

NMC-PDA-RP-A-00101

Nuclear Medicine: Ysbyty Glan Clwyd. Design and Access Statement

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Rev P02



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For:

Betsi Cadwaladr University Health Board



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1.0 Context

1.0 Context

1.0 Introduction

1.1 Proposed Development

This Design and Access Statement has been prepared to accompany the outline planning application, in respect of the proposed new Nuclear Medicine facility at Ysbysty Glan Clwyd. The proposed facility will relocate and unify the Nuclear Medicine imaging facilities from across Betsi Cadwaladr University Health Board creating a new state of the art facility for the area.

Facilities to be included in the new department are;

- x1 PET CT Scanner
- x2 Gamma Cameras
- Admin & Support Spaces

With Betsi Cadwaladr University Health Board, and our fellow design consultants, we will from the outset seek to develop a sustainable and energy efficient design strategy.

Issues of sustainability, passive energy saving measures and utilising renewable energy sources, are fully embedded within the design process.

1.2 Legislative Context

As a result of the Planning (Wales) Act, Design and Access Statements (DAS) are now required for the following types of development only:

- All planning applications for “major” development except those for mining operations; waste developments; relaxation of conditions (section ‘73’ applications) and applications of a material change in use of land or buildings; and,
- All planning applications for development in a Conservation Area or World Heritage Site which consist of the provision of one or more dwellings or the creation of floor space of 100 sq.m , (gross) or more.

The proposal is classed as major development and as such, a Design and Access Statement is required.

Technical Advice Note 12: Design Guidance on Design and Access Statements (March 2016) sets out the requirements that a DAS should satisfy. These are as follows:

1. Explain the design principles and concepts that have been applied to the development
2. Demonstrate the steps taken to appraise the context of the development and how the design of the development takes that context into account
3. Explain the policy or approach adopted as to access, and how policies relating to access in the development plan have been taken into account
4. Explain how any specific issues which might affect access to the development have been addressed

This statement has been prepared to satisfy the requirement for a DAS and provides the information identified in TAN 12

1.3 Project Background

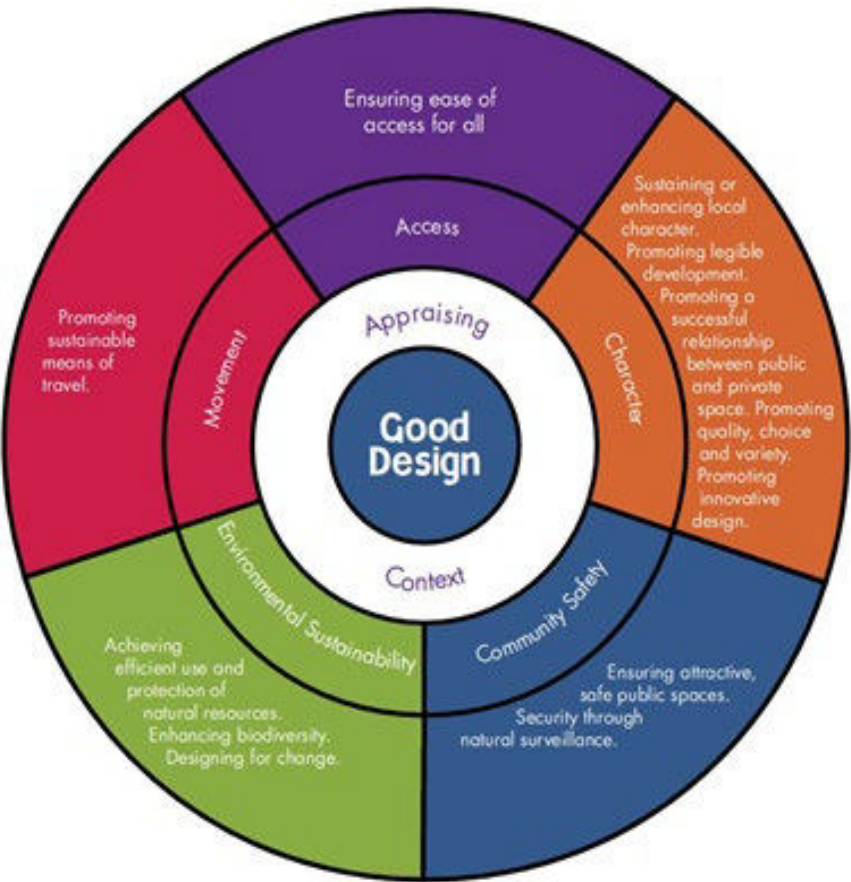
Diagnostic nuclear medicine is a radiological speciality used to diagnose diseases and injuries and to help clinicians monitor the progress of patient treatment. It is a very sensitive method of imaging and helps to identify abnormalities very early in the progression of diseases.

The new facility at Ysbyty Glan Clwyd would operate as a scanning facility, facilitating pre-arranged radiology scan appointments throughout the day.

Nuclear Medicine services at Betsi Cadwaladr University Health Board (BCUHB) form part of the Radiology Department. Nuclear Medicine services are currently provided by three Gamma cameras across the three main acute BCUHB hospital sites, along with a mobile PET-CT scanner located at Wrexham Maelor Hospital for three days a week.

There are a series of operational issues with this service configuration for both patients and staff, which make it unsustainable in both the short and long term. The project is an opportunity to improve the quality of the service for patients, make it more resilient and reduce revenue costs. Consolidating services in a single centre of excellence for Nuclear Medicine at Glan Clwyd Hospital is the preferred way forward, consisting of two Gamma Cameras and a permanent fixed PET-CT.

Following a review of the service provided and the progression of a Strategic Outline Case (SOC) by the Health Board in 2022, stage one of the Gamma Cameras has been procured and installed at Wrexham Maelor Hospital. This will be relocated, as part of the Nuclear Medicine project. The radiology unit at Wrexham Maelor Hospital would be retained, along with its visiting mobile PET-CT scanner.



1.4 Planning Proposals

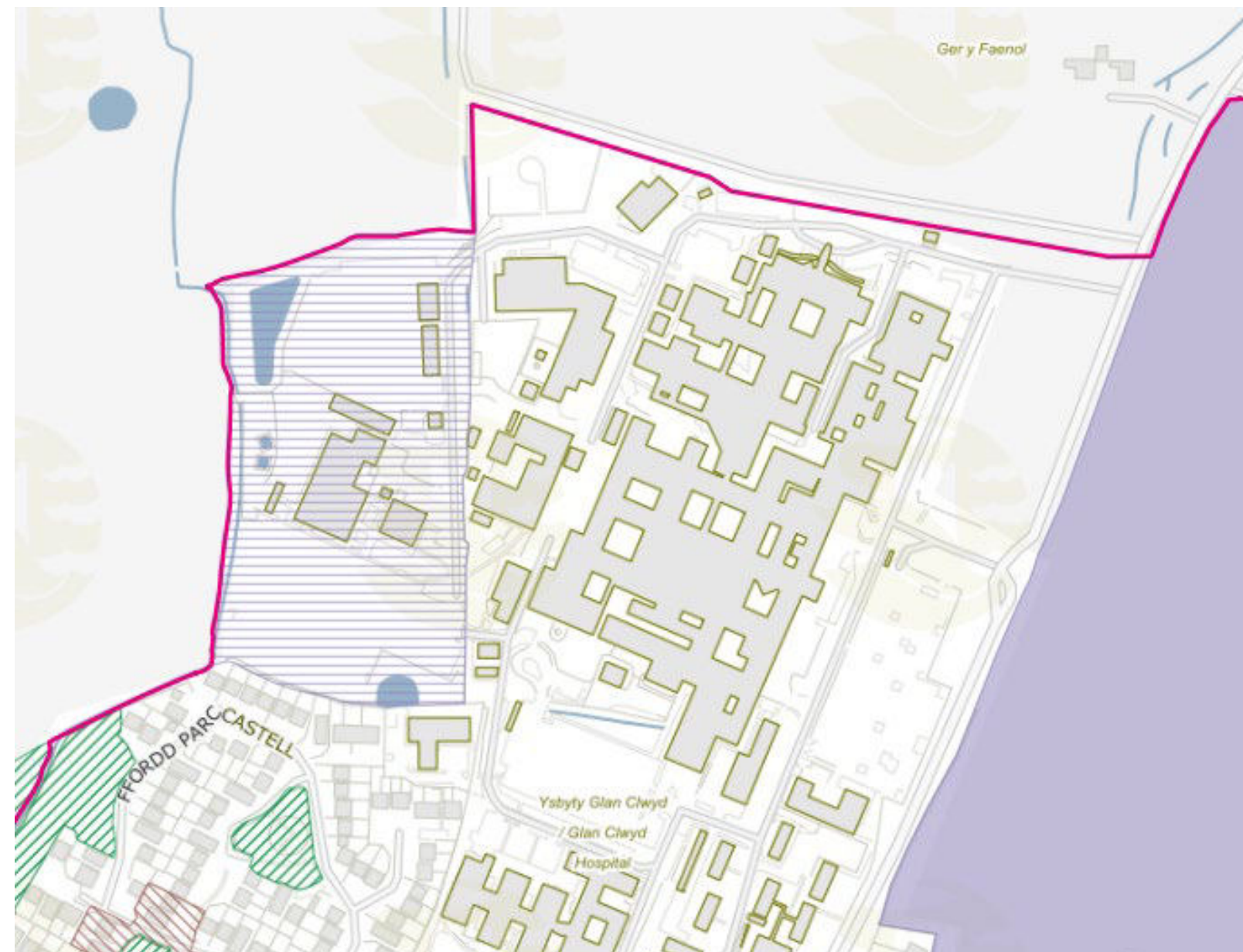
Application Site: The site forms part of the established Ysbyty Glan Clwyd Hospital estate within Bodelwyddan. The adopted local plan provides an allocation under Policy BSC 12 at the hospital which supports the provision of new community facilities at the site in order to help ensure that the essential facilities to support the sustainability of Denbighshire's communities are provided.

The policy outlines that health care provision is a key facility for communities and that the Primary Care Estates Strategy identifies for the development of new and improved health care sites in Bodelwyddan.

The proposed development plot represent previously developed land within the established development boundary of Bodelwyddan.

Planning Policy Wales 11 promotes the use of previously developed brownfield land above the use of greenfield sites. It is explicit in that the starting point should be that within settlements the re-use of previously developed land should generally be considered suitable for appropriate development.

Pre-application Advice: Ongoing pre-application dialogue with the local planning authority has informed the latest design strategy and the scope of the proposals.



1.5 Site Location

The site is located within the grounds of Glan Clwyd Hospital, situated in the village of Bodelwyddan. It is approximately 4 miles south of Rhyl.

The site is in close proximity to the A55 for connections to North Wales and Chester. Rhyl has the nearest railway station, with bus links to the main entrance of the hospital.



1.6 Site Constraints

The proposed site is adjacent to the existing Imaging and North Wales Cardiac Centre.

Scale: The Cardiac Centre and adjacent modular extension to the original concrete clad hospital are both 2 storeys.

