States of Jersey

Jersey Future Hospital

Health Impact Assessment

237035-00

Final Version |

Job number 237035-00

Ove Arup & Partners Ltd
13 Fitzroy Street
London W1T 4BQ
United Kingdom
www.arup.com

ARUP

Document Verification

ARUP

Job title		Jersey Future Hospital			**Job number** 237035-00
Document title		Health Impact Assessment			**File reference**
Document ref		237035-00			
Revision	**Date**	**Filename**	Jersey FH HIA Draft.docx		
Draft 1	28 July 2017	**Description**	First draft		
			Prepared by	Checked by	Approved by
		Name	Tara Richards	Charlotte Clark	Jenny Dunwoody
		Signature			
Draft 2	26 Sept 2017	**Filename**			
		Description			
			Prepared by	Checked by	Approved by
		Name	Tara Richards	Charlotte Clark	Jenny Dunwoody
		Signature			
Final version	22 Nov 2017	**Filename**			
		Description			
			Prepared by	Checked by	Approved by
		Name	Tara Richards	Charlotte Clark	Jenny Dunwoody
		Signature			
		Filename			
		Description			
			Prepared by	Checked by	Approved by
		Name			

		Signature			
				Issue Document Verification with Document	✓

Contents

Executive Summary

Introduction

This Health Impact Assessment (HIA) has been prepared by Ove Arup & Partners Ltd (Arup) on behalf of the States of Jersey (the applicant) in respect of the outline planning permission, which has been submitted for the proposed Jersey Future Hospital (JFH) Project.

The HIA focuses on health impacts associated with the construction and operation of the hospital. It does not include an assessment of the clinical impacts resulting from improved health service provision, as this has already been assessed by the States of Jersey in identifying the case for the Project.

Proposed Development and Site Description

The Jersey Future Hospital Project is a proposal to develop a new hospital on the southwestern section of the existing Jersey General Hospital (JGH) site. The project aims to deliver a modern high quality hospital that meets best practice and that can continue to evolve as healthcare changes.

The site is located in St Helier, Jersey and lies to towards the north-western edge of the town centre, approximately 300 metres from the coast, which lies to the west. Sited within the St Helier Ring Road, the Jersey Future Hospital is located at approx. 49°11'15.24"N, 2°06'43.72"W. The application site occupies a dense urban setting with Parade Gardens offering some open public space to the east.

The proposed development comprises a new hospital and associated public realm, on a site created by the demolition and redevelopment of parts of the Jersey General Hospital site and the whole of the Stafford and Revere Hotels, 33-40 (including Sutherland Court) and 44 Kensington Place. It includes associated highways and infrastructure and the addition of two half decks to Patriotic Street multi-storey car park. The construction of the hospital will take place over a period of four years during which time some staff, services and patients will need to be relocated to alternative sites.

Legislative and Policy Context

Jersey policies relating to health and wellbeing, including the relevant development plan policies, health and wellbeing strategies, and community strategies have been reviewed to inform the development of the HIA.

This has included:

- The States of Jersey Strategic Plan 2015-2018;
- The Revised Island Plan 2011;
- The Sustainable Primary Care Strategy for Jersey 2015-2020;
- Jersey's Strategic Framework for Children and Young People 2011;

- Jersey's Mental Health Strategy 2015;
- Jersey's Health and Social Services Acute Service Strategy 2015-2024; and
- Future Jersey 2017-2037 (currently under public consultation).

Health Impact Assessment Process

The HIA has been carried out using HIA guidance and best practice in England and Wales. The HIA has been undertaken in accordance with the IMPACT Urban Health Impact Assessment (UrHIA) methodology[1].

The HIA has been undertaken through a systematic process of:

- scope definition;
- policy review;
- baseline data gathering;
- identifying relevant health determinants;
- linking relevant health determinants to health effects;
- assessment of health impacts; and
- development of evidence based recommendations.

Potential health effects

In line with the UrHIA methodology, potential health determinants to be assessed (both positive and beneficial) were initially identified for relevance. These health determinants were included in a HIA Scoping Report, which was submitted to the States of Jersey. Agreement was reached as to the prioritization of the health determinants, which were:

- education;
- employment & household income;
- childcare provision;
- crime and fear of crime;
- community interaction;
- access to sports and other opportunities for physical activity (including active travel);
- access to healthcare services;
- access to other community services;
- access to public transport;
- housing;
- green space (including parks);
- road safety;
- transport infrastructure;
- energy sources;
- water quality;
- air quality;
- noise; and

[1] Urban Health Impact Assessment Methodology (UrHIA), Impact, University of Liverpool, 2015).

- light.

The beneficial and adverse health impacts of the scheme during construction and operation of the scheme are evaluated based on information available in the Environmental Statement and the Construction Environmental Management Plan (CEMP).

The assessment also takes into account the opinions and feedback of stakeholders on the Island. This included stakeholders with an interest in health, as well as the local communities based in the vicinity of the development.

Assessment of health effects

The scheme has beneficial and adverse health impacts.

The construction period is when the majority of negative health effects would be experienced by local communities. This primarily relates to the impacts of the scheme on housing, noise, impacts on transportation, and access to green space.

During construction there would be adverse health effects associated with the demolition of local residential and commercial properties on Kensington Place. Recommendations have been made for relocation assistance for those affected by the demolition of their properties. There may also be adverse health effects associated with demand for accommodation for construction workers. It has been recommended that the main contractor develop an accommodation strategy to identify and manage accommodation for construction workers.

During construction there would be adverse health effects associated with construction and demolition noise for staff and patients in the existing hospital as well as nearby residents and business owners. Recommendations have been made to monitor noise during construction periods that may affect nearby residents and for a communication strategy to be developed by the main contractor to ensure that residents are aware of noisy activities and have a point of contact. Noisy activities should be reviewed, in relation to potential impacts on health, throughout the construction period.

During construction there would be adverse health effects associated with the traffic noise caused by temporary road closures and associated increases in traffic on diversion routes, particularly on Lewis Street and Patriotic Street.

During construction there would be adverse health effects associated with access to public transport associated with the temporary closures of roads and access to bus stops which may increase walking distances, particularly affecting the elderly and disabled. There would also be adverse health effects associated with impacts on active travel during some periods associated with increased construction vehicles, road closures and impacts on pedestrian movement. It is recommended that during construction, monitoring should be undertaken to ensure than pedestrian and cyclist routes into the hospital are working as planned.

During construction there would be adverse health effects associated with access to green space, particularly for users of the Parade Gardens related to the noise and visual effects of the construction site.

During construction no adverse health effects are expected in relation to road safety for the general population, however there may be health effects for vulnerable sight impaired patients associated with diversions, signage, and the reversing of typical vehicular access in the vicinity around the scheme. It is recommended that a mitigation strategy be developed in advance with key stakeholder groups and be specified in the Construction Environmental Management Plan.

No construction impacts of air quality on health are expected taking the planned mitigation into account. This includes the development and implementation of a Dust Management Plan which will include measures to control emissions and which will be approved by Environmental Health at the Department of Environment, States of Jersey.

During operation there would be a beneficial health effect in terms of community interaction and access to green space. The new hospital will provide a new communal roof garden as a recreational and therapeutic space for patients, families and staff. These and other green spaces included in the scheme could influence community interaction and social capital and have a beneficial effect on health.

During operation there would be beneficial health effects associated with access to health care as a result of improved patient drop-off facilities, improved pedestrian amenity and reduced traffic speeds in the hospital vicinity, as well as the provision of outpatients and ambulatory care at Westaway Court for the elderly, disabled and the chronically ill.

During operation there would be beneficial health effects in terms of access to physical activity and active travel. This primarily reflects the provision of a footway/cycleway link between the future hospital and the Parade, as well as additional connectivity provisioned through pedestrian links through St Helier. There will also be provision of additional cycle parking and shower/changing facilities for staff.

The recommendations made in this report to improve the health outcomes and maximize the health benefits of the proposed scheme will be fed into the design teams and monitored to ensure that issues related to health influence the further design of the scheme. At a later date, commentary will be provided in the HIA on how the design of the proposed development has responded to any recommendations arising out of the HIA.

Abbreviations

A&E	Accident and Emergency
CEMP	Construction Environmental Management Plan
CPO	Compulsory Purchase Order
EIS	Environmental Information Statement
HIA	Health Impact Assessment
HGV	Heavy Goods Vehicle
HSSD	Health and Social Services Department
IMPACT UrHIA	Impact Urban Health Impact Assessment
JFH	Jersey Future Hospital
JGH	Jersey General Hospital
MSCP	Multi-Storey Car Park
NO2	Nitrogen Dioxide
PM10	Particulate Matter
SWMP	Site Waste Management Plan
WHO	World Health Organization
YOLL	Years of Life Lost

1 Introduction

1.1.1 This Heath Impact Assessment (HIA) has been prepared by Ove Arup & Partners Ltd (Arup) on behalf of the States of Jersey ("the Applicant") in respect of the proposed Jersey Future Hospital (JFH).

1.1.2 The HIA was carried out prospectively in order to help inform and influence decision making in relation to the Future Hospital. The aim of this HIA is to identify any impacts of the proposed new hospital on Islanders' health and wellbeing, to consider health inequalities and to identify opportunities for mitigation and enhancement measures to improve health outcomes.

1.1.3 The HIA focuses on impacts associated with the construction and operation of the hospital but does not include an assessment of the clinical impacts resulting from improved health service provision, since this has been assessed by the States of Jersey in identifying the case for the development.

1.1.4 This document outlines the approach to the HIA, including:

- Scheme description;
- Legislative and policy context;
- Approach and methodology;
- Community health and wellbeing profile;
- Assessment of effects; and
- Recommendations.

2 Proposed Development and Site Description

2.1 Proposed Development

2.1.1 Jersey Future Hospital Project is a proposal to develop a new hospital on the southwestern section of the existing Jersey General Hospital (JGH) site. The development aims to deliver a modern high quality hospital that meets best practice and that can continue to evolve as healthcare changes.

2.1.2 The site is located in St Helier, Jersey and lies to towards the north-western edge of the town centre, approximately 300 metres from the coast, which lies to the west. Sited within the St Helier Ring Road, the Jersey Future Hospital (JFH) is located at approx. 49°11'15.24"N, 2°06'43.72"W. The application site occupies a dense urban setting with Parade Gardens offering some open public space to the east.

2.1.3 An application for outline planning permission has been submitted for the proposed JFH with details of external appearance, materials and landscape reserved for future approval (except for external appearance, materials and landscape in respect of new public realm in relation to the Grade 1 Listed 1860 Granite Block and Gatehouse only).

2.1.4 The proposed development comprises a new hospital and associated public realm, on a site created by the demolition and redevelopment of parts of the General Hospital site and the whole of the Stafford and Revere Hotels, 33-40 (including Sutherland Court) and 44 Kensington Place. It includes associated highways and infrastructure and the addition of two half decks to Patriotic Street multi-storey car park (see Site Layout Plan in Appendix A).

2.1.5 The total area of the new building is approximately 45,000sq.m (with a footprint of approximately 10,000sq.m).

2.1.6 The demolition and construction of building the hospital will take place over a period of four years during which time some staff, services and patients will need to be relocated to alternative sites. The relocation of hospital functions including outpatients, pathology, and other services to Westaway Court, from within the buildings to be demolished would take place between 2018-2019. This may result in effects on health and wellbeing and therefore demolition and

construction phase impacts have been considered alongside the operational impacts of a new hospital facility.

2.1.7 In summary, the proposals are described in Table 2.1.

Table 2.1: Development proposals for Jersey Future Hospital

Development proposals	
Enabling works	Relocation of hospital functions from within the buildings to be demolished. It is understood that the majority of staff currently housed at Westaway Court would be relocated to The Limes, a former care home owned by the States of Jersey.
New hospital	A new hospital is proposed which would include the provision of approximately 280 bed spaces.
Patriotic Street Car Park	The addition of two half decks of parking to the existing car park and the provision of a link bridge over Newgate Street into the proposed JFH.
1860 Granite Block and Gatehouse (Grade 1 Listed Building)	External changes to the Granite Block (Grade I listed Building) to include removal of the glass atrium and modern extensions at the rear of the building. Changes to the forecourt to create new public realm and a drop-off area for the hospital.
Creation of new public realm	Creation of public realm to include pedestrian routes leading to the hospital including: - North-west to south-east from Kensington Place to Gloucester Street (one primary and one secondary pedestrian route); - A link from the Parade to the main front entrance of JFH; and - Footbridge leading from Patriotic Street car park to hospital building; and - A link between Newgate Street and Kensington Place The forecourt of the Granite Block would be opened up as a public realm to include patient drop-off. A communal amenity space is proposed with an outside space for staff, patients and the general public. The Open Space Public Realm Plan (Appendix B) shows the proposed new public realm

Development proposals	
	that would support JFH and improve the setting of the Granite Block.
Building heights	The main building would be up to 43m high consisting of up to 8 storeys and a basement and has been designed as a landmark building. The flue heights would be up to 47m.
Access and movement	Improvements to a number of highways and junctions within the redline boundary, including: - Gloucester Street - Kensington Place - Patriotic Street - Newgate Street - The Parade - Junction at Gloucester Street, Seaton Place and Patriotic Place - Junction at St Aubin's Road, Pierson Road and Kensington Place. All vehicular access and egress into the car park would be concentrated on the existing Patriotic Street and Kensington Place entrances. The current car park egress onto Newgate Street would be removed. - The drop off zone for patient transport services would be on Newgate Street adjacent to a rear pedestrian entrance into JFH. - The main taxi and private vehicle drop off would be within the remodelled Granite Block Forecourt which would be adjacent to the front entrance of the proposed JFH. - Emergency vehicles access would be located on Newgate Street, south-east of the proposed junction with Kensington Place. Ambulances would be able to access the proposed ambulance bay from Kensington Place, Patriotic Street and Gloucester Street. To exit ambulances would use either Newgate Street/Gloucester Street or Kensington Place/Kensington Street. - Service vehicles, including hearses would enter the site via an entrance to the south-west of the service block, off Kensington Place and exit at the north-eastern end of the service block onto an extended Newgate Street. This would be at ground level. - A bicycle parking zone would be provided within the basement of the proposed JFH.
Energy	The energy strategy has not yet been confirmed. For assessment purposes, oil fired boilers have been assumed.

Development proposals	
Drainage	Surface water from the site is proposed to utilise the existing surface water sewer on Gloucester Street which drains to the foreshore of St Aubin's Bay. Connections to this sewer from across the site would need to be provided. Foul water would drain to foul water sewers on Kensington Place, Newgate Street and Gloucester Street.

2.1.8 It should be noted that during the construction phase, the proposed JFH would require the demolition of buildings on Kensington Place, resulting in the loss of the following business premises:

- Stafford Hotel;
- Revere Hotel;
- Doran's Courtyard Bistro (ground floor of Revere Hotel);
- Cyrano's restaurant;
- Little Italy restaurant (no. 36);
- GC's Café (no. 40);
- 1-2-1 Hairdressers (no. 42); and
- Aroma's Restaurant (no. 44).

2.1.9 The proposed JFH would require the demolition of a number of residential properties on Kensington Place:

- 33-40 Kensington Place (inclusive of Sutherland Court); and
- 44 Kensington Place.

2.1.10 The demolition would affect both property owners and those currently renting property.

2.2 Site Description

The Application site

2.2.1 The site is located to the north-west of St Helier town centre. It comprises part of the existing General Hospital site. This comprises a disparate collection of buildings and associated infrastructure of

varying vintage; including the 1860 General Hospital Building 'the Granite Block' and Gatehouse (Grade 1 Listed) fronting onto Gloucester Street, the Stafford Hotel, the Revere Hotel and Sutherland Court, the multi-storey car park on Patriotic Street, Gwyneth Huelin Wing, and Peter Crill House. The variety of building types combined with the incremental nature of previous development has led to an incoherent feel to the site and the setting of heritage assets.

2.2.2 The site is set within a dense urban environment made up of a grid of streets with typically 5 to 6-storey built form fronting directly onto the streets.

Adjacent uses

2.2.3 To the north-west, the site is bound by Kensington Place, with a further two parallel blocks of urban form along Lewis Street and Peirson Road/St Aubin's Road lined by a mixture of historic and modern built form. Beyond these lie People's Park and Victoria Gardens, which are Grade 3 Listed.

2.2.4 To the north-east, the site is bound by two large post war 6 and 8 storey hospital buildings, which overlook the Parade and the Parade Gardens (Grade 2 Listed). This is a formal park of considerable historic, cultural, recreational and civic value at a local level.

2.2.5 To the north, Cheapside is a dense historic residential area beyond a short street of the same name with residential above retail frontages.

2.2.6 The site is bound by Gloucester Street to the south-east. From the south-east round to the west, dense urban form comprising medium to large varied post war built form interspersed with occasional historic listed buildings such as the Jersey Opera House (Grade 2 Listed).

2.2.7 Approximately 60m further south-west the streets open out onto the Esplanade with Les Jardins de le Mer and the beach beyond.

2.2.8 Main access routes around the application site include the Parade to the east, Gloucester Street to the south, Newgate Street and Patriotic Place running parallel to each other on the western side and Kensington Place to the North.

Town designations

2.2.9 The site is not covered by any island or international landscape or townscape designations.

3 Legislative and Policy Context

3.1 Introduction

3.1.1 This section outlines a review on Jersey policies relating to health and wellbeing, including the relevant development plan policies, health and wellbeing strategies, and community strategies.

States of Jersey Strategic Plan 2015 to 2018

3.1.2 Improving health and wellbeing is one of the aims of the States of Jersey Strategic Plan 2015 to 2018. A review published in 2011 concluded that without urgent reform and investment existing services would quickly reach capacity, safety would be compromised, waiting lists would grow and people's health would suffer. Declining health leads to social exclusion, loss of earnings, and adverse consequences in the wider economy.

3.1.3 Jersey is taking action to meet these challenges. In 2012, the States Assembly approved P.82/2012 'Health and Social Services: A New Way Forward', which set out a new care model, significant improvements to social care, and a planned programme for change. Central to the proposals was the need for a new, modern hospital to meet Jersey's future requirements, for integrated services that are delivered in partnership with the private and community sectors, and a sustainable funding mechanism.

3.1.4 The States of Jersey Strategic Plan 2015-2018 states that a new focus is required on health and wellbeing:

"*We must support people to stay healthy and independent. Social care will be critical. It is not enough, however, for prevention to be the sole responsibility of Health and Social Services. The whole of government and all sectors of society have a role to play. It is in everyone's interest for Islanders to live longer, healthier and more productive lives. Ultimately, it is our cumulative effort as a community that will determine what our future holds.*"

Revised 2011 Island Plan

3.1.5 The Revised 2011 Island Plan has many policies of direct or indirect relevance to the Future Hospital and health and wellbeing.

- **Policy E1 Protection of employment land**: The government seeks to protect land earmarked for employment purposes from residential or other development. As a small island with a finite amount of land this is particularly important in order to ensure Jersey can remain a self-sustaining economy.

- **Policy EO 1 New Office Development**: Sites identified for future office developments are at Pier Road/Commercial Buildings, North of the Masterplan area and Gloucester Street.
- **Policy ER 2: Protection and promotion of St Helier for shopping.** The government intends to protect and promote St Helier as the main retailing centre of the island with consideration of development that helps to enhance this function.
- **Policy EIW 4: Extensions or alterations to existing industrial buildings.** This is supported so long as it accords with the Islands General Development Principles relating to sustainability, impact on the environment and amenities in neighbouring areas, quality of design and its ability to reduce dependence on the car.
- **Policy EVE 1: Visitor accommodation, tourism and cultural attractions.** Permits development for new tourism accommodation and extensions to existing accommodation.

3.1.6 The Revised 2011 Island Plan recognises that "there is a need to put the emphasis on prevention of ill health rather than cure and to make healthy choice the easy choice based on three overriding policy aims:

- to promote high levels of health and wellbeing across the Island by ensuring that a healthy environment, healthy lifestyles and a high level of education prevail;
- to manage chronic diseases – diabetes, depression, chronic heart failure, respiratory diseases and others - to ensure that the most efficient (in cost terms) and effective (in clinical terms) range of services is provided to patients. This will include a more effective partnership between general practice-led primary care and the secondary care sector; and
- to ensure that older people enjoy long and high quality lives, living in their own homes so that they can enjoy the maximum level of independence."

The Sustainable Primary Care Strategy for Jersey 2015 – 2020

3.1.7 The Sustainable Primary Care Strategy for Jersey 2015 – 2020, adopted by States of Jersey in December 2015, aims to support the people of Jersey to lead healthy lives and empower patients to understand and manage their conditions, and provide a new emphasis for Public Health initiatives within primary care to support the health and wellbeing of the islanders.

3.1.8 Promotion of health and wellbeing will encourage self-responsibility and promote healthy lives. One of the aims of the Strategy is to improve access to information on health and services to ensure that the system will be simple to understand and administer with easily

available and accessible public information and education about services, and how to access them through various media.

Jersey's Strategic Framework for Children and Young People 2011

3.1.9 The Children's Policy Group commissioned Jersey's Strategic Framework for Children and Young People in November 2011. This is a cross departmental group that includes the ministers for Health and Social Services, Home Affairs, and Education, Sport and Culture. Jersey is a small island and the children and young people are not always able to access the same range of services, facilities or opportunities that others have in the UK, mainland Europe or elsewhere. The Strategic Framework for Jersey 2011 aims to ensure that resources are invested in a way that delivers the greatest possible benefits to all children and young people. It aims for all children and young people to grow up in a safe, supportive island community in which they achieve their potential and lead happy, healthy lives.

