

Barts and The London NHS Trust

NEW HOSPITALS PROGRAMME - FULL BUSINESS CASE

EXECUTIVE SUMMARY

Introduction

1. This Full Business Case (FBC) sets out a detailed and robust case in respect of the development of a new acute teaching hospital at The Royal London Hospital in Whitechapel and the redevelopment of St Bartholomew's Hospital (Barts) as a Cancer and Cardiac Centre of Excellence in West Smithfield, London. The London Chest Hospital, which currently forms part of the Trust, will close on completion of the scheme, its services being re-provided at Barts.
2. Changes to this business case have been made in response to the concerns expressed by DH in December 2005 about affordability, and the consequent review of capital schemes announced in the NHS Operating Framework 2006/07. The financial environment in which the NHS operates has changed significantly since the Trust assessed affordability in September 2005, in particular further developments in:
 - | Lower levels of funding growth to the NHS from 2008 onwards;
 - | Current financial overspend of the NHS
 - | The recent White Paper on care outside of hospitals; and
 - | Regime (Payment by Results 2006/07) and policy (Best Research for Best Health, SIFT revision to unit costs, etc.) changes.
3. Although Barts and The London NHS Trust has attempted to address some of these issues through a further £15 million workforce cost reduction programme (equivalent to 0.3% p.a. of turnover, over the 10 years to steady state), there are further potential downside risks over the next 10 years and these are best addressed by achieving a reduction in the unitary payment and having greater flexibility in the final scale of buildings and physical capacity.
4. As detailed below, the Trust has examined four types of adjustments to the FBC to achieve this reduction in the UC:
 - | **Type 1** adjustments involve the Trust modifying the PFI scheme in an innovative way. The Trust's output requirements and SI's proposals remain as set out in the December 2005 Project Agreement (PA), but that the funding provided under this contract is varied to allow flexibility in the extent to which these proposals are fully implemented within secured planning approvals. The two elements of SI's proposals described below, mothballing and refurbishment in Phases 2 and 3, will be included within an amended variation schedule (Schedule 22, part 7) so that there is no contractual obligation on SI to carry out the works unless instructed to do so by the Trust. The works would only be implemented on the basis that they are required to meet planning approvals and health need, and that they are affordable to the Trust. They remain subject to Departmental approval. The schedule includes a capital figure to carry out the works and the price to go back on the UC for the services (Appendix 1 to Schedule 22, part 7).

Under this arrangement the Trust will keep its requirements under review during the long construction period. If activity and associated income arise as projected, then additional funds will be raised.

The two elements subject to specific review in this context are:

- Mothballing two floors at The Royal London (192 beds out of 905 bed complement) and one floor at St Bartholomew's (58 beds out of 343 bed complement) of newly built space.
- Not proceeding with certain refurbishments projected to get under way in Phase 2 and Phase 3.

! **Type 2** adjustments were relatively straightforward in commercial terms.

- Reduction of the buffer - the Trust had preserved a 25bps interest rate buffer (spread on the long term index links gifts) throughout the procurement. Given the closeness to financial close and following discussions with the Department of Health and SI, the buffer was reduced to 5bps. In addition, the updated position on the European Investment Bank funding was 9 bps lower; together this achieved savings of about £2.5 million.

! **Type 3** adjustments reflect capital contributions to the costs of the scheme. They fall into two categories, namely medical equipment and enabling works:

- Medical equipment – The St Bartholomew and The Royal London Charitable Foundation has agreed in principle that it will donate equipment covering the capital cost consequences of the initial tranche of medical equipment (i.e. up to the point when the first equipment refresh requirements arises). This reduces the UC by more than £3 million per annum.
- Enabling works - SI has undertaken a series of enabling works with a gross capital value of approximately £8 million (construction costs). The ODPM Thames Gateway office has contributed £4 million towards certain enabling works¹.

! **Type 4** adjustments represent minor modifications to the Project Agreement and include:

- The removal from the UC of the 0.7% construction cost inflation buffer for post-Phase 1 works. At the £100.8 million level, the UC will now fund construction cost inflation at an annual rate of 3.5% per annum. i.e. 3.5% is the agreed estimate for construction costs in phases 2 and 3.
- A potential reduction in the interim service costs which, perhaps, assumed an over-prudent level of double-running costs in the period prior to steady state.

5. These facilities will provide, for the benefit of the people of Tower Hamlets, The City of London and the wider health economy, the space to provide 1,248 beds (although 250 will initially be mothballed) in a modern purpose-built environment that is suitable for the provision of healthcare in the 21st century.
6. The FBC demonstrates that the preferred private finance initiative (PFI) solution, developed in partnership with the Skanska Innisfree consortium (SI), provides the best solution for the delivery of services and value for money for the National Health Service (NHS).

¹ See Appendix OK for the funding agreement letter from the Office of the Deputy Prime Minister.

7. Throughout the business case references are made to documents as abbreviations, and acronyms are used. A full bibliography is provided at Appendix 0A and a list of abbreviations at Appendix 0B.

