppliers so as to support successful Two Stage Open Book and Supply Chain Collaboration.

Annex 1 Glossary

alliance – an agreement governing the integrated activities of a multi-party group
Client – a client that needs to implement a project or programme of work
Conditional Contract – a project contract awarded to Integrated Team members describing Two Stage Open Book and/or Supply Chain Collaboration activities and the conditions to be met before the Integrated Team are entitled to undertake the Construction Phase of a project
Construction Phase – the phase of a project or programme of work after the Client authorises commencement of all work and related activities on and off site
Consultant - a provider of design, costing, project management or other services on a project or programme of work
Early Works Orders – Client orders for any limited work/supply activities prior to authorising the Construction Phase of a project
Enquiry Document - an invitation for Tier 2/3 Subcontractors and Suppliers to submit prices and proposals for any work/supply package comprising part of a project or programme of work
EU Procurement Regulations – European Union regulations as incorporated in UK legislation governing the procurement of public sector projects and programmes of work
framework - an agreement governing the award of successive project contracts whether by allocation or mini-competition
Integrated Team — the Client(s), Consultants, Tier 1 Contractor(s) and Tier 2/3 Subcontractors and Suppliers undertaking a project or programme of work
long-term contract – a contract governing the ordering of work by a call-off procedure
Open Book – costing the selection of prospective Integrated Team members by separately agreeing their profit/fees/overheads
Preconstruction Phase – the phase of a project or programme of work before the Client authorises commencement of all works and related activities on and off site
Preconstruction Phase Timetable – a contractually binding timetable governing deadlines and interfaces for Preconstruction Phase activities by Integrated Team members under a Conditional Contract
project – a construction or engineering project of any size or type
profit/fees/overheads – the amounts payable to an Integrated Team member separate from the costs payable for specific work/supply packages
programme of work – any programme of projects comprising construction or engineering works of any size or type including new build, refurbishment, repair and maintenance
Project Budget – an amount that a Client calculates to be the appropriate cost for a project
SME - small and medium enterprise
Supply Chain Agreement – an agreement between one or more Tier 1 Contractors and a Tier 2/3 Subcontractor or Supplier describing the agreed outcomes of Supply Chain Collaboration
Tier 1 Contractor – a contractor appointed directly by a Client
Tier 2/3 Subcontractors and Suppliers – all contractors, manufacturers and suppliers appointed by a Tier 1 Contractor or by a Tier 2 Subcontractor to undertake work/supply packages forming part of a project or programme or work
Work/supply package – work or supply of services, materials, plant or equipment forming part of a project or programme of work

Annex 2 Other Publications and Guidance

- Construction 2025 (Industrial Strategy: Government and Industry in Partnership), July 2013 (<https://www.gov.uk/government/publications/construction-2025-strategy>)
- Government Construction Strategy, May 2011 (<https://www.gov.uk/government/publications/government-construction-strategy>)
- Government Construction Strategy: Cost Benchmarking Principles and Expectations and Cost Reduction Validation Method (see Annex 5) (<https://www.gov.uk/government/publications/construction-cost-benchmark-data>)
- Government Trial Projects (Cabinet Office website) (<https://www.gov.uk/government/publications/government-construction-strategy-trial-projects>)
- Highways Maintenance Efficiency programme Supply Chain Collaboration Toolkit [January 2014]
- Infrastructure Carbon Review (HM Treasury) 2013 (<https://www.gov.uk/government/publications/infrastructure-carbon-review>)
- JCT Constructing Excellence (Sweet & Maxwell) (<http://www.jctltd.co.uk/category/partnering-contracts>)
- NEC3 Option C (Thomas Telford) (<http://www.necccontract.com/digital/index.asp>)
- PPC2000 (amended 2013) (Association of Consultant Architects and Association of Consultancy and Engineering) (<http://www.ppc2000.co.uk/>)
- Procurement/Lean Client Task Group Report, July 2012 (<https://www.gov.uk/government/publications/government-construction-task-groups>)
- RIBA 2013 Plan of Work (<http://www.ribaplanofwork.com/>)
- Royal Academy of Engineering Report "Public projects and procurement in the UK" (http://www.raeng.org.uk/news/publications/list/reports/Procurement_report.pdf)

Annex 3 Trial Projects – Key Features and Procurement/Contract Flowcharts

Ministry of Justice, Cookham Wood – new build Young Offenders Institution

Ministry of Justice, Cookham Wood - £20m new build Young Offenders Institution using alliance/framework agreements and PPC2000 project contract (Final Case Study published July 2014).

