

Whiston Hospital

Endoscopy Decontamination Extension Design and Access Statement

July 2023 Revision C



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Summary

1.0 Introduction

Purpose of This Report

The report has been prepared by Halliday Meecham Architects. HMA has been appointed by St Helens and Knowsley Teaching Hospitals NHS Trust to develop designs for decontamination and endoscopy departments within the grounds of the existing Whiston Hospital site.

Whiston Hospital opened in 2010 and provides all acute healthcare services including medical, surgical and diagnostic services, along with an Emergency department and a range of additional services. It is located in Whiston, Merseyside and is managed by St Helens and Knowsley NHS teaching Hospitals trust.

This Design and Access Statement supports the planning application and associated drawings and documents. It details the proposals for a new extension at Whiston in which an endoscopy department and decontamination unit will be accommodated, along with extra office accommodation for hospital staff.

The design team for the project includes Steven Hunt as the mechanical and electrical engineers and WML Consulting Ltd as the structural engineers.

The client team includes Trust Estates and Vinci Facilities representatives. Vinci manage the existing hospital buildings and facilities operations under the existing PFI contract for Whiston hospital.



2.0 Use: Proposed

Whiston hospital has a need for additional clinical space and support accommodation.

Decontamination: Level 1

The current decontamination suite for the hospital is located on the top level of the main hospital. The department cleans the dirty scopes and provide clean ones to be redistributed throughout the hospital. The existing space is unsuitable as additional capacity for cleaning scopes is required, and the current facility cannot be extended in its current position. Once vacated the space left by the department will be redeveloped by the hospital under a separate scheme.

Endoscopy: Level 2

The existing endoscopy department has become too small for the growth in the number of procedures the hospital carries out. This increase in patient numbers is set to increase further. As such the endoscopy department is to be relocated to the new extension. Once vacated the existing department will be reconfigured to provide other hospital accommodation.

Offices: Level 3 and 4

The need for extra office space has come about as existing staff admin spaces are being reconfigured for alternative use. Since covid and with the improvement of IT access and remote communication, the way staff work has become more flexible. What once would have been face to face patient consultations and interdepartmental meetings, now frequently take place online or over the phone. Therefore the trust require smaller acoustically separated booths and meeting rooms where these activities can take place. These support a more flexible open plan office spaces, where staff have more choice over how they work, with shared facilities that encourage collaborative working.



Proposed Short Section

2.0 Use: Existing

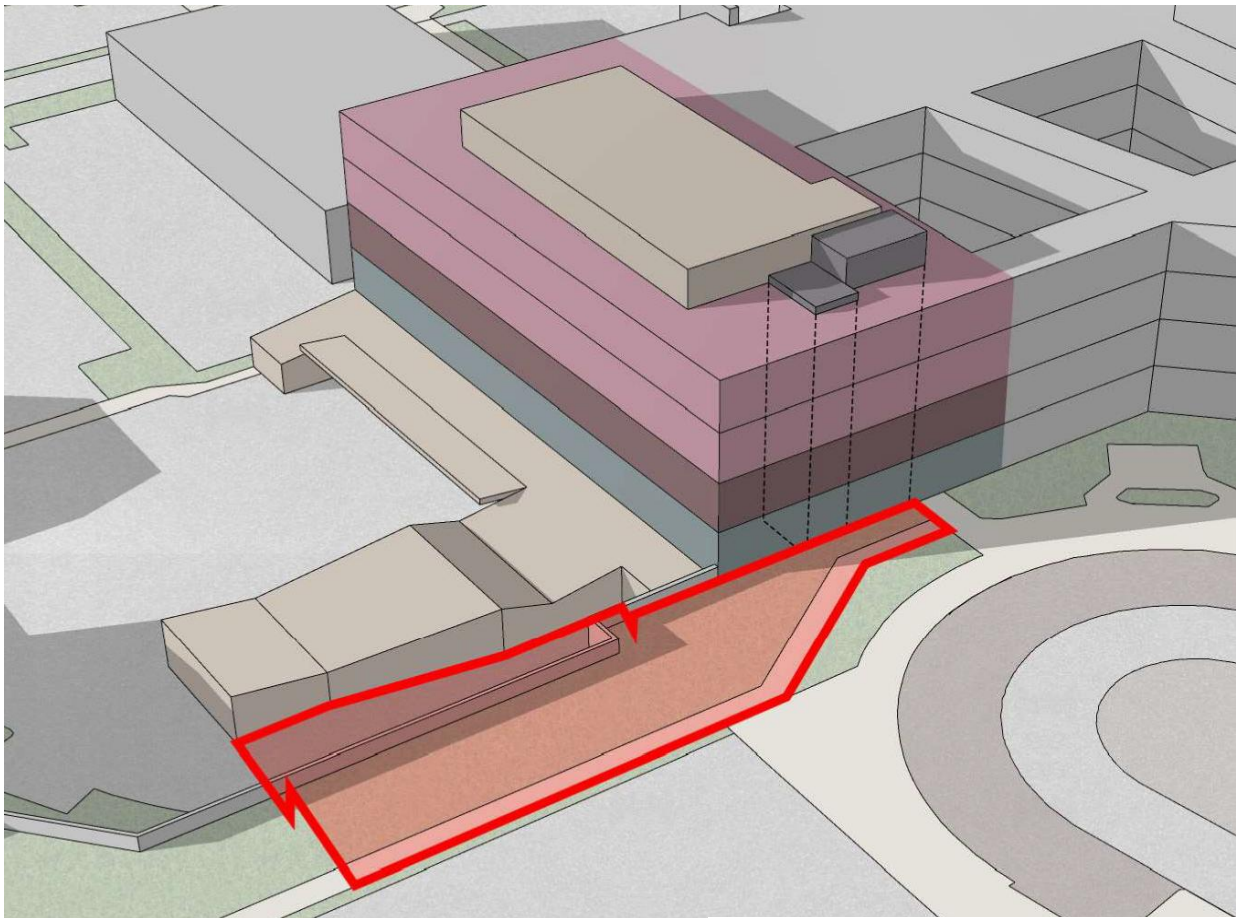


Existing operations - bin stores, ramp, retaining wall

Bin Stores and ramp

The bin stores building on the left of the photograph above, houses all of the large bins containing waste from the hospital. They are manoeuvred in and out of the three sets of louvred double doors. The bins along with other facilities trolleys travel up and down the ramp (shown to the right of the photo) on a regular basis.

The Trust have requested that as part of the scheme the air tubes and the oxygen pipes that travel through the concrete retaining wall (also in photo) under the canopy and into the building at lower ground level, be retained both during construction and after the works are complete. The higher section of the concrete wall will need to be reduced in height to allow the level 01 of the proposed extension to be built over it, projecting across the existing facilities ramp and finishing before the roof and block work wall of the bin stores. The M&E engineers and structural engineers have confirmed that this will be achievable with minimal disruption to the running of the hospital.



Existing hospital uses

DIAGRAM KEY

	SITE BOUNDARY
	PHARMACY & NEUROPHYSIOLOGY
	CHILDRENS & YOUNG PEOPLE'S OUTPATIENT DEPARTMENT
	CHILDREN & YOUNG PERSONS WARD
	SERVICE AND/OR PLANT
	STAIR & LIFT CORE

Existing hospital accommodation

The extension will tie into a corridor in the existing hospital at all levels. Being circulation it can connect in that location without impacting on existing clinical services. The rest of the accommodation on the floors of the existing hospital will remain in use throughout construction.

2.0 Use: External Access

Arrival at Site and Car Parking

When arriving by car the hospital has a multistory and surface level car parks, with a drop off area and disabled parking directly outside the entrance to the extension. There will be no increase in staff numbers as a result of this application. Patients numbers will increase, but the duration that they will require a parking space for will reduce due to the efficiency in processing of patients that the new unit will offer.

Pedestrian access will be as per the existing routes which are level or gently sloping across the site. The existing cycle racks in the storage area by the main entrance will be available for use by both staff and patients. If arriving by public transport the site is accessible by a choice of options. For more information see travel plan by WSP.

Delivery/Service and Emergency Vehicles

Delivery and servicing vehicles will access the building via the existing service yard to the rear of the proposed extension at Lower Ground Level. Emergency vehicles will access the building via the existing routes.

Existing Site Levels and Topography

The existing site has a change in level between the south and north sides. The upper level of the slope is at the entrance level of the building for patients and staff which is Level 1. The facilities/service yard and bin stores building are at the bottom of this slope at Lower Ground (there is no Ground Floor on the plans, as ground is labelled as level 01). See sections for details of levels.

Access into the building

The extension has it's own entrance doors where staff and patients can access from the carpark and surrounding pathways. Once inside the lobby they can either turn left to go to decontamination or straight on through the existing double door into the hospital. All external thresholds provide level access. Most patients arriving at Endoscopy will enter through the main hospital buildings main entrance then they'll be directed to the department, where they can use a lift or stairs to get to the correct floor. Some endoscopy treatments will take place on inpatients who could be brought in trolleys to endoscopy.

Pedestrian Access

Pedestrian access will be as the existing routes which are largely level access across the site. Access via public transport is provided as follows:

Cycles

The existing cycle racks in the storage area by the main entrance will be available.

Fire Escape

There is a fire escape door to the east side of the building, with level access and a ramp down to the existing path which is compliant with Part M of building regs. This exit provides escape from all levels of the extension with the stair being sized to allow for mattress evacuation from the endoscopy department.

Public Transport Links

The closest bus stop is on Warrington Road approximately 100m from the entrance to the building.

2.0 Use: Internal Access

Vertical Access

There is no change in floor level on any of the floors. There is a lift in the existing building which can be used to access all floors in the main hospital.

There is one new set of internal mattress evacuation stairs provided in the extension. It is designed to meet Parts K, B and M of the Building Regulations and HBN 00-04 ;

- A level landing will be provided at the top and bottom of each flight, with an unobstructed length of no less than 1200mm and no doors will swing across the landing.
- The surface width between enclosing walls of each flight will be no less than 1200mm (width between handrails is 1150mm).
- The maximum rise of a flight between landings is no more than 12 risers. The rise and going of each step will be consistent throughout the flight, with the rise of each step is between 150 and 170mm high.
- All nosings will be made apparent by permanently contrasting material 55mm wide on both the tread and the riser.
- There will be a continuous handrail on each side of the flight and landing

In addition to the new stair there are two dumb waiter lifts for transporting scope trolleys and equipment between the ground and first floors only. These will be level with the floor to allow for trolleys to be wheeled in and out.

WCs

There is a disabled WC included on the first floor endoscopy department and each of the office floors in the extension. There are other existing accessible WC facilities in the hospital main entrance through which most patients will travel prior to arriving at endoscopy. There is no dda wc on the ground floor decontamination dept as it is a staff only area.

Doorways

Doors will have an unobstructed space of at least 300mm on the pull side between the leading edge and wall return. All patient doors are a minimum of 1010mm structural opening width.

Way finding

Internally, the use of departmental colours, combined with written signs, pictograms and clearly laid out patient routes will assist with people's way finding around the extension.

Finishes

To help the visually impaired, the wall and floor finishes, along with doors and frames will have the required difference in light reflectance values. The leading edge of doors that are not self-closing or held open, will contrast visually with the door and surrounding surfaces. Door furniture will contrast with the door.

Floor finish patterns that could be mistaken for changes in level have been avoided – final colour choices to be confirmed at later stage. Floor finishes will be slip resistant and non-slip in wet areas.

Glazing

Vision panels will meet minimum sizes/positioning for doors, except where robustness. Fenestration on larger areas of glazing will be used at certain heights as required. manifestation in accordance with AD K – Section 7

Corridors

All corridors in the building are wider than 1200mm. Where there will be bed movements in the endoscopy department, corridors will be a minimum clear width of 2150mm wide with 1800mm wide double doors. On the first floor all corridors are wider than 1600mm. Where the door from a unisex disabled toilet opens outwards into a corridor, the minimum corridor width at this point is greater than or equal to 1800mm where possible.

Means of Escape

In the event of a fire all staff and patients can escape either horizontally back into the main hospital building's compartment, or travel vertically down the extensions proposed mattress evacuation stair and exit through the external door.

2.0 Use: Flexible Working

Following the 2020 Covid Pandemic, St Helens and Knowsley Teaching Hospitals NHS Trust have revised their flexible working policy. The policy will affect the number of staff and patients who will not only be attending the proposed Endoscopy Unit for appointment but also the wider hospital also.

The Changes came into effect from 13th September 2021 with revisions made to Section 33 of the NHS terms and conditions of service handbook. The changes were jointly agreed by the NHS Staff Council on behalf of NHS trade unions and employers. The changes include a new one day right to flexible working. The improvements are design to support and facilitate a cultural change to ensure flexible working is available to NHS staff.

In line with revisions to Section 33 (Balancing Work and Personal Life) of the National (AFC) Terms and Conditions, the Trust will consider all requests from staff for flexible working arrangements from day one of their employment and although staff are entitled to submit multiple flexible working requests, staff are encouraged to leave a reasonable time frame between requests.

Flexible working can cover a number of various options which are shown below.

- Part time working
- Job Share
- Temporarily reduced hours
- Phased return to work
- Term time working
- Annualised hours
- Compressed hours
- Working from home.

As the top two floors of the proposal are considered administration areas, staff will be able to work from home more regularly than nursing staff and will therefore not have a presence on site which will affect the availability of parking on site.

2.0 Use: Transport

Travel Plan Addendum

In accordance with feedback provided by Knowsley Metropolitan Borough Council on 21/11/2022 a transport assessment and travel plan were completed by Curtin's as transport consultants. The information below is a summary of the document.

This Travel Plan Addendum (TPA) reviews the existing information within the Hospital's existing Travel Plan (TP) and provides additional information to support the planning application for the Whiston Hospital extension. The new document has been submitted along with the updated supporting information. Please refer to 83385-CUR-00-XX-T-TP-00002-P01-travel Plan A, to understand the entirety of the document. Additionally, the document should also be read in conjunction with the Transport Statement and original Travel Plan, both of which have been submitted also.

Site Accessibility

The document provides a site analysis of the surrounding area and reviews the main access and egress point using public transport, cycle facilities along with pedestrian and vehicle and personal transport. In addition, it establishes the baseline transport conditions of the site and the surrounding area. The baseline conditions are identified to understand the existing site context and to define a baseline position against which the proposed development impacts can be evaluated. It highlights the main arterial route leading to the site (The A57 / Warrington Road) and the secondary routes (Dragon Lane and Stoney Lane).

Additionally, the document highlights the existing number of parking spaces available within the hospital and graduated charging system used throughout the hospital grounds. Patients and visitors have access to 555 parking spaces at the hospital

Section 2 of the Travel Plan Addendum concludes that the site is highly accessible by a range of sustainable modes of travel. With the proposed increase in space due to the hospital extension, there is an anticipated daily uplift of 22 staff members and 28 visitors.

It is considered that there are numerous of high-quality pedestrian and cycling infrastructure surrounding the site in addition to numerous bus services and train services. Based on the above, it is considered that the site is accessible by public transport and active modes.

Travel Plan Measures

Section 3 of the document examines and proposes as number of additional measures and initiatives that could be taken forward by the Trust. These are in addition to existing hospital Travel Plan. These have been shown in the tables on the following page.

Details of Other Measures.

Marketing to staff.

The Travel also highlights ways in which more sustainable travel can be marketed to staff and visitors. It highlights the importance of the provision of information to staff, patients and visitors. This includes educating staff on;

- The health benefits of walking, cycling and the environmental benefits of sustainable modes of transport;
- Personal travel incentives;
- Details of public transport services, including timetables and routes.

Marketing to Patients and Visitors.

A 'Getting Here' webpage is already available to patients and visitors that are accessing the site. Links to sustainable travel information could be provided on patient appointment letters to promote active and sustainable travel, making best use information that is already available online.

Monitoring and Update of the Travel Plan

A baseline survey will be conducted within 6 months of first occupation of the proposed extension. Thereafter, surveys will be conducted every two years. The TPC will organise questionnaire and/or interview surveys aimed at obtaining updated information on the travel patterns of occupants of the site.

2.0 Use: Transport

Proposed Measure	Staff		Patient / Visitor	Timescale
	Commuter Travel	Business Travel		
Measures to Encourage Active Travel (Walking and Cycling)				
Improve pedestrian and cyclist wayfinding signage within the local area.	✓	✓	✓	Ongoing
Review cycle parking and locker policy.	✓	✓	✓	Ongoing
Gauge interest in starting the Bicycle User Group (BUG) initiative.	✓	✓	✗	Ongoing
Share the health and environmental benefits of walking.	✓	✓	✓	Ongoing
Measures to Encourage Public Transport Uptake				
Promote existing bus services.	✓	✓	✓	Ongoing
Improve bus service signage and ensure information is available to staff, patients and visitors.	✓	✓	✓	Ongoing
Increase bus service frequency and reach to elevate the accessibility of the hospital.	✓	✓	✓	Ongoing
Coordinate bus services to align with railway timetable.	✓	✓	✓	Ongoing
Measures to Encourage Car Sharing and Use of Electric Vehicles (EV)				
Review provision of EV car parking spaces in line with demand to promote lower carbon travel.	✓	✓	✓	Ongoing
Provide charging facilities for specialist groups of vehicles such as emergency vehicles and taxis.	✓	✓	✓	Ongoing
Car Parking and Related Policy (i.e. Business Travel)				
Prepare the Hospital with a freephone direct link with local taxi firms; this will be located within the main entrance of the hospital.	✓	✓	✓	Short Term
Explore potential for a car club to operate from the site.	✓	✓	✗	Ongoing
Review availability of disabled parking to ensure accessibility for vulnerable users.	✓	✓	✓	Ongoing
Marketing, Monitoring, and Budgeting / Funding				
Identify schemes to apply for funding / grants.	✓	✓	✓	Ongoing

Table showing Proposed travel Plan Measures

2.0 Use: Transport

Proposed Measure	Staff		Patient / Visitor	Timescale
	Commuter Travel	Business Travel		
Promote sustainable travel at relevant staff engagement days.	✓	✓	×	Ongoing
Support Sustainable Delivery Strategies and the selection of local suppliers	✓	✓	✓	Ongoing
Active monitoring and enforcement to prevent unauthorised parking / dwelling across the site to improve the operation of the site and road safety.	✓	✓	✓	Ongoing
Identify an 'active travel champion' (or champions) within the workplace, at a sufficiently senior level, to coordinate workplace promotional activities and schemes.	✓	✓	×	Ongoing
Other General Travel Plan Measures				
Discourage patients, visitors and staff from parking in informal areas (residential streets) near the Hospital campus.	✓	✓	✓	Ongoing
Understand the feasibility of a season ticket loan scheme for staff.	×	×	✓	Ongoing
Refresh and update travel information to continue to promote active and sustainable travel.	✓	✓	✓	Ongoing
Promote the shuttle bus between Hospital Campuses.	✓	✓	✓	Ongoing