Background

8. For many years it has been widely accepted and acknowledged that there is a need to redevelop the facilities provided at The Royal London Hospital (RLH) and Barts for the benefit of the people in East London, The City and the wider community.
9. Much of the estate is old and generally in a poor condition. It was never designed to support 21st century healthcare and is in desperate need of modernisation. Departments are not co-located for efficiency and the buildings do not lend themselves to the implementation of modern models of care. This can be seen from the North East London Strategic Health Authority's (NELSHA) ERIC returns² which show the Trust as the worst in its peer group for suitability of purpose.
10. The present scheme has been heavily influenced from the outset by Government-led strategic policies for healthcare in London, most notably, The London Review (Turnberg 1997)³ to pursue a two-site solution to the redevelopment of Barts and The London NHS Trust reversed the strategic direction of the original project, which had been guided by the Tomlinson report (1992)⁴ which recommended a single site solution based at the Royal London Hospital.
11. The original outline business case (OBC) which had been based on Tomlinson's one-site recommendation was therefore withdrawn, and the present scheme was developed in line with the new Government's recommendations. These recommendations are as relevant today as they were then. The SHA's independent management consultants' (Matrix) review of activity and affordability (See Appendix OJ) has also since endorsed the cardiac and cancer provision at Barts. The scheme involves:
 - | Developing and refurbishing St Bartholomew's Hospital (SBH) for use as a specialist cancer and cardiac hospital;
 - | Developing and refurbishing the Royal London Hospital (RLH) to provide all other services on the Whitechapel site; and
 - | Closing The London Chest Hospital (LCH).(See Chapter 1 (section 1.6) for more detail of the Government's strategic reviews)
12. Over the course of time, the scheme has embraced evolving strategic plans for healthcare in England. The New Hospitals Programme has been developed to deliver services in line with national policies outlined in papers such as the *NHS Plan*, National Service Frameworks (NSFs) and the *National Cancer Plan*. The affordability position reflects the developing financial implications arising from Patient Choice and Payment by Results (PbR). The Trust originally valued income and expenditure at 2005/06 pay and price levels, which includes the implications of Agenda for Change (AfC). However, this has been updated to reflect 2006/07 pay and price levels in Version 10.
13. The Trust serves a population drawn from the full economic and social spectrum and operates within areas of diverse social and economic realities, ranging from the affluence of The City of London to the acute deprivation of some parts of the East End. Details relating to the nature of the population that the Trust serves can be found in Chapter 1⁵. Analysis has been undertaken to ensure that the scheme will be able to deliver the necessary healthcare requirements to these varied communities and will be of a suitable size to cope with the expected population growth in the Thames Gateway development area (a predicted 100,000 increased population in Tower Hamlets and 310,000

² NHS Estates ERIC returns for North East London, 2004-2005.

³ The Health Service in London: A Strategic View – Sir Leslie Turnberg, 1997 [See Section 1.6].

⁴ Report of the inquiry into London's health service, medical education and research – Tomlinson, 1992 [See Section 1.6].

⁵ Section 1.5 details the North East London health economy.

increased population in other North East London Primary Care Trust (PCT) areas over the next 10 years). Although the development will have the necessary floor space to accommodate this growth, decisions on fitting out the facilities will be made when the actual growth materialises.

14. With this aim in mind, at a regional and local level the project team has worked closely with commissioning PCTs and partner organisations to ensure that the scheme will deliver added value and real benefits to the community, to patients and to the local and wider health economy. See Chapter 11 (section 11.8) and Chapter 18.

Objectives of the Scheme

15. The scheme has been developed to realise the following key objectives:

- | To provide 21st century healthcare in an environment of which staff, patients and our local communities can be proud;
- | To have facilities for our patients that truly reflect the Trust's long tradition of clinical excellence;
- | To provide purpose built facilities which will enable the Trust to meet the needs of patients through the implementation of Department of Health (DH) policy and guidance such as consumerism, new models of care and waiting time targets;
- | To replace many of the existing buildings with a coherent structure, purpose-built to support the delivery of 21st century clinical care, while sympathetic to the historic buildings which form part of the Trust;
- | To reduce the backlog maintenance of today's ageing building stock and introduce output-based standards that will ensure a "nearly new" quality for at least 30 years;
- | To design and provide buildings that will be able to respond flexibly to the Trust's evolving clinical strategy and advances in modern healthcare provision;
- | To ensure that services and activities performed by the Trust will continue safely during the construction period, 24 hours a day, 365 days a year, with the minimum of disruption and inconvenience;
- | To ensure that the scheme can support the delivery of the Trust's long-term Pathfinder Clinical Strategy, that our services are flexible and meet the changing needs of patients, with particular emphasis on clinical excellence, patient experience, access and clinical efficiency;
- | To ensure that the scheme takes into account the impact of key national NHS policies and initiatives, including Patient Choice, Payment by Results, Agenda for Change and the new Consultant Contract, as well as dovetailing with local developments such as the Thames Gateway expansion, NELSHA assumptions and GLA population forecasts, by working closely with Tower Hamlets PCT and other partner organisations;
- | To protect the terms and conditions of staff being seconded or transferred to the private sector partner under the terms of Transfer of Undertakings Protection of Employment (TUPE) legislation and Retention of Employment (RoE) policy;
- | To put patients at the heart of the new hospitals and transform the hospital experience for millions of patients from London and beyond.

