SCOTTISH HOSPITALS INQUIRY

Hearing dated 24 April 2023

Bundle 15 - Additional Supporting Documents from NHS Lothian

Table of Contents

NHS LOTHIAN

NARRATIVE ON THE ACTIVITY DATABASE (ADB) AND ROOM DATA SHEETS (RDS)

SUBMITTED 03 FEBRUARY 2023

Introduction

RDS in their completed form display, amongst other information, a description of the clinical activities carried out in the room as well as the number of personnel that will use it, information relating to environmental requirements, room characteristics including flooring and wall finishes, and a schedule of components and equipment for use in the room. The RDS are supplemented by a graphical representation (known as C sheets) of the room in plan and elevation form to display the room with the equipment positioned. C sheets are both 2D and 3D illustrations taken from drafting software such as Autodesk Revit.

The template for RDS is found in a software programme called Activity Data Base (ADB). This programme was initially developed in the early 2000s by NHS England but since around 2017 has been privately owned by Talon Solutions. The system allows the licenced user to set up specific projects to which department and room templates are saved, and the collective rooms and departments then form a schedule of accommodation (SOA). In addition to the C sheets, the RDS usually comprise four separate sheets, headed: Room Data Sheet; Room Environmental Data; Room Design Character; and Schedule of Components by Room. In general, the architect and the client (i.e. NHS Lothian) complete all sheets with the exception of the m&e / environmental data, which is the preserve of the building services engineers. It was and is not unusual in large scale Projects for the m&e / environmental design to utilise a supplementary alternative tool (such as an Environmental Matrix ("EM")) to capture the vast amount of m&e information.

In order to complete the RDS, the template ADB sheet is identified on the system and added to the list of rooms required in the project. If the rooms intended clinical use and size does not differ significantly from the template, then the template ADB is adopted and the RDS can be manually altered as required. If there is: (i) a significant difference from the template such as room size, activities, number of personnel, or (ii) no template available for that room type (e.g. there is no ADB template for single rooms in critical care), then the template ADB is given a unique number and saved to the project on the system and that becomes the template for the RDS for that room. Templates can be and often are manually altered or created. The saved template ADB sheets then become the RDS and are updated for the project as it evolves. RDS evolve throughout a Project to capture the relevant room information and a key feature is that, on completion of the build, the RDS contain all the As Built information and can be used as a reference tool going forward, i.e in the maintenance of the room, because it contains a comprehensive record of all that has been delivered in each room.

The ADB template for each room or space is intended to contain all relevant information from English guidance to make the room automatically compliant with English design guidance. However, not all room types are available on the ADB and require to be manually created. NHS Lothian understands there can be considerable lag tbetween the HTM release and ADB update (which can be years). Accordingly, diligence is required when using the ADB, particularly so in Scotland.

Alternatives to ADB include Codebook and individual architects' bespoke systems. There is a new / alternative initiative to ADB called "repeatable rooms". It is understood that, given some of the

difficulties encountered with ADB, a number of NHS Trusts in England are now moving away from the use of ADB to the "repeatable rooms" initative as the base data for populating RDS.

CEL 19 (2010)

The ADB has no reference to Scottish Design Guidance or Scottish clinical practice. The Scottish Government imposed a requirement in HDL (2006) 58 for NHS Scotland bodies to use the ADB as a tool for briefing, design and commissioning. Where ADB is deemed inappropriate for a particular project, and an alternative tool is used, the NHS Scotland Body is required to demonstrate that the alternative is of equal quality and value to ADB in its application. The policy was updated by way of CEL 19 (2010) which included a document called "A Policy on Design Quality."

The Policy on Design Quality states that the ADB automatically complies with guidance and legislation applicable in England. However, for Scottish users, it is stated that: *"Whilst Scottish users can create their own project-specific briefs and design using ADB's extensive library of integrated graphics and text which includes room data sheets, room layouts and departmental room schedules, extreme care should be taken to ensure that such data generated by the package are consistent and compliant with Scottish specific guidance such as Scottish Health Planning Notes, Scottish Health Facilities Notes (SHFNs) and Scottish Health Technical Memoranda (SHTMS) as published by Health Faculties Scotland."*

The ADB is an incomplete database for Scotland. In practice, taking extreme care means cross-checking any ADB template against the NHS Scottish design guidance and either making any necessary revisals manually or creating a new template, where required. Accordingly, using the Scottish design guidance as the primary source to populate an alternative tool (for example an EM) is at least of equal value and quality to having to perform a cross-check on an incomplete database.

The Environmental Matrix

The RHCYP and DCN project utilised a supplementary alternative tool, being the EM, to capture the m&e information. The EM was provided to bidders as Disclosable Data, for information only, to allow the successful bidder to develop their own RDS as part of their detailed design. A suite of other "room information", which captured, for example, room layouts, clinical activities and equipment lists, was also provided to allow bidders to develop other elements of the RDS.

NHS Lothian were advised by their Tehcnical Advisors (MML) that the EM referred back to the Scottish design guidance and were reassured as to the level of m&e detail to be included (which was greater than in the ADB alone). Accordingly, the EM was of equal (if not better) quality and value to ADB in its application.

NHS Lothian were also reassured by the fact that the documentation in the ITPD available to bidders, and the subsequent contract with the successful bidder, included a requirement for the successful bidder to ensure that the facilities (i) adhered to the requirements of CEL 19 (2010) and (ii) complied with Scottish design guidance SHTM 03-01 in relation to ventilation requirements. Where there was an inconsistency in standards, the most onerous standard would prevail, unless there was an agreed derogation (there was not).

In order to put the EM utilised in the RHCYP and DCN project in to context, it is necessary to understand the history of its development, beginning with the period during which the project was to be capital funded.

(i) Capital Funded Project

1. NHS Lothian's High Level Information Pack (HLIP) provided to BAM as the Principal Supply Chain Partner (PSCP) under the capital funded project refers to the use of the relevant design guidance and the Activity Database at paragraph 4.11 of Appendix C as follows:

> ***"4.11 Design Guidance***
> *Comprehensive NHS Estates design guidance has informed the departmental accommodation requirements; these include Health Building Notes (HBN), Health Technical Memoranda (HTM), Scottish Health Planning Notes (SHPN), Scottish Health Technical Memoranda (SHTM) and Activity Data Base (ADB). There are some slight variations between 'English' UK wide healthcare Estates guidance and the Scottish versions. Project teams and designers have to be aware of this, however universal space and ergonomic standards apply."*

2. On 15 February 2010, H&K emailed BAM and its design team members (Nigtinale Associates (NA)), architects; Arup, engineers; Tribal, healthcare planners; and BMJ, architects) with feedback on the Stage 3 Programme and interdependencies. This included a note against H&K Scheme Design Item 169: *"Requires Nightingale Codebook File's for all rooms resulting from Item 60. With regards to environmental issues, rather than employ ADB M& E sheets, HK will produce Environmental Matrix spreadsheet for each room type for easy reference as a user sign off tool."*

3. NHS Lothian prepared and issued an RHSC ADB database[1] for use by BAM and its design team (samples extracts of the RHSC ADB database for critical care are produced at Appendix 1). The RHSC ADB database was developed by the Project Team following significant consultation with the clinical user groups. The RHSC ADB database included clinical activity, equipment lists and environmental data.

4. On 16 June 2010, MML provided a copy of CEL 19 (2010) and the Policy on Design Quality by way of email[2] to NHS Lothian for information and advised that BAM were aware of the revised information. This provided comfort to NHS Lothian that it's Technical Advisors and PSCP were aware of the updated guidance.

[1] ADB&RDS_001
[2] ADB&RDS_002

5. On 22 June 2010, there was a 1:50 design meeting between NHS Lothian, Tribal, NA and possibly also BAM and Davis Langdon[3] to discuss the ADB/codebook queries, including: (1) a review of the database; (2) the generic rooms; (3) the review process for room layouts; and (4) room data sheets, including management of information, recording change, and generation of reports including a demonstration of how NA proposed to manage the database.

6. Following the 1:50 meeting on 22 June 2010, NA emailed NHS Lothian, BAM, Tribal and Davis Langdon on 23 June 2010[4]. The email includes by way of attachment: (i) a copy of a document by BAM / NA called Room Layout Process Review Meeting[5] (see extract at Appendix 2), demonstrating how the process for reviewing the ADB / Codebook proposed by NA would work; (ii) a starting list of generic rooms; (iii) an example C sheet; and (iv) a marked up copy of the RHSC Database Responses. The email noted the outcome of the discussion around the process for reviewing the ADB sheets, stating:

> *"The following points confirm the outcome of our discussions around the process for reviewing the ADB sheets;*
>
> "*We will only review equipment and finishes with the clinical users. Mot [sic] MacDonald and Hulley & Kirkwood will undertake a parallel exercise to review the environmental data with appropriate personnel from NHSL.*
>
> *We agreed in principle that we would manage the review of equipment/finishes/environment information by generating excel reports from the codebook database after each round of room layout meetings rather than generating a full set of ADB sheets. We demonstrated how this could potentially save a huge amount of time & resource during the review process. We confirmed that once the review process is complete we will then generate a full set of ADB information which will form part of the stage 4 contract and tabled a template ADB sheet which we had generated using Codebook".*

7. NHS Lothian and the design team considered and reached agreement at the meeting on 22 June 2010 that the best approach in relation to the review of the ADB was to separate (i) the m&e information from (ii) the clinical activities and equipment information. It was agreed that MML, H&K and NHS Lothian were to review the ADB sheets re the environmental data. The EM was the document used to capture the developing m&e design. H&K's position was that it would be an "easier reference tool" for user sign off. NA demonstrated how the use of codebook excel reports could potentially save a huge amount of time & resource but were of equal quality and value. Once the review process was complete, NA were to generate a full set of ADB information which would form part of the stage 4 contract (note: Stage 4 of the

[3] BAM and Davis Langdon were included in the follow up emails so may have been present at the meeting but that information is unknown.
[4] ADB&RDS_003
[5] included as attachment to email ADB&RDS_003

contract was not reached prior to the switch to an NPD project). This meeting and the outcome from it provided comfort to NHS Lothian that the requirements of CEL 19 2010 were being met.

8. In August 2010, BAM and Nightingale Associates produced a scheme design report[6]. The purpose of the report was to confirm the process of design development through the detail design phase. The report intended to provide a summary of key design decision and assumptions which informed the process and was split into chapters dealing with specific design disciplines. In relation to the chapter on Architectural design, it is stated that following an initial meeting on 8 April 2010: *"the ADB database provided by NHSL was linked to the Schedule of Accomodation and any arising queries raised and addressed. Following standardisation of the database a number of generic rooms were agreed and issued for discussion/debate at a series of workshops with NHSL."* The chapter in relation to Mechanical Services states at page 17 that: *"The ventilation systems to the Hospital shall be deisgned in accordance with Hospital Tehcnical Memorandum SHTM 2025 and guidance within HTM 03-01."*

9. It is stated at paragraph 13.1.12 in the SHI PPP2 that the *"environmental matrix was not produced using the ADB"* and at 13.1.14 that*"the environmental matrix was created by figures being manually input into a spreadsheet"*. It is suggested that the source of the figures used for the spreadsheet should be explored further with H&K in light of the above. Did H&K refer to: (i) the RHSC ADB database and/or (ii) the Scottish Design guidance at the time? If the only source of the figures was the relevant Scottish design guidance, then for the reasons set out above, that was of at least equal quality and value to the ADB.

(ii) Switch to NPD (announced November 2011)

10. Following the switch to NPD, the environmental data continued to be developed by H&K in the form of the EM. NA and MML continued to meet with the clinical user groups and NHS Lothian project team to develop the RDS and other room information. This room information was held in the Clinical Output Specifications, the Schedule of Accommodation, the Adjacency Matrix, the Equipment List and the Schedule of Operational / Design Notes.

11. Paragraph 8.8 of the SHI PPP2 states that the Inquiry Team has seen no documentation which suggests that NHSL, or its design team, re-appraised whether an EM was the correct approach for the revised project when the design team was re-appointed. Given (i) the continuity as between the design team in the capital funded phase and the reference design team in the NPD project[7], (ii) the outcome of the 22 June 2010 meeting where the issues had been recently

[6] ADB&RDS_009

[7] MML's appointment as NEC Planning Supervisor during the capital funded phase and then as Technical Advisor during NPD; Davis Langdon as Project Manager during the capital funded and project managers of the reference design team on behalf of MML; and H&K as specialist m&e sub-consultants and NA as the architectural sub-consultant.

appraised, and (iii) the devlopement of the design since then, there was no obvious requirement for a re-appraisal.

12. However, on 23 December 2011, NHS Lothian did email[8] Davis Langdon and sought clarification as to *"how H&K will feed into the process on page 2, Environmental".* On 4 January 2012, Davis Langdon responded[9] to confirm that:

> *H&K will feed into the RDS by producing a spreadsheet document "RDS Environmental Matrix" based on the final SoA. The purpose of this matrix is that it will take the place of the ADB RDS sheets per room relating to environmental criteria covered to make for a simple and easy reference tool which relates back to current SHTM/HTM/HBN guidance.*
>
> *The content of this doc will cover guidance on the following per room type :*
>
> - *Temperature Criteria - Design minimum and maximums.*
> - *Relative Humidity Criteria where relevant*
> - *Room Heating Type - reference design anticipated solution*
> - *Cooling Type - reference design anticipated solution*
> - *Ventilation - air change rate provisions, relative pressure, minimum filtration levels*
> - *Safety Temperatures - in rooms, from heating type and from dhw outlets*
> - *Lighting - normal and night lux levels, standby grade, colour rendering, control method,*
> - *Medical location grouping - room equipment where relevant*
>
> *The document is currently work in progress - an example sheet is attached. H&K will not be dealing with the detail of equipment power supplies, number and location of socket outlets, IT outlets , med gas outlets etc within the scope of our Reference Design "RDS Environmental Matrix". This will need to be covered by client briefing elsewhere.*

13. This email from Davis Langdon dated 4 January 2012 provided comfort to NHS Lothian that the EM was continuing to be developed by H&K to comply with relevant Scottish design guidance as required to meet the terms of CEL 19 2010. The level of m&e detail is listed and is is arguably of better quality and value then the ADB since it contained more information than the ADB (e.g. heat emitter type).

[8] ADB&RDS_005 – email chain
[9] ADB&RDS_005 – email chain

14. On 11 January 2012, as part of the third round of reference design[10] (1:50 stage), NA issued to NHS Lothian by way of email[11] B1 PICU and HDU Drawings, including RDS. The RDS did not include information in relation to ac/hr.

15. As set out in section 9 of SHI's PPP 2, on 16 March 2012 MML obtained a compliance statement from the reference design team (NA, BMJ, H&K and Arup) that stated: *"We have followed SHTMs and also HTMs when there is no Scottish equivalent."* There was a full list of derogations included in the letter. There were no derogations relating to SHTM 03-01. This provided comfort to NHS Lothian that the reference design complied with the Scottish design guidance, including SHTM 03-01 re ventilation requirements.

16. As noted, when the project was capital funded, NA were to generate a full set of ADB information which would form part of the stage 4 contract but stage 4 of the contract was not reached prior to the switch to an NPD project. However, the RDS were scheduled for completion by NA by 14 May 2012.[12] NA did not complete the RDS process by May 2012 and, by way of CCO dated 17 May 2012, NA were instructed by MML on behalf of the NHSL Board to cease the production of the RDS. The reasonsing behind this CCO cannot be recalled. However, NA were acquired by Hassell Ltd around this time. Hassel Ltd formed part of the Bidder C team. Had NA prepared the RDS, bidder C would have had to declare that in the pre qualifying questionnaire (PQQ) in the procurement process, which could have had a negative impact on Bidder C's tender application.

17. On 3 July 2012 there was a Room Data Sheet Review Meeting between NHS Lothian, Hiltron (healthcare planners) and MML, during which it was agreed Hiltron were to prepare RDS. It appears from the note[13] of this meeting that this was only in relation to the clinical activities and equipment rather than the environmental data.

18. On 15 August 2012, MML emailed[14] NHS Lothian noting as follows:

> *"Further to my meeting with Graham and yourself on Friday past to discuss the way forward in terms of passing on the individual room requirements to the bidders I confirm that as instructed I have informed Hiltron that they should do no further work on the room data sheets.*
>
> *I also confirm that both Graham and yourself are satisfied that, with the addition of the Schedule of Operational/Design Notes which will be produced by NHSL, this is now*

[10] See NHS Lothian's Chronological Table of Clinical Input in to the Reference Design
[11] ADB&RDS_006
[12] See Project Dashboard update from January 2012: Reference Design: "The Room Data Sheet production process commenced on 9 January 2012." Reference design: "Reference Design Completion is currently scheduled for 5th March 2012 on the understanding there are no further variations presented to the RDT. Nightingale Associates and Arup will continue beyond this date to compete the Room Data Sheet and Flood Modelling works respectively. The Room data sheet process is scheduled for completion by 14 May 2012."

[13] ADB&RDS_007
[14] ADB&RDS_008

the agreed way forward and that this will complete the suite of room information documents. Therefore, all of the room information you wish to pass on to the bidders is/will be included in:-

- *The Clinical Output Specifications*
- *The Schedule of Accommodation*
- *The Adjacency Matrix*
- *The Environmental Matrix*
- *The Equipment List*
- *The Schedule of Operational/Design Notes and*
- *The Operational Functionality elements of the Reference Design.*

The requirement to comply with NHS Scotland design guidance is contained within the D & C Output Specification.

I trust that this is a true reflection of our discussions."

19. It is not known why NHSL decided against instructing Hiltron to prepare RDS. It appears that MML and NHS Lothian considered that there was sufficient room information in the above documents to allow bidders to develop their own design, and indeed their own RDS. It may have been that, on the basis there was sufficient information elsewhere, it was unnecessary to repeat the same information in another set of documents. Doing so would take additional time and incur additional cost. Repeating the same information in different sets of documents carries its own set of risks, e.g. discrepancies as between documents. MML provided comfort to NHS Lothian by stating that the requirement to comply with NHS Scotland design guidance was contained in the D&C output specification, i.e. the BCRs. In addition, the COS (which contained the clinical activities for the room) included reference to the relevant design guidance, including SHTM 2025 for critical care, and had been reviewed by MML and Capita[15].

20. MML were responsible for the preparation and drafting of the ITPD[16], which included provisions that:
    - bidders' design was to adhere to CEL 19 (2010);
    - bidders' design had to comply with the requirements of SHTM 03-01 and other NHS Scotland design guidance unless there was an agreed derogation (there was no derogation from SHTM 03-01);
    - bidders were to use the room information to prepare their own RDS;
    - where there was any inconsistencies or discreptancies between documents, the hierarchy of standards were such that SHTM 03-01 would prevail;
    - any information provided to the bidders was deemed disclosable data; and
    - all design risk transferred to the preferred bidder, other than in relation to operational functionality[17].

[15] See NHS Lothian Board Paper, Clincal Output Specifications and Approval Process dated 12 October 2012
[16] See NHS Lothian's Paper Apart on the Scope of MML Obligations

[17] See NHS Lothian's narrative on Operational Functionality

(iii) IHSL's Room Data Sheets (RDS)

21. IHSL produced some RDS during competive dialogue (dated 8 October 2013) and RDS for Generic and Key Rooms for Financial Close (FC) (dated 18 September 2014) which appear to have been prepared using the ADB. The RDS produced by IHSL for critical care (and other departments) were not in line with:

    (i) NHS Scotland Design Guidance SHTM 03-01, appendix 1, which stipulated 10 ac/hr for critical care;
    (ii) The ADB template as at 2014 (being the 2013 revision), which stipulated 10 ac/hr for single bed isolation cubicles and 10 ac/hr for multi-beds in critical care departments. There was no ADB template for single rooms in critical care.
    (iii) Guidance note 15 of the EM which stipulated 10 ac/hr for critical care.

22. If IHSL used the ADB to prepare the RDS, then: (i) the ADB template for the multi-bed rooms in critical care would have had to have been manually altered by IHSL from 10 ac/hr to 4 ac/hr; and (ii) a new template for single beds in critical care would have had to have been created. If IHSL used the EM as a reference tool, then IHSL should have noted the inconsistencies within the EM itself, and any inconsistencies as between the EM, the ADB templates and the NHS design guidance. IHSL should have flagged this inconsistency with MML and/or NHS Lothian and enquired as to whether a derogation to SHTM 03-01 was intended and, if so, submitted a derogation to that effect. Otherwise, in the absence of flagging the inconsistency to MML and/or NHS Lothian, the ITPD and subsequent contract made it clear that the more onerous requirement applies, being SHTM 03-01.

23. IHSL were to prepare a full set of RDS by FC. However, IHSL considered that their design had satisfied the operational functionality requirements of the Board and effectively "downed tools" on further design work until the contract was awarded. The Project Director had concerns about this (and other) issues and highlighted those concers to the Finance Director, who escalated it to the NHSL Non-Executive Director. This escalation resulted in a meeting of a "Special Steering Board" on 22 August 2014 and included representation from NHSL, IHSL, SFT and the Scottish Government. Ultimately, it was considered that IHSL had done enough to satisfy the Board's operational functionality requirements, which was the only element of design which the Board retained responsibility for. NHS Lothian agreed to waive the requirement for IHSL to produce 100% room data sheets for every space in the hospital by FC. Instead, it was agreed IHSL had to produce a set of RDS for the key and generic rooms at FC, which included critical care.

24. The RDS and IHSL's EM were not approved by NHSL at FC because they were known not to comply with the BCRs, including SHTM 03-01. As a result, IHSL's EM and RDS became subject to the Reviewable Design Data (RDD) process. For the sake of clarity, at this point the particular issue in relation to air change rates in critical care was unknown and had not been flagged by IHSL, MML or NHSL.

25. NHSL's subsequent approval of the EM and RDS was only in relation to "operational functionality", which was very limited and did not include m&e design. All design risk was transferred to IHSL in terms of the NPD style contract.

Appendix 1

Sample Extracts of RHSC ADB Database for Critical Care

ADB	Room Environmental Data	B1401A

Project:	RHSCE	Royal Hospital Sick Children- First Draft
Department:	2-01	HBN57 - Critical Care.
Room:	B1401A	Neonatal HDU-Single cot nursery: intensive care
Room Number:	19	**Revision Date:** 07/09/2009

AIR	Requirements	Notes
Winter Temperature (DegC):	24	Temperature maximum: 30 deg C.
Summer Temperature (DegC):		
Mechanical Ventilation (Supply ac/hr):	10.0	Mechanical ventilation (supply): Supply vent. to suit temp. range.
Mechanical Ventilation (Extract ac/hr):	6.0	
Pressure Relative to Adjoining Space:	POS +ve	Humidity: 24C
Filtration (%DSE and % Arrestance):	25/ 85.(	
Humidity (%RH):	45	

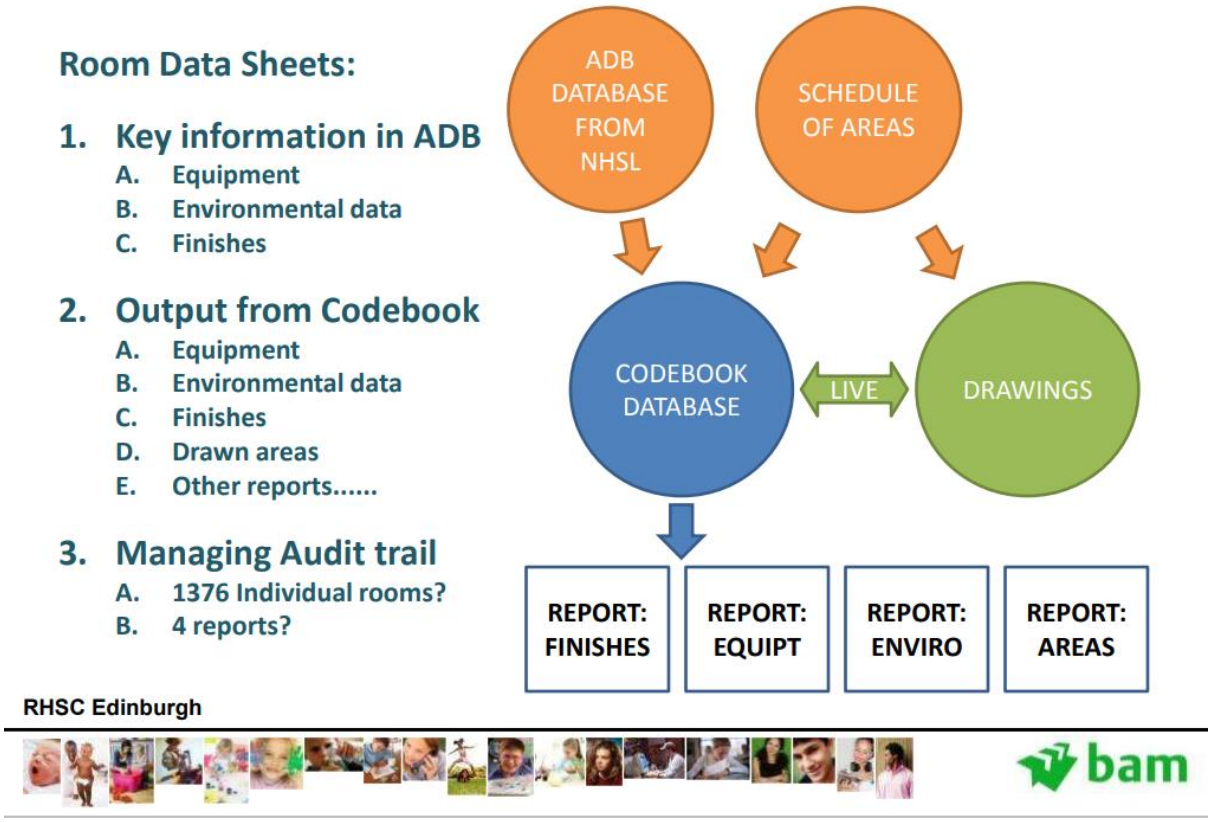
ADB	Room Environmental Data	B1602B

Project:	RHSCE	Royal Hospital Sick Children- First Draft
Department:	2-01	HBN57 - Critical Care.
Room:	B1602B	Surgical HDU-Isolation single bedroom
Room Number:		**Revision Date:** 07/09/2009

AIR	Requirements	Notes
Winter Temperature (DegC):	27	Summer and winter (local control) temperature control: 16 to 27 deg.C
Summer Temperature (DegC):	16	
Mechanical Ventilation (Supply ac/hr):	6.0	Mechanical ventilation (supply): To provide source or protective isolation. Mechanical ventilation (extract): To provide source or protective isolation.
Mechanical Ventilation (Extract ac/hr):	6.0	
Pressure Relative to Adjoining Space:	BAL/ Neg	Final filtration: EU10/11 to suit clinical requirements. Humidity: 40-60
Filtration (%DSE and % Arrestance):	/	
Humidity (%RH):	60	

Appendix 2

Extract from BAM and NA "Room Layout Process Review" discussed at meeting on 22 June 2010



From: Currie, Brian
Sent: 16 June 2010 09:30
To: 'McQuarrie, Fraser'; McLennan, Neil; McCallum, Isabel
Subject: FW: Design Quality
Attachments: NHS Design Quality CEL2010_19.pdf

FYI

Brian Currie
Project Director
Strategic Planning - RHSC + DCN Reprovision

NHS Lothian
1 Rillbank Terrace
Edinburgh
EH9 1LN
T: [redacted]
F: [redacted]

M: [redacted]
E: brian.currie[redacted]

-----Original Message-----
From: Stillie, David [mailto:David.Stillie[redacted]
Sent: 16 June 2010 09:24
To: Currie, Brian
Cc: Halcrow, Fiona; Park, Richard M; Duncan, Andrew A
Subject: Design Quality

Brian

Please find attached a new Design Quality document dated 2nd June 2010 and published by the Health Finance Directorate for your information.

BAM is aware of this revised information.

Regards

David

Health Finance Directorate
Capital Planning and Asset Management Division

The Scottish Government

CEL 19 (2010)

2 June 2010

Dear Colleague

A POLICY ON DESIGN QUALITY FOR NHSSCOTLAND: 2010 REVISION

Summary

1. This letter provides colleagues of a revised statement of the Scottish Government's Policy on Design Quality for NHSScotland (Annex A). This policy articulates the Scottish Government Health Directorates ambition for NHSScotland's asset base and to embed the need for well-designed, sustainable healthcare environments as an integral part of high quality service delivery.

2. The Policy also sets out the principles which a NHSScotland Body's strategic Design Action Plan and the supporting project-specific Design Statement should address (Annex B). Two further annexes provide reference to relevant Scottish Government Health Directorates asset-related policies and supporting guidance (Annex C) and, useful references and web links (Annex D).

3. This CEL and the attached policy statement supersedes NHS HDL(2006)58. This CEL also provides information on Design Assessment within the SGHD CIG Business Case process.

Action

4. **Addressees should ensure that a copy of this CEL with Annexes is cascaded to all appropriate staff within their area of responsibility.**

5. **The revised Policy on Design Quality for NHSScotland and associated Mandatory Requirements take immediate effect.**

Background

6. HDL(2006)58, issued in 2006, announced the first publication of a Policy on Design Quality for NHSScotland which provided a policy framework to implement the aims of the then Scottish Executive Health Department, supported by a 3-year Framework Agreement with Architecture and Design Scotland. This Framework Agreement has now ended and therefore a revised policy statement is required to ensure that

Addresses

For action
Chief Executives, NHS Boards.
Chief Executives, Special Health Boards.

For information
Director, Health Facilities Scotland.
Chief Executive, Architecture and Design Scotland.
Chief Architect, SG Architecture and Place.
Head of Building Standards.
DG Health.
NHSScotland Strategic Facilities Group.
NHSScotland Property Advisory Group.

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http://www.scotland.gov.uk
http://www.pcpd.scot.nhs.uk

the outcomes of development projects meet the Scottish Government's objectives and expectations for public investment. Support for the implementation of the design agenda will be provided by means of a coordinated, tripartite working arrangement between Scottish Government Health Directorates (SGHD), Health Facilities Scotland (HFS) and Architecture and Design Scotland (A+DS) to facilitate the procurement of well-designed, sustainable, healing environments which support the policies and objectives of NHS Boards and the Scottish Government Health Directorates.

7. The attached policy statement reflects consultation with stakeholders in the Scottish Government, Architecture and Design Scotland and Health Facilities Scotland. It provides a concise definition of policy along with details of Mandatory Requirements which must be complied with by NHSScotland Bodies. For those Special Health Boards (and Operating Divisions within) which are not actively engaged in the procurement of new healthcare premises and refurbishment of existing health care premises for the purpose of service provision, the general principles of the attached policy should be applied, such as when considering premises for lease or occupation.

8. The principle upon which this policy is founded builds upon the core principle of the 2006 policy statement - to ensure that all NHSScotland bodies fully integrate design quality and sustainable development principles throughout all stages of the healthcare building procurement process as an integral part of the commitment to deliver a high quality, safe, sustainable environment for patient care.

Implementation

9. SGHD, A+DS and HFS have developed a range of initiatives to assist NHSScotland in addressing design quality issues in the procurement of healthcare building projects, the summary objectives of which are to:

   - raise the level of design quality achieved through infrastructure investment;
   - increase the capacity of health boards and central agencies in respect of the above; and
   - assist in sharing good practices.

10. In order to meet the above objectives, A+DS will deliver 3 main activities on behalf of SGHD.

    Activity 1
    Engaging with partner organisations and central procurement agencies in order to assist them in their work and in raising design awareness of 'external' parties involved in delivery.

    Activity 2
    Providing, in partnership with HFS, a co-ordinated assessment of the potential quality of proposed projects to support those responsible for decision making within the business case process.

    This will involve contributing particular expertise on the aspects of design relating to Government policy on design and place making to a process administered and led by HFS who will, in addition to the administrative elements, provide particular expertise

on the aspects of design relating to functionality, particularly technical and sustainability standards developed by HFS and the Department of Health in England.

Activity 3
Assisting in building a body of knowledge and evidence of good practice in both process and product across NHSScotland.

A strand of this activity is the development and management of a website, '**Healthier Places**', which has been designed to house information on good healthcare design to assist NHS Boards in the development of the project brief and to raise awareness of the good practice being developed and delivered across NHSScotland and elsewhere. In addition to providing guidance on the development of 'Design Statements' and, articles on healthcare design topics, the website holds a project resource - '**Pulse**' - a database of projects and examples of good practice.
http://www.healthierplaces.org/

Design Assessment and the Business Case process

11. An assessment of design quality is now part of the SGHD Business Case process. All projects submitted to the SGHD Capital Investment Group for approval are now subject to an assessment of design quality and functionality, including technical and sustainability standards. This Design Assessment will take place at the Initial Agreement, Outline Business Case and Full Business Case stages of approval.

12. The Scottish Government Health Directorates' purpose in developing and implementing this process is to ensure that the outcomes of development projects meet the Government's objectives and expectations for public investment. The aim of mapping design into the Business Case process is to support the implementation of this Policy by improving the level of design quality achieved across NHSScotland and, ultimately, the outcomes achieved by doing so.

13. To assist NHS Boards in utilising good design to achieve the best outcomes from their development projects, Boards are required to develop and produce a Design Statement prior to the submission of their Initial Agreement. The Design Statement is the first control document produced for a project and should be consistent with the Board's overall vision contained within the strategic Design Action Plan.

14. Additional guidance on Design Assessment and the Business Case process has been added to the Scottish Capital Investment Manual. The guidance also includes advice on the preparation of the Design Statement.

Yours sincerely,

[redacted]

Mike Baxter
Deputy Director, Capital Planning and Asset Management

The Scottish Government

A Policy on Design Quality for NHSScotland

Scottish Government
Health Finance Directorate
Capital Planning and Asset Management

2010

A POLICY ON DESIGN QUALITY FOR NHSSCOTLAND

Purpose

The purpose of this document is to provide NHSScotland Bodies[1] with a clear statement of policy on design quality. It also provides guidance on how NHSScotland Bodies can ensure that design quality is embedded within the healthcare building procurement process.

Context

In recent years the value of good design has been increasingly recognised and a wealth of evidence based findings has demonstrated that good design adds value, not only from an economic perspective but also in terms of a range of social and environmental benefits. This capacity to add value is particularly important for healthcare environments, where the physical and psychological well-being of patients, staff and visitors is of paramount consideration.

In October 2000, the Prime Minister established a UK-wide 'Better Public Buildings' initiative to achieve a step change in the design quality of publicly procured buildings. Over the last decade, Scottish Ministers have in parallel, through their policies, sought to achieve a culture of quality in the procurement of publicly-funded buildings that embraces good design as a means of achieving value for money and sustainable development.

The Scottish Government has five strategic objectives; it is committed to creating a Scotland that is:

- wealthier and fairer;
- stronger and safer;
- healthier;
- greener; and
- smarter.

It is clear that the design quality of our built environment must, by necessity, play a vital part in our ability to meet all of these strategic objectives. Government, thus, continues to promote and to encourage investment in well-designed buildings and places in both the public and private sectors.

This document responds to Government's quality objectives within guidance and initiatives particular to NHSScotland.

Design quality is especially important in the context of healthcare building, where well-designed health buildings can help patients recover their spirits and their health and have a positive effect on staff performance and retention, as well as improving the efficiency of operational relationships and providing better value for money in the context of whole-life costs. The Scottish Government therefore recognises the importance of good building design as the physical means of delivery for a range of wider policy objectives.

The Scottish Government's Architecture and Place Division which was established to implement policy commitments, can offer advice on design and acts as the sponsor body for Architecture and Design Scotland, an Executive Non Departmental Public Body established as the national champion for good architecture, design and planning in the built environment.

Health buildings can often be the places in which we may feel at our most vulnerable, whether as a patient, relative or friend. The quality of the building environment that we experience can provide us with calming reassurance or, conversely, it can accentuate our feeling of stress and unease.

Many factors can contribute to engendering a sense of ease, for instance: the first impression of the facility from the public realm, the entrance experience, the degree of natural light, brightness and airiness, colour and texture, an easily understood layout with clearly defined focal points, uncluttered signage and a clear distinction between the realms of public and private space, maintaining patient dignity.

In most health buildings, external public spaces are vitally important in that they can also provide the opportunity for positive respite for patients, visitors and staff in periods of stress. Sensitive landscaping and well-defined public space in a healthcare environment can provide far more than simply an attractive setting. Through careful design social or intimate, tranquil spaces can be created, providing an environment where people might want to sit or meet, even spaces for physical therapy and play and which further contribute to the healing process.

Scottish Ministers believe that a concern for the quality of Scotland's architecture must go far beyond the design of individual buildings. Distinctive, high quality places as well as high quality buildings are vitally important to the social, environmental and economic success of our cities, towns and rural communities.

The Scottish Government's National Outcomes set out what Scottish Ministers aim to achieve in the next ten years, and a key objective for the built environment is that “we live in well-designed, sustainable places where we are able to access the amenities and services we need”.

A sustainable community is one which not only makes a positive contribution to mitigating the effects of climate change; a sustainable community is a place which is successful in the way that it continues to flourish socially and economically over time. The quality of healthcare facilities along with other public buildings and places can be a significant factor in making communities successful, because they can offer a great deal to the creation of a wider, attractive environment which people would wish to inhabit.

The overarching Purpose of the Scottish Government is to increase sustainable economic growth, and good place-making supports this Purpose in the following ways:

Good place-making can influence the economy of an area by making it an appealing place to live, to work, and to visit - It can provide environments and infrastructure which function well; link well with surrounding settlements; which attract business; and in which business can flourish;

- Good place-making can provide communities with an important cultural context, a sense of pride and belonging and, a sense of local and national identity;
- Through good design, safe, welcoming places can be created to which people would wish to return frequently, and which would have a greater chance of longevity;

- Good place-making can promote active, healthy, inclusive lifestyles by providing attractive and accessible green spaces, and through layouts which discourage car usage and which provide the right facilities within reasonable walking and cycling distance;

- Good place-making can embed community facilities into our communities in ways which are accessible and which provide a richness of opportunity for social interaction; and

- Good place-making can have a profound effect on the sustainability of our lifestyles, in respect of the impact that we have on the land and other scarce resources; how much energy we use; and, again, through reductions in car usage.

The Planning etc. (Scotland) Act 2006 requires Local Authorities to develop dynamic plans which describe a vision for the local community; establishing 'what goes where and why' in order to develop a community structure that supports strategic objectives. Health Boards are encouraged to be active participants in the development of these local development plans in order to:

- embed the principles of healthy urban development into the plan – those aspects needed to support local health promotion and help people make healthier lifestyle choices;

- embed the principle needs for the physical infrastructure needed to deliver on 'shifting the balance of care' such as the potential location of new healthcare facilities;

- establish major infrastructure strategies needed to support the delivery of the Single Outcome Agreement; and

- link the board's strategic asset management plan into the local development plan to consider both the beneficial use of public land assets and the transport implications of major changes in estate strategy.

The creation of a new or refurbished facility can bring with it the opportunity to show a positive civic presence, and the development of a high quality public building can do much to help the creation or regeneration of communities. It is thus also a matter of considerable importance that health buildings respond to the urban or rural contexts in which they sit. This includes considerations such as how they fit within historic contexts, how the approach and entrance act to welcome concerned families and friends, and how they contribute to the quality of their neighbourhoods, both in terms of the buildings themselves and the places they create around them. In considering the provision of healthcare facilities, it is important to also give careful thought to the opportunities for good 'place-making'.

Healthcare buildings play a significant part in the environment and, increasingly, patients are becoming "empowered" to demand better environments in which they receive healthcare. It is appropriate that we embrace such matters and introduce appropriate policies and initiatives in Scotland.

At the heart of this policy is the recognition that strong client commitment is required to deliver facilities that provide the high quality and sustainable caring environments we desire. We now expect NHSScotland bodies to develop their individual visions for the kind of places in which patients, staff and visitors would wish care to be provided:

- for patients - a welcoming, healing and reassuring place that supports life;

- for staff – a place that supports staff in their work and that will not constrain future work;

- for visitors – a place to meet and discuss, a place that I can leave loved ones.

These environments must be able to support the high quality healthcare services which are to be delivered within.

This aligns with the aims of the **Scottish Healthcare Quality Strategy**. The Strategy reflects the shared ambitions of everyone in Scotland whether a patient, a carer, or whether working for NHSScotland in a community, primary or acute care setting, to create high quality person-centred, clinically effective and safe healthcare services and to be recognised as being world-leading in our approach.

The aim is for everyone in Scotland to work together to ensure better health and higher quality healthcare services which are flexible and reactive to each individual circumstance. These principles are consistent with the aims of this policy, to embed the need for well designed, sustainable and safe healthcare environments as an integral part of service delivery.

The term 'good design' is not merely a question of style or taste but describes what arises from the intelligent and creative synthesis of many interrelated factors such as: strategic planning of healthcare provision; social and physical regeneration; the local urban (or rural) context and forms; links to infrastructure and transport; sustainability agendas; the building's sense of welcome; intelligibility of layout; security; unobtrusive supervision; ease of use and maintenance; efficiency; and, promotion of human dignity. It covers the way in which buildings sit within and, contribute to, their community as well as how they work and look. Successful healthcare design resolves a wide range of functional requirements efficiently whilst, at the same time, exploring the opportunities to provide an uplifting environment for patients, visitors and staff.

Design, therefore, is just as much about process of change management as it is about what the final product looks like. Design is present in all projects - first you imagine what you are looking to achieve and test that this is possible. You then move on to sketching a limited number of possible worlds that, to varying degrees, will house and support your needs. By analysing these and making choices you narrow the options down to the world that you will build. You get the best result by using skill and a spark of creativity to make every element work hard to deliver more than one part of your vision. Therefore good design need not cost more and the difference between achieving good or poor quality outcomes is more often the result of having the right knowledge or advice, understanding, care and commitment.
Good Design is the intelligent application of a scarce resource

Good design can therefore be seen as largely objective. A design proposal can be evaluated through the use of appropriate tools such a Design Quality Indicators (DQIs) to assess whether the proposed building will function efficiently and effectively; whether there is clear evidence of thoughtful, imaginative and even inspirational proposals that will not only work, but will help the people within them to work and feel better; whether the proposed building will integrate with its surroundings in an appropriate manner and create a sense of place and; whether the materials, construction methods and the proposed layout will enhance long-term value for money. Indeed, Scotland's Infrastructure Investment Plan 2008 establishes that good design is key to achieving best value from all public sector investment.

> ***"In developing Scotland's infrastructure, the Scottish Government recognises that good building design should be responsive to its social, environmental and physical context. It should add value and reduce whole life costs. Good building design should be flexible, durable, easy to maintain, sustainable, attractive and***

healthy for users and the public; and it should provide functional efficient adaptable spaces ... Equally important to the design of individual buildings is the design of sustainable places. Well-designed buildings and places can revitalise neighbourhoods and cities; reduce crime, illness and truancy; and help public services perform better".

Design evaluation, in particular Post Project Evaluation and Post Occupancy Evaluation, can contribute to the emerging field of "evidence-based design" which is proving a valuable tool in the design process towards both reducing costs and improving outcomes. Research has shown that evidence-based design methods, introduced early in the process of facility programming and design can improve the experience of patients who will be treated within the healthcare facility and assist in health recovery which results in improving medical outcomes, shorter bed stays, greater throughput and a reduction in patient and staff stress.

The Way Forward

The Scottish Government has set out an ambitious agenda to modernise NHSScotland and its infrastructure. This agenda challenges NHSScotland Bodies to modernise the way in which healthcare is delivered to patients and challenges them to ensure that the infrastructure developed, deployed and maintained is capable of supporting high quality, modern patient care.

The NHS in Scotland has a vision for:

'an estate designed with "a level of care and thought that conveys respect"; buildings that grow from the local history and landscape, that are developed in partnership with the local community. A work of joint learning and jopint responsibility that is particular to that community and that place; "not off-the-shelf show boxes".' [A]

The **Better Health, Better Care Action Plan**, published in 2007, affirms the Scottish Government's commitment to improving the physical and mental wellbeing of the people of Scotland through supporting the provision of well designed, sustainable places. The Action Plan also articulates the Scottish Government's vision of a mutual National Health Service, a shift to a new ethos for health in Scotland that sees the Scottish people and the staff of the NHS as partners, or co-owners, in the NHS.

These policy changes place health and wellbeing and the over-arching issue of sustainability at the centre of the lives of the people of Scotland as the NHS strives to become more accountable and patient-focused. If the commitment to create a healthier, wealthier, fairer, safer and stronger Scotland is to be realised, NHS Boards must ensure that in the context of designing new facilities, they deliver not only high quality solutions but also realise benefits for community development and the wider environment.

(Ref [A]: From an interview with Dr Harry Burns, Chief Medical Officer - *A Vision of Health: NHSScotland's agenda for realising value in the developing healthcare estate*, Architecture and Design Scotland 2009)

Frameworks Scotland

Evidence exists that the traditional approach to construction procurement fails to satisfy clients and does not generate the efficiency improvements delivered in most other industries. With regard to NHSScotland, this means available capital and revenue resources must be used more effectively, to deliver better outcomes and make the best use of 'client-side' skills and capacity.

Health Facilities Scotland has, on behalf of the Scottish Government and NHSScotland, led the development of a collaborative construction procurement initiative. **Frameworks Scotland – Excellence in Healthcare Construction** is a strategic and flexible partnering approach to the procurement of publicly funded construction work and complements other procurement initiatives for the delivery of health facilities in Scotland.

This partnering approach reduces the adversarial attitudes which can make it more difficult to deliver successful project outcomes. Partnering arrangements reduce waste in both the process and product streams, promote quality and also facilitate the sharing of best practice and lessons learned from one project to another.

It should be recognised by anyone involved in planning, designing and delivering NHSScotland's healthcare estate that there is currently an unprecedented opportunity and a need both to ensure and to demand well-designed, sustainable healthcare buildings. Framework Scotland therefore is and, should be, one of the primary vehicles for delivering sustainability in the construction, management and maintenance of the healthcare estate. Delivering design quality and sustainability through the Framework will require a consistent approach with the Scottish Capital Investment Manual guidance, alongside the application of and, proper attention to, AEDET and BREEAM Healthcare requirements at the appropriate stages of a project.

Further information on the Frameworks Scotland initiative can be found on the Health Facilities Scotland website.

The 'hub' Programme

The **'hub' Initiative** is a major programme of the Scottish Futures Trust.

'hub' is a procurement vehicle supporting a long term programme of investment in community infrastructure for local authorities, NHS Boards and other public sector bodies across Scotland. It will provide a mechanism for delivering assets more effectively through a single partner, with continuous improvement leading to better value for money. The opportunity for a private sector delivery partner is to be part of a systemic approach to infrastructure planning and delivery in a territory over an extended time period.

'hub' will deliver projects from a core identified scope and, in future, from wider service development business cases, in particular those projects that promote joint working amongst community planning partners. Projects will focus on new build but could also include the refurbishment and asset management services of existing infrastructure.

The overarching objective of 'hub' is to improve the efficiency of community infrastructure delivery – with a particular emphasis on supporting the provision of more joint services across local authorities, health boards and other community partners. In Scotland there are good examples of joint premises development, but these tend to be one-offs and do not offer a model for the long term strategic planning of joint premises development and joint services delivery. 'hub' should provide a systematic approach to service delivery, from a model predicated on continuous improvement in both cost and quality. This can be achieved by the public sector by working in close partnership with a private sector partner, where both the public and private sector stakeholders have a financial interest in a successful outcome.

The first two Pathfinder Territories are the South East and North. More details can be found at http://www.hubscotland.org.uk/

It is critical that design issues are addressed regardless of the procurement method used to deliver healthcare buildings and, that the outcomes specified for these buildings in terms of the care environment are reflected in their design. However, the implementation of design quality and the procurement route used have a particular relationship and therefore the procurement method used can have a significant bearing on the development of design quality during the process. Although it can be argued that good design is independent of cost, its relationship with design management and procurement in practice needs careful examination. The National Audit Office report "Improving Public Services Through Better Construction" (March 2005) supports this view and advocates that all key stakeholders should be involved and all proposals subjected to independent challenge before key design decisions are made and that design and decision-making be based on "whole-life value".

The concept of 'evidence-based design' has already been mentioned in the context of Post Project Evaluations. There has been a historical assumption that each healthcare building has to be unique in order to fulfil the vision and aspirations of the brief which can, unfortunately, result in the repetition of mistakes, albeit perhaps unintentionally. The starting point for any new healthcare building should, logically, be the successes of one or a number of existing buildings based on a careful analysis of what constitutes the 'good' and what constitutes the 'bad'.

Also of importance is the emerging field of 'supportive healthcare design'[B]. Traditionally, there has been an assumption that the main requirement placed upon a healthcare facility should be the mitigation of infection or the risk of exposure to disease. Additionally, through decades of advances in medical science and technology, many healthcare designers and technicians have been conditioned to create buildings that are successful delivery platforms for new technology. By concentrating on the need for functional efficiency and the pathogenic concept of disease and health, healthcare facilities have been procured which contain environments which can be considered stark, institutional, stressful to their occupants and thus detrimental to the quality of care they are intended to provide. In spite of evidence of the major stress caused by illness and the subsequent traumatic experience of hospitalisation, there has, historically, been comparatively little emphasis on the creation of surroundings which can calm patients, reinforce their ability to cope in such environments and generally address their social and psychological needs.

The process of 'supportive design' begins by eliminating the environmental characteristics which are known to contribute to stress or can have negative impacts on outcomes and, importantly, continues by emphasising the inclusion of characteristics in the healthcare environment which research has indicated have the ability to calm patients, reduce stress and strengthen their ability to cope and promote healthy, healing processes.

(Ref [B]: Ulrich R S, 2000 - 'Effects of Healthcare Environmental Design on Medical Outcomes'
Ulrich R S, 2000 - 'Evidence based environmental design for improving medical outcomes. Proceedings of the conference: *Healing By Design: Building for Healthcare in the 21st Century*', McGill University Health Centre, Montreal)

Due to the length of time that healthcare buildings may be in use, there is potential to constrain changes in delivery practices. It is therefore vitally important that design processes are an integral part of a robust procurement mechanism in order to ensure that buildings are not only functional when constructed but are flexible and adaptable over their entire lifetime.

SGHD will continue to play its part in supporting and implementing wider Scottish Government procurement strategies and policies by setting these within a healthcare-specific context.

Policy Aims

- The purpose of this policy is to articulate the Scottish Government Health Directorates ambition for NHSScotland's asset base and to embed the need for well-designed, sustainable healthcare environments as an integral part of high quality service delivery. It also provides guiding principles which a NHSScotland Body's strategic Design Action Plan and the supporting project-specific Design Statement should address (Annex B) and two further annexes providing reference to relevant Scottish Government Health Directorates asset-related policies and supporting guidance (Annex C) and, useful references and web links (Annex D).

- The Scottish Government is committed through its stated Purpose to encouraging sustainability by the development of infrastructure and place: "providing sustainable, integrated and cost-effective public transport alternatives to the car as well as a planning and development regime which is joined up and geared towards achieving sustainable places and sustainable economic growth". The Government recognises that the Scottish planning and building standards mechanisms have a role in the delivery of a high quality, sustainable physical infrastructure. However, the Government also recognises that everyone connected with the delivery of this infrastructure has a role to play in driving up standards for the planning, design and maintenance of the built and natural environment. The Scottish Government Health Directorates believe that improving the quality of our caring environments is crucial to delivering this commitment and to achieving the Government's National Outcome of ensuring that 'we live in well-designed sustainable places where we are able to access the amenities and services we need'. Improved caring environments also act in support of the 'Healthier' Strategic Objective to help people to sustain and improve their health, especially in disadvantaged communities, ensuring better, local and faster access to health care.

- **Therefore this policy statement requires that all NHSScotland Bodies, as an integral part of the commitment to deliver the highest quality of environment for patient care, ensure that design quality is fully integrated into the healthcare building procurement process and is apportioned appropriate emphasis throughout all stages of this process.**

Scope

This policy must be considered alongside other Scottish Government Health Directorates policies and supporting guidance bearing upon NHSScotland assets including those for capital procurement, asset management, sustainable development, environmental management, fire safety, and, property transactions. Such central policy statements and supporting guidance are intended to inform the formulation and updating of an NHSScotland Body's operational policies and of supporting guidance. Such operational policies and asset strategies are important corporate expressions of a NHSScotland Body's intensions and as such should be a manifestation of integrated service planning and the appropriate involvement of all relevant interests.

This policy must also be considered alongside other relevant Health Directorates, Scottish Government and UK Government policies and commitments.

Policy Statements

Statement 1 All NHSScotland Bodies[1], as clients, must commit to the integration of design quality in the procurement of healthcare building throughout all stages of the process, regardless of procurement route used.

Statement 2 All NHSScotland Bodies must have a strategy for design quality – a Design Action Plan - consistent with and supportive of the Health Directorates and wider Scottish Government asset-related policy and supporting guidance (listed at Annex C) and, with the policy guidance contained within Annex B of this document.

Statement 3 The SGHD must provide guidance on compliance with those aspects of statutory and mandatory requirements which are particular to the procurement, design and delivery of healthcare buildings and guidance on best practice. This will be effected through the support to be provided by Health Facilities Scotland and Architecture and Design Scotland under the tripartite working partnership with SGHD.

Mandatory Requirements

1. Each NHSScotland Board must have a clear, articulated vision for its estate and strategy for using good design to deliver that vision – a Design Action Plan – consistent with Health Directorates and wider Scottish Government policy. The Design Action Plan must be appended to a Board's Property and Asset Management Strategy (PAMS) and reviewed annually as part of the PAMS review process.

2. Each NHSScotland Board must appoint a member of the NHS Board to act as Design Champion at a strategic level to assist in articulating and promoting the Board's design vision and, where not impractical, also a Senior Officer to act as supporting Design Champion at a technical level with knowledge and experience in capital investment procedures and expertise in technical matters.

3. All NHSScotland Bodies engaged in the procurement of both new build and refurbishment of healthcare buildings must do so in compliance with EU, UK and Scottish Government procurement policy and guidance.

4. All NHSScotland Bodies engaged in the procurement of both new-build and refurbishment of healthcare buildings must, prior to the submission to SGHD of the Initial Agreement, develop a Design Statement for each project as a means of establishing the design standards for which the project and how these will be assessed by the Board within the Business Case approvals process. The Design Statement must be consistent with the strategic Design Action Plan.

5. All NHSScotland Bodies, as clients, must ensure the development of a clear project brief which should not only describe the physical requirements of the building but should also articulate the Board's vision and aspiration consistent with the strategic Design Action Plan. The 'Design Statement' may be used or developed for to this purpose, and should be included in briefing and in the HLIP issued to prospective PSCPs

6. All NHSScotland Bodies engaged in the procurement of both new-build and refurbishment of healthcare buildings must carry out independent environmental accreditation for projects. The Scottish Capital Invesment Manual requires that all new builds above £2m obtain a BREEAM Healthcare (or equivalent) 'Excellent' rating and all

refurbishments above £2m obtain a 'Very Good' rating. If the capital costs are less than £2m, projects should undertake a BREEAM pre-assessment to establish whether BREEAM Healthcare is a viable option.

7. All NHSScotland Bodies engaged in the procurement of both new-build and refurbishment of healthcare buildings must use and properly utilise the English Department of Health's Activity DataBase (ADB) as an appropriate tool for briefing, design and commissioning.
[If deemed inappropriate for a particular project and an alternative tool or approach is used, the responsibility is placed upon the NHSScotland Body to demonstrate that the alternative is of equal quality and value in its application.]

8. All NHSScotland Bodies must use Design Quality Indicator (DQI) tools as appropriate to manage their design requirements through the life of a project. The English Department of Health's Achieving Excellence in Design Evaluation Toolkit (AEDET Evolution) and associated supplementary tools such as ASPECT are recognised as the exemplars towards achieving the appropriate level of project design management.

Monitoring

9. SGHD will monitor the integration of design quality into healthcare building procurement through the Business Case approvals process which will be facilitated through a coordinated assessment of the potential quality of proposed projects to support those responsible for decision making within the Business Case process.

This assessment will involve the contribution of particular expertise on the aspects of design relating to government policy on design and place-making from Architecture and Design Scotland and, of particular expertise on the aspects of design relating to functionality, particularly technical and sustainability standards, from Health Facilities Scotland.

10. All NHSScotland Bodies engaged in the procurement of both new-build and refurbishment of healthcare buildings must conduct thorough and, independent, Post Project Evaluations (PPEs) and Post-Occupancy Evaluations (POEs) and make available to SGHD any resulting evaluation data which will be used in the formulation of generic reports to inform future policy and disseminate nationally the lessons learned.

The planning of Post Project Evaluations and Post Occupancy Evaluations is a mandatory requirement of the Scottish Capital Investment Manual for all projects in excess of £1.5 million and should be considered best practice for all projects.

For projects between £1.5m and £5m, the NHSScotland body's internal governance arrangements should ensure the production and reporting of PPEs and POEs. An annual summary report in respect of such projects should be submitted to the Scottish Government Capital Planning and Asset Management Division.

For projects in excess of £5m, PPE and POE Reports must be submitted to the Scottish Government Capital Planning and Asset Management Division. Timescales for the production and delivery of such reports will be monitored by SGHD in common with other key milestones in the project lifecycle.

Full Business Cases for capital projects will not be approved unless Post Project Evaluation and Post Occupancy Evaluation has been properly planned in advance and suitably incorporated into the Full Business Case.

Support

11. Support for the implementation of the design agenda will be provided by means of a coordinated, tripartite working arrangement between SGHD, Health Facilities Scotland and Architecture and Design Scotland to facilitate the procurement of well-designed, sustainable, healing environments which support the policies and objectives of NHS Boards and the Scottish Government Health Directorates.

[1] NHSScotland Bodies in the context of this document means all Health Boards, Special Health Boards and the Common Services Agency performing functions on behalf of Scottish Ministers

Policy Guidance

A NHSScotland Body's **Design Action Plan** and supporting project-specific **Design Statement** should be consistent with and supportive of the guidance contained within this Annex and the policy and guidance documents listed at Annex C.

[The following guidance aligns in part with the Scottish Government "*Construction Procurement Manual: Section 6 – Design quality in building procurement*" but with appropriate additions and amendments in order to apply to the healthcare context.]

Contents:

Design Quality

Establishing and evaluating design quality

General

Boards are required to establish design quality criteria (non-negotiable project aims and benchmarks) for all development projects in the form of a project 'design statement'. As we use buildings, for the most part, to house and support human activity, these criteria are to be built around the needs of the people who the facility will directly impact upon and further expanded to include the elements needed to deliver on the broader responsibilities of using public money – that of addressing local and national needs. The Design Statement then includes the board's proposals for self assessment of the project as it progresses, describing the key stages at which the decisions will be checked against the established design quality criteria, how this will be done and what skills and information will be needed.

Assessing design quality is not a wholey subjective activity. Many other design issues can be assessed objectively - whether a building will function efficiently and effectively; whether there is clear evidence of thoughtful, imaginative and even inspirational proposals that will not only work, but support people to feel and work better; whether it responds positively to its surroundings; whether it provides well-defined and meaningful public spaces for patients and the community; and whether the materials, construction methods and the proposed layout will enhance long-term value for money. The Scottish Government Construction Procurement Manual: Section 6 – Design quality in building procurement lists a number of key issues to be considered in evaluating a design.

General guidance on achieving value for money (VFM) in works procurement, based on seeking to achieve an optimum combination of whole life cost and quality, is set out in Section 2 of the Scottish Executive Construction Procurement Manual. Evaluating and achieving consensus on quality can be facilitated through the use of formal techniques and there are a number of tools which can help. The Construction Industry Council (CIC), for example, has developed its Design Quality Indicator (DQI) to evaluate the design quality of buildings throughout the development and life cycle of a project.

Healthier Places Website

This website has been designed to house information on good healthcare design to assist boards in brief development and to raise awareness of the good practice being developed and delivered across NHSScotland and elsewhere. In addition to providing guidance on the development of 'design statements' and, articles on healthcare design topics, the website holds a project resource - '**Pulse'** - a database of projects and examples of good practice that can be used in two main ways:

- **Search by project type** : to find out about recent and current developments in NHSScotland, and elsewhere, that are of a similar type to the one being considered by the client team. This will provide basic details on the project, the key team members involved and images where available. Key design documents, such as the 'Design Statement' and Post Occupancy Evaluations will be included once they are in the public realm to allow greater learning from what has gone before. It is envisaged client teams will use this search primariliy at the outset of a project to

    - Establish similar works by colleagues in other boards
    - Facilitiate contact to allow shared learning

- Establish possible visit lists for the client team and key stakeholders to raise awareness and understanding.

- **Search by area** : to find photographs of different areas of the healthcare estate (such as entrance areas and consulting rooms) to raise awareness of what has been achieved elsewhere. It is envisaged client teams will use this search primariliy to assist benchmarking within the 'design statement' being developed for projects.

The '**Pulse**' resource will be maintained by A+DS using project information submitted to the NHSScotland Design Assessment Process (once the Business Case is in the public realm), case studies of completed developments, and suplimented by images submitted by users of the site. NHS Boards are encouraged to upload photographs taken during visits to inspirational developments (especially those outwith Scotland) to assist knowledge transfer between project teams.

Achieving Excellence Design Evaluation Toolkit (AEDET Evolution)

However, healthcare building design frequently involves complex concepts which are more difficult to measure and evaluate. In order to address these specifics in a DQI context the Department of Health (England) Estates and Facilities Directorate has developed the **Achieving Excellence Design Evaluation Toolkit (AEDET Evolution)**, the latest version of which is AEDET Evolution and is a tool specifically directed towards achieving excellence in design rather than ensuring compliance with legislation, regulation and guidance. High scores in AEDET do not therefore necessarily guarantee compliance with statute.

The AEDET Evolution toolkit assists NHS Bodies in managing their design requirements from initial proposals through to post-project evaluation. It is a benchmarking tool and forms part of the guidance for PPP, joint ventures including ''hub'' and, conventionally funded schemes. AEDET Evolution contains evaluation criteria which ensure that design takes place within a common, industry wide framework. The toolkit enables the user to evaluate a healthcare building design in a non-technical way that covers the three key areas of **impact**, **build quality** and **functionality**. AEDET Evolution tool is complemented by A Staff and Patient Environment Calibration Tool (ASPECT).

Unpublished research into the use of AEDET Evolution and ASPECT suggests these tools are reliable, presenting high correlations between different judges using them to evaluate healthcare design. More recent independent, unpublished research into the experience of collaboration between designers and clinicians using AEDET Evolution indicates that the tool facilitates improved design quality. It achieves this by further facilitating a recursive discovery and a mutual utilisation of the considerable skills and factual knowledge of the designers and clinicians thus serving to improve their skilled performance.

AEDET Evolution uses ten key criteria that have evolved from sources including the Commission for Architecture and the Built Environment (CABE) and the Construction Industry Council (CIC) to establish an industry-wide framework for assessing design. The ten key criteria are:

Uses
Service philosophy, functional requirements and relationships, workflow, logistics, layout, human dignity, flexibility, adaptability and security.

Access
Vehicles, parking, pedestrians, disabled people, wayfinding, fire and security.

Spaces
Space standards, guidance and efficient floor layouts.

Character and innovation
Excellence, vision, stimulation, innovation, quality and value.

Citizen satisfaction
External materials, colour, texture, composition, scale, proportion, harmony and, aesthetic qualities.

Internal environment
Patient environment, light, views, social spaces, internal layout and wayfinding.

Urban and social integration
Sense of place, siting, neighbourliness, town planning, community integration and landscaping.

Performance
Daylight, heating, ventilation, air conditioning, acoustics, passive thermal comfort.

Engineering
Emergency systems, fire safety, engineering standardisation and prefabrication.

Construction
Maintenance, robustness, integration, standardisation, prefabrication, health and safety.

Using AEDET Evolution

AEDET Evolution is a tool for evaluating the quality of design in healthcare buildings. It delivers a profile that indicates the strengths and weaknesses of a design or an existing building. It is not meant to produce a simplistic single overall score. Because of the nature of design, which inevitably involves trade-offs, it may not be possible to produce a building which would have the maximum score for all the sections. Indeed it may quite often be the case that a high score for one statement reflects a design which inevitably may be scored low on another statement. A single overall score would thus be misleading and uninformative.

AEDET Evolution can either be used by individuals or in workshops by groups. In the latter case it is probably desirable that an independent experienced user of AEDET Evolution should facilitate the group to avoid excessively lengthy debate. AEDET Evolution can be a helpful tool in enabling a group to come to a common understanding with the help of a facilitator who can moderate group discussions.

AEDET Evolution can be used at different ‘scales’ in evaluating the design of a healthcare building, e.g. at a building scale, a department scale or a complete site scale. The level of detailed information available may dictate the scale of the evaluation.

AEDET Evolution is designed to be used by those involved in the commissioning, production and use of healthcare buildings. In particular public and private sector commissioning clients, developers, design teams, project managers, estates/facilities managers and design champions may find AEDET Evolution a helpful and useful tool. User clients such as patient representatives and members of the general public should also be able to use AEDET albeit within a workshop environment alongside other more experienced professionals.

When to use AEDET Evolution

AEDET Evolution can be used to evaluate existing buildings in order to compare them or understand their strengths and weaknesses.

AEDET Evolution can be used on the plans for new buildings in order to evaluate and compare designs.

AEDET Evolution can be used on "imaginary" buildings in order to set standards for preparation of a brief.

AEDET can be used at various stages during the design of healthcare buildings – as the level of detail of the information available increases it should be possible to respond to more of the statements in the tool.

A Staff and Patient Environment Calibration Tool (ASPECT)

To complement AEDET Evolution, the Department of Health (England) Estates and Facilities Directorate has developed the ASPECT toolkit. ASPECT stands for A Staff and Patient Environment Calibration Tool and is based on a database of over 600 pieces of research. That research deals with the way the healthcare environment can impact on the levels of satisfaction shown by staff and patients and on the health outcomes of patients and the performance of staff.

This research and the ASPECT toolkit itself are set out under 8 headings. ASPECT can be used as a stand alone tool, or it can be used to support AEDET Evolution to provide a more comprehensive evaluation of the design of healthcare environments.

When used to support AEDET Evolution it enables the user to score the Staff and Patient Environment Heading of AEDET Evolution in a more detailed, accurate way.

The toolkit has 3 layers which allow users to create a design evaluation profile:

- the SCORING layer on which you score;
- the GUIDANCE layer that gives more detailed help;
- the EVIDENCE layer that points to available research evidence.

Inspiring Design Excellence and Achievements

Inspiring Design Excellence and Achievements (IDEAs) is another useful design tool published by Department of Health (England) Estates and Facilities Directorate to assist in the generation of design briefs, proposals and schemes

IDEAs was conceived and developed by the University of Sheffield as a way of utilising the latest research evidence. IDEAs starts the design of healthcare places with people – patients, staff and visitors – and responds to the emotional and functional requirements of healthcare delivery.

IDEAs deals with activities rather than individual spaces or rooms. Examples of activities that occur in healthcare places include:

- arrival
- bathing

- bed / rest
- circulating
- consulting
- shopping
- sanctuary
- socialising
- waiting

IDEAs can be used either as a standalone tool within a workshop context or as a web-enabled integrated tool by individuals.

Role of Health Facilities Scotland

Health Facilities Scotland (HFS) is a division of National Services Scotland and provides operational guidance to NHSScotland Bodies on non-clinical topics such as:

- estates engineering;
- building and architecture;
- procurement;
- fire safety;
- environment;
- energy;
- property management;
- clinical waste management;
- decontamination
- legionella and other estates related pathogenics;
- hazards and safety action notices.

This assists NHSScotland in meeting the Government's policy and strategic aims and the establishment of professional/technical standards and best practices, including the promotion of new initiatives in the field of healthcare practice and management. Clearly HFS can have a pivotal role to play in generally supporting the implementation of this Policy, through the provision of supporting guidance and through their Continuous Professional Development (CPD) programme which provides essential training to NHSScotland personnel on operational issues as impacted by national policies and objectives.

With particular regard to the objectives of this Policy, HFS will lead the agenda through the central operation of Frameworks Scotland and through the administration of the Design Assessment process now mapped into the Business Case process. HFS will provide technical expertise including those aspects of design which relate to functionality and, particularly, technical and sustainability standards. This will underpin the strands of work identified to support the design agenda in NHSScotland through the coordinated tripartite working relationship between HFS, SGHD and A+DS and with NHSScotland stakeholders.

Role of Architecture and Design Scotland (A+DS)

Architecture and Design Scotland has been established by Scottish Ministers as the National Champion for Good Architecture, Design and Planning in the built environment. Its aim is to operate within the Scottish Government's policy framework on architecture and design, as well as in partnership with a range of bodies in the private and public sector to help turn the aspirations of policy into reality.

The aim is to raise the quality of new development, so that high standards of layout and design are the rule, not the exception. Overall, the development of well designed and

attractive cities, towns and villages will support the Scottish Government's National Outcomes for the built environment.

These Outcomes are designed to ensure that Scotland has the infrastructure, the physical services, the economic ability, the healthy environment, the cultural references and the social networks that allow our current and future generations to achieve their potential in a balanced manner.