3.0 Amount: Accommodation Areas

Gross Internal Area

Level 05 - Plant: 315sqm

Level 04 - Office: 752sqm

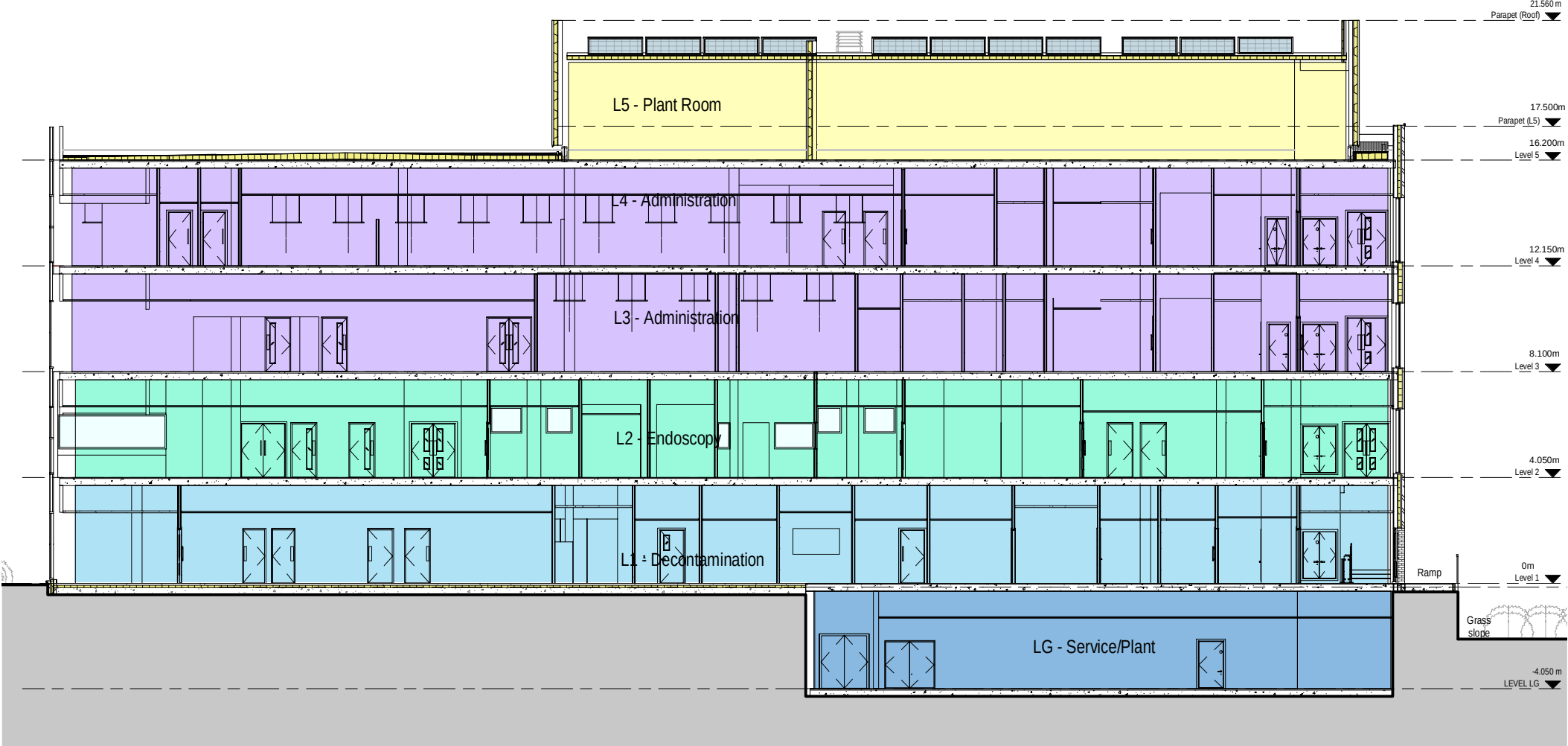
Level 03 - Office: 752sqm

Level 02 - Endoscopy: 752 sqm

Level 01 - Decontamination: 662sqm

Lower Ground Floor - Plant Space: 210sqm

Total: 3443sqm



Proposed Long Section

4.0 Layout: Choice of Site Location

Location

The photographs opposite show the proposed project site. The hospital is bounded by Warrington Road to the north, Dragon Lane to the west and Stoney Lane to the south.

A briefing document supplied at the inception of the scheme proposed that the area available for development was adjacent to the East side of the existing Hospital. The location options identified by the Trust for the extension were located in and around the hospital's facilities yard to the south eastern side of the hospital.



Aerial view of site

KEY

- | | |
|------------------------------|--|
| 1. Future ward extension | 8. Reception |
| 2. Facilities yard | 9. Proposed location for link to existing hospital |
| 3. Waste facilities building | 10. Delivery Bay |
| 4. Retaining wall | 11. VIE Compound |
| 5. Side entrance | |
| 6. Disabled car park | |
| 7. Drop off | |

4.0 Layout: Wider Site Context

The hospital site sits on the boarder of St Helen`s Council area and is within Knowsley Council`s remit. The areas around the site are predominantly residential with some industrial units to the south.

Knowsley Local Plan

Knowsley council`s strategy and vision is that by 2023 the local area will;

- Have attractive, sustainable neighbourhoods with a wide choice of housing and excellent community facilities.
- Narrow the gap in deprivation levels both between different parts of the borough and between knowsley and elsewhere.

The development will improve waiting times for a number of scope procedures and other procedures. The new larger decontamination unit will better support a variety of hospital departments. These enhanced facilities will allow for earlier diagnosis and treatment of a multitude of illnesses and conditions for local people, helping to fulfill the council's vision.



Land use surrounding the site



1. Stoney Lane to south site



2. Warrington Road to north of site



3. Stoney Lane, Newby Ave Junction to east of site

4.0 Layout: Hospital Site Context

Environment

The diagram adjacent show the different buildings, areas of car parking and green spaces around the proposed site location. It indicates the service yard area where deliveries are made and taken into the hospital at lower ground level via the facilities area.

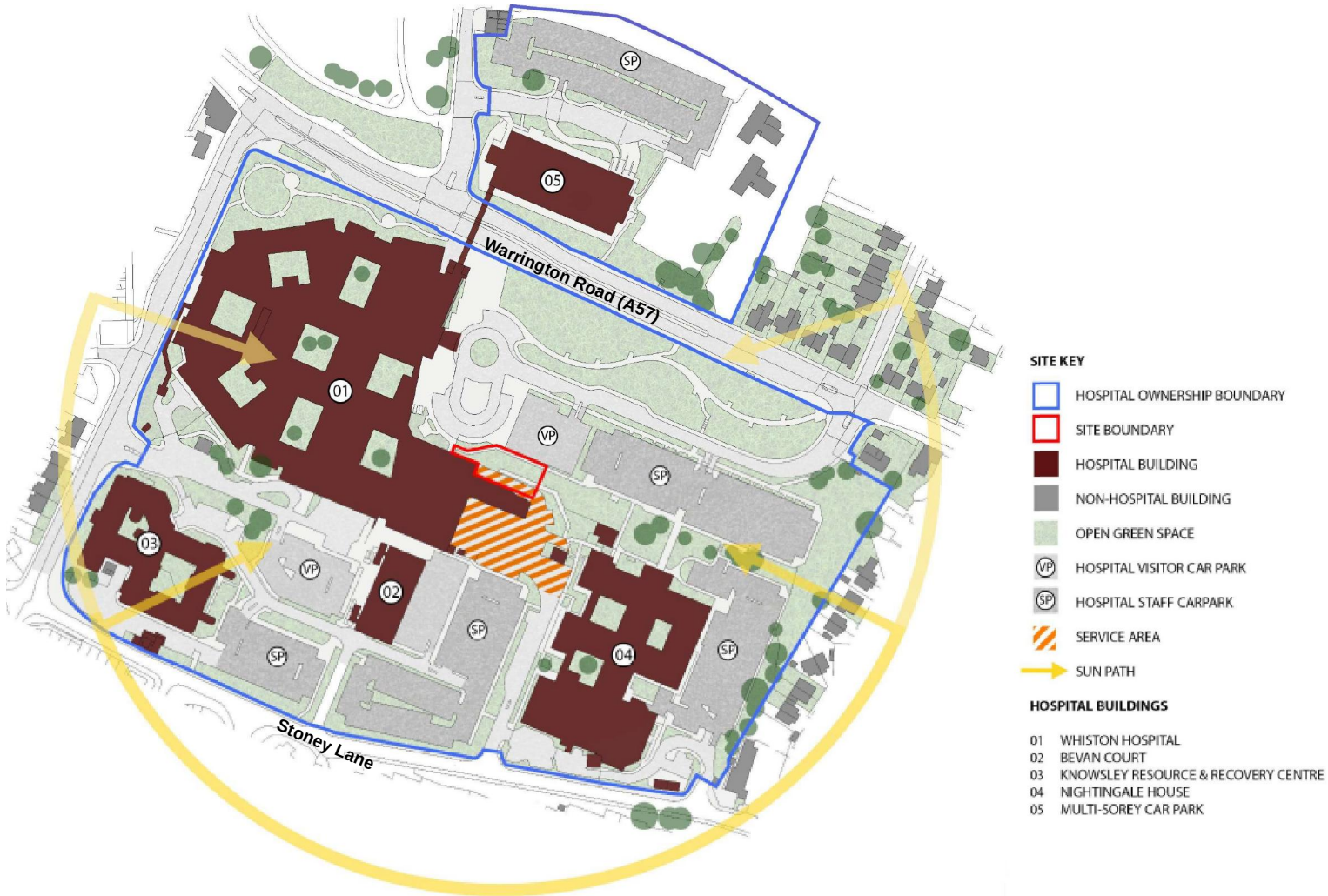
The sun path shows how the sun will travel around the proposed elevations throughout the day, with the side facing the car park predominantly being in shade.

Access and Routes

Most visitors arrive by car Car park from Warrington Road (A57) and will see the proposed extension upon their arrival at the hospital.

The proposed site sits between the main hospital(01)to the west and Nightingale House to the east (04). Nightingale house includes the Trust estates department, Vinci's offices, laboratories and the mortuary. As such there is a key pedestrian route between the two buildings, mainly used by staff. .

Next to the roundabout and drop off is the main hospital entrance. There are two secondary entrances at the front of the main building. The purple arrow next to the site on the “Access Routes” diagram to the right, shows the existing access point where the extension will connect at each level to the existing building.



Context



Access routes

4.0 Layout: Choice of Site Location

The following site options were reviewed at feasibility stage. At that point only a single storey was to be fully built and fitted out. Since then the Trust have determined that all floors will be fully constructed.

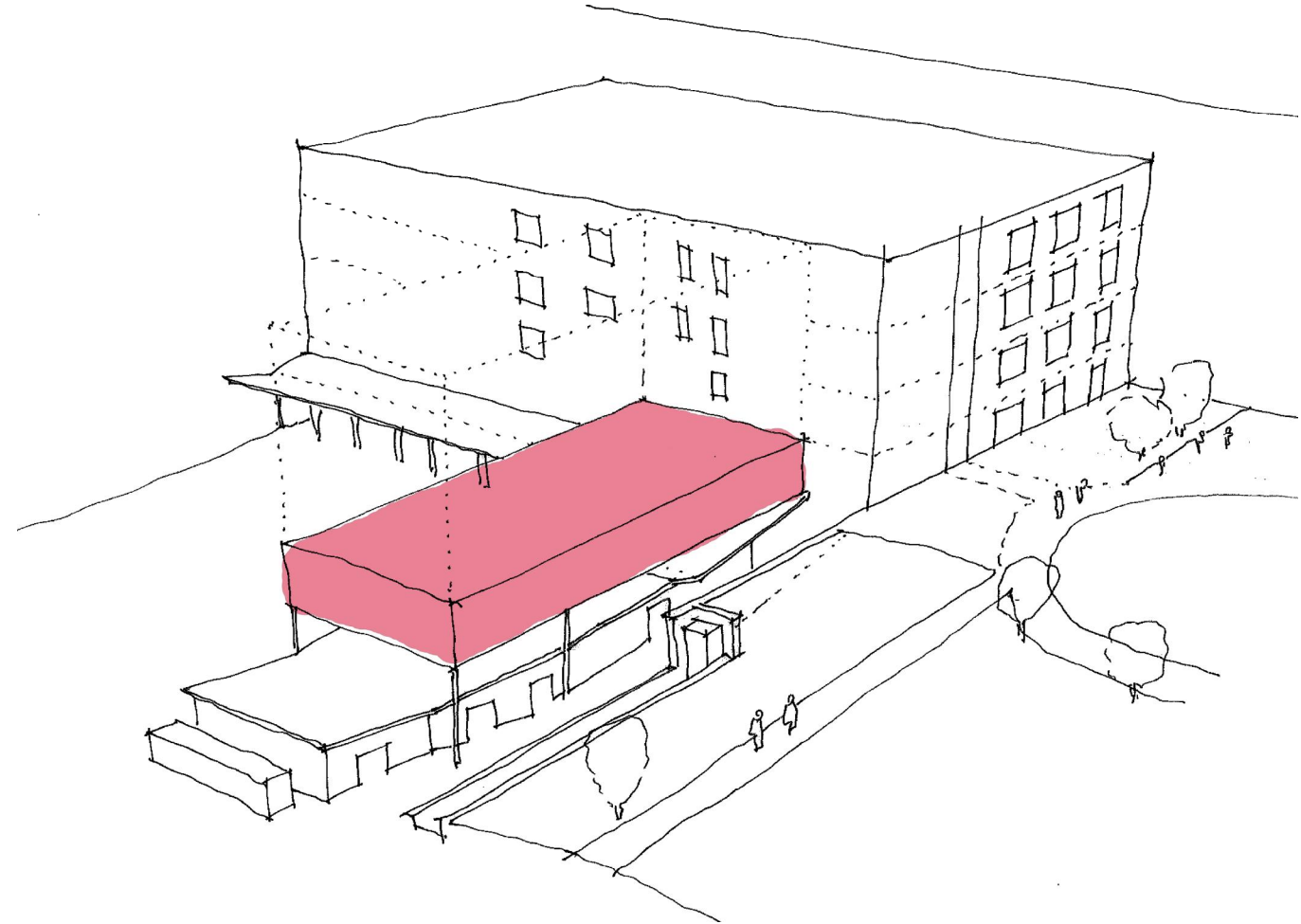
Option 1: Above Existing Waste Facility Centre

Advantages

- A good link to the main hospital building is available at Level 01 on the corridor adjacent to Medical Records Reception
- Minimal disruption to existing Mechanical & Electrical services.
- Building footprint size adequate for the accommodation brief and may not need to extend over the full length of the waste building.
- The existing bin stores foundations are adequate to support a single storey building.
- Prominent location could deliver a strong architectural appearance

Disadvantages

- Extending over the roof of the bin stores building will cause disruption to the day to day logistics of the waste facility.
- An extensive crash deck will need to be provided above the bin stores.
- A scaffolding zone will be required within the facilities yard adjacent to the building designed such that waste bins can still be pushed through.
- The size of the unit will be dictated by the existing structure.
- Future extension upwards will not be viable on the existing foundations
- Fire risk and leak risk to building below the decontamination unit



4.0 Layout: Choice of Site Location

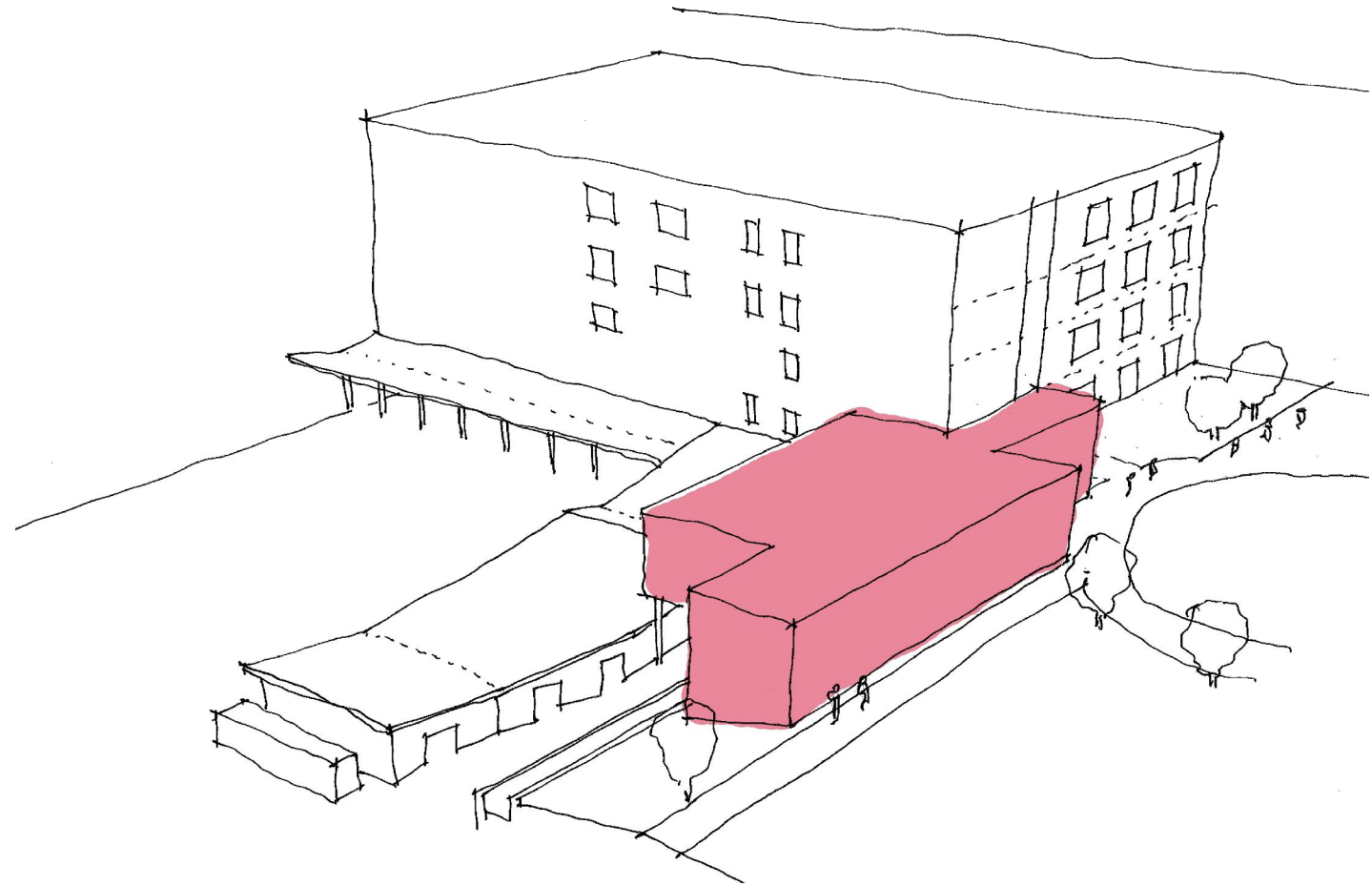
Option 02 'Grassy Knoll'

Advantages

- Building is not restricted by existing footprint or foundations.
- Building will be closer to the main hospital and corridor link will be via the existing external doors to the corridor
- Less disruption to the facilities management yard
- Opportunity for an architectural elevation facing the main car park and hospital approaches.
- Building is on new foundations and can be extended upwards for future developments.

Disadvantages

- Existing services within the grassy knoll will need to be diverted.
- Enabling works would require new cables to be laid between the two buildings
- The site is relatively narrow and will require a long building.



