Scottish Hospitals Inquiry

Hearing commencing 24 April 2023

Bundle 7 - Key Parts of Mosaic's tender and marked up Environmental Matrix

Object ID: A42689294

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The Scottish Government

SCOTTISH FUTURES TRUST

Validation of Revenue Funded Projects:

NPD Programme

Pre-Preferred Bidder Appointment Key Stage Review

28 February 2014

NPD Programme
Pre-CoD Key Stage Review

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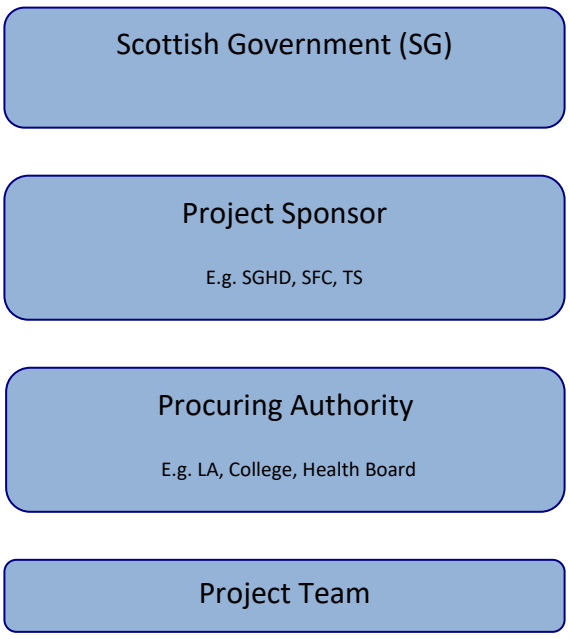


Notes to the Reviewer

1.1. Background

It is a condition of Scottish Government (SG) funding support that all projects in the revenue funded programme are, in addition to any existing project approvals processes, externally validated by SFT. SFT undertakes validation by carrying out Key Stage Reviews (KSRs) of projects at key stages of a procurement. The KSR process is designed to support the successful delivery of revenue funded projects whether delivered through the non-profit distributing (NPD) model or the hub initiative as Design Build Finance and Maintain (DBFM) projects by providing an assessment of the readiness of a project before it moves on to the next stage in the procurement process.

1.2. Timing

This review is required to be completed following evaluation of Final Tenders and in advance of the appointment of a Preferred Bidder.

The review should be carried out by the member of the Scottish Futures Trust team who normally provides support to the relevant project (the Reviewer). The Reviewer must agree the precise timing of the review and submission of SFT's report with the Project Sponsor and/or SG to integrate with the other project approvals processes.

In the run up to each review point, the Reviewer will inform and keep up-to-date the SFT validation team of the estimated timetable for carrying out the KSR. The validation team will arrange for a member of the SFT's senior management team (SMT) to scrutinise the list completed by the Reviewer before it can be submitted to the Project Sponsor and/or SG. The Reviewer should thereafter liaise directly with the allocated SMT member and must return a countersigned copy of the list to the Validation Team upon SMT sign-off. The Reviewer should discuss arrangements with the allocated SMT member and provide a verbal briefing if requested in advance of review so that if required necessary background information can be made available.

1.3. Process

The Reviewer must familiarise him/herself of the requirements of the checklist and consider which elements s/he can answer on the basis of existing knowledge of the project and identify what additional information is required in relation to the project in order to complete the remaining sections. The Reviewer should, at the earliest opportunity, explain to the Procuring Authority / Project Team what additional information s/he will require, in what form and by when in order to complete the review within the agreed timescales.

The review is not intended to be a "stop-start" process and the Reviewer should refer to the list throughout each delivery stage so that all sections of the checklist can be completed without delay to the project. The process involves the Reviewer completing this pro-forma list on the basis of information obtained in his/her day-to-day dealings with the project, considering whether in his or her view the project is ready to proceed to the next stage of procurement and making recommendations as to what actions may be required to achieve appropriate state of readiness. No formal submission, as such, will be required from the Procuring Authority, but the project team will be required to provide the Reviewer with information to allow him/her to complete the list and compile his/her report.

Once completed by the Reviewer, the list and draft report should be submitted to the allocated SMT member for scrutiny before being issued to the relevant Project Sponsor and/or SG and copied to the Procuring Authority. The relevant Project Sponsor and/or SG will thereafter, as part of its overall sign-off process, determine whether and on what basis the project should proceed to the next stage

taking into consideration any recommendations made in the KSR report. The Reviewer should liaise directly with the Project Sponsor and Procuring Authority as may be required to address any queries arising from the KSR report or recommendations.

1.4. Further information

Please contact the Validation Team for further information on the KSR process. Queries relating to the revenue funded programme requirements should be directed to the SFT Finance Team.

Pre-CoD Key Stage Review List

SFT Reviewer (Primary Reviewer)	Donna Stevenson
SFT Secondary Reviewer (SMT Member)	Tony Rose

Section 1: Project Outline

Project title	**Royal Hospital for Sick Children and Department of Clinical Neuroscience (RHSC/DCN) Project**
Brief project description	The provision of the Royal Hospital for Sick Children, Edinburgh and the Department of Clinical Neuroscience, currently within the Western General, Edinburgh in a joint new building adjacent to the existing Royal Infirmary of (RIE) at Little France in Edinburgh. The new build will extend to approximately 50,000 square metres with separate energy centre and facilities management yard and basement.
Outline of scope of services in project (please identify the services and who (NPD SPV or Procuring Authority) will provide those services)	The NPD SPV is to provide lifecycle replacement, hard FM service with associated helpdesk facilities including grounds maintenance, utilities procurement and management and window cleaning. NHS Lothian (the Board) is to provide the soft fm services.
Key programme dates: • **Preferred Bidder appointment** • **Financial Close**	The following dates for key elements of the programme: • OJEU: was issued on 5 December 2012 • ITPD : 11 March 2013 • ITFT : to be issued 13 December 2013 • PB appointment: to be made on 10 March 2014 • FC: scheduled for 1 October 2014

Project Contact Details

Project Sponsor /SG Responsible Officer	Scottish Government's Health and Social Care Directorates ("**SGHSCD"**)

(name & contact details)	Mike Baxter, Deputy Director, St Andrew's House, Waterloo Place, Edinburgh Telephone: [redacted] Email : [redacted]
Project Authority Responsible Officer **(name & contact details)**	Susan Goldsmith, Project Sponsor Email: [redacted]
Project Director/Manager (name & contact details)	Brian Currie, Project Director NHS Lothian, 56 Canaan Lane Edinburgh Telephone : [redacted] Email: [redacted]
Principal legal, technical and financial advisers (firm/company & name of main contact)	Technical : Richard Cantlay, Mott Macdonald Financial : Michael Pryor, Ernst & Young Legal: Andrew Orr, MacRoberts

Section 2: Project Requirements

The key objective of this section is to confirm that the proposed technical solution has been developed and agreed with the proposed preferred bidder in sufficient detail, minimising the risk of changes in the period up to financial close. Arrangements must be in place for anticipating, identifying and managing any changes to the project scope thereafter.

	Question	Yes/No	Comments
1.	Please outline any changes that been made to the scope of the project since the last KSR and demonstrate that such changes have the required level of approval within the Procuring Authority and from the relevant Project Sponsor and/or SG.		There have been no changes in scope since the Pre COD KSR except that there is a proposal to be considered by the Project Steering Board on 28 February to consider changing the catering strategy from full service kitchen to offsite production and regeneration facilities within the hospital. The Board has advised that the space requirements would remain the same for the kitchen and that there is sufficient room on the wards for the proposed new arrangements. The Board's view is that there is not likely to be a material change in costs for the NPD project, nor should it give rise to any procurement issue. If approved, the Board intends to proceed with a variation post PB. **Recommendation : (1) that the Board advises SFT of the outcome of the consideration of this proposal and of the progress for the change in scope, including the steps to be taken by the board to ensure value for money in relation to the change in costs; and** **(2) that the Board develops the detail of the implementation of its strategy, including interface management, so that catering arrangements will be in place in advance of the operational date, noting that an interim strategy will also require to be developed should the Board's long terms catering strategy not be fully implemented at the proposed facility opening date.**
2.	Is the Procuring Authority satisfied that the proposed	Yes	The position remains as at the Pre COD KSR except for the catering

	preferred bidder's solution will satisfy its operational and functional requirements (including in relation to the matters below) and deliver the project objectives, benefits and outcomes:		proposal noted above.
	- the scope of FM services within the project;		As Pre COD KSR
	- the impact of the project on staff (including potential impact of TUPE legislation);		None anticipated
	- the interface between FM services to be included within the project and those for which the Procuring Authority will retain responsibility;		As Pre COD KSR
	- the interface between design and the delivery of FM services (e.g. cleaning) and risks (e.g. energy consumption, security) retained by the Procuring Authority;		As Pre COD KSR
	- the interface (during both construction and operations) between the works and services within the project and the Procuring Authority's other facilities and services (e.g. impact on use of adjoining facilities during the construction phase) ;		As Pre COD KSR
	- sustainability;		As Pre COD KSR
	- community benefits;		The proposals from the bidders meet the Board's requirements and there are remedy provisions which the Board considers to be appropriate.

	- the inclusion of equipment within the project;		As Pre COD KSR subject to any subsequent changes to the catering arrangements
	- the delivery of the Procuring Authority's IT requirements within the new facilities;		As Pre COD KSR
	- decant from existing facilities and migration to new facilities;		As Pre COD KSR
	- any conditions or recommendations on scope/specification/design identified in the outline business case approval or previous KSRs.		See Question 31 regarding the recommendations which were mead in the Pre COD KSR.
3.	Is the Procuring Authority, and are its advisers, satisfied that any further development of technical information required from the preferred bidder appointment to financial close is achievable within the current project timetable?	Yes	The Board has confirmed that all bidders have provided detailed programmes to cover the activities for the period until FC and that the development of the technical information is at least as advanced as the Board anticipated at this stage. The Board and its advisers are satisfied that any further development of technical information from PB appointment to FC is achievable within the current project timetable. **Recommendation :** **a. The Authority is asked to share the developed version of the draft PB letter to allow SFT the opportunity to comment and to take due account of those comments.** **b. It is understood that the Board's communication strategy is such that the Preferred Bidder will be announced publicly prior to receiving the signed PB letter from the proposed PB. The Board is asked to confirm to SFT that it has considered whether there are any significant issues which would merit obtaining signature to the PB letter prior to a public announcement and that the Board's final**

			communications strategy for the PB announcement has been informed by this process.
4.	Please demonstrate that a control mechanism and an approvals process are in place for identifying and managing changes to scope, costs and timescales during the procurement process.		As Pre COD KSR

Section Three: Affordability

The key objective of this section is to consider and test the overall affordability position of the project for both the Procuring Authority and the Scottish Government, in terms of both revenue and capital funding requirements.

2. Please complete the following project affordability table (with information for the relevant KSR stage)[1]:

[Note : the following commentary was included at the Pre COD KSR stage:

The issues arise in relation to the bidders' financial submissions and the table below:

2.1. ***Construction cap:*** *the construction cap remains at £137.757m plus inflation to mid point construction of 4Q 2015 (from 3Q 2011) or earlier midpoint if applicable during procurement: the earlier date is not applicable. The inflated construction cap has been fixed at 28 November 2013 on which date the relevant BICS indices were 3Q2011: 220; 4Q2015: 254. This gives an inflation percentage of 15.45% (£21,283,457) and revised, and now fixed, construction cap of £159,040,567.*

2.2. ***SPV average annual operating costs:*** *The funding letter was based on estimated SPV costs of £387k. Only one Bidder's costs exceed this amount.*

2.3. ***SPV project development costs*** *The funding letter envisaged an indicative level of 3%, and all of the bids are outside of this estimate. The Board challenged these costs during dialogue and made clear its expectation that they could be reduced. A more detailed analysis of the breakdown and content of these costs will be required at ISFT stage to ensure comparability with the funding letter indicative sum.*

2.4. ***Lifecycle maintenance fund : l****ifecycle costs are to be compared to the £27m2 indicated in the funding letter. All Bidders are below this number.*

2.5. ***Hard Fm costs :*** *these costs are to be compared to the £29m2 assumed in the OBC . The Board challenged the costs of the bidder whose cost exceeds this amount and there may be potential for this to be reduced at the final tender stage.*

2.6. ***Unitary charge:*** *both the total and SG's share of the first full year's unitary charge (which is to be adjusted per the note below) for all three bidders is below SFT's current affordability assumptions.*

Note: *as stated in Question 28 (referring to Question 1 of the Pre ITPD KSR) the costs of the specialist paediatric biochemical laboratory* ***are excluded from SG's funding*** *and the costs of the petrol filling station works are capped.]*

[1] It is expected that these costs will be based on internally generated estimates pre-OJEU and pre-ITPD and that cost expectations will be updated to reflect bids as they are submitted during the procurement process.

In relation to the Provisional Preferred bidder's (PPB) figures:

(a) Construction costs: the construction costs are over £12m below the construction cap of £159,040,567, which was the inflated figure at ISFT of the base construction cap of £137.7m.

(b) SPV average annual operating costs: the funding letter was based on estimated SPV costs of £387k. The PPB's costs are £235k.

(c) SPV project development costs : the funding letter envisaged an indicative level of 3% and the PPB's figure is 3.66%.

(d) Lifecycle maintenance fund : lifecycle costs are to be compared to the £27/m2 indicated in the funding letter. The PPB's figure is £22.89/m2 which inflates at RPI plus 0.5%.

(e) Hard Fm costs : these costs are to be compared to the £29/m2 assumed in the OBC. The PPB's figure is £27.93/m2, which inflates at RPI plus 1%.

(f) Unitary charge: The Board advise that the first year's full annual unitary charge is £18.956m and has calculated NHS Lothian's share of the unitary charge as £2,150m, so that SG's share would on that basis be £16.806m. The Board has advised that no adjustment has yet been made as regards the bio lab nor taking account of the cap on the petrol filling station works but the Board will work with SFT/SG to make the required adjustment according to an agreed process in the post-PB period. The amounts advised by the Board for both the unitary charge and SG's share are within SFT's affordability limits. The Board's advisers have also confirmed that in relation to demonstrating that the indexation of the unitary charge follows the natural hedge, the inflation sensitivities were provided, with the required scenarios being provided by the bidders as a financial proforma, with satisfactory results that show that an appropriate proportion is indexed. The base case position for the preferred bidder is indexation of 20% of the unitary charge.

	Pre-OJEU	Pre-ITPD	Pre-IFT	Pre-PB[2]	Pre-FC
Construction cost (nominal cumulative)	**£137.7m plus inflation to mid point construction of 1Q 2016 (from 3Q 2011) or earlier midpoint if applicable during procurement** **See footnote 3**	**£137.7m plus inflation to mid point construction of 4Q 2015 (from 3Q 2011) or earlier midpoint if applicable during procurement** **See footnote 4**	**£137.7m plus inflation to mid point construction of 4Q 2015 (from 3Q 2011) or earlier midpoint if applicable during procurement**	**£146.688m** **[Note: construction cap, including inflation was £159.041m]**	
Design fees	**See footnote 5**	**As Pre OJEU**	**Included in**	**Figure not**	

[2] Provisional Preferred Bidder's numbers have been included

[3] Note : The inflation allowance to be applied to the uninflated amount will be calculated on the basis of the pricing base date of Q3 2011 and a construction midpoint (the revised midpoint) being 1Q 2016 or, if earlier, the construction midpoint which is being proposed through the procurement process. The inflation allowance on the basis of the BCIS index published in October 2012 was £11,271,620 so that the Construction Cost Cap at that date on that basis is £149,027,938.
The movements in the forecast index will be monitored periodically including through the KSR process as it proceeds. In addition there is significant capital requirement both for enabling works and equipment and support is to be provided as set out in the Funding Letter.

[4] Note : The inflation allowance to be applied to the uninflated amount will be calculated on the basis of the pricing base date of Q3 2011 and a construction midpoint (the revised midpoint) being 4Q 2015 or, if earlier, the construction midpoint which is being proposed through the procurement process. The inflation allowance on the basis of the BCIS index published in 18 Feb 2013 was £10,645,000 so that the Construction Cost Cap at that date on that basis is £148,402,000 on the basis of a mid point construction of 4Q 2015.
The movements in the forecast index will be monitored periodically including through the KSR process as it proceeds. In addition there is significant capital requirement both for enabling works and equipment and support is to be provided as set out in the Funding Letter.

[5] TC5B states that there is included an allowance based upon 8.5% of the estimated construction value and this is included in the construction cap figure. The assumption is that the design costs prior to financial closure are carried elsewhere.

(nominal cumulative)		**assumption**	**construction cap**	**provided separately**	
Bid development costs 6 (nominal cumulative)	**See footnote 7**	**As Pre OJEU assumption**	**See commentary above**	**£5.365m**	
SPV costs (in construction) **(nominal cumulative)**	**See footnote 8**	**As Pre OJEU assumption**	**As Pre OJEU assumption**	**Figure not provided separately**	
Hard FM costs **(real per annum)**	**£29/m** **See footnote 29**	**As Pre OJEU assumption**	**See commentary above**	**£27.93/m2**	
Lifecycle costs **(real cumulative)**	**£27/m210**	**As Pre OJEU assumption**	**See commentary above**	**£22.89/m2**	

[6] Including success fees

[7] The Board's advisers financial model assumes 5% of capex whereas SFT considers that 3% of capex is more appropriate, taking account of the level of design development pre procurement.

[8] The Board's advisers financial model does not have an entry for SPV costs during construction : development fees are 5%.

[9] The Board's advisers model also includes a risk allowance which significantly increases the overall sum for hard fm. The Atkins Report forming an annex to SFT's Project Review says that the figure of £29/m2 sits within the expected range of benchmarks.

[10] The Atkins Report says that "Based on a range of benchmark information the Life Cycle Cost per square metre per annum of £27/m2, at 3Q 2011 prices, sits within the acceptable range of benchmarks"

SPV costs (in operations) **(real per annum)**	**£387,000** **See footnote 11**	**As Pre OJEU assumption**	**See commentary above**	**£235k**	
Operational Term **(years)**	**25 years**	**As Pre OJEU assumption**	**As Pre OJEU assumption**	**25 years**	
Percentage of unitary charge indexation	**22%12**	**As Pre OJEU assumption**	**As Pre OJEU assumption**	20%	
Swap rate13	**4%14**	**As Pre OJEU assumption**	**Term sheet assumes LIBOR assumed to be 4.00% and all in rate for EIB as 5.50% p.a.**	**Term sheet assumes LIBOR assumed to be 4.00% and all in rate for EIB as 5.50% p.a.**	
Unitary charge	**See footnote**	**As Pre OJEU**	**See commentary**	**£18.956m**	

[11] SFT's assumption is £350kpa

[12] Per EY's shadow bid model : SFT's estimate of indexed amount would be lower given lower estimates of lifecycle, hard fm and SPV costs.

[13] Including any buffer

[14] for swap rate plus buffer per EY's shadow bid model：3.41% (SFT model), but margin 2.25% (EY model), 3% (SFT model) and MLA + swap spread 0.38% (EY model), 0.5% (SFT model) – hence all in senior rate 6.63% (EY model), 6.91% (SFT model). (Also sub debt rate – 13% EY, 11% SFT – hence pro forma WACC 7.27% EY, 7.32% SFT.)

(nominal year 1 of operations)	**15**	**assumption**	**above**	(ye 31 March 2018	
SG funding support (nominal year 1 of operations)	**See footnote16**	**As Pre OJEU assumption**	**See commentary above**	**£16.806m, but see note (f) above**	

	Question	Yes/No	Comments
5.	Please explain any changes that have been made to the cost and funding assumptions (both revenue and capital) since the last KSR and demonstrate that such changes have the required level of approval within the Procuring Authority and from the relevant Project Sponsor and/or		As Pre COD KSR: se comment above re catering strategy **Recommendation :** The Authority's attention is drawn to the fact that the Construction Cost Cap of £159,041m is no longer relevant for affordability purposes and is replaced by the Preferred Bidders construction proposal. SG anticipates no increase in the revenue

[15] As is made clear in the Funding Conditions (and see email correspondence between SFT and the Board culminating on 7 March 2012), there is discrepancy between the figures calculated by the Board and those by SFT : the relevant figures are : Unitary charge (nominal 1st full yr of ops - 12 months to 31/3/2018) - £22,381k (EY model), £20,970k (SFT model) – both excluding insurance costs. No unitary charge figures are to be provided to bidders.

[16] See footnote 14: the relevant figures SG Funding Support (nominal first full year of ops - 12 months to 31/3/2018) - £19,115k SFT. We cannot find the equivalent figure in the EY financial model but the OBC v3.0 at page 49 says £20,029k

	SG.		funded capital amount, subject to any changes agreed between SG and the Board in relation to any changes in costs due to any change the catering strategy, which are anticipated by the Board to reduce the costs. The revenue funded amount will be calculated on the basis of the funding letter and SFT's guidance at or near financial close and will take account of the actual financing terms and interest rates which are fixed at financial close.
6.	Please demonstrate that the project remains affordable to the Procuring Authority in terms of enabling capital costs, unitary charge contributions and ongoing operational costs (e.g. utilities, soft FM services).		The Board has confirmed that the project remains affordable of the basis of the tenders which have been submitted. The Board has confirmed that the Costs of the external enabling works are being maintained within the current budget.
7.	Please confirm what sensitivities have been applied in assessing the affordability of the project and demonstrate that an appropriate allowance is in place to absorb reasonable cost movements.		The Board advises that the sensitivity of the financial position, including ASP, clinical cost, cost of enabling works etc will be addressed in detail in the FBC. No specific sensitivities have been carried out on figures within the ASP other than those relating to indexation, as key figures are all comfortably within the thresholds for affordability agreed at OBC stage.
8.	What are the key risks / outstanding issues that may have an impact on the affordability of the project and what		The senior debt funding for the project will be sought during the PB period. The Board will require the PB to run a funding competition. This will be conducted in accordance with the principles set out in the

	strategy is in place to manage these?		ISFT, which the Board has confirmed have been accepted by the Preferred bidder. The Board, its advisors and SFT will have transparency of process and a right for approval of the final funding selected. **Recommendation :** It is recommended that the Board and its advisors continue to liaise with SFT up to and beyond the PB appointment in order to agree funding strategy and plan that is acceptable to all parties.
9.	Please provide details (including amount, proportion of total funding requirement and proposed timing) of any capital contributions that the Procuring Authority intends to make any capital contributions to the SPV during the project and confirm that the size and timing of these has been agreed with the proposed preferred bidder. Please demonstrate that the amount of the capital contribution includes allowance for associated financing fees etc. Please demonstrate that the documentation of this arrangement has been agreed and complies with relevant guidance.		The Board anticipates that there will be no capital contributions
10.	Has the proposed preferred bidder assumed composite trader tax treatment and has the full benefit of this been passed on to the Procuring Authority?	Yes	The Board's financial advisers have also confirmed that the treatment of the taxation of surpluses on the tenders is appropriate consistent with previous discussions with SFT.
11.	Please provide details of how delays to financial close and indexation of input costs are to be treated.		The price will hold for 3 months after the target FC date. After this period BCIS All-in TPI will apply to capital costs and RPI to lifecycle, SPV and FM costs. The proposed PB has accepted this position.

12.	Please demonstrate how any recommendations / actions / requirements in relation to the affordability of the project, detailed in the outline business case approval and previous KSRs, have been addressed.		See Question 31 regarding the recommendations which were made in the Pre COD KSR.

Section 4: Value for Money

The objective of this section is to ensure that the key drivers of value for money are addressed in the Procuring Authority's approach to development and delivery of the project. Please refer to relevant Value for Money guidance[17].

	Question	Yes/No	Comments
13.	Please demonstrate how the Procuring Authority intends to drive value for money through "Effective Delivery". *[Response required only to the extent that the position has changed since last KSR]*		As Pre COD KSR
14.	Please describe how any changes to scope and procurement options since the last KSR have been assessed and the impact that these have on the delivery of value for money.		On changes to scope see above re the catering strategy: there have been no changes in the procurement options.
15.	Please describe the steps that the Procuring Authority and advisers have taken to assess and benchmark the sufficiency / efficiency/competitiveness of bidders' proposals in relation to the following: - capital cost inputs - SPV average annual operating costs - SPV project development costs		The following comments from Question 33 of the Pre COD KSR are relevant: "(1) The capital costs were evaluated having regard to the Reference Design cost plan which was benchmarked and current benchmarking. The deliverability of capital costs were assessed by the Board's technical advisers. 2) Bidders have been providing key metrics to the Board in relation to key financial aspects of their bids. These have been benchmarked against other projects and market expectations and challenged where inconsistent. The Board's view is that all bidders are currently largely

[17] Value for Money Assessment Guidance: Capital Programmes and Projects (updated October 2011) and SFT's Supplementary Guidance for projects in £2.5bn Revenue Funded Investment Programme (October 2011)

	- lifecycle maintenance fund and profile - tax efficiency - financing terms - subordinated debt return		in line with expectation with regard to SPV costs, sub-debt return and development costs." See also the commentary at the affordability section above relating to performance against benchmarks.

Section 5: Commercial

The key objective of this section is to test that a robust commercial position has been established with the preferred bidder and that a strategy is in place to deal with any outstanding issues in the period up to financial close.

	Question	Yes/No	Comments
16.	Please confirm that a list of derogations from the standard NPD contract documentation (including service specification, payment mechanism, NPD articles of association and accompanying guidance) has been agreed with the preferred bidder and approved by SFT.	Yes	As discussed with SFT at the Pre COD KSR there are some drafting points to be resolved at PB stage.
17.	Are there any outstanding contractual points?	No	
18.	Please explain how the proposed preferred bidder has demonstrated that it has the support of sub-contractors for the technical proposals and commercial positions in their final tender. Have heads of terms been agreed between the proposed preferred bidder and its sub-contractors?		The Board has confirmed that the proposed preferred bidder has submitted agreed signed heads of term from with their construction contractors, service provider and key Subcontractors. The Board has confirmed that on its advisers advice the levels of caps and indemnities are in accordance with market norms.
19.	Has the preferred bidder secured committed senior debt finance for the project? If not, what strategy is in place for securing senior debt financing proposals and has this been agreed with SFT?		An institutional term sheet approach was taken at SFT. The Preferred bidder has therefore not secured committed senior debt and there is to be a post PB funding competition on the basis of the principles proposed by SFT. All Bidders have accepted the SFT principles for a funding competition and have submitted detailed timetables for completion, incorporating

			a funding competition. Refer to recommendation 4 at Q8.
20.	Has the proposed preferred bidder, sub-contractors and funders confirmed their willingness to sign up to a commitment letter that establishes the terms of their appointment?		The funder position remains as described above insofar as bidders have performed their own diligence on a shadow basis to support funder commitment and have support letters to reflect this but that committed funds will not be secured until post PB. With regards to sub-contractors, please see Q18 above.
21.	What, if any, key commercial issues remain outstanding with the proposed preferred bidder and how are the implications for the project programme and affordability position to be managed?		The Board has advised that there are no key commercial issues outstanding, subject to the securing of senior debt following the funding competition, which has been factored into the programme, and any variation for the catering position.
22.	Specifically, has agreement been reached with the preferred bidder in relation to the following matters: - vandalism risk - warning notice and termination triggers - payment mechanism (including levels of deductions, unavailability thresholds etc) - TUPE and pensions - level of cash buffer applied before surplus payments		Yes in each case, as set out in the Pre COD KSR subject to final Funder Direct Agreement terms being subject to discussion and agreement with the selected funder. The cash buffer of the preferred bidder is modelled at £100k which the Board advises is well within the stipulated limits set out in the ISFT and in SFT guidance.

	- funders direct agreement		
23.	Is the Procuring Authority satisfied that the incentives delivered by the service specification and payment mechanism reflect its priorities and desired outputs? Please describe what scenario testing has been applied in calibrating the payment mechanism.	Yes	No change since pre COD KSR
24.	Please confirm the status of the Procuring Authority's title investigations, and whether a list of disclosed title conditions, and the impact of these conditions, has been agreed with the proposed preferred bidder.		As Pre COD KSR
25.	Please demonstrate that a programme has been agreed with the proposed preferred bidder for the various due diligence processes required to reach financial close and that these are realistic and synchronised with the overall procurement timetable.		A programme capturing the processes required from PB to FC formed part of the Final Tender submission. The Board has provided a consolidated programme which sets out the main activities. programme is however currently light on detail for due diligence processes. This will need to be further developed with the Preferred Bidder, and in consideration of the strategy to secure senior debt funding, to ensure this activity is synchronised with the overall procurement timetable. **Recommendation :** It is recommended that provision of a detailed programme and work plan for the project, to include the capture of diligence and agreed funding procurement route is prioritised for agreement at the first meeting with the PB.
26.	Please confirm the period for which the preferred bidder's final tender is open for acceptance.		The prices are held for 3 months after anticipated FC then indexation applies. The Board has advised that there is no specific end date in the tenders.
27.	It is a condition of SG revenue funding support that the project meets the requirements for classification as a	Yes	There has been no change from the pre COD KSR. No further changes to standard form have been proposed. Accordingly the risk allocation

	non-government asset for national accounts purposes under relevant Eurostat (ESA95) guidance. Please confirm that the contract terms agreed with the proposed preferred bidder transfer availability and construction risk to the private sector.		follows standard form and transfers construction and availability risk.
28.	Please describe any changes that have been made to the risk register and risk management plan since the last KSR, and the impact that any such changes have on the project.		No changes have been made to the Risk Management plan and the risk register has been updated. The three key changes are : Risk 10 – Vacant Possession of Site now AMBER (previously RED) – as discussed this is due to confirmation from Consort on availability of access and status of link building. Risk 29 – Insufficient Space in RIE (Clinical Enabling) now AMBER (previously RED) – displaced staff no longer dependent on labs strategy progress. Risk 6 – Procurement Progress Challenge increased to AMBER (previously GREEN) – reasons given in KSR section 29.
29.	Please describe the risks that the Procuring Authority considers to be most significant to the preferred bidder stage and the strategy for managing these risks.		The key risks in the Updated risk register are as listed in Annex B.
30.	Please describe any changes since the last KSR to the mechanism in place for reviewing and updating the risk		No changes have been made.

	register and risk management plan.		

Section 6: Readiness

The key objective of this section is to determine whether the necessary steps have been taken to enable the project to move forward and to ensure that appropriate project management arrangements, processes, protocols and documentation are in place to support progress to financial close.

	Question	Yes/No	Comments
31.	Please demonstrate how the recommendations / actions / requirements, detailed in the last KSR report, have been addressed (to the extent that these are not dealt with under separate sections of this KSR questionnaire).		The recommendations from the Pre COD KSR are noted with an update and ongoing recommendations in Annex A.
32.	Do any further internal/external processes need to take place before appointment of the preferred bidder?	Yes	The appointment will be considered by the Project Steering Group on 28 February and then by the Board's Finance and Performance Committee on 5 March.
33.	Please explain any changes that have been made to the governance and project management arrangements, resourcing and budgets since the last KSR.		No changes have been made.
34.	Please confirm any changes that have been made to the Procuring Authority's procurement strategy (including timetable) since the last KSR and demonstrate that this remains/is realistic and deliverable.		There have been no changes in the strategy since the Pre COD KSR: there will be a post PB funding competition in line with the process agreed with and involving SFT.
35.	Please demonstrate that a robust and comprehensive project plan is in place and that the project team has a clear understanding of all tasks / work streams (including evaluation, clarifications, and approvals) to manage the project through to financial close.		The Board had provided a composite programme for the NPD project as well as the equivalent programme for the external enabling and clinical enabling works. The Board advises that the underlying programme which were submitted by bidders were elaborate and demonstrated that

			considerable thought had already gone into the process. As noted at Question 25 above, a more detailed programme and work plan is to be developed, including the detail of the funding competition and finalisation of the funding documentation. Reference is made to the recommendation at Question 25.
36.	Please demonstrate how the project team intends to manage the interface between the preferred bidder and stakeholders (e.g. end users) going forward.		There are meetings which have already been diaried to enable the detailed consultation on the 1:50 drawing with clinicians during the PB stage. User involvement following the appointment of the preferred bidder will be crucial and the NHSL Project Team are committed to delivering this. The NHSL Project Team will manage the stakeholder interface with the Preferred Bidder to ensure this is done in a timely manner and that consultation and engagement is meaningful and effective. This will be taken forward in a number of ways: • Following the announcement of PB there will be 11 Open Sessions for staff and key stakeholders (charities, volunteers and patient PFPI groups) across hospital sites to launch the PB's design and update on the next stage of the project • Service leads have been identified for each department to take forward the detailed design development with the PB Design Team and NHSL Project Team and one of their key responsibilities is to ensure views of staff and patients and relatives are taken account of in the planning of departments. In addition to this a number of charitable organisations will be involved e.g. Sick Kids Friends Foundation, Edinburgh & Lothian's Health Foundation, Ronald MacDonald, and Teenage Cancer Trust

			• The RHSC Family Council, Young People's Advisory Board and DCN Patient Reference Group will continue to be consulted with in relation to the ongoing development of the design of the hospital and also service redesign • Project Stakeholder Board will continue to meet quarterly **Recommendation** **The Board is asked to monitor engagement with the stakeholders during the PB period recognising the programme and tendered design and price agreed in the final tender process and the risks associated with these elements changing.**
37.	Please demonstrate that the project timetable allows sufficient time for all outstanding staffing issues (if any) to be resolved, including (if applicable) achieving LGPS admitted body status / GAD scheme certification.		It is not anticipated that there will be any TUPE transfers
38.	Please provide an update on the land/site strategy (e.g. acquisition, title issues, ground conditions, surveys, enabling works) and planning matters and describe what strategy is in place to manage the impact of any outstanding matters on the project timetable and/or affordability position.		Title issues remain as per the Pre COD KSR. On planning: (a) For the on site works for the hospital the preferred bidder will develop detailed proposals to be submitted to the August planning committee; and (b) For the offsite works the application is to be submitted to target the committee in September and this consent is required as part of the S75 requirements. Reference is made to the ongoing recommendation from the Pre COD

			KSR. Site investigations for the petrol filling station site have now been instructed. The external enabling works are ongoing and the Board is now confidant that: (a) although the road works will be not yet be completed by programmed date of financial close, these works will not interfere with the preferred bidders' ability to obtain possession of the site; (b) the link building will be completed to shell and while Consort will still require access, the preferred bidder has confirmed that it will not need access to the affected are until spring 2015. The Board has advised that the development of the clinical enabling works is going well with discussions with Consort ongoing ad Supplementary agreements being drafted.
39.	Please describe what steps the Procuring Authority has taken to verify that the financial and economic standing of the preferred bidder remains unchanged from the pre-qualification stage.		The Board has confirmed that the PQQ tests were rerun at the final tender stage and all were satisfactory.

