

# gleeds •

JERSEY FUTURE HOSPITAL PROJECT **CHANGE REQUEST NO 25** 

**QUALITY ASSURANCE** 

Sign off: Terry Langdon

Position: Director



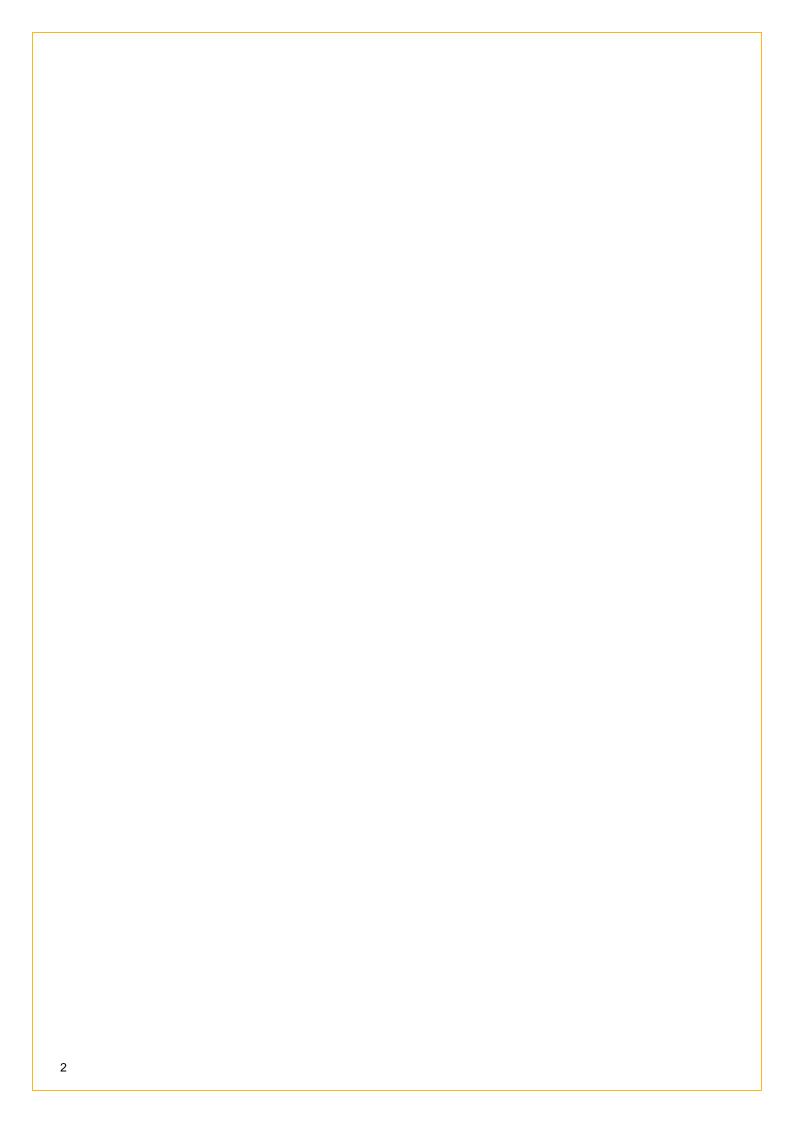


### **FUTURE HOSPITAL PROJECT**

CHANGE REQUEST NR. 25

### **VERSION CONTROL**

Version	Date Issued	Brief Summary of Change	Owner's Name	
0.1	26 <sup>th</sup> June 2016	Preparation of baseline report structure	N Aubrey	
0.2	29 <sup>th</sup> June 2016	Content addition	N Aubrey	
0.3a	2 <sup>nd</sup> July	Content addition	N Aubrey	
0.3b	3 <sup>rd</sup> July	Content addition	N Aubrey	
0.3c	6 <sup>th</sup> July	Content addition	N Aubrey	
0.3d	7 <sup>th</sup> July	Content addition and amendment	N Aubrey	
0.4	8 <sup>th</sup> July	Content addition and amendment	N Aubrey	
0.5	9 <sup>th</sup> July	Content addition and amendment	N Aubrey	
0.6	11 <sup>th</sup> July	Content addition and amendment	N Aubrey	
0.7	11 <sup>th</sup> July	Formatting amendment	R Heywood	
0.8	13 <sup>th</sup> July	Conclusions update for draft release	N Aubrey	
0.9	14 <sup>th</sup> July	Drafting update	N Aubrey	
0.10	14 <sup>th</sup> July	Benefits / economic analysis additions	N Aubrey	
0.11	15 <sup>th</sup> July	Benefits / economic analysis additions	N Aubrey	
0.12	15 <sup>th</sup> July	First level QA	N Aubrey	
0.13	26 <sup>th</sup> August	Responses to Client Authority comments as per Development Tracker 24.08.16	R Heywood	
0.14	2 <sup>nd</sup> September	Further responses to Client Authority comments as per Development Tracker 02.09.16	N Aubrey	
0.15	2 <sup>nd</sup> September	Editing following MTFP based cost review	N Aubrey	
0.16	8 <sup>th</sup> September	Editing following cost rebasing	N Aubrey	
0.17	8 <sup>th</sup> September	Addition of capital cost / GEM findings	N Aubrey	
0.18	9 <sup>th</sup> September	Benefit / Risk result error correction	N Aubrey	
0.19	9 <sup>th</sup> September	Final removal of tracked changes		
0.19 0-1	14 <sup>th</sup> September	Summarised version	N Aubrey	
0.19 0.2	14 <sup>th</sup> September	Updated to reflect comments	N Aubrey	
0.19 9.3	16 <sup>th</sup> September	Corrections to red line plan and client comment	N Aubrey	
0.20	20th October	Incorporation of assurance amendments	N Aubrey	







### **FUTURE HOSPITAL PROJECT**

### CHANGE REQUEST NR. 25

### **Table of Contents**

TAB	LE OF CONTENTS	3
1	EXECUTIVE SUMMARY	5
2	INTRODUCTION	7
3	THE BRIEF	8
	THE REVIEW PROCESS	9
4	APPROACH TO SITE DESIGN	10
	SITE APPRAISAL	10
5	SITE AUGMENTATION STRATEGY	12
	SERVICES RELOCATION STRATEGY	14
6	NEW HOSPITAL HIGH LEVEL DESIGN	16
	DEVELOPMENT CONTEXT	16
	INDICATIVE MASSING AND CONCEPTUAL OPTIONS	17
	HIGH LEVEL DESIGN AND HOSPITAL PLANNING	18
	APPROACH TO SPATIAL TESTING	18
	ACCESS AND HIGHWAYS DESIGN	20
	THE MAIN HOSPITAL	20
	POTENTIAL ENABLING SCHEMES	22
	STRUCTURAL AND GEOTECHNICAL ISSUES	22
	MAIN HOSPITAL	22
	RELOCATION PROJECTS	23
7	CAPITAL COST APPRAISAL	24
	PROPERTY ACQUISITION COSTS	25
	Works costs	25
	LEASING CHARGES	25
	SENSITIVITY ANALYSIS	26
	KEY ASSUMPTIONS	26
8	EVALUATION FINDINGS	27
	GENERAL	27
	BENEFITS AND RISKS	27
	CAPITAL COSTS	29
		٠.





