St George's University Hospitals NHS Foundation Trust

Estate Strategy

2021 to 2031

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1.1	21st July 2021	Second Draft for Comment
1.2	22nd July 2021	Final Draft for Circulation

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1 Foreword

Welcome to the St Georges University Hospitals NHS Foundation Trust's Estates Strategy for the period 2021 to 2031.

This ambitious document details how we will carry out the investment and management of our estate over the next 10 to 20 years and the changes we propose to make to meet the Trust's vision *"to develop and maintain an efficient, high quality, sustainable and flexible estate which meets the operational demands and objectives of the Trust and the wider South West London healthcare system and promotes long-term collaboration with our health and education partners."*

The NHS is facing and will continue to face many pressures as we emerge from the COVID 19 pandemic and our estate needs to be fit for purpose for the "new world" to effectively support clinical delivery. However, ensuring a safe and sustainable environment, maintaining our facilities, and delivering excellent services will always be at the core of what we do in estate management.

In the future, our estate will need to be both an enabler and driver for change, supporting the delivery of our current and future Clinical and other associated Trust strategies and strategic objectives.

It is our ambition for the estate to enhance the delivery of outstanding and compassionate healthcare for our staff, patients, visitors, and communities through a flexible, therapeutic, sustainable estate that harnesses the power of digital technology, and embraces net zero carbon. To do this, we will need to make the right investment decisions at the right time.

This Estates Strategy builds on our key Trust documents such as The Trust's Clinical Strategy, collaborative documents such as the Wandsworth Borough Estates Strategy, and it addresses the challenges set by the NHS Long Term Plan by capturing the Trust's future plans for the estate.

The strategy commits the Trust to fulfil our ambition of providing, developing, and maintaining a more efficient, better maintained, high quality, sustainable and flexible estate that has high levels of utilisation. It provides a framework to deliver an overall estate vision that supports the delivery of corporate and clinical aims, as well as those of the wider healthcare system and partners.

It captures the current condition and suitability of our estate and outlines how we will improve it and work with the South West London Integrated Care Partnership and our partners and stakeholders. Well maintained, well designed, and well used buildings help support clinical services, promote confidence, and can act as a stimulus for the wider growth and prosperity of the region. The estate also needs to change and embrace new ways of working and continue to harness the opportunities of the digital age.

Our patients are put first in this Estates Strategy, which will be flexible in the ever-evolving healthcare landscape. It will also enable effective communications to allow our staff and stakeholders to understand our estate and our priorities for change and improvement.

The Estates Strategy is not a static document and will be reviewed and updated on a yearly basis.

I would encourage people within the Trust and our stakeholders in the wider healthcare environment to use and support this Estates Strategy.

Andrew Asbury, Director of Estates & Facilities, St George's University Hospitals NHS FT, May 2021

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1.1 Strategy Purpose

The Estate Strategy plays an important part in delivering the Trust vision to *"provide outstanding care, every time".*

The Estate Strategy is based upon two important themes:

1. **Strategic Investments to raise the quality, configuration, and performance of the estate that we use to deliver our services through new facilities and commercial investments.**

2. **The ongoing 'business as usual' functions to operate and maintain a high performing, safe and compliant estate.**

The key principles for the Estate Strategy include that:

1 *It underpins the strategic direction of the Trust*

2 *It supports the Clinical Strategy to improve patient pathways and improve quality of care*

3 *It develops a vision and framework for future capital investment and potential disinvestment*

4 *It provides the evidence base for future capital investment business cases*

5 *It shows a clear implementation programme over 10-20 + years for transformation with tangible benefits*

6 *It develops a safer and framework for patients, visitors, and staff*

7 *It supports local and national priorities and targets set by the Department of Health & Social Care (DHSC)*

8 *It supports and works closely with our key partners and their strategic plans across the region*

9 *It supports the implementation of new models of clinical care*

10 *It promotes education training and research*

11 *It facilitates income generation opportunities*

12 *It promotes environmental sustainability*

13 *Will reduce backlog maintenance*

14 *Will identify opportunities for land disposals and development.*

1.1.1 Developing the Strategy

All NHS Trusts have a statutory responsibility for the management of their assets. A well devised Estate Strategy is an essential element of that management.

NHS Estates have issued guidance to Trusts to assist them to develop their Estate Strategies, entitled **"Modernising the NHS – Developing an Estate Strategy"**.

The Estate Strategy is a long-term plan for managing the estate in an optimum way in relation to the service and business needs of the Trust and the local health economy.

It is required to be able to deliver a modern NHS fit for the 21st century, where buildings and equipment are in the right place, in the right condition, of the right type and are able to respond to future service needs.

It includes:

- The analysis of the current estate and how it performs
- Proposed changes to the estate over the next 10-20 + years
- Proposed performance improvements
- Site Development Control Plan
- A comprehensive estate investment programme.

The Estate Strategy has been developed in accordance with the process described by the NHS Estate guidance.

The process is based on 3 questions in relation to the estate, set in the context of the Trusts objectives and service strategy, they are:

- Where are we now?
- Where do we want to be?
- How do we get there?

Going forward, an iterative process will be needed to ensure alignment, and where required data or plans will be reviewed and updated to ensure they remain current and relevant.

1.1.2 Estate Strategy Step by Step

This document has been produced through a continuous engagement process involving a number of key groups and individuals across the Trust. Through these engagements, the Estates & Facilities Team and key authors of the Estate Strategy have ensured senior buy-in and secured support from key stakeholders whom have provided the direction of each decision made during the development of this document.

Figure 1: Estate Strategy process

1 Where we are now?

This initial step is aimed at developing a comprehensive understanding of how well the current estate supports the delivery of services, using estates appraisal methods. For example:

- What are the key metrics of the current Estate?
- How well (or otherwise) is the Estate performing or managed?
- What are the known risks and issues with the Estate?
- What are the quality indicators saying?
- Describe the context of the current Estate.
- How does the current Estate limit or enhance the delivery of clinical services?

2 Where do we want to be?

This step includes a detailed review of the known and anticipated service plan changes, with the aim of developing a clear understanding of current operational issues, factors likely to drive change and investment in the estate and assess the potential for service expansion or contraction in terms of estate needs.

It also considers the Trust's overall Clinical Strategy, financial position, and service requirements. Reference is taken from relevant strategies, to ensure strong alignment and to avoid duplication.

It assumes an awareness of these supporting documents including:

Internal

- Clinical Strategy
- Financial Strategy
- People Strategy
- Quality and Safety Strategy
- Sustainability Management Strategy
- Education and Research Strategies
- Information Management & Technology Plan (IM&T)

External

- Wandsworth Borough Estates Strategy
- Wandsworth Joint Strategic Needs Assessment
- SW London CCG Commissioning Strategies
- Wandsworth Local Plan

Through dialogue and engagement with key stakeholders, it has been possible to better understand the limitations posed by the current estate configuration and condition with the aim of developing potential solutions for improvement. Some of the underpinning strategies, aimed at setting the future direction of clinical services are in the early stages of development, and as part of an iterative process these will be re-visited and checked for alignment.

The output from this stage is a schedule of key strategic aims and developments for the Trust, focused on meeting the aims and objectives set out earlier. There should also be strong correlation to the Trusts vision and values, its priorities, and a direct correlation to addressing the areas identified as requiring improvement in the initial assessment of the current estate.

3 How are we going to deliver the change?

This final step in the strategy development process takes the information, data, and output from previous stages to develop key strategic themes and deliverables, which includes the Development Control Plan (DCP), and a rolling programme of estates improvements to achieve the DCP.

Triangulation and Iteration: Keeping it aligned

At each stage, reference is made to the supporting strategies and plans of the Trust, to ensure we align the outcomes for maximum benefit. The Estate Strategy is designed to fit as part of a suite of documents, with strong read across and avoiding duplication.

Review Process

Throughout the development of the Estate Strategy, we review the position of reference data, the targets we develop and also 'sense check' the emerging reconfiguration programme to ensure they are prudent, operationally sound and based upon firm foundations.

It is essential that such key proposals are also discussed with senior colleagues and stakeholders, ensuring a shared understanding of the drivers, priorities, and rationale behind them.

Approvals Process

This Strategy has been approved by a number of key groups within the Trust:

- Estates and Facilities
- Trust Management Group
- Trust Board
- Finance and Investment Committee
- Operational Management Group

It has also been presented to the following external management groups for feedback and input:

- Wandsworth Estates Group
- Joint University Board
- Merton Estates Group
- London Borough of Wandsworth
- Wandsworth Health & Care Board.

The strategy will be reviewed on an annual basis in line with NHS Guidance, and will form the basis for all estates and facilities activity until 2031.

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1.2 Strategic Overview

The Trust operates from two hospital sites: St George's Hospital, Tooting; and Queen Mary's Hospital, Roehampton, and several community facilities.

It is the largest healthcare provider in South West London, serving a population of **1.3 million**, and providing specialist tertiary services across a wider population in Surrey and Sussex totalling approximately **3.5 million** people.

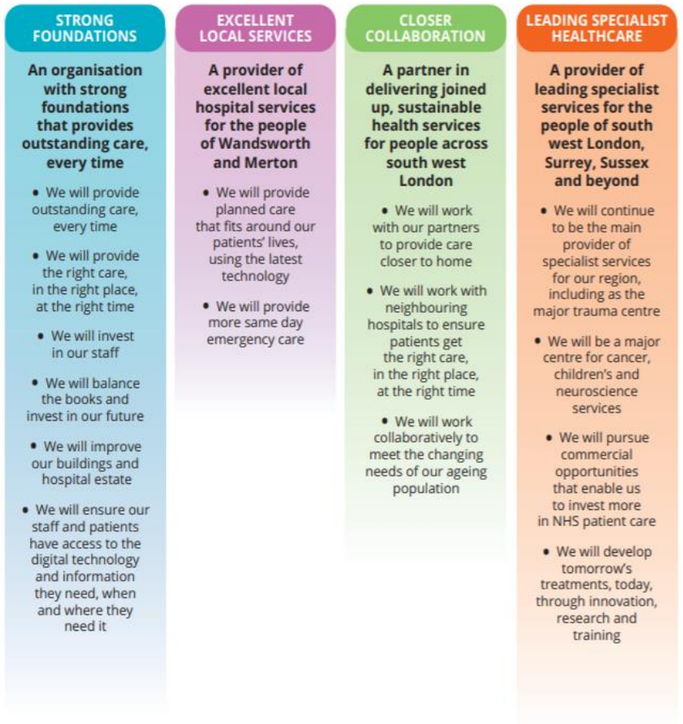
1.2.1 Headline Facts

Local Population Served	1.3 million
Our Staff	9,000
Total expenditure (2019/20)	£919m
Owned Estate Size (GIA)	185,000+sqm
Number of Acute Sites	2
Number of Community Sites	70+

1.2.2 Trust Vision

"Our vision is to provide outstanding care, every time, for patients, staff and the communities we serve"

Figure 2: Our Vision - Four Priorities



1.2.3 Patient Care Income by Activity

The following figures are based on the data presented in the Trust's 2020 Annual Report:

£117m Elective Income

£169m Non-Elective Income

£48m First Outpatient

£51m Follow up Outpatient

£204m Other Clinical Income

£42m High-Cost Drugs Income

£92m Other Income

Figure 3: Patient Care income 2019/20 by activity

1.2.4 Patient Care Income by Source

The following figures are based on the data presented in the Trust's 2020 Annual Report:

£377m Clinical Commissioning Groups

£325m NHS England

£21m Other:

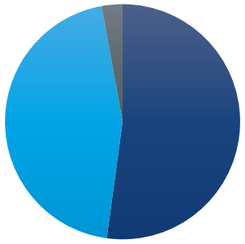
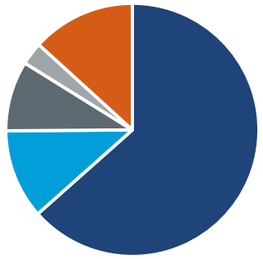


Figure 4: Patient Care income 2019/20 by source

1.2.5 Spending Overview

The following figures are based on the data presented in the Trust's 2020 Annual Report:



£576m Staff and Executive Directors costs

£104m Supplies and Services

£81m Drug Costs

£26m Premises

£120m Other

Figure 5: Trust Spending Overview

1.2.6 Property, Plant and Equipment Value

The following figures are based on the data presented in the Trust's 2020 Annual Report:

£225m Buildings

£83m Plant & Machinery

£56m Land

£39m Assets under Construction

£24m IT

£11m Furniture and Fittings

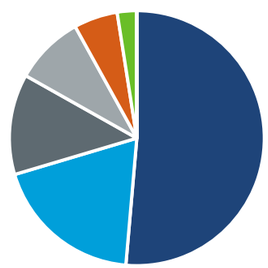


Figure 6: Property, Plant and Equipment

1.2.7 Trust Performance

1.2.7.1 *NHS Improvement Single Oversight Framework KPIs*

NHS Improvement uses several national measures to assess access to services and outcomes and to assess governance at NHS Foundation Trusts. Performance against these indicators act as a trigger to detect potential governance issues and can be seen in the table below:

Table 1: NHSI KPI Performance

Indicator	Description	Target	2018/19	2019/20	Progress
Referral to treatment times	Maximum time of 18 weeks from point of referral to treatment (RTT) in aggregate – patients on a complete pathway			84.20%	
ED Access	95% of patient wait less than 4 hours	>=95%	88.40%	83.20%	
Cancer Access	% cancer patients treated within 62 days of urgent GP referral	>=85%	86.90%	85.20%	
	% patients treated within 62 days from screening referral	>=90%	86%	88.80%	
Diagnostic Waits	Maximum 6 week wait for diagnostic procedures	99%	99%	95.70%	

1.2.8 Clinical Management

The Trust's clinical management is structured into three divisions, with each division led by a triumvirate of a Clinical Director, Head of Operations and Head of Nursing.

The three clinical divisions are as follows:

- Children's, Women's, Diagnostics and Therapies (CWDT)
- Surgery, Neurosciences, Cancer and Theatres (SNCT)
- Medical and Cardiology (Med Card)

Underneath the three divisions are a range of directorates which manage clinical specialties and clinical support departments such as diagnostics, therapies, pharmacy, and outpatients. Each directorate is also lead by a clinical director, general manager, and lead nurses.

The clinical management of the organisation is supported by the following corporate directorates:

- Estates and Facilities
- Finance
- Human Resources
- IT
- Strategy
- Corporate Management Team

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1.3 Policy

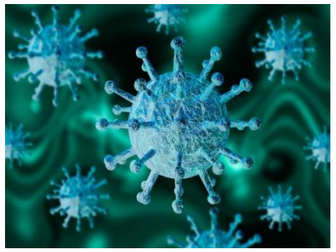
1.3.1 SGUHL Corporate Objectives

As shown below, the Trust Board recently agreed to a refresh of our corporate objectives to reflect the changing environment and providing clarity on where focus is needed over the coming months, particularly in light of the COVID-19 pandemic.

Table 2: SGUHL Corporate Objectives

Care
▪ We will keep staff safe, and invest in their health and wellbeing ▪ We will share the findings of our culture discovery project, so we understand how staff feel about working at St George's ▪ We will work more closely with local hospitals and partner organisations in South West London
Culture
▪ We will make sure we are prepared to meet the demands of COVID-19, flu, and winter ▪ We will develop a plan with staff to improve our culture, and measure the impact it is having ▪ We will overcome challenges together, rather than as individual organisations
Collaboration
▪ We will provide routine and planned care, and keep patients safe during their stay ▪ We will celebrate diversity, and support our leaders to be more inclusive ▪ We will work with St George's University of London to build our research, training, and research expertise

1.3.2 The Impact of COVID-19



The COVID-19 pandemic has had an unprecedented impact across the NHS. Enormous changes were made to manage the surge in critically ill patients, many of whom required ventilation, and to adapt operating models to enhance infection control and mitigate the risks of further spreading the virus in hospitals.

While we do not yet know the full, long-term impact of COVID-19 and what future pressures the NHS will face, there are a number of lessons that we have learnt that are important to incorporate into new hospital designs:

i Buildings need to be designed to be flexible. To respond to future pandemics and/or changes in demand, healthcare buildings need to be designed so they can be used in different ways, including providing more ITU and/or ventilated capacity when needed.

ii Where possible, access and clinical spaces should be separate/segregated. Planned spaces should, where possible, be separate from emergency spaces, to support separation of patients. Departments should, as much as possible, have dual access and egress routes.

iii We need greater capacity and staffing resilience to support planned care. In future pandemics, we would want to continue more planned care than during the first wave of COVID-19. This requires better facilities and more resilient staffing, supported by consolidation.

iv Digital needs to be embedded in the hospital. To maintain the shift to virtual care, dedicated facilities and systems will be needed alongside clinic rooms for face-to-face care – including the ability to review outpatient/ambulatory patients virtually and for staff to work remotely. Moreover, the facility should maximise the opportunity offered by digital.

1.3.3 SGUHL Quality and Safety Strategy

The Trust's Quality and Safety strategy recognises the challenges we face and harnesses the opportunities to maxims what we do well, learn from patient safety incidents and embed a culture of quality, safety, and learning.

High Quality Care for All (2008) sets out three dimensions of quality**: clinical effectiveness, patient experience** and **patient safety**, which has been expanded by the World Health Organisation to cover six dimensions of healthcare quality and states that healthcare must be:

- **Safe:** Avoiding harm to patients from care that is intended to help them.
- **Timely:** Reducing waits and sometimes harmful delays.
- **Effective:** Providing services based on evidence and which produce a clear benefit.
- **Efficient:** Avoiding waste.
- **Person-centred:** Establishing a partnership between practitioners and patients to ensure care respects patients' needs and preferences.
- **Equitable:** Providing care that does not vary in quality because of a person's characteristics.

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Strategic Quality and Safety Priorities 2019-24

1. We will **minimise avoidable harm** across our organisation, utilising the developments in technology, reducing unwarranted variation, and embedding further, robust quality assurance and learning processes.
2. We will **improve outcomes for patients** through timely diagnosis, exceptional care, and treatment and by working with our partners to ensure we contribute to developing the whole pathways of care for our patients.
3. We will **provide patients with an excellent experience** through their journey with us, monitoring and acting on feedback to ensure continual improvements in the areas that matter the most to our patients.
4. We will improve **staff experience**, enabling staff to feel valued, supported, and equipped to deliver high quality safe care and improve their work via quality improvement methodology.
5. We will **provide patients with an equity of access and quality** by proactively improving access and care for vulnerable groups.
6. We will **embed a culture** in which **quality, safety and learning** is embraced across the organisation, and is supported by robust systems of safety governance.
7. We will be at the forefront of **providing and developing pioneering and leading-edge treatments** for today and for the future.

1.3.4 Education

As a *'learning organisation'* we will inspire our staff to reach for excellence and deliver outstanding care, every time.

We will be the leading NHS organisation for education and development in South West London.

We will achieve this by becoming a system leader in emerging innovation and technologies driving teaching and learning, fit for a future health service:

4 We will be the leading NHS organisation for education and development in South West London collaborating with other employers and education providers.

5 We will provide opportunities to all our staff to develop and progress in ways that support fulfilling personal, professional and career development, embracing principles of well-being, equality, and diversity.

6 We will provide accessible and innovative ways of learning and teaching by keeping up to date with emerging advances in clinical practice, digital and artificial intelligence, supported by the use of new technologies.

7 We will ensure education provision is flexible to adapt to changing innovations in the workforce, developing robust governance around the scope and remit of new roles.

8 We will provide high quality education opportunities to ensure our staff have the skills and knowledge to deliver safe and outstanding care.

St George's is globally renowned as a centre of excellence and one of the UK's largest teaching hospitals. Our staff are our most valuable asset, and as a learning organisation we will inspire our staff to reach for excellence and deliver outstanding care, every time.

The Trust as a leader in education

We partner with St George's University of London to train in:

- Medicine
- Biomedical Science
- Healthcare Science
- Physiotherapy and Radiography
- Undergraduate courses (foundation) in Healthcare Practice, Paramedic Science and Breast Imaging
- Postgraduate training for a wide range of clinical specialties.

We also partner with:

- Kingston College
- South Thames College.

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We provide level 4 apprenticeships, project search placements, over 600 work experience placements annually, undergraduate, and postgraduate work placements.

The Trust as an Employer

We provide employment, learning, training and development for patients and staff:

Employment	Learning	Training and Development
▪We offer apprenticeship routes into employment ▪All staff have annual performance development reviews ▪We provide employment and training for a range of Clinical Scientist ▪We support staff to transition into new or enhanced roles	▪We provide education for patients ▪We provide education courses to the open market ▪We provide comprehensive programmes at every level of the leadership journeys	▪Training and development for our staff, including access to simulation facilities ▪We support a wide range of Continuing Professional Development opportunities ▪We will provide Parity of Esteem training ▪We have established a trained accredited mediation and workplace conflict resolution service

In order to continue providing educational opportunities to students and staff and ensure that we continue to develop as a leading education provider in South West London and nationally, we must provide opportunities for all to develop and progress.

We will therefore focus, with the support of the strategy, on prioritising getting the 'basics right', to establish the foundation for an optimal learning environment. The continual management and long-term improvement strategy of the estate is a key enabler of this.

1.3.5 Research & Development

Our vision is that by 2024, St George's will be a thriving centre for research, offering opportunities to take part in research to patients across all our clinical services. We will:

- Have an NIHR-funded Clinical Research Facility for early translational research
- Rank nationally in the top 10 Trusts for research outputs and performance
- Act as a hub for research in South West London
- Boast an international reputation in key areas.

Through research, we play our part in developing the treatments of tomorrow. St George's has a proud history in this field and is increasingly active in research.

We have seen substantial improvement in clinical trial delivery, giving thousands more of our patients access to innovative treatments. We will continue to build on this success over the coming years, and in addition to recruiting patients to trials we also want to develop our own academic outputs as an institution.

NIHR Funded Clinical Research Facility

We will seek core National Institute for Health Research (NIHR) funding at the next available opportunity. Pending the detail of NIHR's call for bids, we expect to bid for Clinical Research Facility funding, focusing on shared areas of strength with St George's University of London. We will also explore with our partners across the region the potential for a 'partnership bid'.

Clinical Academic Groups

A Clinical Academic Group (CAG) is a formal structure designed to bring together academics and clinical academics within St George's University of London and clinicians at St George's University Hospital's NHS Foundation Trust, with a view to increasing and improving research and educational activity in specific areas where both institutions have expertise and critical mass. The vision is for each CAG to be a local, national, and international hub for excellence which provides outstanding and unique research, teaching and training.

St George's Institute of Clinical Research

Sitting alongside the CAGs, we will establish St George's Institute of Clinical Research. Hosted by the Trust, this will be a joint structure with SGUL to provide critical mass and "spirit de corps" for clinical researchers to collaborate, develop research interests, skills, and careers with increased success in grant applications. It will:

- Enable both non-University and SGUL investigators to access resources and seminar series.
- Provide information, training, and mentorship to researchers in relation to funding and career development opportunities.
- Organise and collect data on all research outputs from SGUH and publicise success.
- Establish a strong and robust governance structure, led by an executive to guide, and inform future strategic developments.

The Estate Strategy provides a unique opportunity to further develop and improve the collaborative relationship with St George's University of London. This collaboration, with aligned objectives of improving facilities and creating a better place to work, will enable the creation of on a modern, flexible environment that serves the needs of both organisations.

1.3.6 Workforce

It is our ambition to have a sustainable and fulfilled workforce which is empowered to deliver outstanding care, every time. The workforce is a crucial enabler to help us deliver the priorities and ambitions set out in the Trust Strategy. Delivering the priorities within the Trust Strategy will not only require us to build on what is great about working at St George's but will require a fresh look at our workforce models and to ensure the culture and values of the organisation enable us to attract, nurture and retain our most valuable resource – our people.

The workforce strategy sets out the ambitions for the future workforce, recognising the challenges that we face now and, in the future, and harnesses the opportunities for new ways of working and new workforce models to help shape the future.

Figure 7: Workforce Objectives

Building on staff engagement and feedback received in developing the Workforce Strategy, the following key objectives have been identified:

Our priorities for action, therefore, are focussed across three key priorities:

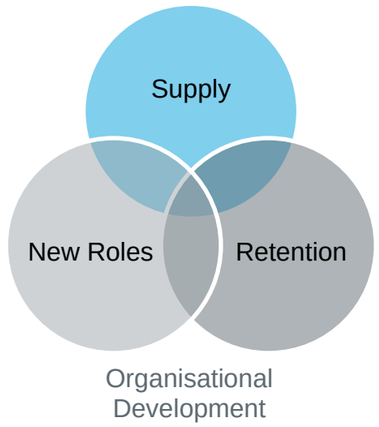


Figure 8: Workforce Priorities

Retention

Our staff turnover remains high, at 17%. There are several areas we can focus on to better understand why people leave and to put actions in place to improve our retention rates. As part of our strategy on retention we will:

- Better understand why our staff leave and to put into place strategies to specifically address these
- Look at what flexibilities we have as a Foundation Trust around the use of recruitment and retention premia – ideally in a SWL collaborative way
- Put in to place clear career pathways for our staff including non-medical staff and ensure that our staff have 'protected time' for learning
- Ensure every member of staff has proper development (PDR) conversations
- Ensure we have a clear understanding of where our talent lies and what plans we have in place around succession
- Ensure that we have good career coaching and career conversations
- Address grievances in a timely and compassionate manner
- Maximise the skills and capabilities of our current staff and support them to contribute to clinical care as much as they can by operating at the top of their licence
- Ensure that the culture of the organisation is one that encourages people to want to stay and also recommend St George's as a great place to work
- Provide a flexible working environment which reflects a modern workforce and also supports people to realise their life as well as career ambitions.

Supply

We need to better understand where we have supply issues, the root cause of these and target out activities in these areas accordingly. As part of our strategy on supply we will:

- Understand where we can grow our own future workforce, including reaching out to schools and colleges
- To look at if there are new and innovative roles we can develop to fill as part of a new workforce model
- Maximise the opportunities of the apprenticeships and better use our apprenticeship levy
- Work with our local education providers (FE and HE) to help us develop the local workforce of the future, focussing particularly on those roles which are in short supply or are hard to recruit to
- Maximise opportunities for wider collaboration across South West London in terms of recruitment initiatives but also explore the potential of shared roles across Trusts in certain specialisms
- Tap into international recruitment campaigns
- Collaborate with St George's University London to support the development of training courses for those hard to fill and new roles
- Change the perception and culture around 'bank staff' to ensure they are embedded as part of the Team St George's
- Maximise our reputation as a specialist tertiary centre with excellent research opportunities to attract the best talent.

Maximising new roles

Developing a sustainable workforce for the future relies on us taking a strategic approach to how we recruit, support, and deploy new roles. As part of the Workforce strategy, we will:

- Build on the work already being done on the development of a Trust wide strategy for Advanced Clinical Practitioners and expand this approach to other roles such as Physician Associates and Independent Prescribers
- Ensure that the role specification and capabilities of these roles are widely understood across the Trust
- Adopt a corporate wide approach to recruitment and training of such roles as part of the sustainable clinical workforce models
- Ensure the appropriate senior leadership and governance arrangements are in place to support staff in these roles.

1.3.7 New Ways of Working

The Trust is committed to assisting all staff to achieve work-life balance regardless of their personal circumstances. It is recognised that as a means of improving staff satisfaction, a more flexible approach to work is often helpful.

As a general trend, work is becoming more flexible and less centralised. This trend has been massively accentuated by the COVID-19 pandemic and its impact on the office and ways of working, forcing people apart from each other and keeping many at home during the most stringent periods of lockdown restrictions. Office technology is playing a significant role in this development and it is becoming increasingly possible to perform certain kinds of work at home, rather than in the office.

The Trust's Home Working Policy was developed to enable staff to achieve an appropriate balance between work and personal goals (e.g., saving travel time, allowing flexible working hours) whilst maintaining the need to ensure that patient services are not compromised.

The Home Working Policy is supported by the Trust's Balancing Work and Personal Life policy, which in itself sets out a wide range of flexible working arrangements and how both staff and managers must act in order to make these working arrangements suitable for the services they provide.

In order to support these ambitions, the office accommodation itself must be sensitive of a changing world and a drive towards an improved working culture at the Trust.

1.3.8 SGUHL Digital and IT Strategy

Easier access to information, including through digital technology, is reshaping the way we live our lives, and the way we access and interact with services.

Our vision is for staff and patients to have access to the digital technology and information they need, when and where they need it. To deliver on that vision, we will pursue three strategic objectives:

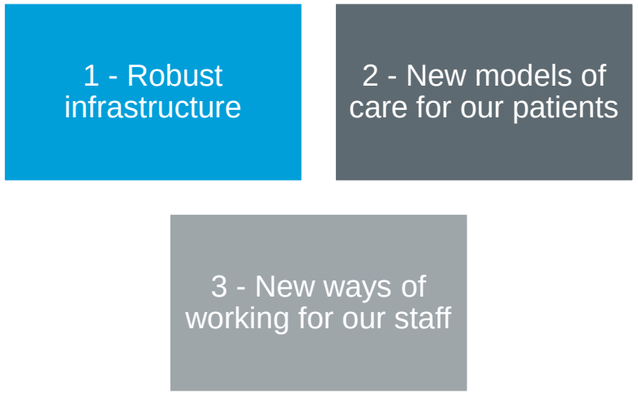


Figure 9: Digital strategic objectives

The NHS Long Term Plan envisages 'digitally-enabled care', and it is the ambition of the Trust to support patient empowerment, continue the shift from paper to electronic, support the modernisation of infrastructure and ensure the Trust is well placed to benefit from the quality & efficiency opportunities resulting from new technologies such as AI.

Robust Infrastructure

When we surveyed our staff on their key priorities, the top priority was upgrading our IT infrastructure. Building a robust IT infrastructure will also enable our other ambitions to deliver new models of care for our patients and support new ways of working for our staff.

Objectives	Key Deliverables
IT Infrastructure and telephony upgrade	▪ Virtual desktop infrastructure ▪ Replacing the network ▪ Data centre upgrade ▪ Conversion of telephony to online
	▪ New intranet ▪ Improved use of digital platforms in education/training
Upgrade and renew the systems that underpin clinical and non-clinical work	▪ New electronic systems in specialties such as maternity and theatres ▪ Update of key non-clinical systems
Strengthen our systems and processes for cyber security	▪ Implementation of secure email ▪ Implementation of 'demilitarised zone'

New models of care

Strong information management is an essential foundation to the Trust's desire to improve the care we offer our patients. Access to linked and searchable clinical, radiological, and pathological datasets is also a key enabler. Better use of information technology will also underpin our ability to interact with our patients differently. This is a key priority nationally and has been a consistent part of the feedback from our staff and public engagement.

Objectives	Key Deliverables
Proactive approach to business intelligence	▪ Re-build of data warehouse, including to enable better use of data by researchers across the Trust ▪ Build capability/capacity for more proactive approach to information management
Use information technology to interact with our patients differently	▪ Specialty-level development of iClip to enable more virtual outpatient clinics / fewer face-to-face attendances, starting with some prioritised specialties in 2020/21 ▪ Development of 'patient portal', enabling patients to access and amend their health records

Digital Infrastructure and New ways of working

ICT has a major impact on the working lives of our staff. Improving our infrastructure will have a significant impact here, with staff able to use faster, more responsive, and more integrated ICT. Above and beyond that, we also want to make it easier for our clinicians to work across sites and organisational boundaries.

Objectives	Key Deliverables
Enable access to information	▪ Optimise use of Health Information Exchange ▪ Interoperable clinical systems
Enable remote working	▪ Embed tools that enable virtual working
Help staff work efficiently and effectively	▪ iClip optimisation ▪ Diagnostic AI ▪ Develop and deliver effective training
Complete the shift from paper-based to efficient and effective electronic clinical systems	▪ Roll-out of iClip across outpatient services ▪ Optimising inpatient systems to reduce use of paper

Computer Aided Facilities Management

It is our intention to explore better use of Computer Aided Facility Management (CAFM) to plan, execute and monitor all activities involved in reactive and planned preventative maintenance, space and move management, asset management, operational facility services, room reservations and other customer services.

This approach will help our facility managers to increase the utilisation of space and facilities, reduce moves and reallocations, plan preventative maintenance, efficiently execute reactive maintenance, standardise services, and streamline processes. Ultimately, information from CAFM software allows managers to improve long-term planning of space, facilities, maintenance, services, and budgets to ensure full alignment with core business needs.

1.3.9 Ronald McDonald House

Ronald McDonald House Charities keeps families together so children in hospital can get the love and comfort they need. The charity provides 'home away from home' accommodation for families with children in hospital; somewhere free to stay for as long as they need to.

Ronald McDonald House Charities™ United Kingdom

Keeping families close™

The mission of Ronald McDonald House Charities is "to ensure there are sufficient funds and expertise to develop and sustain free accommodation at specialist children's hospital in the UK."

The House at St George's Hospital is one of 14 across the UK. Many families travel miles from home so that their child can receive expert medical care, and many have to remain in hospital for months at a time. Without our local Ronald McDonald House, parents would have to sleep on a chair by their child's bed or pay vast sums of money for hotel accommodation.

The Ronald McDonald House has eight en-suite bedrooms, a kitchen, children's playroom, lounge, laundry facilities and a garden. They look after 200 families each year whilst their children are being cared for at St George's Hospital.

As an independent charity, the charity relies on the support and generosity of families, volunteers, and donors. It is because of fundraising efforts that they are able to look after families with children in hospital.

There have been a number of fundraisers in aid of Ronald McDonald House Charities, including:

- 70 members of staff from local McDonald's restaurants played in a five-a-side football tournament and raised £1450 for the Tooting House in September.
- In December 2019, the Tooting House held its annual raffle where families, supporters and staff gathered to draw the winners. Major donor Kalpesh Patel donated a cheque for £20,000 for the House.

1.3.10 Energy and Sustainability

We endeavour to achieve excellent care, influence, and perform in a sustainable manner.

Both people and the environment are two of the world's most important resources and they each influence one another. It is our role to ensure that both people and the environment work in harmony with one another if we are to minimise negative environmental impacts and maximise a positive, productive, and healthy society.

We have ensured that responsibility and accountability for sustainable development is clear at the Trust and have developed a Green Plan to help drive forward the Trust's sustainable development agenda.

To us, being a sustainable Trust simply means:

- Effectively managing our resources (including material, costs, people, and time)
- Having a positive impact on the environment, society, and the economy
- Providing the best possible patient care through inclusion of a positive workplace environment and long-term financial sustainability.

While focusing on these key themes the Trust has many cross-cutting elements which also result in better patient care. These include the importance of integrating sustainability into our care services, encouraging, and supporting self-care and linking sustainability and quality throughout our objectives We believe that if we are to truly make a positive difference, we must embed sustainable behaviours into our workplace and partnership cultures so sustainable development becomes a business-as-usual approach.

1.3.10.1 *St George's Green Plan*

The Trust's Green Plan sets out the national and local context of sustainability within the healthcare sector and presents a comprehensive overview of the drivers for the NHS and the Trust to transition to a more sustainable future.

As a result of the ongoing environmental, financial and health risks associated with climate change and the pressures of securing long-term sustainable development, the Trust has produced a set of targets and tailored policies and actions. Where quantitative objectives cannot be set, commitments and areas of priority and improvement have been identified.

Our commitment is to ensure that we encourage and enable our staff to provide healthcare services in the most sustainable way possible. In conducting and developing its business, the Trust has a responsibility to ensure that it does not impact negatively on local communities and the environment.

Green Plan – Objectives and Targets

The Trust is fully committed to its 2021 Green Plan and will support all stakeholders, both internal and external, in helping us to achieve these objectives. The key commitments of the green plan are summarised in Appendix 7.

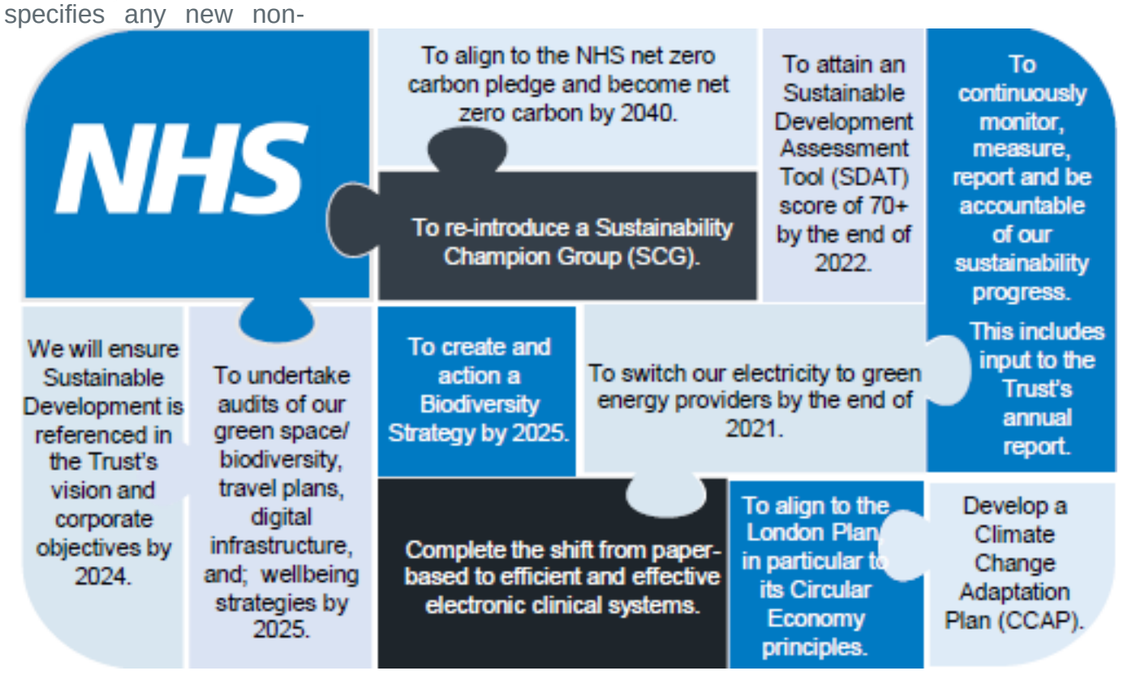
1.3.10.2 *Net Zero Carbon*

The March 2015 London Plan and Minor Alterations to the London Plan 2016 (MALP) is an overall strategic plan for London and sets out a fully integrated economic, environmental, transport and social framework for the development of the Capital to 2036. Any new major developments on site shall align with the London Plan sustainable development polices. Policy 5.2: minimising carbon dioxide emissions specifies any new non-domestic developments shall achieve a minimum 35% carbon emissions improvement upon Building Regulations Part L 2013.

The London Plan 2019 (an update to the MALP) has been approved by the Mayor and is awaiting Secretary of State approval. When the London Plan 2019 is formally published it is anticipated Policy SI 2 will replace Policy 5.2 and stipulate any new major non-domestic developments should be Net Zero Carbon. A minimum on-site reduction of at least 35% beyond Building Regulations is required of which 15% shall be achieve through energy efficiency measures. Any shortfall should be provided, in agreement with the borough, through a cash in lieu contribution to their carbon offset fund or via off site renewables.

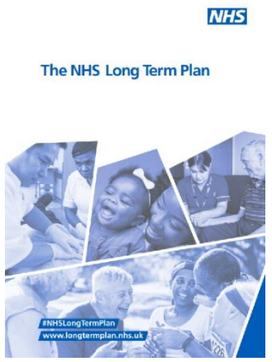
The Net Zero Carbon agenda is not just driven by National and Local Policy, but also by the NHS itself with their aim to reach net zero by 2040 for the emissions the NHS control directly. The NHS has established a 'For a Greener NHS Programme' and are launching a guide for NHS Trusts to achieve Net Zero Carbon in new and refurbished buildings.

Figure 10: Green Plan Commitments and Targets



1.4 National Policies

1.4.1 NHS Long Term Plan 2019



Health and care leaders came together to develop a Long-Term Plan to make the NHS fit for the future, and to get the most value for patients out of every pound of taxpayers' investment.

The plan was drawn up by those who know the NHS best, including frontline health and care staff, patient groups and other experts. And they have benefited from hearing a wide range of views, whether through the 200 events that have taken place, and or the 2,500 submissions we received from individuals and groups representing the opinions and interests of 3.5 million people.

The Plan, published in January 2019, is explicit about the future direction for our services.

"The longstanding aim has been to prevent as much illness as possible. Then illness which cannot be prevented should, where possible, be treated in community and primary care. If care is required at hospital, its goal is treatment without having to stay in as an inpatient wherever possible. And, when people no longer need to be in a hospital bed, they should then receive good health and social care support to go home".

This 'population health management' or just 'integrated care' is in its infancy and whilst it appears to most of us as the logical response to caring for an increasingly older, sicker, and frailer population, delivering it effectively and at pace is not without its difficulties.

In recognition of this, the NHS Long Term Plan states that by 2021 there will be 'Integrated Care Systems' everywhere in the country.

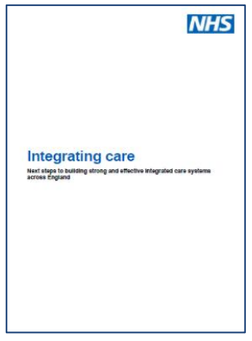
Integrated Care Systems are a way of working, collaboratively, between a range of health and social care organisations, to help improve people's health. It's when organisations work together in a shared way, sharing budgets, staff, resources where appropriate, to best meet people's needs.

Put simply, in South West London, there is an increasing clinical consensus about the right way to plan and orchestrate our services and pathways to deliver the best possible care for our population; the job for those of us leading those organisations is to make the right way easier to achieve.

Finally, whilst we have described how we will care for over one million people in South West London as part of an integrated system; we must not forget that we also provide specialised clinical services for a much larger population in the wider region and, for some highly complex services, nationally.

We also have a responsibility to work in partnership with other local district general hospitals to actively support the continuation and development of services for their patients in their hospitals. Patients should only have to travel to our hospitals when they need to receive the most specialised treatments that only a large university teaching hospital can provide.

1.4.2 NHS Integrating Care – Next Steps to building strong and effective integrated care systems across England



This strategy, prepared by NHSE&I, builds on the route map of NHS Long Term Plan, and is focused on the operational direction of travel and how ICS's could be embedded in legislation or guidance.

ICS's will have a firmer footing in Legislation by April 2022 (subject to Parliamentary decision) but by April 2021, all parts of our Health and Care System require to work together as ICS's.

Each System is required to agree with its region, key functions, or activities it must prioritise such as in-service transformation and population health management.

1.4.3 New Hospital Programme

The strategic policy intent supported by this programme was first published in the Government's Health Infrastructure Plan (HIP) in September 2019, which references the new-hospital commitment, further developed under the 2019 Government Manifesto and with detail on clarity around scope, timescales and funding provided in the Prime Minister announcement in October 2020.

The New Hospital Programme formalises government plans to transform the delivery of NHS healthcare infrastructure to provide world-leading experiences for as many patients and staff as possible, to meet the changing needs and rising demand the NHS is going to face in the 2030s and beyond.

The objectives and key strategic priorities of the programme are to:

- Reduce the time and cost of building NHS Infrastructure – specifically with a portfolio of 48 new hospitals delivered by 2030
- Build national capability in planning and delivery of Healthcare Infrastructure
- Create an infrastructure ecosystem that owns, learns from, and improves healthcare design iteratively – specifically through centralised standards with limited scope for variation, centralised design, modelling, and assumptions, with repeatable learning and efficiencies applied to the pipeline of hospital builds in the programme
- Deliver a centralised procurement strategy
- Ensure a programmatic approach to phase building projects in the optimal way
- Build trust in the programme – its' products and ways of working - amongst key stakeholders.

1.4.4 Health Infrastructure Plan

The Health Infrastructure Plan (HIP) will deliver a long-term, rolling five-year programme of investment in health infrastructure, including capital to build new hospitals, modernise our primary care estate, invest in new diagnostics and technology, and help eradicate critical safety issues in the NHS estate.

At the centre of this will be a new hospital building programme, to ensure the NHS' hospital estate supports the provision of world-class healthcare services.

The HIP is not just about capital to build new hospitals – it is also about capital to modernise mental health facilities, improve primary care and build up our infrastructure in interconnected areas such as public health and social care – all of which, together, ensure this country has the world class facilities that it needs.

The Government has announced six large hospital builds that are receiving funding to go ahead now (aiming to deliver by 2025), and 21 more schemes that have the green light to go to the next stage of developing their plans (with the aim of being ready to deliver between 2025-2030).

In total this first tranche involves more than 40 hospital building projects, with a further 8 places up-for-grabs.

There will be opportunities for other schemes to bid for funding in future.

1.4.5 HIP: Blueprint for Digital Innovation

Within HIP, there is a huge focus on the long-term, strategic investment in the future of the NHS, to ensure they have world-class facilities to deliver cutting-edge care. This is more than just 'bricks and mortar' capital investments and requires investment in the right facilities across the board, where staff can utilise technology to deliver better care.

The HIP Digital Blueprint establishes a set of design principles to ensure digital technology is considered at every stage of the design and build process. The blueprint will continually evolve within the parameters set out by the design principles, with advice and guidance offered to all HIP sites embarking on their new hospital projects.

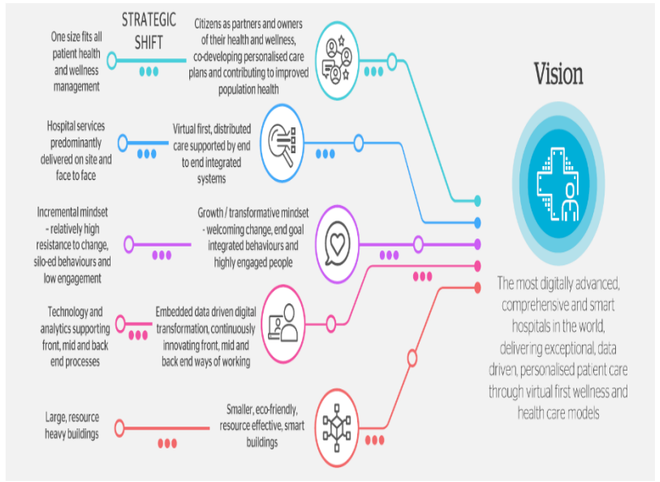


Figure 11: HIP Digital Blueprint

1.4.6 Carter Review – Productivity in NHS Hospitals

The Carter review of 2016 looked at productivity and efficiency in English non-specialist acute hospitals using a series of metrics and benchmarks to enable comparison.

Significant and unwarranted variation in costs and practice were identified which, if addressed, could save the NHS £5 billion.

The report, 'Productivity in NHS Hospitals', acknowledges that whilst there is already exceptional practice in the NHS, the overall average is not sufficient and more needs to be done to improve performance. Issues identified include:

- Significant variation in facilities management costs.
- Corporate and administration costs varied between Trusts at 6%-11% of income with Trusts failing to capture the benefits of scale.
- Potential for efficiency savings of £1 billion from better management of estates, such as lighting, heating and space utilisation, with one trust using 12% for non-clinical purposes, while another used over 66%.
- Variation in the use of space, with clinical space occupation ranging from 11% to 65%.

The Carter review highlighted imperfections in the data reported by individual Trusts including Estates Return Information Collection (ERIC) returns and stressed the importance of recording and reporting data accurately. The Review recommends:

"Every trust has a strategic estates and facilities plan in place, including in the short term, a cost reduction plan for 2016/17 based on the model hospital data and benchmarks, and in the longer term, a plan for investment and reconfiguration where appropriate for

their whole estate, taking into account the Trust's future service requirements".

"All Trusts' estates and facilities departments should operate at or above the median benchmarks for the operational management of their estates and facilities functions by April 2017 (as set by NHS Improvement by April 2016); with all trusts (where appropriate) having a plan to operate with a maximum of 35% of non-clinical floor space and 2.5% of unoccupied or under-used space by April 2017 and delivering this benchmark by April 2020, so that estates and facilities resources are used in a cost effective manner."

The Carter report also sets specific targets for trusts to meet and report on yearly which includes:

- Unused floor area should be less than 2.5%.
- Non clinical floor area should be less than 35%.
- Should have benchmarked estates cost reduction plan.
- Should have a reconfiguration investment plan.
- Should have energy saving investment.

On an annual basis the Trust develops its own Carter dashboard that illustrates the Trust's performance against the Carter targets.

1.4.7 Sir Robert Naylor Review

In March 2017 an independent report by Sir Robert Naylor was published making 17 recommendations to the Secretary of State for Health on the future of NHS property and estates.

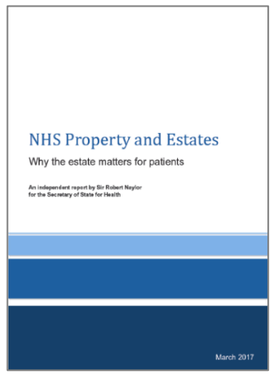
These recommendations include:

- Proposals to improve capability and capacity to support national strategic planning and local delivery through the establishment of a new national NHS Property Board. The aim being to provide leadership to the centre and expertise and delivery support to the sustainability and transformation plans locally.
- Encouraging and incentivising local action by enabling the reinvestment of sales receipts to support local plans and even offer additional incentive funding.
- Prioritise land vacated by the NHS for development of residential homes, including prioritisation for use by NHS Staff.

The overarching drive of these recommendations is ensuring the NHS locally is supported at a national level to develop robust, well evidenced estate plans that make best use of the capital available.

1.4.8 Government's Response to the Naylor Review

On 31st January 2018 the Government published its response to the Naylor Review and generally welcomes the review and its recommendations. They have confirmed that the recommendations will be implemented in conjunction with national partners and the NHS.



The review set out the progress needed on three key themes to transform the NHS estate, and the government has confirmed that they are acting in response. The themes highlighted by the Review are:

- Leadership and capability
- National planning and funding
- Incentivising action locally.

The response notes that a new NHS property board, of which Lord O'Shaughnessy is Chair has been formed to bring together all the key national players and to act as a single point of leadership for the health system on estate matters.

Capability at a local level is being improved by creating a new national strategic estate planning and advisory service, to help the NHS move from planning to delivery. This team has evolved over the last year by bringing together all the local strategic estates advisers into a single team to provide expert advice to the NHS.

The review gave a clear estimate of the level of funding required to enable the transformation of the estate to meet the vision of the Five Year Forward View. It recommended this could be found through government capital, private finance, and proceeds from the disposal of surplus NHS land.

The Chancellor, in his Autumn Budget, announced an additional £10 billion package of capital investment over the course of this Parliament. The Government has committed over £3.9 billion of capital for the NHS. This will support the NHS to increase the proceeds from the sale of surplus land to £3.3 billion.

It is expected to be supplemented by private investment, where this provides good value for money. It is likely some of this will come from the types of schemes that already fund primary care facilities. With this £10 billion package of capital investment, the government will develop a pipeline of transformational STP projects over the next five years so that the NHS can deliver on the vision of the Five Year Forward View.

The government has also confirmed that it will put forward £700 million to tackle critical maintenance issues and support turnaround plans in struggling trusts and put £200 million into support efficiency programmes, "allowing more time and money to be directed to patient care".

1.4.9 Regulatory and Assurance Framework for Estates

Healthcare organisations have a duty of care to patients, visitors, and staff to ensure a safe and appropriate environment for healthcare. This requirement is identified in a wide range of legislation and common law. Below we have summarised some of regulatory and assurance frameworks that Estates & Facilities work within:

1.4.9.1 *Assurance of estates and facilities*

One of the government's key priorities is delivering better health outcomes for patients. The quality and fitness-for-purpose of the healthcare estate is vital for the delivery of high quality, safe and efficient healthcare. Quality and fitness-for-purpose of the estate are assessed against a set of legal requirements, standards, and best practice guidance.

1.4.10 Regulatory requirements: standards of quality and safety

The Care Quality Commission (CQC) regulates all providers of regulated health and adult social care activities in England. The CQC's role is to make sure health and social care services provide people with safe, effective, compassionate, high-quality care and to encourage care services to improve and include requirements relating to:

- Safety and suitability of premises
- Safety, availability, and suitability of equipment
- Cleanliness and infection control.

The CQC is responsible for assessing whether providers are meeting the registration requirements. Failure to comply with the CQC Regulations is an offence and, under the Health and Social Care Act 2008 (Regulated Activities) Regulations 2010, CQC has a wide range of enforcement powers that it can use if the provider is not compliant. The regulations stipulate that all premises and equipment used must be safe, clean, secure, and suitable for the purpose for which they are being used, and properly used and maintained.

1.4.11 NHS Constitution

The NHS Constitution sets out the rights to which patients, public and staff are entitled. It also outlines the pledges that the NHS is committed to achieve, together with responsibilities that the public, patients, and staff owe to one another to ensure that the NHS operates fairly and effectively. All healthcare organisations are required by law to take account of this Constitution in their decisions and actions.

Healthcare organisations need to "ensure that services are provided in a clean and safe environment that is fit for purpose, based on national best practice" [pledge].

In order to deliver on this pledge, it specifically advises NHS organisations to take account of:

- National best-practice guidance for the design and operation of healthcare facilities.
- The mandatory use of NHS Premises Assurance Model (PAM).

The NHS has developed, with the support of DHSC, the PAM, whose remit is to provide assurance for the healthcare environment and to ensure patients, staff and visitors are protected against risks associated with hazards such as unsafe premises.

Primarily aimed at providing governance and assurance to Boards of organisations, it allows organisations that provide NHS-funded care and services to better understand the effectiveness, quality, and safety with which they manage their estate and facilities services and how that links to patient experience and patient safety.