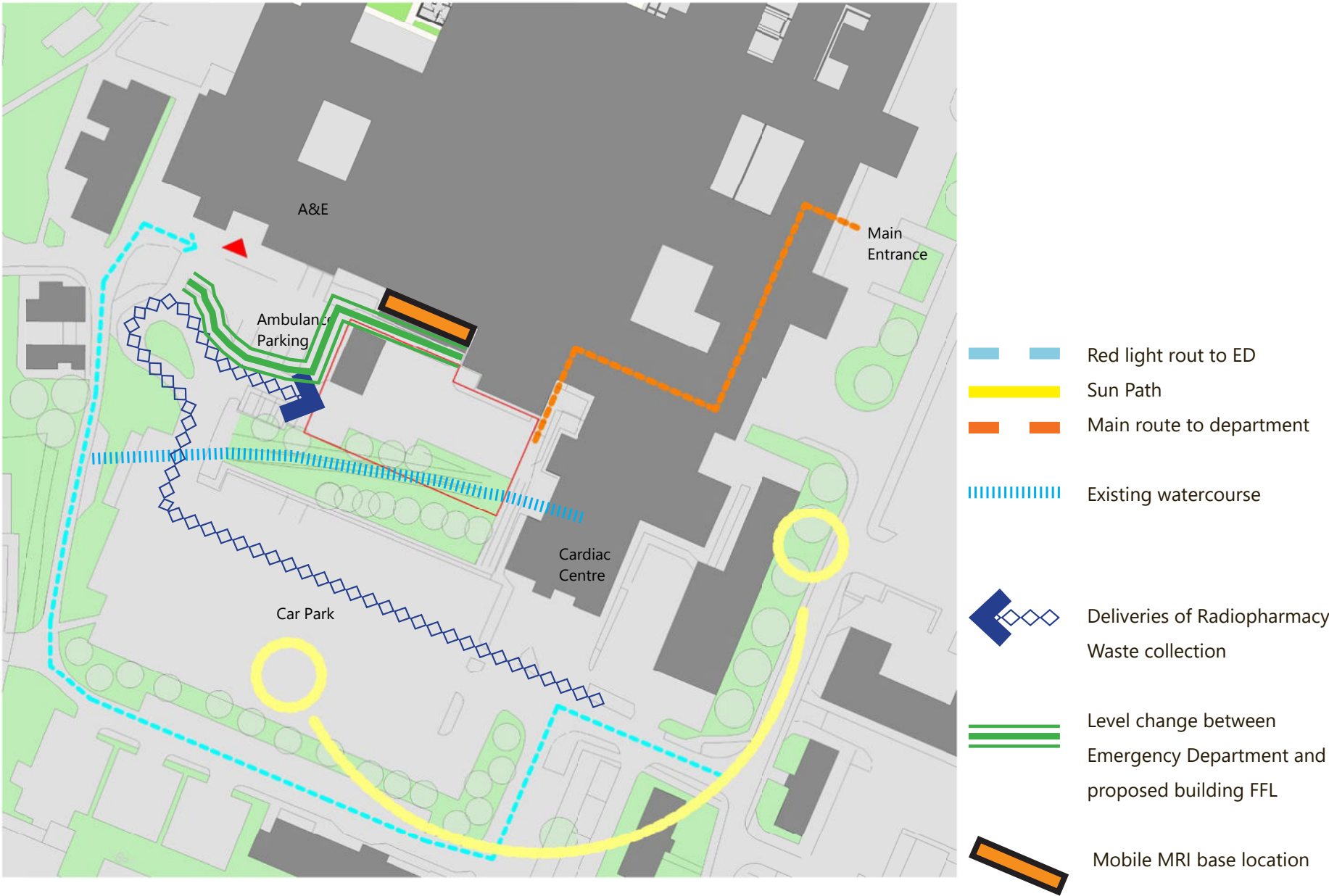
Watercourse: An existing watercourse runs across the site and under the existing Cardiac Centre. This will be diverted under the proposed building.

Temporary MRI scanner location : At the north of the site there is an existing base for a mobile MRI scanner, this has several constraints for our site including vibration criteria and gauss lines which limit development and activities in it's proximity.

Emergency Department: The department entrance and ambulance parking bays are located to the West of the site, ambulance bays are 800mm lower and separated by a gabion wall.

Vehicle delivery and waste collection: Deliveries and collections will need to be made through the car park due to the dedicated red light route. Modifications will need to be made to the existing roundabout.

Site levels : An 800mm level difference runs across the site. To oversail the watercourse, the building will be set at the higher level and connected back to the main building by a ramp enclosed in a glazed link.

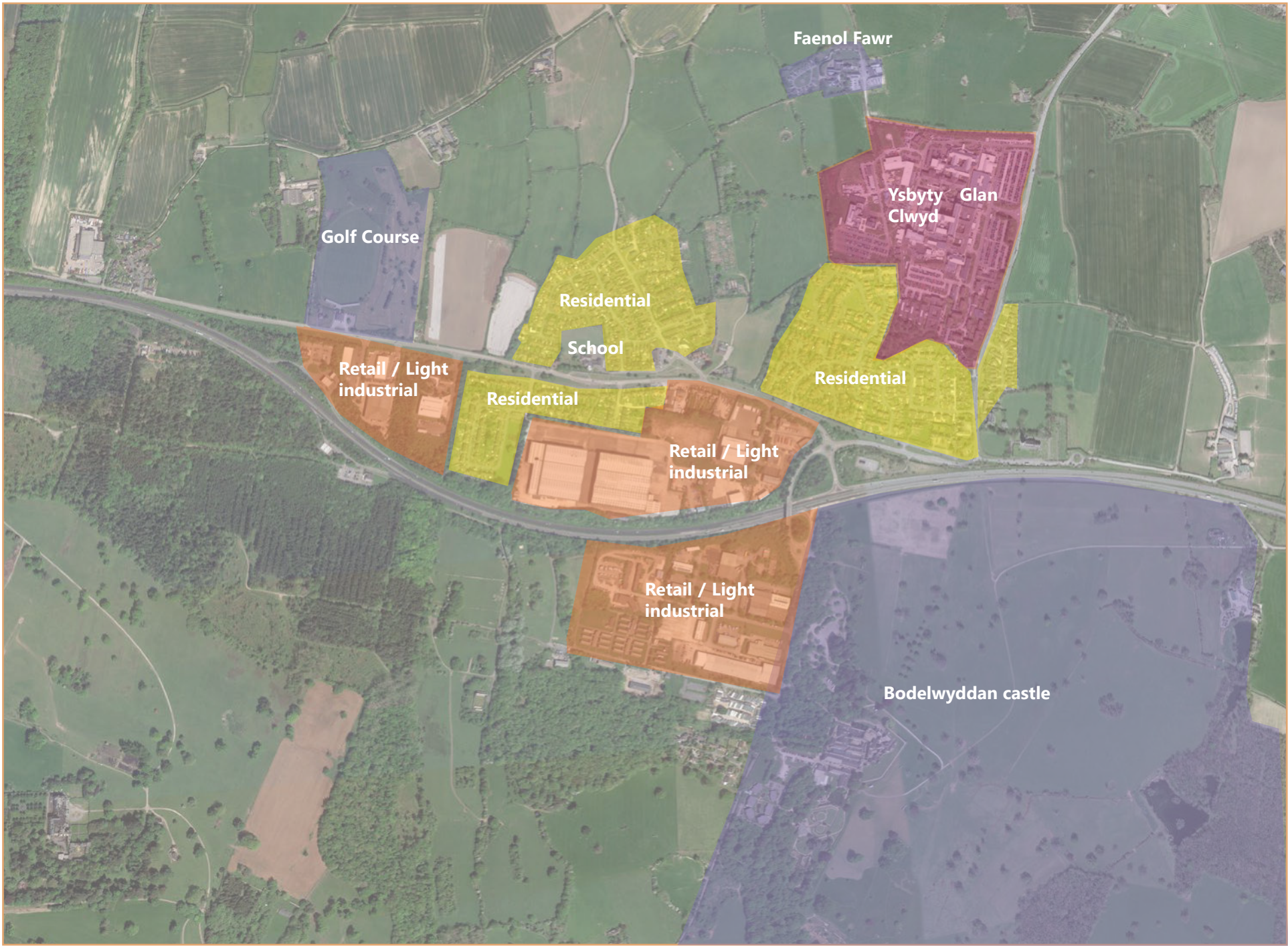


1.7 Site Context and Land Use

The land adjacent to the site consists primarily of Farmland, Residential, Retail ,Leisure and the Ysbyty Glan Clwyd hospital campus. The towns of Rhyl and St Asaph are both closely linked in terms of road and public transport with the A55 being a major route through North Wales connecting Northern Ireland, Manchester and Liverpool.

The Architectural character of the site is dominated by the brutalist architecture of Ysbyty Glan Clwyd, which was refurbished 6 years ago. There are some large residential estates and retail units adjacent to the site.

The key buildings in the area are the Optic centre, Bodelwyddan Castle, Faenol Fawr hotel and St Margaret's Church.



1.8 Hospital Campus Appraisal

Existing hospital facilities include:

- Emergency department
- Pathology department
- Mortuary
- Cancer Centre
- Cardiology/dermatology
- Acute Medical Unit
- Same Day Emergency Care
- SCBU
- Delivery Suite
- Elderly Care
- Renal/Diabetes

Site History

Glan Clwyd Hospital was opened in 1980 at a cost of £16 million, consisting of six operating theatres.

June 2000 saw the opening of the North Wales Cancer Treatment Centre which provides treatment to patients across North Wales. The hospital went through further development in 2012 opening a new operating theatre followed by a new pathology department in 2013.



Existing AOPMHU Unit



Main Entrance



Pathology Department



Emergency Department



Mortuary Facility



North Wales Cancer Centre

2.0 Brief

2.0 Brief

2.1 Design Quality

We held an "Achieving Excellence Design Evaluation Toolkit (AEDET) review with the project stakeholders and NHS Wales Shared Services on 25/07/23. This allowed the benchmarking of design quality in terms of functionality, impact and building standards. As the scheme progresses further AEDET reviews will be carried out to ensure the design quality and functionality of the building is maintained.

To complement the process of external assessment there is a stringent internal design review process whereby the senior designers and peer group members will undertake a design critique of the proposals. This process is an ongoing commitment and the reviews are undertaken at regular intervals along the design development path. We seek to achieve a cooperative approach to our significant design projects and welcome the opportunity to involve the client's stakeholder parties in this process.

The principles of sustainable development and decarbonisation will be by the development of proposals that are sufficiently flexible to accommodate changing needs for future health care planning principles.

2.2 Design Guides

WHTM / WHBN & Statutory Compliance

WHBN's

The Welsh Health Building Notes (WHBNs) are a series of design guidance documents produced by the NHS Estates over the last 40 years. Whilst many of the schedules of accommodation associated with the patient related HBNs have been superseded by the consumerism agenda some fundamental principles of the tried and tested WHBNs remain valid.

Design Standards: Building Guidance Documents

Relevant Health Building Notes

HBN 12 - Out Patients Department -2004

WHBN 02-02: Sanitary Spaces 2013

WHBN 00-03: Clinical and Clinical Support Spaces 2013

WHBN 00-09: Infection Control in the Built Environment 2016

WHBN 00-10: Part A Flooring 2014

WHBN 00-10: Part B Walls and Ceilings 2014

WHBN 00-10: Part C Sanitary Assemblies 2014

WHBN 00-10: Part D Windows and Associated hardware 2014

WHBN 02-01 Cancer Treatment Facilities

HTM 08-01: Acoustics 2011

HTM 08-02: Lifts 2016

WHTM 05-02 Firecode - Fire safety in the design of healthcare premises 2014 (please also refer to Fire Engineering report)

Welsh Building regulations Approved documents - The design will only comply with regulations applicable at time of submission.

Aurora will be advising on compliance with Radiation protection and Electromagnetic design

Any regulations around delivery and managing radioactive materials including anti terror advice to be advised by BC UHB

Internal circulation space allocation, plant and communication space targets have been tested/ validated as the design develops through with the Health Board Project Team, to ensure the appropriate balance between clinical functionality, public space, separation of flows and efficient engineering service delivery.

Statutory Requirements

The policy is to comply wherever required by statute including Planning and Building Legislation and Licensing as far as necessary to operate the site/hospital buildings.

We recognise that in many cases these obligations or requirements represent minimum standards and in collaboration with the Trust there are opportunities that will be discussed where increasing these minimum standards may be considered in the context of long term benefit.

2.3 Schedule of Accommodation

The schedule of accommodation is shown indicatively as part of the outline planning application, detailed proposals will be presented to the local planning authority at reserved matters stage.