### **FUTURE HOSPITAL PROJECT**

	NET PRESENT VALUE (NPV) FINDINGS	29
	VALUE FOR MONEY ASSESSMENT	30
	SWITCHING POINT ANALYSIS	31
	SENSITIVITY ANALYSIS	33
9	CONCLUSION AND RECOMMENDATIONS	36
10	OPTION F REBASED TO QUARTER 2 2016	37
	NET PRESENT VALUE BASED VALUE FOR MONEY ASSESSMENT	37
11	APPENDICES SCHEDULE	39
12	GLOSSARY OF TERMS	41





**FUTURE HOSPITAL PROJECT** 

CHANGE REQUEST NR. 25

### 1 Executive Summary

- 1.1 This 'Proof of Concept' addendum to the earlier Change Request 21 [CR021] and Change Request 24 [CR024] reports, summarises the findings of a review of the alternative options for developing a new hospital at the existing hospital site.
- 1.2 It has been prepared by Gleeds as the Lead Advisor to the project using the best available data and reflects UK Treasury Business Case Guidance and Best Practice in hospital design and pricing.
- 1.3 To maintain comparability with earlier findings, its preparation has, in virtually all respects continued to adopt the evaluation methodology used in the preparation of all earlier Site Options Appraisal reports. However, in the interests of brevity, its content is limited to only those aspects that will have changed following the introduction of the new Option F.
- 1.4 Being a 'Proof of Concept' exercise, our proposals and costs are based on high-level strategic design work only, and may therefore vary following completion of physical site surveys and detailed design.
- 1.5 The economic modelling of the overall outcome, has been completed by EY using UK Best Practice GEM modelling. All findings been added to those already published for other site options within the earlier Site Options reports.
- 1.6 The review has concluded that:
  - If augmented by acquisitions in Kensington Place, redevelopment of the existing hospital site is technically viable.
  - the New Hospital can be delivered within the Project Board's expectations set out in this report.
  - the cost of option F is greater than Option D Waterfront. However, it is significantly better than that of all other options involving the redevelopment existing hospital site.
  - the benefits scores associated with Option F, understandably fall short of those achieved by the previously recommended Option E People's Park. However, they are broadly comparable with those of the nearest scoring alternative site being Option D The Waterfront.
  - Option F presents slightly more risk than Option D Waterfront but markedly less risk than that of all the other remaining options. This is largely due to the increased risk associated with construction on the existing hospital site rather than any specific long term operating concern.
  - both Option F and Option D generally perform well ahead of all other remaining options and are relatively insensitive to a change in weighted risk and benefit scores.





### **FUTURE HOSPITAL PROJECT**

CHANGE REQUEST NR. 25

 Re-basing the cost of Option F to Q2 2016 reflects a significant reduction in forecast inflation with the option subsequently being deliverable at £466m.

Criteria	Option A	Rank	Option B	Rank	Option C	Rank	Option D	Rank	Compensated Option E <sup>1</sup>	Rank	Option F	Rank
Capital Cost [£m]	503.8	5	445.5	1	629.7	6	470.5	3	464.1	2	2490,8	4
Delivery period (from Q1 2016	11 years, 5 months		6 years, 8 months		11 years, 5 months		6 years, 8 months		6 years, 8 months		8 years	
60 Year NPV [£m]	4,092	6	3,971	1	4,054	5	4,002	3	3,981	2	4,010	4
Raw Risk Score	237	6	207	5	203	4	94	1	114	3	109	2
Weighted Risk Score	9.94	6	8.68	5	8.24	4	3.06	1	3.58	2	4.10	3
Raw Benefits Score	49	6	63	5	79	4	106	2	117	1	102	3
Weighted Benefits score	1.70	6	2.31	5	2.77	4	3.78	2	4.19	1	3.72	3
NPV/ weighted benefit point	2,413.9	6	1,718.5	5	1,465.3	4	1,059.3	2	949.3	1	1,078.7	3

Table 1: Option Rankings following benefit, risk and cost assessment

6

<sup>&</sup>lt;sup>1</sup> 'Compensated Option E' was excluded prior to commencement of the appraisal. It is included only for consistency

<sup>&</sup>lt;sup>2</sup> Comprises £444.743m for the main hospital based on HPCG pricing principles and £46.1m for relocation schemes derived through non HPCG based cost plans.





**FUTURE HOSPITAL PROJECT** 

CHANGE REQUEST NR. 25

### 2 Introduction

- 2.1 Following the removal of Option E People's Park from the shortlist of site options, Ministers paused to reflect both on the project's objectives and on how best to develop a consensus as to preferred site for the new hospital.
- 2.2 During this period, the Project Board sought to look more closely at the possibility of redeveloping the existing site and specifically, at the extent to which project conditions / constraints would need to be modified to support such an approach.
- 2.3 A joint review by the project team and Project Board reaffirmed that the following minimum delivery expectations remained applicable:

i.	That the safe operation of the hospital will be maintained throughout
ii.	That the hospital will be located on the Jersey General Hospital site
iii.	That additional properties on Kensington Place will be acquired
iv.	That the hospital will be operational within 7-8 years
V.	That the hospital will be delivered at a comparable cost to new build site options
vi.	That some flexibility in Planning Policy will be tested
vii.	Some operational compromise will be accepted to support the spatial constraints
viii.	A high quality new build hospital will be delivered
ix.	That there will be support for the release of adequate on site area
X.	That the hospital will be delivered in one main construction phase

- As a result, the Contracting Authority instructed the preparation of a 'Proof of Concept' exercise to look innovatively at alternative strategies for delivering a new hospital on the active Jersey General hospital site.
- 2.5 In addition to meeting the above expectations, any emerging solution would need to be tested in a comparable way to the options reported on previously in CR021 and CR024 such that its merits or otherwise could be viewed on a comparable basis.
- 2.6 The findings of this work are set out within this report which, in the interests of brevity, has been stylistically drafted as an addendum to these earlier site appraisal reports.





#### **FUTURE HOSPITAL PROJECT**

**CHANGE REQUEST NR. 25** 

2.7 In this respect it draws on tables, formats and other material from the initial CR021 report and it should be noted that where material is neither replaced nor altered, then it should be taken as remaining applicable to both the previous reports and this report.

### 3 The Brief

- 3.1 The Project Board's revised expectations presented an opportunity to look differently at the existing site, both in terms of its composition and in terms of the health delivery models that had informed earlier site appraisals.
- 3.2 In challenging these earlier principles, the study would therefore involve a greater level of research and conceptual review than had been required in earlier studies.
- 3.3 The underlying driver for this would be to test how a clear site for a new hospital could be established and involved:
  - A desktop review of current site configuration to identify the most practical and least disruptive location for potential site formation;
  - A review of boundary properties to examine how existing site area could be augmented by targeted acquisitions;
  - Analysis of the content of the hospital buildings proposed for demolition and stakeholder engagement to develop an appropriate relocation strategy;
  - Proposition and agreement of any care model adjustments needed with stakeholders and the development of an agreed series of Enabling Schemes;
  - Mass testing of hospital forms possible on the cleared site footprint and the proposal of viable conceptual forms to be taken forward;
  - Benefits and risks appraisal of the proposed concept adopting the same team and review criteria as applied to other options reported in both CR021 and CR024 site appraisals;
  - Development of cost plans for both the new hospital and the Enabling Schemes and a re-run of the GEM economic model to determine overall cost and value for money comparators; and
  - Preparation of this report setting out these findings and recommending a way forward for the project.
- 3.4 Work to complete this review commenced in May 2016 following the issue of brief No CR025.





**FUTURE HOSPITAL PROJECT** 

**CHANGE REQUEST NR. 25** 

### The review Process

- 3.5 The review has been completed by Gleeds as Lead Advisor using, wherever possible, the same resources and base material as was used to develop previous site appraisal reports. However, the nature of the study has required extensive new material to be developed.
- 3.6 The analysis of findings has also been rigorous in its adoption of methodologies previously employed in the preparation of the previous CR021 and CR024 site appraisal reports. This has ensured that options reviewed under these earlier reports can continue to be compared with the new Option F evaluated in this report.
- 3.7 Where needed extracts from these earlier reports have been included to draw this comparison.





**FUTURE HOSPITAL PROJECT** 

CHANGE REQUEST NR. 25

### 4 Approach to Site Design

### **Site Appraisal**

- 4.1 CR021 established that, being densely developed, the current Jersey General Hospital site offers little prospect for the rapid construction of a single coherent hospital. As such, any alternative proposal to achieve this would need to anticipate extensive demolition and services rearrangement.
- 4.2 CR021 also noted that the existing buildings across the site varied in scale and in the complexity of their operational content. As such, any demolition activities would need to be targeted at those areas that would deliver the greatest area of released site and with the least impact on operational services.
- 4.3 The site plan overleaf indicates the various heights of the existing buildings as these have a direct relationship on the scale of their content.
- 4.4 It also identifies the most intense or 'hot' operational functions coloured 'red', which by their nature are inextricably connected across the hospital and would be the most difficult and costly to relocate.
- 4.5 From this it can be concluded that the area likely to yield the best opportunity for services relocation and building demolition would be the 'west' of the site and specifically the Gwyneth Huelin block and Peter Crill House.
- 4.6 It is also worth noting that this location for the siting of the new hospital offers other key benefits:
  - It is bounded by roadways on two of its potential boundaries which will be essential for establishing construction access and for the creation of access points to the new hospital that do not interfere with the site's existing access;
  - It is adjacent to Patriotic Street car park which currently is the main parking location serving the hospital;
  - It is bounded by other third party properties which, if available, would be helpful in augmenting
    the site footprint released through the demolition of Gwyneth Huelin block and Peter Crill House;
    and
  - The Jersey General Hospital benefits from good vehicular, reasonable public transport and pedestrian links. These will, subject to some improvement, be useful in continuing to serve the new hospital.