Jersey's Mental Health Strategy (2015)

3.1.10 The States of Jersey commissioned Jersey's Mental Health Strategy in November 2015. Improving mental health and treating mental illness are two of the biggest public health challenges in Jersey**.** The Mental Health Strategy identifies that:

- one in four people will experience a mental health problem at some point in their lifetime;
- more people in Jersey are now receiving treatment;
- people receive treatment faster than before;
- awareness and understanding of mental ill health has grown.

3.1.11 The Mental Health Strategy sets out how this will be achieved between now and 2021. As part of the commitment to improving the way health and social care services are delivered in the future, a review of all the services for mental health offered in Jersey was completed during 2015. The review considered prevention and recovery services, as well as clinical services which assess, diagnose and treat mental illness. Those involved in the review were asked to consider four main areas:

- public mental health and wellbeing (everyday stresses and strains);
- early intervention (nipping problems in the bud);
- acute intervention (when things get worse); and
- recovery and support (helping people to cope and return to normal).

3.1.12 The Mental Health Strategy sets out how appropriate mental health services will be delivered to Islanders, no matter what kind of need they have, between 2016 to 2021.

Health and Social Services Acute Service Strategy 2015 - 2024

3.1.13 The States of Jersey published Jersey's Health and Social Services Acute Service Strategy in May 2016. The term 'acute care' generally means care provided in hospital by hospital-based staff. This care is, however, best provided in partnership with General Practitioners ('primary care') and other colleagues such as district nurses, who provide 'out of hospital care'. A 'pathway of care' summarises how each of these members of the healthcare team make their contribution to the care of patients.

3.1.14 An Acute Service Strategy sets out a high level 'direction of travel' for Jersey General Hospital and how it will meet the challenges it faces in the coming years. In broad terms these are:

- an ageing population that creates increasing demand for hospital care;
- a rising expectation that hospital treatment will lead to better clinical outcomes, safer care and a better patient experience;
- an increasing ability of medicine to provide these treatments; and
- the increasing cost of hospital care at a time of financial challenge.

3.1.15 This Acute Service Strategy describes why Jersey needs to change the way the General Hospital will work in the future if services are to remain safe, sustainable and affordable on the Island. It acknowledges both the opportunities and limitations in providing acute hospital care on an Island with a relatively small population.

'Future Jersey' 2017 – 2037 (under public consultation)

3.1.16 In July 2017, the States of Jersey published 'Future Jersey' 2017-2037, the first long-term strategy published for the Island of Jersey. The strategy looks ahead 20 years to describe the economic, environmental and community ambitions of the Island for the future. The strategy is currently undergoing public consultation, which ended on 4th October 2017.

3.1.17 In considering the future, the strategy considers which societal trends observed on the Island over recent years it wishes to improve, continue or transform. In terms of health and wellbeing, it is suggested that the trend for lower alcohol consumption should be continued; that the trend for fewer smokers should be improved; and that the trends for high levels of obesity and low levels of wellbeing need to be

transformed to ensure improvement. Wider determinants of health are also considered in the strategy. Notably, it is suggested that the trends for greater social contact and greater levels of active travel should be continued.

4 Approach and Methodology

4.1 Geographical and Temporal Scope

Geographical scope

4.1.1 Some Census data for Jersey is available by parish but this is limited compared to the data published at lower geographical levels in the Census for England and Wales, which report down to ward areas of around 1500 residents. This ward level data is often used to derive community and health profiles of the populations affected by a Scheme for HIA. Given the size of the island, the scale of the Proposed Development, the fact it will serve the island as a whole, and the extent of the data available for Jersey, this HIA considers it appropriate that the geographical scope includes the whole of the Island of Jersey.

Temporal Scope

4.1.2 The HIA considered impacts that may arise during both the construction of JFH and once is operational. The likely duration of the impacts were identified within the assessment and were consistent with other relevant assessments such as the EIS. The construction period of the Scheme will be 7 years and the operation period of the Scheme will be around 60 years.

4.1.3 Construction of the proposed JFH will include a number of construction phases listed in Table 4.1.

Table 4.1: Construction phases for the proposed JFH

Construction phase	Description	Timeframe
Enabling/relocation works	Relocation of hospital functions from within the buildings to be demolished. It is understood that the majority of staff currently housed at Westaway Court would be relocated to The Limes, a former care home owned by the States of Jersey	2018 – 2019
Demolition	Demolition would last five months	2019
Main hospital construction	Construction of the main building would take approximately four years.	2020 – 2023
Commissioning and handover	Commissioning of new hospital, decommissioning of interim hospital including the refurbishment of the Listed Granite Block (for	2023 – 2025

	hospital educational and administrative uses) and creation of new public realm.	

4.2 Methodology

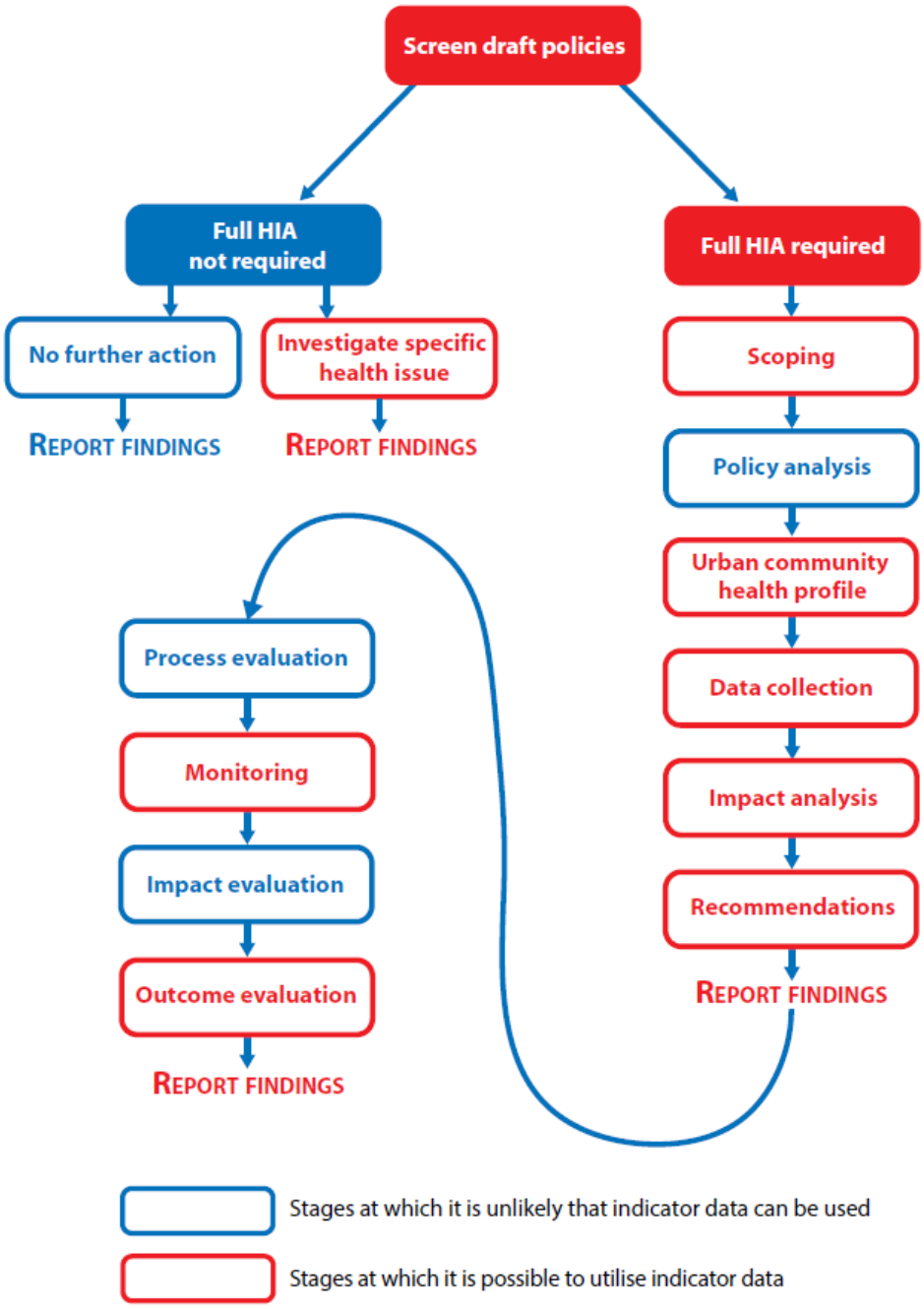
4.2.1 The HIA has been carried out using HIA guidance and best practice in England and Wales. The HIA has been undertaken in accordance with the IMPACT Urban Health Impact Assessment (UrHIA) methodology[2] as general guidance. There are various tools that can be used to identify determinants of health that are likely to be influenced by the development in question, with the aim of ensuring that the health impacts are identified and appropriate action is taken to address any negative impacts and maximise any benefits.

4.2.2 This HIA has been undertaken to include the following stages:

- **Scoping stage**:
  - identifying health determinants and vulnerable groups applicable to the proposed JFH;
- **Assessment stage:**
  - linking impacts on health determinants with resultant health effects; and
  - assessment of health effects.
- **Recommendations:**
  - making evidence-based recommendations to improve the health outcomes of the proposed development.

[2] Urban Health Impact Assessment Methodology (UrHIA), Impact, University of Liverpool, 2015

Figure 4.2: IMPACT UrHIA methodological framework



Scoping of health impacts

4.2.3 The initial scoping assessment allowed the prioritisation of determinants for further assessment in the HIA and those that were not relevant to the JFH were subsequently removed. The checklist set out in the IMPACT UrHIA guidance was used to conduct an initial review of the impacts of the JFH and then identify which determinants would be examined in further detail in the HIA. These determinants are

grouped into social and economic conditions, structural issues and individual and family issues.

4.2.4 These groupings reflect the determinants of health identified by the WHO[3] which are:

- the social and economic environment,
- the physical environment (structural), and
- the person's individual characteristics and behaviours (individual and family factors).

Many factors combine to influence the health of individuals and communities. Health is determined by circumstances and environment. Social and economic factors influence the conditions in which people live and include many factors that lie outside the healthcare sector such as education, employment and transport. Structural environmental factors such as air quality, water quality, noise exposure and housing quality are also important for health; as are individual factors such as diet and income. In fact, health care factors often have a far smaller impact on the health of individuals and communities than these socioeconomic, environmental and individual factors[4].

4.2.5 The results were recorded in a copy of the IMPACT UrHIA matrix, a copy of which is available in Appendix C. Section 6 of this report provides an assessment of impacts and health effects for those determinants that were taken forward for further examination.

4.2.6 From the outset, the health benefits associated with the provision of the new hospital and its services, were scoped out of the HIA. There are clearly major health benefits to the population of the provision of a new hospital facility and the clinical need for the JFH had already been clearly established by the States of Jersey. This means that the HIA does not need to consider health impacts on the population associated with the clinical presence of the hospital. However, under the IMPACT UrHIA methodology, other aspects of the scheme relating to the hospital setting or the patients and staff of the hospital may be considered. For example, noise exposure is considered in

[3] World Health Organization. (2012). Addressing the social determinants of health: the urban dimension and the role of local government. Copenhagen, Denmark: World Health Organization Europe.
[4] World Health Organization. (2012). Addressing the social determinants of health: the urban dimension and the role of local government. Copenhagen, Denmark: World Health Organization Europe.

relation to potential health effects on patients and staff within the hospital buildings, just as it is considered for other nearby populations. Some non-health/clinical aspects of the JFH such as the potential employment opportunities associated with the JFH are considered in relation to potential health effects on the Island's population as a whole. Thus, if the JFH has the potential to impact on population health in some way, other than in terms of clinical provision of healthcare, it is considered in the HIA.

4.2.7 It is also worth noting that the IMPACT UrHIA methodology assesses the impact of the scheme on access to healthcare services. Here, we have distinguished aspects of the construction and operation of the scheme which influence general access to the site and its services and do not make reference to access to specific healthcare services.

4.2.8 Some health determinants were scoped out of the HIA during the assessment, when it became clear that there were no impacts and health effects to be assessed. The health determinants scoped out at this stage were access to fresh food and diet; waste management infrastructure; public and commercial buildings; and substance use (legal and illegal).

Health literature review

4.2.9 A literature review was undertaken to establish the evidence for links between the health determinants identified at the scoping stage and potential health outcomes. The health assessment briefly summarises relevant literature for each health determinant.

4.2.10 Several types of literature have been used to inform the health assessment including research reports from organisations such as the World Health Organization, as well as literature reviews, and primary research studies. Given the population size, there is little research evidence that directly relates to the health determinants within the Jersey context. Therefore, the literature review draws on English, UK or international literature sources, where necessary, as a means of describing and identifying links between the health determinants and health outcomes.

Stakeholder engagement

4.2.11 The project team undertook stakeholder engagement during the HIA, with the view of identifying what people consider to be the key health effects of the construction and operation of the JFH; how health and

wellbeing benefits could be maximised; and how any potential adverse health and wellbeing effects could be minimised.

4.2.12 A range of stakeholders were engaged to seek opinions to inform the HIA. Both internal hospital and external stakeholders' opinions were sought. In particular, various stakeholders with an interest in health were approached, as well as stakeholders based in the vicinity of the Scheme, to gain views on construction and operational effects. The stakeholder engagement included face-to-face interviews with key public health stakeholders including the Executive Director, Mind, Jersey (26.06.17); the Medical Director and Responsible Officer, Primary Care, Health and Social Services, States of Jersey (26.06.17); the Director and Co-Director of Environmental Health, States of Jersey (27.06.17); and the Principal Planner, States of Jersey (27.06.17). The views of the public and local community were also sought through the engagement events being held as part of the EIS. Advertisements on the Scheme website and posters located in the vicinity of the existing hospital, which invited stakeholders to provide feedback to the HIA team (28.06.17 – 12.07.17). We were also able to incorporate responses received after this date into the health assessment (see Appendix D). Certain topics or issues raised during this process by stakeholders may sit outside the scope of the HIA and are addressed elsewhere in the project, such as in the Environmental Information Statement.

Assessment of health effects

4.2.13 A qualitative assessment was undertaken to identify potential health effects associated with the construction and operation of the JFH. The assessment comprised a qualitative judgement based on qualitative and quantitative data about the impacts on health determinants. This included information about the nature (positive or negative) of impacts on health determinants, their duration, the size and nature of the population exposed, and the scope for mitigation and enhancement. It also identified any barriers to accessing health facilities and services. Information was drawn from the engagement exercise, from the EIS, Transport Assessment and other relevant documents. Reference was made to evidence collated in the literature review linking health determinants with health outcomes.

4.2.14 Many groups concerned with health, including the WHO, advocate a wider, social understanding of health. The broader understanding of health is captured in the WHO definition:

'Health is a state of complete physical, mental and social well-being and not merely an absence of disease or infirmity[5]*'.*

4.2.15 The social model of health[6] considers the range of environmental, social, economic and fixed factors (or determinants) that influence health and wellbeing. The key determinants of health can be categorised as follows:

- Pre-determined factors such as age, genetic make-up and gender are fixed and strongly influence a person's health status.
- Social and economic circumstances such as poverty, unemployment and other forms of social exclusion strongly influence health, and improving them can significantly improve health.
- How the environment in which people live, work and play is managed – its air quality, built environment, water quality – can damage health, or provide opportunities for health improvement.
- Lifestyle factors such as physical activity, smoking, diet, alcohol consumption and sexual behaviour, can have significant impacts on health.
- Accessibility of services such as off-island and on-island health care services such as complex cancer care and other tertiary services, education, social services, transport (especially public transport) and leisure facilities influence the health of the population.

4.2.16 Of these, only the pre-determined factors are unlikely to be influenced by a development proposal. The HIA therefore considered all relevant health determinants other than pre-determined factors.

4.2.17 The impacts of the proposed scheme may affect the population in the immediate communities near to the scheme, as well as at a wider regional, in this case Island, level.

4.2.18 There is no established or widely accepted framework for assessing the 'significant' health effects of a development proposal. The health significance of an environmental impact is typically a function of the 'magnitude' and 'duration' of the change to health determinants and the extent of the population exposed to this change. Assessment is also made as to whether there are populations that are vulnerable to health effects from the community and health profiles. Assessment is also made as to whether the effect on health determinants is direct or

[5] World Health Organization (WHO), (2007). Constitution of the World Health Organization, Geneva, 1946.
[6] Dahlgren G, Whitehead M (1992). *Policies and strategies to promote equity in health.* Copenhagen, WHO Regional Office for Europe.

indirect; positive or negative; and permanent or temporary. This approach permits the HIA to describe the impacts on health determinants in a largely qualitative manner, with some structure given to the relative scale of these impacts to give a sense of the importance of the potential health effects. However, this approach does not provide a clear basis for drawing conclusions as to whether a health effect is likely to be significant.

4.2.19 To ensure a consistent approach across individual topic assessments, the following Significance Matrix and standard terminology has been used. See Table 4.2.

Table 4.2: Impact Significance Matrix

		Exposure		
		Regional (Jersey)	Local (St Helier)	Local (populations in close vicinity to the site)
Magnitude of impact on health determinant	Very high	Major	Major	Moderate
	High	Major	Major	Moderate
	Moderate	Moderate	Moderate	Minor
	Low	Minor	Negligible	Negligible
	Very low	Negligible	Negligible	Negligible

4.2.20 The significance of an environmental impact on a health determinant has been assessed as follows:

- **Major:** a very high impact on a health determinant at a regional (Island) level.
- **Moderate:** a very high impact on a health determinant at a local population level.
- **Minor:** a very low impact on a health determinant considered at a regional (Island) level or a low impact on a health determinant considered at a local population level.
- **Negligible:** a very low impact on a health determinant considered at a local population level.

Recommendations

4.2.21 The HIA has highlighted a number of recommendations with regards to:

- Prioritised health issues and opportunities for enhancement relating to the existing Future Hospital plans;

- Further potential areas of improvement in relation to the planned changes of the existing surrounding area and effects on health and wellbeing;
- Key aspects of good practice arising from the HIA, which should be shared more widely across the Island's projects.

4.2.22 The recommendations cover a range of issues including the physical aspects of the existing area and the proposed Future Hospital, as well as recommendations relating to the management and delivery of the project during its construction and operation.

4.3 Limitations and assumptions of the study

4.3.1 Literature and baseline data used in the study has been limited to readily available public and published sources. The information contained within the EIS and other project documents has been used to characterise the study area and identify impacts on health determinants.

4.3.2 The approach to the assessment of health impacts is generally qualitative, identifying likely positive and negative impacts based on the relationships between determinants and health outcomes identified within the literature reviewed.

4.3.3 The HIA methodology allows stakeholders the opportunity not just to raise issues and identify potential health impacts, but consider how best to enhance or mitigate the impacts these might have on the determinants of their health, prioritise those that are of greatest relevance to them, and make appropriate recommendations to decision makers. Should outline planning permission be granted, an update to the HIA will be undertaken to incorporate any new information and, in addition, record how recommendations contained within this current HIA report have been enacted and/or influenced the project. It is anticipated that this will be a publicly available document.

5 Community Health and Wellbeing Context

5.1 Introduction

5.1.1 The community and health profile focuses on population demographics, socio-economic status and community health. Any vulnerable groups within the population, who may be particularly susceptible to health effects, have been identified.

5.1.2 Appendix E gives a detailed description of the community and health profile, which gives a picture of the health and social-demographic context of the proposal in order to understand its potential health impacts and the particular population groups that may be affected.

5.1.3 The profiling has involved collecting and analysing secondary (existing) data on a number of indicators that relate to the content and context of the proposal, and its possible impacts on health or health determinants. Indicators are measurable variables that reflect the state of a community or of persons or groups in a community.

5.1.4 A summary of key issues identified in the community and health profiles are provided below.

5.2 Community Profile

5.2.1 The total population of Jersey at the end of 2016 was 104,200[7]. The population is forecast to increase considerably over the next few decades, with most of the increase in population expected to be due to inward migration[8].

5.2.2 The island has a large proportion of residents of working age, with 70% aged between 15 and 64. There are correspondingly low proportions of children and of residents in older age groups, with a total of 15% of residents aged 65 and over[9].

5.2.3 Jersey has enjoyed the benefits of a high-performing economy for many years. In 2015 86% of the working age population were recorded as being economically active and Jersey's employment is dominated by the private sector. Levels of unemployment on the Island are low[10].

[7] Jersey Resident Population Estimate 2016 report available from www.gov.je, published 23rd June 2017.
[8] Jersey Resident Population Estimate 2016 report available from www.gov.je, published 23rd June 2017.
[9] Census 2011
[10] Jersey Resident Population Estimate 2016 report, available from www.gov.je, published 23rd June 2017.

5.2.4 In the 2011 Census, 46.4% of the population of Jersey reported their ethnicity as Jersey, 32.7% as British and 8.2% as Portuguese/Madeiran[11].

5.3 Health Profile

5.3.1 Residents in Jersey have high rates of good or very good self-reported health[12], with higher life expectancy rates than England and Wales[13].

5.3.2 The main causes of death in Jersey between 2013 and 2015 were cancers (34%), followed by circulatory diseases (26%). For comparison, in England and Wales, cancer was the most common cause of death in 2015 (27.9% of all deaths registered), followed by circulatory diseases, such as heart diseases and strokes (26.2%)[14].

5.3.3 20% of Jersey residents report having a longstanding illness, disability or infirmity that lasted at least 12 months[15]. As expected, this proportion varies significantly between age groups.

5.3.4 In 2016, around 14% of the adult population in Jersey were classified as clinically obese[16]. For comparison, data published as a part of the World Health Organization (WHO) study in 2014 indicated that 28.1% of adults in the UK were clinically obese with a Body Mass Index (BMI) greater than 30[17].

5.3.5 In Jersey, an average of approximately 4000 children under five attend accident and emergency (A&E) each year.

5.3.6 Between 2013 and 2015, 22% of children aged 4-5 were overweight or obese. This rose to 32% for children between 10 and 11 years old. Approximately 22% of children reported being physically active for an hour a day in a 2014 survey[18]. This was higher in males (27%) than females (16%).