Is the project ready to proceed to the next stage? (*Delete as applicable)	**Yes.*** **Yes , subject to recommendations below*** **No, due to reasons outlined below.***
Reasons / Recommended actions:	**To be completed by:**
Question 1 : **Recommendation :** **(1) that the Board advises SFT of the outcome of the consideration of this proposal and of the progress for the change in scope, including the steps to be taken by the board to ensure value for money in relation to the change in costs; and** **(2) that the Board develops the detail of the implementation of its strategy, including interface management, so that catering arrangements will be in place in advance of the operational date, noting that an interim strategy will also require to be developed should the Board's long terms catering strategy not be fully implemented at the proposed facility opening date.**	
Question 3 : **Recommendation :** **a.The Authority is asked to share the developed version of the draft PB letter to allow SFT the opportunity to comment and to take due account of**	

those comments. **b. It is understood that the Board's communication strategy is such that the Preferred Bidder will be announced publicly prior to receiving the signed PB letter from the proposed PB. The Board is asked to confirm to SFT that it has considered whether there are any significant issues which would merit obtaining signature to the PB letter prior to a public announcement and that the Board's final communications strategy for the PB announcement has been informed by this process.**	
Question 5: **Recommendation : The Authority's attention is drawn to the fact that the Construction Cost Cap of £159,041m is no longer relevant for affordability purposes and is replaced by the Preferred Bidders construction proposal. SG anticipates no increase in the revenue funded capital amount, subject to any changes agreed between SG and the Board in relation to any changes in costs due to any change the catering strategy, which are anticipated by the Board to reduce the costs. The revenue funded amount will be calculated on the basis of the funding letter and SFT's guidance at or near financial close and will take account of the actual financing terms and interest rates which are fixed at financial close.**	
Question 8: **Recommendation : It is recommended that the Board and its advisors continue to liaise with SFT up to and beyond the PB appointment in order to agree funding strategy and plan that is acceptable to all parties.**	
Question 25: **Recommendation : It is recommended that provision of a detailed programme and work plan for the project, to include the capture of diligence and agreed funding procurement route is prioritised for**	

agreement at the first meeting with the PB.	
Question 36 **Recommendation: The Board is asked to monitor engagement with the stakeholders during the PB period recognising the programme and tendered design and price agreed in the final tender process and the risks associated with these elements changing.**	
Ongoing recommendations from the Pre COD KSR : see Annex A **1. Recommendation: That the Board keeps SFT advised as to progress in relation to the development of the proposals for the scope and costs in relation to the works on the petrol filling station site during the period until financial close.** **2. Recommendation: that the Board operates and monitors the open book mechanism in relation to the cost of the petrol filling station works to maximise value for money.** **3. Recommendation : that the Board continue discussions as to potential charitable donations and consider how any such donations will be factored in the project, consistent with the funding letter and the timescale for achieving financial close.** **4. Recommendation: That these and any other key risks are closely monitored with mitigations put in place in a timely manner following discussions by the Project Steering Board** **5. Recommendation: that the Board continues to monitor closely the Consort works and takes appropriate mitigation measures to ensure that vacant possession can be provided to the NPD contractor at financial close without the timescale for that close**	

being extended for that reason. **6. Recommendation : that (1) the Board progresses these planning procedures to obtain planning consent for the offsite works prior to financial close and (2) works with the preferred bidder to ensure that resolution of reserved matters and planning permission of main facility and the works the petrol filling station site are achieved within the timescales required by the overall programme for financial close.** **7. Recommendation : that the Board place a focus on the issues which require to be resolved to ensure that the clinical enabling works are developed and completed within the timescale required to enable the new facility to operate properly on completion and to bring forward regular reports on proposals and progress to the Project Steering Board.**	
Signature of Primary Reviewer	**Signature of Secondary Reviewer**
Date:	**Date:**

Procuring Authority Declaration	**I confirm that:** **a) I am not aware of any information that would materially change the assessment and review of the project; and** **b) the project's details as logged in the Scottish Government's Infrastructure Projects Database (SGIPD) are up-to-date and complete and reflect the current state of the project (including the information on the project's time table and assurance activity).**
Name and Position:	**Date and Signature:**

Annex A : Responses to recommendations from Pre COD KSR

Recommendation	Update and, where applicable, ongoing recommendations
Question 1: **Recommendation** : That the Board keeps SFT advised as to (i) progress in relation to the development of the proposals for the scope and costs in relation to the works on the petrol filling station site during the period until financial close; (ii) the Project Steering Board's decision following consideration of a further paper on the Board's catering	**Update:** **(i) Process ongoing: Site investigation now underway;** **(ii) Paper to be considered by the Project Steering Board on 28 February : see comments above.** **Recommendation:** That the Board keeps SFT advised as to progress in relation to the development of the proposals for the scope and costs in relation to the works on the petrol filling station site during the period until financial close. On the catering strategy, reference is made to the recommendation at Question 1 above.
Question 1: **Recommendation:** that the Board operates and monitors the open book mechanism in relation to the cost of the petrol filling station works to maximise value for money.	**Ongoing recommendation**
Question 2: **Recommendation :** That, prior to close of dialogue, the Board receives and copies to SFT, letters, in the form of the drafts which the Board have earlier provided to SFT, from each of its financial, legal and technical advisers	**Completed**

confirming that each consider that it is appropriate for the Board to close dialogue.	
Question 24: **Recommendation** : that the Board continue discussions as to potential charitable donations and consider how any such donations will be factored in the project, consistent with the funding letter and the timescale for achieving financial close.	**Ongoing recommendation**
Question 28 (1 from Pre ITPD KSR): **Recommendation :** that the Board monitors and reports to SFT the cost of this change in scope (including inflation, financing, lifecycle and other consequent costs) separately so that the level of revenue support (excluding this change) can be calculated.	To be dealt with post PB stage
Question 28 (19 from Pre ITPD KSR): **Recommendation:** That these and any other key risks are closely monitored with mitigations put in place in a timely manner following discussions by the Project Steering	**Ongoing recommendation**

Board	
Question 28 (19 from Pre ITPD KSR): **Recommendation**: that the Board continues to monitor closely the Consort works and takes appropriate mitigation measures to ensure that vacant possession can be provided to the NPD contractor at financial close without the timescale for that close being extended for that reason.	**Ongoing recommendation**
Question 28 (19 from Pre ITPD KSR): **Recommendation :** that (1) the Board progresses these planning procedures to obtain planning consent for the offsite works prior to financial close and (2) works with the preferred bidder to ensure that resolution of reserved matters and planning permission of main facility and the works the petrol filling station site are achieved within the timescales required by the overall programme for financial close.	**Ongoing recommendation**
Question 34:	

Recommendation : that prior to closing dialogue, (1) the Board is satisfied that all of the NPD documentation, with bidder specific derogations, as agreed with SFT, covers all commercial issues and is complete and reflects the agreement reached with each of the bidders during the dialogue process; and (2) the relevant bidder (in respect of which this point remains outstanding) confirms that it accepts that all of petrol filling works, including landscaping, will be completed at or prior to the same time as the works on the main hospital.	**Completed**
Question 49: **Recommendation** : that the Board place a focus on the issues which require to be resolved to ensure that the clinical enabling works are developed and completed within the timescale required to enable the new facility to operate properly on completion and to bring forward regular reports on proposals and progress to the Project Steering Board.	**Ongoing recommendation**
Question 56: **Recommendation :** That, prior to close of dialogue, the Board the ISFT updates the ISFT to reflect the petrol filling	**Completed**

station works clarification, including the process for carrying out surveys and fixing the provisional sum prior to financial close.	

Annex B: Key Risks

Number	Risk:	Impact	Mitigation :	**Adequacy of Controls**	**Status**
8	Programme delay in reaching Financial Close	Programme delayed due to protracted or inconclusive closure of dialogue and/or negotiations to reach financial agreement	Use of Standard Form PA, determination to create a 'level playing field' and fully developed suite of ITPD documents all in place prior to commencing competitive dialogue. Programme	**Not satisfactory at present.** The Project Team continue to be sceptical regarding delivery of FC in less than six months from appointment of Preferred Bidder. Third party involvement	Red

			updated July 2013 to address design compliance before close of dialogue. However, this remains the highest risk to project procurement.	in the town planning process or the funding competition are of particular concern. The Project Team note that Glasgow College took 3 months more than anticipated 4 month programme to close, however that construction commenced before FC at the contractor's risk. Review monthly.	
6	Procurement process	Programme is delayed by	Comprehensive procurement	Given anticipated very close	Amber

	challenge	challenge from an unsuccessful bidder or third party. High cost in programme and fees.	documentation to inform the market and ensure level playing field. Feedback through competitive dialogue on bidders' proposals. Transparent evaluation process with robust audit trail. Evaluation completed and standstill letters and feedback to unsuccessful bidders being	final scores following evaluation process the likelihood of a challenge has increased. Satisfactory at present.	
14	RIE interface failures	Planned interface construction (e.g. ED link, PTS) does not deliver operational	NHSL working with Consort to minimise risk until Project Co appointed. Discussions	-	Amber

		functionality.	in competitive dialogue to keep bidders informed of works; control plans to be finalised with preferred bidder by financial close.		
15	RIE interface failures	Construction of areas outside the red line to be handed to Consort are not completed to specification and access to Facility through RIE links is not possible e.g. Hospital Square, ED, theatres links.	Arrangements in place for Preferred Bidder to join LFCWG and interface with all parties on their delivery of these works.	Adequate at present, to be progressed with Project Co on appointment as Preferred Bidder	Amber
29	Insufficient space in	Accommodation	Engagement with	Satisfactory at present.	Amber

	RIE to support RHSC/DCN clinical models	required in RIE to support service models (e.g. adult critical care) is not feasible. This includes accommodation for the downstream works for transplant and renal critical care and the displaced laboratory / eHealth staff.	Consort and their design team to establish the Renal, Transplant HDU and Critical Care is ongoing. In parallel, commercial / supplemental agreement negotiations has commenced to meet RHSC / DCN programme and mitigate risks. Relocation plans for staff displaced from the above changes are underway, with detailed negotiations ongoing	Residual risk remains until all contracts agreed and staff relocated, but all parties now actively pursuing relocations and works to meet the programme, subject to their respective governance processes. Separately, the Laboratories Strategy is being supported for the longer term delivery of their pan NHS Lothian service requirements but this	

			with Scottish Enterprise for space in EBQ Building Nine for office type uses. Parallel engagement with staff and services also underway to ensure clearance of the space in line with RHSC / DCN programme.	is not on the RHSC / DCN critical path.	
10	Vacant possession of site	Programme is delayed as Board unable to provide project site for NPD at Financial Close programme date of October 2014.	SA6 and SA Enabling secured rights to site. Provisional strategic programme has been provided to the Project Steering Board and SFT, with further	Satisfactory at present. Consort have confirmed that access to site at October 2014 will not be restricted or prevented by enabling works	Amber

			details requested of Consort. Programme to deliver works will be influenced by requirement for vacant	operators, and that only reduced access and hoarded off areas will be required post Oct 2014 by	
59	Availability of funding	Availability of funding, and cost of financing, could both be higher than anticipated with funders concerned over the prospect of Scottish independence and the financial covenant or credit rating of a newly independent Scotland. SFT bear the risk of	Dialogue with bidders suggests that funders are not deterred.	Satisfactory at this stage. Funders may add a premium to their pricing to address their risk. To be reviewed as part of the post -preferred bidder funding competition.	Amber

		any increased premium; NHSL bear the risk of delays to achieving financial close, in terms of indexation if over three months later than programme, and completion and handover of the project.			
9	Specification changes post Financial Close	Programme is delayed due to Board changing service and accommodation requirements.	Governance structures in place to manage approval of change. Governance structures in place to manage approval of change. Project / Clinical	Adequate at present but may change in future dependant upon changes in strategy. Most likely changes are around need to manage increased	Amber

			Management Team would require to make case to Project Steering Board. Activity driven bed model is revisited annually and currently being updated to explicitly consider the implications of the above although it should be noted that this would go against NHS Scotland strategy of local access. Provision of shelled bed space in the design and	activity due to failure of sustainability of local DGH children's services. Some of the potential shelled bed space has been allocated to Specialist Paediatric Biochemistry Laboratory. Review monthly.	

			construction specification as well as flexibility from the location of day beds alongside the inpatient facility. Bed modelling for children's' services has been undertaken, demonstrating sufficient capacity in design with further options for change of purpose at a later date if required. DCN modelling has commenced.		

c

Royal Hospital for Sick Children and Department for Clinical Neurosciences - Edinburgh

Mosaic Solution - RHSC / DCN RDS Environmental Matrix

Rev	By	Description	Date

Environmental Matrix - Guidance Notes

1 This workbook is prepared for the Reference Design Stage as an easier reference tool to replace ADB RDS M&E Sheets for the Environmental Criteria elements as described on these sheets.

2 The services matrices are produced from the Reference Design schedules and will be used as the basis of design development.

3 The design of the HVAC systems to the theatres shall be in accordance with SHTM 03-01.

4 Where radiant panels are indicated in any room in these matrices, detailed design development may remove the need for these without detriment to environmental temperature. This design development is dependant on actual room layout - i.e. whether a room is located adjacent to an external wall, ground bearing floor, roof surface or is internal.

5 Ventilation air change rates and the use of natural ventilation in Patient Areas shall be reviewed throughout the detail design process to ensure a maximum internal temperature of 25℃ (dry bulb) is not exceeded during normal occupancy. This criteria shall also apply to cellular and open plan office spaces.

6 Maximum internal temperatures listed relate to normal occupancy and Summer Design Conditions ; External Summer Conditions for Cooling Plant Selection as per SHTM 03, Enthalpy 54kJ/kgK ~~da~~.26degC db,19degC wb. External Winter Conditions as per CIBSE Guide A Table A 2.2 for locality = - 6C for Heat Losses, and as SHTM 03 for locality = -10C for AHU Ventilation Plant design.

7 Examination lamp notes where listed are provisional. Detailed requirements (fixed, mobile, illumination) will be detailed on C sheets as agreed from signed off 1:50 RDS, which shall take precedence over this schedule.

8 All lighting levels are derived from CIBSE Lighting Guide LG2. ~~Client briefing may take precedence over Environmental Matrix.~~

9 Colour rendering refers to CIBSE Lighting Design Guide and will be applied throughout "80" : Normal
"90" - Enhanced to provide close as possible match to natural light for clinical purposes

10 Thermostatic Mixing Devices - SHTM 04-01 Guidance shall be employed for specific TRV Type versus listed Area/Activity.

11 Standby Lighting to be Grade A throughout .

12 The internal temperature in naturally or mechanically ventilated rooms shall not exceed the maximum temperature as listed on these Environmental Matrices provided external summer design criteria is not exceeded (see note 24) .

13 Local Radiant Panel TRV's shall be tamper proof head type with limiting/locking facility.

14 Local Control BMS Temperature Sensors for ducted reheat zones and chilled water cassettes for hotspots shall be provided with local range adjustment to +/- 2C of BMS Set Point. BMS set point shall be adjustable via operator/user dialogue through formal FM channels.

15 **Typical bedroom** - ~~Design Criteria - SHTM 03-01 Clause 2.11 - internal temperatures in patient areas should not exceed 28C db for more than 50 hrs per year. Appendix 1 SHTM 03-01 gives 18C to 28C float range~~. NHSL ~~however~~ require that the maximum internal design temperature is 25C

HDU bed areas - Design Criteria - HBN 57 gives specific guidance as well as SHTM 03-01 - esp Appendix 1 for air change rates - 10ac/hr Supply, 18C to 25C control range. (Capability shall be provided but not at the summer and winter external ambient design extremes against the internal maximum and minimum range conditions).

The department should be air conditioned and controlled on a zonal basis.

Central AHU plant requires humidification to achieve RH range during winter (HBN 57 Clause 4.60).

Post theatre recovery areas - Design Criteria - SHTM 03-01 - esp Appendix 1 for air change rates - 15ac/hr S&E , 18C to 25C control range.(Capability shall be provided but not at the summer and winter external ambient design extremes against the maximum and minimum range conditions).

Central AHU plant requires humidification to achieve RH range during winter.

Critical Care areas - Design Criteria - SHTM 03-01 - esp Appendix 1 for air change rates - 10ac/hr Supply , 18C to 25C control range.(Capability shall be provided but not at the summer and winter external ambient design extremes against the maximum and minimum range conditions). NHSL may require specific rooms to have a control range up to 28C

Central Air Handling Plant requires humidification to achieve RH range during winter (HBN 57 Clause 4.60).

Theatre areas - Design Criteria -SHTM 03-01 - esp Appendix 1 and 2 for air change rates Appendix 3 for design logic and pressure cascade criteria, 18C to 25C control range.(Capability shall be provided but not at the summer and winter external ambient design extremes against the internal maximum and minimum range conditions). SHTM 03-01 advises Humidification is no longer to be provided for theatres ventilation as a matter of course. Users to verify any specific requirements depending on clinical requirement. Space in plant rooms should be provided together with blank section within air handling units for future provision. NHSL may require specific rooms to have a control range up to 28C

16 **Corridor** ventilation may be either mechanical or where the opportunity exists natural. To be determined during detailed design with due regard to clinical functionality.

17 **Single Room WC** - SHTM 03-01 Appendix 1 suggests 3ac/hr extract air change rate only. HK have applied 10ac/hr extract rate to provide a more robust rate of extract The Mosaic proposal for ventilation of ward bedrooms is based on 10 L/s/person which is balanced by the wc extract giving an extract rate of 6-10 AC/hr.

18 **Diagnostic Rooms** - (X Ray, CT Scanner, MRI Scanners, Gamma Camera) - air change rates listed at 8ac/hr. Actual air change rate must be derived through room heat gain analysis and actual equipment guidance.

19 **Operating Theatre Laminar Flow/UCV Requirements -** Refer to Operational Policy Documents for specific theatres which require Laminar Flow/UCV canopy style ventilation solution. Note specific requirements for screenless canopies to avoid conflict with particular surgeon instruments/microscopes.

20 **Small workshop Areas -** Local Extract Ventilation (LEV) unit requirement to be determined from room equipment schedules

21 **Note that Isolation Suite ventilation solutions for this project shall follow HBN 4 Supplement 1 Section 4 Item 4.8 Guidance i.e.**
A common departmental AHU shall be employed to provide supply air ventilation (and shall therefore employ duty & standby motors) Isolation Rooms En Suite Extracts shall be provided with an independent Isolation Room toilet extract ventilation system.
Isolation Rooms En Suite Extracts shall be provided with either externally located 3 mtr high discharge stack in a safe location or with extract filters (H14) within a safe change housing outside the building on the suction side of the fan. Heating & Cooling Isolation Suites shall be provided via the ventilation system.

22 **Retail Provision -** Service provisions listed are Infrastructure only for future fit-out by retailer

23 **Comfort Cooled Fresh Air -** Where noted as such on the matrices, this means as provided via departmental air handling plant via chilled water cooling coils.

24 Room temperatures in unventilated spaces such as stores, corridors, WCs etc. will not be controlled but should achieve the parameters quoted as a result of the ventilation strategy of the surrounding areas.

25 Cooling will be provided generally by terminal cooling devices such as chilled beams (CB) or fan coil units (FC) as noted in the schedule. The actual device selection will be adjuste based on actual calculated heat gains and if a chilled beam provides insufficient cooling a fan coil will be utilised and if gains are limted a chilled bam may be utilised instead of the noted fan coil. Where the neutral loop system is applied the terminal device will be replace with a heat pump cassette unit.

26 Fresh air will be supplied to occupied rooms on the basis of 10L/s/person with terminal cooling applied to offset room heat gains. Occupancy will be based on 1 patient + 2 visitors/staff (3 people) for single rooms and consult/exam rooms and 4 patients + 8 visitors for 4 bed wards. Other areas will be assessed on a similar basis appropriate to the room use and noted occupancy. Extract ventilation rates will be adjusted to achieve the required balance/positive/negative pressure as stated in the schedule.

Room Function Reference Sheet.
The following table details reference templates which are used to populate cells within the environmental matrix. Refer to individual department sheets for individual room environmental conditions

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
	Temperature		Heating		Cooling Present	Cooling	Ventilation					Safety temperatures		Lighting								Notes	Medical Location
Room Function	Design Maximum deg C	Design Minimum deg C	Type	Control		Type	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		Group
Bathroom	28 (note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	200	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
Bedroom	25	20	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply Air	10L/s/person (26)	0	Positive	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + LC	Central Supply and Extract	10L/s/person (26)	3	Positive	G4	NA	Not Applicable		300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
Changing Facilities	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	4	Positive	G4	NA	41		100	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
Circulation Areas	28 (note 24)	18	Radiant Panels	TRV Remote Head Adj.	No	None	None	Refer to Guidance Notes	Refer to Guidance Notes		G4	43	41		300	Not Applicable	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
Circulation Areas - Entrance Lobby	28 (note 24)	Not Controlled	Warm Air Door Curtain	BMS Adjustable Sensor	No	None	None	0	0	Balanced	None	Not Applicable	Not Applicable		200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
Classroom	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10L/s/person (26)	10L/s/person (26)	Balanced	G4	43	Not Applicable		300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
Common room/staff room/lounge	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	10L/s/person (26)	10L/s/person (26)	Negative	G4	43	41		300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
Consulting Room	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41		300	Not Applicable	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
Clean Utility	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G4	NA	41		150	Not Applicable	None	A	80	Presence detection	General working plane 1m	See Guidance Notes	Not Applicable
Dirty utility	28 (note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	NA	60		200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
Diagnostic room	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	8	8	Balanced	F7	43	41		300	Not Applicable	1000	A	80	Switch / Dimmer	General working plane 1m	See Guidance Notes	1
Eating/Drinking	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + LC	Central Supply and Extract	10L/s/person (26)	10L/s/person (26)	Balanced	G4	43	41		200	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
Ward Kitchen	28	18	Adjacent Space Transfer Air	None	Yes	Ceiling Cassette - Chilled Water	Central General Extract	0	6	Negative	G4	Not Applicable	60		300	Not Applicable	None	A	80	Switch	General working plane 1m	See Guidance Notes	Not Applicable
Small Workshop	28	18	Radiant Panels	TRV Remote Head Adj.	No	None	Central Supply and Extract	4	6	Negative	G4	NA	41		300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
HDU	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	8	Positive	F7	43	41		400	10 to 20	1000	A	90	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	2
IT equipment (comms server)	25	18	None	None	Yes	Ceiling Cassette/FC – Ch. Water	Central General Extract	0	2	Negative	None	Not Applicable	Not Applicable		300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
Kitchen (Commercial)	28	16	None	None	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	DW 172 Dependant	DW 172 Dependant	Negative	G4	43	60		500	Not Applicable	None	A	80	Switch	General working plane 1m	See Guidance Notes	Not Applicable
Laboratory	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + LC	Central Supply and Extract	6	6	Balanced	F7	NA	60		500	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
Laundry	28	18	Adjacent Space Transfer Air	None	No	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative	G4	NA	60		300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
Meeting Room	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Ceiling Cassette/FC – Ch. Water	Central Supply and Extract	10L/s/person (26)	10L/s/person (26)	Balanced	G4	NA	Not Applicable		300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
Patient Accommodation Day	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + LC	Central Supply Air	10L/s/person (26)	0	Positive	G4	43	41		100	Not Applicable	None	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
Multi-bed Wards	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply Air	10L/s/person (26)	To suit balance	Positive	G4	43	41		100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
Physiotherapy Studio	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + LC	Central Supply and Extract	5	6	Negative	G4	43	41		300	Not Applicable	None	A	80	Switch / Dimmer	Floor 0m	See Guidance Notes	1
Body View	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	6	Negative	G4	43	Not Applicable		100	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
Reception	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + LC	Central Supply Air	10L/s/person (26)	0	Positive	G4	43	Not Applicable		300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
Storage Area Med Gas	28 (note 24)	16	Adjacent Space Transfer Air	None	No	None	Natural ventilation	0	0	Balanced	None	Not Applicable	Not Applicable		200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
Storage Area Equipment	28 (note 24)	16	Radiant Panels	TRV Remote Head Adj.	No	None	Central General Extract	0	3	Negative	None	NA	Not Applicable		200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
Tea Making	28 (note 24)	18	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	5	Negative	None	43	41		100	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41		200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
Waiting Room	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + LC	Central Supply and Extract	10L/s/person (26)	10L/s/person (26)	Balanced	G4	43	Not Applicable		300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
Treatment Room	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41		500	Not Applicable	1000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
Isolation Lobby	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	HBN4 Dependant	HBN4 Dependant	HBN4 Dependant		F7	43	Not Applicable		200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
Resusitation Bay	25	21	Radiant Panels	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	10	6	Positive	G4	43	41		500	Not Applicable	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	2
Circulation Equipment Storage Bays	28 (note 24)	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	Not Applicable		200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
Isolation Bedroom	25	21	Adjacent Space Transfer Air	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	HBN4 Dependant	HBN4 Dependant	HBN4 Dependant	Balanced	F7	43	41		100	5	300	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
Operating Theatre Suite	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	In line with SHTM 03-01	In line with SHTM 03-01	In line with SHTM 03-01		F7	43	Not Applicable		500	Not Applicable	10,000 - 100,000	A	80	Switch	Floor 0m	See Guidance Notes	2
Operating Theatre DCU	28	18	Adjacent Space Transfer Air	None	No	None	In line with SHTM 03-01	In line with SHTM 03-01	In line with SHTM 03-01	Balanced	None	43	41		100	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	2
Operating Theatre Recovery	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	In line with SHTM 03-01	In line with SHTM 03-01	In line with SHTM 03-01	Balanced	F7	43	41		500	Not Applicable	1000	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	2
Disposal Hold	28 (note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	NA	Not Applicable		100	Not Applicable	None	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	Not Applicable
DSR	28 (note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	NA	Not Applicable		100	Not Applicable	None	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	Not Applicable
Resus Trolley bay	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	0	0	Balanced	None	43	Not Applicable		500	Not Applicable	None	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	Not Applicable
Baby Feeding Room / Nappy Change	25	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	5	10	Negative	None	43	41		200	Not Applicable	None	A	80	Switch / Dimmer	Floor 0m	See Guidance Notes	Not Applicable
Relatives Overnight Stay	25	20	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	10L/s/person (26)	To	Positive	G4	43	41		100	Not Applicable	None	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	Not Applicable
Pantry	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + LC	Central Supply and Extract	6	8	Negative	G4	NA	41		300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
Linen Bay	28 (note 24)	16	Adjacent Space Transfer Air	None	No	None	Central Supply and Extract	0	3	Negative	None	43	Not Applicable		100	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
Multi Disciplinary Work Areas	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	4	Positive	G4	NA	Not Applicable		300	Not Applicable	1000	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
Open Plan Office	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	4	Positive	G4	NA	Not Applicable		300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
Equipment Decontamination	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G4	NA	41		200	Not Applicable	None	A	80	Presence detection	General working plane 1m	See Guidance Notes	Not Applicable
Circulation Phone Both	28 (note 24)	18	Radiant Panels	TRV Remote Head Adj.	No	None	Central Supply and Extract	0	0	Balanced	G4	43	41		200	Not Applicable	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
Recovery Bay / Recovery Room	28	20	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	15 if post anaesthetic	0	Positive	G4	43	41		500	Not Applicable	1000	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
Isolation Bedroom En-suite	25	18	Adjacent Space Transfer Air	None	No	None	HBN4 Dependant	HBN4 Dependant	HBN4 Dependant	Balanced	None	43	41		200	200	None	A	80	Presence detection	Floor 0m	See Guidance Notes	1
IPS Room	Manufacturer Dependant	Manufacturer Dependant	Adjacent Space Transfer Air	None	No	None	None	0	3	Negative	None	NA	Not Applicable		200	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable

Dept Code	Dept Name	Department Sub Group	Room Name	Qty	Area (m2)	Room Function	Temperature		Heating		Cooling Present	Cooling Type	Ventilation				Safety temperatures		Safety Notes	Lighting						Notes	Medical Location Group
							Design Maximum deg C	Design Minimum deg C	Type	Control			Type	Supply ac/hr	Extract ac/hr	Rela tive	M in	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	Warm Air Door Curtain	BMS Adjustable Sensor	No	None	None	0	0	Balanced	N	Not Applicable	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Parking Bay: 6 wheelchairs	1	4.0	Circulation Equipment Storage Bays	28	16	Adjacent Space Transfer	None	N	None	Central General Extract	0	3	Negative	N	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Parking Bay: 3 accident trolleys & 3 wheelchairs	1	12.0	Circulation Equipment Storage Bays	28	16	Adjacent Space Transfer	None	N	None	Central General Extract	0	3	Negative	N	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Reception:2 staff	1	16.0	Reception	28	18	Radiant Panels	TRV Remote Head Adj.	Y	Comfort Cooled Fresh Air + LC	Central Supply Ai	10 L/s/person (26)	0	Positive	G	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Waiting Area inc Play Area W	1	63.0	Waiting Room	28	18	Radiant Panels	TRV Remote Head Adj.	Y	Comfort Cooled Fresh Air + LC	Central Supply and Extra	10 L/s/person (26)	5	Balanced	G	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			C - Wheelchair accessible	2	4.5	Toilet	28 (note 24)	18	Adjacent Space Transfer	None	N	None	Central Dirty Extract	0	10	Negative	N	43	41	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Nappy Change	1	4.0	Toilet	28 (note 24)	18	Adjacent Space Transfer	None	N	None	Central Dirty Extract	0	10	Negative	N	43	41	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Baby/Infant Feeding Room	1	4.0	Baby Feeding Room / Nappy Change	25	18	Adjacent Space Transfer	None	N	None	Central Dirty Extract	6	10	Negative	N	43	41	0	200	Not Applicable	None	A	80	Switch / Dimmer	Floor 0m	See Guidance Notes	Not Applicable
		Treatment Facilities	Triage Room	1	16.0	Consulting Room	28	18	Radiant Panels	TRV Remote Head Adj.	Y	Comfort Cooled Fresh Air +CB	Central Supply and Extract	10 L/s/person (26)	3	Balanced	G	43	41	0	300	Not Applicable	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
			Treatment Room: Dual Access (Mental Health)	1	16.0	Treatment Room	28	18	Radiant Panels	TRV Remote Head Adj.	Y	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F	43	41	0	500	Not Applicable	1000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
			Treatment Room: Single Access W	4	14.0	Treatment Room	28	18	Radiant Panels	TRV Remote Head Adj.	Y	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F	43	41	0	500	Not Applicable	1000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
			C - Wheelchair accessible Plaster Suite (2 bays)	2	4.5	Toilet	28 (note 24)	18	Adjacent Space Transfer	None	N	None	Central Dirty Extract	0	10	Negative	N	43	41	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Consulting Room	1	24.0	Consulting Room	28	18	Radiant Panels	TRV Remote Head Adj.	Y	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10 L/s/person (26)	3	Balanced	G	43	41	0	300	Not Applicable	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
			Store - Plaster	1	6.0	Storage Area Equipment	28 (note 24)	16	Radiant Panels	TRV Remote Head Adj.	N	None	Central General Extract	0	3	Negative	N	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Staff & Communication Base Supplies	1	16.0	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Y	Comfort Cooled Fresh Air + LC	Central Supply and Extract	10L/s/person (26)	3	Positive	G	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Base	1	10.0	Storage Area Equipment	28 (note 24)	16	Radiant Panels	TRV Remote Head Adj.	N	None	Central General Extract	0	3	Negative	N	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Washdown Room General	1	16.0	Dirty utility	28 (note 24)	18	Adjacent Space Transfer	None	N	None	Central Dirty Extract	0	6	Negative	N	43	60	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			X-Ray Room Processing	1	33.0	Diagnostic room	25	18	Warm Air - Reheat	BMS Adjustable Sensor	Y	Comfort Cooled Fresh Air	Central Supply and Extract	8	8	Balanced	F	43	41	0	300	Not Applicable	1000	A	80	Switch / Dimmer	General working plane 1m	See Guidance Notes	1
			Room Changing Cubicle	1	10.0	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Y	Comfort Cooled Fresh Air + LC	Central Supply and Extract	10L/s/person (26)	3	Positive	G	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
				1	4.0	Changing Facilities	28	18	Radiant Panels	TRV Remote Head Adj.	Y	Comfort Cooled Fresh Air	Central Supply and Extract	5	4	Positive	G	43	41	0	100	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
		Patient Resuscitation	Resuscitation Room: 2 places	2	50.0	Resuscitation Bay	25	21	Radiant Panels	BMS Adjustable Sensor	Y	Comfort Cooled Fresh Air	Central Supply and Extract	10	6	Positive	G	43	41	0	500	Not Applicable	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	2
		Distressed & Bereaved Persons Facilities	Sitting Room	1	16.0	Common room/staff room/lounge	28	18	Radiant Panels	TRV Remote Head Adj.	Y	Comfort Cooled Fresh Air + LC	Central Supply and Extract	10L/s/person (26)	To suit balance	Negative	G	43	41	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			WC - Wheelchair accessible Body	1	4.5	Toilet	28 (note 24)	18	Adjacent Space Transfer	None	N	None	Central Dirty Extract	0	10	Negative	N	43	41	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Viewing Room	1	10.0	Body View	25	18	Radiant Panels	TRV Remote Head Adj.	Y	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	6	Negative	G4	43	Not Applicable	0	100	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
		Support Facilities: Clinical	Laboratory - Near Patient Testing / Status	1	8.0	Laboratory	28	18	Radiant Panels	TRV Remote Head Adj.	Y	Comfort Cooled Fresh Air + LC	Central Supply and Extract	6	6	Balanced	F7	43	60	0	500	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Dirty Utility	1	11.0	Dirty utility	28 (note 24)	18	Adjacent Space Transfer	None	N	None	Central Dirty Extract	0	6	Negative	N	43	60	0	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	Radiant Panels	TRV Remote Head Adj.	Y	Comfort Cooled Fresh Air + LC	Central Supply and Extract	10L/s/person (26)	To suit balance	Negative	G	43	41	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
		Staff Support Facilities: Sanitary & Changing	WC - Staff	2	3.0	Toilet	28 (note 24)	18	Adjacent Space Transfer	None	N	None	Central Dirty Extract	0	10	Negative	N	43	41	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Staff Shower: ambulant	2	2.5	Bathroom	28 (note 24)	18	Adjacent Space Transfer	None	N	None	Central Dirty Extract	0	10	Negative	N	43	41	0	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	Radiant Panels	TRV Remote Head Adj.	Y	Comfort Cooled Fresh Air	Central Supply and Extract	5	4	Positive	G	43	41	0	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	Radiant Panels	TRV Remote Head Adj.	Y	Comfort Cooled Fresh Air	Central Supply and Extract	5	4	Positive	G	43	41	0	100	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Beverage Bay	1	3.0	Tea Making	28 (note 24)	18	Adjacent Space Transfer	None	N	None	Central General Extract	0	5	Negative	N	43	41	0	100	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Consultants Office (6 Person)	1	24.6	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Y	Comfort Cooled Fresh Air + LC	Central Supply and Extract	10L/s/person (26)a	3	Positive	G	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Ward Management Office	1	9.0	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Y	Comfort Cooled Fresh Air + LC	Central Supply and Extract	10L/s/person (26)	3	Positive	G	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Medical Staff / Audit / SECY Office	1	17.0	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Y	Comfort Cooled Fresh Air + LC	Central Supply and Extract	10L/s/person (26)	3	Positive	G	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Interview/Meeting Room: 6 persons	1	9.0	Meeting Room	25	18	Radiant Panels	TRV Remote Head Adj.	Y	Ceiling Cassette - Chilled Water	Central Supply and Extract	10L/s/person (26)	4	Balanced	G	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
		Support Facilities: Holding & Storage	Store - Equipment & Supplies Linen	1	18.0	Storage Area Equipment	28 (note 24)	16	Radiant Panels	TRV Remote Head Adj.	N	None	Central General Extract	0	3	Negative	N	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Bay (1 Trolley)	1	1.5	Linen Bay	28 (note 24)	16	Adjacent Space Transfer	None	N	None	Central Supply and Extract	0	3	Negative	N	43	Not Applicable	0	100	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 (note 24)	16	Radiant Panels	TRV Remote Head Adj.	N	None	Central General Extract	0	3	Negative	N	43	Not Applicable	0	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 (note 24)	16	Radiant Panels	TRV Remote Head Adj.	N	None	Central General Extract	0	3	Negative	N	43	Not Applicable	0	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 (note 24)	16	Radiant Panels	TRV Remote Head Adj.	N	None	Central General Extract	0	3	Negative	N	43	Not Applicable	0	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 (note 24)	16	Adjacent Space Transfer	None	N	None	Natural ventilation	0	0 3 if internal	Balanced	None	Not Applicable	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
		Support Facilities: Miscellaneous	Disposal Hold	1	10.0	Disposal Hold	28 (note 24)	18	Adjacent Space Transfer	None	N	None	Central Dirty Extract	0	10	Negative	N	43	Not Applicable	0	100	Not Applicable	None	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	Not Applicable
			IPS Room DSR	1	1.1	IPS Room	Manufacturer Dependant	Manufacturer Dependant	Adjacent Space Transfer	None	N	LC	None	0	3	Negative	N	43	Not Applicable	0	200	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			DSR	1	7.0	DSR	28 (note 24)	18	Adjacent Space Transfer	None	N	None	Central Dirty Extract	0	10	Negative	N	43	Not Applicable	0	100	Not Applicable	None	A	90	Switch	Bed / Trolley 1.45m	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	25	18	Radiant Panels	TRV Remote Head Adj.	Y	Comfort Cooled Fresh Air + CB	Central Supply Air	10L/s/person (26)	To suit balance	Positive	G	43	41	0	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
			En-suite wheelchair-accessible WC, Shower & wash	1	6.0	Bathroom	28 (note 24)	18	Adjacent Space Transfer	None	N	None	Central Dirty Extract	0	10	Negative	N	43	41	0	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	25	20	Radiant Panels	TRV Remote Head Adj.	Y	Comfort Cooled Fresh Air + CB	Central Supply Air	10L/s/person (26)	0	Positive	G	43	41	0	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
			En-suite wheelchair-accessible WC, Shower & wash	6	4.5	Bathroom	28 (note 24)	18	Adjacent Space Transfer	None	N	None	Central Dirty Extract	0	10	Negative	N	43	41	0	200	200	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
		Medical Assessment Area (22 beds)	Reception/Staff Base	1	6.0	Reception	28	18	Radiant Panels	TRV Remote Head Adj.	Y	Comfort Cooled Fresh Air + LC	Central Supply Air	3	0	Positive	G	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Touchdown Base	4	2.0	Circulation Areas	28 (note 24)	18	Radiant Panels	TRV Remote Head Adj.	N	None	None	Refer to Guidance Notes	Refer to Guidance Notes	0	G	43	41	0	300	Not Applicable	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Single Isolation Bed Room Isolation	1	17.0	Isolation Bedroom	25	21	Adjacent Space Transfer	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	HBN4 Dependant	HBN4 Dependant	HBN4 Dependant	Balanced	F7	43	41	0	100	5	300	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
			Bedroom Entrance Lobby Single Bedroom (RHSC)	1	4.0	Isolation Lobby	25	18	Warm Air - Reheat	BMS Adjustable Sensor	Y	Comfort Cooled Fresh Air	HBN4 Dependant	HBN4 Dependant	HBN4 Dependant	0	F	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	28 (note 24)	18	Adjacent Space Transfer	None	N	None	Central Dirty Extract	0	10	Negative	N	43	41	0	200	200	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			4 Bed Room	2	58.5	Multi-bed Wards	25	18	Radiant Panels	TRV Remote Head Adj.	Y	Comfort Cooled Fresh Air + CB	Central Supply Air	10L/s/person (26)	0	Positive	G	43	41	0	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
			En-suite wheelchair-accessible WC, Shower & wash	2	4.5	Bathroom	28 (note 24)	18	Adjacent Space Transfer	None	N	None	Central Dirty Extract	0	10	Negative	N	43	41	0	200	200	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
		Adolescent Assessment Area (2 beds)	Single Bedroom (RHSC)	2	17.0	Bedroom	25	20	Radiant Panels	TRV Remote Head Adj.	Y	Comfort Cooled Fresh Air + CB	Central Supply Air	10L/s/person (26)	0	Positive	G	43	41	0	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
			En-suite wheelchair-accessible WC, Shower & wash	2	4.5	Bathroom	28 (note 24)	18	Adjacent Space Transfer	None	N	None	Central Dirty Extract	0	10	Negative	N	43	41	0	200	200	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
		Shared Support	Patients' Assisted Bathroom Treatment Room	1	14.0	Bathroom	28 (note 24)	18	Adjacent Space Transfer	None	N	None	Central Dirty Extract	0	10	Negative	N	43	41	0	200	200	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
				1	16.0	Treatment Room	28	18	Radiant Panels	TRV Remote Head Adj.	Y	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F	43	41	0	500	Not Applicable	1000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
			Dining / Play Room	1	37.0	Common room/staff room/lounge	28	18	Radiant Panels	TRV Remote Head Adj.	Y	Comfort Cooled Fresh Air + LC	Central Supply and Extract	10L/s/person (26)	To suit balance	Negative	G	43	41	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			Patint Interview Room	1	9.0	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Y	Comfort Cooled Fresh Air + LC	Central Supply and Extract	10L/s/person (26)	To suit balance	Positive	G	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Ward Management Office	1	9.0	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Y	Comfort Cooled Fresh Air + LC	Central Supply and Extract	10L/s/person (26)	To suit balance	Positive	G	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			On-Call Consultant Office	1	10.0	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Y	Comfort Cooled Fresh Air + LC	Central Supply and Extract	10L/s/person (26)	To suit balance	Positive	G	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Multi-Disciplinary Office	1	26.0	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Y	Comfort Cooled Fresh Air + LC	Central Supply and Extract	10L/s/person (26)	To suit balance	Positive	G	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Clinical Coordinators Office W	1	10.0	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Y	Comfort Cooled Fresh Air + LC	Central Supply and Extract	10L/s/person (26)	To suit balance	Positive	G	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			C - Staff	2	3.0	Toilet	28 (note 24)	18	Adjacent Space Transfer	None	N	None	Central Dirty Extract	0	10	Negative	N	43	41	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			WC - Visitors	1	3.0	Toilet	28 (note 24)	18	Adjacent Space Transfer	None	N	None	Central Dirty Extract	0	10	Negative	N	43	41	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Clean Utility Dirty	1	12.0	Clean Utility	28	18	Radiant Panels	TRV Remote Head Adj.	Y	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G	43	41	0	150	Not Applicable	None	A	80	Presence detection	General working plane 1m	See Guidance Notes	Not Applicable
			Utility Pantry	1	14.0	Dirty utility	28 (note 24)	18	Adjacent Space Transfer	None	N	None	Central Dirty Extract	0	6	Negative	N	43	60	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Resuscitation Trolley Bay	1	10.0	Pantry	28	18	Radiant Panels	TRV Remote Head Adj.	Y	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G	43	41	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			Linen Bay (1 Trolley) Store	1	1.0	Resus Trolley bay	25 (note 24)	18	Radiant Panels	TRV Remote Head Adj.	Y	Comfort Cooled Fresh Air	Central Supply Air	0	0	Balanced	N	43	Not Applicable	0	500	Not Applicable	None	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	Not Applicable
			- General	2	1.5	Storage Area Equipment	28 (note 24)	16	Radiant Panels	TRV Remote Head Adj.	N	None	Central General Extract	0	3	Negative	N	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Store - Equipment	1	12.0	Storage Area Equipment	28 (note 24)	16	Radiant Panels	TRV Remote Head Adj.	N	None	Central General Extract	0	3	Negative	N	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Hoist Bay	1	6.0	Storage Area Equipment	28 (note 24)	16	Radiant Panels	TRV Remote Head Adj.	N	None	Central General Extract	0	3	Negative	N	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			DSR	1	3.0	Circulation Areas	28 (note 24)	18	Radiant Panels	TRV Remote Head Adj.	N	None	None	Refer to Guidance Notes	Refer to Guidance Notes	0	G	43	41	0	300	Not Applicable	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Ward Kitchen	1	7.0	DSR	28 (note 24)	18	Adjacent Space Transfer	None	N	None	Central Dirty Extract	0	10	Negative	N	43	Not Applicable	0	100	Not Applicable	None	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	Not Applicable
			Disposal Hold	1	12.0	Ward Kitchen	28	18	Adjacent Space Transfer	None	Yes	Ceiling Cassette - Chilled Water	Central General Extract	0	6	Negative	G	Not Applicable	60	0	300	Not Applicable	None	A	80	Switch	General working plane 1m	See Guidance Notes	Not Applicable
				1	10.0	Disposal Hold	28 (note 24)	18	Adjacent Space Transfer	None	N	None	Central Dirty Extract	0	10	Negative	N	43	Not Applicable	0	100	Not Applicable	None	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	Not Applicable
A3	PARU / Emergency / Radiology Shared Support	NA	Meeting / Case Conference Room	1	32.0	Meeting Room	25	18	Radiant Panels	TRV Remote Head Adj.	Y	Ceiling Cassette - Chilled Water	Central Supply and Extract	10L/s/person (26)	To suit balance	Balanced	G	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Seminar & Training Room	1	32.0	Meeting Room	25	18	Radiant Panels	TRV Remote Head Adj.	Y	Ceiling Cassette - Chilled Water	Central Supply and Extract	10L/s/person (26)	To suit balance	Balanced	G	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Staff Room	1	80.0	Common room/staff room/lounge	28	18	Radiant Panels	TRV Remote Head Adj.	Y	Comfort Cooled Fresh Air + LC	Central Supply and Extract	10L/s/person (26)	To suit balance	Negative	G	43	41	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable

Notes

a) Linen Bay recess to be treated as part of room.
b) Mobile Equipment Bay Recess to be treated as part of room
c) Resuc Trolley Area Recess to be treated as part of room
d) Consult Exam Room - note 10ac/hr not allowed for unless room title listed as Treatment Room.
e) Reception & Waiting Combined
f) Internal Temperatures should not exceed 28 deg C (db) for more than 50hrs per year
g) Offices assumed to have openable windows without 100mm restrictors for natural ventilation .
h) Staff Rest assumed to have openable windows without 100mm restrictors for natural ventilation and occupancy factor of 0.8.

Dept Code	Dept Name	Department Sub Group	Room Name	Qty	Area (m2)	Room Function	Temperature		Heating		Cooling Present	Cooling Type	Ventilation				Safety temperatures		Safety Notes	Lighting						Notes	Medical Location Group
							Design Maximum deg C	Design Minimum deg C	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		
B1	PICU and HDU's - 24 Beds	NA	Waiting Area (Visitors)	1	16.5	Waiting Room	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + LC	Central Supply and Extract	10L/s/person (26)	To suit balance	Balanced	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			WC - Wheelchair accessible	1	4.5	Toilet	28 (note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Public Telephone Booth	1	2.0	Circulation Phone Both	28 (note 24)	18	Radiant Panels	TRV Remote Head Adj.	No	None	Central Supply and Extract	0	0	Balanced	G4	43	41	0	200	Not Applicable	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Reception	1	7.0	Reception	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + LC	Central Supply Air	10L/s/person (26)	0	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Data Manager & Secretarial Office	1	15.0	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	To suit balance	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
		PICU - 8 Beds	Staff Base	1	12.0	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	To suit balance	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Single Bed Isolation Cubicle	2	26.0	Isolation Bedroom	25	21	Adjacent Space Transfer Air	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	HBN4 Dependant	HBN4 Dependant	HBN4 Dependant	Balanced	F7	43	41	0	100	5	300	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
			Gowning Lobby	2	6.0	Changing Facilities	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	4	Positive	G4	43	41	0	100	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Single Bed Cubicle	2	26.0	Bedroom	25	20	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	To suit balance	Positive	G4	43	41	0	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
			Open Plan Bay (4	1	104.0	Multi-bed Wards	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	To suit balance	Positive	G4	43	41	0	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
		Low Acuity - 6 Beds	Staff Base	1	4.0	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Single Bed Cubicle	1	26.0	Bedroom	25	20	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	To suit balance	Positive	G4	43	41	0	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
			Single Bed Isolation Cubicle	1	26.0	Isolation Bedroom	25	21	Adjacent Space Transfer Air	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	HBN4 Dependant	HBN4 Dependant	HBN4 Dependant	Balanced	F7	43	41	0	100	5	300	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
			Gowning Lobby	1	6.0	Changing Facilities	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	HBN4 Dependant	HBN4 Dependant	Positive	G4	43	41	0	100	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Open Plan Bay (4 beds)	1	80.0	Multi-bed Wards	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	To suit balance	Positive	G4	43	41	0	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
			Patients' Assisted	1	14.0	Bathroom	28 (note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	0	200	200	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
		Neonatal HDU - 4 Cots	Staff Base	1	6.0	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Single Bed Cubicle	1	15.0	Bedroom	25	20	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G4	43	41	0	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
			En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	28 (note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	0	200	200	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Open Plan Bay (3 cots)	1	45.0	Multi-bed Wards	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	To suit balance	Positive	G4	43	41	0	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
		High Acuity - 6 Beds	Staff Base	1	4.0	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + LC	Central Supply and Extract	10L/s/person (26)	To suit balance	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Single Cot Cubicle	1	26.0	Bedroom	25	20	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	To suit balance	Positive	G4	43	41	0	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
			Single Bed Isolation Cubicle	1	26.0	Isolation Bedroom	25	21	Adjacent Space Transfer Air	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	HBN4 Dependant	HBN4 Dependant	HBN4 Dependant	Balanced	F7	43	41	0	100	5	300	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
			Gowning Lobby	1	6.0	Isolation Lobby	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	HBN4 Dependant	HBN4 Dependant	HBN4 Dependant	0	F7	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Open Plan Bay (4 beds)	1	104.0	Multi-bed Wards	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	To suit balance	Positive	G4	43	41	0	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
		Shared Support	Clean Utility	1	18.0	Clean Utility	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G4	43	41	0	150	Not Applicable	None	A	80	Presence detection	General working plane 1m	See Guidance Notes	Not Applicable
			Clean Utility	1	8.0	Clean Utility	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G4	43	41	0	150	Not Applicable	None	A	80	Presence detection	General working plane 1m	See Guidance Notes	Not Applicable
			Clean Utility	1	8.0	Clean Utility	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G4	43	41	0	150	Not Applicable	None	A	80	Presence detection	General working plane 1m	See Guidance Notes	Not Applicable
			Dirty Utility	1	19.0	Dirty utility	28 (note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Dirty Utility	1	14.0	Dirty utility	28 (note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Laboratory	1	10.0	Laboratory	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	6	Balanced	F7	43	60	0	500	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Disposal Hold	1	10.0	Disposal Hold	28 (note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	Not Applicable	0	100	Not Applicable	None	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	Not Applicable
			DSR	1	7.0	DSR	28 (note 24)	18	Adjacent Space Transfer Air	None	No	None + LC	Central Dirty Extract	0	10	Negative	None	43	Not Applicable	0	100	Not Applicable	None	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	Not Applicable
			Pantry / Milk Store	1	10.0	Pantry	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			Baby/Infant Feeding Room	1	5.0	Baby Feeding Room / Nappy Change	28 (note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	6	10	Negative	None	43	41	0	200	Not Applicable	None	A	80	Switch / Dimmer	Floor 0m	See Guidance Notes	Not Applicable
			Play Specialist Base & Store	1	8.0	Storage Area Equipment	28 (note 24)	16	Radiant Panels	TRV Remote Head Adj.	No	None	Central General Extract	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			WC - Staff	3	3.0	Toilet	28 (note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Relatives' Sitting Room	1	18.5	Common room/staff room/lounge	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	To suit balance	Negative	G4	43	41	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			WC - Relatives	1	3.0	Toilet	28 (note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Relative Overnight Stay Room	2	10.0	Relatives Overnight Stay	25	20	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + LC	Central Supply and Extract	10L/s/person (26)	To suit balance	Positive	G4	43	41	0	100	Not Applicable	None	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	Not Applicable
			En-suite wheelchair-accessible WC, Shower & wash	1	6.0	Bathroom	28 (note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	0	200	200	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			En-suite wheelchair-accessible WC, Shower & wash	1	4.5	Bathroom	28 (note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	0	200	200	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Quiet / Interview Room	1	9.0	Meeting Room	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10L/s/person (26)	To suit balance	Balanced	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Family Interview Room	1	12.0	Meeting Room	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10L/s/person (26)	To suit balance	Balanced	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Bulk Supplies Store	1	55.0	Storage Area Equipment	28 (note24)	16	Radiant Panels	TRV Remote Head Adj.	No	None	Central General Extract	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Store - Equipment	1	40.0	Storage Area Equipment	28 (note 24)	16	Radiant Panels	TRV Remote Head Adj.	No	None	Central General Extract	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Bed/Patient Chair / Buggy Storage	1	8.0	Storage Area Equipment	28 (note 24)	16	Radiant Panels	TRV Remote Head Adj.	No	None	Central General Extract	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Retrieval Equipment Store	1	15.0	Storage Area Equipment	28 (note 24)	16	Radiant Panels	TRV Remote Head Adj.	No	None	Central General Extract	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Equipment Service Room	1	24.0	Small Workshop	28	18	Radiant Panels	TRV Remote Head Adj.	No	None	Central Supply and Extract	4	6	Negative	G4	43	41	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Linen Bay (1 Trolley)	2	1.5	Linen Bay	28 (note 24)	16	Adjacent Space Transfer Air	None	No	None	Central Supply and Extract	0	3	Negative	None	43	Not Applicable	0	100	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Gas Cylinder Store	2	2.0	Storage Area Med Gas	28 (note 24)	16	Adjacent Space Transfer Air	None	No	None	Natural ventilation	0	0 (3 if internal)	Balanced	None	Not Applicable	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Cardiac Echo/ECG Bay	1	4.0	Circulation Areas	28 (note 24)	18	Radiant Panels	TRV Remote Head Adj.	No	None	None	Refer to Guidance Notes	Refer to Guidance Notes	0	G4	43	41	0	300	Not Applicable	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Mobile X-Ray / Ultrasound Bay	1	4.0	Circulation	28 (note 24)	18	Radiant panels	TRV Remote Head Adj.	Yes	None	None	Refer to Guidance Notes	Refer to Guidance Notes	Balanced	F7	43	41	0	300	Not Applicable	1000	A	80	Switch / Dimmer	General working plane 1m	See Guidance Notes	1
			X-Ray Processing	1	8.0	Diagnostic room	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	8	8	Balanced	F7	43	41	0	300	Not Applicable	1000	A	80	Switch / Dimmer	General working plane 1m	See Guidance Notes	1
			Hoist Bay	1	3.0	Circulation Equipment Storage Bays	28 (note 24)	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Resuscitation Trolley Bay	4	1.0	Circulation Equipment Storage Bays	28 (note 24)	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			On-Call Consultant Office	1	10.0	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + LC	Central Supply and Extract	10L/s/person (26)	To suit balance	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Retrieval Team Office	1	12.0	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + LC	Central Supply and Extract	10L/s/person (26)	To suit balance	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Senior Nursing Office	1	10.0	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + LC	Central Supply and Extract	10L/s/person (26)	To suit balance	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Multidisciplinary Work Area PICU	1	15.0	Multi Disciplinary Work Areas	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + LC	Central Supply and Extract	10L/s/person (26)	To suit balance	Positive	G4	43	Not Applicable	0	300	Not Applicable	1000	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Multidisciplinary Work Area HDU	1	15.0	Multi Disciplinary Work Areas	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + LC	Central Supply and Extract	10L/s/person (26)	To suit balance	Positive	G4	43	Not Applicable	0	300	Not Applicable	1000	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Seminar Room	1	37.5	Meeting Room	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10L/s/person (26)	To suit balance	Balanced	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			IPS Room	1	2.0	IPS Room	Manufacturer Dependant	Manufacturer Dependant	Adjacent Space Transfer Air	None	No	LC	None	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			IPS Room	1	3.0	IPS Room	Manufacturer Dependant	Manufacturer Dependant	Adjacent Space Transfer Air	None	No	LC	None	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			Staff Room	1	32.0	Common room/staff room/lounge	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + LC	Central Supply and Extract	10L/s/person (26)	To suit balance	Negative	G4	43	41	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable

Notes

a) Linen Bay recess to be treated as part of room.
b) Mobile Equipment Bay Recess to be treated as part of room
c) Ressuc Trolley Area Recess to be treated as part of room
d) Consult Exam Room - note 10ac/hr not allowed for unless room title listed as Treatment Room.
e) Reception & Waiting Combined
f) Internal Temperatures should not exceed 28 deg C (db) for more than 50hrs per year
g) Offices assumed to have openable windows without 100mm restrictors for natural ventilation .
h) Staff Rest assumed to have openable windows without 100mm restrictors for natural ventilation and occupancy factor of 0.8.

Dept Code	Dept Name	Department Sub Group	Room Name	Qty	Area (m2)	Room Function	Temperature: Design Maximum deg C	Temperature: Design Minimum deg C	Heating: T	Heating: Control	Cooling: Present	Cooling: Type	Ventilation: Type	Ventilation: Supply ac/hr	Ventilation: Extract ac/hr	R Pr	Min Filtration	Safety temperatures: Surface deg C	Safety temperatures: Water deg C	Safety Notes	Lighting: Normal lux	Lighting: Night lux	Lighting: Local lux	Lighting: Standby Grade	Lighting: Colour Rendering	Lighting: Control	Lighting: Plane	Notes	Medical Location Group
C1.1	Medical Inpatients - 23 Beds	NA	Reception / Staff Base	1	3.0	Rec	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply Air	10L/s/person (26)	0	P	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
		Medical (16 beds)	Single Bedroom	5	17.0	Bedr	25	20	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply Air	10L/s/person (26)	0	P	G4	43	41	0	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
			Single Isolation Bedroom	3	17.0	Isolation Bedroom	25	21	Adjacent Space	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	HBN4 Dependant	HBN4 Dependant	HBN4 Dependant	B	F7	43	41	0	100	5	300	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
			Isolation Bedroom Entrance Lobby	3	4.0	Isolation Lobby	25	18	Warm Air - Reheat	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	HBN4 Dependant	HBN4 Dependant	HBN4 Dependant		F7	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			En-suite wheelchair-accessible WC, Shower & wash	8	4.5	Bath	28 (note 24)	18	Adjacent Space	None	No	None	Central Dirty Extract	0	10	N	None	43	41	0	200	200	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			4 Bed Room	2	58.5	Multi-bed Wards	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply Air	10L/s/person (26)	0	P	G4	43	41	0	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
			WC	2	4.5	T	28 (note 24)	18	Adjacent Space	None	No	None	Central Dirty Extract	0	10	N	None	43	41	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			En-suite wheelchair-accessible WC, Shower & wash	2	6.0	Bath	28 (note 24)	18	Adjacent Space	None	No	None	Central Dirty Extract	0	10	N	None	43	41	0	200	200	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
		Transitional Care (4 beds)	Single Bedroom (RHSC)	3	19.0	Bedr	25	20	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply Air	10L/s/person (26)	0	P	G4	43	41	0	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
			Single Isolation Bedroom (RHSC)	1	19.0	Isolation Bedroom	25	21	Adjacent Space	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	HBN4 Dependant	HBN4 Dependant	HBN4 Dependant	B	F7	43	41	0	100	5	300	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
			Isolation Bedroom Entrance Lobby En-	1	4.0	Isolation Lobby	25	18	Warm Air - Reheat	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	HBN4 Dependant	HBN4 Dependant	HBN4 Dependant		F7	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			suite trolley shower	4	8.5	Bath	28 (note 24)	18	Adjacent Space	None	No	None	Central Dirty Extract	0	10	N	None	43	41	0	200	200	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Sitting Room / Lounge	1	16.0	Common room/staff	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air +CB	Central Supply and Extract	6	8	N	G4	43	41	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
		Adolescent (3 beds)	Single Bedroom	3	17.0	Bedr	25	20	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply Air	10L/s/person (26)	0	P	G4	43	41	0	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
			En-suite wheelchair-accessible WC, Shower & wash	3	4.5	Bath	28 (note 24)	18	Adjacent Space	None	No	None	Central Dirty Extract	0	10	N	None	43	41	0	200	200	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Patients' Assisted Bathroom	1	14.0	Bath	28 (note 24)	18	Adjacent Space	None	No	None	Central Dirty Extract	0	10	N	None	43	41	0	200	200	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Treatment Room	1	16.0	Treatment Room	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	P	F7	43	41	0	500	Not Applicable	1000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
			Clean Utility	1	12.0	Clean	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	P	G4	43	41	0	150	Not Applicable	None	A	80	Presence detection	General working plane 1m	See Guidance Notes	Not Applicable
			Resuscitation Trolley Bay	1	1.0	Resus Trolley bay	28 (note 24)	18	Radiant Panels	TRV Remote Head Adj.	No	With circulation	Central Supply Air	0	0	B	None	43	Not Applicable	0	500	Not Applicable	None	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	Not Applicable
			Dirty Utility	1	14.0	Dirty	28 (note 24)	18	Adjacent Space	None	No	None	Central Dirty Extract	0	6	N	None	43	60	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Touchdown Base	2	10.0	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	P	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Ward Management Office	1	9.0	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	P	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Multi-Disciplinary Office	1	18.0	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	P	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Patient Interview Room	1	9.0	Meeting Room	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	4	B	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			WC - Staff	2	3.0	T	28 (note 24)	18	Adjacent Space	None	No	None	Central Dirty Extract	0	10	N	None	43	41	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			WC - Visitors	1	3.0	T	28 (note 24)	18	Adjacent Space	None	No	None	Central Dirty Extract	0	10	N	None	43	41	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Dining / Play Room	1	20.0	Eating/Drinking	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	4	B	G4	43	41	0	200	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			Pantry	1	8.0	P	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + LC	Central Supply and Extract	6	8	N	G4	43	41	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			Linen Bay (1 Trolley)	1	3.0	Linen	28 (note 24)	16	Adjacent Space	None	No	None	Central Supply and Extract	0	3	N	None	43	Not Applicable	0	100	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Store - back up clothing	1	4.0	Storage Area Equipment	28 (note 24)	16	Radiant Panels	TRV Remote Head Adj.	No	None	Central General Extract	0	3	N	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Store - General	1	18.0	Storage Area Equipment	28 (note 24)	16	Radiant Panels	TRV Remote Head Adj.	No	None	Central General Extract	0	3	N	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Store - Equipment	1	10.0	Storage Area Equipment	28 (note 24)	16	Radiant Panels	TRV Remote Head Adj.	No	None	Central General Extract	0	3	N	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Hoist Bay	1	3.0	Storage Area Equipment	28 (note 24)	16	Radiant Panels	TRV Remote Head Adj.	No	None	Central General Extract	0	3	N	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Disposal Hold	1	10.0	Disposal Hold	28 (note 24)	18	Adjacent Space	None	No	None	Central Dirty Extract	0	10	N	None	43	Not Applicable	0	100	Not Applicable	None	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	Not Applicable
			Ward kitchen	1	12.0	Ward Kitchen	28	18	Adjacent Space	None	Yes	Ceiling Cassette - Chilled Water	Central General Extract	0	6	N	G4	Not Applicable	60	0	300	Not Applicable	None	A	80	Switch	General working plane 1m	See Guidance Notes	Not Applicable
			Mobile X-Ray/Ultrasound Bay	1	4.0	Circulation Equipment Storage	28 (note 24)	16	Adjacent Space	None	No	None	Central General Extract	0	3	N	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			IPS Room	1	1.8	IPS	Manufacturer Dependant	Manufacturer Dependant	Adjacent Space	None	No	None	None	0	3	N	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			DSR	1	7.0	D	28	18	Adjacent Space	None	No	None	Central Dirty Extract	0	10	N	None	43	Not Applicable	0	100	Not Applicable	None	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	Not Applicable
C1.2	Surgical Long Stay Inpatients -15 Beds	NA	Reception / Staff Base	1	3.0	Rec	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply Air	10L/s/person (26)	0	P	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
		Surgical (10 beds)	Single Bedroom	2	17.0	Bedr	25	20	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply Air	10L/s/person (26)	0	P	G4	43	41	0	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
			En-suite wheelchair-accessible WC, Shower & wash	2	4.5	Bath	28 (note 24)	18	Adjacent Space	None	No	None	Central Dirty Extract	0	10	N	None	43	41	0	200	200	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			4 Bed Room	2	58.5	Multi-bed Wards	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply Air	10L/s/person (26)	0	P	G4	43	41	0	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
			WC	2	4.5	T	28 (note 24)	18	Adjacent Space	None	No	None	Central Dirty Extract	0	10	N	None	43	41	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Wetroom	1	14.0	Bath	28 (note 24)	18	Adjacent Space	None	No	None	Central Dirty Extract	0	10	N	None	43	41	0	200	200	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
		Adolescent (5 beds)	Single Bedroom (RHSC)	5	17.0	Bedr	25	20	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply Air	10L/s/person (26)	0	P	G4	43	41	0	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
			En-suite wheelchair-accessible WC, Shower & wash	5	4.5	Bath	28 (note 24)	18	Adjacent Space	None	No	None	Central Dirty Extract	0	10	N	None	43	41	0	200	200	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Discharge Lounge	1	20.0	Common room/staff	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	8	N	G4	43	41	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			Patients' Assisted Bathroom	1	14.0	Bath	28 (note 24)	18	Adjacent Space	None	No	None	Central Dirty Extract	0	10	N	None	43	41	0	200	200	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Treatment Room	1	16.0	Consulting Room	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	B	G4	43	41	0	300	Not Applicable	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
			Clean Utility	1	12.0	Clean Utility	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	P	G4	43	41	0	150	Not Applicable	None	A	80	Presence detection	General working plane 1m	See Guidance Notes	Not Applicable
			Resuscitation Trolley Bay	1	1.0	Resus Trolley bay	28 (note 24)	18	Radiant Panels	TRV Remote Head Adj.	No	With circulation	Central Supply Air	0	0	B	None	43	Not Applicable	0	500	Not Applicable	None	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	Not Applicable
			Dirty Utility	1	14.0	Dirty utility	28 (note 24)	18	Adjacent Space	None	No	None	Central Dirty Extract	0	6	N	None	43	60	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Touchdown Base	3	2.0	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	P	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Ward Management Office	1	9.0	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	P	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Multi-Disciplinary Office	1	18.0	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	P	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Patient Interview Room	1	9.0	Meeting Room	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	4	B	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			WC - Staff	2	3.0	T	28 (note 24)	18	Adjacent Space	None	No	None	Central Dirty Extract	0	10	N	None	43	41	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			WC - Visitors	1	3.0	T	28 (note 24)	18	Adjacent Space	None	No	None	Central Dirty Extract	0	10	N	None	43	41	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Dining / Play Room	1	13.0	Eating/Drinking	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	4	B	G4	43	41	0	200	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			Pantry	1	8.0	Common room/staff	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	8	N	G4	43	41	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			Linen Bay (1 Trolley)	1	1.5	Linen	28 (note 24)	16	Adjacent Space	None	No	None	Central Supply and Extract	0	3	N	None	43	Not Applicable	0	100	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Store - back up clothing	1	4.0	Storage Area Equipment	28 (note 24)	16	Radiant Panels	TRV Remote Head Adj.	No	None	Central General Extract	0	3	N	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Store - General	1	12.0	Storage Area Equipment	28 (note 24)	16	Radiant Panels	TRV Remote Head Adj.	No	None	Central General Extract	0	3	N	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Store - Equipment	1	10.0	Storage Area Equipment	28 (note 24)	16	Radiant Panels	TRV Remote Head Adj.	No	None	Central General Extract	0	3	N	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Hoist Bay	1	3.0	Circulation Equipment Storage	28 (note 24)	16	Adjacent Space	None	No	None	Central General Extract	0	3	N	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Disposal Hold	1	10.0	Dirty	28 (note 24)	18	Adjacent Space	None	No	None	Central Dirty Extract	0	6	N	None	43	60	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Ward kitchen	1	12.0	Ward Kitchen	28	18	Adjacent Space	None	Yes	Ceiling Cassette - Chilled Water	Central General Extract	0	6	N	G4	Not Applicable	60	0	300	Not Applicable	None	A	80	Switch	General working plane 1m	See Guidance Notes	Not Applicable
			DSR	1	7.0	Dirty	28 (note 24)	18	Adjacent Space	None	No	None	Central Dirty Extract	0	6	N	None	43	60	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
C1.3	Neuroscience Inpatients - 12 Beds	NA	Reception / Staff Base	1	3.0	Rec	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply Air	10L/s/person (26)	0	P	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Waiting Area	1	10.0	Waiting Room	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	5	B	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			Single Bedroom (RHSC)	3	17.0	Bedroom	25	20	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply Air	10L/s/person (26)	0	P	G4	43	41	0	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
			Single Isolation Bedroom (RHSC)	1	17.0	Isolation Bedroom	25	21	Adjacent Space	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	HBN4 Dependant	HBN4 Dependant	HBN4 Dependant	B	F7	43	41	0	100	5	300	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
			Isolation Bedroom Entrance Lobby	1	4.0	Isolation Lobby	25	18	Warm Air - Reheat	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	HBN4 Dependant	HBN4 Dependant	HBN4 Dependant		F7	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			En-suite wheelchair-accessible WC, Shower & wash	4	4.5	Bath	28 (note 24)	18	Adjacent Space	None	No	None	Central Dirty Extract	0	10	N	None	43	41	0	200	200	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			4 Bed Room	2	58.5	Multi-bed Wards	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply Air	10L/s/person (26)	0	P	G4	43	41	0	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
			Wetroom	1	14.0	Bath	28 (note 24)	18	Adjacent Space	None	No	None	Central Dirty Extract	0	10	N	None	43	41	0	200	200	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Patients' Assisted Bathroom	1	14.0	Bath	28 (note 24)	18	Adjacent Space	None	No	None	Central Dirty Extract	0	10	N	None	43	41	0	200	200	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Treatment Room	1	16.0	Common room/staff	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	N	G4	43	41	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			Clean Utility	1	12.0	Clean	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	P	G4	43	41	0	150	Not Applicable	None	A	80	Presence detection	General working plane 1m	See Guidance Notes	Not Applicable
			Resuscitation Trolley Bay	1	1.0	Resus Trolley bay	25	18	Radiant Panels	TRV Remote Head Adj.	No	With circulation	Central Supply Air	0	0	B	None	43	Not Applicable	0	500	Not Applicable	None	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	Not Applicable
			Dirty Utility	1	14.0	Dirty	28 (note 24)	18	Adjacent Space	None	No	None	Central Dirty Extract	0	6	N	None	43	60	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Touchdown Base	2	2.0	Circulation Areas	28 (note 24)	18	Radiant Panels	TRV Remote Head Adj.	No	None	None	Refer to Guidance Notes	Refer to Guidance Notes		G4	43	41	0	300	Not Applicable	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Patient Interview Room	1	9.0	Consulting Room	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	B	G4	43	41	0	300	Not Applicable	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
			Ward Management Office	1	9.0	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	P	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Multi-Disciplinary Office	1	18.0	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	P	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			WC - Staff	2	3.0	T	28 (note 24)	18	Adjacent Space	None	No	None	Central Dirty Extract	0	10	N	None	43	41	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			WC - Visitors	1	3.0	T	28 (note 24)	18	Adjacent Space	None	No	None	Central Dirty Extract	0	10	N	None	43	41	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Dining / Play Room	1	16.0	Eating/Drinking	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	4	B	G4	43	41	0	200	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			Pantry	1	8.0	Common room/staff	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + LC	Central Supply and Extract	10L/s/person (26)	8	N	G4	43	41	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			Linen Bay	1	1.5	Linen	28 (note 24)	16	Adjacent Space	None	No	None	Central Supply and Extract	0	3	N	None	43	Not Applicable	0	100	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Store - General	1	16.0	Storage Area Equipment	28 (note 24)	16	Radiant Panels	TRV Remote Head Adj.	No	None	Central General Extract	0	3	N	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Store - Equipment	1	10.0	Storage Area Equipment	28 (note 24)	16	Radiant Panels	TRV Remote Head Adj.	No	None	Central General Extract	0	3	N	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Hoist Bay	1	3.0	Circulation Equipment Storage	28 (note 24)	16	Adjacent Space	None	No	None	Central General Extract	0	3	N	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Disposal Hold	1	10.0	Disposal Hold	28 (note 24)	18	Adjacent Space	None	No	None	Central Dirty Extract	0	10	N	None	43	Not Applicable	0	100	Not Applicable	None	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	Not Applicable
			Ward Kitchen	1	12.0	Ward Kitchen	28	18	Adjacent Space	None	Yes	Ceiling Cassette - Chilled Water	Central General Extract	0	6	N	G4	Not Applicable	60	0	300	Not Applicable	None	A	80	Switch	General working plane 1m	See Guidance Notes	Not Applicable
			DSR	1	7.0	D	28	18	Adjacent Space	None	No	None	Central Dirty Extract	0	10	N	None	43	Not Applicable	0	100	Not Applicable	None	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	Not Applicable
			Snoezelen Room	1	12.0	Consulting Room	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + LC	Central Supply and Extract	3	3	B	G4	43	41	0	300	Not Applicable	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
			WC Accessible	2	4.5	T	28 (note 24)	18	Adjacent Space	None	No	None	Central Dirty Extract	0	10	N	None	43	41	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Rehabilitation Room	1	30.0	Consulting Room	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + LC	Central Supply and Extract	3	3	B	G4	43	41	0	300	Not Applicable	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1