4.0 Layout: Choice of Site Location

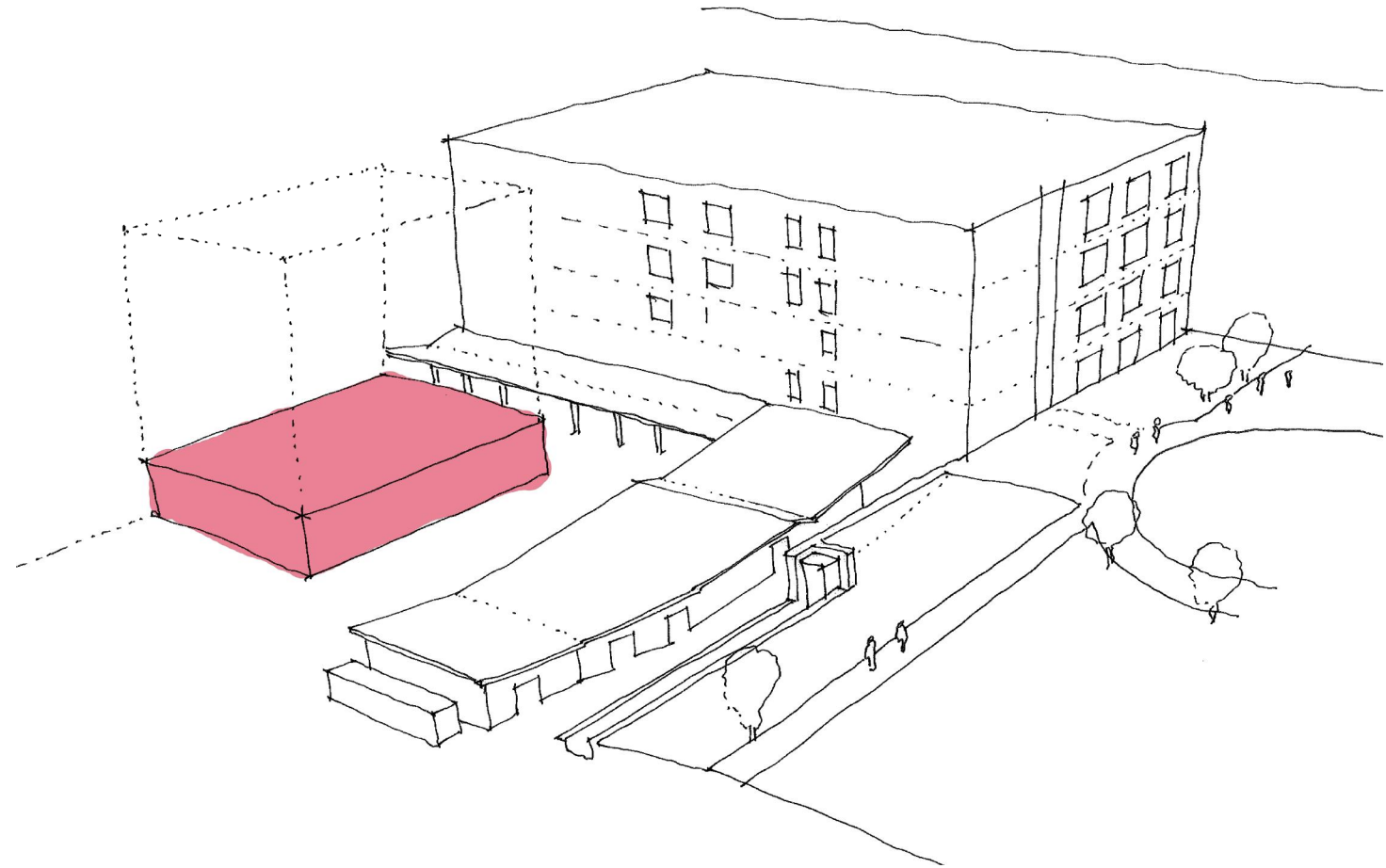
Option 03: Service Yard

Advantages

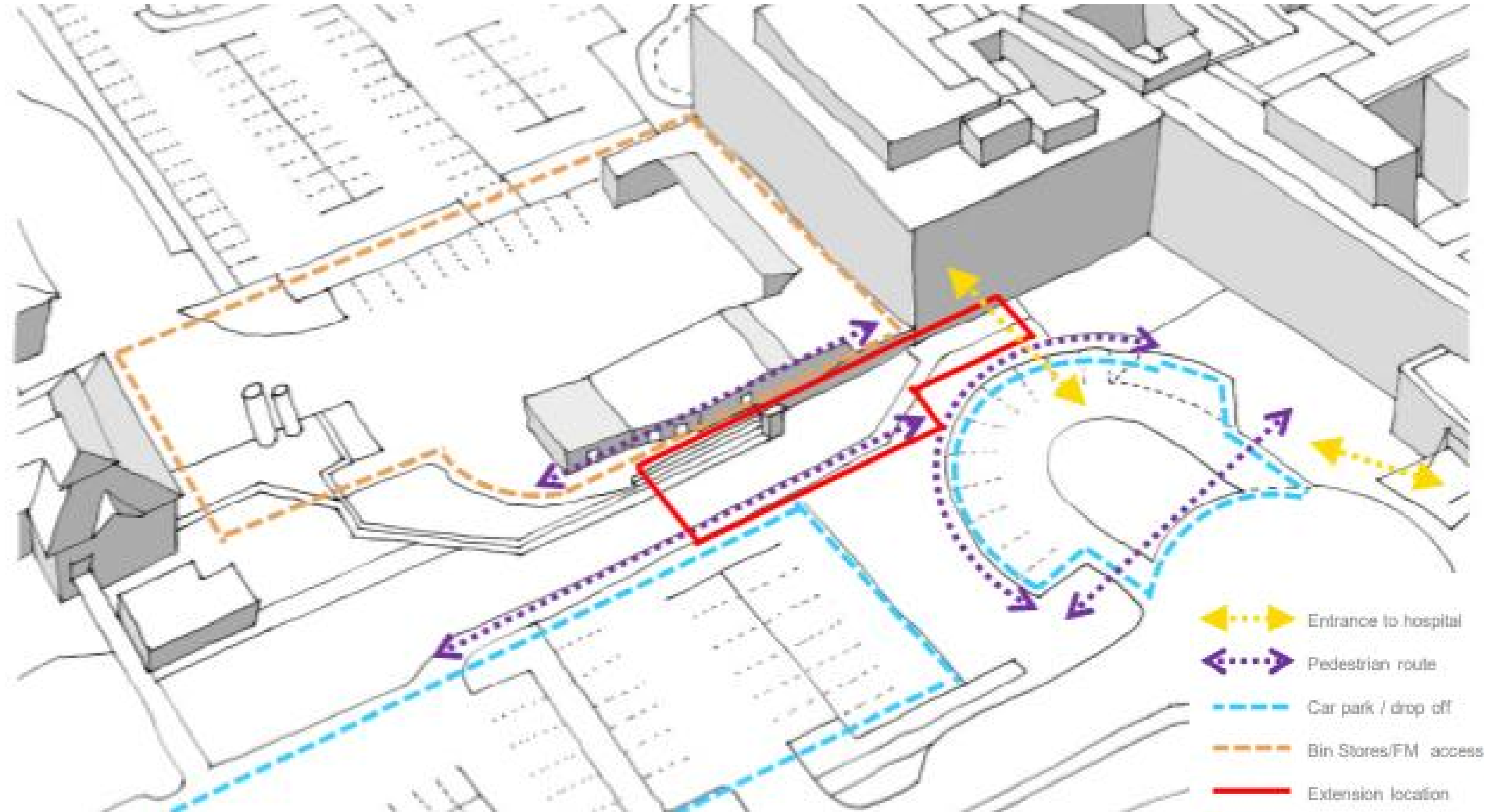
- Standalone building with fewer restrictions and is located on external ground level.
- Efficient shape and massing of building.
- Ability to design new foundations with capability of extending upwards.

Disadvantages

- Meetings with the hospital logistics team concluded that the building would make the logistics of the delivery yard difficult and it may need to be elevated on stilts above the yard.
- Link to main building would be unfeasible if at first floor level and would require decontamination trolley route to be partially external if at the lower yard level.
- No obvious links to the existing hospital at upper floor levels, the facility may require a separate entrance along with lifts and floors.
- Proximity to proposed new modular ward building currently requiring planning permission.
- For the reasons outlined above this option is considered unfeasible and has been rejected.



4.0 Layout: Proposed Site Location



Site Confirmed as Option 02: 'Grassy Knoll'

The sloping grassed area on the edge of the service yard has been identified by the Trust and Vinci facilities as the preferred location for the extension. It was determined to be the most feasible due to its site positioning and ease of accessibility from the car parks, drop off zone and existing building. It creates the least disruption to activities in the service yard and bin stores, which provide continuous support to the operation of the hospital.

4.0 Layout: Decontamination Department

Design Strategy

A series of meetings with key members of the decontamination team and infection control took place to discuss the layout, agree the spatial requirements and the location of the different rooms within the department. These discussion informed the brief in regard to how the spaces within the department would be organised.

Separation of Clean and Dirty Scopes

The stakeholders and design guidance request that separation between the clean and dirty scope routes to and from the clean and dirty processing rooms be maximised,

C

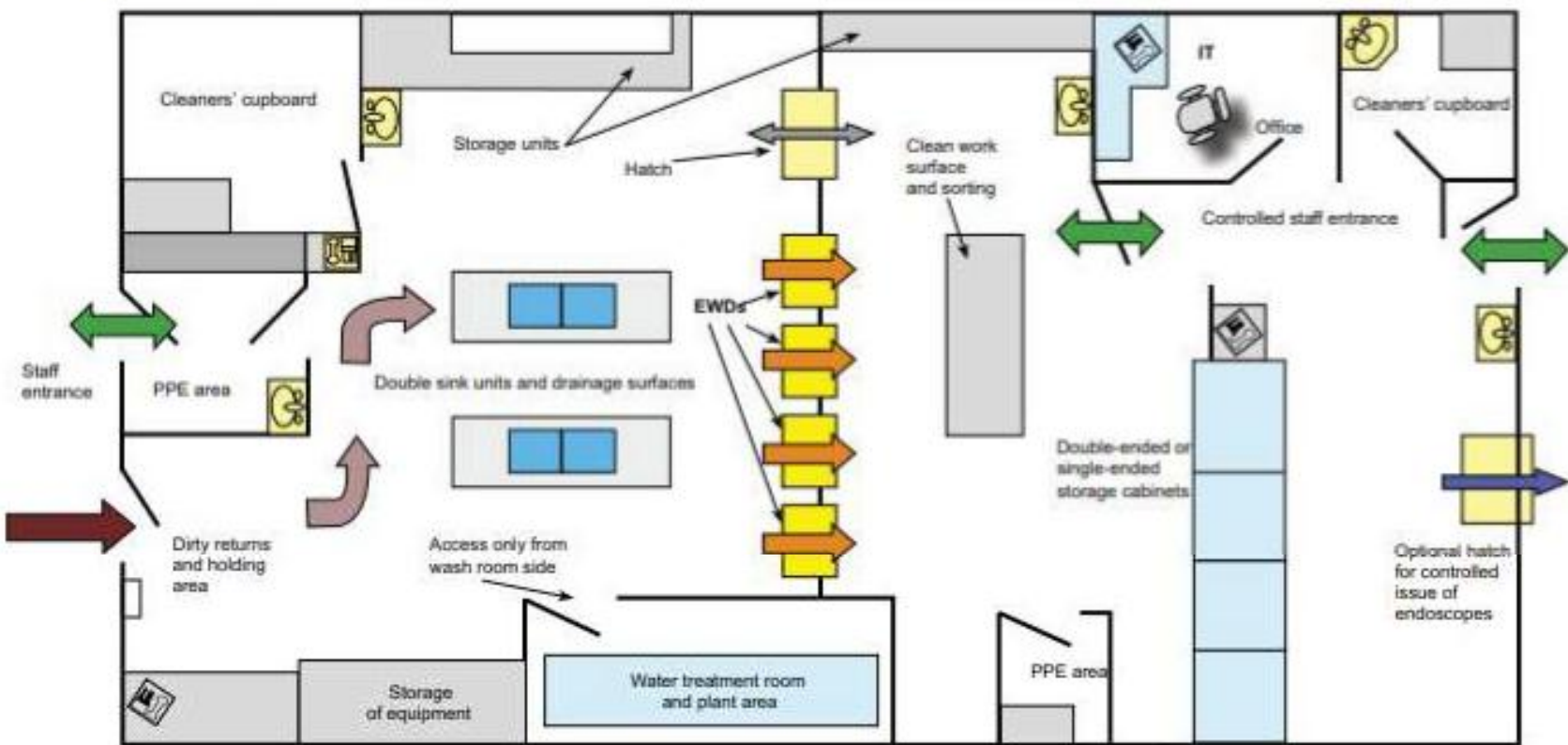
Transportation of Scopes

Most of the transportation of the scopes in the new extension will be between the endoscopy on the first floor and decontamination on the ground floor, with some scopes also being taken to and from the existing satellite rooms in other hospital departments.

Staff Support Spaces

The stakeholders asked that the staff changing and rest area be located as close to the existing hospital as possible for ease of access to existing welfare and catering facilities

Figure 4 High throughput reprocessing unit



HTM 01-06 : Proposed flow from dirty to clean rooms

Decontamination Design Guidance

HBN13: Sterile Services Department

HTM 01-06: Management and decontamination of flexible endoscopes

The diagram above is taken from HTM 01-06 and it details the proposed flow of endoscopes in a high throughput reprocessing decontamination department as required at Whiston. The layout for the department is based on this.

The sketch proposals on the following pages show how the departmental layout progressed based on stakeholder feedback and design guidance.

4.0 Layout: Decontamination Department

Decontamination Design Guidance

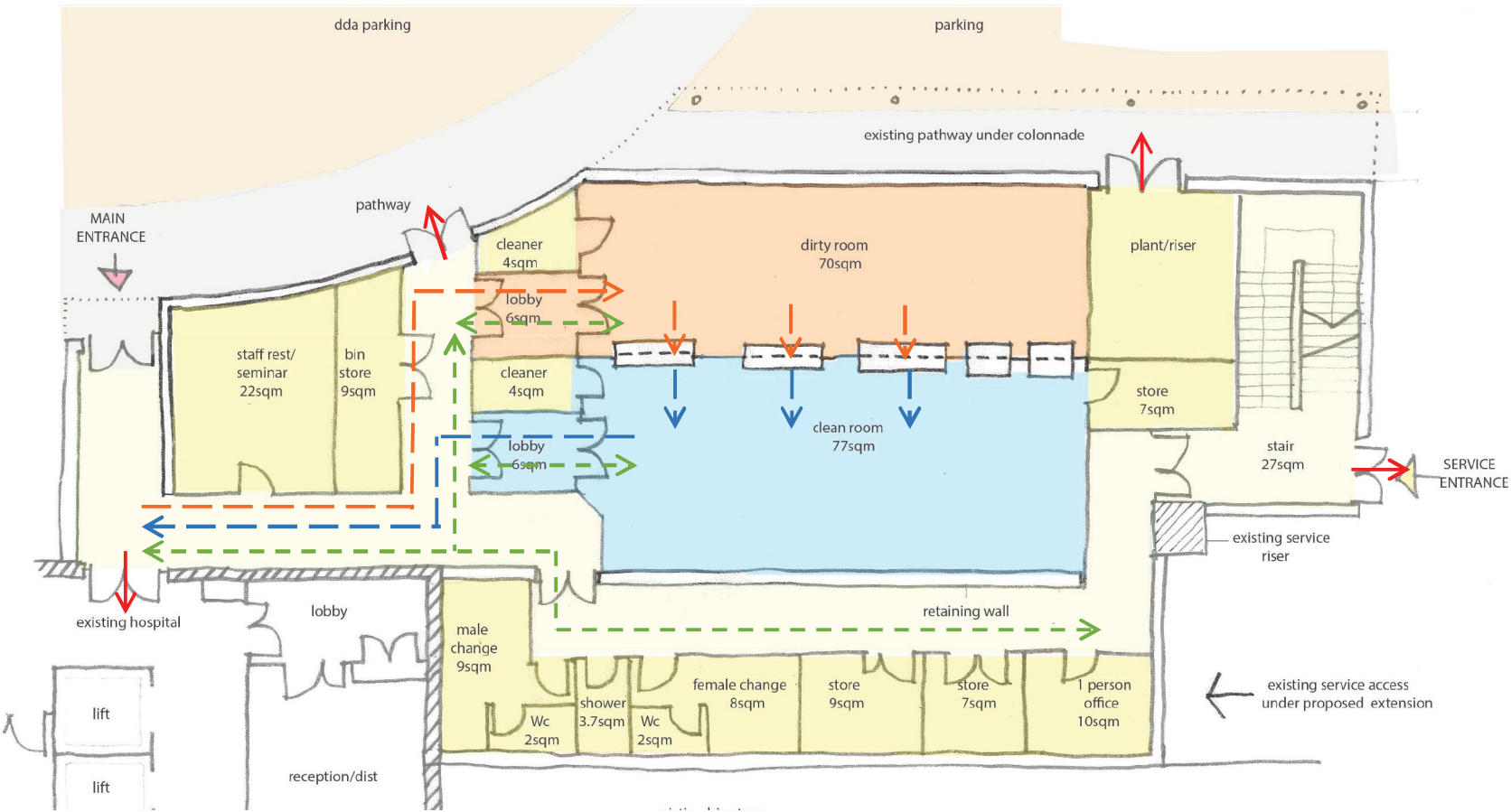
The layout design was progressed by tabling the sketches with the decontamination stakeholders for review.

Stakeholder Review 1 - feedback

- Changing required nearer to main hospital
- Separate clean and dirty room access

Stakeholder Review 2 - feedback

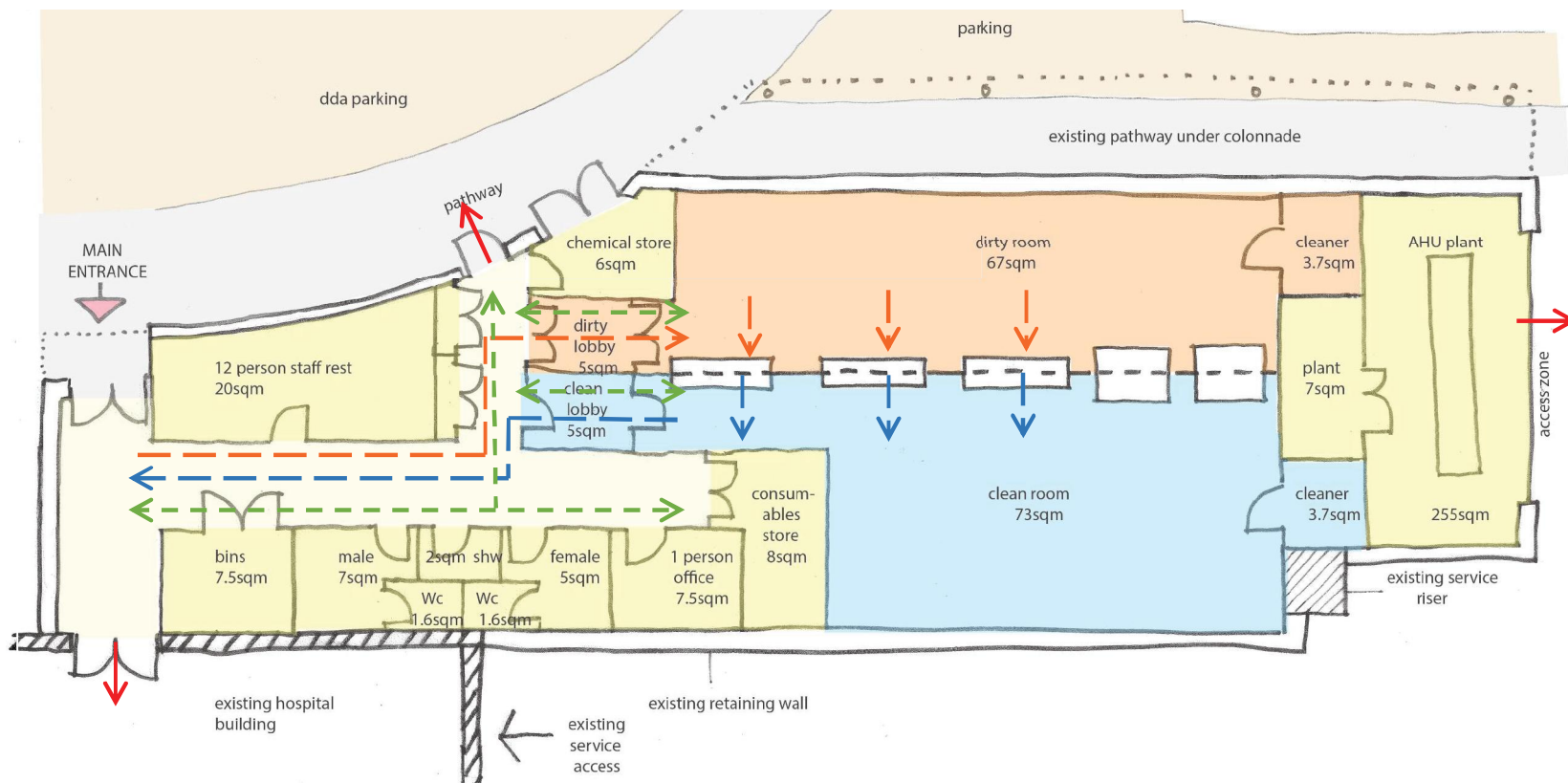
- Circulation required
- Separate clean and dirty room access