SGHD and A+DS have developed a range of initiatives to assist NHSScotland in addressing design quality issues in the procurement of healthcare building projects, the summary objectives of which are to:

- raise the level of design quality achieved through infrastructure investment;
- increase the capacity of health boards and central agencies in respect of the above; and
- assist in sharing good practices.

In order to meet the above objectives, Architecture and Design Scotland will deliver 3 main activities on behalf of the Scottish Government Health Directorates.

Activity 1
Engaging with partner organisations and central procurement agencies in order to assist them in their work and in raising design awareness of 'external' parties involved in delivery. This will be done through actions such as:

- assisting in the development of policy and guidance relating to the procurement of, and design quality in, the built estate;
- participation in steering groups such as those developed for Frameworks Scotland and in the development of strategies and processes (such as team selection and KPIs) for central procurement agencies. Also assisting, as requested by such central teams, in providing advice to client teams on matters effecting design quality, particularly pertaining to preparation for the assessment described in 2 below; and
- assisting Health Facilities Scotland (HFS) and others in the development of training and awareness sessions.

Activity 2
Providing, in partnership with HFS, a co-ordinated assessment of the potential quality of proposed projects to support those responsible for decision making within the Business Case process.

This will involve contributing particular expertise on the aspects of design relating to government policy on design and place making to a process administered and led by Health Facilities Scotland who will, in addition to the administrative elements, provide particular expertise on the aspects of design relating to functionality, particularly technical and sustainability standards developed by HFS and the Department of Health in England.

Activity 3
Assisting in building a body of knowledge and evidence of good practice in both process and product across NHSScotland, through:

- the development and management of the web-based project resource, '**Pulse**';

- the development of case studies of projects on the ground;
- providing dedicated support to 'demonstration projects' where ambitious parties are taking on particular aspects of work, particularly around cross-sectoral working; and
- identifying and commissioning targeted pieces of work by relevant specialists to inform, test, and develop concepts and tools to support Health Boards and their stakeholders in their delivery of good design.

Role of the Scottish Futures Trust

The Scottish Futures Trust is an independent company, established by the Scottish Government with a responsibility to deliver value for money across all public sector investment. SFT operates at arms length from the Government but works closely with the public sector to seek and deliver improved value for tax payers.

Currently the Scottish Government and other public sector bodies in Scotland invest some £5billion annually on infrastructure. By any measure this is a substantial amount of money and spend on investment is recognised to be a strong contributor to economic growth. In today's tight financial environment, improving the value for money of this spend, and finding innovative ways to finance infrastructure investment to enhance economic growth are imperative and are SFT's primary functions.

Recommendations from Audit Scotland, the National Audit Office and others have included the requirement for many of the services that SFT is now providing. The company brings focused commercial and financial skills in infrastructure financing, procurement and delivery into the public sector. SFT retains and grows this knowledge within infrastructure-investing organisations across the public sector.

SFT is leading the £1.25 Schools Investment Programme and has developed a National Housing Trust to deliver an initial £130million of housing. SFT is also involved in a wide range of major transport and accommodation infrastructure projects and by the end of 2010/11 SFT's portfolio of projects are expected to be valued at more than £7billion.

In relation to this policy SFT is responsible for managing the 'hub' programme. Their remit includes:

- Enabling the establishment and development of hub groups
- Help motivate change
- Help promote the strategy and disseminate best practice
- Steer the implementation of the procurements
- Develop processes, procedures, supporting documentation and guidance
- Support the drive for continuous improvement
- Manage the administration of the enabling fund
- Develop and implement methodology for benefits evaluation

SFT may also get involved in an advisory or validation role on other projects, and therefore has an interest across all healthcare work.

NHSScotland Design Champions

The Scottish Government Health Directorates requires that NHS Board Chairs are responsible for nominating a member of the NHS Board and a Senior Officer to take on the roles of Design Champions for the Board. The Senior Officer should have knowledge and experience in capital investment procedures and expertise in technical matters. Both must be in a position to influence the overarching policies, procedures and ethos of the organisation, albeit in their own manner.

A Design Champion should be:

- well respected and an excellent communicator who is able to promote the need for good design to a wide variety of audiences, both within the Health Board and externally. Both appointees should be able to persuade colleagues and the wider community of the benefits of well designed healthcare buildings;
- a consensus builder, able to bring together the various stakeholders both within the local authority and the wider community; and
- able to see the 'bigger picture' and help develop a 'vision'.

The Design Champions, ideally, are in a position to influence the work undertaken by the Health Board but it is important that the roles are not created for status but, for action.

- The role of the Design Champion is not project specific but is to advocate design quality and to ensure that mechanisms are in place within the NHS Board to deliver the design agenda. NHS Design Champions will be supported, where possible, by Architecture and Design Scotland through ad hoc requests for assistance.

Design Champions will be expected to work with all the necessary disciplines. The role of the Design Champion is expected to include a responsibility to ensure that:

- the building promotes civic pride;
- patients and staff are consulted and their views addressed;
- the building fits into the local surroundings and settings;
- the building is fit for purpose;
- the building takes on board modern technology;
- the design considers sustainability issues;
- quality is questioned throughout the process; and
- there is support for resisting change which reduces quality and VFM.

The Design Champion should ensure that:

- aspirations for design quality underpin all projects undertaken across the NHS Board;
- a Board Design Action Plan is produced and delivered;

- a Design Statement is produced for all development projects establishing the design quality criteria for that project, the key points which these criteria must be given value and profile and, the process by which the board shall assess the developing project against those criteria. **The Design Champions must ensure that appropriate skills are utilised in the self assessment. Depending on their own background and role, this may be either by their own personal actions and involvement or through the appointment of others with appropriate skills**;

- an assessment is made of the current environment for patients, staff and visitors;

- the Achieving Design Excellence Evaluation Toolkit (AEDET) is used throughout a project where appropriate;

- the evaluation of tenders is based on VFM and not lowest cost;

- budgets and timetables are realistic;

- the Board has the correct skill mix to deliver the design agenda; and

- the scheme includes the full involvement of the local community and the support of clinical and other staff.

The Design Champion will raise the profile of design excellence by:

- encouraging the selection of designers with a proven track record of good design or design awards;

- promoting awareness of national and international best practice in healthcare design;

- encouraging schemes, either refurbishments or new build, to be put forward for local and national competitions and awards;

- maintaining a forum for regular review and feedback to the Board; and

- recognising the support, guidance and initiatives available.

It is important that NHS Boards acknowledge the fact that the role of Design Champion is one that requires a considerable amount of time. Design Champions are required to understand what constitutes good design across a range of different and, sometimes very technical, disciplines and the amount of time required to do so can easily be underestimated.

Maintaining design quality on site

There is a risk that, once a project moves on to site, the client may underestimate the effort which will continue to be required to maintain design quality. Any shortcuts taken at this stage can put the overall design quality of the project at risk. The client's design advisers must be retained throughout the construction process in order to monitor the quality of design and finishes.

These advisers should also ensure that design aims are not sacrificed in the management of change during the running of the project. If design standards and quality thresholds are clearly defined, then the review process throughout the delivery stage should provide sufficient safeguards against quality dilution. A structured process of quality checks during construction is important to ensure that what has been agreed is actually being provided. All partners should be involved in these checks as the risks of unsupervised changes on site

can affect a wide range of matters, such as the provision of resource areas necessary for facilities management and the quality of finishes, which in turn may affect both cleaning and maintenance.

Public Space

It is important that public space is not considered as an afterthought. New public buildings need to be responsive to their contexts, both in terms of their scale and form, and in the materials they use. It is not enough to simply respond to the appearance of surrounding buildings; it is important to also think in terms of the integrity of surrounding public spaces. In the creation of new public buildings, it is important that the design team is perceptive of the buildings' relationships to the maintenance or improvement of existing public spaces or the potential for new public spaces.

The creation of public buildings can also give something positive to the public realm rather than simply create residual areas around them, and clients may wish to consider whether the location of a building is sufficiently sensitive to merit the inclusion of an urban design specialist on the team. An approach is required which gives due consideration to the way in which the spaces created by buildings will be used, and to the needs of users in terms of accessibility, safety, lighting, shading, shelter, orientation, views, surfaces, seating, planting, and maintenance.

Transport and car-parking

NHSScotland Bodies are required by Scottish Government policy to co-operate with local authorities, regional transport partnerships and other stakeholders in the planning and implementation of local and regional transport strategies towards ensuring that through integrated transport policies NHSScotland facilities, in particular new developments, are accessible to all by public transport, walking and cycling. NHSScotland Bodies operational policies should take into account the strategy for internal NHSScotland systems and car parking. The organisation's Travel Plan is the integral document to addressing these goals.

Detailed guidance can be obtained from Health Facilities Scotland.

It is important to realise the need to adopt a robust design strategy for on-site car parking and people movement which is consistent with the NHS Body's Travel Plan. The design strategy should address:

- space utilisation;
- traffic and pedestrian flow;
- access for short-stay visitors, mobility-impaired persons and late night/shift workers;
- wayfinding and markings;
- landscaping;
- security, technology and lighting.

The availability of parking for both cars and cycles can influence transport choices for those using a facility. All new and re-development proposals should be designed for safety and the

convenience of all users. Good design and layout of a development can significantly improve the ease of access by non-car modes, for example:

- entrances to be as close as possible to pedestrian routes and bus stops; and
- links to cycle networks, with secure parking near the main entrance.

Proposals should be specifically tailored to local circumstances, aspirations and priorities, for example speed management strategies, attractive green space and landscaping, in order to bring a wide range of social and community benefits and improve quality of life. Design of public transport facilities should be user friendly and attractive as well as functional to encourage and retain modal shift.

Use of the arts in healthcare

There may be scope for the involvement of artists or craftsmen in a project. When successfully implemented, artworks can help to create more distinctive and attractive buildings and urban spaces and enhance the public's experience of an architectural space. In a healthcare perspective, artwork can have an even more positive effect. NHSScotland can benefit in many ways from the adoption of the arts in healthcare programmes including better patient environments and an improvement in staff morale. It is recognised that art in healthcare can benefit the NHS through the promotion of user and staff involvement in the design of the healthcare environment and can subsequently have an impact on health outcomes. There is growing evidence that patient recovery rates and stress levels are improved by the adoption of appropriately selected art in healthcare programmes. The integration of art can also assist in improving the communication of health information and the redesign of services. The involvement of staff, patients, artists and local communities at the earliest stages of the design process for new buildings and refurbishments can result in innovative, creative solutions.

It is important to also realise that a person’s perception of environmental stimuli is influenced by their feelings or emotional state. Although scientific research has produced evidence that emotionally appropriate art can improve certain patient outcomes, there is also evidence that inappropriate styles and subject matter can have an opposite effect. This is especially pertinent to psychiatric patients, who, by nature of their illness can be vulnerable to disturbing interpretations of visual arts, thus exacerbating their condition.

The use of art in a healthcare setting need not be restricted to the visual arts. Other arts activities which involve music, performing arts, storytelling and patient workshops can have therapeutic benefits and can have great value in certain healthcare environments. Art-related therapy, e.g. dance, music, drama or art creation, is recognised as an integral psychological and creative tool for the improvement of physical and mental well-being.

Some NHS Boards retain the services of “artists in residence”. However, Boards may also wish to seek specialist advice from public art agencies with regard to including artwork within a project.

Boards may wish to consider allocating a specific budget for the inclusion of artwork as an integral element of a project. However, care should be taken to ensure that any resulting expenditure is proportionate to the benefits and is appropriate to the building's status and function, in order to avoiding subsequent criticism of the project for inappropriate use of public funds.

Traditional building procurement allows for a detailed design to be developed prior to building contracts being issued. However, under Public Private Partnerships (PPP) projects contractual commitments are made with the private sector partner before the detailed design is complete and thus once contractual agreements are in place any additions or changes to them will incur significant additional costs. The requirements of the design are defined in advance by identifying the outputs required which in turn set the framework for the design, within which more detailed specifications for the services to be provided can be accommodated. **To ensure that the arts are incorporated into both the building and maintenance contracts they must be part of the output specifications.**

Design quality in building procurement

Key issues

- Good design is not an alternative to value for money (VFM), but is integral to its achievement. A good building project must also contribute to the environment in which it is located, deliver a wider range of social and economic benefits and be adaptable to accommodate the needs of future users. An enhanced built environment which incorporates principles of good design can improve the quality of life of those who use and work in public buildings. Throughout the life of a building, design excellence can improve the standard of public service delivery, make it more efficient and contribute to staff recruitment and retention. Good design can ensure that capital costs are competitive and that savings can be achieved on running costs through reduced maintenance, energy and operating costs without compromising the attractiveness and quality of the building. **Therefore investing in good design can make the most beneficial and effective use of resources, can add value and represents a sound investment in the future. High quality building design is therefore a key mechanism in providing VFM in the provision of healthcare services.**

- As the aim of any procurement exercise should be to achieve Value for Money, it is recommended that the "most economically advantageous" evaluation be employed. Value for Money is defined as the optimum combination of whole life costs and quality (or fitness for purpose) to meet the customer's requirements and can be taken to be largely analogous with "most economically advantageous".

- Using an evaluation based on the "most economically advantageous" offer gives the procuring organisation the opportunity to take factors other than price into account when awarding contracts.

- **Good design is not merely a question of visual style or personal perception but arises from the careful synthesis of many interrelated factors including architectural vision, functionality and efficiency, structural integrity and build quality, accessibility, security, sustainability, lifetime costing, flexibility in use and a sense of space in the community.**

- Clients must be clear about the level of funds available for a project from the outset and ensure that their aspirations for quality are underpinned by realistic and affordable assumptions.

- Clients must carefully assess and define their priorities before appointing design consultants.

- The process must allow for effective consultation with all stakeholders to establish a clear, well-defined brief.

- Sufficient time and resources should be allocated towards establishing the client's design quality aspirations.

- Post Project and Post Occupancy Evaluations of building programmes are mandatory for major projects and any lessons learned must be shared with the Scottish Government and other NHSScotland bodies.

- Quality Based Selection (QBS) is a structured procedure for selecting a design team and professional advisers. Design competitions are a means to primarily select specific design ideas or outline design ideas for a project, rather than the design team personnel.

- All public sector appointments, irrespective of the client's preferred nature of competition or reference to any other guidance on design competitions, must be consistent with EU procurement rules in terms of process and outcome. Generally, public sector clients must ensure that design team appointments follow the procedures described in *Section 3* of the works procurement guidance part of the Scottish Government Construction Procurement Manual. **However, in the NHSScotland context, detailed guidance on the appointment of consultants, conditions of contract and contract guidance in should be sought from Health Facilities Scotland.**

- The role of an informed client is vital in ensuring the successful delivery of the project within the agreed timescale and budget and to the required standards and requirements of all users.

Achieving good design

From the outset, clients must be clear about the level of funds available for a project and ensure that their aspirations for quality are underpinned by realistic and affordable assumptions through establishing the right budget. These quality matters and functional requirements must then be set out in a clear and thorough project brief. In order to monitor and control the procurement, design and construction processes, procedures and responsibilities should be clearly defined (and assigned). Ideally, designers should engage in challenging and constructive dialogue with the client, building users and those involved in supplying and manufacturing materials, goods and services. All concerned should work to a realistic and robust timetable, which gives the design team enough time to develop and achieve a good solution.

An informed, demanding and committed client is vital in ensuring that aspirations for quality are maintained throughout the procurement, design and construction processes.

By nature of their complexity, healthcare buildings can be expensive to manage and maintain due the imposition of build cost constraints during the procurement process in order to adhere to a short-term financial hurdle. The influence of design is fundamental to the successful outcome of a project not only in terms of how the building will deliver its intended functions but also its long-term operational efficiency. An appropriate level of investment in the design stage early in the process incurs a comparatively small capital outlay but ultimately influences the revenue streams associated with the operation of the facility and also influences the successful provision of the services to be delivered. **It is therefore imperative that the process recognises the need to address the whole-life cycle of the building and the integral part that good design can play in mitigating potential future financial and operational penalties imposed by the adoption of short-term vision. Whole-life costing must be the standard for investment decisions. Those involved in the making of such decisions will be ultimately judged on the lifetime VFM of their decisions rather than whether they managed to get a project past the initial financial hurdle.**

Healthcare facilities and the associated equipment used therein must be designed to support all the people who are likely to use them in order to operate effectively. It is therefore vital that all potential users of a proposed facility – staff, public and patients – are involved early in the design process and throughout its progress. Additionally, stakeholders such as regulators, professional bodies, community bodies, etc, should also be engaged throughout the process as this has the potential to provide a valuable source regarding the projected use of the facility, the processes which will be undertaken therein and how the facility's users will work or interact with it. Early user involvement in the design process can help ensure that a planned facility will support the people who are to use it.

The standardisation of systems and processes to be carried out within a proposed facility, layouts, room orientation, human interfaces, wayfinding and even storage can provide many benefits for patients, staff and visitors. Standardisation can help reduce mental workload and thus reduce errors, can make errors and departures from normal working easier to detect and can allow the transfer of skills and staff between departments with reduced training needs. Thus standardisation in conjunction with a wider engagement with users and stakeholders can also enhance safety.

The Scottish Government Health Directorates requires that NHS Boards appoint Design Champions at Board and Senior Officer level to consolidate a commitment to the championing of good design.

Evaluating good design

Design evaluation can be structured around a number of key design issues. To support the continual improvement of the construction and procurement process, Post Project Evaluations (PPEs) and Post Occupancy Evaluations (POEs) of building programmes are mandatory for major projects with a cost in excess of the delegated limits and are an integral requirement of the Scottish Capital Investment Manual. However, it is recognised that all projects would benefit from such evaluation and any lessons learned should be shared with the Scottish Government and other NHSScotland bodies in order to inform best practice and future policies. Independent PPEs should be carried out before the break up of the design team to review the success of the project against its original objectives, its performance in terms of time, cost and quality outcomes and whether it has delivered value for money.

Guidance on Post Project Evaluations and Post Occupancy Evaluations can be found within the Scottish Capital Investment Manual.

Post-Occupancy Evaluations have a significant role. The key advantage of POEs is the opportunity to achieve improvements in the ways future buildings will support operational objectives. Participants often identify areas where design improvements could be made and ways in which buildings and equipment could be used more cost effectively. These may only be minor, but they could produce significant benefits to future designs. The process of evaluation can provide important feedback on whether resources are being targeted at the most important areas. This can also enable poorly functioning or seldom used features to be eliminated from future designs and the repetition of mistakes to be avoided.

The nature of PPE and POE reports must be set out and agreed at the start, and project sponsors must ensure that provision is made for the independent preparation of both when setting budgets and timetables.

PPEs and POEs can be valuable in the formulation of “evidence based design” methodology. As has been stated in the preambles to this policy document, the field of “evidence-based design” is proving a valuable tool in the design process towards both reducing costs and improving outcomes. Research has shown that evidence-based supportive design methods, introduced early in the process of facility programming and design can have significant impact on the design of physical environments which can affect patient medical outcomes and care quality. An important impetus for the growing international awareness of healthcare facility design has been mounting scientific evidence that certain environmental design strategies can promote improved outcomes whereas other approaches can worsen patient health.

The Business Case

The Business Case process must include statements of expectation for design quality. Discussions with professional advisers at the earliest stage will assist in determining and defining design priorities and setting project objectives. Consideration of the design issues must continue throughout the entire process.

Detailed mandated guidance on the preparation of the business case is contained within the Scottish Capital Investment Manual.

Design Assessment

An assessment of design quality is now part of the SGHD Business Case process. All projects submitted to the SGHD Capital Investment Group for approval are now subject to an assessment of design quality and functionality, including technical and sustainability standards. This **Design Assessment** will take place at the **Initial Agreement**, **Outline Business Case** and **Full Business Case** stages of approval.

There are two complimentary areas of consideration in the design of healthcare buildings. These can broadly be described as healthcare specific design aspects – the areas generally covered by guidance issued by Health Facilities Scotland - and general good practice in design considering the human experience of being in and around buildings. These are brought together in this process and in the collaboration between Health Facilities Scotland and Architecture and Design Scotland in the NHSScotland Design Assessment Group which reports to the SGHD Capital Investment Group. This process forms part of the coordinated tripartite working relationship with SGHD and A+DS.

The Scottish Government Health Directorates' purpose in developing and implementing this process is to ensure that the outcomes of development projects meet the Government's objectives and expectations for public investment. The aim of mapping design into the Business Case process is to improve the level of design quality achieved across NHSScotland and, ultimately, the outcomes achieved by doing so.

CEL 19 (2010) which announces this Policy also announces commencement of this requirement and its incorporation into the Scottish Capital Investment Manual. The SCIM also addresses the Scottish Government's sustainability objectives in the context of the Business Case Guide.

The Design Statement

To assist NHS Boards in utilising good design to achieve the best outcomes from their development projects, Boards are required to develop and produce a Design Statement prior to the submission of their Initial Agreement. The Design Statement is the first control document produced for a project and should be consistent with the Board's overall vision contained within the strategic Design Action Plan.

The design statement is a means of setting out a Board's objectives in a series of agreed statements of intent and subsequently then describing a benchmark for how the physical result of the project will help deliver those investment objectives but not by giving a pre-determined design outcome, rather a view of what "success" might look like.

NHS Boards should also use the completed Design Statement as:

- a **briefing tool** to describe the design intention, or design vision, supplemented by more detailed briefing materials such as schedules of accommodation, key adjacencies and room data sheets as and when prepared;

- a **communication tool** to communicate the direction of the project to stakeholders and allow some early view of the benefits to assist both in building momentum/obtaining buy-in and in allaying the concerns that often accompany the commissioning of a new facility;

- an **advertising tool** to build confidence in the market in the direction and, by showing preparedness, viability of the project; and to motivate the market to bring its best and most appropriate skills to the table (in terms of the vision described).

Further guidance on the development and use of Design Statements can be found within the **Scottish Capital Investment Manual** and on the **Healthier Places website**.

Fire safety

Fire safety legislation and standards generally state that all people should be evacuated from a building in the event of fire. In terms of healthcare premises, this is not the case due to certain circumstances. Fire in a hospital or other healthcare building can be especially serious because of the difficulties and dangers associated with the emergency evacuation of patients, many of whom will be highly dependent. Therefore in such buildings the concept of progressive horizontal evacuation is the norm and is cited as so within the Technical Handbooks to the Building (Scotland) Regulations 2004. However, because of other special requirements particular to fire safety in healthcare buildings, guidance and recommendations contained in NHSScotland Fire Safety Management guidance, including NHSScotland Firecode, which is additional to the mandatory requirements set out in the Technical Handbooks to the Building (Scotland) Regulations 2004, must be adhered to. This additional guidance is ratified by the Scottish Government Health Directorates' Fire Safety Policy. The requirements of NHSScotland Firecode must be considered throughout the design process in addition to the requirements of the Building (Scotland) Regulations 2004. NHSScotland Firecode is published by Health Facilities Scotland.

Clients must ensure that there is close collaboration between all those who have an interest in the fire safety provisions of the proposed premises at the earliest stage in the design and, be satisfied that all such premises comply with all statutes bearing upon fire safety.

Designing for equality

NHSScotland, as a provider of services, is subject to equality legislation which requires the provision of services which are accessible to everyone. In a healthcare environment, it is important to recognise the complexity and the number of difficulties with which patients, staff and visitors may have to cope on a day-to-day basis. Sensory impairments, perceptual problems, reduced mobility, chronic pain, communication barriers, are but a few. Informed planning and design plays an important role in enabling people of all abilities access to services and facilities. It is therefore essential that the concept of "access and egress for all" is incorporated early in the design process and throughout its progress and that best practice guidelines are followed. By considering equality issues early in the design process, costs associated with addressing equality issues can be minimised which would inevitably prove more onerous if addressed retrospectively.

Egress for all in the case of an emergency must also be considered during the design process. Everyone rightly expects that if they are in a public building when an emergency occurs they should be subject to evacuation procedures which come into force to ensure their safety. However, in healthcare buildings there may be many persons who, by nature of their presence there or otherwise, may be particularly vulnerable. In particular, in larger healthcare buildings such as hospitals it will not be possible to ascertain the number of people who may have an impairment, let alone the type of impairment, or the number of people who may have cognitive or communication or language difficulties. Addressing the needs of all in the context of emergency egress early and throughout the design process will have significant benefit towards the procurement of a facility which ensures the safety of patients, staff and the general public.

To assist NHSScotland bodies in complying with the current equality and diversity legislative framework, the Scottish Government has produced an Equality and Diversity Impact Assessment Toolkit which was issued under cover of NHS HDL (2005)9.

Designing for dementia

There are over 65,000 people living in Scotland who have dementia and they, in common with other people with cognitive impairment, are users of healthcare facilities on a day to day basis across the country. Most people with dementia (60-80%) live in the community, and many of them have multiple health centre and hospital appointments and admissions in any year. As with designing for equality, designing for people with dementia embraces the concept of 'inclusive' design which tries to ensure that the built environment does not present insurmountable barriers to those who use it. Users will include people with physical, sensory and cognitive impairments, which may be progressive, intermittent or permanent and may also include people who may have temporary disabilities

Considering equality issues and the needs of those with dementia throughout the design process will benefit everyone, including people who use wheelchairs and walking aids, have other types of impairment, older people and families.

The University of Stirling Dementia Services Development Centre published guidance on designing for dementia in 2007. '**Best Practice in Healthcare Design for People with Dementia'** is a resource pack on dementia-friendly design which reflects a growing awareness of the need to create caring environments that meet the needs of people with dementia. Many of the features identified are the result of researched case studies and/or international best practice. The Dementia Services Development Centre at the University of Stirling has a specialist online library and information service and holds a large collection of documents relating to care of people with dementia: **www.dementia.stir.ac.uk** .

A component of the dementia resource pack is a **Dementia Design Checklist** prepared by Health Facilities Scotland and intended for use across all healthcare properties. It covers areas of healthcare premises, including primary care premises and those operated by independent contractors, where people with dementia are likely to attend as patients or visitors. Although the Checklist has been developed primarily for use in existing buildings it can provide a useful reference throughout the project design development process. The Dementia Design Checklist is available from the Health Facilities Scotland website: **www.hfs.scot.nhs.uk** .

Role of the Client

The key role of the client is to develop a clear, well-defined brief. At the beginning of the project, the client will need to establish the nature and scale of what is required. Clients should establish the views and aspirations of all stakeholders, and their aims will become the

reference point throughout the design and construction stages and can be used to test the overall success of the project over the long term. As with any building project, the initial stages are vital and a period when the most value can be added. Providing sufficient time and resources for strategic thinking will produce dividends in the long run. An informed and motivated client is critical to the success of a project.

As part of their responsibilities, the client must:

- fully develop a client strategy which has identified the need for the building whilst setting and securing a budget for the project. Understand that the budget cannot be finally established until the brief is settled;
- set a realistic and achievable timetable allowing sufficient time for consultation, brief development and for design;
- involve their Design Champion throughout the briefing and project delivery and listen to their comments;
- allocate sufficient time and resources to establish the client's design quality aspirations and set out clear benchmarks which the client must reinforce through all stages of the process;
- consider the skills and experience required of individual client team members, assess in-house skills and, where necessary, engage external consultants;
- where appropriate, appoint a Client Design Adviser to aid in the preparation of the brief and the assessment of the schemes that come forward through any competitive design process;
- consult with stakeholders to establish a clear, well-defined brief;
- be informed and demanding about operational requirements and quality objectives to get the best possible outcome from the procurement process;
- articulate the Board's requirements not only through the use of DQIs but in a clearly expressed brief that establishes and communicates their vision for the development;
- show commitment to achieving a well-designed and constructed project by giving design quality a high percentage in the assessment of bids and publishing that ratio. Make sure that bidders understand that poor or mediocre developments are not acceptable;
- establish clear and effective routes for communication between the Client Team and the bidding Design Teams during the bidding process so that the Board's needs and aspirations can be more fully discussed and incorporated into the designs that are brought forward;
- choose a Delivery/Design Team which is committed to achieving the best quality possible within the agreed budget and timetable; allow sufficient fee budgets for the work that the designers must do;
- not allow design time to be squeezed in order to recover time lost in the programme for other reasons – good design takes time; and

- carry out Post project Evaluations (PPEs) and Post Occupancy Evaluations (POEs) and ensure that the reports from these are available to SGHD for formulation of generic reports which can properly feed back into future procurement processes.

Project Brief

A vital factor in achieving high quality design is that clients have a firm and well-developed view of what they want, before appointing design consultants, and that this is clearly stated in project briefs. A well-developed brief, with common consensus on operational and quality priorities, is essential for the provision of better design. A rigorous approach to this stage of work will significantly improve the client's capacity to deliver a quality project.

On the other hand, proceeding with sketchy and under-investigated assumptions can be detrimental to the outcome of the project. Statements that set out the client's aspirations on design in terms of matters such as character and durability should be incorporated into briefs.

Detailed guidance can be obtained from Health Facilities Scotland.

Healthcare Associated Infection (HAI)

Of particular importance in the context of healthcare buildings is the need for the Project Brief to incorporate policy, guidance and best practice in relation to reducing Healthcare Associated Infections (HAI). It is vitally important to have a clear understanding of how the briefing, planning, design, procurement, construction, commissioning and ongoing maintenance of our healthcare property can contribute to the prevention and control of HAI. Guidance to ensure that prevention and control of infection issues are identified, analysed and planned for at the earliest stage of the provision of new or refurbished healthcare facilities Is contained within Scottish Health Facilities Note 30 (SHFN 30): 'Infection Control in the Built Environment: Design and Planning', published by Health Facilities Scotland. Additionally, Health Facilities Scotland has developed a system which aims to assess and manage the risk of infection in the built healthcare environment called HAI-SCRIBE, an acronym for Healthcare Associated Infection System for Controlling Risk in the Built Environment. HAI-SCRIBE has been designed as an effective tool for the identification and assessment of potential hazards in the built environment and the management of these risks. The tool should be applied from the design and planning stages of a project through to the occupation and operation of the facility.

Sustainability

The project brief should also contain statements on the client's desired approach to sustainability. Integral to the design and procurement process, a commitment to sustainable design can bring real benefits in terms of reduced running costs and quality of environment for users. Further general guidance on achieving sustainability in construction procurement is set out in Section 7 of the Scottish Executive Construction Procurement Manual.

Construction of new NHSScotland premises also provides an ideal opportunity to significantly reduce an organisation's environmental footprint. Designing the building and the processes that will be carried out within it with the aim of minimising the whole life costs and environmental impact of the facility can cut costs, improve client satisfaction, improve the healthcare body's public image and help deliver the nation's environmental objectives.

A NHSScotland Body, when setting specifications and letting contracts, should emphasise and promote environmentally preferable features in both the construction and the operation/running of buildings and, in the organisation of the services delivered within them,

to ensure sustainability over the projected property lifespan. The decision making criterion for selection of components and equipment should take into consideration the whole life costs and the environmental impact by setting out all the operational and physical components and risk aspects that contribute to these. Environmentally preferable solutions should be preferred unless there is clear evidence that their adoption would have outweighing disadvantages elsewhere.

To assist NHSScotland Bodies in delivering sustainable solutions and embedding energy efficiency into healthcare building projects, Health Facilities Scotland has developed a **Sustainable Development Strategy for NHSScotland** which provides a framework for sustainability issues in NHSScotland, including new builds and refurbishments. The use of this guidance in the preparation of Business Cases is a requirement of the Scottish Capital Investment Manual. Further useful guidance is also available within the Scottish Ecological Design Association Design Guides on design and detailing for more sustainable construction: **Design and Detailing for Deconstruction; Design and Detailing for Airtightness** and; **Design and Detailing for Toxic Chemical Reduction in Buildings**. http://www.seda.uk.net/guides/

The Project Brief should also cite the use of the exemplar Environmental Management System, GREENCODE, through which NHSScotland Bodies can continually aim to improve the environmental performance of their property and, the exemplar energy efficiency guidance, EnCO_2de, which aims to ensure that everyone involved in procuring, managing and using healthcare buildings and equipment thinks about the implications of energy use.

Activity DataBase (ADB)

Activity DataBase (ADB) is the briefing, design & commissioning tool for both new-build and refurbishment of healthcare buildings. It is a briefing and design package with an integrated textual and graphical database, an interface with AutoCAD and an extensive graphical library - the complete tool for briefing and design of the healthcare environment.

ADB is produced by the Department of Health in England and is mandated for use in Scotland by the Scottish Government Health Directorates as the preferred briefing and design system for NHSScotland (see Mandatory Requirement 7 of this Policy). It has been developed to assist in the construction, briefing development, design and alteration of healthcare facilities.

Spaces designed using ADB data automatically comply with English planning guidance (such as Health Building Notes (HBNs) and Health Technical memoranda (HTMs) as ADB forms an integral part of the English guidance publication process. Whilst Scottish users can create their own project-specific briefs and designs using ADB's extensive library of integrated graphics and text which includes room data sheets, room layouts and departmental room schedules, extreme care should be taken to ensure that such data generated by the package are consistent and compliant with Scottish-specific guidance* such as Scottish Health Planning Notes, Scottish Health Facilities Notes (SHFNs) and Scottish Health Technical Memoranda (SHTMs) as published by Health Facilities Scotland.

* In the near future, all technical guidance will be available from the 'Space for health web resource. The Space for Health website will provide a single portal to the knowledge and expertise of the four UK health organisations. It will draw together the technical guidance published by HFS, the DoH and their equivalents in Northern Ireland and Wales. Further information is available from Health Facilities Scotland.

The Design Team

Design Team selection

There are several methods of selecting the appropriate design team for a project, including Quality Based Designer Selection (QBS) which is a structured procedure for selecting a design team and, design competitions, which primarily select specific design ideas or outline designs for a project, rather than the design team personnel.

Where **Frameworks Scotland** is the chosen project procurement method, the design team will form part of the Principal Supply Chain Partner's (PSCP) delivery team and the members of the design team will have been assessed during the process of selecting the PSCP from the Framework. Although the design team will be managed by the PSCP they will work closely with the NHS Client in a collaborative fashion in delivering the design. (Further detail of the PSCP Appointment Process is available in the **Frameworks Scotland** section of the Health Facilities Scotland website).

The Scottish Government Construction Works Procurement Guidance: Section 3 – Procurement Strategies and the Appointment of Consultants and Contractors provides general information on some of the different procurement strategies available and the consultancy roles and professional advice that may be required at the various projects stages. Further general advice can be found on the Office of Government Commerce website.

In the NHSScotland context, detailed guidance should be sought from Health Facilities Scotland, and, for 'hub' projects, Scottish Futures Trust.

Regardless of the procurement strategy adopted, the appointment of a design team, consultants, professional advisers, etc, should be based upon the principles adhered to in Quality Based Selection methodology, outlined below. The Royal Institute of British Architects (RIBA), together with the Construction Industry Council, has published a booklet of Guidance for Clients to Quality Based Selection.

Quality Based Designer Selection (QBS)

QBS looks for an appropriate balance of design skills, experience, innovation, and an ability to perform on schedule to the required standards and within budget. A client, or client committee, selects a team based upon a weighted scoring of a list of relevant factors, including technical capacity, resources, previous experience of similar projects, deliverability of the design and partnering arrangements, aimed at determining which design team is most able to handle the project successfully and deliver a high quality result.

Throughout a building project, designs will be developed through constant dialogue with the design team, so it's essential that a key selection consideration is inter-personal skills; the client must feel that it has the ability to work with the designers.

It is essential to know that a design team's claimed expertise is actually currently available. The question of whether a design team has completed major quality projects within the past five years may give a more fair comparison between long established and new design teams. It is important to ensure that the principal designer responsible for successful past projects is present for the interview, and such individuals should be named in the contract if that design team is successful.

Design competitions

A competition to select an outline design, rather than the design team members, requires the client to have a well-developed brief for the project. Design competitions may be appropriate where there is either a unique problem that will benefit from a wide range of design approaches being explored (along with likely considerable public interest - which may be the case on a major new public building) or where the competition promoter wishes to encourage the development of new talent.

Procedure for appointing the Design Team

All public sector appointments, irrespective of the client's preferred nature of competition or reference to any other guidance on design competitions, must be consistent with EU procurement rules in terms of process and outcome.

The appointment or competition must therefore:

- strike the correct balance between quality and price to achieve whole-life VFM;
- evaluate the quality and price aspects against clear, unambiguous and pre-determined criteria;
- assess the technical and financial capacity of the design team (including design partnership arrangements) to deliver the project to the required standards of quality as well as the project on time and within budget; and
- maintain a full and transparent record of all aspects of the competitive process from start to conclusion, including the evaluation of the pre-qualification questionnaires as well as the selection and award stages.

Generally, as Public Sector clients, NHS Bodies are required to ensure that design team appointments follow the procedures described in *Section 3* of the works procurement guidance part of the Scottish Government Construction Procurement Manual. **However, in the NHSScotland context, detailed guidance should be sought from Health Facilities Scotland.**

Design Team selection criteria

Selection criteria should include design ability, aspiration, financial status, insurance provisions and technical capacity; the last of these enables consideration to be given to resources, technical suitability and past performance. This stage also aids production of an objective and transparent short list of the most suitable organisations, from all those that expressed interest in providing design services.

Selection criteria at the bidding stage

The award criteria enables a further qualitative assessment to be made of the specific proposals for the project - not just technical merit of the design proposals but also other aspects of successful delivery such as proposed team-working, management arrangements, and project team organisation.

Where design partnerships are proposed - perhaps to combine the innovative skills of a new or small design practice with the experience and resources of a longer-established designer - the award criteria enables the client to assess the ability of both parties to fulfil their responsibilities and to evaluate the compatibility of working cultures and practices. Visits to

the design offices of all candidates, including those forming partnerships, should follow a consistent approach and involve the same personnel.

NHSScotland Bodies, as clients, should consider the benefits to be accrued from requesting an Interim Bid Submission from bidders, particularly in a PPP or joint venture (such as 'hub') initiative context. This should be based upon clearly specified requirements within the Invitation To Negotiate (ITN) documentation and should be undertaken at an approximate mid-point stage through the period from release of OJEU to the return of ITN documentation with clear expectations on outputs from bidders that are measured but, not too cumbersome, perhaps structured by means of the use of the AEDET Evolution design evaluation tool.

Client organisations should consider the merits of visiting completed buildings by the shortlisted teams to investigate both their past work and allow the opportunitiy to meet previous clients and hear their experience of working with the team. Although this does take some time, the investment is small in comparison to the necessary investment of time and resources in the new project, and the potential learning in terms of the bidding teams ability and working relationships is invaluable.

Relation of selection criteria to budget considerations

The qualitative criteria adopted at the selection and award stages should be appropriate for the individual project and weighted to suit the circumstances. It is important that these aspects aren't considered in isolation but should be assessed as part of the VFM evaluation which takes account of fee proposals. Section 3 of the Scottish Government Construction Procurement Manual describes other aspects of appointing consultants, including the various ways of paying for professional services. In circumstances where *ad valorem* (usually percentage) fee structures are appropriate, consideration must always be given to the application of an abatement or capping mechanism in order to contain fee costs at a fair and appropriate level.

Criteria used during selection and award stages must be applied consistently by all of those involved in that stage of the procurement procedure. In other words, once selection and award criteria are established, individual members of a sift or tender evaluation panel must not apply different criteria. Furthermore, once selection criteria are established, they should be made available to candidates. Award criteria must be set out in either the OJEU contract notice or the contract documents; however it is recommended that criteria be advertised in the OJUE notice to demonstrate the client's commitment to valuing quality in the selection and hence assist in attracting similarly ambitious teams.

Scottish Government Health Directorates asset-related policies

Scottish Capital Investment Manual for NHSScotland [NHS CEL 19 (2009)]
Scottish Government Health Directorates
http://www.sehd.scot.nhs.uk/mels/CEL2009_19.pdf

Provision of Single Room Accommodation and Bed Spacing [NHS CEL 48 (2008)]
Scottish Government Health Directorates
http://www.sehd.scot.nhs.uk/mels/CEL2008_48.pdf

Fire Safety Policy [NHS CEL 25 (2008)]
Scottish Government Health Directorates
http://www.sehd.scot.nhs.uk/mels/CEL2008_25.pdf

Environmental Management Policy for NHSScotland [NHS HDL(2006)21]
(Currently under review)
Scottish Government Health Directorates
http://www.sehd.scot.nhs.uk/mels/hdl2006_21.pdf

Sustainable Development Strategy for NHSScotland [NHS CEL 15 (2009]
(Currently under review)
Scottish Goverment Health Directorates
http://www.pcpd.scot.nhs.uk/PDFs/CEL2009_15.pdf

NHSScotland Property Transactions [NHS HDL(2001)15]
(Currently under review)
Scottish Government Health Directorates
http://www.sehd.scot.nhs.uk/mels/HDL2001_15.htm

Property Management Policy and Other Related Matters [NHS HDL(1999)44]
Scottish Government Health Directorates
http://www.sehd.scot.nhs.uk/mels/1999_44.pdf

Supporting guidance

Scottish Capital Investment Manual website
Scottish Government Health Directorates

Capital Planning and Investment website
Scottish Government Health Directorates

Healthier Places website
A project resource to assist clients in the development of design statements, the briefing of projects and in learning from what is being acheived across NHSScotland and elsewhere.
www.healthierplaces.com

IDEAS
A design tool to aid NHS clients and their architects and design consultants to develop their briefs and design ideas.
http://ideas.dh.gov.uk/

Achieving Excellence in Design Evaluation Toolkit (AEDET)
The AEDET Evolution toolkit evaluates a design by posing a series of clear, non-technical statements, encompassing the three key area of Impact, Build Quality and Functionality.
http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_082089

A Staff and Patient Environment Calibration Tool (ASPECT)
ASPECT is a tool for evaluating the quality of staff and patient environments in healthcare buildings and can be used as a stand-alone tool or in conjunction with AEDET to provide a more comprehensive design evaluation of healthcare environments.
http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_082087

Activity Database
The briefing, design & commissioning tool for both new-build and refurbishment of healthcare buildings.
http://adb.dh.gov.uk/

Brief Introduction to the Planning System
http://www.scotland.gov.uk/Topics/Built-Environment/planning/National-Planning-Policy/

NHSScotland Fire Safety Management / NHSScotland Firecode
Health Facilities Scotland

NHSScotland Asset Management System
Health Facilities Scotland

GREENCODE
Health Facilities Scotland

EnCO$_2$de
Health Facilities Scotland

Scottish Health Facilities Note 30: Infection Control in the Built Environment: Design and Planning
Health Facilities Scotland

HAI-SCRIBE: HAI System for the Control of Risk of Infection in the Built Environment
Health Facilities Scotland

NHSScotland Property Transactions Handbook
(Currently under review)
Scottish Government Health Directorates

Useful references and web links

General

Health Facilities Scotland
Provides operational guidance to NHSScotland healthcare bodies on non-clinical topics including: building and architecture, procurement, property management, estates engineering, energy & environment.
http://www.hfs.scot.nhs.uk/

Architecture and Design Scotland
The Scottish national champion for good architecture, design and planning in the built environment. This site incorporates sections relating to specific programmes of activity including; Scottisharchitecture.com a network of digital resources relating to architecture and the built environment and SUST - Sustainable Design in Architecture and the Built Environment – which aims to raise awareness of the importance of a sustainable approach to design in the built environment by providing increased access to guidance, tools and techniques for clients, design teams and community-based groups.
http://www.ads.org.uk/

Space for Health
Space for Health provides a single 'front door' portal to the knowledge and expertise of the four UK health organisations. It draws together the technical guidance published by HFS, the DoH and their equivalents in Northern Ireland and Wales.
Note: As of publication of this Policy, Space for Health is under development – further information should be sought from Health Facilities Scotland*.*
http://www.spaceforhealth.nhs.uk/

University of Stirling Dementia Services Development Centre
The Dementia Services Development Centre promotes good practice for those working in the field of dementia care including guidance on designing for dementia.
http://www.dementia.stir.ac.uk/

Centre for Architecture and the Built Environment
The UK government's advisor on architecture, urban design and public space.
http://www.cabe.org.uk/

Construction Industry Council
The representative forum for the professional bodies, research organisations and specialist business associations in the construction industry.
http://www.cic.org.uk/

Art in Healthcare
A forward-looking arts-in-health organisation formed from Paintings in Hospitals Scotland and the Friends of Paintings in Hospitals Scotland.
http://www.artinhealthcare.org.uk/

Scottish Government links

Scottish Government Built Environment
The provision of planning guidance and advice, construction procurement guidance and technical advice for Scottish Government Directorates and other bodies.
http://www.scotland.gov.uk/Topics/Built-Environment

Scottish Government Architecture and Place Division
Promoting and encouraging better architecture.
http://www.scotland.gov.uk/Topics/Arts-Culture/arch/intro

Scottish Government Construction Procurement Manual
Provides the Scottish Government Directorates, Executive Agencies and most sponsored bodies (as well as the Scottish Parliament Corporate Body and the Forestry Commission in Scotland) with mandatory policy and procedures for understanding construction works projects.
http://www.scotland.gov.uk/Publications/2005/11/28100404/04066

Scottish Government Sustainable Development

Sustainable development is integral to the Scottish Government's overall purpose - to focus government and public services on creating a more successful country, with opportunities for all of Scotland to flourish, through increasing sustainable economic growth.
http://www.scotland.gov.uk/Topics/Environment/SustainableDevelopment

Scottish Government Capital Planning and Asset Management website

Responsibility for the Health Directorates capital planning policy and strategy for NHSScotland and advice on all asset management matters impacting upon the Scottish Government Health Directorates responsibilities for NHSScotland.
http://www.pcpd.scot.nhs.uk/

Scottish Government Capital Planning and Investment website

Policy and guidance on planning NHS capital developments including those developed through public private partnerships.
http://www.pfcu.scot.nhs.uk/

Department of Health (England) links and publications

The architectural healthcare environment and its effect on patient health outcomes

A research project funded by the Department of Health and led by Professor Bryan Lawson and Dr Michael Phiri of the University of Sheffield School of Architecture, in collaboration with John Wells-Thorpe. The document is available for purchase from The Stationery Office, ISBN 011322480X.
http://www.tsoshop.co.uk/bookstore.asp?Action=Book&ProductId=011322480X

The Healing Environment

English Department of Health report which looks at the components of a healing environment and the effect on patients and staff.
http://www.dh.gov.uk/en/Managingyourorganisation/Leadershipandmanagement/Healthcareenvironment/Browsable/DH_4116478

Other references

OGC Procurement Guide 09: Design Quality

Office of Government Commerce 2004

Part of the OGC Achieving Excellence Procurement Guides
http://www.ogc.gov.uk/assets/images/cp0069.pdf

A guide to quality based selection of consultants: a key to design quality

Published 1998, £15.00 ISBN 1 898671 14 1

Construction Industry Council recommends this Guide as an inclusive guide and method for delivering construction clients with the consultants services they require and to realise the real economies and benefits to be had from good design.
http://www.cic.org.uk/services/publicationsCIC.shtml

From: Nightingale RHSC <rhsc@nightingaleassociates.com>
Sent: 18 June 2010 16:34
To: McLennan, Neil; McCallum, Isabel
Cc: Nightingale RHSC; RHSC Admin; Jason Speck
Subject: RE: 1:50 meeting

Hi Neil
In preparation for the meeting on Tuesday I've put together a suggested agenda below.
Let me know if you have anything to add, or any other comments.

1. **Review of Database**: discuss queries raised in my e-mail of 04/06 relating to missing briefing codes, equipment queries and standardisation of ADB sheets.
2. **Generic rooms**: Agree what constitutes a generic room, and confirm the list of generic rooms.
3. **Review process**: Discuss the separate processes for reviewing the generic room layouts, and for reviewing the non-generic room layouts.
4. **Room data sheets**: Discussion about management of information, recording change, and generation of reports including a demonstration of how we propose to manage the database.

Items 3 & 4 will require the use of an overhead projector.
Regards
Nick

Nick Durham | Architect | Studio Director
NIGHTINGALE ASSOCIATES
The Old Convent | The Walk | Cardiff | CF24 3AG

t: +44 (0)[redacted] | **f:** +44 (0)[redacted] | **m**: +44 (0)[redacted]
e: nick.durham[redacted]
w: www.nightingaleassociates.com

From: McLennan, Neil [mailto:Neil.McLennan[redacted]
Sent: 14 June 2010 11:36
To: Nick Durham
Subject: RE: 1:50 meeting

Nick
Yes I'm happy to go ahead then. Zuzana has nooked the Seminar Room in Child Life & Health for us.
Neil

Neil McLennan
Senior Capital Planning Manager
Capital Planning & Premises Development
1 Rillbank Terrace
Edinburgh
Tel: 0131[redacted] Internal: [redacted]
Mobile: [redacted]
E Mail: neil.mclennan[redacted]

From: Nick Durham [mailto:Nick.Durham[redacted]
Sent: 14 June 2010 11:26
To: McLennan, Neil
Cc: McCallum, Isabel; Nightingale RHSC; RHSC Admin
Subject: 1:50 meeting

Hi Neil
Following our conversation last week are you able to confirm if our meeting on the 22nd June to discuss the ADB/Codebook queries is going ahead?
If this is Ok can we aim to start at 11am and finish by 3pm.
Thanks
Nick

Nick Durham | Architect | Studio Director
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t: +44 (0)[redacted] | **f:** +44 (0)[redacted] | **m**: +44 (0)[redacted]
e: nick.durham[redacted]
w: www.nightingaleassociates.com

From: Nick Durham <Nick.Durham[redacted]
Sent: 23 June 2010 12:32
To: McLennan, Neil; Stuart.Newton[redacted]
Cc: rhsc@bam.co.uk; Fraser.McQuarrie[redacted]; Jason Speck; Nightingale RHSC
Subject: ADB / Codebook database meeting
Attachments: 100622 List of Generic Rooms.pdf; 100622 generic rooms.pdf; 100622 - RHSC Database Responses.xls; Generic Room 'C' Sheet - Clean Utility.pdf

Neil
Thanks for spending time with us yesterday to review our queries on the ADB / Codebook database.
I've attached a copy of the marked up excel spread sheet from our meeting for your records. We will now incorporate these changes into our database and I may try to grab an hour of your time while I am up on Monday/Tuesday next week to review these amendments.
The following points confirm the outcome of our discussions around the process for reviewing the ADB sheets;

- We agreed that the starting list of generic rooms would be as the attached pdf file.
- We will only review equipment and finishes with the clinical users. Mot MacDonald and Hulley & Kirkwood will undertake a parallel exercise to review the environmental data with appropriate personnel from NHSL.
- The information for discussion at the room layout review meetings will be as follows
    - For generic room layout review meetings we will table plans, elevations and 3d views of each room. The drawings will be presented at as large a scale as possible – either 1:20 or 1:25 – for clarity. We will also bring along the 3D model in cad for information only. We will not make live amendments to the CAD model during the meeting as this would be time consuming and risk confusing the audit trail.
    - For non-generic room layout review meetings we will table 1:50 departmental layout plans and a typical fixing height drawing. We will only produce elevations and/or 3D views where we have a complex arrangement of equipment.
    - We will continue to record comments from all meetings in the same manner as for the 1:200 process – marked up drawings and individual issue log sheets.
- We agreed in principle that we would manage the review of equipment/finishes/environment information by generating excel reports from the codebook database after each round of room layout meetings rather than generating a full set of ADB sheets. We demonstrated how this could potentially save a huge amount of time & resource during the review process. We confirmed that once the review process is complete we will then generate a full set of ADB information which will form part of the stage 4 contract and tabled a template ADB sheet which we had generated using Codebook.

I trust that this is an accurate reflection of our discussion and I'd welcome your comments on these points.

Regards
Nick

Nick Durham | Architect | Studio Director
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e: nick.durham[redacted]
w: www.nightingaleassociates.com

09047 List of Rooms by Department

Project: ***09047 Edinburgh Royal Hospital For Sick Children***
Department: ***GEN Generic Rooms***

Revision: 15/01/10

Room Number	Briefing Room Code	Room Name	Required Area (sq m)
GEN-XX-001	B1602A	Isolation single bedroom:	15.0
GEN-XX-002	B1802	Single bedroom: Children/young people: with relatives overnight stay	15.0
~~GEN-XX-003~~	~~B1805~~	~~Isolation single bedroom: Children/young people: with relatives overnight stay~~	~~15.0~~
GEN-XX-004	B2003	Multi-bed room: 4 beds: with relatives overnight stay	70.5
~~GEN-XX-005~~	~~C0211~~	~~Consult / Multi-discipline~~	~~24.0~~
GEN-XX-006	C0224	Consulting / examination/ treatment room: double-sided couch access	15.5
GEN-XX-007	C1401	Physical measurement bay	3.5
~~GEN-XX-008~~	~~D1302~~	~~Day/overnight room: single bedroom: relatives~~	~~10.0~~
~~GEN-XX-009~~	~~E0128A~~	~~General X-Ray Room~~	~~33.0~~
GEN-XX-010	G0103	Parking bay: resuscitation trolley	1.0
GEN-XX-011	G0118	Linen bay: exchange trolley - 1 trolley	1.5
GEN-XX-012	G0142	Parking bay: mobile x-ray: ultrasound unit	4.0
~~GEN-XX-013~~	~~G0510A~~	~~Gowning Lobby~~	~~6.0~~
GEN-XX-014	G0508	Isolation Bedroom Entrance Lobby	4.0
~~GEN-XX-015~~	~~J0204A~~	~~Reception Area: 2 staff~~	~~16.0~~
~~GEN-XX-016~~	~~J0213~~	~~Reception Area: 3 staff~~	~~16.5~~
GEN-XX-017	M0507	Office: 1 staff	9.0
GEN-XX-018	M0209	Office: 2 staff	10.0
~~GEN-XX-019~~	~~-~~	~~Hot Desk~~	~~5.0~~
~~GEN-XX-020~~	~~-~~	~~Multi Disciplinary Office~~	~~18.0~~
GEN-XX-021	M0702	Interview room	9.0
GEN-XX-022	P0607	Pantry	8.0
GEN-XX-023	S0010	Baby / Infant feeding room	4.0
GEN-XX-024	T0151	Touchdown base	2.0
GEN-XX-025	T0505	Clean utility	12.0
GEN-XX-026	V0704	Patient changing cubicle: independent wheelchair accessible	4.0
~~GEN-XX-027~~	~~V0705~~	~~Patient changing cubicle~~	~~4.0~~
GEN-XX-028	V1109	WC & personal wash: ambulant	3.0
GEN-XX-029	V0907	WC wheelchair accessible	4.5
~~GEN-XX-030~~	~~-~~	~~Dual Assisted WC~~	~~0.0~~
~~GEN-XX-031~~	~~V1113~~	~~Nappy change room with handwash Baby/infant~~	~~4.0~~
GEN-XX-032	V1625	Shower: WC & wash: assisted wheelchair accessible: En-suite Non-touch WC cistern.	6.0
GEN-XX-033	V1712	Bath: WC & wash: treatment: assisted	14.0
GEN-XX-034	W0126A	Store: for equipment / General	6.0
~~GEN-XX-035~~	~~W1512A~~	~~Store: plaster~~	~~6.0~~
~~GEN-XX-036~~	~~W1549~~	~~Store: general~~	~~12.0~~
~~GEN-XX-037~~	~~W1587~~	~~Store: general~~	~~6.0~~
GEN-XX-038	W1587C	Store for backup clothing	6.0
~~GEN-XX-039~~	~~X0105A~~	~~Patient preparation room~~	~~16.0~~
GEN-XX-040	X0105A	Outpatient Treatment room: child	14.0
GEN-XX-041	Y0417	Dirty utility (small)	11.0
GEN-XX-042	Y0406	Dirty utility (large)	14.0
GEN-XX-043	Y0613	Disposal Hold	10.0
GEN-XX-044	Y1501	Cleaners room	7.0
GEN-XX-045	G0118A	Linen bay: exchange trolley - 2 trolleys	3.0
GEN-XX-046	X0214	Inpatient Treatment room: child	16.0

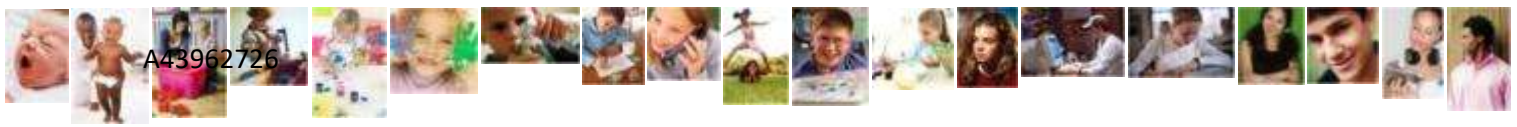
Royal Hospital for Sick Children Redevelopment

Room Layout Process Review Meeting

22nd June 2010

Agenda:

1. Review of database queries
   A. Missing briefing codes
   B. Standardisation of datasheets
   C. Equipment queries
2. Generic rooms
3. Process for reviewing drawings & RDS's
   A. Generic rooms
   B. Non-generic rooms
4. Room data sheets



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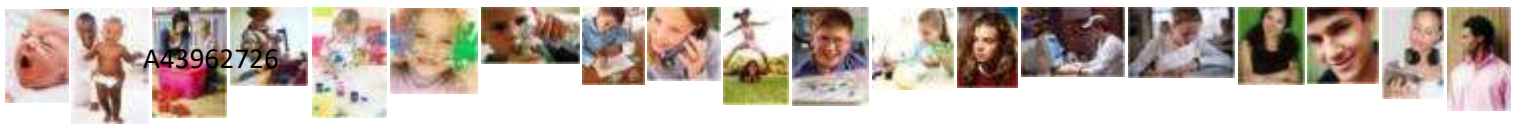

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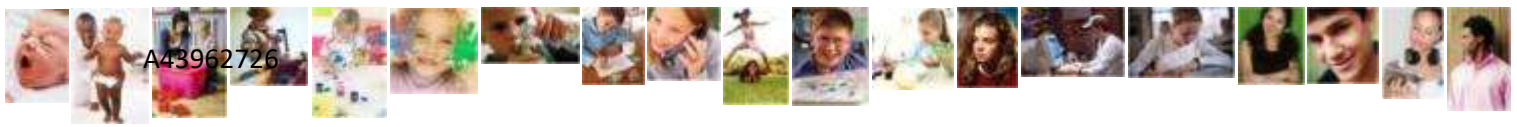
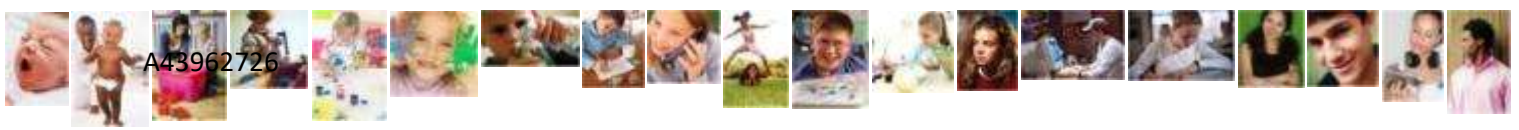


Room Numbe	Briefing Room Code	Room Name	Required Area (sq m)	number included in schedule	Designed Area (sq m)	generic rooms 1:50 to be developed	who
GEN-XX-001	B1602A	Isolation single bedroom:	15.0		0	a	inpt reps +
GEN-XX-002	B1802	Single bedroom: Children/young people: with relatives overnight stay	15.0		0	a	inpt reps +
GEN-XX-003	B1805	Isolation single bedroom: Children/young people: with relatives overnight stay	15.0		0	a	inpt reps +
GEN-XX-004	B2003	Multi-bed room: 4 beds: with relatives overnight stay	70.5		0	no	
GEN-XX-005	C0211	Consult / Multi-discipline	24.0		0	no	
GEN-XX-006	C0224	Consulting / examination/ treatment room: double-sided couch access	16.0		0	b	OPD reps
GEN-XX-007	C1401	Physical measurement bay	3.5		0	no	
GEN-XX-008	D1302	Day/overnight room: single bedroom: relatives	10.0		0	no	
GEN-XX-009	E0128A	General X-Ray Room	33.0		0	no	
GEN-XX-010	G0103	Parking bay: resuscitation trolley	1.0		0	c	inpt reps +
GEN-XX-011	G0118	Linen bay: exchange trolley	4.0		0	d	inpt reps +
GEN-XX-012	G0142	Parking bay: mobile x-ray: ultrasound unit	5.0		0	no	
GEN-XX-013	G0510A	Gowning Lobby	6.0		0	critical care mtg	
GEN-XX-014	G0508	Isolation Bedroom Entrance Lobby	4.0		0	a	
GEN-XX-015	J0204A	Reception Area: 2 staff	16.0		0	no	
GEN-XX-016	J0213	Reception Area: 3 staff	16.5		0	no	
GEN-XX-017	M0507	Office: 1 staff	9.0		0	e	CMT?
GEN-XX-018	M0209	Office: 2 staff	12.0		0	no	
GEN-XX-019	-	Hot Desk	5.0		0	office mtg	
GEN-XX-020	-	Multi Disciplinary Office	18.0		0	no	
GEN-XX-021	M0702	Interview room	9.0		0	f	inpt reps +
GEN-XX-022	P0607	Pantry	8.0		0	g	
GEN-XX-023	S0010A	Baby / Infant feeding room	4.0		0	no	
GEN-XX-024	T0109	Staff/nurse base: 2 staff	6.0		0	no	
GEN-XX-025	T0505A	Clean utility	14.0		0	b	inpt reps +
GEN-XX-026	V0704	Patient changing cubicle: independent wheelchair accessible	4.0		0	no	
GEN-XX-027	V0705	Patient changing cubicle	4.0		0	no	
GEN-XX-028	V1109	WC & personal wash: ambulant	3.0		0	h	all
GEN-XX-029	V0907	WC wheelchair accessible	4.5		0	h	all
GEN-XX-030	-	Dual Assisted WC	0.0		0	no	
GEN-XX-031	V1113	Nappy change room with handwash Baby/infant	4.0		0	no	
GEN-XX-032	V1625	Shower: WC & wash: assisted wheelchair accessible: En-suite Non-touch WC cis	6.0		0	a	inpt reps +
GEN-XX-033	V1712	Bath: WC & wash: treatment: assisted	14.0		0	no	
GEN-XX-034	W0126A	Store: for equipment / General	6.0		0	no	
GEN-XX-035	W1512A	Store: plaster	6.0		0	no	
GEN-XX-036	W1549	Store: general	12.0		0	no	
GEN-XX-037	W1587	Store: general	6.0		0	no	
GEN-XX-038	W1587C	Store for backup clothing	6.0		0	no	
GEN-XX-039	X0105A	Patient preparation room	16.0		0	no	
GEN-XX-040	X0214	Treatment room: child	16.0		0	b	inpt reps +
GEN-XX-041	Y0406	Dirty utility	12.0		0	i	opd reps
GEN-XX-042	Y0406	Dirty utility	14.0		0	no	all
GEN-XX-043	Y0613	Disposal Hold	10.0		0	j	M Kelly
GEN-XX-044	Y1501	Cleaners room	7.0		0	k	M Kelly
		Departmental Total	**490.0**				

- Consistency
- Hospital policy
- Efficiency

Standard Rooms



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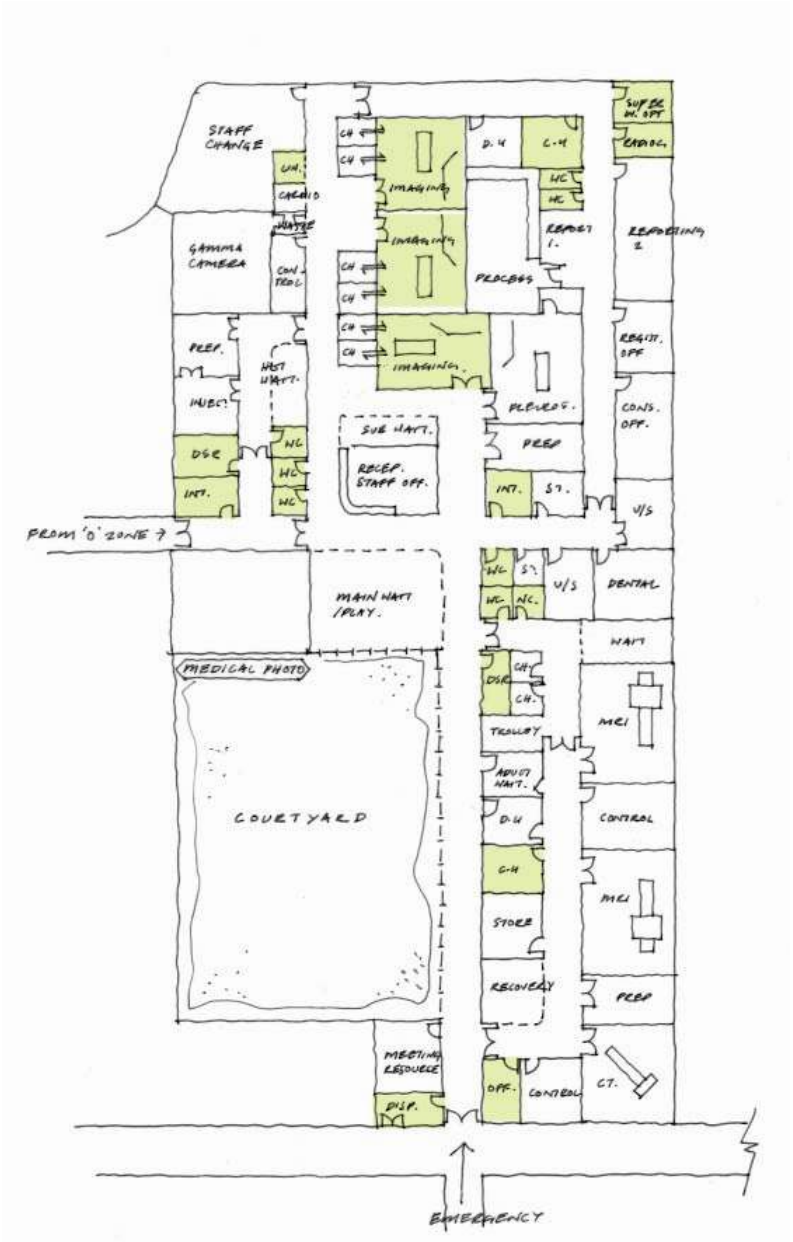
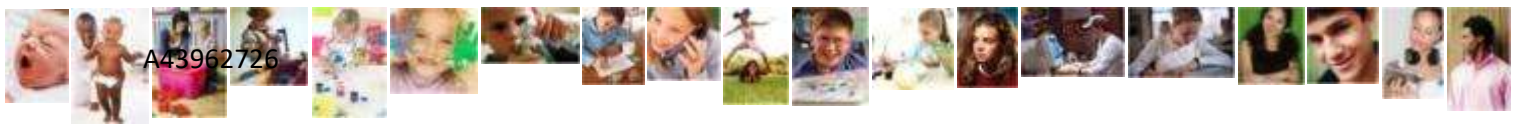


- Utility rooms
- Interview rooms
- Single person offices
- WC's
- Standard X-Ray Room
- Cleaners Rooms