Key project features:

<ul style="list-style-type: none">• Substantial cost savings• Prospective operational cost savings• Improved programme certainty and time savings• Collaborative working by integrated team	<ul style="list-style-type: none">• Innovative design solutions using BIM• Government Soft Landings• Project Bank Account
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Hackney Homes and Homes for Haringey (SCMG) – housing refurbishment programme

Hackney Homes and Homes for Haringey (SCMG) - £200m housing refurbishment programme using alliance/framework agreements and PPC2000 project contract (Final Case Study published July 2014).

Key project features:

<ul style="list-style-type: none">• Early joint appointment of comprehensive range of SME Tier 2 and Tier 3 supply chain members• Substantial savings achieved firstly at main contractor procurement, and secondly through joint working with Tier 1 and Tier 2/Tier 3 supply chain members	<ul style="list-style-type: none">• Reduced waste through lean programming, value engineering and rationalisation of specifications• Substantial time savings through new pricing and mobilisation systems• New opportunities for SME subcontractors and suppliers, and substantial employment and skills improvements
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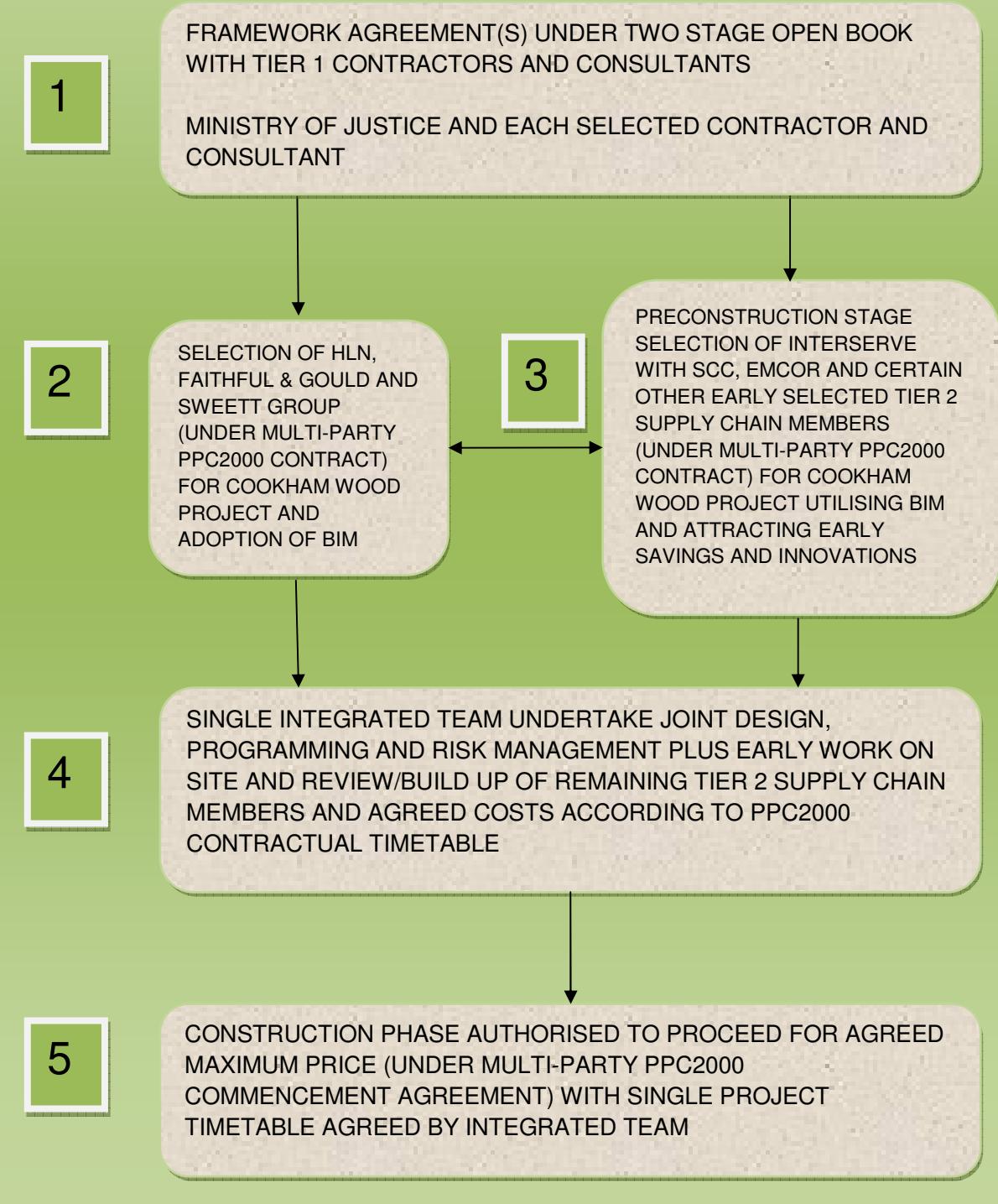
Surrey County Council, Project Horizon – highways programme

Surrey County Council - £100m highway repair and improvement programme using TPC2005 long-term contract and alliance agreement (Final Case Study published July 2014).