Design Development Sketch 1

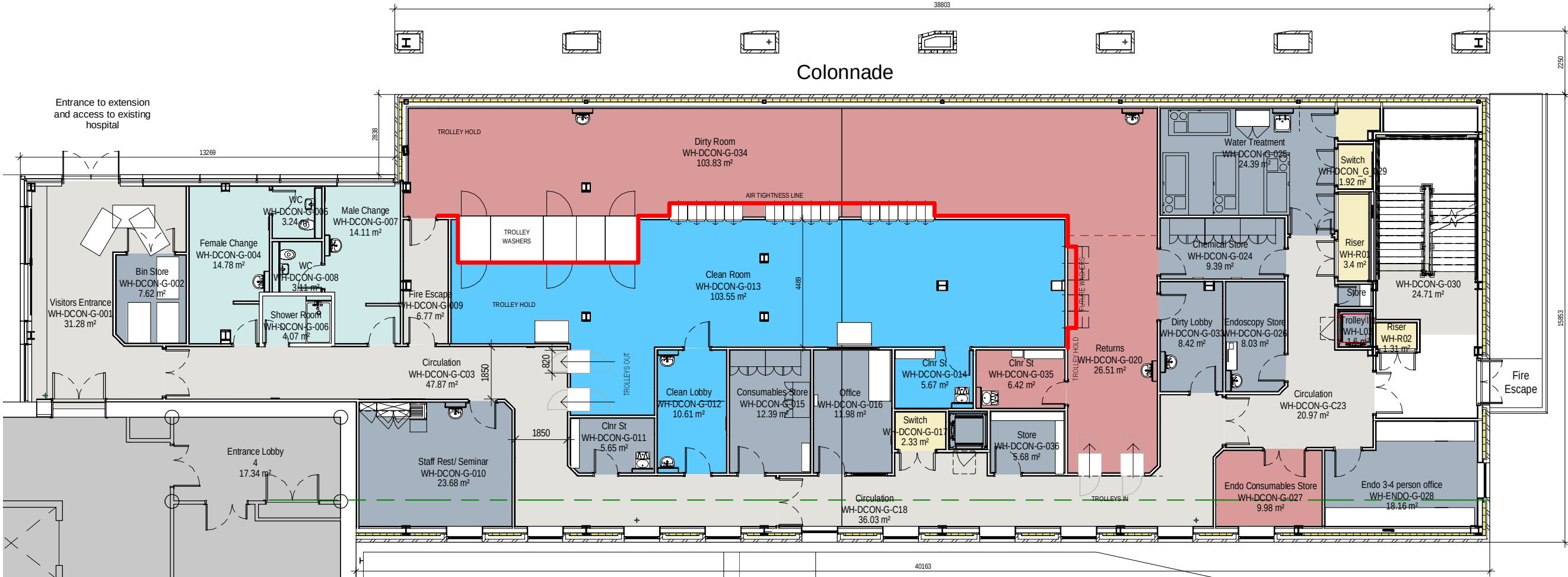
KEY

- Fire Escape
- Staff
- Dirty
- Clean



Design Development Sketch 2

4.0 Layout: Decontamination Department (Level 01)



This plan layout has been signed off by the stakeholder group, Vinci and Trust Estates.

Design Approach

This plan layout has been signed off by the stakeholder group, Vinci and Trust Estates

The dirty scopes arrive on trolleys to the unit from the main hospital and endoscopy department above. The trolleys are stored, then taken to the sinks where the endoscopes are washed. They are placed into the scope washer/disinfecters on dirty side of the wall, and brought out on the clean side, where they're packaged ready distribute back out to departments. To fit all the washers in the wall, we orientated the clean and dirty rooms length ways on the plan.

To minimise contamination, staff changing areas are located close to the existing hospital. Staff can get changed on their way in and out of the department. Staff access to the clean and dirty rooms is separate to the trolley hatches which the scope trolleys use. The staff door and hatches from the clean room are closer to the doors from the main hospital than the dirty room door/hatches. For ease of access the clean trolley lift where clean scopes taken up to endoscopy, is near to the clean room and the dirty lift for bringing dirty scopes down is next to the dirty room. The water treatment room will be readily accessed by staff to control the machines.

4.0 Layout: Endoscopy Department

Design Strategy

As with the decontamination department we also held a number of meetings with the endoscopy team stakeholders where they further set out their requirements for the department design.

The existing endoscopy has two treatment rooms and they requested that this be increased to three to facilitate their projected patient throughput. In addition to the treatment rooms the number and of pre and post procedure patient spaces also needed to increase to suit,

Separation of patient groups

Flexibility of changing and recovery spaces to support gender separation and patient`s preferences was required, whilst ensuring all patients are treated equally and with privacy and dignity. The stakeholders also requested separation of more acutely unwell inpatients arriving on beds/trolleys from out patients arriving for pre planned appointments. The third area of separation is required between patients arriving and others being discharged.

Patient Observations

Maintaining a good level of observation of patients presents a challenge as the brief only asked for one staff base for the whole department. From here staff need to be able to view acute patients arriving at the unit along with patients in the first and second stages of recovery

Staff Support Spaces

At the beginning of the stakeholder engagement sessions it was determined that due to the amount of accommodation required for endoscopy, some of the staff accommodation would need to be located on different floors. The staff changing, rest room, an office, along with some storage went on the floors above and below decontamination. It was later decided that these spaces would be much more usable/accessible if they were on the same floor as endoscopy, which they now are.

Existing Endoscopy Department Patient Flow

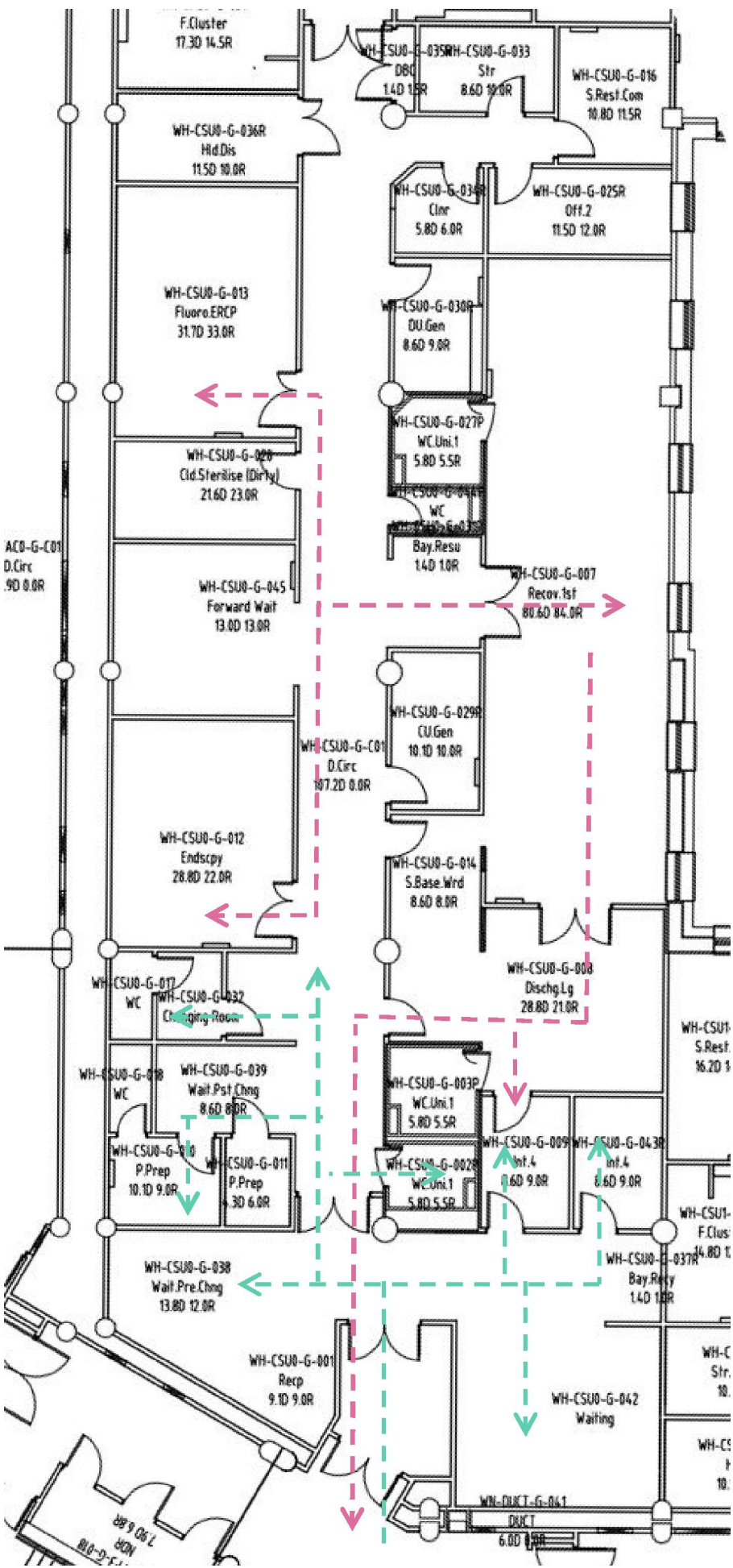
To obtain a better understanding of how patients travel through the existing department at Whiston, pre and post procedure. We analysed the arrangement of the spaces and patient movements as indicated with the pink and green arrows on the plan shown here. This along with analysis of other endoscopy departments that Halliday Meecham have designed, informed the flow diagram on the next page.

Endoscopy Design Guidance

HTM 10-02 Day Surgery Units

HBN52 - Accommodation for day care, medical investigation and treatment unit,

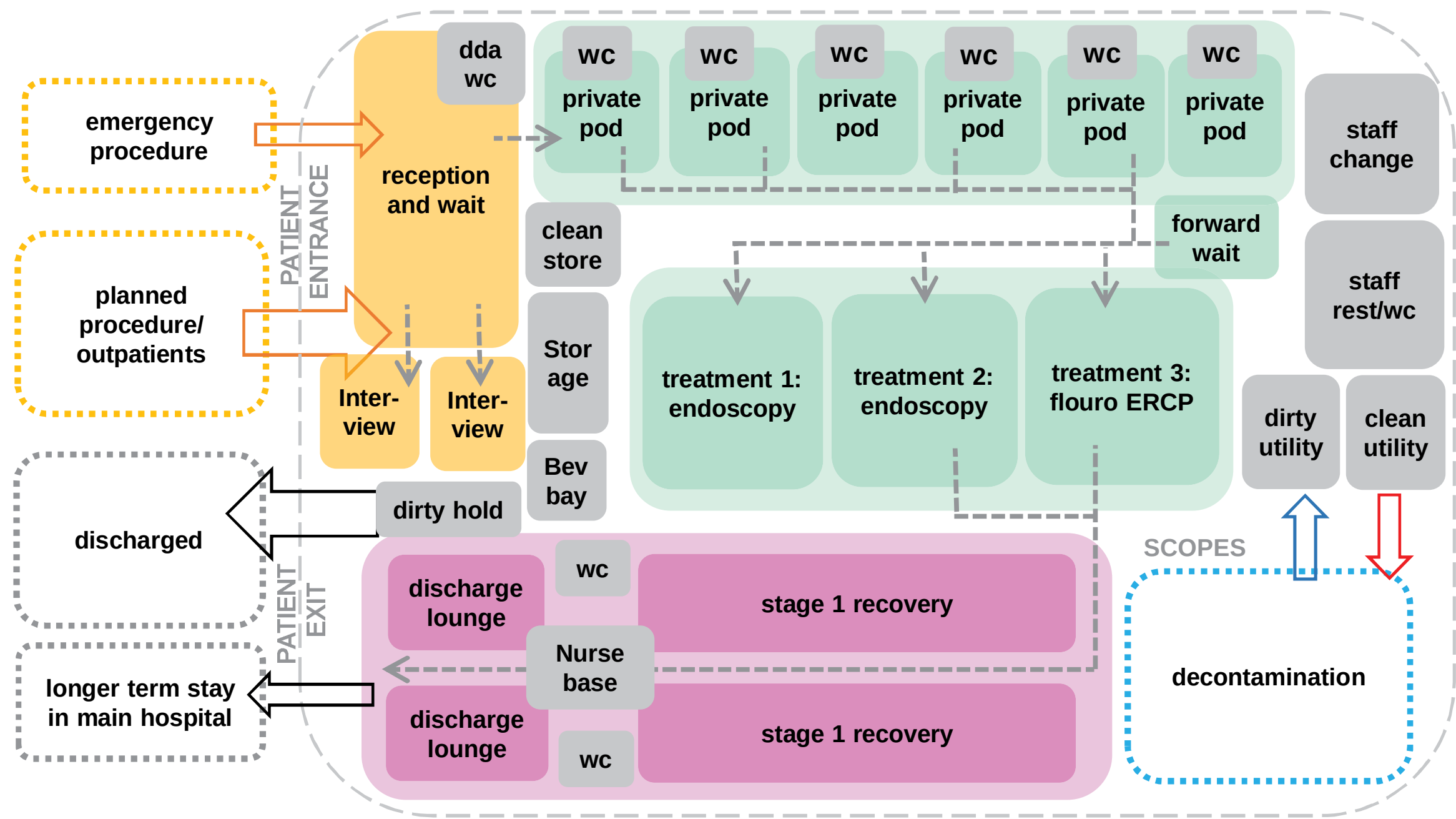
JAG accreditation : Guide to the endoscopy environment (March 2020 - March 2022).



← → Pre treatment
← → Post treatment

Existing Plan Patient Flow

4.0 Layout: Endoscopy Department



Patient flow and adjacencies diagram

Patient Flow

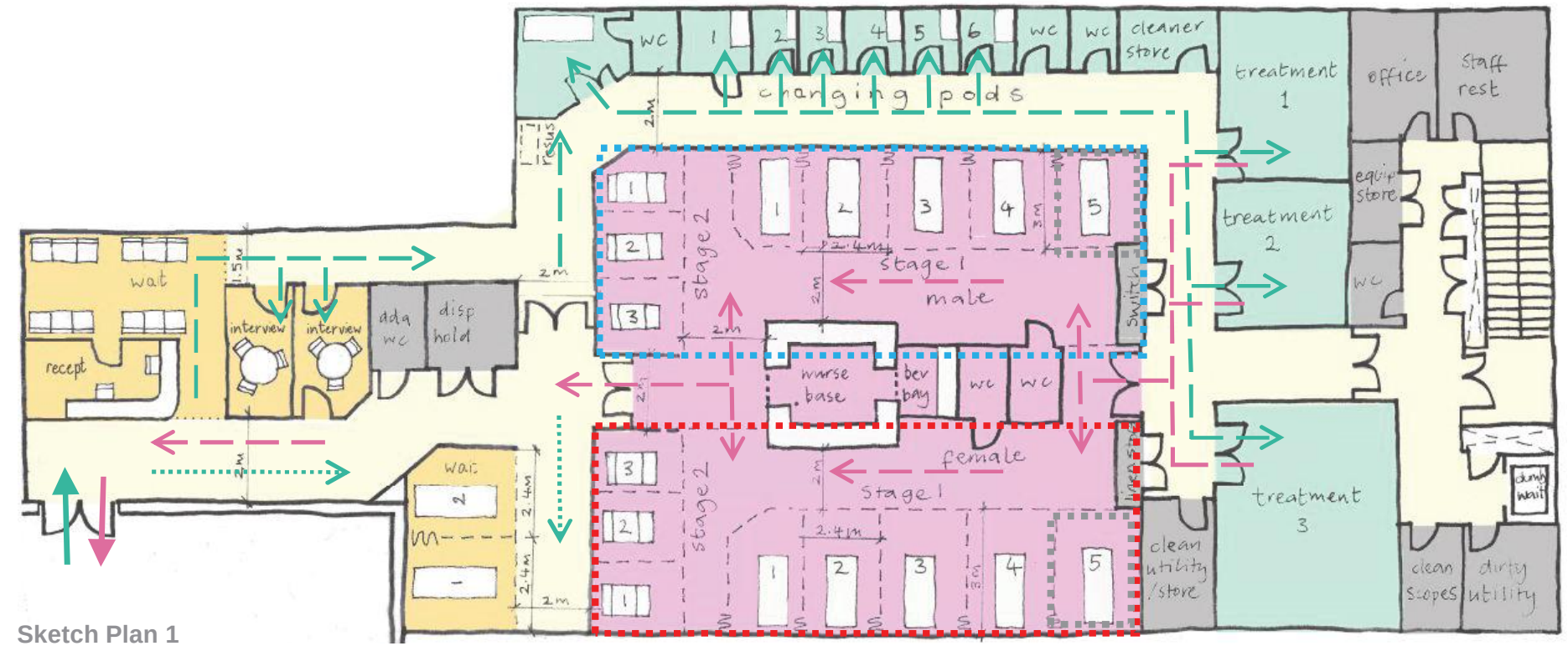
The patient flow diagram shown here assists the design development as it illustrates the required adjacencies and patient separation of the different spaces and the number of rooms based on the briefing information.

4.0 Layout: Endoscopy Department

The sketches on this pages show the development of the endoscopy plan.