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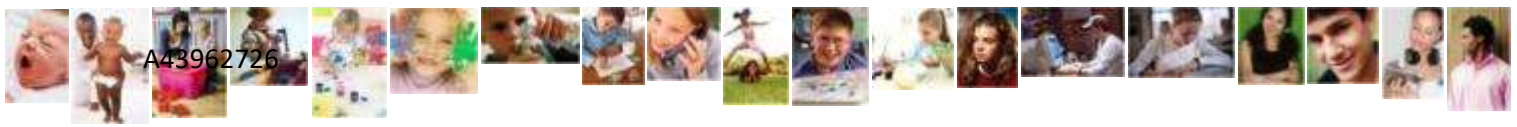
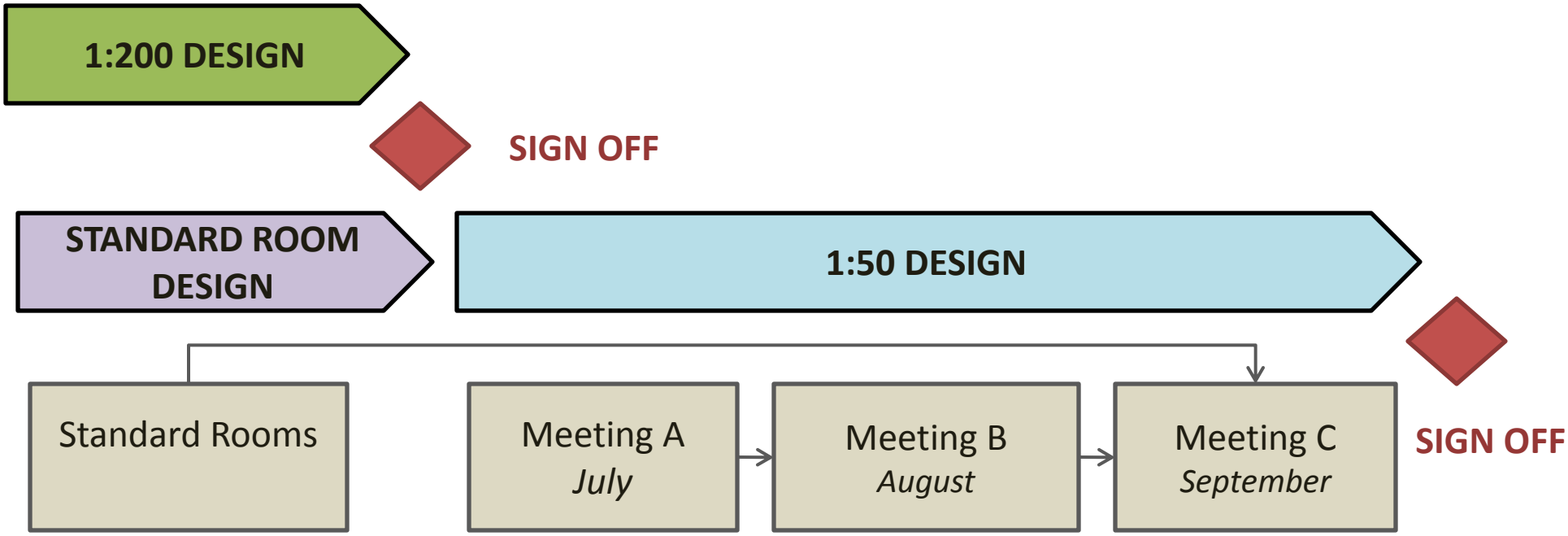
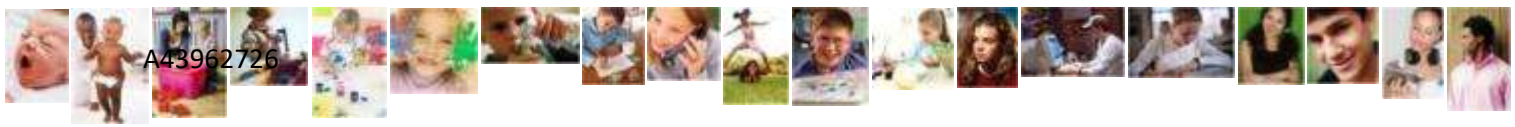



1:200 DESIGN
SIGN OFF
STANDARD ROOM DESIGN
1:50 DESIGN
Standard Rooms
Meeting A
July
Meeting B
August
Meeting C
September
SIGN OFF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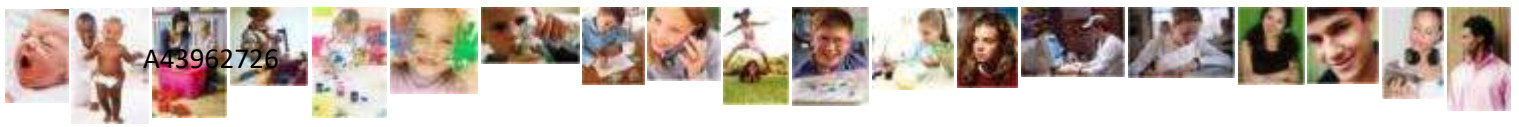
ID	Task Name	Duration	Start	Finish
1	**Review Brief & adjacencies**	**21 days**	**Fri 07/05/10**	**Fri 04/06/10**
2	Instruction to reduce area & move footprint	0 days	Fri 07/05/10	Fri 07/05/10
3	Review Schedule of accommodation	10 days	Mon 10/05/10	Fri 21/05/10
4	Revised schedule of Accommodation issued	0 days	Fri 21/05/10	Fri 21/05/10
5	Produce revised departmental adjacencies	10 days	Mon 24/05/10	Fri 04/06/10
6	NHSL Approval to proceed to next stage	0 days	Fri 04/06/10	Fri 04/06/10
7				
8	**1:200 Clinical meetings**	**40 days**	**Mon 07/06/10**	**Fri 30/07/10**
9	Produce revised 1:200 layouts	15 days	Mon 07/06/10	Fri 25/06/10
10	Meeting clinical groups ROUND 4	5 days	Mon 28/06/10	Fri 02/07/10
11	Re-drafting clinical layouts	15 days	Mon 05/07/10	Fri 23/07/10
12	Final approval & sign-off by NHSL	5 days	Mon 26/07/10	Fri 30/07/10
13	Approval to proceed to next stage	0 days	Fri 30/07/10	Fri 30/07/10
14				
15	**1:50 clinical design meetings**	**80 days**	**Mon 02/08/10**	**Fri 19/11/10**
16	Preparatory layouts for initial 1:50 meetings	15 days	Mon 02/08/10	Fri 20/08/10
17	Meeting clinical groups ROUND 1	10 days	Mon 23/08/10	Fri 03/09/10
18	Re-drafting clinical layouts	15 days	Mon 06/09/10	Fri 24/09/10
19	Meeting clinical groups ROUND 2	10 days	Mon 27/09/10	Fri 08/10/10
20	Re-drafting clinical layouts	15 days	Mon 11/10/10	Fri 29/10/10
21	Meeting clinical groups ROUND 3	10 days	Mon 01/11/10	Fri 12/11/10
22	Final approval & sign-off by NHSL	5 days	Mon 15/11/10	Fri 19/11/10
23	Approval to proceed to next stage	0 days	Fri 19/11/10	Fri 19/11/10
24				
25	**Room Layouts preparatory work (generic rooms)**	**60 days**	**Mon 24/05/10**	**Fri 13/08/10**
26	NA Link equipment database to current SoA (version 7)	10 days	Mon 24/05/10	Fri 04/06/10
27	NA Issue database queries to NHSL	0 days	Fri 04/06/10	Fri 04/06/10
28	**NHSL review of database queries**	**15 days**	**Mon 07/06/10**	**Fri 25/06/10**
29	Review of new rooms added since original database	15 days	Mon 07/06/10	Fri 25/06/10
30	Review of new equipment added since original database	15 days	Mon 07/06/10	Fri 25/06/10
31	Confirm list of generic rooms	15 days	Mon 07/06/10	Fri 25/06/10
32	Meeting with NHSL to review databse queries (date TBC)	0 days	Thu 17/06/10	Thu 17/06/10
33	NHSL respond on database queries	0 days	Fri 25/06/10	Fri 25/06/10
34	NA update database	5 days	Mon 28/06/10	Fri 02/07/10
35	Agree strategy for room loading process (including RDS format)	20 days	Mon 07/06/10	Fri 02/07/10
36	Meeting to present updated database (date TBC)	0 days	Fri 02/07/10	Fri 02/07/10
37	**Generic room review process**	**30 days**	**Mon 05/07/10**	**Fri 13/08/10**
38	Prepare for generic room review	10 days	Mon 05/07/10	Fri 16/07/10
39	Generic room meeting 1	0 days	Fri 16/07/10	Fri 16/07/10
40	Prepare for generic room review	10 days	Mon 19/07/10	Fri 30/07/10
41	Generic room meeting 2	0 days	Fri 30/07/10	Fri 30/07/10
42	Prepare for generic room review	10 days	Mon 02/08/10	Fri 13/08/10
43	Generic room meeting 3 - sign-off	0 days	Fri 13/08/10	Fri 13/08/10
44	NHSL to review equipment groupings	20 days	Mon 05/07/10	Fri 30/07/10



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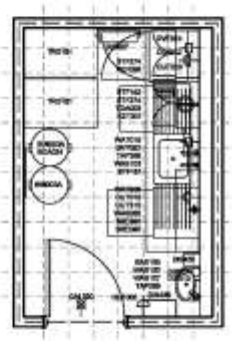
NHSL to review equipment groupings	20 days	Mon 05/07/10	Fri 30/07/10



PLAN

P0607 - Pantry

Required Area = 8.0m²
Designed Area = 7.93m²

Equipment Schedule

Equipment Shown on drawings

Equipment Extra to NHS ADB

Equipment Missing suggested in NHS ADB

NIGHTINGALE

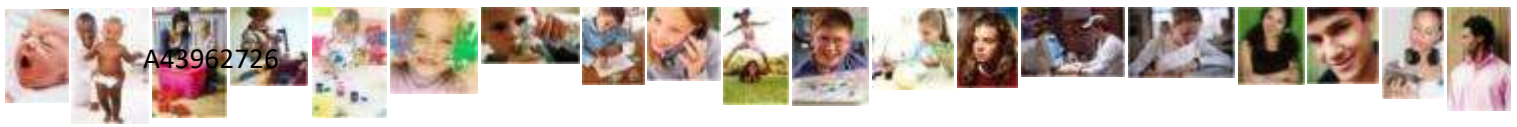
Project
EDINBURGH RHSC

Drawing Title
Generic Room Layout
Pantry

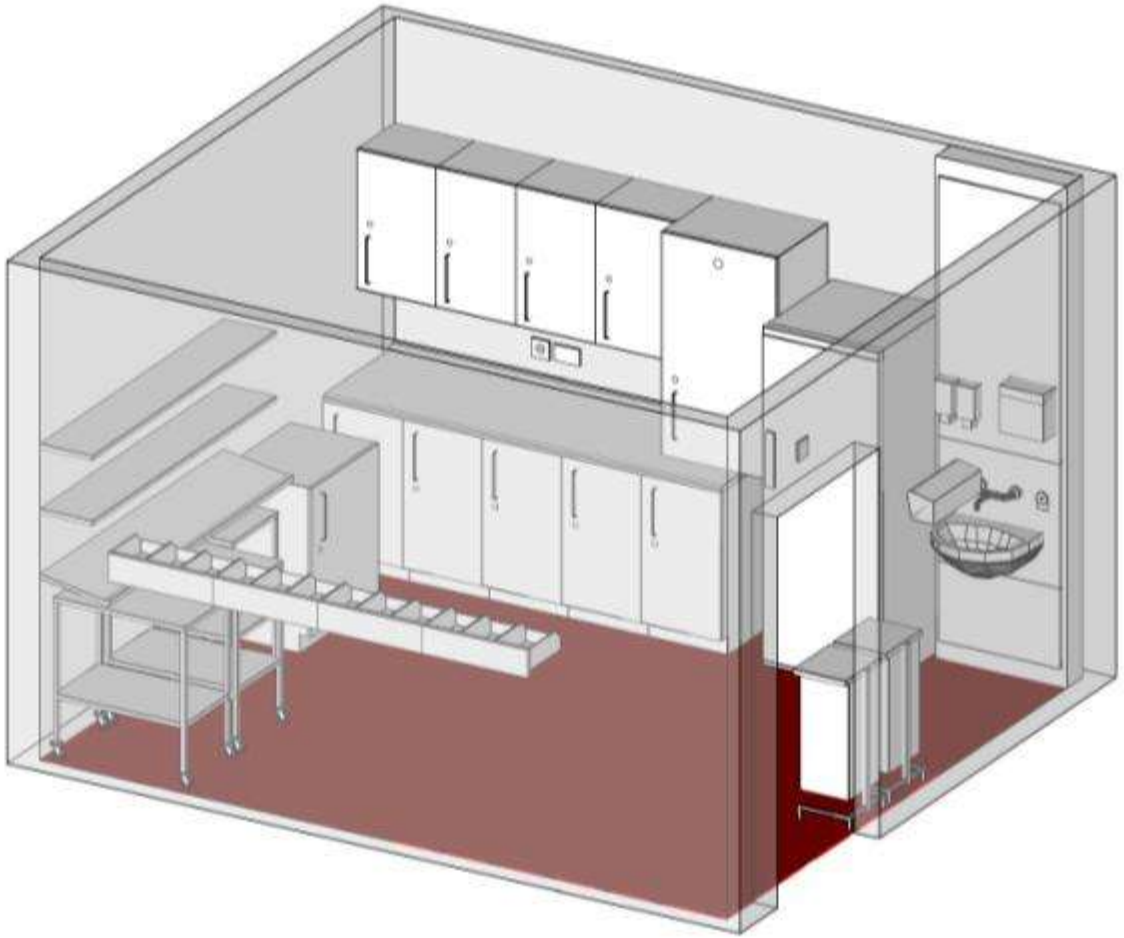
Job No	Date	Drawing No
09047	01/02/10	1:50

Status
For Information

Drawing No						Rev
Origin	Zone	Level	Type	Number	Sequential	
AR	WS	XX	PL	400	041	X

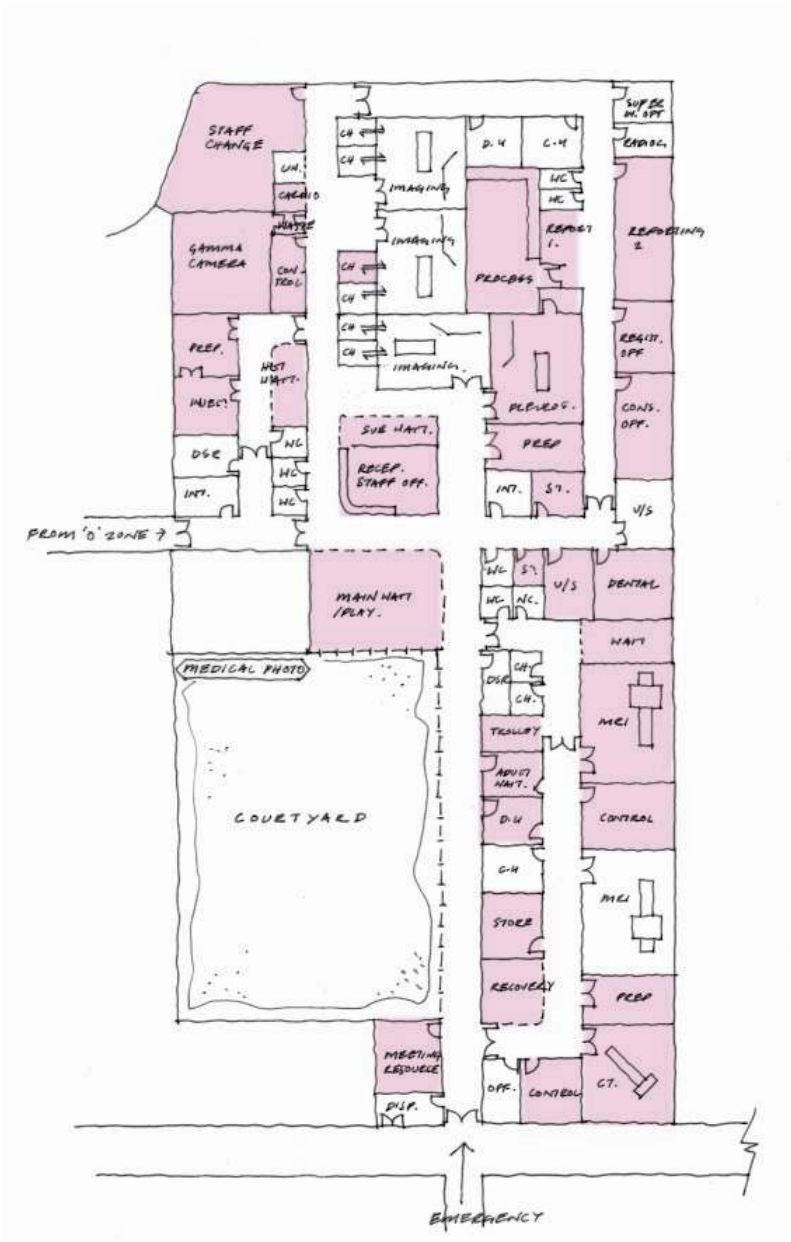


bam



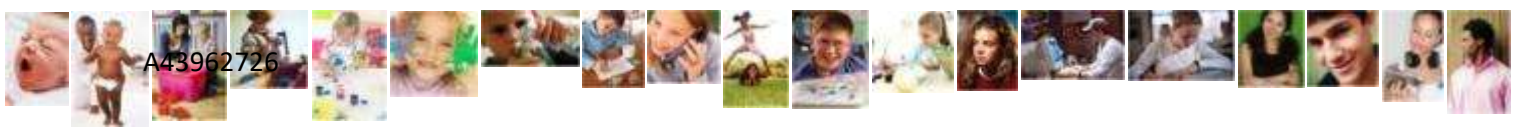
RHSC Edinburgh

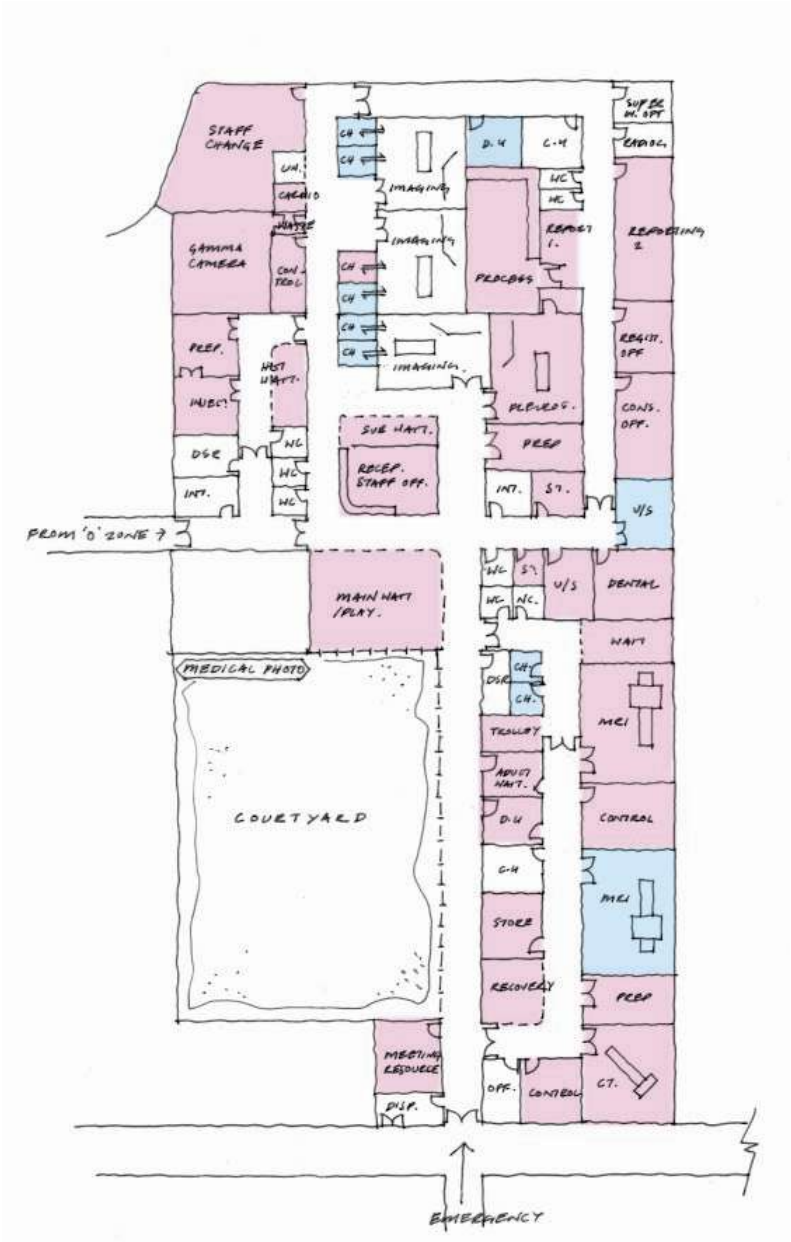
Typical standard 3D room layout



Meeting A

Initial Layouts for specific rooms



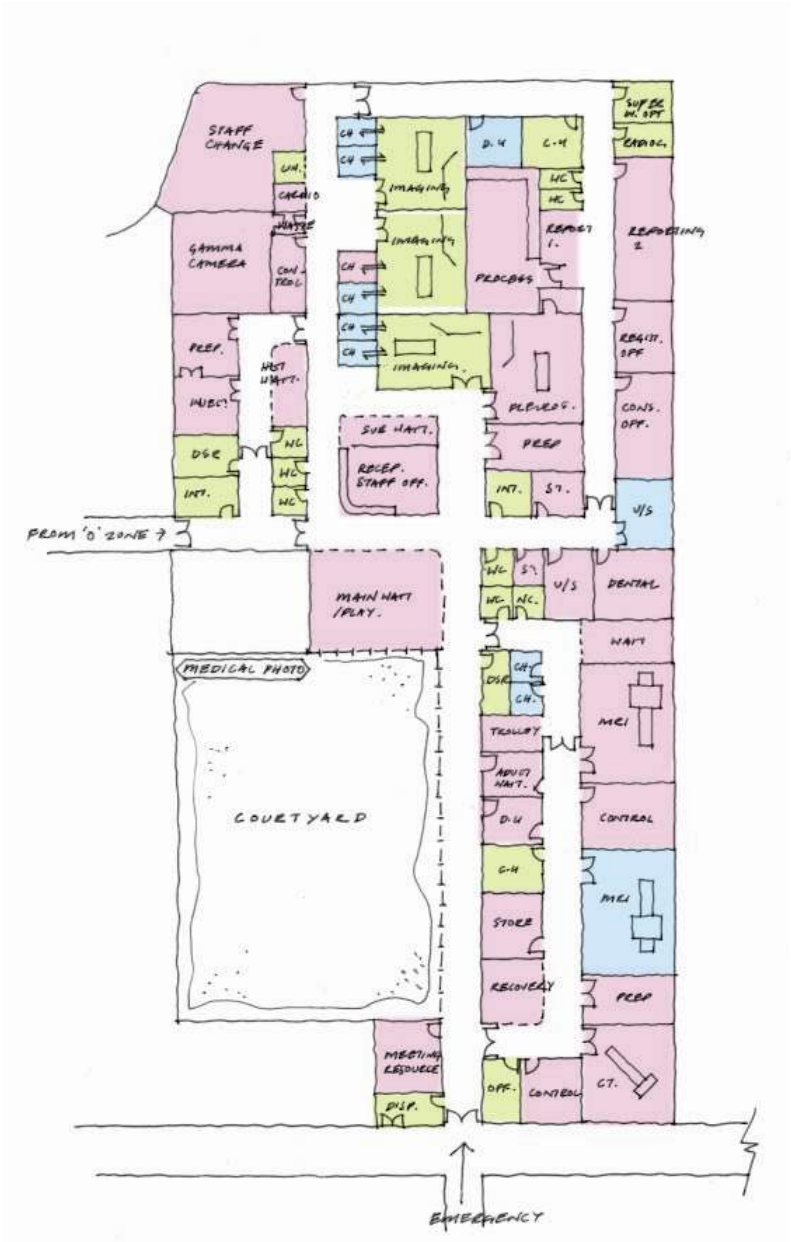


Meeting B

Changes to specific rooms following user comments from previous meeting

Adaption of specific rooms to repeated rooms

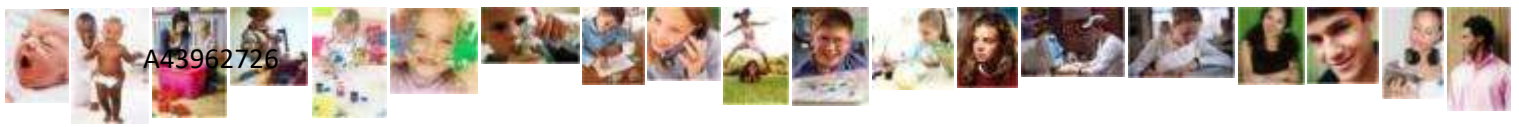
Multiple Specific rooms



Meeting C *(Sign Off)*

All rooms shown

Specific rooms



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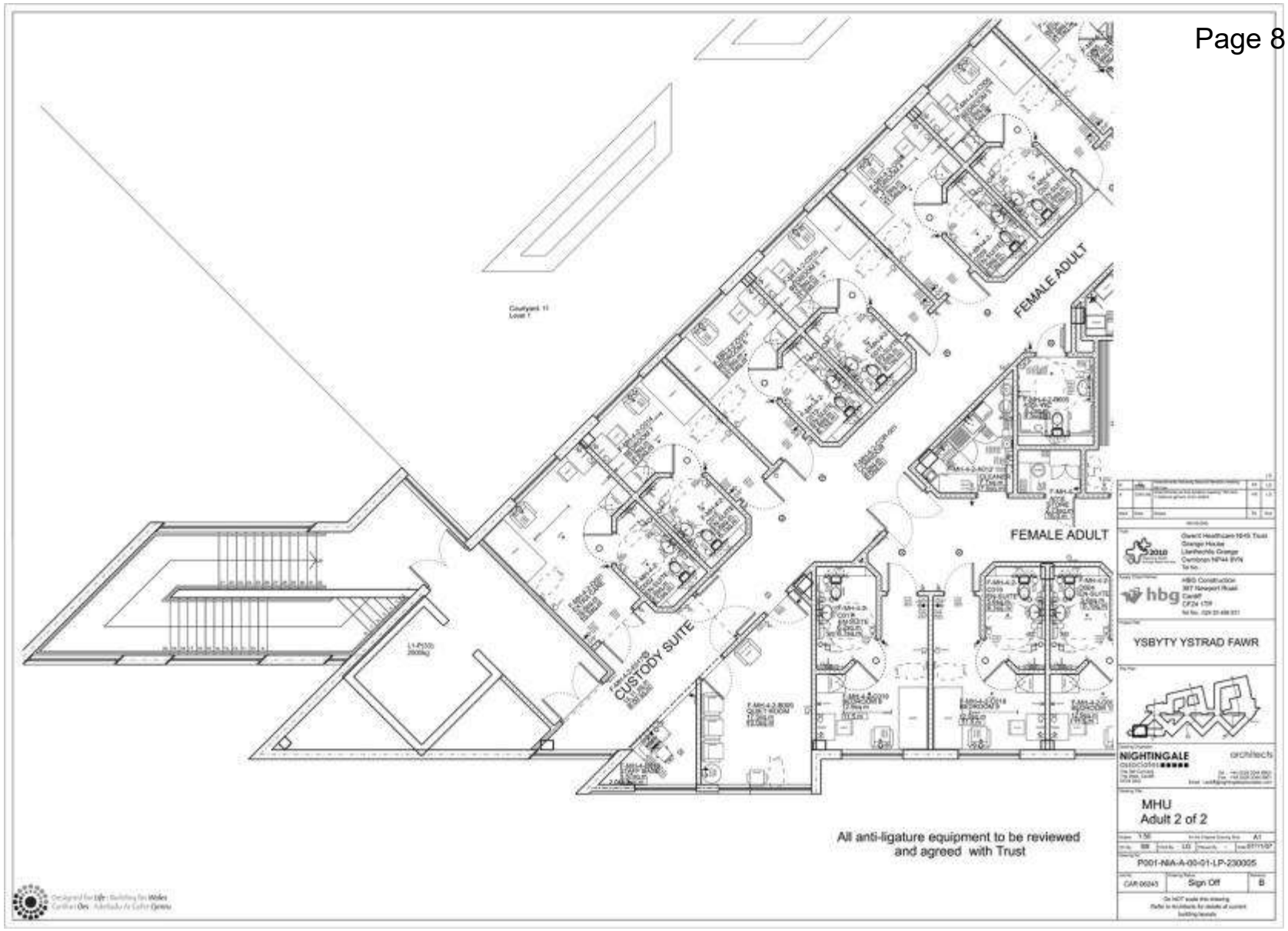
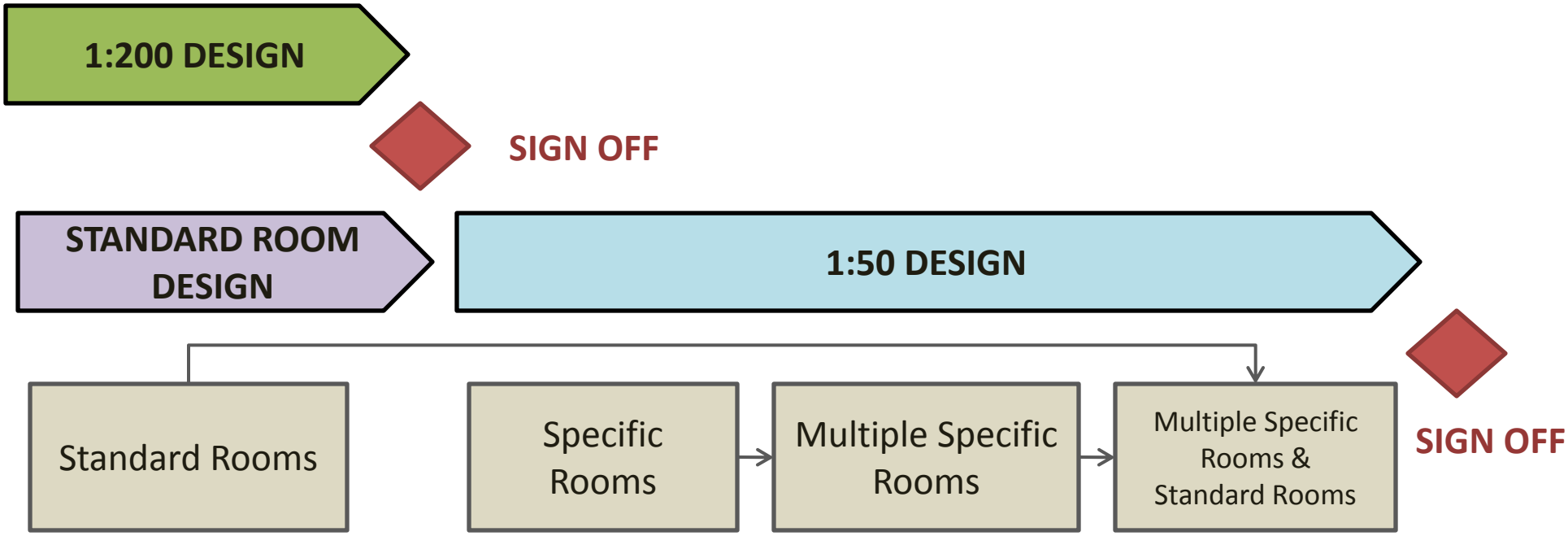
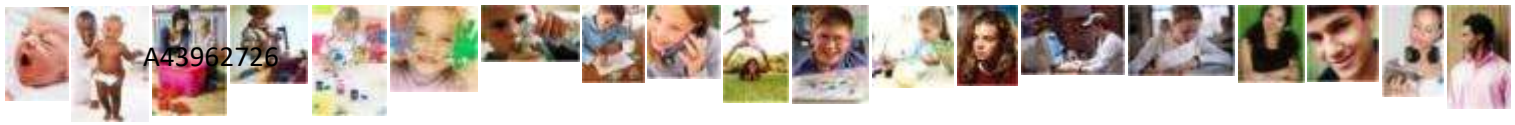


1:50 Scale Room Layouts


1:200 DESIGN
SIGN OFF
STANDARD ROOM DESIGN
1:50 DESIGN
Standard Rooms
Specific Rooms
Multiple Specific Rooms
Multiple Specific Rooms & Standard Rooms
SIGN OFF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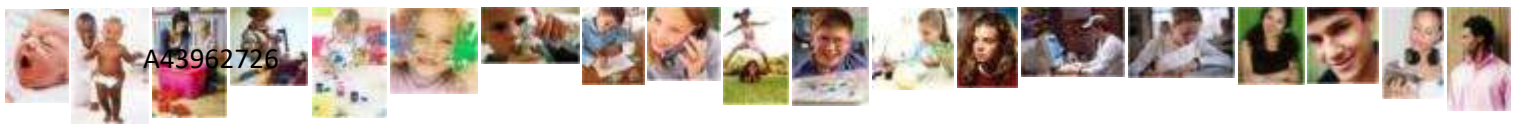
Agenda:

1. Review of database queries
   A. Missing briefing codes
   B. Standardisation of datasheets
   C. Equipment queries
2. Generic rooms
3. Process for reviewing drawings & RDS's
   A. Generic rooms
   B. Non-generic rooms
4. Room data sheets



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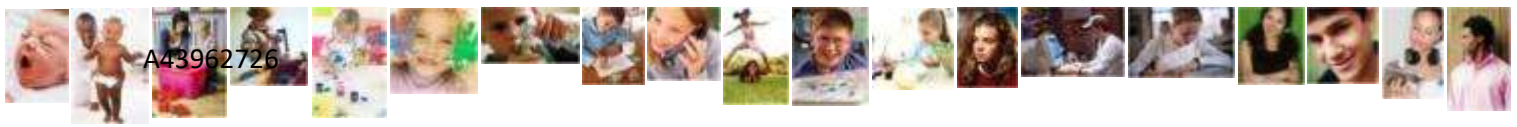
Room Data Sheets:

1. Key information in ADB

- A. Equipment
- B. Environmental data
- C. Finishes

ADB DATABASE FROM NHSL

SCHEDULE OF AREAS



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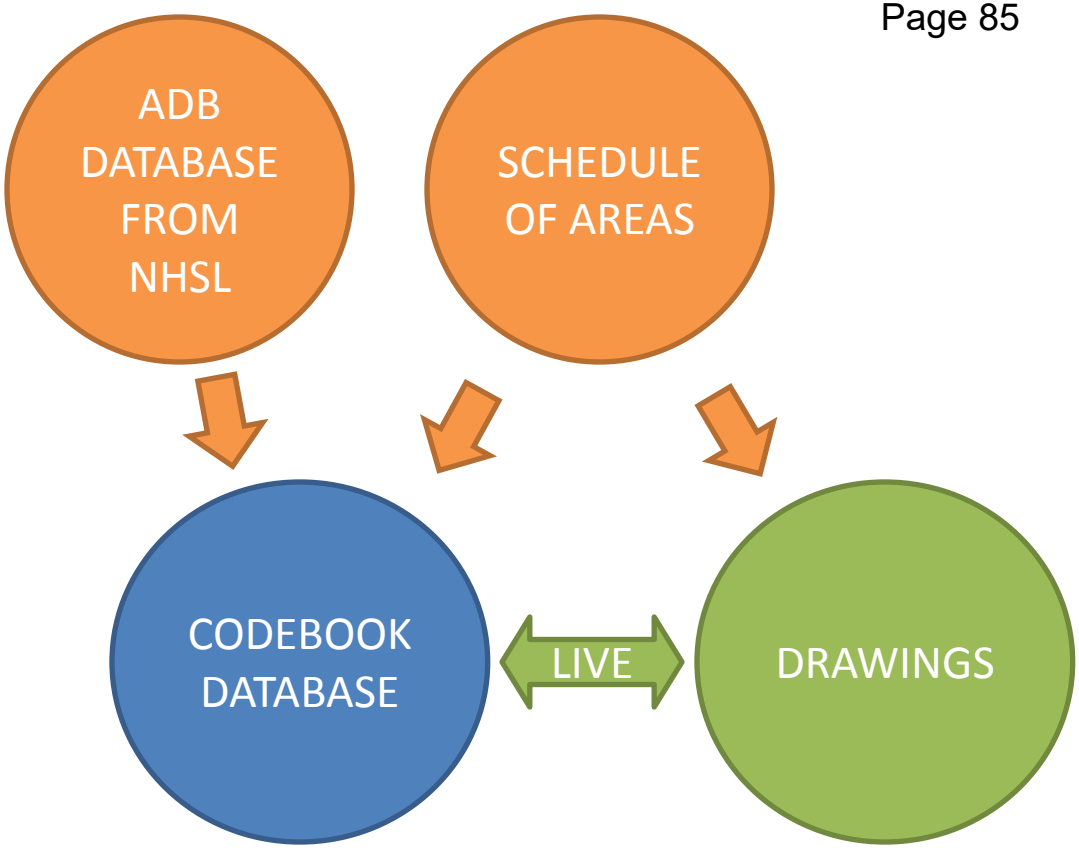
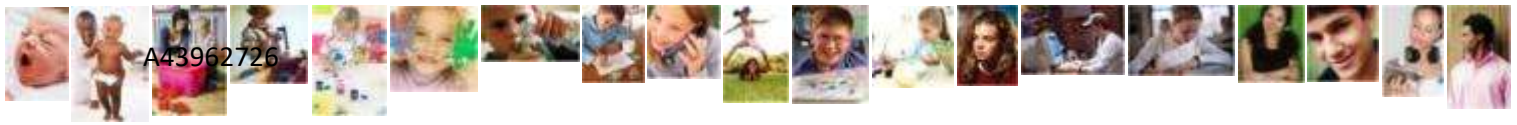




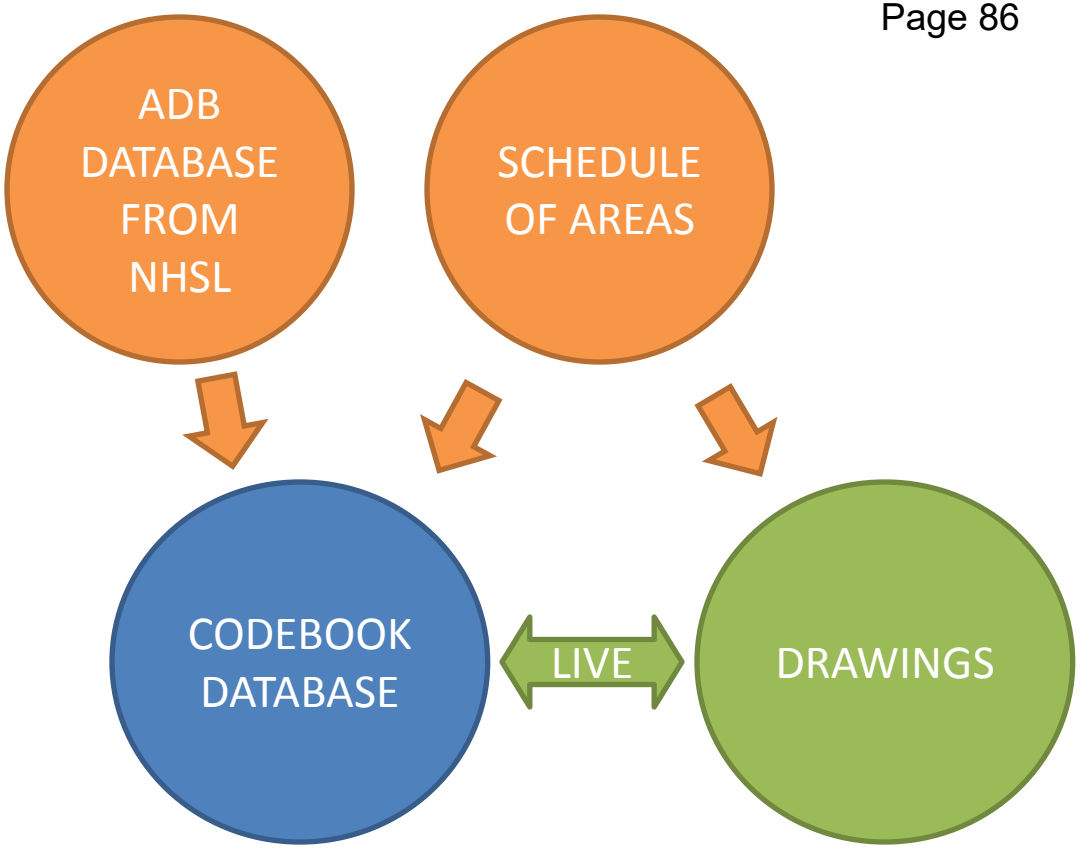
Room Data Sheets:

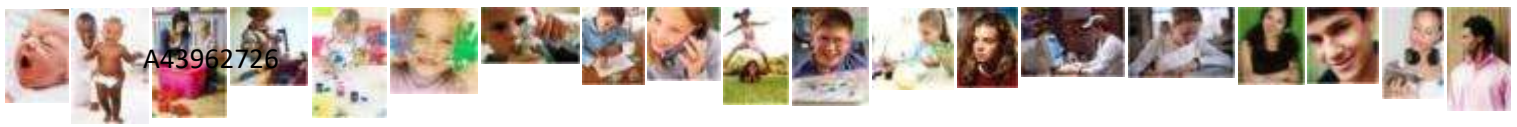
1. Key information in ADB

A. Equipment
B. Environmental data
C. Finishes

2. Output from Codebook

A. Equipment
B. Environmental data
C. Finishes
D. Drawn areas
E. Other reports.....





Room Data Sheets:

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   - A. Equipment
   - B. Environmental data
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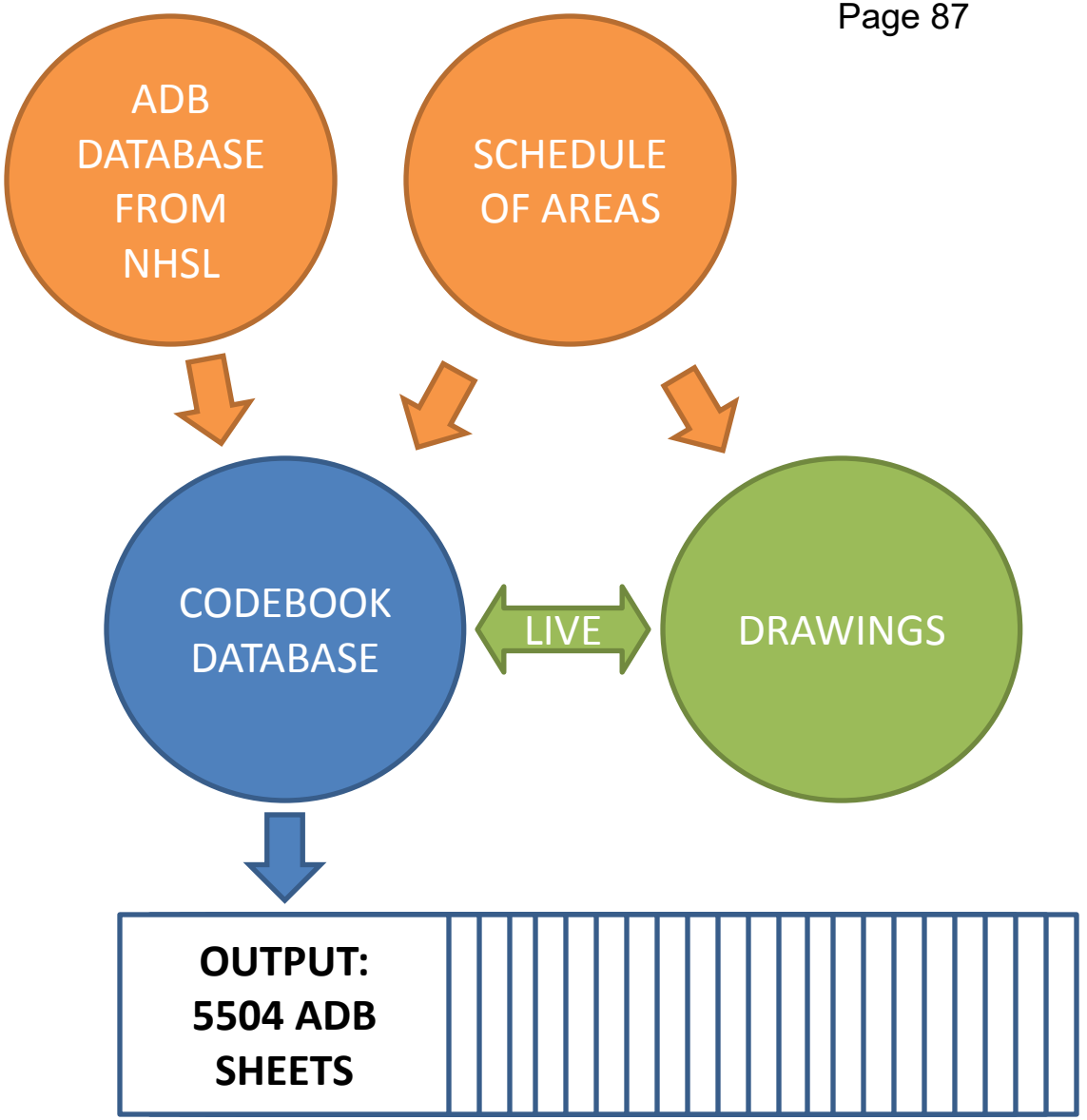
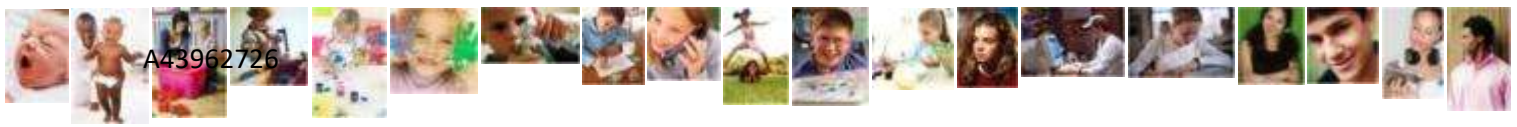
   - D. Drawn areas
   - E. Other reports.....
3. **Managing Audit trail**
   - A. 1376 Individual rooms?
   - B. 4 reports?





Room Data Sheets:

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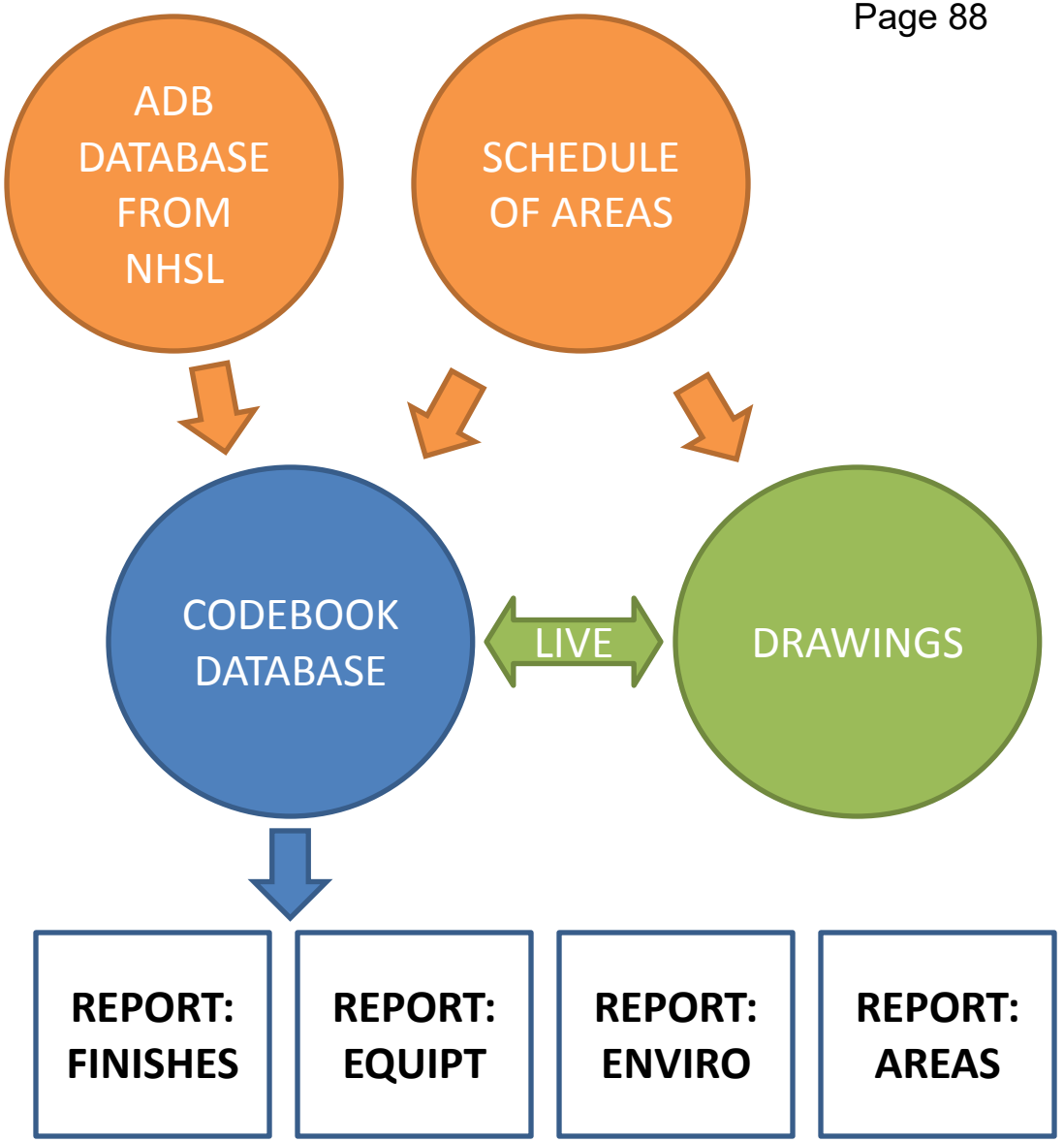
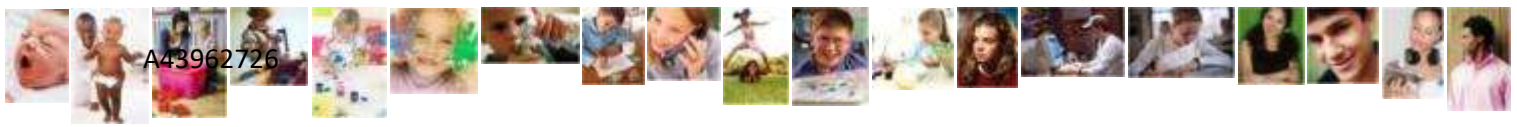




Dept Name	Sub Department	Room Name	Req Area	Brief Code	NHSL Comments	*Comments from meeting 22/06*
Emergency Department.	Distressed and Bereaved Persons Facilities	Body Viewing Room	10	L1612		
Emergency Department.	Distressed and Bereaved Persons Facilities	Sitting Room	16	S0029A		
Emergency Department.	Distressed and Bereaved Persons Facilities	WC - Wheelchair Accessible	4.5	V0906C		
Emergency Department.	Entrance, Reception & Waiting	Baby/Infant Feeding Room	4	S0010		
Emergency Department.	Entrance, Reception & Waiting	Main Entrance Draught Lobby	10	J0112		
Emergency Department.	Entrance, Reception & Waiting	Main Entrance Draught Lobby	10	J0112		
Emergency Department.	Entrance, Reception & Waiting	Nappy Change Room - With Handwash	4	V1113		
Emergency Department.	Entrance, Reception & Waiting	Parking Bay - 3 accident trolleys & 3 wheelchairs	12	G0128		
Emergency Department.	Entrance, Reception & Waiting	Parking Bay - 6 wheelchairs	4	G0119		
Emergency Department.	Entrance, Reception & Waiting	Reception (2 person)	16	J0204A		
Emergency Department.	Entrance, Reception & Waiting	Waiting Area inc Play Area	63	J1112A		
Emergency Department.	Entrance, Reception & Waiting	WC - Wheelchair Accessible	4.5	V0906D		
Emergency Department.	Entrance, Reception & Waiting	WC - Wheelchair Accessible	4.5	V0906D		
Emergency Department.	Patient Resuscitation Facilities	Resuscitation Room (2 places)	50	**X0237A**		*code from original database*
Emergency Department.	Patient Resuscitation Facilities	Resuscitation Room (2 places)	50	**X0237A**		
Emergency Department.	Social Care & Distressed/Disturbed Persons	Triage Room	16		**New Room**	*use treatment room code*
Emergency Department.	Staff Support Facilities	Pantry - Staff /Patient	5	P0607A		
Emergency Department.	Staff Support Facilities: Sanitary & Changing	Beverage Bay	3	P0703		
Emergency Department.	Staff Support Facilities: Sanitary & Changing	Female Staff Changing & Lockers (30 person)	16	V0411A		
Emergency Department.	Staff Support Facilities: Sanitary & Changing	Interview/Meeting Room (6 Person)	9	M0714		
Emergency Department.	Staff Support Facilities: Sanitary & Changing	Male Staff Changing & Lockers (20 person)	11.5	V0403A		
Emergency Department.	Staff Support Facilities: Sanitary & Changing	Office - Consultants (6 person)	30	M1801C		
Emergency Department.	Staff Support Facilities: Sanitary & Changing	Office - Medical Staff/Audit	10	M1002B		
Emergency Department.	Staff Support Facilities: Sanitary & Changing	Office - Secretarial	12	M1002A		
Emergency Department.	Staff Support Facilities: Sanitary & Changing	Office - Ward Manager (1 person)	9	M0507C		
Emergency Department.	Staff Support Facilities: Sanitary & Changing	Staff Shower - Ambulant	2.5	V0801A		
Emergency Department.	Staff Support Facilities: Sanitary & Changing	Staff Shower - Ambulant	2.5	V0801A		
Emergency Department.	Staff Support Facilities: Sanitary & Changing	WC - Staff	3	V1109C		
Emergency Department.	Staff Support Facilities: Sanitary & Changing	WC - Staff	3	V1109C		
Emergency Department.	Support Facilities: Clinical	Dirty Utility - Bedpan & Urine Test	11	Y0311A		
Emergency Department.	Support Facilities: Clinical	Laboratory - Near Patient Testing	8	L1305A		
Emergency Department.	Support Facilities: Holding & Storage	Linen Bay (1 trolley)	1.5	G0118		
Emergency Department.	Support Facilities: Holding & Storage	Store - Dispensing Drugs	8	Z0108A		
Emergency Department.	Support Facilities: Holding & Storage	Store - Equipment & Supplies	18	W1320A		
Emergency Department.	Support Facilities: Holding & Storage	Store - Major Incident / Ambulance Equipment	6	W1303A		
Emergency Department.	Support Facilities: Holding & Storage	Store - Medical Gas Cylinders	3	W1313A		
Emergency Department.	Support Facilities: Holding & Storage	Store - Stock & Sterile Supplies	18	W0533A		
Emergency Department.	Support Facilities: Miscellaneous	Disposal Hold	10	Y0614A		
Emergency Department.	Support Facilities: Miscellaneous	DSR	7	Y1503A		
Emergency Department.	Treatment Facilities	Changing Cubicle	4	V0705		
Emergency Department.	Treatment Facilities	Changing Cubicle	4	V0705		

Emergency Department.	Treatment Facilities	General X-Ray Room	33	E0128A		
Emergency Department.	Treatment Facilities	Plaster Suite (2 bays)	24	X0206A		
Emergency Department.	Treatment Facilities	Processing Room	10	**E0523A**	**New Room**	*code taken from CCU processing room*
Emergency Department.	Treatment Facilities	Staff & Communication Base	16	T0203A		
Emergency Department.	Treatment Facilities	Store - Plaster	6	W1512A		
Emergency Department.	Treatment Facilities	Supplies base	10	T0316A		
Emergency Department.	Treatment Facilities	Treatment Room - Multi-Functional (dual side couch access)	16	**X0242C**	**Change to Treatment Room: Mental Health**	
Emergency Department.	Treatment Facilities	Treatment Room - Multi-Functional (dual side couch access)	16	X0242B		
Emergency Department.	Treatment Facilities	Treatment Room - Multi-Functional (dual side couch access)	16	X0242B		
Emergency Department.	Treatment Facilities	Treatment Room - Multi-Functional (dual side couch access)	16	X0242B		
Emergency Department.	Treatment Facilities	Treatment Room - Multi-Functional (dual side couch access)	16	X0242B		
Emergency Department.	Treatment Facilities	Treatment Room - Multi-Functional (dual side couch access)	16	X0242B		
Emergency Department.	Treatment Facilities	Treatment Room - Multi-Functional (dual side couch access)	16	X0242B		
Emergency Department.	Treatment Facilities	Treatment Room - Multi-Functional (dual side couch access)	16	X0242B		
Emergency Department.	Treatment Facilities	Treatment Room - Multi-Functional (dual side couch access)	16	X0242B		
Emergency Department.	Treatment Facilities	Treatment Room - Multi-Functional (dual side couch access)	16	X0242B		
Emergency Department.	Treatment Facilities	Treatment Room - Multi-Functional (single side couch access)	14			*NA to propose code*
Emergency Department.	Treatment Facilities	Treatment Room - Multi-Functional (single side couch access)	14			*NA to propose code*
Emergency Department.	Treatment Facilities	Treatment Room - Multi-Functional (single side couch access)	14			*NA to propose code*
Emergency Department.	Treatment Facilities	Treatment Room - Multi-Functional (single side couch access)	14			*NA to propose code*
Emergency Department.	Treatment Facilities	Washdown Room	16	V1623		
Medical Paediatric Acute Assessment And Admissions (28 Beds)	4 Hour Observation Area (4 beds)	En-Suite - WC Shower & Wash	6	V1625F		
Medical Paediatric Acute Assessment And Admissions (28 Beds)	4 Hour Observation Area (4 beds)	Multi Bed Room (4 beds)	63	B2003C		

Medical Paediatric Acute Assessment And Admissions (28 Beds)	Adolescent Assessment Area (2 beds)	En-Suite - WC Shower & Wash	6	V1625J		
Medical Paediatric Acute Assessment And Admissions (28 Beds)	Adolescent Assessment Area (2 beds)	En-Suite - WC Shower & Wash	6	V1625J		
Medical Paediatric Acute Assessment And Admissions (28 Beds)	Adolescent Assessment Area (2 beds)	Single Bedroom	15	B1802I		
Medical Paediatric Acute Assessment And Admissions (28 Beds)	Adolescent Assessment Area (2 beds)	Single Bedroom	15	B1802I		
Medical Paediatric Acute Assessment And Admissions (28 Beds)	Medical Assessment Area (17 beds)	En-Suite - WC Shower & Wash	4.5	V1625I	**Single sided access different from V1625I double sided.**	*NA to propose code for 4.5sqm en-suite*
Medical Paediatric Acute Assessment And Admissions (28 Beds)	Medical Assessment Area (17 beds)	En-Suite - WC Shower & Wash	4.5	V1625I	**Single sided access different from V1625I double sided.**	*NA to propose code for 4.5sqm en-suite*
Medical Paediatric Acute Assessment And Admissions (28 Beds)	Medical Assessment Area (17 beds)	En-Suite - WC Shower & Wash	4.5	V1625I	**Single sided access different from V1625I double sided.**	*NA to propose code for 4.5sqm en-suite*
Medical Paediatric Acute Assessment And Admissions (28 Beds)	Medical Assessment Area (17 beds)	En-Suite - WC Shower & Wash	4.5	V1625I	**Single sided access different from V1625I double sided.**	*NA to propose code for 4.5sqm en-suite*
Medical Paediatric Acute Assessment And Admissions (28 Beds)	Medical Assessment Area (17 beds)	En-Suite - WC Shower & Wash	4.5	V1625I	**Single sided access different from V1625I double sided.**	*NA to propose code for 4.5sqm en-suite*
Medical Paediatric Acute Assessment And Admissions (28 Beds)	Medical Assessment Area (17 beds)	En-Suite - WC Shower & Wash	4.5	V1625I	**Single sided access different from V1625I double sided.**	*NA to propose code for 4.5sqm en-suite*
Medical Paediatric Acute Assessment And Admissions (28 Beds)	Medical Assessment Area (17 beds)	En-Suite - WC Shower & Wash	6	V1625I		
Medical Paediatric Acute Assessment And Admissions (28 Beds)	Medical Assessment Area (17 beds)	En-Suite - WC Shower & Wash	6	V1625I		
Medical Paediatric Acute Assessment And Admissions (28 Beds)	Medical Assessment Area (17 beds)	En-Suite - WC Shower & Wash	6	V1625I		
Medical Paediatric Acute Assessment And Admissions (28 Beds)	Medical Assessment Area (17 beds)	En-Suite - WC Shower & Wash	6	V1625I		

Medical Paediatric Acute Assessment And Admissions (28 Beds)	Medical Assessment Area (17 beds)	En-Suite - WC Shower & Wash	6	V1625I		
Medical Paediatric Acute Assessment And Admissions (28 Beds)	Medical Assessment Area (17 beds)	Multi Bed Room (4 beds)	63	B2003C		
Medical Paediatric Acute Assessment And Admissions (28 Beds)	Medical Assessment Area (17 beds)	Multi Bed Room (4 beds)	63	B2003E		
Medical Paediatric Acute Assessment And Admissions	Medical Assessment Area (17 beds)	Reception	3		**Change name to Reception / Touchdown Base**	*2 person reception / touch-down*
Medical Paediatric Acute Assessment And Admissions (28 Beds)	Medical Assessment Area (17 beds)	Single Bedroom	15	B1802H		
Medical Paediatric Acute Assessment And Admissions (28 Beds)	Medical Assessment Area (17 beds)	Single Bedroom	15	B1802H		
Medical Paediatric Acute Assessment And Admissions (28 Beds)	Medical Assessment Area (17 beds)	Single Bedroom	15	B1802H		
Medical Paediatric Acute Assessment And Admissions (28 Beds)	Medical Assessment Area (17 beds)	Single Bedroom	15	B1802H		
Medical Paediatric Acute Assessment And Admissions (28 Beds)	Medical Assessment Area (17 beds)	Single Bedroom	15	B1802H		
Medical Paediatric Acute Assessment And Admissions (28 Beds)	Medical Assessment Area (17 beds)	Single Bedroom	15	B1802H		
Medical Paediatric Acute Assessment And Admissions (28 Beds)	Medical Assessment Area (17 beds)	Single Bedroom	15	B1802H		
Medical Paediatric Acute Assessment And Admissions (28 Beds)	Medical Assessment Area (17 beds)	Single Bedroom	15	B1802H		
Medical Paediatric Acute Assessment And Admissions (28 Beds)	Medical Assessment Area (17 beds)	Single Bedroom	15	B1802H		
Medical Paediatric Acute Assessment And Admissions (28 Beds)	Medical Assessment Area (17 beds)	Touchdown Base	2	T0212		
Medical Paediatric Acute Assessment And Admissions (28 Beds)	Medical Assessment Area (17 beds)	Touchdown Base	2	T0212		

Medical Paediatric Acute Assessment And Admissions (28 Beds)	Seasonal Additional Capacity (5 beds)	En-Suite - WC Shower & Wash	4.5	V1625G
Medical Paediatric Acute Assessment And Admissions (28 Beds)	Seasonal Additional Capacity (5 beds)	En-Suite - WC Shower & Wash	4.5	V1625G
Medical Paediatric Acute Assessment And Admissions (28 Beds)	Seasonal Additional Capacity (5 beds)	En-Suite - WC Shower & Wash	4.5	V1625G
Medical Paediatric Acute Assessment And Admissions (28 Beds)	Seasonal Additional Capacity (5 beds)	En-Suite - WC Shower & Wash	4.5	V1625G
Medical Paediatric Acute Assessment And Admissions (28 Beds)	Seasonal Additional Capacity (5 beds)	En-Suite - WC Shower & Wash	6	V1625G
Medical Paediatric Acute Assessment And Admissions (28 Beds)	Seasonal Additional Capacity (5 beds)	Single Bedroom	15	B1805B
Medical Paediatric Acute Assessment And Admissions (28 Beds)	Seasonal Additional Capacity (5 beds)	Single Bedroom	15	B1805B
Medical Paediatric Acute Assessment And Admissions (28 Beds)	Seasonal Additional Capacity (5 beds)	Single Bedroom	15	B1805B
Medical Paediatric Acute Assessment And Admissions (28 Beds)	Seasonal Additional Capacity (5 beds)	Single Bedroom	15	B1805B
Medical Paediatric Acute Assessment And Admissions (28 Beds)	Seasonal Additional Capacity (5 beds)	Single Bedroom	15	B1805B
Medical Paediatric Acute Assessment And Admissions (28 Beds)	Shared Support	Clean Utility	12	T0505
Medical Paediatric Acute Assessment And Admissions (28 Beds)	Shared Support	Dining/Play Area	28	D0817
Medical Paediatric Acute Assessment And Admissions (28 Beds)	Shared Support	Dirty Utility	14	Y0406E
Medical Paediatric Acute Assessment And Admissions (28 Beds)	Shared Support	Disposal Hold	10	Y0614A

Medical Paediatric Acute Assessment And Admissions (28 Beds)	Shared Support	DSR	7	Y1501E		
Medical Paediatric Acute Assessment And Admissions (28 Beds)	Shared Support	Interview Room	9	M0702B		
Medical Paediatric Acute Assessment And Admissions (28 Beds)	Shared Support	Linen Bay (2 trolleys)	3	G0118F		
Medical Paediatric Acute Assessment And Admissions (28 Beds)	Shared Support	Office - Clinical Coordinators	10	M0507X		
Medical Paediatric Acute Assessment And Admissions (28 Beds)	Shared Support	Office - Multi-Disciplinary (10 person)	26	M0603XX		
Medical Paediatric Acute Assessment And Admissions (28 Beds)	Shared Support	Office - On-Call Consultant	9	M0507I		
Medical Paediatric Acute Assessment And Admissions (28 Beds)	Shared Support	Office - Ward Manager (1 person)	9	M0507Y		
Medical Paediatric Acute Assessment And Admissions	Shared Support	Pantry/Feed Preperation	10		**New Room**	*standard pantry but will not be generic*
Medical Paediatric Acute Assessment And Admissions (28 Beds)	Shared Support	Patient Assisted Bathroom	14	V1712D		
Medical Paediatric Acute Assessment And Admissions (28 Beds)	Shared Support	Resuscitation Trolley Bay	1	G0103E		
Medical Paediatric Acute Assessment And Admissions (28 Beds)	Shared Support	Store - Backup Clothing	4	W1587C		
Medical Paediatric Acute Assessment And Admissions (28 Beds)	Shared Support	Store - Equipment	6	W1420A		
Medical Paediatric Acute Assessment And Admissions (28 Beds)	Shared Support	Store - General	12	W1549F		
Medical Paediatric Acute Assessment And Admissions (28 Beds)	Shared Support	Treatment Room	16	X0214E		
Medical Paediatric Acute Assessment And Admissions (28 Beds)	Shared Support	WC - Staff	3	V1109J		

Medical Paediatric Acute Assessment And Admissions (28 Beds)	Shared Support	WC - Staff	3	V1109J		
Medical Paediatric Acute Assessment And Admissions (28 Beds)	Support Facilities: Miscellaneous	Office - Admi /Secretarial	12	M1013A		
Med PAA/Emergency Shared	Shared Staff	Meeting/Case Conference Room	32	**H0105**		
Med PAA/Emergency Shared	Shared Staff	Seminar & Training Room (15 person)	32	**H0515A**		
Med PAA/Emergency Shared	Shared Staff	Staff Rest Room	48		**New Room**	*NA suggest code for 30 person rest room*
Adult Link	Adult Link	Resuscitation Room (2 places)	0			
Adult Link	Adult Link	Resuscitation Room (2 places)	50	**X0237A**	**New Room**	
PICU & HDU - 24 Bed	Medical HDU (6 Beds)	Gowning Lobby	6	G0510D		
PICU & HDU - 24 Bed	Medical HDU (6 Beds)	Gowning Lobby	6	G0510D		
PICU & HDU - 24 Bed	Medical HDU (6 Beds)	Open Plan Bay (2 beds)	40	B1609C		
PICU & HDU - 24 Bed	Medical HDU (6 Beds)	Open Plan Bay (2 beds)	40	B1609C		
PICU & HDU - 24 Bed	Medical HDU (6 Beds)	Patient Assisted Bathroom	14	V1712		
PICU & HDU - 24 Bed	Medical HDU (6 Beds)	Single Bed Isolation Cubicle	26	B1602C		
PICU & HDU - 24 Bed	Medical HDU (6 Beds)	Single Bed Isolation Cubicle	26	B1602C		
PICU & HDU - 24 Bed	Medical HDU (6 Beds)	Staff Base	4	T0212B		
PICU & HDU - 24 Bed	Neonatal HDU (4 cots)	Open Plan Bay (3 cots)	45	B1407A		
PICU & HDU - 24 Bed	Neonatal HDU (4 cots)	Single Cot Isolation Cubicle	15	B1401A		
PICU & HDU - 24 Bed	Neonatal HDU (4 cots)	Staff Base	6	T0109A		
PICU & HDU - 24 Bed	PICU & HDU (24 beds)	Office - Data Manager & Secretarial (3 person)	15	M1018		
PICU & HDU - 24 Bed	PICU & HDU (24 beds)	Reception/B Tech Store Office (2 person)	12	J0609A		
PICU & HDU - 24 Bed	PICU & HDU (24 beds)	Telephone Booth - Public	2	G0705		
PICU & HDU - 24 Bed	PICU & HDU (24 beds)	Waiting Area - Visitors (10 persons including 1 wheelchair)	16.5	J1201		
PICU & HDU - 24 Bed	PICU & HDU (24 beds)	WC - Wheelchair Accessible	4.5	V0904		
PICU & HDU - 24 Bed	PICU (8 beds)	Gowning Lobby	6	G0510A		
PICU & HDU - 24 Bed	PICU (8 beds)	Gowning Lobby	6	G0510A		
PICU & HDU - 24 Bed	PICU (8 beds)	Open Plan Bay (4 beds)	104	B1609A		
PICU & HDU - 24 Bed	PICU (8 beds)	Single Bed Cubicle	26	**V1602**	**New Room**	
PICU & HDU - 24 Bed	PICU (8 beds)	Single Bed Cubicle	26	**V1602**	**New Room**	
PICU & HDU - 24 Bed	PICU (8 beds)	Single Bed Isolation Cubicle	26	B1602A		
PICU & HDU - 24 Bed	PICU (8 beds)	Single Bed Isolation Cubicle	26	B1602A		
PICU & HDU - 24 Bed	PICU (8 beds)	Staff Base (3 person)	12	T0204		
PICU & HDU - 24 Bed	Shared Support	Baby/Infant Feeding Room	5	S0011		
PICU & HDU - 24 Bed	Shared Support	Cardiac Echo/ECG Bay	4	G0155		
PICU & HDU - 24 Bed	Shared Support	Clean Utility	14	T0513A		
PICU & HDU - 24 Bed	Shared Support	Clean Utility	20	T0513A		