### **FUTURE HOSPITAL PROJECT**

### CHANGE REQUEST NR. 25

- Existing Non-Clinical functions (Peter Crill House and Link Block)
  - - Essential facility boiler house
  - Essential support facilities (pathology, pharmacy, mortuary)
- Separate New Support Facility for Non-Clinical Functions Maximised Site Footprint to achieve Optimal Clinical Adjacencies Essential accommodation - theatres, emergency, inpatients Protected heritage features (Granite Block & Gatehouse)

Figure 1: General Hospital site appraisal

The site has been arranged to ensure essential services remain operational during construction. Splitting non-clinical support functions into a separate Support Facility allows the main hospital to maximise the footprint for optimal clinical adjacencies and the introduction of courtyards and

critical massing considerations





**FUTURE HOSPITAL PROJECT** 

CHANGE REQUEST NR. 25

### 5 Site Augmentation strategy

- 5.1 The appraisal of previous single site solutions has demonstrated that meeting the Project Board delivery expectations of a new hospital within eight years will require a single phase development.
- 5.2 Our understanding of current town planning policy and the hospital health 'stacking' needs also imply that ground floor area will need to be maximised to, in turn, minimise the number of hospital floors and therefore overall building height.
- 5.3 The design team considered a number of different site development configurations and the best performing in terms of cost, time and quality required the extended site.
- 5.4 In all cases solutions would require the existing site to be augmented by the acquisition of the following properties in Kensington Place:
  - 36-40 Kensington Place
  - 44 Kensington Place
  - Stafford & Revere Hotels
- 5.5 The addition of these properties to the area of the existing hospital site released through demolition increases the gross site area by 40% to circa 9,940m<sup>2</sup>.
- 5.6 This is considered to be adequate for the delivery of a hospital in a single phase and in supporting the hospital's acute service delivery strategy.





**FUTURE HOSPITAL PROJECT** 

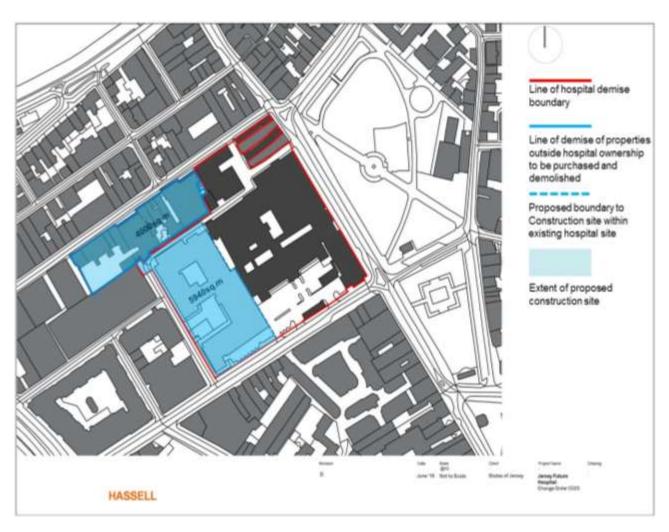


Figure 2: Red line site boundary

- 5.7 The new augmented site red line boundary is set out in Appendix 3 and is considered to offer the following additional benefits:
  - Increasing the Kensington Place boundary length is helpful in maintaining full separation of construction traffic from the existing hospital during operations.
  - The extension of the site to an area alongside Patriotic Street car park allows for the current hospital parking arrangements to continue to support the new hospital. A direct bridge link improving pedestrian access will also be possible and has been assumed in costed design.
  - Minimised construction cost for a hospital in this location by allowing the complete hospital to be constructed at the same time rather than in phases.





### **FUTURE HOSPITAL PROJECT**

**CHANGE REQUEST NR. 25** 

 Sufficient site area exists for the energy and Facilities Management [FM] service centre to be located with separate site access to that of the proposed hospital. This will help in managing hospital flows in operations and will support the use of a basement service link.

### Services relocation strategy

- Despite being judged as the least operationally intense facilities, releasing Gwyneth Heulin and Peter Crill house for demolition is complex and in all cases requires alternative accommodation to be made available.
- 5.9 Discussion within the Project team revealed that the project could be supported by the repurposing of Westaway Court and Rouge Bouillon.
- 5.10 Visual and floor plan based assessment indicated that these facilities alone would not be adequate however, supported by other smaller elements of temporary construction and on site remodelling, they could form part of a viable solution.
- 5.11 Subject to the site analysis and consultation limitations of this appraisal, one such solution is set out below.
- 5.12 It has been based on re-providing comparable levels of space to that currently used by services at Gwyneth Heulin and Peter Crill House and, whilst it may not be the only solution, it has nonetheless formed the basis of the remainder of this appraisal.
- 5.13 This solution reflects the following principles:
  - The adoption of a new Outpatient Service model essentially splitting outpatient activity into 'hot'
     hospital based activity and 'cold' out of hospital activity.
  - The plan retains the main boiler (and associated accommodation) to ensure the safe and continuous supply of heating / hot water services to the existing hospital.
  - All other existing hospital services will remain separate from the construction site and will solely support the operation of the remaining hospital. This in effect relieves pressure on dilapidated systems.
  - Clear separation between the new construction site will be defined with all infrastructure supporting the existing hospital being located within the outside of the proposed construction site;





### **FUTURE HOSPITAL PROJECT**

**CHANGE REQUEST NR. 25** 

- 5.14 In this scenario the space required by the hospital campus is 47,114m2 and is established at the new main hospital at the existing site and a repurposed facility created at Westaway Court. The functional Area Estimate is set out in Appendix 14.
- 5.15 Based on their current floor area plans the space required by remaining functions at Gwyneth Heulin and Peter Crill house is some 10,000m2. This would be re-provided across the opportunities set out below:

Locations	Space created / released m2
Temporary Release of space in the Catering Department by transfer of the service to an off-site facility	1000
Temporary Release of space within the existing Engineering Department	341
Construction of a temporary block in front of the Granite block	1640
Temporary Repurposing of space at Rouge Bouillon	2148
Permanent Repurposing of space at Westaway Court and some new build	2223
Temporary use of tower Block space at Westaway Court	640
Temporary reorganisation of First Floor Parade & Granite & 1960's wings	1941
Total formed m2	9,933

5.16 To implement this particular solution and, to meet the Projects objectives set out earlier the following Enabling Schemes covering the above and other alterations would be required:

CR025 Ref	Common 'Enabling Scheme' name	Enabling Scheme description and indicative content		
ES-1	Relocation of the existing Catering service to release space in the Catering Department	Relocation of the current catering food production service to new cook-freeze based Central Production Unit (CPU) off site		
ES-2	Reorganisation of Estates Services to release space in the Engineering department	Creation of temporary facilities in the Engineering Department to support relocated administrative functions pending their eventual repatriation to the Granite Block once the new hospital has been completed.		
ES-3	Transfer of Clinical functions to the vacated Catering Department	Refurbishment to allow for the relocation clinical functions to the vacated Catering Department. These will be relocated into the new hospital on completion		





### **FUTURE HOSPITAL PROJECT**

### CHANGE REQUEST NR. 25

ES-4	Construction of Temporary Clinic Block	Construction of a temporary clinical block adjacent to the Granite Block to accommodate those clinical functions deemed to be best located near the main hospital. These will be relocated into the new hospital on completion
ES-5	Off Site Transfers	Hydrotherapy to be provide through out of hospital facilities
		Site Medical Records to be integrated at Westmount Rehabilitation Centre
		Temporary relocation to refurbished space at Rouge Bouillon pending repatriation to the Granite Block once the new hospital has been completed
ES-6	Relocation of corporate functions	Administrative functions currently at Peter Crill and Gwyneth Heulin to be temporarily relocated to refurbished accommodation pending repatriation to the Granite Block once the new hospital has been completed
ES-7	Transfer of Clinics – 2 – Remodelled Westaway Court	Remodelling and extension to permanently accommodate those clinical functions deemed to be appropriate for location outside the main hospital environment.
		Temporary accommodation of Medical secretaries / consultants within the Tower Block pending their repatriation within the refurbished Granite Block
ES-8	Reorganisation / refurbishment of first floor Parade, Granite & 1960	Following the reorganisation of the existing Maternity department to release space Ante-Natal, Rayner, Pipon Wards will be relocated to Maternity
	wings	EAU to transfer from Chevalier to Rayner enabling Day-case services to occupy Chevalier allowing increased theatre capacity to be utilised for Day-case patients
ES-9	Re-siting of critical Plant and Systems	Key plant and systems to be re-sited away from the areas to be demolished Including, but not limited to:
		Medical gas manifold & storage, ICT & telephone hubs, Bartlett ward ventilation plant, oxygen production units & water supply
ES-10	Transfer of Staff accommodation	All staff accommodation to be relocated over a given programme to third party facilities possibly provided by a third party provider off site.
Post Build	Return of temporary functions to the Granite Block	Following occupation of the new hospital the functions located in temporary accommodation above will be repatriated within the refurbished Granite Block