Room Reference	Room Name	Number of rooms	Room Area (sq.m.)	Total Area (sq.m.)
	Admin office with reception desk	1	24.0	24.0
	Staff locker area	1	3.0	3.0
	Admin Store	1	4.0	4.0
	Waiting area 1 for reception	1	15.0	15.0
Controlled area	NM 'hot' WC	2	5.0	10.0
	Accessible WC	1	5.5	5.5
Controlled area	Cardiac stressing	1	18.0	18.0
Controlled area	PET Injection uptake room	1	68.0	68.0
Controlled area	Injection room for Gamma Camera	1	18.0	18.0
Controlled area	Subwait for nuclear meds / waiting area 2 following injection	1	27.0	27.0
Controlled area	PET CT room	1	50.0	50.0
Controlled area	PET CT control room	1	12.0	12.0
Controlled area	PET isotope dispensing room	1	15.0	15.0
Controlled area	Space to dispense for Gamma Camera	1	15.0	15.0
Controlled area	Accessible changing cubicle	2	5.0	10.0
Controlled area	Accessible 'hot' WC	2	8.0	16.0
Controlled area	Decon Shower	1	5.0	5.0
Controlled area	Gamma Camera Room	2	45.0	90.0
Controlled area	Gamma Camera control room	1	12.0	12.0
Controlled area	Waste hold with radioactive waste store	1	8.0	8.0
Controlled ACCESS area	Managers Office	1	10.0	10.0
Controlled ACCESS area	Consultants Office	1	10.0	10.0
Controlled ACCESS area	Reporting Space	2	12.0	24.0
Controlled ACCESS area	Beverage room	1	14.0	14.0
Controlled ACCESS area	Accessible Staff WC	1	5.5	5.5
Controlled ACCESS area	Store	1	13.0	13.0
Controlled ACCESS area	Switch room	1	6.0	6.0
Controlled ACCESS area	Technical or UPS room	3	10.0	30.0
Support space	Bay:Resuscitation trolley	1	2.0	2.0
Support space	Cleaners room	1	8.0	8.0
Support space	Linen cupboard	2	2.0	4.0
Support space	Dirty utility	1	8.0	8.0
Support space	IT Hub	1	10.0	10.0
Support space	dirty linen	1	4.0	4.0
Support space	Disposal hold	1	12.0	12.0
	Sub Total			

Subtotal		586
Planning 5%		29
Subtotal		615
Circulation 32%		191
engineering 3%		18
sub total		825
Plant (central to serve unit) 25%		206
Total floor area		1031

2.4 Functional Content & Adjacencies

The scheme consists of 4 main zones these include, Reception and waiting, Admin, Gamma Camera and Pet CT Camera.

The floor plan is arranged around optimising Patient journeys.

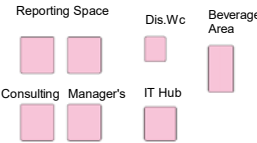
Entering from the main hospital building through a glazed link, or from the carpark adjacent to the Ablett unit, patients are greeted by a main reception and relatives waiting area. Once patients pass through the changing area, they progress to either the Gamma or PET CT Zones.

The Gamma zone provides a sub waiting area for the patient before cardiac stressing or injections take place prior to entering the Gamma camera room.

Patients Entering the PET CT zone enter straight into the injection room before being scanned by the PET CT Camera.

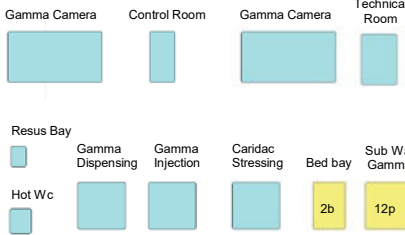
At the rear of the building are support spaces with a dedicated delivery entrance for radionuclides and radio isotopes. The rear entrance has direct access to radiopharmacy preparation rooms for both zones.

Admin



Treatment

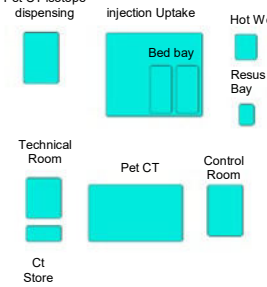
Gamma



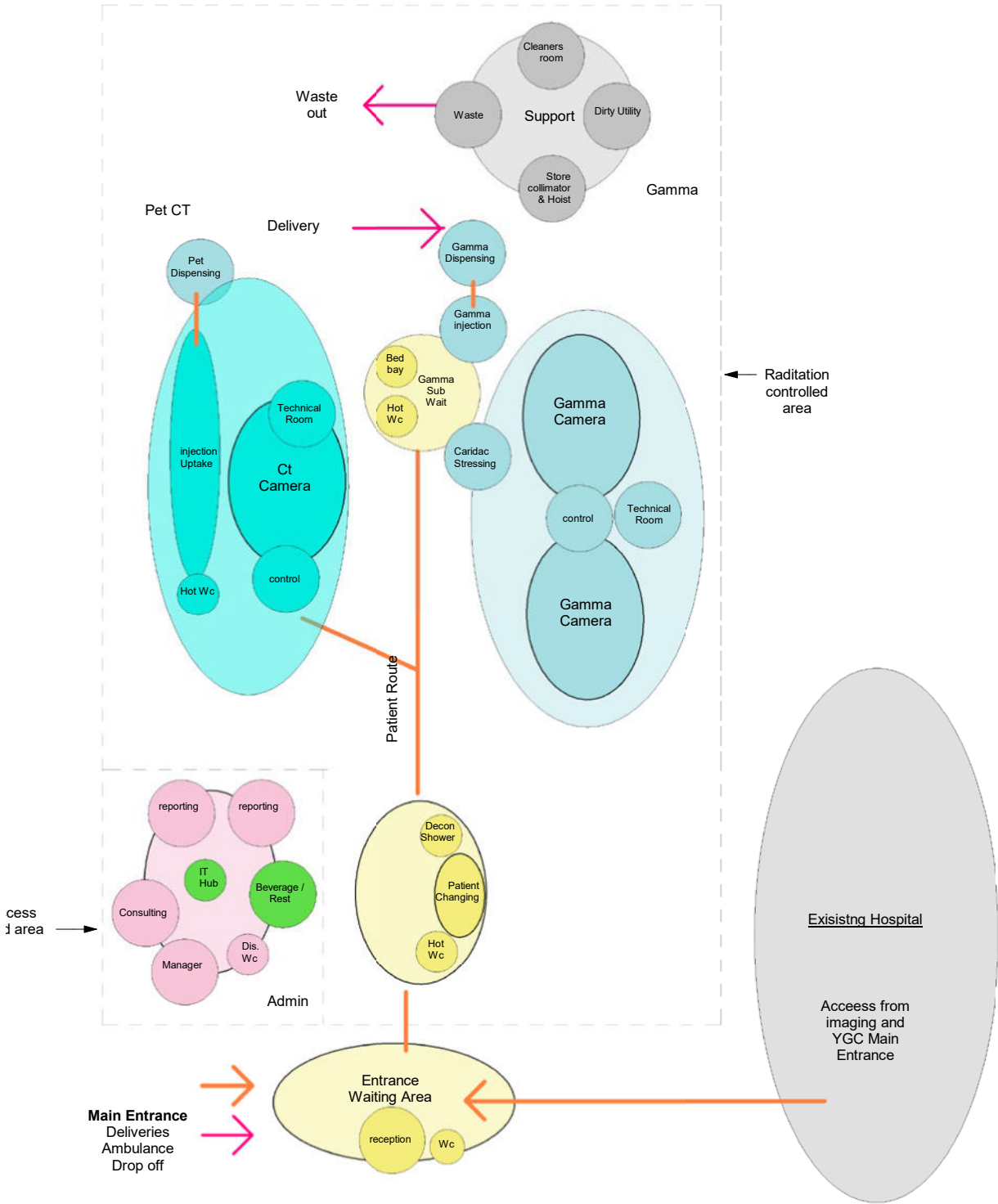
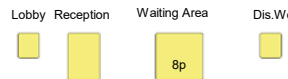
Shared