PICU & HDU - 24 Bed	Shared Support	Dirty Utility	6	Y0302
PICU & HDU - 24 Bed	Shared Support	Dirty Utility	14	Y0302
PICU & HDU - 24 Bed	Shared Support	Dirty Utility	14	Y0302
PICU & HDU - 24 Bed	Shared Support	Disposal Hold	10	Y0613
PICU & HDU - 24 Bed	Shared Support	DSR	7	Y1217
PICU & HDU - 24 Bed	Shared Support	En-Suite - WC Shower & Wash	4.5	V1625
PICU & HDU - 24 Bed	Shared Support	En-Suite - WC Shower & Wash	6	V1625
PICU & HDU - 24 Bed	Shared Support	Equipment Service Room	24	L1802
PICU & HDU - 24 Bed	Shared Support	Family Interview Room	12	M0705
PICU & HDU - 24 Bed	Shared Support	Laboratory	8	L1305
PICU & HDU - 24 Bed	Shared Support	Linen Bay (1 trolley)	1.5	G0118
PICU & HDU - 24 Bed	Shared Support	Linen Bay (1 trolley)	1.5	G0118
PICU & HDU - 24 Bed	Shared Support	Mobile X-Ray/Ultrasound Bay	4	G0142
PICU & HDU - 24 Bed	Shared Support	Multidisciplinary Work Area HDU	15	M1014A
PICU & HDU - 24 Bed	Shared Support	Multidiscipline Work Area PICU/HDU	15	M0211A
PICU & HDU - 24 Bed	Shared Support	Office - On-Call Consultant (2 person)	8	M1801A
PICU & HDU - 24 Bed	Shared Support	Office - Retrieval Team (3 person)	12	M1019
PICU & HDU - 24 Bed	Shared Support	Office - Senior Nursing (2 person)	10	M1801B
PICU & HDU - 24 Bed	Shared Support	Pantry/Milk Store	10	P0608
PICU & HDU - 24 Bed	Shared Support	Play Specialist Base & Store	8	D0815A
PICU & HDU - 24 Bed	Shared Support	Quiet/Interview Room	9	M0712
PICU & HDU - 24 Bed	Shared Support	Relatives Overnight Stay	10	D1302X
PICU & HDU - 24 Bed	Shared Support	Relatives Overnight Stay	10	D1302X
PICU & HDU - 24 Bed	Shared Support	Relatives Sitting Room	18.5	D1404
PICU & HDU - 24 Bed	Shared Support	Resuscitation Trolley Bay	1	G0103
PICU & HDU - 24 Bed	Shared Support	Resuscitation Trolley Bay	1	G0103
PICU & HDU - 24 Bed	Shared Support	Resuscitation Trolley Bay	1	G0103
PICU & HDU - 24 Bed	Shared Support	Seminar Room	37.5	H0513
PICU & HDU - 24 Bed	Shared Support	Staff Rest Room (18 person)	29	D0207A
PICU & HDU - 24 Bed	Shared Support	Store - Bed/Patient Chair/Buggy	8	W1449
PICU & HDU - 24 Bed	Shared Support	Store - Bulk Supplies	50	W1438
PICU & HDU - 24 Bed	Shared Support	Store - Equipment	40	W1453A
PICU & HDU - 24 Bed	Shared Support	Store - Gas Cylinders	4	W1526
PICU & HDU - 24 Bed	Shared Support	Store - Retrieval Equipment	15	W1430A
PICU & HDU - 24 Bed	Shared Support	WC - Relatives	3	V1109B
PICU & HDU - 24 Bed	Shared Support	WC - Relatives	3	V1109B
PICU & HDU - 24 Bed	Shared Support	WC - Staff	3	V1109A
PICU & HDU - 24 Bed	Shared Support	WC - Staff	3	V1109A
PICU & HDU - 24 Bed	Shared Support	WC - Staff	3	V1109A
PICU & HDU - 24 Bed	Shared Support	WC - Staff	3	V1109A
PICU & HDU - 24 Bed	Shared Support	X-Ray Processing	8	**E0523A**
PICU & HDU - 24 Bed	Surgical HDU (6 beds)	Open Plan Bay (4 beds)	104	B1609A

PICU & HDU - 24 Bed	Surgical HDU (6 beds)	Single Bed Cubicle	26	**V1602**	**New Room**
PICU & HDU - 24 Bed	Surgical HDU (6 beds)	Single Bed Cubicle	26	**V1602**	**New Room**
PICU & HDU - 24 Bed	Surgical HDU (6 beds)	Staff Base	4	T0212A	
Medical/Transitional Care/Adolescent	Adolescent Inpatient Facility (3 beds)	En-Suite - WC Shower & Wash	4.5	V1625	
Medical/Transitional Care/Adolescent	Adolescent Inpatient Facility (3 beds)	En-Suite - WC Shower & Wash	4.5	V1625	
Medical/Transitional Care/Adolescent	Adolescent Inpatient Facility (3 beds)	En-Suite - WC Shower & Wash	6	V1625	
Medical/Transitional Care/Adolescent	Adolescent Inpatient Facility (3 beds)	Single Bedroom	15	B1802	
Medical/Transitional Care/Adolescent	Adolescent Inpatient Facility (3 beds)	Single Bedroom	15	B1802	
Medical/Transitional Care/Adolescent	Adolescent Inpatient Facility (3 beds)	Single Bedroom	15	B1802	
Medical/Transitional Care/Adolescent	Medical (16 beds)	Clean Utility	12	T0505A	
Medical/Transitional Care/Adolescent	Medical (16 beds)	Dining/Play Room	20	D0816A	
Medical/Transitional Care/Adolescent	Medical (16 beds)	Dirty Utility	14	Y0406B	
Medical/Transitional Care/Adolescent	Medical (16 beds)	Disposal Hold	10	Y0614	
Medical/Transitional Care/Adolescent	Medical (16 beds)	DSR	7	Y1501B	
Medical/Transitional Care/Adolescent	Medical (16 beds)	En-Suite - WC Shower & Wash	4.5	V1625C	
Medical/Transitional Care/Adolescent	Medical (16 beds)	En-Suite - WC Shower & Wash	4.5	V1625C	
Medical/Transitional Care/Adolescent	Medical (16 beds)	En-Suite - WC Shower & Wash	4.5	V1625C	
Medical/Transitional Care/Adolescent	Medical (16 beds)	En-Suite - WC Shower & Wash	4.5	V1625C	
Medical/Transitional Care/Adolescent	Medical (16 beds)	En-Suite - WC Shower & Wash	4.5	V1625C	
Medical/Transitional Care/Adolescent	Medical (16 beds)	En-Suite - WC Shower & Wash	4.5	V1625C	
Medical/Transitional Care/Adolescent	Medical (16 beds)	En-Suite - WC Shower & Wash	4.5	V1625C	
Medical/Transitional Care/Adolescent	Medical (16 beds)	En-Suite - WC Shower & Wash	4.5	V1625C	
Medical/Transitional Care/Adolescent	Medical (16 beds)	En-Suite - WC Shower & Wash	6	V1625C	

Medical/Transitional Care/Adolescent	Medical (16 beds)	En-Suite - WC Shower & Wash	6	V1625C	
Medical/Transitional Care/Adolescent	Medical (16 beds)	En-Suite - WC Shower & Wash	6	V1625C	
Medical/Transitional Care/Adolescent	Medical (16 beds)	En-Suite - WC Shower & Wash	6	V1625C	
Medical/Transitional Care/Adolescent	Medical (16 beds)	En-Suite - WC Shower & Wash	6	V1625C	
Medical/Transitional Care/Adolescent	Medical (16 beds)	Interview Room	9	M0702A	
Medical/Transitional Care/Adolescent	Medical (16 beds)	Isolation Bedroom Entrance Lobby	4	G0508	
Medical/Transitional Care/Adolescent	Medical (16 beds)	Isolation Bedroom Entrance Lobby	4	G0508	
Medical/Transitional Care/Adolescent	Medical (16 beds)	Isolation Bedroom Entrance Lobby	4	G0508	
Medical/Transitional Care/Adolescent	Medical (16 beds)	Isolation Bedroom Entrance Lobby	4	G0508	
Medical/Transitional Care/Adolescent	Medical (16 beds)	Linen Bay (2 trolleys)	3	G0118C	
Medical/Transitional Care/Adolescent	Medical (16 beds)	Multi Bed Room (4 beds)	63	B2003	
Medical/Transitional Care/Adolescent	Medical (16 beds)	Office - Multi-Disciplinary	18	M1012B	
Medical/Transitional Care/Adolescent	Medical (16 beds)	Office - Ward Manager (1 person)	9	M0507E	
Medical/Transitional Care/Adolescent	Medical (16 beds)	Pantry	8	P0607B	
Medical/Transitional Care/Adolescent	Medical (16 beds)	Patient Assisted Bathroom	14	V1712A	
Medical/Transitional Care/Adolescent	Medical (16 beds)	Reception	3	J0213	**Change name to Reception / Touchdown Base. New Room**
Medical/Transitional Care/Adolescent	Medical (16 beds)	Resuscitation Trolley Bay	1	G0103B	
Medical/Transitional Care/Adolescent	Medical (16 beds)	Single Bedroom	15	B1802D	
Medical/Transitional Care/Adolescent	Medical (16 beds)	Single Bedroom	15	B1802D	
Medical/Transitional Care/Adolescent	Medical (16 beds)	Single Bedroom	15	B1802D	
Medical/Transitional Care/Adolescent	Medical (16 beds)	Single Bedroom	15	B1802D	
Medical/Transitional Care/Adolescent	Medical (16 beds)	Single Bedroom	15	B1802D	

Medical/Transitional Care/Adolescent	Medical (16 beds)	Single Bedroom	15	B1802D		
Medical/Transitional Care/Adolescent	Medical (16 beds)	Single Bedroom	15	B1802D		
Medical/Transitional Care/Adolescent	Medical (16 beds)	Single Bedroom	15	B1802D		
Medical/Transitional Care/Adolescent	Medical (16 beds)	Single Bedroom - Isolation	15	B1805C		
Medical/Transitional Care/Adolescent	Medical (16 beds)	Single Bedroom - Isolation	15	B1805C		
Medical/Transitional Care/Adolescent	Medical (16 beds)	Single Bedroom - Isolation	15	B1805C		
Medical/Transitional Care/Adolescent	Medical (16 beds)	Single Bedroom - Isolation	15	B1805C		
Medical/Transitional Care/Adolescent	Medical (16 beds)	Store - Backup Clothing	4	W1587C		
Medical/Transitional Care/Adolescent	Medical (16 beds)	Store - Equipment	10	W1320		
Medical/Transitional Care/Adolescent	Medical (16 beds)	Store - General	12	W1549A		
Medical/Transitional Care/Adolescent	Medical (16 beds)	Touchdown Base	2	T0109C		
Medical/Transitional Care/Adolescent	Medical (16 beds)	Touchdown Base	4	T0109C	**Need to convert into two 2 sq m rooms.**	
Medical/Transitional Care/Adolescent	Medical (16 beds)	Treatment Room	16	X0214B		
Medical/Transitional Care/Adolescent	Medical (16 beds)	WC - Staff	3	V1109F		
Medical/Transitional Care/Adolescent	Transitional Care (4 beds)	Single Bedroom	19	B0999		
Medical/Transitional Care/Adolescent	Transitional Care (4 beds)	Single Bedroom	19	B0999		
Medical/Transitional Care/Adolescent	Transitional Care (4 beds)	Single Bedroom	19	B0999		
Medical/Transitional Care/Adolescent	Transitional Care (4 beds)	Single Bedroom	19	B0999		
Medical/Transitional Care/Adolescent	Transitional Care (4 beds)	Sitting Room/Lounge	16	D1116		
Medical/Transitional Care/Adolescent	Transitional Care (4 beds)	Store - General	6	W1587		
Medical/Transitional Care/Adolescent	Transitional Care (4 beds)	WC - Wheelchair Accessible	4.5	V0907B		
Medical/Transitional Care/Adolescent	Transitional Care (4 beds)	Wetroom/Assisted Bathroom	14		**New Room**	*NA to suggest code for wetroom*

Surgical/Adolescent	Adolescent Inpatient Facility (7 beds)	En-Suite - WC Shower & Wash	4.5	V1625	Single sided access different from V16251 double sided.
Surgical/Adolescent	Adolescent Inpatient Facility (7 beds)	En-Suite - WC Shower & Wash	4.5	V1625	Single sided access different from V16251 double sided.
Surgical/Adolescent	Adolescent Inpatient Facility (7 beds)	En-Suite - WC Shower & Wash	4.5	V1625	Single sided access different from V16251 double sided.
Surgical/Adolescent	Adolescent Inpatient Facility (7 beds)	En-Suite - WC Shower & Wash	4.5	V1625	Single sided access different from V16251 double sided.
Surgical/Adolescent	Adolescent Inpatient Facility (7 beds)	En-Suite - WC Shower & Wash	4.5	V1625	Single sided access different from V16251 double sided.
Surgical/Adolescent	Adolescent Inpatient Facility (7 beds)	En-Suite - WC Shower & Wash	6	V1625	
Surgical/Adolescent	Adolescent Inpatient Facility (7 beds)	En-Suite - WC Shower & Wash	6	V1625	
Surgical/Adolescent	Adolescent Inpatient Facility (7 beds)	Single Bedroom	15	B1802	
Surgical/Adolescent	Adolescent Inpatient Facility (7 beds)	Single Bedroom	15	B1802	
Surgical/Adolescent	Adolescent Inpatient Facility (7 beds)	Single Bedroom	15	B1802	
Surgical/Adolescent	Adolescent Inpatient Facility (7 beds)	Single Bedroom	15	B1802	
Surgical/Adolescent	Adolescent Inpatient Facility (7 beds)	Single Bedroom	15	B1802	
Surgical/Adolescent	Adolescent Inpatient Facility (7 beds)	Single Bedroom	15	B1802	
Surgical/Adolescent	Adolescent Inpatient Facility (7 beds)	Single Bedroom	15	B1802	
Surgical/Adolescent	Surgical (22 beds)	Clean Utility	12	T0505A	
Surgical/Adolescent	Surgical (22 beds)	Dining/Play Room	27	D0816B	
Surgical/Adolescent	Surgical (22 beds)	Dirty Utility	14	Y0406C	
Surgical/Adolescent	Surgical (22 beds)	Disposal Hold	10	Y0614	
Surgical/Adolescent	Surgical (22 beds)	DSR	7	Y1501C	
Surgical/Adolescent	Surgical (22 beds)	En-Suite - WC Shower & Wash	4.5	V1625D	Single sided access different from V1625D double sided.
Surgical/Adolescent	Surgical (22 beds)	En-Suite - WC Shower & Wash	4.5	V1625D	Single sided access different from V1625D double sided.
Surgical/Adolescent	Surgical (22 beds)	En-Suite - WC Shower & Wash	4.5	V1625D	Single sided access different from V1625D double sided.
Surgical/Adolescent	Surgical (22 beds)	En-Suite - WC Shower & Wash	4.5	V1625D	Single sided access different from V1625D double sided.
Surgical/Adolescent	Surgical (22 beds)	En-Suite - WC Shower & Wash	6	V1625D	
Surgical/Adolescent	Surgical (22 beds)	En-Suite - WC Shower & Wash	6	V1625D	
Surgical/Adolescent	Surgical (22 beds)	En-Suite - WC Shower & Wash	6	V1625D	
Surgical/Adolescent	Surgical (22 beds)	En-Suite - WC Shower & Wash	6	V1625D	
Surgical/Adolescent	Surgical (22 beds)	Interview Room	9	M0702A	
Surgical/Adolescent	Surgical (22 beds)	Linen Bay (2 trolleys)	3	G0118D	
Surgical/Adolescent	Surgical (22 beds)	Multi Bed Room (4 beds)	63	B2003A	
Surgical/Adolescent	Surgical (22 beds)	Multi Bed Room (4 beds)	63	B2003A	
Surgical/Adolescent	Surgical (22 beds)	Multi Bed Room (4 beds)	63	B2003A	
Surgical/Adolescent	Surgical (22 beds)	Multi Bed Room (4 beds)	63	B2003A	
Surgical/Adolescent	Surgical (22 beds)	Office - Multi-Disciplinary	18	M1012C	

Surgical/Adolescent	Surgical (22 beds)	Office - Ward Manager (1 person)	9	M0507F		
Surgical/Adolescent	Surgical (22 beds)	Pantry	8	P0607C		
Surgical/Adolescent	Surgical (22 beds)	Patient Assisted Bathroom	14	V1712B		
Surgical/Adolescent	Surgical (22 beds)	Reception	3	J0213	**Change name to Reception / Touchdown Base. New Room. Totally different size to J0213**	
Surgical/Adolescent	Surgical (22 beds)	Resuscitation Trolley Bay	1	G0103C		
Surgical/Adolescent	Surgical (22 beds)	Single Bedroom	15	B1802E		
Surgical/Adolescent	Surgical (22 beds)	Single Bedroom	15	B1802E		
Surgical/Adolescent	Surgical (22 beds)	Single Bedroom	15	B1802E		
Surgical/Adolescent	Surgical (22 beds)	Single Bedroom	15	B1802E		
Surgical/Adolescent	Surgical (22 beds)	Single Bedroom	15	B1802E		
Surgical/Adolescent	Surgical (22 beds)	Single Bedroom	15	B1802E		
Surgical/Adolescent	Surgical (22 beds)	Store - Backup Clothing	4	W1587D		
Surgical/Adolescent	Surgical (22 beds)	Store - Equipment	10	W1320		
Surgical/Adolescent	Surgical (22 beds)	Store - General	12	W1549B		
Surgical/Adolescent	Surgical (22 beds)	Touchdown Base	2	T0109D		
Surgical/Adolescent	Surgical (22 beds)	Touchdown Base	2	T0109D		
Surgical/Adolescent	Surgical (22 beds)	Touchdown Base	2	T0109D		
Surgical/Adolescent	Surgical (22 beds)	Touchdown Base	2	T0109D		
Surgical/Adolescent	Surgical (22 beds)	Treatment Room	16	X0214C		
Surgical/Adolescent	Surgical (22 beds)	WC - Staff	3	V1109G		
Surgical/Adolescent	Surgical (22 beds)	Wetroom	14		**Change name to Wetroom / Assisted Bathroom. New Room**	*NA to suggest code for wetroom*
Neuroscience	Neuroscience (12 beds)	Clean Utility	12	T0505A		
Neuroscience	Neuroscience (12 beds)	Dining/Play Room (9 person)	16	D0816C		
Neuroscience	Neuroscience (12 beds)	Dirty Utility	14	Y0406D		
Neuroscience	Neuroscience (12 beds)	Disposal Hold	10	Y0614		
Neuroscience	Neuroscience (12 beds)	DSR	7	Y1501D		
Neuroscience	Neuroscience (12 beds)	En-Suite - WC Shower & Wash	6	V1625E		
Neuroscience	Neuroscience (12 beds)	En-Suite - WC Shower & Wash	6	V1625E		
Neuroscience	Neuroscience (12 beds)	En-Suite - WC Shower & Wash	6	V1625E		
Neuroscience	Neuroscience (12 beds)	En-Suite - WC Shower & Wash	6	V1625E		
Neuroscience	Neuroscience (12 beds)	Interview Room	9	M0702A		
Neuroscience	Neuroscience (12 beds)	Interview Room	9	M0702A		
Neuroscience	Neuroscience (12 beds)	Isolation Bedroom Entrance Lobby	4	GO508D		
Neuroscience	Neuroscience (12 beds)	Linen Bay (1 trolley)	1.5	G0118E		
Neuroscience	Neuroscience (12 beds)	Multi Bed Room (4 beds)	63	B2003B		
Neuroscience	Neuroscience (12 beds)	Multi Bed Room (4 beds)	63	B2003B		
Neuroscience	Neuroscience (12 beds)	Office - Clinical Staff (4 person)	20		**Configuration TBC**	*Change SoA - 2 x 2p offices*
Neuroscience	Neuroscience (12 beds)	Office - Consultants (7 person)	35		**Configuration TBC**	*ChangeSoA 2 x 2p and 1 x 3p offices*

Neuroscience	Neuroscience (12 beds)	Office - Multi-Disciplinary	18	M1012D		
Neuroscience	Neuroscience (12 beds)	Office - Secretarial (4 person)	20		Configuration TBC	*Change SoA - 2 x 2p offices*
Neuroscience	Neuroscience (12 beds)	Office - Ward Manager (1 person)	9	M0507G		
Neuroscience	Neuroscience (12 beds)	Pantry	8	P0607D		
Neuroscience	Neuroscience (12 beds)	Patient Assisted Bathroom	14	V1712C		
Neuroscience	Neuroscience (12 beds)	Reception	3	J0213	Change name to Reception / Touchdown Base. New Room	
Neuroscience	Neuroscience (12 beds)	Rehabilitation Room	30	X02802	Clarify with Therapies	
Neuroscience	Neuroscience (12 beds)	Resuscitation Trolley Bay	1	G0103D		
Neuroscience	Neuroscience (12 beds)	Single Bedroom	15	B1802F		
Neuroscience	Neuroscience (12 beds)	Single Bedroom	15	B1802F		
Neuroscience	Neuroscience (12 beds)	Single Bedroom	15	B1802F		
Neuroscience	Neuroscience (12 beds)	Single Bedroom - Isolation	15	B1805E		
Neuroscience	Neuroscience (12 beds)	Snoezelen Room	12	X0715		
Neuroscience	Neuroscience (12 beds)	Store - Backup Clothing	4	W1587E		
Neuroscience	Neuroscience (12 beds)	Store - Equipment	10	W1320		
Neuroscience	Neuroscience (12 beds)	Store - General	16	W1549C		
Neuroscience	Neuroscience (12 beds)	Touchdown Base	2	T0109E		
Neuroscience	Neuroscience (12 beds)	Touchdown Base	2	T0109E		
Neuroscience	Neuroscience (12 beds)	Treatment Room	16	X0214D		
Neuroscience	Neuroscience (12 beds)	WC - Staff	3	V1109H		
Neuroscience	Neuroscience (12 beds)	Wetroom	14		Change name to Wetroom / Assisted Bathroom. New Room	*NA to suggest code for wetroom*
Medical/Surgical/Neuroscience (Shared Support)	Shared Support	Baby/Infant Feeding Room	4	S0010X		
Medical/Surgical/Neuroscience (Shared Support)	Shared Support	Breast Pump Room	4	P1006		
Medical/Surgical/Neuroscience (Shared Support)	Shared Support	Family Sitting Room (15 person)	27	S0045A		
Medical/Surgical/Neuroscience (Shared Support)	Shared Support	Mobile X-Ray/Ultrasound Bay	4	G0142A		
Medical/Surgical/Neuroscience (Shared Support)	Shared Support	Nappy Change Room	6	V1117		
Medical/Surgical/Neuroscience (Shared Support)	Shared Support	WC - Wheelchair Accessible	4.5	V0907B		
Medical/Surgical/Neuroscience (Shared Support)	Shared Support	WC - Wheelchair Accessible	4.5	V0907B		
Medical/Surgical/Neuroscience (Shared Support)	Shared Support	WC - Wheelchair Accessible	4.5	V0907B		
Special Feeds Unit	Shared	Food Preparation Area	24		New Room	*NA to suggest code*
Special Feeds Unit	Shared	Office/Ante Room	9		New Room	*NA to suggest code*
Special Feeds Unit	Shared	Store - Feeds	8		New Room	*NA to suggest code*

Special Feeds Unit	Shared	Wash Room	5		New Room	NA to suggest code
Haematology/Oncology Ward	Adolescent Beds (3 beds)	En-Suite - WC Shower & Wash	4.5	V1625B		
Haematology/Oncology Ward	Adolescent Beds (3 beds)	En-Suite - WC Shower & Wash	4.5	V1625B		
Haematology/Oncology Ward	Adolescent Beds (3 beds)	En-Suite - WC Shower & Wash	6	V1625B		
Haematology/Oncology	Adolescent Beds (3 beds)	Kitchen/Lounge/Social Space	25		Combination of 2 rooms	Social space with bev point
Haematology/Oncology Ward	Adolescent Beds (3 beds)	Quiet Room/Study	10	H0335A		
Haematology/Oncology Ward	Adolescent Beds (3 beds)	Single Bedroom	15	B1802C		
Haematology/Oncology Ward	Adolescent Beds (3 beds)	Single Bedroom	15	B1802C		
Haematology/Oncology Ward	Adolescent Beds (3 beds)	Single Bedroom	15	B1802C		
Haematology/Oncology Ward	Day Beds (4 beds / 2 chairs / 3 IP/DC beds)	En-Suite - WC Shower & Wash	4.5	V1625A	Single sided access different from V1625A double sided.	
Haematology/Oncology Ward	Day Beds (4 beds / 2 chairs / 3 IP/DC beds)	En-Suite - WC Shower & Wash	4.5	V1625A	Single sided access different from V1625A double sided.	
Haematology/Oncology Ward	Day Beds (4 beds / 2 chairs / 3 IP/DC beds)	En-Suite - WC Shower & Wash	4.5	V1625A	Single sided access different from V1625A double sided.	
Haematology/Oncology	Day Beds (4 beds / 2 chairs / 3 IP/DC beds)	Multi Bed Room (4 beds & 2 chairs)	72.5		New Room	NA to suggest code
Haematology/Oncology	Day Beds (4 beds / 2 chairs / 3 IP/DC beds)	Single Bedroom IP/DC	15		Same as other single rooms ?	Ok
Haematology/Oncology	Day Beds (4 beds / 2 chairs / 3 IP/DC beds)	Single Bedroom IP/DC	15		Same as other single rooms ?	Ok
Haematology/Oncology	Day Beds (4 beds / 2 chairs / 3 IP/DC beds)	Single Bedroom IP/DC	15		Same as other single rooms ?	Ok
Haematology/Oncology Ward	Day Beds (4 beds / 2 chairs / 3 IP/DC beds)	Treatment Room	16	X0214A		
Haematology/Oncology Ward	Day Beds (4 beds / 2 chairs / 3 IP/DC beds)	WC - Wheelchair Accessible	6	V0906E		
Haematology/Oncology Ward	Haematology/Oncology Ward	Reception	3	J0213	Change name to Reception / Touchdown Base. New Room	
Haematology/Oncology Ward	Haematology/Oncology Ward	Touchdown Base	2	T0128		
Haematology/Oncology Ward	Haematology/Oncology Ward	Waiting Area (8 person)	12	J1203A		
Haematology/Oncology Ward	Paediatric Beds (7 beds)	En-Suite - WC Shower & Wash	4.5	V1625A	Single sided access different from V1625A double sided.	
Haematology/Oncology Ward	Paediatric Beds (7 beds)	En-Suite - WC Shower & Wash	4.5	V1625A	Single sided access different from V1625A double sided.	
Haematology/Oncology Ward	Paediatric Beds (7 beds)	En-Suite - WC Shower & Wash	4.5	V1625A	Single sided access different from V1625A double sided.	

Haematology/Oncology Ward	Paediatric Beds (7 beds)	En-Suite - WC Shower & Wash	6	V1625A
Haematology/Oncology Ward	Paediatric Beds (7 beds)	En-Suite - WC Shower & Wash	6	V1625A
Haematology/Oncology Ward	Paediatric Beds (7 beds)	En-Suite - WC Shower & Wash	6	V1625A
Haematology/Oncology Ward	Paediatric Beds (7 beds)	En-Suite - WC Shower & Wash	6	V1625A
Haematology/Oncology Ward	Paediatric Beds (7 beds)	Isolation Bedroom Entrance Lobby	4	G0507A
Haematology/Oncology Ward	Paediatric Beds (7 beds)	Isolation Bedroom Entrance Lobby	4	G0507A
Haematology/Oncology Ward	Paediatric Beds (7 beds)	Isolation Bedroom Entrance Lobby	4	G0507A
Haematology/Oncology Ward	Paediatric Beds (7 beds)	Isolation Bedroom Entrance Lobby	4	G0507A
Haematology/Oncology Ward	Paediatric Beds (7 beds)	Patient Assisted Bathroom	14	V1708A
Haematology/Oncology Ward	Paediatric Beds (7 beds)	Single Bedroom	15	B1802A
Haematology/Oncology Ward	Paediatric Beds (7 beds)	Single Bedroom	15	B1802A
Haematology/Oncology Ward	Paediatric Beds (7 beds)	Single Bedroom	15	B1802A
Haematology/Oncology Ward	Paediatric Beds (7 beds)	Single Bedroom - Isolation	15	B1805A
Haematology/Oncology Ward	Paediatric Beds (7 beds)	Single Bedroom - Isolation	15	B1805A
Haematology/Oncology Ward	Paediatric Beds (7 beds)	Single Bedroom - Isolation	15	B1805A
Haematology/Oncology Ward	Paediatric Beds (7 beds)	Single Bedroom - Isolation	15	B1805A
Haematology/Oncology Ward	Ward Support Areas	Chemotherapy Prescribing Room	9	M0115X
Haematology/Oncology Ward	Ward Support Areas	Clean Utility	12	T0505
Haematology/Oncology Ward	Ward Support Areas	Complementary Therapy Treatment Room	10	X0140X
Haematology/Oncology Ward	Ward Support Areas	Dirty Utility	14	Y0302A
Haematology/Oncology Ward	Ward Support Areas	Disposal Hold	10	Y0614
Haematology/Oncology Ward	Ward Support Areas	DSR	7	Y1503B

Haematology/Oncology Ward	Ward Support Areas	Interview Room	9	M0704		
Haematology/Oncology Ward	Ward Support Areas	Interview Room/Breakout Space	9	M0704		
Haematology/Oncology Ward	Ward Support Areas	Linen Bay (1 trolley)	1.5	G0118A		
Haematology/Oncology	Ward Support Areas	Office - Clinical Staff (8 person)	40		Configuration TBC	*4 x 2p*
Haematology/Oncology	Ward Support Areas	Office - Consultants (5 person)	25		Configuration TBC	*1 x2p, 1 x3p*
Haematology/Oncology Ward	Ward Support Areas	Office - Multi-Disciplinary	18	M1012		
Haematology/Oncology	Ward Support Areas	Office - Secretarial (3 person)	15		Configuration TBC	*NA to suggest code*
Haematology/Oncology Ward	Ward Support Areas	Office - Ward Manager (1 person)	9	M0507D		
Haematology/Oncology Ward	Ward Support Areas	Pantry	8	P0607		
Haematology/Oncology Ward	Ward Support Areas	Quiet Play/Study Room	25	H0335		
Haematology/Oncology Ward	Ward Support Areas	Resuscitation Trolley Bay	1	G0103A		
Haematology/Oncology Ward	Ward Support Areas	Store - Equipment	10	W1430		
Haematology/Oncology Ward	Ward Support Areas	Store - General	12	W1549		
Haematology/Oncology Ward	Ward Support Areas	Touchdown Base	2	T0128		
Haematology/Oncology Ward	Ward Support Areas	Touchdown Base	2	T0128		
Haematology/Oncology Ward	Ward Support Areas	Touchdown Base	2	T0128		
Haematology/Oncology Ward	Ward Support Areas	Treatment Room	16	X0214A		
Haematology/Oncology Ward	Ward Support Areas	WC - Staff	3	V1109D		
Adolescent Inpatient Facility (10 beds)	Adolescent Inpatient Facility (10 beds)	Dining/Recreation Room (including beverage bay)	26	D0615		
Adolescent Inpatient Facility (10 beds)	Adolescent Inpatient Facility (10 beds)	Quiet Room/Study	10	H0335A		
Neurophysiology	Neurophysiology	EEG Recording Room	16	X0125A		
Neurophysiology	Neurophysiology	EEG Recording Room	16	X0125A		
Neurophysiology	Neurophysiology	EEG Recording Room	16	X0125A		
Neurophysiology	Neurophysiology	Evoked Potential Recording Room	16	X0125B		
Neurophysiology	Neurophysiology	Office - Clinical Physiologist (3 person)	15	M0225A		
Neurophysiology	Neurophysiology	Patient Preparation Room	16	X0105A		

Neurophysiology	Neurophysiology	Reporting Room	10	X1026A		
Neurophysiology	Neurophysiology	Store - Records	20	W0818		
Neurophysiology	Neurophysiology	VTEM/Ambulatory Review Room	10	X0255A		
Neurophysiology	Neurophysiology	Waiting Area (10 person)	15	J1201A		
Neurophysiology	Neurophysiology	WC - Staff	3	V1109A		
Neurophysiology	Neurophysiology	WC - Wheelchair Accessible	4.5	V0906		
Sleep Lab	Sleep Lab	Control Room	15	X0705A		
Sleep Lab	Sleep Lab	En-Suite - WC Shower & Wash	6	V1625		
Sleep Lab	Sleep Lab	En-Suite - WC Shower & Wash	6	V1625		
Sleep Lab	Sleep Lab	Parents Room	10	D1302		
Sleep Lab	Sleep Lab	Parents Room	10	D1302		
Sleep Lab	Sleep Lab	Sleep Room	15	B1802B		
Sleep Lab	Sleep Lab	Sleep Room	15	B1802B		
Sleep Lab	Sleep Lab	Store - General	6	W1587		
Sleep Lab	Sleep Lab	WC - Ambulant	3	V1109A		
School	Childrens Hospital Service	Administration Area	25	M1310		
School	Childrens Hospital Service	Media Room	12	W1549G		
School	Childrens Hospital Service	Primary Classroom	27	H0710		
School	Childrens Hospital Service	Resource Storage	10	W0906		
School	Childrens Hospital Service	Secondary Classroom	27	H0711		
School	Childrens Hospital Service	Secondary Classroom	27	H0711		
Shared Support	Shared Staff	Grab & Go	10		**New Room**	*Snack prep code P0707, include vending equipment from P0805*
Shared Support	Shared Staff	Seminar Room	25	**H0515**		
Shared Support	Shared Staff	Staff Rest Room (30 person)	48		**New Room**	*As above*
Main Outpatients Department	Shared Utility Support	Clean Utility	8	T0508		
Main Outpatients Department	Shared Utility Support	Clean Utility	8	T0508		
Main Outpatients Department	Shared Utility Support	Dirty Utility	11	Y0417A		
Main Outpatients Department	Shared Utility Support	Dirty Utility	11	Y0417A		
Main Outpatients Department	Shared Utility Support	Disposal Hold	10	Y0614		
Main Outpatients Department	Shared Utility Support	Disposal Hold	10	Y0614		
Main Outpatients Department	Shared Utility Support	DSR	7	Y1501G		
Main Outpatients Department	Shared Utility Support	Linen Bay (1 trolley)	1.5	W1594		
Main Outpatients Department	Shared Utility Support	Linen Bay (1 trolley)	1.5	W1594		

Main Outpatients Department	Shared Utility Support	Meeting Room	15	H0103		
Main Outpatients Department	Shared Utility Support	Phlebotomy Room	8	**C1408**	**New Room**	*may be venepuncture in guidance*
Main Outpatients Department	Shared Utility Support	Phlebotomy Room	8	**C1408**	**New Room**	
Main Outpatients Department	Shared Utility Support	Resuscitation Trolley Bay	1	G0103		
Main Outpatients Department	Shared Utility Support	Resuscitation Trolley Bay	1	G0103		
Main Outpatients Department	Shared Utility Support	Store - General	8	W0243A		
Main Outpatients Department	Shared Utility Support	WC - Specimen/Disabled	4.5	V1407		
Main Outpatients Department	Shared Utility Support	WC - Specimen/Disabled (dual sided)	7		**New Room**	*NA to suggest code*
Main Outpatients Department	Shared Utility Support	WC - Staff	3	V1109X		
Main Outpatients Department	Shared Utility Support	WC - Staff	3	V1109X		
Main Outpatients Department	Shared Utility Support	WC - Staff	3	V1109X		
Main Outpatients Department	Shared Utility Support	WC - Staff	3	V1109X		
Main Outpatients Department - General	Main Outpatients Department	Baby Infant Feeding Room	4	S0010A		
Main Outpatients Department - General	Main Outpatients Department	Office - Outpatient Manager (1 person)	9	M0507B		
Main Outpatients Department - General	Main Outpatients Department	Pantry	8	P0616B		
Main Outpatients Department - General	Main Outpatients Department	Reception	10	J0204B		
Main Outpatients Department - General	Main Outpatients Department	Waiting Area - Main	15	J1140		
Consulting Suite A	Consulting Suite A - Orthopaedics	Child Protection Room	24	X0720		
Consulting Suite A	Consulting Suite A - Orthopaedics	Child Protection Room	15.5	X0721		
Consulting Suite A	Consulting Suite A - Orthopaedics	Consult/Examination	15.5	C0224A		
Consulting Suite A	Consulting Suite A - Orthopaedics	Consult/Examination	15.5	C0224A		
Consulting Suite A	Consulting Suite A - Orthopaedics	Consult/Examination	15.5	C0224A		
Consulting Suite A	Consulting Suite A - Orthopaedics	Consult/Examination	15.5	C0224A		
Consulting Suite A	Consulting Suite A - Orthopaedics	Consult/Examination	15.5	C0224A		
Consulting Suite A	Consulting Suite A - Orthopaedics	Consult/Examination	15.5	C0224A		
Consulting Suite A	Consulting Suite A - Orthopaedics	Consult/Examination	15.5	C0224A		

Consulting Suite A	Consulting Suite A - Orthopaedics	Consult/Multi-Disciplinary	24	C0211		
Consulting Suite A	Consulting Suite A - Orthopaedics	Orthotics Room	16	C1113		
Consulting Suite A	Consulting Suite A - Orthopaedics	Orthotics Workshop	16		New Room	*base on K0036*
Consulting Suite A	Consulting Suite A - Orthopaedics	Physical Measurement	3.5	C1401A		
Consulting Suite A	Consulting Suite A - Orthopaedics	Plaster Suite (2 bays)	24	X0206B		
Consulting Suite A	Consulting Suite A - Orthopaedics	Store - Equipment / General	6	W0126A		
Consulting Suite A	Consulting Suite A - Orthopaedics	Store - Plaster	6	W1512C		
Consulting Suite A	Consulting Suite A - Orthopaedics	Treatment Room (with prep area)	16	X0105B		
Consulting Suite A	Consulting Suite A - Orthopaedics	Waiting Area - Main A&D With Nurse Base (Incl. Supervised Play)	29	J1218		
Consulting Suite A	Consulting Suite A - Orthopaedics	WC - Wheelchair Accessible	4.5	V0909A		
Consulting Suite A	Consulting Suite A - Orthopaedics	WC - Wheelchair Accessible	4.5	V0909A		
Consulting Suite B	Consulting Suite B - ENT	Consult/Examination	15.5	C0224B		
Consulting Suite B	Consulting Suite B - ENT	Consult/Examination	15.5	C0224B		
Consulting Suite B	Consulting Suite B - ENT	Consult/Examination	15.5	C0224B		
Consulting Suite B	Consulting Suite B - ENT	Consult/Examination	15.5	C0224B		
Consulting Suite B	Consulting Suite B - ENT	Consult/Examination	15.5	C0224B		
Consulting Suite B	Consulting Suite B - ENT	Consult/Examination	15.5	C0224B		
Consulting Suite B	Consulting Suite B - ENT	Consult/Examination (Audiology)	16	C0217A		
Consulting Suite B	Consulting Suite B - ENT	Physical Measurement	3.5	C1401B		
Consulting Suite B	Consulting Suite B - ENT	Store - Equipment / General	6	W0126B		
Consulting Suite B	Consulting Suite B - ENT	Sub-Waiting Area With Nurse Base (Incl. Supervised Play)	25	J1218A		
Consulting Suite B	Consulting Suite B - ENT	Treatment Room (with prep area)	16	X0105C		
Consulting Suite B	Consulting Suite B - ENT	WC - Wheelchair Accessible	4.5	V0909B		
Consulting Suite C	Consulting Suite C	Consult/Examination	15.5	C0224C		
Consulting Suite C	Consulting Suite C	Consult/Examination	15.5	C0224C		
Consulting Suite C	Consulting Suite C	Consult/Examination	15.5	C0224C		
Consulting Suite C	Consulting Suite C	Consult/Examination	15.5	C0224C		
Consulting Suite C	Consulting Suite C	Consult/Examination	15.5	C0224C		
Consulting Suite C	Consulting Suite C	Consult/Examination	15.5	C0224C		
Consulting Suite C	Consulting Suite C	Consult/Examination	15.5	C0224C		
Consulting Suite C	Consulting Suite C	Consult/Examination (Ophthalmology)	15.5	C1012		
Consulting Suite C	Consulting Suite C	Infant Measuring Room	6		New Room	*NA to suggest code*
Consulting Suite C	Consulting Suite C	Physical Measurement	3.5	C1401C		
Consulting Suite C	Consulting Suite C	Shower Room - Accessible	5		New Room	*NA to suggest code*
Consulting Suite C	Consulting Suite C	Store - Equipment / General	6	W0126C		
Consulting Suite C	Consulting Suite C	Sub-Waiting Area With Nurse Base (Incl. Supervised Play)	38	J1219		
Consulting Suite C	Consulting Suite C	Treatment Room (with prep area)	16	X0105D		
Consulting Suite C	Consulting Suite C	WC - Wheelchair Accessible	4.5	V0909C		
Consulting Suite C	Consulting Suite C	WC - Wheelchair Accessible	4.5	V0909C		
Consulting Suite D	Consulting Suite D	Consult/Examination	15.5	C0224D		
Consulting Suite D	Consulting Suite D	Consult/Examination	15.5	C0224D		

Consulting Suite D	Consulting Suite D	Consult/Examination	15.5	C0224D		
Consulting Suite D	Consulting Suite D	Consult/Examination	15.5	C0224D		
Consulting Suite D	Consulting Suite D	Consult/Examination	15.5	C0224D		
Consulting Suite D	Consulting Suite D	Consult/Multi-disciplinary	24	C0211A		
Consulting Suite D	Consulting Suite D	Infant Measuring Room	6		New Room	*NA to suggest code*
Consulting Suite D	Consulting Suite D	Physical Measurement	3.5	C1401D		
Consulting Suite D	Consulting Suite D	Play Therapy Room (incl messy play)	18	X0704A		
Consulting Suite D	Consulting Suite D	Store - Equipment / General	6	W0126D		
Consulting Suite D	Consulting Suite D	Sub-Waiting Area With Nurse Base (Incl. Supervised Play)	25	J1218B		
Consulting Suite D	Consulting Suite D	Treatment Room (with prep area)	16	X0105E		
Consulting Suite D	Consulting Suite D	WC - Wheelchair Accessible	4.5	V0909D		
Plastics Dressing Clinic	Plastics Dressing Clinic	Dressings Room (Burns)	16	X0242A		
Plastics Dressing Clinic	Plastics Dressing Clinic	Dressings Room (Burns)	16	X0242A		
Plastics Dressing Clinic	Plastics Dressing Clinic	Waiting Area - Dressings	12	J1204A		
Cardiology & Respiratory	Cardiology	ECG Procedure Room	12	C0701A		
Cardiology & Respiratory	Cardiology	Echocardiography Room	20	C0712A		
Cardiology & Respiratory	Cardiology	Exercise Tolerance Test Room	20	C0718A		
Cardiology & Respiratory	Cardiology	Office - Admin (3 person)	12	M1801D		
Cardiology & Respiratory	Cardiology & Respiratory	Physical Measurement	3.5	C1401		
Cardiology & Respiratory	Cardiology & Respiratory	Store - Equipment	9	W1226A		
Cardiology & Respiratory	Cardiology & Respiratory	Waiting Area	9	J1305B		
Cardiology & Respiratory	Respiratory	Domiciliary Sleep Studies	12	C0603A		
Cardiology & Respiratory	Respiratory	Exercise Room/Lung Function	22	C0718B		
Cardiology & Respiratory	Respiratory	Lung Function Laboratory	28	C0718C		
Cardiology & Respiratory	Respiratory	Office - Admin (6 person)	15	M0115A		
Ophthalmology	Ophthalmology	Consult/Examination (Orthoptic)	15.5	C1013		
Ophthalmology	Ophthalmology	Consult/Examination (Orthoptic)	15.5	C1013		
Ophthalmology	Ophthalmology	Consult/Examination (Orthoptic)	15.5	C1013		
Ophthalmology	Ophthalmology	Consult/Examination (Orthoptic)	15.5	C1013		
Ophthalmology	Ophthalmology	DSR	7	Y1501		
Ophthalmology	Ophthalmology	Examination Room - Visual Fields Test	16	C1020		
Ophthalmology	Ophthalmology	Office - (2 person)	12		New Room	*As standard 2p but not generic. Additional storage required*
Ophthalmology	Ophthalmology	Parking Bay - Pushchairs/Prams	2	G0131		
Ophthalmology	Ophthalmology	Reception	3	J0213		
Ophthalmology	Ophthalmology	Store - Equipment	12	W1605A		
Ophthalmology	Ophthalmology	WC - Specimen/Disabled	4.5	V0907C		
Audiology	Audiology	ABR Room	16	C0517		
Audiology	Audiology	Consult/Examination	16	C0217		
Audiology	Audiology	Mould Room	9	L1805A		
Audiology	Audiology	Obs/Control	8	C0516		
Audiology	Audiology	Obs/Control	8	C0516		

Audiology	Audiology	Office - (4 person)	20		New Room	*NA to suggest code*
Audiology	Audiology	Office - Shared Staff	25	M1014B		
Audiology	Audiology	Office/Reception	2	J0420B		
Audiology	Audiology	Store	15	W032A		
Audiology	Audiology	Testing/Clinic Room	21	C0515		
Audiology	Audiology	Testing/Clinic Room	21	C0515		
Audiology	Audiology	Waiting Area	18	J1110		
Audiology	Audiology	Work Room	12	L1806A		
Paediatric Dentistry	Paediatric Dentistry	Clean Utility	12	T0504X		
Paediatric Dentistry	Paediatric Dentistry	Dirty Utility	11	Y0406		
Paediatric Dentistry	Paediatric Dentistry	Laboratory	10	L1205X		
Paediatric Dentistry	Paediatric Dentistry	Recovery (2 places)	10	B2506X		
Paediatric Dentistry	Paediatric Dentistry	Store - General	10	W1504X		
Paediatric Dentistry	Paediatric Dentistry	Store - Mobile dental X-Ray	6	W0325X		
Paediatric Dentistry	Paediatric Dentistry	Surgery - Multi-Disciplinary	20	C0901		
Paediatric Dentistry	Paediatric Dentistry	Surgery - Standard	18	C0903		
Paediatric Dentistry	Paediatric Dentistry	Surgery - Standard	18	C0903		
Paediatric Dentistry	Paediatric Dentistry	Surgery - Standard	18	C0903		
Therapies	Clinical Rooms	ADL Kitchen	15	Q0114A	**Should be Treatment Room. Wrong title & code.**	*NA to change room name*
Therapies	Clinical Rooms	Cardio-Vascular Equipment Room	30	X1021		
Therapies	Clinical Rooms	Changing Cubicle	8	V0717	**Should be two 4 sq m cubicles**	*Ok*
Therapies	Clinical Rooms	Interview Room (Dietetics)	9	M0704A		
Therapies	Clinical Rooms	Interview Room (Dietetics)	9	M0704A		
Therapies	Clinical Rooms	Large Distraction Free Treatment Room (SALT)	20	X0208		
Therapies	Clinical Rooms	Large Gymnasium	60	X0313A		
Therapies	Clinical Rooms	Physical Measurement	3.5	C1401		
Therapies	Clinical Rooms	Rehabilitation Room (OT)	30	X020803		
Therapies	Clinical Rooms	Rehabilitation Room (OT)	30	X020804		
Therapies	Clinical Rooms	Rehabilitation Room (Physio)	30	X020801		
Therapies	Clinical Rooms	Splinting/Casting Room	18	X0224A		
Therapies	Clinical Rooms	Standard Distraction Free Treatment Room (OT)	15	X011503		
Therapies	Clinical Rooms	Standard Distraction Free Treatment Room (SALT)	15	X011501		
Therapies	Clinical Rooms	Standard Distraction Free Treatment Room (SALT)	15	X011501		
Therapies	Clinical Rooms	Standard Treatment Room (Physio)	15	**X011401-4**	**Confirm with Therapies**	*Ok*
Therapies	Clinical Rooms	Standard Treatment Room (Physio)	15	**X011401-4**		*Ok*
Therapies	Clinical Rooms	Standard Treatment Room (Physio)	15	**X011401-4**		*Ok*
Therapies	Offices/Workstations	Interview Room	9	M0704A		
Therapies	Offices/Workstations	Interview Room	9	M0704A		
Therapies	Offices/Workstations	Office - A&C Staff Officer/Appliance officer (9 person)	45	M1010		
Therapies	Offices/Workstations	Office - Physio/Dietetics Manager (1 person)	10	M0508B	**Change name to Physio / Dietetics Manager (2 person)**	*Ok*

Therapies	Offices/Workstations	Office - SLT Manager (1 person)	10	M0508A	Change name to SLT / OT Manager (2 person)	Ok
Therapies	Offices/Workstations	Office - Staff - All Specialties	8			
Therapies	Offices/Workstations	Office - Staff - All Specialties (3 person)	16	M1020	Change name to Office - Staff - All Specialties (4 person)	Ok - therapies 4sqm per person
Therapies	Offices/Workstations	Office - Staff - All Specialties (3 person)	16	M1020	Change name to Office - Staff - All Specialties (4 person)	Ok - therapies 4sqm per person
Therapies	Offices/Workstations	Office - Staff - All Specialties (3 person)	16	M1020	Change name to Office - Staff - All Specialties (4 person)	Ok - therapies 4sqm per person
Therapies	Offices/Workstations	Office - Staff - All Specialties (3 person)	16	M1020	Change name to Office - Staff - All Specialties (4 person)	Ok - therapies 4sqm per person
Therapies	Offices/Workstations	Office - Staff - All Specialties (3 person)	16	M1020	Change name to Office - Staff - All Specialties (4 person)	Ok - therapies 4sqm per person
Therapies	Offices/Workstations	Office - Staff - All Specialties (3 person)	16	M1020	Change name to Office - Staff - All Specialties (4 person)	Ok - therapies 4sqm per person
Therapies	Offices/Workstations	Office - Staff - All Specialties (3 person)	16	M1020	Change name to Office - Staff - All Specialties (4 person)	Ok - therapies 4sqm per person
Therapies	Offices/Workstations	Office - Staff - All Specialties (3 person)	16	M1020	Change name to Office - Staff - All Specialties (4 person)	Ok - therapies 4sqm per person
Therapies	Offices/Workstations	Office - Team Leader (6 person)	30		New Room	NA to suggest code
Therapies	Offices/Workstations	Store - TIP	12		New Room	NA to suggest code
Therapies	Offices/Workstations	Telephone Booth - Single	4		New Room Size ?	NA to suggest code - desk with phone, IT/Power
Therapies	Offices/Workstations	Telephone Booth - Single	4		New Room	NA to suggest code - desk with phone, IT/Power
Therapies	Offices/Workstations	Telephone Booth - Single	4		New Room	NA to suggest code - desk with phone, IT/Power
Therapies	Offices/Workstations	Telephone Booth - Single	4		New Room	NA to suggest code - desk with phone, IT/Power
Therapies	Offices/Workstations	Telephone Booth - Single	4		New Room	NA to suggest code - desk with phone, IT/Power
Therapies	Offices/Workstations	Telephone Booth - Single	4		New Room	NA to suggest code - desk with phone, IT/Power
Therapies	Offices/Workstations	WC - Staff	3	V1109A		
Therapies	Offices/Workstations	WC - Staff	3	V1109A		
Therapies	Offices/Workstations	Workstation - Pod (1 person)	6		New Room. Size ?	NA to suggest code for 2p at 1 desk - small meeting/appraisals
Therapies	Offices/Workstations	Workstation - Pod (1 person)	6		New Room	NA to suggest code for 2p at 1 desk - small meeting/appraisals
Therapies	Offices/Workstations	Workstation - Pod (1 person)	6		New Room	NA to suggest code for 2p at 1 desk - small meeting/appraisals
Therapies	Offices/Workstations	Workstation - Pod (1 person)	6		New Room	NA to suggest code for 2p at 1 desk - small meeting/appraisals

Therapies	Offices/Workstations	Workstation - Pod (1 person)	6		New Room	*NA to suggest code for 2p at 1 desk - small meeting/appraisals*
Therapies	Offices/Workstations	Workstation - Pod (1 person)	6		New Room	*NA to suggest code for 2p at 1 desk - small meeting/appraisals*
Therapies	Support Rooms	Beverage Bay	4		New Room	*NA to suggest - standardise with others*
Therapies	Support Rooms	Disposal Hold	10	Y0614		
Therapies	Support Rooms	DSR	7	Y1501		
Therapies	Support Rooms	Equipment Decontamination	10	Z0511		
Therapies	Support Rooms	Linen Bay (1 trolley)	1.5	G0118B		
Therapies	Support Rooms	Reception	3	J0413		
Therapies	Support Rooms	Store	82	W1111	Splitting of overall 120 sq m	*Physio*
Therapies	Support Rooms	Store - Dietetic	3		Splitting of overall 120 sq m	*NA to suggest code*
Therapies	Support Rooms	Store - Dietetic	3		Splitting of overall 120 sq m	*NA to suggest code*
Therapies	Support Rooms	Store - Dietetic	16		Splitting of overall 120 sq m	*NA to suggest code*
Therapies	Support Rooms	Store - SALT	4		Splitting of overall 120 sq m	*NA to suggest code*
Therapies	Support Rooms	Store - SALT	12		Splitting of overall 120 sq m	*NA to suggest code*
Therapies	Support Rooms	Waiting Area	22	J1133		
Therapies	Support Rooms	Waiting/Play Area	8	J1408		
Therapies	Support Rooms	WC - Assisted (larger+Changing)	12.3	V1117B		
Therapies	Support Rooms	WC - Staff	3	V1109E		
Therapies	Support Rooms	WC - Wheelchair Accessible	4.5	V0907A		
Social Work	Social Work	Interview Room	9	M0704B		
Social Work	Social Work	Office - Open Plan (8 person)	40	M1021		
Social Work	Social Work	Office - Senior Social Work (3 person)	15	M0532A		
Social Work	Social Work	Reception (3 person)	12	J0213		
Social Work	Social Work	Waiting Area (5 person)	7	J1204		
Medical Day Care Unit	Medical Day Care Unit (5 beds)	Clean Utility	12	T0505A		
Medical Day Care Unit	Medical Day Care Unit (5 beds)	Consult/Examination	15.5	C0201		
Medical Day Care Unit	Medical Day Care Unit (5 beds)	Dirty Utility	11	Y0417		
Medical Day Care Unit	Medical Day Care Unit (5 beds)	Disposal Hold	10	Y0614		
Medical Day Care Unit	Medical Day Care Unit (5 beds)	En-Suite - WC Shower & Wash	4.5	V1610		
Medical Day Care Unit	Medical Day Care Unit (5 beds)	En-Suite - WC Shower & Wash	4.5	V1610		
Medical Day Care Unit	Medical Day Care Unit (5 beds)	Interview Counselling & Quiet Room	9	M0708		
Medical Day Care Unit	Medical Day Care Unit (5 beds)	Linen Bay (1 trolley)	1.5	G0118		
Medical Day Care Unit	Medical Day Care Unit (5 beds)	Multi Bed Room (3 beds)	40.5	B2011B		
Medical Day Care Unit	Medical Day Care Unit (5 beds)	Office - Ward Manager (1 person)	9	M0507B		
Medical Day Care Unit	Medical Day Care Unit (5 beds)	Office & Storage (2 person)	12	M0319		
Medical Day Care Unit	Medical Day Care Unit (5 beds)	Pantry	8	P0607F		
Medical Day Care Unit	Medical Day Care Unit (5 beds)	Parking Bay - 1 patient trolley & 4 wheelchairs	5	G0132		
Medical Day Care Unit	Medical Day Care Unit (5 beds)	Patient Treatment Lounge	32.4	X1504A		
Medical Day Care Unit	Medical Day Care Unit (5 beds)	Physical Measurement	3.5	C1401		

Medical Day Care Unit	Medical Day Care Unit (5 beds)	Reception (2 person)	3	J0204B	**Change name to Reception / Touchdown Base. New Room**	
Medical Day Care Unit	Medical Day Care Unit (5 beds)	Resuscitation Trolley Bay	1	G0103		
Medical Day Care Unit	Medical Day Care Unit (5 beds)	Single Bedroom	15	B1811		
Medical Day Care Unit	Medical Day Care Unit (5 beds)	Single Bedroom	15	B1811		
Medical Day Care Unit	Medical Day Care Unit (5 beds)	Store - General	15	W1241		
Medical Day Care Unit	Medical Day Care Unit (5 beds)	Treatment Room	16	X0112		
Medical Day Care Unit	Medical Day Care Unit (5 beds)	Waiting Area	12	J1132A		
Medical Day Care Unit	Medical Day Care Unit (5 beds)	Waiting/Play Area	21	J1410A		
Medical Day Care Unit	Medical Day Care Unit (5 beds)	WC - Staff	3	V1109A		
Medical Day Care Unit	Medical Day Care Unit (5 beds)	WC - Wheelchair Accessible	4.5	V0907C		
Medical Day Care Unit	Medical Day Care Unit (5 beds)	WC - Wheelchair Accessible	4.5	V0907C		
OPD/Therapies/Pharmacy (Shared)	Shared Staff	Staff Rest Room (30 person)	48		**New Room**	*as above*
Operating Theatres / Surgical Day Case Unit	Day Case Entrance & Reception	Changing Cubicle	4	V0704A		
Operating Theatres / Surgical Day Case Unit	Day Case Entrance & Reception	Changing Cubicle	4	V0704A		
Operating Theatres / Surgical Day Case Unit	Day Case Entrance & Reception	Changing Cubicle	4	V0704A		
Operating Theatres / Surgical Day Case Unit	Day Case Entrance & Reception	Consult/Examination	15.5	C0216A		
Operating Theatres / Surgical Day Case Unit	Day Case Entrance & Reception	Consult/Examination	15.5	C0216A		
Operating Theatres / Surgical Day Case Unit	Day Case Entrance & Reception	Interview Room	9	M0704C		
Operating Theatres / Surgical Day Case Unit	Day Case Entrance & Reception	Interview Room (including physical measurement)	9		**Does this need separate RDS ?**	*base on same ADB as other interviews but will be additional equipment*
Operating Theatres / Surgical Day Case Unit	Day Case Entrance & Reception	Locker Bay	16	V0635		
Operating Theatres / Surgical Day Case Unit	Day Case Entrance & Reception	Office - General (2 person)	12	M0207A		
Operating Theatres / Surgical Day Case Unit	Day Case Entrance & Reception	Reception	8	J0208A		
Operating Theatres / Surgical Day Case Unit	Day Case Entrance & Reception	Single Bedroom With En-Suite	14.5	B1811A		
Operating Theatres / Surgical Day Case Unit	Day Case Entrance & Reception	Single Bedroom With En-Suite	14.5	B1811A		
Operating Theatres / Surgical Day Case Unit	Day Case Entrance & Reception	Single Bedroom With En-Suite	14.5	B1811A		
Operating Theatres / Surgical Day Case Unit	Day Case Entrance & Reception	Store - Records Trolley	2.5	G0900		

Operating Theatres / Surgical Day Case Unit	Day Case Entrance & Reception	Waiting Area - 10 people (initial wait)	15		New Room	NA to suggest code
Operating Theatres / Surgical Day Case Unit	Day Case Entrance & Reception	Waiting Area - 20 people (main wait)	35	J1112B		
Operating Theatres / Surgical Day Case Unit	Day Case Entrance & Reception	WC - Wheelchair Accessible (en-suite)	4.5	V0907D		
Operating Theatres / Surgical Day Case Unit	Day Case Entrance & Reception	WC - Wheelchair Accessible (en-suite)	4.5	V0907D		
Operating Theatres / Surgical Day Case Unit	Day Case Entrance & Reception	WC - Wheelchair Accessible (en-suite)	4.5	V0907D		
Operating Theatres / Surgical Day Case Unit	Operating Theatre Suite	Anaesthetic Room	19	N0305A		
Operating Theatres / Surgical Day Case Unit	Operating Theatre Suite	Anaesthetic Room	19	N0305A		
Operating Theatres / Surgical Day Case Unit	Operating Theatre Suite	Anaesthetic Room	19	N0305A		
Operating Theatres / Surgical Day Case Unit	Operating Theatre Suite	Anaesthetic Room	19	N0305A		
Operating Theatres / Surgical Day Case Unit	Operating Theatre Suite	Anaesthetic Room	19	N0305A		
Operating Theatres / Surgical Day Case Unit	Operating Theatre Suite	Anaesthetic Room	19	N0305A		
Operating Theatres / Surgical Day Case Unit	Operating Theatre Suite	Assisted Bathroom (Burns)	20	V1713		
Operating Theatres / Surgical Day Case Unit	Operating Theatre Suite	Blood Bank Refrigerator Bay	4	W0650A		
Operating Theatres / Surgical Day Case Unit	Operating Theatre Suite	Exit Bay	6	G0405A		
Operating Theatres / Surgical Day Case Unit	Operating Theatre Suite	Exit Bay	6	G0405A		
Operating Theatres / Surgical Day Case Unit	Operating Theatre Suite	Exit Bay	6	G0405A		
Operating Theatres / Surgical Day Case Unit	Operating Theatre Suite	Exit Bay	6	G0405A		
Operating Theatres / Surgical Day Case Unit	Operating Theatre Suite	Exit Bay	6	G0405A		
Operating Theatres / Surgical Day Case Unit	Operating Theatre Suite	Exit Bay	6	G0405A		
Operating Theatres / Surgical Day Case Unit	Operating Theatre Suite	Image Intensifier Bay	4	G0117		
Operating Theatres / Surgical Day Case Unit	Operating Theatre Suite	Image Intensifier Bay	4	G0117		
Operating Theatres / Surgical Day Case Unit	Operating Theatre Suite	Laboratory	8	L1306		

Operating Theatres / Surgical Day Case Unit	Operating Theatre Suite	Linen Bay (2 trolleys)	3	G0118F		
Operating Theatres / Surgical Day Case Unit	Operating Theatre Suite	Lobby - Distressed Parents	2		New Room. Circulation space ?	*NA to suggest code - corridor recess couple of chairs*
Operating Theatres / Surgical Day Case Unit	Operating Theatre Suite	Mobile X-Ray Bay	4	G0102		
Operating Theatres / Surgical Day Case Unit	Operating Theatre Suite	Operating Theatre	55	N0106A		
Operating Theatres / Surgical Day Case Unit	Operating Theatre Suite	Operating Theatre	55	N0106A		
Operating Theatres / Surgical Day Case Unit	Operating Theatre Suite	Operating Theatre	55	N0106A		
Operating Theatres / Surgical Day Case Unit	Operating Theatre Suite	Operating Theatre	55	N0106A		
Operating Theatres / Surgical Day Case Unit	Operating Theatre Suite	Operating Theatre	55	N0106A		
Operating Theatres / Surgical Day Case Unit	Operating Theatre Suite	Operating Theatre	55	N0106A		
Operating Theatres / Surgical Day Case Unit	Operating Theatre Suite	Preparation Room	12	T0526A		
Operating Theatres / Surgical Day Case Unit	Operating Theatre Suite	Preparation Room	12	T0526A		
Operating Theatres / Surgical Day Case Unit	Operating Theatre Suite	Preparation Room	12	T0526A		
Operating Theatres / Surgical Day Case Unit	Operating Theatre Suite	Preparation Room	12	T0526A		
Operating Theatres / Surgical Day Case Unit	Operating Theatre Suite	Preparation Room	12	T0526A		
Operating Theatres / Surgical Day Case Unit	Operating Theatre Suite	Preparation Room	12	T0526A		
Operating Theatres / Surgical Day Case Unit	Operating Theatre Suite	Reception/Bulk Store	6		New Room	*Linked to bulk store. NA to suggest code*
Operating Theatres / Surgical Day Case Unit	Operating Theatre Suite	Scrub-Up	11	**N0201A**		
Operating Theatres / Surgical Day Case Unit	Operating Theatre Suite	Scrub-Up	11	**N0201A**		
Operating Theatres / Surgical Day Case Unit	Operating Theatre Suite	Scrub-Up	11	**N0201A**		
Operating Theatres / Surgical Day Case Unit	Operating Theatre Suite	Scrub-Up	11	**N0201A**		
Operating Theatres / Surgical Day Case Unit	Operating Theatre Suite	Scrub-Up	16	N0201A	New Room	*Check code for 16sqm scrub-up*
Operating Theatres / Surgical Day Case Unit	Operating Theatre Suite	Store - Clinical Equipment	28	W0619A		

Operating Theatres / Surgical Day Case Unit	Operating Theatre Suite	Store - DCN Equipment	16		Change name to Store - Intra-Operative MRI	*Change room name & NA to suggest code*
Operating Theatres / Surgical Day Case Unit	Operating Theatre Suite	Store - Decontaminated Scopes	8	W0900		
Operating Theatres / Surgical Day Case Unit	Operating Theatre Suite	Store - Dirty Scopes	6		New Room. Size ?	*NA suggest code*
Operating Theatres / Surgical Day Case Unit	Operating Theatre Suite	Store - Medical Gas Cylinder	4	W1307X		
Operating Theatres / Surgical Day Case Unit	Operating Theatre Suite	Store - Plaster	6	W1512B		
Operating Theatres / Surgical Day Case Unit	Operating Theatre Suite	Store - Satelite Pharmacy	6	W0258		
Operating Theatres / Surgical Day Case Unit	Operating Theatre Suite	Store - Theatre Bulk	60	W1439A		
Operating Theatres / Surgical Day Case Unit	Operating Theatre Suite	Utility Room	14	Y0420		
Operating Theatres / Surgical Day Case Unit	Operating Theatre Suite	Utility Room	14	Y0420		
Operating Theatres / Surgical Day Case Unit	Operating Theatre Suite	Utility Room	14	Y0420		
Operating Theatres / Surgical Day Case Unit	Operating Theatre Suite	WC - Wheelchair Accessible	4.5	V0904		
Operating Theatres / Surgical Day Case Unit	Patient Pre-Discharge Areas	Clean Utility - Recovery	12	T0505B		
Operating Theatres / Surgical Day Case Unit	Patient Pre-Discharge Areas	Day Recovery (10 spaces including 2 rooms)	110	B2517		
Operating Theatres / Surgical Day Case Unit	Patient Pre-Discharge Areas	Dirty Utility - Recovery	14	Y0420A		
Operating Theatres / Surgical Day Case Unit	Patient Pre-Discharge Areas	Interview Room - DCU	9	M0704D		
Operating Theatres / Surgical Day Case Unit	Patient Pre-Discharge Areas	Interview Room - DCU	9	M0704D		
Operating Theatres / Surgical Day Case Unit	Patient Pre-Discharge Areas	Office - Ward Manager (1 person)	9	M0507L		
Operating Theatres / Surgical Day Case Unit	Patient Pre-Discharge Areas	Pantry (DCU)	8	P0616A		
Operating Theatres / Surgical Day Case Unit	Patient Pre-Discharge Areas	Recovery Staff Base	12	T0203		
Operating Theatres / Surgical Day Case Unit	Patient Pre-Discharge Areas	SDCU Discharge Lounge	40	D1134		
Operating Theatres / Surgical Day Case Unit	Patient Pre-Discharge Areas	SDCU Dispensary	8		New Room	*NA to suggest code*
Operating Theatres / Surgical Day Case Unit	Patient Pre-Discharge Areas	SDCU Post Op Staff Base/Utility	10	T0129A		