Key questions are underpinned by prompt questions which require the production of evidence. Healthcare organisations should prepare and access this evidence to support their assessment of the PAM.

The model also includes reference to evidence and guidance as a helpful aide-memoire to assist in deciding the level of PAM assurance applicable to a particular healthcare site or organisation.

NHS PAM is designed to be available as a universal model to apply across a range of estates and facilities management services.

1.4.12 Estate Code

The NHS has a corporate responsibility to account for the stewardship of its publicly funded assets.

This includes the provision, management and operation of an efficient, safe estate that supports clinical services and strategy.

This corporate responsibility is carried by all accountable officers, Directors with responsibility for estates and facilities, and their equivalents, Chairs, Chief Executive Officers and Non-Executive Board members.

Together they have a responsibility to enact the principles set out in the Estate Code and provide leadership and work together to implement the necessary changes to provide a safe, efficient high quality healthcare estate.

HBN 00 08 A and B is the Estate Code and provides NHS expectations on the stewardship of land and buildings.

1.4.13 Health and safety legislation

The Health & Safety Executive (HSE) is the national regulator for workplace health and safety. The following legislation places legal duties on various duty holders:

- Workplace (Health, Safety and Welfare) Regulations
- Health and Safety at Work etc. Act 1974
- Management of Health and Safety at Work Regulations
- Construction (Design and Management) Regulations 2015
- Manual Handling Operations Regulations.
- Pressure Equipment Regulations 1999
- Pressure Systems Safety Regulations 2000
- Confined Space Regulations.

Figure 12-Health specific documents

1.4.14 Health Technical Memorandum (HTM)

HTMs are the main source of specific healthcare-related guidance for estates and facilities professionals. They give comprehensive advice and guidance on the design, installation and operation of specialised building and engineering technology used in the delivery of healthcare.

HTM 00 is supported by the HTM suite of guidance (see figure 4). The aim of HTM 00 is to ensure that everyone concerned with the managing, design, procurement and use of the healthcare facility understands the requirements (including regulatory) of the specialist, critical building and engineering technology involved.

Key issues include:

- Compliance with policy and relevant legislation
- Professional support and operational policy
- Design and installation
- Maintenance
- Training requirements.

HTMs and the Legislative Framework

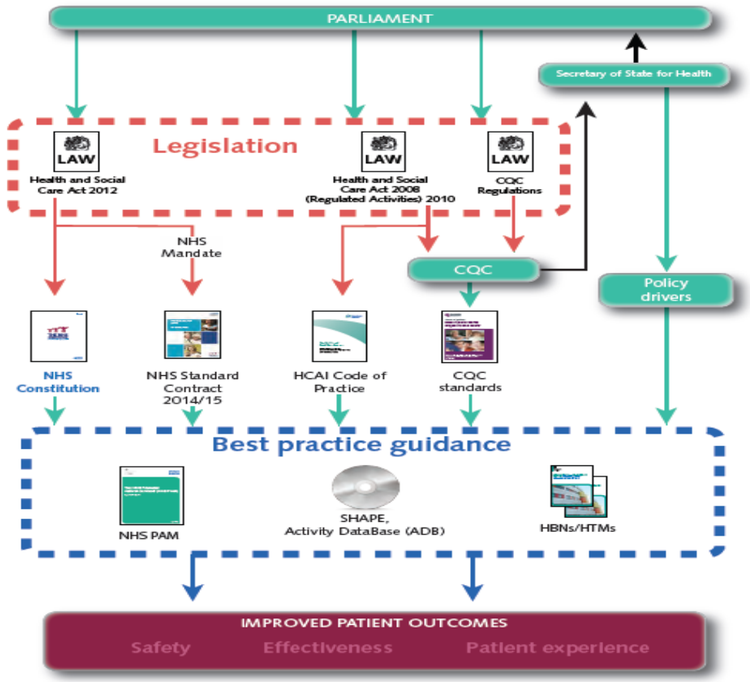


Figure 13-HTMs & the Legislative Framework

1.4.15 Principles of healthcare engineering

Patients and staff have a right to expect that engineering systems and equipment will be designed, installed, operated and maintained to standards that will enable them to function efficiently, reliably and safely. Compliance with the guidance in the HTMs will help to meet these goals.

Healthcare providers have a duty under the Health and Safety at Work etc. Act to ensure that appropriate engineering governance arrangements are in place and are managed effectively. HTMs provide best practice engineering standards and policy to enable management of this duty of care. The special nature of healthcare premises and dependency of patients on the provision of effective and efficient engineering services (in most cases 24 hours a day, seven days a week) requires that engineering staff and systems must be resilient in order to maintain the continuity of health services and ensure the ongoing safety of patients, visitors, and staff.

1.4.16 Engineering governance

Engineering governance is concerned with how an organisation directs, manages, and monitors its engineering activities to ensure compliance with statutory and legislative requirements while ensuring the safety of patients, visitors and staff is not compromised.

Healthcare organisations need to ensure that sound policies are approved by the board of Directors. These should:

- Ensure safe processes, working practices and risk management strategies are in place to safeguard all their stakeholders and assets in order to prevent and reduce harm or loss; and
- Be backed up with adequate resources and suitably qualified, competent, and trained staff.

Responsibility and, more specifically, the duty of care within a healthcare organisation are vested in the Board of Directors and its supporting structure.

1.4.17 Health building Notes (HBN)

Health Building Notes give best practice guidance on the design and planning of new healthcare buildings and on the adaptation / extension of existing facilities.

The HBNs provide information to support the briefing and design processes for individual projects in the NHS building programme.

All Health Technical Memoranda should be read in conjunction with the relevant parts of the Health Building Note series.

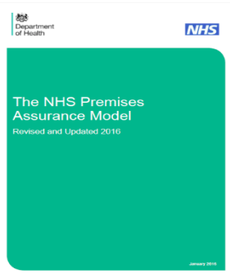
1.4.18 Patient-led Assessments of the Care Environment (PLACE)

Patient-led assessments of the care environment, (PLACE) is the system for assessing the quality of the hospital environment, which replaced Patient Environment Action Team (PEAT) inspections from April 2013. PLACE assessments apply to all hospitals delivering NHS-funded care, including day treatment centres and hospices.

PLACE assessments put patient views at the centre of the assessment process, and use information gleaned directly from patient assessors to report how well a hospital is performing in the areas assessed – privacy and dignity, cleanliness, food and general building maintenance. It focuses entirely on the care environment and does not cover clinical care provision or staff behaviours.

The assessment is undertaken annually, and results are reported publicly to help drive improvements in the care environment. The results will show how hospitals are performing nationally. Most importantly, patients and their representatives will make up at least 50 per cent of the assessment team, which will give them the opportunity to drive developments in the health services they receive locally.

1.4.19 Premises Assurance Model



The NHS PAM has been developed to provide a nationally consistent basis for assurance for trust boards, on regulatory and statutory requirements relating to their estate and related services, and this NHS constitution right:

“To be cared for in a clean, safe, secure and suitable environment.”

The NHS PAM self-assessment questions (SAQs) are grouped into five ‘domains’; these are then broken down into individual SAQs, and into further questions known as ‘prompt’ questions. The model is completed by scoring the prompt questions under each SAQ. The five domains are:

- Safety (hard and soft)
- Effectiveness
- Organisational governance
- Patient experience
- Efficiency

1.4.20 Trust Standing Orders & Trust Standing Financial Instructions

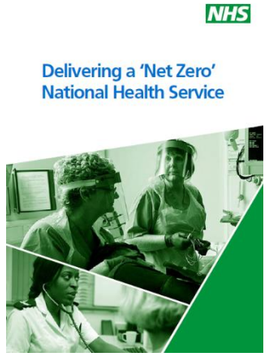
In line with the Trust’s Standing Orders and the Trust’s Standing Financial Instructions, the Trust shall comply as far as is practicable with the requirements of the Department of Health “Capital Investment Manual” and “Estate Code” and shall consider guidance “Best Practice in making Investments for NHS foundation Trusts” and other such guidance as may be issued by the Independent Regulator from time to time in respect of capital investment and estate and property transactions.

1.4.21 Estate Return Information Collection (ERIC)

ERIC data enables the analysis of estates and facilities information from a range of NHS organisations including Foundation Trusts and NHS Trusts in England. It is a mandatory requirement that returns are submitted, which in turn becomes part of the national statistics.

Statistics taken from the organisation’s annual ERIC returns are a good basis for assessment and can be used to indicate its performance relative to its peers. Most importantly, ERIC should be treated as the standard first step when analysing estate data. It is important that accurate figures to address critical infrastructure and longer-term risks are presented at local and national level via ERIC in order to monitor condition of the estate assets.

1.4.22 Delivering a Net-Zero National Health Service



The NHS needs to respond to the health emergency that climate change brings, which will need to be embedded into everything it does now and in the future.

Climate change threatens the foundations of good health, with direct and immediate consequences for our patients, the public and the NHS. The situation is getting worse, with nine out of the 10 hottest years on record occurring in the last decade and almost 900 people killed by heatwaves in England in 2019.

Without accelerated action there will be increases in the intensity of heatwaves, more frequent storms and flooding, and increased spread of infectious diseases such as tick-borne encephalitis and vibriosis.

Over the last 10 years, the NHS has taken notable steps to reduce its impact on climate change. As the biggest employer in this country, there is more that the NHS can do. Action must not only cut NHS emissions, currently equivalent to 4% of England's total carbon footprint, but also build adaptive capacity and resilience into the way care is provided. Two clear and feasible targets emerge for the NHS net-zero commitment, based on the scale of the challenge posed by climate change:

- For the emissions we control directly (the NHS Carbon Footprint), net-zero by 2040, with an ambition to reach an 80% reduction by 2028 to 2032
- For the emissions we can influence (our NHS Carbon Footprint Plus), net-zero by 2045, with an ambition to reach an 80% reduction by 2036 to 2039.

One of the early steps identified in the Net-Zero NHS plan is supporting the construction of 40 new 'Net-Zero Hospitals' as part of the government's Health Infrastructure Plan. This is supported by a new Net Zero Carbon Hospital Standard which will be made available in Spring 2021, and will involve the use of innovative, low-carbon materials, as well as new design that allows for flexibility and shifts in how care will be delivered in the future.

It is evident that a focus on Net-Zero Hospital design will be an imperative inclusion in the formation of an NHS Estate Strategy. The content within the Estate Strategy and the interventions proposed must have a net-benefit on the carbon emissions of the Trust, particularly on the main site at St George's Hospital, Tooting.

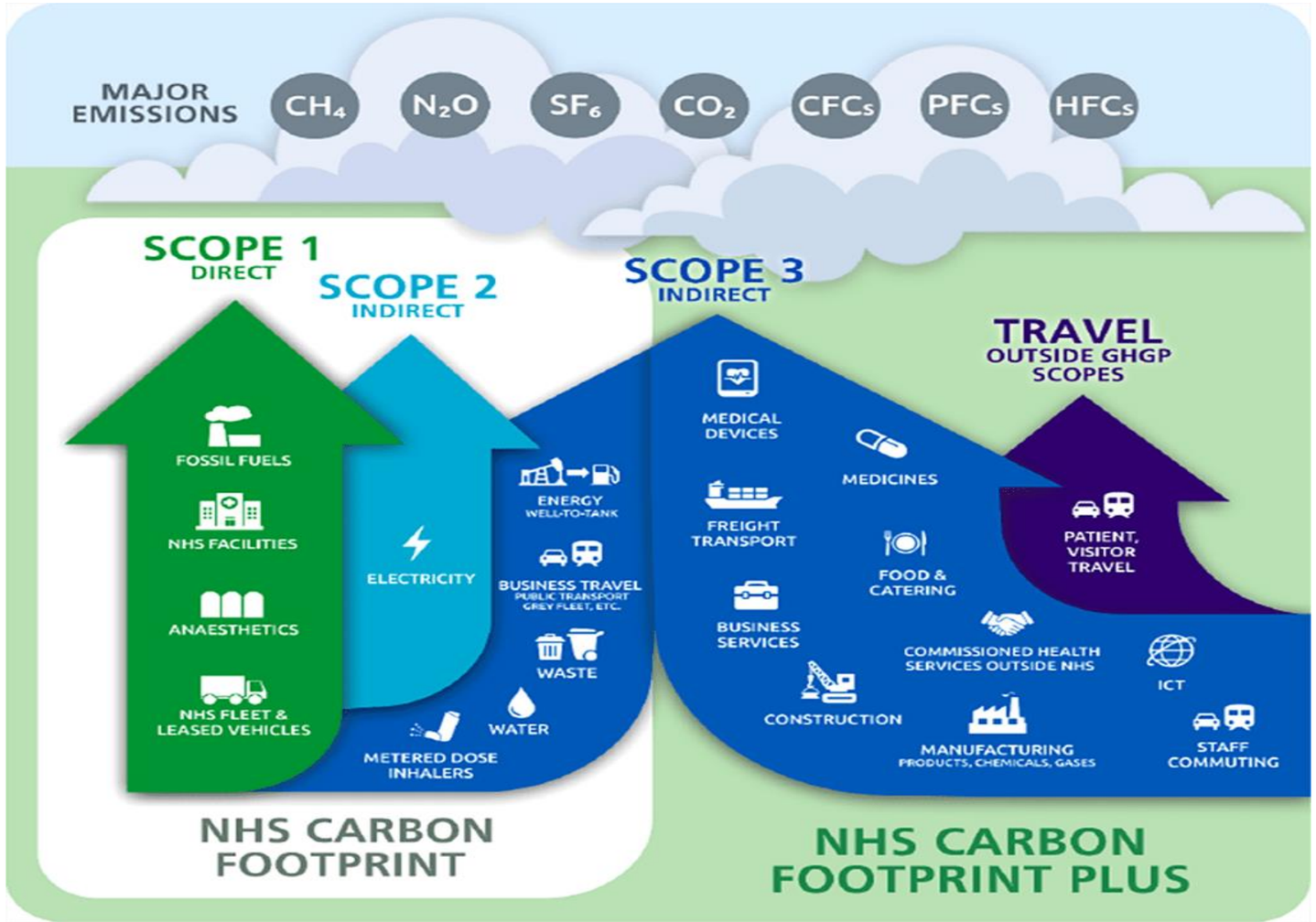
1.4.23 NHS Carbon Reduction Strategy

In January 2020 the NHS launched their campaign 'For a Greener NHS'. This campaign is set to aid the UK in reaching its ambitions under the Paris Climate Agreement which could see over 5,700 lives saved every year from improved air quality, 38,000 lives saved every year from a more physically active population and over 100,000 lives saved from healthier diets.

The NHS commitment has identified two clear and feasible targets:

- For the emissions we control directly (the NHS Carbon Footprint), net zero by 2040, with an ambition to reach 80% reduction by 2028 to 2032
- For the emissions we can influence (our NHS Carbon Footprint Plus), net zero by 2045, with an ambition to reach an 80% reduction by 2036 to 2039.

Figure 14: NHS Carbon Footprint Model



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1.5 Demographics

1.5.1 Wandsworth Joint Strategic Needs Assessment

The Joint Strategic Needs Assessment (JSNA) is a snapshot of the population of the borough and the health and well-being of its people.

It shows the challenges facing Wandsworth Council and local NHS services in improving the health and wellbeing of the population. It supports these organisations in setting priorities and shaping services around the needs of the population to ensure that resources are used to best effects.

1.5.2 St George's wider catchment area

Alongside serving the population of Wandsworth Borough, St George's is one of London's biggest and busiest hospital Trusts, providing acute and community healthcare services to over **3.5 million** people across South West London, Surrey, Sussex, Hampshire and beyond.

This demographic spread is also constantly changing. The population is ageing, with the result that the NHS has to meet the needs of more patients who are sometimes frail, who are more likely to develop cancer, and who often have one or more long-term conditions such as diabetes or dementia.

Wandsworth and Merton are both relatively affluent boroughs, despite pockets of deprivation, and their populations are also relatively young. Nevertheless, the national trend of an ageing population is also relevant within St George's catchment area.

Specialist services

The Trust is a major contributor to the provision of healthcare services across a vast population due to its responsibility in providing specialist and acute services. St George's Hospital is one of four major trauma centres in London and is home to hyper acute stroke and heart attack centres.

In addition, we are also:

A major centre for cancer services: St George's Hospital is one of only two designated children's cancer centres in London, in partnership with the Royal Marsden, and one of the larges centres for cancer surgery and chemotherapy in London.

One of London's biggest children's hospitals: We are home to one of only four paediatric trauma units in London, the only paediatric intensive care unit in South West London, in the top three centres for specialist paediatric surgery in London and a centre of excellence in foetal medicine.

A major centre for neurosciences: We are the third largest centre in London for neurosurgery and the second largest in London for neurology – offering innovative new treatments for patients, such as the country's first 24/7 mechanical thrombectomy service, surgically removing blood clots from the brain for patients who have had a stroke.

1.5.3 Wandsworth Local Plan – Housing Growth

Wandsworth's population has continued to grow significantly. The estimated resident population of the borough is **329,700** based on ONS Mid-2019 estimates and represents an increase of 27% since 2001.

The table below shows the projected increase in population in Wandsworth up to 2040:

Table 3: Wandsworth Population Projection

Year	Population
2015	**320,900**
2020	**332,500**
2025	**343,700**
2030	**353,100**
2035	**365,200**
2040	**377,300**

Figure 15: JSNA Wandsworth Story

1.6 Aligning with our partners' priorities

In this section we have set out the key priorities of our partners across the South West London healthcare system.

We have highlighted any key statements that our Estate Strategy needs to be cognisant of, reflecting them in our Strategic Framework.

1.6.1 Wandsworth Borough Council

Health and Care Plan Priorities

- **Start well:** Children's Immunisations, Children's Community Services, Mental Health, Obesity, Risky Behaviours
- **Live Well:** Pre-habilitation, mental health, chronic disease
- **Age Well:** Social prescribing, joined-up care services, dementia, social isolation, enhanced health in care homes, community, social care, primary care integration, hospital discharge, adult flu immunisation

Climate Change

WBC published a ten-year Wandsworth Environment and Sustainability Strategy (WESS), committing that annual climate action plans would be developed and published, and that progress would also be reported annually:

- Allocating £5million to projects which support carbon net-zero 2030 target
- **Embedding environmental and sustainability aims** across the Council
- Purchasing 100% green electricity
- Reduce carbon footprint

Local Plan

Wandsworth is producing a new iteration of its Local Plan which will contain high level borough planning conditions including for the first-time health and care. The draft Local Plan is intending to use a 'local area' strategy approach, as set out in the next table:

Table 4: WBC Local Planning Principles

Placemaking
▪ Manages traffic and provides good public transport connectivity ▪ Provides and values inclusive, accessible, and connected open spaces for recreation ▪ Promotes identity in the townscape and values heritage ▪ Ensures good lasting urban design and architectural practice ▪ Delivers **efficient infrastructure** and built resilience ▪ Engages with nature to **support biodiversity and climate change management.**
Smart Growth
▪ Provides an active local economy that delivers work and opportunity ▪ Provides sustainable housing (type, tenure, and affordability) to meet local need ▪ Site allocations that promote contextual development to meet **local social, environmental, and economic need** ▪ Promote and support mixed use development.
People First
▪ Supports active travel that ensures ease of movement and accessibility ▪ Ensures that **day-to-day facilities are accessible** ▪ Maximises lifestyle choice ▪ **Maximises physical and mental health in built form**, buildings, homes, and public spaces.

1.6.2 South West London and St George's Mental Health

The SWLSTG vision of Making Life Better Together is supported through 4 strategic ambitions (1) Increasing Quality Years (2) Reducing Inequalities (3) Making the Trust a Great Place to Work (4) Ensuring Sustainability.

High quality, accessible estate is crucial. Key elements for SWLSTG include:

- **Improvement in local accessibility**- Need for 'high street' and community locations for easier access to services. This supports the SWL ICS priority of developing integrated sub-locality teams and also impacts on community estate.
- Strategic estate considerations- New London Estates Board and STP Estates Group prioritising and identifying estates activity for South West London. Working with the South London Partnership (SLP) to identify efficiencies across the SWLSTG, SLAM and Oxleas.
- Estate Modernisation Programme- **Brand new "state of the art" facilities** enabling modern methods of treatment. Full visibility on wards and lowers SIs.
- Agile Working Programme- Doing more with less space. Desk ratios for community and corporate staff under this programme will be rationalised. A hub and spoke model is under consideration ensuring we have the correct accommodation model in each borough.
- Deliver increasing complex quality improvements- eliminate same sex wards, provide en-suite accommodation, ensure lines of sight and easy to navigate wards.

1.6.3 South West London CCG, PCNs and Primary Care

The following are the key priorities for Primary Care in South West London:

- Continue programme management and development of current and pipeline primary care improvement schemes already underway as part of previous strategy and plans, including Nine Elms Vauxhall Sleaford Street and other priority schemes.
- Explore opportunities **for better management** of **vacant space** and **improved utilisation** of all estate assets to ensure efficiencies across the borough.
- Wandsworth Borough Estates Group established to identify areas **of joint working and collaboration**.
- Identify and support the operational requirements of Wandsworth Local Health & Care Plans.
- Work with PCN Clinical Directors to ensure Primary Care estate is **fit for newly emerging Primary Care Networks** in Wandsworth.
- It was highlighted that space could be a key limiting factor to PCNs recruiting additional roles (e.g., physiotherapists and pharmacists) and making the most of their in-year PCN allocation. In 2020/21, agreeing an approach will be the emphasised with **the focus on working together**.
- Work with borough partners to **ensure adequate healthcare provision** is in place **to meet future growth**, increase in population and changing demands.
- Prioritise future investment opportunities from CIL/s106 **and respond to climate and environmental controls** set by local and London plan.

1.6.4 Wandsworth Borough Estates Strategy

Vision

*'Access to buildings, environments and facilities that enable and enhance the experiences of Health and Care for local people to **start well, live well and age well** in Wandsworth.'*

Objectives

- **Accessible** buildings that are clean, **'fit-for-purpose'** and **safe**, as committed to in the NHS Constitution.
- Buildings that are **connected to the delivery of the Health and Care Plan** in Wandsworth, designed to enable health and wellbeing, independence, integrated care, patient-centred care and a positive patient experience
- Contemporary facilities that are **efficient**, **fully optimised** and **high quality**, able to compete with the finest healthcare in the modern world, **aiding carbon neutral/zero-carbon** and climate change initiatives and contributing to the **environmental sustainability** as well as benefitting from **innovation** and the latest technologies
- Facilities that are **flexible**, **future-proofed**, and **sustainable**, able to **cope with the demands** and flow of healthcare in the modern world and maintain resilient services.

1.6.5 Wandsworth Health and Care Plan

The following are the key health and care priorities for Wandsworth, as per the Health and Care Plan:

Start Well

- Childhood Obesity, Children's and young people's mental health, risky behaviours, additional support
- Mental health and knife crime touted as top issues of concern
- Empowerment of young people
- Healthy start in life

Live well

- Integration of physical and mental health approaches and chronic disease management
- Physical health and mental health integration
- Diabetes a specific concern in the borough

Age well

- Health and social care integration
- Dementia and isolation key concerns
- Better awareness leading to earlier diagnoses

1.6.6 Merton Health and Wellbeing Strategy

The Merton Health and Wellbeing Board has prioritised the following principles:

- **Tackling health inequalities** – Especially the east/west health divide in the borough
- **Prevention and early intervention** – helping people to stay healthy and independent
- **Health in All Policies approach** – maximising the positive health impacts across all policies
- **Community engagement and empowerment** – working with and for the people and communities we serve
- **Experimenting and learning** – using the evidence base, data, and intelligence transparently to understand and monitor impact and adjust accordingly
- **Think family** – taking a whole family approach

These priorities are clearly aligned with the priorities of St George's and its partners across the healthcare system.

This strategy will promote an integrated, evidence-based programme of improvement in the physical estate, and in-turn the ability of the Trust and its partners to deliver preventative healthcare closer to home.

1.6.7 St George's University

St George's is the UK's only university dedicated to medicine, science, and health, and is located within the Tooting site. Between 1973 and 1993 the Trust's predecessors in title granted four long leases to St George's University London. All of these leases have between 46 and 53 years to run and are summarised in the table below and pictured on **Figure 16** across. **Table 6** sets out the university's Estate Strategy priorities.

St George's University of London

Table 5: University Lease Summary

	Demise	Date of Lease	Term	Term Expiry Date	Unexpired Residue
1	**Robert Lowe Sports Centre**	30.11.1973	99 years from 1.1.1968	31.12.2067	46 years
2	The first and third floors of **Lanesborough Wing** (for laboratories etc) and the ground and first floors of **Grosvenor Wing** (for lecture theatres)	9.11.1984	99 years from 9.2.1979	8.2.2078	57 years
3	**Hunter Wing** and part of **Jenner Wing** and adjacent land.	28.11.1984	99 years from 24.6.1976	23.6.2075	54 years
4	Remainder of **Jenner Wing**, **Blocks F and J**, and adjacent land.	1.4.1993	90 years from 24.6.1985	23.6.2074	53 years

Figure 16: University Lease Sketch Plan

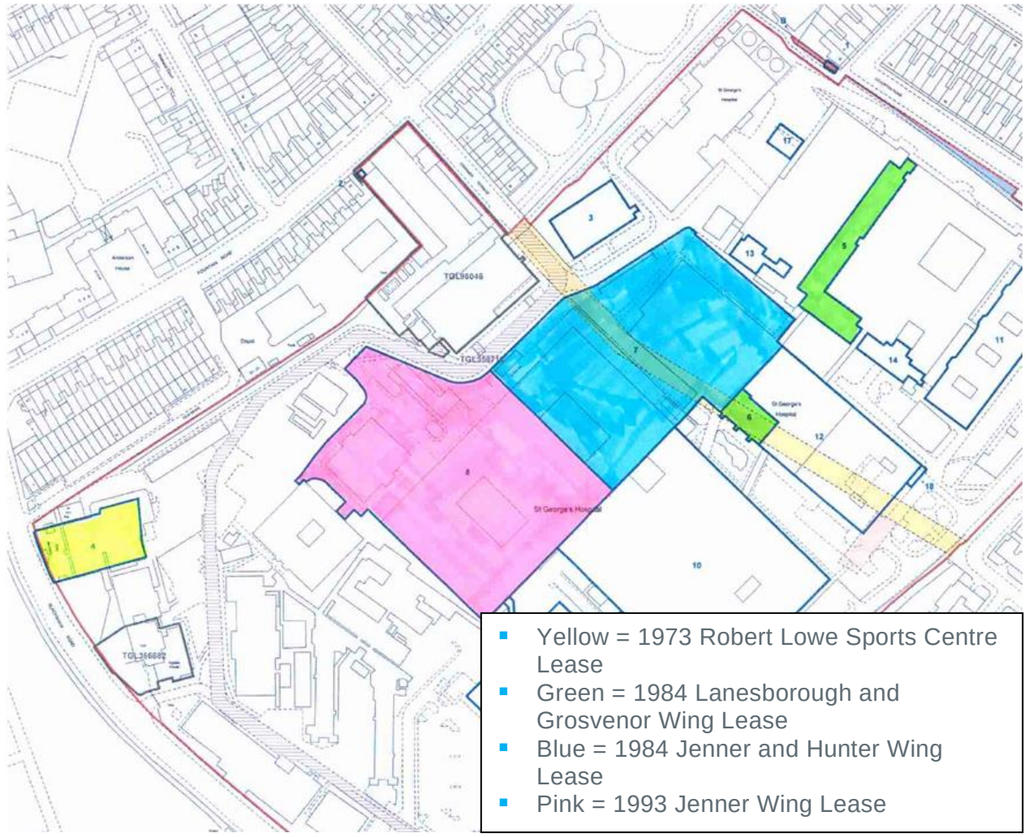

Table 6: SGUL Estate Strategy

Impact Area	Strategic Plan	Estates Interventions
Identity	Develop and strengthen our identity	Creation of a new entrance within Hunter Wing to enhance the presence of the University on the site; Signage improvements and refurbishment works to improve flow and aesthetics
Student Experience	Collaborate with our students; recognise and develop excellence	Creation of a 'New Heart of the Campus'; improvements of the Student Union in Hunter Wing; additional student accommodation; and upgrade to gym and leisure facilities
Education	Offer outstanding education programmes; inspire and attract prospective students	Cyclical modernisation programme to improve teaching spaces; Improvement to lecture theatres; and increase in specialist teaching space
Research	Provide a research environment that inspires innovation and enables people to reach their full potential; Maximise the impact of our research	Laboratory and research space upgrades from Condition C.
Community Partnerships	Build a culture that values ambition, expects accountability and recognises excellence; maximise the potential of our students and staff; value and celebrate our diversity; Engage the public in our science	Improving the retail and food provision on the main site; Multi-faith and quiet contemplation space (MFQC) facilities to be relocated and improved; creation of a cultural engagement space to allow interaction from staff, students and visitors; and improve partnerships both internally and externally in order to achieve the ambitions set out in the Strategic Plan

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1.6.8 Strategic Context Input

Here we have summarised the input from the various strategic documents from within the Trust and across the South West London Healthcare System, and we have defined the key 'Strategic' requirements which will be taken forward into the 'Where do we want to be?' section.

We have tested each requirement with the Estates & Facilities Director, the wider Trust Executive, and the wider healthcare system, and we formally agreed to carry them over into the 'Where do we want to be' section in February 2021.

The information described in this section will enable the formulation of an estates vision, which will be used to identify key actions to be undertaken over the lifetime of the strategy:

Efficient and effective asset management

- Contemporary facilities that are **efficient**, **fully optimised,** and **high quality**
- Better management of vacant space and improved utilisation of all estate assets
- Doing more with **less space**
- Effective management of accommodation
- Ensure **compliance** in line with NHS Guidance.

High quality, fit for purpose and compliant

- Providing **high quality, fit-for-purpose** buildings that meet the needs of service users and their carers
- Seeking to invest in our estate to maintain consistent high levels of **performance, compliance, and health & safety**
- Having a **Health & Safety culture** to include learning, training, audits and near misses.
- **Promoting productivity and the wellbeing** of our staff through the provision of modern, high-quality facilities across our portfolio
- Being **fit for purpose** across the portfolio of services with partner orgs. across the wider healthcare economy with an increase in focus on infection control
- Improving **transport and accessibility** across the site, whilst encouraging cycling and walking
- **Continuously improving patient pathways** across our estate
- **Heart of the Hospital** that provides for patients, visitors and staff whilst linking the hospital with the local community.

Environmentally friendly and low carbon solutions

- Aiding **carbon-neutral/Net-Zero and Climate Change** Initiatives
- Prioritise future investment opportunities and respond to **climate and environmental controls**
- Engages with nature to **support biodiversity and climate change management.**

Flexible, Future Proofed and Sustainable

- Work with borough partners to ensure **adequate healthcare provision** is in place to meet future growth
- Facilities that are **flexible, future-proofed, and sustainable**
- Brand new **"state of the art"** facilities enabling modern methods of treatment.

Responsive, collaborative, evidence based and standardised delivery

- Connected to the delivery of the **Health and Care Plan**
- **Enabling Start Well, Live Well, Age Well**
- Agreeing an approach will be emphasised with the focus on **working together.**
- Identify areas of **joint working and collaboration.**
- Maximises physical and mental health in built form.

1.6.9 Clinical Engagement Outputs

As part of the development of the Estate Strategy, a significant number of clinical engagement sessions were undertaken.

The key purpose of these engagement sessions was to enable the clinicians to articulate both how the estate supported or hindered service delivery and their vision for the delivery of their services, including their respective requirements from the estate to realise this vision.

The engagements were held remotely, using MS Teams. Initial meetings were held with the three clinical directorates:

- Children's, Women's, Diagnostics and Therapies (CWDT)
- Surgery, Neurosciences, Cancer and Theatres (SNCT)
- Medical and Cardiology (Med Card).

These engagements acted as a gateway to the Trust.

A total of 35 sessions were held during the development of the Estate Strategy. A full list of the engagements held are included in Appendix 5.

The topics discussed during each of these engagements were as follows:

- **Current Estate Issues**: the limitations of the current estate, both at St George's Hospital and in the community. This includes imminent risks to delivery of services, compliance risks, poor space standards or inefficient space provision.
- **Activity Trends**: The estimated future provision of services (e.g., are services likely to be in more or less demand, where are the growth areas)
- **Essential Clinical Adjacencies**: Necessity of adjacencies to other clinical services in order to provide a complaint and effective service.
- **Nice-to-have Clinical Adjacencies**: where a benefit would be expected, however it is not absolutely necessary to deliver the service.
- **Future options**: such as the requirement for a new development or possible re-location to other assets in the SGUH portfolio.

1.6.9.1 Key Estate Issues

The table below outlines the current estate issues identified during the engagement sessions.

Division / Directorate	Current Estate Issues
Women's	Lanesborough Wing – poor spatial standards, but good clinical adjacencies including with children's services
Children's	Lanesborough Wing – poor spatial standards, but good clinical adjacencies including with women's services
Outpatients	Clinics fragmented across the estate – not efficient re staffing. Clinics variable in quality.
Diagnostics	MRI project in place to expand capacity – creates opportunity to backfill MR space in LW with PET-CT
Therapies	Similar to OP i.e., very fragmented across site
Critical care (adults)	Too few beds (current 66) – existing plan to increase # post-COVID
Theatres & anaesthetics	Main theatres in poor not fit for purpose accommodation Neuro & cardiac theatres better and well located
Day Surgery	Unit lacks 23-hour ward. Poor links to main hospital
Hand Unit	Clinic too small – immediate need to rectify
Surgery	Existing 4 surgical wards in St James Wing are poor. The directorate's elective pathway services could have better adjacencies and improved environment e.g., pre-assessment unit and admissions lounge
Renal	See new renal development
Cancer	Too fragmented, no 'cancer presence' on site. Mainly use LW
Day treatments	Service fragmented – Trust wants single hub
ED	See ED floor business case – The ED is no longer fit for purpose and even the £80m redevelopment option will not resolve issues e.g., areas are too small; wards have too few side rooms which leads to infection risks (issue features on the Trust's risk register); some accessibility issues.
Acute Medicine & Senior Health	LW hosts elderly care wards which are fit for purpose e.g., they are dementia friendly
Renal/Haematology/Oncology + Palliative Care	LW oncology beds – some issues re space, especially day services which are provided from ward day rooms – need a separate day unit
Specialist medicine	Separate day unit required for non-emergency day treatments e.g., IV Therapies, infusions (but not chemo).
Infection prevention and control	Lesson from COVID that we need much better ventilation and need to future proof surge capacity
Cardiology	Long standing issues with Cath Labs, full refurbishment is currently underway

2 Where are we now?

2.1 Overview

A considerable amount of detailed information is required to support the operational and strategic roles of Estate and Facilities Management. The information is used to help assess risk levels, set investment priorities and to inform an ongoing programme of maintenance and capital projects.

The aim of this Chapter is to give a comprehensive summary of the current Estate, and its performance.

The Trust estate has an estimated total floor area of just over **200,000sqm** across **13 key sites**, also operating on a small scale across **over 60 assets** in South West London and beyond.

The table below summarises the size of the estate:

Site	Floor Area (m2)
St Georges University Hospital, Tooting	183,112
Stormont Clinic, Stormont	427
Eileen Lecky Clinic, Putney	457
Tooting Health Centre (Tooting Clinic), Tooting	713
Doddington Clinic, Battersea	357
Nelson Health Centre	1,162
Queen Mary's Hospital, Roehampton	16,065
St Johns Therapy Centre,	1,786
Trident Business Centre	329
Total	**204,494**

2.2 St George's University Hospital Site, Tooting

2.2.1 Site Overview

St George's University Hospital, Tooting, represents over 90% of the Trust's estate. It is a general, acute hospital, providing a vast array of services to a wider population of approximately 3.5 million people in South West London and beyond.

The site is split across an array of separate blocks, most of which were built separately in order to meet increasing demand over a period spanning 50+ years. The pie chart utilises available age profile data, which highlights that the vast majority of internal space on the site was constructed at least 30 years ago.

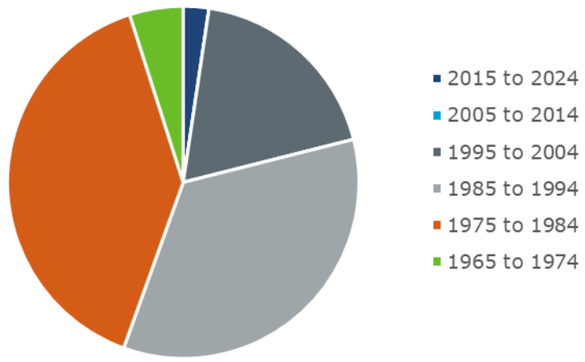


Figure 17: Building Age Profile

Further information on the St George's site can be found in the 'Detailed Overview of St Georges' Appendix 1.

2.2.2 Headline Facts & Figures

The table below includes some headline facts and figures on the Trust estate:

General Admin **5,900m2**	Retail Sales Area **470m2**
Estates and Property Maintenance Costs **£5,276,000**	Grounds and Gardens Maintenance Costs **£164,000**
Other Hard FM Costs **£5,147,000**	Other Soft FM Costs **£5,339,000**
Clinical Space **90,000m2**	Non-Clinical Space **37,000m2**
Medical Records Space **1000m2**	Information Technology **860m2**
Empty Floor Area **9%**	Not functionally suitable floor area **35%**
Electricity Consumed **8,929,000 kWh**	Gas Consumed **3,417,000 kWh**
Parking Spaces **750+**	Electro Bio Medical Equipment Maintenance Costs **£2,561,000**
Oil Consumed **166,000 kWh**	Total Backlog Maintenance Cost **£100m+**

2.3 Queen Mary's Hospital, Roehampton

The original Queen Mary's Hospital was opened in 1915, in order to rehabilitate soldiers who had lost limbs from both the First and Second World Wars. The hospital became open to other patients with injuries to limbs or congenital deformities.

The new Queen Mary's Hospital (QMH) in Roehampton was opened in 2006 following a two-year, £55m PFI construction. It is a large community hospital facility providing outpatient rapid diagnostics and treatment facilities, mental health community services, a minor injuries unit, burns dressing clinic, limb-fitting services, and a small sexual health clinic. One key aspect of the services provided are the state-of-the-art neuro rehabilitation spaces which includes a large gym.

The QMH site is on a reduced footprint compared to the previous acute general hospital with pockets of land and the substantial older buildings of the original site being converted to residential development. Boarded by Richmond Park to the left of the site predominately provides for Wandsworth patients as it has links to St Georges, but a significant flow could flow from Richmond and Kingston should referral patterns change, and local transport improve.

The Trust is the largest user of space at the Queen Mary's Hospital site, currently providing services from approximately 10,000sqm of prime clinical space.

Headline Facts

Category	Value
Floor Area	**16,065sqm Occupied GIA**
Date of Construction	**2006**
Condition Rating	**Very Good**

Strategic Context

South West London and St George's Mental Health NHS Trust are due to vacate their 3,800m2 footprint in 2024, and as a result QMH is expected to become significantly under-utilised.

A partnership has been set up between the Trust, Kingston Hospitals NHS Trust and South West London CCG, in order to identify the preferred route forward for the site.

A range of opportunities for enhanced site use and utilisation have been identified and are being investigated further as part of the development of this Estate Strategy. These include:

- ENT / Audiology and Gynaecology provision
- ICU decant space – utilising outpatient space to support the decantation process on the St George's Hospital site.
- Creation of an ambulatory unit to provide infusion treatments
- Therapy decant space to support other construction projects on the Tooting site
- Rapid Cancer Diagnostics
- Additional mobile imaging.

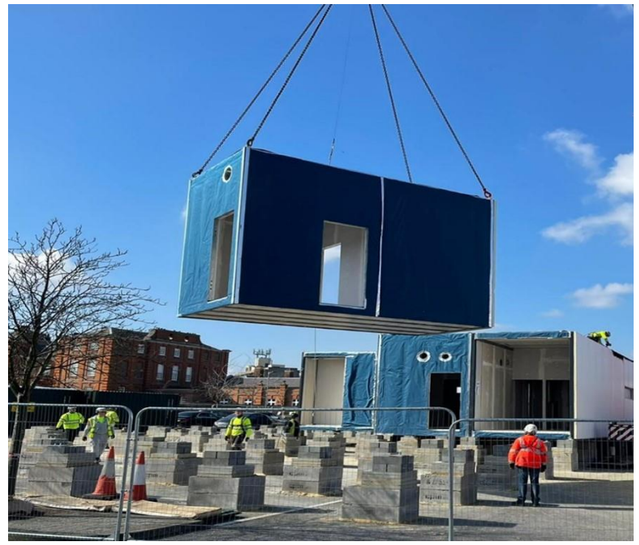
Alongside these opportunities, a long-term strategy for the site will play a significant role in the delivery of this Estate Strategy.

Opportunities for the long-term re-provision of services from the St George's Hospital site formed a key component of the clinical engagements held in preparation of this Estate Strategy and will enable the Trust to identify viable and deliverable opportunities to better utilise their estate as a whole.

Theatres

In February 2021, we announced plans to establish four new modular operating theatres on the Queen Mary's Hospital site.

The facility is being set up as a direct result of the COVID-19 pandemic, which has led to longer waiting times for patients waiting for routine operations and procedures across south west London.



The new facility is in the process of being constructed and will be located in the central area of the main car park at Queen Mary's. It will also be available for use by surgical teams from the other hospitals in South West London.

The mobile operating theatres are separate to the COVID-19 vaccine hub, run by South West London Clinical Commissioning Group (CCG), which is also situated on the Queen Mary's hospital car park (rear). The vaccine hub opened on Monday 15 March.

The modular operating theatres and vaccine hub will enable the NHS in south west London to ensure patients receive the treatment they need and get protected against the COVID-19 virus – which is why we are working so rapidly to get both facilities up and running.

2.4 Community Estate

The Trust provides a wide range of services from community sites across South West London, leased and owned.

We have four sole occupancy properties:

- Doddington Clinic
- Eileen Lecky Clinic
- Stormont Clinic
- Tooting Clinic.

We are also in joint occupation of nine leasehold properties. Overall, we provide healthcare services from 72 different locations across South West London.

The following sections are summaries of the sole occupancy assets, utilising the information from Six Facet Survey completed in August 2017.

2.4.1 Doddington Clinic

The Doddington Clinic is former healthcare centre which is currently vacant due to being unfit-for-purpose. It is a freehold property, owned by the Trust. The site is no longer open to the public and therefore does not provide any service to our patient population.

The building has a significant number of estate issues, which have been summarised below:

- Floor coverings throughout are generally worn and require replacement.
- Fire risk assessments out of date and due for renewal.
- Asbestos survey recently expired
- Pressure Systems test records recently expired
- Compartmentation appears breached within electrical switch room; public toilet facilities and cleaners store due to miss-managed cable and pipework intrusion.
- Accidental damage evident to internal fire doors throughout circulation areas, compromising original intent.
- Internal fire door to fire hazard rooms incl. cleaners store, electrical switch, boiler plant room and staff kitchen and bespoke internal door leading into roof space plant room are due replacement to improve.
- No apparent emergency lights installed within electrical switch room.
- Ladders providing access to roof plant are secured to external wall near principal entrance, however when in use obstruct pedestrian access into clinic.
- Provisions made for disabled people are generally poor throughout the block.

2.4.2 Eileen Lecky Clinic

Eileen Lecky is a community asset which is currently 63 years into a 100-year lease to the charitable organisation 'Children's Health Centre for South West London'. Under sole occupation of the Trust, the Eileen Lecky Clinic provides a number of trust services and is situated in Putney, Wandsworth.

The second floor is completely vacant; however the first floor is occupied by the following services:

- Ante-natal
- Baby Clinic
- Developments (ages 3-5)
- Post-Natal

The following are the summarised estate issues at the Eileen Lecky Clinic:

- Cracks noted to single storey extension, external wall structure surrounding window apertures.
- Cracks noted to concrete structure of internal stairs providing access to roof level.
- Replacement flat roof covering to main building showing signs of cracking and crazing.
- Concrete surface finishes to rear garden evidently poor. Rain water pooling.
- Accidental damage evident to internal fire doors throughout circulation areas, compromising original intent.
- Internal fire door to fire hazard rooms incl. cleaners cupboard and kitchen due replacement to improve.
- No apparent emergency lights installed within basement plant room.
- No apparent heat detector installed within basement plant room.

2.4.3 Stormont Health Clinic

The Stormont Health Clinic, which the Trust is the freeholder and sole occupier, is located in Battersea, and provides the following services to the local population:

- Podiatry clinic
- District Nursing
- Speech and Language Therapy
- Community Mental Health
- Maternity services

The following are the summarised estate issues at the Stormont Health Clinic:

- Noticeable crack to external wall structure within Health Clinic plant room
- Condensation evident within several timber framed double glazed window units throughout Health Clinic.
- Floor coverings throughout both Health Clinic and Annexe are noticeably stained and due for replacement.
- Fire risk assessments out of date and due for renewal.
- No valid asbestos documentation available at time of survey.
- Cable route through timber door frame to stores within Annexe, compromising compartmentation within.
- Administration workspaces within Health Clinic are generally overstretched and overloaded for current occupants.

2.4.4 Tooting Health Clinic

Tooting Health Clinic is a long-leasehold property solely occupied by the Trust, located in Tooting, Wandsworth.

The following outlines the services currently provided at the clinic:

- Chiropody
- Audiology
- Podiatry
- Dieticians
- Speech and Language Therapy
- Orthoptist
- Paediatrics and paediatric dieticians
- District Nursing
- Heart Failure Specialists
- Respiratory Clinic
- Enuresis Nursing.

The following is a summary of the estate issues currently present at the Tooting Health Clinic:

- Lead flashing to external walls to rear of property has been partial damaged/ removed and requires replacement.
- Concrete slab at high level noticeably cracked.
- Odd bricks appear dislodged to side elevation of property which requires monitoring and rectifying.
- Floor coverings throughout are worn with staining evident in parts and due for replacement.
- External brick wall to rear of property evidently poor at high level with brick and mortar missing.
- Fire risk assessments out of date and due for renewal. Compliance with Fire Code requires considerable investment including, updating fire compartmentation drawings, fire damper remedials (where appropriate) and remedials/ recommendations from FRA's.
- Pressure Systems test records recently expired, dated 09/02/2016, review now due 02/2017.
- Accidental damage evident to internal fire doors throughout circulation areas, compromising original intent.
- Internal fire door to fire hazard rooms incl. cleaners cupboard and kitchen due replacement to improve.
- Several internal doors not apparently linked into the fire alarm/ detection system wedged open at time of survey.
- No apparent emergency lights installed within basement plant room.
- External gas pipework to rear of property not identified with yellow banding and appears to be in poor condition.
- Administration workspaces throughout are generally overstretched and overloaded for current occupants.

Summary

The community estate as a whole is significantly under-utilised. Much of the estate has failed to receive the capital investment required in previous years to ensure operational suitability and to maintain a safe and effective clinical and patient environment.

The opportunity provided by this Estate Strategy is to re-evaluate the use of community assets in terms of service delivery. A significant portion of the activity currently taking place on the St George's Hospital site in Tooting can be re-provided within a community setting, which supports the Trust and its Partner's ambitions to provide preventative, cold services closer to home, and creating efficiencies in the process.

This approach will improve the utilisation of both the St George's Hospital site and the community estate, whilst maintaining effective patient pathways. This Estate Strategy will provide the basis of this decision making process and will recommend the types of services which will be suitable for re-provision in the community.

2.5 How is the estate performing?

2.5.1 Condition

A physical condition and statutory compliance facet survey was undertaken in February 2017 for the St. George's estate and satellite buildings by NIFES. This was updated for St James Wing in 2019/

The physical condition of each building asset was assessed based on 4 characteristics: external, internal, structure and system.

The assessment is categorised as follows:

Condition	Description
A	As new and can be expected to perform adequately to its full normal life.
B	Sound, operationally safe and exhibits only minor deterioration
B(C)	Currently as B, but will fall below B within 5 years (note the survey was undertaken in 2017 and therefore these items are highly likely to be in condition C within the next 12months)
C	Operational, but major repair or replacement is currently needed to bring up to condition B
D	Operationally unsound and in imminent danger of breakdown.
X	Supplementary rating added to condition C or D to indicate replacement is required to achieve improvement

The physical condition overall rank for the Trust estate was assessed to be B(C) - note the survey was undertaken in 2017 and therefore these items are highly likely to be in condition C within the next 12months.

The key building assets which have recorded a condition B(C) (shown in red on **Figure 18**) or worse in at least 2 of the 4 characteristics are:

- Education Centre
- Grosvenor Wing
- Lanesborough Wing
- Maxillo Facial and Day Surgery
- St. James Wing
- Eileen Lecky Clinic
- Tooting Health Clinic.

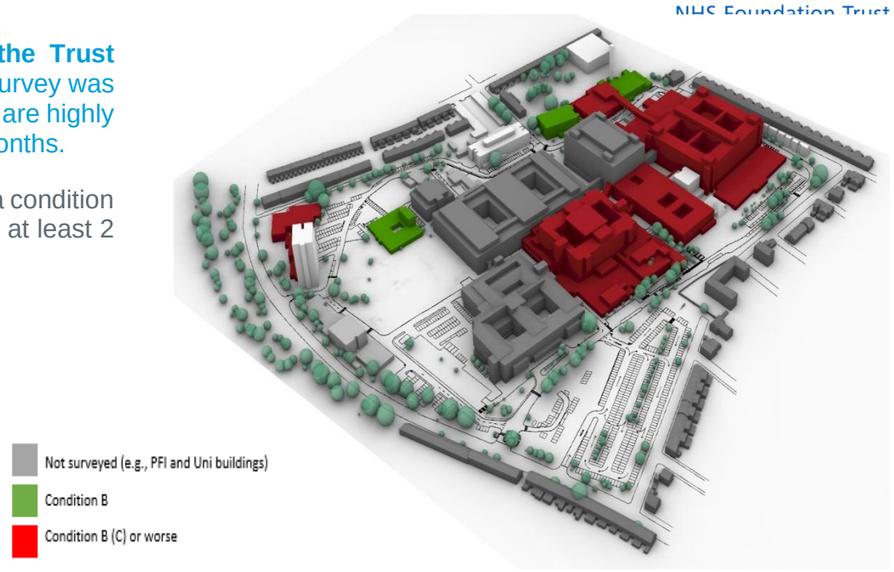


Figure 18: St George's Physical Condition

Buildings in Grey were those that haven't been surveyed (e.g., PFI, University), and green are the buildings which have an average physical condition of B or higher.

Property Appraisal Summary

Facet		Physical Condition
Overall Rank		B(C)
Backlog Costs		£34,663,962
Backlog Risk Adjusted Totals	Low	£7,826,711
	Moderate	£17,902,102
	Significant	£4,165,978
	High	£4,769,171
Risk Adjusted Backlog		**£10,254,833**

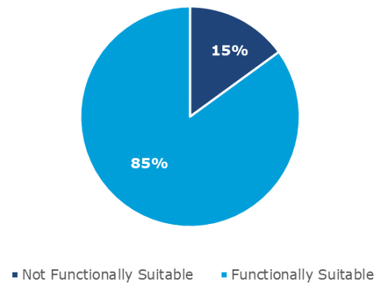
This table does not include backlog costs associated with resilience or statutory compliance.

The high-risk costs are predominantly associated with design life expired High Voltage (refer to section 6.2.2) electrical sub stations across the site at the time of the survey. Planned upgrade works are currently being undertaken to replace some of the identified life expired equipment.

2.5.2 Functional Suitability

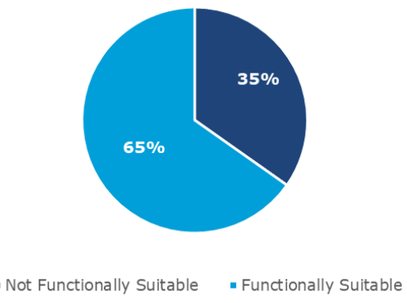
2.5.2.1 *Occupied Floor Area*

The pie chart below highlights the functional suitability of the total estate at St George's University Hospital, Tooting.



2.5.2.2 *Clinical Space*

The pie chart below highlights the functional suitability of clinical space only, at St George's University Hospital, Tooting.



Outstanding care every time

NHS
St George's University Hospitals
NHS Foundation Trust

2.5.3 Backlog Maintenance

Via the six-facet survey and separately commissioned reports/ surveys a project pipeline schedule has been produced which estimates the cost of rectifying backlog maintenance.

The Estates and Capital Projects team have running programmes to implement projects to resolve some of these items, including the circa £20m P22 scheme. However, there is still a significant amount of backlog maintenance to be implemented some of which will require significant investment by the trust to implement.

Sitewide

There are a number of backlog maintenance items which impact on every building on site. They have not been split up individually, however it is safe to assume that these works can be proportioned against the larger buildings. The total value of these is: **£83m.**

The £83m is broken down by**; £17.5m** of investment is required due to the condition of assets. **£39m** is required to make the services of the buildings and fabric compliant with current HTM and best practice and a further **£27m** is associated with resilience. The headline items from the list are as follows:

- Fire Safety upgrades £18m
- Replacement of obsolete electrical equipment £8m
- Ventilation upgrades £5m
- Lift replacement £5m
- Substation upgrades £5m
- UPS/IPS upgrades and installations £4.5m
- Drainage repairs and replacements £3m
- Replacement of cold and hot water pipework £3m
- Rewire & replacement of existing circuit boards. £2m

Lanesborough Building

There is currently circa **£12m** of investment required to complete the planned projects within the Lanesborough building. This includes **£1.8m** of investment due to condition. **£3.8m** to make the buildings services and fabric compliant with current HTM and best practice. A further **£6.1m** is associated with resilience.