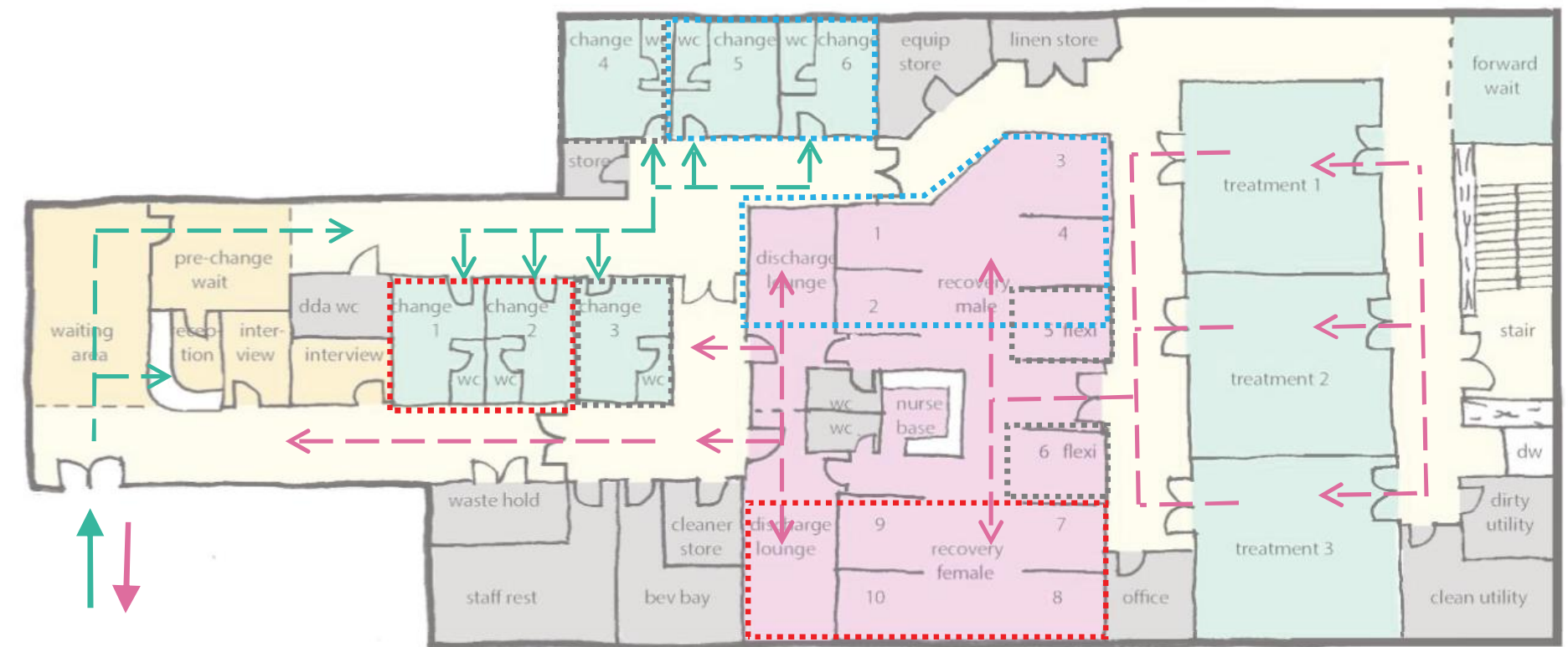
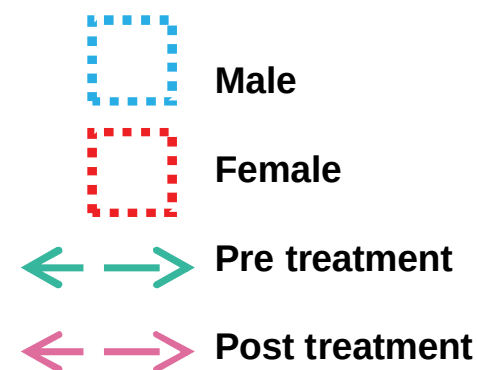
Stakeholder review 1 - feedback

- Requirement for larger staff rest and staff changing facilities to be accommodated on the floor above endoscopy (Second Floor)
- Additional storage and office space to be below on the Level 0- A larger equipment store to be located where the forward wait bays are.
- The 2 Forward Wait bays for inpatients awaiting treatment to be located within recovery, for improved observation

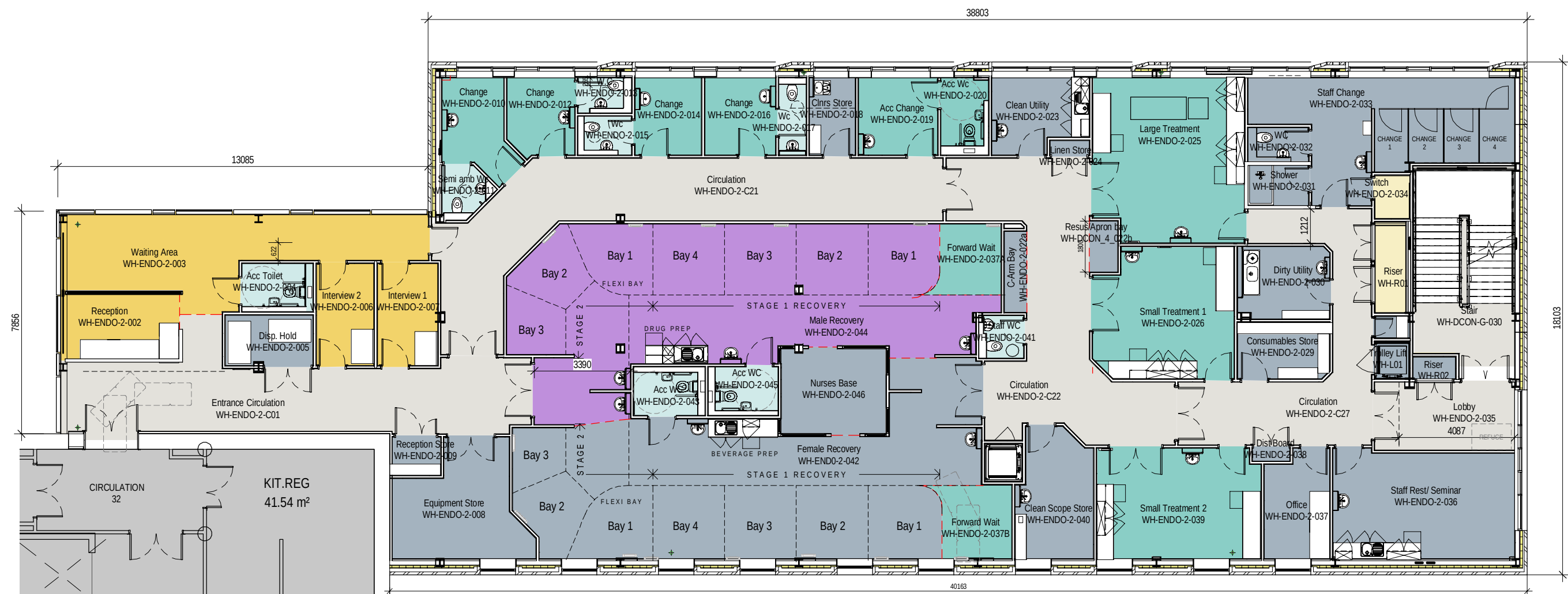


Stakeholder review 2 - feedback

- Requirement for a private bad news room next to recovery stage 2. Can be a space shared with the interview rooms
- Inpatients arriving on beds/trolleys to have separate route into unit from outpatients in the waiting area.



4.0 Layout: Endoscopy Department (Level 02)



This plan layout has been signed off by the stakeholder group, Vinci and Trust Estates.

Design Approach

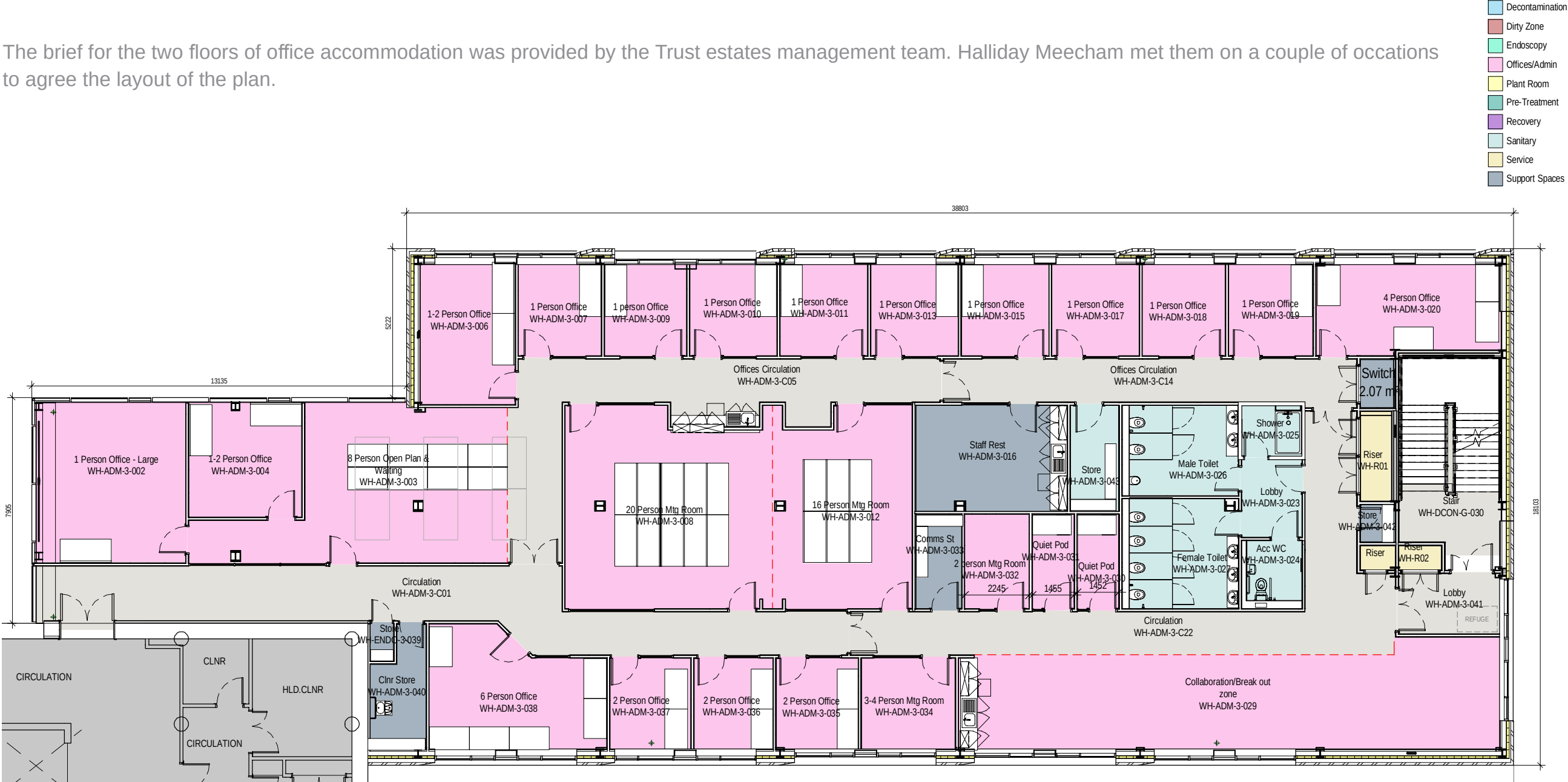
Outpatients with appointments arrive and go directly into the waiting area to the rear of reception, they can privately book-in using one of the two interview rooms, then travel to the gender and disability appropriate changing rooms. Inpatients on beds and trolleys bypass the waiting area and travel around the main corridor to semi enclosed bed bays (forward wait) at the end of the recovery ward space, close to the treatment rooms. This arrangement allows for them to be observed and accessed from the staff base.

There is a single direction of travel which takes patients from arriving on the left of the plan to getting changed/prepared for treatment, then entering the treatment rooms to the right of the plan. Patients are then taken post procedure to a bed in stage 1 of the recovery ward and onto the second stage of recovery where they will be dressed and seated on a recliner.

From there if required they will meet with their clinician to discuss the results of their procedure and be given a treatment plan in one of the two interview rooms. They will then be discharged and free to leave the department.

4.0 Layout: Offices (Level 03)

The brief for the two floors of office accommodation was provided by the Trust estates management team. Halliday Meecham met them on a couple of occasions to agree the layout of the plan.



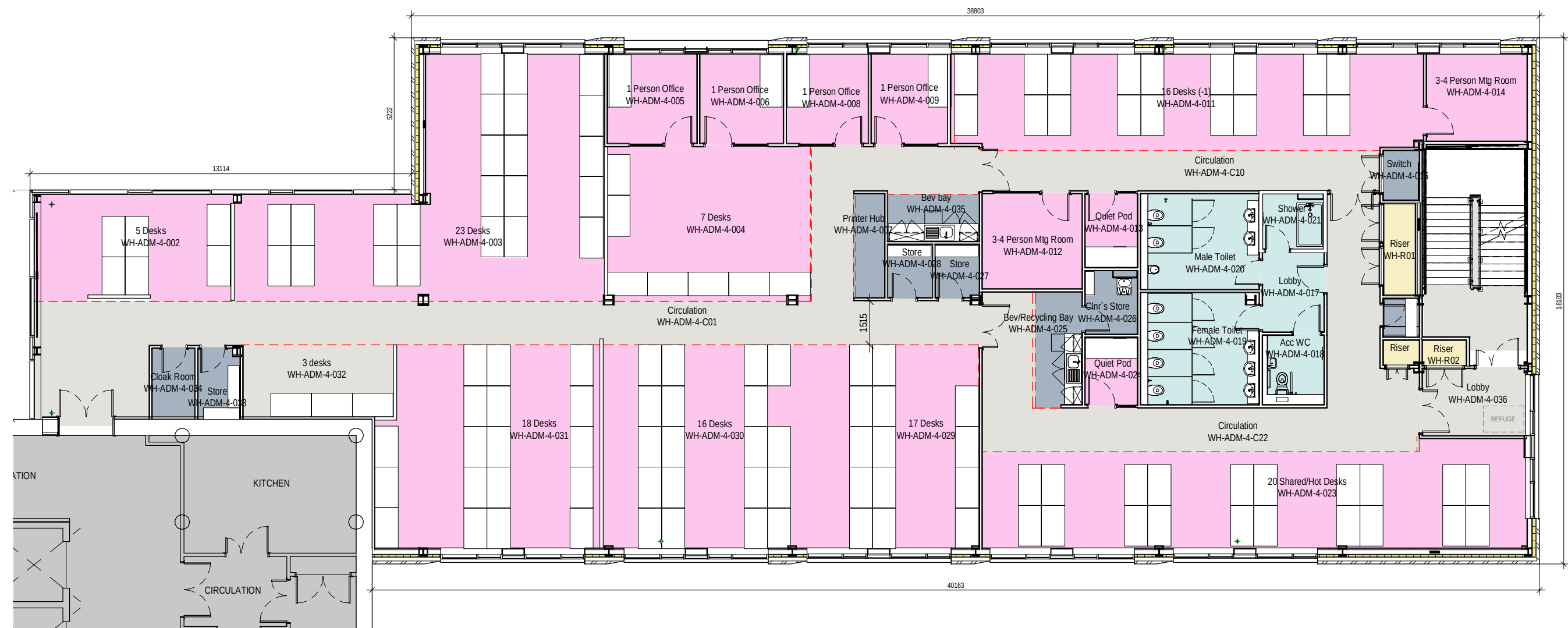
This plan layout has been signed off by Vinci and Trust Estates.

Design Approach

On both level 03 and level 04 workspaces and offices are positioned around the edge of the plan so they can be naturally ventilated and benefit from natural daylight and views out. The meeting rooms, offices and sanitary facilities will be located in the middle of the plan as they are mechanically ventilated. Also in the centre of the plan are smaller individual working pods and storage spaces.

Level 03 has a large staff breakout and collaboration zone which serves both floors.

4.0 Layout: Offices (Level 04)



This plan layout has been signed off by Vinci and Trust Estates.

Design Approach

This floor accommodates largely open plan office space for staff with movable acoustic partitions between groups of desks. There are a number of individual offices and an area of hotdesking which provides additional work spaces.

4.0 Layout: Plant Space

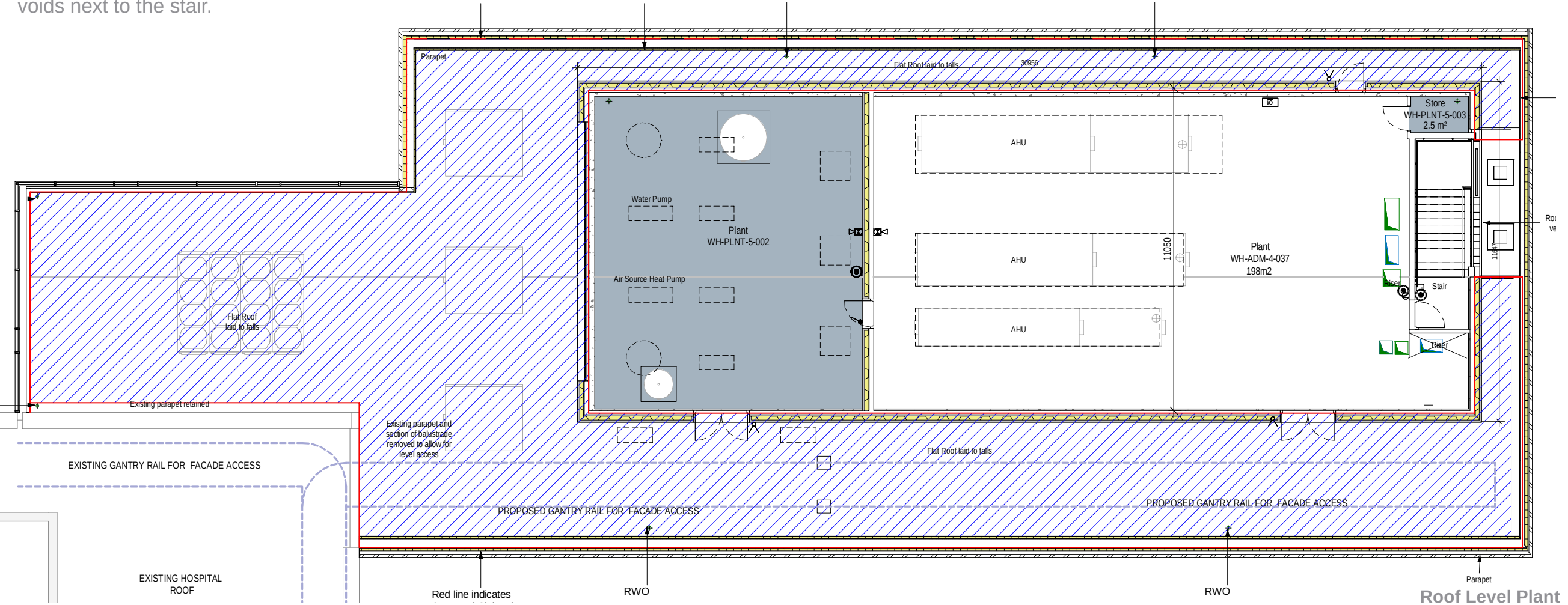
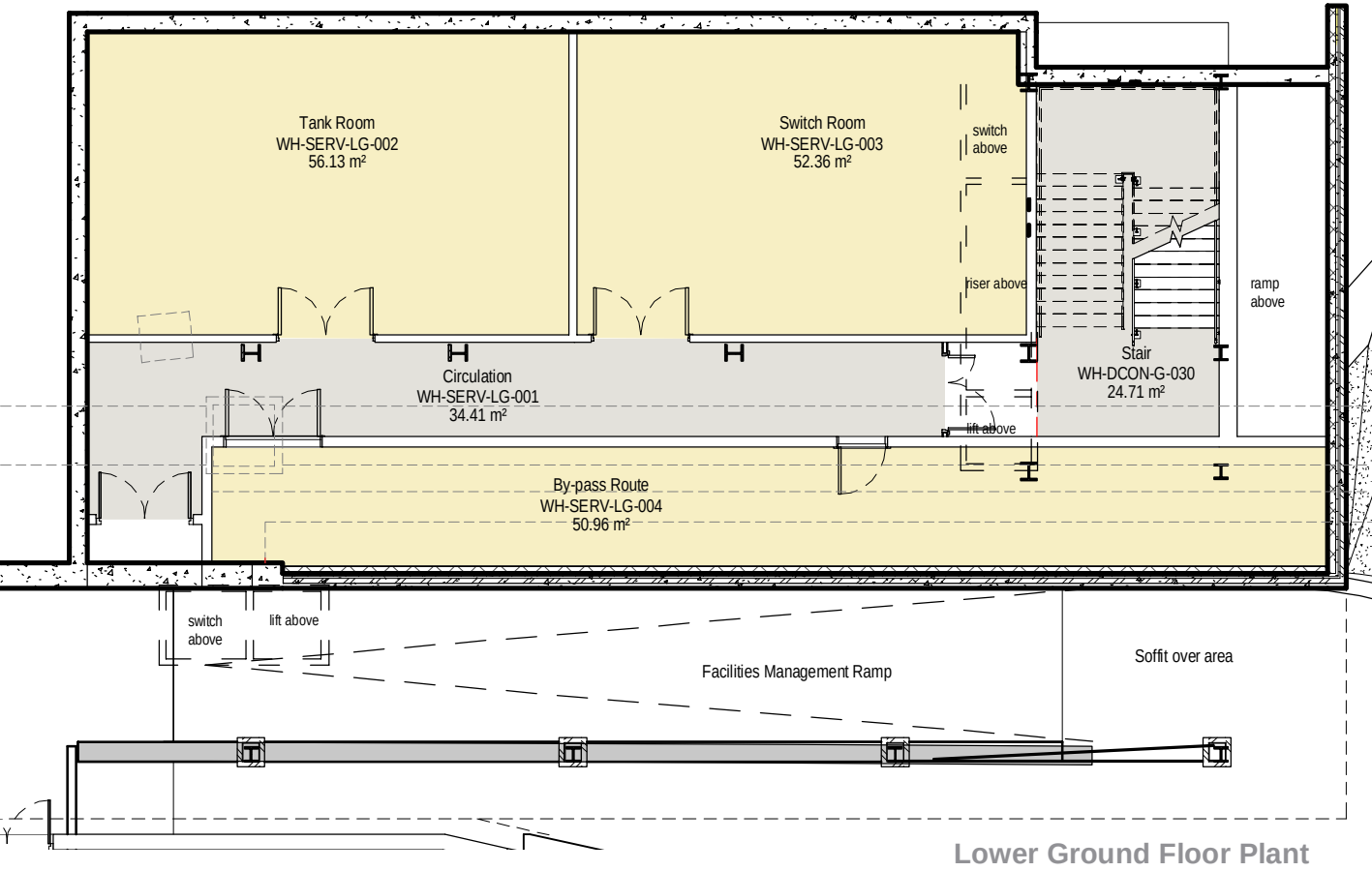
There are two main plant areas, one on the Lower Ground Floor and the other at Roof Level.