Object ID: A42689294

Dept Code	Dept Name	Department Sub Group	Room Name	Area (m2)	Room Function	Temperature Design Max deg C	Temperature Design Min deg C	Heating	Heating Control	Cooling Present	Cooling Type	Ventilation Type	Ventilation Supply ac/hr	Ventilation Extract ac/h	Ventilation Relative Pressure	Ventilation Min Filtration	Safety temperatures Surface deg C	Safety temperatures Water deg C	Safety Notes	Lighting Normal lux	Lighting Night lux	Lighting Local lux	Lighting Standby Grade	Lighting Colour Rendering	Lighting Control	Lighting Plane	Notes	Medical Location Group
C1.4	Haematology / Oncology Inpatients & Daycases - 17 Beds & 2 Chairs	NA	Waiting Area	12.0	Waiting Room	28	1		TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	5	Balanced	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			Reception / Staff Base	3.0	Reception	28	1		TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply Air	10L/s/person (26)	0	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Touchdown Base	2.0	Cellular / Ward Offices	25	1		TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
		Paediatric Beds (7)	Single Bedroom (RHSC)	17.0	Bedroom	25	2		TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply Air	10L/s/person (26)	0	Positive	G4	43	41	0	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
			Single Isolation Bedroom (RHSC)	17.0	Isolation Bedroom	25	2	Adjac	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	HBN4 Dependant	HBN4 Dependant	HBN4	Balanced	F7	43	41	0	100	5	300	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	
			Isolation Bedroom Entrance Lobby	4.0	Isolation Lobby	25	1	W	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	HBN4 Dependant	HBN4 Dependant	HBN4	0	F7	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			En-suite wheelchair-accessible WC, Shower & wash	4.5	Bathroom	28(note 24)	1	Adjac	None	No	None	Central Dirty Extract	0	1	Negative	None	43	41	0	200	200	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Patients' Assisted Bathroom	14.0	Bathroom	28(note 24)	1	Adjac	None	No	None	Central Dirty Extract (SP)	0	HBN4 Dependant	Negative	None	43	41	0	200	200	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
		Day Facilities (7 beds & 2 chairs)	Multi Bed Room: day care, 4 beds & 2 chairs	72.5	Multi-bed Wards	25	1		TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply Air	10L/s/person (26)	0	Positive	G4	43	41	0	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
			Single Bedroom (RHSC)	17.0	Bedroom	25	2		TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply Air	10L/s/person (26)	0	Positive	G4	43	41	0	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
			En-suite wheelchair-accessible WC, Shower & wash	4.5	Bathroom	28(note 24)	1	Adjac	None	No	None	Central Dirty Extract	0	1	Negative	None	43	41	0	200	200	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Treatment Room	12.0	Treatment Room	28	1		TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41	0	500	Not Applicable	1000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
			Clean Utility	16.0	Clean Utility	28	1		TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G4	43	41	0	150	Not Applicable	None	A	80	Presence detection	General working plane 1m	See Guidance Notes	Not Applicable
		Adolescent Beds (3)	Single Bedroom	17.0	Bedroom	25	2		TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply Air	10L/s/person (26)	0	Positive	G4	43	41	0	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
			En-suite wheelchair-accessible WC, Shower & wash	4.5	Bathroom	28(note 24)	1	Adjac	None	No	None	Central Dirty Extract	0	1	Negative	None	43	41	0	200	200	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Kitchen/ Lounge/Social Space	25.0	Common room/staff room/lounge	28	1		TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	8	Negative	G4	43	41	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			Quiet Room / Study	10.0	Cellular / Ward Offices	25	1		TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
		Ward Support Areas	Treatment / Clean Utility	18.0	Clean Utility	28	1		TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G4	43	41	0	150	Not Applicable	None	A	80	Presence detection	General working plane 1m	See Guidance Notes	Not Applicable
			Resuscitation Trolley Bay	1.0	Circulation Equipment Storage Bays	28(note 24)	1	Adjac	None	No	None	Central General Extract	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Hoist Bay	3.0	Circulation Equipment Storage Bays	28(note 24)	1	Adjac	None	No	None	Central General Extract	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Dirty Utility	14.0	Dirty utility	28 (note 24)	1	Adjac	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Complementary Therapy Room	10.0	Consulting Room	28	1		TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Balanced	G4	43	41	0	300	Not Applicable	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
			Ward Management Office	10.0	Cellular / Ward Offices	25	1		TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Consultant Office (5 Person Microscope)	25.0	Cellular / Ward Offices	25	1		TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Medical Staff Office	20.0	Cellular / Ward Offices	25	1		TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Nursing Staff Office	15.0	Cellular / Ward Offices	25	1		TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Research Staff Office	19.0	Cellular / Ward Offices	25	1		TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Multi Disciplinary Office	18.0	Cellular / Ward Offices	25	1		TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			WC - Staff	3.0	Toilet	28 (note 24)	1	Adjac	None	No	None	Central Dirty Extract	0	1	Negative	None	43	41	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			WC -	3.0	Toilet	28 (note 24)	1	Adjac	None	No	None	Central Dirty Extract	0	1	Negative	None	43	41	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Visitors Play	25.0	Common room/staff room/lounge	28	1		TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	8	Negative	G4	43	41	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			Room Pantry	8.0	Pantry	28	1		TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + LC	Central Supply and Extract	6	8	Negative	G4	43	41	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			nen Bay (1 Trolley)	1.5	Linen Bay	28 (note 24)	1	Adjac	None	No	None	Central Supply and Extract	0	3	Negative	None	43	Not Applicable	0	100	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			tore - General Ward	10.0	Storage Area Equipment	28 (note 24)	1		TRV Remote Head Adj.	No	None	Central General Extract	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			itchen	12.0	Ward Kitchen	28	1	Adjac	None	Yes	Ceiling Cassette - Chilled Water	Central General Extract	0	6	Negative	G4	Not Applicable	60	0	300	Not Applicable	None	A	80	Switch	General working plane 1m	See Guidance Notes	Not Applicable
			Store - Equipment	10.0	Storage Area Equipment	28 (note 24)	1		TRV Remote Head Adj.	No	None	Central General Extract	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Pharmacy Base	9.0	Consulting Room	28	1		TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Balanced	G4	43	41	0	300	Not Applicable	None	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
			Patient Interview Room	9.0	Meeting Room	25	1 8		TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	4	Balanced	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
C1.5	Med / Surg / Neuro / Haemo Shared Support	NA	Family Sitting Room	27.0	Common room/staff room/lounge	28	1		TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	8	Negative	G4	43	41	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			Breast Pump Room	4.0	Baby Feeding Room / Nappy Change	28 (note 24)	1	Adjac	None	No	None	Central Dirty Extract	0	1	Negative	None	43	41	0	200	Not Applicable	None	A	80	Switch / Dimmer	Floor 0m	See Guidance Notes	Not Applicable
			Nappy Change	4.0	Baby Feeding Room / Nappy Change	28 (note 24)	1	Adjac	None	No	None	Central Dirty Extract	0	1	Negative	None	43	41	0	200	Not Applicable	None	A	80	Switch / Dimmer	Floor 0m	See Guidance Notes	Not Applicable
			Baby Infant / Feeding Room	4.0	Baby Feeding Room / Nappy Change	28 (note 24)	1	Adjac	None	No	None	Central Dirty Extract	0	1	Negative	None	43	41	0	200	Not Applicable	None	A	80	Switch / Dimmer	Floor 0m	See Guidance Notes	Not Applicable
			WC-Wheelchair Accessible	4.5	Toilet	28 (note 24)	1	Adjac	None	No	None	Central Dirty Extract	0	1	Negative	None	43	41	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
C1.6	Adolescent Shared Accommodation	NA	Dining / Recreation Room	26.0	Common room/staff room/lounge	28	1		TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	8	Negative	G4	43	41	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			Quiet Room / Study	10.0	Cellular / Ward Offices	25	1		TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
C1.7	Paediatric Neurophysiology	NA	EEG Recording Room	16.0	Diagnostic room	25	1	W	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	8	8	Balanced	F7	43	41	0	300	Not Applicable	1000	A	80	Switch / Dimmer	General working plane 1m	See Guidance Notes	1
			Evoked Potential Recording Room	16.0	Diagnostic room	25	1	W	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	8	8	Balanced	F7	43	41	0	300	Not Applicable	1000	A	80	Switch / Dimmer	General working plane 1m	See Guidance Notes	
			EEG Review Office	15.0	Cellular / Ward Offices	25	1		TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
C1.8	Surgical Short Stay Inpatients - 14 Beds	NA	Reception Desk/Staff Base	3.0	Reception	28	1		TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply Air	10L/s/person (26)	0	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Dining / Play Room	15.0	Eating/Drinking	28	1		TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	4	Balanced	G4	43	41	0	200	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
		Surgical Assessment Area (12 beds)	Single Bedroom	17.0	Bedroom	25	2		TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply Air	10L/s/person (26)	0	Positive	G4	43	41	0	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
			En-suite Shower / WC / WHB	4.5	Bathroom	28 (note 24)	1	Adjac	None	No	None	Central Dirty Extract	0	1	Negative	None	43	41	0	200	200	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			4 Bed Room	58.5	Multi-bed Wards	25	1		TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply Air	10L/s/person (26)	0	Positive	G4	43	41	0	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
			En-suite Shower / WC / WHB	6.0	Bathroom	28 (note 24)	1	Adjac	None	No	None	Central Dirty Extract	0	1	Negative	None	43	41	0	200	200	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
		Adolescent Assessment Area (2 beds)	Single Bedroom (RHSC)	17.0	Bedroom	25	2		TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply Air	10L/s/person (26)	0	Positive	G4	43	41	0	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
			En-suite wheelchair-accessible WC, Shower & wash	4.5	Bathroom	28 (note 24)	1	Adjac	None	No	None	Central Dirty Extract	0	1	Negative	None	43	41	0	200	200	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Patient Assisted Bathroom	14.0	Bathroom	28 (note 24)	1	Adjac	None	No	None	Central Dirty Extract	0	1	Negative	None	43	41	0	200	200	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Treatment Room	16.0	Treatment Room	28	1		TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41	0	500	Not Applicable	1000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
			Ward Management Office	9.0	Cellular / Ward Offices	25	1		TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Touchdown Base	2.0	Cellular / Ward Offices	25	1		TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Staff WC	3.0	Toilet	28 (note 24)	1	Adjac	None	No	None	Central Dirty Extract	0	1	Negative	None	43	41	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			WC - Visitors	3.0	Toilet	28 (note 24)	1	Adjac	None	No	None	Central Dirty Extract	0	1	Negative	None	43	41	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Clean Utility	12.0	Clean Utility	28	1		TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G4	43	41	0	150	Not Applicable	None	A	80	Presence detection	General working plane 1m	See Guidance Notes	Not Applicable
			Dirty Utility	14.0	Dirty utility	28 (note 24)	1	Adjac	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Ward Kitchen	12.0	Ward Kitchen	28	1	Adjac	None	Yes	Ceiling Cassette - Chilled Water	Central General Extract	0	6	Negative	G4	Not Applicable	60	0	300	Not Applicable	None	A	80	Switch	General working plane 1m	See Guidance Notes	Not Applicable
			Resuscitation Trolley Bay	1.0	Circulation Equipment Storage Bays	28 (note 24)	1	Adjac	None	No	None	Central General Extract	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Linen Bay (1 Trolley)	1.5	Linen Bay	28 (note 24)	1	Adjac	None	No	None	Central Supply and Extract	0	3	Negative	None	43	Not Applicable	0	100	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Store - General	10.0	Storage Area Equipment	28 (note 24)	1		TRV Remote Head Adj.	No	None	Central General Extract	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Store - Equipment	10.0	Storage Area Equipment	28 (note 24)	1		TRV Remote Head Adj.	No	None	Central General Extract	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Disposal Hold	10.0	Disposal Hold	28 (note 24)	1	Adjac	None	No	None	Central Dirty Extract	0	1	Negative	None	43	Not Applicable	0	100	Not Applicable	None	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	Not Applicable
			WC Wheelchair Accessible	4.5	Toilet	28 (note 24)	1	Adjac	None	No	None	Central Dirty Extract	0	1	Negative	None	43	41	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			DSR	7.0	DSR	28 (note 24)	1	Adjac	None	No	None	Central Dirty Extract	0	1	Negative	None	43	Not Applicable	0	100	Not Applicable	None	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	Not Applicable
C2	Wards Support Areas	NA	Staff Room	48.0	Common room/staff room/lounge	28	1		TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	8	Negative	G4	43	41	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			Grab & Go	10.0	Common room/staff room/lounge	28	1		TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	8	Negative	G4	43	41	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			DSR	7.0	DSR	28 (note 24)	1	Adjac	None	No	LC	Central Dirty Extract	0	1	Negative	None	43	Not Applicable	0	100	Not Applicable	None	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	Not Applicable
			Seminar Room	25.0	Meeting Room	25	1		TRV Remote Head Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	4	Balanced	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
C3	Special Feeds Unit	NA	Food Prep Area	24.0	Ward Kitchen	28	1	Adjac	None	Yes	Ceiling Cassette - Chilled Water	Central General Extract	0	6	Negative	G4	Not Applicable	60	0	300	Not Applicable	None	A	80	Switch	General working plane 1m	See Guidance Notes	Not Applicable
			Store - Feeds	8.0	Storage Area Equipment	28 (note 24)	1		TRV Remote Head Adj.	No	None	Central General Extract	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Office / Ante-Room	9.0	Cellular / Ward Offices	25	1		TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Wash Room	5.0	Bathroom	28 (note 24)	1	Adjac	None	No	None	Central Dirty Extract	0	1	Negative	None	43	41	0	200	200	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
C4	Sleep Lab	NA	Sleep Room	15.0	Bedroom	25	2		TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply Air	10L/s/person (26)	0	Positive	G4	43	41	0	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
			En-suite wheelchair-accessible WC, Shower & wash	6.0	Bathroom	2828 (note 24)	1	Adjac	None	No	None	Central Dirty Extract	0	1	Negative	None	43	41	0	200	200	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Parents Room	10.0	Bedroom	25	2		TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply Air	10L/s/person (26)	0	Positive	G4	43	41	0	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
			Control Room	15.0	IT equipment (comms server)	25	1	None	None	Yes	Ceiling Cassette - Chilled Water	Central General Extract	0	2	Negative	None	Not Applicable	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			Store	6.0	Storage Area Equipment	28 (note 24)	1		TRV Remote Head Adj.	No	None	Central General Extract	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
C5	Classrooms	NA	Primary Classroom	18.0	Classroom	25	1		TRV Remote Head Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	4	Balanced	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Upper Primary Classroom	18.0	Classroom	25	1		TRV Remote Head Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	4	Balanced	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Secondary Classroom	18.0	Classroom	25	1		TRV Remote Head Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	4	Balanced	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Resource Storage	10.0	Storage Area Equipment	28 (note 24)	1		TRV Remote Head Adj.	No	None	Central General Extract	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Administration Area	15.0	Cellular / Ward Offices	25	1		TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			WC Ambulant	3.0	Toilet	28 (note 24)	1	Adjac	None	No	None	Central Dirty Extract	0	1	Negative	None	43	41	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			WC - Wheelchair accessible	4.5	Toilet	28 (note 24)	1	Adjac	None	No	None	Central Dirty Extract	0	1	Negative	None	43	41	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Store	3.0	Storage Area Equipment	28 (note 24)	1		TRV Remote Head Adj.	No	None	Central General Extract	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable

Notes

a) Linen Bay recess to be treated as part of room.
b) Mobile Equipment Bay Recess to be treated as part of room
c) Ressuc Trolley Area Recess to be treated as part of room
d) Consult Exam Room - note 10ac/hr not allowed for unless room title listed as Treatment Room.
e) Reception & Waiting Combined
f) Internal Temperatures should not exceed 28 deg C (db) for more than 50hrs per year
g) Offices assumed to have openable windows without 100mm restrictors for natural ventilation .
h) Staff Rest assumed to have openable windows without 100mm restrictors for natural ventilation and occupancy factor of 0.8.

Dept Code	Dept Name	Department Sub Group	Room Name	Qty	Area (m2)	Room Function	Temperature		Heating		Cooling	Cooling	Ventilation					Safety temperatures		Safety Notes	Lighting							Notes	Medical Location Group
							Design Maximum deg C	Design Min d	Type	Control	Present	Type	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		
D1	RHSC Main Outpatients Department		Consult/Examination	10	15.5	Consulting Room	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Balanced	G4	43	41	0	300	Not Applicable	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
			Child Protection Room	1	24.0	Consulting Room	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Balanced	G4	43	41	0	300	Not Applicable	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
			Consult/Examination (Child Protection)	1	15.5	Consulting Room	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Balanced	G4	43	41	0	300	Not Applicable	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
			Consult/Multi-Disciplinary	1	24.0	Consulting Room	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Balanced	G4	43	41	0	300	Not Applicable	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
			Treatment Room (with prep area)	1	16.0	Treatment Room	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41	0	500	Not Applicable	1000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
			Plaster Suite (3 bays)	1	40.0	Consulting Room	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41	0	300	Not Applicable	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
			Store: Plaster	1	6.0	Storage Area Equipment	28 (note 24)	16	Radiant Panels	TRV Remote Head Adj.	No	None	Central General Extract	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Orthotics Workshop	1	16.0	Small Workshop	28	18	Radiant Panels	TRV Remote Head Adj.	No	None	Central Supply and Extract	4	6	Negative	G4	43	41	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Equipment / General Store	1	6.0	Storage Area Equipment	28 (note 24)	16	Radiant Panels	TRV Remote Head Adj.	No	None	Central General Extract	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Store Room	1	8.0	Storage Area Equipment	28 (note 24)	16	Radiant Panels	TRV Remote Head Adj.	No	None	Central General Extract	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Physical Measurement	2	3.5	Consulting Room	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Balanced	G4	43	41	0	300	Not Applicable	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
			Infant Measuring Room	1	6.0	Consulting Room	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Balanced	G4	43	41	0	300	Not Applicable	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
			Mobile Hoist Bay	1	3.0	Circulation Equipment Storage Bays	28 (note 24)	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
		Support Suite A	Clean Utility	1	8.0	Clean Utility	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G4	43	41	0	150	Not Applicable	None	A	80	Presence detection	General working plane 1m	See Guidance Notes	Not Applicable
			Dirty Utility	1	11.0	Dirty utility	28 (note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			DSR	1	7.0	DSR	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	Not Applicable	0	100	Not Applicable	None	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	Not Applicable
			Disposal Hold	1	10.0	Disposal Hold	28 (note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	Not Applicable	0	100	Not Applicable	None	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	Not Applicable
			Resuscitation Trolley Bay	1	1.0	Resus Trolley bay	25 (note 24)	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air with circulation	Central Supply Air	0	0	Balanced	None	43	Not Applicable	0	500	Not Applicable	None	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	Not Applicable
			Phlebotomy Room	1	8.0	Consulting Room	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Balanced	G4	43	41	0	300	Not Applicable	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
			Specimen/ Disabled WC	1	4.5	Toilet	28 (note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Linen Bay	1	1.5	Linen Bay	28 (note 24)	16	Adjacent Space Transfer Air	None	No	None	Central Supply and Extract	0	3	Negative	None	43	Not Applicable	0	100	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Pantry	1	8.0	Pantry	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + LC	Central Supply and Extract	6	8	Negative	G4	43	41	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			Staff WC	2	3.0	Toilet	28 (note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			WC - Fully accessible changing room	1	7.0	Toilet	28 (note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Baby Infant / Feeding Room	1	4.0	Baby Feeding Room / Nappy Change	28 (note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	0	200	Not Applicable	None	A	80	Switch / Dimmer	Floor 0m	See Guidance Notes	Not Applicable
			Nappy Change	1	4.0	Baby Feeding Room / Nappy Change	28 (note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	0	200	Not Applicable	None	A	80	Switch / Dimmer	Floor 0m	See Guidance Notes	Not Applicable
		Consulting Suite B	Sub Waiting Area (incl supervised play) with Nurse Base	1	46	Waiting Room	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + LC	Central Supply and Extract	10L/s/person (26)	5	Balanced	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			Sub Waiting Area	1	3.5	Waiting Room	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + LC	Central Supply and Extract	10L/s/person (26)	5	Balanced	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			Reception	1	3.0	Reception	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply Air	10L/s/person (26)	0	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			WC wheelchair accessible	2	4.5	Toilet	28 (note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Consult/Examination	4	15.5	Consulting Room	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Balanced	G4	43	41	0	300	Not Applicable	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
			Consult/Examination (Ophthalmology)	1	15.5	Consulting Room	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Balanced	G4	43	41	0	300	Not Applicable	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
			Consult/Multi-Disciplinary	1	24.0	Consulting Room	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Balanced	G4	43	41	0	300	Not Applicable	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
			Equipment / General Store	1	8.0	Storage Area Equipment	28 (note 24)	16	Radiant Panels	TRV Remote Head Adj.	No	None	Central General Extract	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Play Therapy (inc messy play) Room	1	18.0	Common room/staff room/lounge	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + LC	Central Supply and Extract	10L/s/person (26)	8	Negative	G4	43	41	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			Physical Measurement	2	3.5	Consulting Room	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Balanced	G4	43	41	0	300	Not Applicable	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
			Infant Measuring Room	1	6.0	Consulting Room	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Balanced	G4	43	41	0	300	Not Applicable	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
			Shower Room	1	5.0	Bathroom	28 (note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	0	200	200	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Mobile Hoist Bay	1	3.0	Circulation Equipment Storage Bays	28 (note 24)	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Consult/Examination (Cleft)	2	18.0	Consulting Room	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Balanced	G4	43	41	0	300	Not Applicable	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
			Consult/Examination (ENT)	3	17.0	Consulting Room	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Balanced	G4	43	41	0	300	Not Applicable	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
			Store Room	1	1.0	Storage Area Equipment	28 (note 24)	16	Radiant Panels	TRV Remote Head Adj.	No	None	Central General Extract	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Treatment Room (with prep area)	2	16.0	Treatment Room	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41	0	500	Not Applicable	1000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
		Support Suite B	Clean Utility	1	8.0	Clean Utility	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G4	43	41	0	150	Not Applicable	None	A	80	Presence detection	General working plane 1m	See Guidance Notes	Not Applicable
			Dirty Utility	1	11.0	Dirty utility	28 (note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			DSR	1	7.0	DSR	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	Not Applicable	0	100	Not Applicable	None	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	Not Applicable
			Disposal Hold	1	10.0	Disposal Hold	28 (note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	Not Applicable	0	100	Not Applicable	None	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	Not Applicable
			Resuscitation Trolley Bay	1	1.0	Circulation Equipment Storage Bays	28 (note 24)	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Phlebotomy Room	1	8.0	Consulting Room	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Balanced	G4	43	41	0	300	Not Applicable	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
			Linen Bay (1 Trolley)	1	1.5	Linen Bay	28 (note 24)	16	Adjacent Space Transfer Air	None	No	None	Central Supply and Extract	0	3	Negative	None	43	Not Applicable	0	100	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Staff WC	1	3.0	Toilet	28 (note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Baby Infant / Feeding Room	1	4.0	Common room/staff room/lounge	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			Nappy Change	1	4.0	Baby Feeding Room / Nappy Change	25 (note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	0	200	Not Applicable	None	A	80	Switch / Dimmer	Floor 0m	See Guidance Notes	Not Applicable
		Shared (All Suites)	Outpatients Management Office	1	9.0	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Meeting Room	1	15.0	Meeting Room	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10L/s/person (26)	4	Balanced	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
D2	Cardiology & Respiratory	NA	Waiting Area	1	9.0	Waiting Room	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air +LC	Central Supply and Extract	10L/s/person (26)	5	Balanced	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			Store/ Equipment	1	9.0	Storage Area Equipment	28 (note 24)	16	Radiant Panels	TRV Remote Head Adj.	No	None	Central General Extract	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			WC Staff	1	4.5	Toilet	28 (note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			DSR	1	7.0	DSR	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	Not Applicable	0	100	Not Applicable	None	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	Not Applicable
			Physical Measurement	1	3.5	Consulting Room	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh	Central Supply and Extract	3	3	Balanced	G4	43	41	0	300	Not Applicable	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
		Cardiology	ECG Procedure Room	1	12.0	Consulting Room	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Balanced	G4	43	41	0	300	Not Applicable	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
			Echocardiography Room	1	20.0	Diagnostic room	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	8	8	Balanced	F7	43	41	0	300	Not Applicable	1000	A	80	Switch / Dimmer	General working plane 1m	See Guidance Notes	1
			Exercise Tolerance Test Room	1	20.0	Consulting Room	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Balanced	G4	43	41	0	300	Not Applicable	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
			Admin Office	1	12.0	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
		Respiratory	Lung Function Laboratory	1	28.0	Laboratory	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	6	Balanced	F7	43	60	0	500	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Exercise Room/Lung Function Laboratory	1	22.0	Laboratory	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	6	Balanced	F7	43	60	0	500	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Admin Office	1	15.0	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Domiciliary Sleep Studies	1	12.0	Consulting Room	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Balanced	G4	43	41	0	300	Not Applicable	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
D3	Orthoptics	NA	Staff Office	1	12.0	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Parking bay:pushchairs/prams	1	2.0	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			WC & handwash: specimen; wheelchair	1	4.5	Toilet	28 (note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Examination Room: Fields test	1	16.0	Consulting Room	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air +CB	Central Supply and Extract	10L/s/person (26)	3	Balanced	G4	43	41	0	300	Not Applicable	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
			C/E Orthoptic (6 metre room)	4	15.5	Consulting Room	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Balanced	G4	43	41	0	300	Not Applicable	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
			DSR	1	7.0	DSR	28	18	Adjacent Space Transfer Air	None	No	LC	Central Dirty Extract	0	10	Negative	None	43	Not Applicable	0	100	Not Applicable	None	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	Not Applicable