Pet CT



Wellbeing

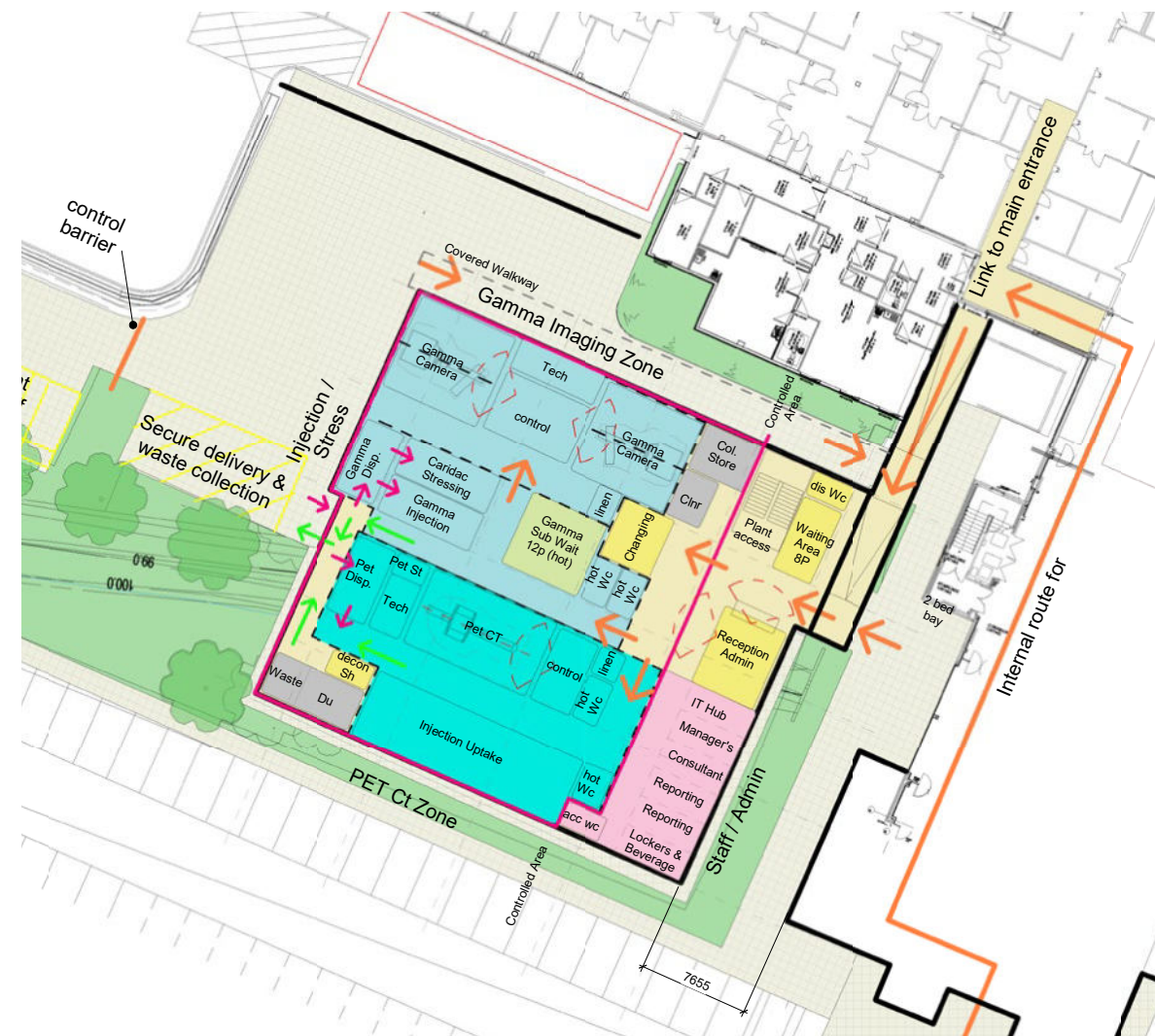
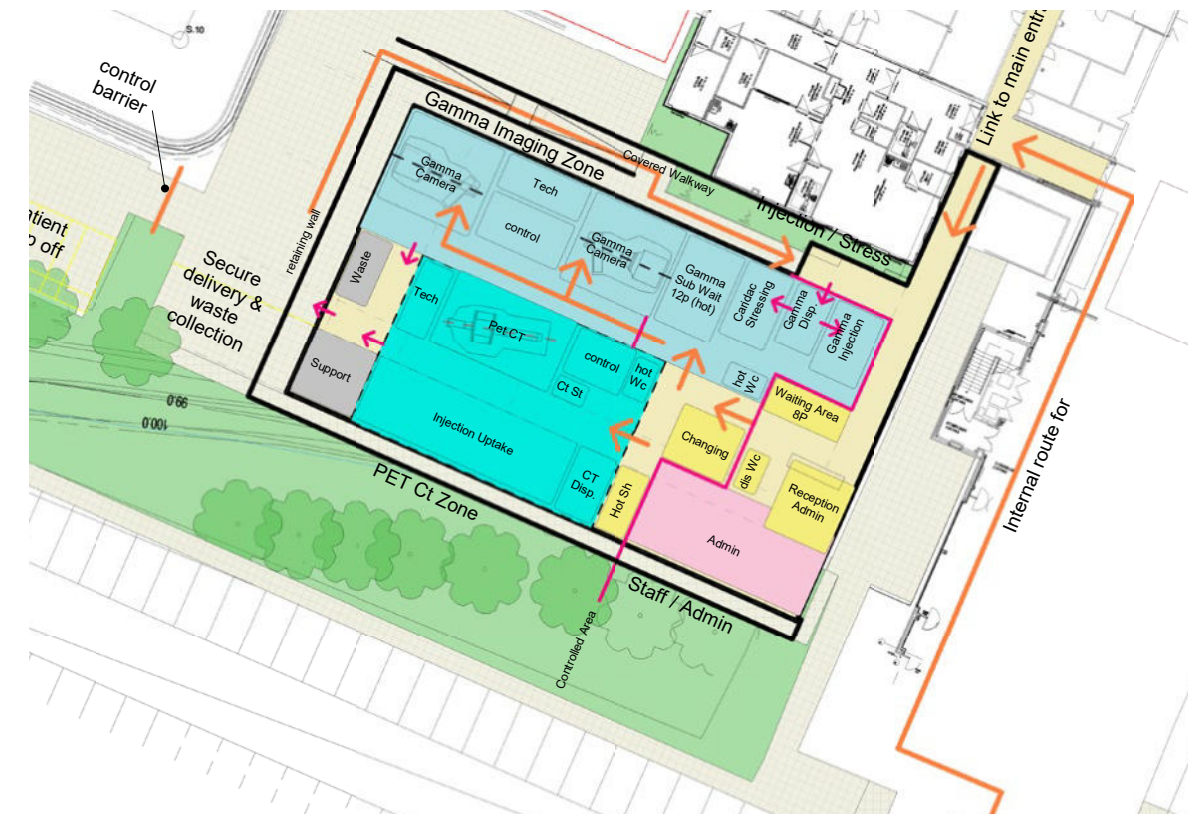
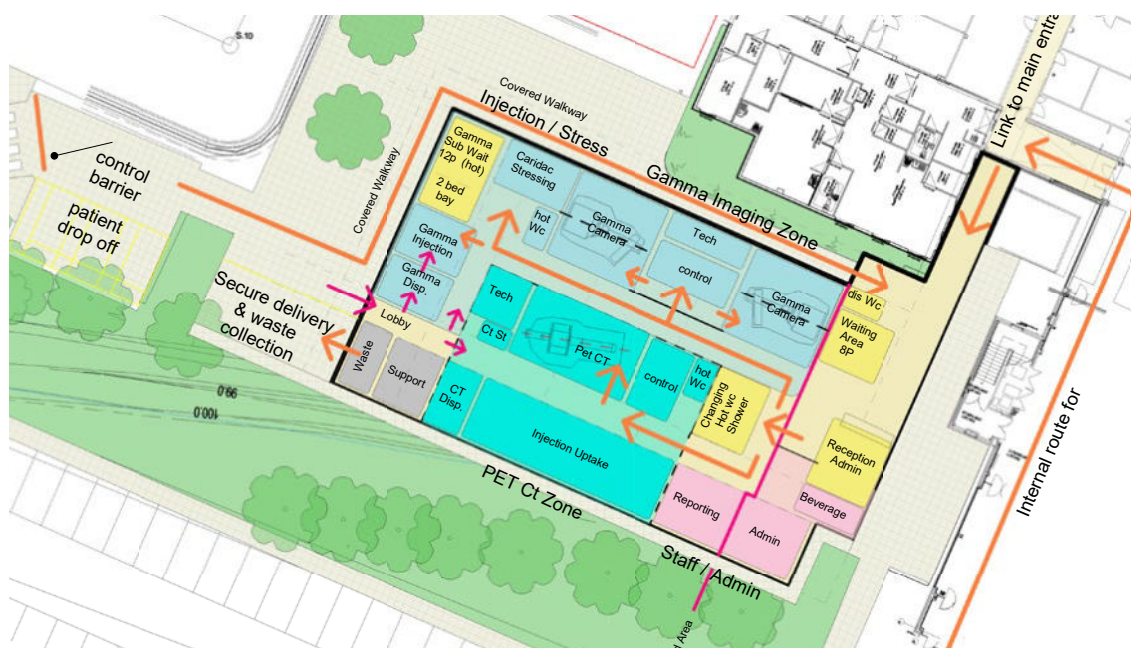
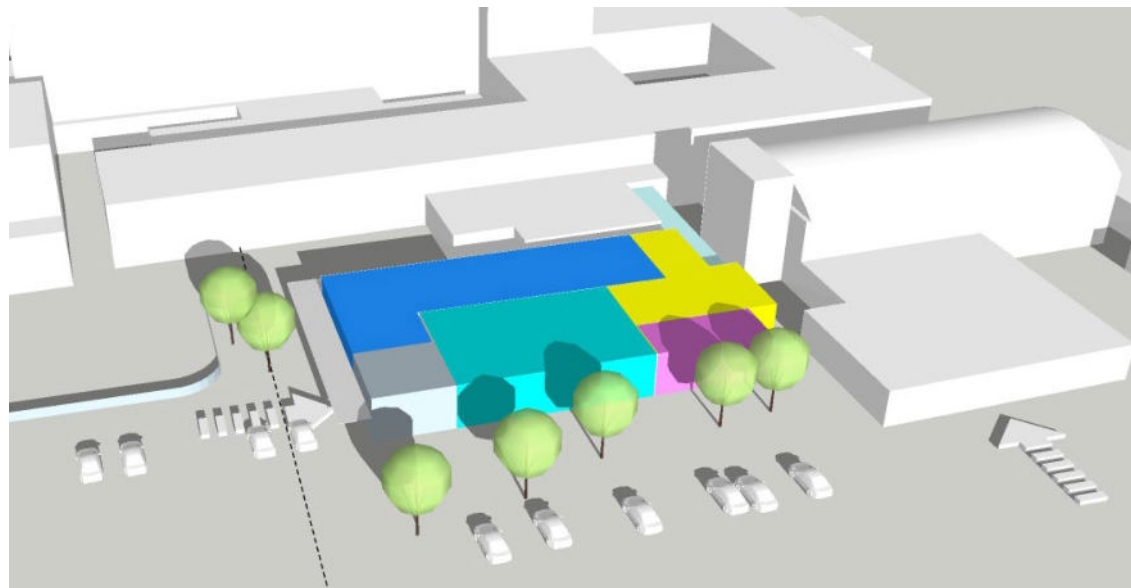


2.5 Block Plan Options

During RIBA Stage 2 (OBC) several building options were explored following development of the schedule of accommodation. Design options focused on orientation and departmental adjacencies which included an elongated plan.

Departmental adjacencies and building form have been defined by the patient flows, spatial requirements for equipment, and location of key clinical equipment. The Radiation Protection Advisors, requested that the PET CT scanners were located on an external wall to minimise long term exposure and delivery of radionuclides and isotopes to the rear of the building.

This planning application is being made in outline, detailed proposals will be presented to the local planning authority at reserved matters stage.

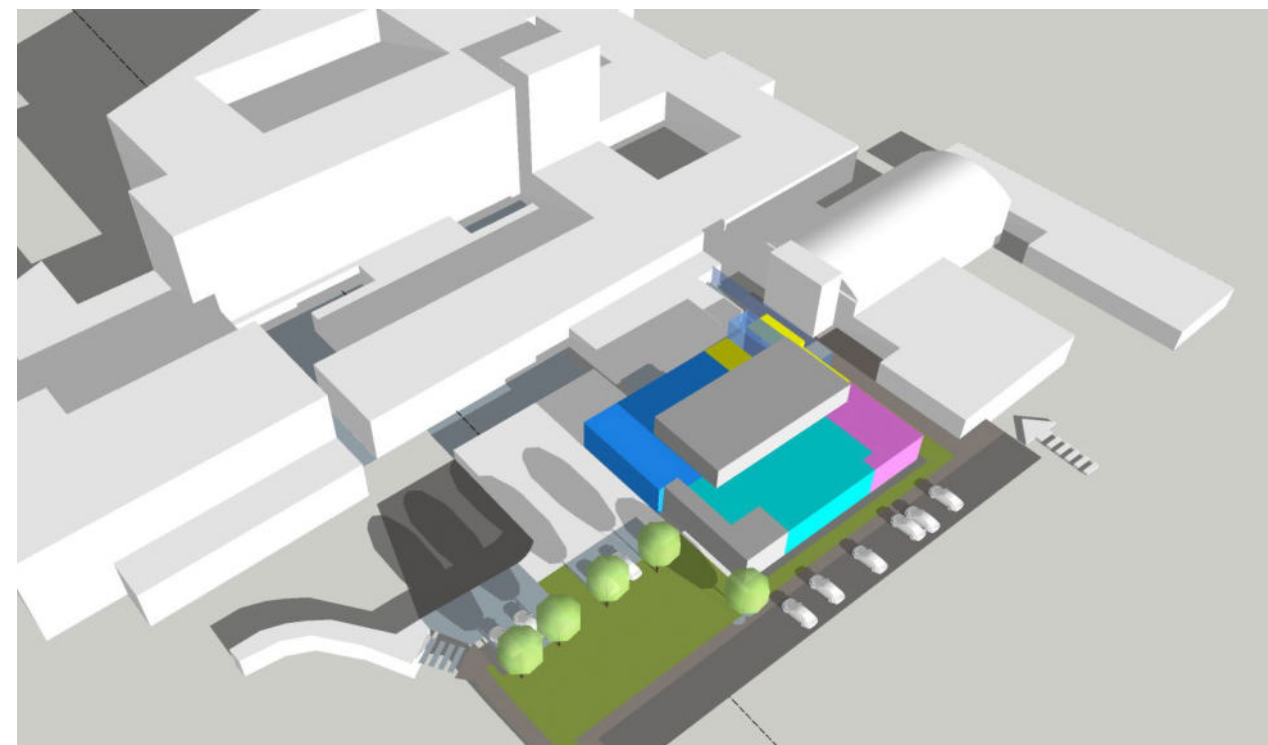
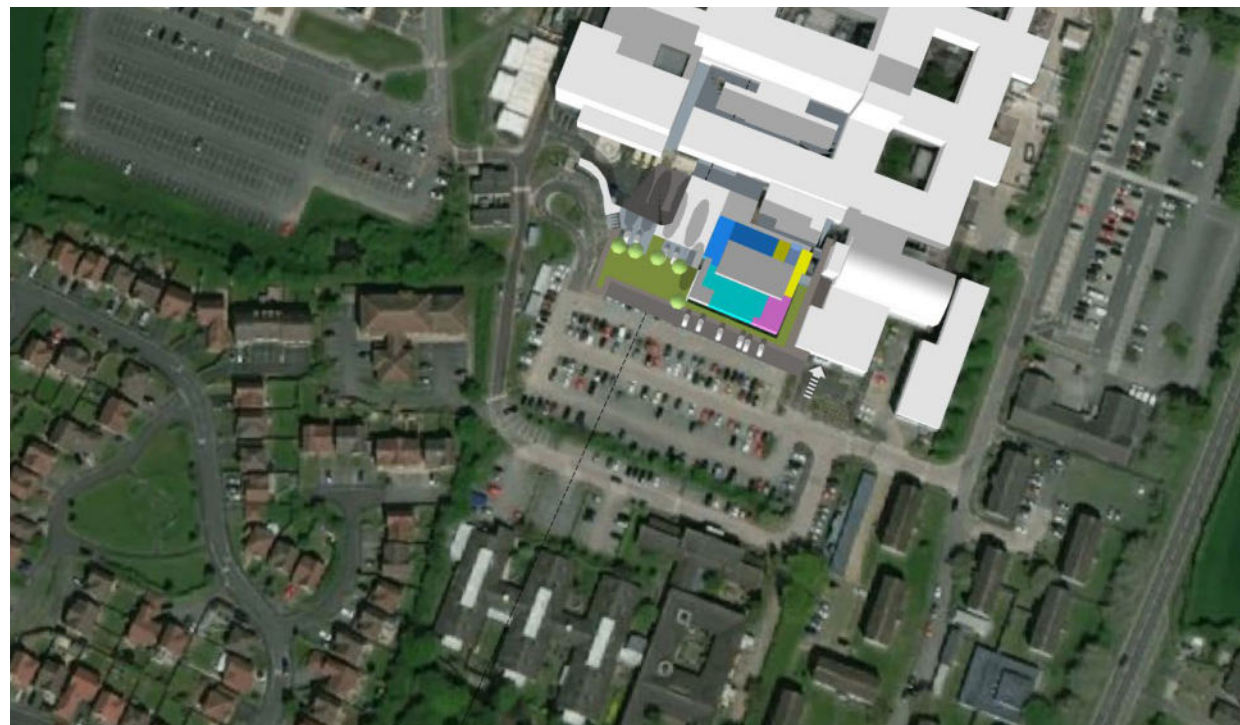
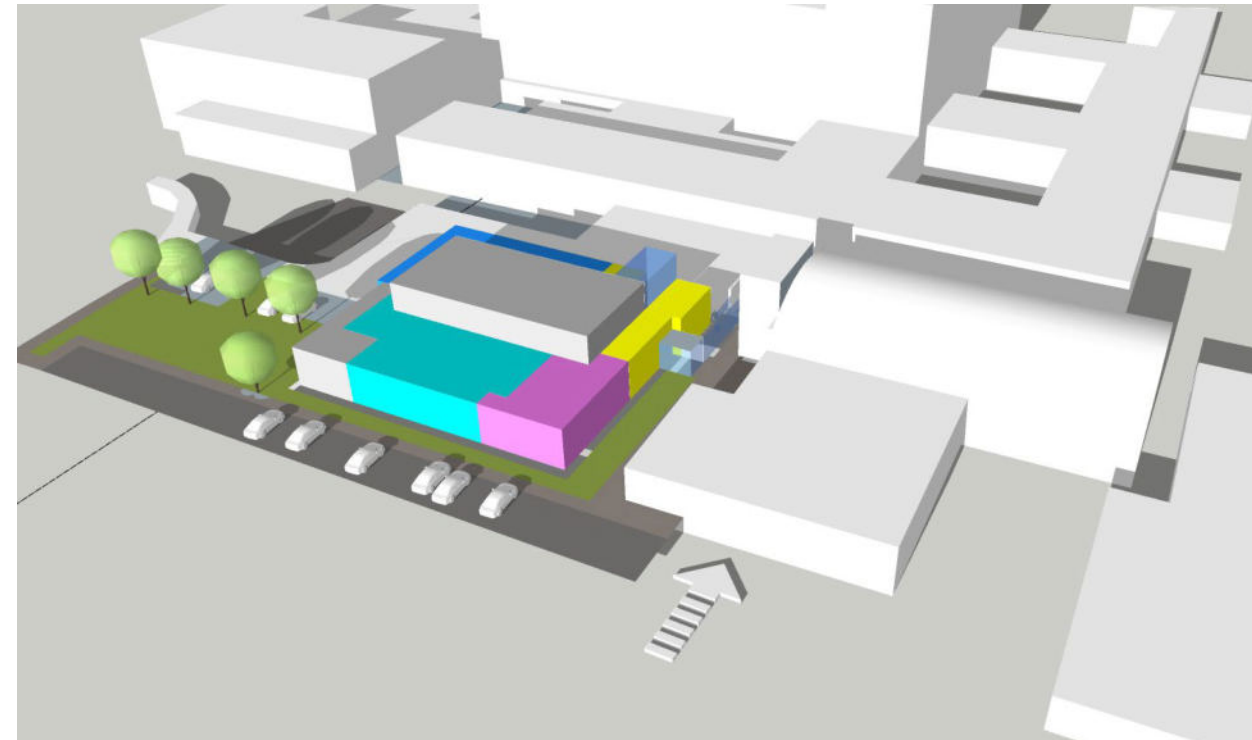