16. In addition to achieving these objectives, there are a number of key benefits that the scheme will deliver. These include the following (all of which are described in more detail in Chapter 18):

- | Better access to services through the provision of better clinical adjacencies;
- | Improved clinical quality of services by enabling new models of care to be introduced;

- | Improved environmental quality;
- | Improved strategic fit of services with others in acute and primary care settings;
- | Ability to meet national, regional and local policy imperatives;
- | Improved recruitment and retention and better training and development of staff;
and
- | Improved cost efficiency.

The Outline Business Case (OBC)

17. In approving the OBC in February 2000, the NHS Executive recommended that a number of significant changes be made to the scheme. The main alteration being to undertake a review of the basis for the activity assumptions and to include additional beds for cardiac and acute elderly services⁶.
18. In response, the Trust undertook a full-scale review of clinical requirements in conjunction with the health authority at that time, East London and The City Health Authority (ELCHA), general practitioners and the Trust's clinical staff. This review, which took into account the outcome of the National Beds Enquiry, resulted in agreement for the provision of 85 additional beds. The provision of cardiac services for Essex has subsequently been reworked for the FBC, to reflect the bed reduction associated with the transfer of cardiac activity to the new Essex Cardiac Centre, which has been calculated to be 37 beds. A full reconciliation of beds from OBC to the FBC position is set out in Chapter 4 (Figure 32). Costs of the scheme have increased as a result of this change. Other cost pressures have been introduced and accommodated as a result of building cost inflation, the implementation of the *NHS Plan* (particularly the modernisation agenda and consumerism) and the implementation of the National Service Frameworks. The impacts of these changes are shown in Chapter 4 (Figure 33).

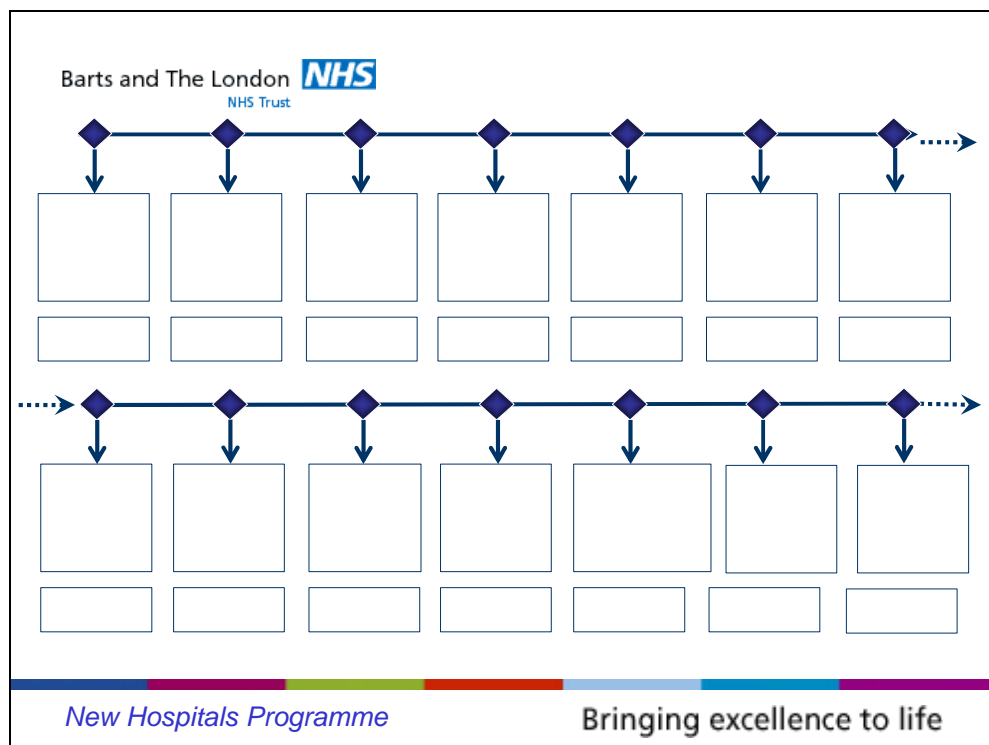
The Procurement Process

19. Chapter 6 sets out in detail the procurement process followed to the appointment of a preferred bidder and demonstrates that the Trust has complied throughout the procurement process with:
 - | European Community (EC) public procurement rules;
 - | United Kingdom public procurement rules;
 - | Adopted guidance on PFI procurement (as set out in Public Private Partnerships in the NHS: The Private Finance Initiative Good Practice)⁷; and
 - | Subsequent publications issued by the Department of Health (DH), including The Public Private Partnership in the NHS: The Private Finance Initiative Good Practice.
20. Key milestones in the procurement process are set out below in Table A.

⁶ Appendix 4F for copies of OBC approval letters containing proposed changes to the scheme.

⁷ See Section 6.11 for further details of the audit of the procurement process, which confirms compliance.