Table 2: Enabling schemes

### 6 New Hospital High Level Design

### **Development context**

- 6.1 The construction of a new hospital on the site of the existing Jersey General Hospital remains physically challenging.
- 6.2 Specific design consideration has, for example, been given to how the new hospital might be structured to maximise its separation from the existing hospital without impacting too significantly on the delivered ground floor constructed area.





#### **FUTURE HOSPITAL PROJECT**

**CHANGE REQUEST NR. 25** 

- 6.3 The following site constraints have also been noted within the conceptualised proposals:
  - Use of the 'L' shaped site to provide for the separation of engineering and Facilities Management support services from the hospital and to allow for the integration of Patriotic Street parking;
  - An increase in the number of vertical cores required to provide safe, resilient vertical circulation between hospital functions distributed across floors.
  - Observation of Planning Policy which may require the hospital to meet different height requirements at different locations.
  - Recognising that the current 1980s building is 35.9m, the Granite Block 21m and the existing boiler stack 46m, ensure the proposals are consistent with these existing heights and, as far as possible, observe Planning policy on building height as set out below:
    - Five medical floors (5\*4.5m) along Kensington Place
    - Five to six floors (6\*4.5m) along Newgate Street and Gloucester Street
    - Seven floors (7\*4.5m) in the centre of the new hospital and along The Parade
- 6.4 Achieving the desired operational adjacencies within the hospital may challenge these heights in some areas. This may be realistic for areas deeper within the site and would be the subject of dialogue with Planning Officers during later design.

### Indicative massing and conceptual options

- Based on the above, a 'test to fit' exercise was completed to identify those forms and massing arrangements that presented to most likely optimum configuration for a new hospital.
- 6.6 Those generally considered by the team are set out in Appendix 32 with the option felt to offer the greatest promise being included in Appendix 11. This has also been used as the basis for the remainder of this appraisal.
- 6.7 In each case, hospital massing was based on the Functional Area Estimate (FAE) in Appendix 8 and the indicative Health Planning and Stacking diagrams in Appendix 10.
- 6.8 The potential disaggregation of Outpatients and the distribution of its functions across accommodation at the hospital and Westaway Court has however necessitated a slight change to its area within this FAE. Aside from this, all other departmental areas remain consistent with CR021.





**FUTURE HOSPITAL PROJECT** 

CHANGE REQUEST NR. 25

6.9 Being limited to a Proof of Concept exercise, many issues of detail will clearly remain and will be addressed through further dialogue with the Client Department during the next phase of design development.

### **High Level Design and hospital planning**

- 6.10 The new hospital layout would notionally follow the L-shaped site, on the south and western portions of the existing Jersey General Hospital site.
- 6.11 The sites configuration suggests that the new hospital would consist of three key components, the new build Main Hospital, a linked Services Block and a separate outpatient facility located within the refurbished Westaway Court.
- 6.12 In effect it would propose extending the existing Newgate Street north to Kensington Place. This would facilitate good traffic flow around the site and could ensure all round access for fire services. It would also separate the main hospital building from the proposed Service Block.
- 6.13 The Service Block would be connected to the main hospital via high level bridge links and a basement service corridor or street.
- 6.14 In this configuration the main hospital component would be located on the rectangular footprint bounded by Gloucester Street, Kensington Place & Newgate Street. The latter would then be extended to Kensington Place separating the main hospital building from the proposed Service Block.

### Approach to spatial testing

- 6.15 Fully defining the functional content of each hospital component is beyond the scope of this report. High level spatial testing and cost planning have therefore been based on the Single Site Functional Area Estimate (FAE) included in appendix 8.
- 6.16 Notional hospital massing at this stage suggests that there would be opportunities
  - Link Pathology to the main hospital at first floor and Pharmacy at second floor via the link to the services block over Newgate Street.
  - Include Facilities Management (FM) Receipt at Ground floor of the services Block and a discrete Mortuary to allow for good access.





#### **FUTURE HOSPITAL PROJECT**

- Include appropriately sized lifts in the Facilities Management (FM) receipt area to connect to the
  basement service-street and satellite stores below. The service street with associated lift cores
  would then allow goods in/ out to all departments thereby maintaining a separation between
  patient/ visitor and facilities support flows throughout the new hospital.
- The ground floor of the new hospital could include the main public entrance and concourse connecting all floors and departments via a series of evenly distributed lift and stair cores. These will be separate from the Facilities Management (FM) service cores referred to earlier.
- Staff and visitor amenity accommodation would likely be located near the main entrance and public concourse. The entrance and visitor drop-off area could also be integral to a new landscaped public space linking the new hospital with the existing Granite Block.
- The Emergency Department and associated ambulance drop-off would be via Kensington Place.
   Emergency Assessment Unit (EAU) and Paediatric Assessment would be linked directly to the Emergency Department. Radiology would also be on the ground floor, linked to Emergency and the ground floor Outpatients functions.
- A 'hot lift' could connect the Emergency Department directly to Theatres at first floor (Critical Care at second floor and Maternity at third floor). The Theatre department at first floor would also include Day Surgery. Further Outpatient functions could also be located at first floor with a direct vertical link from the public concourse below.
- Critical Care would be located directly over Theatres at second floor, with dedicated theatre plant
  located at this level. A pedestrian link bridge from Patriotic Street car park would be included to
  link to an upper concourse and departments such as Chemotherapy, Renal Dialysis and Medical
  Day Unit. The latter could then also be accessed via the main entrance and concourse off
  Gloucester Street.
- The third floor could be dedicated to Women's and Children's services and accessed separately. It would include the Labour Suite, Obstetrics, Neonatal, Paediatric Inpatient and Outpatient facilities. In this location the latter could also have direct access to a safe and secure external roof garden / play deck. Gynaecology would also be located at third floor accessed separately and discretely for the dignity of patients and family members.
- The fourth, fifth and sixth floors would accommodate the main Inpatient areas along with associated Ward Core spaces. The exact composition of these floors would be determined in detailed design to reflect nursing preferences and finalised bed / ward numbers.
- Located on these upper floors patient bedrooms would enjoy panoramic views of St Helier and St Aubin's Bay beyond. Depending on final location and configuration some ward areas could enjoy access to roof gardens or decks.





**FUTURE HOSPITAL PROJECT** 

**CHANGE REQUEST NR. 25** 

- The seventh floor would house Private Inpatient and Outpatient services. The Private Patient areas would be accessed separately via a dedicated drop-off and vertical access.
- 6.17 A visualisation of the potential hospital is set out below with further impressions being set out in Appendix 11.