The headline items associated with this are as follows:

- Replacement electrical distribution infrastructure **£4m**
- Installation of double glazing **£2m**
- Replacement of audio booths **£1.8m**
- Medical gas replacement **£1.5m**
- Pipework replacement **£1.0m**

Grosvenor building

There is currently circa **£3m** of investment required to complete the planned projects within the Grosvenor building. This includes **£250,000** of investment due to condition. **£750,000** to make the buildings services and fabric compliant with current HTM and best practice. A further **£2.0m** is associated with resilience.

The headline items associated with this are as follows:

- Water and heating system replacement **£2m**
- Single glazed windows to be replaced **£0.25m**
- Replacement of roof surface **£0.5m**

St James building

There is currently circa **£13m** of investment required to complete the planned projects within the St James building this includes **£650,000** of investment due to condition. **£2.5m** to make the buildings services and fabric compliant with current HTM and best practice.

A further **£9.8m** is associated with resilience.

The headline items associated with this are as follows:

- Replacement of obsolete electrical equipment **£8m.**
- Single glazed windows to be replaced **£0.5m**
- Replacement of roof surface **£2m**
- Medical gas systems replacement **£1.5m**
- Ventilation and AC improvements **£1m**

Fire

There is currently an estimated **£18m** worth of works to rectify defects associated fire safety installations across the site.

This includes but is not limited to:

- Rectification of fire stopping defects.
- Installing / reinstating fire partitions to align with the fire strategy.
- Installation of fire dampers within the ventilation system.
- Installation / replacement of fire rated doors.
- Installation / replacement of fire suppression.

2.6.1 Carter review

The Carter Review looked at productivity and efficiency in English non-specialist acute hospitals using a series of metrics and benchmarks to enable comparison.

"Operational productivity and performance in English NHS acute hospitals: Unwarranted variations" DHSC, February 2016

Significant and unwarranted variation in costs and practice were identified which, if addressed, could save the NHS **£5bn**. Issues identified include:

- Significant variation in facilities management costs
- Corporate and administration costs varied between Trusts at 6%-11% of income with Trusts failing to capture the benefits of scale
- Potential for efficiency savings of £1bn from better management of estates, such as lighting, heating, and space utilisation, with one trust using 12% for non-clinical purposes, while another used over two-thirds
- Variation in the use of space, with clinical space occupation ranging from 11% to 65%.

Carter highlighted imperfections in the data reported by individual Trusts including ERIC returns and stressed the importance of recording and reporting data accurately. The Review recommends, on an annual basis, that Trusts develop Carter Dashboard reports which illustrate the Trust's performance against Carter targets.

The two key themes in the Carter KPIs are:

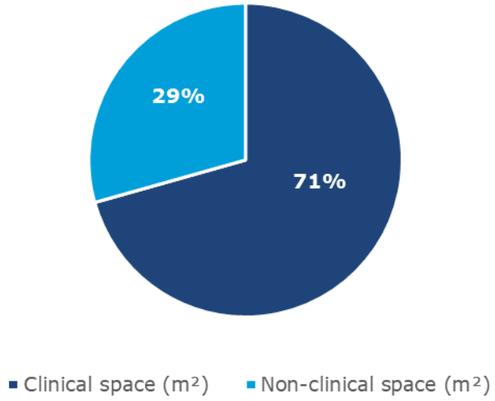
- The distribution of space between Clinical and Non Clinical uses
- The proportion of vacant/empty space within a Trust's holdings.

It is also essential that a Trust maintains a continuous reporting mechanism against similar organisations in England. The charts below show the performance of the St George's Hospital, Tooting sire based on the ERIC data provided.

2.6.1.1 *Clinical v Non-Clinical*

As can be seen on the pie chart below, the Trust is currently well below the Carter Review recommended 35% Non-Clinical Space:

Figure 19: Clinical vs Non-Clinical space



2.6.1.2 *Vacant/Empty Space*

The Trust performs poorly in regard to Vacant and Empty Space, with a current figure of **7.78%.**

It is recommended that unused floor area should always be less than **2.5%.**

We expect that this value will improve dramatically in the next round of ERIC data reports, due to the demolition of the vacant Victorian buildings on the Tooting site.

This poor performance is further illustrated by the table below, downloaded from the Model Hospital, and compares the Trust to its peer group:

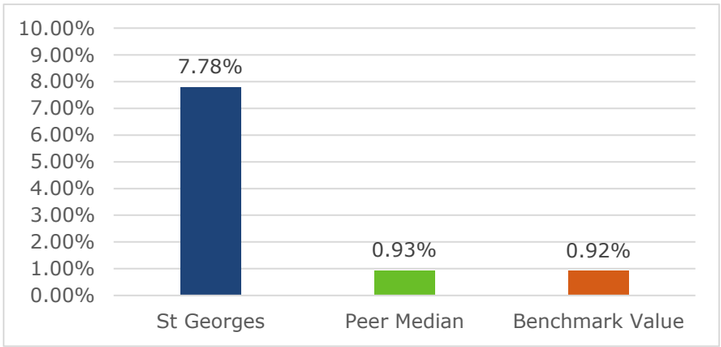


Figure 20: Model Hospital: Empty space

2.6.2 Model hospital benchmarking

The NHS Improvement Model Hospital performance report for the Trust is generated using the 2019/20 Estates Return Information Collection (ERIC) and compares Trust performance against a national benchmark and more importantly against PFI peers.

The Model Hospital report uses the sum of a set of Estates and Facilities opportunities, highlighted in the graphic below, to calculate an overall opportunity for increasing productivity and efficiency.

Figure 21: Model Hospital Cost Efficiency

The overall opportunity, calculated using Estates and Facilities costs across the Trust is:

£8.3m – £16.9m *estimated productivity gain*

Or ***182*** *to* ***369*** *additional registered nurses*

The graphics below and across highlights the Trust's performance against industry benchmarks:

2.6.3 Estates & Facilities Cost (£ per m2)

Trust value	Peer median	Benchmark value
£434.46/m2	£421.56/m2	£421.56/m2

2.6.4 Total Backlog Maintenance

Trust value	Peer median	Benchmark value
£88.20m	£59.92m	£59.92m

2.6.5 Critical Infrastructure Risk

Trust value	Peer median	Benchmark value
£159.97/m2	£139.22/m2	£139.22/m2

Model Hospital, London Peer Group:

- Royal Free London NHS Foundation Trust
- University College London NHS Foundation Trust
- Chelsea & Westminster NHS Foundation Trust
- King's College Hospital NHS Foundation Trust
- Guy's and St Thomas' NHS Foundation Trust

2.6.6 CQC

The Care quality Commission (CQC) Quality Report is designed to provide judgement on the quality of care provided. It is based on findings from an inspection of the Trust, information from the CQC's 'Intelligent Monitoring' system, and information from patients, the public and other organisations.

The Trust was last inspected in September 2019 under the new inspection methodology and has been given a **"Requires Improvement"** overall rating.

2.6.6.1 Summary of findings

The overall findings indicated that many areas had made improvements. Of the services inspected, one was rated as outstanding, one was rated good and four were rated as requires improvement.

The inspection report is split into five criteria, which have been summarised in the graphic across:

Safe

The report states that records were not always stored securely, and services were dealing with an ageing estate which at times was a risk to patient safety.

Effective

No estate related impact on the effectiveness of the services were found in the report, however the report found that healthcare professionals worked together well as a team and the estate can play a vital role in maintaining that.

Caring

It was found that staff treated patients with compassion and kindness, respected their privacy and dignity and took account of individual needs. It is imperative within the Estate Strategy that staff are further supported by a sensitive and well-designed space to maintain and further improve the delivery of care.

Responsive

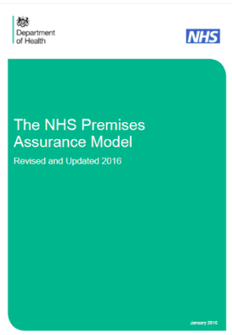
Safe	Effective	Caring	Responsive	Well-led	Overall
Requires improvement ➔➔ Dec 2019	Requires improvement ➔➔ Dec 2019	Good ➔➔ Dec 2019	Requires improvement ➔➔ Dec 2019	Requires improvement ➔➔ Dec 2019	Requires improvement ➔➔ Dec 2019

Figure 22: CQC Quality Report

People were not able to access services in a timely way, referral performance is below the England average, and the Trust was not meeting the national standard of the four-hour A&E wait.

2.6.7 Premises Assurance Model (PAM)

The Premises Assurance Model (PAM) has been developed by the DHSC to provide assurance for Boards on estates and facilities management on a consistent, national basis, prompting investigation and stimulating dialogue on utilisation, management, and alignment with strategic objectives.



PAM involves a structured process of self-assessment questions on specific legislation or estate guidance under five domains:

- Safety (Hard and Soft FM)
- Patient Experience
- Efficiency
- Effectiveness
- Organisational Governance.

The Trust have developed a phased plan of work to support the improved assurance and reporting mechanisms around PAM. The Trust have in-turn started the development of a Dashboard, which includes:

- Gathering and analysis of PAM evidence
- Trend analysis, improvement planning and monitoring
- Management reporting of compliance
- Production of management reports
- Creating common data and systems platforms.

The Trust's PAM Assessment has been externally validated and rescored in accordance with up-to-date guidance.

The current scores, which are summarised below, create a significantly varied picture of the current performance, with variations between 'Outstanding' and 'Inadequate'.

Table 7: Trust PAM Assessment Scores

Domain	N/A	1. Outstanding	2. Good	3. Requires	4. Requires	5. Inadequate	Total
Hard FM - Safety	1	19	35	47	32	14	**148**
Soft FM - Safety	0	2	30	18	19	11	**80**
Patient Experience	1	1	6	16	3	0	**27**
Efficiency	1	0	9	10	6	2	**28**
Governance	0	1	21	19	9	1	**51**
Total	**3**	**23**	**101**	**110**	**69**	**28**	**334**

2.6.8 Patient-Led Assessments of the Care Environment (PLACE)

PLACE assessments provide motivation for improvement by providing a clear message, directly from patients, about how the environment or services might be enhanced.

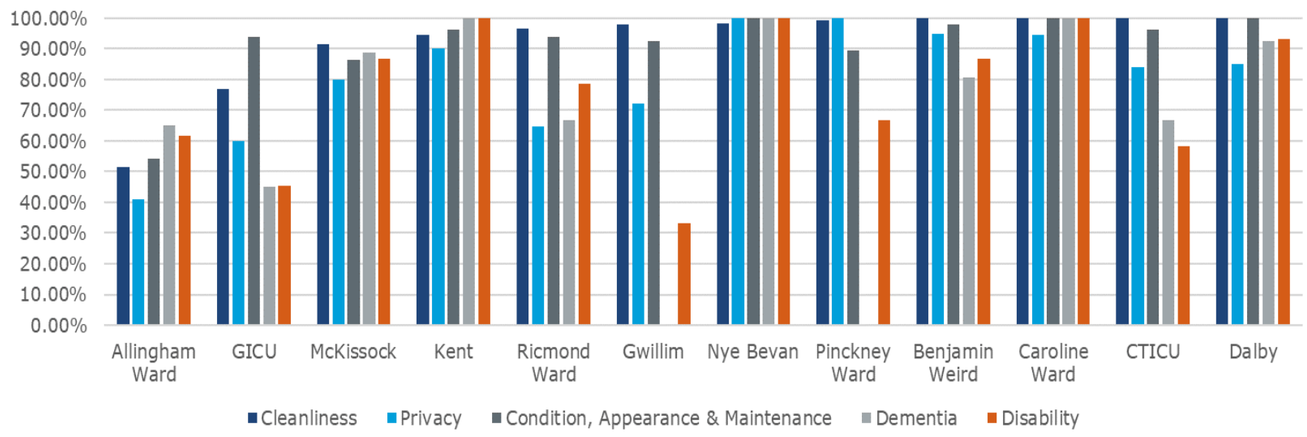
PLACE assessments are an annual appraisal of the non-clinical aspects of NHS and independent/private healthcare settings, undertaken by teams made up of staff and members of the public (known as patient assessors). The team must include a minimum of 50 per cent patient assessors.

PLACE assessments provide a framework for assessing quality against common guidelines and standards in order to quantify the environment's cleanliness, food and hydration provision, the extent to which the provision of care with privacy and dignity is supported, and whether the premises are equipped to meet the needs of people with dementia or with a disability.

The following locations are appraised in the assessment:

- Wards
- Communal Areas
- External Areas
- Emergency Departments and Minor Injuries Units.

Figure 23: PLACE Scores against national average



The following criteria are appraised in the assessment:

- Cleanliness
- Food
- Privacy, Dignity and Wellbeing
- Condition, Appearance & Maintenance
- Dementia
- Disability.

The overall scores for the Trust, compared to the national average in 2019, are highlighted in the chart below:

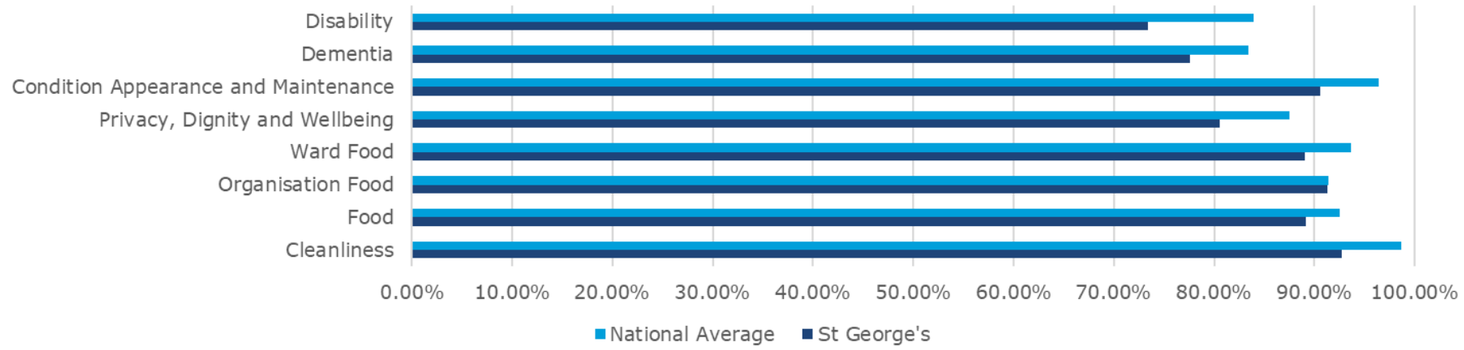


Figure 24: PLACE Overall Scores

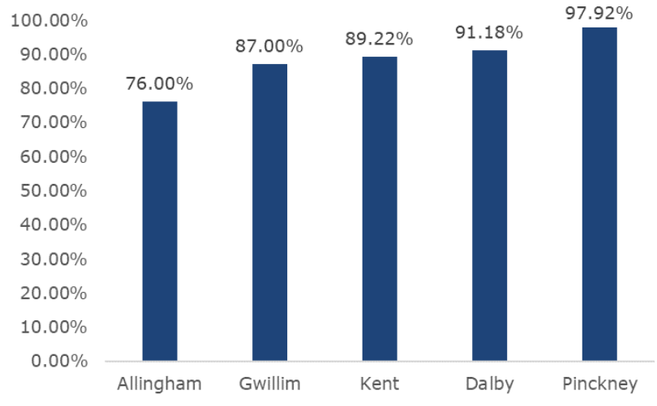
As can be seen, the Trust is underperforming across all PLACE criteria compared to the national average.

In order to identify the main areas for improvement, the following charts highlight the performance of individual wards and areas within the main St George's Hospital site in Tooting.

As can be seen in the main chart below, the worst performing wards are **Allingham, GICU, Richmond and Gwillim**.

Of particular concern is **Allingham Ward**, which scored well below the average in every category, including food, which can be viewed in the chart across.

Figure 25: PLACE Food Scores



2.6.9 Sustainability

The Trust imported **9.9 million kWh** of electricity from the grid during the 2019/20 financial year. The on-site CHP engines produced **35.6 million kWh** of electricity with St George's Hospital exporting **2.7 million kWh** during the same period. The site's natural gas consumption to produce steam, electricity and thermal energy for the site was **135 million kWh**.

The fuel associated costs for the year 2019/20 are shown in **Figure 26**. **Gas consumption** as a source of energy generation for St George's is the highest with 66% of the total cost. Grid **electricity consumption** comes in second with **32%** of the total costs. **Oil** accounts for just **2%**. The oi consumption is mainly as a result of statutory monthly testing for the various generators that are located on site.

Natural gas emissions account for more than **90%** of St George's emissions, as can be seen in **Figure 28**. Nonetheless, if the CHP was not producing steam, electricity and low temperature hot water for the site then the electricity costs and emissions would be much higher.

Figure 27 compares the energy consumption benchmarks in kwh/m2 per year for typical and good practice long stay hospitals, with the **energy consumption** for St George's for the year 2019-20. Fossil fuel consumption (oil and gas) are **above typical practice** whereas electricity consumption is **worse than good practice but better than typical practice**.

Figure 27: Energy Consumption Benchmarks Comparison

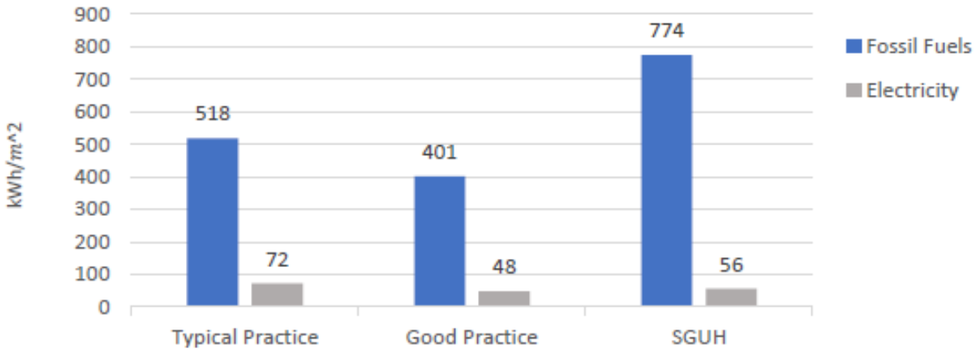
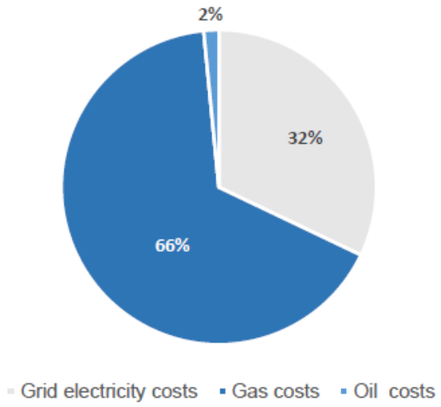


Figure 26: Fuel Associated costs: (%) 2019-20



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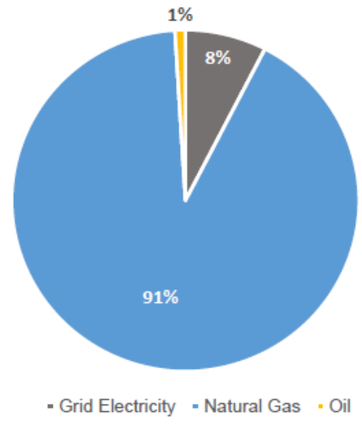


Energy and Sustainability Projects

The Trust has made considerable progress in recent years through a series of internal initiatives and improvement schemes toward environmental and sustainability performance improvements.

During 2019/20 the Estates and Facilities team have successfully built/refurbished and commissioned the following which have all included the use of "Low Carbon Technology" and the incorporation of energy efficient management strategies, inclusive of LED, Variable Speed drives, High efficiency Pumps and Motors, Building Management Systems, insulation, boilers and general application of good working practices and good housekeeping. Key projects included:

- Various steam to low temperature hot water plate heat exchanger replacements
- Improvements in the efficiency of the steam distribution around the site (minimising leaks, insulation) and upgrades to create a steam ring main

The Trust continues to ensure it works to achieve the standards outlined in HTM 07-07 sustainable health and social care buildings.

The Trust has entered into an Energy Performance Contract with British Gas in order to secure substantial carbon and financial savings. The energy saving developments include the installation of a new Combined Heat and Power (CHP) system and boilers, absorption chillers, steam system modifications and a range of heating, ventilation, and air-conditioning changes, with the objective of reducing energy consumption by 25% and saving more than 6,000 tonnes of carbon dioxide.

2.6.10 Site Infrastructure

Overview of Condition

The infrastructure condition across our estate varies between buildings, with some visible efforts to replace plant as it reaches the end of its economic life.

However, there is a series of ongoing backlog maintenance items in relation to adherence to compliance with statutory regulation, condition, and resilience for the site infrastructure as a whole.

- **Condition** – costs to improve the condition of site infrastructure assets that are significantly beyond their life expectancy.
- **Compliance** – costs to overhaul non-compliant systems, assets, and processes.
- **Resilience** – costs to improve and maintain building resilience in the event of key plant failure or the loss of incoming utility supply such as gas, electricity, or water.

A high-level summary of the cost is listed below:

Table 8: Investment Categories for Site Infrastructure

Condition	Compliance	Resilience	Reconfiguration	Total
£21.1m	£40.3m	£26.98m	Unknown	**£88.4m**

Some items of plant are over 25 years old, running continually and have reached the end of their serviceable life span. Age profiles are as high as 45 years for some plant configurations.

There is significant clinical risk from the potential for breakdown or non-availability of critical supply. Some of which is currently being addressed as phased planned works in the next 1-2 years. These include:

- Ventilation System Upgrades for repurposes clinical spaces
- St. James Wing Electric Infrastructure Upgrades
- Site Wide Water Infrastructure Upgrades
- Sitewide High Voltage infrastructure renewals.
- Standby Generator renewals and upgrades.

The condition of non-essential ventilation systems is also a concern on the site with 60% of the ventilation systems faulty which causes issues with thermal comfort.

Capacity

Investment in infrastructure within the site shall be needed to facilitate the reconfiguration and impact from any development proposal. This is currently an unknown cost.

Current license agreement with National Grid is for a 10MVa supply to the hospital, in the last year the peak demand was recorded at around 9.5MVa. Any future works will likely mean the 10MVa threshold agreement will need to be renegotiated with National Electricity Grid (UKPN).

The 2017 investment in the Energy Centre which saw the installation of 4no. gas fired steam boilers and two combined heat and power units are understood to have ample capacity to facilitate the future development growth on the site. This will require further assessment and analysis at the next stage of the infrastructure review.

The following areas of work will need to be developed at the next stage of the infrastructure review:

- Carry out approximate assessment of new mechanical and electrical load requirements for the proposed developments to understand overall increase in site requirements based on rules of thumb.
- Assess the impact of the proposed developments and identify the future load growth pattern.
- Overlay the proposed development with the current load to identify the impact on the existing infrastructure.
- Provide high level upgrade proposals and/or options required to cater for the proposed developments with indicative timelines.
- Where necessary lodge enquiries with Distribution Network Operator (DNO) to understand the extent of DNO infrastructure re-enforcement/enhancement works.
- Discuss and review incoming gas, water, and electrical supply capacities with local utilities/shippers in relation to the development plan
- Assessment of all medical gas systems. Works to be carried out by Medical Gas specialist appointed by the Trust.

2.6.11 Office accommodation

Non-Clinical workspace within St George's is distributed across the site in a range of buildings of differing ages, conditions, and configurations. Figure 29 illustrates the locations of the relevant buildings and occupying Care Groups classified as Non-Clinical.

A number of these buildings' occupants have functional reasons to be in or within close proximity to clinical areas, others do not.

Area occupied

Areas occupied, reflect traditional occupancy models common within NHS properties and include semi-permanent buildings located on the periphery of the Tooting site.

Current locations of non clinical teams reflect the historical need to respond to increasing demand for clinical areas over time, resulting in a disjointed and fragmented working environment.

A mix of highly cellularised environments (e.g., Grosvenor Wing) and fully open planned facilities containing only workstations (e.g., Jasmine Annex and Wandle Annex) results in a mix of occupancy densities, different types of workspace of various states of condition that 'send mixed messages to staff'. These are shown in the current context Figure 29 opposite.

Densities of Occupation

Whilst planned occupancy densities are high, the prevalence of 'workstation-only' workspace (office and open planned) does little to support efficient and effective use of space, conducive to an ideal operating model.

The notable absence of alternative workplace settings (social, collaborative, and interactive spaces) provides little choice in how and where staff work. Traditionally, average workstation take-up is between 45%-55%, suggesting that in the Trusts 'workstation only' environment, the take up of total non-clinical workspace is only 45% to 55%. A desired 60% to 70% typical in commercial organisations carrying out similar functions (Finance, Procurement, HR, Comms, IT etc.) is for a far more efficient use of space

Use of space

The owner-occupied approach of workspace is evident with teams in certain buildings behind locked doors and individual fiefdoms in the open planned workspace.

Meeting rooms are on central booking systems, yet their distribution and locations result in perceived ownership rights. Provision of meeting facilities do not reflect the range of size and style of meeting activities that take place with 6–10-person meeting facilities often used by 1-2 people.

Maintenance and cleaning of smaller distributed facilities adds further OPEX costs and inefficiencies. E.g., one current building with c. 260 people over three floors require six WC's (3 male and 3 female per floor).

A single floor supporting 260 people or more requires only two WC's reducing associated CAPEX and OPEX costs over time.

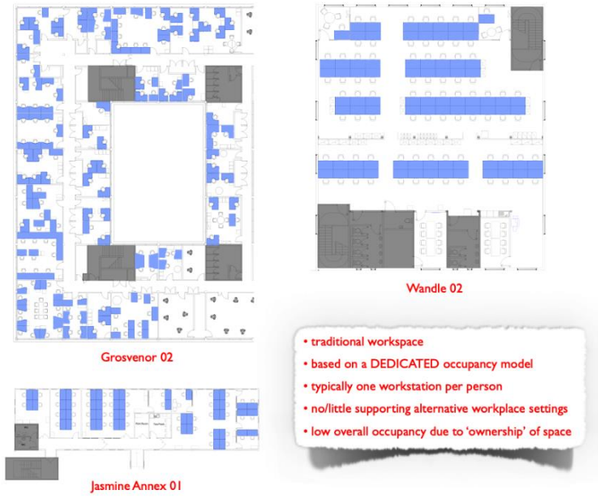


Figure 29: Non-Clinical Workspace - Location Plan

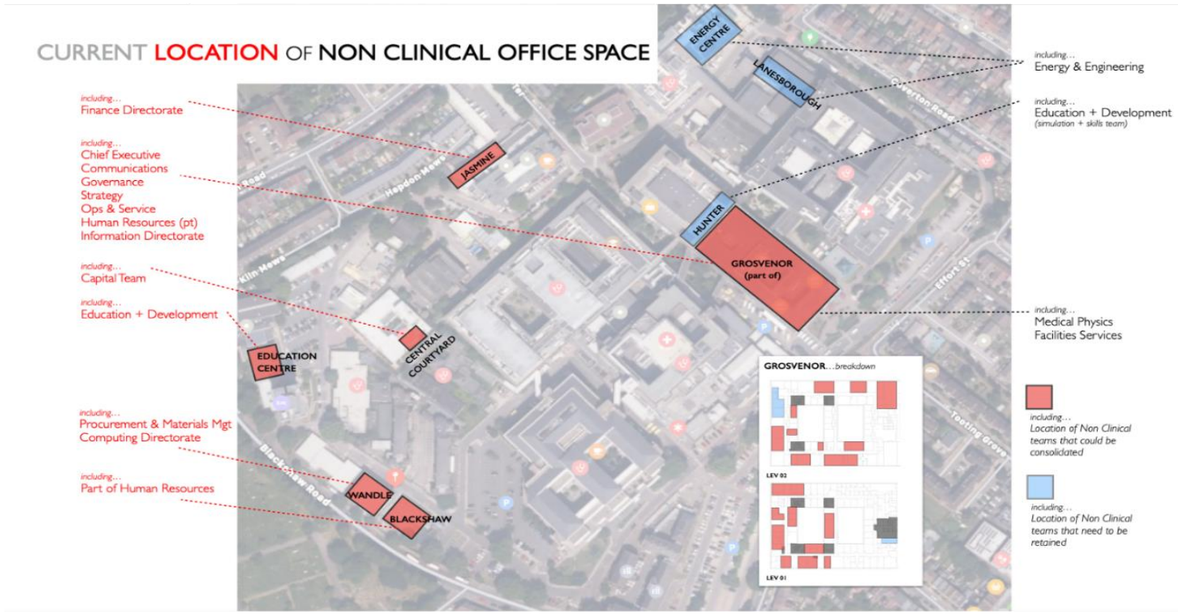


Figure 30: Illustrations of current context

2.6.12 New Annex Developments

2.6.12.1 *Wandle Annex*

November 2020 the Trust's Procurement department identified a need to double the number of staff based on site.

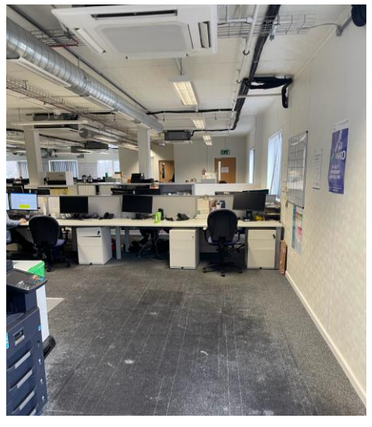
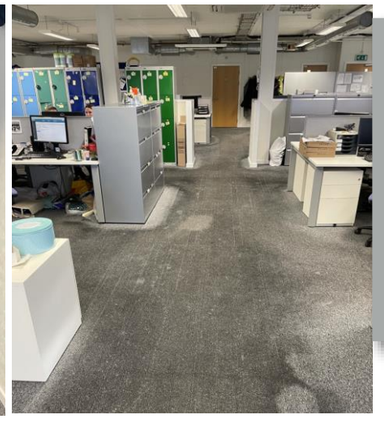
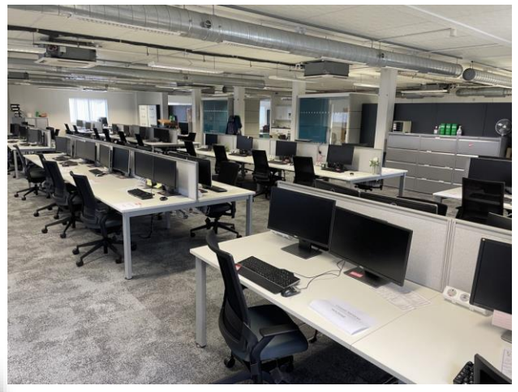
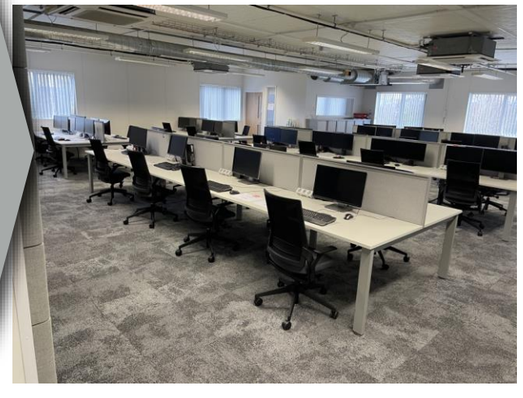
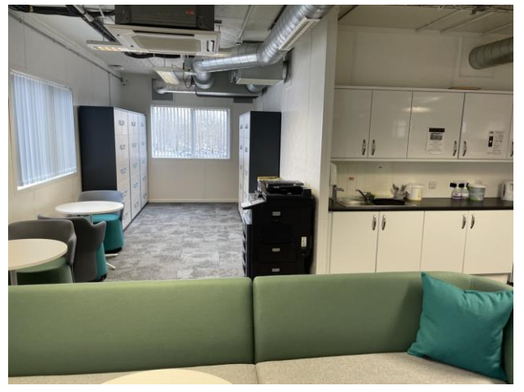
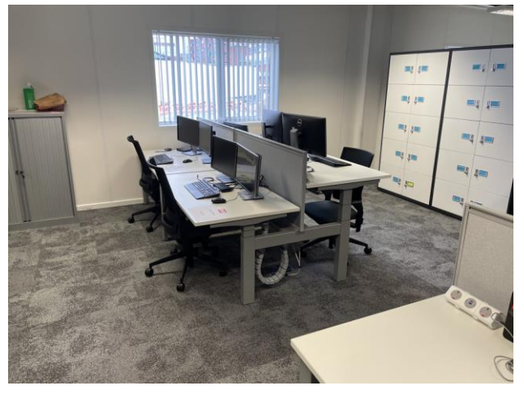
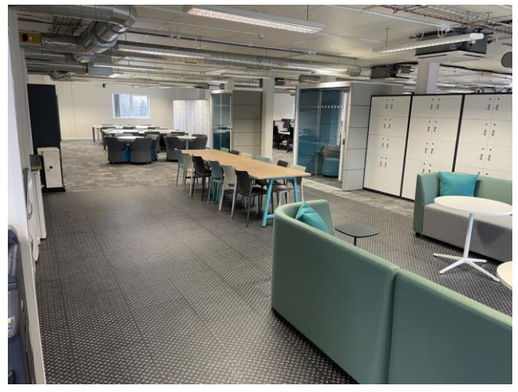
Without available workspace to accommodate this expansion, the Director of Estates opted to undertake a pilot 'flexible workplace project' using the principles of the Golden Rules proposed within the Master Plan.

Objectives of pilot project were to…

- provide a costs effective solution to Procurement's expansion without requiring the use of clinical space
- pilot a flexible working environment
- sweat the property assets
- encourage efficient use of shared facilities
- reduce the planned densities of occupation
- support informed development of Real Estate Master plan

A DEDICATED occupancy model supporting 82 people in 82 workstations on Wandle level 02 (with no alternative workplace settings other than 2nos medium sized meeting rooms) has been reset providing an agile workspace of 57 workstations supporting 102 people. Workstations provided in the reset model support 'dweller' + 'hopper' style roles whist the range of alternative workplaces provide additional support for 'nomad' styles of working.

As illustrated opposite, a mix of previously absent informal, quiet and social interaction spaces are provided to offer choice to staff for how and where they work.

2.6.12.2 *Blackshaw Annex*

Reason behind the development

Blackshaw was an existing single floor office space that was no longer fit for purpose. A funding opportunity presented itself to replace the existing single story with a three story building providing the Trust with an open and more flexible workspace. This facilitated the release of office space around the estate to increase the amount of sought after clinical workspace.

Cost

Total cost (inc New foundations, modular building + furniture) - **£3m**

Programme

From project inception to final occupation the overall programme was 6 months.

2.6.13 Planned and Proposed Investment

This section sets out current planned and proposed investment and will continue to be updated throughout the review and approvals stages of the Estate Strategy, in order to ensure that the information is up to date on date of release.

2.6.13.1 *Renal Unit*

Context

Epsom and St Helier University Hospitals NHS Trust (ESTH) and St George's University Hospitals NHS Foundation Trust (SGUH) currently provide two renal services, covering a population of c.2.7m across South West London and Surrey.

There has been increasingly closer collaboration between the two renal units, and there are additional drivers for deeper collaboration, including:

- National NHSE drive for collaboration in renal services
- Increasing collaboration between the two Trusts across all services.

Case for Change

There are three significant reasons to explore how acute and specialist renal services could be delivered better:

- Patients from different parts of the region experience unacceptable inequalities in their NHS treatment
- The estate of both services has suffered from long-term under-investment and as a result the buildings are not fit-for-purpose
- Neither service is as efficient as it could be, and as a result there is significant opportunity to provide better services to patients.

To address the case for change, the following investment objectives were agreed by a Joint Renal Project Group, bringing together clinical, operational, finance and estates representatives from both Trusts:

- To improve patient care, experience, and safety
- To deliver a more financially sustainable service
- To increase opportunities for research and training
- To create a sustainable workforce.

To deliver on these investment objectives, the renal services at both Trusts have agreed a new clinical model for acute renal services in South West London and Surrey.

Following a standard business case approach, the option that all core acute renal services at ESTH and SGUH within scope are to be co-located at the SGUH site in Tooting was agreed by the Trust Board.

2.6.13.2 *Children's Cancer Treatment Centre*

Context

Currently the designated dual Principal Treatment Centre (PTC) for South London and South East England is delivered by the Royal Marsden NHS Foundation Trust (RMH) and St George's University Hospitals NHS Foundation Trust (SGUH). The configuration of Children's Cancer Principal Treatment Centres (PTCs) was consulted on nationally by NHSE/ I in Summer 2019.

In January 2020, an Independent Review led by Professor Sir Mike Richards for the NHSE/ I Board, recommended that: Children's Cancer PTCs should be co-located with a range of services/ specialties including Paediatric Critical Care (Level 3) and Paediatric Surgery (including Emergency Care).An NHSE/ I led Options Appraisal Programme Board is considering the options for South London and South East England.

Options

There are 2 Clinical Models being developed and progressed for the PTC by St George's:

- An Adapted-Risk Network Model in which Paediatric Oncology Services will be delivered in partnership with the Royal Marsden in Sutton and Tooting, with a change to the current pathway so that all high-risk episodes of care (e.g. >5% chance of requiring PICU and/ or other specialist services) are managed at SGUH (Tooting); and,
- An Integrated Services Model in which all Paediatric Oncology Services will be delivered on a single-site by St George's in Tooting.

In addition, there are alternative Clinical Models being developed with further proposals from the Evelina, London in partnership with King's and also, from GOSH.

Next Steps

A decision is expected from the NHSE/ I led Options Appraisal Programme Board on the preferred option in 2021; Consultation is expected to follow in 2022.

2.6.13.3 *ICU Expansion*

The expansion of the Intensive Care Services for the Trust has been driven partially by the need for increased capacity and resilience following the COVID-19 pandemic and the lessons learned as a result.

Scope (RIBA Stage 1)

The following areas are included in the scope of the expansion:

- **Ground floor (Entrance level) at Atkinson Morley Wing** – Proposed new ICU department and support space
- **Lower Ground Floor at Atkinson Morley Wing** – covering plant areas, equipment and MEP services distribution required to support the ICU department.

The scope may also expand in time to the following areas:

- **Expansion to the existing ICUs** – Building modifications to allow for increased surge capacity in

the existing ICU wards within the Atkinson Morley Wing

- **Level 3 (Reverse Osmosis Plant)** – Reverse Osmosis water provision needed for the new ICU department on the upper ground floor and potentially other areas within the hospital.
- **Medical Oxygen Plant** – Additional medical Oxygen provision required
- **Lower Ground Floor Undercroft to Atkinson Morley Wing** – additional space that might be required to accommodate the increased plant requirements of the new ICU
- **Highly Contagious Infectious Disease (HCID) Capability** – excluded from current brief due to complexity and challenges with regards to adjacencies
- **Pneumatic Tube systems** – currently no working pneumatic tube system serving the area

2.6.13.4 *Emergency Department Expansion*

Initiation → SOC → OBC → FBC → In Progress

The current Emergency Services at Tooting are under severe pressure. The perceived lack of capacity and restricted space is making it difficult to accommodate current activity within the Trust's operational targets for assessment, diagnosis, treatment and discharge or admission. The current service is accommodated in the St James Wing, which is approximately 40 years old and significant elements of the engineering services, central plant, and distribution system date from the initial build.

Case for change

Type 1 A&E attendances have been steadily rising, historically, at St George's. There are increasing pressures on the NHS to deliver high quality, timely care with limited resources. Whilst St George's A&E department consistently outperforms England in the 4-hour metric, it is below the national target and is showing a downward trend.

The proposed development will provide a modern facility with improved accessibility for all patients and compliant to the Equality Act, Disability Discrimination Act, relevant Health Technical Memoranda, Health Building Notes (to 82.5%) and other key statutory guidance.

Preferred option

The preferred option to be taken forward as a medium-term solution, as outlined in the OBC, is to create a new Emergency Department Expansion via the refurbishment of the existing footprint and wraparound extensions.

It is anticipated, however, that this option will unlikely be large enough by mid-2030s due to increased demand for services. An option for the development of a new Emergency Department within a new build facility is therefore being taken forward as an aspirational option.

Programme

Milestone	Completion date
Completion of Strategic Outline Case	June 2020
Completion of draft Outline Business Case	November 2020
Procurement of Construction Partner	April 2021
Appointment of Construction Partner	June 2021
Completion of Final 1:50 Designs	February 2022
Completion of Full Business Case	March 2022
Full Business Case Approval by NHSE/I	May 2022
Development Works Commence	June 2022
Completion of Works	October 2024

2.6.13.5 *MRI Development*

Initiation → SOC → OBC → FBC → In Progress

Case for change

The Trust is experiencing significant risk due to the age of the single Lanesborough MRI scanner and is heavily reliant on mobile scanners at a premium cost to deal with current activity levels.

Preferred option

The preferred option identified in the MRI Business Case is to provide three new MRI scanners with a ground floor and a full first floor, co-located in a two-storey modular build, with the old Lanesborough Wing MRI to be decommissioned. It is anticipated that the hand-over of the new building will be October 2021.

2.6.13.6 *Mechanical & Electrical*

The Trust is updating and expanding their MRI capacity on the Tooting site with three new MRI suites due to be installed in a purpose-built modular unit. The MRI building will be located behind the Hotung Building with direct access from the Lanesborough Wing hospital street at ground floor level. The building is due to be in operation by the end of 2021.

As part of these works, investment in the existing electrical infrastructure is necessary to provide a new low voltage power supply. A new dedicated 1000kV transformer shall be installed within the Lanesborough Transformer Hall as well as a new dedicated low voltage switchboard within the Lanesborough LV Switchroom. A busbar shall be distributed through the Lanesborough building to connect the LV switchboard to the MRI Building switchboard.

There are also proposed renewals / upgrades to Distribution Sub Stations DSS1, DSS7 and DSS8 HV infrastructure. These will bring these parts of the High Voltage network up to modem standards as well as complying with the current HTM guidance.

3 Where do we want to be?

This chapter sets out our Vision for the future Estate. Based on the 'where we are now' section, it identifies the changes needed in the capacity and performance of the Estate to achieve the vision.

3.1 Our vision for the estate

As we look ahead over the next five years and beyond, the Trust has agreed a strategic direction to become a clinically and financially sustainable organisation.

We will be an anchor organisation within the ICS, positively contributing to the overall healthcare system of South West London.

The Trust's vision for the estate is to ***"develop and maintain an efficient, high quality, sustainable and flexible estate which meets the operational demands and objectives of the Trust and the wider South West London healthcare system and promotes long-term collaboration with our health and education partners."***

The core principles of the Estate Strategy are based upon it being both an enabler and driver for change, supporting the delivery of current and future clinical services through the interpretation of the clinical and other associated Trust strategies.

The Trust has identified the need for flexibility, changing the perception of property from an on-going liability to an enabler to the delivery of services, and in doing so the Estate Strategy is focussed on two themes:

1. **Strategic Investments to raise the quality, configuration, and performance of the estate that we use to deliver our services through new facilities, and commercial investments.**
2. **The ongoing 'business as usual' functions to operate and maintain a high performing, safe and compliant estate.**

The objectives of this Estate Strategy are therefore:

Efficient and effective asset management – ensure we have an efficient, fully optimised, and high-quality property portfolio, with better management of vacant space and improved utilisation

High quality, fit-for-purpose and compliant – ensure we have a fit-for-purpose, efficiently managed built environment, which is safe, accessible, and compliant.

Environmentally friendly and low carbon solutions – ensure that our estate aids the Trust in realising it's Net-Zero targets, engages with nature to support biodiversity and responds effectively to climate change

Flexible, future-proofed, and sustainable – working with partners to ensure that the estate can respond to growing pressures on healthcare demand, now and in the future.

Collaborative, evidence based and standardised delivery – utilise collaboration and best practice to align estate interventions and on-going facilities management to the delivery of clinical services for the Trust and wider healthcare partners

3.2 Efficient and effective asset management

This objective is about:

- Maximising the utilisation of our estate
- Managing our contracts & leases to achieve best value from them
- Using accurate property data to manage the performance of our buildings, services and contracts
- Developing our estate in ways which facilitate improved effectiveness, safety, and staffing efficiency in delivery of clinical services.
- Developing a commercial strategy which supports the Trusts ambitions and promotes efficiencies

3.2.1 *Maximising the utilisation of our estate*

The following principles will be adopted:

- **Improving adjacencies** and quality of Theatres, ITU and Imaging by re-provision and learning through COVID 19.
- **Re-designating** areas of St George's Hospital to improve utilisation, adjacencies and optimise the use of core services, but minimise disruption to current accommodation and cost of change
- **Relocating** non-intensive services / low utilisation services from hot areas.
- **Enabling** use of retained estate capacity for repatriation or for other services (cost reduction).
- **Relocating** non clinical activities from clinical accommodation to avoid further increasing our gross internal area with new build assets and minimise costly moves and changes within the current provision.
- **Increasing** the utilisation of our PFI asset, Atkinson Morley Wing, to achieve maximum value.
- **Divest surplus / underutilised estate** for use by the wider healthcare system e.g., the ICS
- **Maximising** the use of our estate, by enabling building users, especially clinical teams, to access a real time space management system for our entire estate to allow them to respond to request for new or additional clinics by booking space.
- **Improving** the use of our CAFM system to increase the utilisation of space and facilities, reduce moves and reallocations, plan preventative maintenance, efficiently execute reactive maintenance, standardise services, and streamline processes.

3.2.2 *Managing our contracts & leases to achieve best value from them*

One of our key objectives will be to maximise the value of our contracts and leases, with a focus on increasing utilisation, improving the robustness of contract management, and driving better value for money.

We want to be proactively managing our contracts and adopting an **"Intelligent Client"** approach in the way we work with our providers and contractors.

We want to work with our PFI Provider to optimise the use of asset capacity to avoid the marginal cost of surplus capacity.

We also want to ensure that any value testing is completed in line with the contract agreement and that the relevant benchmarking and/or market testing is followed.

We need an up to date, accurate record of all our occupations. To do so we will focus resource on the ongoing management and maintenance of our estates terrier, enabling a real-time view on all Trust's occupation; rent and lease/ licence liabilities for the short; medium- and long-term future., including key lease events.

3.2.3 *Using accurate property data to manage the performance of our buildings, services, and contracts*

We want to have the best, most current and suitable information, and data to allow us to make the optimal investment and management decisions on the best way forward for our estate.

Accurate and easily obtained estates data is key to understanding the issues our estate faces and where we should be directing our capital investment and maintenance monies. We aim to have effective property systems that provide robust, current, and accurate data to help the Trust make informed, evidence-based decisions on our estate.

Incorporating Building Information Modelling Level II (BIM) functionality as part of a CAFM operations framework will allow visual realisation to enable greater understanding of spatial constraints, maintenance strategies and optimisation of assets.

We will continue to develop and improve our Estates CAFM System that supports all Estates functions.

3.2.4 *Developing our estate in ways which facilitate improved effectiveness, safety, and staffing efficiency in delivery of clinical services*

Our estate will be developed to make it the right size and configuration to meet the needs of our clinical services.

It will also be flexible and adaptable to meet the challenges of future health pandemics similar to COVID 19 and evolving South West London and Wandsworth strategic objectives and priorities.

It will provide the optimal layouts and facilities for our staff to carry out their work in the most effective and efficient ways, building in flexibility in the use of space at every opportunity.

We will also take a 'Strategic and Proactive' approach to risk management to identify and prioritise risks to allow them to be escalated, where appropriate, onto the Trust's Corporate Risk Register.

3.2.5 *Developing a commercial strategy which supports the Trusts ambitions and promotes efficiencies*

The Trust will commit to working closely with its commissioners and partner organisations in the development of the estate to ensure that it is used effectively for the delivery of health and care services as well as promoting the health and wellbeing for the wider community.

We will make effective use of the existing estate to meet our health and social care needs including private and community-based care improvements, and in doing so we will consider agreements to share property (particularly between health and social care and the wider Public Sector), and to realise value to generate capital for reinvestment or as a revenue stream.

Retail

The Trust sees the benefit of supporting staff, visitors, patients, and the surrounding population in improving their health and wellbeing though an intelligent approach to retail. For example, instead of focussing on coffee shops, the Trust will consider alternative complimentary retail uses such as an optician and/or heath food shops.

The proposed holistic redevelopment on site will give the Trust the opportunity to reconsider the retail mix. Health and wellbeing will be one of the core principles where retail will need to reflect healthy lifestyle choices through the provision of food and drink.

Land Repurpose

We will:

- Ensure the Trust maintains influence on what is provided on former Trust land
- Utilise the vast estate at St George's Hospital to realise better efficiency and divestment
- Ensure that the decant requirements are considered in all estate divestment decisions
- Develop a robust approach to land release with focus on risk and reward
- Collaborate with partners to improve the overall public service offer in South West London.

Commercial Partnerships

We will:

- Identify commercial partnerships within retail to improve quality and efficiency
- Consider development partnerships within estate investment and divestment activities
- Develop robust asset management processes to support efficiency and quality.

3.3 High quality, fit-for-purpose and compliant

This objective is about:

- Providing high quality, fit-for-purpose buildings that meet the needs of service users and their carers
- Seeking to invest in our estate to maintain consistent high levels of performance, compliance and health & safety
- Having a Health & Safety culture to include learning, training, audits and near misses.
- Promoting productivity and the wellbeing of our staff through the provision of modern, high-quality facilities across our portfolio
- Being fit for purpose across the portfolio of services with partner orgs. across the wider healthcare economy with an increase in focus on infection control
- Improving transport and accessibility across the site, whilst encouraging cycling and walking
- Continuously improving patient pathways across our estate
- Heart of the Hospital that provides for patients, visitors and staff whilst linking the hospital with the local community

3.3.1 *Providing good quality, fit-for-purpose accommodation that meet the needs of our staff, service users and their carers*

We want to operate and maintain a high performing, safe and compliant estate that provides value for money in the services provided across our hospitals.

Our aim is also to ensure that as much money as possible is available to support the delivery of care, through the elimination of waste, duplication, and inefficient use of resources in our estate and how we operate it.

The following will support providing good quality, fit-for-purpose buildings across our estate.

Planned and preventative maintenance

The environment in which we provide our clinical services will be maintained to a very high standard and support our staff to deliver high quality care.

We will retain 100% statutory compliance at all times and in carrying out our maintenance we will reflect the principles of our Green Plan and our journey to a carbon neutral estate.

Backlog on retained estate

We wish to reduce Critical Infrastructure (CIR) backlog liability and address the maintenance issues within our retained estate which are currently circa **£83m.**

We will review the backlog maintenance across the estate and assign priorities to each item, to determine when these items are actioned, balanced against our planned strategic investment priorities.

We also want our estate to promote staff and patient wellbeing through the physical environment and assets that we provide. The ability of our environment to positively impact on how our staff perform and our patient experience will be a key component of how we shape our estate for the future. We will maximise the use of our out-door space to provide community gardens and areas for both staff and patients to enjoy.

3.3.2 *Seeking to invest in our estate to maintain consistent high levels of performance, statutory compliance, and health & safety*

We want to identify the right projects to take forward at the right time to deliver our strategic objectives and meet the clinical needs of our hospitals.

We will work with our regulators to ensure we fully meet, if not exceed, the standards expected of a well-run, high performing NHS Foundation Trust. These standards ensure we provide high quality, safe, effective care in an economically sustainable manner.

We will prioritise schemes with divisional colleagues that demonstrate system benefit, using a process of developing projects in line with our Estate Strategic Objectives, using a gateway approach which will allow Estates & Facilities to take control of the process from start to finish. Estates & Facilities will also proactively engage with clinical services to understand their needs in terms of buildings and facilities.

Estate business as usual capital will be approved in a similar way and we will demonstrate benefits for the healthcare system of modest capital investment – for example by allocating capital at St George's Hospital and Queen Mary's Hospital we will identify the opportunities and potential savings this will open up for the wider healthcare economy.

Business Cases will be developed for all our key investments and these will be approved by the Trust's Board. At all stages in the investment process, we will comply with all regulations to maintain a compliant estate.

Future investments will be developed following the principles of **"Intelligent Hospitals"** delivering the recognised performance and compliance benefits in procurement and business and usual.

3.3.3 *Improving Transport and accessibility across the site, whilst encouraging cycling and walking*

The quality of the public realm environment within the present hospital site and surrounding areas is often poor. Making substantial improvements to the form and quality of the public realm will provide a much-improved sense of arrival with key gateway entrances, encouraging walking and cycling activity and making open spaces pleasant and attractive places to dwell in and pass through.

Movement within the site is currently significantly compromised by vehicle activity and the current Perimeter Road 'loop' arrangement carrying a variety of vehicle types, from cycles to buses in often congested conditions. Access into the site by vehicle (e.g., parking, drop-off, freight) will be maintained but managed sensitively so that there will be reduced conflict between vehicle types and routes, cycle routes and pedestrian desire lines.

The COVID-19 pandemic is anticipated to have a lasting impact on travel attitudes and behaviours for staff, patients, and other visitors to all of the Trust's sites. Flexibility will be built into the proposed transport interventions so that there is scope to amend and tailor interventions and responses during the life of the strategy to ensure future transport and mobility needs are best provided for.