---

[11] http://www.indexmundi.com/jersey/demographics_profile.html
[12] Jersey Health and Life Opportunities survey 2015
[13] Jersey Health Profile 2016
[14]https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/deaths/bulletins/deathsregisteredinenglandandwalesseriesdr/2015#dementia-and-alzheimer-disease-was-the-leading-cause-of-death-in-2015
[15] Jersey Health Profile 2016
[16] Jersey Health Profile 2016
[17] *"Prevalence of obesity, ages 18+, 2010-2014". World Health Organization. Retrieved 25 February 2016*
[18] A picture of health. Jersey 2014: reflections of the health and lifestyle of young people aged 10-15 years

5.3.7 In 2015, 19% of adults aged 16 or over in Jersey were smokers[19]. For comparison, in 2016, 15.5% of adults were smokers in England[20].

5.3.8 The following groups have been identified as particularly vulnerable to health effects from the community and health profiles:

- Older people;
- Low income/low socioeconomic groups;
- People with disabilities;
- Those with long-term illness;
- Ethnic minority groups.

[19] Jersey Health Profile 2016.
[20] Public Health England Health Profiles 2016

6 Assessment of Effects

6.1 Social and Economic Conditions

6.1.1 Education

Literature Review

6.1.1.1 The World Health Organization (WHO)[21] identifies education as an important health determinant affecting the health of individuals and communities. Low education levels are linked with poor health, more stress, and lower confidence. The Marmot Review[22] examining health inequalities in England identified links between educational attainment and physical and mental health.

6.1.1.2 The majority of evidence linking educational attainment with health outcomes ties in educational attainment with socio-demographic status more broadly. A review by the Joseph Rowntree Foundation[23] states that improved qualifications can lead to better wages and employment, providing greater access to the health benefits associated with good, secure employment. Another review suggested that 'people with better qualifications are more likely to have healthy lifestyles, to be fitter and slimmer – and such health advantages can be transferred to the next generation at the earliest age'[24].

6.1.1.3 Training is a form of work involving the application of physical or mental effort to improve skills, knowledge or other personal resources, which can improve chances of employment and career progression. Young adults who undertake training have been shown to have improved health compared with those who are unemployed. Training was noted to be particularly important for mental health,

[21] World Health Organization. (2012). Addressing the social determinants of health: the urban dimension and the role of local government. Copenhagen, Denmark: World Health Organization Europe.
[22] Marmot, M. (2010). The Marmot Review. 2010. Fair Society, Health Lives. Marmot Review.
[23] Joseph Rowntree Foundation. (2014). Reducing Poverty in the UK: A collection of evidence reviews. . Joseph Rowntree Foundation.
[24] Feinstein, E.. (2008). Social and personal benefits of learning. Centre for research on the wider benefits of learning. London, UK.: Institute of Education, University of London.

general wellbeing and for the longer-term social development of school leavers[25].

Construction Phase

6.1.1.4 The existing hospital buildings, including the Gwyneth Huelin Block and Peter Crill House, will be demolished, which will have a disruptive effect on educational and training services at the hospital. This could negatively impact on health and wellbeing for the population working at the hospital and in the health sector on the Island. The magnitude of this impact is evaluated as very low and the duration as temporary. **This health effect has been assessed as direct, negative, temporary, negligible.**

Operation Phase

6.1.1.5 During the operation phase, there will be better and up-to-date facilities provided for medical staff and/or students who are training which can enhance their learning. This is considered to result in a beneficial effect on wellbeing and health for the population working at the hospital and working in the health sector on the Island. The magnitude of this impact is evaluated as very low and the duration as permanent. **This health effect has been assessed as direct, positive, permanent, negligible.**

6.1.2 Employment & Household Income

Literature Review

6.1.2.1 There is a large body of evidence linking employment with health. The Marmot Review identified six evidence-based policy objectives to reduce health inequalities, one of which was to create fair employment and good work for all. The Review stated that 'being in good employment is protective of health. Conversely, unemployment contributes to poor health'.

6.1.2.2 A wide range of mechanisms for the health benefits of employment have been suggested. "The health benefits of employment 'are believed to reflect a combination of material (e.g., income and the resulting access to resources) and psychological outcomes, such as

[25] Waddell, G. (2006). Is work good for your health and wellbeing. London: The Stationary Office.

social role and status, access to social networks and support, and a sense of purpose/achievement' and that 'in contrast, excluded individuals experience a set of multiple, and often entrenched, disadvantages including limited social support and networks, inadequate financial resources, and poor employment and health'[26].

6.1.2.3 It is well documented that unemployment has a negative effect on health, including mental illness, physical complaints such as coronary heart disease, and higher all-cause mortality[27].

6.1.2.4 There is a large body of evidence linking income levels with health. The World Health Organization identifies income as an important health determinant affecting the health of individuals and communities[28]. Higher income is linked to better health; the greater the gap between the richest and poorest people, the greater the differences in health[29].

6.1.2.5 The Joseph Rowntree Trust identified several reasons why people in disadvantaged communities tend to have poorer health at most stages of life [30]:

- Material: money buys goods and services that improve health. The more money families have, the better the goods they can buy.
- Psychosocial: managing on a low income is stressful. Comparing oneself to others and feeling at the bottom of the social ladder can be distressing, which can lead to biochemical changes in the body, eventually causing ill-health.
- Behavioural: for various reasons, people on low incomes are likely to adopt unhealthy behaviours – smoking and drinking, for example, while those on higher incomes are able to afford healthier lifestyles.
- Reverse causation (poor health leads to low income): health may affect income by preventing people from taking paid employment.

[26] Olesen, S. (2013). Mental health affects future employment- as job loss affects mental health: findings from a longitudinal population study. *BMC Public Health. , 13*, 144.
[27] Kim, T. and Knesbeck, O. (2015). Is an insecure job better for health than no job at all? A systematic review of studies investigating the health-related risks of both job insecurity and unemployment. . *BMC Public Health. , 985*, 15.
[28] World Health Organization. (2003). *Social determinants of health: the solid facts 2nd edition.* Copenhagen, Denmark.: World Health Organization Europe.
[29] World Health Organization. (2003). *Social determinants of health: the solid facts 2nd edition.* Copenhagen, Denmark.: World Health Organization Europe.
[30] https://www.jrf.org.uk/report/how-does-money-influence-health

Childhood health may also affect educational outcomes, limiting job opportunities and potential earnings.

Construction Phase

6.1.2.6 There will be employment opportunities during the construction of the proposed JFH for the local population on Jersey, however a high proportion of skilled construction staff are likely to come from outside Jersey. The proposed development would create employment and provide training opportunities in the Jersey construction industry over a period of 5.5 years, from October 2017 until January 2023. It is estimated that the total number of construction worker hours required to undertake the project is approximately 458,000. Assuming 235 working days per year, this would translate into 1,950 construction years of employment. Using the standard benchmark of 10 years of construction employment equalling one full time equivalent (FTE) construction job, the scheme would generate in the region of 195 FTE jobs. These employment opportunities could influence health and wellbeing in the local population. However, considered across the population, the magnitude of this impact is evaluated as low and the duration as temporary. **This health effect has been assessed as direct, positive, temporary, minor.**

6.1.2.7 The presence of construction employment in the local area (e.g. accommodation and leisure) would have an indirect beneficial impact on the local economy, for example by helping to boost trade in local shops and cafes. This economic impact could influence health and wellbeing in the local population by providing local employment opportunities. Whilst levels of unemployment on the Island are low, this would further help to reduce unemployment levels and prevent negative health effects associated with unemployment. However, the magnitude of this impact is evaluated as low and the duration as temporary. **This health effect has been assessed as indirect, positive, temporary, minor.**

6.1.2.8 In addition to the direct employment effects arising from the construction of the proposed development, there would be some potential for local businesses to benefit from opportunities in the technical supply chain. This economic impact could influence health and wellbeing in the local population by providing local employment opportunities. However, while local suppliers will be used wherever

possible, it is anticipated that the contractor is likely to source most of the necessary raw materials and prefabricated components and machinery from the UK mainland through pre-existing supply arrangements. As a result, it is expected that the supply linkage multiplier associated with construction is likely to be considerably lower than would be expected for comparable projects on the UK mainland. Considered across the population, the magnitude of this impact is evaluated as very low and the duration temporary. **This health effect has been assessed as indirect, positive, temporary, negligible**.

6.1.2.9 There are several businesses located in the JGH including the League of Friends which runs a shop and café using volunteers; the Thyme Out restaurant run by States of Jersey Health and Social Services Department (HSSD), and Lil's Café which is privately run. There is also a local undertaker business that uses facilities within the hospital. It is understood that the League of Friends shop and café will remain in situ in the interim, and will maintain a presence in the future hospital. Thyme Out will also remain within the existing hospital in the interim and will transfer to the future hospital. The lease for Lil's Café is due to end prior to the demolition of the existing hospital buildings. This economic impact associated with disruption and loss of trade during the construction period could influence health and wellbeing in the local population by affecting local employment. Working with affected businesses to minimise disruption and loss of trade could help to mitigate this effect. Considered across the population, the magnitude of this impact is evaluated as low and the duration temporary. **This health effect has been assessed as direct, negative, temporary, minor.**

6.1.2.10 The presence of the JGH in this area is a major contributor to the availability of stores and services. Hospital staff, patients, and visitors patronise many of the businesses in the area bringing around-the-clock economic vitality that otherwise would be lacking. During the construction phase, the proposed JFH would require the demolition of buildings on Kensington Place, resulting in the loss of business premises. The loss of these businesses could have a negative impact on health and wellbeing, through stress and anxiety, as well as the economic impact associated with business loss, job loss, and unemployment. However, given the low rates of unemployment the vast majority of workers should be able to find alternative local employment. Business owners would be compensated and would have

money to set up elsewhere and perhaps retain employees. Taking this into account, the magnitude of this impact is evaluated as medium and the duration temporary. **This health effect has been assessed as direct, negative, temporary, minor/moderate.**

Operation Phase

6.1.2.11 There will be employment opportunities during the operation stage of the proposed JFH. The expanded hospital will provide a 57% increase in floor space of core departmental areas. Table 6.1. taken from the Socio-economic Assessment (Chapter 14 of the EIS) outlines the future demand and increases in patient numbers, which are expected to lead to a proportionate increase in demand for clinical and administrative staff which could impact on population health and wellbeing by providing employment opportunities. Considered across the Island's population, the magnitude of this impact is evaluated as low and the duration permanent. **This health effect has been assessed as direct, positive, permanent, minor.**

Table 6.1: Current and Forecast Patient Numbers

Patient Type	Current (2016)	Forecast (2025)
Inpatient	36,283	41,075
Theatre cases	11,370	12,706
Outpatient appointments	206,204	231,578
Emergency Dept. Attendances	39,168	42,906

Source: EY Interim Data (May 2017)

6.1.2.12 The new hospital is anticipated to provide new commercial space up to 741sqm that will be within the hospital itself and on key street frontages on Kensington Place. This will allow for further retail/concession outlets within the hospital and its curtilage. Based on an employment density per square metre of 15-20, this new floorspace could sustain or create between 35 and 50 jobs within the retail or restaurant/café sectors. However, this figure includes replacement or reprovided floorspace for businesses that currently exist within the hospital, and so the total floorspace and employment figure cannot be considered 'additional', i.e. an increase on the existing situation. It is not known how many people are currently employed by businesses within the existing hospital. However, it can be assumed that there will be some beneficial effect in terms of sustaining existing jobs as

well as providing additional opportunities for employment, which could benefit population health and wellbeing. Considered across the population, the magnitude of this impact is evaluated as low and the duration permanent. **This health effect has been assessed as direct, positive, permanent, minor.**

6.1.3 Childcare

Literature Review

6.1.3.1 Access to childcare is a direct and indirect determinant of health. Parents need to be in control of the choices they make in balancing work and family life, and to have access to a range of high quality services and support when they feel they need it[31]. Access to childcare enables parental employment and associated income, both of which can directly influence health. Access to childcare can help families break out of the cycle of poverty and worklessness, as well as improving children's educational outcomes. A survey by the Department of Education (UK) identified that 17% of parents experienced difficulties with childcare arrangements that prevented them from doing paid work, or from doing paid work during the hours that they wanted[32], with the main difficulties being the availability and affordability of childcare. The 2016 Jersey Opinions and Lifestyle Survey found that 1 in 5 households with children used friends or relatives to look after their children while they work[33]. A high proportion stated that this was because they could not afford other childcare options (45%) and that other childcare options did not fit around their work (21%).

Construction Phase

6.1.3.2 There are no construction impacts to be considered.

Operation Phase

6.1.3.3 The JFH scheme will generate jobs, which will create increased demand for childcare. The choice of childcare options on the island is limited, so this additional employment may create additional demand

[31] Choice for parents, the best start for children: a ten-year strategy for childcare. 2004. HM Treasury.
[32] Parents' views and experiences of childcare. 2013. Department for Education.
[33] Jersey Opinions and Lifestyle Survey 2016, Statistics Unit, States of Jersey.

for childcare. Population health and wellbeing could be affected by the stress and anxiety associated with the availability and affordability of childcare, as well as by limiting options for employment. The magnitude of this impact was evaluated as medium and the duration permanent. **This health effect has been rated as direct, negative, permanent, minor/moderate.**

6.1.4 Crime and fear of crime

Literature Review

6.1.4.1 Community safety is crucial in determining health and wellbeing. It has been stated that 'a healthy community protects and improves the quality of life for its citizens, promotes healthy behaviours and minimizes hazards for its residents, and preserves the natural environment.' The effects of crime on health include both direct effects, for example through violence, and indirect effects such as social and psychological effects arising from fear of crime[34].

6.1.4.2 A recent review undertaken by Lorenc et al[35] looked at qualitative evidence on the fear of crime and the environment, noting that most research on crime and health focuses on the direct health effects suffered by victims of crime. However, indirect effects of crime and its broader influence on individuals and communities may also have important effects on wellbeing.

6.1.4.3 Social inequalities are particularly marked in urban environments, with different population subgroups experiencing impacts to different degrees. Older people are identified as being particularly likely to suffer as a result of fear of crime.

Construction Phase

6.1.4.4 Effective implementation of site security measures, outlined in a CEMP, including lighting, security patrols and on-going consultation with local crime prevention officers should minimise potential impacts and reduce the fear of crime associated with the construction site.

[34] British Medical Association (1999). 'Health and Environmental Impact Assessment: an Integrated Approach'. Earthscan Publications Ltd.
[35] Lorenc, T., Petticrew, M., Whitehead, M., Neary, D., Clayton, S., Wright, K., Thomson, H., Cummins, S., Sowden, A., Renton, (2012). A. Fear of crime and the environment: systematic review of UK qualitative evidence, BMC Public Health. 13: 496.

This should avoid direct and indirect impacts of fear of crime on population health and wellbeing. Therefore, it is considered that overall there will be no adverse effects on wellbeing associated with increased crime or fear of crime during the construction phase. The magnitude of the impact was evaluated as very low and the duration temporary. **This health effect has been rated as direct, negative, temporary and negligible**.

Operation Phase

6.1.4.5 During the operation phase, there will be on site security. Therefore, it is considered that overall there will be no adverse effects on wellbeing associated with increased crime or fear of crime during the operation phase. The magnitude of the impact was evaluated as very low and the duration permanent. **This health effect has been rated as direct, negative, permanent, negligible.**

6.1.5 Community interaction

Literature Review

6.1.5.1 Social capital is used to define the benefits that individuals accrue from their participation in cohesive groups or social networks within their community and includes factors such as social support from friends, involvement in community groups and networks, and trust resulting from such activities[36]. It is closely linked to social cohesion, which is defined as the quality of social relationships and existence of trust, mutual obligations and respect in communities or the wider society[37]. Social cohesion is closely related to levels of inequality or exclusion within a given community.

6.1.5.2 The physical environment can directly influence social capital and social cohesion, as social networks rely on high quality, accessible spaces where people can meet, pursue activities and form relationships. It is also linked to transport infrastructure, which

[36] Cockerham, W. (2017). The social determinants of chronic disease. *American Journal of Preventive Medicine , 52*, S5-S12.
[37] World Health Organization. (2003). *Social determinants of health: the solid facts 2nd edition.* Copenhagen, Denmark.: World Health Organization Europe.

enables individuals to integrate within and move outside of their own community.

6.1.5.3 A recent literature review concluded that social capital effects physical and mental health at both the individual- and the population-level, finding that social capital influences the self-management of chronic diseases, such as diabetes and chronic obstructive pulmonary disease, as well self-reported health, depressive symptoms, body mass index, and positive health behaviours[38]. This review highlighted several ways in which social capital can influence health: "through a direct extension of resources to an individual via reciprocity exchange (e.g. caregiving, transportation to medical appointments), through its effect on health-related behaviours (e.g. tobacco and alcohol use, diet, exercise), or by its impact on other social determinants, such as education, employment and volunteering. Social capital also affects health by mitigating the threat of stress-inducing circumstances." Social capital can influence health through 'collective efficacy' where cohesive groups undertake health-promoting action together.

6.1.5.4 A systematic review of social capital in children and adolescents found that social capital generated at both the family and community level can influence mental health and behavioural problems in young people, of particular importance is the young person's own network of social support[39]. Young people also "accrue indirect benefit from their parents having wider and higher quality social support networks".

6.1.5.5 Within the Jersey context, levels of social capital and social support appear to be generally high, with over four-fifths (86%) of Jersey residents having someone in Jersey they count on to help[40]. However, levels of support do vary and some groups in the population may be more vulnerable to impacts on social capital. A small proportion of residents (3%) had no friends or relatives in Jersey or elsewhere to count on to help in times of trouble. Residents born outside the Island reported being less likely to have friends or relatives in Jersey to count on if they were in trouble. Nearly one in ten (9%) Jersey residents born in Portugal reported not having a relative or friend in Jersey or elsewhere whom they could count on. Nearly one in ten Islanders (9%) 'rarely' or 'never' socialised face-to-face with people outside

[38] Cockerham, W. (2017). The social determinants of chronic disease. *American Journal of Preventive Medicine , 52*, S5-S12.
[39] McPherson, K. (2014). The association between social capital and mental health and behavioural problems in children and adolescents: an integrative systematic review. BMC Psychology , 2, 7.
[40] Jersey Health Profile 2016

their household and this was particularly high for those who are unable to work due to sickness or disability, of whom, nearly one-third (32%) 'rarely' or 'never' socialised outside their household[41].

Construction Phase

6.1.5.6 During the construction phase, the proposed JFH would require the demolition of buildings on Kensington Place, resulting in the loss of business premises. Local residents would no longer be able to use these facilities, which may have a minor impact on social capital. However, these businesses will receive funds that would enable them to move and reopen their businesses, where possible, which would potentially mitigate this effect. Hopefully, the new premises will enable existing levels of social capital to be maintained and supported. Taking this mitigation into account, the magnitude of this impact has been evaluated as low. **This health effect has been rated as direct, negative, permanent, minor.**

Operation Phase

6.1.5.7 The proposed JFH will provide opportunities for community interaction. The new hospital will incorporate a major new communal roof garden at plinth level that will have views across the roof tops of St. Helier and also to the sea. This communal roof garden will provide recreational and therapeutic spaces for patients, families and staff and be a mix of planted and hard landscaped spaces. Beyond the communal garden there will be opportunities to create smaller 'hanging gardens' within the facade of the hospital that relate to specific patient areas and activities such as a children's garden or staff roof terrace. These facilities could impact on social capital in the community by providing opportunities for community interaction. Therefore, overall there will be a beneficial effect on health and wellbeing associated with social cohesion during the operation phase. The magnitude of this impact has been evaluated as high and the duration permanent. **This health effect has been rated as direct, positive, permanent, moderate.**

[41] Jersey Health Profile 2016

6.1.6 Access to sports and other opportunities for physical activity.

Literature Review

6.1.6.1 Active travel applies to modes of transport that require physical activity (i.e. cycling and walking), in contrast to modes that require little physical effort such as motor vehicles. Physical activity associated with active travel brings about health effects. Regular physical activity can reduce the risk of many chronic conditions including coronary heart disease, stroke, type 2 diabetes, cancer, obesity, mental health problems and musculoskeletal conditions. Even relatively small increases in physical activity are associated with some protection against chronic diseases and an improved quality of life'[42].

6.1.6.2 Research suggests that most sustained exercise is taken during the course of everyday activities such as travelling to work or going to the shops, rather than specifically for health purposes[43].

6.1.6.3 A systematic review[44] has shown that the environment has an effect on people's participation in physical activity, which in turn affects their health. The evidence linked transport, the environment and physical activity and includes:

- access to physical activity facilities;
- distance to destinations;
- levels of residential density;
- type of land use;
- urban walkability scores;
- perceived safety;
- availability of exercise equipment; and
- the provision of footways.

6.1.6.4 Changing the environment can lead to unintended changes in patterns of mobility, physical activity and therefore impact population health[45]. The intervention of transport systems designed to promote active travel such as cycling and walking can reap health benefits by

[42] Chief Medical Officers. (2011). *Start Active, Stay Active: A report on physical activity from the four home countries.*
[43] Caldwell, L. (2005). Leisure and health: Why is leisure therapeutic? *British Journal of Guidance and Counselling , 33*, 7-26.
[44] National Obesity Observatory. (2011). *Data sources: environmental influences on physical activity and diet.*
[45] Ogilvie D, M. R. (2010). Shoe leather epidemiology: active travel and transport infrastructure in the urban landscape. Journal of Behavioural Nutrition and Physical Activity, 7 (1), 43.

increasing physical activity, reducing morbidity from air pollution and reducing the risk of road traffic accidents by decreasing the number of journeys undertaken by motor vehicles[46]. Road safety interventions can also help to encourage physical activity by creating a safer physical road environment and reducing the level of danger posed to vulnerable road users[47].