Design Approach

The Lower Ground level plantrooms sit in the side of the embankment. They house the water tank and an electrical room. There is an existing service duct that will become enclosed as part of the Lower Ground level. It is accessed from doors along the corridor.

At roof level roof there is a parapet and 1100mm high guard rail for safe access. The air handling units are to be located in the roof level plant room, along with an air source heat pump. There are to be solar panels on the roof of the plant room to generate some of the extensions electrical supply.

The services travel from the plant spaces to the other floors via the service voids next to the stair.



5.0 Scale: Massing Development

The massing for the building has been developed with the engineers, the Trust and Vinci. The area for the endoscopy department increased from the initial brief and Halliday Meecham looked at massing options for how this extra area could be incorporated into the extension.

Option 1: shows the size of building required with an endoscopy department of 550sqm (2 treatment rooms)

Option 2: includes the increased area for 3 treatment rooms where it would be spread over all 4 storeys

Option 3: includes the increased area for 3 treatment rooms spread across the first and second floors only.

It was determined Option 2 would be best, with all of the floors extending out to match the length of endoscopy. The width of the footprint was set by the need to retain access to the bin stores to the south and to not impact on car parking to the north. The colonnade along the front allows for the upper floors to be larger in area.



MASSING OPTION 1: first floor area remains at 550sqm



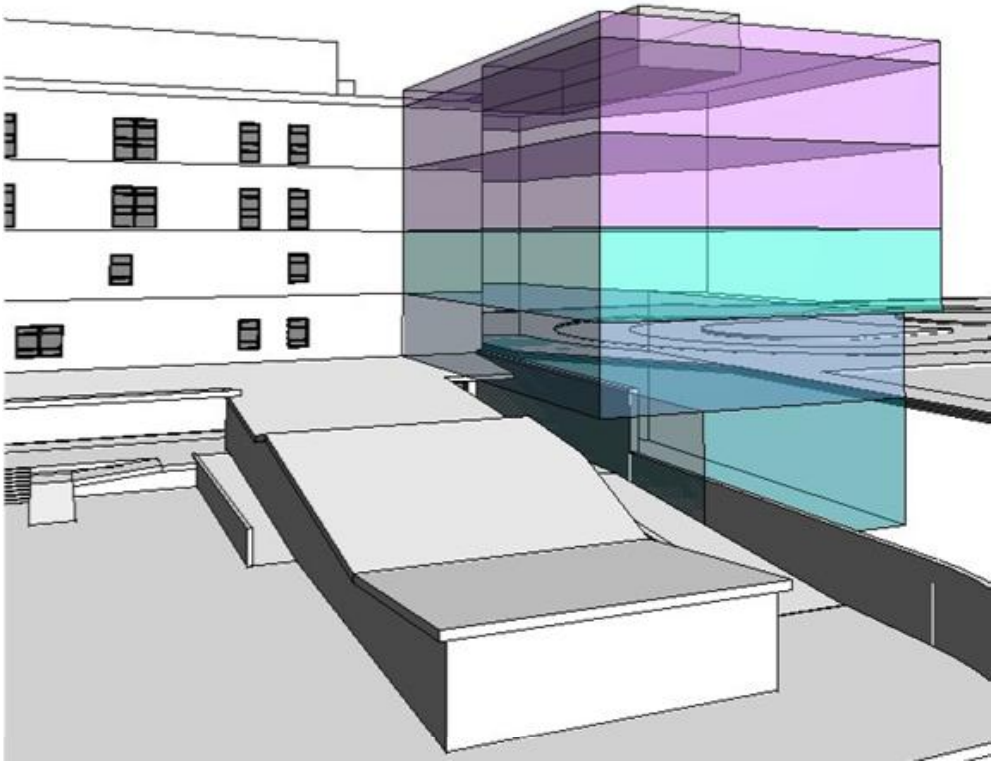
MASSING OPTION 2: first, second and third floors extend to suit increased area



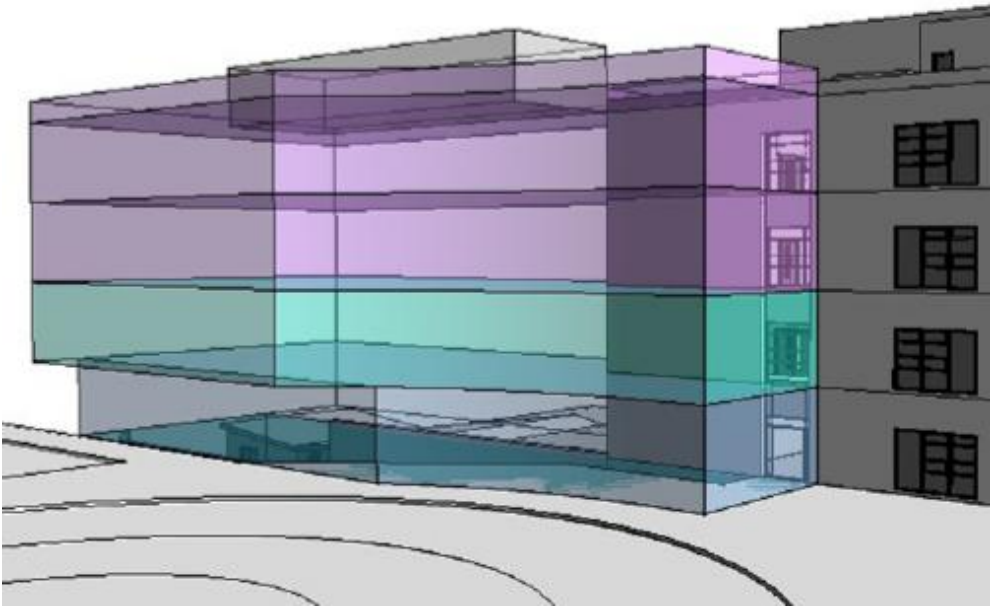
MASSING OPTION 3: first and second floors extend to suit increased area

5.0 Scale: Massing Proposal

The building will be four storeys high with plant spaces at lower ground and on the roof. The roof level ties into the existing hospital roof and the finished floor levels tie into the existing hospital levels.



Proposed massing, view from Service Yard



Proposed massing, view from hospital main entrance

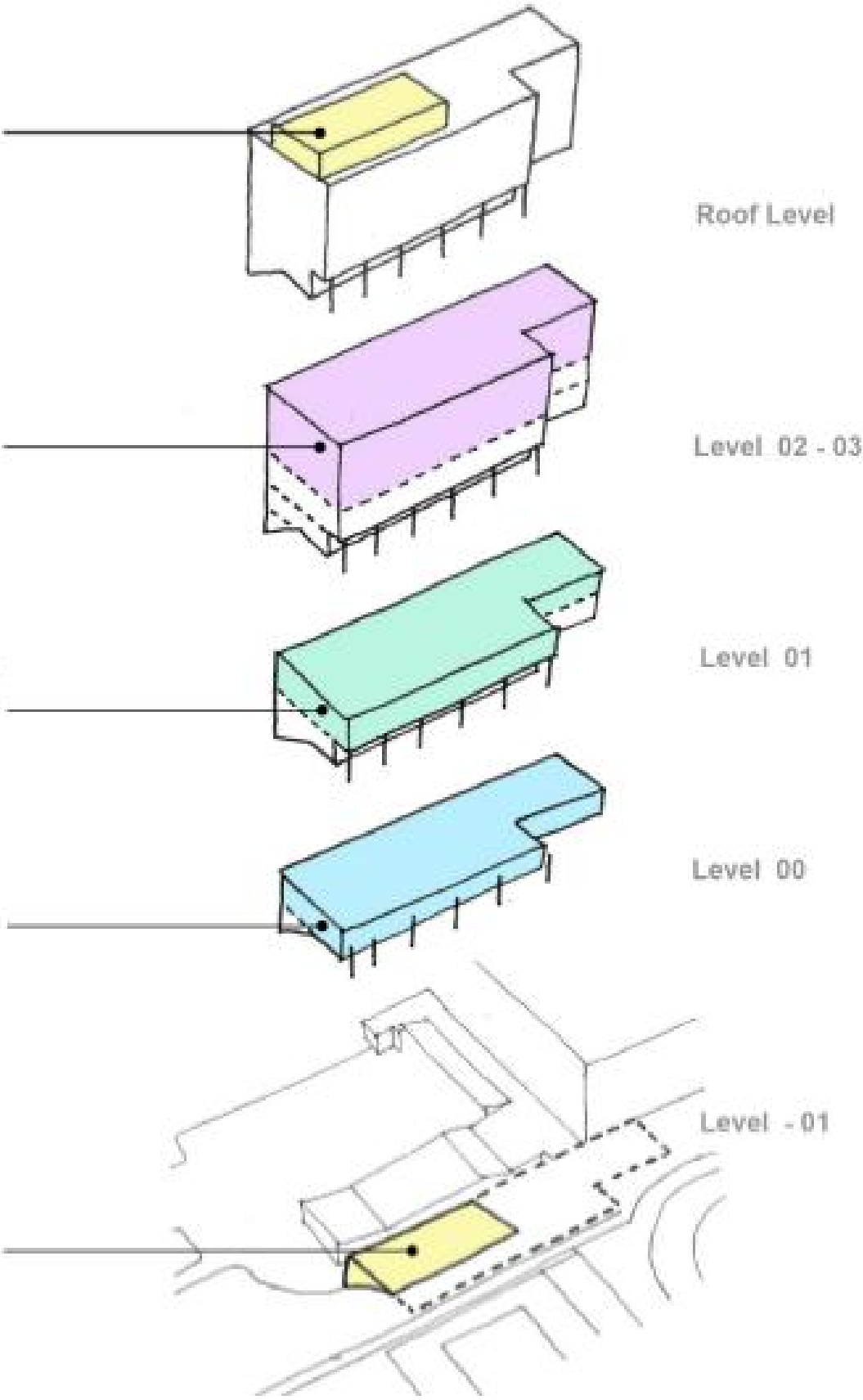
Plant space:
Will house air handling units for the extension. Ties into roof level of adjoining hospital

Shell and core fit out:
Proposed use as additional office accommodation for existing hospital staff working in nearby departments

Endoscopy department:
Located above decontamination unit for ease of transference of clean and dirty endoscopes between the 2 floors.

Decontamination unit:
Positioned at ground floor to avoid any leaks impacting on departments below.

Plant space
The water storage tank and electrical switch room are to be located at this level along with a duct space for the existing oxygen pipes and air tubes that serve the existing hospital.



Massing Diagram

5.0 Scale: Construction Phasing

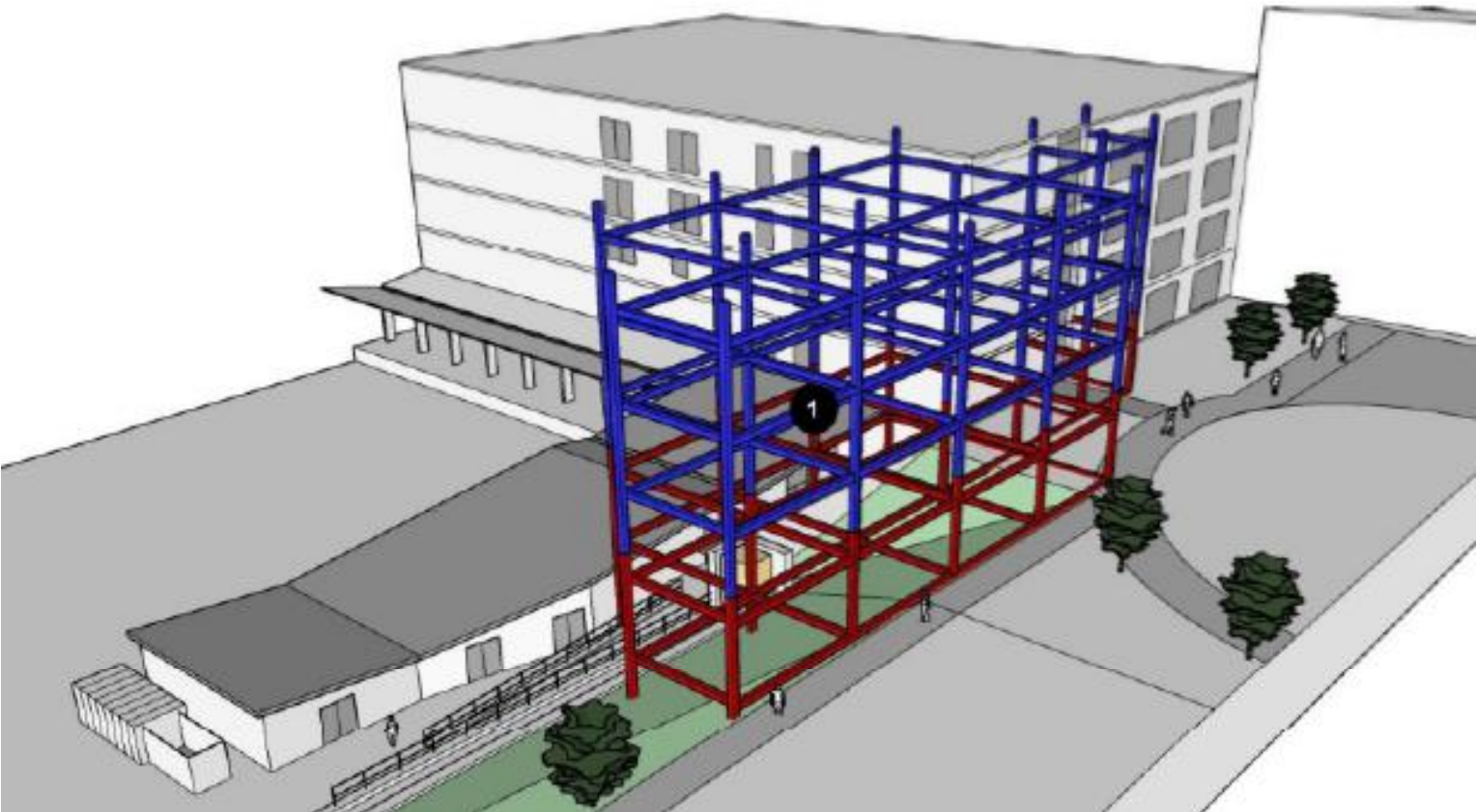
At feasibility stage only the ground floor decontamination department shown in red on the image on this page was to be constructed in a first phase, followed by the floors in blue at a later date.

Over the course of the Stage 2 and 3 design the Trust`s requirement for provision of additional space for endoscopy and offices has become more pressing. Now all of the floors are to be built at the same time.

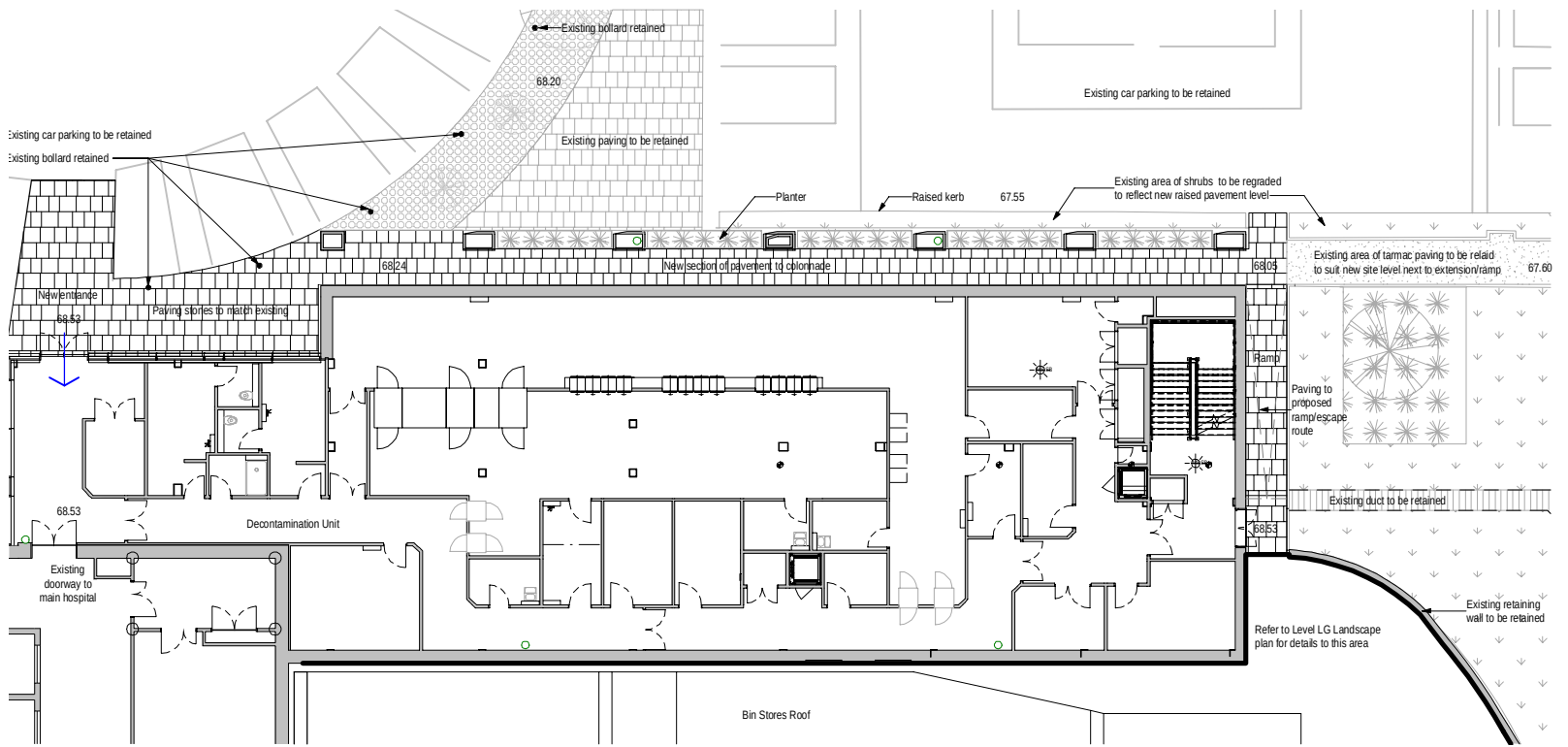
There will still be 2 Stages of work

Stage 1: Enabling Works to make adjustments to existing serviced runs, groundworks and to remove the top section of the concrete retaining wall.

Stage 2: The main construction will include the structural frame, floors, roof external enclosure and plant spaces. Followed by the internal walls, ceilings and fit out of the lower levels. Some final fit out works posing minimal disruption to the lower floors, may take place on levels 3 and 4 following the handover of Decontamination and Endoscopy.



Feasibility Stage Phasing schematic



Level 0 Landscaping Plan

6.0 Landscaping



Existing

The existing landscaping on site includes a sloping grassed area on which the building will sit and a number of shrubs and trees, planted when the hospital was built.

The hard landscaping to the north of the site includes the surface level patient car park, accessible parking and an ambulance drop off area. There is also a path from Nightingale House to the double entrance doors into the main hospital shown in the image above.

To the south is a ramp from the Lower Ground of the hospital down to the bin stores building and service yard. There is a concrete retaining wall where the ground has been cut away into the slope. A line of fencing visually separates the service yard from the patient car park.