3.3.4 *Having a Health & Safety culture to include learning, training, and audits*

We want to promote a Health & Safety culture throughout the Trust that embeds a culture of safety driven by our leaders, including regular training and awareness raising through adopting best practice and behavioural based safety techniques.

Adopting this approach will continually focus our staff's attentions and actions on theirs, and others, daily safety behaviour.

We will ensure effective and clear signage/wayfinding is installed in all our hospitals to the benefit of all patients and visitors of all backgrounds and ethnic groups.

3.3.5 *Promoting productivity and the wellbeing of our staff through the provision of modern, high-quality facilities across our portfolio*

The Trust wish to develop a supply-led occupancy model that provides a highly flexible working environment, enabling the occupying teams to look at new, more efficient ways of working.

This will enable the Trust to maximise the potential occupancy of their non-clinical teams to gain the best value for the Trust, with regards to investment made in the building infrastructure.

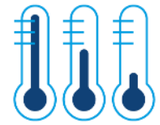
New facilities must offer the right balance between high quality, capital investment and efficiency savings which can be achieved through robust and diligent assessment of requirements and ensuring the right balance between People, Processes and Places.

We want our facilities to have the right space, in the right place at the right cost. Balancing the needs of clinical support functions and non-clinical 'back office' activities has to be key to support the efficient and effective asset management.

Our facilities need to be smaller, value for money and support Human Resources to attract and retain talented people and send the message that all staff feel valued and respected. It needs to be supported with the right technology and processes rather than hindered by them.

Our new facilities need to be flexible enough to support inherent changes of team requirements over time, moving away from the current one person per workstation culture.

3.3.6 *Being fit for purpose across the portfolio of services with partner orgs. across the wider healthcare economy with an increase in focus on infection control*



Our estate will be flexible and fit for purpose in terms of how it can quickly adapt to health demands and future pandemics by addressing for example ventilation requirements and hot and cold zoning for patients.

Our new Emergency Department has been designed based on the learning from COVID-19 with side room capacity, ability to isolate patients and improve flow.

We will develop and adopt a standardised Design Brief for all projects Strategic Investment projects to build in the flexibility needed to deal with future changes in demand and incorporates updated HBN standards in the design of clinical settings.

3.3.7 *Continuously improving patient pathways across our estate*

The estate is an enabler of improvements to patient pathways. The built environment of the future will be designed around 'zones'.

Zoning recognises that hospitals are often over-specified, expensive to operate and quickly become not fit for purpose. Hospital design needs to recognise the need to frequently change and adapt buildings, and also recognise that different functions require different types of space.

Zones can be specified in different ways:

- **'Speciality zones' such as neurosciences, cardiac or cancer.**
- **'Demographic based zones' such as women and children's zones.**
- **'Point of delivery zones' such as planned care and emergency zones.**

By separating buildings into different zones, each zone can be designed to a required specification and clinical adjacencies within each zone optimised to support efficient clinical pathways.

The proposals for the Trust's estate include:

- A core diagnostic zone for those diagnostics services that support a wide range of clinical specialties.
- A 'hot zone' (the ED floor)
- A planned care zone which could be further divided into outpatient and day case areas.
- A cancer centre
- A women and children's zone
- The use of QMH as an ambulatory site.

Pathways can be further optimised by moving off-site those functions that do not need to be on an acute site:

- Outpatient, day attender and planned diagnostic pathways could be improved by making greater use of QMH and other community sites such as St John's and The Nelson.
- "Factory facilities" which might include much of pharmacy, 'cold' laboratories and CSSD can be provided from nearby non-clinical sites.

The impact of the built environment on patient and staff wellbeing and recovery will be recognised with facilities incorporating design features to create a 'healing environment' and where appropriate, buildings meeting dementia and frailty friendly standards.

Buildings will also be designed to minimise infection and other safety risks to patients. For example, the ratio of single rooms to bays will vary by ward to reflect best practice for each patient cohort.

3.3.8 *Heart of the Hospital that provides for patients, visitors and staff whilst linking the hospital with the local community*

We will create a 'Heart of the Hospital' that:

- Increases footfall through innovative place shaping and design
- Supports staff, visitors, patients, and the surrounding population in providing retail choices which support health and wellbeing
- Increases the quality and variety of the food and beverage offer, with better 24/7 provision and innovative retailing options (e.g., pop-ups)
- Supports staff, patient and visitor experience through a centralised reception and information area with high-quality supporting infrastructure (rest rooms, changing areas etc)
- Enables efficient patient and visitor movement across the site through clear and appropriate wayfinding
- Encourages the wider population to use the site as a public space, whilst maintaining security principles through a gradual progression to private spaces
- Provides quality office space within the heart of the hospital for agile, touch-down, and collaborative working
- Provides better suited and accessible retail pharmacy space external to the main hospital buildings

3.4 Environmentally friendly and low carbon solutions

The Objective is about:

Delivering a 5 year Green Strategy and plan to meet government targets

Minimising the impact on our local communities

Focusing on a low carbon footprint, sustainable construction practise and waste minimisation

Ensuring all estate investment consider Whole Life Costs (WLC).

Improving the environmental sustainability of the estate in line with NHS objectives and targets

3.4.1 *Delivering a 5-year Green Plan to meet government targets*

As part of the development of this Estate Strategy, the Trust has a 5-year Green Strategy in place to improve estate performance and meet government sustainability targets.

We will continue to invest in innovative schemes to lower our energy consumption and costs, as well as promote good housekeeping practices and awareness amongst patients, visitors, and our staff.

3.4.2 *Minimising the impact of our estate on our local communities*

The Trust has a responsibility to ensure that it does not impact negatively on local communities and the local environment. We will work to ensure future investment has a positive impact on the local environment and society, with a particular focus on the impact of the estate's strategy on local air quality.

The key commitments and targets included around travel and logistics contained within the Green Plan will be utilised as vehicle to monitor the progress of this objective. The key targets in this aspect of the green plan are:

- Monitoring
- Internal Air Quality (IAQ) plan for construction and new builds
- Electric Vehicles and EV charging provision.

The Tooting site and, to a lesser extent, the Queen Mary site are effectively 'closed' to the surrounding area presenting considerable barriers to convenient through movement. Coherent, convenient, and good quality pedestrian and cyclist links to/from, around and through the Tooting site will better integrate the hospital with the residential areas and provide improvements for those walking and cycling. Conversely, movement and activity generated from within the Trust's estate, notably the Tooting site, currently impacts negatively on the surrounding area. Localised rat-running by drivers seeking access to the Tooting site compounds the traffic-dominated nature of local residential streets with noise and air pollution issues arising too. This is compounded by hospital overspill parking from staff and visitors on those streets resulting in on-street parking pressure.

Changing behaviours and actively encouraging and promoting alternatives to private car use, particularly by staff, will have a key role in the reducing vehicle-related pressures locally. This will be achieved through a long-term, comprehensive Travel Planning (which is included as a target in the Green Plan) initiative with a clear transport and mobility management strategy with ambitious targets for positive change, and strong mechanisms for meaningful engagement. Reflecting Wandsworth and London transport policies, development proposals will adopt Transport for London's 'Healthy Streets' Approach and Active Travel agenda placing a strong focus on health and wellbeing.

Future trends and policy imperatives mean that a longer-term and significant reduction in private car use and on-site parking supply is anticipated and will be planned for. Enhanced areas for drop-off/pick-up for car, 'taxi' and 'bus' should be provided for that internalises as much hospital activity on-site as possible.

3.4.3 *Focusing on a low carbon footprint, sustainable construction practise and waste minimisation*

The UK Government has committed to reaching net zero carbon by 2050 and the Trust's ultimate goal will be to achieve that target by 2040, with an 80% reduction achieved between 2028 and 2032. The Green Plan includes a road map of how the trust will achieve these targets, utilising modern methods of construction to promote sustainable construction and minimise embodied carbon. NHS Improvement England have recently completed a call for evidence and are due to release a report in the near future which will provide guidance that the Trust will follow on the road to a zero-carbon estate.

Our new investments will be designed to meet BREEAM "excellent" rating, and we will deal effectively with all types of waste and re-cycling to move the trust towards a circular economy model and meeting the key commitments of the Green plan.

3.4.4 *Ensuring all estate investment consider Whole Life Costs (WLC).*

We shall ensure that we understand and budget for the whole life costs of our assets and investments by modelling both capital costs and revenue costs (maintenance, lifecycle replacement, running costs etc.) over the whole life span of an investment.

This will be supported by encouraging our staff, where appropriate, to work from home and minimise travel to and from our hospital sites.

3.4.5 *Improving the environmental sustainability of the estate in line with NHS objectives and targets, and our Green Plan*

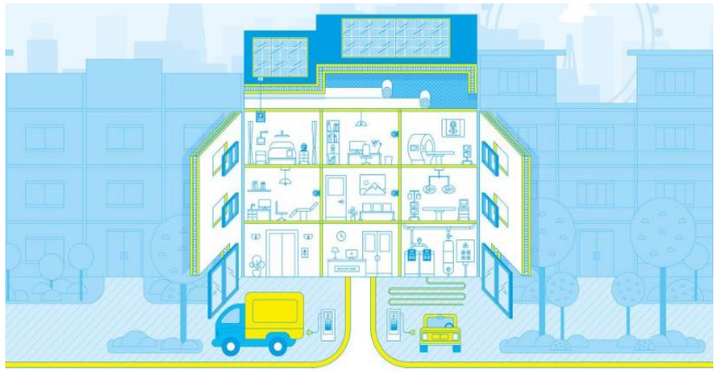
We will follow the Sustainable Development Strategy for the NHS, Public Health and Social Care System 2014-2020 to improve the environmental sustainability of our estate.

Accessing sustainable funding

We will actively access central funds from the sustainability sector to invest in sustainability improvement projects, such as the Retrofit Accelerator Workplace Programme.

Retrofit Accelerator is part of the Mayor's £34 million Energy for Londoners programme which aims to make London's homes warm, healthy and affordable, its workplaces more energy efficient, and to supply the capital with more local clean energy.

The Accelerator helps a range of organisations including London boroughs, NHS bodies, central government departments, schools and other educational establishments, and cultural and heritage organisations to implement retrofit projects. It does this through:



- The programme delivery unit, an expert team providing free end-to-end support needed to get projects up, running, and successfully implemented
- The easy to use RE:FIT framework of energy service companies, which saves time and resources for organisations that are procuring retrofit services and works which - as an energy performance contracting framework - guarantees energy and cost savings.

We have already signed up to access the following support from the programme to help us to deliver retrofit, carbon reducing schemes:

- Business case and funding application support
- Procurement and tender management
- Contract management support including working with your chosen contractor with design and works installation
- Monitoring and verification

Partnership working

As part of our sustainable development plan, we must not only adopt more sustainable behaviours, but also encourage others to do the same. This will be achieved by increasing our engagement with local schools, colleges, and community groups to promote healthier lifestyles.

We will work with local bus companies to maximise the opportunities for staff and patients to use public transport to visit our hospitals.

The Trust will reduce estates running costs and the impact we have on the environment in terms of managing scarce resources.

3.5 Flexible, future-proofed, and sustainable

This objective is about:

Being able to quickly respond to situations such as COVID 19, ensuring services, our physical space and our Estates and FM functions are adaptable	Responsive to the changing needs of the developing service requirements of both the Trust and the local health economy, harnessing digital technologies and solutions wherever possible
Enable agile and technology enabled working techniques (clinical and non-clinical)	Planned and proactive engagement with services (clinical and non-clinical) to understand changing needs

3.5.1 *Being adaptable and able to quickly respond to situations such as COVID 19*

In responding to the "new world" post COVID 19, we want to be quicker to adapt to rapidly evolving situations and have the ability to implement estates solutions quickly and cost effectively with minimum disruption.

We want to have an Estates & Facilities function that combines flexibility and adaptability with capacity to cope with unforeseen future situations.

There are many issues, evolving and still unknown, that the Trust will need to address over the coming years as the full impact of COVID 19 is understood.

Some of the known issues that we need to address in the short to medium term are:

- Making sure the Emergency Department is right sized and fit for purpose
- Making sure the Intensive Treatment Unit is right sized and fit for purpose
- Becoming carbon neutral and health promotion (walk, cycling, public transport)
- Understanding the impact on bed numbers, wards, and high dependency unit, to ensure optimal size and configuration
- Adopting updated building design standards and practices which are targeted at mitigating the impact of COVID 19
- Being able to quickly set up temporary facilities
- Implementing and updating social distancing requirements
- Understanding the impact of the backlog of other illnesses
- Understanding the impact on non-medical space (Estates & Facilities and admin functions working from home)
- Keeping the workplace clean and preventing transmission by touching contaminated surfaces
- Before reopening, making sure that any office, ward, or areas that have been closed or partly operated are clean and ready to start
- Installing new signage to reinforce measures to tackle COVID 19
- Maximising Home Working.

3.5.2 *Responsive to the changing needs of the developing service requirements of both the Trust and the local health economy, harnessing digital technologies and solutions wherever possible*

To do this, we will:

- Create a building, and an estate with maximum flexibility through the use of modern building methods and space standardisation.
- Allow room for future expansion across the Tooting site.
- Create generic spaces, such as consulting and examination rooms, which can be used flexibly across several services, supplemented by specific requirements for specialist services.
- Organise the adjacencies so that maximum flexibility is provided. For example, splitting elective from non-elective services allows both to expand and change independently of each other.
- Maximise the digital infrastructure to allow full advantage of current and future developments, such as remote working and linking of services across locations and departments (for instance remote and shared review of diagnostics, supplementary and remote monitoring of wards, etc).

3.5.3 *Enable agile and technology enabled working techniques (clinical and non-clinical)*

The Estate Strategy and future investment projects is an opportunity to prepare the Trust to adopt the principles of a digital hospital and transform the way services are delivered and patient information is handled.

The future capital investment projects should deliver technologically smart buildings which facilitate the integration of the **'Internet of Things'**. The Internet of Things (IoT) is where physical objects meet digital technology. This requires a central-digital-platform where all strands of hospital operational services, infrastructure, and equipment, are brought together to operate in a flexible digitally smart way. The digitally enabled, smart hospital improves patient, visitor and staff experience, saves time and money and reduces environmental impact.

The flexibility will allow the trust to make fundamental changes to how care is given on the main site and in the community without the requirements to replace systems. The principles of interoperability, scalability and productivity shall be central to the strategy built upon a strategy with the **capture, storing and analysing of data at is core**.

We want our staff to have the right tools, skills, and support to work in an agile way, using the latest technology to support home and remote working, cutting down on travel to and from our hospitals and reducing the amount of space we require on site especially in relation to non-clinical services.

A good example of where we want to be is the Estates & Facilities team ability to work from home, accessing key systems and data to carry out their day to day functions.

3.5.4 *Planned and proactive engagement with services (Clinical and non-clinical) to understand changing needs*

The estate will be designed to be as flexible as possible to ensure future adaptations are straight forward recognising that clinical models are constantly changing.

We will adopt a proactive approach to engagement with the clinical and non clinical divisions and directorates through:

- The annual operational planning round to make sure that the estates operational plans reflect clinical needs
- The preparation of high level ‘Service Asset Management Plans’ to set out future service accommodation requirement, and to propose project and delivery solutions back to the service.
- Proactive involvement in any estate-related investment business cases.

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3.6 Collaborative, evidence based and standardised delivery

This objective is about:

- Responding to clinicians and the wider SWL ICS and St George's University of London to deliver estate investments that consider the needs of the health economy and partners
- Delivering evidence based, capital projects that support estate and corporate objectives
- Following standardised processes and procedures to deliver both 'BAU' functions and 'Strategic Investment' projects.
- Support collaboration, co-location and co-working.
- Understanding our role in South West London as the leading Tertiary and District General Hospital provider

3.6.1 *Responding to clinicians and the wider South West London ICS and St George's University of London to deliver estate investments that consider the needs of the health economy and partners*

We will work closely with the ICS, clinicians, and wider partners to understand their strategic needs at both a system level and individual hospital site level, fully understanding their estates needs now and, in the future, to make the right investments in our estate at the right time.

3.6.2 *Delivering evidence based, capital projects that support estate and corporate objectives*

We will adopt an evidence-based approach to developing and approving our Capital Projects. Projects will not be taken forward unless they are based on the Trust's Estates Strategic Objectives with sound evidence of the benefits they will deliver.

Developing and approving Capital Projects through our initial project identification followed by our Business Case approach will require the necessary evidence to be in place before a project can proceed.

3.6.3 *Following standardise processes and procedures to deliver both BAU functions and Strategic Investment projects.*

We want to have a responsive Estates & Facilities team that adopts a standardised and consistent approach to the way it delivers services in terms of Facilities Management, Estates Management and Project Management.

Changes to our processes and how we respond to future delivery will take place post COVID 19.

3.6.4 *Support collaboration, co-location, and co-working*

As a key partner in the South West London ICS and as St George's and Queen Mary's Hospitals are key fixed-point assets, we understand our role within Wandsworth, Merton and the Wider SWL area as a key stakeholder in delivering services and ensuring efficiencies.

The ICS meet regularly to align priorities and opportunities with senior key estate stakeholders to discuss System utilisation, collaborative working, opportunities to work together, funding, and joint bidding initiatives, and we will continue to be a proactive partner through our attendance, and contributions made.

3.6.5 *Understanding our role in South West London as the leading Tertiary and District General Hospital (DGH) provider*

The Trust has two roles in the local ICS; it provides the full range of 'District General Hospital-type' services to the local population, and it is the main tertiary provider for SW London and parts of Surrey. The tertiary role is complex with numerous specialty level (and sometimes sub-speciality) clinical networks in place. These networks continue to evolve, and the Trust is committed to playing a leading role in each network working with commissioners and other providers.

The general trend for tertiary services is for complex work to be centralised on sites such as Tooting and whilst the volumes of patients referred can often be small, the complexity of these cases can mean that ongoing tertiary service centralisation has a material impact on the estate. The Trust will proactively support the ICS to further develop its plans for tertiary services and in doing so work through the impact on its estate.

The Trust's 'DGH' role impacts the estate in different ways. Local demographic change suggests that capacity must increase significantly by the mid-2030s, however, past experience, benchmarking with peers and clinical advances mean that much of this capacity growth is likely to be mitigated through pathway redesign and the 'left shift' of activity away from acute hospital settings. Maximising the use of QMH and the rest of the local community estate as well as reductions in length of stay and improved day case rates, are all expected to reduce pressure on the Tooting site from activity growth linked to local DGH services.

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4 How do we get there?

This section sets out the journey the Trust has to take in order to realise the ambition for the estate:

Efficient and effective asset management – ensure we have an efficient, fully optimised, high-quality property portfolio, with better management of vacant space and improved utilisation

High quality, fit-for-purpose and compliant – ensure we have a fit-for-purpose, efficiently managed built environment, which is safe, accessible, and compliant.

Environmentally friendly and low carbon solutions – ensure that our estate aids the Trust in realising it's Net-Zero targets, engages with nature to support biodiversity and responds effectively to climate change

Flexible, future-proofed, and sustainable – working with partners to ensure that the estate can respond to growing pressures on healthcare demand, now and in the future.

Collaborative, evidence based and standardised delivery – utilise collaboration and best practice to align estate interventions and on-going facilities management to the delivery of clinical services for the Trust and wider healthcare partners

The Trust requires future flexibility, changing the estate from being a constraint to a driver and enabler for change, and in doing so the delivery of the Estate Strategy is based upon two themes:

Delivery Themes	Description
Strategic Investment	Strategic Investments to raise the quality, configuration, and performance of the estate that we use to deliver our services through consolidation, new facilities, and commercial investments to raise income for the Trust.
Business as Usual	The ongoing "business as usual" functions to operate and maintain a high performing, safe and compliant estate.

The following section is structured around the above two delivery themes and outlines what we will do to deliver our objectives in terms of structuring our Estates & Facilities team, the key projects, and initiatives we need to deliver, and how we will know we have been successful.

4.1 Delivery plan

Where there is major change there will be complexity, risk, many interdependencies to manage, conflicting priorities to resolve and going forward we need to recognise the difference between 'Business as Usual' and 'Strategic Investment' activities, and the delivery of each needs to be treated differently. Therefore, specific processes, tools and techniques are required to manage the change process to achieve a required business outcome.

This strategy identifies the essential need for the Trust to re-imagine the use of the St George's Hospital site to deliver its clinical strategy, whilst enabling the better utilisation of Queen Mary's Hospital, and the wider community estate.

The Development Control Plan (DCP) across the St George's site takes the core elements of the Trust's strategic intent and Clinical Strategy as clearly articulated within the strategic document review and demonstrates how the estate will enable and support delivery.

The required strategic investment as set out in the DCP underpins the Estate Strategy and enables the health economy to deliver a sustainable, clinically effective, and affordable service in the future.

Through the clinical modelling an agreed future 'Schedule of Accommodation' projected across the next 15 years, has been agreed which has been modelled through to specialty level. This has been reflected throughout the DCP development process and provides the basis of capacity and demand vs estate supply.

The DCP provides a response to the requirements via a phased programme of major new build projects and consists of a series of service relocations designed to sequentially decant the St George's Hospital site and reconfigure in order to provide improved clinical adjacencies, patient experience and financial efficiencies.

The development of the DCP at this point in time is high level but clearly demonstrates the scale and complexity of the task.

On-going work will further define project scope by demonstrating how the hospital can be safely and efficiently reconfigured, whilst maintaining a secure and compliant operation.

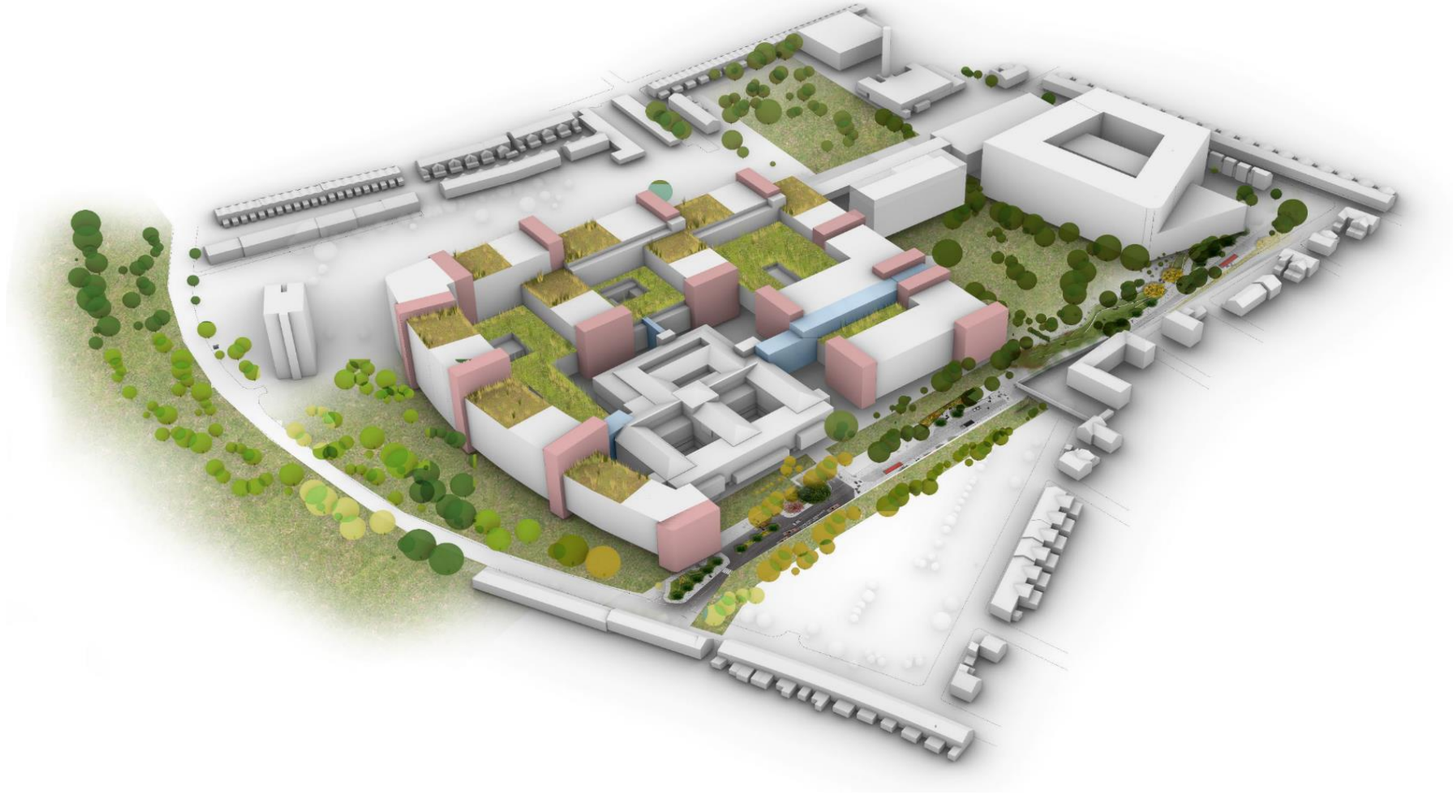
There are 4 fundamental elements underpinning the DCP which provide clarity and robust information regarding:

- **Core fundamental projects – What we need to do**
- **Cost Model – How much it will cost**
- **Programme – How long will it take; and**
- **Dependencies – In what sequence.**

A series of stakeholder workshops and meetings have taken place to thoroughly assess and re-assess assumptions with regards to area, scope, opportunities, and constraints to reach agreement with regards to the stated fundamental elements.

The outputs of this will inform the Trust's bid for funding to deliver the Estate Strategy, and forms the basis of a 20 + year, multi-phased delivery programme.

In addition to the bid for central resources there are alternative routes to delivery via the Trust's own funding, charitable appeals, and commercial ventures.



4.2 DCP Design Principles

The new buildings are based on proven and effective design principles which support a robust hospital design. Furthermore, a significant number of interviews with various department heads has provided us with a solid basis to design the new St George's Hospital, providing a hospital fit for the 21st Century.

Below are the principles and fixed points upon which the need and design is based. In essence the hospital will consist of 'designed' internal and external spaces which will be patient centred, staff supporting and under public ownership.

Establishing need

The basis for the Estate Strategy has been the creation of a demand and capacity model, based on a 15 year forward view.

Through discussions with heads of departments the model has been determined and this forms the basis of an outline schedule of accommodation which is used to build up the new hospital, in line with current HBN space requirements and best practice. Also included is a provision for growth over the next 15 years.

During the discussions, the predominant relationships between departments were discussed. These form the basis of the Estate Strategy but will need further development in the subsequent stages of the masterplan. These are outlined in the "an organised hospital" section.

Fixed points

The site has a few fixed locations which form anchor points for the masterplan. These are:

- The **Atkinson Morley Wing (AMW).** This wing is the most recent significant building on site. It was developed and delivered as a PFI and has 16 years to run. The building is the only building on site suitable for current clinical practice.
- The central **Energy Centre** would be expensive and disruptive to move. Also new plant has recently been installed. Moving this would also mean resetting and moving the infrastructure on site.
- Part of the site is considered to be a **flood plain**. This is where the last few Victorian wards were located – these were lifted above ground level. Obviously, this needs to be considered and cannot be moved.
- **Ronald McDonald House** is considered a fixed point, and the Trust will ensure the entire designation is ring-fenced from the development plan and the Trust will aim to identify any suitable opportunities for the charity to benefit from any further development.
- Finally, most of the access points to site are fixed. There is some flexibility along Blackshaw road. **All others are in locations at ends of roads etc. which make them virtually impossible to move.**

An organised hospital

St George's Hospital currently consists of a number of wings and, due to ongoing development of healthcare and new requirements, a myriad of outbuildings. This has created an ineffective and inefficient hospital where 'plasters' are covering but not mending the wounds.

Through discussions with the department heads a system of components has been created which will form independent, but linked, building blocks. These are:

- Non-elective clinical services containing:
  - A&E, Trauma, Theatres, Diagnostics, Wards
- Elective clinical services, broken down in units:
  - Women & children services
  - Children cancer centre
  - Adult Inpatients
  - Day surgery
  - Outpatients
  - Cancer centre.

Each unit will have its own **'front door'** but they will all be linked to provide a optimally functioning hospital.

The organisation of the hospital in functional units will also dramatically transform patient flows through the hospital. Currently, wayfinding is difficult and chaotic. It takes several visits to the hospital to understand the hospital street configuration.

By reducing the footprint of the hospital through concentrating it around Automated Guided Vehicles (AMV), circulation will be simplified. It will also connect a number of significant cores which will control vertical transport.

A hospital with a heart

In order to create an organised hospital, we also need to create a centre, a heart. This will become the focus of the hospital and will provide the main entrance for the facility. It will link to all the major elements of the hospital as described above.

The heart of the hospital will be a square, which will link to other facilities around the hospital, integrating it in the fabric of the borough. It will provide links through the hospital to areas surrounding the hospital. The square will become a new destination, not only for the hospital itself but also for the university, retail, office space, etc. which will locate itself around the space creating a vibrant and living heart for the hospital.

Furthermore, this space will become one of the green spaces linking with other spaces around it. It will form a link into Tooting Gardens. It will also be one of the spaces along the perimeter road, which, once the hospital is developed, will become a shared space, equally important for pedestrians, cycles, and vehicular traffic. This urban linear space will connect to a green space between the Blackshaw Wing and Blackshaw Road and link to Lambeth cemetery which in turn links to the recreational linear park along the river Wandle, a tributary of the Thames, as described in the London Plan and accentuated in the Local Plan.

This will create numerous opportunities around the development to follow a similar path to a greener and more sustainable town planning model.

Public spaces inside the hospital will evolve from truly public spaces such as the heart of the hospital and the main entrance to private open spaces for patients and staff. Not all open spaces will be public.

Gradually, as one penetrates to the centre of the hospital, more private spaces will be encountered.

A podium with linear design on top

The podium will provide space for the clinical departments in a hospital which requires deep plan forms, such as theatres, CCU and diagnostics. There will also be several other supporting departments, such as staff changing, FM provision, etc. Where appropriate, 'holes' will be cut in the podium to provide light and air where needed, such as waiting areas, etc.

The theatre floor will be topped by an interstitial floor which will contain the plant to support the theatres. This will largely contain air handling units (AHU), one per theatre as set out in HTM 03-01 guidance. This will avoid significant duct penetrating through other floors to reach the theatre floor (typically a theatre needs at least 1.5m^2 clear area for a fresh air duct).

The areas above the podium will be typically taken by wards. These will be shallower floor plates, around 20m depth. A suitable grid will need to be found to support both the podium and the upper floor construction.

A congestion free hospital

The hospital has a perimeter road which is currently used for a significant amount of varying traffic, including:

- Bus routes lead through the hospital with a provision for several bus stops, often causing traffic jams.
- The perimeter road is used to access car parking, which is poorly managed. On street parking is therefore chaotic.
- Drop off locations are dotted around the hospital road.
- Part of the road is used as a blue light access road for A&E.
- The road is used for distribution of supplies and waste collection.
- Footpaths are located alongside the perimeter road, but not always marked and often too narrow for the amount of traffic.
- Cycles share the space but there are no clear cycle paths in a congested environment.

To resolve this chaotic and dehumanising environment the following measures will be taken as part of the development of the masterplan:

- A centralised car park will be created. This will concentrate parking and free the site of unwanted car parking.
- Through the use of Automated Guided Vehicles (AGV's) the need for supply distribution and waste collection along the perimeter road will be removed.

- A new FM yard will be provided immediately across from the access to site for FM vehicles.
- A separate blue light access and egress road will be provided directly to and from Blackshaw Road.

This will significantly reduce traffic along the perimeter road, allowing it to be landscaped and made safe and enjoyable for all to use. It will become an asset to be cherished, useful and at the same time contributing to positive environment.

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A hospital for the 21st Century

Looking forward to the future of what a hospital is likely to become in the 21st Century is difficult to determine. There are, however, significant trends.

Current trends in healthcare, and indeed the direction the NHS is driving towards, is for healthcare to become significantly more preventative than it is to date, where the stress is on curing. The result of this will be that a hospital will cater for significantly ill people and those with emergencies.

The advent and progression towards more keyhole surgery, supported by robotics and advanced invasive diagnostics, drives a lot of surgery from complex, intricate and long procedures with significant recovery periods, to day surgery. This, however, means other, even more complex procedures are taken their place, support by advanced techniques.

The above suggests a hospital for the 21st Century will be a complex **'machine'** which will excel in '**repairing'** people in ways we cannot imagine today but will be supported increasingly by advanced technology and robotics.

A digitally aided and supplemented hospital will undoubtedly be a given. This will manifest itself in further development of telemedicine and remote access to the hospital system. A robust digital backbone will provide the basic infrastructure for a digital hospital. However, it will have to be flexible and adaptable for future developments.

Within the hospital the use of AGV will be imperative to provide an efficient way to transport supplies and waste. A clear route will have to be provided to allow this to happen. This route would be located on the interstitial floor above the theatres. A clear passage for maintenance would have to be provided in any case and most cores can be accessed from this floor. Adding the FM distribution on this floor will allow distribution to all corners of the hospital.

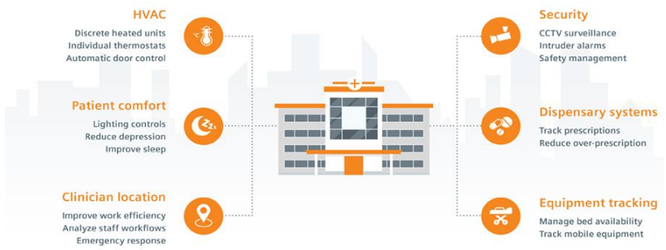
Smart buildings

Technology has become such a necessity to daily living, both work and leisure, that it is no longer enough for a building just to house our electronics.

Now, we expect a building to work for us, providing optimal lighting, heating, and temperature without any user input, as well as save money and reduce its environmental impact. Monitoring and managing building conditions has always been a time-intensive job for the facilities management team, so the rise of the smart building is a positive development.

FM software systems integrated with other BMS programmes provide a high level of streamlined control across a building, but a smart building provides the next level of comfort.

Focus on healthcare – smart hospitals



For example, imagine the scene where you enter a building and your ID tag is read automatically, checking you in and sending a text to inform you of your meeting's location. The meeting room is already lit and at a comfortable temperature, and sensors detect when the room is empty and switch off these functions to save energy.

Sensors can further be used to identify vacant hot desk seats and inform the booking system when it recognises a space is in use. The potential for increased productivity both for workforce and facilities management team alike is immense.

Pandemic proof

The lessons learnt from COVID-19 are still being gathered. Obviously, we need to make our hospitals as pandemic proof as possible.

Some adaptations for the future are becoming apparent:

- Air flows and air handling need to become more significant and versatile so that areas can be isolated.
- Circular flows through departments and the hospital as a whole should be able to be implemented during a pandemic.
- Extra spaces for CCU need to be planned for.
- Waiting spaces need to be adapted to be able to deal with patients waiting further apart. A new system of waiting – perhaps a system of just-in-time arrivals – needs to be conceived and implemented.
- Further development of virtual consultations and diagnostics, through wearables and other devices, will reduce pressure on the need to visit a hospital in person.

There will be other consequences, but these will have to be included when a better and more holistic view can be taken.

Flexibility and adaptability

Hospitals will change. The rate of change during the last few decades has accelerated decade upon decade. COVID-19 has influenced this even more: a decade worth of innovation has happened in six months. This change is bound to continue.

Hospitals therefore need to be flexible and adaptable.

This can be accomplished through harmonisation of room sizes. Rooms could be multiples of one size to prevent having to break out walls when a reconfiguration needs to happen.

New systems of modular interiors are being developed. Use of these will not only provide adaptable and flexible space. Maintenance will be easier and enhanced as services will be accessible, even in walls where there are not currently.

A hospital with a human face

Besides this functionalistic element, which was particularly apparent during the 20th century, a second, similarly important strands need to be added. A hospital is a building for people. Recovery is aided and advanced by wellbeing. Therefore, air and light, views and a natural environment are extremely important both for patients and staff.

Patients coming to hospital almost entirely lose control over their life and destiny. They are totally in the hands of others. A familiar, recognisable, and controllable environment, even in the smallest details, gives them a sense of ownership and aids their wellbeing. Gardens and views out are therefore important. Also, some means to personalise their environment is important.

Staff facilities need improving. Theirs is a difficult and stressful job. They need time and space to wind down and relax. Green space, in and out, is ideal and needs to be provided as well as sufficient and fit for purpose staff rooms.

A hospital in the community

St George's is both a Tertiary and a District General hospital. These have distinct function to fulfil in the healthcare landscape, which is recently being redefined through the creation of Integrated Care Systems (ICS).

It plays its part as one of the major 'hubs' of the system.

Other functions, such as outpatients, diagnostics and day surgery can and should also be located elsewhere in the community. This will give rise to more local facilities, closer to people's homes.

St George's Hospital is looking to disseminate services to local facilities. It is currently not clear which services will go where but the principle has been established and will have an influence on the overall masterplan.

Guidelines and statutory requirements

All current guidance has and will be considered. The design will comply throughout with all HBN and HTM guidance as well as other relevant requirements.

A Sustainable environment

A holistic view will be taken regarding the creation of a sustainable environment. The building will be zero carbon and align with all relevant sustainability target.

Design Brief

Looking forward, beyond the Estate Strategy, we will develop our own Design Brief to inform and support the development of future design and construction schemes across our estate.

The principles identified will represent the design parameters that the Trust seeks to be embodied within any future refurbishment, extension, or new build project, reflecting our core objective of creating state-of-the-art facilities that will support delivery of 21st century healthcare services for the local community and beyond, at the same time enhancing the immediate surroundings of our estate.

The Design Brief will specifically:

- Identify key clinical and non-clinical adjacencies and establishes key patient flows and connectivity
- Capture the physical requirements and aspirations for relevant clinical and non-clinical services; and
- Describe the operational processes affecting clinical specialities.

The Design Brief will seek to define a process which follows clinical pathways as a design development strategy (rather than individual clinical departments) and highlights strategic key adjacencies which are to be achieved / maintained.

Biophiic Design

The Trust will use wherever it can, the principles of Biophilic Design which is a rapidly developing method of designing therapeutic spaces to address alternative patient groups and settings.

Key elements include the manipulation of light, spatial permeability, air quality, sensory engagement, liminal spaces, organic shapes and forms, natural processes and patterns.

Intelligent Hospitals

The Modern Methods of Construction (MMC) philosophy dovetails with the emerging guidance around “Intelligent Hospitals”. The basis of intelligent hospitals is the concept of repeatable rooms which emerged during the NHS procurement vehicle P21 which is now being formalised within the NHSE&I HIP funding process.

The primary objective is to optimise adjacencies and increase the efficient use of space within new healthcare buildings, as well as to standardised components.

The opportunities Intelligent Hospitals can provide are:

- Streamlined NHSE&I OBC and FBC approvals by demonstrating that the design is based upon the intelligent hospital concept
- Repeatable rooms, department clusters, optimal adjacencies, and standard floor areas
- Reduced costs programmed design time and a higher quality product due to the mature supply chains and consistency of design and installation approach.

Non-Clinical Accommodation Planning

To inform the configuration and quantum of our non-clinical accommodation, our space planning will follow a set of Golden Rules as follows:

1 **Office accommodation to achieve greater efficiency of use:** designed to support the maximum people possible through a combination of agile working and sharing ratios

2 **Agile working environment**: support a range of different work activities to provide choice of how and where to work

3 **Cellular office provision**: only used by Exec level individuals and designed to allow them to be used as meeting rooms when available

4 **Shared workplace facilities**: bookable enclosed meeting rooms or non-bookable pods, informal collaborative space, kitchens etc

5 **Providing the right technology**: maximising the opportunity for staff to choose where and how they work

6 **Personal storage**: moving away from under-desk pedestals and towards lockers

7 **Team storage**: future provision of team storage to be defined by a workplace specialist

8 **Reinforcing the team**: Each team has an identifiable ‘hub’

9 **Facilities operating model:** all facilities to be centrally provided and managed.

A detailed Work-Space Report is included in Appendix 8.

4.3 Clinical Modelling

4.3.1 Modelling Scope and data

The scope of the modelling is all activity that takes place on the Tooting site and is expected to be delivered from the site over a 15-year planning horizon. The data to support the modelling was therefore CDS data for all admitted patient care episodes and OP attendances.

A full year of data is used to project from and for this exercise, a pre Covid baseline was used covering the period March 20129 to February 2020.

4.3.2 Approach

Starting with the baseline activity and bed days, we firstly grow the activity in line with ONS forecasts. In this case using 2016 mid-year CCG population projections by age band and gender. Additional growth is possible to apply on top of this and we also reflect any inflows/outflows that may be proposed for specific services in line with local intelligence around population that complements ONS or because of strategic service shifts based on commissioner intentions or GM wide strategic reconfiguration.

The result is a future baseline. We then apply a range of performance and capacity assumptions to translate the activity forecasts into the associated capacity currencies with some challenge in the assumptions based on local expectations.

Discussions took place with the divisions and directorates to refine assumptions for a core planning scenario, but the model is flexibly built to allow assumptions to evolve over time and be swiftly reflected.

Functionally the model is user friendly to allow scenarios to be tested readily. The following shows the main model switches tab under which there are individual assumptions tabs to allow the specific assumptions to be refined and phased over time.

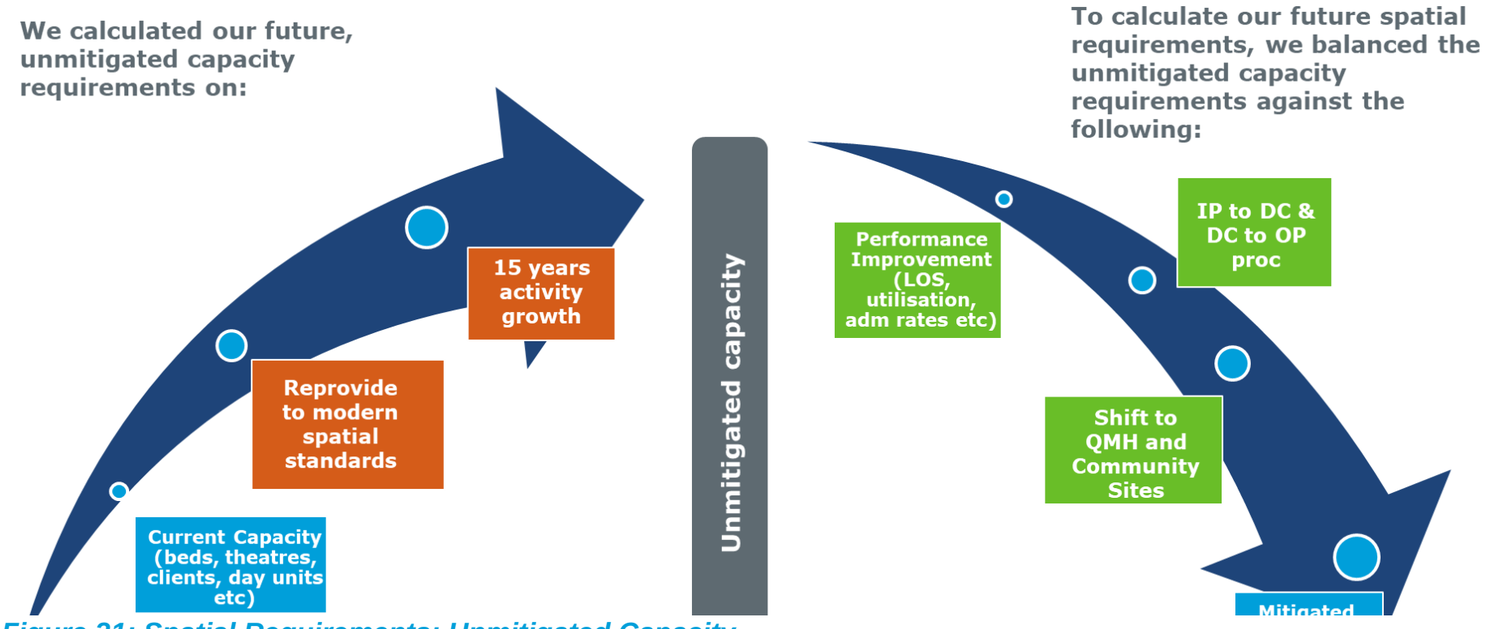


Figure 31: Spatial Requirements: Unmitigated Capacity

4.3.3 Output

The logic of retaining significant detail in terms of service categories and other fields is that if it is in the baseline, it can be both manipulated (via input assumptions) and outputted (for various reporting and supporting purposes) at the appropriate level of granularity. The model is structured to allow, for example, growth and utilisation to be applied at a very low level but expressed at a very high level. Or vice versa. This helps the model better inform discussions.

For the capacity model outputs are expressed as follows:

- Beds/ trolleys
- OP sessions
- Theatre sessions/ theatres.

The following table highlights the key outputs from the model:

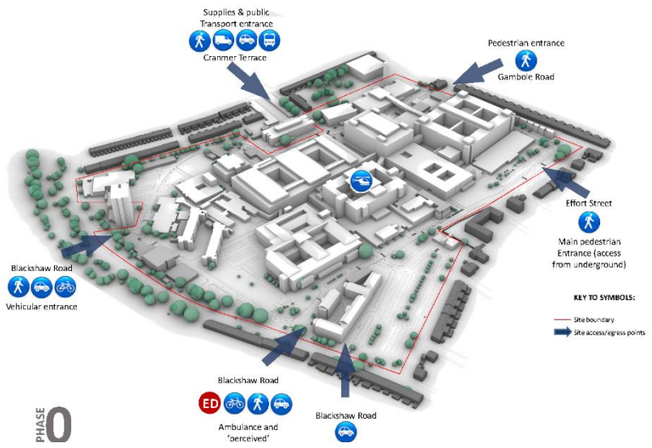
Division	Projected GA Beds	Projected Theatres
CWDT	113	4.44
Med-Card	600	6.28
SNCT	384	21.49
Total	**1,097**	**32.21**

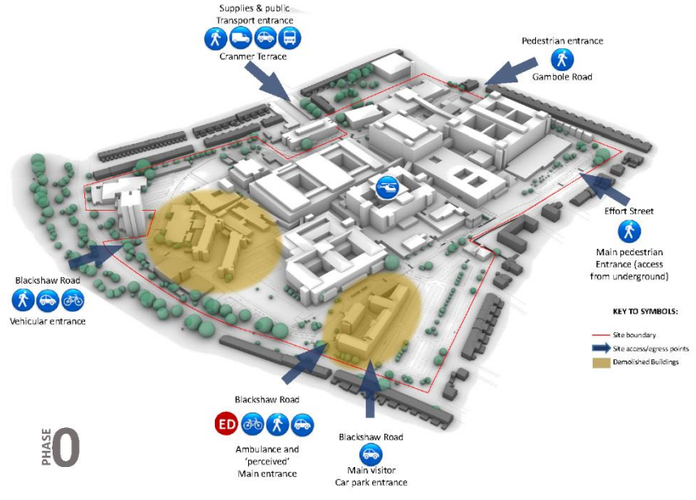
4.4 Development Control Plan

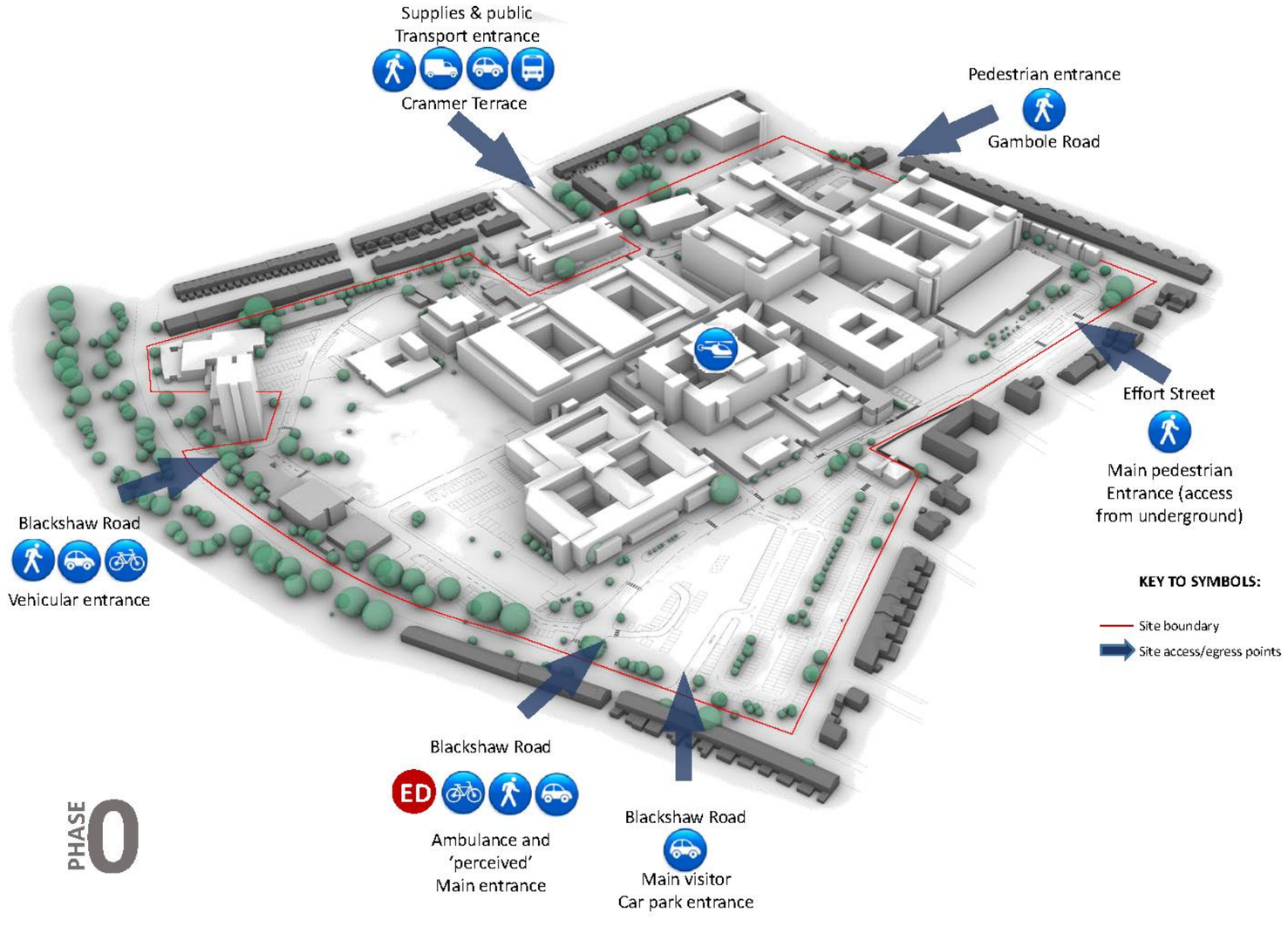
4.4.1 Phase 0: Existing State

The demolition of the Knightsbridge wing (9,870m2) and the Claire and Bronte wings (4,570 m^2), the last remnants of the 19th Century Grove Hospital, is currently underway and will be completed in the next couple of months.

This clears two significant areas of potential development land which will be used, in different ways, to aid the development of a new, fit for purpose, 21st Century hospital.







4.4.2 Phase 1a: Construction of the new Renal Building

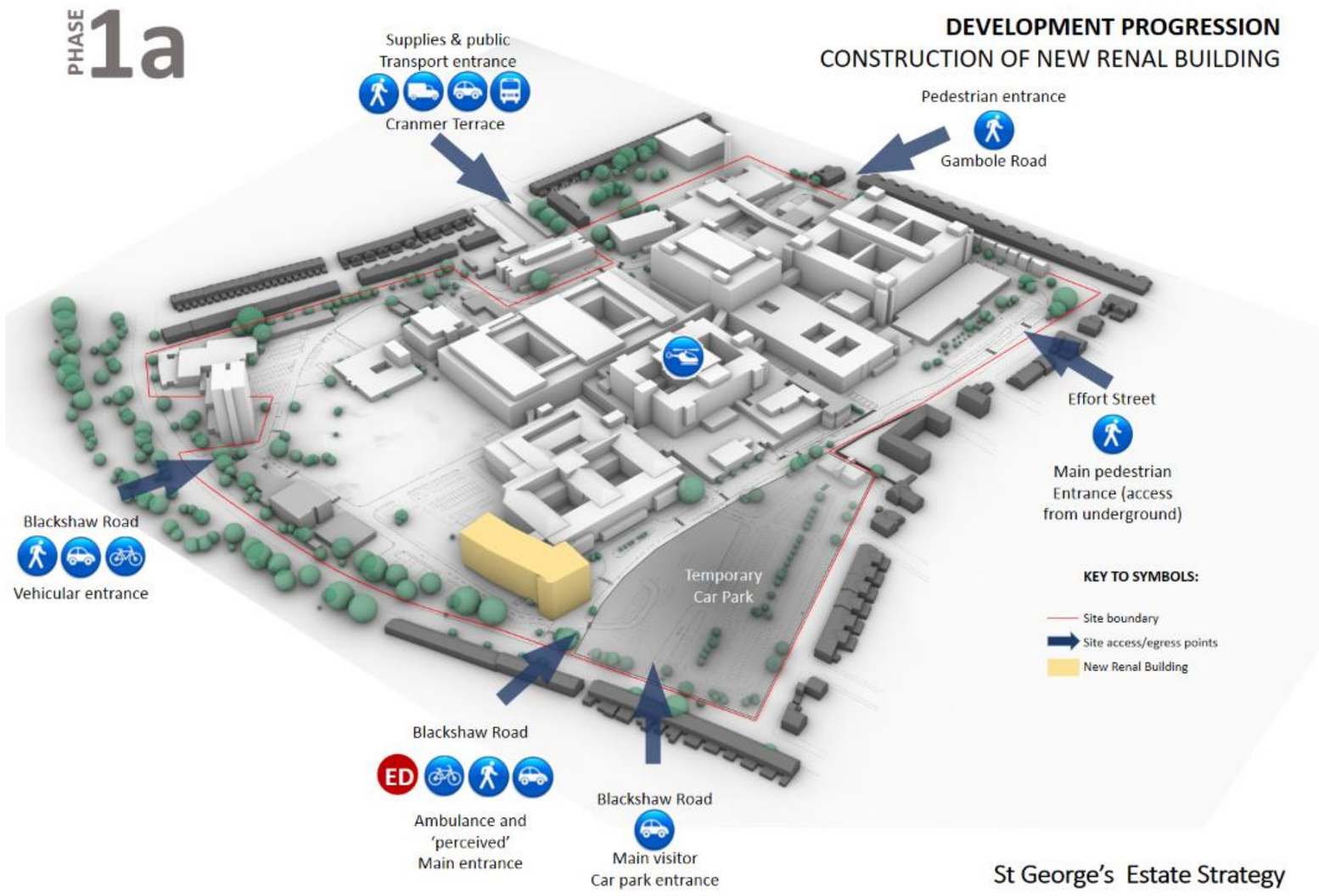
This building was originally a standalone structure, related to the development of the Epsom and St Helier Hospital. During the development of the masterplan, it became apparent that the inclusion of this building into the Estate Strategy would preferential.