6.1.6.5 For the UK, the recommended level of physical activity for adults is to engage in at least five sessions of moderate intensity activity each of at least 30 minutes per week[48]. Over half (55%) of respondents to Jersey Annual Social Survey 2015 reported an activity level which met or exceeded this recommendation. A slightly higher proportion of men (59%) met or exceeded this recommended level of physical activity than women (51%). There had been no significant change in reports of levels of physical activity of residents in 2015, compared with reports in 2013. Fewer than one in ten (9%) of adults in Jersey aged 16 or over reported undertaking no physical activity at all.

Construction Phase

6.1.6.6 During the construction phase, it is anticipated that at the peak of the demolition and construction works an average of 84 construction vehicles will need to access the site each day. These additional movements could contribute to increased congestion, and deter pedestrian movements and may have a medium impact on the fear and intimidation of cyclists/pedestrians. These impacts on pedestrian and cyclists may influence health and wellbeing by curtailing active travel and causing stress and anxiety. The magnitude of this impact has been evaluated as medium and the duration as temporary. **This health effect has been rated as direct, negative, temporary, minor/moderate.**

6.1.6.7 The closure of the existing pedestrian accesses into Jersey General Hospital (JGH) from Newgate Street are anticipated to have a medium impact on pedestrian movements. This will impact on active travel walkability, perceived safety and provision of walkways, potentially affecting health and wellbeing. To mitigate this, a new access route is proposed into the hospital from Gloucester Street. Taking this mitigation into account, the magnitude of this impact has been

[46] Sustainable Development Commission. (2008). Health, Place and Nature.
[47] Vernon, D. (2014). Road Safety and Public Health. Royal Society for the Prevention of Accidents.
[48] UK Department of Health, www.dh.gov.uk

evaluated as low and the duration temporary. **This health effect has been rated as direct, negative, temporary, minor.**

6.1.6.8 The increased traffic flows on Patriotic Place and Lewis Street are likely to have a medium impact on pedestrian delay in the absence of any mitigation. This could affect levels of stress and anxiety and active travel. However, it is considered that the increase in traffic will be mitigated due to the signalled crossing on Patriotic Place and the potential 20mph speed limit on Lewis Street. Taking this mitigation into account, the magnitude of this impact has been evaluated as very low and the duration temporary. **This health effect has been rated as direct, negative, temporary, negligible.**

Operation Phase

6.1.6.9 The proposed JFH will provide new pedestrian links with new public spaces and open up a network of pedestrian routes through St Helier thus encouraging staff and visitors to access the hospital via active travel. As part of the proposed JFH, a footway/cycleway is proposed which would provide a link between the future hospital and The Parade, Gloucester Street and Kensington Place. Pedestrian access to the future hospital would also be enabled by the construction of at least one footbridge between Patriotic Street MSCP. This footbridge would remove any potential conflict between pedestrians and vehicles on Newgate Street. These aspects will increase active travel, thereby impacting population health and wellbeing. The magnitude of this impact has been evaluated as medium and the duration permanent. **This health effect has been rated as direct, positive, permanent, minor/moderate.**

6.1.6.10 Cycle parking for staff would be provided within the basement of the proposed JFH. It is proposed to double the existing provision of cycle stands to 150. In addition, showers would be provided alongside changing facilities and lockers. These aspects will increase active travel, thereby impacting health and wellbeing of the staff. The magnitude of this impact is evaluated as medium. **This health effect is assessed as direct, positive, permanent, minor/moderate.**

6.1.6.11 Once the patient drop-off has been relocated to Gloucester Street, it is proposed to remove on-street parking on the Parade, reduce the carriageway width to 6m and increase the footway width on the south-west side of the road. This will improve pedestrian amenity and

reduce traffic speeds on the Parade. Increased pedestrian amenity will impact health by encouraging active travel and reducing stress associated with travel. The magnitude of this impact is evaluated as medium and the duration permanent. **This health effect has been assessed as direct, positive, permanent, minor/moderate.**

6.1.7 Access to healthcare services

Literature Review

6.1.7.1 Access to health facilities has a direct positive effect on health[49]. Access to healthcare is important for communities as healthcare offers information, screening, prevention and treatments. Restricted access to healthcare prevents patients gaining necessary treatments and information. Everyone has a fundamental right to preventative healthcare and the right to benefit from medical treatment. Alongside lack of income, inappropriate housing, and unsafe workplaces, poor access to healthcare is one of the factors that can greatly affect the health of individuals and communities[50].

6.1.7.2 Access to healthcare services is affected by transport modes, availability of financial support for those on low incomes and the location of healthcare services. Groups impacted by disability, long-term illnesses and older people are more dependent on health and social care services[51], and are therefore more vulnerable if access to health and social care services becomes restricted.

6.1.7.3 It is important to state that in this HIA access to healthcare services is considered in the general sense, in terms of whether certain population groups may experience difficulties with accessing medical treatment during the construction and operation of the JFH. As previously described, it is not the role of the HIA to assess the clinical need for the hospital and the services provided within, as this case has already been established by the States of Jersey.

[49] HUDU. (2013). Planning for Health. Rapid Health Impact Assessment Tool. London: National Health Service, London Healthy Urban Development Unit.
[50] Jersey Health Profile 2016
[51] Harner, L. (2004). Improving patient access to health services: a national review and case studies of current approaches. Health Development Agency.

Construction Phase

6.1.7.4 The construction of the Proposed Scheme would require the demolition of existing hospital buildings. This would result in various reconfigurations of existing service provision within the existing site and the temporary relocation of non-core services off site. A number of stakeholders were concerned about accessing regular services at the hospital during the construction phase and changes to the level and type of services during operation. The relocation of hospital functions, including outpatients and pathology to Westaway Court, from within the buildings to be demolished would take place between 2018-2019. Services that would be relocated off site are medical records storage and distribution; staff accommodation; corporate services, administration, education and training; and catering provision. It is not expected that this would have any material impact on the ability of the hospital to deliver care or services. Access to healthcare for the Jersey population will not be restricted and therefore, no impact on health is expected. The magnitude of the impact is evaluated as very low. **This health effect has been assessed as direct, negative, temporary, negligible.**

6.1.7.5 The construction of the Proposed Scheme will result in the temporary displacement of some existing disabled and blood donor parking. This will affect accessibility to the hospital, particularly for the disabled, which may impact on physical health, and stress and anxiety. The magnitude of this impact is evaluated as medium. **This health effect has been assessed as direct, negative, temporary, minor/moderate.**

Operation Phase

6.1.7.6 A patient drop-off is proposed between the Gatehouse and the Granite Block, and would be accessed from Gloucester Street. This would operate in a clockwise direction to ensure that passengers exit the vehicle onto a footway. Pedestrian amenity would be improved and traffic speeds reduced on the Parade once the patient drop-off has been relocated to Gloucester Street. It is proposed to remove on-street parking on the Parade, reduce the carriageway width to 6m and increase the footway width on the south-west side of the road. These design features should enhance the accessibility of the hospital for many patients, impacting on population health and wellbeing. The magnitude of this impact was evaluated as medium and the duration

permanent. **This health effect has been assessed as direct, positive, permanent, minor/moderate.**

6.1.7.7 During the operation stage, it is anticipated that the Westaway Court site will be redeveloped into community care facilities such as the provision of outpatient clinics. This will have a beneficial effect on access to community and health care facilities for the elderly, disabled and chronically ill within the population. The magnitude of this impact was evaluated as medium and the duration permanent. **This health effect has been assessed as direct, positive, permanent, minor/moderate.**

6.1.7.8 As previously described, the HIA has not assessed the impact of the clinical services provided in the JFH on population health, as the need for the hospital has already been established by the States of Jersey. The JFH should be considered to have a direct, positive, permanent and major effect on population health.

6.1.8 Access to Public Transport

Literature Review

6.1.8.1 Research indicates that public transit improvements and more transit oriented development can provide large but often overlooked health benefits. People who live or work in communities with high quality public transportation tend to drive significantly less and rely more on alternative modes (walking, cycling and public transit) than they would in more automobile-oriented areas. This reduces traffic crashes and pollution emissions, and increases physical fitness and mental health. These impacts are significant in magnitude compared with other planning objectives, but are often overlooked or undervalued in conventional transport planning[52].

6.1.8.2 High quality public transportation (convenient, comfortable, fast rail and bus transport) and transit oriented development (walkable, mixed-use communities located around transit stations) tend to affect travel activity in ways that provide large health benefits, including reduced traffic crashes and pollution emissions, increased physical fitness,

[52] Litman, T (2010), Evaluating public transportation health benefits. Victoria Transport Policy Institute.

improved mental health, and increased affordability which reduces financial stress to lower-income households.

6.1.8.3 Traffic casualty rates tend to decline as public transit travel increases in an area. Residents of transit-oriented communities have only about a quarter the per capita traffic fatality rate as residents of sprawled, automobile-dependent communities[53].

Construction Phase

6.1.8.4 There are bus stops located along The Parade, Gloucester Street, the Esplanade and near Westaway Court along Elizabeth Place. The construction works would not affect access to the bus stop located near Westaway Court. During the construction phase, temporary road closures will affect access to bus stops on The Parade and Gloucester Street, which would increase walking distances, particularly affecting the elderly and disabled. This would also impact on journey delay. This will add to journey stress and anxiety and may also impact on physical health for those with existing disorders. The magnitude of this impact is evaluated as medium and the duration temporary. **This effect has been rated as direct, negative, temporary, minor/moderate.**

6.1.8.5 The displacement of public parking from Patriotic Street MSCP to Pier Road MSCP during improvement works is likely to have a moderate impact on pedestrian delay on some JGH staff and other existing users of the MSCP. This will add to journey stress and anxiety. To mitigate this delay, a temporary bus service is proposed, if necessary, for the period in which works are being undertaken to Patriotic Street MSCP. The bus service will operate between the Pier Road MSCP, bus stops on the Esplanade and the bus stop on The Parade. This service is considered to reduce the magnitude of the impact of pedestrian delay on health determinants to low. **This health effect has been rated as direct, negative, temporary, minor.**

Operation Phase

[53] Litman, T (2010), Evaluating public transportation health benefits. Victoria Transport Policy Institute

6.1.8.6 There are no operational impacts to be considered.

6.2 Structural Issues

6.2.1 Housing

Literature Review

6.2.1.1 Housing quality and design affects both physical and mental health. Poor housing is associated with a range of health problems including cardiovascular diseases, respiratory diseases, neurological, cognitive, and mental health issues including depression and anxiety[54], with poor housing often being defined as aspects of the internal environment such as damp, mould, low temperatures, overcrowding, noise, and poor conditions.

6.2.1.2 Housing security provides financial and social stability. The WHO identified links between secure home ownership and physical and mental health: "financially secure homeownership has been linked to improved health, which may be due to better housing quality and feelings of security"[55].

6.2.1.3 A recent cross-sectional study has shown that people living in social housing experience worse health outcomes than owner-occupiers[56]. This is attributed to a number of factors: environmental quality is often worse in social housing due to poor design and lower levels of maintenance, and mental wellbeing and self-esteem are improved when people feel they live in desirable homes or neighbourhoods. Social housing can be associated with anti-social behaviour, and lower levels of perceived safety[57].

6.2.1.4 Involuntary or prompted relocation of people from their homes has been shown to influence health outcomes. Disturbance to people's

[54] Houses of Parliament. (2001). *Postnote 371, Housing and Health.*
[55] World Health Organization (2005). Is housing improvement a potential health improvement strategy? WHO, Europe.
[56] Ellaway et al. (2016). Are housing tenure and car access still associated with health? A repeat cross-sectional study of UK adults over a 13 year period. *British Medical Journal* , *6*, 11.
[57] Ellaway et al. (2016). Are housing tenure and car access still associated with health? A repeat cross-sectional study of UK adults over a 13 year period. *British Medical Journal* , *6*, 11.

living and social environment and routine may precipitate stress and health deterioration in relocated individuals[58].

Construction Phase

6.2.1.5 The proposed JFH would require the demolition of a number of residential properties on Kensington Place – 33-40 Kensington Place (inclusive of Sutherland Court) and 44 Kensington Place. The demolition would affect both property owners (those with a freehold interest) and those currently renting property. Given the pressures on housing in some sectors of the market established in the baseline, the magnitude of the effect is considered to be high and the duration permanent. This could cause adverse effects on residents' wellbeing through increased levels of stress and anxiety, uncertainty, and disruption of social and support networks. **This health effect has been rated as direct, negative, permanent, moderate.**

6.2.1.6 It is assumed that much of the construction workforce would be sourced from outside of Jersey, predominantly from the UK mainland. There would, therefore, be a requirement for suitable accommodation for these 'off-island' workers over the course of the construction programme. This will bring a medium increase in demand in the commercial rental market over the baseline. This could impact the health of residents on the Island through increased levels of stress and anxiety and uncertainty in relation to housing availability and cost. The magnitude of this impact is evaluated as medium and the duration temporary. **This health effect has been rated as direct, negative, temporary, minor/moderate.**

6.2.1.7 In addition to the construction workforce, the construction of the proposed development would also require replacement housing for key workers at the hospital currently accommodated at Westaway Court. This could cause adverse effects on staff wellbeing through increased levels of stress and anxiety, uncertainty, and disruption of social and support networks. It is understood that the majority of staff currently housed at Westaway Court would be relocated to The Limes, a former care home owned by the States of Jersey. Ownership would gradually be transferred to Andium Homes, the States' Housing Company, who would manage the building. Alternative housing

[58] Heller, T., 1982, The Effects of Involuntary Residential Relocation: A Review, American Journal of Community Psychology, 10 (4): 471- 492, cited in BAA, 2008, The G2 Project: A Health Impact Assessment, Annex A. HIA Gateway, West Midlands Public Health Observatory.

provision would be required for a small number of staff that could not be relocated to The Limes. Those who could not be relocated to The Limes may experience impacts on wellbeing through increased levels of stress and anxiety, uncertainty, and disruption of social and support networks. Given the relatively small number of staff involved and that most will be rehoused directly, the magnitude of these impacts is rated as low and the duration temporary. **These health effects have been assessed as indirect, negative, temporary, negligible.**

Operation Phase

6.2.1.8 No operational impacts on housing have been identified.

6.2.2 Green space (including parks)

Literature Review

6.2.2.1 Access to open space, green space and nature has health benefits, in relation to increasing physical activity[59], as well as for mental wellbeing[60] [61].

6.2.2.2 A literature review by the Forestry Commission[62] found that proximity, size and amount of green space available to people in urban environments influenced physical and mental health outcomes. Key health benefits of green space identified were:

- "Long and short term physical benefits associated with obesity, life expectancy, heart rate and blood pressures;
- "attention and cognitive benefits associated with restoration, mood, and self-esteem;
- physical activity benefits associated with the use of green space;
- self-reported benefits in terms of health and life satisfaction;

[59] Scrivens, K. S. (2013). *Four interpretations of social capital: an agenda for measurement. Working Paper no. 55.* OCDC.
[60] Gong Y, P. S. (1996). A systematic review of the relationship between objective measurements of the urban environment and psychological distress. *Environment International* , 48-57.
[61] Lee, A. (2010). The health benefits of urban green space: a review of the evidence. *Journal of Public Health , 33* (2), 212-222.
[62] O'Brien L, W. K. (2010). *Urban health and health inequalities and the role of urban forestry in Britain: a review.* . The Research Agency of the Forest Commission.

- community cohesion benefits through social contact fostered by green space".

6.2.2.3 Studies have found that the amount of green space and the walkability, connectivity and accessibility of the neighbourhood influence adult and children's mental health and physical health[63] [64]. The attractiveness or quality of green space is also an important determinant of use of green space[65].

6.2.2.4 Contact with nature has positive health benefits through its positive effects on blood pressure, cholesterol and stress reduction, with particular relevance to mental health and cardiovascular disease[66]. Green space can also provide spaces to promote social interaction and cohesion[67], and reduce social annoyances and crime, all of which can contribute to the mental health of individuals[68].

6.2.2.5 Vulnerable populations: Often the poorest people experience poorer quality outdoor environments and suffer disproportionately from a lack of equitable access to ecology and green spaces. Recent research has suggested that there is a positive association between the percentage of green space in a person's residential area and their perceived general health and that this relationship is strongest for lower socio-economic groups[69].

Construction Phase

6.2.2.6 During the construction phase, the construction activities such as noise and the visual effects of the construction site would have a short term temporary effect on the amenity of park users within the Parade Gardens opposite the JFH, which would impact on health and wellbeing affecting physical activity, restoration and relaxation, physical and mental health. Disturbance from construction vehicles to residents and users of the Parade Gardens will be mitigated and

[63] Lee, A. (2010). The health benefits of urban green space: a review of the evidence. *Journal of Public Health , 33* (2), 212-222.
[64] Ward, J. S. (2016). Ward et al, 2016. The impact of children's exposure to greenspace on physical activity, cognitive development, emotional wellbeing, and ability to appraise risk. *Health and Place , 40*, 44-50.
[65] Croucher, K. M. (2007). *The links between greenspace and health: a critical lilterature review.* Greenspace Scotland.
[66] Maller, C. T. (2005). Healthy Nature Healthy People. *Health Promotion International , 21* (10).
[67] Lee, A. (2010). The health benefits of urban green space: a review of the evidence. *Journal of Public Health , 33* (2), 212-222.
[68] Maas, J. (2006). Green space, urbanity and health: how strong is the relation? *Journal of Epidemiology and Community Health , 60* (7), 587-592.
[69] Maas, J. (2006). Green space, urbanity and health: how strong is the relation? *Journal of Epidemiology and Community Health , 60* (7), 587-592.

minimised through implementation of the CEMP which is likely to include such measures as not leaving engines idling, minimising the need to wait on the public highway and also managing vehicle movements to avoid unnecessary queuing. The magnitude of the impact has been evaluated as medium and the duration temporary. **This health effect has been assessed as direct, negative, temporary, minor/moderate.**

Operation Phase

6.2.2.7 As part of the proposed JFH, a footway/cycleway is proposed which would provide a link between the future hospital and the Parade, which would increase pedestrians'/cyclists' connectivity to open space, which would impact on health and wellbeing affecting physical activity, restoration and relaxation, physical and mental health. The magnitude of the impact has been evaluated as medium and the duration permanent. **This health effect has been assessed as direct, positive, permanent, minor/moderate.**

6.2.3 Road safety

Literature Review

6.2.3.1 There is good evidence linking road safety to health and wellbeing. Additional HGVs on the road network can influence the risk of serious accidents and fatalities, particularly those involving non-motorised vehicles. An average of 300 people are slightly injured on Jersey roads each year and 50-60 people are seriously injured. In 2015 there were no fatalities from road traffic injuries in Jersey, the first year since 2002[70]. Between 2011 and 2015 there were no road traffic fatalities of children (under 16 years), although 16 children were seriously injured over this period. In 2016, there was one child fatality.

6.2.3.2 According to the Government's Transport Analysis Guidance, fear of accidents is highest when speed, flow and the HGV content are high[71]. However, the rate of fatal or serious accidents involving HGVs is reducing significantly due to improved awareness and safety measures. The Department for Transport show that there were around

[70] Jersey Health Profile 2016
[71] Department for Transport. (2013). *Transport analysis guidance: WebTAG.* Department for Transport, UK.

81 fatal or serious accidents involving HGVs per billion HGV vehicle miles in 2015[72]. This figure was lower than the rate for all vehicles (117 accidents per billion vehicle miles) and has decreased from 139 per billion HGV vehicle miles in 2003.

Construction Phase

6.2.3.3 As part of the EIS, an analysis of the Road Traffic Collision data has been undertaken within the study area. As set out in the Transport Assessment, no correlations were identified between highway layout, design or condition that were considered contributory factors in the pattern of accidents. The magnitude of the impact is rated as very low for the general population and the duration temporary. However, one stakeholder group has raised issues relating to the impact of road safety on vulnerable sight impaired pedestrians. The sight impaired pedestrians would have learned the existing routes and would have difficulties with diversions and reading diversion signage. This group would also be affected by the change in vehicular access moving in the opposite direction than they are used to. These changes could increase stress and anxiety and increase accidents for sight impaired pedestrians. The magnitude of the impact is rated as high for this group and the duration temporary. **This health effect is therefore assessed as direct, negative, temporary, moderate.**

Operation Phase

6.2.3.4 As part of the EIS, an analysis of the Road Traffic Collision data has been undertaken within the study area. As set out in the Transport Assessment, no correlations were identified between highway layout, design or condition that were considered contributory factors in the pattern of accidents. The magnitude of the impact is rated as very low and the duration negligible. **This health effect is assessed as direct, negative, permanent, negligible.**

6.2.4 Transport infrastructure

Literature Review

6.2.4.1 The relationships between transport and health are multiple and complex, and transport also provides access to work, education, social

[72] Domestic Road Freight Statistics, U. K.

networks and services, which can improve people's opportunities[73] and health. Access to public transport and the ease of travel (public and private) around the Island of Jersey are important for public health.