Proposed

The footprint of the extension will mean that a few trees will need to be removed and others planted elsewhere on the site. This is covered in the Arbicultural Survey and Tree Replacement Strategy. In addition to the replacement trees, there will be planters filled with biodiverse plant species located between columns along the colonnade. The columns will be protected from vehicles by the change in level and soft landscaping between the car park and pathway.

Details of the soft landscaping can be found in the Landscape Architects proposals



The existing area of sloped land will be cut into to create the lower ground plant room and access to an existing service duct run which will be retained. Some of the soil will be reused elsewhere to create the required levels and thresholds to the extension.

The pathway from Nightingale House which is largely used by staff travelling to and from the main hospital building will be retained, with the added benefit of it being made undercover by the colonnade.

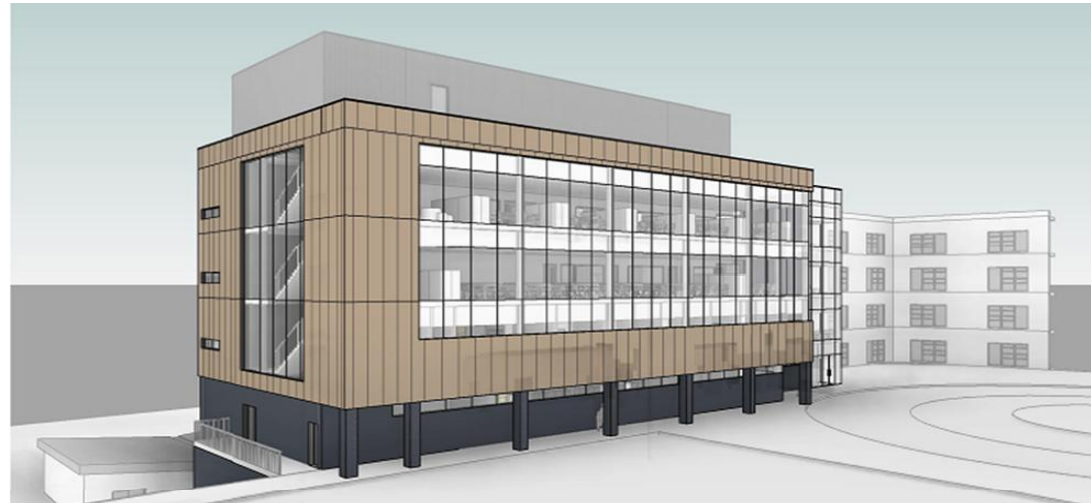
Any hard landscaping disrupted by building the extension will be made good using materials to match the existing hard landscaping.

The proposals have minimal impact on the number of parking or ambulance bays. One bay next to the proposed entrance will be temporarily changed to paving to create for better pedestrian access around the South and West elevation.

It is the Trust's intention to redesign the ambulance drop off and parking area at the front of the hospital's main entrance in the coming years, to better suit evolving parking and drop off requirements. Part of this will include moving the existing DDA parking and ambulance bays further away from the entrance to the extension and improving pedestrian pathways between the hospital buildings and their entrances.

7.0 Appearance: Elevational Design Options

We presented three options for the external appearance and materials palettes to the Trust. Their preference was Option 2, as such this was developed further.



Option 1



Suitability of Façade Options

Option 1

Context: Brickwork and cladding a different colour to existing hospital

Fire Protection of South Elevation: Difficult to create a 60 minute fire protected guaranteed cladding system

Maintenance: Light colour may age more quickly, particularly on north elevation with lack of sun.

Trust Preference: No

Option 2 (Proposed)

Context: Brickwork links to historical use of the site (brickworks).

Fire Protection of South Elevation: Easily achievable in brick, minimising fire spread risk from bin stores

Maintenance: Brickwork provides ease of maintenance and reduces life cycle costing

Trust Preference: Yes

Option 3

Context: Metal cladding links to local history (Colliery), no dark metal cladding on existing hospital. Possibly oppressive for patients arriving at the unit/hospital

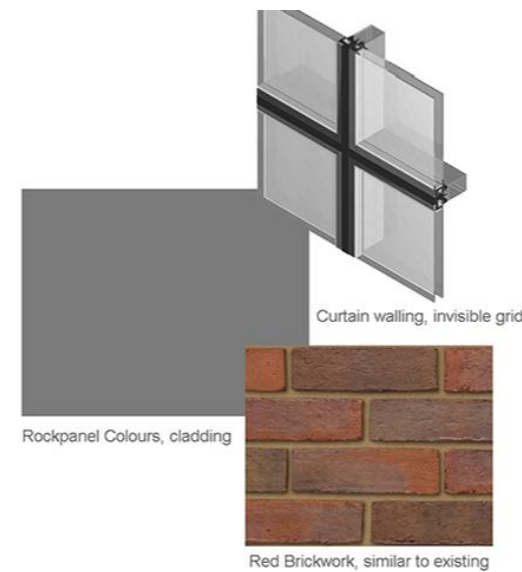
Fire Protection of South Elevation: Difficult to create a 60 minute fire protected cladding system to south elevation,

Maintenance: More complex build up of rainscreen/ cladding which won't last as long as brickwork.

Trust Preference: No



Option 2



Option 3



7.0 Appearance: Proposed Elevational Design

This is the proposed 3D visual showing the developed design of the East and North Elevations of the extension.



7.0 Appearance: Proposed Elevational Design

The the materials and elevational treatment for the Trust's preferred Option 2 were inspired by the existing materials on the main hospital and the functionality of the spaces within the extension.

Materials and Facade Design

The proposed red brick matches the brickwork on the existing hospital main entrance. It's also similar to the bricks historically produced in Whiston. Prior to the brickworks, there was a colliery in the locality. The dark grey metal cladding to the plant room and elevations, provide the building with a character that reflects Whiston's industrial past, whilst still providing an inviting, contemporary feel.

The full height block of glazed curtain walling at the front of the extension is located where it adjoins the existing hospital. It acts as a break between the solid brickwork on the existing and the brickwork on new extension. It also signifies the entrance to the new extension.

The configuration of the elevations work practically with the internal spaces. The high level glazing on the ground floor (level 01) of the south elevation is to ensure natural daylight is delivered to the decontamination spaces, whilst minimising views into the department. High level windows also allow for splash backs to be placed on the wall internally where sinks are located.

At the levels above, the curtain walling maximises daylight and views out from patient and staff spaces. These attributes are proven to increase a person's sense of wellbeing and improve patient recovery times. The louvres allow for natural ventilation and the spandrel panels match the existing on the main hospital.

On the east end of the extension, a brick feature panel has been introduced to add interest to that elevation which houses the stair. It will look similar to the textured brickwork on the bottom right image on this page.

The windows on levels 01 and 02 of the south elevation are punched as opposed to curtain walling. This is because they are required to be fire protected from the Bin Stores building.

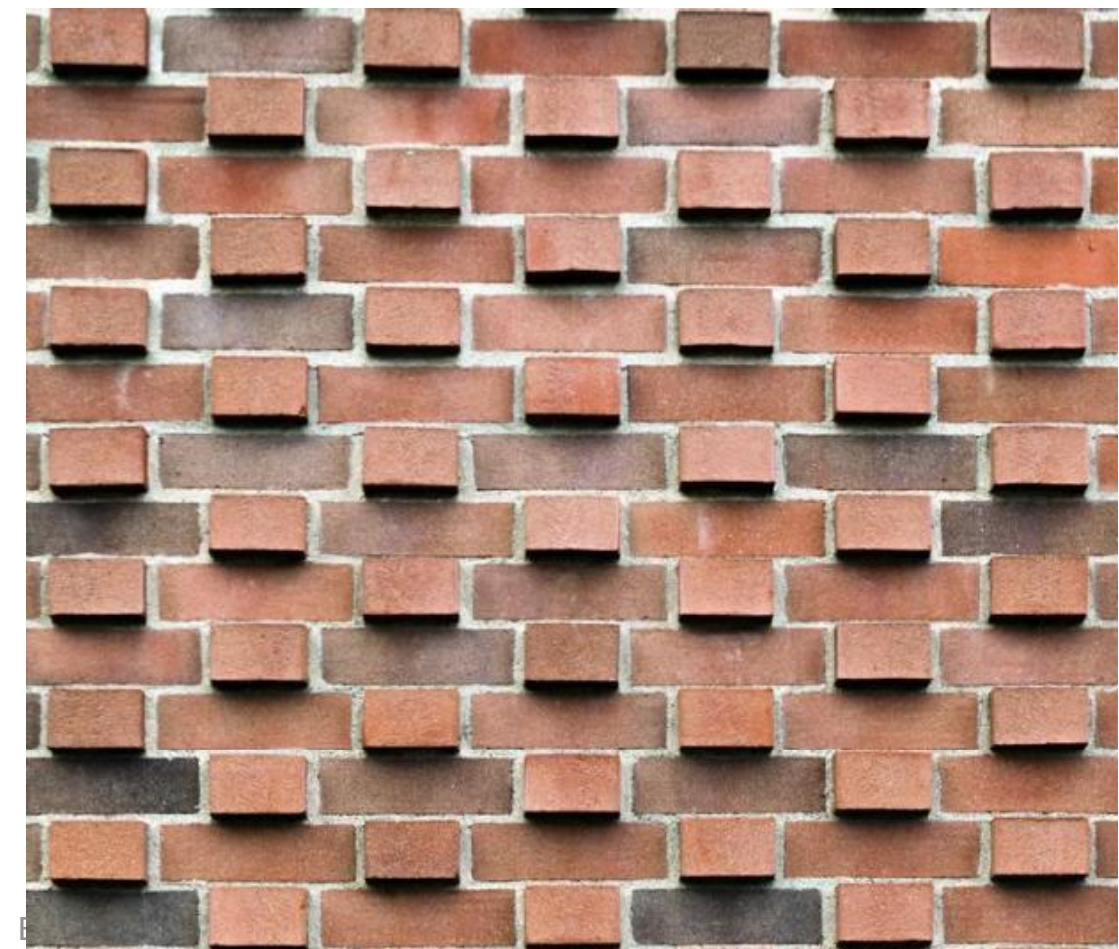
The elevations included for planning have been agreed with the Trust and Vinci Facilities.



Existing hospital brickwork



In the late 19th Century, the site of the former Whiston Colliery was developed. Opening in 1898 as the Whiston Metallic Brick Works (known as Tushingham's). They manufactured bricks made from a mixture of local clay and shale until its closure in the early 1970s.



Textured brickwork pattern proposed to the East Elevation

7.0 Appearance: Proposed Elevational Design



Solid brickwork

Brick slips



Proposed Brick: Ibstock, Brunswick Farmhouse Mixture.



Vinci (Facilities Management and PFI provider) preference for solid brickwork as main entrance

7.0 Appearance: Proposed Elevational Design

Why not a separate building?

Direct access required to the existing hospital at each floor:

Level 1: Decontamination scope trolleys move back and forth from existing hospital

Level 2: Patients travel through the hospital into the new extension for treatment

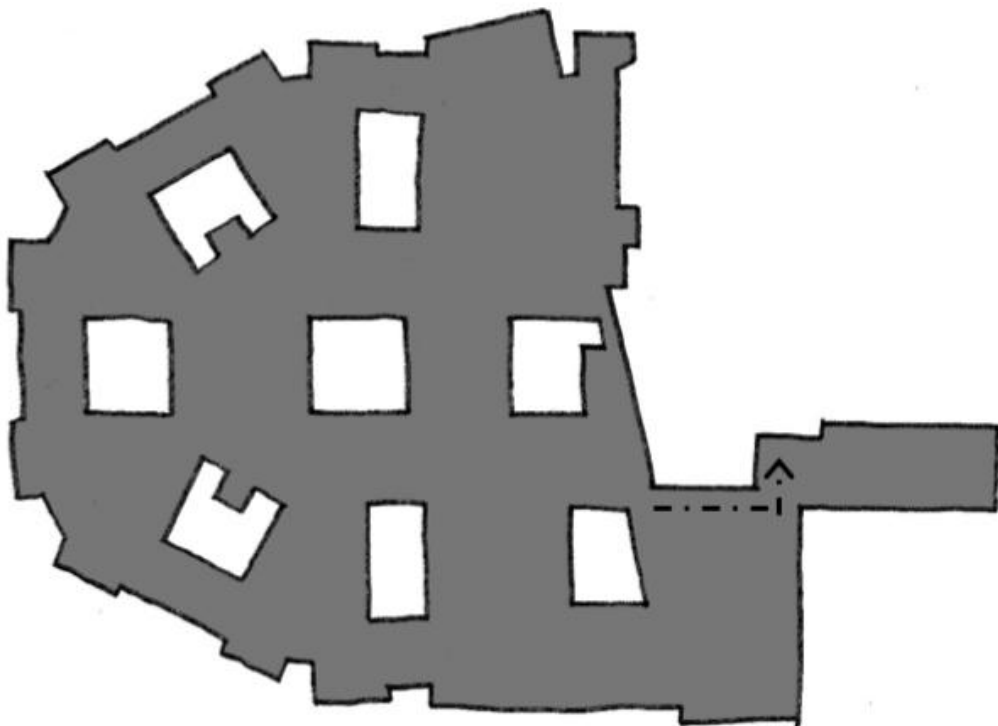
Level 3 & 4: Clinical staff who work in the main hospital travel between buildings

Visual separation

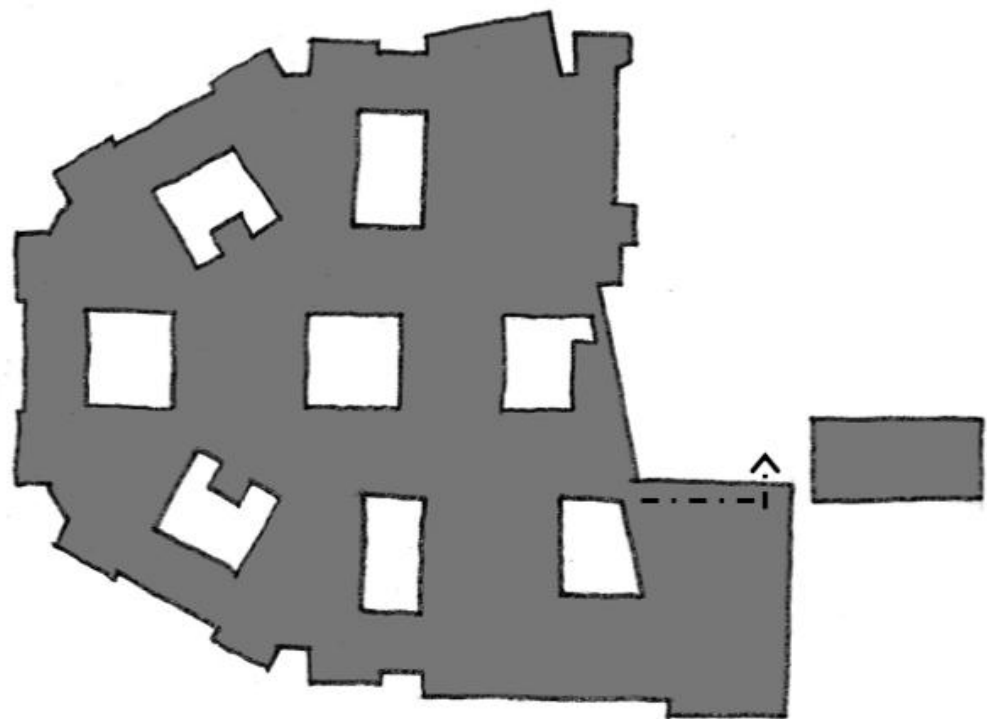
The glazing between the existing building and the extension provides a visual break between the solid brickwork of the existing hospital and the proposed solid massing.

KEY

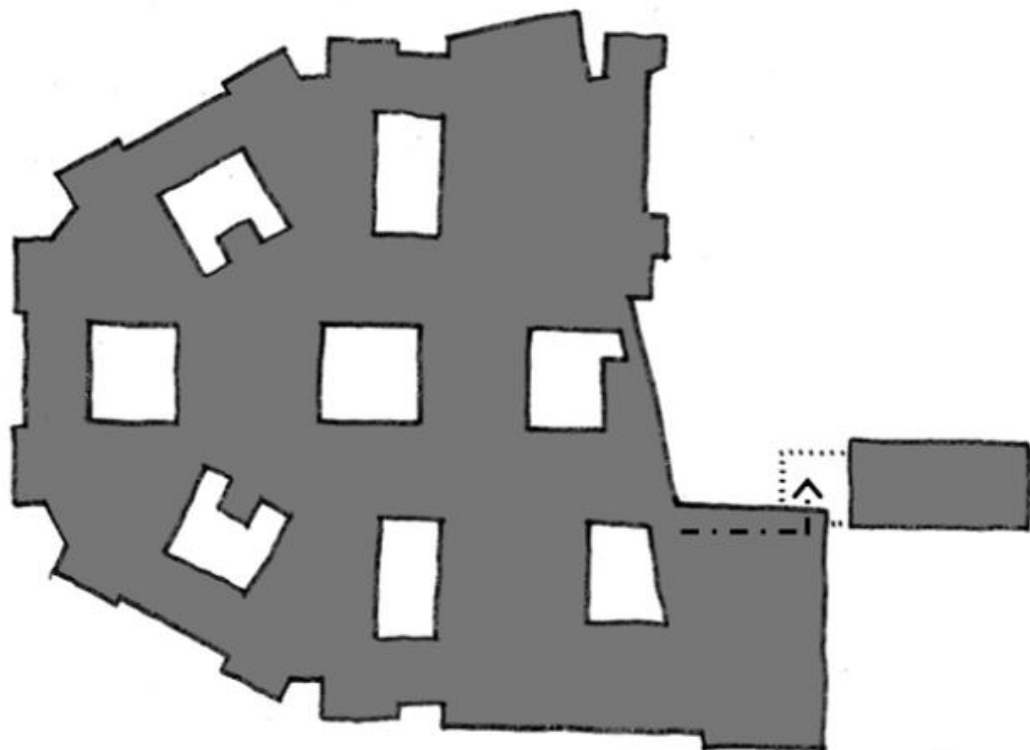
 access route from existing hospital



Extension



Separate building



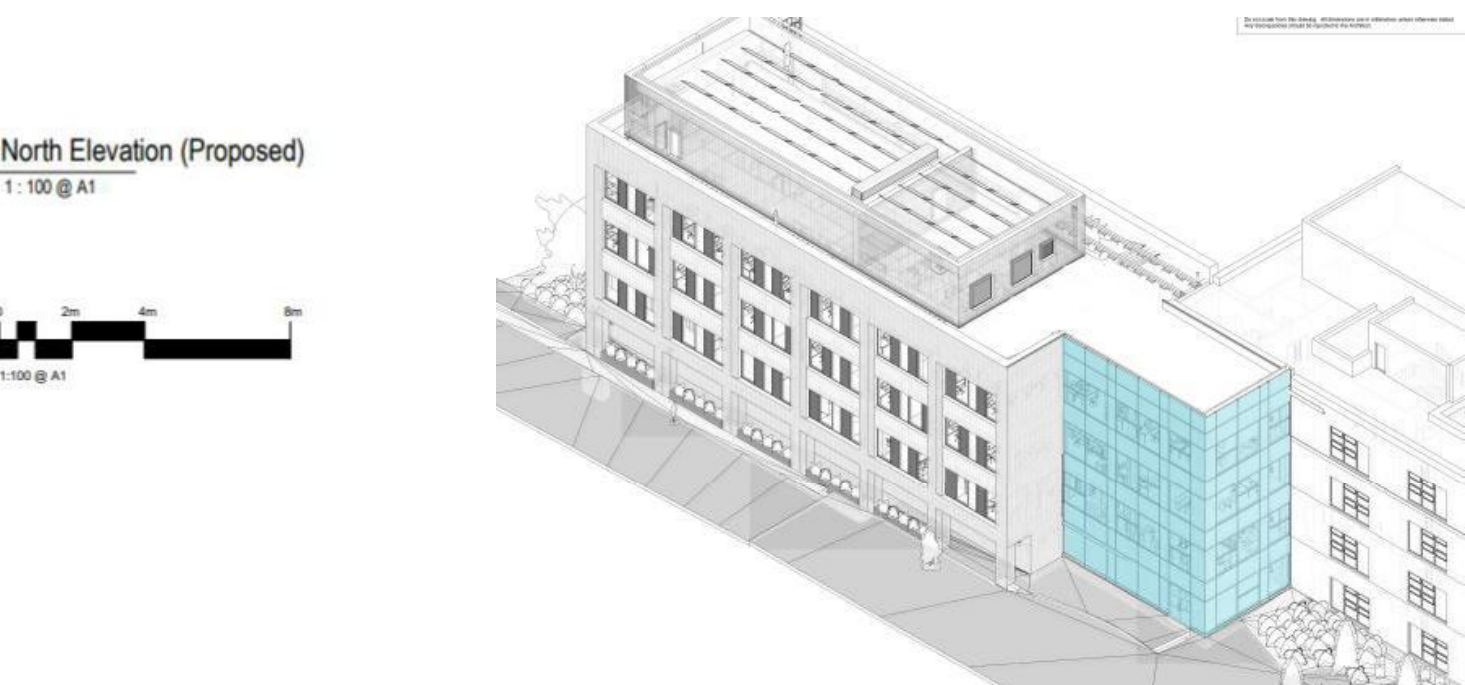
Visually separated extension

7.0 Appearance: Proposed Elevational Design

Head and cill heights of the curtain walling/windows line through with existing building.