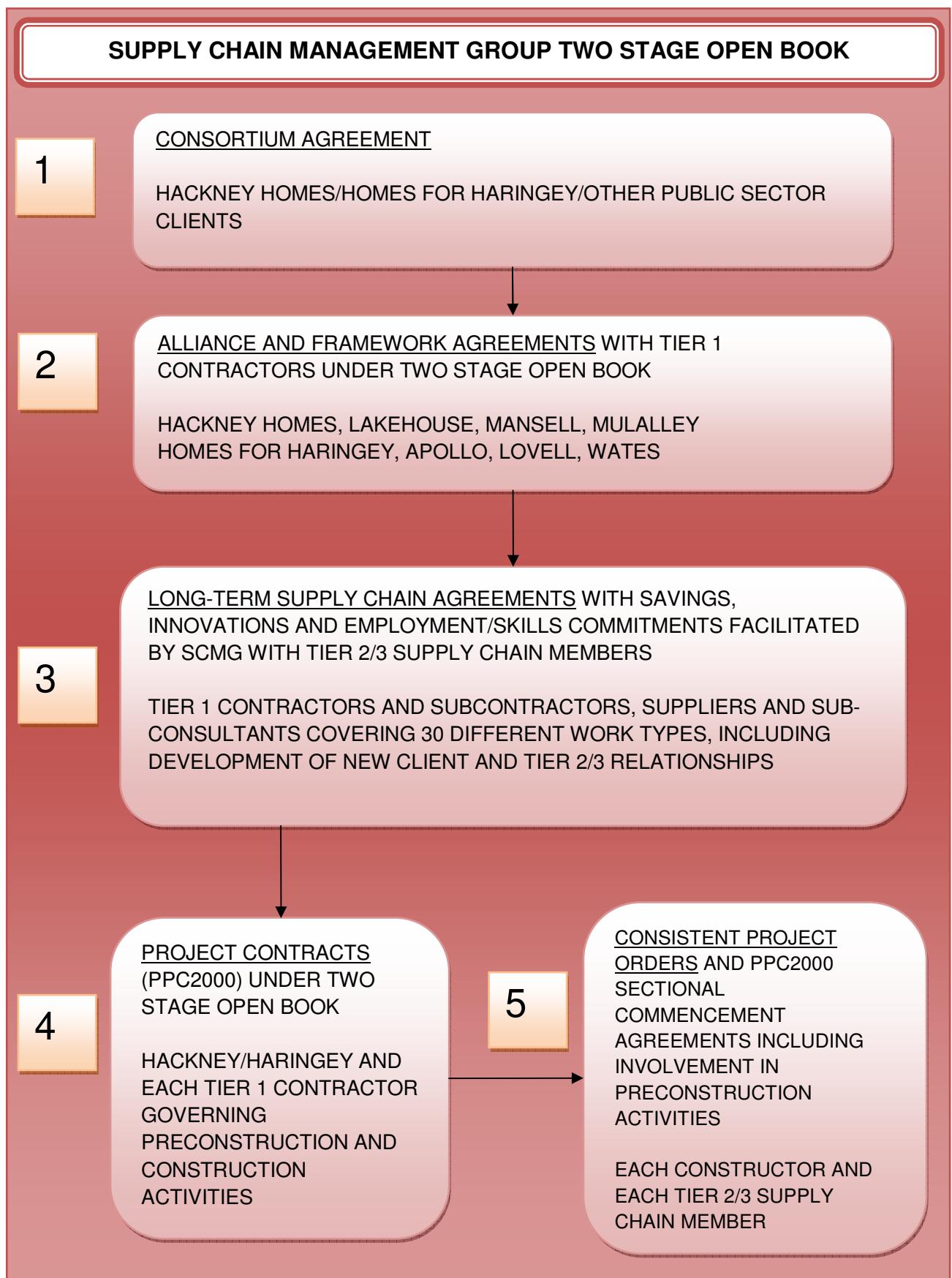
Key project features:

<ul style="list-style-type: none">• New approach to supply chain management• Substantial cost savings• Collaboration and integration of the full team• Innovations and improved sustainability	<ul style="list-style-type: none">• Improved warranties• Contributions to the local economy• Improved employment and skills outputs• Development of Intelligent Client capability
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COOKHAM WOOD TWO STAGE OPEN BOOK



Hackney Homes and Homes for Haringey (SCMG) - Procurement and Contract Flowchart



PROJECT HORIZON TWO STAGE OPEN BOOK

1

LONG-TERM TIER 1 (TPC2005) CONTRACT UNDER TWO STAGE OPEN BOOK:

SURREY COUNTY COUNCIL AND KIER

2

LONG-TERM TIER 2/3 CONTRACT (STPC2005) UNDER TWO STAGE OPEN BOOK:

KIER AND AGGREGATE INDUSTRIES/MARSHALL SURFACINGS

3

MULTI-PARTY ALLIANCE GOVERNING SAVINGS ASSUMPTIONS, INNOVATION AND BALANCED SCORECARD:

SURREY COUNTY COUNCIL, KIER, AGGREGATE INDUSTRIES AND MARSHALL SURFACING

4

DEVELOPMENT OF THE INTEGRATED TEAM CULTURE

5

AUTHORISATION OF SUCCESSIVE PROJECTS UNDER TWO STAGE OPEN BOOK ORDERS GOVERNING PRECONSTRUCTION AND CONSTRUCTION ACTIVITIES

Annex 4 Sample Preconstruction Phase Timetable

Description of Activity	Team Member(s) Responsible for Activity	Period/Deadline for Activity	Additional Comments

The Preconstruction Phase Timetable should state clearly the nature, sequence and duration of the agreed activities of each Integrated Team member and should identify any requirements (whether from Integrated Team members or third parties) that are preconditions to any subsequent activities, in each case throughout the period until commencement of the Construction Phase of the Project.

Activities identified in the Preconstruction Phase Timetable should include (1) design submissions, comments and approvals; (2) surveys and investigations; (3) Tier 1/2/3 single source business case submissions for particular work/supply packages; (4) Tier 2/3 Subcontractor/Supplier tender issues and returns for particular work/supply packages; (5) Build-up of costs and Budget reconciliations; (6) risk management actions; (8) other preconditions to implementation of the project on Site; plus (9) briefing, training, workshops and other agreed activities.

Annex 5 Trial Projects – Summary of Cost Savings and Benchmarks

The Government Construction Strategy Cost Reduction Validation Method has been developed in conjunction with departments through the Joint Data and Benchmarking Task Group. The calculation method adopted across Government from April 2012 consists of the following:

- (a) Benchmarks established by department and product e.g. the cost of a school by floor area (£/m²) or the cost of a road by kilometre run (£/km).
- (b) Cost reductions reported by departments and derived by comparing current benchmarks with baseline benchmarks multiplied by the volume of activity (overall spend, or creation of area or length, by department).

The baseline for this Cost Reduction Validation Method consists of the departmental construction benchmarks that were recorded during the financial year 2009/10.

The Cost Reduction Validation Method takes account of the circumstances that would have prevailed had the Government's broader range of efficiency initiatives and sector specific Government Construction Board joint programme not have been introduced, or had construction costs not have been affected by external factors such as increased regulation, inflation or policy changes.

Further details are available at:

<https://www.gov.uk/government/publications/construction-cost-benchmark-data> This is the Cost Benchmarking Principles and Expectations and sets out the principles of construction related cost benchmarking standards which have been developed by the Joint Data and Benchmarking Task Group; and

<https://www.gov.uk/government/publications/construction-costs-departmental-reductions-2010-2011> This is the Cost Reduction Validation Method and sets out the key principles of the method applied from April 2012 to measure the progress made in achieving the Government Construction Strategy's overarching target of a sustainable reduction in construction costs of 15-20%.

The Trial Projects have identified the following savings from procurement, Two Stage Open Book and Supply Chain Collaboration (see also Section 8), which have been validated through independent audit:

1. Ministry of Justice, Cookham Wood

(<https://www.gov.uk/government/publications/procurement-trial-case-study-cookham-wood-prison>)

- Trial Project Value £20m (pre-savings)

- Baseline Benchmark £2910 per square metre for a comparable project
- Target Benchmark £2411 per square metre
- Actual Benchmark £2332 per square metre
- Savings from Two Stage Open Book – **20%**

2. Hackney Homes and Homes for Haringey (SCMG)

(<https://www.gov.uk/government/publications/procurement-trial-case-study-social-housing-refurbishment>)

- Trial Project Value £91.5m (Hackney) and £110.6m (Haringey) (pre-savings)
- Procurement Savings (Hackney 2010) - **16.5%**
- Average Savings from Two Stage Open Book and Supply Chain Collaboration (Hackney and Haringey) – **14%**

3. Surrey, Project Horizon

(<https://www.gov.uk/government/publications/procurement-trial-case-study-report-highways-maintenance>)

- Trial Project Value - £100m (pre-savings)
- Procurement Savings (2011) - **16%**
- Savings from Two Stage Open Book and Supply Chain Collaboration - **15%**