Dept Code	Dept Name	Department Sub Group	Room Name	Qty	Area (m2)	Room Function	Temperature		Heating		Cooling Present	Cooling Type	Ventilation					Safety temperatures		Safety Notes	Lighting							Notes	Medical Location Group
							Design Max deg	Design Min deg C	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		
D4	Audiology	NA	Waiting Area	1	13.5	Waiting Room	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + LC	Central Supply and Extract	10L/s/person (26)	5	Balanced	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			Waiting Area	1	3.5	Waiting Room	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + LC	Central Supply and Extract	10L/s/person (26)	5	Balanced	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			Testing/Clinic Rooms	2	21.0	Consulting Room	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Balanced	G4	43	41	0	300	Not Applicable	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
			Obs/Control	2	8.0	Diagnostic room	25	18	Warm Air - Reheat	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	8	8	Balanced	F7	43	41	0	300	Not Applicable	1000	A	80	Switch / Dimmer	General working plane 1m	See Guidance Notes	1
			ABR Room	1	16.0	Small Workshop	28	18	Radiant Panels	TRV Remote Head Adj.	No	None	Central Supply and Extract	4	6	Negative	G4	43	41	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Test Room	1	16.0	Small Workshop	28	18	Radiant Panels	TRV Remote Head Adj.	No	None	Central Supply and Extract	4	6	Negative	G4	43	41	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Work Room	1	12.0	Small Workshop	28	18	Radiant Panels	TRV Remote Head Adj.	No	None	Central Supply and Extract	4	6	Negative	G4	43	41	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Mould Room	1	9.0	Small Workshop	28	18	Radiant Panels	TRV Remote Head Adj.	No	None	Central Supply and Extract	4	6	Negative	G4	43	41	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Store	1	15.0	Storage Area Equipment	28 (note 24)	16	Radiant Panels	TRV Remote Head Adj.	No	None	Central General Extract	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Shared Staff Office	1	32.8	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
D5	Paediatric Dentistry	NA	Surgeries (standard)	3	18.0	Operating Theatre Suite	25	18	Warm Air - Reheat	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	In line with SHTM 03-01	In line with SHTM 03-01	In line with SHTM 03-01	0	F7	43	Not Applicable	0	500	Not Applicable	10,000 - 100,000	A	80	Switch	Floor 0m	See Guidance Notes	2
			Surgery (multi-disciplinary)	1	20.0	Operating Theatre Suite	25	18	Warm Air - Reheat	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	In line with SHTM 03-01	In line with SHTM 03-01	In line with SHTM 03-01	0	F7	43	Not Applicable	0	500	Not Applicable	10,000 - 100,000	A	80	Switch	Floor 0m	See Guidance Notes	2
			Recovery	1	10.0	Recovery Bay / Recovery Room	28	20	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	0	Positive	G4	43	41	0	500	Not Applicable	1000	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
			Laboratory	1	10.0	Laboratory	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	6	Balanced	F7	43	60	0	500	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Clean Utility / Dental Store	1	23.0	Clean Utility	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G4	43	41	0	150	Not Applicable	None	A	80	Presence detection	General working plane 1m	See Guidance Notes	Not Applicable
			Dirty Utility	1	11.0	Dirty utility	28 (note 24)	18	Adjacent Space Transfer	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Mobile Inter-oral Storage	1	6.0	Storage Area Equipment	28 (note 24)	16	Radiant Panels	TRV Remote Head Adj.	No	None	Central General Extract	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
D6	RHSC Therapies	Clinical Rooms	Rehabilitation Room	4	30.0	Bedroom	25	20	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply Air	10L/s/person (26)	0	Positive	G4	43	41	0	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
			Rehabilitation Room (inc CV equip)	1	39.0	Bedroom	25	20	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply Air	10L/s/person (26)	0	Positive	G4	43	41	0	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
			Changing Cubicles	2	4.0	Changing Facilities	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	4	Positive	G4	43	41	0	100	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Standard Treatment Room	3	15.0	Consulting Room	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Balanced	G4	43	41	0	300	Not Applicable	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
			Treatment Room (OT equip)	1	20.0	Treatment Room	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41	0	500	Not Applicable	1000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
			Infant Measuring Room	1	6.0	Consulting Room	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Balanced	G4	43	41	0	300	Not Applicable	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
			Standard Distraction Free Treatment Room	2	15.0	Consulting Room	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Balanced	G4	43	41	0	300	Not Applicable	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
			Large Distraction Free Treatment Room	1	20.0	Consulting Room	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Balanced	G4	43	41	0	300	Not Applicable	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
			Dietetic Clinic Room	2	12.0	Diagnostic room	25	18	Warm Air - Reheat	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	8	Balanced	F7	43	41	0	300	Not Applicable	1000	A	80	Switch / Dimmer	General working plane 1m	See Guidance Notes	1
			Splinting / Casting Room	1	18.0	Consulting Room	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41	0	300	Not Applicable	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
		Offices/Workstations	Management Office	1	20.5	Cellular / Ward Offices	2	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Staff Office - All specialties (39 person)	1	159.9	Cellular / Ward Offices	2	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Meeting Room - 4 person	1	6.0	Meeting Room	2	18	Radiant Panels	TRV Remote Head Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	4	Balanced	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Meeting Room - 6 person	1	9.0	Meeting Room	2	18	Radiant Panels	TRV Remote Head Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	4	Balanced	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Dictation/ 1:1/Phone Booth	4	4.2	Cellular / Ward Offices	2	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			A&C Staff Office/Appliance Officer	1	36.9	Cellular / Ward Offices	2	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			WC - Staff	2	3.0	Toilet	28 (note 24)	18	Adjacent Space Transfer	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
		Support Rooms	Reception	1	6.0	Reception	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply Air	10L/s/person (26)	0	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Waiting Play Area	1	33.0	Waiting Room	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + LC	Central Supply and Extract	10L/s/person (26)	5	Balanced	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			WC - Wheelchair accessible	1	4.5	Toilet	28 (note 24)	18	Adjacent Space Transfer	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			WC - assisted (large+changing)	1	12.3	Toilet	28 (note 24)	18	Adjacent Space Transfer	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Store - OT	1	4.0	Storage Area Equipment	28 (note 24)	16	Radiant Panels	TRV Remote Head Adj.	No	None	Central General Extract	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Store - OT	1	16.5	Storage Area Equipment	28 (note 24)	16	Radiant Panels	TRV Remote Head Adj.	No	None	Central General Extract	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Store - OT	1	2.0	Storage Area Equipment	28 (note 24)	16	Radiant Panels	TRV Remote Head Adj.	No	None	Central General Extract	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Store - SALT	1	8.0	Storage Area Equipment	28 (note 24)	16	Radiant Panels	TRV Remote Head Adj.	No	None	Central General Extract	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Store - Dietetic	1	8.0	Storage Area Equipment	28 (note 24)	16	Radiant Panels	TRV Remote Head Adj.	No	None	Central General Extract	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Store - Dietetic	1	1.0	Storage Area Equipment	28 (note 24)	16	Radiant Panels	TRV Remote Head Adj.	No	None	Central General Extract	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Store - Dietetic	1	1.5	Storage Area Equipment	28 (note 24)	16	Radiant Panels	TRV Remote Head Adj.	No	None	Central General Extract	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Store - Physio	1	4.0	Storage Area Equipment	28 (note 24)	16	Radiant Panels	TRV Remote Head Adj.	No	None	Central General Extract	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Store - Physio	1	8.0	Storage Area Equipment	28 (note 24)	16	Radiant Panels	TRV Remote Head Adj.	No	None	Central General Extract	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Store - Physio	1	24.5	Storage Area Equipment	28 (note 24)	16	Radiant Panels	TRV Remote Head Adj.	No	None	Central General Extract	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Store - Physio	1	8.5	Storage Area Equipment	28 (note 24)	16	Radiant Panels	TRV Remote Head Adj.	No	None	Central General Extract	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Store - Physio	1	6.0	Storage Area Equipment	28 (note 24)	16	Radiant Panels	TRV Remote Head Adj.	No	None	Central General Extract	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Store - Physio	1	3.5	Storage Area Equipment	28 (note 24)	16	Radiant Panels	TRV Remote Head Adj.	No	None	Central General Extract	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Store - Physio	1	13.5	Storage Area Equipment	28 (note 24)	16	Radiant Panels	TRV Remote Head Adj.	No	None	Central General Extract	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Store - TIP	1	4.5	Storage Area Equipment	28 (note 24)	16	Radiant Panels	TRV Remote Head Adj.	No	None	Central General Extract	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Equipment Decontamination	1	10.0	Equipment Decontamination	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G4	43	41	0	200	Not Applicable	None	A	80	Presence detection	General working plane 1m	See Guidance Notes	Not Applicable
			Pantry	1	8.0	Pantry	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + LC	Central Supply and Extract	6	8	Negative	G4	43	41	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			Linen Bay	1	1.5	Linen Bay	28 (note 24)	16	Adjacent Space Transfer	None	No	None	Central Supply and Extract	0	3	Negative	None	43	Not Applicable	0	100	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			WC - Staff	1	3.0	Toilet	28 (note 24)	18	Adjacent Space Transfer	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			DSR	1	7.0	DSR	28 (note 24)	18	Adjacent Space Transfer	None	No	None	Central Dirty Extract	0	10	Negative	None	43	Not Applicable	0	100	Not Applicable	None	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	Not Applicable
D7	Plastics Dressings Clinic	NA	Disposal Hold	1	10.0	Disposal Hold	28 (note 24)	18	Adjacent Space Transfer	None	No	None	Central Dirty Extract	0	10	Negative	None	43	Not Applicable	0	100	Not Applicable	None	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	Not Applicable
			Dressings / DopplerStore	1	4.0	Storage Area Equipment	28 (note 24)	16	Radiant Panels	TRV Remote Head Adj.	No	None	Central General Extract	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Sluice	1	6.0	Dirty utility	28 (note 24)	18	Adjacent Space Transfer	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Single Telephone Booth	1	4.0	Circulation Areas	28 (note 24)	18	Radiant Panels	TRV Remote Head Adj.	No	None	None	e Guidance	e Guidance	0	G4	43	41	0	300	Not Applicable	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Dressings Room (Burns)	2	16.0	Treatment Room	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41	0	300	Not Applicable	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
			Assisted Bathroom	1	14.0	Bathroom	28 (note 24)	18	Adjacent Space Transfer	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	0	200	200	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
D8	Social Work	NA	Open Plan Area	1	45.1	Waiting Room	2	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	5	Balanced	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			Interview Room	1	9.0	Meeting Room	2	18	Radiant Panels	TRV Remote Head Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	4	Balanced	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable

Dept Code	Dept Name	Department Sub Group	Room Name	Qty	Area (m2)	Room Function	Tempera		Heatin		Cooling Present	Cooli ng Type	Ventilation						Safety temperatures		Safety Notes	Lighting								Notes	Medical Location Group
							Design Maximum deg C	Design Min d	Type	Contr ol			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			
D9	Medical Day Care Unit - 5 Beds	NA	Reception: 2 staff	1	3.0	Reception	28	18	Radiant Panels	TRV Remote Head	Yes	Comfort Cooled Fresh Air + CB	Central Supply Air	10L/s/person (26)	0	Positive	G4		43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes		Not Applicable
			Office and Storage 2 staff	1	12.0	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Positive	G4		43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes		Not Applicable
			Waiting Area	1	12.0	Waiting Room	28	18	Radiant Panels	TRV Remote Head	Yes	Comfort Cooled Fresh Air + LC	Central Supply and Extract	10L/s/person (26)	5	Balanced	G4		43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes		Not Applicable
			Waiting Play Area	1	20.0	Waiting Room	28	18	Radiant Panels	TRV Remote Head	Yes	Comfort Cooled Fresh Air + LC	Central Supply and Extract	10L/s/person (26)	5	Balanced	G4		43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes		Not Applicable
			WC - Wheelchair accessible	1	4.5	Toilet	28 (note 24)	18	Adjacent Space Transfer Air	Non	No	None	Central Dirty Extract	0	10	Negative	None		43	41	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes		Not Applicable
			Touchdown Base	1	2.0	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Positive	G4		43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes		Not Applicable
			Multi Bed Room: day care, 3 beds	1	40.5	Multi-bed Wards	25	18	Radiant Panels	TRV Remote Head	Yes	Comfort Cooled Fresh Air + CB	Central Supply Air	10L/s/person (26)	0	Positive	G4		43	41	0	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes		1
			WC - Wheelchair accessible	1	4.5	Toilet	28 (note 24)	18	Adjacent Space Transfer Air	Non	No	None	Central Dirty Extract	0	10	Negative	None		43	41	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes		Not Applicable
			Single Bedroom	2	17.0	Bedroom	25	20	Radiant Panels	TRV Remote Head	Yes	Comfort Cooled Fresh Air + CB	Central Supply Air	10L/s/person (26)	0	Positive	G4		43	41	0	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes		1
			En Suite WC / WHB	2	4.5	Toilet	28 (note 24)	18	Adjacent Space Transfer Air	Non	No	None	Central Dirty Extract	0	10	Negative	None		43	41	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes		Not Applicable
			Patient Treatment Lounge	1	32.4	Common room/staff room/lounge	28	18	Radiant Panels	TRV Remote Head	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	8	Negative	G4		43	41	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes		Not Applicable
			Consult/Examination	1	15.5	Consulting Room	28	18	Radiant Panels	TRV Remote Head	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Balanced	G4		43	41	0	300	Not Applicable	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes		1
			Treatment Room	1	16.0	Treatment Room	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7		43	41	0	500	Not Applicable	1000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes		1
			Parking Bay: 1 patient trolley/whch	1	5.0	Circulation Equipment Storage Bays	28	16	Adjacent Space Transfer Air	Non	No	None	Central General Extract	0	3	Negative	None		43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes		Not Applicable
			Interview, Counselling & Quiet Room	1	9.0	Meeting Room	25	18	Radiant Panels	TRV Remote Head	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	4	Balanced	G4		43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes		Not Applicable
			WC - Staff	1	3.0	Toilet	28 (note 24)	18	Adjacent Space Transfer Air	Non	No	None	Central Dirty Extract	0	10	Negative	None		43	41	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes		Not Applicable
			Pantry	1	8.0	Pantry	28	18	Radiant Panels	TRV Remote Head	Yes	Comfort Cooled Fresh Air + LC	Central Supply and Extract	6	8	Negative	None		43	41	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes		Not Applicable
			Ward Management Office	1	9.0	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Positive	G4		43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes		Not Applicable
			Resuscitation Trolley Bay	1	1.0	Resus Trolley bay	25	18	Radiant Panels	TRV Remote Head	Yes	With circulation	Central Supply Air	0	0	Balanced	None		43	Not Applicable	0	500	Not Applicable	None	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes		Not Applicable
			Clean Utility	1	12.0	Clean Utility	28	18	Radiant Panels	TRV Remote Head	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G4		43	41	0	150	Not Applicable	None	A	80	Presence detection	General working plane 1m	See Guidance Notes		Not Applicable
			Dirty Utility	1	11.0	Dirty utility	28 (note 24)	18	Adjacent Space Transfer Air	Non	No	None	Central Dirty Extract	0	6	Negative	None		43	60	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes		Not Applicable
			Store - General	1	8.0	Storage Area Equipment	28 (note 24)	16	Radiant Panels	TRV Remote Head	No	None	Central General Extract	0	3	Negative	None		43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes		Not Applicable
			Linen Bay	1	1.5	Linen Bay	28 (note 24)	16	Adjacent Space Transfer Air	Non	No	None	Central Supply and Extract	0	3	Negative	None		43	Not Applicable	0	100	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes		Not Applicable
			Disposal Hold	1	10.0	Disposal Hold	28 (note 24)	18	Adjacent Space Transfer Air	Non	No	None	Central Dirty Extract	0	10	Negative	None		43	Not Applicable	0	100	Not Applicable	None	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes		Not Applicable
			Physical Measurement	1	3.5	Consulting Room	28	18	Radiant Panels	TRV Remote Head	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Balanced	G4		43	41	0	300	Not Applicable	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes		1
D10	Ambulatory Care Shared Support	NA	Staff Room	1	48.0	Common room/staff room/lounge	28	18	Radiant Panels	TRV Remote Head	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	8	Negative	G4		43	41	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes		Not Applicable
			Reception Desk/Staff Base	1	3.0	Reception	28	18	Radiant Panels	TRV Remote Head	Yes	Comfort Cooled Fresh Air + CB	Central Supply Air	10L/s/person (26)	0	Positive	G4		43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes		Not Applicable
			Dining / Play Room	1	15.0	Eating/Drinking	28	18	Radiant Panels	TRV Remote Head	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	4	Balanced	G4		43	41	0	200	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes		Not Applicable
		Surgical Assessment Area (12 beds)	Single Bedroom	4	17.0	Bedroom	25	20	Radiant Panels	TRV Remote Head	Yes	Comfort Cooled Fresh Air + CB	Central Supply Air	10L/s/person (26)	0	Positive	G4		43	41	0	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes		1
			En-suite Shower / WC / WHB	4	4.5	Bathroom	28	18	Adjacent Space Transfer Air	Non	No	None	Central Dirty Extract	0	10	Negative	None		43	41	0	200	200	None	A	80	Presence detection	Floor 0m	See Guidance Notes		Not Applicable
			4 Bed Room	2	63.0	Multi-bed Wards	25	18	Radiant Panels	TRV Remote Head	Yes	Comfort Cooled Fresh Air + CB	Central Supply Air	10L/s/person (26)	0	Positive	G4		43	41	0	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes		1
			En-suite Shower / WC / WHB	2	6.0	Bathroom	28 (note 24)	18	Adjacent Space Transfer Air	Non	No	None	Central Dirty Extract	0	10	Negative	None		43	41	0	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	25	20	Radiant Panels	TRV Remote Head	Yes	Comfort Cooled Fresh Air + CB	Central Supply Air	10L/s/person (26)	0	Positive	G4		43	41	0	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes		1
			En-suite wheelchair-accessible WC, Shower & wash	2	4.5	Bathroom	28 (note 24)	18	Adjacent Space Transfer Air	Non	No	None	Central Dirty Extract	0	10	Negative	None		43	41	0	200	200	None	A	80	Presence detection	Floor 0m	See Guidance Notes		Not Applicable
			Bath / WC / Washing	1	14.0	Bathroom	28 (note 24)	18	Adjacent Space Transfer Air	Non	No	None	Central Dirty Extract	0	10	Negative	None		43	41	0	200	200	None	A	80	Presence detection	Floor 0m	See Guidance Notes		Not Applicable
			Treatment Room	1	16.0	Treatment Room	28	18	Radiant Panels	TRV Remote Head	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7		43	41	0	500	Not Applicable	1000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes		1
			Ward Management Office	1	9.0	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Positive	G4		43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes		Not Applicable
			Touchdown Base	1	2.0	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Positive	G4		43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes		Not Applicable
			Staff WC	1	3.0	Toilet	28 (note 24)	18	Adjacent Space Transfer Air	Non	No	None	Central Dirty Extract	0	10	Negative	None		43	41	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes		Not Applicable
			WC - Visitors	1	3.0	Toilet	28 (note 24)	18	Adjacent Space Transfer Air	Non	No	None	Central Dirty Extract	0	10	Negative	None		43	41	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes		Not Applicable
			Clean Utility	1	12.0	Clean Utility	28	18	Radiant Panels	TRV Remote Head	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G4		43	41	0	150	Not Applicable	None	A	80	Presence detection	General working plane 1m	See Guidance Notes		Not Applicable
			Dirty Utility	1	14.0	Dirty utility	28 (note 24)	18	Adjacent Space Transfer Air	Non	No	None	Central Dirty Extract	0	6	Negative	None		43	60	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes		Not Applicable
			Pantry	1	8.0	Pantry	28	18	Radiant Panels	TRV Remote Head	Yes	Comfort Cooled Fresh Air + LC	Central Supply and Extract	6	8	Negative	G4		43	41	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes		Not Applicable
			Resus Trolley Bay	1	1.0	Resus Trolley bay	28 (note 24)	18	Radiant Panels	TRV Remote Head	Yes	With circulation	Central Supply Air	0	0	Balanced	None		43	Not Applicable	0	500	Not Applicable	None	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes		Not Applicable
			Linen Bay	1	1.5	Linen Bay	28 (note 24)	16	Adjacent Space Transfer Air	Non	No	None	Central Supply and Extract	0	3	Negative	None		43	Not Applicable	0	100	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes		Not Applicable
			Store - General	1	10.0	Storage Area Equipment	28 (note 24)	16	Radiant Panels	TRV Remote Head	No	None	Central General Extract	0	3	Negative	None		43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes		Not Applicable
			Store - Equipment	1	10.0	Storage Area Equipment	28 (note 24)	16	Radiant Panels	TRV Remote Head	No	None	Central General Extract	0	3	Negative	None		43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes		Not Applicable
			DSR	1	7.0	DSR	28	18	Adjacent Space Transfer Air	Non	No	None	Central Dirty Extract	0	10	Negative	None		43	Not Applicable	0	100	Not Applicable	None	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes		Not Applicable

Notes

a) Linen Bay recess to be treated as part of room.
b) Mobile Equipment Bay Recess to be treated as part of room
c) Ressuc Trolley Area Recess to be treated as part of room
d) Consult Exam Room - note 10ac/hr not allowed for unless room title listed as Treatment Room.
e) Reception & Waiting Combined
f) Internal Temperatures should not exceed 28 deg C (db) for more than 50hrs per year
g) Offices assumed to have openable windows without 100mm restrictors for natural ventilation .
h) Staff Rest assumed to have openable windows without 100mm restrictors for natural ventilation and occupancy factor of 0.8.

Dept Code	Dept Name	Department Sub Group	Room Name	Qty	Area (m2)	Room Function	Temperature		Heating		Cooling Present	Cooling Typ	Ventilation					Safety temperatures		Safety Notes	Lighting							Notes	Medical Location Group
							Design Maximum deg C	Design Minimum deg C	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		
E1	Pod	RHSC OPD Entrance	RHSC OPD Reception	1	10.0	Reception	2	18	Radiant Panels	TRV Remote Head	Yes	Comfort Cooled Fresh Air + CB	Central Supply Air	10L/s/person (26)	0	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			RHSC OPD Main Waiting	1	15.0	Waiting Room	2	18	Radiant Panels	TRV Remote Head	Yes	Comfort Cooled Fresh Air + LC	Central Supply and Extract	10L/s/person	5	Balanced	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
		RHSC Consulting Suite A	RHSC OPD Suite A Sub Waiting	1	54.0	Waiting Room	2	18	Radiant Panels	TRV Remote Head	Yes	Comfort Cooled Fresh Air + LC	Central Supply and Extract	10L/s/person	5	Balanced	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			Multi-Funtional Activity Zone	1	297.0	Patient Accommodation Day	2	18	Radiant Panels	TRV Remote Head	Yes	Comfort Cooled Fresh Air	Central Supply Air	4	0	Positive	G4	43	41	0	100	Not Applicable	None	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
		Support Facilities	WC Fully Accessible changing room	4	4.5	Toilet	28 (note 24)	18	Adjacent Space Transfer Air	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Wheelchair Accessible	1	3.0	Toilet	28 (note 24)	18	Adjacent Space Transfer Air	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			WC - Ambulant	1	7.0	Toilet	28 (note 24)	18	Adjacent Space Transfer Air	No	No	None	Central Dirty Extract	0	10	Negative	None	43	41	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			DSR	1	7.0	DSR	2	18	Adjacent Space Transfer Air	No	No	None	Central Dirty Extract	0	10	Negative	None	43	Not Applicable	0	100	Not Applicable	None	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	Not Applicable

Notes

a) Linen Bay recess to be treated as part of room.
b) Mobile Equipment Bay Recess to be treated as part of room
c) Ressuc Trolley Area Recess to be treated as part of room
d) Consult Exam Room - note 10ac/hr not allowed for unless room title listed as Treatment Room.
e) Reception & Waiting Combined
f) Internal Temperatures should not exceed 28 deg C (db) for more than 50hrs per year
g) Offices assumed to have openable windows without 100mm restrictors for natural ventilation .
h) Staff Rest assumed to have openable windows without 100mm restrictors for natural ventilation and occupancy factor of 0.8.

Object ID: A42689294

F1 - Child and Adolescent Mental Health

Dept Code	Dept Name	Department Sub Group	Room Name	Qty	Area (m2)	Room Function	Temperature		Heating		Cooling Present	Cooling Typ	Ventilation					Safety temperatures		Safety Notes	Lighting							Notes	Medical Location Group
							Design Max deg C	Design Min deg C	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		
F1	CAMHS - 12 Beds	ENTRANCE	Reception	1	6.0	Reception	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply Air	10Ls/person (26)	0	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Waiting Area	1	18.0	Waiting Room	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + LC	Central Supply and Extract	10Ls/person (26)	5	Balanced	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
		DAY PROGRAMME (Forteviot)	Group Room	1	24.0	Meeting Room	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10Ls/person (26)	4	Balanced	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Control / Viewing	1	10.0	Diagnostic room	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	8	8	Balanced	F7	43	41	0	300	Not Applicable	1000	A	80	Switch / Dimmer	General working plane 1m	See Guidance Notes	1
			Time Out Room	1	6.0	Common room/staff room/lounge	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10Ls/person (26)	8	Negative	G4	43	41	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			Play Room	1	24.0	Common room/staff room/lounge	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10Ls/person (26)	8	Negative	G4	43	41	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			Multidisciplinary Office	1	28.7	Multi Disciplinary Work Areas	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10Ls/person (26)	4	Positive	G4	43	Not Applicable	0	300	Not Applicable	1000	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
		DAY PROGRAMME (EPSS)	Sitting Room	1	15.0	Common room/staff room/lounge	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10Ls/person (26)	8	Negative	G4	43	41	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			Multidisciplinary Office	1	24.6	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10Ls/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
		DAY PROGRAMME (Tipperlinn)	Group Room	1	24.0	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10Ls/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Sitting Room	1	15.0	Common room/staff room/lounge	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10Ls/person (26)	8	Negative	G4	43	41	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			Multidisciplinary Office	1	28.7	Multi Disciplinary Work Areas	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10Ls/person (26)	4	Positive	G4	43	Not Applicable	0	300	Not Applicable	1000	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
		IN-PATIENTS	Single Bed Room	10	10.0	Bedroom	25	20	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply Air	10Ls/person (26)	0	Positive	G4	43	41	0	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
			Single Bed Room (large)	2	11.5	Bedroom	25	20	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply Air	10Ls/person (26)	0	Positive	G4	43	41	0	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
			En-suite wheelchair-accessible WC, Shower & wash	12	4.5	Bathroom	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	0	200	200	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Clinical Base - Open Plan Area	1	10.0	Multi-bed Wards	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply Air	10Ls/person (26)	0	Positive	G4	43	41	0	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
			TV / Living Room - Open Plan Area	1	24.0	Common room/staff room/lounge	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10Ls/person (26)	8	Negative	G4	43	41	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			Open Space	1	43.0	Waiting Room	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + LC	Central Supply and Extract	10Ls/person (26)	5	Balanced	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			Pantry	1	8.0	Pantry	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + LC	Central Supply and Extract	6	8	Negative	G4	43	41	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			Quiet Room	1	12.0	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10Ls/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			WC - Staff	2	3.0	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Therapy Room	1	15.0	Consulting Room	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10Ls/person (26)	3	Balanced	G4	43	41	0	300	Not Applicable	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
			Group Room	1	24.0	Meeting Room	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10Ls/person (26)	4	Balanced	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Laundry Room	1	6.0	Laundry	28	18	Adjacent Space Transfer Air	None	No	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative	G4	43	60	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			Drug Room	1	6.0	Clean Utility	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G4	43	41	0	150	Not Applicable	None	A	80	Presence detection	General working plane 1m	See Guidance Notes	Not Applicable
			Dirty Utility	1	6.0	Dirty utility	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Disposal Hold	1	10.0	Disposal Hold	28 (note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	Not Applicable	0	100	Not Applicable	None	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	Not Applicable
			Linen Bay	1	1.5	Linen Bay	28 (note 24)	16	Adjacent Space Transfer Air	None	No	None	Central Supply and Extract	0	3	Negative	None	43	Not Applicable	0	100	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Treatment Room	1	16.0	Treatment Room	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41	0	500	Not Applicable	1000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
			Multidisciplinary Office - Inpatients	1	28.7	Multi Disciplinary Work Areas	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10Ls/person (26)	4	Positive	G4	43	Not Applicable	0	300	Not Applicable	1000	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Multidisciplinary Office - ITS	1	24.6	Multi Disciplinary Work Areas	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	1	4	Positive	G4	43	Not Applicable	0	300	Not Applicable	1000	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
		SHARED FACILITIES	Resuscitation Trolley Bay	1	1.0	Resus Trolley bay	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	With circulation	Central Supply Air	0	0	Balanced	None	43	Not Applicable	0	500	Not Applicable	None	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	Not Applicable
			Consultant Psychiatrist / Psychologist Office	1	20.5	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10Ls/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Secretary/Filing Office	1	18.0	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10Ls/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Storage (testing)	1	6.0	Storage Area Equipment	28 (note 24)	16	Radiant Panels	TRV Remote Head Adj.	No	None	Central General Extract	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Storage / Photocopy	1	10.0	Storage Area Equipment	28 (note 24)	16	Radiant Panels	TRV Remote Head Adj.	No	None	Central General Extract	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Physical Measurement	1	3.5	Consulting Room	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10Ls/person (26)	3	Balanced	G4	43	41	0	300	Not Applicable	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
			Large Family Interview Room	1	14.0	Meeting Room	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10Ls/person (26)	4	Balanced	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Family Interview Room	1	12.0	Meeting Room	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10Ls/person (26)	4	Balanced	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Interview Room	4	9.0	Meeting Room	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10Ls/person (26)	4	Balanced	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			WC - Wheelchair accessible	3	4.5	Toilet	28 (note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Shower / WC / WHB assisted	1	6.0	Bathroom	28 (note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	0	200	200	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Dining Room (Inpatients & Day Prog)	1	62.0	Eating/Drinking	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10Ls/person (26)	4	Balanced	G4	43	41	0	200	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			Pantry	1	8.0	Pantry	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air +LC	Central Supply and Extract	6	8	Negative	G4	43	41	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			Therapeutic Kitchen	1	22.0	Ward Kitchen	28	18	Adjacent Space Transfer Air	None	Yes	Ceiling Cassette - Chilled Water	Central General Extract	0	6	Negative	G4	Not Applicable	60	0	300	Not Applicable	None	A	80	Switch	General working plane 1m	See Guidance Notes	Not Applicable
			Large Group Room	1	30.0	Meeting Room	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10Ls/person (26)	4	Balanced	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Therapy / Play Therapy Room	1	15.0	Common room/staff room/lounge	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10Ls/person (26)	8	Negative	G4	43	41	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			Art Room	1	24.0	Classroom	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10Ls/person (26)	4	Balanced	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Recreation Room	1	45.0	Physiotherapy Studio	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + LC	Central Supply and Extract	10Ls/person (26)	6	Negative	G4	43	41	0	300	Not Applicable	None	A	80	Switch / Dimmer	Floor 0m	See Guidance Notes	1
			DSR	1	7.0	DSR	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	Not Applicable	0	100	Not Applicable	None	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	Not Applicable
			Ward Manager's Office	1	16.0	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10Ls/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Ward kitchen	1	12.0	Ward Kitchen	28	18	Adjacent Space Transfer Air	None	Yes	Ceiling Cassette - Chilled Water	Central General Extract	0	6	Negative	G4	Not Applicable	60	0	300	Not Applicable	None	A	80	Switch	General working plane 1m	See Guidance Notes	Not Applicable
			Quiet Zone	1	11.0	Common room/staff room/lounge	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10Ls/person (26)	8	Negative	G4	43	41	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			Dictation/ 1:1/Phone Booth	3	4.2	Circulation Phone Both	28	18	Radiant Panels	TRV Remote Head Adj.	No	None	Central Supply and Extract	0	0	Balanced	G4	43	41	0	200	Not Applicable	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable

Notes

a) Linen Bay recess to be treated as part of room.
b) Mobile Equipment Bay Recess to be treated as part of room
c) Ressuc Trolley Area Recess to be treated as part of room
d) Consult Exam Room - note 10ac/hr not allowed for unless room title listed as Treatment Room.
e) Reception & Waiting Combined
f) Internal Temperatures should not exceed 28 deg C (db) for more than 50hrs per year
g) Offices assumed to have openable windows without 100mm restrictors for natural ventilation .
h) Staff Rest assumed to have openable windows without 100mm restrictors for natural ventilation and occupancy factor of 0.8.

G1 - G2 Clinical Support

Dept Code	Dept Name	Department Sub Group	Room Name	Qty	Area (m2)	Room Function	Temperature		Heating		Cooling Present	Cooling Type	Ventilation					Safety temperatures		Safety Notes	Lighting							Notes	Medical Location Group
							Design Max deg C	Design Min deg C	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		
G2	Equipment Library	NA	Dirty Equipment	1	10.0	Storage Area Equipment	28 (note 24)	16	Radiant Panels	TRV Remote Head Adj.	No	None	Central General Extract	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Clean Equipment	1	50.0	Storage Area Equipment	28 (note 24)	16	Radiant Panels	TRV Remote Head Adj.	No	None	Central General Extract	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Disposal Hold	1	10.0	Disposal Hold	28 (note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	Not Applicable	0	100	Not Applicable	None	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	Not Applicable
			DSR	1	7.0	DSR	2	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	Not Applicable	0	100	Not Applicable	None	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	Not Applicable
G3	On-Call Suite	NA	On-Call Bedroom	3	10.0	Bedroom	2	20	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air+ CB	Central Supply Air	10Ls/person (26)	0	Positive	G4	43	41	0	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
			DSR	1	7.0	DSR	2	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	Not Applicable	0	100	Not Applicable	None	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	Not Applicable
			Mini Kitchen	1	3.6	Eating/Drinking	2	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10Ls/person (26)	4	Balanced	G4	43	41	0	200	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			En-suite Shower / WC / WHB	3	4.5	Bathroom	28 (note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	0	200	200	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable

Notes

a) Linen Bay recess to be treated as part of room.

b) Mobile Equipment Bay Recess to be treated as part of room

c) Ressuc Trolley Area Recess to be treated as part of room

d) Consult Exam Room - note 10ac/hr not allowed for unless room title listed as Treatment Room.

e) Reception & Waiting Combined

f) Internal Temperatures should not exceed 28 deg C (db) for more than 50hrs per year

g) Offices assumed to have openable windows without 100mm restrictors for natural ventilation .

h) Staff Rest assumed to have openable windows without 100mm restrictors for natural ventilation and occupancy factor of 0.8.