Operating Theatres / Surgical Day Case Unit	Patient Pre-Discharge Areas	Theatre Recovery (9 spaces)	145.8	B2407		
Operating Theatres / Surgical Day Case Unit	Patient Pre-Discharge Areas	WC - Patient	3	V1110A		
Operating Theatres / Surgical Day Case Unit	Patient Pre-Discharge Areas	WC - Wheelchair Accessible	4.5	V0907F		
Operating Theatres / Surgical Day Case Unit	Patient Pre-Discharge Areas	Wheelchair Parking Bay	1.5	G0129A		
Operating Theatres / Surgical Day Case Unit	Pre-Theatre Admission Suite	Day Reception/Waiting Area	20		New Room	*NA to suggest code*
Operating Theatres / Surgical Day Case Unit	Pre-Theatre Admission Suite	Staff Base/Admissions Suite	4	T0129		
Operating Theatres / Surgical Day Case Unit	Pre-Theatre Admission Suite	Waiting Area - Inpatients	30		New Room	*NA to suggest code*
Operating Theatres / Surgical Day Case Unit	Pre-Theatre Admission Suite	WC - Wheelchair Accessible	4.5	V0907E		
Operating Theatres / Surgical Day Case Unit	Pre-Theatre Admission Suite	WC - Wheelchair Accessible	4.5	V0907E		
Operating Theatres / Surgical Day Case Unit	Staff Entrance	Reception/Office/Control Base (4 person)	20	J0420A		
Operating Theatres / Surgical Day Case Unit	Staff Facilities	Dictation Area	4	T0111		
Operating Theatres / Surgical Day Case Unit	Staff Facilities	Dictation Area	4	T0111		
Operating Theatres / Surgical Day Case Unit	Staff Facilities	Disposal Hold	10	Y0614B		
Operating Theatres / Surgical Day Case Unit	Staff Facilities	Disposal Hold	10	Y0614B		
Operating Theatres / Surgical Day Case Unit	Staff Facilities	DSR	7	Y1501F		
Operating Theatres / Surgical Day Case Unit	Staff Facilities	DSR	7	Y1501F		
Operating Theatres / Surgical Day Case Unit	Staff Facilities	Female Staff Changing & Lockers	14	V0524		
Operating Theatres / Surgical Day Case Unit	Staff Facilities	Female Staff Shower WC & Wash	22	V0113B		
Operating Theatres / Surgical Day Case Unit	Staff Facilities	Footwear Machine Washing Area	4	Y0510X		
Operating Theatres / Surgical Day Case Unit	Staff Facilities	Male Staff Changing & Lockers	12	V0523		
Operating Theatres / Surgical Day Case Unit	Staff Facilities	Male Staff Shower WC & Wash	18	V0113A		
Operating Theatres / Surgical Day Case Unit	Staff Facilities	Office - Senior Nurse Theatres	9	M0507M		

Operating Theatres / Surgical Day Case Unit	Staff Facilities	Office - Staff	25	M0225B		
Operating Theatres / Surgical Day Case Unit	Staff Facilities	Staff Rest Room (30 person including DCU)	40	D0202A		
Operating Theatres / Surgical Day Case Unit	Staff Facilities	WC - Staff	3	V1109A		
Acute Surgical Admissions Area	Acute Surgical Admissions Area (12 beds)	Play/Sitting Area	13	D1114B		
Acute Surgical Admissions Area	Acute Surgical Admissions Area (12 beds)	Reception Desk/Staff Base	3		**Change name to Reception / Touchdown Base. New Room**	*as above*
Acute Surgical Admissions Area	Adolescent Assessment Area (2 beds)	Bathroom	14	V1712D		
Acute Surgical Admissions Area	Adolescent Assessment Area (2 beds)	Clean Utility	12	T0505A		
Acute Surgical Admissions Area	Adolescent Assessment Area (2 beds)	Dirty Utility	14	Y0406E		
Acute Surgical Admissions Area	Adolescent Assessment Area (2 beds)	DSR	7	Y1501E		
Acute Surgical Admissions Area	Adolescent Assessment Area (2 beds)	En-Suite - WC Shower & Wash	6	V1625J		
Acute Surgical Admissions Area	Adolescent Assessment Area (2 beds)	En-Suite - WC Shower & Wash	6	V1625J		
Acute Surgical Admissions Area	Adolescent Assessment Area (2 beds)	Interview Room	9	M0702B		
Acute Surgical Admissions Area	Adolescent Assessment Area (2 beds)	Linen Bay (1 trolley)	1.5	G0118F		
Acute Surgical Admissions Area	Adolescent Assessment Area (2 beds)	Office - Multi-Disciplinary Staff	18	M1016C		
Acute Surgical Admissions Area	Adolescent Assessment Area (2 beds)	Office - Ward Manager	9	M0507H		
Acute Surgical Admissions Area	Adolescent Assessment Area (2 beds)	Pantry	8	P0607		
Acute Surgical Admissions Area	Adolescent Assessment Area (2 beds)	Resuscitation Trolley Bay	1	G0103E		
Acute Surgical Admissions Area	Adolescent Assessment Area (2 beds)	Single Bedroom	15	B1802I		
Acute Surgical Admissions Area	Adolescent Assessment Area (2 beds)	Single Bedroom	15	B1802I		
Acute Surgical Admissions Area	Adolescent Assessment Area (2 beds)	Store - Equipment	10	W1421		
Acute Surgical Admissions Area	Adolescent Assessment Area (2 beds)	Store - General	10	W1549F		
Acute Surgical Admissions Area	Adolescent Assessment Area (2 beds)	Touchdown Base	2	T0122		

Acute Surgical Admissions Area	Adolescent Assessment Area (2 beds)	Treatment Room	16	X0214E		
Acute Surgical Admissions Area	Adolescent Assessment Area (2 beds)	WC - Staff	3	V1109J		
Acute Surgical Admissions Area	Surgical Assessment Area (10 beds)	En-Suite - WC Shower & Wash	4.5		Same as sigle sided access rooms in other ward areas	as above
Acute Surgical Admissions Area	Surgical Assessment Area (10 beds)	En-Suite - WC Shower & Wash	4.5		Same as sigle sided access rooms in other ward areas	as above
Acute Surgical Admissions Area	Surgical Assessment Area (10 beds)	En-Suite - WC Shower & Wash	6	V1625H		
Acute Surgical Admissions Area	Surgical Assessment Area (10 beds)	En-Suite - WC Shower & Wash	6	V1625H		
Acute Surgical Admissions Area	Surgical Assessment Area (10 beds)	Multi Bed Room (4 beds)	63	B2003D		
Acute Surgical Admissions Area	Surgical Assessment Area (10 beds)	Multi Bed Room (4 beds)	63	B2003D		
Acute Surgical Admissions Area	Surgical Assessment Area (10 beds)	Single Bedroom	15	B1802G		
Acute Surgical Admissions Area	Surgical Assessment Area (10 beds)	Single Bedroom	15	B1802G		
Child & Adolescent Mental Health Services (12 bed)	Day Programme (EPSS)	Office - Multi-Disciplinary (10 person)	24	M1016D		
Child & Adolescent Mental Health Services (12 bed)	Day Programme (EPSS)	Sitting Room	15	D1109		
Child & Adolescent Mental Health Services (12 bed)	Day Programme (Forteviot)	Group Room	24	H1107A		
Child & Adolescent Mental Health Services (12 bed)	Day Programme (Forteviot)	Office - Multi-Disciplinary	35	M0228B		
Child & Adolescent Mental Health Services (12 bed)	Day Programme (Forteviot)	Play Room	24	D0816D		
Child & Adolescent Mental Health Services (12 bed)	Day Programme (Forteviot)	Time Out Room	6	B0507		
Child & Adolescent Mental Health Services (12 bed)	Day Programme (Forteviot)	Viewing Room	10	X0705C		
Child & Adolescent Mental Health Services (12 bed)	Day Programme (Tipperlinn)	Group Room	24	H1107A		
Child & Adolescent Mental Health Services (12 bed)	Day Programme (Tipperlinn)	Office - Multi-Disciplinary (10 person)	24	M1016D		
Child & Adolescent Mental Health Services (12 bed)	Day Programme (Tipperlinn)	Sitting Room	15	D1109		
Child & Adolescent Mental Health Services (12 bed)	Entrance	Reception	3	J0208B		

Child & Adolescent Mental Health Services (12 bed)	Entrance	Waiting Area (12 person)	18	J1306A
Child & Adolescent Mental Health Services (12 bed)	Inpatients	Clean Utility	12	T0505A
Child & Adolescent Mental Health Services (12 bed)	Inpatients	Clinical Base	10	M1707A
Child & Adolescent Mental Health Services (12 bed)	Inpatients	Dirty Utility	11	Y0406E
Child & Adolescent Mental Health Services (12 bed)	Inpatients	Disposal Hold	10	Y0613A
Child & Adolescent Mental Health Services (12 bed)	Inpatients	DSR	7	Y1501
Child & Adolescent Mental Health Services (12 bed)	Inpatients	En-Suite - WC Shower & Wash (anti ligature)	4.5	V1610
Child & Adolescent Mental Health Services (12 bed)	Inpatients	En-Suite - WC Shower & Wash (anti ligature)	4.5	V1610
Child & Adolescent Mental Health Services (12 bed)	Inpatients	En-Suite - WC Shower & Wash (anti ligature)	4.5	V1610
Child & Adolescent Mental Health Services (12 bed)	Inpatients	En-Suite - WC Shower & Wash (anti ligature)	4.5	V1610
Child & Adolescent Mental Health Services (12 bed)	Inpatients	En-Suite - WC Shower & Wash (anti ligature)	4.5	V1610
Child & Adolescent Mental Health Services (12 bed)	Inpatients	En-Suite - WC Shower & Wash (anti ligature)	4.5	V1610
Child & Adolescent Mental Health Services (12 bed)	Inpatients	En-Suite - WC Shower & Wash (anti ligature)	4.5	V1610
Child & Adolescent Mental Health Services (12 bed)	Inpatients	En-Suite - WC Shower & Wash (anti ligature)	4.5	V1610
Child & Adolescent Mental Health Services (12 bed)	Inpatients	En-Suite - WC Shower & Wash (anti ligature)	4.5	V1610
Child & Adolescent Mental Health Services (12 bed)	Inpatients	En-Suite - WC Shower & Wash (anti ligature)	4.5	V1610
Child & Adolescent Mental Health Services (12 bed)	Inpatients	En-Suite - WC Shower & Wash (anti ligature)	4.5	V1610
Child & Adolescent Mental Health Services (12 bed)	Inpatients	En-Suite - WC Shower & Wash (anti ligature)	4.5	V1610
Child & Adolescent Mental Health Services (12 bed)	Inpatients	Group Room	24	H1107A
Child & Adolescent Mental Health Services (12 bed)	Inpatients	Laundry Room	11.5	Y0509
Child & Adolescent Mental Health Services (12 bed)	Inpatients	Linen Bay (1 trolley)	1.5	G0118F
Child & Adolescent Mental Health Services (12 bed)	Inpatients	Office - Multi-Disciplinary	20	M1027

Child & Adolescent Mental Health Services (12 bed)	Inpatients	Office - Multi-Disciplinary	20	M1027		
Child & Adolescent Mental Health Services (12 bed)	Inpatients	Pantry	8	P0607E		
Child & Adolescent Mental Health Services (12 bed)	Inpatients	Patient Assisted Bathroom	14	V1712D		
Child & Adolescent Mental Health Services (12 bed)	Inpatients	Quiet Room	12	**D1408A**		*Ok*
Child & Adolescent Mental Health Services (12 bed)	Inpatients	Quiet/Interview Room	12	M0710D		
Child & Adolescent Mental Health Services (12 bed)	Inpatients	Single Bedroom	10	B0510A		
Child & Adolescent Mental Health Services (12 bed)	Inpatients	Single Bedroom	10	B0510A		
Child & Adolescent Mental Health Services (12 bed)	Inpatients	Single Bedroom	10	B0510A		
Child & Adolescent Mental Health Services (12 bed)	Inpatients	Single Bedroom	10	B0510A		
Child & Adolescent Mental Health Services (12 bed)	Inpatients	Single Bedroom	10	B0510A		
Child & Adolescent Mental Health Services (12 bed)	Inpatients	Single Bedroom	10	B0510A		
Child & Adolescent Mental Health Services (12 bed)	Inpatients	Single Bedroom	10	B0510A		
Child & Adolescent Mental Health Services (12 bed)	Inpatients	Single Bedroom	10	B0510A		
Child & Adolescent Mental Health Services (12 bed)	Inpatients	Single Bedroom	10	B0510A		
Child & Adolescent Mental Health Services (12 bed)	Inpatients	Single Bedroom	10	B0510A		
Child & Adolescent Mental Health Services (12 bed)	Inpatients	Single Bedroom - Large	11.5	B0510A		
Child & Adolescent Mental Health Services (12 bed)	Inpatients	Single Bedroom - Large	11.5	B0510A		
Child & Adolescent Mental Health Services (12 bed)	Inpatients	Therapy Room	15	X0613		
Child & Adolescent Mental Health Services (12 bed)	Inpatients	Treatment Room	16	X0214E		
Child & Adolescent Mental Health Services (12 bed)	Inpatients	TV/Living Room	24	D1125		
Child & Adolescent Mental Health Services (12 bed)	Inpatients	WC - Staff	3	V1109J		
Child & Adolescent Mental Health Services (12 bed)	Inpatients	WC - Staff	3	V1109J		

Child & Adolescent Mental Health Services (12 bed)	Shared Facilities	Art Room	24	Q0410A
Child & Adolescent Mental Health Services (12 bed)	Shared Facilities	Dining Room (Inpatient & Day Programme)	56	D0608A
Child & Adolescent Mental Health Services (12 bed)	Shared Facilities	Dining Room (6 person)	10.8	D0609
Child & Adolescent Mental Health Services (12 bed)	Shared Facilities	DSR	7	Y1501
Child & Adolescent Mental Health Services (12 bed)	Shared Facilities	Family Interview Room	12	M0710B
Child & Adolescent Mental Health Services (12 bed)	Shared Facilities	Interview Room	9	M0702
Child & Adolescent Mental Health Services (12 bed)	Shared Facilities	Interview Room	9	M0702
Child & Adolescent Mental Health Services (12 bed)	Shared Facilities	Interview Room	9	M0702
Child & Adolescent Mental Health Services (12 bed)	Shared Facilities	Interview Room	9	M0702
Child & Adolescent Mental Health Services (12 bed)	Shared Facilities	Interview Room - Staff	9	M0702B
Child & Adolescent Mental Health Services (12 bed)	Shared Facilities	Large Family Interview Room	14	M0713
Child & Adolescent Mental Health Services (12 bed)	Shared Facilities	Large Group Room (16 person)	24	H1102D
Child & Adolescent Mental Health Services (12 bed)	Shared Facilities	Office - Consultant Psychiatrist	10	M0115B
Child & Adolescent Mental Health Services (12 bed)	Shared Facilities	Office - Consultant Psychologist (3 person)	15	MO211X
Child & Adolescent Mental Health Services (12 bed)	Shared Facilities	Office - Secretary/Filing (2 person)	21.5	M0209
Child & Adolescent Mental Health Services (12 bed)	Shared Facilities	Office - Ward Manager (1 person)	16	M0529A
Child & Adolescent Mental Health Services (12 bed)	Shared Facilities	Recreation Room	50	D0114A
Child & Adolescent Mental Health Services (12 bed)	Shared Facilities	Resuscitation Trolley Bay	1	G0103
Child & Adolescent Mental Health Services (12 bed)	Shared Facilities	Servery	20	F0900
Child & Adolescent Mental Health Services (12 bed)	Shared Facilities	Shower WC & Wash (assisted)	6	V1612
Child & Adolescent Mental Health Services (12 bed)	Shared Facilities	Store (testing)	6	W0126Y
Child & Adolescent Mental Health Services (12 bed)	Shared Facilities	Store/Photocopying	10	M0410

Child & Adolescent Mental Health Services (12 bed)	Shared Facilities	Therapeutic Kitchen	29.5	Q0121A		
Child & Adolescent Mental Health Services (12 bed)	Shared Facilities	Therapy Room	15	X0613		
Child & Adolescent Mental Health Services (12 bed)	Shared Facilities	WC - Wheelchair Accessible	4.5	V0906		
Child & Adolescent Mental Health Services (12 bed)	Shared Facilities	WC - Wheelchair Accessible	4.5	V0906		
Child & Adolescent Mental Health Services (12 bed)	Shared Facilities	WC - Wheelchair Accessible	4.5	V0906		
Radiology	Main Department	Baby/Infant Feeding Room	4	S0012		
Radiology	Main Department	Cardiac Arrest Emergency Trolley Bay	1		**Change name to Resuscitation Trolley Bay. Same as other ward areas.**	*Ok*
Radiology	Main Department	Changing Cubicle	4	V0705		
Radiology	Main Department	Changing Cubicle	4	V0705		
Radiology	Main Department	Changing Cubicle	4	V0705		
Radiology	Main Department	Changing Cubicle	4	V0705		
Radiology	Main Department	Changing Cubicle	4	V0705		
Radiology	Main Department	Dental Room	20	E0135		
Radiology	Main Department	Dirty Utility	9	Y0406		
Radiology	Main Department	Disposal hold	10	Y0615		
Radiology	Main Department	DSR	7	Y1502		
Radiology	Main Department	Gamma Camera	40	E0716		
Radiology	Main Department	Gamma Camera Control Area	10	E0526		
Radiology	Main Department	General X-Ray Room	33	E0128B		
Radiology	Main Department	General X-Ray Room	33	E0128C		
Radiology	Main Department	Hot Toilet	4.5	V0905A		
Radiology	Main Department	Hot Waiting Area	10	E0703		
Radiology	Main Department	Injection Room	8	E0715		
Radiology	Main Department	Interview Room - Patient	9	M0707		
Radiology	Main Department	Linen Bay (1 trolley)	1.5	G0118		
Radiology	Main Department	Nappy Change Room With Handwash	4	V1114		
Radiology	Main Department	Office - Admin (5 person)	20	M0226		
Radiology	Main Department	Preparation Room	10	**T0517**		
Radiology	Main Department	Preparation Room	14	**E0904A**		
Radiology	Main Department	Processing Area	30	E0528		
Radiology	Main Department	Reception Area	8	J0413A		
Radiology	Main Department	Reporting Room	45	E0535		
Radiology	Main Department	Resource Room/Library	15	H0338		
Radiology	Main Department	Screening Room (fluoroscopy)	39	E0303A		
Radiology	Main Department	Store - Radioactive Waste	2	Y0601A		

Radiology	Main Department	Store Room	10	W1550		
Radiology	Main Department	Ultrasound Room	16	E0115		
Radiology	Main Department	Ultrasound Room	16	E0115		
Radiology	Main Department	Waiting Area - Main Department	50	J1124		
Radiology	Main Department	Waiting Area (Chair/Trolley/Cot)	16	J1202		
Radiology	Main Department	Waiting/Play Area	10	J1404		
Radiology	Main Department	WC - Patient	3	V1108		
Radiology	Main Department	WC - Patient	3	V1108		
Radiology	Main Department	WC - Wheelchair Accessible	4.5	V0905		
Radiology	Main Department	WC - Wheelchair Accessible	4.5	V0905		
Radiology	MRI/CT	Baby/Infant Feeding Room	4	S0012A		
Radiology	MRI/CT	Changing Cubicle	4	V0705A		
Radiology	MRI/CT	Changing Cubicle	4	V0705A		
Radiology	MRI/CT	Changing Cubicle Accessible	6		New Room	*Use same code as 4sqm changing rooms. Discuss at generic review*
Radiology	MRI/CT	Changing Cubicle Accessible	6		New Room	*Use same code as 4sqm changing rooms. Discuss at generic review*
Radiology	MRI/CT	Clean Utility	10	T0506A		
Radiology	MRI/CT	CT Control Room	16	E0604		
Radiology	MRI/CT	CT Room	36	E0601		
Radiology	MRI/CT	Dirty utility	9	Y0406A		
Radiology	MRI/CT	DSR	7	Y1502A		
Radiology	MRI/CT	Induction Area: 1 place	16	B2524		
Radiology	MRI/CT	MRI Control Room	24	E0811		
Radiology	MRI/CT	MRI Equipment Room	20	E0802		
Radiology	MRI/CT	MRI Room	45	E0801		
Radiology	MRI/CT	MRI Room	45	E0801		
Radiology	MRI/CT	Recovery Area - 1 place	16	B2523		
Radiology	MRI/CT	Store Room	10	W1550A		
Radiology	MRI/CT	Trolley Bay	4	G0139		
Radiology	MRI/CT	Trolley Bay	4	G0139		
Radiology	MRI/CT	Wait - Corridor	3		New Room ?	*NA to suggest code*
Radiology	MRI/CT	Waiting Area	12	J1203		
Radiology	MRI/CT	Waiting Area - Adult	8	J1305A		
Radiology	MRI/CT	WC - Change Accessible	7		New Room	*Use same code as 4sqm changing rooms. Discuss at generic review*
Radiology	MRI/CT	WC - Wheelchair Accessible	4.5	V0905		
Radiology	MRI/CT	WC - Wheelchair Accessible	4.5	V0905B		
Radiology	Office Space	Office - Consultants (5 person)	25	M0227		
Radiology	Office Space	Office - Superintendent/PACS Manager (2 person)	10	M0531		
Radiology	Office Space	Registrar Office	16	M0212		
Radiology	Staff Accommodation	Female Staff Changing & Lockers	25	V0531		

Radiology	Staff Accommodation	Male Staff Changing & Lockers	15	V0535		
Radiology	Staff Accommodation	WC - Staff	3	V1109A		
Radiology	Staff Accommodation	WC - Staff	3	V1109A		
Pharmacy	Aseptic Suite	Disposal Hold	4	Y0614		
Pharmacy	Aseptic Suite	Office - Aseptic (2 person)	10	M0532B		
Pharmacy	Pharmacy	Dispensary	40	Z0104A		
Pharmacy	Pharmacy	Interview Room	9	M0709		
Pharmacy	Pharmacy	Office - Dispensary Manager (2 person)	10	M0207B		
Pharmacy	Pharmacy	Office - Lead Pharmacist (2 person)	12		**Change from 1 person office.**	*same as above - 2p off but 12 sqm - additional storage*
Pharmacy	Pharmacy	Office - Ward Pharmacists/Secrtarial (7 person)	37	M0228A		
Medical Photography	Medical Photography	Office/Workroom	9	M0507		
Medical Photography	Medical Photography	Photography Studio	45.5	C1026		
Equipment Library	Equipment Library	Medical Physics/Anaesthetics Equipment Library	60	M0510		
Child Life & Health	Child Life & Health	Laboratory/Finance Manager's Office (1 person)	11	M0533		
Child Life & Health	Child Life & Health	Lockers	12	V0636		
Child Life & Health	Child Life & Health	Meeting/Conference Room (15 person)	25	H0104		
Child Life & Health	Child Life & Health	Molecular Biology Laboratory	45	L0631		
Child Life & Health	Child Life & Health	Office - (16 person)	80		**New configuration.**	*NA to suggest code*
Child Life & Health	Child Life & Health	Office - Head Of Department (1 person)	16	M0218A		
Child Life & Health	Child Life & Health	Office - Senior Academic Staff (2 person)	11	M0533A		
Child Life & Health	Child Life & Health	Office - Senior Academic Staff (2 person)	11	M0533A		
Child Life & Health	Child Life & Health	Office - Senior Academic Staff (2 person)	11	M0533A		
Child Life & Health	Child Life & Health	Office - Senior Academic Staff (2 person)	11	M0533A		
Child Life & Health	Child Life & Health	Office - Senior Academic Staff (2 person)	11	M0533A		
Child Life & Health	Child Life & Health	Office - Senior Academic Staff (2 person)	11	M0533A		
Child Life & Health	Child Life & Health	Physiological Laboratory	45	L0630		
Child Life & Health	Child Life & Health	Reception/Waiting Area (4 person)	30	J1108		
Child Life & Health	Child Life & Health	Seminar/Tutorial Room	40	H0534		
Child Life & Health	Child Life & Health	Seminar/Tutorial Room	40	H0534		
Child Life & Health	Child Life & Health	Stationery/Photocopying	6	M0410		
Child Life & Health	Child Life & Health	Store	6	W1590		
Child Life & Health	Child Life & Health	Store	9	W1590		
Child Life & Health	Child Life & Health	Store - Student Records	12	W1591		
Child Life & Health	Child Life & Health	WC/Wash Facilities	4.5	V0109		
Child Life & Health	Child Life & Health	WC/Wash Facilities	4.5	V0109		
Child Life & Health	Child Life & Health	WC/Wash Facilities	4.5	V0109		
Child Life & Health	Child Life & Health	WC/Wash Facilities	4.5	V0109		
Clinical Research Facility	Clinical Research Facility	Clean Utility	8	T0601X		
Clinical Research Facility	Clinical Research Facility	Consult/Examination	15.5	C0224		
Clinical Research Facility	Clinical Research Facility	Consult/Examination	15.5	C0224		
Clinical Research Facility	Clinical Research Facility	Dirty Utility	6	Y0405		

Clinical Research Facility	Clinical Research Facility	DSR	7	Y1217		
Clinical Research Facility	Clinical Research Facility	En-Suite - WC Shower & Wash	6	V1625		
Clinical Research Facility	Clinical Research Facility	En-Suite - WC Shower & Wash	6	V1625		
Clinical Research Facility	Clinical Research Facility	En-Suite - WC Shower & Wash	6	V1625		
Clinical Research Facility	Clinical Research Facility	Linen Bay (1 trolley)	1.5	G0118		
Clinical Research Facility	Clinical Research Facility	Multi Bed Bay (4 beds)	63	B2900		
Clinical Research Facility	Clinical Research Facility	Office - (4 person)	20		**New configuration.**	*NA to suggest code*
Clinical Research Facility	Clinical Research Facility	Office/Reception	6	T0109		
Clinical Research Facility	Clinical Research Facility	Pantry	6	P0615		
Clinical Research Facility	Clinical Research Facility	Sample Processing	15	E0999		
Clinical Research Facility	Clinical Research Facility	Single Bedroom	15	B1802		
Clinical Research Facility	Clinical Research Facility	Single Bedroom	15	B1802		
Clinical Research Facility	Clinical Research Facility	Store - Equipment	24	W9000		
Clinical Research Facility	Clinical Research Facility	Waiting/Play Area (4 person)	6	J1206		
Clinical Research Facility	Clinical Research Facility	WC - Staff	3	V1109F		
Clinical Education Suite	Clinical Skills / School of Community Paediatrics	Control Room	8	X0706		
Clinical Education Suite	Clinical Skills / School of Community Paediatrics	Lockers	8	V0637		
Clinical Education Suite	Clinical Skills / School of Community Paediatrics	Meeting Room (15 person)	25	H0106		
Clinical Education Suite	Clinical Skills / School of Community Paediatrics	Office - Management/Admin	15	M0117		
Clinical Education Suite	Clinical Skills / School of Community Paediatrics	Office - Manual Handling / Health & Safety	15	M0118		
Clinical Education Suite	Clinical Skills / School of Community Paediatrics	Office - Practice Based Educators (4 person)	20	**M0209**		*Check code*
Clinical Education Suite	Clinical Skills / School of Community Paediatrics	Pantry	8	P0616C		
Clinical Education Suite	Clinical Skills / School of Community Paediatrics	Scenario Room	20	H1140		
Clinical Education Suite	Clinical Skills / School of Community Paediatrics	Seminar Room (30 person)	40	H0504A		
Clinical Education Suite	Clinical Skills / School of Community Paediatrics	Store - Equipment	15	W1241A		
Clinical Education Suite	Clinical Skills / School of Community Paediatrics	WC - Staff	3	V1109A		
Clinical Education Suite	Clinical Skills / School of Community Paediatrics	WC - Wheelchair Accessible	4.5	V0906		
Clinical Education Suite	Clinical Skills / School of Community Paediatrics	Workshop/Tutorial Room (12 person)	20	H0535		
Clinical Education Suite	Clinical Skills / School of Community Paediatrics	Workshop/Tutorial Room (12 person)	20	H0535		
Clinical Education Suite	Clinical Skills / School of Community Paediatrics	Workshop/Tutorial Room (12 person)	20	H0535		
Clinical Education Suite	Library	Computer Carrel	2	H0350		
Clinical Education Suite	Library	Computer Carrel	2	H0350		
Clinical Education Suite	Library	Computer Carrel	2	H0350		
Clinical Education Suite	Library	Computer Carrel	2	H0350		
Clinical Education Suite	Library	Computer Carrel	2	H0350		
Clinical Education Suite	Library	Computer Carrel	2	H0350		
Clinical Education Suite	Library	Entrance Lobby	10		**New Room. Circulation ?**	*NA to suggest code*
Offices - Medical Wing	Medical Wing	Interview Room	9		**Same as other Interview Rooms**	*Ok*
Offices - Medical Wing	Medical Wing	Interview Room	9		**Same as other Interview Rooms**	*Ok*

Offices - Medical Wing	Medical Wing	Interview Room	9		**Same as other Interview Rooms**	*Ok*
Offices - Medical Wing	Medical Wing	Interview Room	9		**Same as other Interview Rooms**	*Ok*
Offices - Medical Wing	Medical Wing	Interview Room	9		**Same as other Interview Rooms**	*Ok*
Offices - Medical Wing	Medical Wing	Meeting Room - Small (with telephone booths allowance)	30		**Needs to be broken up**	*Mixture of worstations & telephone booths as for therapies. NA to update SoA*
Offices - Medical Wing	Medical Wing	Office - (2 person)	10		**Change name to Consultant Office (2 person)**	*Ok*
Offices - Medical Wing	Medical Wing	Office - (2 person)	10		**Change name to Consultant Office (2 person)**	*Ok*
Offices - Medical Wing	Medical Wing	Office - (2 person)	10		**Change name to Consultant Office (2 person)**	*Ok*
Offices - Medical Wing	Medical Wing	Office - (2 person)	10		**Change name to Consultant Office (2 person)**	*Ok*
Offices - Medical Wing	Medical Wing	Office - (2 person)	10		**Change name to Consultant Office (2 person)**	*Ok*
Offices - Medical Wing	Medical Wing	Office - (2 person)	10		**Change name to Consultant Office (2 person)**	*Ok*
Offices - Medical Wing	Medical Wing	Office - (2 person)	10		**Change name to Consultant Office (2 person)**	*Ok*
Offices - Medical Wing	Medical Wing	Office - (2 person)	10		**Change name to Consultant Office (2 person)**	*Ok*
Offices - Medical Wing	Medical Wing	Office - (2 person)	10		**Change name to Consultant Office (2 person)**	*Ok*
Offices - Medical Wing	Medical Wing	Office - (2 person)	10		**Change name to Consultant Office (2 person)**	*Ok*
Offices - Medical Wing	Medical Wing	Office - (2 person)	10		**Change name to Consultant Office (2 person)**	*Ok*
Offices - Medical Wing	Medical Wing	Office - (2 person)	10		**Change name to Consultant Office (2 person)**	*Ok*
Offices - Medical Wing	Medical Wing	Office - (2 person)	10		**Change name to Consultant Office (2 person)**	*Ok*
Offices - Medical Wing	Medical Wing	Office - (2 person)	10		**Change name to Consultant Office (2 person)**	*Ok*
Offices - Medical Wing	Medical Wing	Office - (2 person)	10		**Change name to Consultant Office (2 person)**	*Ok*
Offices - Medical Wing	Medical Wing	Office - (2 person)	10		**Change name to Consultant Office (2 person)**	*Ok*

Offices - Medical Wing	Medical Wing	Office - (2 person)	10		Change name to Consultant Office (2 person)	*Ok*
Offices - Medical Wing	Medical Wing	Office - (2 person)	10		Change name to Consultant Office (2 person)	*Ok*
Offices - Medical Wing	Medical Wing	Office - (2 person)	10		Change name to Consultant Office (2 person)	*Ok*
Offices - Medical Wing	Medical Wing	Office - Hot Desks (15 person)	75		Configuration TBC	*NA to suggest code*
Offices - Medical Wing	Medical Wing	Office - Open Plan (22 person)	110		Configuration TBC	*NA to suggest code*
Offices - Surgical Wing	Surgical Wing	Interview Room	9		Same as other Interview Rooms	
Offices - Surgical Wing	Surgical Wing	Interview Room	9		Same as other Interview Rooms	
Offices - Surgical Wing	Surgical Wing	Interview Room	9		Same as other Interview Rooms	
Offices - Surgical Wing	Surgical Wing	Meeting Room - Small (with telephone booths allowance)	30		Needs to be broken up	
Offices - Surgical Wing	Surgical Wing	Office - (2 person)	10		Change name to Consultant Office (2 person)	
Offices - Surgical Wing	Surgical Wing	Office - (2 person)	10		Change name to Consultant Office (2 person)	
Offices - Surgical Wing	Surgical Wing	Office - (2 person)	10		Change name to Consultant Office (2 person)	
Offices - Surgical Wing	Surgical Wing	Office - (2 person)	10		Change name to Consultant Office (2 person)	
Offices - Surgical Wing	Surgical Wing	Office - (2 person)	10		Change name to Consultant Office (2 person)	
Offices - Surgical Wing	Surgical Wing	Office - (2 person)	10		Change name to Consultant Office (2 person)	
Offices - Surgical Wing	Surgical Wing	Office - (2 person)	10		Change name to Consultant Office (2 person)	
Offices - Surgical Wing	Surgical Wing	Office - (2 person)	10		Change name to Consultant Office (2 person)	
Offices - Surgical Wing	Surgical Wing	Office - (2 person)	10		Change name to Consultant Office (2 person)	
Offices - Surgical Wing	Surgical Wing	Office - (2 person)	10		Change name to Consultant Office (2 person)	
Offices - Surgical Wing	Surgical Wing	Office - (2 person)	10		Change name to Consultant Office (2 person)	
Offices - Surgical Wing	Surgical Wing	Office - (2 person)	10		Change name to Consultant Office (2 person)	
Offices - Surgical Wing	Surgical Wing	Office - (2 person)	10		Change name to Consultant Office (2 person)	

Offices - Surgical Wing	Surgical Wing	Office - (2 person)	10		Change name to Consultant Office (2 person)	
Offices - Surgical Wing	Surgical Wing	Office - (2 person)	10		Change name to Consultant Office (2 person)	
Offices - Surgical Wing	Surgical Wing	Office - (2 person)	10		Change name to Consultant Office (2 person)	
Offices - Surgical Wing	Surgical Wing	Office - (2 person)	10		Change name to Consultant Office (2 person)	
Offices - Surgical Wing	Surgical Wing	Office - (2 person)	10		Change name to Consultant Office (2 person)	
Offices - Surgical Wing	Surgical Wing	Office - (2 person)	10		Change name to Consultant Office (2 person)	
Offices - Surgical Wing	Surgical Wing	Office - Hot Desks (15 person)	75		Configuration TBC	NA to suggest code
Offices - Surgical Wing	Surgical Wing	Office - Open Plan (13 person)	65		Configuration TBC	NA to suggest code
Offices - Plastic Dressing Clinic Wing	Surgical Wing - PDC Element	Beverage Bay	3		Change Department name to Offices - Specialist Surgery	NA to change name
Offices - Plastic Dressing Clinic Wing	Surgical Wing - PDC Element	Interview Room	9		Change Department name to Offices - Specialist Surgery	NA to change name
Offices - Plastic Dressing Clinic Wing	Surgical Wing - PDC Element	Interview Room	9		Change Department name to Offices - Specialist Surgery	NA to change name
Offices - Plastic Dressing Clinic Wing	Surgical Wing - PDC Element	Meeting Room - Small (with telephone booths allowance)	10		Change Department name to Offices - Specialist Surgery	NA to change name
Offices - Plastic Dressing Clinic Wing	Surgical Wing - PDC Element	Office - (2 person)	10		Change Department name to Offices - Specialist Surgery. Change name to Consultant Office (2 person)	NA to change name
Offices - Plastic Dressing Clinic Wing	Surgical Wing - PDC Element	Office - (2 person)	10		Change Department name to Offices - Specialist Surgery. Change name to Consultant Office (2 person)	NA to change name
Offices - Plastic Dressing Clinic Wing	Surgical Wing - PDC Element	Office - (2 person)	10		Change Department name to Offices - Specialist Surgery.Change name to Consultant Office (2 person)	NA to change name
Offices - Plastic Dressing Clinic Wing	Surgical Wing - PDC Element	Office - (2 person)	10		Change Department name to Offices - Specialist Surgery. Change name to Consultant Office (2 person)	NA to change name
Offices - Plastic Dressing Clinic Wing	Surgical Wing - PDC Element	Office - (2 person)	10		Change Department name to Offices - Specialist Surgery. Change name to Consultant Office (2 person)	NA to change name

Offices - Plastic Dressing Clinic Wing	Surgical Wing - PDC Element	Office - Hot Desks (9 person)	45		Configuration TBC	NA to change name
Offices - Plastic Dressing Clinic Wing	Surgical Wing - PDC Element	Office - Open Plan (7 person)	35		Configuration TBC	NA to change name
Offices - Plastic Dressing Clinic Wing	Surgical Wing - PDC Element	Print/Photocopying Room	6		New Room	NA to suggest code
Offices - Plastic Dressing Clinic Wing	Surgical Wing - PDC Element	Store - General	6		New Room	standard
Offices - Plastic Dressing Clinic Wing	Surgical Wing - PDC Element	WC - Ambulant	3	V1109A		NA to change name
Offices - Plastic Dressing Clinic Wing	Surgical Wing - PDC Element	WC - Ambulant	3	V1109A		NA to change name
Offices - Plastic Dressing Clinic Wing	Surgical Wing - PDC Element	WC - Wheelchair Accessible	4.5	V0904		NA to change name
Offices - Management Wing	CMT Suite	Office - (1 person)	9		Change name to Office - Director of Operations	ok
Offices - Management Wing	CMT Suite	Office - (1 person)	9		Change name to Office - Clinical Director	ok
Offices - Management Wing	CMT Suite	Office - (1 person)	9		Change name to Office - Chief Nurse	ok
Offices - Management Wing	CMT Suite	Office - (1 person)	9		Change name to Office - Service Manager	ok
Offices - Management Wing	CMT Suite	Office - Open Plan (5 person)	25		Change name to Office - CMT PA's	NA to suggest code
Offices - Management Wing	Nurse & Hospital Management	Office - (2 person)	10		Change name to Office - Clinical Nurse Managers	ok
Offices - Management Wing	Nurse & Hospital Management	Office - (2 person)	10		Change name to Office - Clinical Nurse Managers	ok
Offices - Management Wing	Nurse & Hospital Management	Office - (2 person)	10		Configuration TBC	ok
Offices - Management Wing	Nurse & Hospital Management	Office - (2 person)	10		Configuration TBC	ok
Offices - Management Wing	Nurse & Hospital Management	Office - (2 person)	10		Configuration TBC	ok
Offices - Management Wing	Specialist Teams	Office - (2 person)	10		Configuration TBC	ok
Offices - Management Wing	Specialist Teams	Office - (2 person)	10		Configuration TBC	ok
Offices - Management Wing	Specialist Teams	Office - (2 person)	10		Configuration TBC	ok
Offices - Management Wing	Specialist Teams	Office - Open Plan (1 person)	6		Non standard. Needs to share.	Add to 1 of 2p offices above & update SoA
Offices - Management Wing	Support	Interview Room	9		Same as other Interview Rooms	ok

Offices - Management Wing	Support	Interview Room	9		Same as other Interview Rooms	ok
Offices - Management Wing	Support	Management Conference Room	26		New Room	NA to suggest code
Offices - Management Wing	Support	Meeting Room - Small	6		New Room	NA to suggest code
Offices - Management Wing	Support	Telephone Booth - Single	4		New Room	NA to suggest code
Child & Adolescent Mental Health Services	CAMHS Administartion	Office - (2 person)	10		New configuration.	ok
Child & Adolescent Mental Health Services	CAMHS Administartion	Office - (3 person)	15		New configuration.	ok
Child & Adolescent Mental Health Services Administration	CAMHS Administartion	Telephone Booth - Single	4		New Room	NA to suggest code
Child & Adolescent Mental Health Services Administration	CAMHS Administartion	Workstation - Pod (1 person)	6		New Room	NA to suggest code
Community Paediatrics	Community Paediatrics	Child Protection On-Call	8	M0239		
Community Paediatrics	Community Paediatrics	Interview Room	9	M0703A		
Community Paediatrics	Community Paediatrics	Office - (2 person)	10		Change name to Consultant Office (2 person)	ok
Community Paediatrics	Community Paediatrics	Office - (2 person)	10		Change name to Consultant Office (2 person)	ok
Community Paediatrics	Community Paediatrics	Office - (2 person)	10		Change name to Consultant Office (2 person)	ok
Community Paediatrics	Community Paediatrics	Office - (2 person)	10		Change name to Consultant Office (2 person)	ok
Community Paediatrics	Community Paediatrics	Office - (2 person)	10		Change name to Consultant Office (2 person)	ok
Community Paediatrics	Community Paediatrics	Office - (2 person)	10		Change name to Consultant Office (2 person)	ok
Community Paediatrics	Community Paediatrics	Office - (2 person)	10		Change name to Consultant Office (2 person)	ok
Community Paediatrics	Community Paediatrics	Office - (2 person)	10		Change name to Consultant Office (2 person)	ok
Community Paediatrics	Community Paediatrics	Office - Open Plan (21 person)	105		Configuration TBC	NA to suggest code - consultants
Community Paediatrics	Community Paediatrics	Office - Open Plan (23 person)	115		Configuration TBC	NA to suggest code - admin/clerical
Community Paediatrics	Community Paediatrics	Telephone Booth - Single	4		New Room	NA to suggest code
Community Childrens	Community Childrens Nursing	Office - (2 person)	10		Configuration TBC	NA to suggest code
Community Childrens	Community Childrens Nursing	Office - Open Plan (9 person)	45		Configuration TBC	NA to suggest code
Health Records	Health Records Workspace	Office - (10 person)	60		New office configuration	NA to suggest code

Health Records	Health Records Workspace	Office - Assistant Health Records Manager (2 person)	15		New office configuration	NA to suggest code
Health Record Store	Health Records	Library	230	W0822		
Health Record Store	Health Records	Office - (3 workstations)	15		New Room	
Health Record Store	Health Records	Receipt/Dispatch Counter	6		New Room	NA to suggest code
Health Record Store	Health Records	Trolley Area (6 trolleys)	4		New Room	NA to suggest code
Shared Support	Shared Staff	Staff Rest Room (10 person)	16		New Room	NA to suggest code
Shared Support	Support Facilities	Beverage Bay	3		New Room	standard
Shared Support	Support Facilities	Beverage Bay	3		New Room	standard
Shared Support	Support Facilities	DSR	7	Y1503		
Shared Support	Support Facilities	Print/Photocopying Room	6		New Room	NA to suggest code
Shared Support	Support Facilities	Print/Photocopying Room	6		New Room	NA to suggest code
Shared Support	Support Facilities	Store	6		New Room	standard
Shared Support	Support Facilities	Store	6		New Room	standard
Shared Support	Support Facilities	Store	6		New Room	standard
Shared Support	Support Facilities	Store - management	10		New Room	NA to suggest code
Shared Support	WC Facilities	WC - Female (7 WC's, 7 WHB's)	36		New Room	NA to suggest code
Shared Support	WC Facilities	WC - Male (4 WC's, 4 WHB's, 4 urinals)	26		New Room	NA to suggest code
Shared Support	WC Facilities	WC - Wheelchair Accessible	4.5		New Room	standard
Shared Support	WC Facilities	WC - Wheelchair Accessible	4.5		New Room	standard
Main Entrance - Public Spaces	Main Entrance - Public Spaces	Draught Lobby	15	J0108A		
Main Entrance - Public Spaces	Main Entrance - Public Spaces	DSR	7	Y1503		
Main Entrance - Public Spaces	Main Entrance - Public Spaces	Entrance Concourse	30	J0115-A		
Main Entrance - Public Spaces	Main Entrance - Public Spaces	Friends' Shop	30	G0806		
Main Entrance - Public Spaces	Main Entrance - Public Spaces	Nappy Changing / WC & Wash	7	V1115A		
Main Entrance - Public Spaces	Main Entrance - Public Spaces	Office - Cashiers	12	M1026A		
Main Entrance - Public Spaces	Main Entrance - Public Spaces	Office - Security/Porters	9	M1713A		
Main Entrance - Public Spaces	Main Entrance - Public Spaces	Reception/Information Desk	12	J0223A		
Main Entrance - Public Spaces	Main Entrance - Public Spaces	Retail Shop	30	G0807		
Main Entrance - Public Spaces	Main Entrance - Public Spaces	Telephone Booth - Public	2	G0705		
Main Entrance - Public Spaces	Main Entrance - Public Spaces	Vending Machine	3	P0805		
Main Entrance - Public Spaces	Main Entrance - Public Spaces	Waiting Area (10 person)	16.5	J1306		

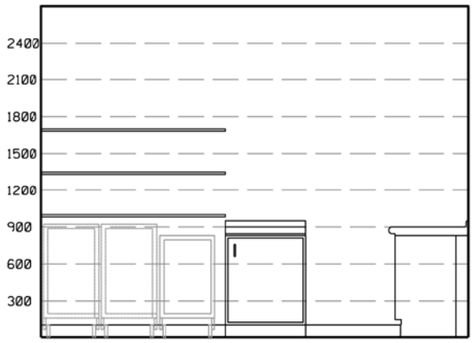
Main Entrance - Public Spaces	Main Entrance - Public Spaces	WC - Visitors	3	V1109		
Main Entrance - Public Spaces	Main Entrance - Public Spaces	WC - Wheelchair Accessible	4.5	V0906		
Main Kitchen	Cold Stores	Raw Fresh Veg, Salad & Fruit	5		New Room	TBC
Main Kitchen	Cold Stores	Store - Dairy	5		New Room	TBC
Main Kitchen	Cold Stores	Store - Frozen Food	14		New Room	TBC
Main Kitchen	Food Preparation Rooms	Pan-Wash	12		New Room	TBC
Main Kitchen	Food Preparation Rooms	Pick & Pack	16		New Room	TBC
Main Kitchen	Food Preparation Rooms	Preparation & Cooking - Diet Foods	34		New Room	TBC
Main Kitchen	General Stores	Disposables/Detergent (combined)	6		New Room	TBC
Main Kitchen	General Stores	Kitchen Equipment	6		New Room	TBC
Main Kitchen	General Stores	Refuse	10		New Room	TBC
Main Kitchen	General Stores	Store - Dry Goods	12		New Room	TBC
Main Kitchen	Main Kitchen	Receipt Bay	3		New Room	TBC
Main Kitchen	Meal Dispatch Rooms	Regeneration Trolleys	18		New Room	TBC
Main Kitchen	Meal Dispatch Rooms	Trolley Wash	10		New Room	TBC
Main Kitchen	Offices	Office - Catering Supervisors/Menu Collation/Dieticians (5 person)	25		New RDS	NA to suggest code
Main Kitchen	Staff Accommodation	DSR	7		Same as other ones.	NA to suggest code
Main Kitchen	Staff Accommodation	Female Staff Changing & Lockers (5 person)	8		New RDS	NA to suggest code
Main Kitchen	Staff Accommodation	Female Staff Shower WC & Wash	4.5		New RDS	NA to suggest code
Main Kitchen	Staff Accommodation	Male Staff Changing & Lockers (3 person)	5		New RDS	NA to suggest code
Main Kitchen	Staff Accommodation	Male Staff Shower WC & Wash	4.5		New RDS	NA to suggest code
E-Health Infrastructure	E-Health Infrastructure	Core Server Room	40	K0913		
Domestic Services	Domestic Services	Linen Pool	30	W1701		
Domestic Services	Domestic Services	Office - Supervisors/Admin (4 person)	20		New office configuration	NA to suggest code - same as other 4p off
Materials Management	Materials Management	Breakout Area	30		New RDS	NA to suggest code
Materials Management	Materials Management	Loading Bay	20		Room description ?	NA to suggest code - change name to holding area
Materials Management	Materials Management	Office	5.5		New RDS. Non standard size.	NA to suggest code
Materials Management	Materials Management	Store - Emergency Back-Up	30		New RDS	NA to suggest code
Central Staff Changing Accommodation	Central Staff Changing Accommodation	Bay For Token Machine	5	G0149A		
Central Staff Changing Accommodation	Central Staff Changing Accommodation	Female Staff Changing - WC/Wash & Lockers	160			NA to suggest code
Central Staff Changing Accommodation	Central Staff Changing Accommodation	Male Staff Changing - WC/Wash & Lockers	50			NA to suggest code
Bed Store	Bed Store	Store - Medical Furniture	107	W1448		
Bereavement Suite	Bereavement Suite	Body Viewing Room	18	L1612A		
Bereavement Suite	Bereavement Suite	Sitting Room With Beverage Bay	20	S0029B		
Bereavement Suite	Bereavement Suite	WC - Wheelchair Accessible	4.5	V0907C		

Spiritual & Pastoral Care	Spiritual & Pastoral Care	Interview Room	9	M0712		
Spiritual & Pastoral Care	Spiritual & Pastoral Care	Office - (2 person with beverage bay)	12		New office configuration	*Base on standard 2p office but with bev point*
Spiritual & Pastoral Care	Spiritual & Pastoral Care	Prayer/Meditation/Reflection Area	40	S0046		
Spiritual & Pastoral Care	Spiritual & Pastoral Care	Store - General	6	W1587A		
Spiritual & Pastoral Care	Spiritual & Pastoral Care	WC - Wheelchair Accessible/Ritual Washing Area	6	V1626		
On-Call Suite	On-Call Suite	En-Suite - WC Shower & Wash	4.5	V1316A		
On-Call Suite	On-Call Suite	En-Suite - WC Shower & Wash	4.5	V1316A		
On-Call Suite	On-Call Suite	En-Suite - WC Shower & Wash	4.5	V1316A		
On-Call Suite	On-Call Suite	En-Suite - WC Shower & Wash	4.5	V1316A		
On-Call Suite	On-Call Suite	En-Suite - WC Shower & Wash	4.5	V1316A		
On-Call Suite	On-Call Suite	On-Call Bedroom	10	D1302		
On-Call Suite	On-Call Suite	On-Call Bedroom	10	D1302		
On-Call Suite	On-Call Suite	On-Call Bedroom	10	D1302		
On-Call Suite	On-Call Suite	On-Call Bedroom	10	D1302		
On-Call Suite	On-Call Suite	On-Call Bedroom	10	D1302		
Family Support	Family Support	Beverage Bay	4		New Room	*standardise at 3sqm*
Family Support	Family Support	Complementary Therapy Room	15	H0900		
Family Support	Family Support	Drop-In Lounge/Beverage Bay	35	D1120		
Family Support	Family Support	Drop-In Multi-Purpose Room	39	H1102A		
Family Support	Family Support	DSR	7	Y1501		
Family Support	Family Support	Interview Room	9	M0704E		
Family Support	Family Support	Interview Room	9	M0704E		
Family Support	Family Support	Interview Room	9	M0704E		
Family Support	Family Support	Meeting Room (family size)	15	H0103		
Family Support	Family Support	Meeting Room (family size)	15	H0103		
Family Support	Family Support	Office - Drop-in	10		M0209 ?	*same as standard 2p off*
Family Support	Family Support	Office - Family Support	15	M01115A	Room title to change & size.	
Family Support	Family Support	Office - Manager (SNIP)	10		M0209 ?	*same as standard 2p off*
Family Support	Family Support	Office - SKFF/voluntary	10		M0209 ?	*same as standard 2p off*
Family Support	Family Support	Office - Staff (SKFF)	20	M1014B		
Family Support	Family Support	Office - Staff (SNIP)	24	M1014B		
Family Support	Family Support	Radio Lollipop Broadcasting Studio	12	K0507		
Family Support	Family Support	Radio Lollipop Lobby/Waiting	8	K0506		
Family Support	Family Support	Reception/Waiting	8		New Room	*Change room name - just waiting. NA to suggest code*
Family Support	Family Support	Store - External (radio roadshow & gardening equipment)	20		New Room	*External store - no ADB*
Family Support	Family Support	Store - Interal	28		Change name to Store - Internal. New Room	*Base on previous larger store*
Family Support	Family Support	WC - Staff	3	V1109A		
Family Support	Family Support	WC - Staff	3	V1109A		

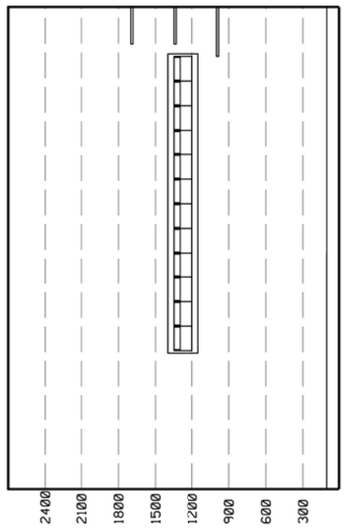
Family Support	Family Support	WC - Wheelchair Accessible	4.5	V0907C		
Family Support	Family Support	Wheelchair Bay	6	G0910		
Family Hotel - RM	Ronald McDonald	Bathroom	8		Non NHS Room	
Family Hotel - RM	Ronald McDonald	Cleaners Room	7		Non NHS Room	*Standard*
Family Hotel - RM	Ronald McDonald	Dining Room	80		Non NHS Room	
Family Hotel - RM	Ronald McDonald	Family Room - (including en-suite)	25		Non NHS Room	
Family Hotel - RM	Ronald McDonald	Family Room - (including en-suite)	25		Non NHS Room	
Family Hotel - RM	Ronald McDonald	Family Room - (including en-suite)	25		Non NHS Room	
Family Hotel - RM	Ronald McDonald	Family Room - (including en-suite)	25		Non NHS Room	
Family Hotel - RM	Ronald McDonald	Family Room - (including en-suite)	25		Non NHS Room	
Family Hotel - RM	Ronald McDonald	Family Room - (including en-suite)	25		Non NHS Room	
Family Hotel - RM	Ronald McDonald	Family Room - (including en-suite)	25		Non NHS Room	
Family Hotel - RM	Ronald McDonald	Family Room - (including en-suite)	25		Non NHS Room	
Family Hotel - RM	Ronald McDonald	Family Room - (including en-suite)	25		Non NHS Room	
Family Hotel - RM	Ronald McDonald	Family Room - (including en-suite)	25		Non NHS Room	
Family Hotel - RM	Ronald McDonald	Family Room - (including en-suite)	25		Non NHS Room	
Family Hotel - RM	Ronald McDonald	Family Room - (including en-suite)	25		Non NHS Room	
Family Hotel - RM	Ronald McDonald	Family Room - (including en-suite)	25		Non NHS Room	
Family Hotel - RM	Ronald McDonald	Family Room - (including en-suite)	25		Non NHS Room	
Family Hotel - RM	Ronald McDonald	Family Room - (including en-suite)	25		Non NHS Room	
Family Hotel - RM	Ronald McDonald	Family Room - (including en-suite)	25		Non NHS Room	
Family Hotel - RM	Ronald McDonald	Family Room - (including en-suite)	25		Non NHS Room	
Family Hotel - RM	Ronald McDonald	Family Room - (including en-suite)	25		Non NHS Room	
Family Hotel - RM	Ronald McDonald	Family Room - (including en-suite)	25		Non NHS Room	
Family Hotel - RM	Ronald McDonald	Family Room - (including en-suite)	25		Non NHS Room	
Family Hotel - RM	Ronald McDonald	Family Room - (including en-suite)	25		Non NHS Room	
Family Hotel - RM	Ronald McDonald	Family Room - (including en-suite)	25		Non NHS Room	
Family Hotel - RM	Ronald McDonald	Family Room - (including en-suite)	25		Non NHS Room	
Family Hotel - RM	Ronald McDonald	Family Room - (including en-suite)	25		Non NHS Room	
Family Hotel - RM	Ronald McDonald	Family Room - (including en-suite)	25		Non NHS Room	
Family Hotel - RM	Ronald McDonald	Family Room - Accessible (including en-suite)	30		Non NHS Room	
Family Hotel - RM	Ronald McDonald	Family Room - Accessible (including en-suite)	30		Non NHS Room	
Family Hotel - RM	Ronald McDonald	Kitchen Areas	36		Non NHS Room	
Family Hotel - RM	Ronald McDonald	Laundry Room	30		Non NHS Room	
Family Hotel - RM	Ronald McDonald	Lounge - Non Residents	30		Non NHS Room	
Family Hotel - RM	Ronald McDonald	Office - (1 person)	8		Non NHS Room	
Family Hotel - RM	Ronald McDonald	Reception/Waiting	6		Non NHS Room	
Family Hotel - RM	Ronald McDonald	Residents Day Room	18		Non NHS Room	
Family Hotel - RM	Ronald McDonald	Residents Play Room	18		Non NHS Room	
Family Hotel - RM	Ronald McDonald	Store	12		Non NHS Room	
Family Hotel - RM	Ronald McDonald	Store	12		Non NHS Room	
Family Hotel - RM	Ronald McDonald	Store - Refuse	10		Non NHS Room	*Standard disposal hold*
Family Hotel - RM	Ronald McDonald	Switch/Meter Cupboard	6		Non NHS Room	

Family Hotel - RM	Ronald McDonald	WC - Female	2.5		Non NHS Room. Standardise ?	*standard*
Family Hotel - RM	Ronald McDonald	WC - Male	2.5		Non NHS Room. Standardise ?	*standard*
Family Hotel - RM	Ronald McDonald	WC - Wheelchair Accessible	4.5		Non NHS Room	*standard*
Family Hotel - RM	Ronald McDonald	WC - Wheelchair Accessible	4.5		Non NHS Room	*standard*
Family Hotel - CS	Clic Sargent	Cleaners Room	7		Non NHS Room	*standard*
Family Hotel - CS	Clic Sargent	Dining Room	40		Non NHS Room	
Family Hotel - CS	Clic Sargent	Family Room - (including en-suite)	25		Non NHS Room	
Family Hotel - CS	Clic Sargent	Family Room - (including en-suite)	25		Non NHS Room	
Family Hotel - CS	Clic Sargent	Family Room - (including en-suite)	25		Non NHS Room	
Family Hotel - CS	Clic Sargent	Family Room - (including en-suite)	25		Non NHS Room	
Family Hotel - CS	Clic Sargent	Family Room - (including en-suite)	25		Non NHS Room	
Family Hotel - CS	Clic Sargent	Family Room - (including en-suite)	25		Non NHS Room	
Family Hotel - CS	Clic Sargent	Family Room - (including en-suite)	25		Non NHS Room	
Family Hotel - CS	Clic Sargent	Family Room - (including en-suite)	25		Non NHS Room	
Family Hotel - CS	Clic Sargent	Family Room - (including en-suite)	25		Non NHS Room	
Family Hotel - CS	Clic Sargent	Family Room - Accessible (including en-suite)	30		Non NHS Room	
Family Hotel - CS	Clic Sargent	Kitchen	9		Non NHS Room	
Family Hotel - CS	Clic Sargent	Kitchen	9		Non NHS Room	
Family Hotel - CS	Clic Sargent	Office - (1 person)	8		Non NHS Room	
Family Hotel - CS	Clic Sargent	Reception/Waiting	6		Non NHS Room	
Family Hotel - CS	Clic Sargent	Store	12		Non NHS Room	
Family Hotel - CS	Clic Sargent	Store - Refuse	10		Non NHS Room	*standard*
Family Hotel - CS	Clic Sargent	Switch/Meter Cupboard	6		Non NHS Room	
Family Hotel - CS	Clic Sargent	WC - Female	2.5		Non NHS Room. Standardise ?	*standard*
Family Hotel - CS	Clic Sargent	WC - Male	2.5		Non NHS Room. Standardise ?	*standard*
Family Hotel - CS	Clic Sargent	WC - Wheelchair Accessible	4.5		Non NHS Room	*standard*
Plant	Plant	Bulk Cold Water, Filtration & Pumps	0		N/A	*From H&K*
Plant	Plant	Chilled Water Pumps & PU	0		N/A	*From H&K*
Plant	Plant	Electrical Risers	0		N/A	*From H&K*
Plant	Plant	External Chiller	0		N/A	*From H&K*
Plant	Plant	Heat Station & DHWS 1	0		N/A	*From H&K*
Plant	Plant	Heat Station & DHWS 2	0		N/A	*From H&K*
Plant	Plant	Heat Station & DHWS 3	0		N/A	*From H&K*
Plant	Plant	HV Substation 1	0		N/A	*From H&K*
Plant	Plant	HV Substation 2	0		N/A	*From H&K*
Plant	Plant	IPS/UPS	24		New room. Configuration TBC.	*From H&K*
Plant	Plant	IT Node Room	9	K0914B		
Plant	Plant	IT Node Room	9	K0914B		
Plant	Plant	IT Node Room	9	K0914B		
Plant	Plant	IT Node Room	9	K0914B		
Plant	Plant	IT Node Room	9	K0914B		
Plant	Plant	IT Node Room	9	K0914B		

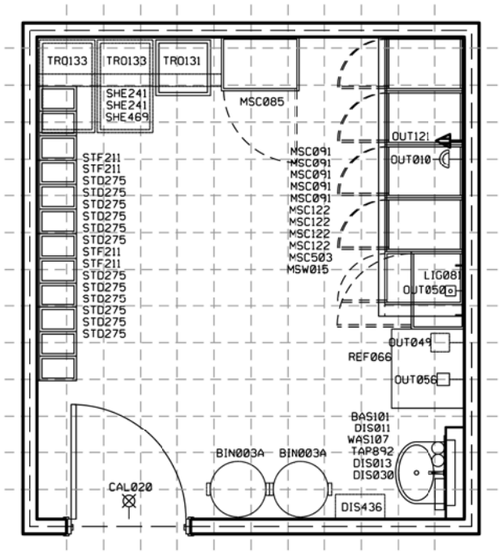
Plant	Plant	IT Node Room	9	K0914B		
Plant	Plant	IT Node Room	9	K0914B		
Plant	Plant	IT Node Room	9	K0914B		
Plant	Plant	IT Node Room	9	K0914B		
Plant	Plant	IT Node Room	9	K0914B		
Plant	Plant	IT Node Room	9	K0914B		
Plant	Plant	IT Node Room	9	K0914B		
Plant	Plant	IT Node Room	9	K0914B		
Plant	Plant	IT Node Room	9	K0914B		
Plant	Plant	Mechanical Risers	0		N/A	*From H&K*
Plant	Plant	Med Compressed Air	0		N/A	*From H&K*
Plant	Plant	Med Gas Manifolds	0		N/A	*From H&K*
Plant	Plant	Med Vacuum	0		N/A	*From H&K*
Plant	Plant	Packaged Steam Gen Plant	0		N/A	*From H&K*
Plant	Plant	Roof Tank 1	0		N/A	*From H&K*
Plant	Plant	Roof Tank 2	0		N/A	*From H&K*
Plant	Plant	Sprinkler Tank & Pump Room	0		N/A	*From H&K*
Plant	Plant	Vent Risers	0		N/A	*From H&K*
Plant	Plant	Ventilation Plantrooms	0		N/A	*From H&K*



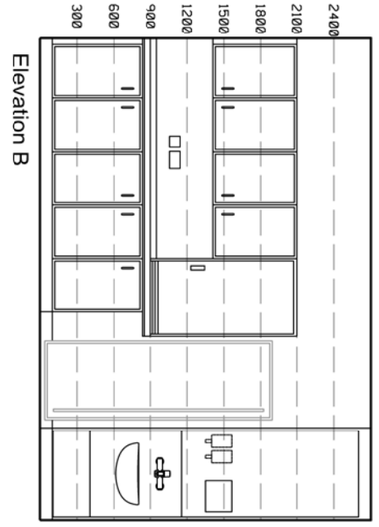
Elevation A



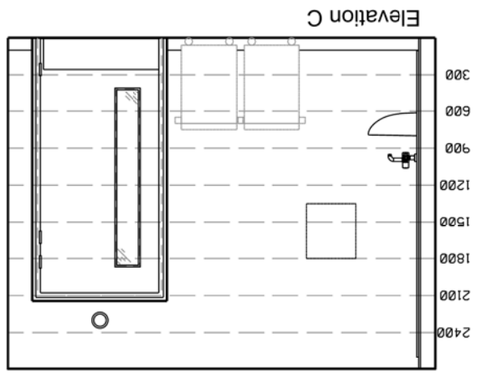
Elevation D



Plan



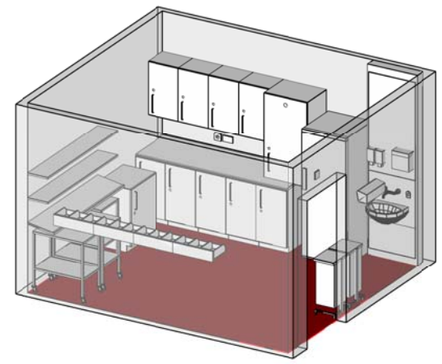
Elevation B



T0505A - Clean Utility

Required Area = 14.0m²
Designed Area = 13.67m²

3D Isometric View



Equipment Schedule

Grp	ADB No	Qty	Description
1	BAS101	1	BASIN, medium, hospital pattern, vitreous china, no tap holes, no overflow, integral back outlet. HTM64LBHM
1	CAL020	1	LAMP repeat staff emergency call, wall mounted, (green)
1	LIG081	1	LUMINAIRE fitted with single fluorescent lamp with switch, below drug cupboard, 8watt, 400mm
1	MSC085	1	CABINET base, 600mm facing, (600x400 inserts), with 3 telescopic runners, 1 door hinged right, on plinth, o/a heigh: 900; HTM71
1	MSC091	5	CABINET base, 400mm facing, (400x600 inserts), with formed plastic liners, 1 door hinged right on plinth, o/a height 900; HTM71
1	MSC122	4	CABINET top, 400mm facing, (400x600 inserts), with formed plastic liners, 1 door hinged right wall mounted, HTM71
1	MSC503	1	PHARMACY CABINET, 600mm facing, with 4 shelves, 1 pull out prep. shelf, controlled drugs cupboard, warning light, 1 door hinged right w/security safe lock; o/a height 1200; HTM71
1	MSW015	1	WORKTOP, for 5x 400mm facing inserts cabinets, 2275W 700D nominal, HTM71
1	OUT010	1	SOCKET outlet switched 13amp twin, wall mounted
1	OUT049	1	CONNECTION UNIT switched 13amp, flex outlet, wall/trunking mounted
1	OUT050	1	OUTLET to controlled drugs cupboard, wall mounted
1	OUT056	1	CONNECTION UNIT unswitched 13amp, wall/trunking mounted
1	OUT121	1	SOCKET outlet computer data, wall/trunking mounted
1	SHE241	2	SHELF, 1800W 300D
1	SHE469	1	SHELF, sloping, with lip, 1800W 400D
1	STF211	4	STORAGE UNIT, mid, support panel, 150H 600W 20D, HTM63
1	TAP892	1	TAP bib, 2x8mm thermostatic mixer, automatic action, sensor operated non-touch. HTM64TBH6
1	WAS107	1	TRAP, bottle, 1. 1/4 in, plastic resealing. HTM64TRR1/P
2	DIS011	1	DISPENSER, barrier cream, disposable single cartridge, wall mounted
2	DIS013	1	DISPENSER, paper towel, wall mounted
2	DIS030	1	DISPENSER, soap, disposable single cartridge, lever action, wall mounted
2	DIS436	1	DISPENSER, disposable apron, wall mounted
3	BIN003A	2	BIN, disposal, general purpose, drop over lid, mobile.
3	REF066	1	REFRIGERATOR, capacity 390 litres, 1855H 645W 595D
3	STD275	12	TOTE BOX, plastic with open top, 120H 200W 300D
3	TRO131	1	TROLLEY, dressing/instrument, stainless steel, buffered, 870H 450W 450D
3	TRO133	2	TROLLEY, dressing/instrument, stainless steel, buffered, 870H 750W 450D

Notes:

No	Design Risk Register
X	TYPE YOUR NOTES HERE

Rev	Date	Revision Notes
X	00/00/00	TYPE YOUR NOTES HERE

Client / Contractor

NIGHTINGALE associates architects
www.nightingaleassociates.com

Project
EDINBURGH RHSC

Drawing Title
Generic Room Layout
Clean Utility

Job No	Date	Scale@A3
09047	15/12/09	1:50

Status
For Information

Drawing No						Rev
Origin	Zone	Level	Type	Content	Sequential	
AR	WS	XX	PL	400	000	X

A43962726

From: Brady, Thomas <thomas.brady[redacted]
Sent: 04 January 2012 11:26
To: McLennan, Neil
Cc: Gillies, Graham; Jamie Brewster; Michael.ODonnel[redacted]; McQuarrie, Fraser
Subject: RHSC + DCN - Little France | Room Data Sheets Programme
Attachments: RHSC_DCN RDS Environmental Matrix- SoA 6 WIP - department example sheet.pdf

Neil

Happy new year to you, hope you had a good break.

In response to your email below, H&K will feed into the RDS by producing a spreadsheet document "RDS Environmental Matrix " based on the final SoA. The purpose of this matrix is that it will take the place of the ADB RDS sheets per room relating to environmental criteria covered to make for a simple and easy reference tool which relates back to current SHTM/HTM/HBN guidance.

The content of this doc will cover guidance on the following per room type :

- Temperature Criteria - Design minimum and maximums.
- Relative Humidity Criteria where relevant
- Room Heating Type - reference design anticipated solution
- Cooling Type - reference design anticipated solution
- Ventilation - air change rate provisions, relative pressure, minimum filtration levels
- Safety Temperatures - in rooms, from heating type and from dhw outlets
- Lighting - normal and night lux levels, standby grade, colour rendering, control method,
- Medical location grouping - room equipment where relevant

The document is currently work in progress - an example sheet is attached.

H&K will not be dealing with the detail of equipment power supplies, number and location of socket outlets, IT outlets , med gas outlets etc within the scope of our Reference Design "RDS Environmental Matrix ". This will need to be covered by client briefing elsewhere.

In relation to when we should plan a session with Infection control etc, I would confirm that the RDT have currently made no allowance within the RDS production programme for attending any of these sessions. If you require the appropriate members of the RDT to attend such sessions then please advise accordingly to allow the costs for same to be included in the variation cost. Please note that these sessions will delay the programme even further.