Figure 3: Massing visualisation from Gloucester Street

### **Access and Highways Design**

### The main hospital

- 6.18 Implementation of the above would require a number of highways adjustments to bring about the traffic flow changes needed. These are considered to include the re-designation of some roads to two-way operation to improve overall access and emergency access resilience.
- 6.19 Separation between the routes for emergency and operational hospital vehicles and general vehicles could be maintained with Blue light vehicles generally approaching from the north with all other delivery traffic and public access being generally from the South.
- 6.20 Under this arrangement the following highways design would be implemented:





#### **FUTURE HOSPITAL PROJECT**

- Junction of Elizabeth Place/ The Parade/ Cheapside possible reconfiguration of pedestrian island and introduction of 'Blue Light' vehicle detector to allow direct route from Elizabeth Place to Kensington Place for emergency vehicles approaching from the north. This mitigation may also involve the signalisation of Cheapside at the junction. This would provide a critical time saving over the route around The Parade and Gloucester Street.
- Potential two-way running on an area of Kensington Place. This aids direct access from the Emergency Department onto Newgate Street.
- New perimeter roads to the new building at the north east and south west and a new service road around the services building for deliveries.
- A new junction for the new service road with Kensington Place.
- Following on from its use during the demolition and construction stage, the extended Newgate
  Street will be maintained to allow two-way access for emergency vehicles and delivery vehicles.
  The use of the road will be controlled by bollards or other suitable means of temporary
  closure/access so as to only be for hospital operational use.
- The junction of Newgate Street with Gloucester Street to be amended to take into account the proposed two way running of Newgate Street for Emergency vehicles and Delivery vehicles.
- Potential improvements to the existing gate house junctions associated with new internal layout and entrance in front of Granite Block.
- The mitigation of the Parade/Gloucester Street junction that is proposed during the construction stage will be reversed and Gloucester Street would once again be one-way westbound to the A1.
- New pedestrian crossings will be installed on Gloucester Street, Newgate Street and Kensington Place.
- Potential for a bus stop on Gloucester Street subject to the relocation of the on street cycle and vehicular parking.
- Cycle lane facilities will be reviewed in further detail but at this stage there is limited space for their provision unless on street parking provision on surrounding roads is removed.
- 6.21 Patriotic Street would continue to form the main parking location for the hospital. However, it is felt that the availability of on-site short stay parking will be limited and would need greater consideration during detailed design.
- 6.22 Access during the construction period has also been considered with specific proposals set out in Appendix 5. These reflect:





**FUTURE HOSPITAL PROJECT** 

**CHANGE REQUEST NR. 25** 

- An area of Gloucester Street could be amended to allow two way running to maintain access to as much of the road as possible with temporary road closures as needed during construction.
- Some parking at People's Park may be required to address shortages on Kensington Place. It
  will also be important to maintain access between the car parks and the operational hospital
  during the construction phase. This will include consideration of earliest point outside hoarding
  line where entry to the hospital can be achieved e.g. new Temporary Building or existing Granite
  Building entrance possibilities.

### **Potential Enabling Schemes**

- 6.23 A high level transport review of the potential enabling schemes has resulted in the following requirements being identified on an exceptional basis:
  - ES-1/2 and 5: Relocation of Catering, General and Acute Administration / and other off site transfers These are not considered to have any significant parking implications but this will be assessed when locations are known;
  - **ES-4 Temporary Clinics Block** The location of this new block will require new arrangements for deliveries and patient drop off as its location will result in the loss of the Gloucester Street car park. Potential options will be developed during detailed design.
  - **ES-5 Off Site transfers -** displaced parking from the existing site will require review within the detailed design to determine the mix of on-site parking including disabled provision needed with that designated in Patriotic Street.
  - **ES-7 Transfer of Clinics to Westaway Court–** provisional assessment indicates that the existing routing arrangement can be retained. Specific parking requirements will be determined during detailed design based on the eventual content of the facility.

### **Structural and Geotechnical Issues**

### Main Hospital

- 6.24 Physical site surveys have not been possible during this Proof of Concept stage. However, historical data reviews indicate:
  - Loose ground conditions exist to depths of some 8-10m within the curtilage of the proposed new hospital site. This is potentially supported by previous underpinning Granite Block.
  - Piles associated with the existing buildings will either be removed or be avoided depending on the most economical solution.





#### **FUTURE HOSPITAL PROJECT**

**CHANGE REQUEST NR. 25** 

- The potential for ground contamination and groundwater suggest that the extent of basement accommodation should be minimised.
- The site footprint indicates the use of engineering design based on roof mounted plant. Consequential area savings within the Functional Area Estimate have been based on this.

### **Relocation Projects**

- 6.25 A high level review of the Enabling Schemes has resulted in the following requirements being identified on an exceptional basis:
  - **ES-3** –. Floor demolition and replacement and amendments to drainage have been allowed for at this stage.
  - **ES-4** New incoming services will be provided from site infrastructure and a new water connection from Gloucester Street. Service diversions may be required.
    - **ES-7** Westaway Court being an accommodation block the 3.0m floor to floor height (2.7m in the Tower) will yield limited headroom of 2.75m generally and 2.45m in the tower block. Services will need to be designed to reflect this.
  - Completion of a full structural survey is beyond the scope of this appraisal. However, it is considered that the floors are likely to have sufficient floor loading capacity to support a move from residential to general clinical use. A fuller review of floor loading capacities will be completed during detailed design.
  - Using hospital room designations, strict compliance with UK Health Technical Memorandum [HTM] would require mechanical ventilation and cooling to most areas. However, derogation from these in favour of natural ventilation will be required to avoid further headroom reductions.
  - **ES-9** Key plant & systems to be re-sited/modified to locate then outside of the construction zone':
    - o Relocation / replacement of existing medical gas manifold, plant & bottle storage facilities;
    - Relocation / replacement of ICT equipment from Peter Crill House basement to the Granite Block basement and amendments to the fibre optic ring to maintain resilience;
    - Relocation of the isolation room air handling equipment to an alternative location. A number of options are being considered including the roof of the proposed temporary building;
    - Re-provision of the water connection to the Pathology unit; and





**FUTURE HOSPITAL PROJECT** 

CHANGE REQUEST NR. 25

 Disconnection of mechanical and electrical systems, reprogramming and rebalancing to suit their new configuration.

### 7 Capital Cost Appraisal

- 7.1 To maintain price consistency and to aid evaluation, the estimating approach used has continued to reflect UK HPCG guidance and UK Treasury business case guidance. This includes:
  - The estimating methodology employed;
  - The approach to accounting for inflation, location factor, risk and Optimism Bias;
- 7.2 Cost estimates for site clearance work following property acquisition, and for construction of the main hospital at the Jersey General site remain fully based on HPCG modelling. However, the introduction of separate relocation and refurbishment projects has required a broadening of our pricing approach to better reflect local delivery of these smaller schemes.
- 7.3 In these cases, individual cost estimates have been prepared for each scheme reflecting its individual requirements and an understanding of the local / UK delivery benchmarks for the works involved. Each estimate has then been combined with that for the main hospital to derive the overall project estimate.
- 7.4 Project cost details are provided in Appendix 15 (Capital Cost), Appendix 16 (Inflation Review) and Appendix 19 (Investment Summary) respectively.
- 7.5 All project costs including estimates for property acquisitions, construction works, leasing and hospital operational costs have been included within the options Generic Economic Model [GEM] and used to derive the overall Net Present Value (NPV) of the option.
- 7.6 To remain consistent with the pricing of earlier Options, the Option 'F' capital cost has been based at Quarter 3 2015. This supports comparative analysis across all options and enables the relative ranking of options to be determined.
- 7.7 Option F costs have also been rebased to Q2 2016 to provide a more current forecast of future costs. These are set out in Section 10.
- 7.8 In both cases, these costs reflect the most developed position of the option in terms of spatial planning, design and temporary facilities provision.
- 7.9 A full explanation of the project's capital pricing methodology can be found in 'Part A' of the main CR021 site appraisal report.





**FUTURE HOSPITAL PROJECT** 

CHANGE REQUEST NR. 25

### **Property Acquisition costs**

- 7.10 Establishing a site of sufficient size to support the new hospital requires the existing site to be augmented by the acquisition on specific properties on its perimeter. These will, following demolition allow sufficient construction to be carried out to maintain project cost efficiency whilst at the same time preserving the operational integrity of the existing hospital.
- 7.11 All site acquisition costs have been proposed by BNP Paribas and are summarised in the valuation reports included in Appendix 20. These reflect their professional opinion of open market values of the properties concerned.

### Works costs

- 7.12 The scale and timing of the relocation works indicate that they could not practically or economically be delivered by the main hospital construction contractor. As such, the elements of works involved in the project have been sub-divided into:
  - Relocation Schemes to be delivered locally;
  - Main Hospital works to be delivered by a major national / international contractor;
  - Post Occupation works to be delivered locally post occupation of the main hospital;
- 7.13 A full appraisal of the estimated cost of each of the above is included in Appendix 15 and is summarised within the table below.
- 7.14 This reflects our best understanding of capital works at this time. However, being based on high level strategic design only, further cost movements may be required subsequent to physical site surveys, detailed design and in due course commercial tender.
- 7.15 Given the increased number and scale of relocation schemes included within Option F, pricing estimates have been established by the preparation of individual cost plans for each scheme. These have been developed to reflect the specific content and requirement of each scheme and are included in Appendix 15.