Dept Code	Dept Name	Department Sub Group	Room Name	Qty	Area (m2)	Room Function	Temperature		Heating		Cooling	Cooling	Ventilation					Safety temperatures		Safety Notes	Lighting							Notes	Medical Location
							Design Maximum deg C	Design Minimum deg C	Type	Control	Present	Type	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		Group
H1	Child Life & Health	NA	Seminar / Tutorial Room	2	40.0	Classroom	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10L/s/person (26)	4	Balanced	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Conference / Meeting Room	1	25.0	Meeting Room	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10L/s/person (26)	4	Balanced	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Lockers	1	12.0	Changing Facilities	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	4	Positive	G4	43	41	0	100	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			WC - Ambulant	4	3.0	Toilet	28 (note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			WC - Accessible	2	4.5	Toilet	28 (note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Waiting Area	1	10.0	Waiting Room	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + LC	Central Supply and Extract	10L/s/person (26)	5	Balanced	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			Admin Office	1	20.5	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Beverage Bay	1	3.0	Tea Making	28	18	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	5	Negative	None	43	41	0	100	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Head of Department Office	1	16.0	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Laboratory / Finance Manager's Office	1	11.0	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Student Records Store	1	12.0	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Senior Academic Staff Office	6	11.0	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			16 Person Office	1	80.0	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Meeting Room - 4 person	1	6.0	Meeting Room	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10L/s/person (26)	4	Balanced	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Stationery / Photocopying	1	6.0	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Tissue Culture Room	1	9.0	Laboratory	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + LC	Central Supply and Extract	6	6	Balanced	F7	43	60	0	500	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Freezer Store	1	6.0	Storage Area Equipment	28 (note 24)	16	Radiant Panels	TRV Remote Head Adj.	No	None	Central General Extract	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Physiological Laboratory	1	45.0	Laboratory	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + LC	Central Supply and Extract	6	6	Balanced	F7	43	60	0	500	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			DSR	1	7.0	DSR	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	Not Applicable	0	100	Not Applicable	None	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	Not Applicable
			Disposal Hold	1	10.0	Disposal Hold	28 (note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	Not Applicable	0	100	Not Applicable	None	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	Not Applicable
			Molecular Biology Laboratory	1	45.0	Laboratory	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + LC	Central Supply and Extract	6	6	Balanced	F7	43	60	0	500	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
H2	Clinical Research Facility	NA	Waiting Play Area	1	9.5	Waiting Room	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + LC	Central Supply and Extract	10L/s/person (26)	5	Balanced	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			Reception	1	3.0	Reception	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply Air	10L/s/person (26)	0	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			DSR	1	7.0	Dirty utility	28 (note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Clinical Study Room	1	63.0	office	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Balanced	G4	43	41	0	300	Not Applicable	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
			En Suite Shower / WC / WHB	1	6.0	Bathroom	28 (note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	0	200	200	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Single Bed Room	2	15.0	Bedroom	25	20	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply Air	10L/s/person (26)	0	Positive	G4	43	41	0	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
			Isolation Bedroom Entrance Lobby	1	4.0	Isolation Lobby	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	HBN4 Dependant	HBN4 Dependant	HBN4 Dependant	0	F7	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			En Suite Shower / WC / WHB	2	4.5	Bathroom	28 (note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	0	200	200	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			WC Accessible Patients	1	3.0	Toilet	28 (note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Clean Utility	1	8.0	Clean Utility	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G4	43	41	0	150	Not Applicable	None	A	80	Presence detection	General working plane 1m	See Guidance Notes	Not Applicable
			Dirty Utility	1	6.0	Dirty utility	28 (note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Pantry	1	6.0	Pantry	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + LC	Central Supply and Extract	6	8	Negative	G4	43	41	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			Linen Bay	1	1.5	Linen Bay	28 (note 24)	16	Adjacent Space Transfer Air	None	No	None	Central Supply and Extract	0	3	Negative	None	43	Not Applicable	0	100	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Consult/Examination	1	15.5	Consulting Room	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Balanced	G4	43	41	0	300	Not Applicable	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
			Consult / Assessment	1	12.0	Consulting Room	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Balanced	G4	43	41	0	300	Not Applicable	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
			WC Staff	1	3.0	Toilet	28 (note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Disposal Hold	1	10.0	Disposal Hold	28 (note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	Not Applicable	0	100	Not Applicable	None	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	Not Applicable
			Store - Equipment	1	24.0	Storage Area Equipment	28 (note 24)	16	Radiant Panels	TRV Remote Head Adj.	No	None	Central General Extract	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Sample Processing	1	15.0	Diagnostic room	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	8	8	Balanced	F7	43	41	0	300	Not Applicable	1000	A	80	Switch / Dimmer	General working plane 1m	See Guidance Notes	1
			Office - 4 person	1	20.0	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
H3	Clinical Education Suite	NA	Seminar Room	1	40.0	Meeting Room	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10L/s/person (26)	4	Balanced	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Meeting Room	1	25.0	Meeting Room	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10L/s/person (26)	4	Balanced	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Scenario Room	1	20.0	Meeting Room	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10L/s/person (26)	4	Balanced	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Control Room	1	8.0	Diagnostic room	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air + LC	Central Supply and Extract	8	8	Balanced	F7	43	41	0	300	Not Applicable	1000	A	80	Switch / Dimmer	General working plane 1m	See Guidance Notes	1
			Workshop / Tutorial Room	3	20.0	Classroom	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10L/s/person (26)	4	Balanced	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Practice Based Educators Office	1	20.0	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Management/Admin Office	1	15.0	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Manual Handling, Health & Safety	1	15.0	Classroom	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10L/s/person (26)	4	Balanced	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Storage	1	15.0	Storage Area Equipment	28 (note 24)	16	Radiant Panels	TRV Remote Head Adj.	No	None	Central General Extract	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			WC Ambulant	2	3.0	Toilet	28 (note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			WC / WHB disabled	1	4.5	Toilet	28 (note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Lockers	1	8.0	Changing Facilities	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	4	Positive	G4	43	41	0	100	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Beverage Bay	1	3.0	Tea Making	28	18	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	5	Negative	None	43	41	0	100	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			DSR	1	7.0	DSR	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	Not Applicable	0	100	Not Applicable	None	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	Not Applicable
			Computer Carrels	6	2.0	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + LC	Central Supply and Extract	10L/s/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable

Notes

a) Linen Bay recess to be treated as part of room.
b) Mobile Equipment Bay Recess to be treated as part of room
c) Ressuc Trolley Area Recess to be treated as part of room
d) Consult Exam Room - note 10ac/hr not allowed for unless room title listed as Treatment Room.
e) Reception & Waiting Combined
f) Internal Temperatures should not exceed 28 deg C (db) for more than 50hrs per year
g) Offices assumed to have openable windows without 100mm restrictors for natural ventilation .
h) Staff Rest assumed to have openable windows without 100mm restrictors for natural ventilation and occupancy factor of 0.8.

I1 - I2 Facilities / Infrastructure Support Services

Dept Code	Dept Name	Department Sub Group	Room Name	Qty	Area (m2)	Room Function	Temperature		Heating		Cooling	Cooling	Ventilation					Safety temperatures		Safety Notes	Lighting							Notes	Medical Location Group
							Design Maximum deg C	Design Minimum deg C	Type	Control	Present	Type	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		
I1	Main Entrance - Public Spaces	NA	Draught Lobby	1	15.0	Circulation Areas - Entrance Lobby	28	Not Controlled	Warm Air Door Curtain	BMS Adjustable Sensor	No	None	None	0	0	Balanced	None	Not Applicable	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Reception / Information Desk	1	12.0	Reception	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air+ CB	Central Supply Air	10L/s/person (26)	0	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Waiting Area	1	16.5	Waiting Room	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air+ LC	Central Supply and Extract	10L/s/person (26)	5	Balanced	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			Public Telephone Booth	1	2.0	Circulation Phone Both	28	18	Radiant Panels	TRV Remote Head Adj.	No	None	Central Supply and Extract	0	0	Balanced	G4	43	41	0	200	Not Applicable	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Fire Control Room	1	12.0	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air+ CB	Central Supply and Extract	10L/s/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Vending Machine	1	3.0	Waiting Room	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	With waiting room	Central Supply and Extract	5	5	Balanced	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			Retail Shop	1	30.0	Retail	Subject to Fit -out						Central Supply and Extract	3	3	Balanced	G4	Subject to Fit -out										See Guidance Notes	Not Applicable
			Catering Shop	1	30.0	Retail	Subject to Fit -out						Central Supply and Extract	3	3	Balanced	G4	Subject to Fit -out										See Guidance Notes	Not Applicable
			WC - Visitors	1	3.0	Toilet	28 (note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			WC - Wheelchair accessible	1	4.5	Toilet	28 (note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Assisted Change/Nappy Change	1	7.0	Baby Feeding Room / Nappy Change	28 (note 24)	18	Adjacent Space Transfer Air	Non	No	None	Central Dirty Extract	0	10	Negative	None	43	41	0	200	Not Applicable	None	A	80	Switch / Dimmer	Floor 0m	See Guidance Notes	Not Applicable
			DSR	1	7.0	DSR	28	18	Adjacent Space Transfer Air	Non	No	LC	Central Dirty Extract	0	10	Negative	None	43	Not Applicable	0	100	Not Applicable	None	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	Not Applicable
			Security Office	1	12.0	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air+ CB	Central Supply and Extract	10L/s/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Wheelchair Bay	1	6.0	Circulation Areas	28	18	Radiant Panels	TRV Remote Head Adj.	No	None	None	Refer to Guidance Notes	Refer to Guidance Notes	0	G4	43	41	0	300	Not Applicable	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
I2	Bed & Toy Stores	NA	DSR	1	7.0	DSR	28	18	Adjacent Space Transfer Air	None	No	LC	Central Dirty Extract	0	10	Negative	None	43	Not Applicable	0	100	Not Applicable	None	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	Not Applicable
			Store - Beds	1	96.0	Storage Area Equipment	28 (note 24)	16	Radiant Panels	TRV Remote Head Adj.	No	None	Central General Extract	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Roadshow Equip Store	1	10.0	Storage Area Equipment	28 (note 24)	16	Radiant Panels	TRV Remote Head Adj.	No	None	Central General Extract	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Store - Toys	1	12.0	Storage Area Equipment	28 (note 24)	16	Radiant Panels	TRV Remote Head Adj.	No	None	Central General Extract	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable

Notes

a) Linen Bay recess to be treated as part of room.

b) Mobile Equipment Bay Recess to be treated as part of room

c) Ressuc Trolley Area Recess to be treated as part of room

d) Consult Exam Room - note 10ac/hr not allowed for unless room title listed as Treatment Room.

e) Reception & Waiting Combined

f) Internal Temperatures should not exceed 28 deg C (db) for more than 50hrs per year

g) Offices assumed to have openable windows without 100mm restrictors for natural ventilation .

h) Staff Rest assumed to have openable windows without 100mm restrictors for natural ventilation and occupancy factor of 0.8.

RHSC / DCN Environmental Matrix

J1 - J2 Patient / Family Support

Hulley Kirkwood

Dept Code	Dept Name	Department Sub Group	Room Name	Qty	Area (m2)	Room Function	Temperature		Heating		Cooling	Cooling	Ventilation					Safety temperatures		Safety Notes	Lighting							Notes	Medical Location Group
							Design Maximum deg C	Design Minimum deg C	Type	Control	Present	Type	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		
J1	Bereavement Suite	NA	Body Viewing Room	1	18.0	Body View	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10L/s/person (26)	6	Negative	G4	43	Not Applicable	0	100	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			Lobby	1	3.0	Circulation Areas - Entrance Lobby	28	Not Controlled	Warm Air Door Curtain	BMS Adjustable Sensor	No	None	None	0	0	Balanced	None	ot Applicabl	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Sitting Room with Beverage Bay	1	20.0	Common room/staff room/lounge	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	8	Negative	G4	43	41	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			WC - Wheelchair accessible	1	4.5	Toilet	28 (note 24)	18	Adjacent Space Transfer	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
J2	Spiritual & Pastoral Care	NA	Prayer / Meditation / Reflection Area	1	40.0	Common room/staff room/lounge	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	8	Negative	G4	43	41	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			Store	1	6.0	Storage Area Equipment	28 (note 24)	16	Radiant Panels	TRV Remote Head Adj.	No	None	Central General Extract	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			WC wheelchair accessible / Ritual Washing Area	1	6.0	Toilet	28 (note 24)	18	Adjacent Space Transfer	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Office	1	12.0	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Interview Room	1	9.0	Meeting Room	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10L/s/person (26)	4	Balanced	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable

Notes

a) Linen Bay recess to be treated as part of room.
b) Mobile Equipment Bay Recess to be treated as part of room
c) Ressuc Trolley Area Recess to be treated as part of room
d) Consult Exam Room - note 10ac/hr not allowed for unless room title listed as Treatment Room.
e) Reception & Waiting Combined
f) Internal Temperatures should not exceed 28 deg C (db) for more than 50hrs per year
g) Offices assumed to have openable windows without 100mm restrictors for natural ventilation .
h) Staff Rest assumed to have openable windows without 100mm restrictors for natural ventilation and occupancy factor of 0.8.

K1 - K2 Family Facilities

Dept Code	Dept Name	Department Sub Group	Room Name	Qty	Area (m2)	Room Function	Temperature		Heating		Cooling	Cool	Ventilation					Safety temperatures		Safety Notes	Lighting							Notes	Medical Location
							Design Maximum deg C	Design Minimum deg C	Type	Control	Present	ing Typ	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		Group
K1	Family Support	NA	Waiting	1	8.0	Waiting Room	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + LC	Central Supply and Extract	10L/s/person (26)	5	Balanced	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			Meeting Rooms (family size)	2	15.0	Meeting Room	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10L/s/person (26)	4	Balanced	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Drop-In Lounge / Beverage Bay	1	35.0	Common room/staff room/lounge	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	8	Negative	G4	43	41	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			Drop-In Multi-Purpose Room	1	39.0	Meeting Room	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10L/s/person (26)	4	Balanced	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Complementary Therapy Room	1	15.0	Consulting Room	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Balanced	G4	43	41	0	300	Not Applicable	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
			Interview Rooms	2	9.0	Meeting Room	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10L/s/person (26)	4	Balanced	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Radio Lollipop Broadcasting Studio, Lobby	1	20.0	Circulation Areas	28 (note 24)	18	Radiant Panels	TRV Remote Head Adj.	No	None	None	Refer to Guidance Notes	Refer to Guidance Notes	0	G4	43	41	0	300	Not Applicable	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Office 1	1	15.0	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Office 2	1	15.0	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Office 3	1	10.0	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Office 4	1	10.0	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Office 5	1	19.0	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Office 6	1	20.0	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Beverage Bay	1	3.0	Tea Making	28	18	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	5	Negative	None	43	41	0	100	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			DSR	1	7.0	DSR	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	1	Negative	None	43	Not Applicable	0	100	Not Applicable	None	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	Not Applicable
			Store	1	20.0	Storage Area Equipment	28 (note 24)	16	Radiant Panels	TRV Remote Head Adj.	No	None	Central General Extract	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Store	1	8.0	Storage Area Equipment	28 (note 24)	16	Radiant Panels	TRV Remote Head Adj.	No	None	Central General Extract	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			WC - Staff	1	3.0	Toilet	28 (note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	1	Negative	None	43	41	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Nappy Changing Room	1	4.0	Toilet	28 (note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	1	Negative	None	43	41	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			WC - Wheelchair accessible	2	4.5	Toilet	28 (note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	1	Negative	None	43	41	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Wheelchair Bay	1	6.0	Circulation Equipment Storage Bays	28 (note 24)	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
K2	Family Hotel	NA	Reception/Waiting	1	6.0	Waiting Room	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + LC	Central Supply and Extract	10L/s/person (26)	5	Balanced	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			Office - 1 person	1	8.0	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Lounge - non residents	1	30.0	Common room/staff room/lounge	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			WC - Female	1	3.0	Toilet	28 (note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	1	Negative	None	43	41	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			WC - Male	1	3.0	Toilet	28 (note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	1	Negative	None	43	41	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			WC - Wheelchair accessible	1	4.5	Toilet	28 (note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	1	Negative	None	43	41	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Family Room accessible for 4 persons inc en-suite	2	48.0	Bedroom	25	20	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply Air	10L/s/person (26)	0	Positive	G4	43	41	0	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
			Family Room for 4 persons inc en-suite	24	19.0	Bedroom	25	20	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply Air	10L/s/person (26)	0	Positive	G4	43	41	0	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
			Kitchen / Dining Rooms	1	116.0	Kitchen (Commercial)	28	16	None	None	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	DW 172 Dependant	DW 172 Dependant	Negative	G4	43	60	0	500	Not Applicable	None	A	80	Switch	General working plane 1m	See Guidance Notes	Not Applicable
			Residents Day Room	1	18.0	Common room/staff room/lounge	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	8	Negative	G4	43	41	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			Residents Play Room	1	18.0	Common room/staff room/lounge	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	8	Negative	G4	43	41	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			Bathroom	1	8.0	Bathroom	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	1	Negative	None	43	41	0	200	200	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			WC - Wheelchair accessible	1	4.5	Toilet	28 (note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	1	Negative	None	43	41	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Store	2	12.0	Storage Area Equipment	28 (note 24)	16	Radiant Panels	TRV Remote Head Adj.	No	None	Central General Extract	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Laundry	2	15.0	Laundry	28	18	Adjacent Space Transfer Air	None	No	Comfort Cooled Fresh Air	Central Supply and Extract	6	10	Negative	G4	43	60	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			DSR	1	7.0	DSR	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	1	Negative	None	43	Not Applicable	0	100	Not Applicable	None	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	Not Applicable
			Switch/Meter Cupboard	1	6.0	Storage Area Equipment	28 (note 24)	16	Radiant Panels	TRV Remote Head Adj.	No	None	Central General Extract	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Store	1	10.0	Storage Area Equipment	28 (note 24)	16	Radiant Panels	TRV Remote Head Adj.	No	None	Central General Extract	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			En-suite Shower / WC / WHB	26	6.0	Toilet	28 (note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	1	Negative	None	43	41	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Storage - refuse	1	10.0	Disposal Hold	28 (note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	1	Negative	None	43	Not Applicable	0	100	Not Applicable	None	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	Not Applicable

Notes

a) Linen Bay recess to be treated as part of room.
b) Mobile Equipment Bay Recess to be treated as part of room
c) Ressuc Trolley Area Recess to be treated as part of room
d) as Treatment Room.
e) Reception & Waiting Combined
f) per year
g) natural ventilation .
h) for natural ventilation and occupancy factor of 0.8.

Dept Code	Dept Name	Department Sub Group	Room Name	Qty	Area (m2)	RoomFunction	Temperature		Heating		Cooling Present	Cooling Type	Ventilation					Safety temperatures		Safety Notes	Lighting							Notes	MedicalLocation Group
							Design Maximum deg C	Design Minimum deg C	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		
L1	DCN Acute Care - 24 Beds	Entrance & Reception	Waiting Area, relatives	1	30.0	Waiting Room	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air +LC	Central Supply and Extract	10L/s/person (26)	5	Balanced	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			Multi-Disciplinary Office / Reception	1	18.0	Multi Disciplinary Work Areas	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	4	Positive	G4	43	Not Applicable	0	300	Not Applicable	1000	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Refreshment: Vending Machine	1	3.0	Waiting Room	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	With waiting room	Central Supply and Extract	5	5	Balanced	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			Visitor toilets, baby changing	2	4.5	Toilet	28 (note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			WC: Independent Wheelchair	1	4.5	Toilet	28 (note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Interview/Relatives Quiet Room	1	9.0	Meeting Room	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	4	Balanced	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
		Assessment	Consulting/Examination Room	4	15.5	Consulting Room	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Balanced	G4	43	41	0	300	Not Applicable	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
			Patient Waiting	1	20.0	Waiting Room	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + LC	Central Supply and Extract	10L/s/person (26)	5	Balanced	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			Receiving/Resuscitation area	1	30.0	Resuscitation Bay	25	21	Radiant Panels	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	10	6	Positive	G4	43	41	0	500	Not Applicable	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	2
			Relatives Overnight Stay Room	1	10.0	Relatives Overnight Stay	25	20	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	0	Positive	G4	43	41	0	100	Not Applicable	None	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	Not Applicable
			Ensuite Accessible Shower/Wc/WHB	1	6.0	Bathroom	28 (note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	0	200	200	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
		Ward Areas	Single Bed Room	12	19.0	Bedroom	25	20	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air+ CB	Central Supply Air	10L/s/person (26)	0	Positive	G4	43	41	0	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
			Ensuite Shower/Wc/WHB	12	4.5	Bathroom	28 (note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	0	200	200	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Single Bedroom (level 1)	12	19.0	Bedroom	25	20	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air+ CB	Central Supply Air	10L/s/person (26)	0	Positive	G4	43	41	0	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
			Shower Room:en-suite	12	4.5	Bathroom	28 (note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	0	200	200	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Touchdown Base	4	2.0	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Ward Management Office	1	10.0	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Multi-Disciplinary Office	1	18.0	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Staff Base	2	6.0	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
		Support Facilities	Linen Bay	2	1.5	Linen Bay	28 (note 24)	16	Adjacent Space Transfer Air	None	No	None	Central Supply and Extract	0	3	Negative	None	43	Not Applicable	0	100	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Resuscitation Trolley Bay	2	1.0	Resus Trolley bay	28 (note 24)	18	Radiant Panels	TRV Remote Head Adj.	Yes	With circulation	Central Supply Air	0	0	Balanced	None	43	Not Applicable	0	500	Not Applicable	None	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	Not Applicable
			Mobile X-Ray Bay	1	4.0	Circulation Equipment Storage Bays	28 (note 24)	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Parking Bay: Food Trolley	1	2.0	Circulation Equipment Storage Bays	28 (note 24)	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Pantry	1	8.0	Pantry	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + LC	Central Supply and Extract	6	8	Negative	G4	43	41	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			Interview/Relatives Quiet Room	1	9.0	Meeting Room	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10L/s/person (26)	4	Balanced	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Teaching Room	1	20.0	Classroom	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10L/s/person (26)	4	Balanced	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Hoist Bay	2	3.0	Circulation Equipment Storage Bays	28 (note 24)	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
		Utility Facilities	Clean Utility	1	12.0	Clean Utility	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G4	43	41	0	150	Not Applicable	None	A	80	Presence detection	General working plane 1m	See Guidance Notes	Not Applicable
			Dirty Utility	2	14.0	Dirty utility	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			DSR	1	7.0	DSR	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	Not Applicable	0	100	Not Applicable	None	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	Not Applicable
			Disposal Hold	2	10.0	Disposal Hold	28 (note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	Not Applicable	0	100	Not Applicable	None	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	Not Applicable
		Storage Facilities	Storage Equipment	1	10.0	Storage Area Equipment	28 (note 24)	16	Radiant Panels	TRV Remote Head Adj.	No	None	Central General Extract	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Storage Consumables	1	18.0	Storage Area Equipment	28 (note 24)	16	Radiant Panels	TRV Remote Head Adj.	No	None	Central General Extract	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Storage Stationery	1	4.0	Storage Area Equipment	28 (note 24)	16	Radiant Panels	TRV Remote Head Adj.	No	None	Central General Extract	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
		Ward - Staff Facilities	Staff Room	1	9.0	Common room/staff room/lounge	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	8	Negative	G4	43	41	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			Ward Kitchen	1	12.0	Ward Kitchen	28	18	Adjacent Space Transfer Air	None	Yes	Ceiling Cassette - Chilled Water	Central General Extract	0	6	Negative	G4	Not Applicable	60	0	300	Not Applicable	None	A	80	Switch	General working plane 1m	See Guidance Notes	Not Applicable
			WC Staff	3	3.0	Toilet	28 (note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
L2	DCN Inpatients - 43 Beds	Entrance & Reception	Reception	1	3.0	Reception	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply Air	10L/s/person (26)	0	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Waiting Area	1	16.5	Waiting Room	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + LC	Central Supply and Extract	10L/s/person (26)	5	Balanced	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			WC: Semi Ambulant	2	3.0	Toilet	28 (note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			WC: Independent Wheelchair	1	4.5	Toilet	28 (note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
		Bedroom & Sanitary Facilities	Single Bedroom	41	19.0	Bedroom	25	20	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply Air	4	0	Positive	G4	43	41	0	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
			Single Isolation Bedroom	2	19.0	Isolation Bedroom	25	21	Adjacent Space Transfer Air	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	HBN4 Dependant	HBN4 Dependant	HBN4 Dependant	Balanced	F7	43	41	0	100	5	300	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
			Isolation Bedroom Entrance Lobby	2	4.0	Isolation Lobby	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	HBN4 Dependant	HBN4 Dependant	HBN4 Dependant	0	F7	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Shower Room:en-suite	43	4.5	Bathroom	28	18	Adjacent Space Transfer Air	None	No	None	Special Extract	0	10	Negative	None	43	41	0	200	200	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Assisted Bathroom	1	14.0	Bathroom	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	0	200	200	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Treatment Room	1	16.0	Consulting Room	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	10L/s/person (26)	3	Balanced	G4	43	41	0	300	Not Applicable	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
			Ward Management Office Multi-Disciplinary Office	2	9.0	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
				2	18.0	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Touchdown Base	12	2.0	Circulation Areas	28 (note 24)	18	Radiant Panels	TRV Remote Head Adj.	No	None	None	Refer to Guidance Notes	Refer to Guidance Notes	0	G4	43	41	0	300	Not Applicable	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Teaching Room	1	20.0	Classroom	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10L/s/person (26)	4	Balanced	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Interview Room	2	9.0	Meeting Room	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10L/s/person (26)	4	Balanced	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
		Support Facilities	Sitting Room	2	12.0	Common room/staff room/lounge	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	8	Negative	G4	43	41	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			Pantry	2	8.0	Pantry	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + LC	Central Supply and Extract	6	8	Negative	G4	43	41	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			Parking Bay: Food Trolley	1	2.0	Circulation Areas	28 (note 24)	18	Radiant Panels	TRV Remote Head Adj.	No	None	None	Refer to Guidance Notes	Refer to Guidance Notes	0	G4	43	41	0	300	Not Applicable	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Mobile X-Ray Bay	1	4.0	Circulation Areas	28 (note 24)	18	Radiant Panels	TRV Remote Head Adj.	No	None	None	Refer to Guidance Notes	Refer to Guidance Notes	0	G4	43	41	0	300	Not Applicable	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Resuscitation Trolley Bay	2	1.0	Resus Trolley bay	28 (note 24)	18	Radiant Panels	TRV Remote Head Adj.	Yes	With circulation	Central Supply Air	0	0	Balanced	None	43	Not Applicable	0	500	Not Applicable	None	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	Not Applicable
			Hoist Bay	5	3.0	Circulation Equipment Storage Bays	28 (note 24)	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
		Storage Facilities	Store	2	12.0	Storage Area Equipment	28 (note 24)	16	Radiant Panels	TRV Remote Head Adj.	No	None	Central General Extract	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Linen Bay	2	1.5	Storage Area Equipment	28 (note 24)	16	Radiant Panels	TRV Remote Head Adj.	No	None	Central General Extract	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
		Utility Facilities	Clean Utility	2	12.0	Clean Utility	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G4	43	41	0	150	Not Applicable	None	A	80	Presence detection	General working plane 1m	See Guidance Notes	Not Applicable
			Dirty Utility	3	14.0	Dirty utility	28 (note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			DSR	2	7.0	DSR	28	18	Adjacent Space Transfer Air	None	No	LC	Central Dirty Extract	0	10	Negative	None	43	Not Applicable	0	100	Not Applicable	None	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	Not Applicable
			Disposal Hold	2	10.0	Disposal Hold	28 (note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	Not Applicable	0	100	Not Applicable	None	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	Not Applicable
		Ward - Staff Facilities	Ward Kitchen	2	16.0	Ward Kitchen	28	18	Adjacent Space Transfer Air	None	Yes	Ceiling Cassette - Chilled Water	Central General Extract	0	6	Negative	G4	Not Applicable	60	0	300	Not Applicable	None	A	80	Switch	General working plane 1m	See Guidance Notes	Not Applicable
			WC: Staff	4	3.0	Toilet	28 (note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable

Notes

a) Linen Bay recess to be treated as part of room.
b) Mobile Equipment Bay Recess to be treated as part of room
c) Ressuc Trolley Area Recess to be treated as part of room
d) Consult Exam Room - note 10ac/hr not allowed for unless room title listed as Treatment Room.
e) Reception & Waiting Combined
f) Internal Temperatures should not exceed 28 deg C (db) for more than 50hrs per year
g) Offices assumed to have openable windows without 100mm restrictors for natural ventilation .
h) Staff Rest assumed to have openable windows without 100mm restrictors for natural ventilation and occupancy factor of 0.8.

M1 - M4 DCN Out Patient Departments

Dept Code	Dept Name	Department Sub Group	Room Name	Qty	Area (m2)	Room Function	Temp		Heating		Cooling Present	Cool ing Typ	Ventilation				Safety temperatures		Safety Notes	Lighting						Notes	Medical Location Group
							Design Maximum deg C	Design Min deg C	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		
M1	DCN Outpatients	*Entrance Facilities*	Enquiry / Information Desk: 2 staff	1	8.0	Reception	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply Air	10L/s/person (26)	0	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Medical Records Store	1	8.0	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air +CB	Central Supply and Extract	10L/s/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Main Waiting	1	59.0	Waiting Room	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + LC	Central Supply and Extract	10L/s/person (26)	5	Balanced	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			Public Telephone: Single Booth	1	1.5	Circulation Phone Both	28 (note 24)	18	Radiant Panels	TRV Remote Head Adj.	No	None	Central Supply and Extract	0	0	Balanced	G4	43	41	0	200	Not Applicable	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Public Telephone: Single Booth, Accessible	1	2.0	Circulation Phone Both	28 (note 24)	18	Radiant Panels	TRV Remote Head Adj.	No	None	Central Supply and Extract	0	0	Balanced	G4	43	41	0	200	Not Applicable	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			WC Fully Accessible Changing Room	1	7.0	Changing Facilities	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	4	Positive	G4	43	41	0	100	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Refreshment: Vending Machine	1	3.0	Waiting Room	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	With waiting room	Central Supply and Extract	5	5	Balanced	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
		Consulting Suite A	Nurse Base	1	2.0	Circulation Areas	28 (note 24)	18	Radiant Panels	TRV Remote Head Adj.	No	None	None	Refer to Guidance Notes	Refer to Guidance Notes	0	G4	43	41	0	300	Not Applicable	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			WC - Wheelchair accessible	1	4.5	Toilet	28 (note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Physical Measurement	1	3.5	Consulting Room	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Balanced	G4	43	41	0	300	Not Applicable	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
			Consult/Examination	15.5	15.5	Consulting Room	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Balanced	G4	43	41	0	300	Not Applicable	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
			Consult/Multi-Disciplinary	2	24.0	Consulting Room	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Balanced	G4	43	41	0	300	Not Applicable	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
			Treatment Room (with prep area)	1	16.0	Treatment Room	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply Air	10L/s/person (26)	0	Positive	F7	43	41	0	500	Not Applicable	1000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
			Phlebotomy Room	1	8.0	Consulting Room	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Balanced	G4	43	41	0	300	Not Applicable	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
			Store - Equipment / General	1	6.0	Storage Area Equipment	28 (note 24)	16	Radiant Panels	TRV Remote Head Adj.	No	None	Central General Extract	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
		Consulting Suite B (Pre Admission Clinic)	Sub Waiting Area	1	16.5	Waiting Room	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + LC	Central Supply and Extract	5	5	Balanced	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			Nurse Base	1	2.0	Circulation Areas	28 (note 24)	18	Radiant Panels	TRV Remote Head Adj.	No	None	None	Refer to Guidance Notes	Refer to Guidance Notes	0	G4	43	41	0	300	Not Applicable	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			WC - Wheelchair accessible	1	4.5	toilet	28 (note 24)	18	Radiant Panels	TRV Remote Head Adj.	Yes	None	Central Supply and Extract	3	3	Balanced	G4	43	41	0	300	Not Applicable	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
			Physical Measurement	1	3.5	Consulting Room	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Balanced	G4	43	41	0	300	Not Applicable	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
			Consult/Examination	4	15.5	Consulting Room	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Balanced	G4	43	41	0	300	Not Applicable	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
			Pre Op Clinic Team Office	1	17.0	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Clean Utility	1	8.0	Clean Utility	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G4	43	41	0	150	Not Applicable	None	A	80	Presence detection	General working plane 1m	See Guidance Notes	Not Applicable
			Dirty Utility: urine test	1	11.0	Dirty utility	28 (note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
		Staff Support Facilities	Patient Interview Room	1	9.0	Meeting Room	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10L/s/person (26)	4	Balanced	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Outpatient Management Office	1	9.0	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Staff Room	1	12.0	Common room/staff room/lounge	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	8	Negative	G4	43	41	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			WC - Staff	2	3.0	Toilet	28 (note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Store: Clinical Supplies, Equipment & Stationery	1	15.0	Storage Area Equipment	28 (note 24)	16	Radiant Panels	TRV Remote Head Adj.	No	None	Central General Extract	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Linen Bay	1	1.5	Circulation Areas	28 (note 24)	18	Radiant Panels	TRV Remote Head Adj.	No	None	None	Refer to Guidance Notes	Refer to Guidance Notes	0	G4	43	41	0	300	Not Applicable	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			DSR	1	7.0	DSR	28	18	Adjacent Space Transfer Air	None	No	LC	Central Dirty Extract	0	10	Negative	None	43	Not Applicable	0	100	Not Applicable	None	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	Not Applicable
M2	DCN Therapies	**NA**	Waiting	1	18.0	Waiting Room	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + LC	Central Supply and Extract	10L/s/person (26)	5	Balanced	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			Staff Lockers	1	4.5	Changing Facilities	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	4	Positive	G4	43	41	0	100	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Reception	1	8.0	Reception	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply Air	10L/s/person (26)	0	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
		Occupational Therapy	ADL Kitchen	1	22.0	Ward Kitchen	28	18	Adjacent Space Transfer Air	None	Yes	Ceiling Cassette - Chilled Water	Central General Extract	0	6	Negative	G4	Not Applicable	60	0	300	Not Applicable	None	A	80	Switch	General working plane 1m	See Guidance Notes	Not Applicable
			ADL Bathroom, Shower, WC with hoists	1	13.0	Toilet	28 (note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
		Physiotherapy	Physio Treatment Room	1	15.0	Physiotherapy Studio	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	6	Negative	G4	43	41	0	300	Not Applicable	None	A	80	Switch / Dimmer	Floor 0m	See Guidance Notes	1
			Multi-Purpose Rehabilitation Room	1	80.0	Physiotherapy Studio	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	6	Negative	G4	43	41	0	300	Not Applicable	None	A	80	Switch / Dimmer	Floor 0m	See Guidance Notes	1
		Dietetics	Consult/Examination	1	15.5	Consulting Room	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Balanced	G4	43	41	0	300	Not Applicable	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
		Speech & Language Therapy	Distraction Free Treatment Room	2	15.0	Treatment Room	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply Air	10	0	Positive	F7	43	41	0	500	Not Applicable	1000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
			Store: General/Equipment	1	25.0	Storage Area Equipment	28 (note 24)	16	Radiant Panels	TRV Remote Head Adj.	No	None	Central General Extract	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Store: General/Equipment	1	20.0	Storage Area Equipment	28 (note 24)	16	Radiant Panels	TRV Remote Head Adj.	No	None	Central General Extract	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Store: General/Equipment	1	5.0	Storage Area Equipment	28 (note 24)	16	Radiant Panels	TRV Remote Head Adj.	No	None	Central General Extract	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Changing Cubicles	4	4.0	Changing Facilities	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	4	Positive	G4	43	41	0	100	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Staff Office	1	65.6	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Interview Room	2	9.0	Meeting Room	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10L/s/person (26)	4	Balanced	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Patient Toilet	2	4.5	Toilet	28 (note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Staff Toilet	2	3.0	Toilet	28 (note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
M3	Programmed Investigations Unit	**NA**	Waiting area; 4 & 2 wheelchairs	1	17.0	Waiting Room	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + LC	Central Supply and Extract	10L/s/person (26)	5	Balanced	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			Treatment Area	1	45.0	Treatment Room	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41	0	500	Not Applicable	1000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
			Treatment Room	1	16.0	Treatment Room	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10	0	Positive	F7	43	41	0	500	Not Applicable	1000	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
M4	DCN Neurophysiology	**NA**	Waiting Area (DCN)	1	15.0	Waiting Room	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + LC	Central Supply and Extract	10L/s/person (26)	5	Balanced	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			WC - wheelchair accessible (DCN)	1	4.5	Toilet	28 (note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			EEG Recording Room	3	16.0	Diagnostic room	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	8	8	Balanced	F7	43	41	0	300	Not Applicable	1000	A	80	Switch / Dimmer	General working plane 1m	See Guidance Notes	1
			EMG/Nerve Conduction Room	3	16.0	Diagnostic room	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	8	8	Balanced	F7	43	41	0	300	Not Applicable	1000	A	80	Switch / Dimmer	General working plane 1m	See Guidance Notes	1
			VTEM/Ambulatory Review Room	1	20.0	Diagnostic room	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	8	8	Balanced	F7	43	41	0	300	Not Applicable	1000	A	80	Switch / Dimmer	General working plane 1m	See Guidance Notes	1
			Reporting Room	1	20.0	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			HOD Office	1	10.0	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Clinical Physiologist Office	1	24.6	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Secretarial Office	1	9.0	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Quiet Room	1	10.0	Common room/staff room/lounge	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	8	Negative	G4	43	41	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			Store / Records	1	32.5	Storage Area Equipment	28 (note 24)	16	Radiant Panels	TRV Remote Head Adj.	No	None	Central General Extract	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			WC - Staff	1	3.0	Toilet	28 (note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable

Notes

a) Linen Bay recess to be treated as part of room.
b) Mobile Equipment Bay Recess to be treated as part of room
c) Ressuc Trolley Area Recess to be treated as part of room
d) Consult Exam Room - note 10ac/hr not allowed for unless room title listed as Treatment Room.
e) Reception & Waiting Combined
f) Internal Temperatures should not exceed 28 deg C (db) for more than 50hrs per year
g) Offices assumed to have openable windows without 100mm restrictors for natural ventilation .
h) Staff Rest assumed to have openable windows without 100mm restrictors for natural ventilation and occupancy factor of 0.8.