Table A – Procurement Timetable



21. An internal and external audit of the procurement process has been undertaken which has found internal control to be satisfactory and in accordance with relevant legislation, guidance and best practice. Further details of the audit can be found in Chapter 6 (section 6.11).
22. A project management structure was developed, which identified a clear line of responsibility and accountability from the Trust Board through to project administration. In addition, a communications strategy, project control systems and change control procedures were established to assist in the provision of a clear audit trail. Details of the systems employed can be found in the Project Control Handbook (Appendix 14E).
23. Where in-house expertise was not available, project advisers were appointed to provide professional and technical input and support. The detail of the advisors appointed are included at Appendix 6B.
24. A joint venture agreement was entered into with Partnerships UK (PUK), with both parties sharing responsibility for the management and procurement of the project under a development partnership. The scheme has therefore had the best possible assistance in the development of the project agreement and in addressing and resolving commercial issues.
25. Engagement with wider stakeholders including health sector partners, unions, Staffside representatives, staff and the wider public was undertaken in a variety of ways throughout the procurement process. In total over 400 staff, many of whom are clinicians and nurses, have been involved in the detailed development of the scheme and in the evaluation of the bids. Further details are provided in Chapter 6 (sections 6.4 – stakeholder, 6.9 - CABE and 6.10 - GLA) and in Chapter 7 (section 7.6).
26. The Trust has continuously engaged with the Commission for Architecture and the Built Environment (CABE) in the review of the design and in the process leading to the granting of planning permission. CABE supports the design and has issued a letter of support to that effect, a copy of which can be found at Appendix 6L.

27. In summary, the procurement process has followed a defined path and has been robust. PUK has been involved from the outset and the Department of Health's Private Finance Unit (PFU) has been fully involved in the process of developing and agreeing the project agreement.

The Preferred Partner

28. Following the appraisal of the Best and Final Offers (BaFO), the Skanska Innisfree consortium was selected as the preferred partner. They have established a Special Purpose Vehicle (SPV) to undertake the project and provide ongoing services for the Trust. Details of the consortium members and their roles are set out in Table B below:

Table B – PFI Consortium Members

Company	Role In PFI Consortium
Barts and The Royal London Hospitals Project Company PLC	Special Purpose Vehicle
Innisfree Ltd	Investor
Skanska BOT UK Ltd	Investor
Equion	Investor
Skanska Rashleigh Weatherfoil (SRW) Ltd	Hard FM provider
Skanska Construction UK Ltd.	Construction
HOK	Architect
Carillion ⁸	Soft FM Services provider
Synergy Healthcare PLC	Laundry & Sterile Services provider
Siemens Healthcare Services	Equipment provider

The Preferred Solution

29. Chapter 7 sets out in detail the preferred solution and what will be provided. In addition, the Addendum to the FBC (Appendix 0G) sets out, at a high level, the changes required to the scheme as a result of the requirement set out by the Department of Health to descope the scheme to ensure long-term affordability. The scheme provides space for a total of 1,248 inpatient beds, which is an addition of 76 beds overall. 40% of the beds at the RLH and 40.9% at SBH⁹ will be in single rooms with en suite facilities, the remainder in spacious four-bedded bays (with bed centres of 3.6m). This represents a material increase in single rooms from the current proportion which is just over 10%. The total number of beds and proportion of single rooms has been agreed with the Trust's clinicians and has been approved by the Trust's Clinical Advisory Board (CAB). At Appendix 0F is a paper approved by the Trust's Clinical Advisory Board (CAB) on clinical functionality and the design solution.

30. In overall terms, the new hospitals will deliver the following in order to facilitate the delivery of the Trust's objectives:

- | New purpose built state of the art teaching/acute hospital buildings, with an adjoining day case and specialist outpatient unit. This will assist the Trust in improving its already strong performance in clinical outcomes;
- | A Renal Institute which will integrate all aspects of renal care;
- | State of the art multi-professional education facilities;
- | A new health mall area, improving daylight, way finding and vitality at ground level;
- | Optimal clinical co-locations, enabling full integration and flexibility of clinical services;

⁸ See 7.2.8 for more information in relation to Carillon's takeover of Mowlem Aquamen.

⁹ Note: This figure represents single rooms as a percentage of all inpatient beds excluding beds in Critical Care Areas. See Appendix 3E.

- | A modern therapeutic environment, through the provision of artwork, open spaces, light and gardens;
- | Future-proofing in: the flexibility of design of internal space; universally high floor loadings on the lower floors capable of supporting the heaviest equipment; generous space provision for service areas and risers, facilitating re-routing if necessary; and provision of built-in expansion space;
- | A range of facilities management (FM) services; and
- | An efficient operating cost base.

31. Some key facts about the scheme are set out below in Table C.

Table C – Key Facts Summary

Item	Headline			Total
	Royal London	Barts	LCH	
New Build	157,030 m ²	54,905m ²		
Refurbishment ¹⁰	33,940m ²	14,171m ²		
Buildings Retained (not refurbished)	18,585m ²	7,516m ²		
Total Scheme Area (Gross Internal Area (GIA))	209,555m²	76,592m²	N/A	286,147 m²
Current GIA (2205)	138,142 m²	106,969 m²	15,601 m²	260,712 m²
Capital Build Cost ¹¹	£1.072bn			
Net Present Cost (NPC)	£7,802 million			
VfM advantage (net present value)	VfM advantage £296 million for 69 years, £294.8 million for 43 years			
Annual Unitary Payment (see Figures 86, 87, 89)	£100.8 million (2006/07 prices)			
Internal Rate of Return (IRR)	4.1%			
Value for Money Advantage over the Public Sector Comparator (PSC)	Saving of £296 million			
Funding Method	A mix of index linked and fixed rate Bonds			
Length of Concession (Including Build Period)	42 years			

32. Because of the need for the hospitals to remain fully operational during the construction period, the decant and commissioning process is complex and the new build has to be developed in phases. The overall construction period is just over 9 years in length. Details of the phased construction programme are set out in detail in Chapter 7, The Preferred Solution and more information can be found in Appendices 7E and 14F (see also Table J).