### Leasing charges

7.16 The modified Acute Services strategy required to implement this option also entails the temporary and permanent leasing of premises for the off-site food production unit.





**FUTURE HOSPITAL PROJECT** 

CHANGE REQUEST NR. 25

7.17 This has been included separately within the options Generic Economic Model [GEM] based on an estimate of the likely floor area required and benchmark data relating to contemporary island rental rates.

### **Sensitivity Analysis**

- 7.18 Given that some aspects of the options cost estimate are based on benchmarks and desktop data, additional sensitivity tests have been introduced into the financial appraisal process to examine the effects of the following:
  - A 10% increase in property acquisition costs.
  - A 10% increase in spatial requirements within the Enabling Schemes.
  - The loss of residential receipts for residual site.

### **Key Assumptions**

- 7.19 The following key assumptions initially introduced in CR021/024 have also been retained in the appraisal of this option:
  - That the revenue costs of operating the new hospital remain as stated in CR021.
  - The benchmark based Lifecycle costs introduced in CR021 appraisal have been retained for this
    option. This reflects the fact that the content of the hospital has not changed and any spatial
    benefits achieved will likely be eroded by the duplication of plant at other facilities.
  - That an element of the residual site is retained for compensatory residential development comparable to the reduced scheme introduced at the site within CR024.





**FUTURE HOSPITAL PROJECT** 

**CHANGE REQUEST NR. 25** 

### 8 Evaluation Findings

#### General

- The site analysis and high level planning completed to date indicates that, with the support of the relocation schemes and the adoption of a new outpatients' model, this option is capable of delivering a new hospital within the States expectations.
- 8.2 The retention of the Granite block for use in repatriating services will reintegrate key services within the hospital and will reduce the hospital's long term operating cost.
- 8.3 The move to permanently leased facilities for the Catering production unit [ES-1] is critical in short term programming terms. However, long-term revenue costs could be avoided if a suitable industrial unit was available for purchase and the necessary capital made available to acquire it.
- 8.4 The overall target area of the combined hospital facilities delivered within this option compares favourably with earlier options whilst delivering cost benefits through the use of lower cost accommodation for some functions. (Westaway Court)
- 8.5 However, this remains a target area and its delivery will need to be verified through detailed design, should implementation of this option be supported.

CR021 Option A	CR021 Option B	CR021 Option C	CR021 Option D	CR024 Compensated Option E <sup>3</sup>	Option F Target Area
61,409	49,262	48,399	49,623	48,797	47,114

Table 3: Comparison of out-turn floor area

### Benefits and risks

To maintain comparability with the findings for previous options, the same Benefits & Risks Review Group participants were invited to evaluate this option using the criteria and process established in CR021.

27

<sup>&</sup>lt;sup>3</sup> Compensated Option E' was excluded prior to commencement of the appraisal. It is included only for consistency





### **FUTURE HOSPITAL PROJECT**

- 8.7 The review process followed the same methodology as had previously been assured by EY assurance with the detailed findings recorded in an update of the Benefits / Risks model attached as Appendix 22.
- 8.8 The results expressed as both 'raw' and 'weighted' scores are also summarised below.

	CR021 Option A	CR021 Option B	CR021 Option C	CR021 Option D	CR024 compensated Option E <sup>4</sup>	CR025 Option F
Raw Benefits score	49	63	79	106	117	102
Weighted Benefits score	1.70	2.31	2.77	3.78	4.19	3.72
Raw Risk score	237	207	203	94	114	109
Weighted Risk score	9.94	8.68	8.24	3.06	3.58	4.10
Option Ranking						
By weighted Benefits	6	5	4	2	1	3
By Weighted Risk	6	5	4	1	2	3
Differential over 'the base case'						
Benefits differential	-	26.63%	38.72%	55.13%	59.58%	54.41%
Risk differential	-	-14.5%	-20.6%	-225.1%	-177.2%	-111.6%

Table 4: Benefits and Risk Analysis

- 8.9 Option E was removed from the shortlist in February 2016 so the previous results generated in respect of its benefits and risk analysis have been discounted in this exercise.
- 8.10 From the above it can be seen that, with the exception of the excluded Option E:
  - Both option F and the best scoring alternative option being CR021 Option D Waterfront, deliver broadly comparable benefits and significantly more than those of the other remaining options;
  - Option F presents slightly more risk that the best scoring alternative option being CR021 Option
    D Waterfront but markedly less risk than that of all the other remaining options. This is largely
    due to the increased risk associated with construction on the existing hospital site rather than
    any specific long term operating concern.

<sup>&</sup>lt;sup>4</sup> Compensated Option E' was excluded prior to commencement of the appraisal. It is included only for consistency 28





### **FUTURE HOSPITAL PROJECT**

### **CHANGE REQUEST NR. 25**

- The differentials indicate that both Option F and Option D perform well ahead of all other remaining options and are therefore relatively insensitive to a change in weighted risk and benefit scores.
- In ranking terms therefore with the removal of Option E People's Park, Options D and F rank first and second from all remaining options.

### **Capital Costs**

- 8.11 Despite the additional cost of acquisitions and relocation schemes, the overall capital cost of Option F is relatively near (<5%) to other best value for money options and in this respect is broadly commensurate.
- 8.12 It also out performs the previous options C and A which were based on a form of development at Jersey General Hospital
- 8.13 This has been achieved through the efficiency gained in accommodating some elements of the hospitals' services outside of the proposed new hospital and in minimising refurbishment provision

Capital Cost [£m]								
CR021 Option A	CR021 Option B	CR021 Option C	CR021 Option D	CR024 Compensated Option E	CR025 Option F			
503.8	445.5	629.7	470.5	464.1	490.8			

Table 5: Capital cost for all options

### **Net Present Value (NPV) findings**

- The EY assured methodology, described in CR021 Appendix 15 Costing Methodology, has again been applied in the evaluation of this option.
- 8.15 The findings, expressed as a Net Present Value [NPV], reflect the hospital's operational costs modelled over a 60-year operating life covering:
  - Acquisition and disposal costs based on BNP Paribas Valuations;
  - Housing development receipts based on previous SOJDC cost appraisals;
  - · Capital costs of all construction and delivery works;





### **FUTURE HOSPITAL PROJECT**

CHANGE REQUEST NR. 25

Lifecycle and other ongoing Operational costs

			NPV [£m]		
CR021 Option A			CR021 Option D	CR024 Compensated Option E <sup>5</sup>	CR025 Option F
4,092	3,971	4,054	4,002	3,981	4,010

Table 6: NPV for all options

#### 8.16 This indicates that:

- Option B Overdale has the lowest long term cost however being measured over a 60-year life this is marginal;
- Option F and option D are broadly commensurate in NPV terms over the life of the hospital;
- Options C and A are the worst performing options falling significantly behind all other options;

### **Value for Money Assessment**

- 8.17 UK Treasury Guidance recommends taking a broader view of the value for money of project options by monetising the qualitative scores of their evaluation.
- 8.18 This can help in taking value-based decisions by establishing a clear understanding of the relative cost of benefits across options.
- 8.19 The analysis summarised in the table below indicates that:
  - The cost per benefit point for Option F is within 2% of that of previous best performing option;
  - Both Option F and Option D remain well ahead of all other remaining options and on this measure offer comparable Value for Money.

<sup>&</sup>lt;sup>5</sup> Compensated Option E' was excluded prior to commencement of the appraisal. It is included only for consistency 30





### **FUTURE HOSPITAL PROJECT**

CHANGE REQUEST NR. 25

The extent of difference between the values of Option F and Option D and all other remaining
options indicates that a significant change in either benefits, risk or cost would be required to
change in this outcome.

	CR021 Option A	CR021 Option B	CR021 Option C	CR021 Option D	CR024 Compensated Option E <sup>6</sup>	CR025 Option F
Option NPV (£m)	4,092	3,971	4,054	4,002	3,981	4,010
NPV per weighted benefit point (£m)	2,413.9	1,718.5	1,465.3	1,059.3	949.3	1,078.7
Ranking	6	5	4	2	1	3

Table 7: Value for money assessment

### **Switching point Analysis**

- 8.20 Switching Point Analysis provides a useful means of determining the extent to which findings are sensitive to change.
- 8.21 The table below, drawn from CR024 has been updated to set out the findings for Option F against those reported previously for other site options.
- 8.22 The findings indicate that:
  - In NPV terms, Option B Overdale is the best performing option followed reasonably closely by Options D and F;
  - Option D and Option F provide the greatest weighted benefits and on this measure perform significantly better than all remaining options;
  - Option D presents the lowest delivery risk;
  - Option D performs marginally better than Option F in terms NPV per weighted benefit with both performing significantly better than all other remaining options
  - Option D and Option F would require a significant change in either their NPV or their evaluated benefit scores to bring about a change in their relative ranking;
    - In general, and with the exception of Option E, both Option D and Option F are considered to be robust and insensitive to reasonable change it their evaluated outcomes.