Curtain walling has spandrel panel where internal walls meet external walls and louvres for natural ventilation. The pattern prevents clashes of internal walls with clear glazing.

The metal cladding is not part of the curtain walling.



Glazed block for visual separation between existing and proposed

7.0 Appearance: Proposed Windows Arrangement - North Elevation

KEY

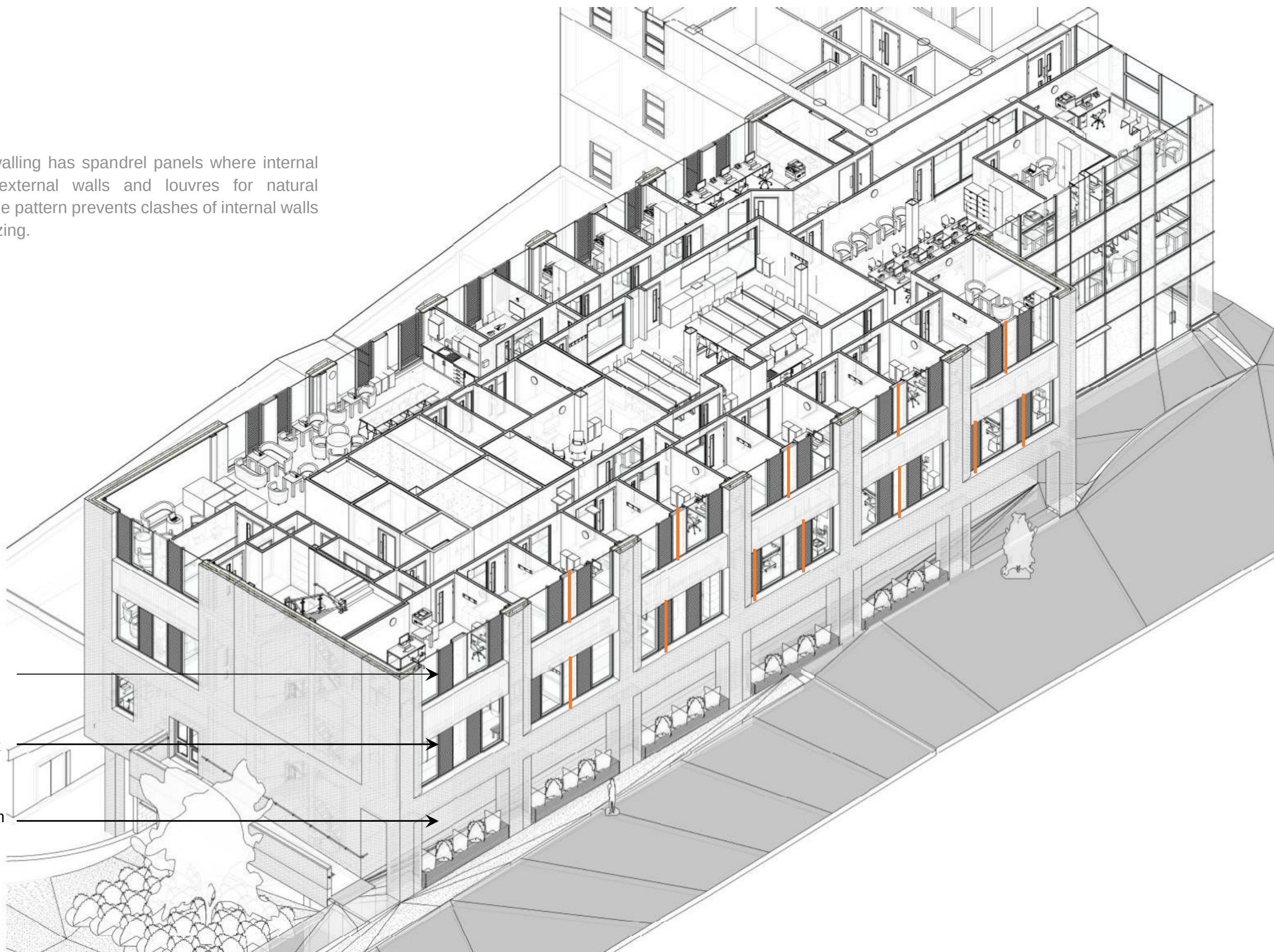
Internal wall
junction

The curtain walling has spandrel panels where internal walls meet external walls and louvres for natural ventilation. The pattern prevents clashes of internal walls with clear glazing.

03 Admin/Offices

02 Endoscopy dept

01 Decontamination



7.0 Appearance: Proposed Windows Arrangement - North Elevation

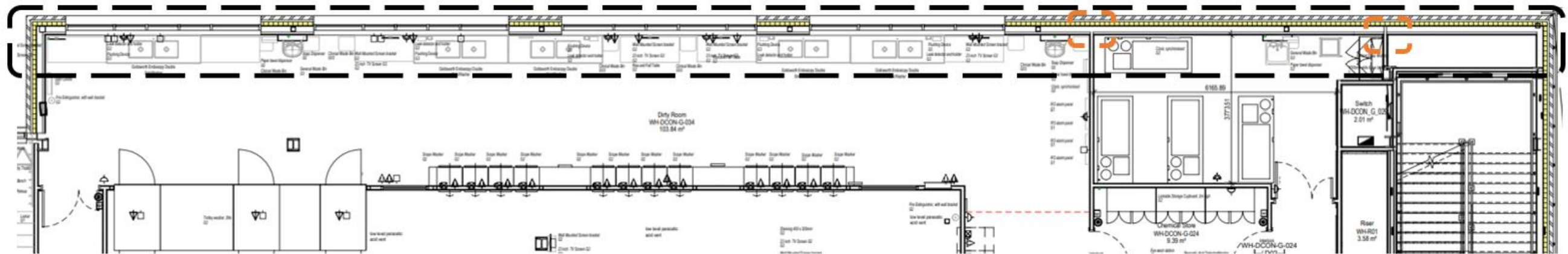
Each level on the North and South elevations have different functions/type of accommodation. The fenestration pattern has been lead by this and as such the elevations cannot have the same repeating arrangement of windows and clear glazing on every floor.

NORTH ELEVATION FUNCTIONAL ARRANGEMENT

Level 1 – Decon:

Reason for high level windows:

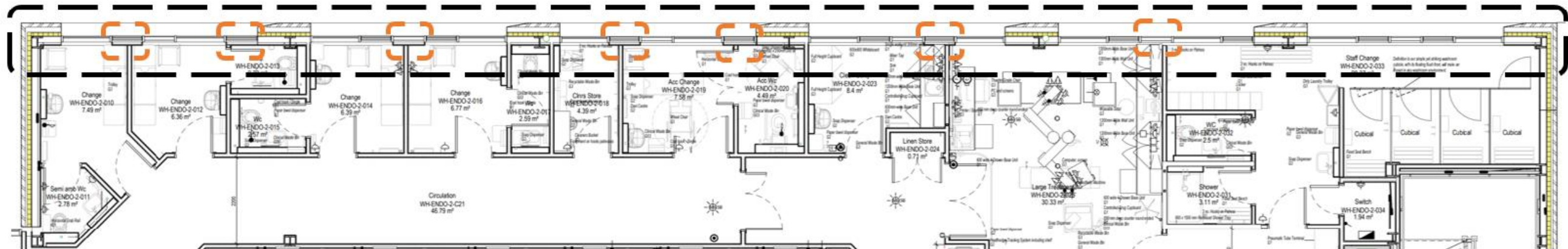
Dirty decontamination room for washing dirty scopes. Rise and fall sinks and tables along length of external wall



Level 2 – Endoscopy

Reason for curtain walling arrangement:

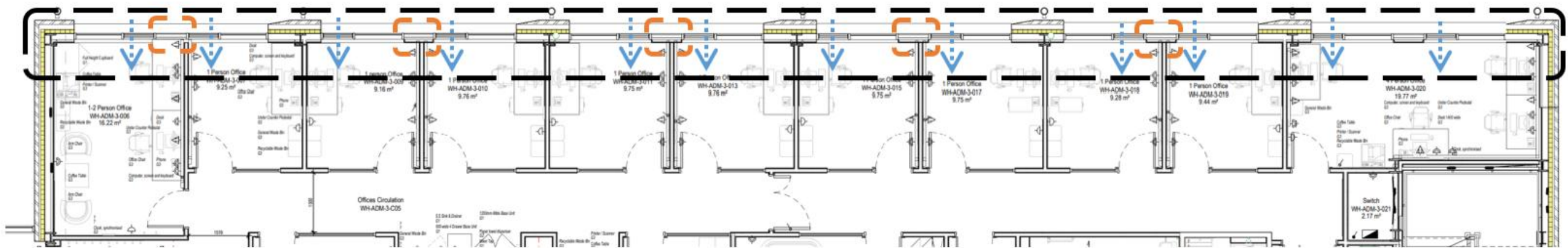
Tightly planned rooms with lots of internal walls abutting curtain walling spandrel panels and blanked louvres.



Level 3 & 4 – Staff Offices

Reason for Curtain walling arrangement:

One person offices with internal walls adjoining spandrel panels. Natural ventilation to offices via louvres.



KEY



Internal wall adjoins spandrel/opaque panel or external wall



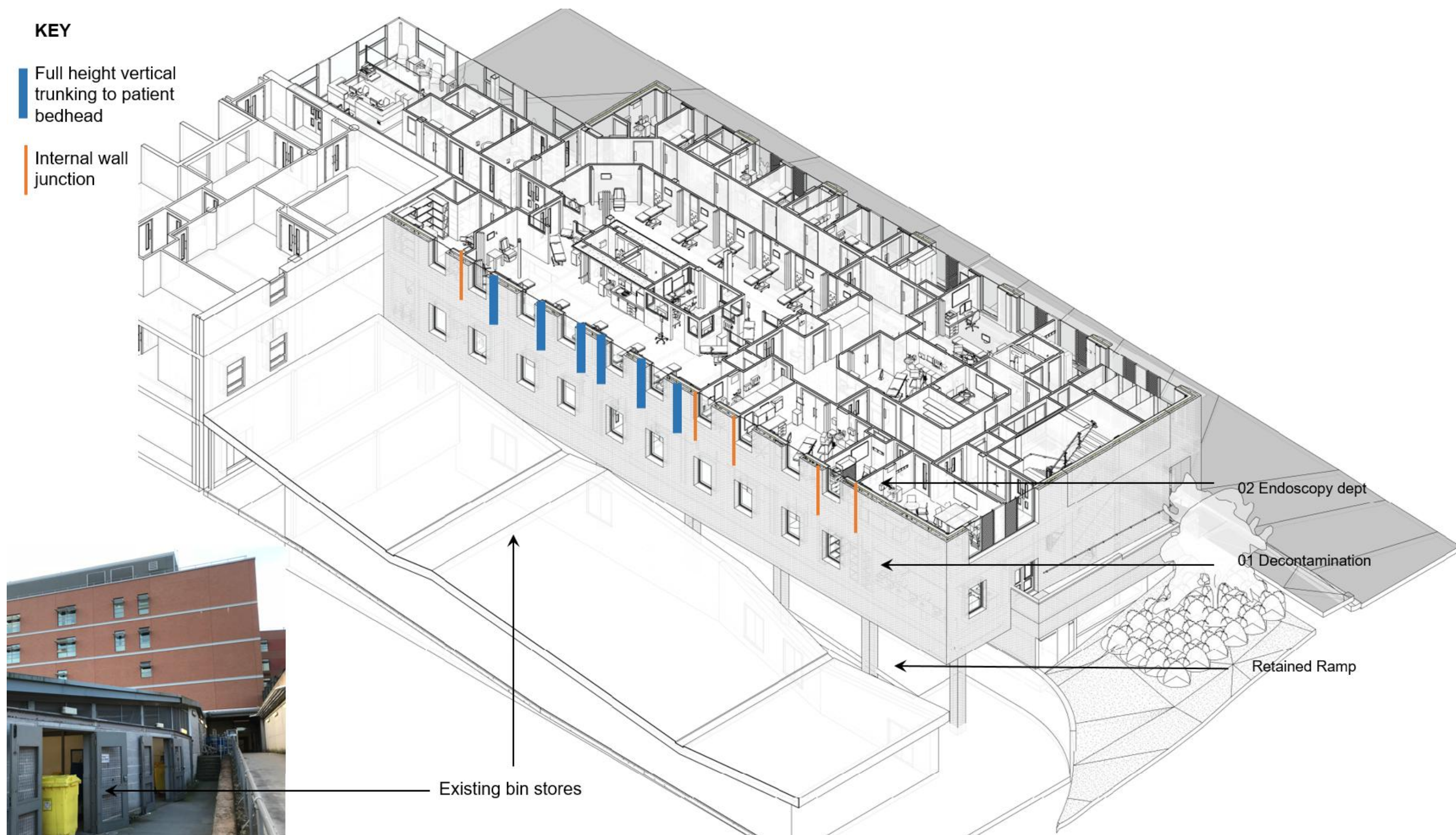
Natural ventilation via louvres

7.0 Appearance: Proposed Windows Arrangement - South Elevation

KEY

Full height vertical
trunking to patient
bedhead

Internal wall
junction



7.0 Appearance: Proposed Windows Arrangement - South Elevation

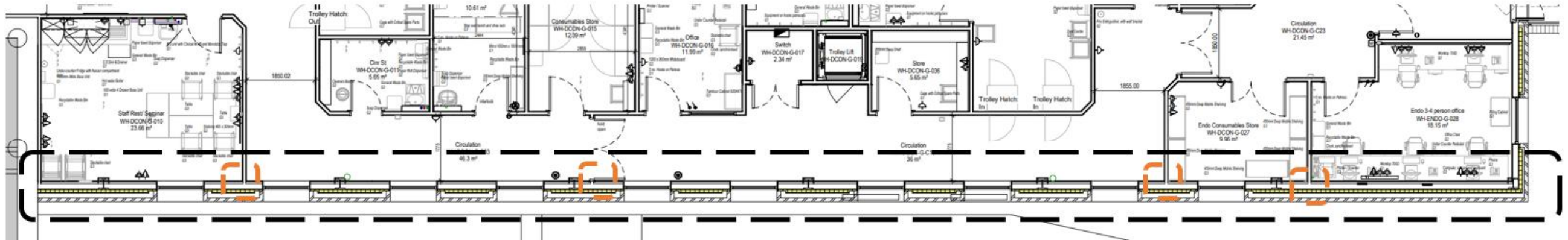
KEY

-  Internal wall adjoins spandrel/opaque panel or external wall
-  Natural ventilation via louvres
-  Full height, vertical bedhead trunking

SOUTH ELEVATION FUNCTIONAL ARRANGEMENT

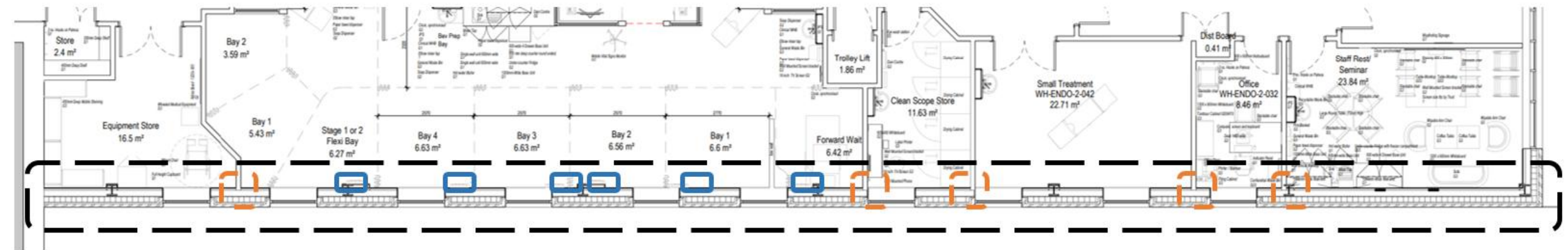
Level 1 – Decon:

Reason for smaller punched window arrangement:
Immediately next to ramp and bin store so smaller windows was more appropriate



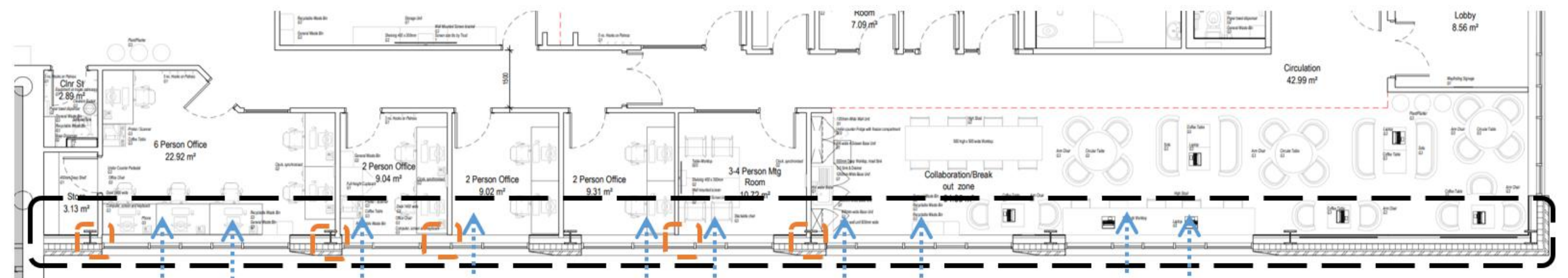
Level 2 – Endoscopy

Reason for smaller punched window arrangement:
Repeating bed bays in the recovery area with vertical trunking on walls and internal walls to clinical spaces



Level 3 & 4 – Staff Offices

Reason for Curtain walling arrangement:
Offices with internal walls adjoining spandrel panels. Natural ventilation to spaces via louvres.



8.0 Summary

Throughout the design process Halliday Meecham`s regular engagement with the design team and the various stakeholders has helped address the areas covered within this report. Feedback from St Helen`s Council has also guided how the design has progressed

The result is a building which sits comfortably on the site without compromising the hospital's existing access and function. The space created by the extension meets the Trust`s accommodation requirements. The new spaces within, will go some way to improving both staff and patient experience and wellbeing.

The mechanical and electrical engineers have introduced sustainable features and the landscape architects have proposed replacement trees for those lost and added new planting to improve biodiversity.

The appearance of the building stands tastefully next to the existing hospital buildings The intension is that the exterior will be economical for the Trust to maintain and will remain attractive for years to come.



East Elevation



North Elevation