It is now considered to be the first part of the new Blackshaw wing (contained in phase 1a and 1b), creating a presence along Blackshaw Road. Entrance into the building will be from the drop off point for the Atkinson Morley Wing (AMW). The content will be based on the on-going Outline Business Case, creating around 8,500 m^2 of renal accommodation.

The building will be linked to the rest of the hospital via a link into AMW. Floor levels will be relative to the AMW.

Simultaneously, the Maybury car parking site will be redeveloped, particularly related to the demolition of the existing buildings, to provide the maximum number of car parking spaces on the site. This will also allow for the displaced car parking spaces due to the construction of the renal building.

The construction of the new renal building is expected to reach completion by H2 2025, at a cost of **£80m**.



4.5.1 Phase 1b: Construction of the New Blackshaw Wing

This is the second phase of the new Blackshaw wing. It provides a new 'public face' of the hospital along Blackshaw road. The building wraps around AMW until it meets the edge of the Jenner wing.

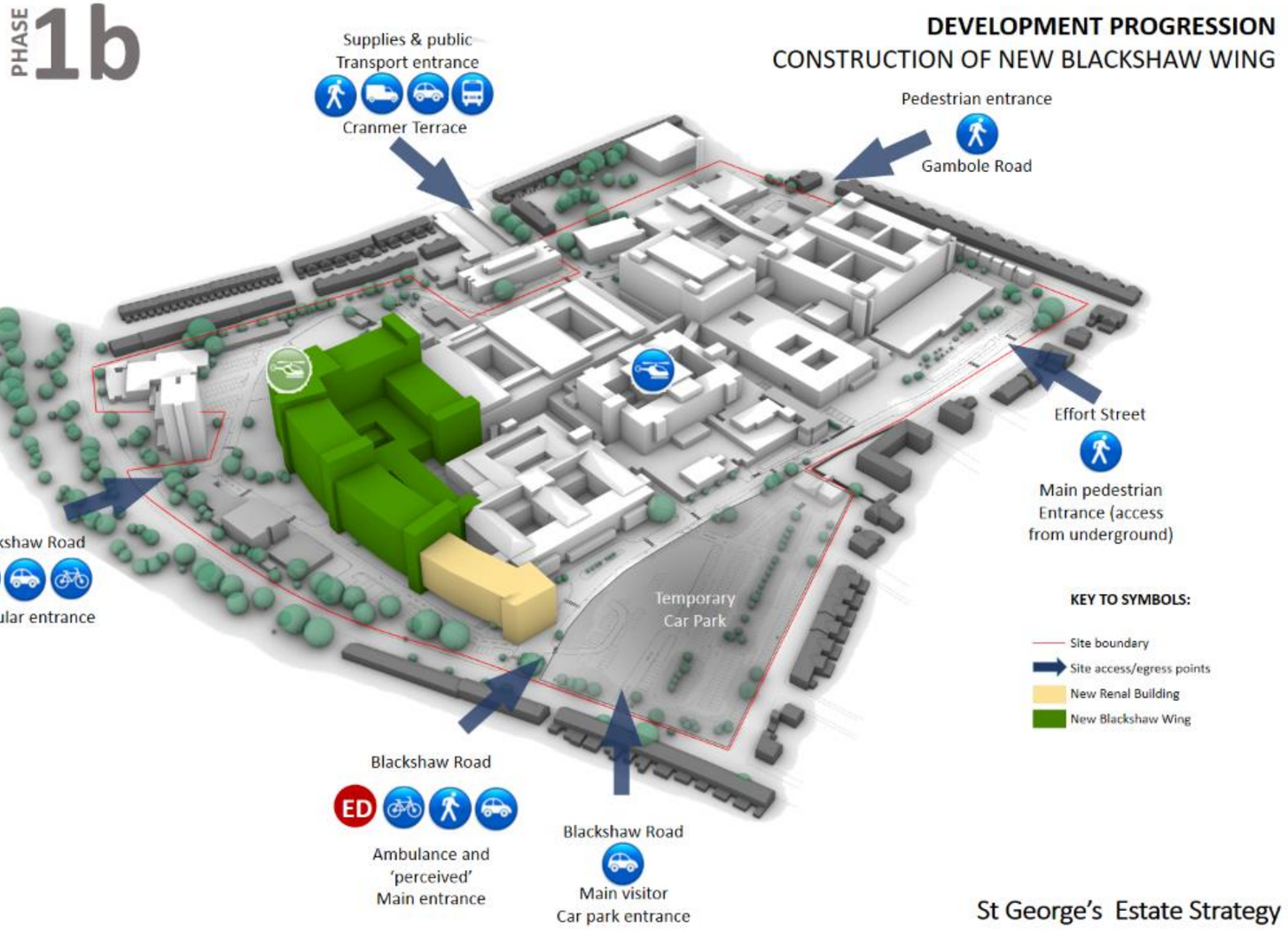
The building will be in the order of **47,300m²** and will eventually hold A&E and the necessary provisions for an emergency department, such as theatres, CCU, diagnostic imaging, wards, etc.

Locating the emergency department here has several advantages:

- An effective split between elective and non-elective care can be established.
- A new access and egress route solely for ambulances is provided from Blackshaw road – a dedicated blue light route. Ambulances would then drive below the building and drop patients at a dedicated entrance point, directly connected to A&E and theatres. The location will be covered and discreet with all the necessary requirements close by. Parking for ambulances can be provided at this point.
- A new helipad on top of the building will connect directly to A&E providing the best connection for trauma patients.
- The building builds up in height and therefore, once above the podium level, containing A&E, CCU and diagnostics, a significant number of beds can be provided in a variety of wards, each with their own speciality. The wards will be flexibly laid out, so that patient requirements can be optimally met. The wards are based on 100% single beds. All bedrooms have windows, and a significant number will overlook green spaces, formed on top of the podium and on terraces. Where possible, terraces will be provided for the use of patients and/or staff, supporting their wellbeing.

The site at this point lies lower than the rest of the site: there is a 6m height difference in relation to the lower level of the site entrance at effort street. The ground floor of the hospital will all be at the same level – largely determined by the ground floor level of AMW, which is 6m above the ground level related to Blackshaw road. This space below ground floor will be used for FM services, on a temporary basis.

This area is located in the flood zone and can therefore not be used for clinical accommodation, without significant waterproofing and measures to store water elsewhere. The space required for FM is around 3,550 m².

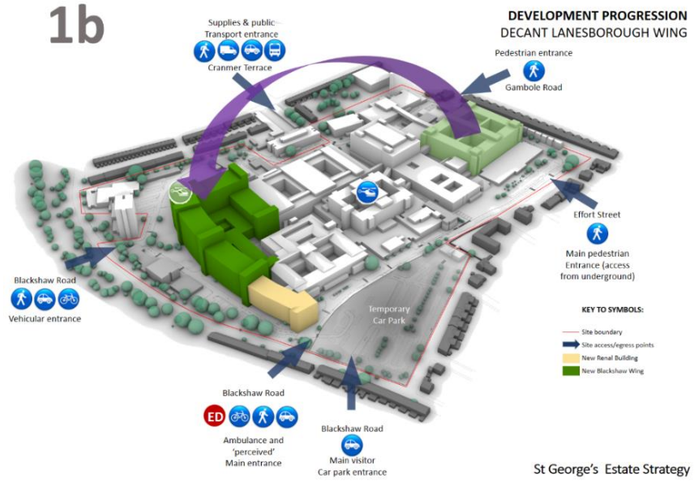


4.5.1.1 *Development Variant 1*

There are 2 variants that present themselves at this point, which will have different implications for the rest of the development. The result will be the same as that is driven by the clinical requirements.

Variant 1 largely moves the Lanesborough wing into the new Blackshaw wing. This, however, would only be a temporary location for most of the accommodation as the building is earmarked for the non-elective services of the hospital.

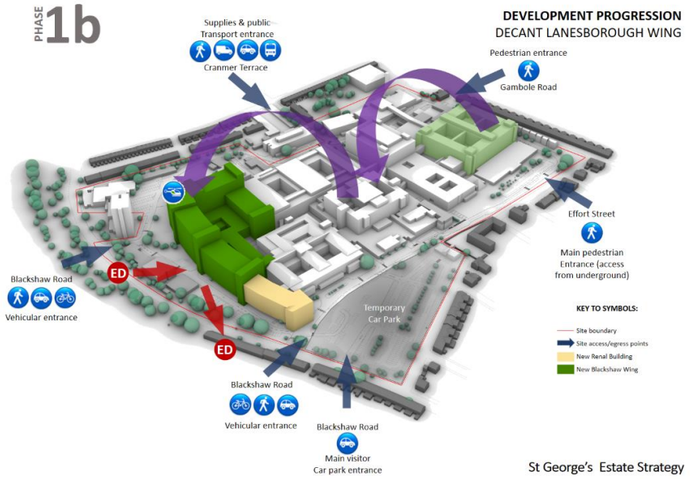
For the purposes of this document, we have assumed variant 1 to describe further phases.



4.5.1.2 *Development Variant 2*

Variant 2 moves A&E in its final position at this point in the development. It means that A&E, which is under significant pressure at the moment, will be at its final destination early in the process. The ambulance route would be varied early in the process and therefore help to reduce the currently significant pressure on the perimeter road. The new helipad would also be created and used at this point.

The content of the Lanesborough wing would now be moved into the St James' wing on a temporary basis to allow for this building to be demolished in the next phase.



It is imperative that the Lanesborough wing is the first building to be demolished as:

- It is the building with most significant issues, including fire compliance, backlog maintenance, etc. Refer to previous sections of the report for further details.
- The Jenner wing is the next building to be demolished in order to provide a contiguous development which provides flexibility and clinical adjacencies in line with the hospital requirements expressed in the consultations.

Development of the site has an impact on external parties to the hospital actively using the site. This needs to be incorporated in the overall Estate Strategy. The Lanesborough wing demolition is essential to allow this to happen.

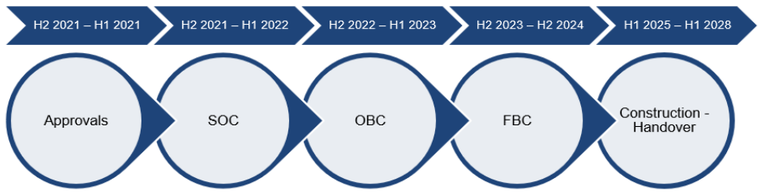
4.5.1.3 *Indicative Cost Summary: 1b*

A detailed breakdown of the costs, assumptions, exclusions, and benchmarking are included in Appendix 9.

The table below highlights the key cost information for this phase.

Description	Cost
Building Works	**£212.9m**
Site External Works and Infrastructure	**£6.2m**
Known Abnormals	**£25.8m**
Client Direct Items	**£40.5m**
Professional Fees / Surveys	**£42.8m**
Risk Allowances	**£131.3**
Sub Total	**£459.6m**
VAT	**£83.4m**
Inflation	**£64.3**
Total	**£607.2m**

4.5.1.4 *Programme: 1b*



4.5.1.5 *Planning Context: 1b*

From a planning point-of-view the location of these buildings is in a logical position, adjacent to the existing hospital buildings and makes use of previously developed land (the site of Knightsbridge and Visitor Car Park 2) which is a planning policy priority.

The new Stage 1b building would be taller than the existing hospital buildings but the limited developable area, the need to ensure continuity of services (especially for the Emergency Department) and the desirability of ensuring as 'compact' a hospital as possible (from an operational point-of-view) based on clinical need will assist in making the planning argument for this. There are three main issues that will need to be borne in mind in preparing a detailed design for these stages:

- The location of the helipad – we presume that this would have to be higher than the 'Pelican' building to ensure sufficient safety clearance. As shown the helipad would be adjacent to the part of the site that would be a candidate for release of surplus land. The proximity of the helipad and the noise generated by this could harm the value of that land for residential development and consequently more detailed work should be progressed to see if the helipad can be located closer to the Jenner Wing so as to distance it from potential disposal land and to better screen it from a visual point-of-view.
- Opportunities to manage down parking demand and to encourage modal shift during works should be explored; and access to the existing hospital during construction and in particular whether it is feasible or desirable to have the main ambulance and bus routes immediately adjacent to a construction site. This is an issue for which there will be a solution, for example a temporary ambulance route could be created across the Bronte / Clare land, but this might affect the temporary use, or even the timing of disposal, of this land.

4.5.1.6 *Utility Strategy: 1b*

Power

The existing HV ring will have to be diverted to facilitate the construction of this building as the cables pass through the development site. The agreed maximum demand capacity for the site will need to be uplifted to 13.4MVA to facilitate the construction of the new building. At this point a strategic decision needs to be undertaken to decide whether the UKPN incoming substation needs to be upgraded to facilitate the future phases of the project, this will be determined during the SOC for phase 1b.

Secondary Supply

In general, individual generators are provided across the site supporting individual buildings. During phase 1b as part of the SOC consideration will be given to co-locating the generators and supporting the site wide generation going forward using HV generators. These would use the existing and new HV infrastructure to provide backup generation to the buildings.

Gas

As the Trust set out on their journey to be Net Zero, the new building proposed will be based on a low carbon 'all electric' energy solution and therefore no requirement for a gas supply has been identified at this stage.

Water

A new dedicated water supply to the new building will be sourced from Blackshaw Road. The mains cold water supply shall be complete with inline isolation valves and suitably sized to connect in the future with further new developments on the site. Ultimately for each new build phase, the water infrastructure shall expand and a develop a new private water supply ring main with dual utility connections to provide a robust and resilient service in accordance with HBN 00-07.

4.5.1.7 *Development Control Servicing Strategy: 1b*

As part of Stage 0, the existing Knightsbridge Victorian buildings shall be demolished, creating a clear site for Stage 1B. This is work currently being undertaken by the Trust and therefore occurs before the new Estates Strategy DCP is implemented.

Power

Provide a new substation linked to the sitewide HV infrastructure in an N+N configuration for the proposed building.

Secondary Supply

Provide a dedicated 100% generator backed supply to the proposed building via local LV generators in a N+N arrangement, or via a Sitewide HV generation solution.

Heat

A new all electric low carbon heat pump technology such as Ground Source Heat Pumps or Air Source Heat Pumps shall be provided locally to serve the new building.

Water

Install new mains cold water connection to new Stage 1B building. Potential opportunity to future proof the proposed new mains cold water supply to Renal (Phase 1a) so this can be extended instead of creating a new metered connection.

4.5.1.8 *MEP Utility Capacity Table: 1b*

Building	Stage 1B; Provide New Building
Proposed Building Electrical Load	**4.7MVA**
Total Sitewide Electrical Load (Including Proposed Building)	**13.4MVA**
Total Sitewide Standby Generation Load	**13.4MVA**
Building Heat Demand	**6.0MW**
Total Decentral Heat Plant Load	**7.0MW**
Total Site Wide Heat Demand (Energy Centre)	**25.5MW**
Proposed Building Water Demand	**3.6l/s**
Total Sitewide Water Demand (including the proposed building)	**19.6l/s**

4.5.2 Phase 2: Demolish Lanesborough Wing

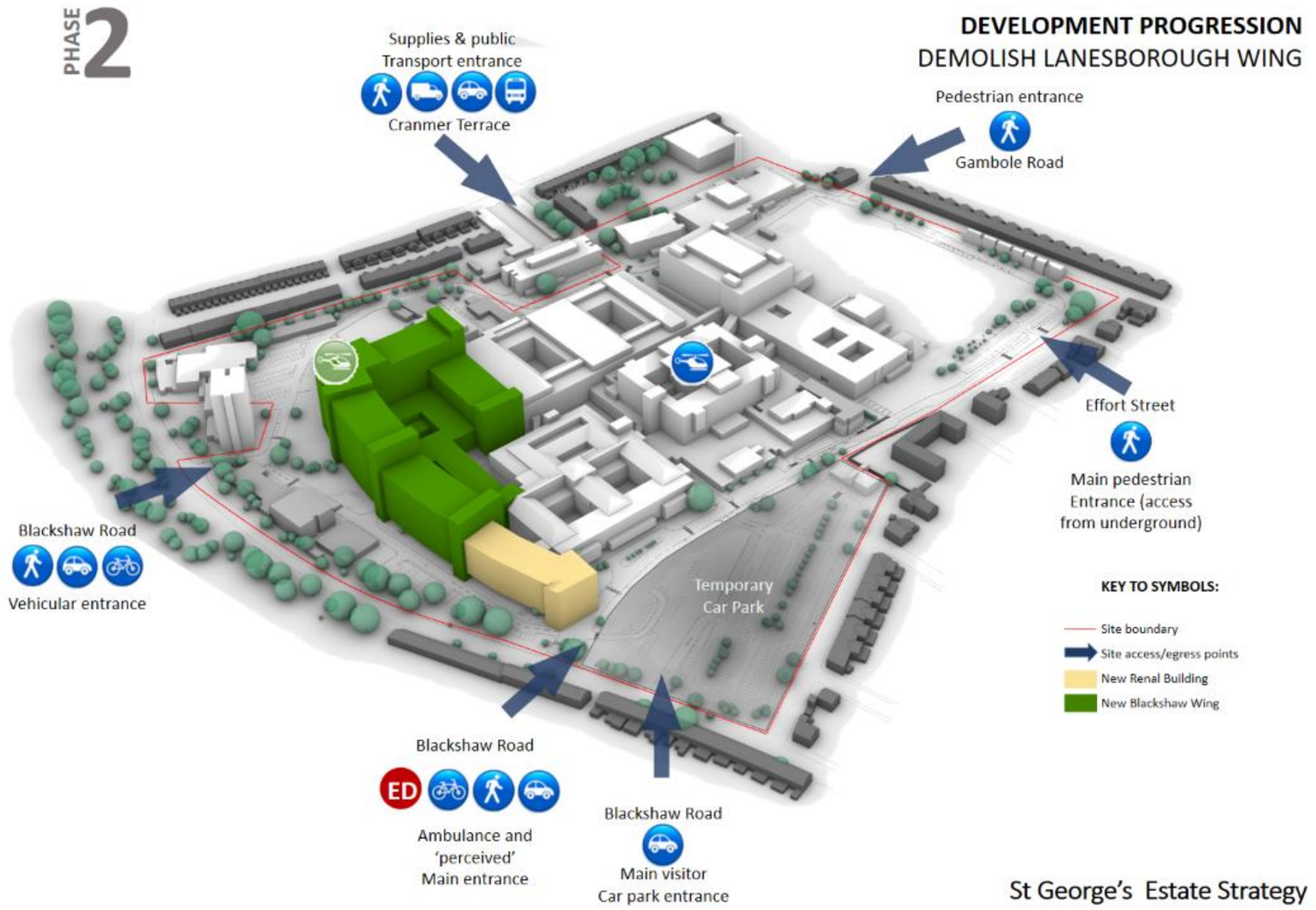
The Lanesborough wing is now empty, including the outbuildings and therefore ready to be demolished.

It is important that the hospital will need to always remain operational. Therefore, the perimeter road needs to remain functional as well which means that demolition will probably have to start from the FM yard and working through to the multi-storey building.

Demolition of the Lanesborough wing will isolate the day surgery building. The high-level link to the Lanesborough wing will be severed.

4.5.2.1 *Indicative Cost: 2*

Description	Cost
Building Works	**£0**
Demolition / Enabling Works	**£12.3m**
Site External Works and Infrastructure	**£0**
Known Abnormals	**£0**
Client Direct Items	**£0**
Professional Fees / Surveys	**£1.8m**
Risk Allowances	**£5.7m**
VAT	**£3.6m**
Total	**£23.4m**



4.5.2.2 *Utility Strategy: 2*

Power

No specific changes to the sitewide utilities required. The demolition of the Lanesborough building will free up an estimated circa 3.2MVA of spare capacity.

Gas

Gas utility connections (if any) to Lanesborough Wing to be isolated, made safe and disconnected.

Water

Water utility connections to Lanesborough Wing to be isolated, made safe, disconnected, and stripped back to main distribution to design out dead legs.

4.5.2.3 *Development Control Servicing Strategy: 2*

Power

Remove the Lanesborough building from the existing sitewide HV ring and strip out the Lanesborough substation. Retain and store the existing LV generators within the Lanesborough building to possibly be utilised elsewhere within the development. Reprovide Power to the MRI building from a new dedicated HV substation.

Heat

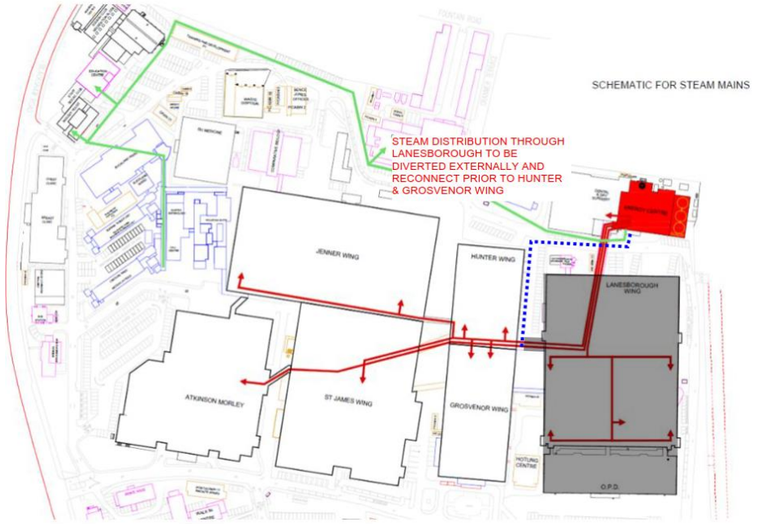
Existing steam main and associated condensate to Lanesborough Wing to be isolated, made safe, disconnected, and stripped back to Energy Centre.

Existing 2no. steam main distribution pipework from Energy Centre which currently routes via link bridge to Lanesborough Wing shall be diverted externally.

Energy Centre to remain in operation and connect to retained steam main distribution from Hunter/Grosvenor Wing onwards.

4.5.2.4 *MEP Utility Capacity Table: 2*

Building	Phase 2; Demolish Lanesborough Wing
Estimated Building Electrical Load Reduction	**-3.2MVA**
Total Sitewide Electrical Load (Including the reduction identified above)	**10.2MVA**
Total Sitewide Standby Generation Load	**10.2MVA**
Building Heat Demand	**- 6.5MW**
Total Decentral Heat Plant Load	**7.0MW**
Total Site Wide Heat Demand (Energy Centre) Including the Reduction of The Building Heat Demand	**19.0MW**
Building Water Demand	**- 3.5l/s**
Total Sitewide Water Demand (Including the reduction identified above)	**16.1l/s**



4.5.4 Phase 3a: Construct New Lanesborough Wing

The second building to be developed is the new Lanesborough wing.

It will contain **55,700m²** of accommodation largely located on the footprint of the old building in terms of massing. The area is based on the current area of the Jenner and the Hunter wings combined.

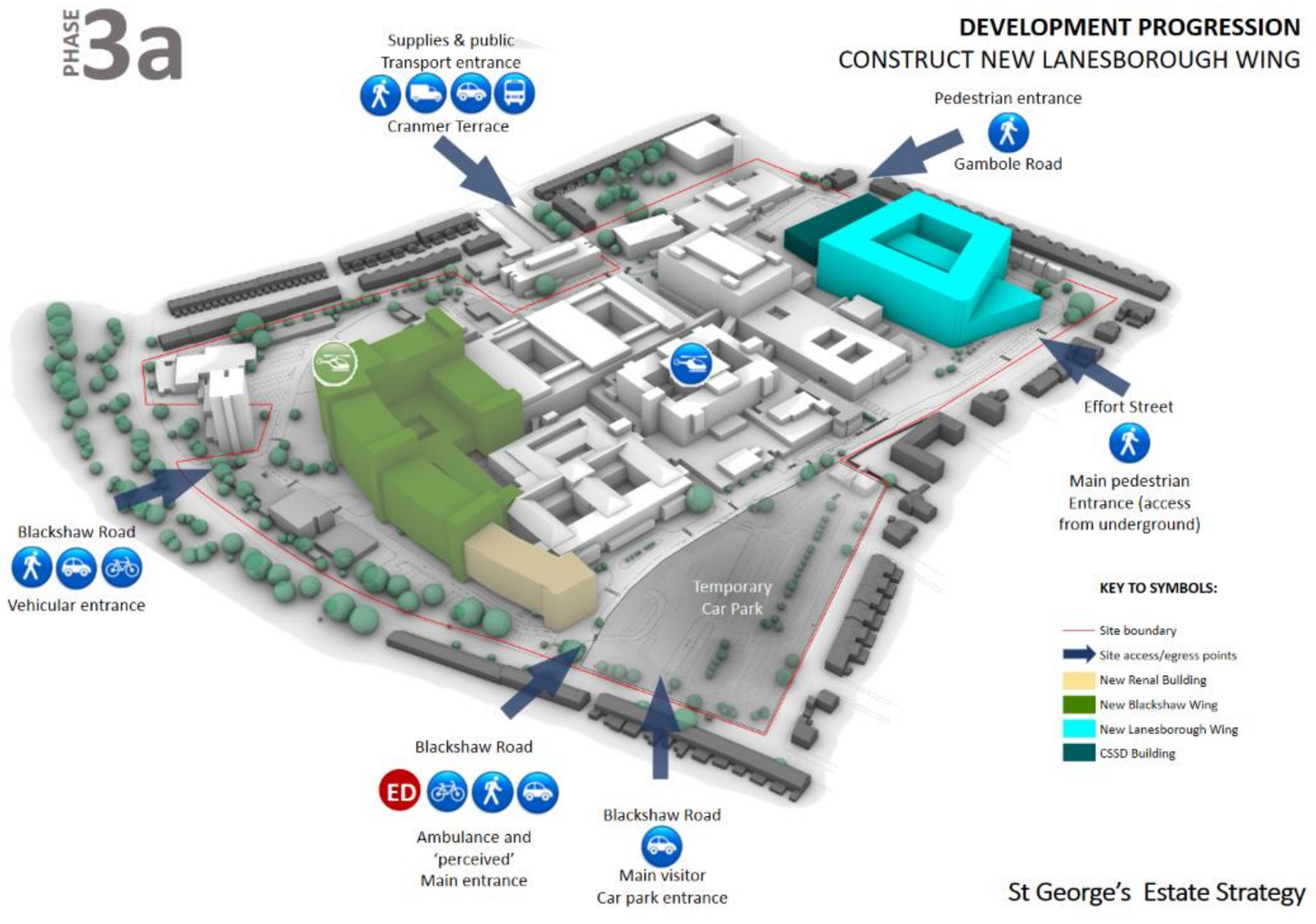
It would be advisable to move the building away from the boundary by a few of metres to allow for a more comfortable and pleasant streetscape to be developed along the perimeter road. This will also allow the bus stop to be located in a layby – currently the bus stop is located on the road and regularly causes tail backs.

The main entrance to the building will be at the side of the Grosvenor building as this will become the heart of the development – a new square which 'binds' the campus together. As the Grosvenor building is the main access to the site now, this function could remain until such time the Grosvenor building will be demolished. The new main entrances to the buildings will then be autonomous and front the heart of the hospital square.

Towards the energy centre side of the plot will be the new Central Sterile Services Department building. This location has been chosen as it will be connected to the rest of the hospital via the future FM yard. This building will hold 6,000 m² of largely industrial type space with, at parts, a clean room specification.

This building holds the only department which requires steam generation. For reasons of safety and sustainability (minimum transport for hot substances) the proximity to the energy centre is recommended.

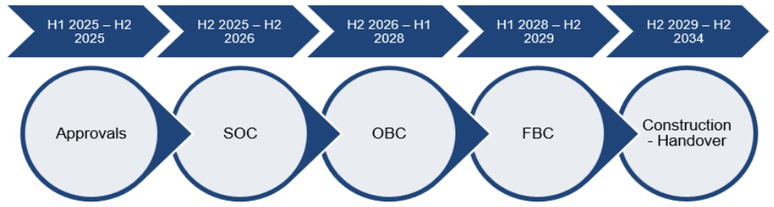
The CSSD building could be constructed later as the building will not be needed until the St James' wing is demolished. However, as the Lanesborough plot is being developed and therefore the perimeter road affected, it may be worthwhile considering the development of this building at this point.



4.5.4.1 *Indicative Cost: 3a*

Description	Cost
Building Works	**£222.8m**
Demolition / Enabling Works	**£0**
Site External Works and Infrastructure	**£0**
Known Abnormals	**£22.4**
Client Direct Items	**£32.9m**
Professional Fees / Surveys	**£41.7m**
Risk Allowances	**£48.0m**
VAT	**£73.5m**
Total	**£441.2m**

4.5.4.2 *Programme: 3a*



4.5.4.3 *Planning Context: 3a*

The current Lanesborough Wing is already a very large building extending to six storeys above ground. Part of it is occupied by the Dragon Children's Centre which is in a single storey building that covers a relatively large footprint.

There should be no objection to replacing the existing six-storey building with something of a similar scale. However, increasing the height of development on the site of Dragon Centre could be more of an issue as it could affect the daylight and sunlight to the recently built dwellings on Coverton Road. This consideration alone might suggest the northernmost part of the Dragon site is used as open space / public realm to maintain a reasonable set-back from those properties. Testing just how these properties might affect development potential on this part of the hospital site should be a priority in subsequent stages of work.

Very careful consideration ought to be given to how implementation of these can be carried out without affecting the operations of the hospital and the rest of the site.

4.5.4.4 *Utility Strategy: 3a*

Power

The total sitewide load upon the completion of this building will be an estimated 15.2MVA. The peak for the overall DCP is 16.7MVA, so at this point the Electrical capacity for the site should be upgraded to facilitate the final estimated load.

Gas

As the Trust set out on their journey to be Net Zero, the new building proposed will be based on a low carbon 'all electric' energy solution and therefore no requirement for a gas supply has been identified at this stage.

Water

A new dedicated water supply to the new building will be sourced from Coverton Road. The mains cold water supply shall be complete with inline isolation valves and suitably sized to extend and connect with further new developments on the site. Ultimately from Coverton Road and Blackshaw Road, the water infrastructure shall create a new private water supply ring main with dual utility connections to provide a robust and resilient service in accordance with HBN 00-07.

4.5.4.5 *Development Control Servicing Strategy: 3a*

Power

Provide a new substation linked to the sitewide HV infrastructure in an N+N configuration for the proposed building.

Secondary Supply

Provide a dedicated 100% generator backed supply to the proposed building via local LV generators in a N+N arrangement, or via a Sitewide HV generation solution.

Heat

A new all electric low carbon heat pump technology such as Ground Source Heat Pumps or Air Source Heat Pumps shall be provided locally to serve the new building. Capital plant shall meet the heat demands of both the clinical accommodation and university; separate heat metered circuits shall serve university accommodation.

Water

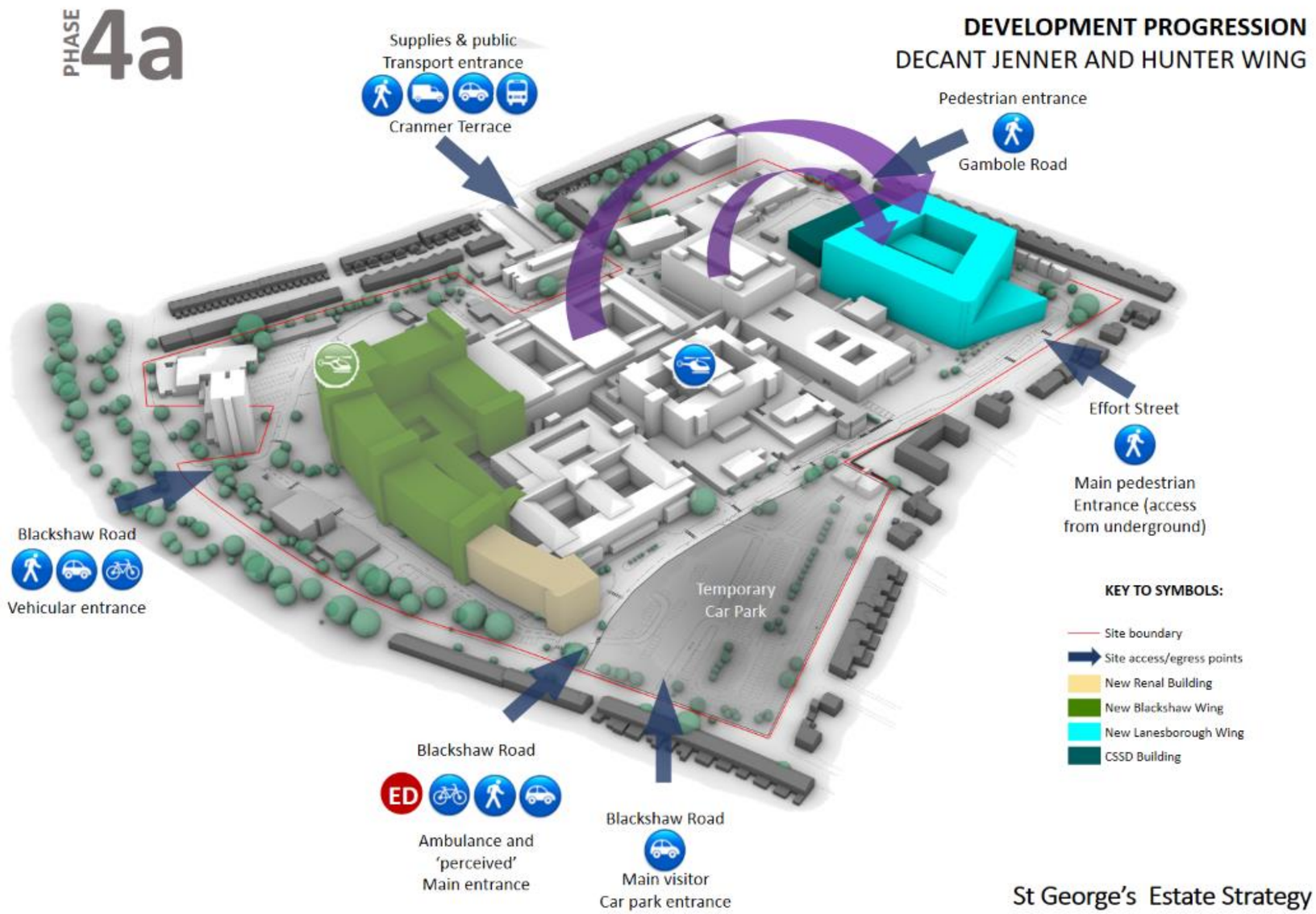
Install new mains cold water connection to new Stage 3 building. A separate metered supply for the university accommodation shall be provided.

4.5.4.6 *MEP Utility Capacity Table*

Building	Stage 3 Provide New Building
Proposed Building Electrical Load	**5MVA**
Total Sitewide Electrical Load (Including Proposed Building)	**15.2MVA**
Total Sitewide Standby Generation Load	**15.2MVA**
Building Heat Demand	**2.0MW**
Total Decentral Heat Plant Load	**18.0MW**
Total Site Wide Heat Demand (Energy Centre)	**19.0MW**
Building Water Demand	**2.0l/s**
Total Sitewide Water Demand (including the proposed building)	**18.1l/s**

4.5.5 Phase 4a: Decant Jenner and Hunter Wings

The Jenner and hunter wings will now be decanted into the new Lanesborough wing.



4.5.6 Phase 4b: Demolition of Jenner Wing

The demolition of the Jenner wing will make space for the third building on site.

The Hunter wing is suggested to be kept as 'swing' space for the rest of the development. This may allow outlying buildings to be decanted and demolished early. This may in turn allow some of the development areas near the Pelican Hotel to be cleared and developed early in the process.

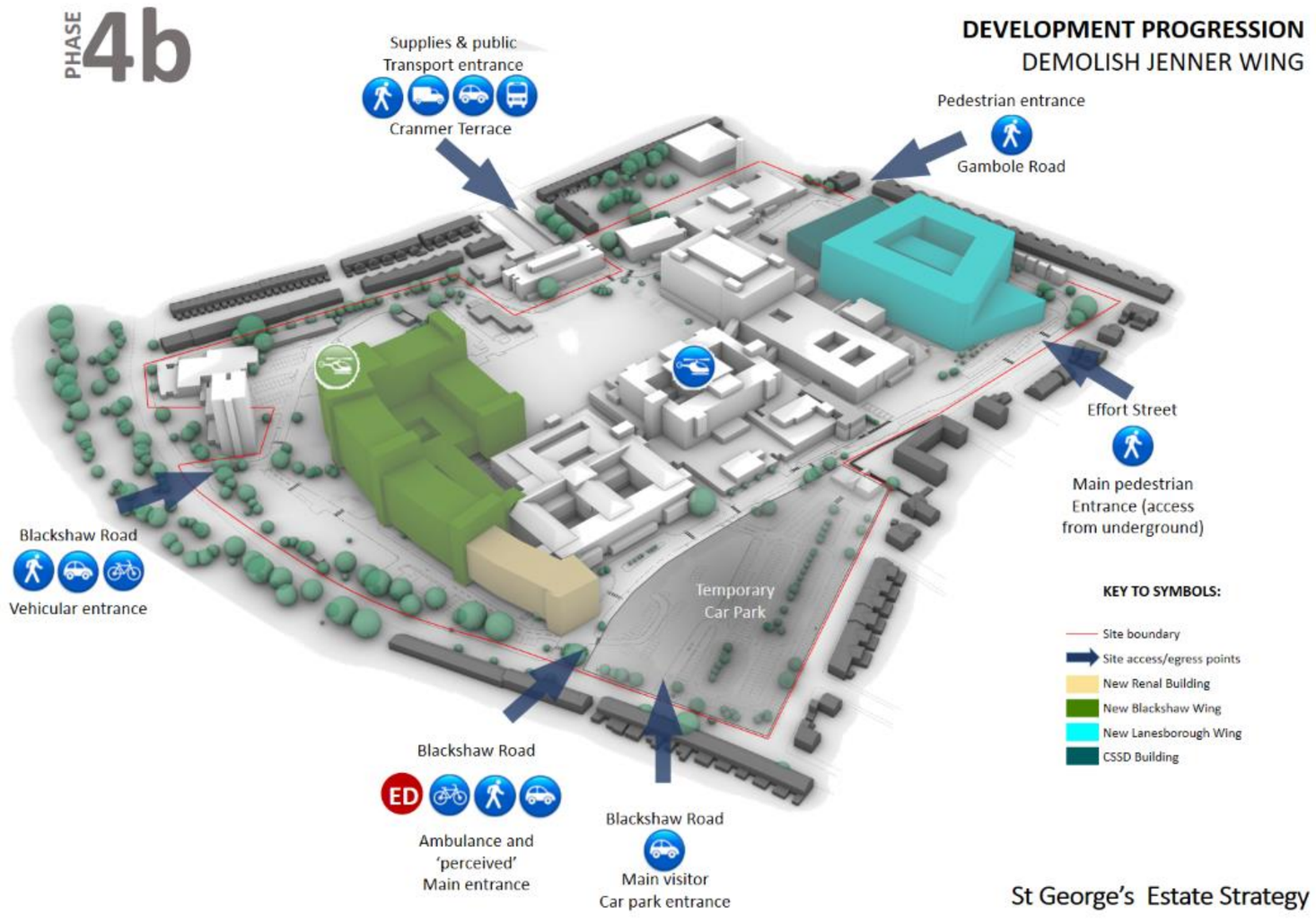
If this option is to be further explored, the realignment of the perimeter road needs to be actioned at this point. The perimeter road will follow the outline of the Jenner wing.

It is worth considering the use of this swing space. The hunter wing will eventually be demolished and make way for the new office building and the FM provision for the site. It will therefore be demolished prior to the Grosvenor wing. It would be best to maximise the use of the Grosvenor wing and keep the Hunter wing for temporary swing space.

It may be advantageous to consider the demolition of the hunter wing at this point. This has several advantages but is dependent on whether sufficient swing space can be found on site now.

- It would allow for the office contingent for the hospital to be constructed early.
- The FM yard (final position) could be constructed early. The FM provision would then move from its temporary location to its final position, vacating the space for the multi storey car park below the Blackshaw wing.
- This in turn will allow the temporary car park to be vacated and used for development.

The two development areas may not be available at the same time depending on the amount of space still to be accommodated on site at this point.



4.5.6.1 *Indicative Cost Summary: 4b*

Description	Cost
Building Works	**£0**
Demolition / Enabling Works	**£9.9m**
Site External Works and Infrastructure	**£0**
Known Abnormals	**£0**
Client Direct Items	**£0**
Professional Fees / Surveys	**£1.5m**
Risk Allowances	**£4.6m**
VAT	**£2.9m**
Total	**£18.8m**

4.5.7 Phases 4a & 4b MEP Infrastructure

4.5.7.1 *Description*

Decant university and clinical services from Jenner and Hunter Wing and demolish the existing building.

4.5.7.2 *Utility Strategy*

Power

No specific changes to the sitewide utilities required. The demolition of the Jenner building will free up circa 4MVA of spare capacity. Local diversions and disconnections will be required to facilitate the demolition of the building.

Gas

Gas utility connections (if any) to Jenner and Hunter Wing to be isolated, made safe and disconnected.

Water

Water utility connections to Jenner and Hunter Wing to be isolated, made safe, disconnected, and stripped back to main distribution to design out deadlegs.

4.5.7.3 *Development Control Servicing Strategy*

Power

Remove the Jenner building from the existing sitewide HV ring and strip out the HV substation.

Heat

Should the demolition of Hunter Wing occur at this stage, the existing 2no. steam main distribution pipework from Energy Centre which currently routes via Hunter Wing to St. James and Atkinson Morley shall be diverted via Grosvenor Wing.

Energy Centre to remain in operation and connect to retained steam main distribution from Grosvenor Wing onwards.

4.5.7.4 *MEP Utility Capacity Table*

Building	Stage 4; Demolish Jenner and Hunter Wing
Estimated Building Electrical Load Reduction	**-4MVA**
Total Sitewide Electrical Load (Including the reduction identified above)	**11.2MVA**
Total Sitewide Standby Generation Load	**11.2MVA**
Building Heat Demand	**- 8.5MW**
Total Decentral Heat Plant Load	**18.0MW**
Total Site Wide Heat Demand (Energy Centre) Including the Reduction of The Building Heat Demand	**10.5MW**
Building Water Demand	**- 5.3l/s**
Total Sitewide Water Demand (Including the reduction identified above)	**12.8l/s**

4.5.8 Stage 5a: New Jenner Wing

The new Jenner wing occupies the demolished building and attaches onto the Blackshaw wing.

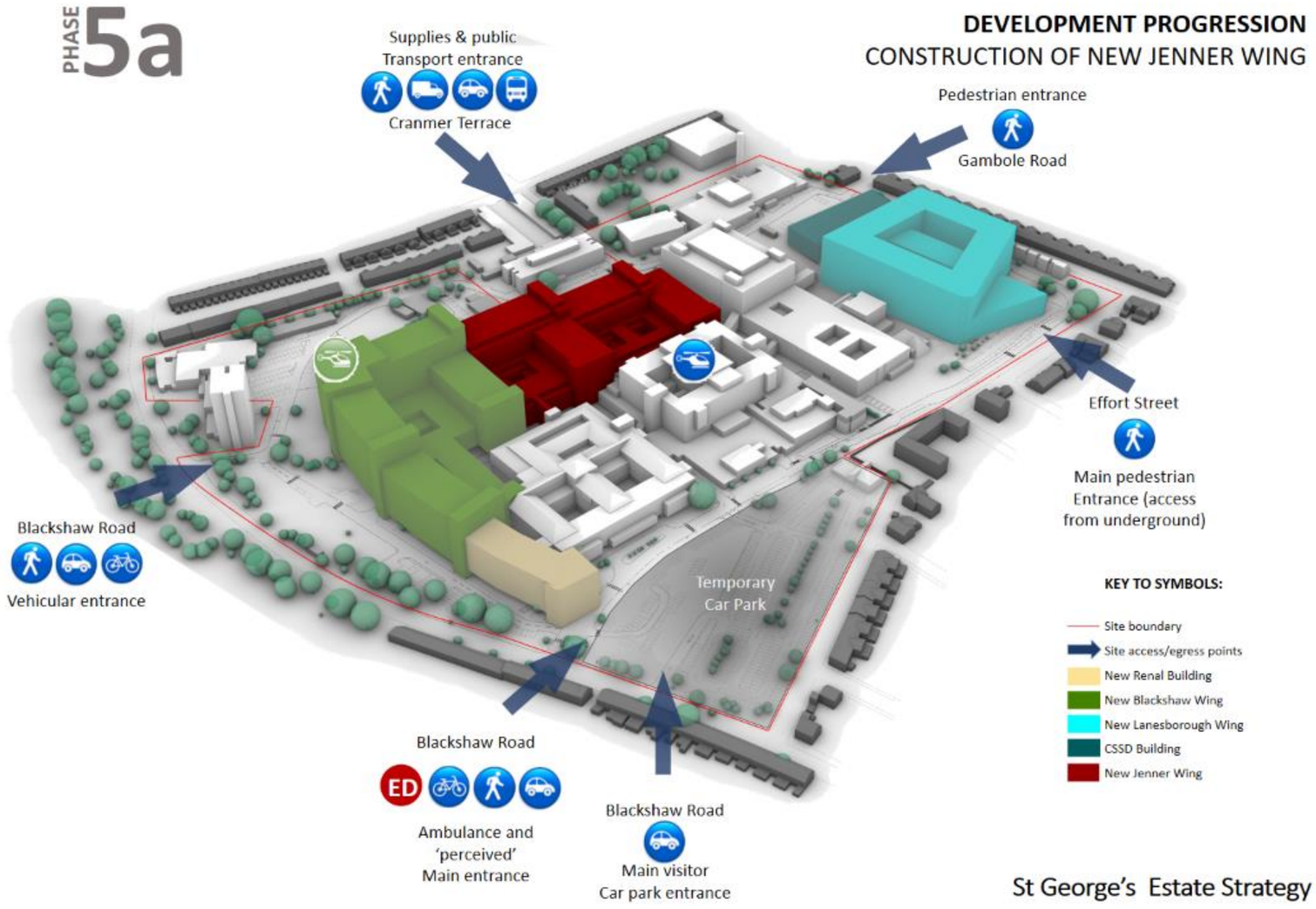
The overall area will be **55,530 m².** The building will be used for the Women and Children's department, children cancer centre, staff facilities, diagnostics, and wards.

Space will be used contiguous with Blackshaw wing.

The helipad could be built on the now existing Blackshaw wing to replace the existing helipad on St James' wing if that has not happened as part of the Blackshaw wing construction.

As part of the works, the new access for emergency vehicles will have to be constructed so A&E can move into the Blackshaw building.

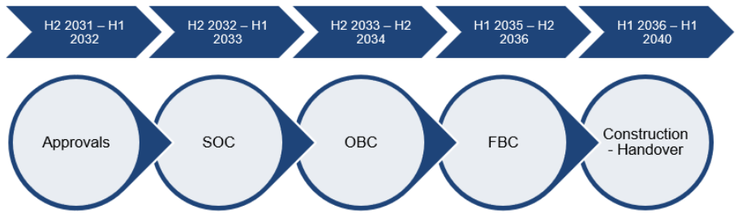
This may influence the temporary buildings along Blackshaw road (the Wandle and Blackshaw annex). These may have to be removed. The hunter wing could then be used to house the accommodation currently within these buildings.



4.5.8.1 *Indicative Cost Summary*

Description	Cost
Building Works	**£340.6**
Demolition / Enabling Works	**£0**
Site External Works and Infrastructure	**£9.8m**
Known Abnormals	**£41.3m**
Client Direct Items	**£64.8m**
Professional Fees / Surveys	**£68.5m**
Risk Allowances	**£210m**
VAT	**£133m**
Total	**£868.4m**

4.5.8.2 *Programme: 5a*



4.5.8.3 *Planning Context: Phases 4 – 5a*

These stages would involve the demolition of the Jenner and Hunter wings and the construction of a new building on the Jenner site into which women's and children's services would be relocated, following which the activities in St James (including the ED) could be relocated to the Stage 1b building.

In physical terms there should be little controversy in the redevelopment of these buildings.

The existing Hunter Wing is seven storeys above ground, but the Jenner Wing is just four storeys high. Opportunities could be explored to add height in this location and, by doing so, to perhaps reduce the footprint of the replacement Jenner building so as to provide more space for pedestrian and vehicle movements – and perhaps even for some areas of open space to help 'relieve' the urban nature of the site.

4.5.8.4 *Utility Strategy*

Power

No specific changes to the sitewide utilities required. The new building will push the sitewide load back up to 15.7MVA.

Gas

As the Trust set out on their journey to be Net Zero, the new building proposed will be based on a low carbon 'all electric' energy solution and therefore no requirement for a gas supply has been identified at this stage.

Water

The dedicated water supply installed in Phase 1b from Blackshaw Road will extend to serve the new building. The water supply will also interconnect with the new dedicated water supply from Coverton Road provided at Phase 3 to create the new private water supply ring main with dual utility connections to provide a robust and resilient service in accordance with HBN 00-07.

4.5.8.5 *Development Control Servicing Strategy*

Power

Provide a new substation linked to the sitewide HV infrastructure in an N+N configuration for the proposed building.

Secondary Supply

Provide a dedicated 100% generator backed supply to the proposed building via local LV generators in a N+N arrangement, or via a Sitewide HV generation solution.

Heat

A new all electric low carbon heat pump technology such as Ground Source Heat Pumps or Air Source Heat Pumps shall be provided locally to serve the new building.

Water

Extend mains cold water infrastructure from Phase 1b building to provide a new connection to Stage 5a building.

4.5.8.6 *MEP Utility Capacity Table*

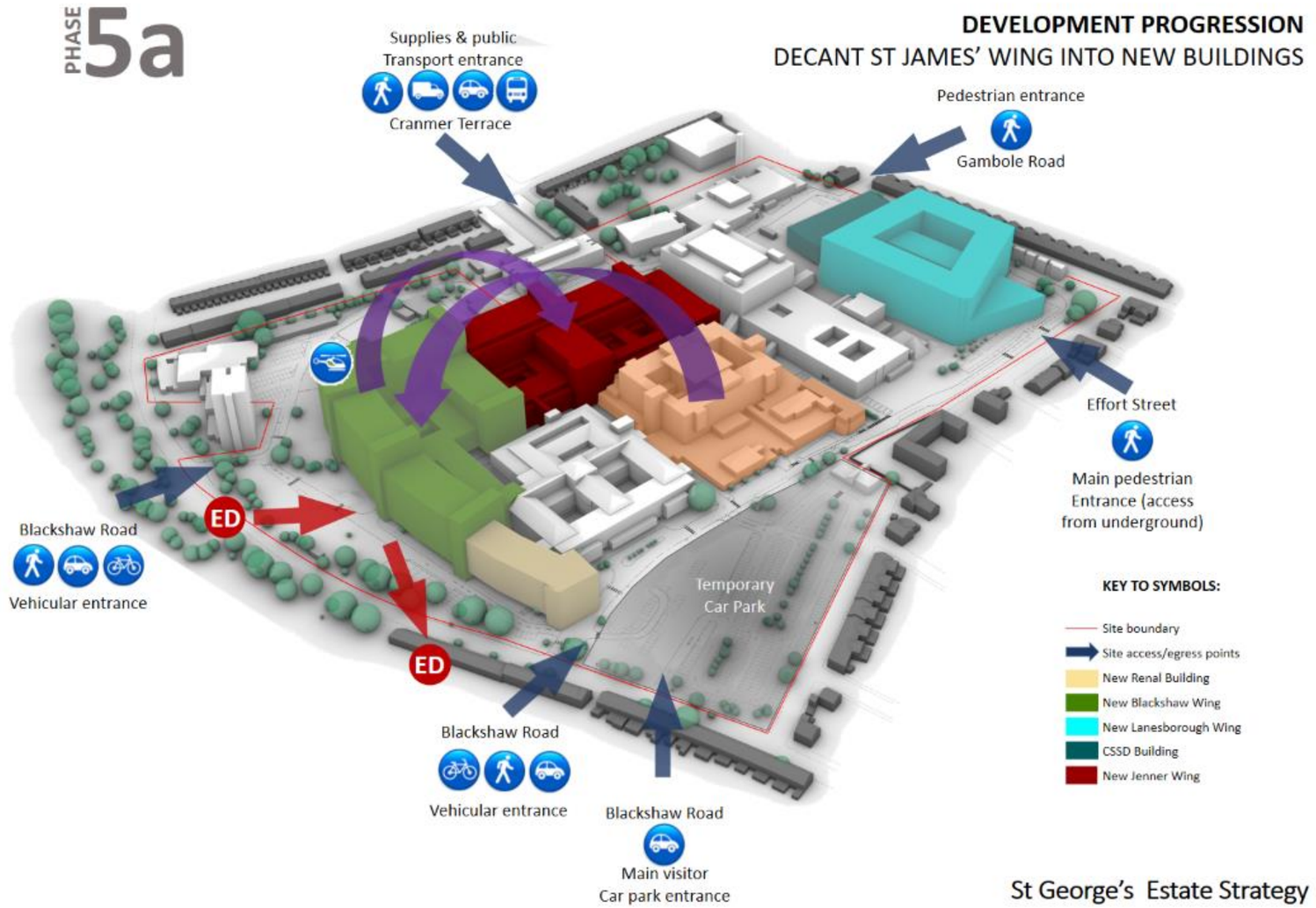
Building	Stage 5a; Provide New Building
Proposed Building Electrical Load	**4.5MVA**
Total Sitewide Electrical Load (Including Proposed Building)	**15.7MVA**
Total Sitewide Standby Generation Load	**9.0MW**
Building Heat Demand	**9.0MW**
Total Decentral Heat Plant Load	**27.0MW**
Total Site Wide Heat Demand (Energy Centre)	**10.5MW**
Building Water Demand	**6.0l/s**
Total Sitewide Water Demand	**18.8l/s**

4.5.9 Stage 5a: Decant St James' Wing

This phase is significantly influenced by which variant has been chosen during phase 1b. Again, we assume variant 1 for this exercise.