31

<sup>&</sup>lt;sup>6</sup> Compensated Option E' was excluded prior to commencement of the appraisal. It is included only for consistency





### **FUTURE HOSPITAL PROJECT**

CHANGE REQUEST NR. 25

	CR021 Option A	CR021 Option B	CR021 Option C	CR021 Option D	CR024 Compensated Option E <sup>7</sup>	CR025 Option F
NPV Switching Point						
Option Net Present Value [NPV £m]	4,092	3,971	4,054	4,002	3,981	4,010
% Reduction required for other options to be best	2.96%	0.00%	2.05%	0.78%	0.27%	1.00%
Weighted benefit Switching point						
Weighted Benefits score	1.70	2.31	2.77	3.78	4.19	3.72
% Increase required for other option to be best	149.13%	83.16%	52.41%	11.56%	0.00%	13.38%
Weighted risk Switching point						
Weighted Risk score	9.94	8.68	8.24	3.06	3.58	4.10
% Reduction required for other options to be best	-69.30%	-64.85%	-62.97%	0.00%	-14.90%	-25.61%
NPV reduction required to switch based on NPV/weighted Benefit						
NPV/Weighted Benefit Point	2,413.9	1,718.5	1,465.3	1,059.3	949.3	1,078.7
% NPV Reduction for other options to be best	60.8%	45.1%	35.4%	10.5%	0.0%	12.2%
Benefit increase required to switch based on NPV/weighted Benefit						
NPV/Weighted Benefit Point	2,413.9	1,718.5	1,465.3	1,059.3	949.3	1,078.7
% Benefit increase for other options to be best	154.5%	81.2%	54.5%	11.7%	0.1%	13.7%

.

<sup>&</sup>lt;sup>7</sup> Compensated Option E' was excluded prior to commencement of the appraisal. It is included only for consistency 32





**FUTURE HOSPITAL PROJECT** 

CHANGE REQUEST NR. 25

Table 8: Switching Point Analysis

### **Sensitivity Analysis**

- 8.23 The CR021 Sensitivity analysis has been updated to reflect the nature of the new Option F proposal with the following three additional sensitivity tests being added to reflect the nature of the Option F proposal:
  - Sensitivity 11 the effect of a 10% increase in property acquisition costs on Kensington place;
  - Sensitivity 12 the effect of a 10% increase in spatial requirements within relocation schemes;
  - Sensitivity 13 the loss of residential receipts from the residual Jersey General site;
  - Sensitivity 14 the effect of additional leasing cost in the event of a 1-year programme delay
- 8.24 A 'worst case scenario sensitivity test has also been retained to measure the effect of this condition on all options
- 8.25 This comprehensive series of tests indicates that with the exception of the excluded Option E:
  - Option B Overdale can be delivered for the lowest Net Present Value, but in all other respects it
    is out-performed by Option D Waterfront and Option F Jersey General;
  - Both Options D and F are sensitive to specific changes in aspects that relate directly to their configuration.
  - Option D is the most vulnerable under 'worst case scenario' conditions (sensitivity 15) where all sensitivity test events occur.





### **FUTURE HOSPITAL PROJECT**

### **CHANGE REQUEST NR. 25**

CR021 CR021 **CR021** CR025 **CR021** Considered CR024 **Sensitivities Option A Option B Option C Option D** Option F Compensated Option E<sup>8</sup> NPV 4,092 3,971 4,054 4,002 3,981 4,010 NPV / weighted benefit 2,413.9 1,718.5 1,465.3 1,059.3 949.3 1,078.7 point **New Sensitivity 1** NPV 3,987 --Gas Place Acquisition NPV / increase from £3.3m to weighted 951 £8.8m benefit point NPV 4,134 Sensitivity 2 NPV / Loss of income from the 1,094 weighted Jersey Finance Centre benefit point 4,007 Sensitivity 3 NPV 4,059 3,987 --Option C, D & E -NPV / reduction in Overdale weighted 1,467 1,061 951 receipts - affordable benefit point housing replacing prime Sensitivity 4 NPV 3,979 4,005 3,984 Option B, D & E reduction in Jersey NPV / General receipts weighted 1,722 1,060 950 affordable housing benefit point replacing prime Sensitivity 5 NPV 3,979 4,059 4,010 3,989 Option B, C, D & E reduction in Jersev NPV / General & Overdale weighted 1,722 1,467 1,061 951 receipts - affordable benefit point housing replacing prince Sensitivity 6 NPV 5,209 Option D - lost Tax NPV / Receipts and GVA weighted 1,379 should finance centre benefit point not proceed

\_

<sup>&</sup>lt;sup>8</sup> Compensated Option E' was excluded prior to commencement of the appraisal. It is included only for consistency 34





### **FUTURE HOSPITAL PROJECT**

Sensitivity 7	NPV				4,010	3,988	
Option D & E – Increased Car Parking - from 140 to 540 Spaces	NPV / weighted benefit point	1	1	1	1,062	951	-
	Capital cost incre	ease			+11.8	+10.8	
Sensitivity 8	NPV				4,013	3,991	
Option D & E - 1-year programme delay	NPV / weighted benefit point				1,062	952	
	Capital cost incre	ease			+23.7	+21.5	
Sensitivity 9	NPV				4,024	4,001	
Option D & E - 2-year programme delay	NPV / weighted benefit point				1,065	954	
Sensitivity 10	NPV					3,997	
Option E - 50% reduction in Zephyrus & Waterfront Receipts	NPV / weighted benefit point					953	
Sensitivity 11	NPV						4,011
Option F - 10% increase in property acquisition costs	NPV / weighted benefit point						1,079
Sensitivity 12	NPV						4,043
Option F - 10% increase in spatial requirements within relocation schemes	NPV / weighted benefit point						1,087
Sensitivity 13	NPV						4,013
Option F - Loss of residential receipts for residual site	NPV / weighted benefit point						1,079
Sensitivity 14	NPV						4,028
Option F - Leasing cost effect of 1-year programme delay	NPV / weighted benefit point						1,083
Sensitivity 15	NPV		3,979	4,059	5,247	4,022	4,064
Options A - F - worst case scenario – all of the above	NPV / weighted benefit point	2,421.4	1,731.3	1,469.4	1,390.4	959.6	1,093

Table 9: Sensitivity Analysis





**FUTURE HOSPITAL PROJECT** 

**CHANGE REQUEST NR. 25** 

### 9 Conclusion and Recommendations

- 9.1 The Proof of Concept exercise has demonstrated that, within the testing limitations applicable at this point:
  - 9.1.1 the alternative approach to developing a new hospital on part of the Jersey General site augmented by acquisitions is technically viable;
  - 9.1.2 the approach offers comparable value for money and benefits to that of Option D the Waterfront being the best performing option remaining from earlier appraisals.
  - 9.1.3 That a new hospital at the existing hospital can be delivered within the Project Board's expectations as set out within 'section 2 of this this report.





**FUTURE HOSPITAL PROJECT** 

**CHANGE REQUEST NR. 25** 

### 10 Option F rebased to quarter 2 2016

- 10.1 The comparative review of Option F set out earlier enabled the option to be ranked alongside the other options considered within earlier site appraisal exercises.
- 10.2 Whilst this provides a robust basis for option appraisal, a more forward-looking pricing review will be more helpful should Option F be implemented.
- 10.3 This section therefore sets out the impact of rebasing option F capital pricing to from **quarter 3 2015** being the basis of options A-E in CR021 to **quarter 2 2016**.