33. Detailed activity and sensitivity modelling has been conducted around purchasers' activity assumptions, Thames Gateway population growth, changing and emerging models of care and activity moving to the private sector. Taking all this into account, the hospitals redevelopment remains at a suitable size and configuration to meet the local and wider health economy's needs. However, in agreement with the DH 250 beds will be mothballed, which can be fitted out at a later date subject to need and approval by DH

¹⁰ Subject to all phases being completed.

¹¹ Capital costs include Advance Schemes (Pathology and Pharmacy, Kenton and Lucas and West Wing and excludes descope elements of the scheme)

and HMT. The detailed activity assumptions are considered in Chapter 11 (section 11.8) and take account of the Thames Gateway population expansion, based on the Health Authority's assumptions (paragraph 1.4 provides more detail as to the population projections). In terms of the Thames Gateway development, the July 2005 Housing Capacity Study states that capacity for housing development in London has increased to an annual total of 31,500 new homes per year from the aspirational London Plan figure of 30,000 new homes per year, with 46% of this capacity in East London. This is a big increase from the original London Plan figure of 32% in East London. This indicates that the East London sub-region is now expected to contribute a much larger proportion of London's new homes than before, with a consequential greater increase in population than previously anticipated. Revised population projections are in the process of being produced.

34. This indicates that the 12-year activity model, agreed with North East London PCTs, provides a prudent estimate of likely patient care activity levels, since the increase in population is based on the lower levels of the original London Plan.
35. This is confirmed in the letters of support received from local and geographically more distant PCTs, in respect of the scheme and the ongoing activity they will support¹².
36. Current average occupancy is 97% at RLH and c88% at SBH with 250 beds mothballed averages 88% across both hospitals. Key activity assumptions are set out in Table D below.

Table D – Key Activity and Performance Assumptions


	Spells (elective and non elective)	Percentage Change over Base Activity
Starting Activity 2004/05 Base Activity	93,254	
Cardiac Plan Adjustment (due to changes in Cardiac provision in NEL and Essex)	-1,266	
Reduction in Activity due to LTC Management (net effect after reduction in growth in 2004/05)	-3,750	(7.4%) of Non Elective
Independent Sector provision of Elective Work (reduction in Basket of 25 day case procedures)	-3,175	(7.6%) of all Elective
Thames Gateway Activity Growth (factored in)	21,349	21.8% of all activity
Resultant FCE Activity by 2016/17	106,412	

Total Acute Services	2003/04	2016	Variance
Activity			
Outpatient Attendances	492,098	501,318	9,220
A&E Attendances	157,349	153,172	4,177
Occupied Bed Days	317,245	389,241	71,996
Performance			
Average Length of Stay (LoS)	5.98	5.8	-0.18
Average LoS including Daycase	3.67	3.4	-0.27
Daycase Rates	47%	69%	23%

¹² See Appendix 0C for copies of commissioner support letters

37. As will be noted, the projected length of stay is anticipated to remain broadly static between 2004/05. This is due to the increased severity and complexity of case mix expected as a result of expansion of day case surgery, improvements to primary care services and the transfer of activity to the independent sector (within Independent Sector Treatment Centres (ISTCs)).
38. When translated first to planned¹³ beds, then to configured¹⁴ beds in the built solution, these activity and performance levels result in an increase of 76 beds on current capacity, as shown in Table E below. The detail behind this table is set out in paragraph 4.4.14 to 4.4.20 in Chapter 4.

Table E – Reconciliation of Current, Planned and Configured Beds

Barts and The London 
NHS Trust

	Current	Planned	Configured to Build	Revised Bed Figure
RLH	675	929	905	713
SBH	388	403	380	322
Less transfer of Cardiac to Essex	-	(37)	(37)	(37)
SBH Net	388	366	343	285
LCH	109	-	-	-
Total	1,172	1,295	1,248	998

Decrease 174 Beds

New Hospitals Programme Bringing excellence to life

Note: 250 beds mothballed within 1248 beds. The Trust will continue to review affordability on a regular basis and will provide further business case(s) should activity and income justify the use of the mothballed beds.

39. A range of factors have contributed to the movement in total bed numbers from the level of 1,200 approved at OBC stage. These are summarised in Table F below. The revised bed level is derived from the updated activity modelling that has taken place in response to what is now known about the Thames Gateway development and the refinement of the Trust's clinical development plan which has evolved in the five years since the OBC was approved.
40. The interaction of these different factors has meant that activity modelling now supports a base of 1,248 inpatient beds compared with 1,200 in 2000. In fact, this modelling

¹³ Planned beds – a theoretical calculation based on projected activity and occupancy.