Women and Children will now move to their final locations in the new Jenner wing. This will allow A&E to take up its final position in the Blackshaw wing. It is important that the new access road for blue light is constructed at this point. This also applies to the helipad.

At this point the new CSSD building will be taken into use as the existing CSSD department is in the St James' wing.



4.5.10 Phase 5b: Demolish St James' Wing

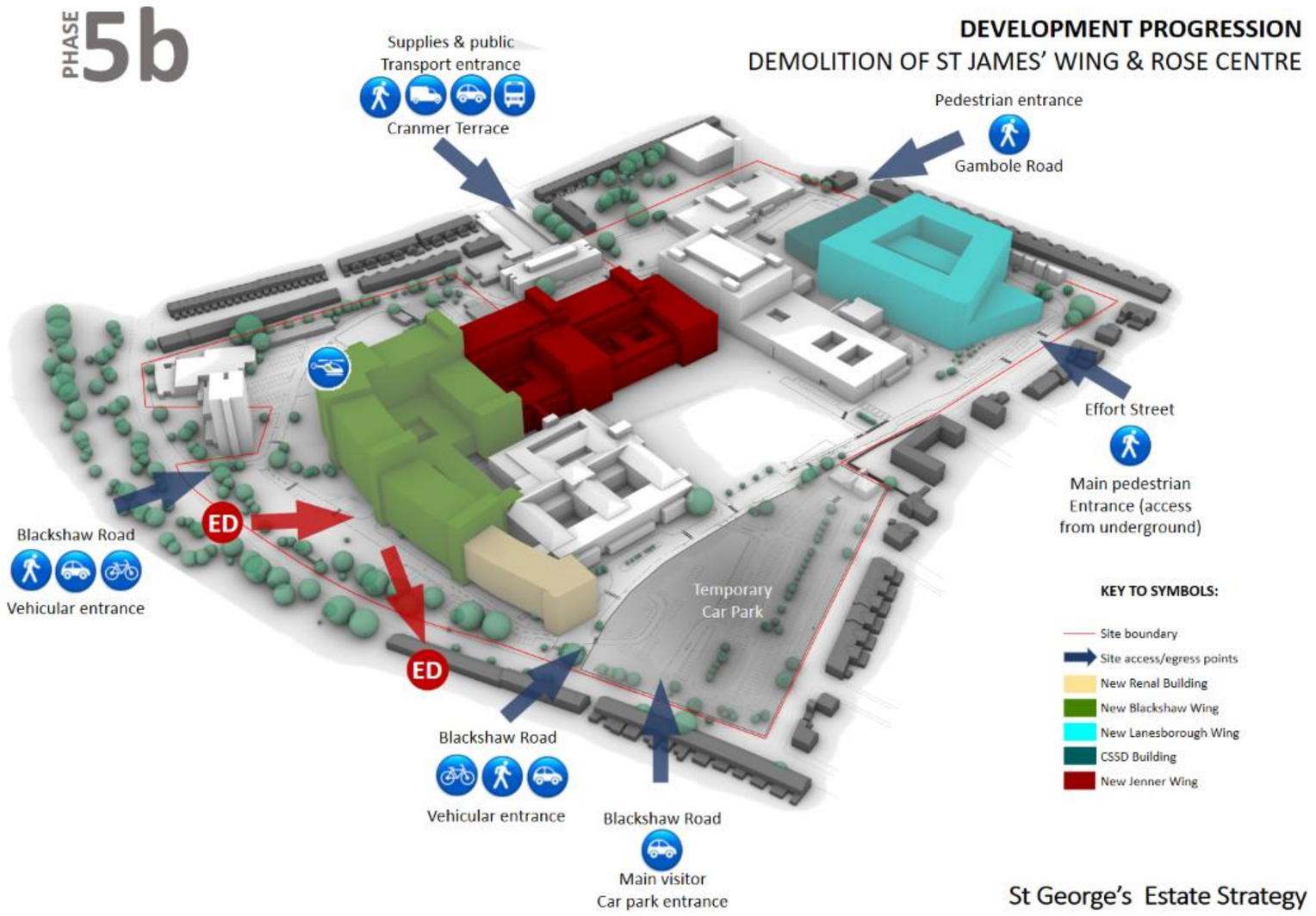
The access road currently used for ambulances, located between the AMW and the St James' wing could be considered as an access to the future car park, either as an additional or a temporary access. It could allow people using the drop off locations to access the car park from different locations.

When the St James' wing is demolished the link between the Grosvenor wing and AMW is severed. This isolates the Grosvenor wing from the rest of the hospital.

The Rose building will now also be decanted into the new Jenner wing and can therefore be demolished.

4.5.10.1 Indicative Cost Summary: 5b

Description	Cost
Building Works	£0
Demolition / Enabling Works	£10.3m
Site External Works and Infrastructure	£0
Known Abnormals	£0
Client Direct Items	£0
Professional Fees / Surveys	£1.6m
Risk Allowances	£4.8m
VAT	£3m
Total	**£19.7m**



4.6.1.1 *Utility Strategy*

Power

No specific changes to the sitewide utilities required. The demolition of the St James Wing will free up circa 2.5MVA of spare capacity.

Gas

Gas utility connections (if any) to St. James Wing to be isolated, made safe and disconnected.

Water

Water utility connections to St. James Wing to be isolated, made safe, disconnected, and stripped back to main distribution to design out dead legs.

4.6.1.2 *Development Control Servicing Strategy*

Power

Remove the St James Wing from the existing sitewide HV ring and strip out the HV substation.

Heat

Existing steam main distribution pipework from Energy Centre to St. James to be isolated, made safe and disconnected.

To support the decarbonisation of the existing retained estate, the steam main distribution which routes via St. James Wing to serve Atkinson Morely Wing to be isolated, made safe and new heat infrastructure for retained building to be provided. A new all electric low carbon heat pump technology such as Ground Source Heat Pumps or Air Source Heat Pumps shall be provided locally to serve Atkinson Morely Wing. Upgrade works to Atkinson Morely Wing's building fabric, heat emitters and air handling unit plant coils shall be necessary due to the lower flow and return temperatures heat pump technology utilises.

Energy Centre to remain in operation and connect to retained steam main distribution in Grosvenor Wing.

4.6.1.3 *MEP Utility Capacity Table*

Building	Stage 5b; Demolish St. James Wing
Estimated Building Electrical Load Reduction	**-2.5MVA**
Total Sitewide Electrical Load (Including the reduction identified above)	**13.2MVA**
Total Sitewide Standby Generation Load	**13.2MVA**
Building Heat Demand	**- 9.0MW**
Total Decentral Heat Plant Load	**31.0MW (includes changeover of AMW from Energy Centre to decentralized electric driven heating)**
Total Site Wide Heat Demand (Energy Centre)	**1.5MW**
Building Water Demand	**- 2.9l/s**
Total Sitewide Water Demand	**15.9l/s**

4.6.2 Stage 6a: Construction of new St James' Wing

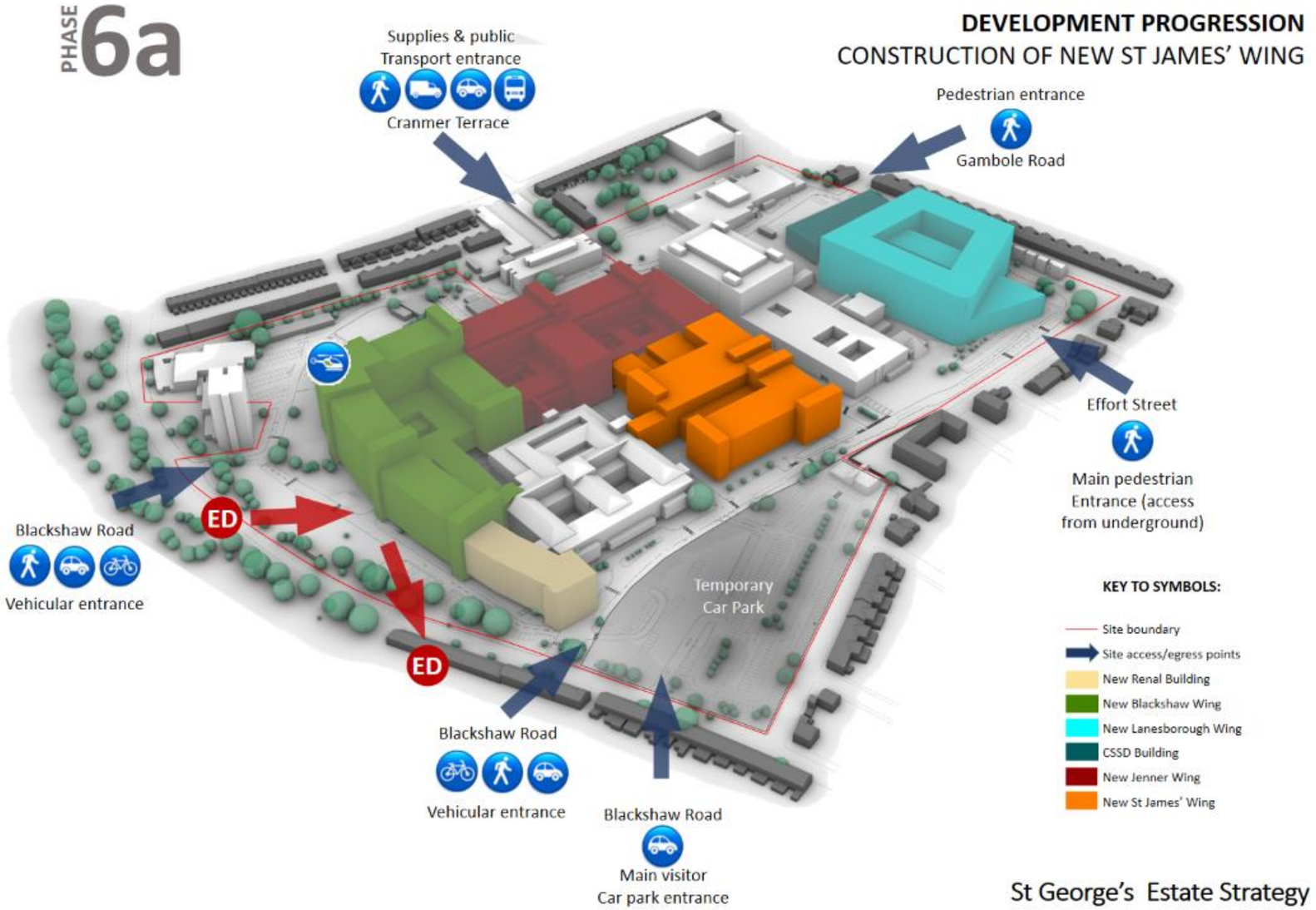
This is the third building completing the main hospital complex.

This building will contain **42,460 m².**, and will hold:

- Remaining OPD
- Cancer centre
- Remaining wards
- Diagnostic imaging
- Remaining Theatres
- Day surgery
- Main entrance and associated facilities such as patient liaison, main reception, etc.
- Final location of patient facilities.

The main entrance will be located along the façade facing the Grosvenor wing. Until the Grosvenor building is removed, the main entrance to the hospital will still be in the Grosvenor wing and accessed via the internal hospital street.

The ground floor of the new building will have retail facing the new square – the amount of which and the content still to be decided. It is envisaged that the type of retail will be health related, such as health food shops, supportive clothing, rehabilitation accessories, etc.



4.6.2.1 *Utility Strategy*

Power

No specific changes to the sitewide utilities required. The new building will push the sitewide load back up to 16.6MVA.

Gas

As the Trust set out on their journey to be Net Zero, the new building proposed will be based on a low carbon 'all electric' energy solution and therefore no requirement for a gas supply has been identified at this stage.

Water

A new water supply shall be taken from the new site wide private ring main. No new utility connection proposed.

4.6.2.2 *Development Control Servicing Strategy*

Power

Provide a new substation linked to the sitewide HV infrastructure in an N+N configuration for the proposed building.

Secondary Supply

Provide a dedicated 100% generator backed supply to the proposed building via local LV generators in a N+N arrangement, or via a Sitewide HV generation solution.

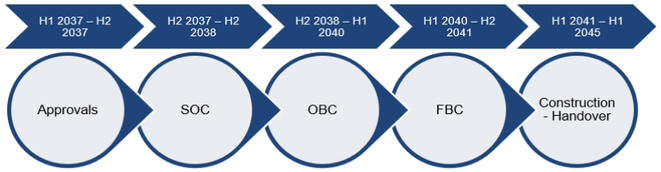
Heat

A new all electric low carbon heat pump technology such as Ground Source Heat Pumps or Air Source Heat Pumps shall be provided locally to serve the new building.

Water

Extend mains cold water infrastructure from the new private ring main to provide a new connection to Stage 6a building.

4.6.2.3 *Programme: 6a*



4.6.2.4 *MEP Utility Capacity Table*

Building	Stage 6a; Provide New Building
Proposed Building Electrical Load	**3.4MVA**
Total Sitewide Electrical Load (Including Proposed Building)	**16.6MVA**
Total Sitewide Standby Generation Load	**16.6MVA**
Building Heat Demand	**6.6MW**
Total Decentral Heat Plant Load	**37.5MW**
Total Site Wide Heat Demand (Energy Centre)	**1.5MW**
Building Water Demand	**3.0l/s**
Total Sitewide Water Demand	**18.9l/s**

4.6.2.5 *Planning Context: 5a - 6*

These involve the demolition of St James and the construction of a new clinical building. St James has, over time, grown with one- and two-storey accretions on its south-eastern side.

As with the previous stages, this offers a good opportunity to redevelop on a rationalised footprint and to and to examine opportunities to provide open space and other ground-level necessities such as the inevitably large amount of new cycle parking that will be sought.

As suggested in relation to Jenner, the location of St James – which is not immediately adjacent to the site's boundary and is sufficiently-distanced from existing residential properties near the site – suggests that this may well be a suitable location for one of the larger buildings with its replacement exceeding the height of the existing building (albeit height overall may well be constrained by the elevation of the helipad).

4.6.2.6 *Indicative Cost Summary: 6a*

Description	Cost
Building Works	**£258.0m**
Demolition / Enabling Works	**£0**
Site External Works and Infrastructure	**£7.5m**
Known Abnormals	**£31.3m**
Client Direct Items	**£49.1m**
Professional Fees / Surveys	**£51.9m**
Risk Allowances	**£159.1m**
VAT	**£101.0m**
Total	**£657.8m**

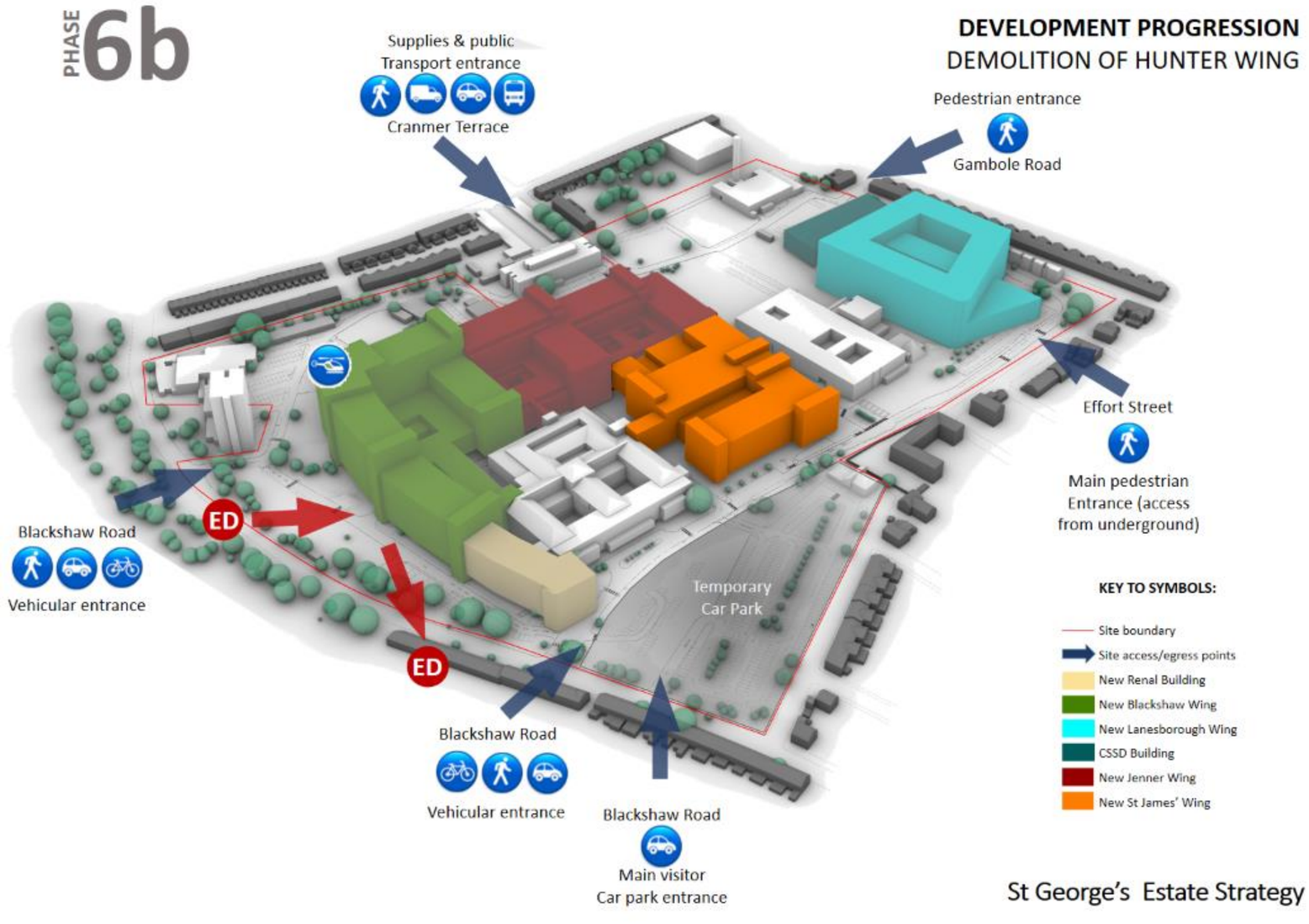
4.6.3 Stage 6b: Demolition of Hunter Wing

The accommodation external to the main hospital will now consist of office and support space.

These can be decanted from the hunter wing into the Grosvenor wing on a temporary basis which will allow for the Hunter wing to be demolished.

4.6.3.1 *Indicative Cost Summary: 5c*

Description	Cost
Building Works	**£0**
Demolition / Enabling Works	**£6.3m**
Site External Works and Infrastructure	**£0**
Known Abnormals	**£0**
Client Direct Items	**£0m**
Professional Fees / Surveys	**£0.9m**
Risk Allowances	**£2.9m**
VAT	**£1.8m**
Total	**£12.0m**



4.6.3.2 *Infrastructure Strategy*

Power

The requirements are captured in phase 4.

Gas

The requirements are captured in phase 4.

Water

The requirements are captured in phase 4.

4.6.3.3 *Development Control Servicing Strategy*

Power

The requirements are captured in phase 4.

Heat

Existing steam main distribution pipework from Energy Centre to Hunter Wing to be isolated, made safe and disconnected.

Energy Centre to remain in operation and connect to retained steam main distribution in Grosvenor Wing.

4.6.3.4 *MEP Utility Capacity Table*

Building	Stage 6b; Demolish Hunter Wing
Building Electrical Load	Accounted for in Phase 4
Total Sitewide Electrical Load	Accounted for in Phase 4
Building Heat Demand	- 3.25MW
Total Decentral Heat Plant Load	37.5MW (same as phase 6a, reduction in site wide load accounted for as part of Phase 4)
Total Site Wide Heat Demand (Energy Centre)	1.5MW (same as phase 6a, reduction in site wide load accounted for as part of Phase 4)
Building Water Demand	- 1.7l/s
Total Sitewide Water Demand	18.9l/s (same as phase 6a, reduction in site wide load accounted for as part of Phase 4)

4.6.4 Stage 7a: Construction of the Office Building and FM provision

The last building to be constructed is the new office building and the adjoining FM provision.

The office building will have an overall area of **9,760 m²** while the FM provision amounts to **3,550m²**.

The office accommodation is primarily defined as accommodation supporting the clinical function of the hospital and needs to be located on site. A detailed exercise defined the area required as set out in the report.

Further accommodation includes for a conference centre which supports both the hospital and the university. In effect this will be a collection of meeting rooms which can be used flexibly for varying group sizes. It is conceivable that this conference centre can be used for organisations external to the hospital. The intention is that it will also be used as the education centre for the hospital.

Lastly this building will also support research space which can be shared between hospital and university. It allows for a certain amount of integration between the two. That does not exclude other means of integration such as education space embedded in the hospital.

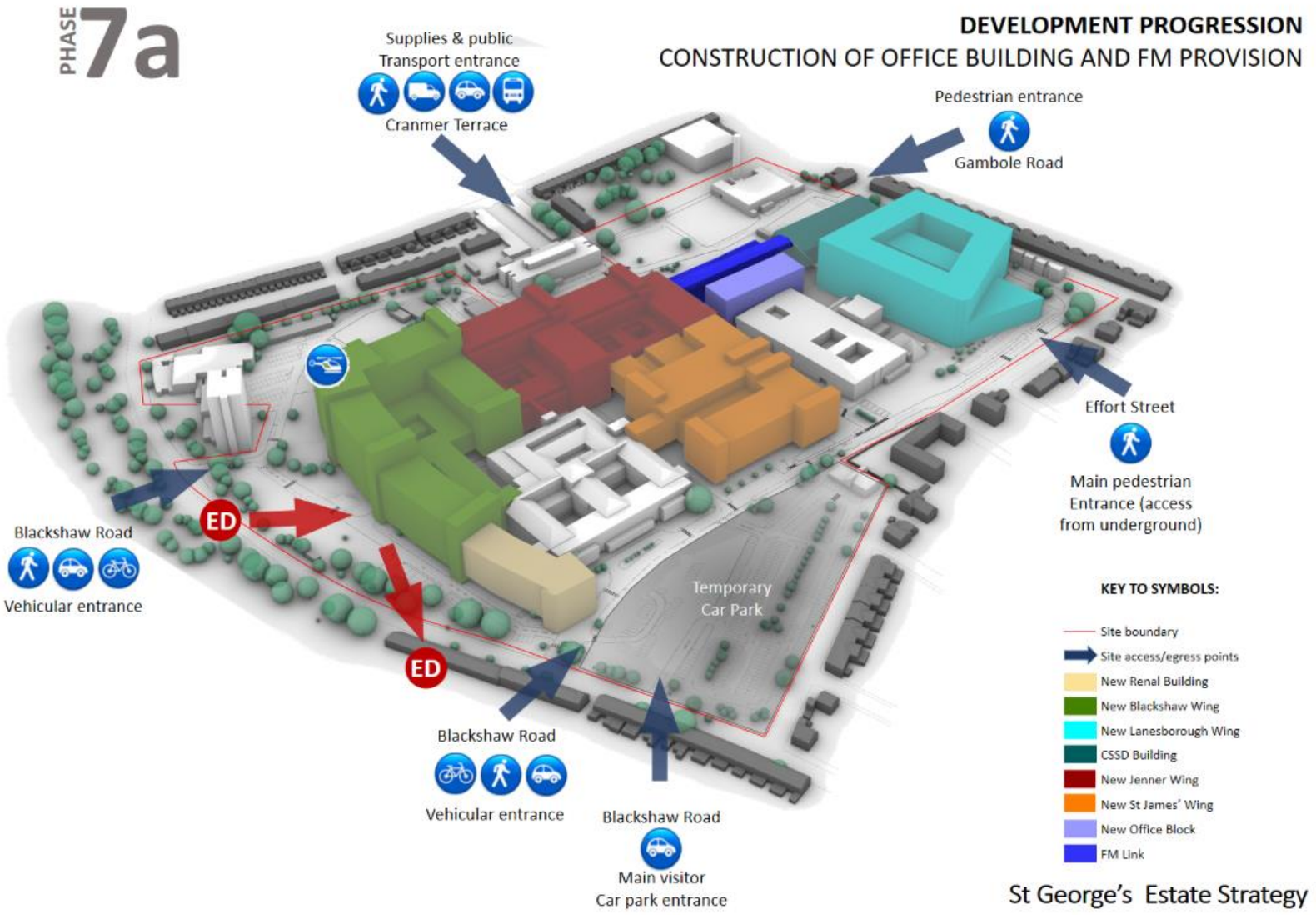
The final location for the FM yard is located behind the office building, across from the site entrance at the end of Cranmer terrace. This is where currently freight traffic for the hospital enters the site.

The future strategy for FM services states that generally goods will be delivered off site. From there a shuttle service will deliver goods to site on a just-in-time basis. The shuttle will consist of vans which will easily deliver to the FM yard.

From there, the goods will be sorted and placed on AGV which will deliver the goods to the relevant departments via the interstitial floor. From the FM yard the AGV will be placed in a goods lift which transports them to the interstitial floor. The vehicle will then direct itself to the hospital core closest to where the goods are needed, take the goods lift down and deliver the goods to the destination.

Waste will be collected and transported in a similar way back to the FM yard where it will be collected for disposal or recycling.

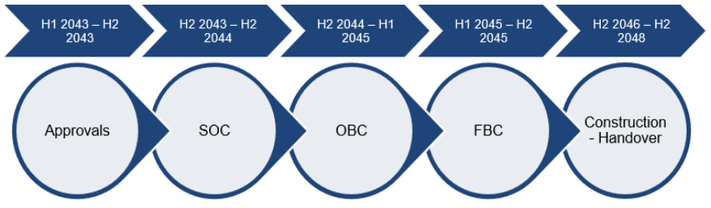
The interstitial floor link will also connect to the CSSD department where clean equipment can be collected and delivered in the same way as supplies. Dirty equipment is transported back to CSSD similar as the waste products.



4.6.4.1 *Indicative Cost Summary: 7a*

Description	Cost
Building Works	**£46.1m**
Demolition / Enabling Works	**£0m**
Site External Works and Infrastructure	**£1.3m**
Known Abnormals	**£5.6m**
Client Direct Items	**£8.8m**
Professional Fees / Surveys	**£9.3m**
Risk Allowances	**£28.4m**
VAT	**£18.1m**
Total	**£117.6m**

4.6.4.2 *Programme: 7a*



4.6.4.3 *Utility Strategy: 7a*

New power, gas and water utility connections shall be made directly with the Distribution Network Operators as appropriate for the development. This will be separate to the Hospital estate and specific to the development.

4.6.4.4 *Development Control Servicing Strategy: 7b*

This will be separate to the Hospital estate and specific to the development.

4.6.4.5 *Planning Context: Phase 7 and 8*

A new office building (including a conference centre and research facilities) would be built at Stage 7a followed by a series of activities to complete the redevelopment, including the demolition of the Grosvenor wing, the installation of car parking in Phase 1, landscaping and so on.

Stage 7a presents a consideration that straddles the commercial aspects of development and planning: given that planning seeks to optimise the use of land, the question is whether the provision of offices would be necessary or even desirable in this location; it may be that offices could be provided at another location and other uses could be delivered at St George's, or even more land made available for disposal. At this stage the development concept diagrams show that offices could be physically accommodated, but this commercial consideration ought to be explored in future stages of work – not least given that the relocation of administrative functions early on in the programme of works could create valuable 'breathing space' to facilitate major construction works.

Stage 8 would see the completion of the phased redevelopment of the site including the completion of the road and landscaped areas followed by the clearance of remaining land.

Whilst these would be the 'finishing touches' they will need to be planned from the outset. As suggested for the University building it will be important to ensure that any sites for disposal are capable of being independently accessed and serviced – not only so that construction on those sites can take place without disrupting the hospital, but also because residential developers will want sites with their own identities (they will not want to be marketing sites which are only accessible via a hospital site).

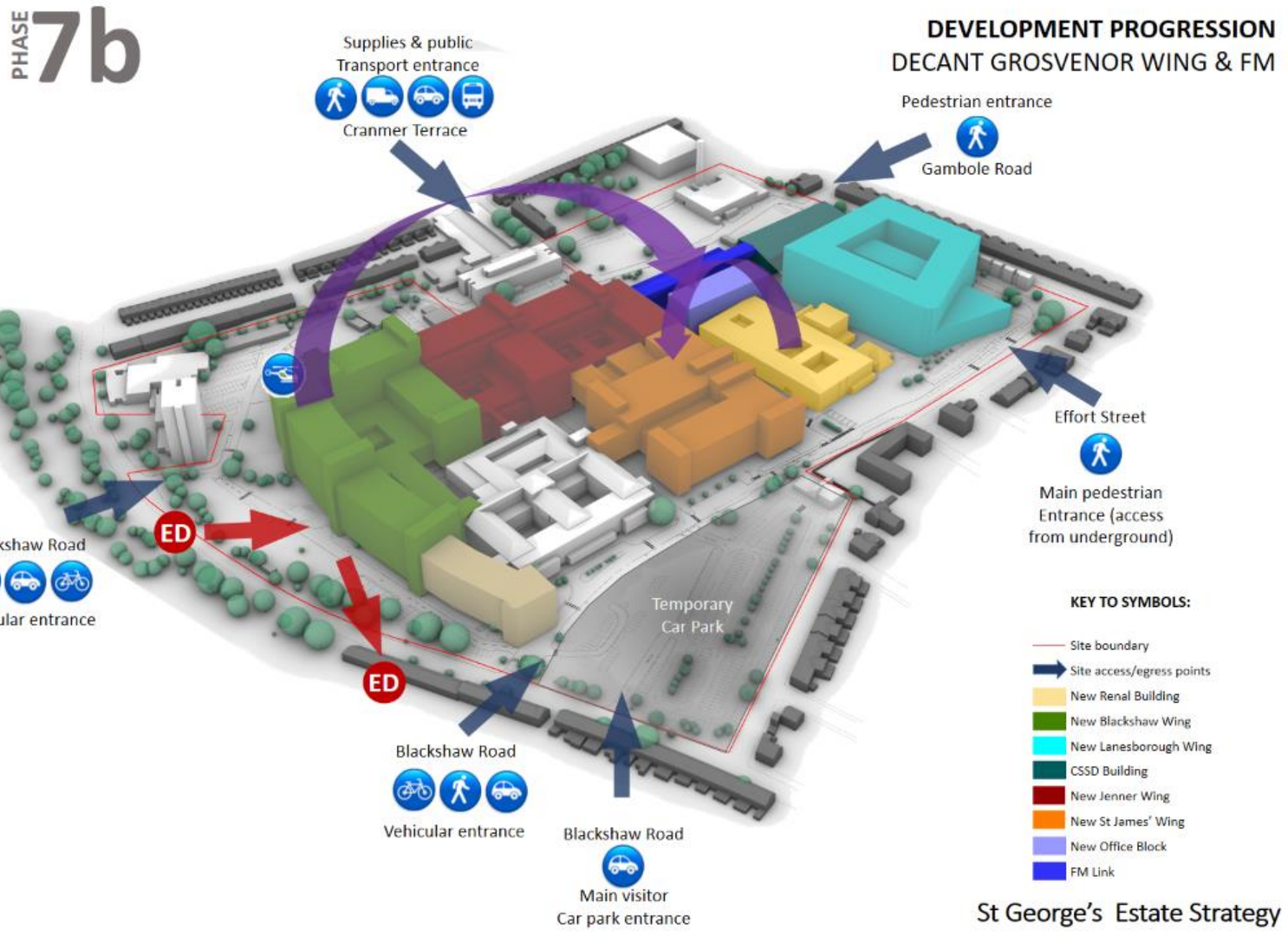
In respect of landscaped areas, great care will need to be exercised in relation to the definition of these; if the Trust was to concede them as 'open space' then it is likely that such a designation would all but sterilise any future development potential of such land. Above we have suggested that detailed masterplanning work considers the provision of landscaping as each stage is brought forward, perhaps by optimising the footprint of each building. This could also have the advantage of creating a variety of different spaces for different user groups. If this is possible, it should be made clear during the planning application process that any Stage 8 areas may well be used for expansion or 'swing space / land' in the future.

4.6.5 Stage 7b: Decant Grosvenor Wing and FM Space

With the new office building and the FM provision completed all new buildings for the new St George's Hospital have been completed.

The remaining content of the Grosvenor wing can now be decanted in the relevant new buildings: all remaining office accommodation will reside in the new office building and the FM yard will now take up its now position. The proximity of the site access point and the FM yard means heavy traffic will be restricted to a minimum.

The Grosvenor wing has functioned as the main entrance to the hospital. These functions will now be transferred to the St James' wing.



4.6.6 Stage 8a: Demolish Grosvenor Wing and Construct Car Park

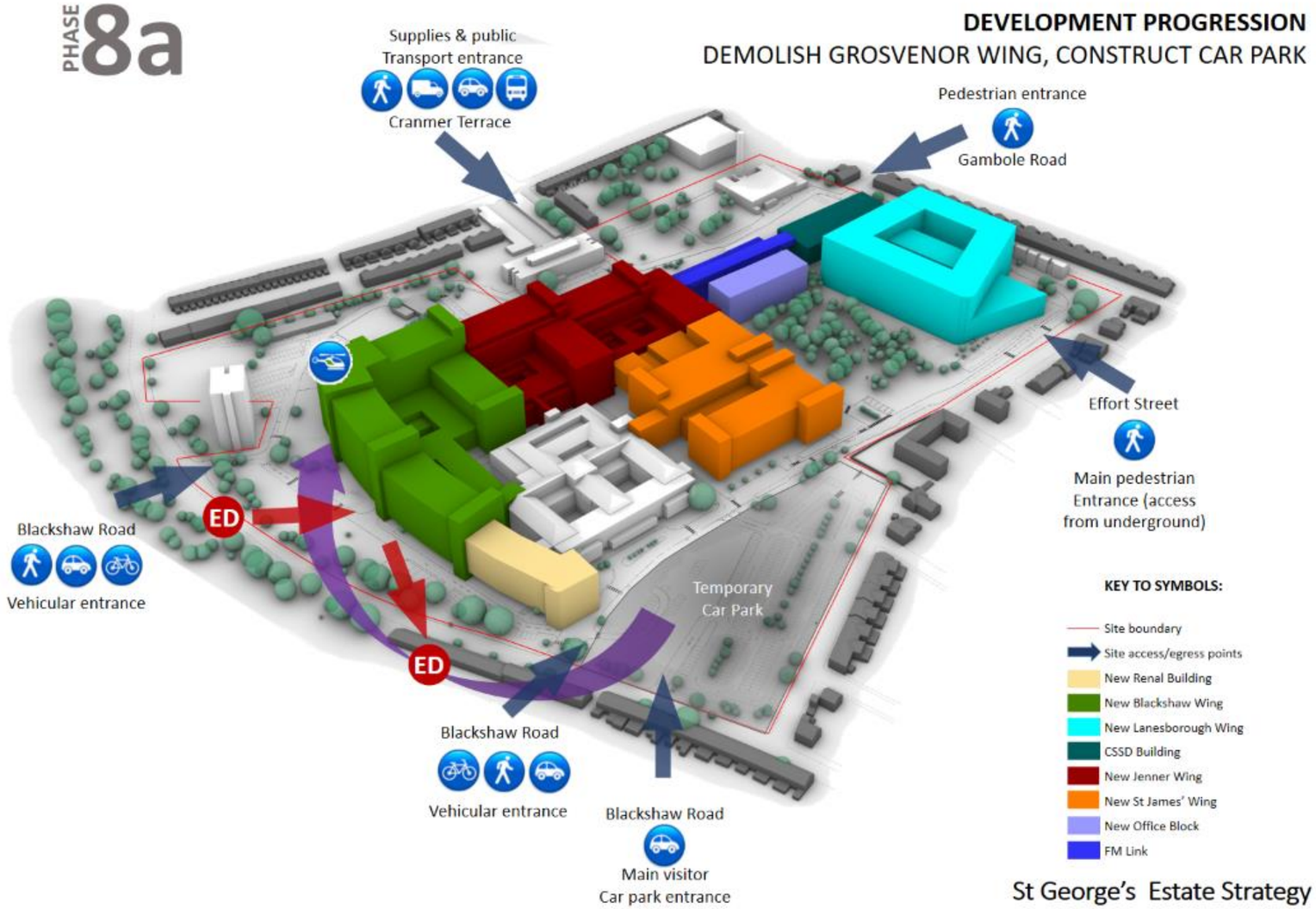
Demolition of the Grosvenor wing will allow the entrances around the new square to be activated. At this point all extraneous and temporary buildings on site can be decanted in the new buildings and demolished.

The space vacated by the FM services in the Blackshaw wing can now be repurposed for the multistorey car park. The intention is to provide three floors of car parking, both for visitors and staff.

This will amount to around **600 car parking spaces** which is sufficient to support St George's Hospital. Please refer to the section on transport for further details. The appropriate proportion of disabled spaces will be provided as well as electrical charging points as required at the time of construction.

4.6.6.1 *Indicative Cost Summary: 8a*

Description	Cost
Building Works	£0m
Demolition / Enabling Works	£3.4m
Site External Works and Infrastructure	£0m
Known Abnormals	£0m
Client Direct Items	£0m
Professional Fees / Surveys	£0.5m
Risk Allowances	£1.6m
VAT	£1.0m
Total	**£6.5m**



4.6.7 Stage 8b: Construct Landscaping & Release Development Sites

At this point, with the Grosvenor building removed, the main square, the heart of the hospital can be built. It is a large space in which various activities can take place, both for the hospital, the university, and the local area. It is likely to be populated by some pavilions such as a retail pharmacy, food, and drink stalls, etc. It will also contain wellbeing spaces, informal meeting areas and general park areas.

The square will integrate all the buildings surrounding it. It will become the focal point of the campus and will also act as a unifying space for the neighborhood: it will act as connecting space between Tooting high street, hospital, university, and the local residential areas with their amenities.

Furthermore, it will link to Tooting Gardens and, via the perimeter road, to the landscaped area between the Blackshaw wing and Blackshaw road and further via the cemetery to the linear regional park along the Wandle river.

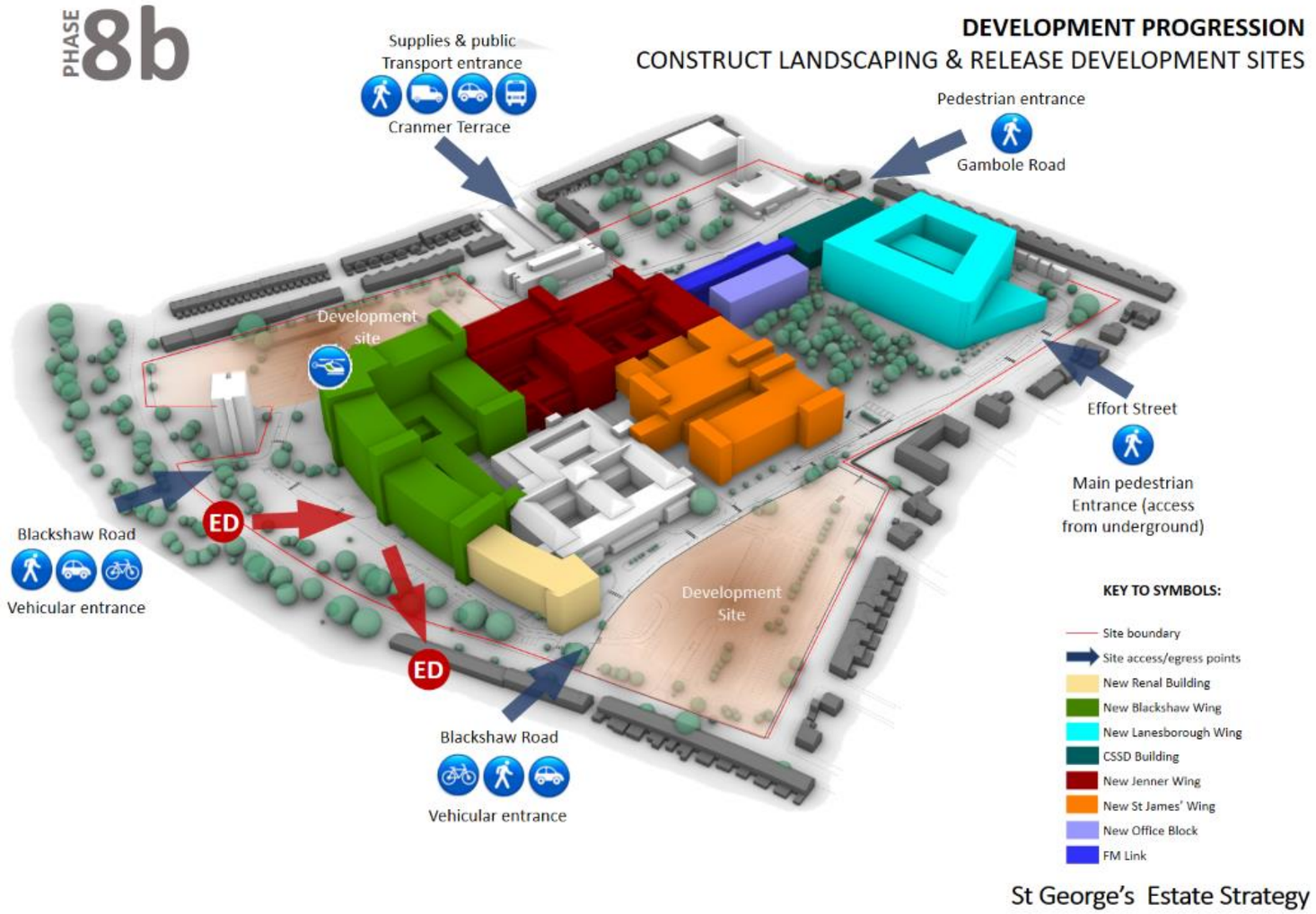
Over the development period, the perimeter road will have been upgraded somewhat. However, now is the opportunity to provide a holistic refurbishment of the perimeter road. The road, for the most part, will remain in the same position as it occupies now. This is important for the infrastructure of services which is mainly located below the road and therefore remains accessible.

The traffic along this road will significantly change over time. Car numbers using the perimeter road will reduce significantly. A central car park will ensure there is no need for car parking elsewhere on site, except by exception. Car movement should therefore only be limited to those using drop off points.

FM traffic is limited to access and egress from Cranmer street directly into the FM yard. Bus services use the perimeter road as part of their route. Proper layby bus stops should make movement more recognisable. FM traffic between buildings is now contained in the interstitial floor. This means that FM traffic is entirely removed from the perimeter road.

Ambulances have now their own blue light access and egress; there is no need for them to use the perimeter road except for patient transport when they will be using the drop off locations close to entrances into the buildings.

The intention is to turn the perimeter road into a shared space. This will become an urban street, tree lined,



comfortable for all users, including pedestrians and cyclist.

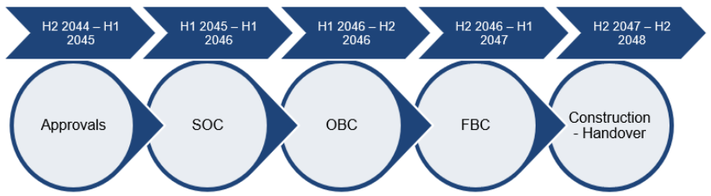
While the perimeter road will remain a 'private' road, owned by the Hospital, it will perform a significant social function to integrate the hospital with the surrounding areas.

At this point the development sites either side of the hospital can be released for development. This will allow 14.5ha of development on the Maybury site, where the temporary car park was located. The other plot, near to the Pelican Hotel has 17.5ha of development space. The nature of the development will develop over time, but it is assumed that these will be mainly centered around residences. Part of this may be to support the university and the hospital, with keyworker and/or student accommodation.

4.6.7.1 *Indicative Cost Summary: 8b*

Description	Cost
Building Works	**£0m**
Demolition / Enabling Works	**£2.1m**
Site External Works and Infrastructure	**£20.8m**
Known Abnormals	**£0m**
Client Direct Items	**£0m**
Professional Fees / Surveys	**£3.4m**
Risk Allowances	**£10.6m**
VAT	**£6.7m**
Total	**£43.6m**

4.6.7.2 *Programme: Phase 8b*



4.6.7.3 *MEP Infrastructure: Phase 8a & 8b*

Description

Undertake final stages of Development Control Plan, including:

- Demolish Grosvenor Wing
- Install car park in new building 1 (Stage 1b)
- Finalise ring road (revised layout and shared surface)
- Install main square and all landscaping (hard and soft)
- Demolish all portacabins
- Clear sites for redevelopment

Demolish Grosvenor Wing

Building Size: 10,608m2

4.6.7.4 *Utility Strategy*

Power

No specific changes to the sitewide utilities required. The demolition of the St James Wing will free up circa 2.5MVA of spare capacity. A significant allowance for electric car changing points will need to be made to ensure the car park can cater for the expected change to electric cars by 2030.

Gas

Gas utility connections (if any) to Grosvenor Wing to be isolated, made safe and disconnected.

Water

Water utility connections to Grosvenor Wing to be isolated, made safe, disconnected, and stripped back to main distribution to design out dead legs.

Existing site wide water private network distribution now redundant and shall be stripped back to existing incoming metered supply. Current meter to be decommissioned and stripped out.

4.6.7.5 *Development Control Servicing Strategy*

Power

Divert below ground services to facilitate the construction of the new road where these have not been diverted as part of a previous project stage.

Strip out and disconnect the Grosvenor building substation from the sitewide HV wing.

Install a dedicated substation to provide power to the electrical car charging installation.

Heat

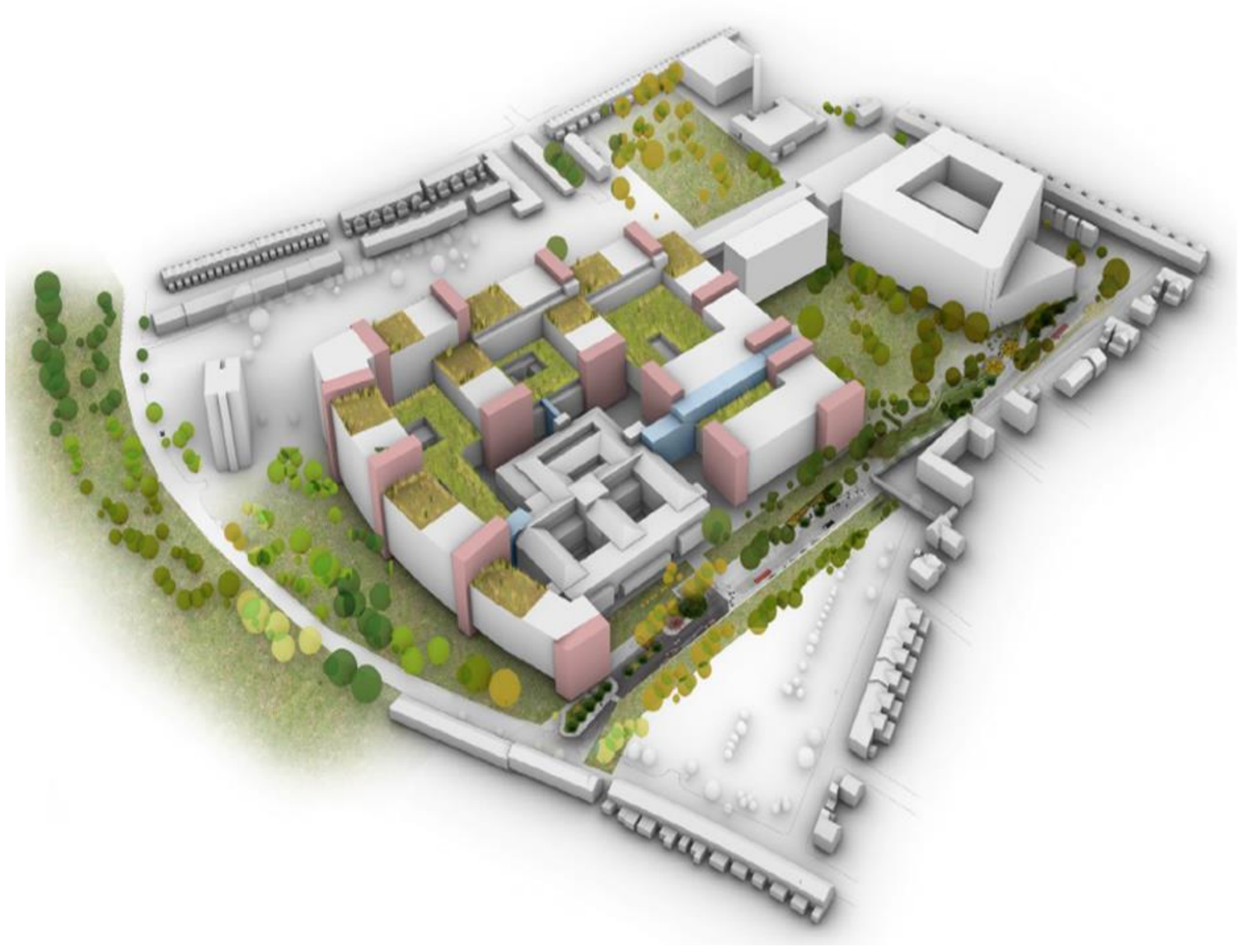
Existing steam main distribution pipework from Energy Centre to Grosvenor Wing to be isolated, made safe and disconnected.

To support the decarbonisation of the existing retained estate, the smaller retained building assets not specifically mentioned in the DCP shall undergo upgrade works to remove any further gas fired heating and hot water plant. Upgrade works to the building fabric; heat emitters and air handling unit plant coils shall be necessary for any retained building assets due to the lower flow and return temperatures heat pump technology utilises.

Energy Centre to be decommissioned.

4.6.7.6 *MEP Capacity*

Building	Stage 8; Demolish Grosvenor Wing
Estimated Building Electrical Load Reduction	**-0.4MVA** (This includes the addition of electrical car charging points)
Total Sitewide Electrical Load (Including the reduction identified above)	**16.2MVA**
Total Sitewide Standby Generation Load	**16.2MVA**
Building Heat Demand	**- 1.5MW**
Total Decentral Heat Plant Load	**37.5MW**
Total Site Wide Heat Demand (Energy Centre)	**0.0MW**
Building Water Demand	**- 1.0l/s**
Total Sitewide Water Demand	**17.9l/s**



4.7 Capital Investment Implications

4.7.1 Benefits and Risks

The benefits and risks shown below relate to the strategic investment proposals outlined in the previous section.

A full review of benefits and risks across the recommendations within this Estate Strategy are available in Section 18.

Benefits

Quality of Estate – the Trust premises will be fit for purpose and functionally suitable with appropriate and effective maintenance arrangements to meet the required standards.

Enhanced patient experience – we will provide state of the art facilities that enable clinicians to deliver treatment in a comfortable, caring, safe and uplifting environment

Health & Safety – the estates will provide a safe environment to high standards of Health & Safety and statutory compliance

Staff Welfare – we provide, in all its estate provision, fit for purpose and cost-effective facilities and amenities for staff.

Backlog Maintenance – a reduction in the Trust's overall estates backlog with improved mitigation of critical service infrastructure risk.

Space Utilisation - maximising clinical/non clinical ratios enhancing the target performance of the Lord Carter recommendations.

Net Zero Carbon – we will continue to recognise the importance of the sustainable development within the design and build process.

Divestment of high-risk estate – Significantly reducing estate, backlog and compliance risks by divesting a significant portion of the poor condition estate

Risks

Programme

The design and construction programme at this stage is estimated to be delivered over 20 years. This creates a significant window for changes in the environment such as NHS priorities, service requirements of the Trust, and risks to programme extension which would increase costs and disruption on the site.