Trust this clarifies.

Tom

Thomas Brady, BEng (Hons) CEng MCIBSE
Associate, Engineering Services
Davis Langdon, An AECOM Company

From: McLennan, Neil [mailto:Neil.McLennan[redacted]
Sent: 23 December 2011 14:29
To: Brady, Thomas
Cc: Gillies, Graham; Jamie Brewster
Subject: RE: Room Data Sheets Programme

Tom
I think it would be great idea if we could discuss the programme early in the New Year. I am particularly keen to clarify

how H&K will feed into the process on page 2, Environmental & also when we should plan in a session with Infection Control, Domestic Services, Manual Handling on floor finishes etc.

Neil

Neil McLennan
Senior Capital Planning Manager
Capital Planning & Premises Development
1 Rillbank Terrace
Edinburgh
Tel: 0131 [redacted] Internal: [redacted]
Mobile: [redacted]
E Mail: neil.mclennan[redacted]

From: McLennan, Neil
Sent: 20 December 2011 08:56
To: 'Brady, Thomas'
Cc: Gillies, Graham
Subject: Room Data Sheets Programme

Tom
I wonder if it would be possible for Graham and I to get a copy of the draft programme for the room data sheets. Also where are the architects with producing a proposal re the O-Zone.

Neil

Neil McLennan
Senior Capital Planning Manager
Capital Planning & Premises Development
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Mobile: [redacted]
E Mail: neil.mclennan[redacted]

Dept Code	Dept Name	Department Sub Group	Room Name	Qty	Area (m2)	Room Function	Temperature		Relative Humidity	Heating		Cooling Present	Cooling Type	Cold Water	Ventilation				Safety temperatures		Lighting						Notes	Medical Location Group
							Design Maximum deg C	Design Minimum deg C	% RH	Type	Control				Type	Supply ac/hr	Extract ac/hr	Relative Pressure	Min Filtration	Surface deg C	Water deg C	Normal lux	Night lux	Local lux	Standby Grade	Colour Rendering	Control	Plane		
A1	Emergency Department	Entrance, Reception & Waiting	Main Entrance Draught Lobby	2	10.0	Circulation Areas - Entrance Lobby	28	Not Controlled	Not Controlled	Warm Air Door Curtain	BMS Adjustable Sensor	No	None	None Provided	None	0	0	Balanced	None	Not Applicable	Not Applicable	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Parking Bay: 6 wheelchairs	1	4.0	Circulation Areas	28	18	Not Controlled	Radiant Panels	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Potable Tanked Water	Central Supply and Extract	4	4	Balanced	G4	43	41	300	Not Applicable	None	A	80	Sw itch / Dimmer	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Parking Bay: 3 accident trolleys & 3 wheelchairs	1	12.0	Circulation Areas	28	18	Not Controlled	Radiant Panels	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Potable Tanked Water	Central Supply and Extract	4	4	Balanced	G4	43	41	300	Not Applicable	None	A	80	Sw itch / Dimmer	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Reception:2 staff	1	16.0	Reception	28	18	Not Controlled	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	None Provided	Mechanical Supply Air	3	0	Positive	G4	43	Not Applicable	500	Not Applicable	None	A	80	Sw itch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Waiting Area inc Play Area	1	63.0	Waiting Room	28	18	Not Controlled	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Potable Tanked Water	Central Supply and Extract	3	3	Balanced	G4	43	Not Applicable	200	Not Applicable	None	A	80	Sw itch	Floor 0m	See Guidance Notes	Not Applicable
			WC - Wheelchair accessible	2	4.5	Toilet	28	18	Not Controlled	Adjacent Space Transfer Air	None	No	None	Potable Tanked Water	Local Mechanical Extract	0	10	Negative	None	43	41	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Nappy Change Room with handwash	1	4.0	Toilet	28	18	Not Controlled	Adjacent Space Transfer Air	None	No	None	Potable Tanked Water	Local Mechanical Extract	0	10	Negative	None	43	41	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Baby/Infant Feeding Room	1	4.0	Changing Facilities	28	18	Not Controlled	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Potable Tanked Water	Central Supply and Extract	5	4	Positive	G4	43	41	100	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
		Treatment Facilities	Triage Room	1	16.0	A&E work areas	25	18	Not Controlled	Radiant Panels	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Potable Tanked Water	Central Supply and Extract	10	10	Balanced	G4	43	41	500	500	None	A	90	Sw itch	Bed / Trolley 1.45m	See Guidance Notes	1
			Treatment Room: Dual Access	10	16.0	A&E work areas	25	18	Not Controlled	Radiant Panels	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Potable Tanked Water	Central Supply and Extract	10	10	Balanced	G4	43	41	500	500	None	A	90	Sw itch	Bed / Trolley 1.45m	See Guidance Notes	1
			Treatment Room: Single Access	4	14.0	A&E work areas	25	18	Not Controlled	Radiant Panels	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Potable Tanked Water	Central Supply and Extract	10	10	Balanced	G4	43	41	500	500	None	A	90	Sw itch	Bed / Trolley 1.45m	See Guidance Notes	1
			WC - Wheelchair accessible	2	4.5	Toilet	28	18	Not Controlled	Adjacent Space Transfer Air	None	No	None	Potable Tanked Water	Local Mechanical Extract	0	10	Negative	None	43	41	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Plaster Suite (2 bays)	1	24.0	A&E work areas	25	18	Not Controlled	Radiant Panels	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Potable Tanked Water	Central Supply and Extract	10	10	Balanced	G4	43	41	500	500	None	A	90	Sw itch	Bed / Trolley 1.45m	See Guidance Notes	1
			Store - Plaster	1	6.0	Storage Area Equipment	28	16	Not Controlled	Radiant Panels	TRV Remote Head Adj.	No	None	None Provided	Local Mechanical Extract	0	3	Negative	None	43	Not Applicable	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Staff & Communication Base	1	16.0	Cellular / Ward Offices	28	18	Not Controlled	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	None Provided	Central Supply and Extract	3	3	Balanced	G4	43	Not Applicable	300	Not Applicable	None	A	80	Sw itch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Supplies Base	1	10.0	Storage Area Equipment	28	16	Not Controlled	Radiant Panels	TRV Remote Head Adj.	No	None	None Provided	Local Mechanical Extract	0	3	Negative	None	43	Not Applicable	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Washdown Room	1	16.0	Dirty utility	28	18	Not Controlled	Adjacent Space Transfer Air	None	No	None	Potable Tanked Water	Local Mechanical Extract	0	6	Negative	None	43	60	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			General X-Ray Room	1	33.0	Diagnostic room	25	18	Not Controlled	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Potable Tanked Water	Central Supply and Extract	8	8	Balanced	F7	43	41	300	Not Applicable	1000	A	80	Sw itch / Dimmer	General w orking plane 1m	See Guidance Notes	1
			Processing Room	1	10.0	Cellular / Ward Offices	28	18	Not Controlled	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	None Provided	Central Supply and Extract	3	3	Balanced	G4	43	Not Applicable	300	Not Applicable	None	A	80	Sw itch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Changing Cubicle	1	4.0	Changing Facilities	28	18	Not Controlled	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Potable Tanked Water	Central Supply and Extract	5	4	Positive	G4	43	41	100	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
		Patient Resuscitation Facilities	Resuscitation Room: 4 places	2	50.0	A&E work areas	25	18	Not Controlled	Radiant Panels	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Potable Tanked Water	Central Supply and Extract	10	10	Balanced	G4	43	41	500	500	None	A	90	Sw itch	Bed / Trolley 1.45m	See Guidance Notes	1
		Distressed & Bereaved Persons Facilities	Sitting Room	1	16.0	Common room/staff room/lounge	28	18	Not Controlled	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Potable Tanked Water	Central Supply and Extract	8	8	Negative	G4	43	60	200	Not Applicable	None	A	80	Sw itch	Floor 0m	See Guidance Notes	Not Applicable
			WC - Wheelchair accessible	1	4.5	Toilet	28	18	Not Controlled	Adjacent Space Transfer Air	None	No	None	Potable Tanked Water	Local Mechanical Extract	0	10	Negative	None	43	41	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Body Viewing Room	1	10.0	Post mortem facility	28	18	Not Controlled	Radiant Panels	TRV Remote Head Adj.	Yes	Ceiling Cassette - Chilled Water	None Provided	Central Supply and Extract	4	6	Negative	G4	43	Not Applicable	100	Not Applicable	None	A	80	Sw itch	Floor 0m	See Guidance Notes	Not Applicable
		Support Facilities: Clinical	Laboratory - Near Patient Testing / Status	1	8.0	Laboratory	28	18	Not Controlled	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Potable Tanked Water	Central Supply and Extract	6	6	Balanced	F7	43	60	300	Not Applicable	None	A	80	Sw itch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Dirty Utility: Bedpan Utility & Urine Test	1	11.0	Dirty utility	28	18	Not Controlled	Adjacent Space Transfer Air	None	No	None	Potable Tanked Water	Local Mechanical Extract	0	6	Negative	None	43	60	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
		Staff Support Facilities	Pantry - Staff / Patient	1	5.0	Common room/staff room/lounge	28	18	Not Controlled	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Potable Tanked Water	Central Supply and Extract	6	8	Negative	G4	43	60	200	Not Applicable	None	A	80	Sw itch	Floor 0m	See Guidance Notes	Not Applicable
		Staff Support Facilities: Sanitary & Changing	WC - Staff	2	3.0	Toilet	28	18	Not Controlled	Adjacent Space Transfer Air	None	No	None	Potable Tanked Water	Local Mechanical Extract	0	10	Negative	None	43	41	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Staff Shower: ambulant	2	2.5	Bathroom	28	18	Not Controlled	Adjacent Space Transfer Air	None	No	None	Potable Tanked Water	Local Mechanical Extract	0	10	Negative	None	43	41	200	200	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Male Staff Changing Room and Lockers: 20 places	1	11.5	Changing Facilities	28	18	Not Controlled	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Potable Tanked Water	Central Supply and Extract	5	4	Positive	G4	43	41	100	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Female Staff Changing and Lockers: 30 places	1	16.0	Changing Facilities	28	18	Not Controlled	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Potable Tanked Water	Central Supply and Extract	5	4	Positive	G4	43	41	100	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Beverage Bay	1	3.0	Tea Making	28	18	Not Controlled	Adjacent Space Transfer Air	None	No	None	Potable Tanked Water	Local Mechanical Extract	0	5	Negative	None	43	41	100	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Consultants Office	1	24.6	Cellular / Ward Offices	28	18	Not Controlled	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	None Provided	Central Supply and Extract	3	3	Balanced	G4	43	Not Applicable	300	Not Applicable	None	A	80	Sw itch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Ward Management Office	1	9.0	Cellular / Ward Offices	28	18	Not Controlled	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	None Provided	Central Supply and Extract	3	3	Balanced	G4	43	Not Applicable	300	Not Applicable	None	A	80	Sw itch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Medical Staff / Audit Office	1	10.0	Cellular / Ward Offices	28	18	Not Controlled	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	None Provided	Central Supply and Extract	3	3	Balanced	G4	43	Not Applicable	300	Not Applicable	None	A	80	Sw itch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Interview/Meeting Room: 6 persons	1	9.0	Meeting Room	28	18	Not Controlled	Radiant Panels	TRV Remote Head Adj.	Yes	Ceiling Cassette - Chilled Water	None Provided	Central Supply and Extract	4	4	Balanced	G4	43	Not Applicable	300	Not Applicable	None	A	80	Sw itch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
		Support Facilities: Holding & Storage	Store - Equipment & Supplies	1	18.0	Storage Area Equipment	28	16	Not Controlled	Radiant Panels	TRV Remote Head Adj.	No	None	None Provided	Local Mechanical Extract	0	3	Negative	None	43	Not Applicable	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Linen Bay	1	1.5	Storage Area Equipment	28	16	Not Controlled	Radiant Panels	TRV Remote Head Adj.	No	None	None Provided	Local Mechanical Extract	0	3	Negative	None	43	Not Applicable	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Store - Stock & Sterile Supplies	1	18.0	Storage Area Equipment	28	16	Not Controlled	Radiant Panels	TRV Remote Head Adj.	No	None	None Provided	Local Mechanical Extract	0	3	Negative	None	43	Not Applicable	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Store - Dispensing Drugs	1	8.0	Storage Area Equipment	28	16	Not Controlled	Radiant Panels	TRV Remote Head Adj.	No	None	None Provided	Local Mechanical Extract	0	3	Negative	None	43	Not Applicable	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Store - Major Incident / Ambulance Equipment	1	6.0	Storage Area Equipment	28	16	Not Controlled	Radiant Panels	TRV Remote Head Adj.	No	None	None Provided	Local Mechanical Extract	0	3	Negative	None	43	Not Applicable	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Store - Medical Gas Cylinders	1	3.0	Storage Area Med Gas	28	16	Not Controlled	Adjacent Space Transfer Air	None	No	None	None Provided	Local Mechanical Extract	0	10	Negative	None	Not Applicable	Not Applicable	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
		Support Facilities: Miscellaneous	Disposal Hold	1	10.0	Dirty utility	28	18	Not Controlled	Adjacent Space Transfer Air	None	No	None	Potable Tanked Water	Local Mechanical Extract	0	6	Negative	None	43	60	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			DSR	1	7.0	Dirty utility	28	18	Not Controlled	Adjacent Space Transfer Air	None	No	None	Potable Tanked Water	Local Mechanical Extract	0	6	Negative	None	43	60	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
A2	Paediatric Acute Receiving Unit - 34 Beds	4 Hour Observation Area (4 beds)	4 Bed Room	1	63.0	Multi-bed Wards	28	18	Not Controlled	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Potable Tanked Water	Mechanical Supply Air	4	0	Positive	G4	43	41	100	5	300	A	80	Sw itch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
			En-suite wheelchair-accessible WC, Shower & wash	1	6.0	Bathroom	28	18	Not Controlled	Adjacent Space Transfer Air	None	No	None	Potable Tanked Water	Local Mechanical Extract	0	10	Negative	None	43	41	200	200	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
		Seasonal Additional Capacity (6 beds)	Single Bedroom	6	17.0	Bedroom	28	20	Not Controlled	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Potable Tanked Water	Central Supply and Extract	4	0	Positive	G4	43	41	100	5	300	A	80	Sw itch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
			En-suite wheelchair-accessible WC, Shower & wash	6	4.5	Bathroom	28	18	Not Controlled	Adjacent Space Transfer Air	None	No	None	Potable Tanked Water	Local Mechanical Extract	0	10	Negative	None	43	41	200	200	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
		Medical Assessment Area (22 beds)	Reception/Staff Base	1	3.0	Reception	28	18	Not Controlled	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	None Provided	Mechanical Supply Air	3	0	Positive	G4	43	Not Applicable	500	Not Applicable	None	A	80	Sw itch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Touchdown Base	3	2.0	Circulation Areas	28	18	Not Controlled	Radiant Panels	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Potable Tanked Water	Central Supply and Extract	4	4	Balanced	G4	43	41	300	Not Applicable	None	A	80	Sw itch / Dimmer	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Single Isolation Bed Room	1	17.0	Isolation Bedroom	28	18	Not Controlled	Adjacent Space Transfer Air	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Potable Tanked Water	System to HRHI	HRHI Dependant	HRHI Dependant	Balanced	F7	43	41	300	5	300	A	80	Sw itch	Bed / Trolley 1.45m	See Guidance Notes	1
			Isolation Bedroom Entrance Lobby	1	4.0	Isolation Lobby	25	18	Not Controlled	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	None Provided	System to HRHI	HRHI Dependant	HRHI Dependant	Balanced	F7	43	Not Applicable	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Single Bedroom	13	17.0	Bedroom	28	20	Not Controlled	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Potable Tanked Water	Central Supply and Extract	4	0	Positive	G4	43	41	100	5	300	A	80	Sw itch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
			En-suite wheelchair-accessible WC, Shower & wash	14	4.5	Bathroom	28	18	Not Controlled	Adjacent Space Transfer Air	None	No	None	Potable Tanked Water	Local Mechanical Extract	0	10	Negative	None	43	41	200	200	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			4 Bed Room	2	63.0	Multi-bed Wards	28	18	Not Controlled	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Potable Tanked Water	Mechanical Supply Air	4	0	Positive	G4	43	41	100	5	300	A	80	Sw itch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
			En-suite wheelchair-accessible WC, Shower & wash	2	6.0	Bathroom	28	18	Not Controlled	Adjacent Space Transfer Air	None	No	None	Potable Tanked Water	Local Mechanical Extract	0	10	Negative	None	43	41	200	200	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
		Adolescent Assessment Area (2 beds)	Single Bedroom	2	17.0	Bedroom	28	20	Not Controlled	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Potable Tanked Water	Central Supply and Extract	4	0	Positive	G4	43	41	100	5	300	A	80	Sw itch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
			En-suite wheelchair-accessible WC, Shower & wash	2	4.5	Bathroom	28	18	Not Controlled	Adjacent Space Transfer Air	None	No	None	Potable Tanked Water	Local Mechanical Extract	0	10	Negative	None	43	41	200	200	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Patients' Assisted Bathroom	1	14.0	Bathroom	28	18	Not Controlled	Adjacent Space Transfer Air	None	No	None	Potable Tanked Water	Local Mechanical Extract	0	10	Negative	None	43	41	200	200	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Treatment Room	1	16.0	Consulting Room	28	18	Not Controlled	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Potable Tanked Water	Central Supply and Extract	3	3	Balanced	G4	43	41	300	Not Applicable	1000	A	80	Sw itch	Bed / Trolley 1.45m	See Guidance Notes	1
			Dining / Play Room	1	37.0	Common room/staff room/lounge	28	18	Not Controlled	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Potable Tanked Water	Central Supply and Extract	6	8	Negative	G4	43	60	200	Not Applicable	None	A	80	Sw itch	Floor 0m	See Guidance Notes	Not Applicable
			Interview Room	1	9.0	Cellular / Ward Offices	28	18	Not Controlled	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	None Provided	Central Supply and Extract	3	3	Balanced	G4	43	Not Applicable	300	Not Applicable	None	A	80	Sw itch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Ward Management Office	1	9.0	Cellular / Ward Offices	28	18	Not Controlled	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	None Provided	Central Supply and Extract	3	3	Balanced	G4	43	Not Applicable	300	Not Applicable	None	A	80	Sw itch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			On-Call Consultant Office	1	9.0	Cellular / Ward Offices	28	18	Not Controlled	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	None Provided	Central Supply and Extract	3	3	Balanced	G4	43	Not Applicable	300	Not Applicable	None	A	80	Sw itch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Multi-Disciplinary Office	1	26.0	Cellular / Ward Offices	28	18	Not Controlled	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	None Provided	Central Supply and Extract	3	3	Balanced	G4	43	Not Applicable	300	Not Applicable	None	A	80	Sw itch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Clinical Coordinators Office	1	10.0	Cellular / Ward Offices	28	18	Not Controlled	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	None Provided	Central Supply and Extract	3	3	Balanced	G4	43	Not Applicable	300	Not Applicable	None	A	80	Sw itch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
		Shared Support	WC - Staff	2	3.0	Toilet	28	18	Not Controlled	Adjacent Space Transfer Air	None	No	None	Potable Tanked Water	Local Mechanical Extract	0	10	Negative	None	43	41	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			WC - Visitors	1	3.0	Toilet	28	18	Not Controlled	Adjacent Space Transfer Air	None	No	None	Potable Tanked Water	Local Mechanical Extract	0	10	Negative	None	43	41	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Clean Utility	1	12.0	Clean Utility	28	18	Not Controlled	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Potable Tanked Water	Mechanical Supply Air	6	0	Positive	G4	43	41	100	Not Applicable	None	A	80	Presence detection	General w orking plane 1m	See Guidance Notes	Not Applicable
			Dirty Utility	1	14.0	Dirty utility	28	18	Not Controlled	Adjacent Space Transfer Air	None	No	None	Potable Tanked Water	Local Mechanical Extract	0	6	Negative	None	43	60	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Pantry	1	10.0	Common room/staff room/lounge	28	18	Not Controlled	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Potable Tanked Water	Central Supply and Extract	6	8	Negative	G4	43	60	200	Not Applicable	None	A	80	Sw itch	Floor 0m	See Guidance Notes	Not Applicable
			Resuscitation Trolley Bay	1	1.0	Circulation Areas	28	18	Not Controlled	Radiant Panels	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Potable Tanked Water	Central Supply and Extract	4	4	Balanced	G4	43	41	300	Not Applicable	None	A	80	Sw itch / Dimmer	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Linen Bay	1	3.0	Storage Area Equipment	28	16	Not Controlled	Radiant Panels	TRV Remote Head Adj.	No	None	None Provided	Local Mechanical Extract	0	3	Negative	None	43	Not Applicable	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Store - General	1	12.0	Storage Area Equipment	28	16	Not Controlled	Radiant Panels	TRV Remote Head Adj.	No	None	None Provided	Local Mechanical Extract	0	3	Negative	None	43	Not Applicable	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Store - Equipment	1	6.0	Storage Area Equipment	28	16	Not Controlled	Radiant Panels	TRV Remote Head Adj.	No	None	None Provided	Local Mechanical Extract	0	3	Negative	None	43	Not Applicable	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Hoist Bay	1	3.0	Circulation Areas	28	18	Not Controlled	Radiant Panels	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Potable Tanked Water	Central Supply and Extract	4	4	Balanced	G4	43	41	300	Not Applicable	None	A	80	Sw itch / Dimmer	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			DSR	1	7.0	Dirty utility	28	18	Not Controlled	Adjacent Space Transfer Air	None	No	None	Potable Tanked Water	Local Mechanical Extract	0	6	Negative	None	43	60	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Disposal Hold	1	10.0	Dirty utility	28	18	Not Controlled	Adjacent Space Transfer Air	None	No	None	Potable Tanked Water	Local Mechanical Extract	0	6	Negative	None	43	60	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
A3	PARU / Emergency / Radiology Shared Support	NA	Meeting / Case Conference Room	1	32.0	Meeting Room	28	18	Not Controlled	Radiant Panels	TRV Remote Head Adj.	Yes	Ceiling Cassette - Chilled Water	None Provided	Central Supply and Extract	4	4	Balanced	G4	43	Not Applicable	300	Not Applicable	None	A	80	Sw itch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Seminar & Training Room	1	32.0	Meeting Room	28	18	Not Controlled	Radiant Panels	TRV Remote Head Adj.	Yes	Ceiling Cassette - Chilled Water	None Provided	Central Supply and Extract	4	4	Balanced	G4	43	Not Applicable	300	Not Applicable	None	A	80	Sw itch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Staff Room	1	80.0	Common room/staff room/lounge	28	18	Not Controlled	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Potable Tanked Water	Central Supply and Extract	6	8	Negative	G4	43	60	200	Not Applicable	None	A	80	Sw itch	Floor 0m	See Guidance Notes	Not Applicable
A4	Adult Link	NA	Resuscitation Room : 2 places	1	50.0	A&E work areas	25	18	Not Controlled	Radiant Panels	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Potable Tanked Water	Central Supply and Extract	10	10	Balanced	G4	43	41	500	500	None	A	90	Sw itch	Bed / Trolley 1.45m	See Guidance Notes	1

NHS Lothian.....

BAM.....

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Action Notes

Mott MacDonald

RHSC & DCN – Little France
Room Data Sheets : Production Review Meeting

Commercial In Confidence - not disclosable under the Freedom of Information (Scotland) Act 2002

Dates: 3 July 2012 **Time:** 14.00 – 15.00 **Location:** RHSC + DCN Project Office

Purpose Review of Programme for production of Room Data Sheets

Principal Attendees		
	Neil McLennan	NHSL
	Graeme Gillies	NHSL
	Iain Johnston	Hiltron
	David Stillie	Mott MacDonald
	Andrew Scott	Mott MacDonald

Apologies:

Distribution: As above
Next meeting: Not set

		Action	Target date
1.00	**APOLOGIES**		
1.01	None		
2.00	**PURPOSE OF THE MEETING**		
2.01	To review progress and agree programme for the production and checking of the Room Data Sheets		
3.00	**General**		
3.01	As drawn areas to be used. Area checks to be carried out against departments rather than room by room. **Action** – Hiltron to indicate areas by department in a summary for cross checking by NHSL	Hiltron	
3.02	Additional 'similar' rooms to be classified as 'Standard' with the abbreviation STD being used as room no prefix. **Action** – Hiltron to us STD	Hiltron	
3.03	Any discrepancies with Clinical Output Specifications (COS) to be highlighted as a matter of urgency – particularly Occupancies. COS as issued to Hiltron on 26 Jun 12 are current and to be used. Occupancies given in COSs are maximum occupancies. **Action** – Hiltron to carry out reconciliation between COS and RDS and highlight any issues to NHSL.	Hiltron	
3.04	Schedule of Accommodation with Room Numbers issued is final. Changes have been highlighted in blue. The small numbers of areas that still need to be resolved are highlighted in red.	Note	
3.05	The order for issue and checking was agreed to be as follows:		

		Action	Target date
	RDS Index Generic Rooms Key Rooms Standard Rooms Other Rooms (to be issued on a department by department basis) **Action** – Hiltron to issue information on the basis outlined above.	Hiltron	
3.06	Hiltron stated that the first batch of information (Index + OS Reconciliation + Generic and Key Rooms) should be available by the end of w/c 9 Jul 12. **Action** – Hiltron to issue first batch of information end w/c 9 Jul 12.	Hiltron	
3.07	Access to review the RDS was discussed. Hiltron informed that NHSL concerned as cost for access to the system for electronic mark up. Hiltron agreed to re-examine their figures. Alternative discussed is for Hiltron to issue pdf copies electronically and then for NHSL to print off and mark up those sheets where they have comments. (Post meeting note – Hiltron issued revised cost. NHSL have stated that they will used non-access system.)		
3.08	NHSL confirmed that the adjacencies given in the COSs are in line with the Reference Design.		

From: Stillie, David <David.Stillie[redacted]
Sent: 15 August 2012 13:57
To: McLennan, Neil
Cc: Currie, Brian; Gillies, Graham; Cantlay, Richard D; McQuarrie, Fraser F; Falconer, Kenny; Duncan, Andrew A
Subject: Room Data Sheets.

Neil

Further to my meeting with Graham and yourself on Friday past to discuss the way forward in terms of passing on the individual room requirements to the bidders I confirm that as instructed I have informed Hiltron that they should do no further work on the room data sheets.

I also confirm that both Graham and yourself are satisfied that, with the addition of the Schedule of Operational/Design Notes which will be produced by NHSL, this is now the agreed way forward and that this will complete the suite of room information documents. Therefore, all of the room information you wish to pass on to the bidders is/will be included in:-

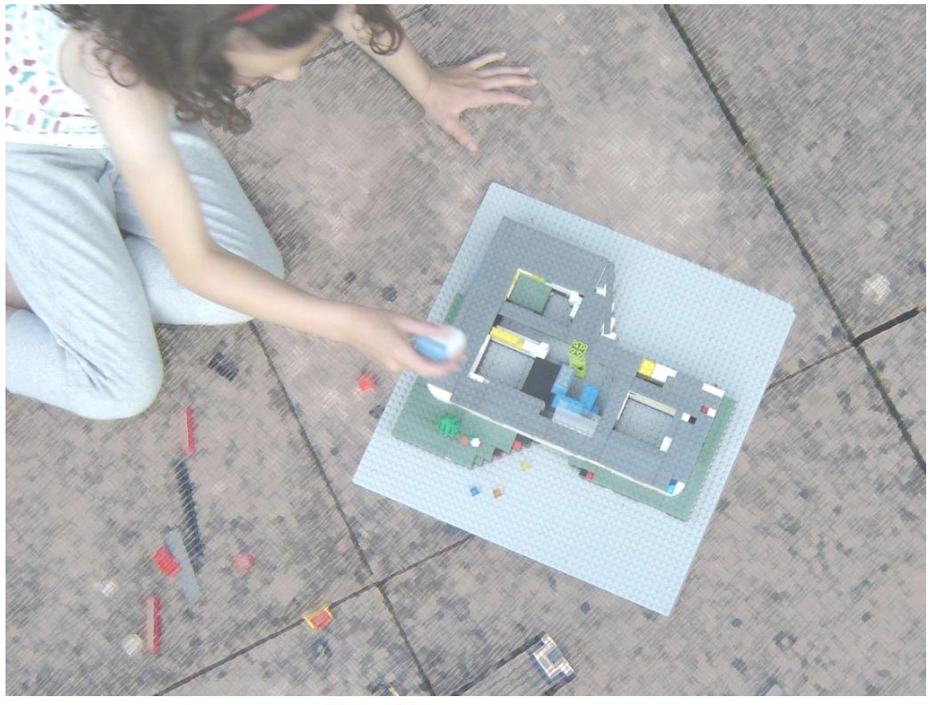
- The Clinical Output Specifications
- The Schedule of Accommodation
- The Adjacency Matrix
- The Environmental Matrix
- The Equipment List
- The Schedule of Operational/Design Notes and
- The Operational Functionality elements of the Reference Design.

The requirement to comply with NHS Scotland design guidance is contained within the D & C Output Specification.

I trust that this is a true reflection of our discussions.

Kind regards

David



EDINBURGH ROYAL HOSPITAL FOR SICK CHILDREN

SCHEME DESIGN REPORT. AUGUST 2010

Prepared by: NIGHTINGALE ASSOCIATES

CONTENTS:

1. INTRODUCTION

Purpose of Report

The purpose of this report is to confirm the progress of design development through the detail design phase. The report is intended to provide a summary of key design decisions and assumptions which have informed this process and is split into chapters dealing with specific design disciplines.

General project information

The current Royal Hospital for Sick Children, built in 1895, has delivered over a century of high quality care to children but is coming to the end of its working life. The Scottish Child Health Support Group, an independent group of expert advisors, wrote in 2003 that "continued reinvestment" would be "unproductive in the long term and (the building) is clearly no longer fit for the purpose originally designed."

The Outline Business Case identified the preferred development option was to build a new hospital on the site at Little France. This option was selected because:

- Only the Little France and St John's options meet the key recommendations of the Youngson Report that Children's specialist acute services should be co-located with acute adult, Maternity and Neonatal services and that new co-located C&YP's hospitals should be created in Edinburgh and Glasgow.
- The Little France option ranks as the best option in terms of the Benefits Appraisal, Financial Appraisal, Economic Appraisal and Risk Assessment.

The New Edinburgh Children's Hospital will provide 21st century care in a happy, safe and supportive environment suited to the needs of children, young people and their families.

The new hospital will house a variety of clinical departments including CAMHS, Outpatients, Radiology, Theatres, Critical Care as well as Academic Areas, Support Services and Wards. The wards will comprise a mixture of single rooms and flexible ward accommodation.

It will also comprise emergency services which will be collocated with The RIE.

Project team

The project team is led by BAM construction and supported by Architects (Nightingale Associates and BMJ Architects), Engineers (Hulley and Kirkwood and Arup), Cost Advisors (Doig and Smith) and Landscape Architects (FIRA).

Consultation process

Throughout the concept design process the design team have consulted with a wide variety of stakeholders from the clinical staff to patients and their families, from local community groups and charities to the City of Edinburgh planning authority. This consultation has been coordinated by the RHSC re-provision team and the notes from the various meetings and events have been circulated and used to inform the design process.

Compensation Event CE00009

Following issue of the Concept Design Report, NHSL instigated an area reduction exercise which identified approximately 1,400sqm of savings.

The proposed reductions were agreed within NHSL and an instruction given to incorporate these area savings into the building. It was acknowledged that due to the dispersed nature of the reductions it was unlikely that the full effect of the savings would be achieved.

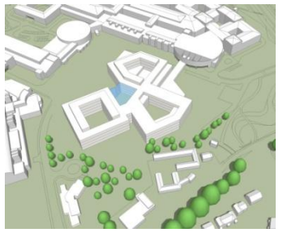
Alongside the reduction in area NHSL requested we look at a number of other issues that would assist in the affordability and deliverability of the scheme.

Moving existing footprint within car park boundary – By moving to avoid road

Move buildings to allow route around building for construction purposes

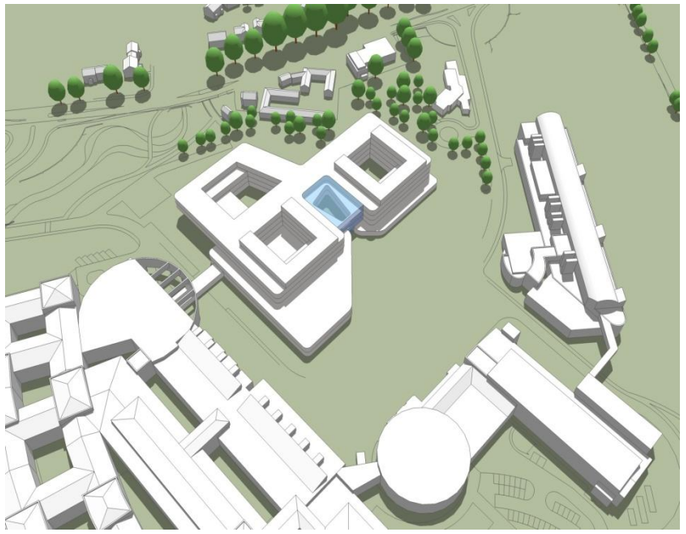
This change in brief relates to compensation event CE00009

A number of massing proposals for the reduced footprint were presented to the client on the 18th May 2010 (Appendix A) suggesting a range of options based upon the initial design concept.



It was agreed that an enhanced, reduced, version of the current design be taken forward for 1:500 planning and

A series of high level meetings took place to agree the revised 1:500 layouts. In departments where it was felt the revised massing might be most onerous, additional meetings and design studies were undertaken to show how patient flows might be amended and possibly improved.



The completed 1:500 drawings were signed off as status B on the 7th June 2010 by the CMT group. The revised 1:500 drawings and associated notes are enclosed in Appendix B

An additional round of 1:200 meetings was arranged to allow the design of departments to be properly re-assessed in light of the changes to the massing of the building.

2. ARCHITECTURAL DESIGN

Site

Edinburgh Royal Infirmary is located at Little France in the south-east of the city. It serves Edinburgh as well as Midlothian and East Lothian and is served by many bus routes to and from all areas of the city and its hinterland. The new hospital is linked to the Chancellor's Building, the main teaching facility for the University of Edinburgh Medical School.

The surrounding land consists of residential to the south with the proposed replacement car park and bio-quarter developments to the north east and south east respectively. Craigmillar Castle and its surrounding open space are sited to the north west.

The proposed site for the new children's hospital is the existing car park B at the front of the hospital which allows the required substantive links into the existing Emergency Department and beyond. This necessary conjoining will disrupt the existing transport at the front of hospital which separates the proposed site form the RIE entrance and the car park.

The site is south facing with low level buildings and substantial landscaping/planting to the south west. There are improved views at higher levels towards the golf course and Craigmillar Castle and its surrounding landscape.

Brief

At the outset NHS Lothian suggested the design of the children's hospital should be enduring and take into account the history, culture and physical requirements of an internationally renowned centre of excellence. The clinical functionality of the hospital takes priority over all other issues making full use of its co-location with the RIE to enhance clinical pathways and interfaces between specialties, diagnostic and support services. The accommodation also needs to be sufficiently flexible to accommodate changes in practice and demand while maintaining effective clinical services.

The new children's hospital arrival at the Little France site creates a number of complex issues that have had to be resolved:

- The removal of a through route at the front of the hospital creates two separate routes: one for accessing the collocated emergency departments and the other for accessing the RHSC, the easterly entrance of the RIE and the Chancellors Building.
- The previously agreed location of the replacement car park at the back of the site suggests a shift in the centre of transport from the west to the east of the building. This shift in traffic and pedestrian flows has been recognised, alongside the proposed bio-quarter developments, by moving the major bus drop off's and bus standing areas to the east of the site
-
- There is a requirement to provide suitable drop-off and parking facilities close to the building, both to provide new facilities for the RHSC and to replace those facilities which currently serve the RIE, but will be lost through the construction works. Emergency traffic will continue to use the existing blue light route at the South East of the site. Parking will be provided in this area for visitors to the RHSC and RIE emergency departments and for NHSL ambulances.

Functional content

The functional brief for the new hospital includes inpatient beds, outpatient clinics, rehabilitation, emergency care, Child & Adolescent Mental Health Services and operating theatres and radiology departments.

Please Refer to Appendix C for a full schedule of accommodation.

Concept

A sense of place and green space were considered fundamental to the design of the new hospital and an initial concept was the idea of a captured garden. This idea suggested a haven away from the sometimes difficult realities of life in hospital and a building created for children rather than adults.

This external landscape space (which is the only area where the landscape can "lock into" the surrounding landscape) has been complimented by three significantly sized courtyards which maximise the perimeter of the building increasing the amount of light entering the building. They also create three identifiable spaces for varying levels of play.

The concept developed into three key themes; a new identity for the RHSC, the O-Zone, space at the heart of the hospital and the perfect Children's ward. Although the design has been through numerous iterations during the concept design period, we have used these three basic principles as a reference point, and they remain relevant to our current design proposal.

Identity

First impressions are important. The visual appearance of the new RHSC will need to respectfully respond to the existing RIE and 'Little France' context whilst establishing its own identity. It will need to provide a non-threatening, open and welcome appeal balanced with the need to respond to its status as an internationally renowned centre of excellence. In a series of workshops many children mentioned the use of colour at the entrance. This manifested itself many times in the shape of rainbows occurring in the children's drawings, particularly located around the entrance doors. None of the images presented to the children directly showed or alluded to rainbows so the notion was entirely driven by the children themselves. Children very often talked about rainbows being 'happy' or causing happiness and providing hope.

To avoid the limitations of colour the idea of rainbow has been adapted to that of ribbons; Ribbons of materials and colour that circulate and permeate the building. These ideas are reflected in the elevations and in the choice and variety of materials.

Creating a sense of place and arrival immediately outside the main entrance of the new RHSC will reinforce its identity. The landscaping for the new RHSC will therefore provide a public space appropriate in scale and proportion for children and young people. It will form part of a larger integrated 'hospital square' that links with the RIE. Landmark, interactive art will be located in this space to signal entrance, visually stimulate and bring a sense of fun.

O-zone

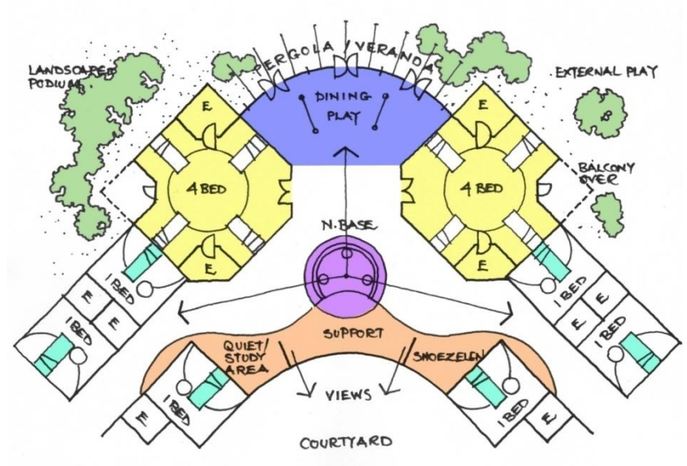
On entering the hospital from the new public square visitors will arrive in an open, light and welcoming space. This will be the 'heart' of the new RHSC, a place for the wider RHSC community to come together. Patients should be able to identify it immediately, even from a distance. It should have a "presence" with all routes diverging and converging on it. A space which more than any other communicates the spirit of the new Royal Hospital for Sick Children

As the design has developed the o-zone has begun to incorporate smaller spaces within it – dens, nooks and crannies – that allow children to play in a more secluded - environment

The Perfect Children's Ward

Whilst we have striven for a perfect ward, the existence of such is tempered by the fact that the ability to perfect anything is subject to the constraints imposed on it such as cost and functionality. It was quickly realised that a clinically perfect ward was inherently different to a perfect ward imagined by the children.

The key issues that have been delivered are clinical adjacencies and maximum light to bedrooms as well as access to outside space and the inclusion of spaces for children and their families away from the bed/bedroom



Urban Design

The building's location within the site boundary is driven by a clinical requirement to link to the existing RIE emergency department at ground floor level. The requirement to create this link means that the existing road (Little France Drive) will be permanently closed, therefore cutting off the bus loop through the site. NHSL have confirmed that the buses will be rerouted to the eastern side of the RIE.

The massing of the building and location of the main entrance has been influenced by the planned pedestrian route from the RIE to the RHSC. This linkage of the RHSC to the RIE (and chancellors building) will undoubtedly create a shared zone between the three buildings. Whilst retaining existing access arrangements to the RIE does not allow a purely pedestrian square between the buildings, it is proposed that this area be seen primarily as a single space rather than a network of roads.

A number of parking and drop off spaces are required to the entrances to the Little France buildings and the additional spaces for RHSC have been incorporated to the front of the new children's hospital.

The required emergency drop off and visitor parking has been located beside the conjoined Emergency centre, avoiding the area identified for future expansion.

The building generally has a mass of 4 storeys + plant, but around the entrance the building steps down to in order to create a more appropriate scale.

Access & Wayfinding

Refer Appendix D

Clinical planning

1:500 Layouts

The clinical planning strategy has been driven by the constraints of the site and by the need to optimise functional relationships between departments. The functional adjacencies have been discussed at a series of Clinical Task Group meetings, and the comments and actions from these meetings have been recorded and used to inform the development of the design.

In order to satisfy the site constraints the design team have targeted a maximum building footprint of 10,000sqm. This has impacted on some of the desired adjacencies, but the departmental relationships have been tested with the Clinical Task Group firstly using an adjacency matrix, and then a vertical stacking diagram before being presented as a series of plan diagrams. These diagrams form part of the stage sign-off documentation.

Key points to note in terms of 1:500 clinical planning are as follows;

- Ground floor – Accident & Emergency, Radiology, Outpatients, Medical paediatric assessment, Child & Adolescent Mental Health Services, and Family Support.
- First Floor – Operating Theatres, Critical Care, Therapies, Catering and Academic areas

- Second Floor – In-patient wards (Surgical, Medical, Neuroscience, Haematology & Oncology) and School
- Third Floor – Offices and Family Hotel.

Some key vertical adjacencies to note are those between outpatients and therapies, and between A&E, Radiology, Theatres, Critical Care, Surgical Ward and Family Hotel.

There is also a basement under the O-zone which contains some of the main services for the hospital, and which connects back to the existing service tunnels underneath the RIE. All FM deliveries and waste management link to the RHSC through the basement via a series of FM lifts to the clinical departments on upper levels.

1:200 Design

Clinical Sub Groups were set up for a number of departments and a series of meetings were held with each group to discuss the 1:200 layouts. Where possible these meetings were organised for a single week. The sub groups were as follows:

- Wards
- Theatres
- Emergency & Medical Assessment
- Academic
- Critical Care
- Radiology
- Bereavement & Spiritual Care
- CAHMS
- Family Support
- Pharmacy
- Therapies
- Outpatients
- Offices
- Kitchens
- Staff Change and Ozone

At the initial meeting the group were taken through the site and 1:500 layouts to explain their location within the building and in relation to the rest of the Little France site

After being taken through the major flows within the building the relationship of individual rooms was looked at and comments recorded and categorised from 1-4 :

- Category 1 - Design Development
- Category 2 - Design Team omission or error
- Category 3 - Minor change informally instructed by client
- Category 4 - Major change requiring formal instruction

Category 3 and 4 issues were recorded on a separate sheet with category 1 and 2 comments noted on the drawings. Stage 3 comments were signed off by NHSL at the meeting with Stage 4 comments re-issued to NHSL with any supporting information for sign off at the end of the round of meetings.

Towards the end of the week of 1:200 meetings a clinical task group took place to discuss both the process and any wider issues that had occurred and required discussion at higher level.

Following each round of user meetings a presentation to the CMT group took place to give the clinical management group an overview of the process and to allow sign off where required

A set of signed off 1:200 layouts are located in appendix E

1:50 standard rooms

An initial meeting to discuss overarching issues took place on the 8th April 2010 eg. hoists, sanitary ware, storage.

Following this initial meeting the ADB database provided by NHSL was linked to the schedule of accommodation and any arising queries raised and addressed.

Following standardisation of the database a number of generic rooms were agreed and issued for discussion/ debate at a series of workshops with NHSL

A set of signed off generic rooms are located in appendix F

Sustainability

Achieving a high quality, therapeutic environment is our key objective, however this must be considered in the context of providing an effective and sustainable low energy design solution.

The design team continues to strive for a potential excellent BREEAM rating subject to the limitations of the existing site. The current anticipated BREAAM rating is 74%

Outline material specifications

External Materials

A report was provided by Doig and Smith looking at the cost of a number of materials proposed by the design team. This report, in conjunction within the proposed cost plan, informed the prevailing materials chosen for the external envelope.

The concept of the ribbon has been utilised in designing the elevations. By setting back the building at the upper two levels two storey ribbons of material are created that can be treated differently.

The lower ribbon is seen as a solid base for the new RHSC suggesting integrity and lasting legacy for the new hospital. It will have a human scale be welcoming and allow interaction through texture and touch. There is also the ability to incorporate colours and artwork into the façade.

It is currently proposed that a sandstone coloured local brick with feature panels of stone and timber. There will also be a composite timber / aluminium window system with coloured panels

The upper ribbon provides an efficient and effective cladding to the upper levels. It is more suited to the repletion of ward, hotel and office accommodation.

It is currently proposed that there will be rendered finish incorporating a composite timber / aluminium window system with coloured panels

Integrated interior design and way finding.

Our aim has been to create progressive environments, which respond sympathetically to their setting. Our design exploits the sensory elements of design to provide both information and stimulus for example by using contrasting and tactile materials, colour and lighting to create a pleasing therapeutic environment.

For the interior design strategy of the RHSC, we have created an environment using materials and colour that will act as a direct contrast to the exterior of the building, heightening the oZones's own sense of identity and surprise. The oZone will become the community heart of the building, with playful signage designed as an integral part of the ozone cladding. We envisage that colour themed floors and departments will be visible from multiple positions around the oZone.

We believe that interiors are critically important to way finding. People have a natural ability to develop cognitive maps or 'mental models' when exploring new environments. This ability allows an individual to explore an environment with a series of direction changes and then determine a return journey that does not require retracing the initial route. However, not everyone uses the same strategy: children and individuals with cognitive impairment, or those with partial sight have limited or no ability to develop cognitive maps: and tend to explore the environments as a series of events.

So, It is important to provide a variety of cues to assist people in finding their way. Our approach has been to introduce a 3-part way-finding structure:

- The creation of unique looking places or landmarks to help patients and visitors find their way – The ozone and the internal courtyards.
- The placement of recognisable entry elements at thresholds of neighbourhoods/zones that guide visitors and patients into departments.
- Embedding navigational devises within departments/zones to aid patients and visitors find their way around departments and back to the entry landmark – For example, lighting, super graphics and internal signage etc.

For the RHSC, an emphasis is placed on creating simple linear flows on each level of each building, rather than following a series of arrows to navigate. The way-finding system then allows people of all ages to move between landmarks that have been specifically designed to elicit a positive emotional response that helps people of all ages to remember relative locations and events. This built in "body Language" will ensure that way finding works, regardless of helpful people, signs and maps.

The RHSC will have a unique identity that provides an integrated solution between signage, interior design, landscape, architecture and art.

Landscape

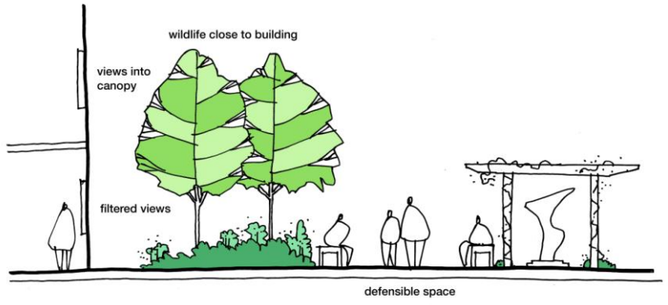
The positives of the healing landscape are well researched and documented. The landscape for the Royal Hospital for Sick Children is designed to promote health and wellness to encourage an integration of mind, body and spirit by providing opportunities for privacy, dignity, self esteem, identity, social support and security.

To provide an environment that is healing, caring and educational, the landscape is inviting and non threatening with a playful and positive atmosphere incorporating the elements of scale, colour, texture, light, seasonal variation and contact with nature.

The Setting for the Hospital

The landscape provides the setting for the Hospital and helps to create character. It links the existing buildings with the new architecture and with the local neighbourhood. The landscape is designed to create beautiful and exciting views from wards and rooms. The relationship of the indoor/outdoor allows the landscape to flow through the hospital.

Planting creates focal points, helps with wayfinding and creates a human scale, especially for children.

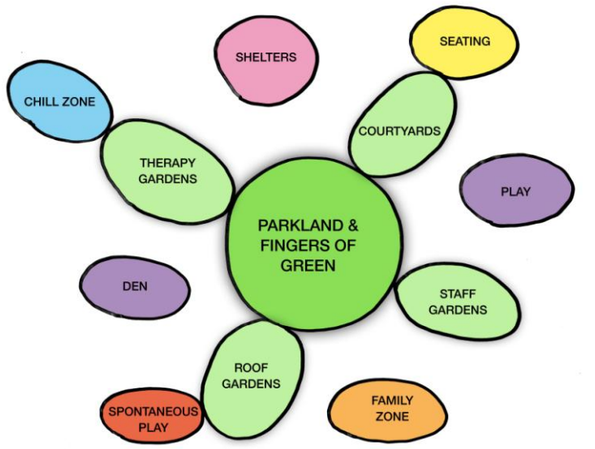


Spaces and Scale

The site of the new hospital is limited, restricting the landscape treatment around the perimeter of the building. Within this constraint the hospital grounds have been designed to maximise its full potential with a wide range of courtyards and gardens to support the clinical use of the landscape for therapy and to provide an escape from the hospital environment.

A hierarchy of exciting spaces have been created with a variety of characters and include:

- Parkland
- Play areas and courtyards
- Gardens
- Seating and dens
- A range of spaces specifically to accommodate children's needs from babies to adolescents with children and teen only areas allowing them to escape from adults
- Art carefully integrated into the landscape





Landscape Zones

Main Entrance

As the Royal Hospital for Sick Children (RHSC) is located on the existing Royal Infirmary (RI) site it is important for the hospital to have it own identity and a well placed main entrance for easy wayfinding. The entrance to the RHSC is located opposite to the RI entrance with its own spacious Entrance Plaza and drop off. Car parking is located at the entrance with 7 spaces for disabled and 24 spaces for family/disabled. The landscape reinforces the welcoming style of the architecture with a carpet of patterned and colourful paving highlighting the main entrance. Semi mature trees and shrub planting reinforces the route to the hospital and helps to screen the rooms adjacent the Entrance Plaza.

Breathing space

The RHSC is separated from the RI by a green area known as the Breathing Space. This area accommodates the mobile MRI scanner and turning circle. Access to the day surgery and the associated ambulance drop have been retained and incorporated into the scheme.

Although the use of this space is predominantly functional it also forms a green buffer between the two major buildings, screens the RI and provides a pleasant aspect from the RHSC. Planting will be designed to attract wildlife and will provide year round colour/interest to enliven this space and ensure that views from the are pleasant and interesting

Courtyards and Gardens

The courtyards and gardens are more intimate spaces to be enjoyed by patients staff and visitors away from the busy hospital. They are designed to encourage people to go outdoors for therapy, socialising, education, contemplation and for contact with nature. There are a number of courtyards and gardens with predominantly different uses but not exclusive to anyone group:

Ozone Courtyard

This courtyard is accessed directly from the Ozone and could be considered as an extension of this space. It is a communal courtyard with a variety of spaces for all users to enjoy. It will be a lively space in which activities in the hospital will be on show for all users to enjoy. Based on the board game, Ludo, the courtyard offers a number of areas for socialising or quiet contemplation Patients will be encouraged to engage with their environment. The space includes, a ‘grow your own zone’ for horticultural therapy, a toddler play zone, chill out zone and a cafe terrace.

Therapy Courtyard

The Therapy Courtyard is specifically designed to offer a number of therapeutic uses including assessment of gross motor skills, gross motor play and rehabilitation. The courtyard will also be used as an outdoor extension of the outpatients waiting area.

The courtyard is design is influenced by the snakes and ladders board games with a curving, circular and undulating route. A variety of paving materials from rough to smooth offer challenging surfaces with steps and ramps for assessment and therapy. Paving patterns encouraging children to play and exercise will allow clinicians to carry out assessments in an informal setting.

Reflective Courtyard

It is important to consider the needs of the staff. The reflective courtyard will allow staff to have their own outdoor space it will include lush planting, standing stones to define the space and a reflective, still pool. This courtyard is overlooked by wards on all sides and on all floors. It will allow the users of these wards to overlook vegetation to bring the landscape and wildlife into the heart of the building.

Stroll Garden

At the early stages of the design we identified the need to have an area within the boundary of the hospital that feels more remote from the building to allow children and their families to get away from the clinical character. The Stroll Garden is a green oasis and has a wandering path through dense vegetation. With the more natural planting children will be able to interact with wildlife.

The woodland planting in this zone extends the existing woodland corridors into the site, linking the grounds with the wider landscape and uniting the wider RI site.

The garden also includes a play area and dens. The garden will be fenced to make it secure with gated access to create the secret garden atmosphere.

The stroll garden can be linked into the hospital Heath Walk by opening an adjoining gate.

Cahms Garden

The Cahms garden is located in the stroll garden but is separated by walls, fencing and hedges to allow the children privacy. The garden is divided into a number of zones:

- Inpatient garden
- Dining and BBQ terrace
- Horticultural space
- Play space

This garden is a interconnected series of space that allow flexible use as required by users. The inpatient garden will remain separated by a gate from the other spaces. It is important for all patients to have access to a range of different scale of spaces, for calm individual time, small group therapy sessions or larger group sessions to further social skills with peers. A balanced approach to the design of these spaces ensures that the gardens provide an interesting, nurturing space but allow good supervision and a safe space for all to enjoy.

An active play space for football and basketball is located adjacent to the CAHMS gardens for use by the department. Gates along the boundary of this space provide controlled access into the stroll garden

Roof Terraces

Terraces located on the upper floors of the hospital allow direct access to the outdoors. These allow some patient access from bedrooms and day rooms to experience the healing benefits of the landscape.

The Terraces will be constructed from light weight materials for planters, trellising, seating and decking. The planters and trellises are designed to allow the children to easily personalise their space.

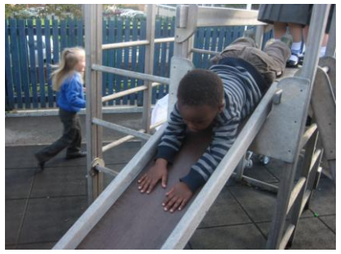
The remainder of the roof, beyond the terrace, will be carpeted in sedum and coloured gravels.

The largest terrace is the Outdoor Classroom designed to encourage the school to take lessons outdoors. The terrace is divided into a number of areas with a system of benches and planters to define spaces for group work and socialising.

Play

Play is an important way for children to cope with stress and pain. The distraction of play can help children interact with each other and can aid the healing process. Play can be formal with equipment to suit a variety of ages and abilities to encourage children to exercise (including therapy and rehabilitation) and learn. Play can also be informal and spontaneous, the gardens and courtyards will provide a wide variety of opportunities for children to explore their environments allowing contact with nature.

The landscape is designed to encourage spontaneous play and organised play. A strategy for play will be developed.



Education

Education continues in the hospital environment and the landscape will provide opportunities for outdoor learning including spaces for small groups of children and will provide material for teaching. The principal area for Education is the Outdoor Classroom Terrace.

Sustainability

The landscape is fundamental to creating a sustainable design. It can:

- Improve the biodiversity of the site and encourage wildlife close to the buildings
- Create a pleasant microclimate for those using the gardens and courtyards
- Reduce solar gain by shading the building
- Filter out airborne pollution
- Reduce surface water runoff

These design considerations have been integrated throughout the design.

Landscape Planting Strategy

Avenue and specimen trees mark key routes provide enclosure and screening where required. Species will be chosen for seasonal variation and interest.

Shrubs and perennials will be chosen to give year round interest to include winter flowering shrubs, plants with interesting foliage and autumn colour and with good ground cover qualities.

There are two approaches to the provision of grass for the development with ornamental close mown grass adjacent to the buildings and natural longer grass in wilder areas. A mowing regime will be devised to encourage wildlife. Areas of grass will receive less frequent mowing in the less formal parts of the site to promote wild flowers and attractive grass seed heads.

Maintenance

A major consideration of the landscape design is to ensure the whole life cost is considered at the start of the design process evaluating the cost of implementation against the cost of the subsequent maintenance. As part of the planting design process a management and maintenance plan will be devised to ensure the landscape matures as the design intended.

Hard Landscape Materials Strategy

Materials for the hard landscape design have been chosen to complement those used in the building, creating a unified and interesting therapeutic environment. All materials, including furniture, will be appropriate to their location, hard-wearing and carefully considered

The materials specified will reflect the prominence and intensity of use of spaces. The most important areas, such as the main entrance and courtyards, demand high quality finishes.

An indicative list is below

- Natural stone to the front square in a range of colours to aid with wayfinding
- High quality concrete paving in a range of colours
- Bitmac
- Safety surfacing to play and therapeutic assessment areas
- Timber decking to roof terraces
- Raised planters in metal and coloured plastic coated metal
- Inclusive exciting play equipment suitable for clinical assessment.
- Matching range of street furniture

3. CIVIL & STRUCTURAL ENGINEERING AND TRANSPORTATION SCHEME DESIGN

Introduction

This report describes the Civil and Structural Engineering and Transportation scheme design aspects as of 12.08.2010 for the Royal Hospital for Sick Children to be located alongside the existing Royal Infirmary of Edinburgh (RIE).

The building footprint is approximately 140m x 125 m on plan with accommodation arranged over 4 main floors plus partial roof top plant and basement accommodation. This results in up to 6 levels of accommodation. There is a central atrium feature running full height of the building and also 3 no enclosed courtyards.

Existing site

The site is located within the grounds of the Royal Infirmary in Little France, Edinburgh at NGR NT289703. The site is currently entirely occupied by a surface level car park. Access to the site is from Old Dalkeith Road to the south-east of the site. The site is bound to the west and north by Little France Crescent. University buildings (Queen Medical Research Institute) are located to the west and hospital buildings to the north and north-east. The site is bound to the south by a petrol station and Little France Mills residential area which can be accessed off Old Dalkeith Road.

Ground Conditions

A geotechnical and geoenvironmental investigation was carried out by BAM Ritchies (BAM) between April and June 2010. The investigation comprised of ten cable percussive boreholes and eight monitoring wells. There were five rotary continuations of these boreholes and three trial pits. This was supported by a programme of laboratory geotechnical and chemical testing. Constant rate and recovery rate pump tests were undertaken in two of the exploratory boreholes in the location of proposed service tunnels and basements. Monitoring of standpipes for gas and groundwater levels was also undertaken and is currently programmed until September. Arup supervised the investigation on a part time basis.

Made ground was encountered in all exploratory holes and varied in thickness from 0.6m to 2.5m. The made ground typically comprised the make up for the existing mono block car park , underlain in areas by a sandy gravelly clay with fragments of blaes, porcelain and traces of vegetation.

Cohesive alluvial deposits were encountered beneath the made ground in eleven of the eighteen boreholes. Typical descriptions of the cohesive alluvial deposits were ‘slightly gravelly slightly sandy clay’. Traces of peat were sometimes noted within the cohesive alluvial deposits. A thin layer of peat was encountered in one borehole between, 2.4 and 3.1mBGL.

A relatively thick layer of granular alluvial deposits was encountered in all exploratory boreholes undertaken at the site. The alluvial granular deposits typically underlay the cohesive alluvial deposits and typical descriptions included “medium dense brown slightly silty gravelly fine to coarse sand” and medium dense brownish grey slightly silty very sandy sub angular to sub rounded fine to coarse gravel”.

Glacial till was encountered in eleven of the eighteen boreholes undertaken. Typical descriptions include “stiff grey slightly sandy gravelly clay” or “firm grey slightly gravelly sandy clay”. The top of the glacial till was encountered at a depth of between 7.5m – 12.1m and the thickness of the deposit varied between 0.2 – 2.2m.

Weathered bedrock, typically described as a “dark grey mudstone recovered as sub angular to angular fine to coarse gravel” or “grey weathered mudstone recovered as very stiff gravelly clay” was encountered in ten of the eighteen exploratory boreholes. This material was typically encountered at the interface between the glacial till and intact bedrock.

Bedrock levels across the site were proven by rotary drilling. Proven rockhead levels varied between 9.3m – 12.3mbgl. Possible rockhead levels were also encountered within the cable percussive only boreholes; these levels varied between 8.7m – 13.2m bgl. No rotary coring was undertaken at these positions. The majority of the bedrock encountered was variable and sedimentary and descriptions of the rock varied from “very weak thinly laminated grey mudstone” to “strong pale fine grained sandstone”. A thin intrusion of “strong grey dolerite was recorded between 13 – 14.1m bgl in BH07.

Groundwater monitoring undertaken post investigation has encountered relatively shallow groundwater levels varying between 1.9m – 3.28mbgl.

The contamination and gas risk assessment for the site is in the process of being undertaken and the findings of this will be reported within the final interpretative report. A separate ground gas risk assessment and hydrogeological assessment of the site will also be reported.

Basis for Design

Loads

Superimposed Dead Loads

A typical suspended services allowance of 0.75kN/m² is made.

Thin flexible floor finishes are understood to be the primary floor finish. No requirement for raised floors or thick screeds has been made for internal areas and thus no allowance is included for this item.

Additional point loads may be required for slabs over operating theatres. This criteria is still to be defined.

Live Loads

The live loads have been set in accordance with the requirements of the UK National Annex to Eurocode 1.

The following tables set out the minimum live load allowance for typical and non-typical areas in accordance with Eurocode 1. This is added to a partition allowance to give a minimum design live load for various areas in the structure. The final column in the table shows the live load that the structure has been designed for. These 'actual design live loads' are always greater than the minimum.

An allowance for internal partitions has been included in the imposed load values

Equipment Loads

Ceiling mounted equipment will generate point loads on the slab above. Additional steelwork may be needed to frame back to columns if loads are significant or tight deflection tolerances are required.

Consideration will need to be given to the means of installing heavy items of plant and equipment. Designated routes may need to be identified and designed for heavier loading to permit future removal and replacement of heavy items.

Hospital Area	Eurocode 1	Partitions	Minimum Design Live Load	Actual Design Live Load
Hospital Wards	2.0 kN/m²	2.0 kN/m²	4.0 kN/m²	5.0 kN/m²
Toilet Areas	2.0 kN/m²	2.0 kN/m²	4.0 kN/m²	5.0 kN/m²
Operating Theatres, X-Ray Rooms, Utility Rooms	2.0 kN/m²	2.0 kN/m²	4.0 kN/m²	5.0 kN/m²
Offices for General Use	2.5 kN/m²	2.0 kN/m²	4.5 kN/m²	5.0 kN/m²
Kitchens, Laundries, Laboratories	3.0 kN/m²	2.0 kN/m²	5.0 kN/m²	5.0 kN/m²
Dining Rooms, Cafes, Restaurants	2.0 kN/m²	2.0 kN/m²	4.0 kN/m²	5.0 kN/m²
Reading Rooms (Without Book Storage)	2.5 kN/m²	2.0 kN/m²	4.5 kN/m²	5.0 kN/m²
Chapel	3.0 kN/m²	2.0 kN/m²	5.0 kN/m²	5.0 kN/m²
Corridors, Hallways, Aisles	5.0 kN/m² maximum value	Nil	5.0 kN/m²	5.0 kN/m²
Stairs, Landings	4.0 kN/m²	Nil	4.0 kN/m²	5.0 kN/m²
O-zone	5.0 kN/m²	Nil	5.0 kN/m²	5.0 kN/m²
Plant Rooms	7.5 kN/m²	Nil	7.5 kN/m²	7.5 kN/m²
Substation	7.5 kN/m²	Nil	7.5 kN/m²	7.5 kN/m²
Water Storage	15 kN/m² (min)	Nil	15 kN/m² (min)	15 kN/m²
A&E Department	4.0 kN/m²	Nil	4.0 kN/m²	5.0 kN/m²
External Roof (no plant)	1.5 kN/m²	Nil	1.5 kN/m²	1.5 kN/m²

Handrails and Barrier Loads

Stairs, Landings, Corridors: Lateral Load

- Uniform Line Load applied to handrail - 0.74kN/m
- Applied uniformly to infill - 1.00kN/m²
- Point load applied to balustrade infill - 0.50kN
- Each load is applied independently and at the position as noted in the standard.
- O-zone Areas: Lateral Load
- Uniform Line Load applied to handrail - 1.50kN/m
- Applied uniformly to infill - 1.50kN/m²
- Point load applied to balustrade infill - 1.50kN
- Each load is applied independently and at the position as noted in the standard.

Wind and Snow Loads

The wind and snow loads have been determined in accordance with the UK National Annex to Eurocode 1.

The site fundamental basic wind velocity vb,map =24.5m/s.

Note that the minimum roof access load to be accounted for of 1.5kN/m2 will generally govern over the snow load.

Deflections

In order to ensure that slab edge deflections are within acceptable limits, vertical deflection of the concrete floor is to be limited. Generally, the deflections will be limited as per the following table.

- Deflection due to imposed load (typical) Span/360
- Deflection due to imposed load for beams supporting masonry Span/500
- Deflection due to dead and imposed load (roofs generally) Span/200
- Deflection due to dead and imposed load for floors and roofs with non-flexible finishes Span/250

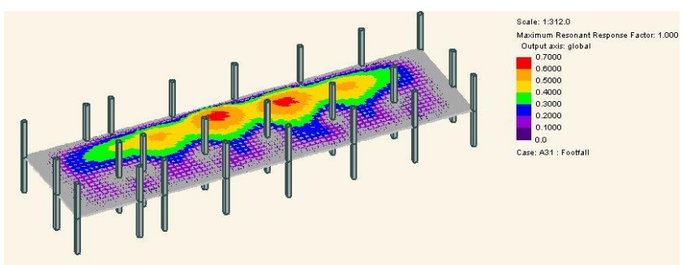
Vibrations of Floors

Designing the structural floor slabs and frame to meet the requirements of HTM 08-01 has a significant impact on the structure. The requirements of HTM 08-01 supersede HTM 2045 and for the wards are slightly less onerous than the previous requirements of HTM 2045.

The following response factors should be achieved (HTM 2045 values):

The RF's which drive the design are those for wards and theatres.

In general, footfall induced vibration is not critical in the design of plant room slabs. In these areas, mechanical services plant and equipment should be suitably isolated from the building structure in order to prevent the transmission of vibration. Guidance on the satisfactory magnitude of building vibration with respect to human response is given in BS 6472.



The plant isolation designer should ensure that the above acceleration limits are not exceeded. Where plant areas are directly above theatre areas, it is prudent to consider that sensitive equipment may be suspended from the theatre ceiling. For this reason the plant room slabs directly above theatres are to be checked for a response factor of R=2.0.

Codes of practice

All structural elements are designed in accordance with the following standards:

- Eurocode 0 – BS EN 1990:2002 – Basis of design (+A1:2005);
- Eurocode 1 – EC1/ EN1991 Actions on structures;
- Eurocode 2 – EC2/EN1992 Design of concrete structures;
- Eurocode 3 – EC3/EN1993 Design of steel structures;
- Eurocode 4 – EC4/EN1994 Design of composite steel and concrete structures;
- Eurocode 5 – EC5/EN1995 Design of timber structures;
- Eurocode 6 – EC6/EN1996 Design of masonry structures;
- Eurocode 7 – EC7/EN1997 Geotechnical Design;

BS 8500-1:2006 - Concrete: Complementary British Standard to BS EN 206-1. Method of specifying and guidance for the specifier;

BS 8500-2:2006 – Concrete: Complementary British Standard to BS EN 206-1. Specification for constituent materials and concrete;

BS 8102:2009 – Code of practice for protection of below ground structures against water from the ground;

Materials

Concrete Strength Class:

Substructure and suspended slabs C32/40

In situ columns and walls C40/50

Reinforcement: High Yield deformed 500N/mm2

Structural Steelwork: Grade S355

Finishes: Exposed concrete in accordance with Architects drawings.