6.2.4.2 Journey ambience is identified as an appraisal criterion in the Government's Transport Analysis Guidance[74] and comprises three factors, one of which is traveller stress. The guidance defines traveller stress as *'the adverse mental and physiological effects experienced by travellers'*. The guidance states that *'the three factors influencing traveller stress are identified as frustration, fear of potential accidents and route uncertainty. Taken together, these can lead to feelings of discomfort, annoyance, frustration or fear culminating in physical and emotional tension that detracts from the quality and safety of a journey … The extent of stress will depend on the traveller's driving skill and experience, temperament, knowledge of the route and state of health.'* Influences on frustration are identified as including *'a driver's inability to drive at a speed consistent with his or her own wishes relative to the standard of the road (e.g. congestion), or delays on public transport'.*

Construction Phase

6.2.4.3 The stakeholder responses highlighted concerns regarding traffic congestion around the hospital and the town, and the risk that construction vehicles could exacerbate these issues. Traffic congestion might impact journey ambience, increasing levels of stress and frustration. The magnitude of this impact was evaluated as medium and the duration temporary. However, the design of the scheme will mitigate traffic congestion, through the use of alternative access sites and phased closure of roads reducing the length of time that roads are closed; these actions should reduce levels of stress and frustration, reducing the magnitude of the impact to low. **The health effect has been rated as direct, negative, temporary, minor.**

6.2.4.4 Individuals using the hospital and organisations delivering supplies raised concerns about site access during construction. The availability and cost of parking, particularly for regular visitors, was also of

[73] Social exclusion and the provision and availability of public transport: report by TRaC at the University of North London for the Department of the Environment, Transport and the Regions. London: Department of the Environment, Transport and the Regions, 2000.
[74] Department for Transport. (2013). *Transport analysis guidance: WebTAG.* Department for Transport, UK.

concern. Concerns were also raised about where construction workers would park. Concerns about access to parking may lead to increased levels of stress and frustration. Whilst there is limited scope to propose any physical works to mitigate this impact, it is envisaged the CEMP will propose a network of banksmen that will operate on Kensington Place, Kensington Street and Newgate Street to control HGV deliveries. It is likely that having banksmen in operation will reduce the impact on fear and intimidation. The proposed temporary bus service, between the Pier Road MSCP, the Esplanade and The Parade would also mitigate some of these parking concerns. The magnitude of this impact was rated as medium and the duration temporary. **This health effect is rated as direct, negative, temporary, minor/moderate.**

6.2.4.5 Effects on pedestrian amenity have already been assessed in the section on active travel, above.

Operation Phase

6.2.4.6 As part of the proposed JFH, a footway/cycleway is proposed which would provide a link between the future hospital and The Parade, Gloucester Street and Kensington Place. Pedestrian access to the future hospital would also be enabled by the construction of at least one footbridge between Patriotic Street MSCP. This footbridge would remove any potential conflict between pedestrians and vehicles on Newgate Street and should reduce levels of stress and anxiety associated with using the site, as well as reducing accidents. Cycle parking for staff would be provided within the basement of JFH, along with showers, changing facilities and lockers. This could influence health and wellbeing by encouraging active travel for staff. The magnitude of these impacts is evaluated as medium and the duration permanent. **These health effects have been assessed as direct, positive, permanent, and minor/moderate.**

6.2.4.7 A patient drop-off is proposed between the Gatehouse and the Granite Block, and would be accessed from Gloucester Street. This would operate in a clockwise direction to ensure passenger exit the vehicle onto the footway. This should impact health by improving journey ambience and reducing stress and anxiety associated with dropping patients/visitors at the hospital. The magnitude of this impact is rated

as medium and the duration permanent. **This health effect is assessed as direct, positive, permanent, minor/moderate.**

6.2.5 Energy sources

Literature Review

6.2.5.1 Climate change is the projected rise in global temperatures as a result of anthropogenic development which is likely to contribute to continued changes in weather patterns, rising sea levels and increased frequency and intensity of extreme weather events.

6.2.5.2 The UK Climate Projections (UKC09)[75] have stated that the UK should expect a shift generally towards wetter winters and a greater proportion of precipitation to fall as heavy events. There is a predicted rise in temperature and greater likelihood of drier summers has been suggested, but the various projections cover a wide range of outcomes from climate change.

6.2.5.3 There are direct impacts linking the environment and health such as heat-related effects, flooding and poor air quality and indirect impacts such as fuel poverty, access to green space and disruption to services and access to items such as healthy food. Many of the health impacts are therefore interrelated with the health determinants and associated health impacts previously mentioned.

6.2.5.4 Chalmers et al[76] concluded that certain people are expected to be the most vulnerable to climate change and this includes:

- poorly housed or non-mobile individuals;
- the population living in high risk places such as flood zones and coastal locations; and
- socially isolated or those individuals otherwise unable to adapt to change.

[75] http://ukclimateprojections.metoffice.gov.uk/21678
[76] Chalmers H, Pilling A and Maiden T (2008) Adapting to the Differential Social Impacts of Climate Change in the UK

Construction Phase

6.2.5.5 The construction phase is not assessed to have any significant impacts on energy sources.

Operation Phase

6.2.5.6 An older, less efficient combustion plant which is currently in operation at the hospital will be replaced with low Nitrogen Oxide (NOx) boilers and stand-by generators. For the purpose of the HIA it has been assumed that there would be six, oil-fired boilers (two of which would be stand by only), spread across two plant rooms. Use of these boilers would require there to be two stacks at roof level where emissions to air from these sources would be exhausted. Stand by generators in these plant rooms would also be required for emergency use only. An environmental permit may be required for the installation of the new boilers. The building systems used by the development would take advantage of energy saving devices and best practice control systems to maximise energy efficiency and the fabric of the building will manage environmental heat. This would impact health via effects on air quality and thermal comfort. The magnitude of the impact is assessed as medium and the duration permanent. **This health effect is assessed as direct, positive, permanent, minor/moderate.**

6.2.6 Water quality

Literature Review

6.2.6.1 The quality of water, whether used for drinking, domestic purposes, food production or recreational purposes has an important impact on health. Water of poor quality can cause disease outbreaks and it can contribute to background rates of disease manifesting themselves on different time scales[77].

Construction Phase

6.2.6.2 The surface water drainage around the site falls into the surrounding States of Jersey sewers, which in turn outfall to St Aubin's Bay

[77] World Health Organisation (WHO) Water Quality and Health Strategy 2013 – 2020

without treatment. There are also relatively recent (2008) examples of the Flood defences being overtopped, with flood waters reaching Gloucester Street, although not reaching the existing hospital site. During construction, sediment will be generated from a number of activities which may include excavation, additional vehicle movements, and material and earth stock piling. Where sediments enter a water body, the level of suspended solids would increase which would result in an increase in turbidity and potentially a reduction in dissolved oxygen. Both of these would affect the chemical water quality and therefore could influence health. In order to mitigate the potential impact to St Aubin's Bay through discharge of water to surface water sewer, all site works would be undertaken with the terms of the Construction Environmental Management Plan (CEMP). Construction vehicles would be properly maintained to reduce the risk of hydrocarbon contamination and would only be active when required. Construction materials would be stored, handled and managed with due regard to the sensitivity of the local aquatic environment and thus the risk of accidental spillage or release would be minimised. Considering these plans, the magnitude of the impact is evaluated as very low. **The health effect is assessed as direct, negative, temporary, negligible.**

Operation Phase

6.2.6.3 Surface water drainage is proposed to utilise the existing surface water drainage connections around the site. As the site is currently impermeable, the overall flow is not anticipated to increase. The proposed foul flows from the JFH, are likely to be increased from the current flows due to the additional floor space provided by the Future Hospital. The existing foul drainage network has the capacity to take flows from the hospital. Water quality will not be impacted, and therefore, nor will health. The magnitude of the impact is considered very low and the duration permanent. **This health effect has been assessed as direct, negative, permanent, negligible.**

6.2.7 Air quality

Literature Review

6.2.7.1 Evidence on the relationship between road traffic emissions and respiratory health is well established. Transport accounts for around

29% of the UK's C02 emissions[78]. A WHO report in 2000 suggested that about 36,000–129,000 adult deaths a year are brought forward due to long-term exposure to air pollution generated by traffic in European cities[79]. The main health damaging pollutants released as emissions from road traffic are Particulate Matter (PM10 – particulate matter up to 10 micrometers in size) and nitrogen dioxide (NO2).

6.2.7.2 Analysis of the relationship between air quality and social deprivation in England, showed that there is a tendency for higher relative mean annual concentrations of nitrogen dioxide (NO2) and particulate matter (PM10) in the most deprived areas of the country[80]. This distribution can largely be explained by the high urban concentrations driven by road transport sources, and the higher proportion of deprived communities in urban areas.

6.2.7.3 Dust emissions from construction operations can impact on long-term particulate (PM10) concentrations and exposure to PM10 has been associated with a range of health effects[81]. PM10 exposure over the short-term (hours/days) and the long-term (months/years) has been associated with respiratory and cardiovascular illnesses including aggravations of asthma, respiratory symptoms, and an increase in hospital admissions, as well as with mortality from cardiovascular and respiratory diseases and lung cancer[82]. The quantity of dust emitted from construction operations will be related to the area of land being worked, the level of construction activity in terms of nature, magnitude and duration, weather conditions, and wind direction[83]. Emissions from construction vehicles passing over unpaved ground can be particularly important[84].

[78] Environment Agency. (2004). Addressing environmental inequalities, Position Statement.
[79] World Health Organization. (2000). *Transport, environment and health. WHO Regional Publications European Series No.89.* Copenhagen, Denmark: World Health Organization Europe.
[80] Defra, Natcen, Department for Communities and Local Government, National Statistics. (2006). *Air Quality and Social Deprivation in the UK: an environmental inequalities analysis (AEAT/ENV/R.2170).* London: Defra.
[81] Holman, C. (2014). *IAQM Guidance on the assessment of dust from demolition and construction.* London: Institute of Air Quality Management.
[82] World Health Organization . (2013). *Health effects of particulate matter.* Denmark: World Health Organization Europe.
[83] Holman, C. (2014). *IAQM Guidance on the assessment of dust from demolition and construction.* London: Institute of Air Quality Management.
[84] Holman, C. (2014). *IAQM Guidance on the assessment of dust from demolition and construction.* London: Institute of Air Quality Management.

6.2.7.4 Populations thought particularly vulnerable to the effects of PM10 are those with pre-existing lung or heart disease, the elderly and children[85] [86].

Construction Phase

6.2.7.5 Stakeholders raised concerns over the dust produced from demolition and construction works and its impact on the health of local residents and hospital users. The air quality assessment as part of the EIS concludes that with dust control measures and wider mitigation outlined no significant residual effects are anticipated during the demolition /construction phase. The dust emitting activities be greatly reduced or eliminated by applying the site-specific mitigation measures for high risk sites according to the IAQM guidance. The following measures from the guidance are relevant and should be included in the Construction Environmental Management Plan for the site:

- Develop and implement a stakeholder communications plan that includes community engagement before work commences on site.
- Display the name and contact details of person(s) accountable for air quality and dust issues on the site boundary. This may be the environment manager/engineer or the site manager.
- Display the head or regional office contact information.
- Develop and implement a Dust Management Plan, which will include measures to control other emissions, and which will be approved by Environmental Health at the Department of Environment, States of Jersey.

Considering the assessment in the EIS and the planned mitigation, the magnitude of the impact is evaluated as very low and the duration

[85] World Health Organization . (2013). *Health effects of particulate matter.* Denmark: World Health Organization Europe.
[86] Defra, Netcen, Department for Communities and Local Government, National Statistics. (2006). *Air Quality and Social Deprivation in the UK: an environmental inequalities analysis (AEAT/ENV/R.2170).* London: Defra.

temporary. **The health effect is assessed as direct, negative, temporary, negligible.**

Operation Phase

6.2.7.6 The proposed JFH will result in an increase in pollutants from additional traffic during the operational phase. The Transport Assessment[87] shows that the largest predicted change in 'Annual Average Daily Traffic' is an increase of 189 Leyland DAF Vans (LDVs) and 8 Heavy Goods Vehicles (HGVs) on Kensington Place. However, these increases do not exceed the criteria set out in the EPUK/IAQM guidance and therefore a detailed assessment of the effects on air quality from road traffic is not required. Guidance suggests that these increases will not influence physical health. The impact on local air quality from operational traffic would be negligible on people living in residential properties along Kensington Place and Gloucester Street and hospital patients/staff. The magnitude of this impact is evaluated as very low and the duration permanent. **This health effect is assessed as direct, negative, permanent, negligible.**

6.2.7.7 Following the EPUK/IAQM methodology, the combustion plant's process contribution and predicted pollutant concentrations at 1.5m above ground level at the area of maximum impact for all pollutants was assessed. The impact of the proposed JFH would be negligible for all pollutants and therefore no health impacts are expected. The magnitude of this impact was evaluated as very low and the duration permanent. **This health effect is assessed as direct, negative, permanent, negligible.**

6.2.8 Noise

Literature Review

6.2.8.1 According to the WHO, noise may adversely affect the health and well-being of individuals or populations[88]. More recently, the WHO

[87] Arup Traffic Impact Assessment – Jersey Future Hospital 2017
[88] World Health Organization. (2000). *Guidelines for Community Noise.* Geneva, Switzerland: World Health Organization Europe.

has stated that 'Environmental noise is a threat to public health, having negative impacts on human health and well-being'[89].

6.2.8.2 A recent review concluded that exposure to environmental noise (e.g. road traffic noise, railway noise and aircraft noise) "leads to annoyance, disturbs sleep and causes daytime sleepiness, increases the occurrence of hypertension and cardiovascular disease, and impairs cognitive performance in school children"[90]. The WHO also recognizes these health linkages[91]. Noise exposure is thought to cause physiological and psychological stress reactions in individuals, which in turn can lead to increases in cardiovascular disease risk factors such as blood pressure and blood fats[92] and changes in stress hormones, associated with poorer mental health, and anxiety, and depressive disorders[93].

6.2.8.3 The WHO suggests that some people may be less able to cope with the impacts of noise exposure and be at greater risk for harmful effects, including the elderly, the physically ill, those with existing mental illness, people with hearing impairment, and young children. Families with lower income tend to have lower mobility but greater exposure to adverse environmental conditions related to noise pollution[94].

6.2.8.4 Vibration can co-occur with noise exposure. A study of human response to vibration in residential environments found that during the construction phase of a railway line, the majority of respondents considered the vibration and noise unacceptable, whilst the residents described getting used to the vibration and noise associated with the operation of the railway line[95]. This suggests that construction noise, possibly because it can involve noisier and less predictable activities such as piling, is likely to be more annoying and unacceptable to local residents than long-term operational noise.

---

[89] World Health Organization. (2009). *Night Noise Guidelines for Europe.* Geneva, Switzerland: World Health Organization.
[90] Basner, M. B. (2014). Auditory and non-auditory effects of noise on health. *The Lancet , 383,* 1325-32.
[91] World Health Organization. (2011). *Burden of Disease from Environmental Noise.* Geneva, Switzerland: World Health Organization Europe.
[92] Babisch, W. (2014). Updated exposure-response relationship between road traffic noise and coronary heart diseases: A meta-analysis. *Noise and Health , 16,* 1-9.
[93] Clark, C. & Paunovic, K. (In press). Systematic review of the evidence on the effects of environmental noise on mental health, wellbeing and quality of life. *International Journal of Environmental Research and Public Health.*
[94] World Health Organization. (2011). *Burden of Disease from Environmental Noise.* Geneva, Switzerland: World Health Organization Europe.
[95] Waddington, D. M. (2011). *Human response to vibration in residential environments (NANR209).* London: Defra.

6.2.8.5 A recent review concluded that environmental noise exposure was an independent contributor to health risk, which had a separate and substantial role in ill-health, separate to that of air pollution, which is often another exposure experienced alongside environmental noise[96].

Construction Phase

6.2.8.6 Many stakeholders raised concerns about noise and vibration and its impacts on businesses, residents, and hospital patients and staff. Residents were concerned about impacts on sleep, access to quiet spaces and mental health. Concerns were also raised about the health impacts of the demolition and construction work noise on hospital patients and local businesses. Stakeholders were concerned about the potential for weekend, evening and night-time working on the site, as well as the fact that the demolition and construction would take place over a long-time period.

6.2.8.7 The population around the proposed development include residential buildings in Gloucester Street, Kensington Place, Newgate Street and Patriotic Place and also The Haven Guest House and Kensington Guest House situated on Kensington Place. The staff and patients in the existing hospital are also relevant. The EIS assessment for construction noise concludes that the levels of noise exposure may exceed guidance during demolition for short-periods of the day for some of the population in nearby residential, commercial and hospital buildings. This type of noise exposure may lead to annoyance, anxiety and stress responses in the local population. Overall, the demolition and construction noise exposure is estimated to be at or below the guidelines for most of the population around the proposed development. Details of communications and a point of contact with the contractor for residents will be set out in the CEMP. Mitigation suggested includes the careful selection of plant, construction methods, the use of noise barriers where practical, and programming to minimise the noise impact at the populations nearest to the development. However, taking this mitigation into account, the magnitude of the impacts from construction and demolition for the surrounding population is evaluated as minor to moderate and the duration temporary. Given the levels of demolition and construction

[96] Stansfeld, S. (2015). Noise effects on health in the context of air pollution exposure. *Inernational Journal of Environmental Research and Public Health , 12* (10), 12735-12760.

noise expected; the duration of the exposures; the difficulties mitigating noise exposure for those residing in properties above ground floor level; and the concerns raised by stakeholders as part of this HIA in relation to anxiety, stress and annoyance, **this health effect is assessed as direct, negative, temporary, minor/moderate.**

6.2.8.8 The Environmental Impact Statement (EIS) concludes that road closures and the associated increase in traffic on diversion routes would lead to increased traffic noise, particularly on Lewis Street and Patriotic Place. An increase in noise exposure could increase noise annoyance, stress and mental health and also impact on sleep. The magnitude of this impact is evaluated as medium and the duration temporary. **This health effect is assessed as direct, negative, temporary, minor/moderate.**

Operation Phase

6.2.8.9 The surrounding noise climate of the proposed JFH will be compatible to that of the current hospital, which is an active urban environment with traffic and plant noise dominating. For further detail on the noise assessment please refer to Chapter 6 of the EIS. There are no operational impacts to consider.

6.2.9 Light

Literature Review

6.2.9.1 The European Commission concluded that exposure to light in late evening, at night, or in the early morning impacts sleep, mood and cognition, as it disrupts the circadian rhythm and melatonin production[97] which influence the physiological onset of sleep, as well as the quantity and quality of sleep. Severe disruption to circadian rhythms and sleep loss are thought to be linked to several types of cancer (breast, prostate, endometrial, ovary, colorectal and skin

[97] http://ec.europa.eu/health/scientific_committees/opinions_layman/artificial-light/en/l-2/4-effects-health.htm#0

cancers), cardiovascular diseases, reproduction, gastrointestinal and digestive problems, diabetes, obesity and depression[98] [99].

Construction Phase

6.2.9.2 There are concerns from the residents about the construction site being too bright at night which could affect nearby resident's sleep patterns which could result in anxiety/depression. There would be night time security lighting all year round and isolated task lighting would be provided intermittently where required during the winter months. Particular consideration would be given to the careful selection of plant, construction methods and programming to minimise the light impact for the nearest residents. Site specific measures e.g. screening would be employed where reasonably practicable, as outlined in the outline CEMP. The magnitude of this impact has been evaluated as medium and the duration temporary. **This health effect has been assessed as direct, negative, temporary, minor/moderate.**

Operation Phase

6.2.9.3 It is anticipated that there would be no adverse effects on the nearby residential population from lighting during the operational phase of the proposed JFH. Chapter 15 Townscape and Visual Impact Assessment of the EIS has assumed that there would be no external lighting that would be incongruous to the urban environment. All lighting would be designed to avoid intrusive light and light spill from upward or outward angled lighting. Internal lighting in the buildings would be visible at night, but would not be noticeably above the existing ambient lighting in this urban context. Therefore there are no operational impacts on health to consider.

[98] http://ec.europa.eu/health/scientific_committees/opinions_layman/artificial-light/en/l-2/4-effects-health.htm#0
[99] Touitou, Y. (2017). Association between light at night, melatonin secretion, sleep deprivation, and the internal clock. *Life Sciences*, 173, 94-106.

7 Summary of the Health Assessment

7.1.1 Table 7.1. summarises the health assessment of the JFH scheme.

Table 7.1. Summary of the health assessment of the JFH scheme: construction & operation.