2.6 Site Massing

The building has been designed to allow all clinical spaces to be located on one floor, with a second storey for a plant room. This is in keeping with the adjacent imaging and cardiac centre buildings.

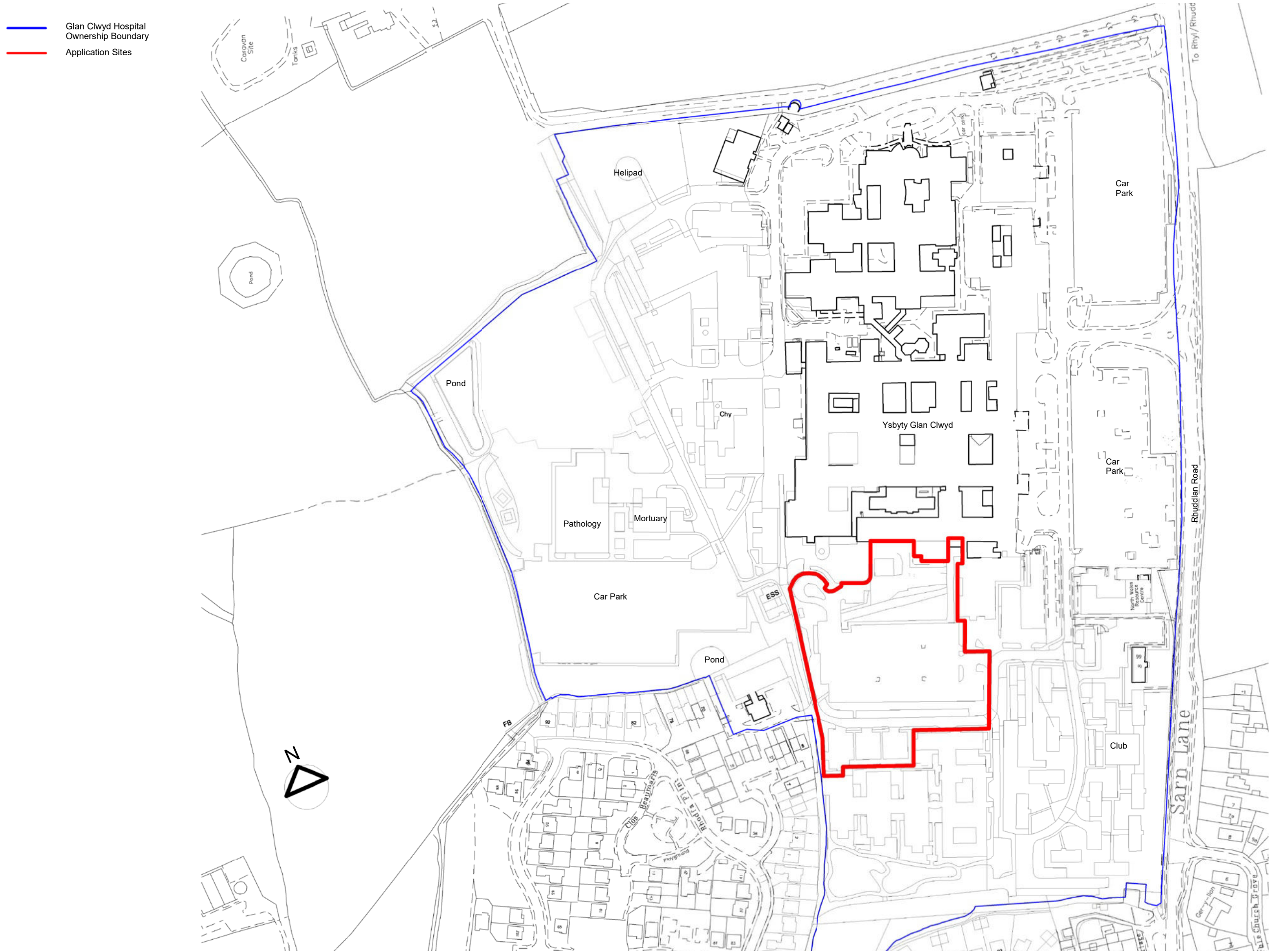
Due to the building needing to bridge the existing storm drainage the ground floor has been set at the same level as the existing car park. This means that the new building will be accessed via a ramped glazed link as the finished floor is 800mm above the main hospital ground floor level.

This planning application is being made in outline, detailed proposals will be presented to the local planning authority at reserved matters stage.