Cost

Due to the size and scale of the scheme, and a substantial amount of risk, contingency and unknowns incorporated into the cost plan. Whilst this is highly likely to be reduced significantly through the development of detailed design and business cases, a figure in this region will create budgetary and funding complexities.

Deliverability

This masterplan proposes a significant transformation programme over a vast timeframe. There will be, therefore, a substantial design period required at each stage to mitigate the risks of large-scale development on a currently utilised and operational acute hospital site.

4.7.2 Town & Country Planning

London Borough of Wandsworth – Local Plan

The Local Plan is the key planning document for the borough. It sets out a 15-year vision and framework for the future development of the borough, addressing the needs and opportunities in relation to housing, the economy, community facilities and infrastructure. It is sets out how the borough's natural and historic environments will be conserved and enhanced, outlines a strategy for the mitigation of and adaptation to climate change, and sets out principles for creating well designed places.

The Council is in the process of reviewing the entire Local Plan, to ensure that the Local Plan is up to date and continues to meet the needs of the borough's residents and visitors, which is due to be adopted by Spring/Summer 2023. The Trust made representations on the basis of the Estate Strategy's emerging 'themes' to the council in March 2021 – see Appendix 3.

4.7.3 Commercial Opportunities

From a commercial perspective, our overarching aim is to realise value from the estate to generate funds for reinvestment or as a revenue stream.

Throughout the strategy development process, we identified a number of high-level principles to realise the commercial opportunities that are available for the St George's Site and Queen Mary's Hospital relating to:

- Retail
- Land disposals and divesting of leasehold interests
- Pharmacy provision and manufacture
- Agile Working & Training and Development
- Private Patients.

Across the next section, we have set out how each principle can be taken forward to support the delivery of the Estate Strategy objectives of "Developing a commercial strategy which supports the Trusts ambitions and promotes efficiencies".

4.7.3.1 *Retail*

The Trust already benefits from various food and beverage opportunities with the most visible being the M&S Cafe unit at the main entrance of the Grosvenor Wing. Other concessions include Peabody's in the Hunter Wing and the Atkinson Morley Wing; Ingredients Restaurant on the First Floor of the Lanesborough Wing; the Green House on the Ground Floor of the Hunter Wing and Prêt à Manger in the Ground Floor of the Jenner Wing.

The performance of this retail provision is said to be muted and unfortunately the WH Smith at St George's has recently been a victim of the pandemic and has closed.

The retail offer is fragmented around the hospital and with proposed changes, for example virtual outpatient clinics, there is the potential to lose approximately a third of the footfall.

Looking forward, and as set out in the DCP, the future retail offer should be consolidated and centralised within the 'heart of the hospital' to draw it together in a visible, well- connected and more convenient location on site. Design can help drive footfall through key areas on site where both staff and patients will have to walk through.

To maximise trade, the retail offer should be visible externally to the local community and mix with the creation of public realm on site, and it should reflect healthy lifestyle choices through the provision of food and drink.

The Trust sees the benefit of supporting staff, visitors, patients, and the surrounding population in improving their health and wellbeing though an intelligent approach to retail. For example, instead of focussing on coffee shops, the Trust will consider alternative complimentary retail uses such as an optician and/or heath food shops. There is also the opportunity to use the public realm on site for example through pop-up stalls to help increase the quality and variety of food and beverage as well as considering how one might approach a 24/7 provision.

Equally, St George's is close to Tooting Broadway which already has a strong yet local retail offer. There may be opportunities where off-site opportunities with the acquisition of leasehold retail units could accommodate the Trust's needs. It is also a direct competitor and far more established location and therefore it is recommended that the DCP seeks to compliment the local offer and not directly compete.

With the ever-changing shape of retail in this country there are shopping centres locally where space is either or may become vacant that could provide cost effective accommodation for outpatient clinics. Clearly this opportunity will need to be carefully considered, however the Trust's own covenant and ability to take on a lease should not be underestimated for the investment value of a shopping centre's freehold owner.

Surplus land parcels on site which lend themselves to say residential uses could include retail with active frontage onto a square on the ground floor of apartment blocks.

Furthermore, the diversification of town centres is continuing to gain traction in the market where healthcare is seen as a complimentary use to assist and drive footfall for surrounding retail and in turn provide added convenience to the local population.

4.7.3.2 *Land Disposals*

There are land disposal opportunities being safe guarded as part of the Wandsworth Local Plan where the Trust has made representations to Wandsworth's planning department to safeguard future allocations for housing on the Trust's two main sites.

The Trust will need to consider its overall DCP to ensure that where alternative residential uses can be incorporated; appropriately accessed and serviced without impacting on clinical delivery.

Where land is identified for sale, the Trust will commit to reviewing its disposal options in order to achieve best value in accordance with NHS Estate Code. At the appropriate time, the Trust will consider a cost benefit analysis of the overall opportunity or opportunities for disposal (including the delivery of Key Worker Housing for NHS Staff) and will consider inter alia freehold disposal; long leasehold disposal and Joint Ventures arrangements with third parties. The Trust will consider alternative uses

that can give a capital receipt as well as provide long term income.

4.7.3.3 *Pharmacy*

Whilst the main hospital sites will continue to have their own dispensing pharmacies to manage the Trust's on-going needs, the Trust is also considering future off site requirements to manufacture and dispense for the Trust's own needs as well as for South West London.

The Trust would like to explore the opportunity to build or lease its own off-site facility and review the business opportunity of becoming a commercial provider to the Trust and the wider NHS in South West London and beyond. The aim is to consider whether the Trust could work with others such as Epsom and St Helier NHS Trust; Kingston Hospital; Croydon University Hospital and Mayday Hospital. Further work is required to quantify the demand for the South West London sector to inform the Trust's business case.

Once demand is established and quantified, an options appraisal will need to be carried out to ascertain the property requirement to accommodate the Trust's future business aspirations.

4.7.3.4 *Flexible Mobile Work*

The Trust will continue to work on plans for staff to work remotely from any setting via a mobile device as well as via hot-desking docking stations, supported by the Home Working Policy – see Appendix 10.

The Trust will consider working with its Public Sector partners where they are synergies to co-locate – especially non-clinical support staff. The proposed redevelopment of the hospital will include options where good quality flexible office space is located within the heart of the house to promote agile, touch down and collaborative working. The design and type of space will need to be considered to ensure it meets demand.

The evolving nature of work may see the development of workspaces being located closer to communities and therefore enabling workspace to be opened up to the local community. Agile working will need to work hand in hand with the Trust's own digital strategy to ensure that there is sufficient and robust digital infrastructure to enable users to connect to a strong and safe secure internet connection.

4.7.3.5 *Training and Development Facilities*

The DCP is looking at synergistic opportunities with the University on site. This could include conference or seminar facilities or access to shared facilities. It is recommended that should a joint model be developed and the proposed space that is created is commercialised and opened up to private sector as well for events or training. It is important to appoint an individual or small team who can run this type of facility to commercialise the space that is made available. Hospital complexes are often open 24/7 with security and therefore you can create a safe environment for afterhours activities on site. Space could be let out to local businesses who may need to hire space for meetings; yoga; therapy and health and wellbeing activities. If there are on site catering facilities or kitchens, could these be hired out for classes or 'pop up' evening events for start-ups.

There is an opportunity for both the Trust and the University to work together; document their occupation on site and create a modern fit for purpose multi-functional campus for healthcare and education uses. A joint approach will generate opportunity but also provide the required footfall required by the proposed retail/ food and beverage offer on site. At present there appears to be duplication on site which impacts on the economic viability of commercial opportunities on site.

4.7.3.6 *Private Patients*

St George's Hospital is one of the largest hospitals in London with the smallest Private Patient Unit. Queen Mary's Hospital would lend itself well as a modern environment for a Private Patient Unit. There are single rooms/ multipurpose spaces which could be adapted for this market; however, any form of catering would need to be adapted on site to meet this requirement.

The need and demand should arise from the Trust's own business strategy which the real estate at the QMH being the location to provide the accommodation for an enlarged Private Patient Unit. Once the 'business' is identified and quantified, the Trust's real estate at QMH can be reviewed to meet and accommodate the demand.

4.7.3.7 *Community Infrastructure Levy and Section 106 Contributions*

The Trust's main estate is rooted in the London Borough of Wandsworth; however, the Community Estate is further reaching covering other London and out Outer London Boroughs. Community Infrastructure Levy is a charge which can be levied by local authorities on new development. It is an important tool for local authorities to help them deliver the infrastructure needed to support development in their area. CIL can be used to fund a wide range of infrastructure, including transport, flood defences, schools, hospitals, and other health and social care facilities.

This definition allows the levy to be used to fund a very broad range of facilities such as play areas, open spaces, parks and green spaces, cultural and sports facilities, healthcare facilities, academies and free schools, district heating schemes and police stations and other community safety facilities. This flexibility gives local areas the opportunity to choose what infrastructure they need to deliver their relevant plan (the Development Plan and the London Plan in London). Local authorities must spend the levy on infrastructure needed to support the development of their area, and they will decide what infrastructure is needed.

The levy can be used to increase the capacity of existing infrastructure or to repair failing existing infrastructure if that is necessary to support development. The Trust will therefore engage with the London Borough of Wandsworth and other Local Authorities it operates in to ensure that the Trust is considered as part of the Council's list of infrastructure needs so that the Trust can financially benefit linked to specific health care projects.

4.8 MEP Infrastructure Summary

The NHS proposes built environment designs encourage sustainable development and low carbon usage by showing resilience to climate change, implementing energy management strategies and a broader approach to sustainability including transport, service delivery and community engagement.

Additional contributors to carbon reduction as proposed by the NHS are:

- Providing on site renewable electricity
- Implementing widespread measures to reduce electricity consumption
- Increase CHP to maximum potential.

The Trust has committed to align itself with the considerations set out in HTM07 Environment and Sustainability; planning, design, construction, and refurbishment as well as self-made objectives described within The Green Plan for all new Capital Projects.

In accordance with the Government's common minimum standards, and we have committed all new projects will achieve a BREEAM "excellent" rating and all refurbishment projects (in excess of £500k) are to achieve at least "very good" rating, unless site constraints or project objectives mean that this requirement conflicts with the obligation to achieve value for money.

4.8.1 Energy Strategy Opportunities & Constraints

As part of the development of this Estate Strategy, we have undertaken a feasibility review to assess the various low and zero carbon technologies available to help achieve the NHS England commitment to reducing direct CO2 emissions 80% by 2028 and 100% by 2040.

A key consideration is the current investment in gas fired steam boilers and combined heat and power plant made as part of the Energy Performance Contract. The existing investment in natural gas fired plant is likely to be a constraint in the electrification agenda on the drive to meet carbon reduction targets.

The role of thermal modelling in the design process has also been discussed, this identified that at the next stage of the design the following thermal modelling will be required:

- Part L2A calculations
- Overheating and thermal comfort analysis,
- Air quality analysis
- Operational energy
- BREEAM.

4.8.2 Net Zero Carbon Approach

In 2019, the NHS, which is responsible for 5.4% of the UK's greenhouse gases, announced 'The NHS Long Term Plan'. This included commitments to reduce its carbon footprint by 51% against 2007 levels and to phase out coal and oil fuel for primary heating uses. In response to the UK Government's commitments, the NHS is now going further with the commitment to reduce direct CO2 emissions 80% by 2028 and 100% by 2040.

Leadership for the transition to a net zero carbon-built environment is rapidly developing at the present time and guidance from the Green Building Council and the London Energy Transformation Initiative have been referred to in lieu of specific NHS guidance. A route map to a 'Net Zero' NHS is currently being developed and is expected to be published in Autumn 2021.

The Estates response to Net Zero has been acknowledges as part of this report, with a roadmap set out as part of The Green Plan to achieve Net Zero by 2040.

The Estate Strategy shall align itself with The Green Plan roadmap (Appendix 7). New developments shall be designed to achieve Net Zero and investment made to decarbonise the retained building assets on the site.

4.8.3 Heat Infrastructure

Thermal energy at St. George's is generated within a central gas fired Energy Centre and distributed to the large building assets via a steam distribution network at roof level. During the 2019/20 financial year, the estate's natural gas consumption to produce steam, electricity and thermal energy for the site was 135million kWh.

To ensure the Estate Strategy responds to the Net Zero agenda, investment is needed in the capital plant infrastructure to ensure the future SGUHL site achieves challenging Net Zero carbon goals whilst ensuring safe, reliable, resilient, and efficient operations to meet patient, staff and local community needs.

Electrification of the current heating infrastructure is a key strategic step to reduce carbon dioxide emissions, largely due to the decarbonisation of the electricity national grid as well as the limited progress made in technology interventions such as biofuels or hydrogen that could be harnessed to design out the need to rely on natural gas fired heat generation plant.

The prime source of heating and cooling energy therefore for the new development shall be via electrically driven heat pumps. The heat pump technology shall be via air source heat pumps, ground source heat pumps or a mixture of the two to enhance the overall resilience of the system.

At this early stage, the heat infrastructure response to the DCP proposals is based on a decentralised heat infrastructure approach. This provides the most flexible solution whilst requiring the least capital investment.

This does mean a potential compromise on energy efficiency, however by investing in 4-pipe heat pump technology which provides the benefit of simultaneous heating and cooling the system has greater efficiency than centralised heating only plant.

In 2024, as part of The Green Plan, SGUHL plan to undertake a study of switching to an all-electric Trust where the above will be explored in further detail.

4.8.4 MEP Infrastructure Capacity

- A detailed report is provided in Appendix 2 which outlines the impact of the Estate Strategy proposals on MEP Infrastructure Capacity. Some of the key points to note are as follows:
- Across all phases of the programme the electrical demand for the site is estimated to double from 8MVA to 16MVA
- The estimated demand for water sitewide increases by 30% at its peak, but the final figure is similar to the current estimated demand with an estimate increase of 2 L/s.
- Across all phases of the programme the heat demand for the site is estimated to increase by approximately 30%.

A detailed report on which describes the impact of this Estate Strategy on the MEP Infrastructure, Energy and Sustainability is included in Appendix 2.

4.9 Business as Usual

Maintaining a safe, compliant, and fit-for-purpose estate is the core building block of any Estate Strategy and any NHS Trust.

Here we have set out how we will do this through our Estates & Facilities Team and our core 'business as usual' responsibilities.

4.9.1 Current Estate Management Arrangements

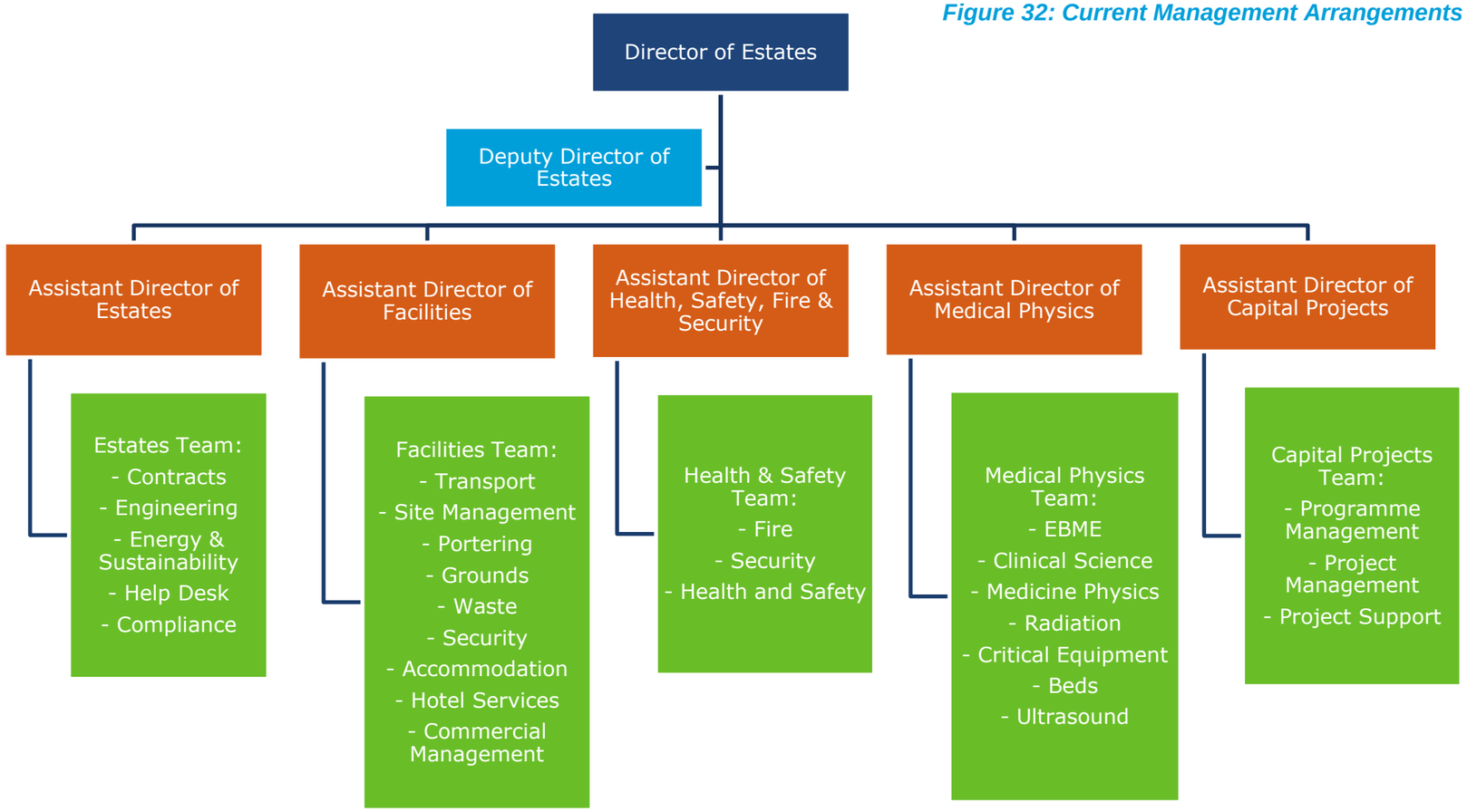
The Estates and Facilities Division currently employs 330+ staff members, across the following sub-divisions:

- Catering
- Energy and Engineering
- Estates
- Estates Community Premises
- Facilities Services
- Hotel Services
- Medical Physics
- Project Management.

Within these sub-divisions, specialities are widespread across a variety of functions, which include H&S, Capital Projects, Portering and Security.

The management structure has been summarised in the graphic:

Figure 32: Current Management Arrangements



Outstanding care every time

NHS
St George's University Hospitals
NHS Foundation Trust

4.9.2 Estates & Facilities Team Commitment

The Estates & Facilities department is committed to ensure a high-quality estates and facility service and effective estate maintenance systems are in place that ensures:

- The continuous provision of functionally suitable facilities for healthcare provision creating a **safe pleasant environment internally and externally.**
- An efficient, responsive, comprehensive, and effective service which is based on sound technical and operational requirements in compliance with codes and policies of good practice and industry and statutory standards.
- Fire safety is maintained incorporating continual fire training, fire risk assessment and review.
- Access and car parking arrangements meet the reasonable needs of patients, staff and visitors and are effectively managed at all times.
- Maintenance of the integrity of the building fabric and building services, public health and utility systems, equipment, and site infrastructure.
- All plant, equipment, buildings, utility services and site infrastructure do not cause or create any hazard to the environment and / or any person on the Trust site(s).
- Patients, staff and visitors perceive that the cleanliness, condition, appearance, maintenance and privacy and dignity of the estate are satisfactory.
- An effective management of accommodation including occupancy, utilisation, leasing, and licensing where appropriate and staff residences.
- Minimal disruption to the Trust's operations in the delivery of the Estate & Facilities Service.
- A safe environment and safe working practices including the use of recognised risk assessment / management systems to ensure the standards stay high, and that any slippage is recognised and corrected.
- NHS catering services provide adequate nutrition and hydration through the choice of food and drinks for people to meet their diverse needs.
- A safe, effective portering service is provided that meets the needs of patients, staff and visitors and the Trust, consistent with all relevant guidance and legislation.
- The telephony and switchboard service is provided efficiently, professionally, and courteously within agreed target response times
- There is a continual drive for improvements in our environmental performance, in particular energy and water consumption, waste production and non-patient transport and the impact they have on the Trust's carbon 'footprint'.
- Compliance in the development, occupation and management of all land and property, including acquisitions and disposals of freehold and leasehold land and premises.
- There is an effective estate and facilities risk management process that reflects the principles within the Trust's risk management strategy and gives assurance that Estates and Facilities risks are being identified, proactively controlled, and mitigated.

4.9.3 Estates and Hard FM Service Review

We have recently undertaken a review of our Estates and Hard FM services. This review, which is described in further detail in the following sections, will be used as a learning exercise and, once adopted, will be rolled out across our Estates and Facilities division to include Facilities and Medical Physics.

St Georges Hard FM Service/Estates function is delivered and managed through in-house resource, supplemented by agency and specialist contractors where necessary.

This section sets out the review of the existing organisation, encompassing best practice and insights gathered from in-depth stakeholder engagement sessions with key stakeholders from a broad spectrum of management and operational staff.

- Review the current Estates (Hard FM) Management Team
- Understand the current situation, history and challenges
- Review the existing organisational structure and capabilities
- Develop a new target operating model focusing on improved delivery and cohesion over a 5-year timeline

4.9.3.1 *Stage 1*

Focussed interviews were conducted with a variety of stakeholders across the following groups:

- St George's Management Team
- Operational Staff
- Key Stakeholders
- Customers (e.g., users of the healthcare estate).

The following are the consistent themes identified from the review:

- Silo Working Commonplace
- Lack of clarity over roles & responsibilities
- Need the right people in the right role for their skillset
- Lack of trust & teamwork
- A clear Estate Strategy is of paramount importance
- All involved want this review to be successful
- Too many managers and not enough resource
- Existing structure is too complex
- Overtime and out of hours working is an issue

4.9.3.2 *Stage 2*

A thorough review of the existing team structure, which suggested that it may be complex in nature, and there is a perceived lack of clarity over responsibility and lines of reporting.

The existing structure demonstrates that capability for the Estates Management function is present but can be streamlined through implementation of the Target Operating Model.

4.9.3.3 *Stage 3*

This stage took all the understanding from the review and compared it against industry benchmarks and best practice. The learning from this enabled the team to recommend an optimum organisational model, with team and management functions, and the appropriate skill sets and experience for each function.

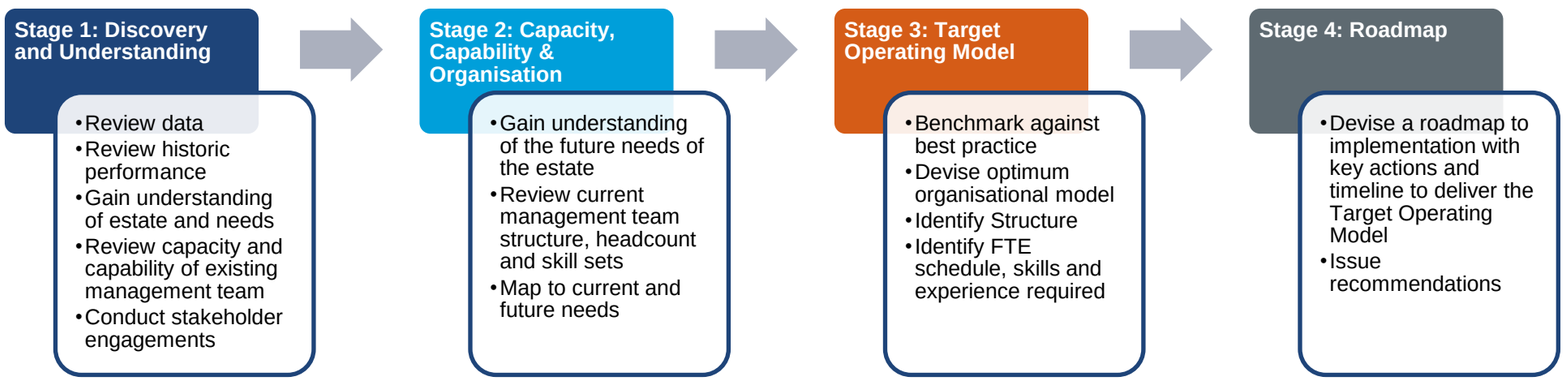
The key Estates Management functions are indicated below:

- **Reactive Maintenance**; across all MEP installations including Ventilation, HP systems and Gas
- **Planned and Preventative Maintenance**; across all MEP installations
- **Asset Repair & Maintenance**; including asset condition, asset replacement and coordination of condition surveys
- **Compliance**; Statutory compliance, Health & Safety, Asbestos and Approved Persons
- **Major Projects Support**; including capital programme and Investment Committee interface
- **Specialists / Sub-Contracted element**; responsible for specialist maintenance
- **Admin & Procurement Support**; including POs, requisitions, payment support, management of approved contractors etc.
- **Helpdesk, CAFM & Data**; including reporting, data management, CAFM system management and input.

4.9.4 Stage 4

A detailed roadmap has been provided in Appendix 6.

Figure 33: Estates & FM Service Review Approach



4.9.5 Management of Estates Policy

This section outlines the Trust's policy for the safe management and control of its estate and associated processes, systems and equipment and is a key foundation block of delivering Business as Usual.

4.9.5.1 *Safe Management of Contractors Policy*

The Trust's Safe Management of Contractors Policy ensures a consistent approach in the safe management of Contractors, including procurement, induction, and safe working practices. The activities of Contractors are managed to prevent themselves, staff, visitors and patients and members of the public from being exposed to risk.

This document is also a key foundation block of delivering Business as Usual and Strategic Investment across the Trust's Estate.

4.9.5.2 *PFI structure and how the relationship will work*

Although our PFI Contract is performing well, we continuously seek ways of maximising its value and we will continue to develop our **"Intelligent Client"** role and build on the excellent working relationships we have with our Provider.

The Trust will continue to maximise the value from our PFI contract.

4.9.5.3 *PAM*

The NHS PAM is a tool that allows NHS organisations to better understand the efficiency, effectiveness, and level of safety with which they manage their estate and how that links to patient experience. The NHS PAM has two distinct but complimentary parts:

- Self-assessment questions (SAQ's): supporting quality and safety compliance.
- Metrics: supporting efficiency of the estate and facilities.

The main benefits of the NHS PAM are to allow NHS organisations to demonstrate to their patients, commissioners, and regulators that robust systems are in place to assure that their premises and associated services are safe. Provide a consistent basis to measure compliance against legislation and guidance. Allowing NHS organisations to compare how efficiently they are using their premises and prioritise investment decisions to raise standards in the most advantageous way.

In August 2020, we proposed a fuller adoption of the NHS PAM, and undertook to appoint an external consultant to work with us to:

- Review our current evidence database
- Identify gaps and weaknesses
- Work with the team to improve our evidence and working practices
- Develop a dashboard that presents the key outcomes of our assurance
- Develop a monitoring regime to track actions and changes.

By undertaking this work, the Trust's evidence base has been externally validated and rescored in accordant to the new guidance released in February 2020. Following initial validation and gap analysis it was clear improvements were necessary, however the team have provided further evidence and these iterations have further increased.

We now have a high level of confidence in the quality of our PAM data. This will allow us to target those areas that need further improvement and supports some of the issues that have been flagged in previous years.

4.9.5.4 *ERIC*

Much of the analysis in this Estate Strategy has been driven by the data submitted annually to the NHS Estates Returns Information Collection. This data is what feeds the national estates analysis within the Model Hospital and is therefore a significant indicator as to the performance of our estate.

We commit to maintaining, gathering, and improving our data through robust data management processes, which will ensure that our data is up-to-date, clean and informative. This will support both ourselves and the wider NHS to have an up-to-date picture on how our estate team and the built environment within which we operate is performing compared to national benchmarks and our London peers.

4.9.5.5 *HBN*

Health Building Notes give "best practice" guidance on the design and planning of new healthcare buildings and the adaptation / extension of existing facilities. They provide information to support the briefing and design processes for individual projects in the NHS building programme.

Our team commit to ensuring that HBN guidance is considered and applied in all of our Strategic Investment projects, and our on-going BAU capital investment programme.

4.9.5.6 *Way finding/signage*

The Trust aims to provide accessible site wayfinding signage across its Hospital sites and will follow the guidance in the NHS Wayfinding document which sets out the basic requirements for developing and implementing a wayfinding strategy.

This involves setting out agreed policies for all primary issues that affect how people navigate their way around a hospital building.

Wayfinding at our Hospital sites is not in line with current NHS recommendations and branding, so our Wayfinding system requires an upgrade to provide a consistent approach and standard to meet the needs of our staff, patients and visitors.

We will investigate the use of digital as a source for improved wayfinding together with better use of colour in our signage.

A Wayfinding Strategy and Action Plan will be produced and implemented, improving the way staff and patients navigate their way around our hospital buildings.

4.9.5.7 *Equality Act 2010*

It is recognised that under the Equality Act all reasonable effort needs to be made to make information and facilities accessible to disabled users. These principles are built into everything that the Estates & Facilities team do and is an integral part of our Business as Usual and Strategic Investments.

We carry out a new DDA Assessment and will work towards making our estate DDA compliant for our staff and patients.

4.9.5.8 *Accessibility and movement*

Accessibility to our hospital sites by patients and visitors is often by car as many do not have any viable alternatives to this form of travel. This may be because they are elderly, infirm, and ill or are travelling from a location where there is no reasonable alternative mode of transport.

There are also many members of staff who either need to use their cars as part of their job or do not have any viable alternative way of accessing the site.

Where possible we will investigate alternative modes of transport such as bus, cycling and walking to reduce car journeys and we will promote these alternatives at every opportunity.

4.9.6 FM, Fire Safety and Health & Safety

4.9.6.1 *Health and Safety*

A Health and Safety policy is required by the Trust as a legal requirement in accordance with Section 2 (3) of the Health & Safety at Work Act 1974.

The ultimate aim of the Trust's health and safety management system is to prevent injury and ill health to employees and others affected by its undertaking and working environment.

4.9.6.2 *Fire Safety*

All NHS organisations have a responsibility to provide a clearly defined Fire Safety Policy. Fire is a potential hazard in all NHS premises, and the consequences of fire in a hospital or other health care premises can be especially serious because of difficulties and dangers associated with the emergency evacuation of patients, many of whom may be partially or totally dependant or have mobility impairment.

The aim of the Trust is to ensure, as far as possible, that outbreaks of fire do not occur. If an outbreak cannot be prevented it must be rapidly detected, effectively contained, and quickly extinguished, with no risk to staff, patients or visitors due to robust fire safety protection and evacuation procedures.

4.9.6.3 *Maintenance Priorities*

All assets require some form of maintenance activity. This may range from very simple checks when new, through to extremely complex tests and validation arrangements throughout the life of a more complex asset. In order to ensure that time and resources are not wasted on maintenance, it is necessary to identify asset groups or categories which require maintenance activities, and then to identify what needs doing, by whom, and how often.

Within St Georges, planned maintenance activities are limited to essential maintenance only (i.e.: where a failure of the maintenance programme will render the asset either unsafe (to staff, patients, building or environment), illegal, or likely to result in high repair costs).

It is clear that any asset may become unsafe in the absence of any maintenance programme, so it is vital to ensure that the level of maintenance undertaken reflects the practical and cost-effective requirements for that asset. In very many cases, an annual safety inspection will be sufficient to ensure that a high level of safety is maintained.

4.9.6.4 *Reactive Maintenance*

In addition to planned maintenance activities, staff of the Estates & Facilities Department are required to react to faults or breakdowns in systems, plant, or assets at any time. All such activities will be generated by user calls to the Estates HelpDesk. With correct planned maintenance activities, this type of reactive maintenance should be kept to a minimum.

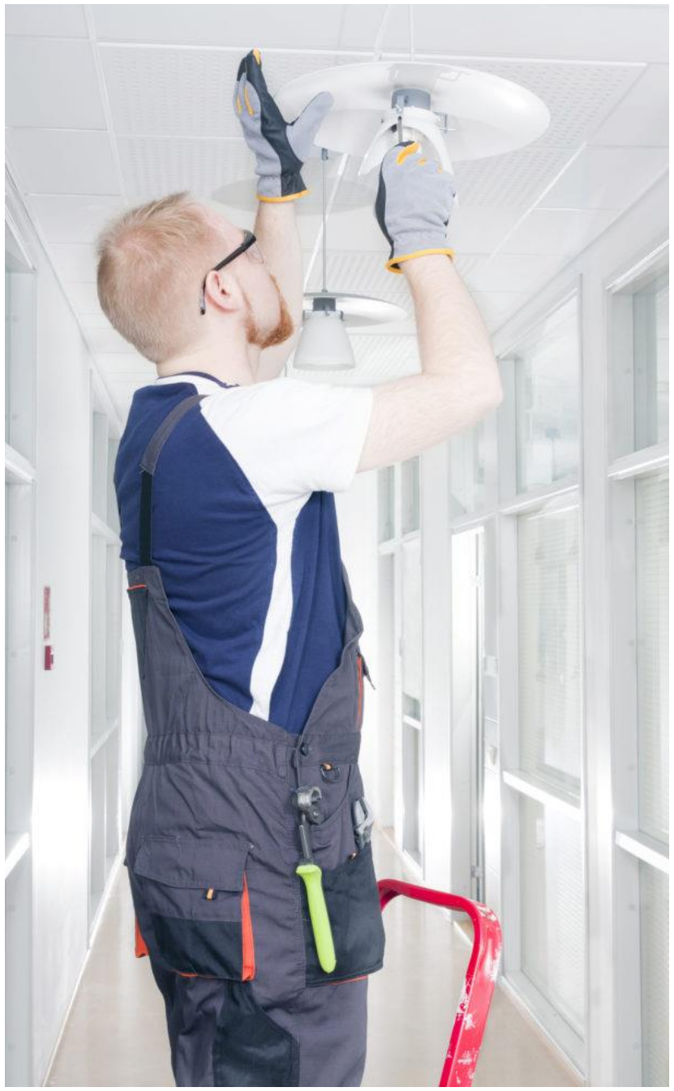
However, breakdowns do occur, necessitating some form of corrective action. Where this occurs, reference should be made to the planned maintenance schedules / tasks to ensure that cost effective operation and maintenance are being achieved. Where necessary, a review (either increase or decrease) in schedule frequencies may be required.

4.9.6.5 *Asset Replacements*

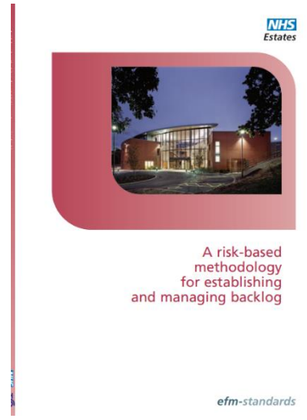
The decision to replace an asset may be based on a number of factors including asset condition, technological changes, availability of spare parts, frequency of breakdown, etc. Any such decision should be taken on a whole life economic basis (i.e.: cost, carbon, value, etc).

The Estates maintenance budget is intended to support the repair, maintenance, and exceptional replacement of assets. The decision to replace an asset from the maintenance budget may be taken if the ongoing cost of maintaining an asset is greater than the cost to replace that asset.

Such a decision will be taken by the Director of Estates & Facilities in consultation with senior managers and finance department officers as necessary. Where an asset has been purchased from a non-estates budget (i.e.: direct by a service), then that same funding source should be used to seek replacement budget for that asset.



4.9.6.6 *Backlog Maintenance*



It is essential that the physical condition of the St Georges estate is accurately assessed and maintained to ensure that it is fit for purpose and safe for patients, staff and all who enter our premises. Backlog is defined as the cost to bring estate assets that are below acceptable standards (in terms of their physical condition or compliance with mandatory fire safety and other statutory safety legislation) up to an acceptable condition. Estate assets deemed "acceptable" should therefore:

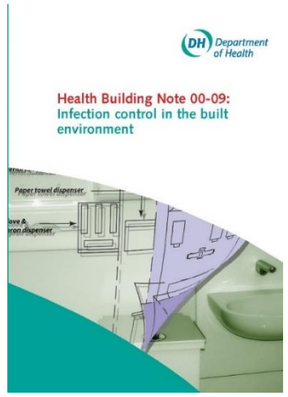
- Comply with statutory legislation.
- Comply with Control of Infection legislation and guidance.
- Comply with Firecode1 and relevant fire safety legislation.
- Be maintained at a fully operational state within normal revenue allocations and planned capital investment.
- Meet public expectations, reflected in a safe, clean, secure, and welcoming environment.

The methodology for assessment and prioritisation of backlog within St George's follows that described by NHS Estates "A Risk Based Methodology for Establishing and Managing Backlog", 2004. This approach follows tried and tested methods and is in use across many NHS organisations within the UK. This approach requires assessment across five main facets as follows:

- Physical Condition
- Fire Safety & Statutory Compliance
- Energy Performance
- Functional Suitability
- Space Utilisation.

4.9.7 Infection Control

High standards of environmental hygiene and clinical practice in healthcare facilities have been identified as being important in minimising the risk of the transmission of infection. Health Building Note (HBN) 00:09 identifies that the design, planning, construction, refurbishment, and on-going maintenance of the healthcare facility also have an important role to play in the prevention and control of infection. The physical environment has to assist, not hinder, good practice.



It is important that infection prevention and control (IPC) is designed-in at the planning and design stages of a new-build or refurbishment project and that input continues up to the final build stage.

"Designed-in IPC means that designers, architects, engineers, facilities managers and planners work in collaborative partnership with IPC teams to deliver facilities in which IPC needs have been planned for, anticipated and met" (HBN 00:09).

The Infection Prevention & Control Team are acutely aware of the need to design and maintain the built environment in a way that prevents and or mitigates the spread of infectious diseases. As a result, the team proactively engages with Estates & Facilities to address any issues and risks that need to be addressed at each particular stage to achieve designed-in infection control. The aim is to prompt those with overall responsibility for managing capital schemes to include IPC advice at the right time in order to prevent costly mistakes.

The impact that COVID 19 has had on NHS is substantial and far reaching and this Estates Strategy reflects as best it can at this stage of the "new world" order what this might be in the short, medium, and long term. What we do know is that "social distancing" and other restrictions on working practices will continue to be required well into the future.

We made enormous changes to the estate to manage the surge of critically ill patients, many of whom required ventilation, and adapted operating models to enhance infection control and mitigate the risks of further spreading the virus in hospitals.

Some of the key Lessons Learnt were:

- Where possible, access and clinical spaces should be **separate/segregated**. Departments should, as much as possible, have dual access and exit routes
- Buildings need to be designed to **be flexible and respond to future pandemics** and/or changes in demand
- Digital supporting infrastructure/capability needs to be **embedded** in our hospitals. To maintain the shift to virtual care, dedicated facilities and systems will be needed alongside clinic rooms for face-to-face care.

As a clearer picture emerges over the rest of 2021 and into 2022, this Estates Strategy will be updated on a regular basis to reflect emerging thinking and change.

4.9.7.1 *Key roles & responsibilities*

Estates & Facilities is responsible for:

- Ensuring that all infection prevention and control issues, that relate to each building and engineering project, are discussed with a member of the Infection Prevention & Control Team (IPCT) at the earliest possible stage.
- Consulting the IPCT if there are any changes to the plans that may have an impact on infection prevention and control.
- Following the guidance in HBN 00-09 in relation to designing, planning, constructing, and commissioning a new or refurbishment building scheme as far as is reasonably practicable.
- Liaison with the estate's representatives of community site owners (e.g., NHS Property Services, PFI, DPT, etc.) to ensure the necessary adherence to engineering and building HTM regulations are maintained (to include assurance of water safety and ventilation maintenance and periodic testing).
- And in the event of such assurance checks failing to meet national standards the infection control team should be notified.

The Infection Prevention and Control Team (IPCT) are responsible for:

- Providing guidance and support to building and engineering project teams.
- Carrying out relevant risk assessments and method statements [for example, to assess the risk of infection during building work to immuno-compromised patients from airborne spores of Aspergillus (environmental fungi)].
- Attending project meetings and visits in order to ensure consultation and sign off takes place in a timely manner, and so as not to unnecessarily delay any particular scheme.
- Attending the clinical area for a pre-handover inspection of the scheme and for final sign off.
- And in the event of estates assurance checks failing to meet national standards the infection control team should risk assess the impact to staff and service users and take necessary action to maintain their safety.

4.9.7.2 *Cleaning Standards*

Following the publication of NHS National Standards of Healthcare Cleanliness in April 2021, we as a Trust commit to implementing the standards set out in the paper, within the set timelines stated in the implementation guidance, and will aim to achieve consistently high standards of cleanliness across all of our healthcare facilities.

4.9.8 Collaboration

4.9.8.1 *Internal Collaboration*

The Estates & Facilities Team will endeavour to collaborate throughout the strategic investment programme and beyond. It is imperative that executives, clinicians, commercial teams such as finance and HR, and the wider staff population are bought-in and supportive of capital investment decisions.

The estates team will utilise the following groups in order to present to and engage with other groups across the Trust.

- **Estate Strategy Group**: Which includes key stakeholders within our estates and FM functions, finance representatives and members of the strategy team, who provide the clinical strategic input.
- Estates Management Board
- Finance and Investment Committee
- Operational Management Group
- Trust Management Group
- Trust Board.

4.9.8.2 *External Collaboration*

The Trust is one of a vast number of organisations providing healthcare services in South West London. Alongside this, we work closely with St George's University of London, Wandsworth Borough Council and Merton Borough Council.

In order to ensure that we can deliver services to the best of our ability, we must work closely in collaboration with our partner organisations.

In this section we have outlined examples of collaborative initiatives with which the Trust will ensure active engagement.

Wandsworth Borough Estates and Merton Borough Estates

Collaborative Healthcare Estates forums enable health and care services in a region to establish joint opportunities and to deliver changes in service co-location, cost improvement and redesign.

The core activities within such forums are summarised below:

- Understand the impacts of local demographic shifts.
- Collaborate on the development of estate strategies, both combined and individual partner strategic documents.
- Understand the quality and functional suitability to align with the continuous development of health and care services
- Ensure best practice and quality assurance across all partner organisations
- Ensure that collaborative discussions form the basis of infrastructure and estate investment
- Ensure an open dialogue regarding local plans and planning applications.
- Share property disposal and acquisition plans and provide details of any surplus assets before they're openly marketed.
- Align investment and divestment strategies across the group to take advantage of co-location and efficiency saving opportunities.
- To support the NHS drive to drastically reduce its carbon footprint and, where appropriate, promote new building methods that are sustainable.
- To support the regional and national drive to achieve NHS net-zero and sustainability and biodiversity targets.

One Public Estate

OPE is about system wide land and property collaboration to generate opportunities for co-location, improvements to service delivery and financial savings.

We will, where appropriate, support the OPE programme, considering the needs and opportunities presented through pro-active collaboration.

We will engage with stakeholders to seek opportunities where our estate may better meet their needs, produce synergies, and help the release of premises elsewhere. This collaborative approach through the OPE programme is to ensure that property decisions are public service led and deliver wider benefits than any single entity can achieve.

The Trust is also open to considering opportunities for Public Sector Partners to let and share space within our Hospital sites to allow us to maximise the utilisation of our estate, for full Integrated Care System benefit.

The Trust will participate in the OPE Programme to help deliver wider benefits for the Public Sector.

Collaboration with St George's University of London

The co-location of the Trust with St George's University provides an excellent opportunity for close collaboration and joint working to maximise the potential, reputation, and ambition of both organisations; and to benefit the staff, patients, students and the wider public both organisations are here to serve.

The core activities of the joint board between the Trust and the University are as follows:

- To explore opportunities for both organisations to maximise the benefit of working together
- To seek opportunities to enhance the reputation of both organisations though collaborative working
- Take collective decisions on external funding opportunities that are brought to Board for consideration
- To consider and approve proposals for joint initiatives and ensure that proposals identify areas where both organisations have an opportunity for collaboration around common goals
- To provide a forum for discussion and debate on proposals around joint working
- To seek assurance that the proposals agreed by the Board are being implemented to timescale and budget
- To seek assurance that there is an effective level of communication to, and engagement by, staff in both organisations to the work overseen by the Board
- To advise the SGUL Council and St George's FT Trust Executive Committee (TEC) as appropriate of any issues of material significance

4.9.8.3 *Funding Collaboration*

One key opportunity the Trust will look to investigate further as part of the delivery of this Estate Strategy will be the exploration of a potential commercial partner to generate the capital requirements for the development of the educational facilities on the St George's Hospital site.

One approach is where the preferred developer is market tested and commissioned to build the infrastructure and frame, with the Trust agreeing to long-term rental arrangements as part of the tendering process and commitment.

The facility is then fitted out by the Trust through standard Business Case approvals and funding routes.

This approach has been recently delivered in the construction of the 'Triangle' site at Evelina Children's Hospital in London.

4.9.9 Digital

In the next 5 to 10 years the Trust expects the existing model of care to look markedly different and will be offering a 'digital first' option for staff, patients, and visitors.

It is therefore essential that the building design, project management and construction of the developments at St George's are based on:

- A full understanding of the Trust's digital ambition and the impact digital technology will have on the future healthcare operating model for colleagues and the public and
- The optimal use of technology in the design, project management and construction phases of the capital developments to achieve benefits and savings related for example to time, safety, cost, and environmental sustainability.

Context

Digitally smart buildings have the potential to save approximately 15%-25% on energy costs and this should be a goal for both private and public-sector building owners.

Smart buildings are those that utilise advanced technology to achieve a series of benefits, such as improving building performance; lowering the costs of equipment maintenance; and generating higher user-satisfaction rates.

To meet these goals, digitalisation is key, and hospitals provide an environment where smart-building technologies and controls can deliver substantial return on investment.

- Lighting controls use sensors to illuminate areas only when needed.
- LED technology saves on energy consumption and offers sophisticated colour and brightness combinations to manage patient comfort, as well as staff productivity.
- Light has been shown to have an impact on patient outcomes in the healthcare environment, for example, reducing depression among patients and decreasing the length of stay in hospitals.
- In Accident and Emergency departments, related benefits include easing pain and improving staff members' adjustment to night shifts.
- Asset tracking which can manage access to mobile equipment so that it can be rapidly located and used.
- Automated dispensary systems can track precisely where prescriptions are in the building.
- Hospital beds can be fitted with sensors through which staff can input bed status, allowing effective central control and admissions allocation.
- Track the location of patients, visitors, and hospital staff.
- Clinician location is critical to patient management and can incorporate automated workflows through a series of responders so that critical events do not experience delays.
- Tracking people through mobile devices also helps to protect exposed workers in the healthcare environment with 'man down' alerts and automated escalation procedures.
- Remote surveillance reduces the impact of false alarms, as well as focusing staff time away from manual surveillance and validation and toward active building management.

Digital is an enabler of better clinical outcomes and to drive improved safety, quality and efficiency is a critical success factor for the delivery of our Estate Strategy.

4.9.9.1 *Information Management*

The Trust recognises that it needs to improve how it gathers, analyses, and uses data and information to make informed, evidence-based decisions on its estate.

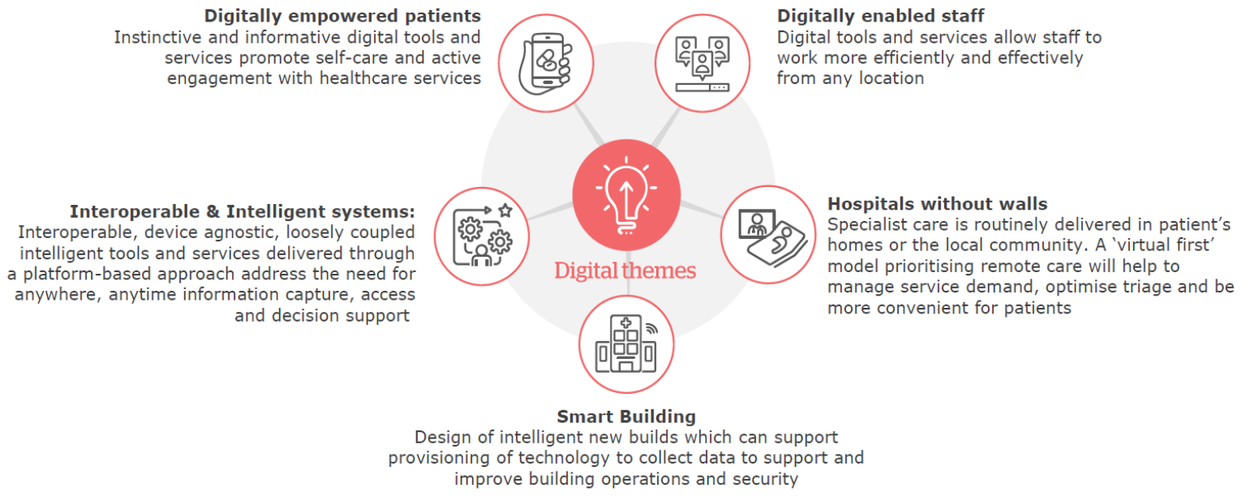
The complexity and rise of data in healthcare means that artificial intelligence (AI) will increasingly be used to inform decision making. Hospitals are looking to AI software to support operational initiatives that increase cost savings, improve patient satisfaction, and satisfy their staffing and workforce needs. Businesses are developing predictive analytics solutions that help healthcare managers improve business operations through increasing utilisation, decreasing patient boarding, reducing length of stay and optimising staffing levels.

4.9.9.2 *A blueprint for Digital Innovation in New Hospital Builds*

The Digital Blueprint, published by NHS X in 2020, has established a set of design principles to ensure digital is considered at every stage of the design, build and management process of the NHS estate, and the vision is to have **the most digitally advances hospitals in the world**: *"The most digitally advanced, comprehensive, and smart hospitals in the world, delivering exceptional data driven, personalised patient care through virtual first wellness and healthcare models."*

Opportunities to support our digital and estate priorities include:

- Buildings are constructed using energy efficient materials and smart sensors to maximise environmental comfort for patients and staff whilst reducing overheads
- Hospital operations and logistics are optimised through automation of manual tasks e.g., automated vehicles to transport test results, meals, and equipment
- Smart devices and automation capture data for secondary us
- Hospital Buildings are better connected, greener and smaller as a result of virtual first care.



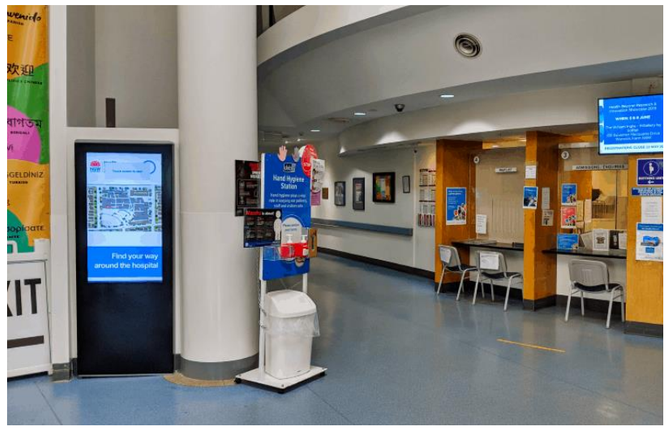
4.9.9.3 *Digital & Estates*

IM&T plays a major supporting role in the delivery of a number of key strategic projects and programmes designed to improve the quality and efficiency of services across the Trust, and will support the delivery of the Estate Strategy vision through:

- The provision of communications, location, and wireless networking services across the estate
- The provision of mobile devices and hot-desk facilities to more agile working arrangements
- Enabling the reduction in dependency on paper records and delivery of electronic patient record (EPR) capabilities to support the digital transformation of our services and develop new ways of working as we move into new accommodation.

4.9.9.4 *Innovation and Integration*

We aim to be paper free at the point of care for all of our patients. We will ensure that communication with all our key health and care partners is done in a structured, electronic manner and work with our patients and their families and carers to ensure that their information is available to them electronically should they wish to interact with us in that way.



Innovation is crucial in healthcare and in digital technology and we aim to create an environment that stimulates innovation and creativity for our staff and our IT partners. Our patients and staff deserve services that are digital by design and are as good as those provided by their bank or online retailer.

The Trust aims to provide more convenient access to services and health information for patients, with **the new NHS App as a digital 'front door'**, better access to digital tools and patient records for staff, and improvements to the planning and delivery of services based on the analysis of patient and population data.

Information Technology is a major driver for initiating change within the Trust, with the capability to create business advantage and enhance the effectiveness and efficiency of its services

Our strategy to promote digital ways of working is not about simply digitising the traditional ways of working on paper. It is about enhancing our working practice with new workflows, connecting information, and presenting it once and adding value wherever possible. This will apply across the health economy and ensure we connect with our local partners but also with our tertiary peers such that images, diagnostic data or other elements of the record of care that may have been delivered elsewhere can be seamlessly integrated into the view presented to our clinicians.

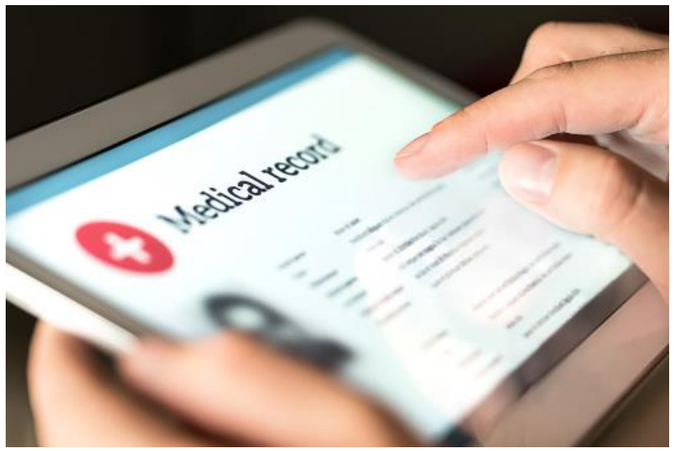
We will use automation technologies to automate simple repetitive tasks and adopt AI and analytics to support our clinical processes. We will also create automated information flows to key partners around their clients.