Impact Description	**Impact on health determinant at the population level:** **Direct/Indirect Positive/Negative Temporary/Permanent**	**Impact on health determinant at the population level:** **Negligible/Minor/Moderate /Major**
CONSTRUCTION IMPACTS		
Education	Direct, Negative, Temporary	Negligible
Employment – construction workers	Direct, Permanent, Temporary	Minor
Employment – in local area	Indirect, Permanent, Temporary	Minor
Employment – technical supply chain	Indirect, Permanent, Temporary	Negligible
Employment – hospital commercial spaces	Direct, Negative, Temporary	Minor
Employment – CPO businesses	Direct, Negative, Temporary	Minor/Moderate
Fear of crime	Direct, Negative, Temporary	Negligible
Community Interaction/Social Capital	Direct, Negative, Permanent	Minor
Access to sports/physical activity – construction traffic	Direct, Negative, Temporary	Minor/Moderate
Access to sports/physical activity – pedestrian access	Direct, Negative, Temporary	Minor
Access to sports/physical activity – increased traffic flows	Direct, Negative, Temporary	Negligible
Access to healthcare	Direct, Negative, Temporary	Negligible
Access to healthcare	Direct, Negative, Temporary	Minor/moderate
Access to public transport	Direct, Negative, Temporary	Minor/moderate
Housing – CPO	Direct, Negative, Permanent	Moderate
Housing – construction workforce	Direct, Negative, Temporary	Minor/moderate
Housing – keyworkers	Indirect, Negative, Temporary	Negligible
Access to green space	Direct, Negative, Temporary	Minor/moderate
Road safety	Direct, Negative, Temporary	Moderate

Impact Description	Impact on health determinant at the population level: Direct/Indirect Positive/Negative Temporary/Permanent	Impact on health determinant at the population level: Negligible/Minor/Moderate /Major
Transport infrastructure – congestion	Direct, Negative, Temporary	Minor
Transport infrastructure – site access	Direct, Negative, Temporary	Minor/moderate
Water quality	Direct, Negative, Temporary	Negligible
Air quality – dust	Direct, Negative, Temporary	Negligible
Noise – construction activities	Direct, Negative, Temporary	Minor/moderate
Noise – construction traffic	Direct, Negative, Temporary	Minor/moderate
Light	Direct, Negative, Temporary.	Minor/moderate
OPERATION		
Education	Direct, Positive, Permanent	Negligible
Employment – hospital clinical	Direct, Positive, Permanent	Minor
Employment – hospital commercial space	Direct, Positive, Permanent	Minor/moderate
Childcare	Direct, Negative, Permanent	Minor/moderate
Fear of crime	Direct, Negative, Permanent	Negligible
Community interaction/Social Capital	Direct, Positive, Permanent	Moderate
Access to sports/physical activity – pedestrian routes	Direct, Positive, Permanent	Minor/moderate
Access to sports/physical activity – cycle provision	Direct, Positive, Permanent	Minor/moderate
Access to sports/physical activity – pedestrian amenity	Direct, Positive, Permanent	Minor/moderate
Access to healthcare - hospital	Direct, Positive, Permanent	Minor/moderate
Access to healthcare – Westaway Court	Direct, Positive, Permanent	Minor/moderate
Access to public transport	Direct, Negative, Temporary	Minor
Access to green space	Direct, Positive, Permanent	Minor/moderate
Road safety	Direct, Negative, Permanent	Negligible
Transport infrastructure – footway/cycle paths	Direct, Positive, Permanent	Minor/moderate
Transport infrastructure – site access	Direct, Positive, Permanent	Minor/moderate
Energy sources	Direct, Positive, Permanent	Minor/moderate

Impact Description	**Impact on health determinant at the population level:** **Direct/Indirect** **Positive/Negative** **Temporary/Permanent**	**Impact on health determinant at the population level:** **Negligible/Minor/Moderate /Major**
Water quality	Direct, Negative, Permanent	Negligible
Air quality – operational traffic	Direct, Negative, Permanent	Negligible
Air quality – operational plant	Direct, Negative, Permanent	Negligible

8 Recommendations

8.1.1 Recommendations have been proposed to maximise any positive impacts on health outcomes from the proposed JFH. Recommendations are also made to enhance health outcomes through the detailed design, construction and ongoing management of the development.

8.2 Social and Economic Conditions

8.2.1 Education

- The hospital could offer new training placements for students training within the health and social care profession.

8.2.2 Employment & household income

- JFH should ensure that the Contractor considers the opportunity to contribute to the sustainability of the local area by specifically offering employment and training opportunities to those currently unemployed in the local community. The constructor should monitor and report on the uptake of new employment and training opportunities by young people within local communities
- The contractor could provide supported employment opportunities on site for people with mental health problems or other vulnerable groups, providing support to help people get into or stay in employment.
- JFH could use small local firms for grounds maintenance and also other service provision in the hospital, where possible.
- JFH should provide support for affected businesses to relocate through a dedicated local agent and work to minimise disruption and loss of trade.

8.2.3 Childcare

- The proposed JFH could provide a subsidised nursery and/or crèche for not only patients and visitors but for the staff who work within the hospital. This could reduce stress associated with organising childcare for the parents and save them money.

8.2.4 Crime and fear of crime

- It is recommended that the contractor should be signed up to the Considerate Contractors Scheme and their Code of Considerate Practice which establishes basic principles for securing site safety and respecting neighbours, this is in accordance with the mitigation outlined in the EIS.

- Construction sites should be well lit and secured with CCTV to prevent sites from attracting antisocial behaviour and activities such as graffiti and fly tipping, and to reduce concerns about personal safety and security among local residents. The Proposed Development should incorporate elements to help design out crime such as CCTVs, natural surveillance and active frontage. Feature lighting that draws the observer's focus to access control points and potential hiding areas should be used.
- Community engagement before and during construction could help alleviate residents' fears and concerns.
- Work in conjunction with local police, community wardens and parishes during operation to review crime rates and fear of crime in relation to the Project to assess the effectiveness of the design of the Project to tackle crime and safety. This would help to identify and mitigate any emerging problems or issues.

8.2.5 Community interaction

- The health profile demonstrates that there is a large minority of non-English speaking residents in Jersey. A communications strategy including other languages and media will improve understanding of the JFH Scheme and therefore mitigate potential adverse effects, such as perceived risk.
- JFH should publicise and promote the new public spaces within the site to encourage use of these new public spaces by the wider community, and to also encourage active travel to these new public spaces by the wider community. One open, JFH could hold introductory community events in the new public spaces within the hospital to enable the local community to see the spaces. It may also be possible to allow local groups to use the spaces for their activities, by arrangement, on an ongoing basis.

8.2.6 Access to healthcare services

- Any diversions and new access routes would need to consider accessibility for people in wheelchairs and pushchairs, the elderly and the young, e.g. the use of ramps, hand railing and lifts. Diversions and new access routes should also consider the turning circle and space for wheelchair manoeuvres. There are also particular needs for the sight impaired that need to be taken into account: mitigation for this group should be developed in advance with key stakeholder groups and be specified in the CEMP.
- During construction, monitoring should be undertaken to ensure that pedestrian and cyclist routes into the hospital are working as planned.
- Disabled toilets need to be made available throughout the whole process with clear signage.

8.2.7 Access to sports and other physical opportunities

- It is recommended that the proposed JFH include appropriate signage to nearby local and strategic cycle/walking networks.
- Walking and cycling to work should be promoted within the hospital to staff and visitors.

8.3 Structural issues

8.3.1 Housing

- Where properties are tenanted, displaced residents should be offered relocation assistance through an appointed agent in order to minimise the effect and ensure tenants are re-housed well in advance of demolition works.
- It is expected that the main contractor, once appointed, would put in place an accommodation strategy that would set out how the accommodation of the off-island workforce would be managed, and identify a range of accommodation options available for construction workers to access. The contractor may consider a bespoke solution through sourcing of their own accommodation, such as hiring hotels.

8.3.2 Energy sources

- The proposed JFH should take account of local sourcing, embodied energy and waste minimisation in appraisal of construction materials.
- An Energy Strategy should be implemented for the proposed JFH.

8.3.3 Transport infrastructure

- Promotion of alternative methods of travelling to work should be made to staff working at the hospital including, buses, cycling and walking. JFH could consider a cycle to work scheme and subsidised bus provision.
- The provision of electronic charging for cars accessing the hospital should be considered.

8.3.4 Light

- Particular consideration should be given to the careful selection of plant, construction methods and programming to minimise the light impact for the nearest residents. Site specific measures e.g. screening should be employed where reasonably practicable, as outlined in the outline CEMP, this is in accordance with the mitigation outlined in the EIS.

8.3.5 Air quality

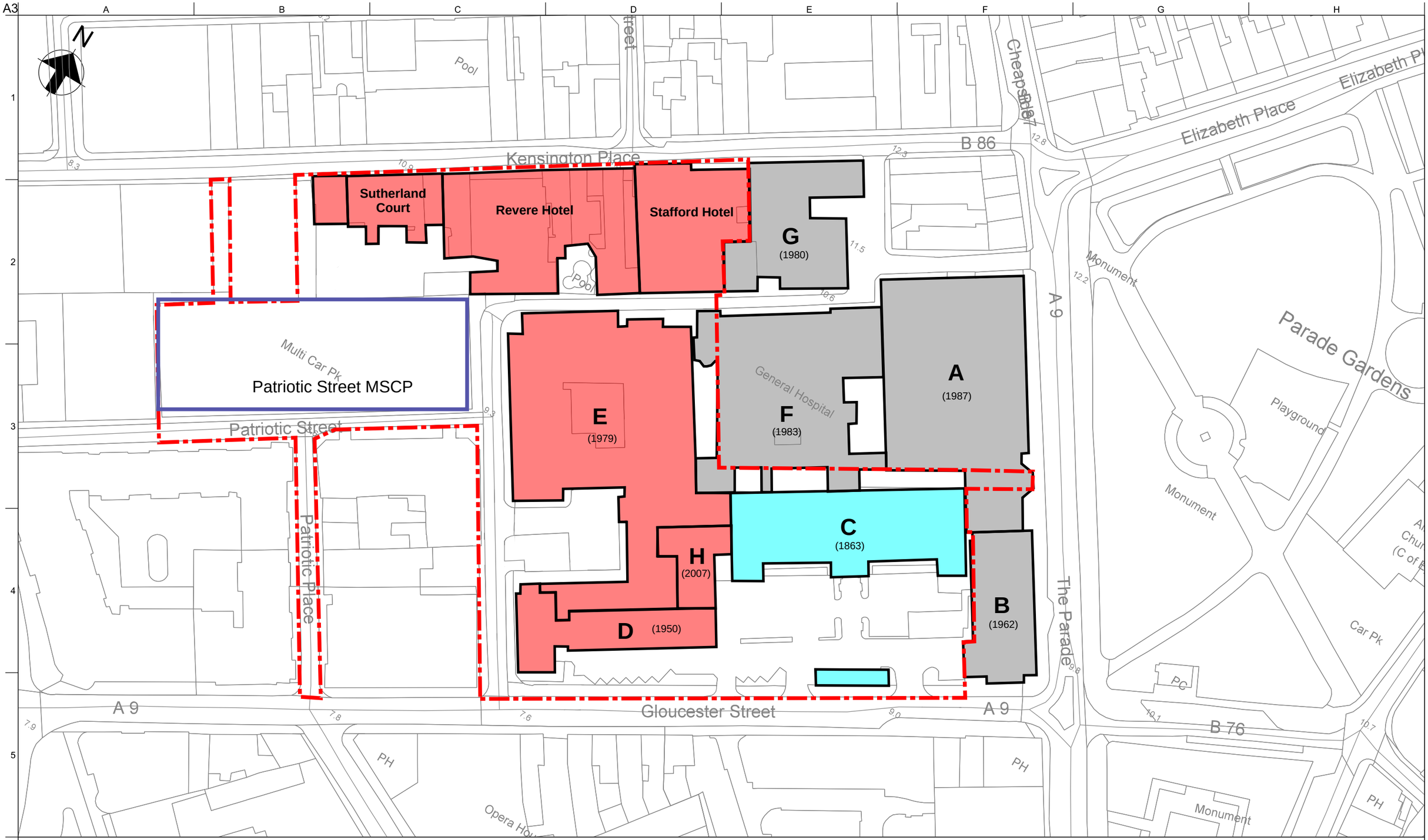
- Site audits should take place to ensure that the activities are in accordance with the CEMP: site audits are also relevant for other health determinants such as noise.
- States of Jersey have requested that a monitoring survey of both NO2 and PM10 be undertaken throughout all phases of the development to monitor changes in concentrations as a result of vehicle emissions/congestion in the area and to assess compliance with the air quality guidance, this is in accordance with the mitigation outlined in the EIS.
- Perception of dust may contribute to a negative evaluation of the Scheme. Communities should be advised if particular activities are expected to create excess dust in the local area and the duration of the activity. Communities should be advised of the dust management scheme for the site.
- Provision should be made for adequate smoking facilities for construction workers and these should not to be located to close residential properties.

8.3.6 Noise

- Where possible and practicable, noise monitoring, should be undertaken during noisy construction periods that may affect the existing communities around the site. Again, communication with nearby populations about particularly noisy activities and their expected duration should be made. Nearby communities, including patients and staff in the hospital as well as residents and those in commercial units, should have a point of contact to report and raise any noise concerns. Noisy activities should be reviewed, in relation to potential impacts on health, throughout the construction period.

Appendix A

Red Line Boundary and Site Layout Plans



Legend

A - 1980's Block (7 Storey)
B - 1960's Wing
C - Granite Block (Listed Gr. I)
D - Peter Crill House
E - Gwyneth Heulin Wing
F - Lab Block
G - Engineering Block
H - Daycare

Site Boundary
Car Park
Existing JGH buildings (and hotel buildings) scheduled to be demolished
Existing JGH buildings outside the site boundary
Existing Granite (Listed) hospital buildings to remain.

Client: States of Jersey

Job Title: Jersey Future Hospital

Scale at A3: 1:1000

Discipline: General

ARUP
4 Pierhead St, Capital Waterside
Cardiff, CF10 4QP
T +44(0)29 20473727 F +44(0)29 20472277
www.arup.com

Drawing Title: **JGH Site Layout Plan**
(Geology, Hydrogeology and Contamination)

Drawing Status: **For Information**

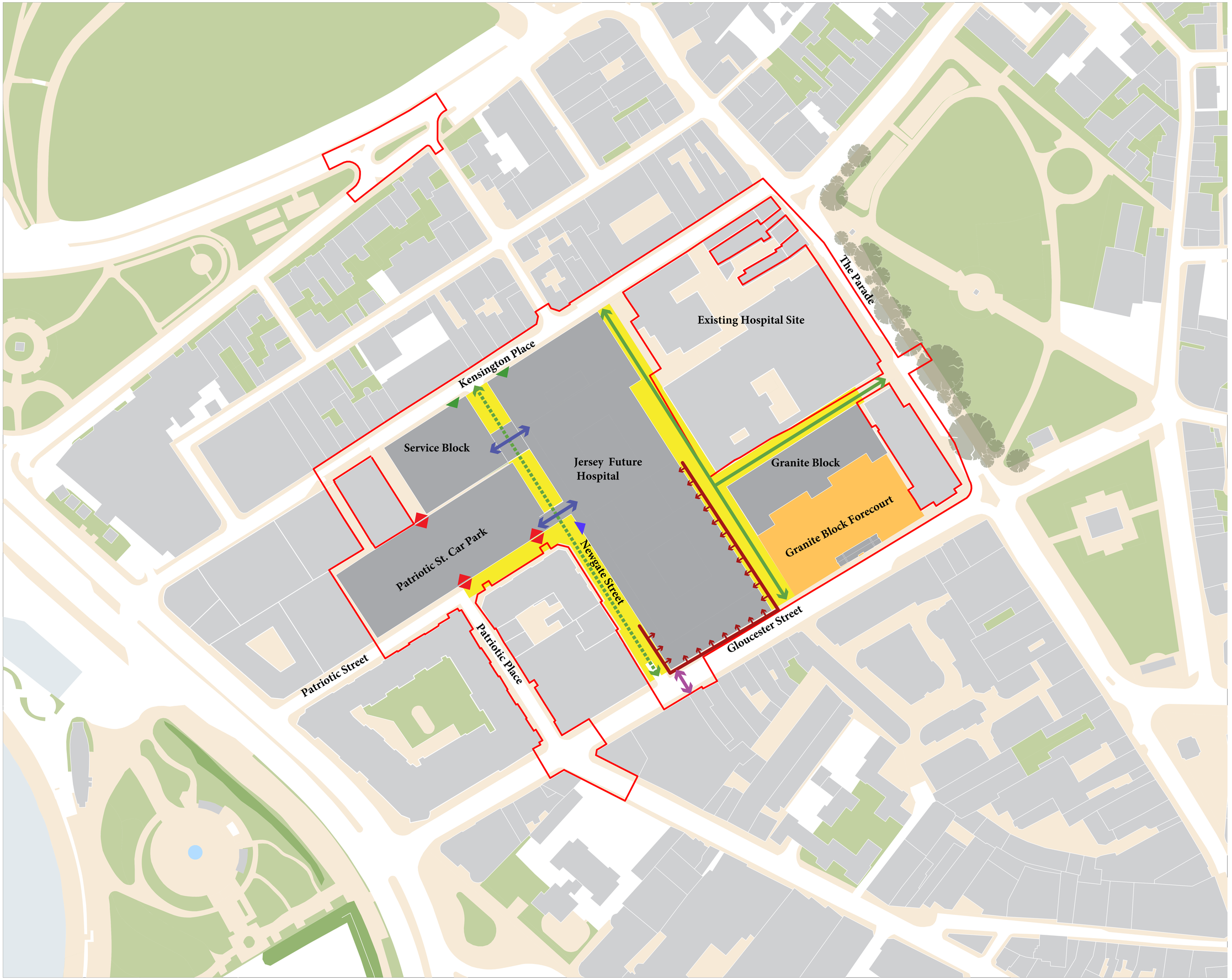
Job No	Drawing No	Issue
237035	Figure 9.1	P01.1

Do not scale

J:\237000\237035-00\4 Internal Project Data\4-30 Drawings\4-31 Issue drawings\Figure4.dgn

Appendix B

Open Space Public Realm Plan



Parameter Plan - 004

Public Realm and Pedestrians

Drawing Title

JFH-HSL-ES0-XX-DR-A-1007

Drawing Number

JERSEY FUTURE HOSPITAL

Project Name

012145

Project Number

KC	AM	KM
Drawn	Reviewed	Approoved

Issue	Date	Purpose
A	06.06.17	Draft Outline Planning Application Issue
B	15.06.17	Draft Outline Planning Application Issue
C	19.06.17	Draft Outline Planning Application Issue
D	23.06.17	Draft Outline Planning Application Issue

NOTE:
FOR APPROVAL

- NEW PUBLIC REALM ZONE
- NEW GRANITE BLOCK FORECOURT
- NEW PRIMARY PEDESTRIAN ROUTES
- NEW SECONDARY PEDESTRIAN ROUTES
- UPPER LEVEL PEDESTRIAN BRIDGE
- NEW HOSPITAL MAIN ENTRANCE ZONE
- PATRIOTIC STREET CAR PARK PEDESTRIAN ACCESS
- SECONDARY PEDESTRIAN ENTRANCE
- PEDESTRIAN ENTRANCE
- NEW PEDESTRIAN CROSSING

Key

1:500 @ A0

Scale

0 25m

HASSELL

Appendix C

IMPACT UrHIA Scoping of Health Determinants

Social and economic conditions that influence health determinants

Likelihood that the Scheme will impact on this health determinant (Likely/Unlikely/Unknown)		**Groups most likely to be affected by the Scheme**
Education	Likely	Working age people – The hospital could offer new training placements for students training within the health and social care profession. Existing hospital buildings, including the Gwyneth Huelin Block and Peter Crill House, will be demolished. Services that would be affected include education and training.
Employment	Likely	Working age people/ unemployed people – employment opportunities during construction and operation of the new hospital. Some construction staff will need to come from outside the Jersey population. Impacts to local businesses in terms of commercial space created. Impacts associated with increased spend of the construction workforce in the local area (e.g. accommodation and leisure). The expanded hospital will provide a 57% increase in floor space of core departmental areas which will provide capacity for further bed space should the need arise in future. Future demand for services is currently being assessed. An increase in the number of beds would be expected to coincide with an increase in the number of clinical staff. This would impact on recruitment of nurses to the Island.
Childcare	Likely	Childcare options can be difficult on the Island.
Crime and fear of crime	Likely	Residents who live in the vicinity, homeless people, older people – increased fear of crime caused by the presence of vacant building sites, which can create intimidating environments if not properly lit and managed. Outdoor drinking in Garden Parade which could lead to violence.

Likelihood that the Scheme will impact on this health determinant (Likely/Unlikely/Unknown)		Groups most likely to be affected by the Scheme
Community interaction	Likely	The Scheme will provide opportunities for community interaction e.g. the new hospital will incorporate a major new communal roof garden at plinth level that will have views across the roof tops of St. Helier and also to the sea. This communal roof garden will provide recreational and therapeutic spaces for patients, families and staff and be a mix of planted and hard landscaped spaces. Beyond the communal garden there will be opportunities to create smaller 'hanging gardens' within the facade of the hospital that relate to specific patient areas and activities such as a children's garden or staff roof terrace. The new hospital precinct will be surrounded by a network of new public spaces providing opportunities for community interaction including the new Granite Block Forecourt and pedestrian routes along the eastern flank of the new hospital and the Granite Block. Newgate Street while also being the 'working frontage' of the hospital with emergency vehicle and public drop-off zones for vehicles will also open up a new secondary pedestrian route between Gloucester Street and Kensington Place.
Access to fresh food	Unlikely	N/A
Access to sports and other opportunities for physical activity	Likely	The Scheme will include new pedestrian links with new public spaces and open up a network of pedestrian routes through St Helier thus encouraging staff and visitors to access the hospital via active travel. A series of new pedestrian connections will be opened up from north to south along the new eastern frontage of the hospital and a secondary pedestrian connection along Newgate Street. Both will complement the existing pedestrian grain of St. Helier and provide new linkages

Likelihood that the Scheme will impact on this health determinant (Likely/Unlikely/Unknown)		Groups most likely to be affected by the Scheme
		between Kensington Place and Gloucester Street that have not previously existed. A new major pedestrian link will also be created from the new hospital front entrance zone to run adjacent the northern edge of the Granite Block to the Parade Gardens. This new pedestrian link can be expanded into a new public square in the future when the existing hospital site is redeveloped.
Access to other cultural and other recreational activities	Unlikely	N/A
Access to healthcare services	Likely	Local residents, chronically ill people, people with disabilities, older people - The construction of the Proposed Scheme would require the demolition of existing hospital buildings. This would result in various reconfigurations of existing service provision within the existing site and the temporary relocation of non-core services off site. Services that would be affected are medical records storage and distribution; staff accommodation; corporate services, administration, education and training; and catering provision. It is not expected that this would have any material impact on the ability of the hospital to deliver care, nor would it have a major impact on the overall patient experience. Access to the hospital will be maintained via Kensington Place and will be segregated from construction traffic, and it is not expected that there will be any changes to current access routes for ambulances. However, the existing access to the hospital from some areas is poor – buses are not frequent enough e.g. 2 buses per hour and the last bus is at 6pm or earlier. People are very reliant on the car to access the hospital.