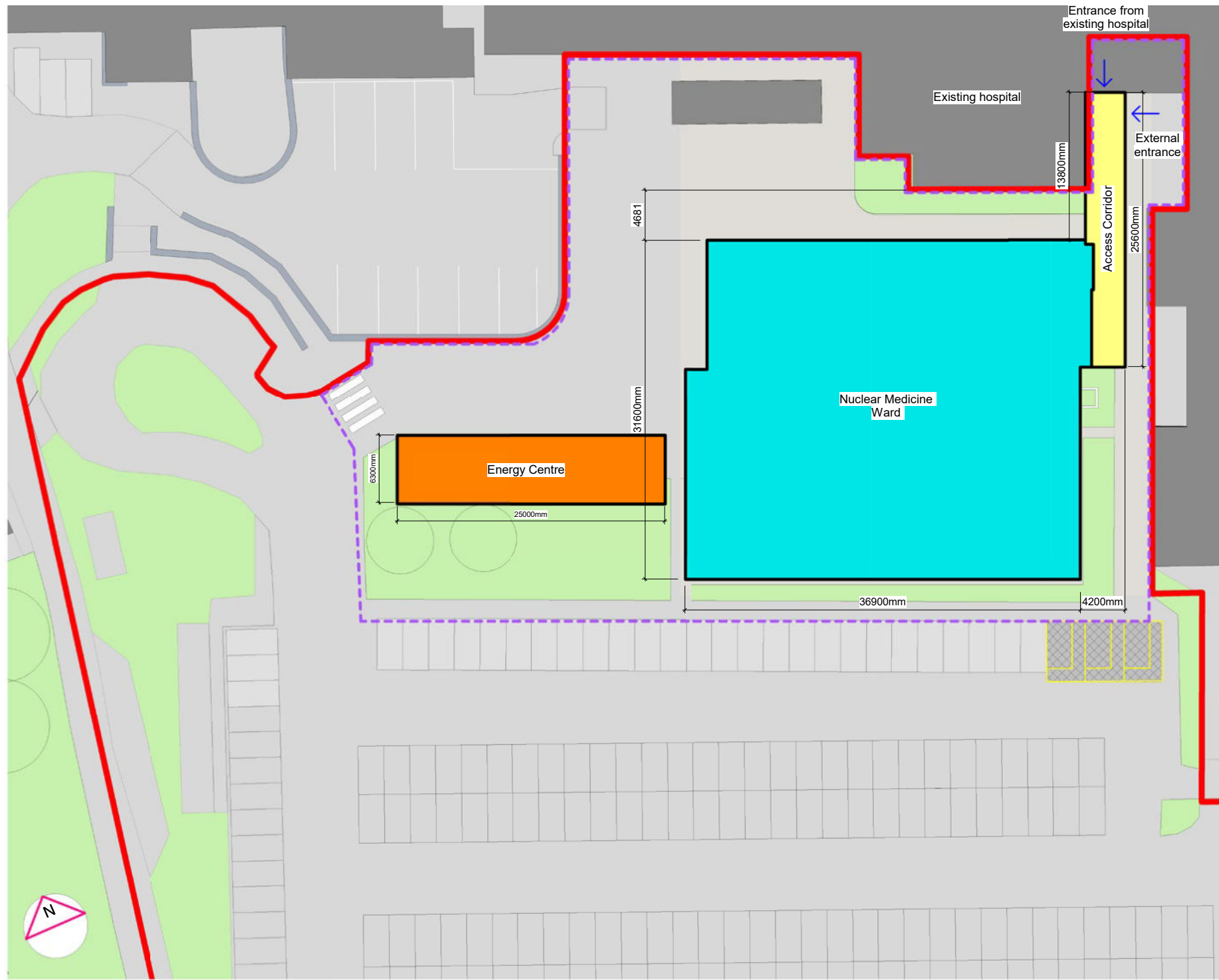


3.0 Parameters Drawings

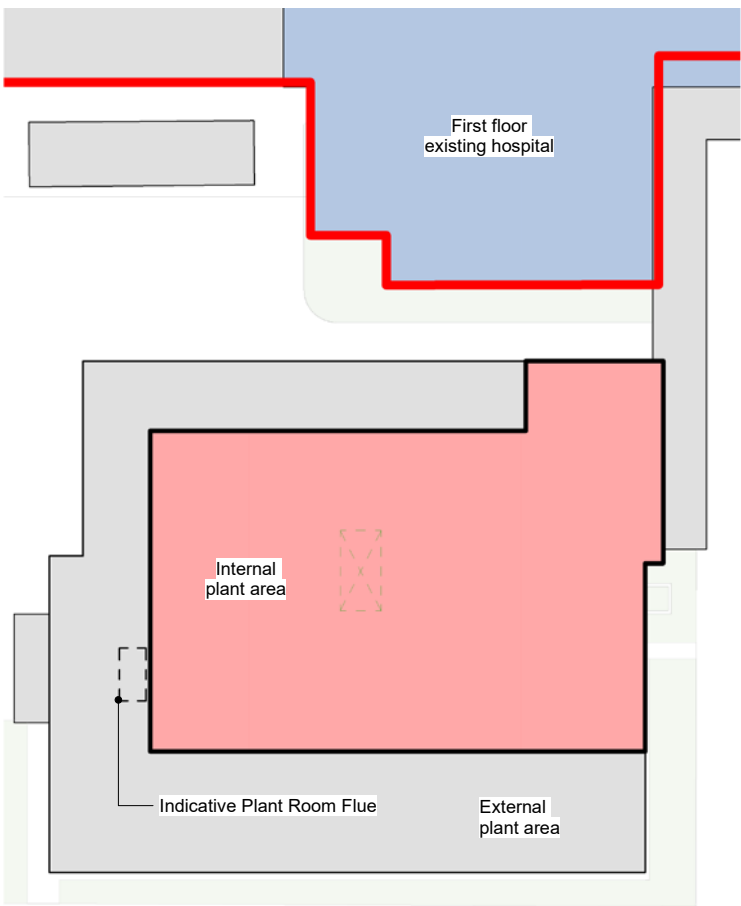
3.1 Site Location and Boundary



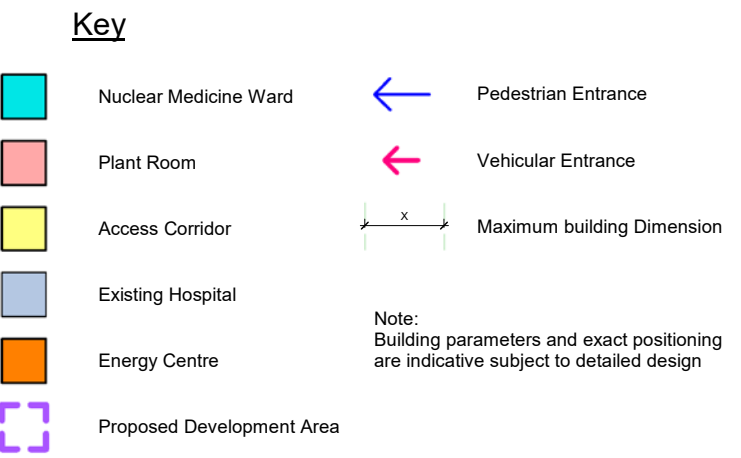
3.2 Parameter Plans



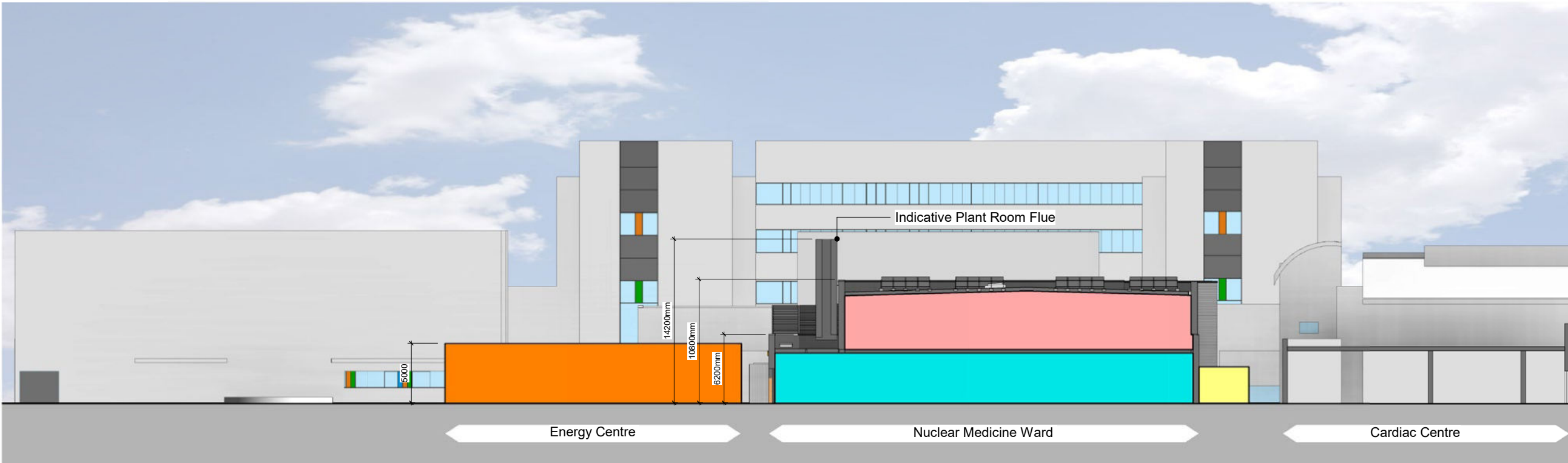
Ground Floor Block Parameters Plan
1 : 200



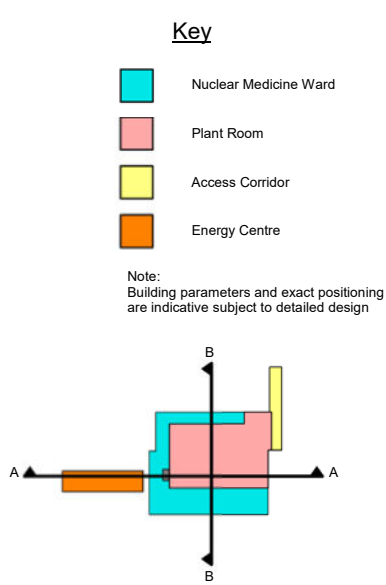
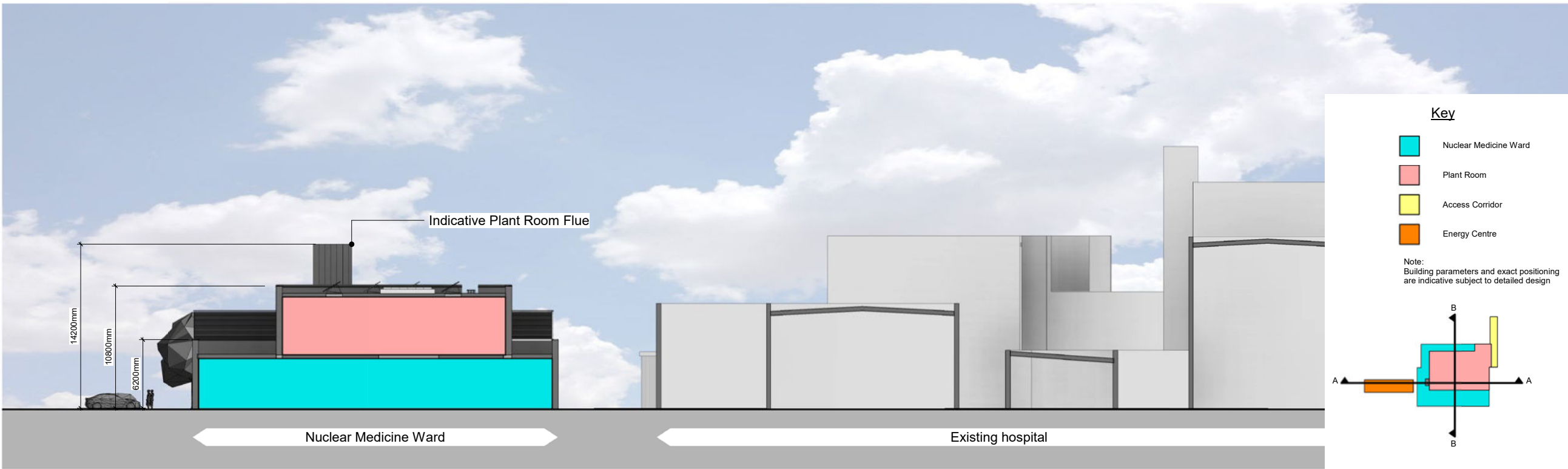
First Floor Block Parameters Plan
1 : 200



3.3 Parameter Section



1 Illustrative Section A-A
1 : 200



2 Illustrative Section B-B
1 : 200

Maximum Heights:
1 Storey + Parapet: 6200mm
2 Storey + Parapet: 10800mm
Chimney: 14200mm

3.4 Landscape Strategy

Based on Ecology recommendations (TEP Ecology Assessment (Site 3) 8166.004) and Arboricultural Impact Assessment (TEP 8166-.04.001) the landscape proposal aim to address tree, ecology and landscape mitigation and enhancement within the limited soft landscape opportunity. Ecology Survey notes no priority habitats with Amenity Grassland and Scrub within the ditch feature and species poot hedgerow.

The Arboricultural Impact Assessment records the species poor hedgerow as blackthorn and Elm scrub regeneration, with some dead stems of Elm existing. Three trees form a linear groups which are in poor condition and recorded as 'C' class. One 'B' class tree requires removal under the proposed building footprint, a Black Poplar but unsympathetically pruned and lopped and in close proximity to buildings.

The proposed landscape mitigation aims to replace species poor hedgerow on the northern edge of the ditch with new species rich hedgerow planting to the north and south of the ditch feature, contained by post and rail fence. Any vegetation within the ditch can remain, subject to drainage/engineering works. Five number Acer campestre 'Streetwise' standard trees are proposed as native trees with good form and a small/medium canopy, more suited to the local context. The remaining landscape strips are proposed as species rich meadow seeding, a combination of Emorsgate Special General Purpose Meadow

Mixture with an annual Cornfield nurse mix, providing initial impact. These strips will provide a flowering nectar source in summer as a simply maintainable landscape component cut in early March, August, September and October each year.