Option F Cost elements		Q3 2015	Q2 2016
		Total	£000
Enabling schemes (Non HPCG benchmark based)		37,867	36,273
Main Hospital Works (HPCG structure)			
Capital & on cost		214,627	213,004
Fees		32,194	31,951
Acquisitions		9,527	9,527
Non Works Costs		5,900	5,892
Equipment		18,827	18,650
Contingency & Optimism Bias		74,654	74,109
Capital inflation		89,014	68,752
	Total	444,743	421,885
Post Occupation			
Refurbishment of the Granite block to repatriate services in leased facilit	ties	8,238	7,753
* Adjusted for rounding	roject total	490,848	* 465,911

### **Net Present Value based Value for Money Assessment**

	NPV [£m]	
	Q3 2015	Q2 2016
Option F Net Present Value [NPV]	4,010	3,992
Change in NPV %		-0.44%
NPV per weighted benefit point (£m)	1,078.7	1,075.0
Change in NPV per weighted benefit point (£m)		-0.34%





**FUTURE HOSPITAL PROJECT** 

**CHANGE REQUEST NR. 25** 

### Commentary on switching points and sensitivity analysis

- 10.4 The change in inflation indices over the construction period have resulted in a net reduction in the overall cost of the project. Whilst this will be welcomed, it must continue to be appreciated that future forecasts may result in increases over time.
- 10.5 The decrease in costs confirmed above indicates that any movement in the switching points or sensitivity analysis will be positive and therefore in the interests of clarity they are not recast in this section.





**FUTURE HOSPITAL PROJECT** 

**CHANGE REQUEST NR. 25** 

### 11 Appendices Schedule

11.1 The appendices provided with CR021 and CR024 reports remain valid and should be read alongside the following updated information relating specifically to this new Option.

No.	Content
2	Verification of previous site deselection – review outcome confirming status of previous site rejections
3	Site Boundary 'Red Line' Plans - indicating the extent of each site owned by the States of Jersey and those additional sites that would be required to implement each option
5	<b>Local infrastructure / transport assessment</b> – drawings and plans setting out the transport infrastructure in place in the immediate vicinity or relevant to each validated site. Technical note indicating research and assessment undertaken in relation to transport improvement.
6	<b>Technical Site Appraisals</b> –Technical notes indicating research and assessments undertaken for each site in respect of multi-disciplinary engineering services
7	Town Planning Assessment – narrative assessment of each site in respect of town planning considerations
8	Functional Area Estimate - target area summary used for proof of concept testing
10	<b>Proposed health planning and stacking diagrams</b> – setting out the adjacency preferences of each option and the function stacking achieved in each proposal
11	Proposed Site Massing Proposals – site block plans of each proposal supported by 2D and 3D illustrations
12	Proposed Site engineering plans – site engineering and infrastructure plans
13	Proposed Construction Programme – overview of construction approach, decant strategy and Programmes for each option
14	<b>Proposed Construction Phasing</b> – drawing sequence setting out the phases in which each solution will be delivered
15	Capital Cost Pricing - Methodology and price book for each option including cashflow, abnormals and lifecycle
16	Inflation Methodology – Gleeds technical review of the inflation applicable to all options
17	Location Factor estimate – Gleeds technical review of the Location factor applicable to all options
18	Optimism Bias methodology and outcomes – notes and scores from the Gleeds Optimism Bias modelling
19	Investment Summary – GEM model pricing summary for each Option
20	Site Valuations – site valuation advice received from various professional sources or referenced where drawn from previously completed reports





### **FUTURE HOSPITAL PROJECT**

No.	Content
21	Site Reuse proposals – setting out the possible reuse options for each disposed site
22	Benefits and Risk Analysis – Process and Evaluation outcomes
23	Residual Risk Registers – setting out the remaining unmitigated risks for each proposed site option
28	Data book - summary schedule of all data sources used in the completion of the site validation exercise
31	Future flexibility – setting out future flexibility / expansion possibilities of each site
32	Discounted variants – setting out variants explored and discounted





**FUTURE HOSPITAL PROJECT** 

CHANGE REQUEST NR. 25

## 12 Glossary of Terms

ADB	Activity Data Base Sheets
All-in TPI	All-in Tender Price Index published by BCIS
ASS	Acute Services Strategy
BCIS	Building Cost Information Service of the RICS
BIM	Building Information Modelling
BQ	Bill of Quantities
BRE	Building Research Establishment
BREEAM	Building Research Establishment Environmental Assessment Model
Brief	Feasibility Site Option Appraisal Brief 'FH – 1.6 – Change Order 004 – Variation to Options Appraisal – 20141230'
Capex	Capital expenditure(s)
CDM	Construction Design & Management Regulations 2007
CDU	Clinical Decision Unit
CO004	Change Order 4 – Review of four site options, report presented April 2015
CO018	Change Order 18 – Long list review of additional park sites, report presented August 2015
CO021	Change Order 21 – Review of five site options, including Option E People's Park
COM	The Council of Ministers of the States of Jersey
Contracting Authority	The States of Jersey
CPI	Consumer Price Index
CR004	Change Request 4 - See CO004
CR018	Change Request 18 - See CO018
CR021	Change Request 21 - See CO021
DCAG	Departmental Cost Allowance Guide. Previously published by the UK Department of Health, now superseded by HPCGs.
Department for Infrastructure	Prior to January 2016 formerly TTS, Transport and Technical Services Department of the States of Jersey
DOH	UK Government Department of Health
EAU	Emergency Assessment Unit
EPI	Equipment Price Index
EY	The Contracting Authority's Financial Advisor





### **FUTURE HOSPITAL PROJECT**

F.A.F.	E cofficial Anna Enforce
FAE	Functional Area Estimate
FBC	Full Business Case
Financial Advisor	One part of the ICA Team
Financial Direction	The directions issued by the Treasurer of the States of Jersey
GBCI	General Building Cost Index published by the BCIS
GEM	Generic Economic Modelling
GIFA	Gross Internal Floor Area
GMS	Gleeds Management Services
HBN	Health Building Note
HPCG	Healthcare Premises Cost Guide
HSSD	The Health and Social Services Department of the States of Jersey
HTM	Health Technical Memorandum
ICA	The team of Independent Client Advisors
ICT	Information and Communication Technology
IPT	The team comprising of the Client Team, ICA Team and Supply Team
ITT	The Invitation to Tender Document
JFH	Jersey Future Hospital
JGH	Jersey General Hospital
JIFC	Jersey International Finance Centre
KPIs	Key Performance Indicators
LCC	Life Cycle Cost
Legal Advisor	The legal entity that enters into the Contract with the Contracting Authority to provide the legal and commercial advisory and consultancy services. One part of the ICA Team.
LOD	The Law Officer's Department of the States of Jersey
LPA	Local Planning Authority
MEAT	Most Economically Advantageous Tender
MEP	Mechanical, Electrical & Public Health Engineering Services
MIPS	Median Index Pricing Study
MOG	The Ministerial Oversight Group of the States of Jersey
NPV	Net present value
OBC	Outline Business Case
ONS	United Kingdom Office for National Statistics





### **FUTURE HOSPITAL PROJECT**

OPD	Outpatients Department
Opex	Operating expenditure
Optimism Bias	Empirically determined adjustment to redress the tendency toward overly optimistic project appraisal
Procurement	The process of obtaining a tender
Project	The Future Hospital Project
Project Board	The Board of the Project, assembled quorate
Project Director	The sponsor of the project, who reports to the Chairperson of the Project Board
Project Team	Those operational staff assembled by the Contracting Authority to manage the delivery of the Project
PUBSEC	Public Sector Tender Price Index published by the BCIS
QA	Quality Assurance
QRA	Quantified Risk Analysis
Refined Concept	The Dual Site refined concept Addendum to the Strategic Outline Case, as prepared by WS Atkins October 2013
RICS	Royal Institution of Chartered Surveyors
RPI	Retail Price Index
RPIJ	Retail Price Index Jevons
Supply-Chain Procurement Strategy	The procurement strategy developed by the Contracting Authority (with support from the ICA Team)
SMART	Specific Measurable Achievable Realistic Time Related
SMEs	Small & Medium Enterprises
SOC	Strategic Outline Case, as prepared by WS Atkins May 2013
SOJ	States of Jersey
SOJDC	States of Jersey Development Company
SOJTES	States of Jersey Technical and Environmental Services
SRO	Senior Responsible Owner (the Treasurer of the States of Jersey)
Stakeholders	The organisations or departments of the Contracting Authority that have an interest in the successful delivery of the Services
States Assembly	The elected officials of the States Assembly
States Member	A member of the States Assembly
Strategic Brief	The strategic brief of the project, as contained in the Services Information
Technical Advisor	The Consultant