Likelihood that the Scheme will impact on this health determinant (Likely/Unlikely/Unknown)		**Groups most likely to be affected by the Scheme**
Access to social welfare services	Unlikely	N/A
Access to other community services	Likely	Local community - The Scheme would result in the demolition of buildings on Kensington Place, resulting in the loss of eateries and hotels e.g. Revere Hotel, Stafford Hotel, and Doran's Courtyard Bistro. The Scheme may impact on businesses that remain in Kensington Place.
Access to public transport	Likely	Older people, people who don't own a car, people with disabilities. During construction, there will be increased walking distances from bus stops on the Esplanade and Liberation Station due to the closure of the Newgate Street entrance.
Other social and economic conditions (list)	Unlikely	N/A

Structural issues that influence health determinants

Likelihood that the Scheme will impact on this health determinant (Likely/Unlikely/Unknown)		**Groups most likely to be affected by the scheme**
Housing	Likely	During construction, Westaway Court provides key worker accommodation for the hospital. The existing building will be demolished and will house outpatients not requiring a direct clinical link to the hospital. Key workers will have to be accommodated elsewhere. The majority would be housed in The Limes which is a former care home owned by the Jersey Government. The States Housing Company, Andium Homes will manage the building. This will bring a small increase in demand in the commercial rental market over the baseline. The type of Proposed Development means it would not be expected to have a catalytic effect on future developments in the immediate vicinity. Disruption of the Shelter on Kensington Place – shelter for the homeless many with drink related illnesses and social problems.
Public buildings	Unlikely	N/A
Commercial buildings	Likely	Local community - The Scheme would result in the demolition of buildings on Kensington Place, resulting in the loss of eateries and hotels e.g. Revere Hotel, Stafford Hotel, and Doran's Courtyard Bistro.
Green space (including parks)	Likely	The scheme will have a new primary pedestrian route linking the hospital to Parade Gardens this will improve mental and physical health for visitors and patients of the hospital. This new pedestrian link can be expanded into a new public square in the future when the existing hospital site is redeveloped. In addition to the surrounding new public realm the new hospital will incorporate a major new communal roof garden at plinth level that will have views across the roof tops of St. Helier

Likelihood that the Scheme will impact on this health determinant (Likely/Unlikely/Unknown)		Groups most likely to be affected by the scheme
		and also to the sea. This communal roof garden will provide recreational and therapeutic spaces for patients, families and staff and be a mix of planted and hard landscaped spaces. Beyond the communal garden there will be opportunities to create smaller 'hanging gardens' within the facade of the hospital that relate to specific patient areas and activities such as a children's garden or staff roof terrace.
Other public spaces	Likely	The public realm around the new hospital will be remodelled to properly address the pedestrian access points and internal circulation of the new hospital with new public spaces and open up a network new pedestrian routes through St. Helier. The forecourt to the Granite Block will be reinstated as a new public space with a purpose beyond the purely ornamental. The new Granite Block forecourt will provide the connecting tissue between the new hospital and the Granite Block to bind them into the new hospital precinct while also providing the main vehicular pick up and drop off point for taxis and cars. These public spaces will provide both utility and amenity and be hard landscaped with varying textures and colours of granite in order to provide a complimentary setting for the existing Granite Block Building.
Road safety	Likely	The hospital is located in a relatively densely populated area of St Helier, and there is a substantial residential population to the north and south of the site. The addition of construction related traffic on local roads affecting cyclists' use of the roads and altering perceptions of road safety for both cyclists and pedestrians, and particularly more 'vulnerable' users such as children and older people.

Likelihood that the Scheme will impact on this health determinant (Likely/Unlikely/Unknown)		Groups most likely to be affected by the scheme
Transport infrastructure	Likely	The hospital is located in a relatively densely populated area of St Helier, and there is a substantial residential population to the north and south of the site. The construction of the Proposed Scheme would result in adverse environmental impacts in relation to traffic (assessed in detail in the relevant chapters of this Environmental Statement) which could, in combination, contribute to adverse amenity effects for residents living in the immediate area surrounding the hospital. During construction, there would be temporary closures on Kensington Place, Newgate Street. Potential for temporary lane closures on Gloucester Street. Car parking availability may be impacted during the construction period. During operation, the following parking measures would be provided: • Proposed footbridges between Patriotic Street MSCP and Jersey Future Hospital; • Ease of access for the disabled and parent and child spaces that will be located near to the new footbridges; • Increased provision of parking designated for patients; • Better circulation and wayfinding for all users of the MSCP. During operation, the following local highway network measures would be provided: • Lasting improvement to the St Aubin's Road/Peirson Road/Kensington Street junction • Ability for drivers (patients/visitors) to fix their route to Patriotic Street MSCP in the knowledge spaces will be available.

Likelihood that the Scheme will impact on this health determinant (Likely/Unlikely/Unknown)		Groups most likely to be affected by the scheme
Communications infrastructure (internet/telephone)	Unlikely	N/A
Energy sources	Likely	The hospital would use energy efficient measures. An older, less efficient combustion plant which is currently in operation at the hospital will be replaced with low Nitrogen Oxide (NOx) boilers and stand-by generators. The fabric of the building will manage environmental heat.
Waste management infrastructure	Unlikely	N/A
Water quality	Likely	It is important to protect the proposed Jersey Future Hospital from flood events. Sustainable drainage measures will be considered during the design process to determine whether they can be used for the site to provide protection against flooding.
Air quality (indoor and outdoor)	Likely	Older people, people with respiratory illnesses - The construction phase is likely to give rise to dust due to the demolition and construction of buildings on site, the effects of which will be minimised through dust suppressant measures taking into account the surrounding area. During the operational phase, the proposed development will not significantly increase traffic (less than an additional 150 vehicles per day) therefore the effects from traffic will be negligible. An older, less efficient combustion plant which is currently in operation at the hospital will be replaced with low Nitrogen Oxide (NOx) boilers and stand-by generators. This will improve air quality in comparison with the existing situation
Soil quality	Likely	The made ground below the hospital (termed 'made' ground) is likely to be made up of historic construction and demolition materials

Likelihood that the Scheme will impact on this health determinant (Likely/Unlikely/Unknown)		Groups most likely to be affected by the scheme
		associated with the historic expansion of the hospital. These materials have the potential to contain contaminative substances (e.g. heavy metals, asbestos) which in turn may pose risks to both human health and controlled waters. As the current and proposed site layout is predominantly covered with hardstanding material, there is little risk posed by the made ground deposits to human health and controlled waters. However, during the demolition and construction phases the made ground deposits will be exposed which could consequently allow for human contact and potential passing leaching of contaminants into the groundwater.
Noise	Likely	Local residents, older people - During construction there is the potential for noise and vibration to exceed suggested limits. The appropriate use of mitigation will be used to minimise any potential impact. During operation of Jersey Future Hospital changes in traffic flows are not considered to result in significant changes to noise levels and noise generated from buildings services (e.g. air conditioning units) will be controlled by planning conditions, based on background noise measurements.
Light	Likely	There may be impacts if the construction site is active outside of daytime hours but this can be addressed by mitigation to minimise any potential impact.

Individual and family issues that influence health determinants

Likelihood that the Scheme will impact on this health determinant (Likely, Unlikely, Unknown)		**Groups most likely to be affected by the Scheme**
Diet	Likely	The hospital build and services should be in line with role model healthier behaviours. For example, vending machines should provide healthy snacks and avoid provision of sugary drinks and chocolates.
Physical activity	Unlikely	N/A
Substance use (legal and illegal)	Unlikely	N/A
Sexual activity	Unlikely	N/A
Household income	Likely	Working age people/ unemployed people – employment opportunities during construction and operation of the new hospital. Impacts to local businesses in terms of commercial space created. Impacts associated with increased spend of the construction workforce in the local area (e.g. accommodation and leisure). The expanded hospital will provide a 57% increase in floor space of core departmental areas which will provide capacity for further bed space should the need arise in future. Future demand for services is currently being assessed. An increase in the number of beds would be expected to coincide with an increase in the number of clinical staff. However, some employment would be lost due to the demolition of buildings on Kensington Place, resulting in the loss of eateries and hotels e.g. Revere Hotel, Stafford Hotel, and Doran's Courtyard Bistro.
Family cohesion	Unlikely	N/A

Appendix D

Stakeholder Engagement Responses

Public and local community stakeholder engagement

Stakeholder	Stakeholder response	Where response has been addressed in HIA
[1] Local Resident	"air quality we would be subjected to and what the health implications of that would be" "the air quality would also impact us in our homes as well as outside"	See Section 6.2.7 (Air Quality) See Environmental Information Statement (EIS) Chapter 5 Air Quality
	"noise and air quality we would be subjected to and what the health implications of that would be"	See Sections 6.2.7 (Air Quality) and 6.2.8 (Noise) See EIS Chapter 5 Air Quality and Chapter 6 Noise and Vibration
	"duration of disruption that we would be expected to endure"	See Sections 6.2.7 (Air Quality) and 6.2.8 (Noise) See EIS Chapter 5 Air Quality and Chapter 6 Noise and Vibration
[2] EYECAN	"Increased traffic in the immediate area and outlying streets -increased risk of accident to sight impaired pedestrians" "Road closures, and diversions resulting in traffic moving in the opposite direction. Islanders with little or no sight will have learned routes. They will struggle with diversions and	See Section 6.2.3 (Road Safety) See EIS Chapter 7 Traffic

Stakeholder	Stakeholder response	Where response has been addressed in HIA
	won't be expecting traffic to be moving in the opposite direction from that which they are used to" "The need for clients to learn new routes on a longer term basis."	
	Long term increased industrial and other noise in the area. The sense of hearing is of increased importance to our client group. With poor sight they are less likely to be able to use an element of lip reading when people are speaking to them. Communication could be adversely affected – they could become stressed / depressed. They may depend on radio / audio description / audio books with respect to activity / entertainment/ information. Hearing may be a significant factor in their road safety."	See Section 6.2.3 (Road Safety) and 6.2.8 (Noise) See EIS Chapter 7 Traffic and Chapter 6 Noise and Vibration
[3] NSPCC Jersey	"We also considered how the building could be accessible and comfortable for children and young people during the build, mindful of the needs of people using pushchairs, wheelchairs and other mobility aids."	See Section 8.2.6 (Recommendations - Access to healthcare services)
	"NSPCC Jersey provides a service in the Island called Babysteps, which supports people preparing for the birth of their child.	See Section 8.2.6 (Recommendations - Access to healthcare services)

Stakeholder	Stakeholder response	Where response has been addressed in HIA
	Colleagues considered the challenges that there may be for people using antenatal and maternity services whilst the building is in progress. We also discussed the plans in place to provide care for women who may require care that is currently offered on Rayner Ward (for example should a woman have experienced a miscarriage) and how this is managed separately from maternity."	
[4] Enable Jersey	"Using a hospital can be a very confusing and frightening process for anyone, and especially for someone under stress. This will be the case for most users, whether themselves patients, or visiting as relatives or friends. Therefore, anything which can help to reduce the stress levels and make the whole process more manageable and less threatening will help users, and therefore reduce the load on staff who have to assist these people. I expect that this should help to reduce costs slightly. You may wish to consider contacting Mind and the Autism Society to ask their advice"	Noted
	"I understand that there may be direct links from Patriotic Street car park into the new hospital. Obviously this should be a great help to all users, and considerations about signage and wheelchair access will apply here as well."	See Section 6.2.4 (Traffic infrastructure) and 8.2.6 (Recommendations - Access to healthcare services) See EIS Chapter 7 Traffic

Stakeholder	Stakeholder response	Where response has been addressed in HIA
	"People will find the changes confusing, especially during the building works, but also when these are completed. This will apply especially to the elderly, and those with dementia and other mental health problems." "During the building process consideration will need to be given to ensuring easy access for wheelchair users. I appreciate that this may be difficult at times, but is terribly important, both for people who use powered chairs and for those who have a helper. Those who use powered chairs are often extremely independent and value greatly the ability to do things for themselves. This helps them to keep their dignity and self-respect, and they would appreciate not having to ask for assistance. The physical burden for someone pushing a person in a wheelchair is challenging on an even surface, and will be considerable greater if the surface is irregular. The turning circle and space for wheelchair manoeuvres needs to be considered, and also the opening of doors. If the designers do not have experience of this I suggest that they contact some wheelchair users, possibly through me at Enable, or through other charities, and try pushing a wheelchair around buildings for half a day. Obviously disabled toilets will need to be available, and very well signposted, throughout the whole process. "	See Section 8.2.6 (Recommendations - Access to healthcare services)

Stakeholder	Stakeholder response	Where response has been addressed in HIA
[5] Local resident	"I have been resident in my property since 1981 and recall the inconvenience and stress that the building of the 1980's block caused my family during that decade" **Construction concerns/recommendations**: "Building/demolition work on site to cease after 6.00pm every day. No electrical or noisy machines to be used on a Sunday whatsoever. **Restricting noise and dust:** Protective hoarding to surround all building sites. I understand that a project of this size may require upwards of 200 construction workers. What provision is being made for such a large number of men to park in the area? Parking is already very tight as it is. I assume the construction workers will be Jersey residents so the need to find accommodation for them will not be an issue?"	See Sections 6.2.8 (Noise) See EIS Chapter 6 Noise and Vibration See Section 2.1 for Patriotic Street Multi-Storey Car Park extension and Section 6.1.8 (Access to public transport)
[6] Local Business	"The other issue, we have concerns about is the level of dust that will come from the site & how much more often we'd	See Section 6.2.7 (Air Quality) See EIS Chapter 5 Air Quality

Stakeholder	Stakeholder response	Where response has been addressed in HIA
	have to have a cleaner in-like the hospital we need a clean environment to work in. Again, will the lorries create additional dust/dirt in the salon & to our windows."	
	""We also like to have our front doors open in the summer months, so noise would be much greater! Also the level of heavy lorries on the road & the noise they can make-bringing materials to & from the site." "Will there be monitoring carried out regarding noise, pollution & vibration levels? If damage is being caused (especially if there is a lot of vibrational damage) who covers that cost? Will surveys be done on existing buildings before work starts & will we be entitled to a copy of said report?"	See Sections 6.2.7 (Air quality) and 6.2.8 (Noise) See EIS Chapter 5 Air Quality and Chapter 6 Noise and Vibration
	"We are a small beauty & nail salon, so the noise impact is a concern particularly when clients are having relaxing treatments e.g. massage, facials etc. but also clients having treatment such as manicures. Are we possibly at risk of losing some clients as a result!" "What are the working hours likely to be for the site, if it's likely to shut at 4.00pm we could, therefore try to encourage	See Section 6.2.8 (Noise) See EIS Chapter 6 Noise and Vibration

Stakeholder	Stakeholder response	Where response has been addressed in HIA
	clients who have treatments such as facials to come in from then & a Saturday. However, if the site is likely to be open past 4.00 & on a Saturday then I'm sure it will have an impact on our clientele."	
[7] Local resident	"Stress levels (which the noise levels would contribute to) in respect of accessing our underground car park – in and out – with the build-up of traffic and the making of Patriotic Place 2-way, and the additional traffic in the area generally, all factoring in to making life generally more stressful. With the lack of work life balance with people leaving/going to work earlier to ensure they are able to get there on time. We can see this now with Patriotic Street car park, this is now full quite early as I understand it therefore people are getting into work much earlier to get a car parking space, so with the high density of traffic when one of the already congested small roads are closed is going to exacerbate the situation and people extending their working hours in an attempt to avoid the stress of access and sitting in traffic;"	See Sections 2.1 (for proposed Patriotic Street Multi-Storey Car Park expansion), 6.2.4 (Transport infrastructure) and 6.2.8 (Noise) See EIS Chapter 7 Traffic and Chapter 6 Noise and Vibration
	"My son has previously suffered from asthma so only thinking that the dust etc. would have caused him problems when he was younger so this may affect others in the same way."	See Section 6.2.7 (Air quality) See EIS Chapter 5 Air Quality

Stakeholder	Stakeholder response	Where response has been addressed in HIA
	"Noise levels at the weekends, particularly on Sunday as this was the biggest issue with Gaspe House, the noise levels were really high and started at around 7.30am and when the road was closed with high cranes etc., it was difficult to relax and also even access our own homes;"	See Section 6.2.8 (Noise) See EIS Chapter 6 Noise and Vibration
	"Another contributory factor to stress is the lack of sleep due to the site being brightly lit overnight – this is still a problem with Gaspe House even though it is now occupied – light pollution has been shown to cause poor/disruptive sleep so I do think this needs to be seriously considered. This is not just at the construction stage but once the hospital is functioning as it will obviously require overnight lighting but I feel consideration needs to be given to keeping this light internal (as far as possible) so that it does not adversely affect residents nearby. Light pollution is often overlooked until it is too late, please do consider this at an early stage to ensure provisions are put in place."	See Section 6.2.9 (Light)
	"Please do not misinterpret my comments as being an opportunity to whinge about the development as I genuinely think the plans for the site etc. are great and I fully support it, however having just lived through the building of Gaspe House I do think it is important to express how things have affected people generally and as residents and rate payers of	Noted

Stakeholder	Stakeholder response	Where response has been addressed in HIA
	St Helier this is often overlooked when construction projects are underway and given site access almost 24/7."	
[8] Local residents	"This is not to mention the masses of tourism that stay within this area, especially those at the Grand Jersey - can this island really afford to reduce tourism further by building such an abomination of a building in one of the main touristic areas of the island? To get rid of two reasonably priced hotels which cater to a lot of the visitors to our island is awful in my view, as eventually no-one will be want nor be able to come visit Jersey. Moreover, a number of very popular restaurants and cafés are being removed to make way for this, not only ruining jobs, but destroying the local community."	See Section 6.1.2 (Employment and household income)
	"loss of community - the destruction of a very social local community could lead to some of us feeling isolated, as many local residents, this is the only place they can truly socialise, as they have no means of transport to other areas. A sense of community is extremely important for one's well-being, and the destruction of such will undoubtedly result in a sense of isolation and various other problems which stem from there"	See Sections 6.1.5 (Community interaction)
	"Every morning, lunch and dinner, Kensington place is full of people in the businesses of the area socialising, and integrating themselves into the island's local community,	See Sections 6.1.2 (Employment and household income), 6.1.5 (Community interaction)

Stakeholder	Stakeholder response	Where response has been addressed in HIA
	which is something that should be encouraged - not destroyed. To get rid of such businesses will only make this area a ghost town, and ruin the amazing community spirit and values that exist in this part of town. Moreover, people from all over the island come to Kensington place and the surrounding areas to socialise, which will inevitably be destroyed in favour of a ridiculous extension. "	
	"Nor am I looking forward to the re-routing of ambulances through Kensington Place, onto Kensington Street" "Not only will the noise pollution increase, but a number of roads converge onto the single lane, one-way road of Kensington Street to leave this area. This road is always full of traffic, how will an ambulance possibly be able to leave the hospital in an emergency, given that this road is always grid-locked with traffic? It makes absolutely zero sense, given that the pavements are tiny and highly pedestrianised as well, thus making it impossible for an ambulance to be able to reach a casualty in an emergency."	See Section 6.1.7 (Access to healthcare services) See Section 6.1.7 (Access to healthcare services) and 6.2.4 (Transport infrastructure) See Section 6.2.8 (Noise) See EIS Chapter 6 Noise and Vibration
	"air pollution - the increased amount of cars and ambulances will add to the air pollution of the area, which for someone like myself, I do worry as the clean air spaces in this island and increasingly disappearing. To have your lungs choked by the increase in car fumes in your own home will not be	See Section 6.2.7 (Air quality) See EIS Chapter 5 Air Quality

Stakeholder	Stakeholder response	Where response has been addressed in HIA
	pleasant at all - yet no-one seems to care. Moreover, a large number of children live and play in this vicinity. A long-term period of building will most likely cause them, when playing outside, to breathe in particles of building material and suchlike. This could result in respiratory conditions for many of the local residents."	
	I am not looking forward to the noise and general disturbance that 5 years of building work will bring." "noise pollution - the increased noise (ambulances, cars, etc.) will inevitably make it harder to feel happy and settled in our own homes. I have a daughter at university, and a daughter about to start her GCSEs who will be unable to concentrate as much in their own home, due to this drastic increase in noise emanating from the building work and other associated noise from the hospital, which of course could affect their grades. This is of course, not to mention the reduction in sleep we will most likely be subject to when building work commences, and the new extension starts to function, due to the very loud noises that are associated with the construction and functioning of a hospital. My husband also works very early shifts and very late night shifts, and he will undoubtedly have a reduction in hours slept, due to the construction and operation of the hospital, which could have a negative mental	See Section 6.2.8 (Noise) See EIS Chapter 6 Noise and Vibration

Stakeholder	Stakeholder response	Where response has been addressed in HIA
	impact in the long-run. This is true of many residents who live in the area."	
[9] Local resident	"The sheer volume of increased vehicle activity will also increase risk of accidents and again appropriate plans should be developed and advised to residents."	See Section 6.2.3 (Road safety)
	"Particular health issues and challenges for myself and the development in which I live will result from the heavy and persistent increase there will be in heavy goods vehicles servicing the construction of the new hospital. Pollution levels will significantly increase as will dust and dirt levels. It will be very difficult to have open windows etc. I trust this will be taken into account and adequate monitoring and mitigation measures will be put in place. I would also expect local residents to updated on the outcomes of this monitoring. " "issue I also would expect that adequate budget provision will be made for the project to provide for cleaning of nearby buildings such as Century Buildings who will be affected by dust and dirt. "	See Section 6.2.7 (Air quality) See EIS Chapter 5 Air Quality
	"Also could adequate smoking facilities be provided on site for construction workers so that they do not smoke outside nearby residential blocks."	See Section 8.3.5 (Recommendations - Air quality) See EIS Chapter 5 Air Quality

Stakeholder	Stakeholder response	Where response has been addressed in HIA
	"I refer to your letter dated 29th June 2017, received after that date. I note that the deadline for responses is Friday 7th July. This seems an unreasonably short time for such an important issue so I hope you will accept my feedback for the purposes of the Health Impact Assessment."	Noted
[10] Local residents	"also have concerns about how the prolonged building works could have a serious detrimental effect on the value of our property."	See Section 6.2.1 (Housing) House prices are outside the scope of the HIA but are addressed in the socioeconomic chapter of the EIS, Chapter 14.
	"Although we are working during the day, we are still going to have the impact of unsightly building work/lack of privacy and dust/dirt."	See Sections 6.2.7 (Air quality) and 6.2.8 (Noise) See EIS Chapter 5 Air Quality and Chapter 6 Noise and Vibration
	"We are also extremely concerned about the effect on our building in general once the demolition works begin and the new foundation work starts - how will this affect our building? We are currently having to pay a substantial sum to repair the render works to the exterior of our building - is this	See Section 6.2.1 (Housing). House prices are outside the scope of the HIA but are addressed in the socioeconomic chapter of the EIS, Chapter 14.