¹⁴ Configured beds – actual beds to be built, allowing for practical constraints.

exercise supported a theoretical bed total of 1,295 using bed occupancy planning assumptions of 80%, 85% and 90% respectively for paediatric, medical and surgical specialties. However, in consultation with our commissioners, the Trust has configured to build the capacity to provide 1,248 beds (although 250 will initially be mothballed), driven by an average bed occupancy rate across all specialties of 88% in the steady state year. The Trust and its commissioners believe this bed profile to be both affordable and clinically sustainable.

Table F – Reconciliation of Configured Beds by Planning/Policy Theme

	Configured to Build
	Bed numbers
Current bed complement	1,172
Additional beds endorsed at OBC stage as a result of 2000 CDP	28
Sub-total - OBC approved beds	1,200
Reduction in beds due to transfer of cardiac activity to new Essex Cardiac Centre	(37)
Increase in beds due to Thames Gateway population growth	213
5% reduction for shift to primary care settings for chronic diseases	(48)
10% reduction due to relevant elective activity transferring to the independent sector	(10)
Reductions in beds due to performance improvement	(95)
Increase in beds due lowering occupancy levels from current performance	72
Sub-total - Modelled total bed numbers at standard speciality occupancy level	1,295
Reduction in beds from shift to 88% average occupancy across all specialties	(47)
Total bed numbers as per FBC	1,248
Mothballed beds	-250
Total bed number as per descoped scheme	998

41. The Descoped inpatient bed complement of 998 is supported by the Trust, the PCTs and the SHA as both clinically necessary and affordable. For other activity and associated resources (for example, day cases, outpatients, etc.) the Trust has sought the views of the PCTs about likely volumes by the steady state year of 2016/17. For both outpatients and A&E attendees, PCTs have supported the conclusion that, despite the increases in population, activity volumes in the acute hospital setting will remain at current levels. The Trust has therefore modelled a static position in terms of A&E and outpatient (OP) attendances, in particular assuming that an increase in patient flows associated with population growth will be offset by better referral management and treatment in community settings. The assumptions used to determine the clinical activity and associated resource requirements for the new hospitals are described in Chapters 4 and 11 (see section 11.8 for the 12-year activity model).

The Economic and Financial Case

Value for Money

42. The FBC proposes a capital development in partnership with Skanska Innisfree with a capital build cost of £1,072 million at outturn. This equates to a unitary charge of £100.8 million per annum (2006/07 prices). Analysis shows that the PFI solution provides better value for money than the publicly funded alternative.

43. A Public Sector Comparator (PSC) design was developed to meet the Trust's requirements, as set out in the ITN and BaFO output specifications, and used to provide a publicly funded benchmark against which the bids were assessed, both in terms of operational functionality and value for money.
44. The design has been regularly updated to reflect regeneration improvements/changes, such as the outcome of the National Beds Inquiry, consumerism, the Essex Heart Centre and construction cost inflation (MIPS).
45. Value for Money (VfM) has been assessed in accordance with Treasury guidance and using the DH generic economic model (GEM). This concludes that the PFI solution offers a better VfM solution than the PSC over both a 43 and a 69 year discount period. The concession is 42 years.

**Table G – Value for Money Assessment –
Risk Adjusted Net Present Cost**

	Over 43 Years NPC £M	Over 69 Years NPC £M
Public Sector Comparator	8,111	8,670
Private Finance Initiative	7,815	8,364

Affordability

46. The unitary charge is analysed in Table H below:

Table H – Main Elements of Unitary Charge

Funding Element	Version 9 FBC as at 2005/06 prices £m pa	Version 10 FBC as at 2006/07 prices £m pa
Availability	68	60.4
FM	38	37
Managed Equipment Service (MES)	11	3.4
TOTAL	117	100.8

47. The new hospitals will be operating within a full Payment by Results (PbR) environment. Consequently, in assessing affordability, the Trust has modelled a forecast income using PbR tariff rates as far as possible and local prices where there is no tariff. The activity assumptions and rates have been agreed with 80% of the Trust's commissioners (see Appendix OC for the letters of support).
48. The Trust recognises that the new hospitals will provide an opportunity for increased efficiency and has, therefore, modelled cost reducing measures into its affordability cost base assumptions (see section 11.4 for further details in relation to efficiency savings).
49. The Trust's FBC demonstrates that the scheme is affordable both to the Trust and the local health economy. Table I sets out the funding methods for the annual unitary charge of £100.8 million per annum:

**Table I – Funding the Unitary Charge –
Steady State**

Funding Element	Version 9 FBC as at 2005/06 prices £m Per Annum	Version 10 FBC as at 2006/07 prices £m Per Annum
Capital charge savings	13	13
Existing Trust budgets	52	31.8
Increased activity funded through PbR	37	41
Efficiency savings (on transfer to new hosp)	15	15
TOTAL	117	100.8

50. The PFI scheme will be off balance sheet for accounting purposes, as the greater proportion of associated risks sit with the private sector. The Trust's External Auditors have confirmed the accounting treatment and off balance sheet opinion, taking account of the changes following the DH/HMT review of the business case (see Chapter 10).