- 48 linear metres of species rich hedge planting is proposes.
- 5 number Acer campestre 'Streetwise' Standard trees
- 302 metre squared of diverse meadow grass



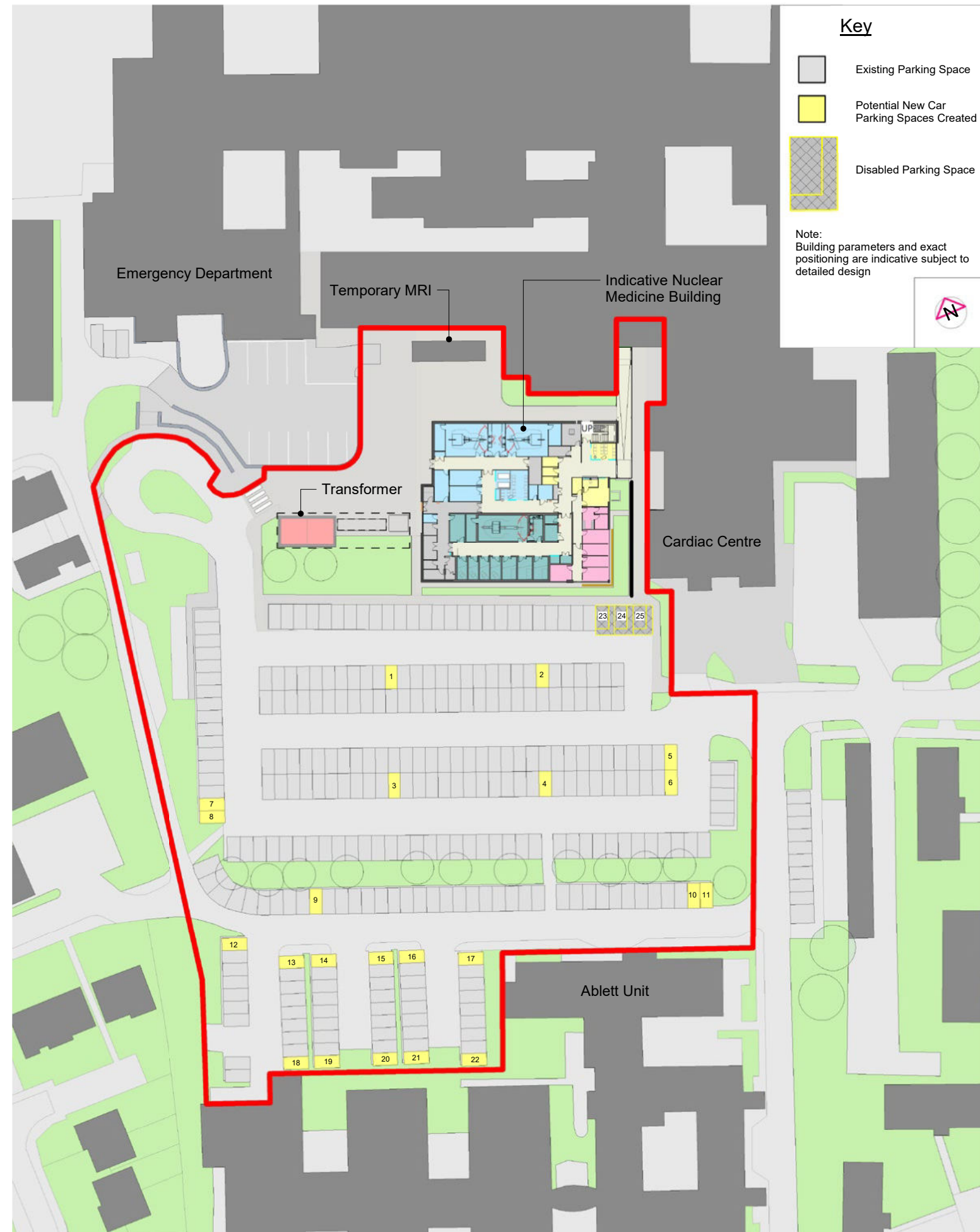
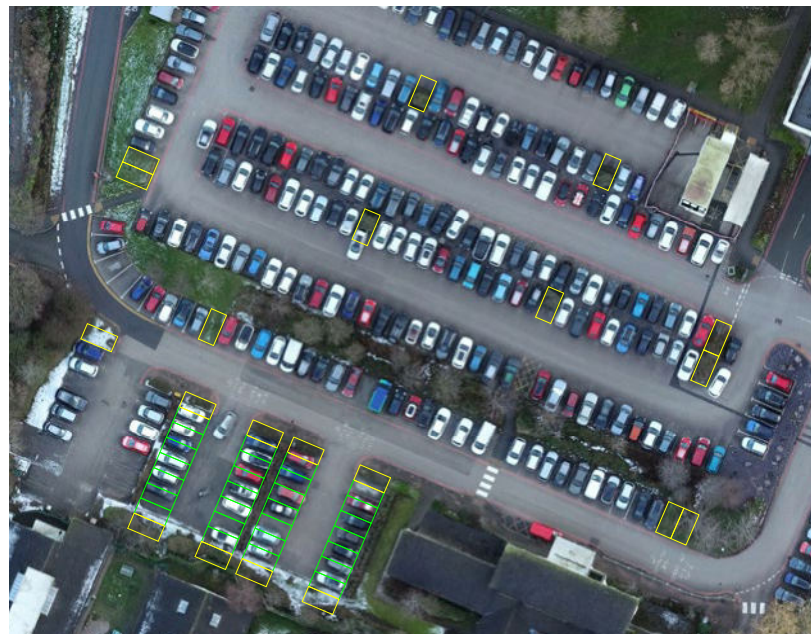
3.5 Parking Strategy

The car parking proposals will provide additional spaces within the existing hospital estate in line with the Council's parking standards.

Final parking arrangements would be agreed at reserved matters stage.

25 additional spaces within the adjacent carpark have been identified to meet the parking needs, 3 of those being disabled spaces.

Further allowance for planting and screening of the existing fence to the Ablett Unit will need to be provided.



4.0 Illustrative Drawings

4.1 Illustrative Ground Floor Plans

Ground floor consists of:

Ramped link to the main hospital:

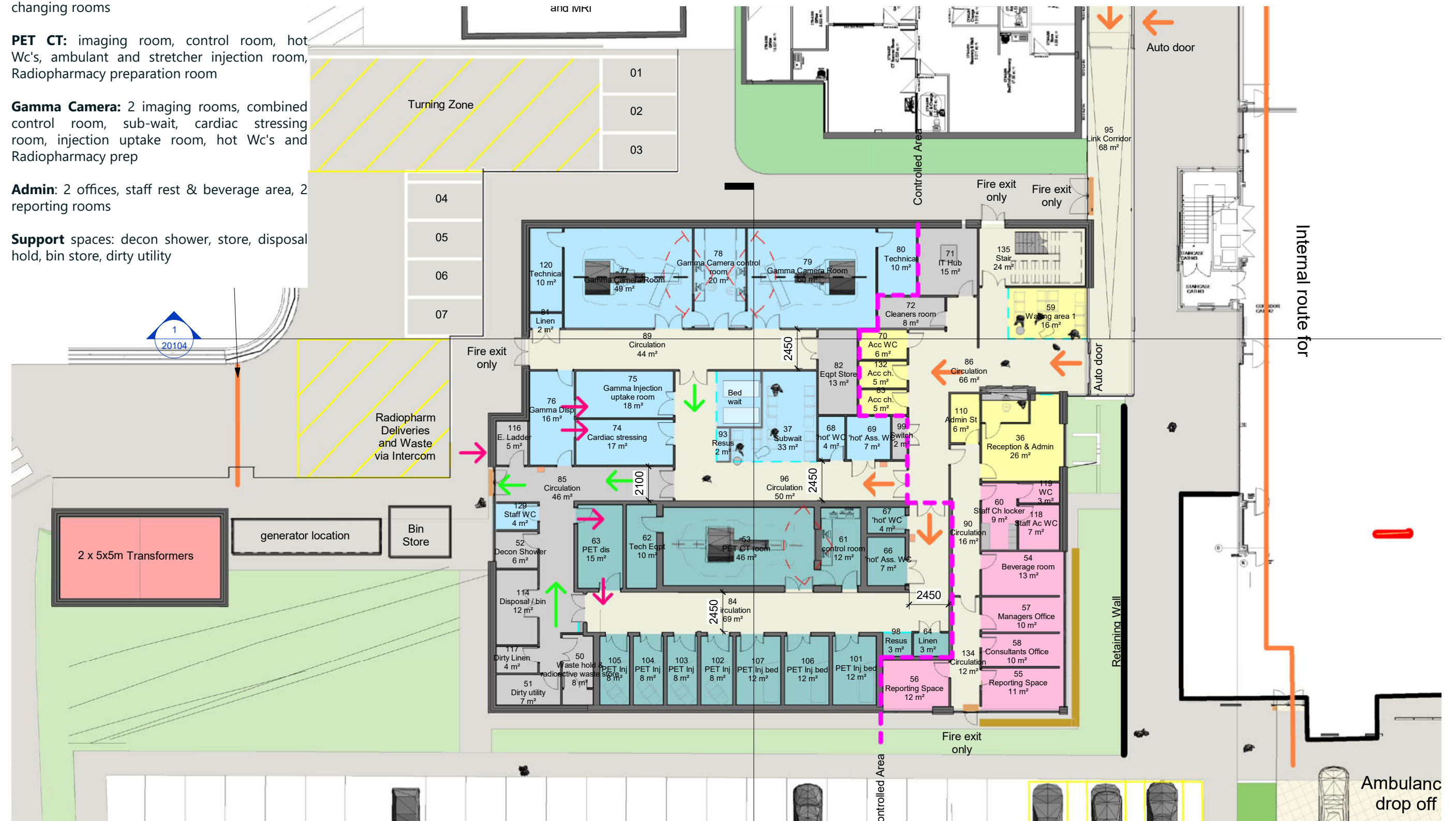
Reception and relatives waiting room, patient changing rooms

PET CT: imaging room, control room, hot Wc's, ambulant and stretcher injection room, Radiopharmacy preparation room

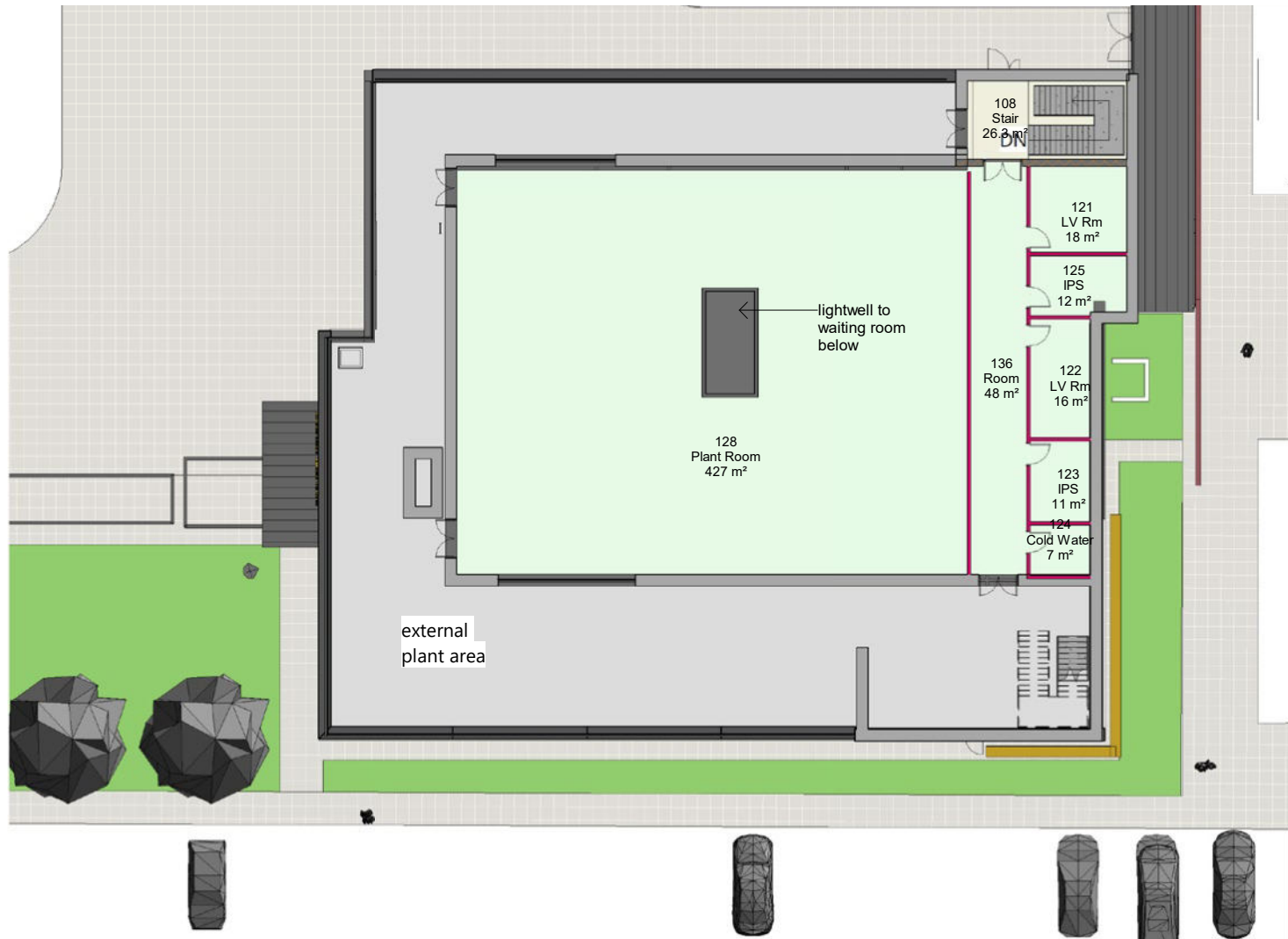
Gamma Camera: 2 imaging rooms, combined control room, sub-wait, cardiac stressing room, injection uptake room, hot Wc's and Radiopharmacy prep

Admin: 2 offices, staff rest & beverage area, 2 reporting rooms

Support spaces: decon shower, store, disposal hold, bin store, dirty utility



The generator and transformers are housed externally next to the service entrance.