Stakeholder	Stakeholder response	Where response has been addressed in HIA
	going to get damaged again once the demolition/building starts on the new hospital?"	
[11] Local resident	"No provision for a community based "cottage hospital" for respite and not coping care."	Noted but outside the scope of the HIA to assess clinical provisions within the new hospital.
	"Traffic through town will need some re-routing as traffic congestion in town and rest of island is terrible."	Section 6.2.4 (Transport infrastructure) See Chapter 7 Traffic
	"I think by demolishing and building bit by bit will cause stress and inconvenience to whole community and especially people with health issues"	
	"As will cost more than has been estimated and cause huge disruption to patients. Will be quicker and more space if built from new. Not enough extra space. "	

Stakeholder	Stakeholder response	Where response has been addressed in HIA
[12] The Jersey Haemophilia Group	"The Jersey Haemophilia Group are of the opinion that the construction and operation of the hospital development would have no impact on haemophilia patients."	N/A
[13] National Ankylosing Spondylitis Society	As none of us live nearby, we can't comment on the environmental effects of the planned construction. However, with regards to facilities, we rely on the hydrotherapy pool for our Monday sessions and when this is closed, unless there is another facility with physiotherapist supervision to take its place, this will seriously impact on our well-being and the management of our condition." "Our main concern with the new development is that it incorporates a new hydrotherapy pool with a similar set-up to the current situation being part of the rheumatology/physiotherapy department. The Health Minister has promised a facility which is welcome but our concern is that it may be 'outsourced' and not part of the new complex."	Section 6.1.7 (Access to healthcare services)
[14] Local resident	I am HIV positive and have to attend frequent and regular appointments and tests at the hospital. A larger more	Section 6.2.4 (Transport infrastructure)

Stakeholder	Stakeholder response	Where response has been addressed in HIA
	accessible patient parking area would make life so much easier. I appreciate the price of parking is relatively inexpensive in Jersey. However, it would improve what is an unpleasant experience to a much more seamless and hassle free experience. Perhaps a validated parking code could be sent out with appointment letters. Another idea would be to have a reception to validate parking at against your name/appointment. I think for people struggling with mobility issues and low incomes it would make such a difference. This could also be used on a case by case basis for parents/relatives visiting ICU etc. so they don't have to worry about parking tickets/admin/timing at such unfortunate time as having a critically ill family member."	See EIS Chapter 7 Traffic
[15] Local resident	"I currently live opposite the Gwenith Huelin wing of the hospital. With the new build being so high it is likely that I will no longer receive any natural light into my apartment and also due to the close proximity will no longer have privacy.	Sections 6.2.1 (Housing) and 6.2.9 (Light) House prices are outside the scope of the HIA but are addressed in the socioeconomic chapter of the EIS, Chapter 14.
[16] Local Business	Due to there being only one way to access Kensington Place, customers & taxis are going to find it extremely difficult to pick up and drop off customers. It would be greatly appreciated, if the car park could be used to divert traffic and still give access to the restaurant.	Sections 6.1.8 (Access to public transport) and 6.2.4 (Transport infrastructure) See EIS Chapter 7 Traffic

Stakeholder	Stakeholder response	Where response has been addressed in HIA
	Our main operating hours are 5:00-11:00pm. I also open Lunch on Sunday afternoons (12:00am – 2:00pm) which would be greatly affected as there tend to be a lot of pedestrians passing by.	
	The three main concerns I have are noise, the street being closed off along with all the dust, construction machinery & vehicles. I believe this is going to have a major effect on my business and overall income due to the length of development.	Sections 6.2.4 (Transport infrastructure), 6.2.7 (Air quality) and 6.2.8 (Noise) See EIS Chapter 5 Air Quality, Chapter 6 Noise and Vibration and Chapter 7 Traffic
[17] Local resident	Our overall view on the proposed Future Hospital is that the area is already congested with traffic, and the infrastructure is already overloaded. Also the traffic here is very dense especially at in the mornings and evenings due to Office and school.	Section 6.2.4 (Transport infrastructure) See EIS Chapter 7 Traffic
	My husband and I are in our Seventies and Terry has breathing and heart problems. I suffer from stress and have tinnitus. We have already suffered the noise and dust when the adjoining buildings were in progress, and the prospect of the	Sections 6.2.7 (Air quality) and 6.2.8 (Noise) See EIS Chapter 5 Air Quality and Chapter 6 Noise and Vibration

Stakeholder	Stakeholder response	Where response has been addressed in HIA
	noise and dust from the hospital building makes us very anxious.	
	We also face the prospect of losing the little light and privacy we have.	Section 6.2.9 (Light)
	The St Saviours hospital site seems far more favourable with a completely blank canvas for a large new hospital, with the current hospital being an up to date A & E department plus new clinics.	Noted

Appendix E

Community Health and Wellbeing Context

Appendix E

Community Health and Wellbeing Context

1.1 Introduction

1.1.1 The community and health profile focuses on population demographics, socio-economic status and community health. Any vulnerable groups within the population, who may be particularly susceptible to health effects, have been identified.

1.1.2 The purpose of the health profile is to give a picture of the health and social-demographic context of the proposal in order to understand its potential health impacts and the particular population groups that may be affected. The profiling has involved collecting and analysing secondary (existing) data on a number of indicators that relate to the content and context of the proposal, and its possible impacts on health or health determinants. Indicators are measurable variables that reflect the state of a community or of persons or groups in a community.

1.2 Population

The total population of Jersey at the end of 2016 was 104,200[1].

1.2.1 The population of Jersey increased by 11,900, over the last 10 years[2]. Net migration in 2016 is estimated at 1,300 persons into the Island[3]. Over the 10-year period from year-end 2006 to year-end 2016, net inward migration accounted for 9,000 of the total increase in the resident population of 11,900.

1.2.2 In the 2011 Census, the most recent estimate available for Jersey, 46.4% of the population of Jersey reported their ethnicity as Jersey, 32.7% as British and 8.2% as Portuguese/Madeiran[4]. Estimates based on place of birth suggest 50% of the population were born in Jersey, 31% in Britain and 7% in Portugal or Madeira[5].

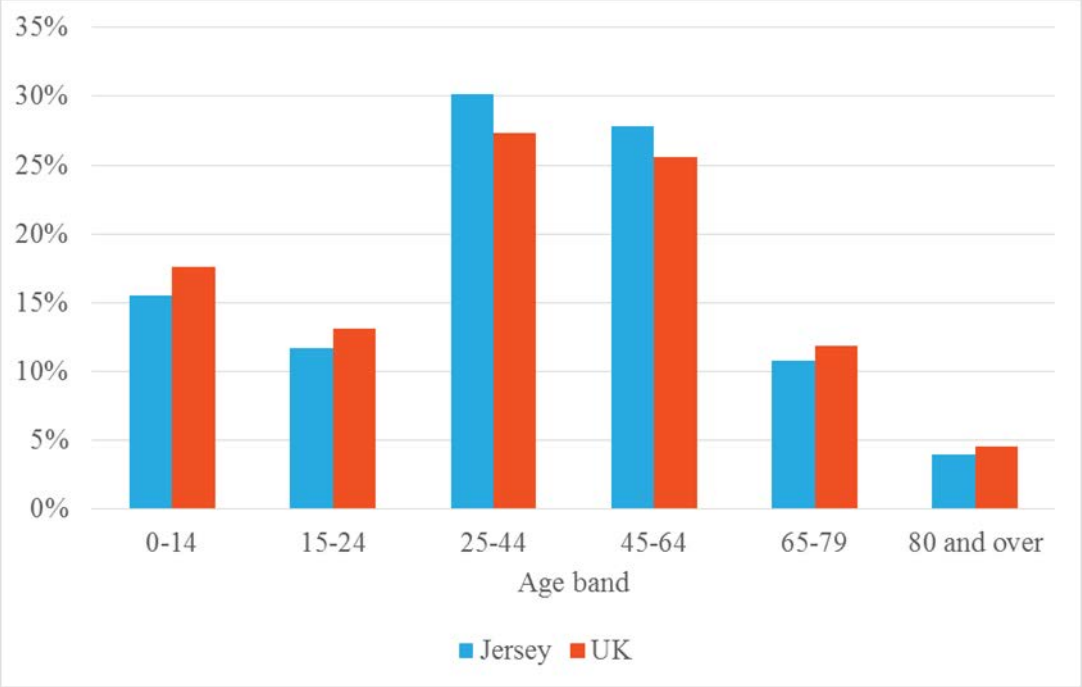
1.2.3 The Jersey dependency ratio in 2015 was 2:1, meaning for every two adults, there is one child or person of pensionable age[6].

[1] States of Jersey Statistic Unit, 2016, Jersey Resident Population 2016 Estimate report, published 23 June 2017, available from www.gov.je
[2] States of Jersey Statistic Unit, 2016, Jersey Resident Population 2016 Estimate report, published 23 June 2017, available from www.gov.je
[3] States of Jersey Statistic Unit, 2016, Jersey Resident Population 2016 Estimate report, published 23 June 2017, available from www.gov.je
[4] http://www.indexmundi.com/jersey/demographics_profile.html
[5] Jersey Health Profile 2016.
[6] Jersey Health Profile 2016.

Broad population structure

1.2.4 Figure 1 illustrates the age profile of Jersey, in comparison with the UK. The island has a large proportion of residents of working age, with 70% aged between 15 and 64. There are correspondingly low proportions of children and of residents in older age groups, with a total of 15% of residents aged 65 and over, including 4% aged 80 and over. By comparison, 66% of UK residents fall into working-age groups, with larger proportions of children and of adults in older age groups.

Figure 1: Age Profile (Source: Census 2001 and 2011)



1.2.5 Jersey has seen an increase in its working-age population, and the majority of the population growth recorded in Jersey since 2001 has been among people of working age. Between 2001 and 2011, the number of residents aged 15-64 grew by 20%. Over the same period, the number of children decreased by 3%, and the number of people aged 65 and over also fell slightly, by 0.2%. In the absence of net migration, however, it is estimated that the working age population could decline by 11% by 2035[7].

Economic and Employment Activity

1.2.6 Jersey has enjoyed the benefits of a high-performing economy for many years. Thanks to this success, Islanders enjoy a good quality of life, low taxes and access to rewarding employment opportunities,

[7] States of Jersey, 2014, Interim Population Policy, 2014-2015.

while the government has been able to fund high quality public services and infrastructure and build substantial financial reserves[8].

Adult economic activity rates

1.2.7 In 2015 86% of the working age population were recorded as being economically active. 15% of adults over working age (over 69 for women and 64 for men) were also recorded as economically active. Jersey's standardised ILO (International Labour Organisation) unemployment rate for adults aged 16 and over was measured at 5.7% in June 2013 (by the Jersey Annual Social Survey), corresponding to 3200 people being unemployed and looking for work in June 2013.

Public and private sector employment

1.2.8 Jersey's employment is dominated by the private sector, with only 15% of residents working in the public sector. Individuals working in the public sector work in professional occupations (34%) and caring, leisure and other services (16%). In the private sector, the majority of workers are in skilled trade professions (16%), closely followed by administrative and secretarial roles (15%) (Table 1).

Table 1: Major occupation groups in working adults (of working age)[9]

Occupation	Occupation of working age adults in Jersey	Occupation of working age adults in the public sector	Occupation of working age adults in the private sector
Managers, directors and senior officials	12%	4%	14%
Professional	15%	34%	11%
Associate professional and technical	14%	15%	14%
Administrative and secretarial	15%	14%	15%
Skilled trades	14%	3%	16%
Caring, leisure or other services	7%	16%	6%
Sales and customer service	6%	1%	7%
Process, plant and machine operatives	5%	2%	5%
Elementary occupations	12%	9%	13%

Education

1.2.9 In Jersey, in terms of adults of working age, 20% had no formal qualifications, 45% had secondary level qualifications and 34% had

[8] States of Jersey Strategic Plan 2015 – 2018
[9] Jersey Census 2011 (Chapter 4 Employment).

higher education, leaving 2% registered as having 'other qualifications[10].

1.2.10 Jersey has some outstanding schools whose results compare with the best in the United Kingdom. Between 1999 and 2009, Jersey children consistently out-performed their UK counterparts in achieving five or more GCSEs at grades A*-C. Since then, however, Jersey's academic performance has plateaued and the Island has been overtaken. This is because the United Kingdom invested in education reform aimed at improving standards and reducing educational inequalities[11]. In the academic year of 2014/2015, 53.1% of pupils attained 5 or more A* to C grades (including maths and English), compared with 53.8% in England.

Health

General Health

1.2.11 In 2015, 80% of respondents to the Jersey Health and Life Opportunities Survey rated their health to be 'good' or 'very good'[12]

Table 2: Self-reported health in 2015

Self-perceived health rating (2015)	Percentage of respondents
'Very Good'	37%
'Good'	43%
'Fair'	16%
'Bad'	3%
'Very Bad'	1%

1.2.12 Life expectancy at birth between 2013 and 2015 was 81.1 for men and 85.3 for women, similar to the other Channel Islands and higher than England and Wales[13]. Looking at life expectancy at age 65, women can expect on average to live an additional 23 years if they have reached 65, and men 20 years.

[10] Jersey Health Profile 2016.
[11] States of Jersey Strategic Plan 2015 – 18
[12] Jersey Health and Life Opportunities survey 2015
[13] Jersey Health Profile 2016

1.2.13 Jersey ranks in the top 10% of countries in the world for life expectancy. The services and quality of care provided in the General Hospital is highly valued[14].

Mortality

1.2.14 The main cause of death between 2013 and 2015 were cancers at 34%, closely followed by circulatory diseases (26%). Between the same period 19% of deaths were smoking-related and approximately 2% related to alcohol misuse. Between 2010 and 2014 less than 1% of all deaths were related to drug misuse[15].

1.2.15 Approximately 39% of all deaths on Jersey occur in hospital, 20% in a nursing home and 18% in private homes. The proportion of deaths occurring in hospitals has declined in recent years; in 2008 it was just under 50%.

1.2.16 Years of life lost (YOLL) estimates the potential length of a time a person would have lived if they had not died prematurely, based on the assumption individuals are expected to live until the age of 75. In Jersey more than 250 people die per year before they reach 75, accounting for 3600 YOLL per 100,000. Cancers accounted for the majority of the YOLL, followed by external causes, such as suicide and accidents[16].

Morbidity and disability

1.2.17 The most common incident cancers in Jersey as outlined in the Channel Islands Cancer Registry between 2007 - 2011[17] were non-melanoma skin cancer, breast cancer, prostate cancer and colorectal cancer. Approximately 488 new cancers (excluding non-melanoma skin cancer) were diagnosed each year in Jersey[18].

1.2.18 It is estimated that approximately 13% of the population suffer from hypertension and 8% are obese.

1.2.19 In 2015 it was reported that 14% of residents living in private households has a disability as defined by the UK Equality Act 2010[19].

1.2.20 20% of Jersey residents reported having a longstanding illness, disability or infirmity that lasted at least 12 months[20]. This proportion varied significantly between age group. 49% of individuals above 65

[14] States of Jersey Strategic Plan 2015 – 18
[15] Jersey Health Profile 2016
[16] Jersey Health Profile 2016
[17] Channel Islands Cancer Report 2013.
[18] Channel Islands Cancer Report 2013.
[19] Jersey Health Profile 2016
[20] Jersey Health Profile 2016

years reported a longstanding issue, which fell to just 7% for individuals aged 35-44 years.

Mental health

1.2.21 The Short Warwick Edinburgh Mental Wellbeing Scale (WEMWBS) was included in the Jersey Annual Social Survey in 2013[21]. A score of 7 represents poor mental health and a score of 35 represents the most mentally-healthy a person could feel. The average mean score for Jersey in 2013 was 26, representing generally good mental health.

1.2.22 In the 2015 Health and Life Opportunities Survey[22] respondents were asked questions about their satisfaction towards different aspects of their life. 6% responded they were unsatisfied with their life and 35% felt anxious.

1.2.23 Between 2013 and 2015 there were approximately 450 discharges from hospital coded as self-harm, comprising around 380 individuals. 57% of these admissions were female, and 33% were under 20 years old.

Infant and child health

1.2.24 In 2015 the crude birth rate was 10.0 live births per 1000 population, which is a decline from previous years. The stillbirth rate in Jersey has also decreased over time to a rate of 2.1. Between 2013 and 2015 the infant mortality rate was 1.3 per 1000 births, lower than the average rate for England and across the 28 EU countries. From 2013-2015 there was approximately 10 deaths of residents aged 1-17 years[23].

1.2.25 In Jersey an average of approximately 4000 children under five attended accident and emergency (A&E) each year.

1.2.26 In the 'Picture of Health Jersey 2014' survey, 52% of respondents aged 12-13 years old and 20% aged 14-15 had never drunk alcohol. Jersey has a rate of 20 per 100,000 population aged under 18 annually admitted to hospital with an alcohol-specific condition. Between 2013 and 2015 there was approximately 400 hospital admissions of 15-23 year olds with a diagnosis related to substance misuse.

1.2.27 In the 'Picture of Health Jersey 2015' survey, over 90% of respondents aged 10-13 years and 65% aged 14-15 had never smoked. The survey found that one in ten young people were exposed to second hand smoke in their home. Less than 1% of respondents under 14 years had taken drugs.

[21] Jersey Annual Social Survey 2013.
[22] Health and Life Opportunities Survey 2015, Sates of Jersey Social Policy Unit
[23] The Jersey Health Profile 2016 states that a 'standardised child mortality' rates is not calculated when there are less than 25 events.

1.2.28 Between 2013 and 2015, 22% of children aged 4-5 were overweight or obese. This rose to 32% for children between 10 and 11 years old. Approximately 22% of children reported being physically active for an hour a day in a 2014 survey[24]. This was higher in males (27%) than females (16%).

Lifestyle

1.2.29 In 2015, 19% of adults aged 16 or over in Jersey were smokers[25].

1.2.30 10% of respondents to the Jersey Annual Social Survey in 2014 said they never drank alcohol. 45% of 16 to 34 year-old drinkers responded that they drink five or more units when they usually drank, exceeding recommended daily limits. One in five crimes reported between 2013 and 2014 had alcohol involvement and in 2012, almost 500 incidents of domestic violence involved alcohol.

Traffic

1.2.31 In 2014 there were 5556 cars or vans registered in Jersey[26]. Only 16% of private households in Jersey did not have access to a car or a van. This does rise to 30% in St Helier.

1.2.32 56% of working age individuals in Jersey commuted to work by car, 4% used the bus and 25% walked.

1.2.33 An average of 300 people are slightly injured on Jersey roads each year. 50-60 people are seriously injured. In 2015 there were no fatalities from road traffic injuries in Jersey, the first year since 2002. Between 2011 and 2015 there were no road traffic fatalities of children (under 16 years), although 16 children were seriously injured over this period.

Vulnerable people

1.2.34 **Older people:** Poor mobility and a greater reliance on public transport can make it more difficult for older people to access health and social services, shops and community facilities. Older people are therefore likely to be disproportionately affected by poor access to services and facilities. Adverse effects resulting from negative changes to transport and access can include poorer diet, reduced exercise and isolation from the surrounding community. Older people are also more likely to suffer from the detrimental health effects associated with poor environmental conditions such as dust and noise impacts associated

[24] A picture of health. Jersey 2014: reflections of the health and lifestyle of young people aged 10-15 years
[25] Jersey Health Profile 2016.
[26] States of Jersey: Freedom of Information Request- 'Number of vehicles registered in Jersey'. June 2015

with construction. The community profile shows that in most areas, there is an older population equal to or above the national average.

1.2.35 **Low-income / low socio-economic groups:** Differences in social grade are linked to health inequalities. In general, those on low incomes have more limited access to facilities such as sports and leisure facilities, and a lower propensity to access fresh food needed for a balanced diet. They are also less likely to own their own transport and therefore suffer disproportionately from poor access to services and facilities and a lack of public transport.

1.2.36 **People with disabilities:** People with disabilities often lack the mobility to access services outside the local vicinity and rely more heavily on access to reliable public transport services. The community health profile indicates that in some areas the number of long-term sick or disabled individuals was above the national average.

1.2.37 **People with long-term illness:** This group is more likely to suffer from a lack of access to local services as they often lack the mobility to access services outside the local vicinity. Long term illness sufferers are also more likely to suffer from the detrimental health effects associated with poor environmental conditions such as dust and noise impacts associated with construction. The community health profile indicates that in some areas the number of long-term sick or disabled individuals was above the national average.

1.2.38 **Ethnic minority groups**: Ethnic minority communities often suffer elevated levels of poverty, violence, unemployment and ill health. Many ethnic minority groups are likely to experience unemployment rates at twice the national average, with direct impacts upon wealth and socio-economic class. There is a strong link between poverty and well-being. Those in high-risk groups for poverty are also more likely to suffer health problems. The community profile shows that although ethnic diversity is low within the study area, there are notable populations of other ethnic groups in some areas.