We will make tooling available to our staff to make their day-to-day jobs more streamlined, ensuring they are able to access critical resources such as files, messaging, policies, and procedures from anywhere and via any device.

Working in partnership with our medical equipment providers and our clinical engineering team, we will integrate devices and connect them in to our EPR solution where possible to reduce staff time spent on transcribing results, reducing the scope for error.

4.9.9.5 *Improved Patient Experience*

The technology aim is to provide secure, shared access to a single source of electronic patient records across all systems supporting health and care within SW London, to create a safer, more efficient system, improve patient outcomes and support integrated care by 2022. This will enable clinicians to have access to a patient's care record at any point in the care pathway, from GP appointment, to urgent or emergency situations, within hospital and back at their local surgery after discharge.

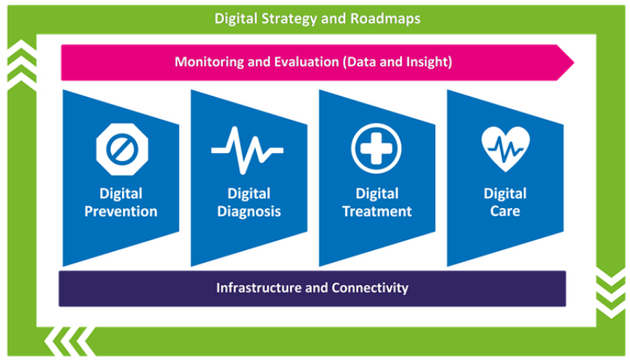


Shared access to patients' records is critical to the successful delivery of Integrated Locality Teams and care pathways that require input from different specialisms, and it will improve the patient experience, since they will not have to repeat the same information whenever they are transferred from one part of the system to another.

To achieve this, the ICS are working to deliver a single, core electronic record transcending primary, community, acute and social care with patient access/contribution. This will allow all partners to have one version of the record describing who that patient is, where they are registered and who is actively caring for them.

4.9.9.6 *IM&T across South West London*

Supporting our own digital priorities are those of wider healthcare system. Working closely with our SW London ICS partners we are improving the route that people take through the care system to provide joined up, high quality care for children, pregnant mothers, those with mental health needs, learning disabilities, dementia, cancer, long term, or multiple conditions.



The South West London Digital Strategy, 2020 – 2024 was submitted to NHS E&I and sets out a range of commitments on the use of technology, data and information:

1. Creating straightforward digital access to services; helping patients/carers managing their health
2. Ensuring clinicians can access and interact with patient records/ care plans wherever they are
3. Making data interoperable and Accessible
4. Improving system-wide infrastructure, processes, and rollout of nationally required digital capabilities.

4.9.9.7 *Digitising Facilities Management*

Monitoring and managing building conditions has always been a time-intensive job for the facilities management team, so the rise of the smart building is a positive development.

In 2019 we awarded a £150m contract to Mitie to provide integrated facilities management that includes cleaning, patient catering, facilities helpdesk and waste services, and an enhanced service by implementing new technology.

Investment by Mitie will deliver service enhancements as part of the new contract include new easy-to-use digital touch screens will enable hospital staff to place and monitor cleaning and catering requests, significantly reducing the time spent chasing traditional helpdesks. Patients will also benefit from the latest in electronic catering. The system will allow patients to view nutritional and allergen information whilst order their meals, making for a tailored catering experience. Food wastage will also be monitored by the system, with an aim to lower costs and reduce environmental impact.

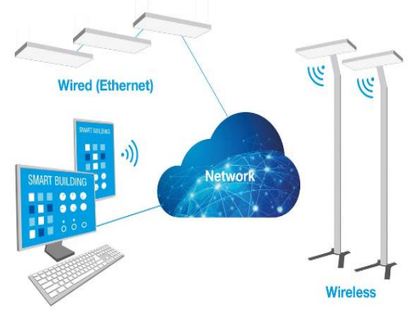
FM software systems integrated with other BMS programmes provide a high level of streamlined control across a building, but a smart building provides the next level of comfort.

The potential for increased productivity both for workforce and facilities management team alike is immense, and these principles are already being applied to Smart Hospitals.

Opportunities and benefits for digitising FM, and delivering a Smart Hospital

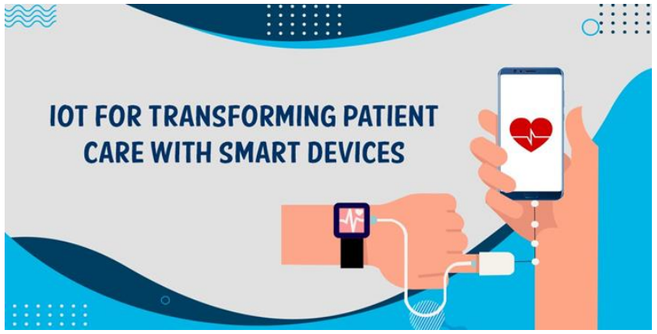
- **Provide Optimal Care for Patients:** A hospital transformed into a smart building could connect to a patient's smartphone to guide them through the facility. Therefore, directing the patient to the right department and even to the shortest queue at the reception or a free parking space. Patients could also receive and complete their forms before arrival and make payments quickly on departure.
- **Reduce Energy Consumption:** Smart building technology can support the network of mechanical and lighting systems in the healthcare facility. It can adjust the internal conditions of the buildings such as switching off unused lights in empty rooms and increasing or decreasing the temperatures based on the occupancy of rooms.
- **Ensure Access Control in Sensitive Areas:** Smart building technology also enables access control. This not only regulates entry into the facility but also ensures tracking and reporting of on-site activities. Access control provides a safe environment for patients, staff, and visitors. With the presence of an automated system of designated sensors, access is restricted to those authorised to enter specific areas for a specified period.

- **Regulate HVAC Services:** Designated sensors in a smart space can monitor the internal temperature of the building based on preferred settings. For instance, a patient's rooms will need adjustments based on the temperature outside the building. Other places such as operating rooms and storage rooms require lower temperatures which a smart HVAC system can also provide.
- **Help against Fire Outbreaks**: Like all buildings, hospitals are at risk of fire. A smart building will be able to determine if the alarm is legitimate, instigate emergency fire protection, notify occupants of the building, and send a signal to the relevant authorities for assistance.
- **Emergency Lighting 'Internet of Things':** Emergency Lighting Internet of Things uses LED lights to interact with other sensors to provide solutions that can help improve services and patient safety.



- **Helps Occupants of the Building with Directions:** Patients and visitors can be automatically sent directions or parking area advice to assist their ease of access.
- **Inform Patients of their Appointments:** The applications can also send notifications to each patient's phone, in a language of their choice, providing the details of upcoming appointments including the time and location with the facility to update information with any changes.

- **Improve Efficiency and Performance:** With the use of devices such as wristbands or ID badges connected to the network, the hospital's management can track any administrative barriers that might slow efficiency and hinder performance.



- **Provide Data Analytics:** Smart wristbands worn by patients can track biometric data used by medical personnel to aid, diagnosis and support research including population health variability.
- **Monitor the Internal Conditions in Real Time**: IoT devices can monitor the internal conditions of a building which include pressure, temperature, humidity, and air quality. For instance, a healthcare provider installed wireless sensors in its refrigerators, freezers, and laboratories to ensure medical supplies are stored in suitable temperatures.

- **Reduce Risk of Errors:** Accurate data collection and smart workflows combined with informed decisions dramatically help to eliminate wastage and diminish errors.
- **Proactive digital maintenance for better business continuity:** Software analytics, paired with engineers, crunch building management system (BMS) and power distribution system data to notify hospitals of issues like leaky valves or failing circuit breakers — before they cause downtime.

Looking forward, we must equip ourselves with knowledge of these current and future developments in order to build in the right infrastructure to provide both enhanced patient and working environments, and this infrastructure should be incorporated into the detailed development plans for each phase of the Estate Strategy.

4.9.10 Travel Plan

Using fourteen high-level interventions identified in the 'Where do we want to be?' section, a summary matrix (see Appendix 4) has been prepared that identifies timescales for action and the key organisations/stakeholders likely to be required.

Indicative time horizons are:

- **Short-term** = up to 5 years
- **Medium-term** = 5 to 10 years
- **Longer-term** = 10+ years.

The interventions fall into three broad categories:

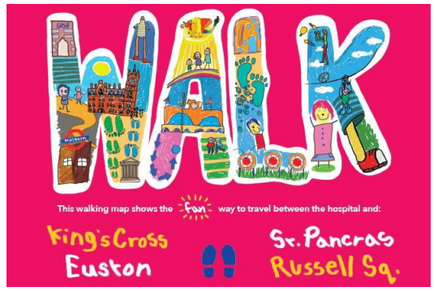
Development-related

- i.e. physical changes to site layouts, built form and physical connections
- The phasing of new development at both Tooting (T) and Queen Mary (Q) will have a direct bearing on how these interventions will proceed
- Examples include movement links through the site (#**1**) and blue-light access (#**8**)

Public realm-related

- i.e., how the spaces between buildings are designed, used, and managed and also beyond the Trust's ownership (e.g., local streets)
- There is typically scope for shorter-term changes to be made with more significant change occurring in parallel with development-related changes
- Examples include placemaking (#**3**) and cycle provision (#**5**)

Behaviours and attitudes



- Influencing and changing peoples' travel behaviour and responding to wider societal trends for transport and mobility
- This specifically relates to Travel Planning (#**14**) and also future trends (#**11**)
- Short term action can and should be taken with ambitious medium and longer-term targets established.

4.9.10.1 *Travel Planning*

Because of the inherent uncertainty in how rapidly transport and mobility trends will take shape it is important that flexibility is built into the interventions, particularly for multi-phase schemes that will take may years to complete. Temporary construction impacts must also be considered and assessed to ensure that each of sites can continue to function effectively during periods of change and disruption.

The area that is likely to derive the most short-term benefit is Travel Planning initiatives. On-going and comprehensive Travel Plan-related activities will also be needed in the medium and longer-term, in parallel with the physical changes proposed in the phased build out of new development.

A comprehensive Travel Plan combined with a specific sustainable transport lead and executive-level support will provide:

- A long-term management strategy for transport and mobility, giving a framework for focussing on key areas for improvement and integration with other initiatives.
- Ambitious targets for change – both corporately and individually (e.g., travel mode to work).
- A clear and systematic monitoring regime that includes data collection, review, and evaluation of targets; and
- Strong mechanisms for meaningful engagement with staff, visitors, local residents, LB Wandsworth, Transport for London, and other key stakeholders.

4.9.10.2 *Flexibility*

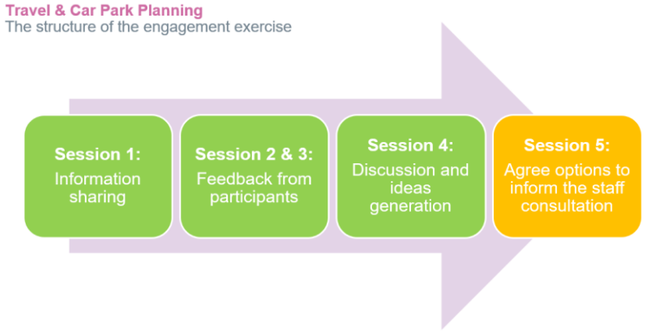
Because of the inherent uncertainty in how rapidly transport and mobility trends will take shape it is important that flexibility is built into the interventions, particularly for multi-phase schemes that will take many years to complete.

Temporary construction impacts must also be considered and assessed to ensure that each of the sites can continue to function effectively during periods of change and disruption.

4.9.10.3 *Car Parking*

Managing parking will require its own dedicated workstream but it is essential that it is not looked at in isolation but considered in the wider 'Travel Planning' context outlined above in terms of travel demand, behaviours, and attitudes. The planned staff engagement exercise at Tooting is an important first step in sharing information, discussing issues and opportunities, generating ideas, and consulting on options, and following the steps below:

Travel & Car Park Planning
The structure of the engagement exercise



Through the sessions following key principles for Travel and Car Parking were agreed:

Travel and car parking are:

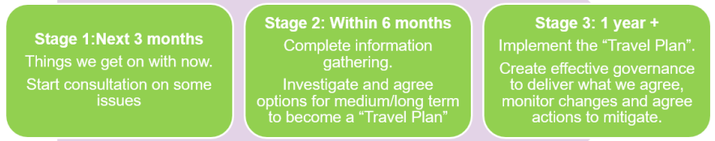
- **Linked -** You can't look at one without looking at the other.
- **Complex** - There are no simple answers.
- **Emotive -** People have very strong feelings.
- **Subject to external as well as internal factors -**The Trust cannot act independently.

4.9.10.4 *Potential way forward:*

- Take the actions that we can get on with now. But recognise this won't solve all the issues.
- Recognise that some things will require more thought and longer engagement.
- Recognise that some actions will take time to realise and may have a challenging transition.
- Recognise we need to maintain this forum to support this work over the next year.
- Increase engagement across the Trust.
- Build a longer-term Integrated Travel Plan.

The high-level plan for moving Travel and Car Parking forward over the next 12 to 18 months are as follows:

Travel & Car Park: High level plan



Further information on the 'short term' Travel and Car Parking plan can be found in Appendix 4.

Outstanding care every time

NHS
St George's University Hospitals
NHS Foundation Trust

4.9.11 Green Plan

The Green Plan, developed in 2021, has been appended to this document (Appendix 7).

This section outlines the key recommendations from the Green Plan which will support the Trust's BAU activities to become more sustainable.

4.9.11.1 *Carbon, Energy and Utilities*

The Trust's net-zero target should align with the NHS England target of net zero carbon footprint by 2040, with an 80% reduction between 2028-2032.

In order to achieve net-zero for the Trust, the principles of the energy pyramid should be followed:

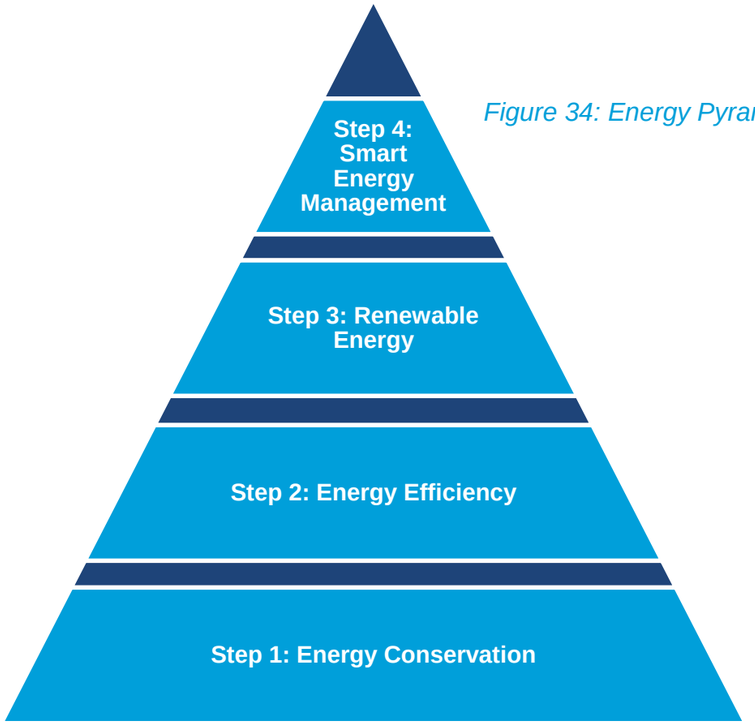


Figure 34: Energy Pyramid

Energy Conservation

- **Review the BMS** setpoints to ensure they align with the operational hours of each building.
- Implement a **centralised data management** system to help build better understanding of the annual energy profile and make robust comparisons after energy saving measures have been applied.
- Increase **staff engagement** on energy conservation to promote **sustainable behaviour**

Energy Efficiency

- **LED lighting replacements**
- **Reducing thermal losses** – through fabric improvements and glazing improvements
- Move away from **fossil fuels**, particularly natural gas
- By 2024, undertake a study of switching to an **all-electric Trust**

Renewable Energy

- **Solar Photovoltaics (PVs)** – space across the Trust's facilities should be analysed to see the scale of opportunity
- **Switch to green providers** – guaranteeing a % of electricity used on site from sustainable sources

Smart Energy Management

Electrical generation now has a much lower carbon output, with most electricity in the UK being sourced from wind, nuclear and solar power This switch is positive, but these sources are less flexible than traditional thermal generation, meaning that electricity prices are more variable as the system seeks balance between supply and demand

These variable electricity prices mean that it is beneficial to use it smartly thus reducing demand, but also changing when it is used Additionally, as the demand for electricity grows it may be necessary to upgrade the electrical connection for the sites This will be costly, and the necessity or scale of upgrade may be reduced by the use of **smart energy management.**

Accessing sustainable funding

We will actively access central funds from the sustainability sector to invest in sustainability improvement projects, such as the Retrofit Accelerator Workplace Programme.

Retrofit Accelerator is part of the Mayor's £34 million Energy for Londoners programme which aims to make London's homes warm, healthy, and affordable, its workplaces more energy efficient, and to supply the capital with more local clean energy.

GREATER LONDON AUTHORITY

European Union
European Regional Development Fund

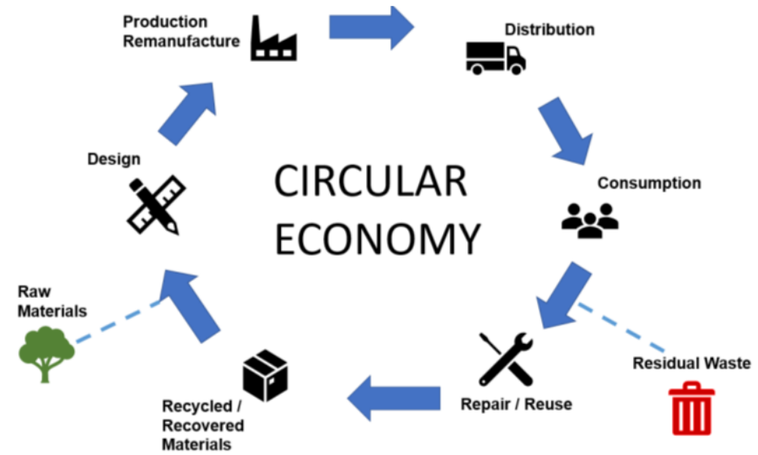


Figure 35: Circular Economy

4.10 Delivery Governance Arrangements

Below is a summary of the governance arrangements that will be established to support the delivery of the Estate Strategy.

We will establish a programme team with dedicated and skilled programme and project management resources, supported by subject matter experts in estates project management, finance, procurement, workforce, organisational development, and procurement.

Backfill for clinical colleagues to confirm and challenge proposals and provide sign-off for plans is an integral component of each project.

It is anticipated that the only external resource required will be for professional services – e.g., business case authors, architects; cost advisors; mechanical & electrical and structural engineers etc.

Experience

The Estates & Facilities Department, who will manage the design, construction and delivery of the Estate Strategy are led by a Director with over 20 years of capital delivery experience and is supported by a Management Team with similar, long-standing NHS experience.

Programme management will be governed by widely recognised methodologies:

- PRINCE2 methodology - For project management.
- Managing Successful Programmes (MSP) – For programme management.

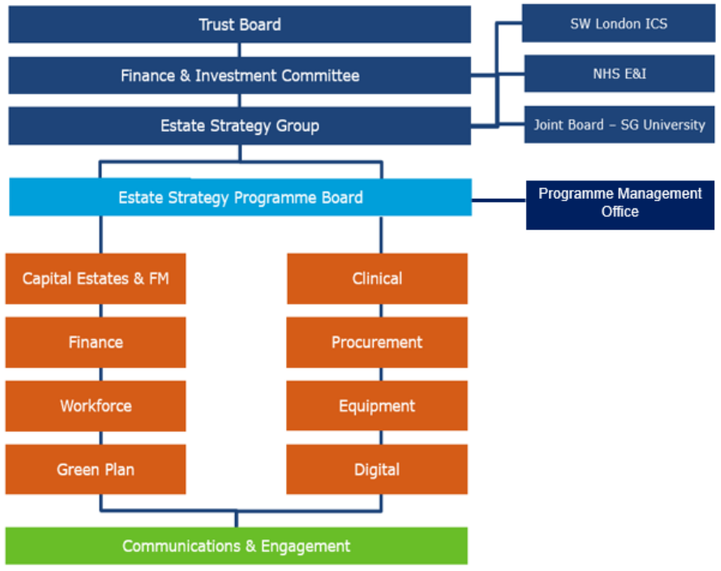
All strategic investment projects will be managed using the project and programme management principles identified which can be summarised as:

- New developments must be supported by a business case that is signed off by the appropriate steering group/programme Board.
- Projects must have a senior responsible officer who is accountable for the delivery of the project to the executive.
- Projects must have a Business Change Manager (project lead or clinical lead) responsible for delivering the necessary change within their business or clinical area.
- Projects must have an estates Project Manager who leads the planning, delivery, monitoring, and post implementation review of the project.
- The Project Manager and Business Change Manager will ensure benefits are identified, monitored, and realised.
- Where more than one project requires managing together, a suitable Programme Manager must be identified to ensure interdependencies are appropriately coordinated.

All projects will be required to report progress, against the aims, objectives, benefits, budgets, and plans set out in a Project Initiation Document, to the steering group / programme Board.

Governance

Supplementary governance arrangements will need to be established to reflect national best practice guidance, as shown in the figure below:



Regular progress reports will be submitted to the Trust Estate Strategy Programme Board for review and then onward reporting and management to the Trust Estate Strategy Group.

The strategic investment projects will subsequently move towards the creation of an operational commissioning team or teams. This will be constructed of suitable management and clinical representatives to allow the production of detailed implementation plan to operationally deliver the reconfiguration projects. The team/s will operate within the existing governance of the project. The end stage of the project will result in the completion, handover, and commissioning of the new facilities.

4.10.1.1 *The Finance and Investment Committee (FIC)*

This group is a designated committee appointed by the Trust Board, with responsibilities which include:

- Ensuring that strong financial governance and control is adhered to in business case preparation
- Ensuring that capital and revenue implications of all business cases are fully understood
- Ensuring that business cases represent best value for the Trust.

4.10.1.2 *Estate Strategy Group*

The Estate Strategy Group, made up of senior executives from across the Trust has the following responsibilities:

- Advising the Trust Board on formulating an Estate Strategy for the organisation
- Ensuring accountability by holding Board members to account for the delivery of the strategy and through seeking assurance that all systems of control are robust and reliable
- To lead the Trust executively, in accordance with its values, to deliver its vision and, in doing so, help shape a positive culture for the Trust.

4.10.2 Estate Strategy PMO

Given the importance of the Estate Strategy a Programme Management Office (PMO) help us will plan, govern, and manage delivery to ensure strategic objectives are met.

A PMO can deliver the planning, control, and coordination to ensure the Estate Strategy is delivered in a compliant and consistent manner, maximising efficiency, and best value.

The PMO will provide key Trust, and wider health-system stakeholders with verified information to support governance and informed decision making. It is our ambition to build a PMO around four key central functions:

- **Planning & Controls** - Maximising value through planning and control
- **Commercial -** Commercial management - getting the right product at the right price
- **Delivery & Assurance -** Faster delivery through consistency and efficiency
- **Digital & Data** - A clear digital strategy that will enable the right data to drive the right decisions

Challenge	What is the challenge?	What will a PMO do?
Scrutiny	Government funded projects and programmes are subject to internal scrutiny as well as UK taxpayer accountability, aligned to the SOC, OBC, FBC checkpoint process	Use up to date management information to inform all levels of reporting and scrutiny. Retain an audit trail of accurate and timely information
Scale	Geographically dispersed programme of national importance with significant investment in Healthcare capacity	Centrally collate the information into a single version of the truth to provide an accurate picture of all projects
Time	Deadlines are immovable and / or have interdependencies. Critical deadlines need to be achieved and interdependencies mapped.	Accurate schedule management across the programme
Information and data	Quality and management of information and data	Implement data management and quality assurance to inform decision making through responsive reporting
Interdependencies	Project interdependencies between locations and outputs	Manage interdependencies across all projects
Visibility	Transparency of project performance	Reporting and management data giving clear line of sight
Resources	Managing resources and capacity in delivery to navigate / smooth out peaks and troughs in demand	Resource management plan to optimise capacity and capability
Governance	Working with Health Trusts to define accountabilities and define delegations of authority and governance process	Optimised decision-making process and accountabilities
Objectives	Meeting challenging objectives and assurance against Healthcare objectives	Ensure the objectives stay front and centre
Benefits	The programme is aligned to a Business case with defined benefits which are clearly articulated through the SOC, OBC, FBC checkpoint process	Manage the delivery of benefits through delivery of the programme
Standardisation	Of processes, roles and responsibilities and systems	Accurate, simple, and well communicated processes, systems and roles
Stakeholder Engagement	Meeting the requirements of stakeholders and keeping them informed	Accurate, up to date information communicated on a regular drumbeat
Budget	The budget is finite and must deliver value for money	Accurate informed cost and commercial data to inform decision making
Continuous Improvement	Aggregating learning and developing shared knowledge across disparate projects	Centralise lesson learned to drive value into downstream projects

4.10.3 The Estate Strategy Programme Board

This will be a designated committee appointed by the Trust Board to which it reports.

The Estate Strategy Programme Board's responsibilities include:

- Overall responsibility for the delivery of the Trust's Estate Strategy including DCP
- Ensuring that developments are consistent with the Trust's strategic direction, corporate and clinical priorities.

4.10.3.1 *Key roles and responsibilities*

Typically, there are a number of key roles required to establish, direct, manage, deliver a programme, such as the Estate Strategy. Key roles include:

- **Senior Responsible Officer (SRO)** the SRO is ultimately accountable for the Programme ensuring that it meets its objectives and realises expected benefits. The individual who fulfils this role should be able to lead the programme with energy and drive and must be empowered to direct the programme and take decisions. They must have enough seniority and authority to provide leadership to the programme team and take on accountability for delivery.
- **Programme Manager** the Programme Manager will be responsible for the overall coordination of the programme and will combine both strategic and advisory elements as well as more hands-on support. Skilled programme management resources will be needed to coordinate the planning, reporting, risk management and benefits realisation.
- **Programme Management Office (PMO)** the nerve centre and information hub of a programme is the Programme Management Office. All information, communication, monitoring and control activities for the programme are coordinated through the PMO.
- **Workstream Leads** the Workstream Leads will be responsible for shaping the direction of each workstream, reporting progress to the Programme Board, and sharing information back into their respective workstream. Specifically, they will need to coordinate project activities to deliver the 'future way of working' and 'long term benefits' as described in the Estate Strategy.
- **Workstream Project Managers** the delivery of each project will be managed by a 'project manager' following the council's project management and gateway processes. The PM will be expected to report progress, risks, and issues back into the workstream. He or she must have a combination of skills including an ability to ask penetrating questions, subject matter expertise, detect un-stated assumptions and resolve conflicts, as well as more general management skills.

4.10.3.2 *Project / Programme Workstreams*

A number of work-streams will have been set up to take responsibility for driving the key objectives and to report back to the Programme Board on a regular basis. Key roles and responsibilities will include:

- Day to day responsibility for the delivery of the project to meet the parameters described within the business case
- Provision of appropriate reports on status to the Project Manager.
- Management of risks and issues, and escalation of appropriate matters for executive direction/ approval
- Providing working groups with detailed briefs
- Monitoring, co-ordinating and controlling the work of the working groups
- Drawing together the outputs of the working groups
- Ensure continuing commitment of stakeholders, both internal and external.

4.10.3.3 *Project Management*

Each project will be managed in accordance with the principles of PRINCE2 methodology. The project manager will be supported by the Trust's capital projects team and external specialist consultants as required.

The Project Manager manages the planning and co-ordination of the service and capital briefs and is responsible for producing the Business Cases at the various stages. It is responsible for the delivery of all of the aspects of the project, including any moves and enabling schemes.

The Project Manager will set the terms of reference for each Subgroups to be appointed to take forward individual elements of the scheme. Each of these projects will be responsible for developing the detailed service requirements for their part of the scheme and to carry them forward through planning, design, construction, and commissioning, for the particular scheme.

Where construction work is required, designers will be appointed to provide the necessary architectural and engineering inputs within Design Teams. This construction work will be carried out by Building Contractors appointed through tender, negotiation or partnering agreements according to the particular project parameters.

Weekly resource meetings are held to ensure that resources are allocated to projects and managed effectively and efficiently.

4.10.3.4 *Ways of working*

A key principle of this Estate Strategy is to ensure the Trust's key investments are managed effectively through the adoption of a streamlined 'way of working' for the delivery of the projects, programmes of the Strategy, so that:

- Money is well-invested, on well evidenced and justified projects and programmes
- Proposals are thoroughly assessed and align with Corporate, SW London ICS and Estate Strategy objectives
- Investment is delivered to a high standard
- Projects and Programmes are delivered on time, to budget and quality
- Benefits are clearly defined from the outset and tracked to assess if all project objectives have been met
- Business Cases are prepared at Strategic, Outline and Full Business Case stages
- Projects have been through the appropriate approval process
- Capital spend assessments take a longer-term view and are more accurate
- Communications with our stakeholders is clear across all projects and programmes.

We will identify the right projects to take forward at the right time to maximise the objectives of this Estates Strategy.

This way of working provides a framework for ongoing due diligence across the project and programme lifecycle as shown in the table below, which reflects the Royal Institute for British Architecture (RIBA) work stages:

Way of working - stages		Description
Pre kick off	Setup	Project initiation – analyse evidence, identify project need and ensure strategic alignment
Stage 0	Strategic business case	Options appraisal – principle achieves decision approval
Stage 1	Options appraisal	Feasibility – outline proposals
Stage 2	Commit to invest in solution	Approval of Detailed design of solution
Stage 3	Detailed design sign off	Procurement and costing
Stage 4	Commit to deliver	Project delivery – establish service
Stage 5	Practical completion	Project close down – manage delivered solution and performance
Stage 6	Project closed	Post project review, lessons learned & tenant satisfaction survey.

4.10.3.5 *Business Case led*

Business Cases will be developed for all our key investments and these will be approved by the Trust's Board and supported by South West London healthcare system and approved by NHSE&I, DHSC and HM Treasury.

These will be prepared at:

- Strategic Outline Case
- Outline Business Case
- Full Business Case.

We will follow the NHS E&I Business Case checklist, and we will reflect the November 2020 updates of the HMT Green Book.

Robust, evidence-based Business Cases will be written for all key developments and approved by the Trust's Board, before being presented to NHS E&I, and the wider South West London healthcare system.

4.10.3.6 *Project Controls*

This way of working will be promoted by Estates & Facilities to ensure that the right projects and programmes (strategic investments) are delivered to time, to cost and quality, and will be supported by the decision-making process as outline above, combined with proactive stakeholder engagement from inception, to delivery and in-use.

4.10.3.7 *Quality Control*

Quality in construction projects requires a collaborative approach. We will work with our delivery partners to ensure robust mechanisms are implemented as a core part of our project initiation, capturing essential quality and performance data from the outset that provides evidence-based assurance our investment has been delivered satisfactorily and that our customers can feel safe, secure, and warm in their homes.

Establishing a 'golden thread' throughout the design, construction, and occupation of our buildings through the provision of critical technical information is essential to the safe and efficient operation of our buildings once they are handed over. We will ensure that the essential building information is requested, collected, approved, and handed over to those that need it now, and in the future.

4.11 Evaluation & Review

Proper and effective challenge of the performance of the estate provides the cornerstone of effective estate management.

Every property asset is subject to full scrutiny in accordance with the Estate Strategy.

4.11.1.1 *Measuring success*

In order to measure success and identify areas for improvement, Estates & Facilities will need to regularly review the performance of the estate.

Based on best practice property asset management, going forward Estates & facilities will need to continue to review all Trust assets on an ongoing basis. Part of this process relates to setting, monitoring, and reporting against performance targets.

For this Estate Strategy to achieve its objectives, its ambition needs to be accompanied by year-on-year delivery of significant, meaningful and measurable benefits to the Trust and the wider St George's footprint.

The Trust needs to be capable of demonstrating these benefits through its own performance measures and to satisfy both external scrutiny and comparison against external benchmarks. The performance challenge for the Trust in terms of property asset management is captured in the following chart.

It embraces external assessment, to meet statutory performance obligations and internal challenge in terms of a performance measurement framework. Put simply, the approach is to assess how well the Trust against a clear set of performance criteria which reflect the Trust priorities in terms of efficiency, effectiveness and added value.

Estates & Facilities will need to ensure that the structure for and disciplines around corporate property management are maintained and refreshed annually.

4.11.1.2 *Post Project Evaluation*

To learn from experience, all major projects will be evaluated. In accordance with current guidance and good practice, the Project will be evaluated in 3 stages:

1. Monitor progress and evaluate the project outputs on completion of the new facilities. This will take place at each stage as new facilities are completed
2. Initial post-project evaluation of the service outcomes six to 12 months after all the relevant facilities have been commissioned
3. Follow-up post-project evaluation to assess longer-term service outcomes two years after the facilities have been commissioned.

The evaluation process will be overseen by the relevant Project Board. At each stage of the evaluation, a formal report will be issued. At each stage, the project evaluation on completion will determine what went well during the procurement of the new facilities, what went less well and what lessons may be learnt from the process, and will be addressed by reviewing:

- To what extent relevant project objectives have been achieved
- To what extent the project went as planned
- Where the plan was not followed, why this happened
- What learning may be transferred to other projects, internally or externally.

In support of this the Trust will also undertake a Post Implementation Review (PIR) to ascertain whether the anticipated benefits have been delivered. This PIR will take place 12 months following the delivery of the project and will be monitored on an annual basis in subsequent years.

For each project the Trust will undertake a Gateway 5 Benefits Review. This will be undertaken either by a nominated internal team or will be procured externally.

An evaluation of key projects will be carried out on their completion to assess if they have delivered the benefits, they said they would and to understand what lessons can be taken forward for future projects.

4.11.1.3 *Estate Performance Targets*

The Estates & Facilities team will continue to measure the performance of the estate using the key indicators from the Model Hospital Estates & Facilities reporting system, continuing to compare ourselves to our peer Trusts and national benchmarks.

We will also continue to assess the performance of our estate across the NHS compliance and quality frameworks, which include PAM, CQC, Carter etc.

4.11.1.4 *Evidence of Learning*

The Trust has recently undertaken a successful Project Evaluation (PER) for both the Emergency Department Expansion Project and the relocation of vascular services.

The Emergency Department review was undertaken by the Trusts Internal Auditor PwC through a series of interview, and the process adopted for the review of the Vascular Project was the utilisation of a SurveyMonkey questionnaire, sent to a wide range of stakeholders.

The data gathering process was followed up by a workshop, which considered key factors that had arisen in more detail. A report with key actions and lessons learned was submitted to both the Trust Reconfiguration Board and the Executive Strategy Board.

4.11.1.5 *Communications*

Within the Trust and the wider healthcare system, it is important that this Estates Strategy is easily available, promoted, read, and understood

The Trust will therefore communicate this Estates Strategy in a number of ways:

- Have a prominent position on the internal and external facing St George's websites.
- Summary Version of the Estate Strategy
- Through the communication channels within the ICS
- Newsletters and articles on the Trust's website
- Drop-in sessions with the Estates & Facilities team.

4.12 Benefits & Risks

The patient is at the heart of Estate Strategy, and through investment, an improved patient experience and quality will be delivered by:

- Reducing unnecessary patient journeys
- Improving clinical adjacencies so that support and diagnostic services are close to where they are needed, promoting closer team working and providing a better patient experience
- Reducing delays to care by streamlining care pathways
- Reduce cancellations by protecting our elective beds by separating out emergency and planned care.
- Improving the quality of the patient environment
- Addressing the long-standing mismatch between demand and capacity by making sure there is the right number of beds. This will have a knock-on improvement for operating theatres as well as improving ability to deliver against the 62- and 31-day cancer performance metrics and the 18-week referral to treatment standards.
- Providing services which are quicker, easier to navigate and of a higher quality; largely as a result of being able to focus on specialisms, improve processes and streaming, and because staff will no longer be spread across three main sites.

Below we have included a range of qualitative estate and operational benefits that can be achieved through the delivery of the Estate Strategy vision.

Quantification of these benefits, including the identification of cash and non-cash releasing benefits will not take place until business cases (SOC / OBC / FBC) are developed for each project, feeding into a 'Benefit Cost Ratio' as part of the NHS E&I Comprehensive Investment Appraisal (CIA) process.

4.12.1 Estate Strategy benefits

Delivering the Estate Strategy will allow the Trust to benefit from a range of improvements including:

- **Quality of Estate** – the Trust premises will be fit for purpose and functionally suitable with appropriate and effective maintenance arrangements to meet the required standards.
- **Enhanced patient experience** – we will provide state of the art facilities that enable clinicians to deliver treatment in a comfortable, caring, safe and uplifting environment, which enhances patient experience.
- **Effectiveness** – the estate will be fully utilised and will have appropriate measures in place to ensure business resilience and continuity
- **Health & Safety** – the estate will provide a safe environment to high standards of Health & Safety and statutory compliance
- **Environmental** – the Green Plan principles will be embedded into the core values of the Estates & Facilities team and new developments and refurbishment employ sustainable methods and techniques, making use of low and renewable energy sources
- **Value for Money** - the estate will offer the NHS value for money
- **Partnerships and stakeholders** – we work with our public sector partners and key stakeholders to deliver a cohesive approach to strategic estate management through our investment and disinvestment programmes
- **Staff Welfare** – we provide, in all its estate provision, fit for purpose and cost-effective facilities and amenities for staff.
- **Capital Investment** - improved functionality for service delivery with better co adjacencies which generate better efficiencies, improved access and enhanced support facilities, response to privacy and dignity, disability discrimination legislation and security and safety.
- **Backlog Maintenance** – a reduction in the Trust's overall estates backlog with improved mitigation of critical service infrastructure risk.
- **Space Utilisation** - maximising clinical/non-clinical ratios enhancing the target performance of the Lord Carter recommendations.
- **Net-Zero Carbon** – we will continue to recognise the importance of the sustainable development agenda within the design and build process. Ensuring standards continue to improve we will fully reinforce this through HTM 07-07 sustainable health and social care buildings, BREEAM and achieving sustainability in Construction procurement.
- **Social & Corporate Citizenship** - we will provide significant benefits to our local communities through the development of a local supply chain partner network and local labour giving improvements to reducing carbon, reduction in unemployment, opportunities to education and apprenticeship programmes and overall enhancements in value for money.
- **Spatial** – Improving clinical adjacencies so that support and diagnostic services are close to where they are needed, promoting closer team working and providing better patient experience.

4.12.2 Impact on Backlog Maintenance

The Trusts estate comprises of a large range of properties of varying age and condition. The overall performance of the estate is directly affected by the level of capital investment and operational resources available. Much of the estate was built in the late 70s and early 80s with a significant percentage of the original infrastructure and fabric still in situ and in operation.

Historically investment in the estate has fluctuated dependant on internal and external factors and has not always been prioritised, recently significant projects have been commissioned to rectify high risk backlog maintenance issues, this includes the £20m P22 scheme as well as the programme of electrical Infrastructure upgrades across the site. Despite this, high levels of backlog maintenance are prevalent across the buildings situated on the main site.

The overall value of backlog maintenance has been calculated at £83m. The development control plan will not only redesign services to meet future, care models, Net Zero Carbon targets but also reconfigure the physical estate to enable this to be implemented.

Given the planned level of capital investment proposed as part of the Estate Strategy, the current backlog maintenance will be categorised to ensure that investment in backlog is cognisant of the proposed investment programme, this will operate in tandem with the current backlog maintenance programme, with the current philosophy of addressing high risk items as a priority to remain.

The primary vehicle for addressing the backlog maintenance will be the replacement of building assets on the site as part of the Estate Strategy. As an example, replacing the St James and Lanesborough buildings will have the following impact on backlog:

- Demolition and replacement of the Lanesborough building will reduce backlog by circa £12m.
- Demolition and replacement of the St James building will reduce backlog by circa £13m.
- Demolition and replacement of both buildings will reduce the backlog associated with fire safety improvements by circa £10m.

The strategy of addressing backlog maintenance within the Strategic Context and Outline Business Case stages of the Estate Strategy will consider the overall timeline of the development control plan allowing the trust to make decisions about whether elements of the backlog need to be addressed in the short term due to the risk level, or whether the works can be deferred to the point where buildings are replaced.

A significant portion of the current backlog maintenance is related to the energy performance of the existing buildings, primarily where it has been identified that the performance of the existing fabric results in a significant increase in energy costs associated with heating and cooling the buildings. Addressing these elements will be tied into the Green Plan / Net Zero programme of works that form part of the Estate Strategy, ensuring that the plan to address them considers the long term planned programme of works delivering the improvements in the most cost effective and efficient manner and avoiding abortive works.

Where the DCP does not identify the replacement of a building such as the Maxillo-Facial and Education Centre buildings, the backlog that has been identified within these buildings will be addressed as part of the Estates Strategy.

The investment profile for these works and other sitewide backlog issues will be phased over the life of the Estate Strategy programme / DCP with a risk-based approach used to prioritise the programme of works.

At the next stage (SOC and OBC) data will be presented illustrating the positive impact of Estate Strategy on the levels of outstanding backlog across the Trust's portfolio.

4.13 Risk Management

Evaluation of risk is an important part of effective property asset management. Estates & Facilities will take a "strategic and proactive" approach to risk management and will continue to identify and prioritise risks to allow them to be escalated, where appropriate, onto the Trust's Corporate Risk Register.

Overall, risks will be mitigated by the inherent incremental and flexible approach of the Estate Strategy. The approach will ensure that where appropriate schemes can be modified or halted as the need changes or if the anticipated capital, revenue, or workforce do not become available.

The incremental factors noted above will enable development to follow the available funding. If it reduces, the Plans can slow down, and it is possible to adjust priorities. If funding improves, the Plan can speed up and a number of independent schemes can be progressed in parallel.

All schemes will be the subject of individual business cases from SOC to OBC and finally FBC.

The approval of an Estates Strategy is an important step in the development of a strategic and annual capital plan. This will improve the control of annual capital expenditure against sources of income.

The above approach is therefore sustainable development, with least risk.

4.13.1 Risks Identified

Looking ahead it is recognised that a range of risks exist which will need to be addressed if our portfolio is to continue to provide fit for purpose accommodation that serve the needs of our patients, stakeholders, and the wider health system.

Table 9: Key risks

Strategic Risk	Mitigating Action
High levels of Backlog Maintenance continue to impact on the standard of the estate	▪ Understand key areas of potential impact ▪ Targeted investment in key critical maintenance risks to maintain standards
Legislative - changes in Statutory Compliance regulation may mean that certain properties are no longer compliant for use.	▪ This would mean unplanned increased costs to make them compliant, or the potential closure of buildings. There could also be changes that affect construction standards thereby increasing costs.
Lack of available funding	▪ Continuous engagement with Trust Board and NHSE&I to ensure all opportunities to secure capital funding are considered
Changes in local, regional, and national politics and policies	▪ Active engagement with peer/partner organisations, regular environment scanning
Third party decisions impacting on the Trust activities	▪ Early engagement with third parties to allow development of coherent strategy
Resources and capacity to deliver strategic actions	▪ Prioritisation of actions or identification of additional resources if value for money case can be shown
Resurgence of COVID-19 or a new pandemic	▪ Understand Lessons Learned and develop Strategy to deal with future impact

This strategy recognises that property assets can also become liabilities, impacting on patient lives, carrying the following risks:

- Failures to manage Health and Safety compliance could put patients, staff, and contractors at risk
- Failures to meet statutory standards can carry penalties and will damage the Trust's reputation
- Poor value for money in property management will #have a major impact on our finances as this represents a very large proportion of our Trust's planned spend.

Regular processes to identify and assess risks will need to be established to support the delivery of the Estate Strategy. This will be the responsibility of the Estate Strategy Programme Board, whereby risks will be regularly reviewed, and actions agreed to manage risks in order to minimise impact.

4.14 Procurement Routes

Below we have set out the various procurement routes open to the Trust to deliver the Estate Strategy. As part of the development of business cases for each phase of the Estate Strategy, a procurement strategy will be developed as part of the Commercial Case, reviewing, and selecting the most appropriate option for the phase in hand that offers best value to the NHS.

The options available to the trust are as follows:

4.14.1.1 *PF2/PFI*

Presenting the 2018 autumn budget, the Chancellor of the Exchequer stated, "that the Government will abolish the use of PFI and PF2 for future projects". Therefore, there is no current PFI/PF2 model available to the Trust to deliver the Estate Strategy.

4.14.1.2 *Joint Venture*

This option would comprise a corporate model whereby the Trust and a private sector partner would jointly set up a company and would share ownership. The model tends to involve a 50:50 share in ownership on the basis of "matched funding" between the co-owners. The public sector contribution usually comprises value attributed to surplus land the ownership of which is transferred into the joint venture vehicle in return to equity. Longer-term arrangements (for example, Strategic Estates Partnerships) also require both partners to agree on strategy, priorities, and outcomes.

4.14.1.3 *Strategic Estates Partnership*

The model tends to involve a 50:50 Strategic Estates Partnership ("SEP") that requires both partners to agree on strategy, priorities, and outcomes. The model establishes 'non-exclusive' arrangements over a long term (e.g.,15 years), allowing the most appropriate partner to be selected to deliver estate and service transformation solutions over time that reflect changes in clinical strategy, service transformation and estate priorities on an estate wide basis.

4.14.1.4 *Design and build – existing frameworks*

The Trust could access a design and build solution (with potentially other services also incorporated) through a framework, such as the existing ProCure 22 (P22) Framework or Crown Commercial Services construction framework, or the ProCure 2020 (P2020) when this comes online.

Use of an existing framework can reduce the time and costs of procuring the contractor, as the number of potential contractors is smaller, and the parties will be working within set parameters. However, we would still expect projects of the scale anticipated here to be subject to a "mini-competition" among the framework contractors and the pace of the procurement process will depend on the pace of the design work which is being carried out in parallel.

There is an industry standard contract in P22, participants have been pre-selected which would limit the parties that could be invited to tender for this scheme, namely: BAM, Galliford Try, Graham, IHP (Vinci/ Sir R McAlpine), Interserve, Kier.

Another option for the Trust is the CCS Framework for Construction Works and Associated Services. This is another centrally procured and managed framework which is open for NHS Trust to use and permits the use of the NEC contract suite. The framework is made up of a number of lots, several of which may be suitable depending on the value of the construction works themselves at each site. Unlike P22 the CCS framework is not health-sector specific and so not all contractors on the relevant lot(s) of the framework will have significant health experience, although there is a degree of overlap. For example, Lot 4 (England and Wales, contracts for £30m – £80m) includes Balfour Beatty Construction, BAM Construction, Bouygues (UK), Galliford Try Construction, Graham, Interserve Construction, ISG Construction, Kier Construction, Laing O'Rourke Construction, McLaughlin & Harvey, Skanska Construction, Tarmac Trading, Wates Construction and Willmott Dixon Construction. Lot 5 (national, contracts for £80m+) includes Balfour Beatty Construction, BAM Construction, Bouygues UK, Bowmer and Kirkland, Galliford Try Construction, Graham, Interserve Construction, ISG Construction, Kier Construction, Laing O'Rourke Construction, Mace, Skanska Construction, Tarmac Trading and Wates Construction.

The CCS framework provides an option for the Trust in the event that there is a real risk of the P22 framework no longer being available at the point the Trust is ready to enter into contract with the contractor.

However, a health-sector specific framework is likely to provide the Trust and NHSE&I/DHSC/HMT with additional comfort that the Trust's needs and priorities are understood and captured.

4.14.1.5 *Design & Build - Bespoke Procurement*

Rather than using an existing framework, the Trust could go out to the market in accordance with the public procurement legislation, the Public Contracts Regulations 2015 (as amended) ("PCR") for a design and build solution for all or part of the new hospital developments.

A bespoke procurement allows the Trust to access the whole of the construction market rather than being limited to those on specific frameworks. This has the potential to drive additional value (depending on market forces) and reduces the risk of lack of capacity, which may be a concern if a number of the anticipated large capital health projects choose a framework procurement approach.

4.14.1.6 *Third Party Development/Lease*

In this option, a Developer would acquire interest in the land and appoint a construction contractor to construct the new healthcare facilities to meet the Trust's requirements. Consideration would be required as to which party progresses the design and if/when this is novated to the developer. On practical completion the Trust would assume a long lease of the facility at a rent that covers the construction cost and the Developer's profit.

Hard FM and Lifecycle Services can be delivered as part of the agreement, although it would be unusual to get an inclusive price for these services under a (tenant repairing) lease arrangement. The Developer would need to source development funding, although potentially the level of capital required may not be available on a short-term basis. The facility, once constructed, could be refinanced by a sale of the investment to an institutional funder who would receive the rent and return.

4.14.1.7 *Site/Land Disposal*

If the Trust could identify land for disposal to generate a sufficient capital receipt to fund/part fund the delivery of new healthcare facilities and to drive efficiencies in the overall use of the Trust's existing estate, this funding could form part of an overall wider bespoke JV arrangement/solution or fund the capital costs via an existing framework.

4.14.1.8 *Charitable Funds*

The Trust may be supported by a charity with access to funds which could be used to develop the new healthcare facilities and/or for the procurement of specialist elements such as equipment. Contracting arrangements between hospitals and charities take various different forms e.g., where the charity purchases the freehold of the redevelopment site and grants a long lease to the Trust.

The Trust then uses the sale proceeds to fund the redevelopment or where the Charity purchases elements, such as equipment, and donates this to the Trust.

4.14.1.9 *Summary*

Due to the size and complexity of the programme, the Trust will work closely with the DHSC and the Regional Estates Adviser in determining the most effective procurement route.

These will be considered on a project-by-project basis by the Director of Estates & Facilities, and Estate Strategy Programme Board.

5 Conclusion

In summary, the Estate Strategy outlines the drivers for change, including significant estate investment. It also sets out the range of services and business as usual activities that the Estates & Facilities Team provide to maintain a high performing, safe and compliant estate.

There is a clear vision for the future of the Trust and the goals to be obtained, over a realistic time but the vision can only be realised through reform and more innovative ways of working, not only within the Trust but also across the wider region healthcare system.

The resources needed to carry out this transformation are not only financial but include the people with the necessary skills and commitment at all stages of the change process.

The Outputs

The strategy articulates a plan for detailed delivery of the Trust's strategic objectives. The key conclusions from this Estate Strategy are:

- The Trusts Clinical Strategy and future model of care is the key driver for change and there will continue to be full engagement with this dynamic process.
- The Trust needs to improve the efficiency and cost effectiveness of its estate, to provide clinical facilities which are affordable and cost effective, and therefore make a positive contribution to the Trust's financial position.
- There are a number of clinical, estate and financial drivers for change and an overriding need to improve the quality of the estate and reconfigure services to improve the patient experience and make the Trust more efficient.
- The Estate Strategy will continue to focus on making the most effective and efficient use of the Trusts sites, to enable clinical staff to work in the right place, to provide the best, safest and most seamless care.
- The Trust faces a significant challenge to deliver this strategy, however, as long as there remains an appetite to make the inevitable difficult choices, operating within the flexible framework, as articulated within this strategy, then significant improvements to the management and delivery of the Trust estate will be realised.
- The proposed investments and phasing will be continually and individually assessed as part of the capital planning process.
- Outputs of service changes and reconfiguration will lead to opportunities for disinvestment and associated capital receipts.

Next Steps

These are the future actions required to develop the Estate Strategy:

- Board level commitment to the delivery of the Estate Strategy via multi-phased approach across the next 20years +
- Board level commitment to move forward with a Strategic Outline Case for Phase 1b of the Estate Strategy.
- Board level commitment to bid for New Hospital Programme funding for Phase 1b.
- Ensure all key projects are taken through a rigorous, compelling Business Case process to ensure they deliver benefits based on the situation at the time of their development
- Agree a clear communications message promoting the Estates Strategy and estate changes to the Trust's staff, the public, and other stakeholders across the system
- Continue to monitor and react to the changes brought about by the impact of COVID 19
- Continue to engage with the NHS, our healthcare partners in South West London and our partners in Local Government to demonstrate our Estate Strategy

Closing Statement

I want this document to be in constant use and referred to by everyone who has an interest in the St George's estate.

Our Estates Strategy should be the first point of reference for any estates matter and will be the guiding light for delivering change across our estate. The Estates Strategy also shows the importance to our stakeholders of what the Estates and Facilities team does to maintain a safe and compliant estate and deliver the required investment in property to meet new and emerging clinical demands.

"The principal purpose of this new Estate Strategy is to provide understanding to our staff, stakeholders and partners in how our estate performs and to provide an operating framework with which we will deliver the necessary estate change for system benefit across South West London."

Andrew Asbury, Director of Estates & Facilities, St George's University Hospitals NHS FT, May 2021

St George's University Hospitals NHS Foundation Trust

Estate Strategy

2021 to 2031

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