Key Flows:



Access from Main Hospital



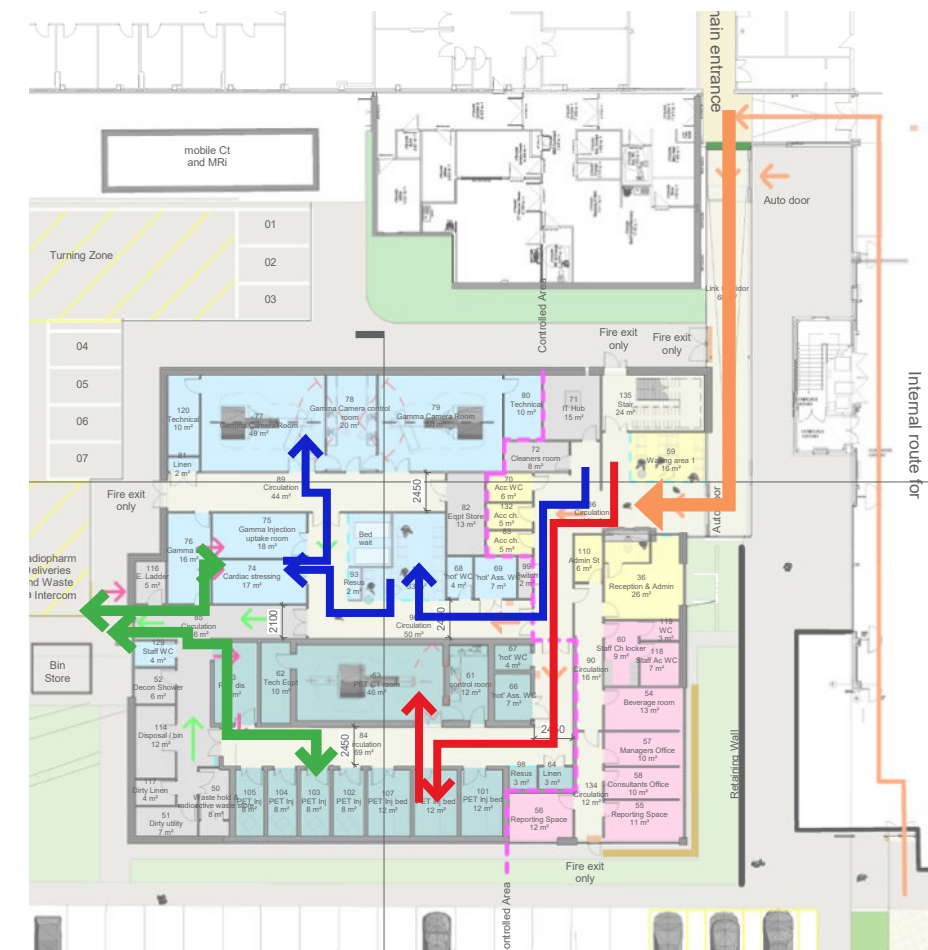
Patient Journey to Pet CT



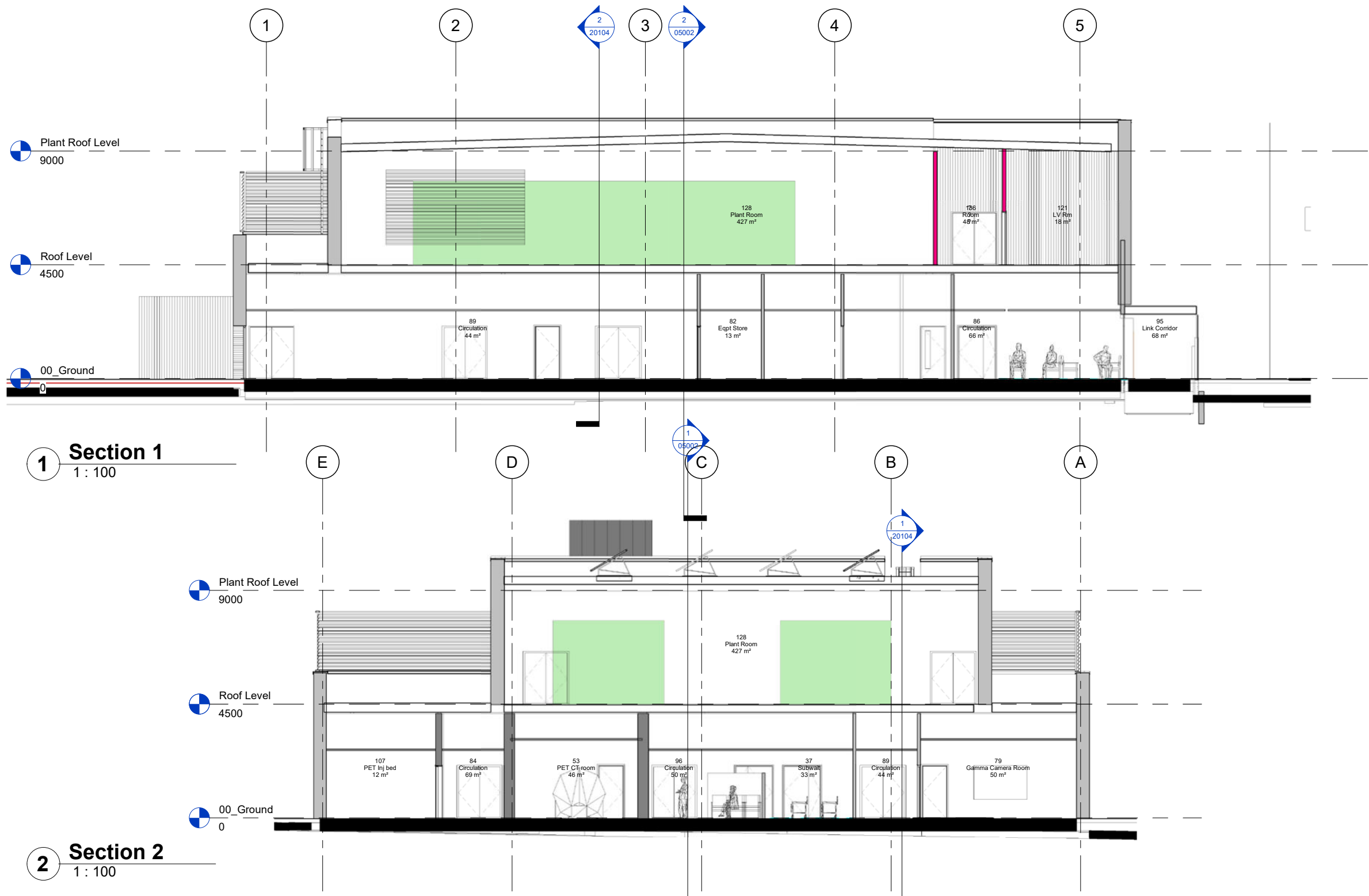
Patient Journey to Gamma Camera



Radiopharmacy Delivery and Waste Collection



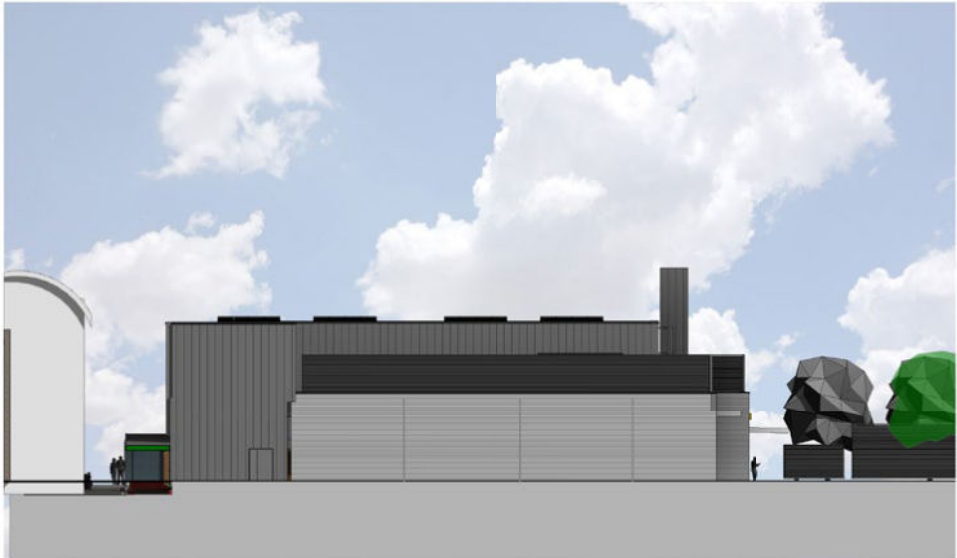
4.3 Illustrative Sections



4.4 Illustrative Elevations



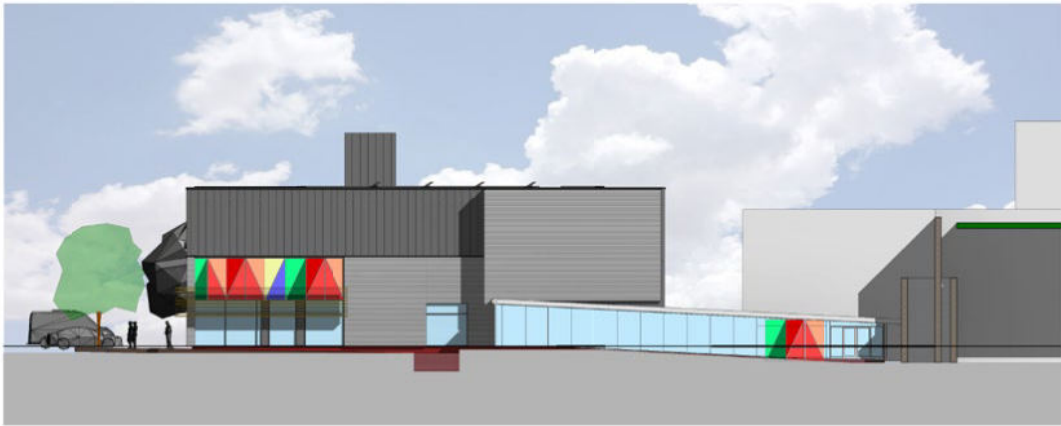
1 Elevation 1 - a preferred
1 : 200



3 Elevation 3 - a
1 : 200



2 Elevation 2 - a
1 : 200



4 Elevation 4 - a
1 : 200

- Materials Key
- PPC Metal Plantroom cladding
 - PPC perforated aluminum cladding
 - Brickwork
 - Brickwork feature panel
 - PPC Aluminum windows and curtain walling
 - PPC solar shading
 - PPC triple banked louvers

5 Axo view



6.0 Conclusion

6.1 Conclusion

The Nuclear Medicine unit will be a significant building in terms of its standing to Betsi Cadwaladr University Health Board for both local and regional radiology services. It is a flagship scheme representing a significant investment for the Health Boards.

The development would stand as a valuable and efficient use of brown field land, and the design would be a of high quality that is appropriate to the site setting and in accordance with relevant planning policy.