The Commercial Case

51. The project agreement (PA) is in all material respects compliant with version three of the Standard Form Project Agreement (SFPA3), issued by DH. Project-specific provisions have been agreed in relation to certain major points. The primary reasons for these provisions are:

- | the long construction period (a little over nine years);
- | the provision of services from soon after financial close in buildings that either will not have been refurbished, or will not be part of the scheme after completion of the works programme for a prolonged period;
- | the extensive refurbishment of buildings currently occupied by the Trust, in Phase 2 and Phase 3 of the works programme;
- | the breadth of scope of the PFI service, including both major medical equipment and sterile services: and
- | The need to descope the project as required by the Department of Health.

52. The main project-specific provisions relate to:

- | Change in law (as it operated in the period before global completion, see section 15.2);
- | Construction cost inflation (as it relates to Phase 2 and Phase 3, see section 15.3);
- | Look forward test (see section 15.4);
- | Delay and excusing causes (caused by the interaction of interim and steady state services during the interim period, see section 15.5);
- | Interim services (see section 15.6);
- | Site and ground condition risks (see section 15.10);
- | Ring-fencing of MES and Sterile Services (see section 15.11 & 15.12);
- | Service commencement given the phased nature of the development, benchmarking and market testing (see section 15.13);
- | Compensation on termination (as it relates to a bond financial scheme which includes partially ring-fenced services, see section 15.14);

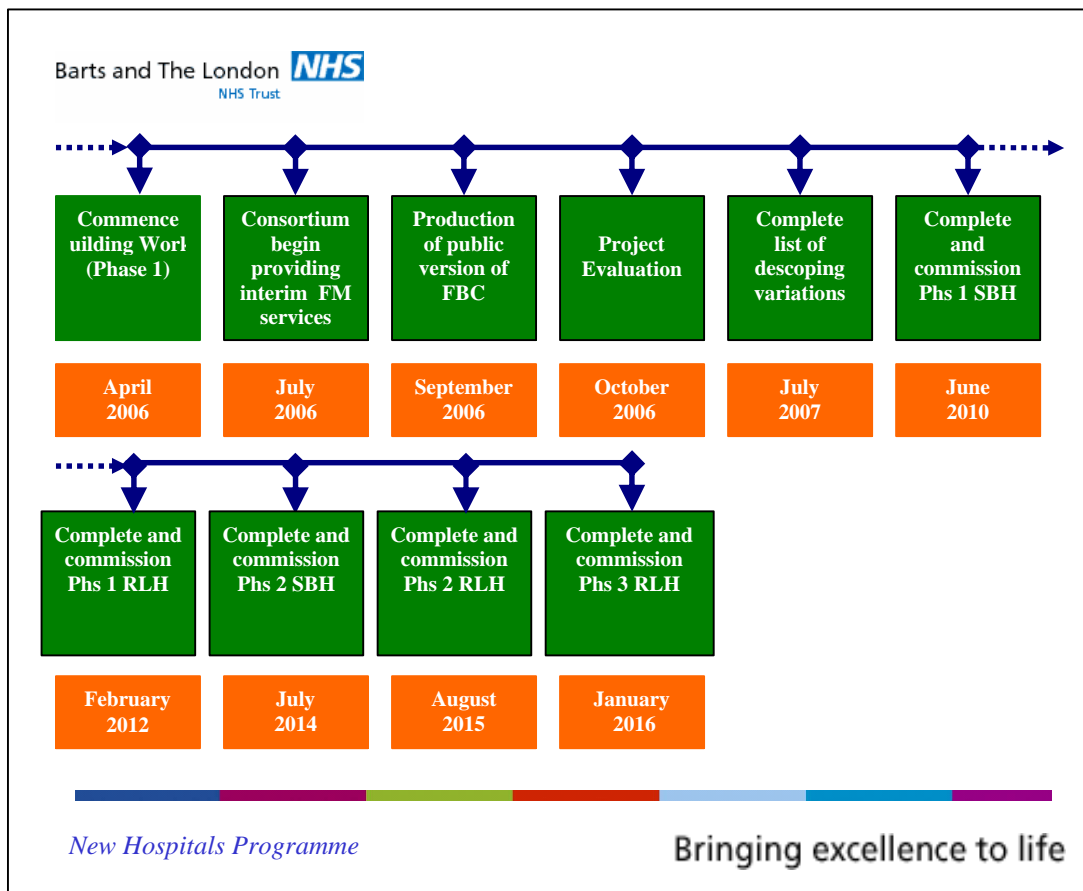
- | Payment in advance (see section 15.16); and
- | An amended variation procedure to deal with the “descoping” variations (see section 15.17).

53. Regular contact has been maintained with the PFU as the PA has developed, particularly in relation to project-specific matters. There are no material issues of concern with the position now reached.¹⁵
54. Appropriate steps have been put in place to identify and mitigate the impact of risks retained by the Trust and which may crystallise following contract signature (See Chapter 12 and Appendix 12C).

Timetable and Key Milestones

55. The timetable to project completion is long, due mainly to the length of the build programme. The programme itself is complex as the new facilities are being built alongside two busy operational hospitals. The timetable and key milestones from financial close to commissioning are set out in Table J below. There are, in effect, three construction phases at Barts and The Royal London Hospitals, although the bulk of the construction takes place in Phases 1 and 2 at both hospital sites.
56. There is not a clear cut point for the end of Phase 1 and start of Phase 2 at both hospitals as completion and handover is sectional and staggered. See Appendix 14F for the detailed construction programme.