Civil & Structural Drawings

The following sections should be read in conjunction with the scheme design stage Civil and Structural drawings included in Appendix A1:

- 209592-00-RHSC(20)SI 001 Structural Isometric South West View
- 209592-00-RHSC(20)SI 002 Structural Isometric North West View
- 209592-00-RHSC(15)SP001 General Arrangement Basement Level
- 209592-00-RHSC(20)SP001 General Arrangement Ground Floor Level
- 209592-00-RHSC(20)SP002 General Arrangement 1st Floor Level
- 209592-00-RHSC(20)SP003 General Arrangement 2nd Floor Level
- 209592-00-RHSC(20)SP004 General Arrangement 3rd Floor Level
- 209592-00-RHSC(20)SP005 General Arrangement Roof Level
- 209592-00-RHSC(20)SS001 Structural Sections Sheet 1
- 209592-00-RHSC(20)SS001 Structural Sections Sheet 2
- 209592-00-RHSC(20)SS001 Structural Sections Sheet 3

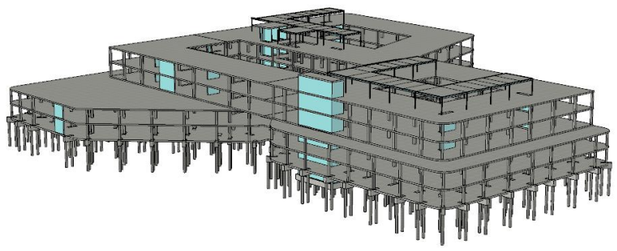
Foundations and Substructure

The ground conditions, in conjunction with the loads which result from the size of the building and proposed grid, dictate the use of a piled foundation solution. This will consist of a large diameter bored pile solution. This is selected to suit the ground conditions but also to minimise disturbance to the adjacent RIE facility.

A series of pilecaps and suspended ground and basement floor slab will carry the superstructure loads back to the underlying strata. The intention is to keep foundations & pilecaps as high as possible given the high ground water found to be present on the site. This will minimise site excavations and temporary works dewatering requirements.

There are basement corridors and plant spaces required beneath parts of the building footprint. This will be required to be a Grade 3(habitable) basement construction designed in accordance with requirements of BS8102 and CIRIA 139. The use of a combined protection solution is proposed with one of these measures being the provision of a structurally integral reinforced concrete box.

The basement and ground floor slabs will consist of a 400mm to 500mm thick suspended reinforced concrete slab spanning between pilecaps which are typically 1200mm depth. The slab will generally be constructed on top of the pilecaps at ground floor level but is integrated with the basement slab. This is to enable the coordination and construction phasing with the below ground drainage to the ground floor slab. There will be no drainage penetrations into the basement slab as gravity drainage from this level is not feasible in any case.



Superstructure

The structural grid has been based on a typical bay widths of 6.6m and 8.4m at up to 8.4m spacing. This results in a maximum individual bay size of 8.4m square. Typically there may be at least a double bay arrangement through all parts of the building. Deeper floor plates occur at the lower floor levels.

During the concept design stage a number of structural options were considered, including the use of steel versus concrete. These were used as the basis for a number of cost comparison exercises. The optimum frame solution was determined to be a concrete frame, either reinforced concrete flat slab or a post tensioned concrete flat slab1.

A post tensioned solution has been developed as this offers the advantage of the smallest structural depth (typically up to 325mm thickness) with good control of deflections and vibrations and a flat soffit which benefits services distribution and partition head fixings. This has been developed as the structural solution for the upper level suspended slabs (ground floor and basement slabs will be normal reinforced concrete).

A structural holing strategy has been developed for the post tensioned and reinforced concrete flat slabs (refer Arup drawings 209592 – (SK)ST 027 to 031. This zones a typical bay into different categories with respect to forming openings. The most critical zone around the column locations can only accommodate small openings of restricted numbers designed at the outset. The only penetration which will therefore occur in these zones are for the internal drainage stacks.

The use of en-suite prefabricated “bathroom” pods has been allowed for in the scheme design by assuming a 50mm recess could occur into the top of the slab. The actual recess depth (up to 50mm) will be dependent on choice of pod manufacturer.

All of the significant services openings are being designed into the primary structure at this stage. By establishing these at the outset allows their inclusion in the most appropriate manner. Where major service penetrations are required close to column locations then these are achieved by the introduction of additional structural walls or columns. In view of the buildability aspects, additional vertical structure is preferable to the introduction of downstand beams framing the openings.

The oversailing building near the A&E entrance is supported on a double height colonnade. It is likely that the SE corner column may be omitted at ground and first floor level to allow vehicle drop off to occur beneath. The support to this corner will then be provided by steel diagonal ties within the adjacent bays.

Building Stability & Movement Joints

Movement joints are considered essential to control movements in the superstructure. However, these do not need to be reflected through to basement level (and indeed it is desirable to avoid this). Movement joints are provided by the introduction of a double column arrangement supporting the slab to each side of the joint. These columns do, however, share a common foundation. Two main movement joints are provided essentially splitting the frame into three distinct structural zones. The movement joint lengths are minimised by splitting the structure through the O-zone atrium in a north –south direction and from the O-zone through the north eastern courtyard to the eastern facade of the building in an east-west direction. These are shown in the structural general arrangement plans. The final location of the movement joints will be coordinated with the Architectural layouts to avoid areas such as operating theatres and kitchens where they may cause microbiological hazards because of water or grease penetration.

Stability is provided for each of the three structural zones by the presence of stiff shear walls. These stiff elements are carefully positioned to ensure they are compatible with the superstructure frame solution. This is of particular significance for the post tensioned slab to ensure that very stiff concrete elements are not located at opposite ends of the building. This is counterproductive when trying to add a post tensioning force. The concept is to provide a single stiff core structure to each structurally independent portion of the building. Additional stability walls then required to resist the loads applied to the building are provided by concrete walls which are stiff in one direction only.

The plant level enclosures on the roof adopt a lightweight steel framed solution with lightweight wall and roof finishes. This minimises loading to the upper level slabs. The resulting scheme is considered to represent the best value for money and fits the available construction programme requirements and the range of loadings.

Progressive Collapse

Progressive collapse regulations apply to all buildings. In this scheme most of the elements can be considered in a fairly normal way i.e. the building will be able to withstand the loss of a column by means of the slabs spanning, albeit with large deflections, to adjacent columns.

[1] Arup, Structural Frame Options, Royal Hospital for Sick Children, February 2010.

Infrastructure Studies

Flood Assessment

An initial drainage and flood risk review has been undertaken.2

The vast majority of available evidence suggests that the site may be, or has been in the past, within the zone, SPP would regard as, at high risk of flooding from a number of mechanisms. In this regard, the Niddrie Burn, which passes 25m south of the site, is known to have a history of over-topping. The burn channel was initially created to contain the water in a 100 year flood event. A raised flood defence area was created 2-3 years after construction of the RIE. This creates a bund between the water course and the RIE. It has been suggested that the bund size was based on the amount of excess material available on site rather than to a definitive level.

A catchment wide flood study of the Niddrie Burn from the Pentland Hills South of Edinburgh to the coast at Eastfield was obtained through CEC. The RHSC development is critical infrastructure and as such the design needs to address the 1000 year flood event (i.e. the flood event with a 0.1% chance of occurring in any given year). The Niddrie Burn Catchment study only goes up to 200 years plus climate change, so in order to determine the 0.1% flood levels, further modelling work has been undertaken.

The results suggest that the 1000 year level generally remains within the overall channel confines except for a relatively localised area near the A&E access bridge. Possible mitigation measures could be the introduction of a low level flood wall to this part of the bund.

Drainage Assessment

In the present regime, the surface water from the existing car park is collected by perforated pipes within the porous sub-base of the parking bays. From here, it is discharged to the main surface water system which carries it under the main RIE entrance, under the maternity ward, to a swale in front of the existing Consort offices. The surface water finally discharges to the Niddrie Burn.

The Scottish Water record drawings indicate a 375mm diameter combined sewer crosses the Western portion of the site running from the southwest. This is named as “The County Sewer”.

At the Southern end, three larger diameter combined sewers enter the site. These sewers are up to 1200mm diameter and require diversion ahead of the RHSC site start.

Below ground surface water drainage

In accordance with current best practice, the development will be served by separate foul and surface water drainage systems, and incorporate Sustainable Drainage System (SuDS) facilities.

Due to the nature of the development, the surface water SuDS will be expected to provide one level of treatment to the roof and two levels to the associated access roads and parking areas.

This will include below ground attenuation storage features and a flow control device to limit surface water discharge to the surrounding surface water drainage network.

Below ground foul drainage

Initial consultation has now taken place with Scottish Water and an agreement is in place to allow the foul discharge from the proposed hospital to connect into The County Sewer. This is subject to remedial works taking place on the Scottish Water network out with the site.

Roads and hardstandings

The proposed development includes realignment of the existing road network. The basis of these alterations is described in the Transportation section of the scheme design report.

The access roads and car parking are designed and specified to meet the adoptable standards to the satisfaction of City of Edinburgh Council.

[2] Arup, Proposed New Royal Hospital for Sick Children (RHSC), Drainage Impact Assessment and Flood Risk Assessment, May 2010

Transportation Development Proposals

Transport Summary

In order to accommodate the RHSC proposals, modifications to the provision of the A&E facilities, public transport arrangements, parking / drop-off areas and pedestrian / cycle facilities are required. These revisions include:

- A re-configured blue-light route to the re-modelled A&E area;
- New and re-configured pedestrian facilities at both the west and east entrances of the RIE to facilitate safe access / egress;
- A re-configuration of the current disabled parking provision and drop-off areas at the western and eastern entrances of the RIE;
- A re-positioning of the bus halts at the western RIE entrance to a position west of their current location;
- A re-alignment of the rear 'loop' road around the back of the RIE. Note, the final design for this has still to be agreed;
- New bus lay-bys located along the re-aligned 'loop' road to the east of the RIE to accommodate 'through' bus services;
- New bus-bys located immediately in front of the RIE east entrance to accommodate 'terminating' bus services. This will include provision for a signal controlled bus turning facility and pedestrian crossing, thus helping to ensure safety of all road users;
- Relocated access / egress junctions for Car Parks 'C' and 'D' on the eastern side of the RIE;
- Re-configured junctions along the 'loop' road to safely accommodate the expected increase in the number of bus movements;
- Re-configured access arrangements to the A&E department, including ambulance bays, drop-off areas and general parking facilities. Note, the final design for this has still to be agreed; and
- A revised MRI external scanner route taken from Little France Crescent. Note, the final design for this has still to be agreed.

Refer to Drawing SK61-I1 for the current site-wide proposals (the drawing, which is for information purposes only, is based upon localised widening of the rear loop road). However, it should be noted that this does not include the proposed revisions to the A&E access arrangements, the MRI scanner access routing or the RHSC parking / drop-off area(s).

Pedestrian and Cycle Access

Pedestrian Access

Pedestrian access will be developed to ensure that the main pedestrian desire lines between the RHSC and public transport facilities, car parking and the wider pedestrian network are provided for. All pedestrian routes will be a minimum of 2m wide with increased widths provided in areas with high demand such as the route between the RHSC and RIE and around the proposed public transport facilities. Formalised pedestrian crossings will be provided where appropriate.

To complement the existing facilities, the proposals include the provision of improved footways along both sides of Little France Crescent, developed to link the RHSC entrance to revised public transport facilities which are also part of the overall development proposals.

Adjacent to the eastern RIE entrance, the pedestrian facilities will be upgraded as part of the proposals to improve the existing access arrangements into a new bus turning area. In terms of pedestrian provision, this will include extensive re-modelling of the footways linking the RIE entrance to the new bus facilities and relocated car parking. This will include formal, signal controlled pedestrian crossings with dropped kerbs adjacent to the bus areas to assist passengers to cross the road safely.

Cycle Facilities & Craigmillar Castle Road

New, secure cycle parking facilities will be provided, all of which will be well-signed and provided in accordance with CEC cycle parking standards.

Based upon site observations and in combination with comments received through the pre-application consultation process, the shared footway / cycleway to Craigmillar Castle Road currently forms a missing link within the local cycle network. The stepped footway is difficult to negotiate for cyclists and those who have mobility considerations, including pushchair users, and the alternative route along Craigmillar Castle Road to Old Dalkeith Road does not form an attractive alternative. Consequently, a scheme that originally prepared by CEC is currently being further developed to improve access to / from Craigmillar.

Public Transport Access

Summary

To accommodate buses following the stopping up of Little France Crescent it has been agreed with local bus operators that bus services will operate along the rear loop road. This provides an opportunity for buses to serve the whole of the Little France site. The new bus infrastructure will include:

- New bus lay-bys adjacent to the RHSC and the QMRI building;
- New bus lay-bys adjacent to car park D;
- A new bus turning area adjacent to the eastern RIE entrance (refer to Drawing SK42-I4). Note, this drawing is meant for information purposes only; and
- Localised improvements to the rear access road.

Proposals to ensure that a two-way bus route can be accommodated on the existing circumferential route around the rear of the site are in the process of being finalised. This will require junctions to be altered as well as localised road widening to ensure the safety of all road users.

The tracking of bus service vehicles has been checked to ensure safe access and manoeuvring. Consultation on Public Transport provision for the relocation of the RHSC has been carried out in conjunction with CEC, First Bus and Lothian Buses with further discussions had with the remaining site operators. This consultation exercise centred on the provision of suitable public transport infrastructure on both the east and west sides of the re-developed RIE site and re-routing public transport along the rear loop road.

Areas for Further Development

- The following areas are subject to ongoing further design development:
- Stability & core wall coordination with Clinical / Architectural layouts
- O-Zone floor slab edges at each level and roof over
- Connection to service tunnel from RIE
- Details of structural connection to existing RIE building at A&E drum.
- Entrance and A&E canopies

4. MECHANICAL SERVICES

Scheme Design Overview

Major Services Routes

The services to the new build RHSC works shall be derived from the existing ERI site services connections provided to the new build construction site under the separate Enabling Works Contract. The services shall be extended to serve the new build site as described below:-

Natural Gas extended to serve a separate metered supply to the New RHSC building for Steam Generator Plant located at Level 3 and any kitchen gas requirements.

Mains Potable Water to serve RHSC basement tank room for raw water treatment and filtration to SHTN 2.

Fire Main extended to serve new fire hydrants for the RHSC building in accordance with the fire engineering strategy.

Sprinkler main extended to serve the RHSC basement sprinkler tank and pump room.

Heating Medium Temperature Hot Water pumped distribution from existing Energy Centre via underground corridor to serve RHSC/ERI hydraulic break Heat Station prior to RHSC plate heat exchangers and DHWS maximisers located in Basement Heat Station plantrooms with vertical MTHW distribution to serve AHU ventilation plant rooms.

Scheme Design Plant and Accommodation Strategy

The building engineering services scheme design stage plant strategy has been developed with the design team and includes basement plant accommodation (HV sub stations, Sprinkler Tank and Pump Room, Bulk cold water storage tanks and Mains Water Filtration Plant and Booster Pumps, Heat Stations, and Medical Gases plant) , strategically placed AHU plantrooms (Level 2, Level 3 and Level 4), and ancillary plant (Water Day Tanks and Pumps, Air Cooled Chiller Units and Chilled Water Pump Room, Isolation Room En Suite Extract Fans and 3mtr high discharge stacks and safety cabinet/isolator extract fans and discharge stacks). Refer to HK RHSC Plant and Riser Strategy Schedule and Scheme Concept Design Layouts.

Scheme Design Service Riser Strategy

The building engineering services scheme design stage service riser strategy has been developed with the design team and includes strategically positioned dedicated mechanical pipework risers, dedicated ventilation ductwork risers, dedicated dry risers, dedicated smoke extract risers and dedicated electrical service risers, all of which are vertically aligned throughout their length to allow off-site modular pre-fabrication of risers which can be dropped in through roof openings without obstruction.

The pipework and electrical service risers have sensible connectivity to associated basement and rooftop plantrooms as well as department circulation route corridors through which off-site pre-fabricated combined service modules shall also be distributed. Refer to HK Scheme Design Layouts.

Utilities and Infrastructure Layouts

Existing External Services and the implications of the new RHSC building on the existing services have been collated and referenced in HK report External Services External Services Diversion and Infrastructure Options Version 2 dated 18.12.09. Note that the building footprint and position on site will have a direct influence on the outcome of final scope of diversions required to be carried out by Consort.

This will be developed by Consort to a conclusion which shall define services diversions required and any associated enabling works. In addition, the RHSC new service connections (mains water, sprinkler mains water, natural gas , power, various comms interfaces) will also be developed and identified.

In addition, HK have produced an Electrical Services Infrastructure Option Appraisal Report as requested by NHS Estates Facilities Management which sets out the various practical options for servicing the RHSC building with a suitable HV power supply and standby power generation provision.

A Water Impact Assessment has been carried out by Scottish Water (One Source) to assess the impact of the additional mains water supply demand to the site to serve both the new RHSC and the DCN development. Their report (April 2010) confirms no Scottish Water upgrades are required for this development to proceed.

Energy Considerations

The building engineering services design shall be developed as far as is practical to provide a passive low energy Hospital without detriment to reliability of service or comfort to the patient and staff whilst complying with all statutory legislation. A pro-active design shall be focused on patient and end user requirements whilst ensuring ease of operation and maintenance.

The building form has large areas of external facade allowing maximum use of daylight on external and courtyard facades with minimum direct solar penetration. Solar Control Glass will be provided on southerly and westerly facing facades exposed to direct sunpath to reduce solar gain and minimise solar glare. The large courtyards allow use of natural ventilation reducing the requirement for supplementary mechanical ventilation where function permits.

Integral to the Building Design Process shall be the development and adoption of measures which shall reduce the impact on the environment. By continually monitoring the design against the BREEAM Healthcare 2008 Assessor scoring and rating manual, a Building Design solution shall be provided which assists with the aims to establish an excellent score rating.

In accordance with the BREEAM strategy the design philosophy shall incorporate features which reduce carbon emissions, reduce water use and improve energy efficiency. Materials selected shall be graded in terms of environmental cost and impact on the embodied energy and life span of the buildings.

Credits shall be achieved by the use of energy efficient heating and ventilation systems and lighting and power systems. This shall be reinforced by effective monitoring/metering of plant and systems.

Our design approach with respect to Energy Efficiencies adopts the guidance as provided under HTM 07-02/EnCO2de – making energy work in healthcare.

In addition our services design solution shall comply with 2007 version of Section 6 of the Building Regulations Scotland and aim (within the constraints of the existing site and already dictated heating energy supply mix) to comply with the Edinburgh Standards for Sustainable Building Priority Standard 1 and 2 which requires further significant carbon emissions reduction compared to the minimum Section 6 requirement as well as on site energy generation through Low and Zero Carbon Technologies. In order to achieve these aims, we have set out the following building design principles from which our Energy Strategy and Concept Design Dynamic Simulation Model will evolve:

- Targeted Section 6 reduction in CO2 of 23% to 28% versus a notional equivalent building, and a further significant reduction associated with the Edinburgh Standards for Sustainable Buildings Priority Standards 1 and 2, with provision for on site LZCT Energy Generation.
- Envelope U Values (roof/external walls/floor/glazing) - these should be at least 20% better than the minimum Section 6 2007 version backstops.
- Building Airtightness - this will be designed and constructed to achieve a minimum of 7.5 m3/m2/hr at 50pa. This means that the building will need to be pressure tested upon completion.
- On site LZCT Energy Generation via gas fired Combined Heat and Power Engine sized for continuous running associated with heating base load. The CHP engine shall be supplied and installed within the existing ERI Energy Centre by Consort
- Solar Control glazing on South and West facades exposed to direct sunlight to reduce cooling loads and internal summertime temperatures.
- Heat Recovery to AHU plant.
- Inverter Drives to AHU motors and Circulation Pumps.
- Occupancy/presence detectors in conjunction with automatic lighting controls.

- Comprehensive Metering, Monitoring and Targeting system.
- Building Energy Management System (BEMS)
- Natural Ventilation via openable windows where function permits and where briefed maximum internal temperatures can be achieved with all known constraints.
- Energy Efficient Transportation Systems (Lifts).
- Voltage Power Optimisation (VPO)

Environment

The Building Services shall be integrated with the building design to provide a design solution which will provide an environment to support the well being of staff, visitors and patients. Key components of the design solution:

Large glazed areas providing good external awareness supported by large landscaped courtyards.

Large glazed areas combined with large courtyards to provide good natural daylighting.

Solar Control Glass on south facing windows selected to provide good daylighting and natural colour rendering whilst minimising direct solar radiation and glare .

Adjustable user controls where appropriate.

Cooling to patient and staff areas where required to limit the maximum summer temperatures and control range temperatures as appropriate to room type in accordance with WHTM 2025 and HTM 03-01 guidance.

Openable windows (even where mechanical ventilation is provided) but only where function permits.

Heat Source

The main heat source for the new RHSC Hospital shall be provided by the existing ERI energy centre MTHW heating. The extended MTHW mains shall generate Medium Temperature Hot Water design flow temperature at _____C with a return of _____°C. [TBC by Consort]

Steam Generation

The steam requirements of the humidification shall be provided by 2 No. duty/standby gas fired steam generators provided within the level 03 plantroom. This plant shall provide steam to AHU humidifiers on the following AHUs:-

Critical Care Department AHU plant

- Theatre AHU plant
- Theatre Recovery AHU plant
- Radiology Department AHU plant
- Pharmacy Department AHU plant

Heating Service Distribution

ERI MTHW shall be hydraulically separated via plate heat exchanges with secondary RHSC MTHW mains circulating hot water at 105°C flow and 80°C return (tbc) to 3 no. RHSC heat stations, domestic hot water maximisers and air handling units within the New Hospital. Heat Station and DHWS Plantrooms shall be located in the basement. Pumps shall be provided with inverter drives. All secondary VT and CT pump circuits shall operate on a variable volume flow regime. AHU MTHW secondary circuits shall operate on a variable volume flow regime.

Plate heat exchangers shall be used to convert MTHW/low temperature hot water to serve heat emitters within the various departments, zoned to match orientation. Space heating shall generally be provided by ceiling radiant panels, with stairwells provided with radiators. Entrance doors shall be provided with LTHW warm air door curtains. The entrance area (ozone) shall be provided with underfloor heating.

Mechanical Ventilation System

The ventilation systems to the Hospital shall be designed in accordance with Hospital Technical Memorandum SHTM 2025 and guidance within HTM 03-01. Ventilation shall be provided to suit both the operational and statutory requirements of the development. Although the development will be designed to maximise the use of natural ventilation, it is intended that rooms will not be reliant on natural ventilation alone, unless they comply with maximum temperature limits listed in HTM 03-01, i.e. internal temperatures in patient areas shall not exceed 28°C dry bulb for more than 50 hours per year.

To obviate problems with overheating due to 100mm opening restrictions on opening windows, it is proposed to develop into the proposals mechanical supply ventilation for the Ward Areas and to provide mechanical cooling to all tempered air supply air handling units to provide the ability to supply air temperature down to approx. 18°C at Summer design ambient criteria.

Isolation Rooms shall be provided with HBN4 positively pressurised lobbies ventilation for isolation purposes. Currently, there are 16 such Isolation Rooms.

Supply ventilation shall be provided by a number of supply air handling units located to suit the occupation and activity levels of the area being served. These air handling plants shall generally be located within the dedicated AHU plant rooms strategically placed to serve departments. Supply air handling units shall be fitted with run around coils or plate heat exchangers for heat recovery and inverter speed control for night time set back where appropriate.

A number of toilet/dirty extract systems shall be provided to extract air from the consolidated toilet cores only. Toilet extract systems shall have dual fans arranged with automatic changeover in the event of fan failure. In accordance with guidance within HTM 03-01, clause 2.10, there is no healthcare requirement to provide a separate foul/dirty extract system. We would therefore propose that a pragmatic approach shall be to provide general extract to all ward en-suite rooms, DSR rooms, Dirty Utility Rooms, etc. and only provide dedicated duty and standby Toilet Extract systems to consolidated toilet cores. General extract fans shall be provided to make up the difference in supply air volume not met by other extract systems. These clean and dirty extract fans shall be located within the AHU ventilation plantrooms.

Theatres and Theatre Recovery area, Radiology, Pharmacy, Critical Care areas shall be provided with air conditioning (i.e. cooling and humidification). Plant shall be located strategically to serve the areas they are serving where possible to minimise the length of ductwork, horizontal distribution and to provide best access for maintenance without compromising availability and clinical functionality.

Adequate access shall be provided for ductwork cleaning.

Mechanical Cooling

Our proposals include for mechanical cooling as follows:-

- Areas briefed through the Clinical Output Specification
- Areas briefed through Hospital Technical Memorandum
- Areas with high equipment and occupancy heat gains

In addition, there shall be mechanical cooling to all tempered AHU systems to allow peak lop cooling during summer months to wards and to maintain temperature control to clinical areas as defined on SHTM 2025 and HTM 03-01.

Within the Ward Areas it is proposed to provide supply ventilation to the bed ward areas, with general extract air provided from en-suites.

Mechanical cooling will be provided by roof mounted air cooled chiller plant, sized to suit the cooling loads being served at design Summer ambient conditions. Chillers capacity would be selected to match 100% cooling load at HTM 2025 design ambient conditions and to reflect the make-up of the clinical equipment loads and peak lop cooling loads being served. Chiller plant would be complete with automatic temperature scheduling control to allow operation to match load at maximum efficiency.

CFC or Halon gases shall not be used in refrigeration systems. R407c or 134a, refrigerant shall be used which is an HFC alternative with zero ozone depletion potential.

Our scheme design proposals are based on 2 No. 1000kW cooling capacity approx. air cooled chiller units located on the roof of the core area. A primary duty and standby pump set will circulate water around the chillers, with secondary AHU duty/standby pumpset and a secondary duty and standby pump set to IT Hub Rooms and other

ancillary hot spots via chilled water cassette type FCUs. Secondary pump circuits shall operate on a variable volume flow regime.

Water Services

It is proposed that the bulk raw cold water storage shall be provided within the basement. Filtered water shall be pumped to three roof mounted cold water storage day tanks which will be located to match the departments served and proposed water services zone.

Insulated cold water storage tanks shall be constructed from glass reinforced plastic split into appropriate sections installed over a bunded area and shall be fully in accordance with BS 6700 1997, SHTN", SHTM 2040 and L8. Cold water storage tanks shall provide boosted cold water feed to domestic hot water service maximisers located in heat stations and potable cold water services to the departments within the block which they serve. Cold water storage tanks shall be complete with breech pipework and electronic level control complete with integral temperature monitoring.

Low temperature hot water/domestic hot water service high output low storage domestic hot water service calorifiers (maximisers) shall be utilised to provide a domestic hot water service to the development with cold water feed pipework derived from the cold water storage tanks. DHWS calorifiers shall be fitted with anti-stratification pumps.

Safe working temperatures in the form of fail safe thermostatic mixing valves shall be provided on DHWS outlets accessible to patients, residents or visitors.

High temperature DHWS (60°C) shall be provided to staff only areas and areas with no patient access.

Anticipated TMV Provisions:

Patient Areas:

- All non-clinical basins shall be fitted with basin mounted thermostatic mixer taps which obviate the need for TMV's.
- All clinical basins shall be fitted with thermostatic levelmixer taps (IPS panel mounted) which obviate the need for TMVs.
- The exception to the above is where there shall be 'concealed waste' basins with non-clinical taps; these will be fitted with TMVs as the tap type selected shall not be thermostatic. These basin types shall be located within all toilet pods and also within assisted/disabled toilet areas.

Staff Areas

As noted above there is no requirement for TMVs at 'sink' units, however, all wash hand basins shall require a TMV or mixer tap – this is applicable to the following room/appliance types:-

- Kitchen/Restroom – stainless steel sinks/drainers – No TMV
- Dirty and Clean Utility Rooms – stainless steel sinks/drainers – no TMV (note that clinical basins in these rooms have thermostatic clinical taps)
- Changing Rooms – wash basins; these require TMV if non-thermostatic taps.
- Cleaner/DSR – janitorial sink/slop hopper/stainless steel sinks/drainers – no TMV
- Plaster Room – stainless steel sinks – no TMV
- Scrub sinks in theatres shall all have sensor flow clinical taps – these are thermostatic by default
- Clinical basins throughout staff areas – e.g. consulting rooms – these have either standard clinical taps or sensor flow clinical taps and, again, are thermostatic by default

The water services installation shall be designed in accordance with requirements of Hospital Technical Memorandum SHTM No.2027.

The water services installation shall be designed in accordance with the Code of Practice for 'The Control of Legionellae in Health Care Premises' and shall take full account of the following throughout.

Legionellae concerns including the following shall be addressed throughout the detailed design:-

- Avoidance of stagnation, stratification and dead legs in DHWS calorifiers and storage tanks.
- Maintenance of storage and distribution temperatures on DHWS pipework.
- Temperature monitoring of hot and cold water services through the BMS.
- Provision of fail safe thermostatic mixing valves close to point of use for provision of "low temperatures" in critical patient areas.
- Provision of adequate drain points and cleaning access.

Provision shall be made for chlorination.

Water filtration shall be provided to satisfy the requirements of SHTN2.

Internal Drainage

Above ground soil drainage systems shall be designed to EN 12056-2:2000 to System II criteria.

Areas with a special drainage requirement dealing with hazardous/chemical wastes shall be run in polypropylene or polyethylene as the Vulcathene System or equal.

Medical Gases

General

The medical gas installation shall consist of dedicated plant, distribution pipework, medical gas plant and alarms. The medical gas system shall be designed in accordance with the Scottish Health Technical Memorandum 2022 (SHTM 2022 and relevant parts of HTM 02-01 for current best practice guidance) and relevant room data sheets for particular service requirements. The room data sheets shall take precedence over that of the SHTM 2022 with respect to the quantity and location of medical gas outlet points, area alarms and plant alarms.

The medical gas supplies shall be derived from central or remote plant consisting of the following:

- Medical Oxygen – E.R.I. Phase 1/Phase 2 VIE compounds.
- Nitrous Oxide – central
- Nitrous Oxide/Oxygen (50/50) mixture – central
- Medical Air (4 Bar) – central
- Surgical Air (9 bar max.) – central
- Medical Vacuum – central
- Anaesthetic Gas Scavenging System – remote
- Dental Air – Local (tbc)
- Dental Vacuum – Local (tbc)

All electrical supplies to all medical gas equipment shall be provided with dedicated, essential electrical supplies.

General Distribution

The services shall be derived from central plant, with the exception of Anaesthetic Gas Scavenging, Dental Air and Dental Vacuum. The pipelines shall serve all relevant departments via mains distribution pipelines from the relevant source of supply. The distribution pipelines shall be constructed such that work can be carried out on the mains distribution pipelines without disruption to adjacent levels, for example by provision of a ring main.

Branch pipelines into each level shall be valved with further valving at departments by means of Departmental Valves (Area Valve Service Units). Areas which require further valving, such as operating and intensive care areas shall be valved in accordance with SHTM 2022/HTM 02-01 and with the appropriate number of circuits to suit outlet point provisions. Ease of access to isolating valves is essential and should be taken into consideration during design.

Identification labels shall be provided for all plant items, isolating valves and AVSUs.

Final connection to items provided and installed outwith the medical gas package, for example bedhead trunking, ceiling mounted pendants, etc. are to be carried out by the Specialist Medical Gas Contractor up to a designated interface point.

Bulk Liquid Oxygen Storage Facility (VIE)

The new installation shall be served with a resilient oxygen supply from the adjacent site VIE to be relocated.

Nitrous Oxide

The nitrous oxide installation shall consist of an automatic changeover manifold and emergency standby manifold, located within a suitably constructed manifold room, constructed in accordance with the SHTM 2022. The manifold room shall also have facility for storage of spare (full) cylinders, adequate for replacing one bank for each of the automatic and emergency manifolds.

The manifolds shall serve all relevant departments via mains distribution pipelines.

Nitrous Oxide/Oxygen (50/50) Mixture

The nitrous oxide/oxygen (50/50) installation shall consist of an automatic changeover manifold and emergency standby manifold, located within a suitably constructed manifold room, constructed in accordance with the SHTM 2022. The manifold room shall also have facility for storage of spare (full) cylinders, adequate for replacing one bank for each of the automatic and emergency manifolds.

The manifolds shall serve all relevant departments via mains distribution pipelines.

Medical Air (4 Bar)

The medical air installation shall consist of a fully automatic duplex medical air plant. The plant is to consist of duplex air receivers, duplex dryer module, including; filters, dryers and pressure reducing valves and a quantity of screw compressors selected to meet the diversified design flow, plus (tbc) percent additional capacity. The medical air plant shall be housed within a suitably constructed plantroom, constructed in accordance with SHTM 2022.

The medical air plant shall serve all relevant departments via mains distribution pipelines.

Surgical Air

The surgical air installation shall consist of fully automatic duplex surgical air plant, capable of delivering compressed air at a pressure of 9 bar g. The plant is to consist of one receiver, dryer, pressure reducing valve and screw compressors suitable to meet the diversified flowrate plus (tbc) percent additional capacity. The surgical air plant shall be housed within a suitably constructed plantroom, constructed in accordance with SHTM 2022.

The surgical air plant shall serve all relevant departments via mains distribution pipelines.

Medical Vacuum

The medical vacuum installation shall consist of a fully automatic duplex medical vacuum plant. The plant is to consist of duplex vacuum receivers, duplex bacterial filters and a quantity of vacuum pumps selected to meet the diversified design flow, plus twenty-five percent additional capacity. The medical vacuum plant shall be housed within a suitably constructed plantroom, constructed in accordance with SHTM 2022.

The medical vacuum plant shall serve all relevant departments via mains distribution pipelines. An adequate provision of drain valves shall be provided at the base of risers and at other points as deemed necessary.

Anaesthetic Gas Scavenging Systems

The Anaesthetic Gas Scavenging Systems (AGSS) shall be provided to match the provision of AGSS outlets not exceeding 20 outlets on each circuit. The AGSS shall be designed and installed in accordance with BS EN 737-2 : 1998 and BS EN 737-4 : 1998. Each blower unit shall be duplex in configuration and operate continuously. Each blower will be monitored by the BMS while alarm conditions will be displayed on area alarm panels in the relevant department.

The individual AGSS plant(s) shall serve all relevant departments via mains distribution pipelines. Additional lockable line valves are to be included to allow adequate provision for maintenance.

Area Alarm Installation

Area alarm panels shall be located downstream of the final AVSU. Pressure switches should be fully accessible for maintenance and be preset at the factory. The alarm panel installation shall be compatible to allow for installation of a central monitoring system. The central panel(s) shall indicate a general fault condition from the area alarm which is indicating a fault condition.

Plant Alarm Installation

Plant alarms shall be provided in accordance with SHTM 2022 and monitor all medical gas plant, except the AGSS plant. The master plant alarm panel(s) shall be located within a 24 hour manned station (e.g. reception, security room, etc.) and if required the master panel(s) shall mimic the alarm signals at repeater panel(s) in the designated areas. The plant alarm installation should be flexible to allow ease of installation and modification and/or expansion with minimal disruption.

The plant items and master panels shall have a facility to allow connection to the Building Management System (BMS). This facility is only to be used for monitoring purposes and not for announcing an alarm condition.

Testing and Commissioning

Testing of the medical gas installation shall be carried out in accordance with SHTM 2022. The specialist medical gas contractor shall perform all tests, the tests being witnessed by a suitably qualified person (SQP). All Plant items shall be tested in the factory and witnessed by the SQP. On completion of all contractor tests the SQP shall appoint a Quality Controller to perform purity and identity checks on the medical gas installation.

On completion of the testing and commissioning the specialist medical gas contractor shall provide all necessary Operating and Maintenance Manuals, including, but not limited to test certificates, schematics, as installed drawings and training of FM personnel, this forming one element of the briefings to the end users staff.

Fire Strategy

Fire Hydrants shall be positioned around the new RHSC in accordance with the Arup Fire Engineering Strategy. Dry riser installations shall be provided as required to satisfy the requirements of the Fire Officer and the Arup Fire Engineering Strategy.

Smoke ventilation to the ozone areas shall be provided by natural means if possible – tbc with the FE Strategy.

Sprinkler protection shall be provided to the whole hospital as required by the FE Strategy:

Sprinklers shall be provided with tanked storage and pumps to provide Ordinary Hazard Group I protection.

Dry Risers

Three off inter-connected dry riser installations will be provided as required to satisfy the requirements of the Fire Strategy. Additional spur branches to dry riser outlets shall be extended along fire protected corridors used to provide 60m fire fighting distances to all areas.

Stairwell Smoke Vent AOVs

There shall be three off head of stair automatically opening ventilators (i.e. one per stair) including fireman override switches at ground access level of each stair. Each AOV shall provide 1m2 of measured throat area ventilation.

Fire Fighting Stairwell Lobbies Smoke Extract Systems

The systems shall meet the requirements of the FE Strategy. Three such systems are required, one for each fire fighting stairwell/lobby, each of which comprises smoke AOVs on basement, ground, first, second, third and fourth levels with Duty and Standby smoke extract fans at roof level.

The "Coltshaft" methods of compliance shall be utilised for these systems.

Basement Corridor AOV Systems

The basement service corridor shall be provided with natural ventilation inlets/outlets with fresh air flow via ground floor lightwells with windcatcher terminals ducted to AOVs. This shall comprise corridor wall mounted automatic louvred ventilators (adjacent to lightwells above) to operate under the dictates of the BMS control and alarm regime.

(Note – this is not a Fire Engineering Smoke AOV System).

Head of Atrium/Ozone at Main Entrance AOV System

The ozone shall be provided with a smoke control system as per the Fire Engineering Strategy which shall allow hot combustion gases to be exhausted from high level with the atrium make up air at low level. This approach will be based on design guidance of SFPN 5 and supplemented as appropriate with fire engineering literature regarding smoke control systems.

[Fire Engineering Guidance TBC]

Building Management System

BMS strategy description

It is intended to provide a fully operational BMS including all necessary controls and cabling.

The system will provide the following:

- Compatibility with the ERI existing BMS system.
- a network of addressable outstations with distributed intelligence, allowing each outstation to continue effective control of it's local plant in the event of a network failure. Interrogation and adjustment of parameters may be carried out locally or remotely via the BMS communications network. A centrally located 'head end' computer shall form the main access to the system.
- Links to alarm status of the fire alarm system, medical gas alarm, CCTV and security systems ,lift installations sprinkler system and smoke control systems.
- monitor and control domestic water systems, heating systems, chilled water systems, ventilation and air conditioning systems to provide optimum performance.
- record all alarm and fault conditions and plant breakdowns with the facility to archive data. Alarms will be categorised (minimum of 5 levels) depending upon their criticality, with user defined routing and annunciation options for each. The BMS head end shall be capable of accepting alarms directly from controllers, or generating alarms based on evaluation of data in controllers and comparing to limits or conditional equations configured through the software. Any alarm (regardless of its origination) will be integrated into the overall alarm management system and will appear in all standard alarm reports, be available for operator acknowledgment, and have the option for displaying graphics, or reports. All alarms are recorded in an alarm history log, which can be reviewed or archived to suitable media.
- operate pumps, fans, electric motors etc., on a programme to achieve equal wear and tear to maximise the plant life. Sequence starting of motors to limit incoming current. Maintenance interval alarms shall be interfaced with the planned preventative maintenance system.
- monitor and record energy and water consumption.
- take alarm signals from medical gas installation plant alarms for information/monitoring purposes.
- in the event of a fire, the system shall shut down plant in accordance with the Fire Strategy via hardwired interlocks. The hardwired fire shutdown strategy shall be mimicked in software to prevent nuisance alarms.
- the system shall comprise a BMS head end and sufficient remote outstations, with the facility for read only access by the Board .
- permit plant/system operating time changes to meet clinical/operational needs.
- a decentralised machine control centre per plant system approach will be adopted for resilience.
- The system shall be tolerant of mains failure and retain memory for at least 72 hours on internal battery.

Benefits of approach

By providing a BMS which will control and monitor the mechanical and electrical systems and interface to other equipment and systems as necessary, it shall be capable of maintenance and energy management routines and also logging events for trend analysis – either integral as a part of the BMS or linked to a separate Energy Management System (EMS).

The system shall:

- have distributed intelligence for local control autonomy and resilience
- be fully networked so parameters may be monitored and set-point adjustments made from a central location in the Hospital.
- BMS design philosophy shall be based on minimising site cable systems and employing the use of intelligent software interfaces where possible.
- be in accordance with all relevant industry regulations
- provide plain English and graphic/pictorial representations of system parameters
- use appropriate network protocols to ensure inherent flexibility to minimise whole life costs.
- modularised design to maximise off site pre-fabrication and speed construction on site

Correct application of appropriate open protocols and cabling standards shall allow the sub systems to be integrated for the whole life benefits of coherent and holistic facility management. The BMS shall utilise a network of standalone direct digital controllers associated with each equipment/plant system as indicated in the relevant system architecture drawing. Controllers shall communicate using an open communication protocol in accordance with ISO 16484-5 and CEN TC247 at management and automation levels.

Use of open protocols will also allow the integration of plant manufacturer's bespoke controllers/control strategies where applicable.

The BMS shall consist of traditional distributed intelligent outstations positioned locally to the equipment controlled. The outstations shall be sized and located to provide full coverage of the building services to be monitored and controlled. These outstations shall be networked together using an open protocol and industry standard wiring topology. This strategy shall therefore cater for evolving needs without disproportionate costs being incurred for small additions to capacity. The BMS field bus will communicate on a 'peer to peer' network level with frequency inverters to allow full bi-directional data transfer to eliminate BMS point duplication and provide more efficient performance, monitoring, alarming and metering.

The BMS will include the facility to monitor intelligent utilities meters via an industry standard protocol interface whereby all available metering information will be available on the BMS.

Intelligent outstations shall provide hour run monitoring and automatic duty sharing and changeover on failure of twinned motor drives. Separate time zones shall be provided for plant and areas having differing occupancy patterns. Self-learning predictive routines shall pre-start plant in the minimum time before scheduled occupancy, whilst achieving the desired conditions, shall be implemented extensively.

A BMS supervisor terminal and printer will be provided within the FM office. All BMS terminals are to be backed by UPS for uninterrupted use during complete site power fail conditions. A laptop PC loaded with appropriate software will also be provided for engineer

diagnostic/control access to outstations within plantrooms during maintenance activities.

Information in the form of alarms, trend logs and dynamic graphics shall be provided in an ergonomic, easy to use and consistent format. The graphics shall be layered in a coherent hierarchy to enable the user to 'drill down' from strategic overview graphical pages to more detailed specialised graphics dedicated to smaller areas and particular systems. Engineering 'user summary pages' shall serve up condensed data in tabular form for use by maintenance staff in identifying problems by exception.

Adequate spare capacity shall be allowed for future expansion and additional monitoring that may be identified during the evolution of building use through its whole life. Appropriate adoption of IP protocols shall greatly enhance flexibility and future readiness of the installation.

Energy monitoring

Addressable electronic meters reading electrical power consumption shall be provided in lieu of the pulsed output type. This would enable the BMS to automatically produce accurate recordable reports (monthly or as required) to monitor electrical energy usage. These reports can highlight trends in each area e.g. ± 10%, from the established norm; to prompt investigations as necessary. The meters have a non-volatile memory i.e. retains last reading until power is restored after power outage.

All data re energy monitoring shall be stored on the BMS or other integrated energy metering, monitoring and targeting software which is to be downloaded into reports as designated by Project Co in order to carry out the duties of the energy committee. The BMS headend shall be fed by a UPS.

General

The system including outstations, shall be tolerant of mains failure and retain memory for at least 72hours via UPSD or internal battery back up.

Pneumatic tube system (PTS)

A pneumatic tube system to facilitate the transportation of records, samples and drugs between the departments shall be provided to suit the brief (tbc).

The system will be fully automatic and incorporate the following features:

- allow any station to send and receive from any other station
- the user inserts a carrier into the station, selects destination and the transaction is then guided by computer.
- the computer control system shall be PC compatible and control all functions automatically.
- the system will allow graphical tracking of all transactions on a computer monitor and retain complete records of all transactions.

The system will be able to transfer (?) carriers per hour (global traffic movement capacity) at peak operational times. The carriers will be sized as required by the operations set out in the Clinical Output Specifications, with a minimum diameter of ???. The time to transport carriers between stations should not exceed (?) minutes.

Further guidance on the design of such systems can be found in HTM 2009.

NHSL to confirm briefing for PTS system and ERI interfacing.

5. ELECTRICAL SERVICES

Mains & Standby Power Distribution

An option appraisal was carried out by Hulley & Kirkwood on behalf of NHS Lothian to review the various options available for providing mains and standby power to the RHSC building. The preferred option is to build a new energy centre remote from the RHSC building in the vicinity of the existing RIE energy centre. The new energy centre will house the main 11kV switchboard and standby generators which will be dedicated to the RHSC building.

The electrical supply to serve the RHSC energy centre shall be derived from the existing RIE 11kV Network. There are two spare circuit breakers on the existing main 11kV switchboard in the RIE energy centre which will be used to supply the RHSC energy centre switchboard.

New 11kV standby generators will be installed in the RHSC energy centre and will be dedicated to the RHSC building. The generators will be connected to a dedicated generator switchboard and two feeders will be taken from this to the new 11kV switchboard in the energy centre.

A new 11kV ring main will be derived from the new switchboard to supply two sub-stations in the RHSC building.

It is understood that the works associated with the new energy centre, switchgear, standby generators and cabling to the RHSC building will be carried out as part of a separate contract by Consort Healthcare.

HV Distribution

An 11kV supply will be taken from the existing RIE main switchboard to supply a new switchboard in the RHSC energy centre. The network shall be designed in an effort to provide safe, reliable and economical operation. The electrical equipment shall be rated to carry continuously the maximum load associated with peak design load, taking cognisance of both dynamic and static load types. Equipment shall be selected to accommodate the peak load, making current and rated short circuit current on a worst case parallel mains scenario.

Busbar arrangements at sub-stations shall be designed to be operationally flexible and safe, permitting loads and power supplies to be effectively connected under scheduled and unscheduled outages of circuits and busbar sections.

To provide increased resilience at the primary 11kV switchboard a mid point interconnector shall be incorporated. This will allow continuity of supply should one half of the switchboard develop a fault.

Circuit breakers on the primary 11kV switchboard shall be selected not only on the basis of normal operating current, but also on the maximum current the breakers will have to carry momentarily, together with the current they may have to interrupt on line. Vacuum shall be the insulation medium which has the ability to rapidly recover the dielectric strength after a discharge and has short arc duration making it suitable for important design parameters such as fault current interruption, capacitive/inductive current switching, life contact expectancy, rate of rise of recovery voltage and low maintenance.

The 11kV secondary switchgear in the RHSC building will be selected to suit the design proposals for the 11kV distribution network and will either be circuit breaker panel boards or ring main units. The most appropriate type of switchgear and protection equipment will be selected to match the design philosophy of the network.

The protection philosophy adopted on the HV network shall be designed to prevent damage to plant and personnel by ensuring rapid disconnection in the event of a fault, with over-current and earth fault protection being provided at all levels.

Protection equipment employed on new sub-stations shall generally be of the numerical multi tasking type, offering a number of protective and monitoring / measurement functions.

HV cabling shall be carried out in armoured XLPE insulated, LSF sheathed with each leg of the HV ring diversely routed as far as is practicable between the energy centre and the RHSC building.

Standby Generation

11kV standby generators will be installed in the new energy centre to provide back-up power to the RHSC building under mains failure conditions. It is envisaged that three generators will be required to provide N+1 redundancy. The size of the generating sets will be determined as the design is developed to suit the estimated electrical load for the building and will include 25% spare capacity for future growth.

The standby generators will be connected to a dedicated generator switchboard in the energy centre, which in turn will provide a minimum of two feeders to the primary 11kV switchboard.

The standby generation and primary 11kV switchboard configurations shall be designed to facilitate island load sharing mode in local mains failure situations and also mains synchronisation for mains return and no-break site load testing.

A digital control system will monitor central engine parameters and provide an integrated thermally dynamic governing system to assist in both start up and system synchronisation. The control system will be PLC based and perform functions such as power sharing of standby sets when island mode and proportional power sharing when in synchronous mode with the mains.

The generators shall be designed to be capable of starting and available to accept load in approximately 15 seconds from receipt of a start signal to allow priority 1 loads to be back on line at the earliest possible time. Acoustic attenuation for each generator enclosure shall be provided to meet a noise level of 75 dBA at 1 metre.

Generators shall incorporate local day tanks for immediate fuel consumption. Further bulk storage fuel systems shall be provided to facilitate standby generation for a period of 200 hours.

LV Distribution

Low voltage distribution shall emanate from the package sub-station main switchboards. It is proposed that two sub-stations are provided in the basement of the RHSC building and there will also be a sub-station in the energy centre for all associated LV supplies.

Generally, from the main LV distribution switchboards in the basement, power shall be taken to section boards and rising busbars, which in turn shall feed final miniature circuit breaker (MCB) distribution boards and mechanical services plant.

Supplies will also be taken from the main switchboards to supply larger items of plant such as chillers and any dedicated supplies for specialist items of equipment.

Stepdown transformers shall be of the dry cast resin type which will be close-coupled to the main LV switchboards

The main low voltage switchboard shall be split into 2 sections with each main section being supplied from a transformer. The two sections can be joined by the operation of a bus coupler circuit breaker should a transformer require to be maintained or replaced, and each transformer will be sized to support the electrical load of the complete LV switchboard.

The protection devices on the main LV switchboards will comprise air circuit breakers (ACBs) for the incoming devices and moulded case circuit breakers (MCCBs) on the outgoing ways. Circuit breakers will be complete with electronic protection modules for both incoming and outgoing ways.

From the main low voltage switchboards, dual supplies shall be run to strategically located section boards and busbar risers. The dual supplies shall be derived from each side of the main LV switchboards and shall take diverse routes to increase resilience wherever possible. Single points of failure on the sub-main distribution system shall be minimised as far as practicable to final distribution board level.

The section boards shall incorporate automatic changeover facilities, which shall maintain supplies in the event of failure of a single supply to the section boards.

Main LV switchboards and section switchboards shall generally be in accordance with the following:-

- Main LV Switchboards – Form 4 Type 6
- Section Boards – Form 4 Type 2

Multi-stage power factor correction equipment and the facilities to add active harmonic conditioning shall be provided at sub-station level.

Multi-function metering shall be provided at level, section boards and final distribution level and shall incorporate pulse outputs for BMS monitoring. The metering strategy will be developed to meet the requirements of NHS Lothian.

Voltage Power Optimisation (VPO) shall be provided at each sub-station with one unit being installed for each transformer. The VPO equipment shall be manufactured by Power Perfector or equivalent.

The LV distribution system will be designed on a departmental basis for distribution boards supplying final sub-circuits. It should be noted that a distribution board might serve more than one department where several small departments are located in close proximity.

Within Group 2 Patient Areas, final small power sub-circuit distribution shall be through isolated power supplies which shall provide first stage insulation monitoring and remote alarm at a staff location.

Final distribution boards shall be provided with integral isolators, lockable enclosures and shall generally utilise MCB protection devices for final circuit distribution. Combined MCB/RCD units shall be utilised to protect circuits as necessary to comply with BS 7671 : 2008 and as required by the room data sheets to supply certain items of equipment.

Generally 25% spare capacity will be provided on LV main switchboards and distribution boards for future growth of the electrical installation.

Uninterruptible Power Supply

An Uninterruptible Power Supply (UPS) shall be provided for life support equipment and other critical services in the building. The following list indicates typical loads that will be used for sizing the UPS, however, this requires input from NHS Lothian to ensure that all critical areas are suitably covered:

- Emergency Care Resus – 3kVA / bay
- Critical Care – 3kVA / bed
- Theatres – 8kVA / theatre suite
- Recovery – 2.5kVA / bay

The batteries shall be sized such that when the power fails, the UPS continues to supply its load for a period of 60 minutes.

The UPS system shall be of modular parallel design and will have N+1 redundancy.

ICT node rooms will be provided with local UPS units which will be provided by NHS Lothian as part of the ICT equipment installation.

Cabling and Containment

Sub-main LV distribution shall be carried out in XLPE/SWA/LSEZH cables run on basket, cable tray and cable ladder in ceiling voids and riser ducts.

Generally sub-circuit cabling shall be carried out in LSF insulated single cables enclosed in a network of cable trunking and conduit. Where possible, proprietary, armoured, modular wiring systems may be utilised.

Containment shall comprise cable ladder, trunking, basket, conduit and tray. Containment systems shall be provided for mains cables, fire alarm, security systems, nurse call, patient entertainment and structured cabling. Each of these systems shall also involve separate conduit work as appropriate to the installations. Types and grades of containment shall be appropriate to the particular service.

Lighting Installation

Lighting is a fundamental part of both building services and architecture and, as such, the lighting design will be approached in a holistic way. Lighting is an integral part of the architecture and needs to develop naturally from it to articulate the scale of the building and to emphasise particular architectural features and forms.

The light pattern needs to reinforce the architectural theme, to respond to the shape and form of the interior and to the hierarchy of adjoining spaces. The lighting also needs to respond to the finish, reflectance and colour of surfaces and structure to ensure an inviting experience.

The design will endeavour to create an interesting environment where lighting is the very essence of the space, accentuating it's form, texture, colour or orientation.

The lighting will be used to facilitate the dynamic use of space under varying conditions or for different applications to create a coherent visual effect throughout the building.

Attention will be taken to express the ground plane as it passes from outside the building to the inside and the lighting will be designed in a manner that does not create visual confusion. Views through to foyer areas will be carefully considered and particular attention will be paid to lighting of features like the reception desk and information points.

The intention is to avoid a blanket even level of illumination to create visual interest.

The lighting environment is crucial to the overall design strategy of building. It is essential that patients, visitors and staff have a pleasant and visually effective environment, all of which will be affected by the way the facilities are illuminated, both by daylight and artificial lighting.

To facilitate this, a holistic approach to the lighting design shall be adopted, taking cognisance of elements such as:

- Visual function
- Visual amenity
- Architectural integration
- Energy efficiency
- Whole life cost
- Whole life performance

Together these elements cover lighting the task, the lit appearance of the Hospital and the energy and economics of the installation. They shall be integrated with the overall design strategy to provide a total lighting solution for the project as a whole, offering a bespoke approach to the requirements of its various departments.

The designs shall recognise and employ the guidance given in BS EN 12464 and the CIBSE Code for Interior Lighting. It shall also acknowledge the principles for Hospital lighting as identified in CIBSE Guide LG2 (Hospital and Health Care Buildings) by adopting, and enhancing the recommendations therein to suit the needs of a modern Hospital and its users.

Lamps of high efficacy shall be employed in conjunction with luminaries, which shall offer good light output ratio and utilise efficient control gear.

Some typical examples of the lighting strategy for key areas are also as follows:-

The Ozone and Circulation Spaces

The Ozone is the public face of the Hospital and provides the first impression. The lighting design shall therefore assist in providing an impression of care, efficiency and comfort.

This shall involve varying the visual field brightness, to ensure that areas such as the reception are obvious and also to ensure that the circulation system of corridors, stairs and lifts lobbies are bright and easily identifiable. The lighting design shall offer light variation, to provide both light and shade to the visual environment and assist in providing areas that are visually stimulating.

Ward Lighting

It is acknowledged that ward lighting requires a number of different conditions and therefore the design shall include a number of luminaire configurations and a control system that is flexible and easy to use.

A crucial element of this design feature shall be the ability to create different conditions depending on the time of day and what is happening within the ward. This will facilitate higher levels of illumination at bedheads when patients are being examined but also permit low levels of lighting to be selected, for example at night-time

when levels sufficient only for nursing staff to make their rounds are desired.

We would propose the ward lighting is provided by a mixture of luminaire types. Firstly the wall mounted bedhead luminaire having both a downward and upward light component. Ambient lighting shall be provided by the uplight section which shall project light onto the ceiling and walls to provide an even illumination. This shall act as a natural extension to both the amount and pattern of daylight and be integral to the architectural theme for the area. The downward section will provide illumination levels required for patient reading, etc. The bedhead lighting will be provided by wall mounted luminaires or as part of an integrated bedhead services trunking system which will be developed in conjunction with the client.

Secondly, general and emergency lighting to ward circulation areas shall be provided by recessed, ceiling mounted compact fluorescent luminaires or LED fittings.

Staff Base Lighting

Acting as the ward hub, the staff base shall have high levels of vertical illumination as well as adequate lighting for the various administration tasks that will be undertaken.

Local lighting control shall permit selective levels to be set at both the base and also within the ward circulation areas.

Major Treatment Areas

Artificial lighting within major Treatment Rooms, Anaesthetic Rooms, Scrub Rooms, Critical Care Units, Major Clinical Areas and Operating Theatres shall be by fully recessed, hermetically sealed modular light fittings, switched at the Surgeon's panel and/or at the room door positions. The Operating Theatre and Major Treatment Room light fittings shall provide the general lighting and shall be controlled by two or three circuits depending on the arrangement of fluorescent lamps in each fitting. The design of these luminaires will provide ease of access for lamp changing.

Night lighting shall be provided to patient sleeping areas, associated circulation corridors and staff bases within the inpatient areas.

White plate finishes shall be the standard for all accessories. Plantrooms and service areas shall have metalclad accessories.

Operating Theatre Luminaires shall comply with BS.4533, BS EN 60601-1 and CIBSE LG2.

In each Theatre an operating theatre luminaire shall be provided suitable for the operating procedure proposed for the particular theatre. Each operating theatre luminaire shall be complete with a satellite luminaire. All operating theatre luminaires will be provided with their own dedicated standby batteries.

A key factor in the design of the lighting installation and the visual environment shall be to provide user satisfaction and energy management by the application of suitable lighting controls.

Where appropriate the lighting installation shall incorporate automatic controls such as daylight and occupancy detection to help reduce energy by ensuring that lamps are dimmed or switched off when there is sufficient levels of natural light or when areas of the building are unoccupied.

Emergency Lighting

The emergency lighting installation shall comply with the requirements of BS 5266. The emergency luminaires shall be maintained or non-maintained to suit the area being protected. They will utilise self-contained battery packs within or remote from luminaires which shall be 3 hour rated. The emergency luminaires will be energised in the event of a failure of the local lighting circuit and/or the main electrical supply.

Illuminated directional signs shall be provided at escape doors and along escape routes as required to meet the requirements of BS 5266 and the local Building Control Inspector.

The emergency lighting installation will be connected to a self-testing and monitoring system.

External Lighting

The external lighting shall be designed to satisfy three main criteria, namely, performance, proportion and aesthetics.

Performance will be achieved by lamp source and optic selection to ensure high visibility with maximum energy efficiency.

The proportion of the column/lantern configuration will reflect the luminaires location on the site and proximity to buildings.

Aesthetics will be achieved by choosing an appropriate lantern and column in keeping with the site and landscape architecture.

External lighting shall be provided to all external areas of the development together with security lighting around the perimeter of the new facilities. Where areas such as roofs require to be accessed in times of darkness lighting shall be provided to facilitate this. Selected landscape lighting shall be provided to complement the external environment.

With regard to roadway and car park lighting, the intent shall be to provide fittings that are suitable for roadway and car park environments which minimise pollution to the night sky in terms of spill light. This selection process shall also give consideration to vandalism, security, energy efficiency and local resident's needs. Luminaires and equipment shall be consistent with the existing installation on site.

Levels in respect of the external lighting shall at all times be complimentary to maintaining the operation of the CCTV cameras.

The external lighting installation shall be controlled via photoelectric cells.

In general, external lighting shall utilise high output, efficient, long-life lamp sources and colour temperatures will be selected to compliment the existing installation.

Small Power

General power shall be provided by a network of 13A socket outlets, fused connection outlets, isolators and other power outlet accessories as required by the room data sheets. Socket outlets will also be provided at strategic locations along circulation routes and in plantrooms for general cleaning and maintenance requirements.

Fixed items of equipment shall be served locally by suitably rated connection units/isolators to suit the particular item of equipment being supplied.

Sockets for mobile X-Ray machines, food trolleys and other items of specialist equipment shall be provided as detailed on the room data sheets and as identified in the Client brief.

Generally RCD socket protection shall be provided as required by regulations or where specifically identified on the room data sheets.

Dedicated power supplies to mechanical control panels and other mechanical services panels/equipment shall generally form part of the sub-main distribution system.

Power to Medical Locations

The electrical supply design for medical locations shall generally be as identified in lEC 60364 Part 7-710. This document gives guidance to ensure that a safe working and clinical environment is provided for all those who operate equipment or receive treatment. The measures applied in the standard apply to fixed wiring and not medical equipment, which is covered by TEC 60601. Further guidance on the requirements for medical locations is provided in HBN 2007 and BS.7671 (Guidance Note 7) published by the NHS and IEE respectively.

In the above documents, areas in which electro-medical equipment is normally used have been grouped to identify the measures necessary to prevent danger from specific risks and the likely consequences of those risks. The measures range from the application of residual current device (RCD) protection and enhanced earth bonding in Group 1 areas to the use of isolated power supplies (IPS) and enhanced earth bonding in Group 2 areas. This latter measure provides both system resilience to disconnection of the supply in the event of a single fault to earth and maintains safe touch voltages under earth fault conditions.

Group 2 locations are identified as areas where applied parts are intended to be used in application where discontinuation (failure) of the

supply can cause danger to life. These shall include the following areas in the building, however, confirmation is required from NHS Lothian regarding any other Group 2 locations:-

- Anaesthetic rooms
- Operating theatres
- Operating preparations rooms
- Recovery bays
- Critical care bed spaces
- A&E resuscitation bays

The protective measures for Group 2 areas shall comprise:

- IPS (IT) electrical supplies serving all socket outlets within the patient environment.
- Enhanced equipotential bonding within the patient environment to minimise shock potential from extraneous conductive parts during fault conditions.

The IPS system shall comprise two main components, the isolating transformer and line insulation monitor. Other elements of the IPS system shall include facilities for enhance equipotential bonding and final circuit wiring.

The isolating transformer shall provide power to the critical clinical function. The transformer shall be connected as an IT (unearthed) system.

Earth fault current shall be limited by the system leakage such as capacitance and insulation resistance.

As the capacitance is relatively constant for a fixed installation, the only variable is the insulation resistance, which can be reduced due to several factors during the life of an installation, namely:-

- Moisture
- Physical damage to insulation
- Stressing of the insulation due to transient over voltage

Providing that the high level of insulation resistance is maintained the earth fault current will be limited to safe levels for intercardiac protection, even under invasive clinical procedures.

The line insulation monitor and associated alarm panel are critical to the safe operation of the system. The monitor continually provides a monitoring function by injecting safe currents into the system to detect changes in insulation resistance and to test for protective conductor continuity.

It is important that the monitor meets the electrical criteria outlined in the Standards and in particular, provides an alarm when the insulation resistance on any supplying circuit has dropped to 50 Kohms.

Other features included in the insulation monitor shall be temperature and current monitoring of the isolation transformer. If the winding becomes too hot or overloaded the alarm is triggered but again the system will continue to operate as normal giving time for completion of the patient care.

Generally the main components of the IPS system will be located outwith the patient environment. Therefore, an alarm panel at the patient location shall be provided. This alarm annunciation shall provide staff in the critical areas with information relating to the IPS system, with each panel generally giving a visual indication of the following:

- Insulation resistance below 50 Kohms
- System load
- Transformer over temperature
- Loss of protective conductor continuity

Alarm and indication panels will generally be located at staff bases and in the surgeons panels within theatres.

To assist with finding the first earth fault, the IPS system shall include an automatic earth fault detection system. This system will indicate at the main IPS panel location, which of the circuits served by the IPS is faulty.

Isolated power supplies shall have UPS backup as identified in the UPS section.

Fire Alarm Installation

An analogue addressable fire detection and alarm system shall be installed throughout the building. The system shall be designed in accordance with BS 5839, incorporating the recommendations in SHTM82 and shall meet the requirements of the local Fire Authority. The system shall be designed to Category L1.

The system will comprise a number of a networked control panel, repeat panels, local display indicators, automatic detectors, manual call points, electronic sounders, and visual indicators. Interface units will be provided to allow communication and interaction with other systems in the building including security, lifts, ventilation, gas solenoids, sprinklers etc. The system shall be capable of stand alone operation but shall be interfaced with the existing system in the RIE. Details of the interface requirements and the cause and effect strategy between the buildings require further discussion with NHS Lothian and the Fire Officer.

A cause and effect strategy will be developed in conjunction with the design team and Fire Officer. This will be based on horizontal evacuation and will follow the principles set out in SHTM 82.

Nurse Call Installation

A nurse call system shall be provided for patient to staff and staff to staff calls.

With the ward bedroom, the nurse call system will be integrated with the bedhead services trunking. Each bedhead position will be provided with a patient handset, emergency pull switch and reset button. The handset will be interfaced with the bedhead lighting solution via a relay to allow the patient local control of the reading light which can be switched on/off and dimmed.

Pull cords will be provided in en-suites, bathrooms, disabled WCs and other areas as detailed in the room data sheets. Wall mounted call buttons, emergency pull switches and reset buttons will be provided as detailed in the room data sheets.

Indicator lights will be provided above doors and will be supplemented with audible indicators which will be strategically placed as detailed in the room data sheets.

Indicator panels will be located at staff bases throughout the building and ward transfer facilities will be incorporated into the system.

Disabled Person Call System

A disabled person call systems will be provided in all disabled toilets in the building. Within patient areas, this will form part of the nurse call system.

Public disabled WC call systems will activate an audible and visual alarm directly outside the WC and will be repeated at the adjacent reception desk or alternative location as agreed with the NHS Lothian.

Patient Entertainment

The infrastructure will be provided for TV and radio facilities within all ward bedrooms and other rooms/areas as identified on the room data sheets. The infrastructure will include all containment, cabling, power supplies, external aerial and satellite dish. It is envisaged that an IPTV solution could be provided which can be delivered over the structured cabling system, however, the exact requirements of the patient entertainment system requires further discussions with NHS Lothian

Security Installation

Note:- At the time of writing this report, NHS Lothian's security requirements have still to be confirmed for the site. It is understood that NHS Lothian will be issuing a comprehensive security strategy briefing document to cover their latest requirements and this will be included in this section of the report as part of a subsequent issue.

CCTV

The CCTV strategy for the building shall be implemented using a software based system utilising IP cameras and open standards. The software will run on standard PC systems and not proprietary hardware such as NVR's, DVR's etc.

The software system will allow integration of other systems such as Intruder Alarms, Access Control, Panic Alarms etc and further integrations and purposes such as video analytics. The open standard of the system will allow integration of various camera manufacturers, removing any lock-in to a particular brand for the site. The system shall allow configuration such that upon event input, a pre-programmed response can be initiated. This will include programmed response to events such as panic attack etc.

The hardware and software shall allow future expansion of the system and support any change of the data retention period. It will also provide feature updates as released by the software vendor enabling future proofing of the system and the site.

The system design shall be based upon the IP protocol for camera communication to the central server. This will allow simple transmission of video data and telemetry control via the structured cabling system.

All of the cameras to be installed on the site are to be IP cameras. Where possible the H.264 codec shall be employed as the primary means of video format.

The main constitute parts of the system are as follows:-

- System Management Software – Complete management of the cameras, schedule recordings and control viewing and operation of the cameras. This will run on the main CCTV server in the main comms room in the building.
- IT Hardware Equipment – To provide the processing of the video data and overall storage for the system.
- Network Equipment – To provide the communication between the cameras and the systems management software. This must enable both fibre and copper networking. This item covers both the edge and core networking switch components.
- Fibre and Copper Network Cabling – A new structured cabling system comprising fibre and Cat5e copper cable is to be provided in the building.
- Cameras and Other Devices – New cameras including internal and external cameras shall be provided.
- Control Room Equipment – The control room viewing and operational equipment allowing CCTV operators usage of the system.

The back end systems for scheduling and recording of the CCTV images shall be performed via software system. This shall be an open platform system running on Windows Server products. The system shall have a user friendly graphical user interface (GUI).

The software shall be complete with the following features:-

- The Digital Video Management System (DVMS) shall be a fully distributed solution, designed for multi-site and multiple server installations requiring 24/7 surveillance with support for devices from different vendors.
- The DVMS shall allow for up to 64 cameras or other devices to be connected to a single master recording server across multiple sites. The system shall support any combination of master and slave servers to provide full flexibility and scalability in the overall system configuration.
- The DVMS shall support Microsoft Windows XP Professional, Windows Server 2003/2008 and Windows Vista (Business/Enterprise/Ultimate)
- The DVMS shall enable password protection for the administration of the system.
- The DVMS management system shall incorporate advanced user management for viewing of the system. This will enable users with different levels of permission on a camera-by-camera basis and with global permission to enable live viewing, playback etc.
- The DVMS shall incorporate fully integrated Matrix functionality for distributed viewing of any camera in the system from any computer with the Smart Client Viewer or Matrix Monitor application installed.
- The DVMS shall include support for a graphical Central Alarm management application module. The alarm management module shall allow for the continuous monitoring of the operational status and event-triggered alarms from system servers, cameras and other external devices.
- The DVMS shall include a stand-alone Viewer application to be included with video exported from the Smart Client Viewer application. The viewer application shall allow recipients of the video to browse and play back the exported video without installing separate software on their computers.
- The DVMS shall support alterations and the addition of device drivers for new devices to be added to the system.
- The system shall generate log files in editable text format. The log files shall track the overall DVMS operation and usage. The log files shall be stored in a local file directly or other user defined file directory as specified by the Administrator. The Administrator shall have the option to specify how long the log files shall be retained by the system (in days).