Table J – Programme to Completion



57. As a result of the need to reduce costs of the scheme, elements of phases 2 and 3 may not be commissioned unless activity demands it and approvals are granted by DH.

¹⁵ Full details of the project agreement and variations to the SFPA3 can be found in Chapter 15.

58. Prior to the commencement of Phase 1, the Trust entered into a number of small publicly funded projects to enable those buildings which were in the footprint of the new build to be vacated, and thus facilitate the build programme and ensure the smooth commencement of Phase 1. These projects were grouped together as the Pre-Phase One Decant Project, the business case for which was approved by the North East London Strategic Health Authority.¹⁶
59. The Trust also procured three advanced schemes¹⁷ separately from the PFI project, all of which are complete. The principal aim of carrying out the advanced schemes ahead of the PFI development was to reduce the complexity of the staff decanting programme and thus reduce the overall development timetable.
60. Robust project management arrangements have been put in place to ensure that the construction programme proceeds to time; to monitor the administration of the contract; to address post-project evaluation; and to develop and monitor achievement of the benefits realisation programme.
61. Post-project evaluation will be carried out after each phase of the project to ensure that lessons learned will be subsumed into each subsequent phase of the scheme.
62. In summary, the project has been phased so that the Trust can continue to provide its services with the least disruption to its operations and achieve its long-term goals of “delivering excellence in healthcare”. Phasing also ensures that maximum clinical space is delivered early in the scheme at RLH (i.e. in Phase 1), with the second phase focusing principally on non-clinical space¹⁸.

Support and Approval

63. The original FBC was supported by the Trust Board of Barts and The London NHS Trust and was approved at a meeting on 4 May 2005. The Addendum to the FBC, which details the descoping required by the DH was approved by the Trust Board 29 March 2006. The original FBC dated October 2005 also had the full support of Tower Hamlets PCT and the support of the North East London Strategic Health Authority, who considered the business case in June 2005 and gave approval in principle, with a number of issues to be further considered by a sub-committee of the SHA Board. This sub-committee met in September 2005 and endorsed version 8 of the FBC, with some comments which have been addressed. The Addendum was approved by the SHA and FBC approval was received from the DH and HM Treasury on 31 March 2006. Furthermore, letters of support have been received from 80% of the Trust’s commissioners¹⁹.

Gateway Audit of the Scheme

64. The Project has been subject to the Gateway Project Profile model (risk score 64) and appropriate Gateway Reviews. Gateway 3 was conducted in May 2005 and the project received an amber status. An action plan addressing the recommendations from that review has been approved by the Trust Board and is being implemented. A copy of the action plan is attached at Appendix 0D.

Conclusion and Recommendation

65. In conclusion, the FBC demonstrates that:

| The preferred solution gives the flexibility to meet the requirements of the modernisation agenda, The NHS Plan²⁰, National Service Frameworks, the

¹⁶ See Appendix 0E for budget details in relation to Pre-Phase One Decant Schemes.

¹⁷ See section 4.8 for further details in relation to advance schemes.

¹⁸ Phase 1 of the RLH delivers 70% of all clinical space, ensuring that over 80% of clinical accommodation is delivered within five years.

¹⁹ See Letters of Support from PCTs (Appendix 0C).

²⁰ The NHS Plan – a Plan for Investment, a Plan for Reform, 2000.

National Beds Inquiry²¹ and other national, regional and local strategies and policies and is a key element in the local health economy's strategy for healthcare delivery in North East London, taking into account the estimated 310,000 population growth in the Thames Gateway development area;

- | The preferred solution provides better value for money than the public sector comparator and also provides a superior clinical solution;
- | The proposals are affordable and provide the most sound economic, commercial and financial solution for the benefit of the NHS; and
- | The project management arrangements are comprehensive and appropriate for the successful delivery of the project's objectives and associated benefits.

66. There is overwhelming support for the proposals from the Trust's clinicians and Barts and the London Queen Mary School of Medicine and Dentistry (who have been involved with the design and evaluation process), the Trust Board (who have approved the Full Business Case) and the PCTs in North East London and Essex who have approved the activity assumptions in relation to the scheme.

67. The Trust's lead commissioner for acute services, Tower Hamlets PCT and the North East London Strategic Health Authority have been involved throughout the development of the project and are fully supportive. In particular, the Trust's commissioners support the activity and income assumptions associated with the development. The Department of Health and HM Treasury are therefore asked to approve the proposals set out in this Full Business Case.

Chapter Appendices

0A	Bibliography
0B	Abbreviations
0C	Letters of Commissioner Support
0D	Gateway Review Action Plan
0E	Pre-Phase One Decant Schemes - Budgets
0F	Clinical Ownership of the Design Solution
0G	Addendum to the Full Business Case
0H	Department of Health Approval of Scheme Letter
0I	BLT Response to the Department of Health at Financial Close
0J	Independent Management Report on Affordability
0K	Funding Agreement Office of the Deputy Prime Minister

²¹ "Shaping the Future NHS: Long term Planning for Hospitals & Related Services", Department of Health, 2001.