Servers shall be of the rack mounting type and the specification of these will be developed during the detailed design stages of the project. As a guide a minimal specification is described below:

Processor – Dual Core Intel Xeon

Memory – Minimum of 2GB RAM

Hard Disks – Dual hard disks for operating systems running in a mirror Raid formation to provide operating system redundancy. Minimum 73GB

Network Interface Cards – Must support dual Network Interface Cards

The storage retention time needs to be agreed with NHS Lothian, however, as a guide at this stage, allowance shall be made for 28 days for all cameras. Motion detection may be utilised within this calculation with an average setting of 35%. The expected frame rate for the purpose of the calculation is to be 8 frames per second.

Storage parameters are:-

Frame rate – 8 frames per second on all cameras

Storage Retention – 28 days

Percentage of time with motion – 35%

Recording 24 hours per day

A fast storage system shall be provided for all cameras as previously described. The storage system must have at least an iSCSi connection to the servers. USB or direct network connections are not acceptable.

The networking solution shall be agreed with NHS Lothian which may utilise VLAN's to segment the network traffic or a separate network to physically separate the network traffic.

All networking equipment shall be supplied from one of the leading providers such as CISCO, Extreme Networks, Juniper or equal and approved. The network switches shall be capable of layer 3 management.

The control room shall be provided with the viewing platform for the CCTV system utilising powerful PC's with multi-monitor displays. It shall be possible for a single operator to view and control the whole system from a single PC in conjunction to having a USB joystick for PTZ control. The viewing shall be done utilising the network by linking into the CCTV server.

A high performance workstation shall be provided for the control room to allow viewing of the CCTV system. This will have dual network cards and a high performance quad video card that will allow connection to multi-monitor systems. The workstation should be an IBM S20 Workstation with high performance Quad graphics card or equal and approved.

View of the software will be on 4 No. 17inch TFT monitor displays connected to the workstation. These will be set out on stands with appropriate arrangement for ergonomics of the operator.

The control station will have a joystick for use with the workstation and viewing software which will allow control of any PTZ camera on the site.

In general, internal CCTV cameras will be provided in all public spaces within the building, reception areas and any other areas that are deemed to be high risk.

External cameras shall provide coverage of all access points, car parking and pedestrian circulation routes around the site.

The location of all cameras will be agreed with NHS Lothian.

The IP CCTV system shall be of open protocol such that integration into the access control system for the site shall be available. The integration shall be at software level and allow viewing of the video footage from the access control system.

All cameras are to be IP cameras, with all internal and building mounted cameras utilising power over ethernet (POE) technology to negate the need for power supplies at the camera location.

The exact specification of the cameras will be detailed as the design is developed but the following typical specification is provided for information and costing purposes. Cameras will be provided with enclosures to suit the environment that they are being located in.

Internal Fixed Cameras – Axis P3343

Internal PTZ cameras – Panasonic NS202

External Fixed Cameras – Axis P3343 VE

External PTZ Cameras – Panasonic NW964

Access Control

The electronic door access control system shall provide a flexible networked solution for the building based on PC control with centralised administration. The system shall be simple to use and programme with the GUI allowing quick and simple access to users, doors, and time zones. Access shall be granted to logical user groups allowing access levels to be provided to the group or individually.

The system shall maintain a history of door events in order to review and trace user events and door open incidents. Searching the history shall be simple and intuitive. The system shall also provide a range of different keypads / proximity readers in addition to long range readers where necessary.

The system shall provide the following features:-

- A flexible network access control solution based on PC control software with centralised administration.
- Ease of use for control functions such as barring users, adding new users and updating access. All door controllers will be updated immediately from the controlling software after update.
- Based on keypad / proximity readers for ease of use and recording of events into the central control software.
- Integration into the CCTV system to record the images associated with specific events for example door opening.
- Recording and alerting of all events in the system.
- Unlimited PC client software.
- Access assignment based on pre-defined access levels and staff groups.
- Can be integrated into the fire alarm system.
- Have card printing facilities with a card designer package.
- Simple PC tools for programming of new cards.

Management will be provided by professional network access control software running on a suitable modern PC that more than meets the specification for the installed software. The PC will be integrated into the local network for client viewing and control of the system.

The management software can run on the same server as the CCTV system dependant on the capacity of both systems and the server hardware.

The management software will provide a means of user administration and assignment of user access. It will also provide a method of assigning a proximity card to a new user or changing a keypad code number.

The software system will automatically update all door controllers immediately after any user or system changes take place.

The software will allow different levels of access rights. This will allow the creation of an access group, which can contain a list of specific doors within the building such as Admin areas, IT Node Rooms etc. It will also allow control to the door and at what times of day.

The system will allow users of the system to be grouped into logical arrangement. Access levels as previously defined can then be applied across the user groups. The system shall also allow flexibility to change the access levels of an individual within a group.

The system shall allow flexibility to limit user access to certain times of the day or to the whole day as required.

The system shall record individual events that happen relative to the door access. Events will be recorded from the network door controllers to record some of the following events. In each case as much data should be recorded as possible. Some of the possible recorded events are:-

- Authorised door opening – record door name, who and when
- Unauthorised attempt on a door – record door name, who and when
- Door left open
- Door forced open
- Door opened with exit button

Some doors within the system will require to be monitored via a magnetic contact which will report the status of the door to the main software. This information should be available for viewing on a graphical site plan within the software.

It shall be possible for the system to integrate into the CCTV system to make available associated images from the above events for specific doors.

From the user interface of the software it shall be possible to report on events within the system. Example reports include:-

- Who is in report
- Time / Attendance report
- Last known position
- Custom report wizard to generate reports quickly

The door access software and administration modules should be intuitive enough for the site facilities or other client representative to take ownership after full training in the usage of the system. The client should then not require the services of the installer for administration of the system such as barring users, adding new users, restricting users access etc.

Operators and system administrators shall have unique user ID's for the system. It should also be possible to have unlimited software clients for the access system within the same client building. This will allow administration of the system from a number of PC's within the network.

A badge printing facility from the software shall be included.

The control units make their decisions locally so in the event of communications with the server being interrupted, the system shall continue to operate as normal.

The control units shall retain event data when there is no connection to the server PC.

The control units shall retain their settings id all power is lost. Settings shall be maintained for a minimum of 7 days before data is lost.

Control units shall automatically unlock certain doors if required during specified times.

A desktop reader shall be used for adding and deleting of proximity tokens. The desktop reader shall connect to either client server or server PCs via the USB port.

The full extent of the doors to be covered by the access control system will be developed with NHS Lothian as the project progresses. As a guide at this stage, the following doors will be covered:-

- All external access doors
- IT node room doors
- Doors to wards
- Main entrance doors to departments
- FM and patient lifts

- Other restricted areas to be defined by NHS Lothian

Electro-magnetic locks, strike locks, solenoid locks or shear locks shall be employed as required. The door will be opened via control from the network door controller or via a fire alarm interface unit in the event of a fire alarm activation.

The basis of the access control system shall be a proximity smart card system which shall offer structured technology for use in other areas such as vending, time management, etc.

The status of each door shall be monitored from the new control room which shall manage time of day control of all electronically secure doors.

In addition to the access control card readers, video entry intercoms shall be provided at the main entrance doors and the delivery entrance at the rear of the building.

Intruder Detection System

An intruder detection and alarm system shall be provided to cover all non 24 hour areas of the building. The system will also cover all external fire doors at ground floor level of the building. passive infra-red detectors, dual technology detectors, magnetic door contacts and key pads.

The system will comprise a central controller, passive infra-red detectors, dual technology detectors, magnetic door contacts and key pads.

The system shall monitor all emergency/fire exit (not openable in normal use) external doors. Zoning of door/window contacts and passive infra-red/microwave detectors shall allow control of individual areas to permit access when required to a particular area without disabling the entire system to permit deliveries, disposal of rubbish, etc.

Where appropriate individual departments shall be afforded dedicated sub-systems providing detection by means of door contacts and passive infra-red/microwave detectors as required.

All areas shall be centrally monitored from the Security Control Room and will be integrated with the CCTV system.

The system shall be a Galaxy 500 panel or equal and approved.

Staff Personal Alarm System

The staff personal alarm system shall utilise infra-red transmitters worn by staff to activate calls for assistance. When a call for assistance is made Attack Display Units will emit an alarm tone and indicate the precise location. Information will be relayed to display pagers worn by response staff.

Staff attack systems shall be provided in high risk areas of the building as defined by NHS Lothian and is likely to include A&E, Critical Care.

Alarms shall be displayed in normally occupied areas within the department being served and shall be repeated at the Security Control Room.

The system shall be integrated with the CCTV system.

Patient Tagging

The requirements for a patient tagging system and the areas in the building where this is to be employed requires further discussion with NHS Lothian.

Information and Communication Technology (ICT)

A Category 5e Structured Cabling System (SCS) shall be provided to support voice and data communications in the new building and will generally comprise:

- containment systems
- backbone cabling
- horizontal cabling
- equipment cabinets
- patch panels
- user outlets

Node rooms will be strategically located throughout the building to ensure that all horizontal cables are a maximum of 85m as specified by NHS Lothian.

The node rooms will be linked by single mode fibre optic backbone cable to the two existing communication rooms in the RIE building.

Horizontal cabling shall be Category 5e UTP LSF from the patch panels in the respective node rooms to user outlets as called for in the Room Data Sheets.

The user outlets will generally be wall or trunking mounted dual RJ45 outlets to serve both voice and data, however, floor and ceiling outlets will also be provided in certain areas.

The horizontal cabling will be installed on cable baskets in the ceiling voids and in conduits on vertical drops to final outlet positions.

All horizontal cables shall be star wired from the patch panels in the Communications Rooms to the final outlet positions.

Earthing

The earthing and bonding shall be carried out in accordance with BS 7671 : 2008 and BS 7430 :1998. The MEIGaN Guidance document will also be followed for the relevant departments in the building.

Public Address

A public address system will be provided in the building for making public announcements and providing background music. The extend of the system requires further discussions with NHS Lothian to establish what areas of the building are to be covered and the intended use of the system.

Lightning Protection

The building will be protected by a lightning protection system and will be in accordance with BS EN 62305 1996.

A risk assessment shall be carried out in line with BS EN 62305-2 to determine the class of lightning protection system and transient overvoltage protection that is to be installed.

An air termination network will be created at roof level and will be connected to selected structural columns, which in turn will be connected to an earth electrode network to create a low resistance path between the air and earth termination networks. The structural elements of the building will be used where possible.

Induction Loops

A variety of induction loop systems will be provided in the building which will include:-

- Short range induction loops at reception desks and other areas required by NHS Lothian.
- Fixed induction loop or infra-red systems within specific rooms.
- Portable induction loop systems

The requirement for induction loops in the building needs further discussion with NHS Lothian to ensure that their policy on DDA is met and suitable facilities are provided for staff, patients and visitors.

Lifts

The following lifts are allowed for at this stage:-

- 2 dedicated patient lifts – 33 person 2500kg
- 3 FM lifts – 33 person 2500kg
- 3 passenger lifts – 13 person 1000kg

The patient bed lifts will transfer patients from A&E and Radiology on the ground floor to Theatres and Critical Care on the first floor, and will

also be used for patients travelling between the in-patient wards on the second floor and the theatres.

Although there is no requirement at this stage for the patient lifts to extend to the third floor, they will be designed to serve this floor also to provide future flexibility.

The FM lifts will be used for transporting goods and waste and will be under control of the porters. All of the FM lifts will serve the basement and at least one lift will go to roof level for plantroom access. It may be necessary for more than one FM lift to go to roof level depending on the final design solution for the roof area. All FM lifts will be designed to accommodate a bed.

The current design allows for three lifts for passenger movement between ground, first, second and third floor level. These lifts are grouped as a triplex and will be used by staff, visitors and patients.

NHS Lothian has advised that staff will be encouraged to use the stairs as much as possible and this will be taken into account for lift traffic calculations.

A lift traffic study has been carried out based on the estimated number of people that are likely to be in the building and typical traffic movement between floors. The number and size of lifts provide a good level of service with respect to interval times and handling capacity for a building of this nature.

All lifts will have a speed of 1 metre per second.

Gaseous Fire Suppression Systems:

HFC-227ea fire suppression systems shall be provided in the following areas:

- Core Server Room
- UPS/Battery Room
- Sub-Stations

The requirements will be developed during detail design in line with the proposed fire strategy for the building.

6. CONSTRUCTION METHODOLOGY

7. APPENDIX A: ARCHITECTURAL DRAWINGS

8. APPENDIX B: LANDSCAPE DRAWINGS

9. APPENDIX C: STRUCTURAL DRAWINGS

10. APPENDIX D: ELEVATION MATERIALS REPORT

11. APPENDIX E: ACCESS & MAINTENANCE STRATEGY

12. APPENDIX F: INTERIOR DESIGN & WAYFINDING

13. APPENDIX G: SCHEDULE OF ACCOMOATION

14. APPENDIX H: CONSTRUCTION PROGRAMME

15. APPENDIX I: COST PLAN

NHS LOTHIAN

RHSC + DCN – Little France Project Steering Board
12th October 2012

CLINCIAL OUTPUT SPECIFICATIONS DEVELOPMENT AND APPROVAL PROCESS

1 Purpose of the Report

1.1 The purpose of this report is to provide the Project Steering Board with an update on the development of the Clinical Output Specifications and the process for approval of these specifications.

2 Recommendations

2.1 The Project Board members are asked to note:

- The overview of the Clinical Output Specifications content
- The approval process for the specifications

3 Overview of Clinical Output Specifications

3.1 42 Clinical Output Specifications (refer to Appendix A for list of all specifications) were developed:-

- RHSC – 29
- CAMHS – 1
- DCN – 7
- Combined areas – 5

3.2 Design Briefs (see Appendix 2 for sample) for each department were developed in 2010 - 2011 which outlined the services clinical design needs and were facilitated through the various clinical task sub-groups, which had clinical and patient representation. As part of the KSR for the Design (August 2012), SFT identified a number of gaps within the Design briefs which have been addressed in the development of the Clinical Output Specifications and included:

- current and projected patient activity
- workload indicators
- average number of people in each room
- room type and number of in department
- detail of operational procedures
- equipment type and size for storage purposes

3.3 The Design Briefs were used as a basis for the Clinical Output Specifications and the nominated leads for each of the areas reviewed the content of the specification.

The specifications will be one of the key documents in ITPD Volume 3 and will provide the preferred bidders with the detailed requirements and functions of each of the clinical departments.

3.4 The template used was recommended by Capita and had been used by Forth Valley. The specifications are split into ten sections as shown in Table 1. Refer to Appendix 3 for an example of one of the finalised specifications.

Section 1	The Service
Section 2	Activity
Section 3	Work Patterns
Section 4	Key Operational Policies
Section 5	Patient/Process Flow
Section 6	Facility Requirements
Section 7	Key Departmental Requirements
Section 8	Environmental & Service Requirements
Section 9	Design Guidance
Section 10	Other Specifications

Table 1 – Content of Specifications

3.5 Baseline activity information for 2010- 2011 and activity predictions for 2016 was used. The activity information was taken from the work undertaken by Capita for the bed, theatre and radiology modelling. For RHSC an annual 0.7% growth was applied and for DCN an annual 1% growth to take account of the ageing population.

3.6 The specifications were reviewed by the Technical Advisors and Capita and further changes made.

3.7 The specifications were cross referenced to the Schedule of Accommodation, Adjacency Matrix, Board's Construction Specification and relevant Health Building Notes.

3.8 A workshop was held with the Technical Advisors, Project Team and other key stakeholders to ensure that there was consistency across ITPD documentation.

4 Approval Process for Clinical Output Specifications

4.1 The final version of the clinical output specifications were sent to the relevant Clinical Management Team (CMT) for sign off.

4.2 Following sign off by the CMT the Project Clinical Directors signed off the specifications.

4.3 A final consistency review of the specifications was undertaken by the Project Sponsor.

4.4 The final version of the Clinical Output Specifications have now been submitted for inclusion in the ITPD documentation

5 Key Risks

5.1 There are two key risks that could affect the requirements and functions of clinical departments that are already highlighted on the Project Risk Register, these are:-

- Alterations to existing clinical regulations which impact on medical practices/equipment and facilities
- Changes/advances in practices which impact on the equipment, building layouts and services

5.2 On the latest version of the Risk Register (September 2012) both of these risks have an amber rating.

Janice Mackenzie
Project Clinical Director
12th October 2012
janice.mackenzie[redacted]

List of Appendices

Appendix 1: List of Clinical Output Specifications
Appendix 2: Sample Design Brief – RHSC Neuroscience
Appendix 3: Example of Clinical Output Specification - Surgical Short Stay

Appendix 1

List of Clinical Output Specifications

RHSC SPECIFIC DEPARTMENTS	
Ref.	**Department / Area**
A1	Emergency Department
A2	Paediatric Acute Receiving Unit
A3	PARU/Emergency Dept/Radiology Shared Support
	Critical Care / HDU / Neonatal Surgery
B1	PICU and HDU's
	RHSC In Patient Pathway / Ward Care
C1.1	Medical Inpatients
C1.2	Surgical Long Stay Inpatients
C1.3	Neuroscience Inpatients
C1.4	Haematology / Oncology Inpatients & Daycases
C1.5	Med/Surg/Neuro Shared Support
C1.6	Adolescent Shared Accommodation
C1.7	Paediatric Neurophysiology
C1.8	Surgical Short Stay Inpatients
C2	Ward Support Areas
C3	Special Feeds Unit
C4	Sleep Lab
C5	Classroom
	RHSC Out Patient Departments / MDC
D1 - D5, D7 & D10, E1	RHSC Main Outpatients Department & The Pod
D6	RHSC Therapies
D8	Social Work
D9	Medical Day Care Unit
	Child and Adolescent Mental Health
F1	CAMHS
	Clinical Support
G2	Equipment Library
G3	On-Call Suite
	Academic
H1	Child Life & Health
H2	Clinical Research Facility
H3	Clinical Education Suite
	Patient/Family Support
J1	Bereavement Suite
J2	Spiritual & Pastoral Care
	Family Facilities
K1	Family Support
K2	Family Hotel - Ronald McDonald
DCN SPECIFIC DEPARTMENTS	
	DCN In Patient Pathway / Ward Care
L1	Acute Care
L2	Inpatients
	DCN Out Patient Departments
M1	Outpatients

M2 M3	Therapies Programmed Investigations Unit
M4	Neurophysiology
	DCN Support Space
N2	DCN Support Space
	COMBINED AREAS
	Facilities/Infrastructure Support Services
I1 & N1	Main Entrance - Public Spaces
	Combined Theatres
P1	Operating Theatres & RHSC SDCU
	Combined Radiology
Q1	Radiology
	Office/Admin Support Services
R1 R2	Clinical/Management Suite Health Records

Appendix 2

DOCUMENT CONTROL

Document Name: C1.3 Neuroscience Inpatients Area				
	Prepared by	**Checked by Service User**	**Finalised by Project Team**	**Date Passed to TA**
Name	Fiona Halcrow		Fiona Halcrow	01/06/2011

Revision	**Date**	**Changes**
Version 0.1	17/05/11	

Department Contacts:				
Site	Contact Name	Title	Tel No	E-mail
RHSC	[redacted]	[redacted]	0131 [redacted]	[redacted]
RHSC	[redacted]	[redacted]	0131 [redacted]	[redacted]
RHSC	[redacted]	[redacted]	0131 [redacted]	[redacted]
RHSC	[redacted]	[redacted]	0131 [redacted]	[redacted]
WGH	[redacted]	[redacted]	0131 [redacted]	[redacted]

	Scope of Services:
	Purpose/Aim of Services
	The Paediatric Neuroscience Service incorporates neurology and neurosurgery, in the new RHSC is to provide a 24 hour service for the care of all patients with neurological conditions, presenting either as emergencies (via ED) or electively. Neurosciences Services include: In-Patient Accommodation (up to and over 24 hour care) OPD Clinics Day Treatment in the Medical Day Care Unit Neurophysiology (Neurophysiology Video Telemetry rooms and review rooms will be located within the Neuroscience Ward). Central to the development of the service is the provision of comprehensive specialist care to patients with acute and chronic neurological illness or injury at every level of care from the Critical Care Unit, In-Patient Acute Care, to In-Patient Rehabilitation and Rehabilitation Packages facilitation discharge to home.
	Service Targets
	RHSC Neuroscience In-Patient will not be subject to specific access targets, but will contribute to RHSC and NHSL capability to achieve: • The 18-week referral-to-treatment standard by protecting the pathways for planned admissions and activity. • Reduction in non-routine inpatient average length of stay; • Reduction in the rate of Healthcare Associated Infections.
	Bed Management
	A single, hospital wide Bed Management Service with authority over the final decision re the allocation of in-patient beds will be based in the Paediatric Acute Receiving Unit. At time of admission (both scheduled and unscheduled) the appropriate bed location within the neuroscience ward will be ascertained for the patient.

	Activity:
	Proposed Activity levels
	2010/11 Patient Activity **500** OBD's = **2352** 2015 Projected Patient Activity **500** OBD's = **2364**

	Operational Requirements:
	Hours of Operation
	This will be a 24 hour, 7 day facility, utilized by many clinical and non-clinical staff from all services.
	Security and Safety of Patients
	• The entry and exit routes to/from the department should be designed to prevent the Neuroscience In-Patients from being a thoroughfare for non-NSIP patients and personnel. • A secure entry system (with intercom) should be used to restrict access to non-clinical areas e.g. clinical and clerical areas, staff changing area, staff room, storage areas, reporting rooms and clinical rooms. • Staff panic alarm system should be provided through out the department. • Cupboard and door locks should be combination or security pass controlled
	Planned Workforce
	Workforce plans will be confirmed as part of the Business Case.

On a normal busy day the maximum number of staff in the Neuroscience Ward is **24.**

Medical: The ward will have its own nominated, responsible, supervising consultants with intermediate grades always available.

Nursing, Paramedical and Support Staff: There will be a senior trained nurse in charge of the ward at all times. Patient care will be provided by qualified nursing staff, assisted by paediatric support workers. Support staff will be specifically trained to provide a defined range of duties including basic patient care, some technical, clerical, and ancillary duties.

Other staff members

Medical staff/Administrative staff/Anaesthetists/Radiologists/Physiotherapists
Occupational Therapists/Dieticians/Speech and Language Therapists/Neuro-psychologists

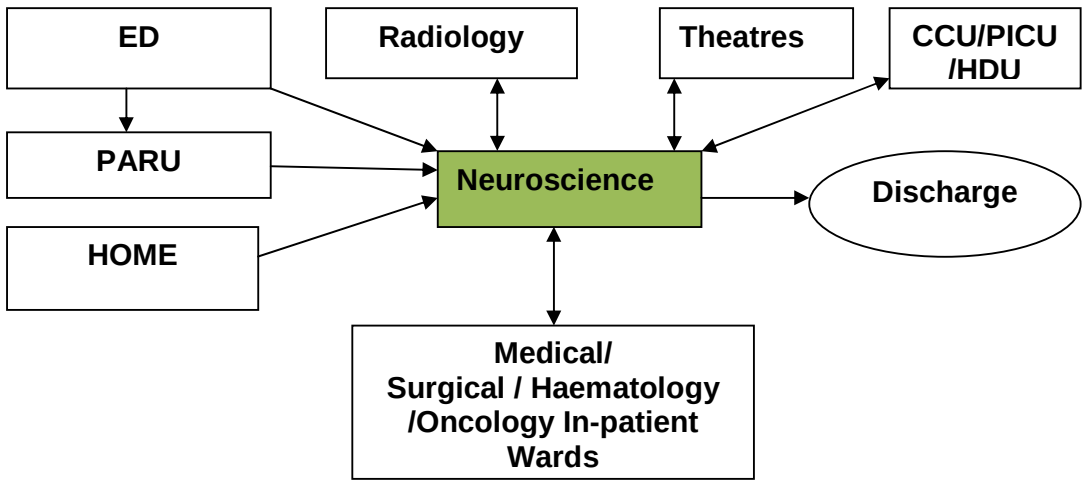
Any specific exclusions

.

Pathways and Work Flows

Patient Pathways

Patient Referral and Pathway/Flow



Carer / Visitor Pathways

Almost all patients are accompanied by at least one parent or carer, as well as a variable number of siblings, who remain with the patient throughout their assessment, investigations, diagnosis, treatment and discharge.
Maximum number of patients and relatives within the unit at a given time on a normal, busy day is:
Patients 12 Visitors 32

Parental and family accommodation will need to be provided at ward level as well as specific family "hotel" facilities within the hospital.

Staff Pathways

The Neuroscience In Patient Ward will be functionally divided into 3 areas:

- Entrance, Reception and Waiting area
- Patient Accommodation :
  - 3 Single Rooms (2 Neurophysiology Video telemetry and review rooms)
  - 2 - 4 bedded bays
  - 1 - Isolation Single Room

	▪ Staff support facilities
	Materials Management
	Incoming and outgoing mail Incoming and outgoing linen Incoming stores deliveries including top-up Incoming pharmacy deliveries Outgoing specimens by pneumatic tube system Outgoing waste, including clinical waste

	Departmental Adjacencies:
	Department Relationships
	Critical adjacency where Neuroscience cannot function without immediate horizontal adjacency to: • Medical Ward (including Adolescent) • Haematology / Oncology • Surgical Ward (including Adolescent) • Medical/Surgical/Neuroscience Shared Support • Adolescent Shared Support • RHSC Ward Floor Support Areas • Clinical Neurophysiology – EEG/EP/VTEM Rooms • External Ground Space
	Essential link where Neuroscience cannot function without this relationship, but it could be vertical or horizontal (in no particular order): • PICU & HDU
	Desirable adjacency where Neuroscience can function without immediate adjacency but this may cause issues in the smooth running of services (in no particular order): • School • Bed Store • Combined Neurophysiology • Co-joined Operating Theatres
	External relationships or requirements:
	Internal Department Relationships
	Critical adjacency where Neuroscience cannot function without immediate horizontal adjacency between: Reception - Ward entrance Two Single Rooms - Adjacent (need vision panel between VTEM BEDS) Treatment Room - Clean Utility with direct access to corridor and between the 2 rooms Staff Base (1) - Regular placement through inpatient areas. Pantry – Dining Area Therapy Rehabilitation Room – (Area shared with Haem/Onc Ward) Linen Bay – Store Back Up Clothing Mobile Hoist Bay (1) – Central location Secretaries Office – Consultants Offices Disposal Hold – FM Lift

	Accommodation Requirements:	
	Schedules reference:	*Neuroscience Accommodation C1.3, 9th May 2011, NMcL/GG.*
	Accommodation Notes	

	The design needs to allow for observation into single rooms from the nursing touch down base. The design needs to allow for observation to occur between the two 4 bedded bay areas. All clinical areas need to be provided with a nurse call system. All clinical areas need lighting that can be varied in intensity.
	Storage Facilities
	Clean Utility - Storage of medicines (controlled drug cupboard), lotions, clean and sterile supplies and fridge. Dirty Utility - Space for cleaning equipment, testing specimens, and disposal of waste and used linen (prior to removal to Disposal hold) Dining/Play Room - Storage of games, toys Linen Bay - Storage for the linen trolley, and a cupboard for spare clothing, duvet covers and pillows Store – General - Supplies and stock (shelving). Store – Equipment - Ward buggies, prams, toddler seats, portable Dinamap, weighing scales etc DSR - Domestic services store for equipment and supplies. Locked storage for COSHH related products Disposal Hold - store large yellow and black bin and linen bags (clinical and non-clinical waste Store – General - Supplies and stock, to be stored off the floor
	Special staff requirements
	• Access to coffee room for staff breaks • Access to seminar room for MDTMs needs to be provided, fitted with telephone or video conferencing facilities • Access to staff changing rooms need to be provided (shower/changing facilities/toilet/ and storage lockers)
	Special security arrangements
	A secure entry system (with intercom) should be used to restrict access to the ward area.

	Support Services Lists:
	Supporting Clinical Services
	▪ Pharmacy ▪ Laboratories
	Supporting Non-Clinical Services
	▪ Health records
	Facilities Management Services
	▪ Portering ▪ Domestics ▪ Catering, including texture modified diets for dysphagic patients
	Staff Facilities and Services
	• Access to Staff Coffee Room • Access to Grab and Go (Refreshment Area) • Access to Staff Changing Accommodation

	Information & Communications
	Patient Documentation
	Unified Patient Record (UPR) Estimated Date of Discharge (EDD) paperwork

	Information Management and Technology Requirements
	• All Clinical Treatment Rooms, Staff Bases, Interview Room and Patient Bedrooms need to be fully IT supported. • Network access points need to be provided to allow flexibility of location of networked devices as well as redundancy to cope with future additional device installation. • Wireless access points need to be provided to allow for RFID tracking of medical devices as well as wireless access to hospital and patient networks (PACS and TRAK).
	Clinical Services Communications
	All clinical rooms, staff areas and clerical areas need to be provided with an advanced intercom system. Induction loop systems are needed at the reception area and in one of the single bedrooms

	Equipment:
	Special equipment requirements
	Ceiling Mounted Tracking Hoist: • 1 Single Room (that does not have the VTEM) • 1 x bed in each 4-bed room to extended into en suite • Patients' wet room (360^{o} accessible bath, ceiling mounted hoist, full wheelchair access, and disabled access WC/WHB etc) • Dining Play Area/ Snoezlen Room and Therapy Rehabilitation Room all need to have H track ceiling mounted hoist.

	Special design requirements:
	Clinical
	The 2 Single Rooms accommodating VTEM need to be adjacent with vision panel between. Maximum cable length between VTEM beds and review room 70 metres. Snoezelen room is a controlled multisensory stimulation area which involves exposing children to a soothing and stimulating environment. This room needs to be specially designed to deliver stimuli to various senses, using lighting effects, colour, sounds, music, scents, etc.

	Compliance with legislation, standards and guidance
	HBN 04-01 Provision of ventilation in healthcare buildings as SHTM 2025 Health Building Note 23 dated 2004. SHFN 30: Version 3

Appendix 3

C1.8 Surgical Short Stay Inpatients Department

Clinical Output Based Specification

September 2012

The Surgical Short Stay Inpatient Department

The department will provide a 24 hour service for care of all patients with surgical conditions, providing a rapid investigation, diagnosis and treatment of acute illness or injury in patients who will require being in hospital up to 72 hours.

1.1 The Service

1.1.1 Scope of the Service

The Surgical Short Stay ward will provide single bedrooms with en-suites and four bedded bedrooms with access to en-suites, treatment and interview areas for children and young people requiring care from a health care professional on in-patient basis.

The Surgical Short stay ward will provide a 24 hour service for care of all patients with surgical conditions, providing a rapid investigation, diagnosis and treatment of acute illness or injury in patients who will require being in hospital up to 72 hours.

1.1.2 Specific Exclusions

The service will not support any adult services

1.2 Activity Indicators

1.2.1 High Level Projections

2010-11 Baseline Data		**Projection 2016**	
Episodes	OBDs	Episodes	OBDs
2149	2230	2224	2308

1.2.2 Service Trends

A small increase in patient activity will occur as a result of a predicted rise in the birth rate in Lothian.

1.3 Work Patterns

1.3.1 Workload Indicators

The ward will admit elective admissions 7 days a week and emergency admissions who may present at any time of the day or night.

1.3.2 Operating Hours

This will be a 24 hour 365 days service.

1.3.3 People

The maximum number of people one would normally expect to find in each of the following types of rooms at any one time is as shown in the table below. In exceptional circumstances, numbers may exceed those shown.

	Patients	Staff	Visitors	Total
Reception	1	1	1	**3**
Dining / Play Room	5	2	5	**12**
Single Bedroom (RHSC) (4)	1	1	2	**4**
En-suite wheelchair-accessible WC, Shower & wash	1	1	1	**3**
4 Bed Room (2)	4	2	8	**14**
En-suite wheelchair-accessible WC, Shower & wash	1	1	1	**3**
En-suite wheelchair-accessible WC, Shower & wash	1	1	1	**3**
Patients' Assisted Bathroom	1	1	1	**3**
Treatment Room	1	2	2	**5**
Ward Management Office		2	1	**3**
Touchdown Base		2		**2**
WC - Staff		1		**1**
WC - Visitors			1	**1**
Clean Utility		2		**2**
Dirty Utility		1		**1**
Ward Kitchen		2		**2**
Resuscitation Trolley Bay				
Linen Bay (1 trolley)				
Store - General		1		**1**
Store - Equipment		1		**1**
Disposal Hold		1		**1**
DSR		1		**1**

1.4 Key Operational Processes

1.4.1 Operational Processes

Reception

- Access to the ward – patients accompanied by at least one family member will enter the hospital via the car park areas, ambulance or bus drop off area, arriving directly at the RHSC main entrance and proceed to the Surgical Short Stay Ward.
- Administration staff will manage the surgical short stay administration process (e.g. organisation of health records, admission to ward documents)
- All patients and families arriving at the department are required to report and register at the reception area and will then be directed to their allocated bed area
- The Ward Clerk will be based at this area

Play/Dining Room

- This area requires to be flexible in its use to provide a number of different functions e.g.
    - a play area
    - dining room at mealtimes
    - a sitting room area for parents/families in the evenings
- Access to secure outside space from this area is required

- A range of activities to meet the needs of patients from 0 – 16 years of age will take place in this area
- The range of activities taking place in this area will include group play sessions, artwork and computer activities
- Secure storage for games, artwork, computer games etc will be required

Patient Accommodation

- Facilities will be required to accommodate inpatients in either 4 bedded bays or single bedrooms
- Two single bedrooms will be furbished to meet the needs of adolescent patients
- Facilities will be required by each patient bed for a parent to stay overnight with their child
- A fixed ceiling mounted method of transferring patients from bed/cot to wheelchair/en-suite is required in the following areas:-
    - 1 Single Room
    - 1 Adolescent Single Room
    - 1 bed in each 4 bedded area
    - Patient Assisted Bathroom
- The unit requires a Patient Assisted Bathroom – (360^{o} accessible bath, full wheelchair access, and disabled access WC/WHB)

Treatment Room

- Minor treatment procedures will be undertaken e.g. wound dressings, plaster splitting and reinforcing, venepuncture and cannulation, IV administration.
- Specimen samples will be taken within this area and a method to transfer these to the labs is required within the ward
- Wall space will be required to fix the stadiometer for height measurement

Ward Management Office

- Office space for Charge Nurse/Deputy
- This room will be used for administration, counselling and meetings with staff

Touchdown Base

- Staff will require access to an IT workstation to enter data on the EPR and/or view radiological images
- Staff will require to be able to observe patients from the nearest touchdown base
- Staff will require to be able to observe patients' monitoring equipment in single rooms and four bedded bays from the nearest touchdown base
- The patient/emergency call system panel will require to be accessed by staff at these bases

Clean Utility

- This room will provide facilities for the safe, separated and secure storage of medicines which will maintain their quality (including internal and external medicines, intravenous fluids, controlled drugs, refrigerated items, clean and sterile supplies)
- Lockable storage for pharmacy delivery boxes will be required
- This room will be used for the storage and preparation of intravenous medication, one stop dispensing and take home medications

Dirty Utility

- Will be used for safe storage of clinical and domestic waste; and dirty linen prior to collection before transfer to the Disposal Hold area
- Urine and stool specimen testing will be undertaken in this area

Kitchen

- Kitchen area will be used for the serving of patients meals and preparation of snacks and drinks

Resuscitation Bay

- Area used for the storage of the resuscitation trolley
- Resuscitation Trolley used in the situation of medical/clinical emergencies and therefore staff must have ease of access to this area

Linen Bay

- Area will be used for the storage of the linen trolley
- Staff will collect clean linen from this area

Storage Areas

- Storage areas will be required for storage of equipment and a range of clinical supplies e.g. catheters, naso-gastric tubes, sharps boxes, infusion devices, bandages and splints and non clinical supplies e.g. nappies, children's clothing
- Storage of bulky equipment is required e.g. wheelchairs, specialist walking/sitting equipment, sitting and standing weighing scales

Disposal Hold

- Will be used for safe storage of clinical and domestic waste; and dirty linen prior to collection to then be transferred to the FM area in the Basement
- Will require to hold 2 dirty linen cages with dimensions of 800 x 700 x 1500 (H), and two wheelie bins (770 litre capacity – 1360H,1360W, & 800 D)

DSR

- Will be used as a Domestic services store for equipment and supplies
- Locked storage for COSHH related products is required
- Facility for disposal of cleaning fluids is required

Interview Room (shared with the Surgical Long Stay Ward)

- Will be used by staff to meet privately with parents to discuss child/young person condition and treatment plans
- Will be used by managers for private staff meetings/discussions

Multi-Disciplinary Office (shared with the Surgical Long Stay Ward)

- This area will be used by staff to carry-out their administrative duties/task including the recording of patient information electronically, reviewing and reporting diagnostic results, and using the telephone.

1.5 Patient/Process Flow

1.5.1 Patient Flow

Refer to Appendix A

1.5.2 Process Flow

Booking Processes

- Referral process – patients are referred by GP to consultants or consultant to consultant for elective admissions. For emergency admissions referral will come from the Emergency Department
- All data will be recorded electronically within the area and will be available within the electronic record/paper record.
- Data recorded in supporting departments must be available to nursing, medical and allied health professionals during patient admission electronically.

Internal Delivery

- Access will be required to deliver and collect equipment, stores, linen, catering, mail and clinical waste to the department.

Transport

- Patients requiring external transport may be collected from the ward / Long and short stay wards' discharge area and taken to their transport.
- Deceased patients will either be taken to the Bereavement Suite prior to being transported to the mortuary in RIE or will go directly to the mortuary.

Laboratories

- A rapid method of transit of samples to the laboratories will be required

Pharmacy

- A secure and rapid method of requesting and receiving medication as well as transporting documentation must be available to the main pharmacy and dispensary

Radiology

- Requests for radiology investigations will be made using the electronic patient record.
- Digital images of radiology results must be available throughout the ward

Unified Communication Systems

IT Infrastructure

- The IT Infrastructure provided must be flexible to allow:
  - use of both static and mobile IT equipment.
  - access to internet and intranet sites, to allow access to NHSL Information Systems e.g. PACS, TRAK, DATIX, Pharmacy including prescribing module
  - tracking of clinical and non clinical equipment electronically
  - patient location
- All Clinical Treatment Rooms, Staff Touchdown Bases, Interview Rooms, and Offices require full access to IT systems

Patient/Staff /Communication Systems

- All clinical areas require to be provided with an integrated patient/nurse/emergency call system

Security / Access Control Systems

- Entrance and exit from the department will be controlled for staff
- A 'Video intercom system' will need to be provided at the entrance for use by families and visitors to the ward
- Staff panic alarm system (personal security) will be provided throughout the department.
- Cupboards require to be lockable
- Key doors will be identified as 'staff access ' only and accessed by controlled entry system

Access and exit routes from the department

- The entry and exit routes to/from the department will be designed to prevent the department from becoming a thoroughfare for other staff, patients and families wishing to enter or move around the building

1.6 Facility Requirements

1.6.1 Clinical Facility Requirements

- Single Bedroom (RHSC) x 6
- 4 Bed Room x 2

- Resuscitation Trolley Bay x 1
- Treatment Room x 1

1.6.2 Specific Support Requirements

- Reception x 1
- Dining/Play Room x 1
- En-suite wheelchair accessible WC, shower & wash x 8
- Patient's Assisted Bathroom x 1
- Ward Management Office x 1
- Touchdown Base x 1
- WC – Staff x 1
- WC – Visitors x 1
- WC – Accessible x 2
- Clean Utility x 1
- Dirty Utility x 1
- Ward Kitchen x 1
- Linen Bay (1 trolley) x 1
- Store – general x 1
- Store – equipment x 1
- Disposal Hold x 1
- Domestic Services Room x 1

1.7 Key Departmental Relationships

Critical horizontal adjacency to:

- Surgical Long Stay Ward
- Medical/Surgical/Neuroscience Shared Support
- Adolescent Shared Support
- Medical Ward
- RHSC Ward Floor Staff Support Areas

Essential vertical adjacency via lift to

- Theatre Suite
- Radiology
- Critical Care
- Emergency Department

1.8 Environmental and Services Requirements

- The floor covering provided needs to be impervious, easily cleaned, durable and allow easy movement of equipment e.g. beds, trolleys
- Facilities will need to comply with the DDA legislation
- Walls and furnishings will be soft and warm in colour with the use of art embedded within the department to ensure the department is child friendly and meets the wide age range of those attending
- Patient rooms will have natural daylight but ensure privacy
- All patient rooms will require sound of speech privacy
- Specific areas as detailed in Section 1.4 must have ceiling

hoists
- Layout of the department must be clear and logical to enable easy way finding, orientation and access to facilities for displaying information for patients and members of the public who may be disabled, hard of hearing or partially sighted. Signage must be clear.
- Chairs with arms in a variety of seat heights must be available to be suitable for infant to young people and their families
- All clinical areas require lighting that can be varied in intensity
- All patient beds will require access to oxygen, air and suction
- Drinking water will be available throughout the area
- Observation between the two four bedded bay areas is required
- Areas used for the preparation and assembly of medicines need to be secure, well lit and work surfaces an appropriate height to avoid excessive bending over for staff
- Wash hand basins will be required at the entrance of the ward

1.9 Design Guidance

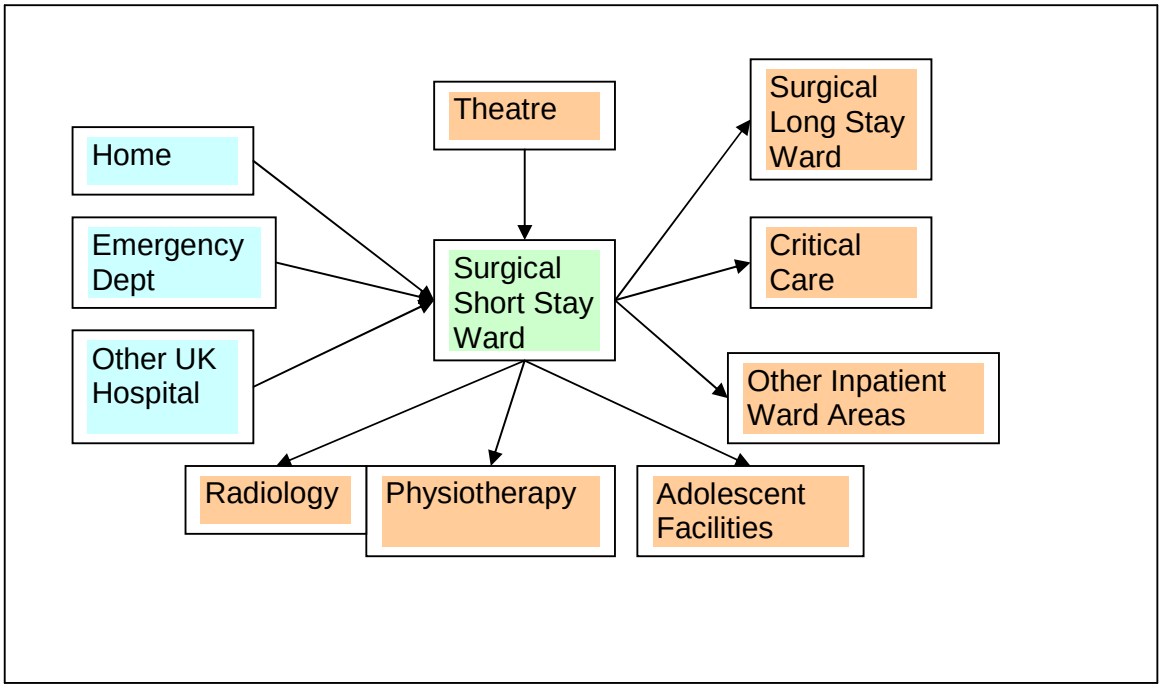
Attention is drawn to the design guidance contained in the following documents:
- HBN 23: Hospital Accommodation for Children & Young People
- SHTM 2025: Ventilation
- SHFN 30: Version 3: Infection Control
- SHTM 61: Flooring
- HBN 14: Pharmacy

1.10 Other Specifications

Other output specifications and documents relevant to this one include:
- Surgical Long Stay Ward (C1.2)
- RHSC Medical/Surgical/Neurology/Haematology Shared Support (C1.5)
- Shared Ward Support (C2)

Surgical Short Stay Patient Flow

APPENDIX A



NHS LOTHIAN

PAPER APART: MOTT MACDONALD LTD APPOINTMENT AS TECHNICAL ADVISORS TO NHS LOTHIAN

This Paper Apart forms part of NHS Lothian's Response to the SHI paper: "Narrative concerning the Reference Design of the Royal Hospital for Sick Children and Department for Clinical Neurosciences"

Dated: 19 August 2022

APPOINTMENT OF MOTT MACDONALD LTD

NHS Lothian appointed Mott MacDonald Limited ("MML") to provide Project Management and Design Team Services on 13 June and 11 October 2011 ("the Appointment"). The Appointment was made under Framework Agreement RM457/1 between OGC and MML signed on 20 October and 2 November 2009. The Appointment was for the period up to "*22 March 2015 or commencement of availability/practical completion of the Project under the [Project Agreement]*". The Appointment was extended, as required, by a number of contract control orders.

MML sub-contracted other consultants for Project Management (Davis Langdon), Cost Consultancy (Thomson Gray) and CDMC duties (Turner & Townsend). Clause 50 of the Appointment provides that MML is fully responsible for any ordered services provided by the sub-contractors as if they had been undertaken directly by MML.

The following table sets out MML's key obligations in terms of the Appointment:

NHS Lothian's Appointment with MML to provide Project Management and Design Team Services on 13 June and 11 October 2011
Clause 3 – **Responsibility for Documents** 3.1 – [*MML] shall ensure that all documents which are prepared and submitted by [MML], its sub-contractors, staff and agents including any feasibility study, design or reports, drawings and any other documents supplied in connection therewith but excluding drafts of such documents, shall have been prepared to the Contract Standard. It is hereby acknowledged and agreed that NHSL shall be entitled to rely on all documents submitted by [MML], its Sub-contractors, staff and agents for the use of such documents in connection with the Project to which they relate.*
Clause 9.1 – **Professional Responsibility** MML shall perform its services "*using all reasonable skill care and diligence as would a competent and appropriately qualified consultant or other appropriate professional carrying out services of a similar specification, nature, scope, size and complexity… "*

Clause 9.2 – **Duty of Care – Design**

"in so far as [MML] is responsible for design…[MML] undertakes to use due skill, care and diligence in the design of the Project as would reasonably be expected of a competent professional designer experienced in carrying out design activities of a similar nature, scope and complexity to those comprised in the Project (9.2.1); and *"shall be responsible for and liable for the design of the Project"* (9.2.2).

Clause 11 – **Responsibility for Work by Others**

11.1 - ***"****Where [MML] is required to incorporate work provided by others, [MML] responsibility in respect of such work shall be limited to the review thereof to the extent required to ensure the satisfactory performance of the Ordered Services.* ***"***

11.2 … *if MML shall find any discrepancy in or divergence between any documents and/or information, which shall include work provided by others, [MML] shall immediately give to the Client written notice specifying the discrepancy or divergence*.

11.3 *MML shall inform NHSL re any inconsistency or incompatibility with NHSL requirements or the Specification. MML shall obtain instruction to so vary in writing form NHSL*

Clause 31 – **Tender Documents and Contracts**

31.1 *MML shall obtain the written instructions of NHSL regarding NHSL procedures for obtaining tenders, the forms of contract to be used or any specification requirements or other matters relevant to the type of work to be dealt with by MML. MML shall also have due regard to all Statutory Requirements when conducting a procurement exercise.*

31.2 *if MML is to produce the tender documents it shall prepare all tender documents carefully and professionally, submitting them to NHSL and any other advisers as directed by NHSL prior to dispatch.*

Clause 50 – Sub-Contractors

[MML] shall be fully responsible for the Ordered Services undertaken by Sub-Contractors who MML shall himself appoint and MML shall have the same responsibility for the Ordered Services' undertaken by such Sub-Contractors as if such Ordered Services had been undertaken directly by MML.

TEHCNIAL ADIVSOR SCOPE (page 63 of Appointment)

SECTION A: CORE TECHNICAL ADVISOR ROLE UP TO FINANCIAL CLOSE

Management and Coordination

Ref 10: Prepare Invitation to Partake in Dialogue (ITPD), including Output Specifications

Ref 13: Prepare Reference Design documentation, as appropriate, for inclusion in ITPD …

Ref 16: Check Reference Design for compliance with all appropriate NHSL and legislative guidelines and requirements (lists as pre-agreed with NHSL) and identify any derogations.

Ref 17: Develop approved and final Room Data Sheets appropriate for inclusion in bid documents in conjunction with NHSL

Ref 22: Technical input into the Project Agreement

Administer Competitive Dialogue Process with shortlisted Bidders (based on 3 shortlisted Bidders)

Ref 34: Responsibility for structure and review of all D&C and FM elements of CD process

Ref 36: Allowance for dealing with Clarification during CD process

Preparation of final submissions by bidders

Ref 40: Design and finalise ITSFP documentation (design elements)

Ref 42: Manage and administer clarifications

Evaluation of Final Tender Submissions in conjunction with client and advisory team, administration of clarifications, followed by NHSL approvals

Ref 43: Management and coordination of evaluation process.

Ref 44: Evaluation of D&C and FM elements of Final Tenders, in particular, compliance with bid documents and legislative requirements (Clinical Functionality will be reviewed by NHSL and does not form part of the scope at any time – (however it is likely that they will seek our guidance since this will all be part of the final evaluation).

Achieving Financial Close – Coordinating approvals process and managing commercial, legal, and financial issues which require to be closed.

Ref 54. Participate in final negotiations, along with the NHSL team and Legal and Financial Advisors, to achieve contract award and financial close.

Ref 55. Assist in the production of a comprehensive and final version of the Contract Documents taking into account of the discussions, correspondence, and negotiations with the tenderers, preferred bidder and reserve preferred bidder and their respective lenders.

Ref 56. Coordinate technical inputs to achieve Financial Close.

Ref 57. Provide necessary input to D&C, FM and Paymech elements of Financial Close including initial RDD process."

SECTION B: CORE TECHNICAL ADVSIOR ROLE DURING CONSTRUCTION

Ref 63: Management of Reviewable Design Data (RDD) process on behalf of Authority including progress reporting, attendance at workshops, administration and stakeholder input

SECTION C: REFERENCE DESIGN (PROVISION SUMS)

Ref 71: Management and Delivery of Reference Design

Ref 72: Provisional sum for Design Fees (as advised by NHSL)

SCOTTISH HOSPITALS INQUIRY (THE "INQUIRY")

NHS LOTHIAN (THE "BOARD")

NARRATIVE – OPERATIONAL FUNCTIONALITY

1. OVERVIEW

1.1 This narrative is provided to assist the Inquiry with an overview of the concept of "Operational Functionality".

1.2 The narrative shall review:

1.2.1 IHSL's design risk;

1.2.2 The Board's Construction Requirements;

1.2.3 The definition of Operational Functionality; and

1.2.4 The design approval process to be adopted by the Board.

2. IHSL'S DESIGN RISK

2.1 In terms of Clause 12.1 *(Overall Responsibility)* of the Project Agreement, IHSL was required to carry out the Works (i.e. to build the RHCYP & DCN) to satisfy the Board's Construction Requirements, Project Co's Proposals and the Project Agreement.

2.2 In addition, Clause 12.3 *(Design responsibility)* of the Project Agreement stated that IHSL warrants that it *"has used and will continue to use, the degree of skill and care in the design of the [RHCYP & DCN]….that would reasonably be expected of a competent professional designer experienced in carrying out design activities of a similar nature, scope and complexity to those comprised in the Works".*

2.3 Clause 12.3 *(Design responsibility)* made it very clear that design risk for RHCYP & DCN sat with IHSL.

3. BOARD'S CONSTRUCTION REQUIREMENTS

3.1 The Board's Construction Requirements set out the construction requirements for the RHCYP & DCN.

3.2 Key provisions of the Board's Construction Requirements

3.2.1 Paragraph 2.3 *(NHS Requirements)* of the Board's Construction Requirements

(a) Paragraph 2.3 stated as follows:

(i) "In addition to the standards listed in paragraph 2.4 of this Sub-Section 3 of the Board's Construction Requirements, unless the Board has expressed elsewhere in the Board's Construction Requirements, a specific and different requirement, the facilities shall comply with but not be limited to the provisions of the NHS Requirements [as defined in paragraph 2.3 of the Board's Construction Requirements] as same may be amended from time to time:"

(ii) Paragraph 2.3(f) refers to HTM and SHTM.

(iii) In relation to HTM and SHTM, paragraph 2.3(v) provides as follows:

(A) "Project Co shall in relation to all SHTM and all HTM (except HTM where an SHTM exists with the same number and

covering the same subject matter): take fully into account the guidance and advice included within such SHTM and HTM; ensure that the facilities comply with the requirements of such SHTM and HTM; and adopts as mandatory all recommendations and preferred solutions contained in such SHTM and HTM".

(iv) Subsection C of Section 3 also mandates SHTM 03-01 as the minimum standard for the design of ventilation systems throughout the Facility, including in Critical Care: see, for instance, paragraphs 2.3, 2.5, 5.2, 8.1, 8.2, 8.5.2 and 8.7.8 of Subsection C of Section 3 of the Board's Construction Requirements.

(v) The Board's Construction Requirements mandated that Project Co comply with SHTM 03-01.

3.2.2 Paragraph 2.4 *(Minimum Design and Construction Standards)* of the Board's Construction Requirements

(a) Paragraph 2.4 stated as follows:

(i) "Project Co shall also ensure that the Facilities comply with Good Industry Practice, NHS Scotland requirements, relevant statutory requirements (including highways) and required consents including, but not limited to, the following as the same may be amended from time to time…..[various standards then listed]":

3.2.3 Paragraph 2.5 *(Hierarchy of Standards)* of the Board's Construction Requirements

(a) Paragraph 2.5 stated as follows:

(i) "Where contradictory standards/advice are apparent within the terms of the Board's Construction Requirements and the appendices then subject to the foregoing paragraph then (1) the ***most onerous standard/advice shall take precedence*** *and (2) the* ***most recent standard/advice shall take precedence****. When the more onerous requirement is to be used the Board will have the right to decide what constitutes the more onerous requirement".*

3.2.4 A summary of these key Board's Construction Requirements provisions is as follows:

(a) Paragraph 2.3 stated that SHTM guidance (which included SHTM 03-01) should be fully taken into account by Project Co;

(b) Paragraph 2.4 stated that the RHCYP & DCN should comply with Good Industry Practice. The concept of Good Industry Practice is very wide and is a term defined in the Project Agreement[1];

(c) Paragraph 2.5 provided a "solution" if the Board's Construction Requirements contained contradictory standards or advice. In such a case, the more onerous and the most recent standard or advice would take precedence.

[1] "Good Industry Practice is defined in Schedule Part 1 of the Project Agreement as follows:
*"**Good Industry Practice**" means using standards, practices, methods and procedures conforming to the Law and exercising that degree of skill and care, diligence, prudence and foresight which would reasonably be expected from a skilled and experienced person engaged in a similar type of undertaking under the same or similar circumstances"*

3.3 The Board's Construction Requirements made very limited reference to Operational Functionality. The following references have been identified:

3.3.1 Paragraph 5.2.3 *(Standardisation and pre-fabrication)* stated that *"The use of standardised / prefabricated elements and building components to achieve good quality control, ease and speed of installation and flexibility for future use is welcomed. Their use shall ensure Operational Functionality can be achieved and offering value for money";* and

3.3.2 Paragraph 8 *(Mechanical and electrical requirements)* stated that "*The location of engineering and utility services shall be co-ordinated with the structure and not constrain or conflict with Operational Functionality. Access to all services shall facilitate ease of maintenance which shall be safe and able to be effectively undertaken. There shall be provision for space to give flexibility for future re-planning and / or re-modelling of the Facilities.*

3.4 Section D of the Board's Construction Requirements set out the specific clinical output specifications (there being 43 in total).

3.4.1 In general, these do not appear to refer to Operational Functionality. However, "Q1 Radiology Department" stated that "*MRI quench pipes, which allow the evacuation of cryogenic gases into the atmosphere in emergency situations, should pass through the body of the hospital without affecting the operational functionality of clinical areas".*

3.4.2 It is of note that the majority of the clinical output specifications refer to SHTM 2025 Ventilation. This is because SHTM 2025 was the "live" guidance at the time of writing the clinical output specifications in 2009/2010. SHTM 03-01 was a direct replacement for SHTM 2025 and provided updated ventilation guidance.

3.4.3 Accordingly, there is an inconsistency between the clinical output specifications set out in Section D of the Board's Construction Requirements (which refer to SHTM 2025) and Section A to C of the Board's Construction Requirements (which refer to SHTM 03-01).

3.4.4 However, as already noted, paragraph 2.5 *(Hierarchy of Standards)* of the Board's Construction Requirements (see paragraph 3.2.3 above) provides a "solution" to any such inconsistences.

3.4.5 In accordance with paragraph 2.5, it is the most onerous guidance and the most recent guidance which would take precedence. This would mean that SHTM 03-01 (and not SHTM 2025) would take precedence in the Board's Construction Requirements.

3.5 The Board's Construction Requirements made little reference to Operational Functionality because it was the responsibility of the Board (as opposed to IHSL) to satisfy itself whether Reviewable Design Data met the requirements of Operational Functionality.

4. OPERATIONAL FUNCTIONALITY

4.1 The term "Operational Functionality" was defined in the Project Agreement.

4.2 This term was very narrow and primarily described:

4.2.1 the adjacencies between departments and rooms in the RHCYP & DCN (as referenced in specific 1:200 and 1:500 drawings) but only insofar as this related to or affected Operational Use;

4.2.2 the quantity, description and minimum critical dimensions of certain rooms and spaces (as referenced in specific drawings) but only insofar as this relates to or affected Operational Use;

4.2.3 the location and relationship of equipment, furniture and fittings and user terminals in respect of bed and trolley positions, internal room elevations, actual ceiling layouts,

some Non-Clinical Services spaces and ICT requirements (as references in the 1:50 loaded room plans) but only insofar as this relates to or affected Operational Use; ;

4.2.4 the location and inter-relationship between rooms and departments within the RHCYP & DCN (as referenced in specific drawings) but only insofar as this relates to or affected Operational Use.

4.3 For completeness, the term "Operational Use" meant "the use of the room or space by the Board for carrying out the Board Services". The "Board Services" include the Clinical Services (which include the clinical and medical services) and the Non-Clinical Services (which include catering, portering, domestic services etc.)

4.4 Operational Functionality was about the geography of a room or department and the geography of equipment within such a room or department.

4.5 For example, practical questions that the Board would need to consider in relation to room lay outs to ensure that they were operationally functional would include:

4.5.1 whether medical staff could approach patients from both sides of a room?;

4.5.2 whether catering trolleys could enter and exit a room?;

4.5.3 whether kitchens or laundries had been placed appropriately (i.e. not next to critical care areas)?.

4.6 The Board had a discreet obligation to "sign off" the location of a room and what equipment was contained within a room, but only insofar as this affected how the room would be used for medical and non-medical purposes.

5. BOARD DESIGN APPROVAL

5.1 Although IHSL had overall design risk pursuant to Clause 12.3 *(Design responsibility)* of the Project Agreement, Clause 12.5 to Clause 12.6 *(Board Design Approval)* of the Project Agreement introduced a narrow element of design approval by the Board for Reviewable Design Data (i.e. design data which was set out in Section 5 of Schedule Part 6 of the Project Agreement, this being design data which had not been finalised at financial close in February 2015).

5.2 **Board design approval up to financial close**

5.2.1 In terms of Clause 12.5 *(Board Design Approval)*, the Board confirmed that it had reviewed certain Project Co's Proposals and that these satisfied the concept of "Operational Functionality", subject to any qualifications of comments set out in Section 9 *(Board's Qualifications/Comments in respect of Operational Functionality requirements)* of Schedule Part 6 of the Project Agreement.

5.2.2 This statement represented a line in the sand for both IHSL and the Board. Therefore, a demarcation emerged between:

(a) Design Data which had been reviewed by the Board and which satisfied Operational Functionality;

(b) Design Data which had been reviewed by the Board and had been commented on by the Board (as per the Section 9 *(Board's Qualifications/Comments in respect of Operational Functionality requirements)* of Schedule Part 6 of the Project Agreement; and

(c) Design Data that had not been reviewed by the Board. This was the remaining Reviewable Design Data for the RHCYP & DCN. Clause 12.6 *(Board Design Approval)* would apply to this Reviewable Design Data.

5.3 **Board design approval after financial close**

5.3.1 Clause 12.6 *(Board Design Approval),* set out the process to be adopted by IHSL to finalise its design. This process was set out in Schedule Part 8 *(Review Procedure)* and Clause 12.6 *(Board Design Approval).*

5.3.2 In terms of Clause 12.6 *(Board Design Approval),* the steps to be adopted by both IHSL and the Board are summarised as follows:

(a) IHSL developed and finalised its design of RHCYP & DCN;

(b) IHSL submitted Reviewable Design Data to the Board's Representative for review pursuant to Schedule Part 8 *(Review Procedure);*

(c) IHSL were not to commence construction of the RHCYP & DCN to which the Reviewable Design Data related until it had submitted the appropriate Reviewable Design Data to the Board. Once submitted, the options available were as follows:

(i) The Board's Representative could confirm that IHSL was entitled to proceed with construction in accordance with paragraph 3.3 (this being the list of objections that the Board is entitled to raise)[2] of Schedule Part 8 *(Review Procedure);* or

(ii) IHSL could dispute the status of such Reviewable Design Data pursuant to paragraph 1.3.1 or paragraph 4.3 of Schedule Part 8 *(Review Procedure);* or

(iii) IHSL could proceed to construct at its own risk pursuant to paragraph 1.3.2 of Schedule Part 8 *(Review Procedure).*

5.3.3 However, the above "Board design approval" requires to be taken in the context of two key provisions of the Project Agreement:

(a) Clause 12.6.2 *(Board Design Approval)*

(i) Firstly, Clause 12.6.2 *(Board Design Approval),* states that when Reviewable Design Data becomes an Approved RDD Item, such approved RDD Item shall *"be deemed to have satisfied the requirements of the Board in the manner and to the extent set out in Table A in Appendix 1 of Schedule Part 8 (Review Procedure) ("**Table A**").* This Table A specifically states that in relation to each Approved RDD Item, such item has satisfied Operational Functionality;

(b) Paragraph 4.5 (Effect of Review) of Schedule Part 8 (Review Procedure)

(i) Secondly, paragraph 4.5 *(Effect of Review)* of Schedule Part 8 *(Review Procedure)* states that in terms of Reviewable Design Data endorsed with "Level A – no comment", "Level B – proceed subject to amendment as noted" or "Level C – subject to amendment as noted", such return *"shall not relieve Project Co of its obligations under this [Project] Agreement nor is it an acknowledgement that Project Co has complied with its obligations".* The only caveat to this statement is in relation to Table A. Therefore, Approved RDD Items which have satisfied Operational Functionality (as referred to in Table A) are separate to the

[2] **Note:** The list of objections that the Board could raise in relation to Reviewable Design Data was wide. For example, paragraph 3.3.3 stated that comments could be raised in relation to a 1:50 room layout drawing which was not in accordance with the Board's Construction Requirements, Project Co's Proposals or inconsistent with current NHS Requirements (which included HTMs and SHTMs).

general obligation placed upon IHSL to comply with the Project Agreement (including Clause 12*.3 (Design responsibility).*

5.3.4 In summary, if the Board endorsed Reviewable Design Data with a "Level A – no comment" in relation to Operational Functionality, IHSL could take this at face value and it is the Board's risk if this comment was not correct.

5.3.5 However, by the Board providing a "Level A – no comment" the Board did not relieve IHSL from complying with its other obligations under the Project Agreement (including compliance with the Board's Construction Requirements and Clause 12.3 *(Design responsibility).*

5.3.6 Therefore, although the Board could choose to point out "errors" to IHSL, such as non-compliances with the Board's Construction Requirements, it was not duty bound to do so pursuant to Schedule Part 8 *(Review Procedure).* Indeed, it is the Board's view that it was for IHSL to self-monitor its compliance with the Project Agreement and Board's Construction Requirements.

6. CONCLUSION

6.1 The Board had a responsibility to determine whether Reviewable Design Data satisfied Operational Functionality.

6.2 Operational Functionality is a discreet obligation and did not dilute the overall design risk which was placed upon IHSL pursuant to Clause 12.3 *(Design responsibility)* of the Project Agreement to ensure that the RHCYP & DCN complied with all obligations in the Project Agreement and the Board's Construction Requirements

Appendix 1

Definitions set out in the Project Agreement

Definition	Meaning
"Operational Functionality"	means (a) the following matters as shown on the1:500 scale development control plan and site plans; (i) the point of access to and within the Site and the Facilities; (ii) the relationship between one or more buildings that comprise the Facilities; and (iii) the adjacencies between different hospital departments within the Facilities, as indicated on the following drawings in Section 4 (Project Co's Proposals) of Schedule Part 6 (Construction Matters): • HLM-ZO-00-PL-700-020 Rev 6; • HLM-SZ-B1-PL-400-400 Rev 2; • HLM-SZ-00-PL-400-400 Rev 3; • HLM-SZ-01-PL-400-400 Rev 2; • HLM-SZ-02-PL-400-400 Rev 2; • HLM-SZ-03-PL-400-400 Rev 2; • HLM-SZ-04-PL-400-400 Rev 2; (b) the following matters as shown on the 1:200 scale plans: (i) the points of access to and within the Site and the Facilities; (ii) the relationship between one or more buildings that comprise the Facilities; (iii) the adjacencies between different hospital departments within the Facilities; and (iv) the adjacencies between rooms within the hospital departments within the Facilities, as indicated on the following drawings in Section 4 (Project Co's Proposals)

	of Schedule Part 6 (Construction Matters) • HLM-SZ-00-PL-220-001 Rev 6; • HLM-SZ-01-PL-220-001 Rev 6; • HLM-SZ-02-PL-220-001 Rev 6; • HLM-SZ-03-PL-220-001 Rev 6; • HLM-SZ-04-PL-220-001 Rev 6; • HLM-SZ-06-PL-240-001 Rev 5; • HLM-SZ-61-PL-220-001 Rev 7; • HLM-ZS-SL-PL-220-001 Rev 6; (c) the quantity, description and areas (in square metres) and minimum critical dimensions of those rooms and spaces as indicated on the following drawings in Section .4 (Project Co's Proposals) of Schedule Part 6 (Construction Matters): • HLM-SZ-00-PL-220-001 Rev 6; • HLM-SZ-01-PL-220-001 Rev 6; • HLM-SZ-02-PL-220-001 Rev 6; • HLM-SZ-03-PL-220-001 Rev 6; • HLM-SZ-04-PL-220-001 Rev 6; • HLM-SZ-06-PL-240-001 Rev 5; • HLM-SZ-B1-PL-220-001 Rev 7; • HLM-Z5-SL-PL-220-001 Rev 6; (d) the location and relationship of equipment, furniture, fittings and user terminals as shown on the 1:50 loaded room plans in respect of: (i) all bed and trolley positions; (ii) internal room elevations; (iii) actual ceiling layouts; (iv) the Non-Clinical Services supplies, storage, distribution and waste management spaces; and (v) the ICT requirements; (e) the location of and the inter-relationships between rooms within the departments within the Facilities, as

	indicated on the following drawings in Section 4 (Project Co's Proposals) of Schedule Part 6 (Construction Matters) • HLM-SZ-00-PL-220-001 Rev 6; • HLM-SZ-01-PL-220-001 Rev 6; • HLM-SZ-02-PL-220-001 Rev 6; • HLM-SZ-03-PL-220-001 Rev 6; • HLM-SZ-04-PL-220-001 Rev 6; • HLM-SZ-06-PL-240-001 Rev 5; • HLM-SZ-B1-PL-220-001 Rev 7; • HLM-Z5-SL-PL-220-001 Rev 6; but only insofar as each of the matters listed in (a) to (e) above relate to or affect Operational Use;
"Operational Use"	means the use of a room or space to the extent that it is used by the Board or its employees, tenants, agents and/or contractors (but not to avoid doubt Project Co staff) for carryout out the **Board Services**.
"Board Services"	means: (a) the **Clinical Services**; (b) the Non-Clinical Services; (c) a catering service comprising a restaurant, grab and go kiosks, vending machines and trolley services, (d) retail premises for the sale of goods which are ordinarily sold in hospitals; (e) display of works of art for exhibition and/or sale within the Site; (f) any Volunteer Services; (f) the holding of an occasional fete, tombola and raffle for charitable fund raising purposes within the Site; (e) Teenager Cancer Trust Activities, and such other services as may be notified to Project Co by the Board from time to time which are not services to be carried out by Project Co under this Agreement;
"Clinical Services"	means:

	(a) the management, responsibility, administration and carrying out of the clinical and medical services provided at the Facilities by or on behalf of the Board from time to time; (b) the provision of training and education required to deliver the services referred to in paragraph (a) above, and which are not services to be provided by Project Co to the Board under this Agreement;

SCOTTISH HOSPITALS INQUIRY
Hearing dated 24 April 2023
Bundle 15 - Additional Supporting Documents from NHS Lothian