N1 DCN Support Space

Dept Code	Dept Name	Department Sub Group	Room Name	Qty	Area (m2)	Room Function	Temperature		Heating		Cooling	Cooling	Ventilation					Safety temperatures		Safety Notes	Lighting							Notes	Medical Location
							Design Maximum deg C	Design Minimum deg C	Type	Control	Present	Type	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		Group
N1	DCN Entrance	NA	Reception / Information Desk	1	6.0	Reception	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air+ CB	Central Supply Air	10L/s/person (26)	0	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Draft Lobby	1	9.0	Circulation Areas - Entrance Lobby	28 (note 24)	Not Controlled	Warm Air Door Curtain	BMS Adjustable Sensor	No	None	None	0	0	Balanced	None	t Applicab	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Waiting Area	1	8.0	Waiting Room	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air+ LC	Central Supply and Extract	10L/s/person (26)	5	Balanced	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			Vending Machine	1	3.0	Circulation Areas	28 (note 24)	18	Radiant Panels	TRV Remote Head Adj.	No	None	None	Refer to Guidance Notes	Refer to Guidance Notes	0	G4	43	41	0	300	Not Applicable	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			WC - Visitors	1	3.0	Toilet	28 (note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Wheelchair Bay	1	6.0	Circulation Equipment Storage Bays	28 (note 24)	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			WC - Wheelchair accessible	1	4.5	Toilet	28 (note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
N2	DCN Wards / Health Records Support - (N2)	NA	Staff Room	1	34.0	Common room/staff room/lounge	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air+ CB	Central Supply and Extract	10L/s/person (26)	8	Negative	G4	43	41	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			Grab & Go	1	20.0	Common room/staff room/lounge	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air+ CB	Central Supply and Extract	10L/s/person (26)	8	Negative	G4	43	41	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			Disposal Hold (small)	1	4.0	Disposal Hold	28 (note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	Not Applicable	0	100	Not Applicable	None	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	Not Applicable

Notes

a) Linen Bay recess to be treated as part of room.

b) Mobile Equipment Bay Recess to be treated as part of room

c) Ressuc Trolley Area Recess to be treated as part of room

d) Consult Exam Room - note 10ac/hr not allowed for unless room title listed as Treatment Room.

e) Reception & Waiting Combined

f) Internal Temperatures should not exceed 28 deg C (db) for more than 50hrs per year

g) Offices assumed to have openable windows without 100mm restrictors for natural ventilation .

h) Staff Rest assumed to have openable windows without 100mm restrictors for natural ventilation and occupancy factor of 0.8.

Dept Code	Dept Name	Department Sub Group	Room Name	Qty	Area (m2)	Room Function	Temperature		Heating		Cooling Present	Coolin g Type	Ventilation					Safety temperatures		Safety Notes	Lighting							Notes	Medical Location Group
							Design Maximum deg C	Design Mini deg C	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		
		RHSC Staff Entrance	Staff Reception / Office / Control Base	1	20.0	Reception	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply Air	10L/s/person (26)	0	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
		RHSC Day Case Entrance and Reception	Reception	1	8.0	Reception	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply Air	10L/s/person (26)	0	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			General Office	1	14.5	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + LC	Central Supply and Extract	10L/s/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Main Waiting/Play Area	1	50.0	Waiting Room	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + LC	Central Supply and Extract	10L/s/person (26)	5	Balanced	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			WC - Wheelchair accessible	3	4.5	Toilet	28 (note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Single Rooms ensuite	3	15.0	Bathroom	28 (note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	0	200	200	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			En Suite WC / WHB	3	4.5	Toilet	28 (note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Changing Cubicles	3	4.0	Changing Facilities	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	4	Positive	G4	43	41	0	100	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Locker Bay	1	13.0	Changing Facilities	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	4	Positive	G4	43	41	0	100	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Interview Rooms	2	12.0	Meeting Room	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	4	4	Balanced	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Consult/Examination	2	15.5	Consulting Room	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Balanced	G4	43	41	0	300	Not Applicable	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
			Physical Measurement Bay	1	3.5	Consulting Room	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Balanced	G4	43	41	0	300	Not Applicable	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
		DCN Entrance, Reception & Waiting Facilities with Admissions Suite	Reception, administration office & communication base: 4 staff	1	24.0	Reception	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply Air	10L/s/person (26)	0	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Duty room: 2 porters	1	5.0	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Admissions Lounge	1	36.0	Common room/staff room/lounge	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	8	Negative	G4	43	41	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			Inpatient Holding Bays (Bed)	2	8.0	Waiting area	28	20	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	10L/s/person (26)	0	Positive	G4	43	41	0	500	Not Applicable	1000	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
			Inpatient Holding Bays (Chair)	2	4.0	Waiting area	28	20	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	10L/s/person (26)	0	Positive	G4	43	41	0	500	Not Applicable	1000	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
			WC & handwash: accessible, wheelchair assisted	1	4.5	Toilet	28 (note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Consulting, examination & changing room	3	15.5	Consulting Room	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Balanced	G4	43	41	0	300	Not Applicable	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
			Interview, counselling & quiet room: 5 persons	1	9.0	Meeting Room	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10L/s/person (26)	4	Balanced	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Changing Cubicle	1	4.0	Changing Facilities	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	4	Positive	G4	43	41	0	100	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			WC & handwash: accessible, wheelchair assisted	1	4.5	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
		RHSC Pre Theatre Admissions Suite	Immediate Pre Theatre Wait	1	50.0	Waiting Room	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air +LC	Central Supply and Extract	10L/s/person (26)	5	Balanced	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			WC - Wheelchair accessible	3	4.5	Toilet	28 (note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
		Operating Theatre Suite	Anaesthetic Room	8	19.0	Operating Theatre Suite	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	In line with SHTM 03-01	In line with SHTM 03-01	In line with SHTM 03-01	0	F7	43	Not Applicable	0	500	Not Applicable	10,000 - 100,000	A	80	Switch	Floor 0m	See Guidance Notes	2
			Anaesthetic room: emergency operations	1	29.0	Operating Theatre Suite	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	In line with SHTM 03-01	In line with SHTM 03-01	In line with SHTM 03-01	0	F7	43	Not Applicable	0	500	Not Applicable	10,000 - 100,000	A	80	Switch	Floor 0m	See Guidance Notes	2
			Operating Theatre	9	55.0	Operating Theatre Suite	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	In line with SHTM 03-01	In line with SHTM 03-01	In line with SHTM 03-01	0	F7	43	Not Applicable	0	500	Not Applicable	10,000 - 100,000	A	80	Switch	Floor 0m	See Guidance Notes	2
			Minor Procedures Room	1	19.0	Operating Theatre Suite	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	In line with SHTM 03-01	In line with SHTM 03-01	In line with SHTM 03-01	0	F7	43	Not Applicable	0	500	Not Applicable	10,000 - 100,000	A	80	Switch	Floor 0m	See Guidance Notes	2
			Scrub-up (single)	9	11.0	Operating Theatre Suite	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	In line with SHTM 03-01	In line with SHTM 03-01	In line with SHTM 03-01	0	F7	43	Not Applicable	0	500	Not Applicable	10,000 - 100,000	A	80	Switch	Floor 0m	See Guidance Notes	2
			Preparation Room	9	12.0	Operating Theatre Suite	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	In line with SHTM 03-01	In line with SHTM 03-01	In line with SHTM 03-01	0	F7	43	Not Applicable	0	500	Not Applicable	10,000 - 100,000	A	80	Switch	Floor 0m	See Guidance Notes	2
			Utility Room	5	14.0	Operating Theatre Suite	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	In line with SHTM 03-01	In line with SHTM 03-01	In line with SHTM 03-01	0	F7	43	Not Applicable	0	500	Not Applicable	10,000 - 100,000	A	80	Switch	Floor 0m	See Guidance Notes	2
			Exit Bay	5	12.0	Operating Theatre Suite	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	In line with SHTM 03-01	In line with SHTM 03-01	In line with SHTM 03-01	0	F7	43	Not Applicable	0	500	Not Applicable	10,000 - 100,000	A	80	Switch	Floor 0m	See Guidance Notes	2
			Burns Bathroom	1	20.0	Operating Theatre Suite	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	In line with SHTM 03-01	In line with SHTM 03-01	In line with SHTM 03-01	0	F7	43	Not Applicable	0	500	Not Applicable	10,000 - 100,000	A	80	Switch	Floor 0m	See Guidance Notes	2
		Intra Operative MRI	MRI Room	1	45.0	Diagnostic room	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	8	8	Balanced	F7	43	41	0	300	Not Applicable	1000	A	80	Switch / Dimmer	General working plane 1m	See Guidance Notes	1
			Control Room - MRI	1	16.0	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Equipment Room - MRI	1	16.0	Storage Area Equipment	28 (note 24)	16	Radiant Panels	TRV Remote Head Adj.	No	None	Central General Extract	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Trolley Bay Sub-	2	4.0	Circulation Equipment Storage Bays	28 (note 24)	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Wait Area	1	4.5	Waiting Room	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + LC	Central Supply and Extract	10L/s/person (26)	5	Balanced	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			WC Accessible	1	4.5	Toilet	28 (note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Preparation Room	1	14.0	Operating Theatre Suite	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	In line with SHTM 03-01	In line with SHTM 03-01	In line with SHTM 03-01	0	F7	43	Not Applicable	0	500	Not Applicable	10,000 - 100,000	A	80	Switch	Floor 0m	See Guidance Notes	2
P1	Operating Theatres & RHSC Surgical Day Case Unit	Digital Angiography	Anaesthetic Room	1	19.0	Operating Theatre Suite	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	In line with SHTM 03-01	In line with SHTM 03-01	In line with SHTM 03-01	0	F7	43	Not Applicable	0	500	Not Applicable	10,000 - 100,000	A	80	Switch	Floor 0m	See Guidance Notes	2
			Angiography Procedures Room	1	55.0	Operating Theatre Suite	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	In line with SHTM 03-01	In line with SHTM 03-01	In line with SHTM 03-01	0	F7	43	Not Applicable	0	500	Not Applicable	10,000 - 100,000	A	80	Switch	Floor 0m	See Guidance Notes	2
			Angiography Procedures Control Room	1	16.0	Operating Theatre Suite	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	In line with SHTM 03-01	In line with SHTM 03-01	In line with SHTM 03-01	0	F7	43	Not Applicable	0	500	Not Applicable	10,000 - 100,000	A	80	Switch	Floor 0m	See Guidance Notes	2
			Angiography Procedures Machine Room	1	16.0	Operating Theatre Suite	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	In line with SHTM 03-01	In line with SHTM 03-01	In line with SHTM 03-01	0	F7	43	Not Applicable	0	500	Not Applicable	10,000 - 100,000	A	80	Switch	Floor 0m	See Guidance Notes	2
			Preparation Room	1	12.0	Operating Theatre Suite	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	In line with SHTM 03-01	In line with SHTM 03-01	In line with SHTM 03-01	0	F7	43	Not Applicable	0	500	Not Applicable	10,000 - 100,000	A	80	Switch	Floor 0m	See Guidance Notes	2
			Sterile Supplies Store	1	12.0	Clean Utility	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	6	Positive	G4	43	41	0	150	Not Applicable	None	A	80	Presence detection	General working plane 1m	See Guidance Notes	Not Applicable
		Support Space	X-Ray/Ultrasound Bay	1	4.0	Circulation Equipment Storage Bays	28 (note 24)	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Image Intensifier Bay	3	4.0	Circulation Equipment Storage Bays	28 (note 24)	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Satellite Pharmacy Store	1	6.0	Clean Utility	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G4	43	41	0	150	Not Applicable	None	A	80	Presence detection	General working plane 1m	See Guidance Notes	Not Applicable
			Sterile Supplies Store	1	94.0	Clean Utility	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G4	43	41	0	150	Not Applicable	None	A	80	Presence detection	General working plane 1m	See Guidance Notes	Not Applicable
			Clinical Equipment Store	1	60.0	Storage Area Equipment	28 (note 24)	16	Radiant Panels	TRV Remote Head Adj.	No	None	Central General Extract	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Clinical Equipment Store	1	30.0	Storage Area Equipment	28 (note 24)	16	Radiant Panels	TRV Remote Head Adj.	No	None	Central General Extract	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Linen Bay	2	1.5	Linen Bay	28 (note 24)	16	Adjacent Space Transfer Air	None	No	None	Central Supply and Extract	0	3	Negative	None	43	Not Applicable	0	100	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Linen Bay	1	1.5	Linen Bay	28 (note 24)	16	Adjacent Space Transfer Air	None	No	None	Central Supply and Extract	0	3	Negative	None	43	Not Applicable	0	100	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Dirty Scopes Store	1	6.0	Dirty utility	28 (note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Decontaminated Scopes Store	1	8.0	Dirty utility	28 (note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Medical Gas Cylinder Store	1	4.0	Storage Area Med Gas	28 (note 24)	16	Adjacent Space Transfer Air	None	No	None	Natural ventilation	0	0	Balanced	None	Not Applicable	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			DSR	2	7.0	DSR	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	Not Applicable	0	100	Not Applicable	None	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	Not Applicable
			Disposal Hold	1	15.0	Disposal Hold	28 (note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	Not Applicable	0	100	Not Applicable	None	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	Not Applicable
			Disposal Hold	1	10.0	Disposal Hold	28 (note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	Not Applicable	0	100	Not Applicable	None	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	Not Applicable
			Store - Plaster	1	6.0	Storage Area Equipment	28 (note 24)	16	Radiant Panels	TRV Remote Head Adj.	No	None	Central General Extract	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Resuscitation Trolley Bay	1	1.0	Resus Trolley bay	28 (note 24)	18	Radiant Panels	TRV Remote Head Adj.	Yes	With circulation	Central Supply Air	0	0	Balanced	None	43	Not Applicable	0	500	Not Applicable	None	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	Not Applicable

Dept Code	Dept Name	Department Sub Group	Room Name	Qty	Area (m2)	Room Function	Temperature		Heating		Cooling Present	Cooling Type	Ventilation					Safety temperatures		Safety Notes	Lighting							Notes	Medical Location Group
							Design Maximum deg C	Design Minimum deg C	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		
			Parking bay: fibre optic bronchoscope light source trolley DCN	1	1.0	Circulation Equipment Storage Bays	28 (note 24)	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Trolley Holding Bay Clean	1	12.0	Circulation Equipment Storage Bays	28 (note 24)	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			IPS Room	1	1.5	IPS Room	Manufacturer Dependant	Manufacturer Dependant	Adjacent Space Transfer Air	None	No	LC	None	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			IPS Room	1	1.8	IPS Room	Manufacturer Dependant	Manufacturer Dependant	Adjacent Space Transfer Air	None	No	LC	None	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			Trolley Holding Bay Dirty	2	6.0	Circulation Equipment Storage Bays	28 (note 24)	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Laser Printer/CR Room DCN	1	15.0	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + LC	Central Supply and Extract	10L/s/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
		RHSC Patient Pre-Discharge Areas	Post Anaesthetic Recovery	1	145.8	Recovery Bay / Recovery Room	28	20	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	0	Positive	G4	43	41	0	500	Not Applicable	1000	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
			Recovery Staff Base	1	12.0	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Distressed Parents Lobby	1	2.0	Waiting Room	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + LC	Central Supply and Extract	10L/s/person (26)	5	Balanced	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			Recovery Clean Utility	1	12.0	Clean Utility	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G4	43	41	0	150	Not Applicable	None	A	80	Presence detection	General working plane 1m	See Guidance Notes	Not Applicable
			Recovery Dirty Utility	1	14.0	Dirty utility	28 (note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			SDCU Dispensary	1	8.0	Clean Utility	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G4	43	41	0	150	Not Applicable	None	A	80	Presence detection	General working plane 1m	See Guidance Notes	Not Applicable
			SDCU Recovery	1	110.0	Recovery Bay / Recovery Room	28	20	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	0	Positive	G4	43	41	0	500	Not Applicable	1000	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
			SDCU Discharge Lounge	1	40.0	Common room/staff room/lounge	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	8	Negative	G4	43	41	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			Pantry (DCU)	1	8.0	Pantry	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + LC	Central Supply and Extract	6	8	Negative	G4	43	41	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			SDCU Post Op Staff Base/Utility	1	10.0	Circulation Areas	28 (note 24)	18	Radiant Panels	TRV Remote Head Adj.	No	None	None	Refer to Guidance Notes	Refer to Guidance Notes	0	G4	43	41	0	300	Not Applicable	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Wheelchair Parking Bay	1	1.5	Circulation Equipment Storage Bays	28 (note 24)	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Interview Room - DCU	2	9.0	Meeting Room	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10L/s/person (26)	4	Balanced	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Charge Nurse's Office (SDCU)	1	9.0	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			WC - Patients	1	3.0	Toilet	28 (note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			WC - Wheelchair accessible	1	4.5	Toilet	28 (note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
		DCN Recovery Unit or Post Anaesthetic Care Unit (PACU) Facilities	Recovery bay: post anaesthetic, 1 place	6	13.5	Recovery Bay / Recovery Room	28	20	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	0	Positive	G4	43	41	0	500	Not Applicable	1000	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
			Recovery room: post anaesthetic, 1 place	2	26.0	Recovery Bay / Recovery Room	28	20	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	0	Positive	G4	43	41	0	500	Not Applicable	1000	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
			Staff & communication base, enclosed: 3 staff	1	12.0	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Clean Utility	1	12.0	Clean Utility	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G4	43	41	0	150	Not Applicable	None	A	80	Presence detection	General working plane 1m	See Guidance Notes	Not Applicable
			Dirty Utility: bedpan disposal & urine test	1	14.0	Dirty utility	28 (note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
		Staff Facilities	Staff Room	1	60.0	Common room/staff room/lounge	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	8	Negative	G4	43	41	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			Dictation/ 1:1/Phone Booth	4	4.2	Circulation Phone Both	28 (note 24)	18	Radiant Panels	TRV Remote Head Adj.	No	None	Central Supply and Extract	0	0	Balanced	G4	43	41	0	200	Not Applicable	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Office - Senior Nurse Theatres	1	9.0	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10Ls/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Office - Staff	1	16.0	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10Ls/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Charge Nurse Office	1	9.0	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10Ls/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			WC-Staff	2	3.0	Toilet	28 (note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Male Staff Changing and Lockers	1	60.0	Changing Facilities	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	4	Positive	G4	43	41	0	100	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Female Staff Changing and Lockers	1	70.0	Changing Facilities	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	4	Positive	G4	43	41	0	100	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Footwear Machine Washing Area	1	4.0	Dirty utility	28 (note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable

Notes

a) Linen Bay recess to be treated as part of room.
b) Mobile Equipment Bay Recess to be treated as part of room
c) Ressuc Trolley Area Recess to be treated as part of room
d) Consult Exam Room - note 10ac/hr not allowed for unless room title listed as Treatment Room.
e) Reception & Waiting Combined
f) Internal Temperatures should not exceed 28 deg C (db) for more than 50hrs per year
g) Offices assumed to have openable windows without 100mm restrictors for natural ventilation .
h) Staff Rest assumed to have openable windows without 100mm restrictors for natural ventilation and occupancy factor of 0.8.

Dept Code	Dept Name	Department Sub Group	Room Name	Qty	Area (m2)	Room Function	Temperature		Heating		Cooling Present	Cooling Typ	Ventilation				Safety temperatures		Safety Notes	Lighting							Notes	Medical Location Group
							Design Max deg C	Design Min deg C	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		
Q1	Radiology	RHSC Main Department	General X-Ray Room	2	33.0	Diagnostic room	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air + LC	Central Supply and Extract	8	8	Balanced	F7	43	41	0	300	Not Applicable	1000	A	80	Switch / Dimmer	General working plane 1m	See Guidance Notes	1
			Changing Cubicles	5	4.0	Changing Facilities	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	4	Positive	G4	43	41	0	100	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Screening Room (fluoroscopy)	1	39.0	Diagnostic room	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air + LC	Central Supply and Extract	8	8	Balanced	F7	43	41	0	300	Not Applicable	1000	A	80	Switch / Dimmer	General working plane 1m	See Guidance Notes	1
			Preparation Room	1	10.0	Clean Utility	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G4	43	41	0	150	Not Applicable	None	A	80	Presence detection	General working plane 1m	See Guidance Notes	Not Applicable
			Ultrasound Room	2	16.0	Diagnostic room	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air+ LC	Central Supply and Extract	8	8	Balanced	F7	43	41	0	300	Not Applicable	1000	A	80	Switch / Dimmer	General working plane 1m	See Guidance Notes	1
			Dental Room	1	20.0	Consulting Room	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + LC	Central Supply and Extract	10L/s/person (26)	3	Balanced	G4	43	41	0	300	Not Applicable	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
			Main Reporting	1	25.0	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + LC	Central Supply and Extract	10L/s/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Acute Reporting	1	10.0	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + LC	Central Supply and Extract	10L/s/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			MRI Reporting	1	10.0	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + LC	Central Supply and Extract	10L/s/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Processing Area	1	30.0	Diagnostic room	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air + LC	Central Supply and Extract	8	8	Balanced	F7	43	41	0	300	Not Applicable	1000	A	80	Switch / Dimmer	General working plane 1m	See Guidance Notes	1
			Gamma Camera	2	40.0	Diagnostic room	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air + LC	Central Supply and Extract	8	8	Balanced	F7	43	41	0	300	Not Applicable	1000	A	80	Switch / Dimmer	General working plane 1m	See Guidance Notes	1
			Gamma Camera Control Area	1	17.0	Consulting Room	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + LC	Central Supply and Extract	3	3	Balanced	G4	43	41	0	300	Not Applicable	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
			Radioactive Waste Store	1	2.0	Storage Area Equipment	28	16	Radiant Panels	TRV Remote Head Adj.	No	None	Central General Extract	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			WC Ambulant (Hot)	2	4.5	Toilet	28 (see note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Injection Room	2	8.0	Consulting Room	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + LC	Central Supply and Extract	10L/s/person (26)	3	Balanced	G4	43	41	0	300	Not Applicable	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
			Preparation Room	1	14.0	Consulting Room	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + LC	Central Supply and Extract	10L/s/person (26)	3	Balanced	G4	43	41	0	300	Not Applicable	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
			Hot Waiting Area	2	10.0	Waiting Room	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + LC	Central Supply and Extract	10L/s/person (26)	5	Balanced	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			Cold Waiting Area	2	10.0	Waiting Room	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + LC	Central Supply and Extract	10L/s/person (26)	5	Balanced	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			Stress Room (myocardial work)	1	14.0	Consulting Room	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + LC	Central Supply and Extract	10L/s/person (26)	3	Balanced	G4	43	41	0	300	Not Applicable	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
			Changing Cubicles	2	4.0	Changing Facilities	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	4	Positive	G4	43	41	0	100	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Counting Laboratory	1	14.0	Laboratory	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + LC	Central Supply and Extract	6	6	Balanced	F7	43	60	0	500	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Beverage Bay	1	3.0	Tea Making	28	18	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	5	Negative	None	43	41	0	100	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Admin Office	1	10.0	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			WC Ambulant (Cold)	1	4.5	Toilet	28 (see note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Recovery Area	1	15.0	Bedroom	25	20	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	10L/s/person (26)	0	Positive	G4	43	41	0	100	5	300	A	80	Switch / Dimmer	Bed / Trolley 1.45m	See Guidance Notes	1
			Gamma Camera Reporting	1	10.0	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + LC	Central Supply and Extract	10L/s/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Medical Physics Office	1	10.0	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Emergency Shower	1	2.5	Bathroom	28 (see note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	0	200	200	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Reception Area	1	8.0	Reception	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply Air	10L/s/person (26)	0	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Admin Office	1	20.0	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Waiting Area - Main Dept	1	50.0	Waiting Room	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + LC	Central Supply and Extract	10L/s/person (26)	5	Balanced	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			Baby/Infant Feeding Room	1	4.0	Common room/staff room/lounge	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	10L/s/person (26)	8	Negative	G4	43	41	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			Nappy Change Room with handwash	1	4.0	Toilet	28 (see note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			WC - Wheelchair accessible	2	4.5	Toilet	28 (see note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Resuscitation Trolley Bay	1	1.0	Circulation Areas	28 (see note 24)	18	Radiant Panels	TRV Remote Head Adj.	No	None	None	Refer to Guidance Notes	Refer to Guidance Notes	0	G4	43	41	0	300	Not Applicable	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
		DCN Main Department	Reception	1	8.0	Reception	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply Air	10L/s/person (26)	0	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Admin Office	1	28.7	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Waiting Area	1	35.0	Waiting Room	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + LC	Central Supply and Extract	10L/s/person (26)	5	Balanced	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			WC - Patients	1	3.0	Toilet	28 (see note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			WC - Wheelchair accessible	1	4.5	Toilet	28 (see note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Acute Reporting	1	25.0	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + LC	Central Supply and Extract	10L/s/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Quiet Reporting	1	20.0	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + LC	Central Supply and Extract	10L/s/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Teleradiology / Reporting	1	12.0	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + LC	Central Supply and Extract	10L/s/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Doppler Ultrasound	1	16.0	Diagnostic room	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air + LC	Central Supply and Extract	8	8	Balanced	F7	43	41	0	300	Not Applicable	1000	A	80	Switch / Dimmer	General working plane 1m	See Guidance Notes	1
			Ultrasound Admin Office	1	15.0	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Resuscitation Trolley Bay	1	1.0	Circulation Areas	28 (see note 24)	18	Radiant Panels	TRV Remote Head Adj.	No	None	None	Refer to Guidance Notes	Refer to Guidance Notes	0	G4	43	41	0	300	Not Applicable	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
		RHSC/DCN Main Department Shared	Waiting Play Area	1	10.0	Waiting Room	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + LC	Central Supply and Extract	10L/s/person (26)	5	Balanced	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			Patient Interview Room	1	9.0	Meeting Room	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10L/s/person (26)	4	Balanced	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Dirty Utility	1	9.0	Dirty utility	28 (see note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Store Room	1	20.0	Storage Area Equipment	28	16	Radiant Panels	TRV Remote Head Adj.	No	None	Central General Extract	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Disposal Hold	2	10.0	Disposal Hold	28 (see note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	Not Applicable	0	100	Not Applicable	None	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	Not Applicable
			DSR	1	7.0	DSR	28	18	Adjacent Space Transfer Air	None	No	LC	Central Dirty Extract	0	10	Negative	None	43	Not Applicable	0	100	Not Applicable	None	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	Not Applicable
			IPS Room	1	1.0	IPS Room	Manufacturer Dependant	Manufacturer	Adjacent Space Transfer Air	None	No	LC	None	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			Linen Bay	2	1.5	Linen Bay	28 (see note 24)	16	Adjacent Space Transfer Air	None	No	None	Central Supply and Extract	0	3	Negative	None	43	Not Applicable	0	100	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Photocopy Room	1	6.0	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	10L/s/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
		RHSC MRI/CT (1 MRI Scanner)	MRI Room	1	45.0	Diagnostic room	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	8	8	Balanced	F7	43	41	0	300	Not Applicable	1000	A	80	Switch / Dimmer	General working plane 1m	See Guidance Notes	1
			Control Room - CT/MRI	1	24.0	IT equipment (comms server)	25	18	None	None	Yes	Ceiling Cassette - Chilled Water	Central General Extract	0	2	Negative	None	Not Applicable	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			Equipment Room - MRI	1	16.0	IT equipment (comms server)	25	18	None	None	Yes	Ceiling Cassette - Chilled Water	Central General Extract	0	2	Negative	None	Not Applicable	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			CT Room	1	36.0	Diagnostic room	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	8	8	Balanced	F7	43	41	0	300	Not Applicable	1000	A	80	Switch / Dimmer	General working plane 1m	See Guidance Notes	1
			WC - Wheelchair accessible	1	4.5	Toilet	28 (see note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Changing Cubicles	2	4.0	Changing Facilities	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	4	Positive	G4	43	41	0	100	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Baby/Infant Feeding Room	1	4.0	Common room/staff room/lounge	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	6	8	Negative	G4	43	41	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			Induction Area - 1 place	1	16.0	Consulting Room	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41	0	300	Not Applicable	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
			Recovery Area - 1 place	1	16.0	Consulting Room	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41	0	300	Not Applicable	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
			Waiting Area	1	12.0	Waiting Room	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + LC	Central Supply and Extract	5	5	Balanced	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			Trolley Bay	2	4.0	Trolley bay	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	With circulation	Central Supply and Extract	4	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Adult Waiting Area	1	8.0	Waiting Room	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + LC	Central Supply and Extract	5	5	Balanced	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			WC - Wheelchair accessible & change	1	7.0	Toilet	28 (see note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			WC - Wheelchair accessible	1	4.5	Toilet	28 (see note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Accessible Changing Cubicle	2	6.0	Changing Facilities	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	4	Positive	G4	43	41	0	100	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
		DCN CT	CT Room	1	36.0	Diagnostic room	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	8	8	Balanced	F7	43	41	0	300	Not Applicable	1000	A	80	Switch / Dimmer	General working plane 1m	See Guidance Notes	1
			Control Room - CT	1	16.0	IT equipment (comms server)	25	18	None	None	Yes	Ceiling Cassette - Chilled Water	Central General Extract	0	2	Negative	None	Not Applicable	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			Preparation Room	1	14.0	Consulting Room	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41	0	300	Not Applicable	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
			Injection Room	1	12.0	Consulting Room	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41	0	300	Not Applicable	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
			Changing Cubicles	2	4.0	Changing Facilities	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	4	Positive	G4	43	41	0	100	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Inpatient Holding Bays	1	43.2	Circulation Areas	28 (see note 24)	18	Radiant Panels	TRV Remote Head Adj.	No	None	None	Refer to Guidance Notes	Refer to Guidance Notes	0	G4	43	41	0	300	Not Applicable	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Toilets	1	3.0	Toilet	28 (see note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Disabled Toilet	1	4.5	Toilet	28 (see note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
		DCN MRI (NHS 2 Scanners)	MRI Room	2	45.0	Diagnostic room	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	8	8	Balanced	F7	43	41	0	300	Not Applicable	1000	A	80	Switch / Dimmer	General working plane 1m	See Guidance Notes	1
			Control Room - MRI	1	24.0	IT equipment (comms server)	25	18	None	None	Yes	Ceiling Cassette - Chilled Water	Central General Extract	0	2	Negative	None	Not Applicable	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			Equipment Room	2	16.0	Storage Area Equipment	28 (see note 24)	16	Radiant Panels	TRV Remote Head Adj.	No	LC	Central General Extract	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Preparation Room	1	14.0	Consulting Room	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41	0	300	Not Applicable	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
			Injection Room	1	12.0	Consulting Room	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	3	3	Balanced	G4	43	41	0	300	Not Applicable	1000	A	80	Switch	Bed / Trolley 1.45m	See Guidance Notes	1
			Sub Wait	1	6.0	Waiting Room	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + LC	Central Supply and Extract	5	5	Balanced	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			Changing Cubicles	6	4.0	Changing Facilities	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	4	Positive	G4	43	41	0	100	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Recovery Bays	1	8.0	Circulation Areas	28 (see note 24)	18	Radiant Panels	TRV Remote Head Adj.	No	None	None	Refer to Guidance Notes	Refer to Guidance Notes	0	G4	43	41	0	300	Not Applicable	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Toilets	1	3.0	Toilet	28 (see note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Disabled Toilet	1	4.5	Toilet	28 (see note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable

Dept Code	Dept Name	Department Sub Group	Room Name	Qty	Area (m2)	Room Function	Temperature		Heating		Cooling Present	Cool ing Typ	Ventilation				Safety temperatures		Safety Notes	Lighting						Notes	Medical Location Group
							Design Maximum	Design Minimum deg C	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		
		DCN University Research Scanner	MRI Room	1	45.0	Diagnostic room	25	18	Warm Air - Reheat Battery	BMS Adjustable Sensor	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	8	8	Balanced	F7	43	41	0	300	Not Applicable	1000	A	80	Switch / Dimmer	General working plane 1m	See Guidance Notes	1
			Control Room - MRI	1	24.0	IT equipment (comms server)	25	18	None	None	Yes	Ceiling Cassette - Chilled Water	Central General Extract	0	2	Negative	None	Not Applicable	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			Equipment Room	1	16.0	MRI computer equipment	28 (see note 24)	16	Radiant Panels	TRV Remote Head Adj.	No	LC	Central General Extract	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Server Room	1	6.0	IT equipment (comms server)	25	18	None	None	Yes	Ceiling Cassette - Chilled Water	Central General Extract	0	2	Negative	None	Not Applicable	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			Data Store	1	6.0	Storage Area Equipment	28 (see note 24)	16	Radiant Panels	TRV Remote Head Adj.	No	None	Central General Extract	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Equipment Store	1	6.0	Storage Area Equipment	28 (see note 24)	16	Radiant Panels	TRV Remote Head Adj.	No	None	Central General Extract	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			University Staff Office	1	10.0	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air +CB	Central Supply and Extract	10L/s/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
		Controlled Area Shared Space	Store Room	1	20.0	Storage Area Equipment	28 (see note 24)	16	Radiant Panels	TRV Remote Head Adj.	No	None	Central General Extract	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			DSR	1	7.0	Dirty utility	28 (see note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Dirty Utility	1	9.0	Dirty utility	28 (see note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			IPS Room	1	3.0	IPS Room	Manufacturer Dependant	Manufacturer Dependant	Adjacent Space Transfer Air	None	No	None	None	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			Clean Utility	1	10.0	Clean Utility	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply Air	6	0	Positive	G4	43	41	0	150	Not Applicable	None	A	80	Presence detection	General working plane 1m	See Guidance Notes	Not Applicable
			Staff WC	1	3.0	Toilet	28 (see note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
		Staff Accommodation	Male Staff Changing and Lockers	1	27.0	Changing Facilities	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	4	Positive	G4	43	41	0	100	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Female Staff Changing and Lockers	1	65.0	Changing Facilities	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	4	Positive	G4	43	41	0	100	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Staff WC	2	3.0	Toilet	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Resource Room/Library	1	39.0	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	10L/s/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
		Office Space	Consultant Office (5 person)	1	20.5	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Consultant Office (5 person)	2	20.5	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Registrars Office (5 desks)	1	20.5	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Superintendent/PACS Manager/Radiographers/Nursing Office	1	28.7	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Meeting Room - 6 person	1	9.0	Meeting Room	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10L/s/person (26)	4	Balanced	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Meeting Room - 4 person	2	6.0	Meeting Room	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Ceiling Cassette - Chilled Water	Central Supply and Extract	10L/s/person (26)	4	Balanced	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable

Notes

a) **Linen Bay recess to be treated as part of room.**
b) **Mobile Equipment Bay Recess to be treated as part of room**
c) **Ressuc Trolley Area Recess to be treated as part of room**
d) **Consult Exam Room - note 10ac/hr not allowed for unless room title listed as Treatment Room.**
e) **Reception & Waiting Combined**
f) **Internal Temperatures should not exceed 28 deg C (db) for more than 50hrs per year**
g) **Offices assumed to have openable windows without 100mm restrictors for natural ventilation .**
h) **Staff Rest assumed to have openable windows without 100mm restrictors for natural ventilation and occupancy factor of 0.8.**

R1 - R2 Office / Admin Support Services

Dept Code	Dept Name	Department Sub Group	Room Name	Qty	Area (m2)	Room Function	Temperature		Heating		Cooling Present	Coolin g Type	Ventilation				Safety temperatures		Safety Notes	Lighting						Notes	Medical Location Group
							Design Maximum deg C	Design Minimum deg C	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		
R1	Clinical / Management Suite	Second Floor Space	2nd Floor Desks	1	234	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			2nd Floor Desks	1	143.5	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			2nd Floor Desks	1	180.4	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			2nd Floor Desks	1	221.4	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			2nd Floor Desks	1	69.7	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			2nd Floor Desks	1	147.6	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			2nd Floor Desks	1	180.4	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Meeting Room - 4 person	7	6.0	Meeting room	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air +LC	Central Supply and Extract	10L/s/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Meeting Room - 6 person	2	9.0	Meeting room	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + LC	Central Supply and Extract	10L/s/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Dictation/ 1:1/Phone Booth	18	4.2	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			WC - Wheelchair Accessible	2	4.5	toilet	28 (see note 24)	18	Radiant Panels	TRV Remote Head Adj.	Yes	none	Central Supply and Extract	0	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			WC - Staff (Male)	1	17.0	toilet	28 (see note 24)	18	Radiant Panels	TRV Remote Head Adj.	Yes	none	Central Supply and Extract	0	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			WC - Staff (Male)	1	11.0	toilet	28 (see note 24)	18	Radiant Panels	TRV Remote Head Adj.	Yes	none	Central Supply and Extract	0	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			WC - Staff (Female)	1	18.0	toilet	28 (see note 24)	18	Radiant Panels	TRV Remote Head Adj.	Yes	none	Central Supply and Extract	0	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			WC - Staff (Female)	1	21.0	toilet	28 (see note 24)	18	Radiant Panels	TRV Remote Head Adj.	Yes	none	Central Supply and Extract	0	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Store (Clinical)	4	6.0	store	28 (see note 24)	18	Radiant Panels	TRV Remote Head Adj.	Yes	none	Central Supply and Extract	0	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Beverage Bay	3	3.0	Beverage bay	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	0	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Printer/Photocopier Room	4	6.0	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	10L/s/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Staff Room (2nd floor)	1	24.0	Staff room	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			DSR	2	7.0	DSR	28 (see note 24)	18	Radiant Panels	TRV Remote Head Adj.	Yes	LC	Central Supply and Extract	0	0	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Disposal Hold (small)	1	4.0	disposal	28 (see note 24)	18	Radiant Panels	TRV Remote Head Adj.	Yes	none	Central Supply and Extract	0	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
		4th Floor Space	4th Floor Desks	1	213	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Meeting Room - 4 person	1	6.0	Meeting room	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + LC	Central Supply and Extract	10L/s/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Meeting Room - 6 person	1	9.0	Meeting room	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + LC	Central Supply and Extract	10L/s/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Dictation/ 1:1/Phone Booth	4	4.2	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	10L/s/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Management/Conference Room	2	26.0	Meeting room	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + LC	Central Supply and Extract	10L/s/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			WC - Wheelchair Accessible	1	4.5	toilet	28 (see note 24)	18	Radiant Panels	TRV Remote Head Adj.	Yes	none	Central Supply and Extract	0	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			WC - Staff (Male)	1	8.0	toilet	28 (see note 24)	18	Radiant Panels	TRV Remote Head Adj.	Yes	none	Central Supply and Extract	0	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			WC - Staff (Female)	1	11.0	toilet	28 (see note 24)	18	Radiant Panels	TRV Remote Head Adj.	Yes	none	Central Supply and Extract	0	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Store(Management)	1	6.0	store	28 (see note 24)	18	Radiant Panels	TRV Remote Head Adj.	Yes	none	Central Supply and Extract	0	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Store(Management)	1	10.0	store	28 (see note 24)	18	Radiant Panels	TRV Remote Head Adj.	Yes	none	Central Supply and Extract	0	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Beverage Bay	1	3.0	Beverage bay	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	4	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Printer/Photocopier Room	1	6.0	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	10L/s/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Staff Room (4th floor)	1	12.0	Staff room	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			DSR	1	7.0	DSR	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	0	0	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Disposal Hold (small)	1	4.0	disposal	28 (see note 24)	18	Radiant Panels	TRV Remote Head Adj.	Yes	none	Central Supply and Extract	0	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
R2	Health Records	NA	Receipt / Dispatch Counter	1	6.0	Reception	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply Air	10L/s/person (26)	0	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Trolley Area	1	6.0	Circulation Equipment Storage Bays	28 (see note 24)	16	Adjacent Space Transfer	None	No	None	Central General Extract	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			RHSC Office - 3 Person	1	15.0	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			RHSC & DCN Records Library (160,000 records)	1	368.0	Storage Area Equipment	28 (see note 24)	16	Radiant Panels	TRV Remote Head Adj.	No	None	Central General Extract	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Assistant Health Records Manager / Supervisors	1	20.0	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			WC Staff	1	3.0	Toilet	28 (see note 24)	18	Adjacent Space Transfer	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			RHSC / DCN Office - 17 Person	1	69.7	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air + CB	Central Supply and Extract	10L/s/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable

Notes

a) Linen Bay recess to be treated as part of room.
b) Mobile Equipment Bay Recess to be treated as part of room
c) Ressuc Trolley Area Recess to be treated as part of room
d) Consult Exam Room - note 10ac/hr not allowed for unless room title listed as Treatment Room.
e) Reception & Waiting Combined
f) Internal Temperatures should not exceed 28 deg C (db) for more than 50hrs per year
g) Offices assumed to have openable windows without 100mm restrictors for natural ventilation .
h) Staff Rest assumed to have openable windows without 100mm restrictors for natural ventilation and occupancy factor of 0.8.

S1 - S7 Combined Facilities / Infrastructure Support Services

Dept Code	Dept Name	Department Sub Group	Room Name	Qty	Area (m2)	Room Function	Temperature		Heating		Cooling Present	Cooling Type	Ventilation					Safety temperatures		Safety Notes	Lighting							Notes	Medical Location Group
							Design Maximum deg C	Design Minimum deg C	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		
S1	Kitchen	NA	Receipt Bay	1	3.0	Circulation Areas	28 (see note 24)	18	Radiant Panels	TRV Remote Head Adj.	No	None	None	Refer to Guidance Notes	Refer to Guidance Notes	0	G4	43	41	0	300	Not Applicable	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
		General Storage	Dry Goods	1	9.0	Storage Area Equipment	28 (see note 24)	16	Radiant Panels	TRV Remote Head Adj.	No	None	Central General Extract	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Kitchen Equipment	1	6.0	Storage Area Equipment	28 (see note 24)	16	Radiant Panels	TRV Remote Head Adj.	No	None	Central General Extract	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Refuse	1	10.0	Storage Area Equipment	28 (see note 24)	16	Radiant Panels	TRV Remote Head Adj.	No	None	Central General Extract	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Disposables / Detergent	1	6.0	DSR	28 (see note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	Not Applicable	0	100	Not Applicable	None	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	Not Applicable
		Cold Stores	Veg Store	1	6.0	Ward Kitchen	Catering design	Catering design	Adjacent Space Transfer Air	None	Yes	Specialist cooling	Central General Extract	0	6	Negative	G4	Not Applicable	60	0	300	Not Applicable	None	A	80	Switch	General working plane 1m	See Guidance Notes	Not Applicable
			Raw Meat	1	7.0	Ward Kitchen	Catering design	Catering design	Adjacent Space Transfer Air	None	Yes	Specialist cooling	Central General Extract	0	6	Negative	G4	Not Applicable	60	0	300	Not Applicable	None	A	80	Switch	General working plane 1m	See Guidance Notes	Not Applicable
			Dairy Store	1	9.0	Ward Kitchen	Catering design	Catering design	Adjacent Space Transfer Air	None	Yes	Specialist cooling	Central General Extract	0	6	Negative	G4	Not Applicable	60	0	300	Not Applicable	None	A	80	Switch	General working plane 1m	See Guidance Notes	Not Applicable
			Freezer	2	5.0	Ward Kitchen	Catering design	Catering design	Adjacent Space Transfer Air	None	Yes	Specialist cooling	Central General Extract	0	6	Negative	G4	Not Applicable	60	0	300	Not Applicable	None	A	80	Switch	General working plane 1m	See Guidance Notes	Not Applicable
		Kitchen	Preparation/Cooking Area	1	110.0	Kitchen (Commercial)	Catering design	Catering design	None	None	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	DW 172 Dependant	DW 172 Dependant	Negative	G4	43	60	0	500	Not Applicable	None	A	80	Switch	General working plane 1m	See Guidance Notes	Not Applicable
			Diet Prep Area	1	12.0	Ward Kitchen	Catering design	Catering design	Radiant Panels	TRV Remote Head Adj.	Yes	Specialist cooling	Central General Extract	0	6	Negative	G4	Not Applicable	60	0	300	Not Applicable	None	A	80	Switch	General working plane 1m	See Guidance Notes	Not Applicable
			Diet Store	1	5.0	Storage Area Equipment	Catering design	Catering design	Radiant Panels	TRV Remote Head Adj.	No	None	Central General Extract	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Pan Wash	1	12.0	Ward Kitchen	28	18	Adjacent Space Transfer Air	None	Yes	Ceiling Cassette - Chilled Water	Central General Extract	0	6	Negative	G4	Not Applicable	60	0	300	Not Applicable	None	A	80	Switch	General working plane 1m	See Guidance Notes	Not Applicable
			Temperature Controlled Sandwich Prep	1	18.0	Ward Kitchen	Catering design	18	Radiant Panels	TRV Remote Head Adj.	Yes	Specialist cooling	Central General Extract	0	6	Negative	G4	Not Applicable	60	0	300	Not Applicable	None	A	80	Switch	General working plane 1m	See Guidance Notes	Not Applicable
			Weighing	1	7.0	Ward Kitchen	Catering design	Catering design	Radiant Panels	TRV Remote Head Adj.	Yes	Specialist cooling	Central General Extract	0	6	Negative	G4	Not Applicable	60	0	300	Not Applicable	None	A	80	Switch	General working plane 1m	See Guidance Notes	Not Applicable
			Clean Trolleys Park	1	21.5	Circulation Equipment Storage Bays	28	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Bakery Preparation	1	13.0	Ward Kitchen	Catering design	Catering design	Adjacent Space Transfer Air	None	Yes	Specialist cooling	Central General Extract	0	6	Negative	G4	Not Applicable	60	0	300	Not Applicable	None	A	80	Switch	General working plane 1m	See Guidance Notes	Not Applicable
		Return Area	Returned Trolleys	1	25.0	Ward Kitchen	28	18	Adjacent Space Transfer Air	None	Yes	Ceiling Cassette - Chilled Water	Central General Extract	0	6	Negative	G4	Not Applicable	60	0	300	Not Applicable	None	A	80	Switch	General working plane 1m	See Guidance Notes	Not Applicable
			Trolley Wash Area	1	6.0	Ward Kitchen	28	18	Adjacent Space Transfer Air	None	Yes	Ceiling Cassette - Chilled Water	Central General Extract	0	6	Negative	G4	Not Applicable	60	0	300	Not Applicable	None	A	80	Switch	General working plane 1m	See Guidance Notes	Not Applicable
		Offices	Office (5 person)	1	20.5	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air +CB	Central Supply and Extract	10L/s/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
		Staff Accommodation	Female Staff Changing inc Shower	1	13.0	Circulation Areas	28	18	Radiant Panels	TRV Remote Head Adj.	No	None	None	Refer to Guidance Notes	Refer to Guidance Notes	0	G4	43	41	0	300	Not Applicable	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Male Staff Changing inc Shower	1	10.0	Changing Facilities	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	4	Positive	G4	43	41	0	100	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Staff Room	1	8.0	Common room/staff room/lounge	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air +CB	Central Supply and Extract	10L/s/person (26)	8	Negative	G4	43	41	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			DSR	1	7.0	Toilet	28 (see note 24)	18	Adjacent Space Transfer Air	None	No	LC	Central Dirty Extract	0	10	Negative	None	43	41	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
S2	e-Health Infrastructure	NA	Core Server Room	1	40.0	IT equipment (comms server)	Manufacturer Dependant	Manufacturer Dependant	None	None	Yes	Independent Full Duty Standby cooling with UPS back-up	Central General Extract	2	2	Balanced	None	Not Applicable	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
S3	Domestic Services	NA	Domestic Services Office	1	20.5	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air +CB	Central Supply and Extract	10L/s/person (26)	3	Positive	G4	43	41	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Dictation/ 1:1/Phone Booth	1	4.2	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air +CB	Central Supply and Extract	10L/s/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Sanitary Bins Store	1	6.0	Dirty utility	28 (see note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Bulk Equipment Store	1	10.0	Storage Area Equipment	28 (see note 24)	16	Radiant Panels	TRV Remote Head Adj.	No	None	Central General Extract	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Supplies Store	1	20.0	Storage Area Equipment	28 (see note 24)	16	Radiant Panels	TRV Remote Head Adj.	No	None	Central General Extract	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Linen Pool (Clean)	1	32.0	Linen Bay	28 (see note 24)	16	Adjacent Space Transfer Air	None	No	None	Central Supply and Extract	0	3	Negative	None	43	Not Applicable	0	100	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Linen Pool (Dirty)	1	32.0	Dirty utility	28 (see note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	6	Negative	None	43	60	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
S4	Materials Management	NA	Storage/Holding Area	1	100.0	Storage Area Equipment	28 (see note 24)	16	Radiant Panels	TRV Remote Head Adj.	No	None	Central General Extract	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Porters office	1	12.0	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air +CB	Central Supply and Extract	10L/s/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Office	1	10.0	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air +CB	Central Supply and Extract	10L/s/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Mailroom	1	20.0	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air +CB	Central Supply and Extract	10L/s/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
S5	Central Staff Changing	NA	Female Staff Changing , Shower, WC & Lockers	1	240.0	Changing Facilities	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	4	Positive	G4	43	41	0	100	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Male Staff Changing , Shower, WC & Lockers	1	100.0	Changing Facilities	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	4	Positive	G4	43	41	0	100	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Bay for Token Machine	1	5.0	Circulation Areas	28	18	Radiant Panels	TRV Remote Head Adj.	No	None	None	Refer to Guidance Notes	Refer to Guidance Notes	0	G4	43	41	0	300	Not Applicable	None	A	80	Switch / Dimmer	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			DSR	1	7.0	DSR	28	18	Adjacent Space Transfer Air	None	No	LC	Central Dirty Extract	0	10	Negative	None	43	Not Applicable	0	100	Not Applicable	None	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	Not Applicable
S6	Estates	NA	Workshop (NPD)	1	45.0	Small Workshop	28	18	Radiant Panels	TRV Remote Head Adj.	No	None	Central Supply and Extract	4	6	Negative	G4	43	41	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Workshop (NHSL)	1	30.0	Small Workshop	28	18	Radiant Panels	TRV Remote Head Adj.	No	None	Central Supply and Extract	4	6	Negative	G4	43	41	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			Store	1	30.0	Storage Area Equipment	28 (see note 24)	16	Radiant Panels	TRV Remote Head Adj.	No	None	Central General Extract	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Office	1	15.0	Cellular / Ward Offices	25	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air +CB	Central Supply and Extract	10L/s/person (26)	3	Positive	G4	43	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Desk 0.75 to 0.85m	See Guidance Notes	Not Applicable
			BMS Room	1	10.0	IT equipment (comms server)	25	18	None	None	Yes	Ceiling Cassette - Chilled Water	Central General Extract	0	2	Negative	None	Not Applicable	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			Staff Change	1	15.0	Changing Facilities	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	4	Positive	G4	43	41	0	100	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Staff WC	1	3.0	Toilet	28 (see note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Shower	2	2.5	Bathroom	28 (see note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	0	200	200	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
S7	Restaurant	NA	Restaurant	1	157.0	Eating/Drinking	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air +LC	Central Supply and Extract	10L/s/person (26)	4	Balanced	G4	43	41	0	200	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable
			Storage/Dishwashing	1	25.0	Storage Area Equipment	28 (see note 24)	16	Radiant Panels	TRV Remote Head Adj.	No	None	Central General Extract	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Male WC	2	3.0	Toilet	28 (see note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			DSR	1	7.0	DSR	28	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	Not Applicable	0	100	Not Applicable	None	A	90	Switch	Bed / Trolley 1.45m	See Guidance Notes	Not Applicable
			Female WC	2	3.0	Toilet	28 (see note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
S8	Sterile Support Store	NA	Trolley Holding Bay	1	23	Circulation Equipment Storage Bays	28 (see note 24)	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
S9	Helipad Support	NA	RFFS Changing / Support	1	29	Changing Facilities	28	18	Radiant Panels	TRV Remote Head Adj.	Yes	Comfort Cooled Fresh Air	Central Supply and Extract	5	4	Positive	G4	43	41	0	100	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			Bed Bay	1	3.4	Circulation Equipment Storage Bays	28 (see note 24)	16	Adjacent Space Transfer Air	None	No	None	Central General Extract	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			WC Ambulant	1	3	Toilet	28 (see note 24)	18	Adjacent Space Transfer Air	None	No	None	Central Dirty Extract	0	10	Negative	None	43	41	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable
			RFFS Medical Equipment Store	1	6	Storage Area Equipment	28 (see note 24)	16	Radiant Panels	TRV Remote Head Adj.	No	None	Central General Extract	0	3	Negative	None	43	Not Applicable	0	200	Not Applicable	None	A	80	Presence detection	Floor 0m	See Guidance Notes	Not Applicable

Notes

a) Linen Bay recess to be treated as part of room.
b) Mobile Equipment Bay Recess to be treated as part of room
c) Ressuc Trolley Area Recess to be treated as part of room
d) Consult Exam Room - note 10ac/hr not allowed for unless room title listed as Treatment Room.
e) Reception & Waiting Combined
f) Internal Temperatures should not exceed 28 deg C (db) for more than 50hrs per year
g) Offices assumed to have openable windows without 100mm restrictors for natural ventilation .

T1 Combined plant

Dept Code	Dept Name	Department Sub Group	Room Name	Qty	Area (m2)	Room Function	Temperature		Heating		Cooling Present	Cooling Type	Ventilation					Safety temperatures		Safety Notes	Lighting							Notes	Medical Location Group
							Design Maximum deg C	Design Minimum deg C	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		
T1	Plant	NA	IT Node Rooms	25	9.0	IT equipment (comms server)	25	18	None	None	Yes	Ceiling Cassette - Chilled Water	Central General Extract	0	2	Negative	None	Not Applicable	Not Applicable	0	300	Not Applicable	None	A	80	Switch	Floor 0m	See Guidance Notes	Not Applicable

U1 Shelled Space

Dept Code	Dept Name	Department Sub Group	Room Name	Qty	Area (m2)	Room Function	Temperature		Heating		Cooling Present	Cooling Type	Ventilation					Safety temperatures		Safety Notes	Lighting							Notes	Medical Location Group
							Design Maximum deg C	Design Minimum deg C	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		
U1	Shelled Space	NA	Shelled Space	1	320.0	To Be Confirmed																							

Approach to design and construction

Summary assumptions, clarifications and derogations

C30

Bidders must submit a consolidated schedule of all assumptions, clarifications and qualifications made in respect of their ITPD Bids. Whilst it is encouraged that such references are also made in the appropriate locations throughout Bidders' submissions, it is a mandatory requirement of the ITPD Submission that all such matters are also summarised in a single location.

We understand that it is extremely important to make explicit all assumptions, derogations and clarifications between the parties. This reduces the potential for confusion and increases the clarity of responsibilities throughout both the construction and operational period. Mosaic is confident in our ability to deliver our solution and we are clear on the high standards the Board expect from their long term partner and FM Service Provider.

We have set out below our consolidated summary of assumptions, clarifications and derogations as follows:

- Schedule of derogations against healthcare standards;
- Compliance with Board's Construction Requirements
  - Board's Construction Requirements, Subsections A-C
  - Clinical Specifications, Sub-Section D;
  - Non-Clinical Specifications, Sub-Section E;
- Service Level Specification assumptions, clarifications and qualifications (as D14)
- General assumptions, clarifications and qualifications.

Schedule of derogations against healthcare standards

Please refer to the following documents attached:

- Appendix 1 - RHSC/DCN List of relevant NHS guidance, observations and derogations
- Appendix 2 - RHSC/DCN List of relevant NHS guidance not applicable

Compliance with Board's Construction Requirements

Board's Construction Requirements, Sub-Sections A-C

We confirm that our design solution complies with the Board's Construction Requirements, however, where there are specific areas of this document that we wish to clarify, our clarifications are set out below.

Section	Clause	Mosaic clarifications
General Comment	Boards Comment: Aspirational wording can be agreed and put in italics with a rider that italic text will not form part of the PA – subject to agreement with NHSL	Agreed.
2.2 General Requirements of the Board	The Facilities shall be designed to handle the projected workload.	Add after workload "as set out in the Board's Construction Requirements".
	The Facilities shall incorporate appropriate standards of security, and minimise the potential for exposure to crime and vandalism. Recognising that particularly vulnerable groups will use the Facilities, security will be designed to meet the needs of all patients, visitors and staff. Vulnerable individuals include, but are not exclusive to, young children, mental health patients, and the frail and elderly. The Facilities shall meet the requirements of Secured by Design. In this respect, as part of the planning process, discussions with the Lothian and Borders Police Architectural Liaison team and Special Branch shall take place, and any comments made reflected in the Facilities as appropriate (see paragraph 3.7 of this Sub-Section C for further guidance).	Mosaic will comply with the requirements of Secured by Design as agreed with Police Scotland and the City of Edinburgh Planning Department.
2.3 NHS Requirements		Refer to separate Mosaic list of relevant NHS guidance included within C30.
3.2.2 Light, Colour & Texture	Deep plan spaces may prove necessary in certain circumstances. In such cases, the layout must be relieved by the penetration of daylight and sunlight from adjacent courtyards or roof and light shafts.	Mosaic have endeavoured to maximise the penetration of daylight within the constraints of the mandated elements of the RHSC/DCN design including accompanying schedule of accommodation and room layout drawings, except where functionality dictates this is not appropriate (e.g. theatres, radiology).
3.2.3 Internal Spaces	All internal spaces shall be planned in accordance with the requirements of the Specific Clinical Requirements at Sub-Section D with the appropriate adjacencies and layouts.	Mosaic have developed our design solution to comply with the BCRs including the specific clinical requirements except where the mandated elements of the RHSC/DCN design including accompanying schedule of accommodation and room layout drawings take precedence or as agreed otherwise with the Board at the 1:200 dialogue sessions.
3.6.5 Space Standards	The internal and external space provision shall be equal to or greater than that prescribed in codes of practice regulations and guidance related to hospital buildings.	The mandated elements of the RHSC/DCN design with accompanying schedule of accommodation and room layout drawings will take precedence over NHS/HFS guidance room areas.
	Appropriate space provision shall be made for circulation waiting and sub-waiting space and for the movement of patients pedestrians and the storage and transportation of goods.	The mandated elements of the RHSC/DCN design with accompanying schedule of accommodation and room layout drawings will take precedence over NHS/HFS guidance room areas.
3.7.1 Secured by Design	Project Co shall meet the requirements of "Secured by Design", and in particular the recommendations of the Secured by Design - Hospitals guide.	Mosaic will comply with the requirements of Secured by Design as agreed with Police Scotland and the City of Edinburgh Planning Department.
5.1 Schedule of Life Expectancies	The buildings, including building services components, shall be designed with materials, components and techniques that are readily available, reliable, sustainable and easily maintainable in use. The Board supports buildings constructed using components with proven technology, with high life expectancy, leading to minimum cost in use.	Refer to Mosaic response C22, design life proposals.
	Good Industry Practice for a design life at the Actual Completion Date for the elements listed below shall as a minimum be: d) Drainage and below ground civil engineering infrastructure – 70 years.	Over 225 diameter 70 years 225 diameter or less 40 years
	Good Industry Practice for a design life at the Actual Completion Date for the elements listed below shall as a minimum be: e) External Walls – 70 years.	Masonry / concrete 70 years Curtain walling 25 years
5.3 Thermal Requirements	Project Co shall ensure the buildings' envelopes complies with Section 6 of 2011 Non-domestic Technical Handbook to The Building (Scotland) Amendment Regulations 2010 and the following criteria: c) The building fabric shall include passive design measures to limit summer temperatures to figures given within the Environmental Matrix.	Refer to Mosaic response C8.3 for comments on draft environmental matrix.
5.10 Corridor Widths & Heights	Corridor widths and heights shall satisfy the relevant guidance provided by: d) HBN 00-04.	Refer to Mosaic separate list of relevant NHS guidance included within C30.

Section	Clause	Mosaic clarifications
	The hospital streets are to have a minimum unobstructed width of 3 metres. Other corridor widths shall be as defined by the nature and use of the accommodation. Corridor heights shall be as defined by the nature and use of the accommodation. Main interdepartmental corridors in areas that patients may travel in beds shall be of sufficient width to allow two beds, with any attached equipment, to pass. The corridors width and height shall allow the installation, removal or replacement of clinical and non clinical equipment. Minimum widths and heights shall apply along the whole length of the corridor.	Refer to Mosaic separate list of relevant NHS guidance included within C30.
5.12 Windows	Project Co shall provide all windows with a security rating classification of R3 for manual intervention attack when tested in accordance with BS EN 1627-2011. Glazing and glazing sizes shall be kept to the minimum compatible with the requirements of lighting, surveillance and visibility.	Mosaic design solution is the provision of security rating classification of R3 to areas of the ground floor in accordance with the overall security strategy for the Facilities and to be developed with the Board during Preferred Bidder.
	Where possible all windows shall be designed by Project Co to be cleaned both externally and internally from the inside, unless otherwise agreed by the Board. Project Co shall ensure no portions of windows, either fixed or opening shall come below the level of worktops or desks included in the Schedule Part 11 Equipment Schedule.	Mosaic design solution is for the external of windows to be cleaned from external only, as clinical good practice. ✓
	Project Co shall ensure opening windows are provided with good quality well-fitting seals and shall be capable of opening at the top and bottom of the frame and shall be fitted with restrictors to give a maximum opening of not more that 100mm in normal use. The effect of such restrictors shall be taken into account by Project Co when calculating the effect on efficient and effective natural ventilation requirements for the room. Project Co shall ensure all windows required for ventilation shall be provided with controllable trickle ventilators within the head of the frame or with two stage key lockable handles giving 5 – 10mm ventilation gap. The opening lights of the windows, and any control devices, shall not interfere with the location or operation of blinds or curtains. All windows and fittings shall be compliant with anti-ligature requirements.	Mosaic design solution allows for side hung windows with required restrictor. This allows for natural ventilation. Mosaic anti-ligature provision will be as Board response to dialogue period query ref 022. ✓
	Project Co shall ensure that locking devices, to enable the windows to be released for cleaning purposes, shall be by key or other device such that the locks cannot be released by unauthorised persons.	Mosaic design solution is for the external of windows to be cleaned from external only, as clinical good practice.
5.16 Architectural Hardware	The locking system shall be fully suited across the Facilities and shall interface with swipe card/other entry systems where provided. The locking system shall interface with the Board's existing 'swipe card' or other electronic entry systems currently employed at the RIE Facilities. Particular requirements with respect to electronic door access / security requirements are contained in paragraph 9.19.6.	Details of the Board's existing swipe card awaited.
5.25 Sustainability	The Facilities shall, as far as reasonably practicable, deliver benefits to the environment. Project Co shall: n) Project Co shall comply with the relevant NHS Requirements.	Refer to Mosaic separate list of relevant NHS guidance included within C30.
5.29.2 Work with Radioactive Materials	Unsealed-source therapy also leads to the production of solid items and waste contaminated with radioactivity (e.g. clothing, food remnants, linen etc). Some can be disposed of by disposal or by maceration. The rest will need to be stored by Project Co in a secure shielded store away, from clinical area, until the radioactivity decays to background levels.	In line with the clinical output-based specification and the mandatory design requirements we have provided radioactive waste store ref. G-Q1-025, however, this is located within the department.
6.1 General Requirements	Project Co shall ensure that the design and construction of the civil and structural engineering elements of the buildings and external works meets the following criteria: a) Be fit for their intended purpose.;	Suggest removal as Project Co design responsibility is set out within the Project Agreement (Clause 12.3).
6.1.1 Sewers under the site	Project Co requires to be aware of the Sewers serving the RIE Facilities and other neighbouring properties on and off the Campus Site part of which Sewers are located within part of the Site as shown coloured green on Plan 11 and Project Co shall ensure that: d) Project Co shall be fully responsible for the consequences of failing to comply with these requirements and the losses which may be suffered or incurred by the Board and/or any Board Party and/or Consort and/or any Consort Party as a result of any act or omission of Project Co and/or a Project Co Party exercising any of the rights and/or performing any of its obligations and/or failing to do so and the provisions of Clause [49.1.6] of the Project Agreement shall apply.	Suggest removal as indemnities are included within the Project Agreement (Clause 49).
6.1.2 Gas Pipe under the site	Project Co requires to be aware of the possibility of the gas pipe serving the RIE Facilities part of which may be located within part of the Site and Project Co shall ensure that: d) Project Co shall be fully responsible for the consequences of failing to comply with these requirements and the losses which may be suffered or incurred by the Board and/or any Board Party and/or Consort and/or any Consort Party as a result of any act or omission of Project Co and/or a Project Co Party exercising any of the rights and/or performing any of its obligations and/or failing to do so and the provisions of Clause [49.1.6] (Indemnities) of the Project Agreement shall apply.	Suggest removal as indemnities are included within the Project Agreement (Clause 49).

Section	Clause	Mosaic clarifications
6.8 Fire and Corrosion Protection	Project Co shall provide fire protection to all elements of structure and ensure fire ratings are in compliance with space use and the more onerous of Scottish Technical Standards / the Board's requirements. When the more onerous requirement is to be used the Board will have the right to decide what constitutes the more onerous requirement.	After "all", add "necessary", as per the Mosaic design solution.
8 Mechanical & Electrical Engineering Requirements	Project Co shall provide the Works to comply with the Environmental Matrix.	Refer to Mosaic response C8.3 for comments on environmental matrix.
8.5.3 Air Quality (i) Internal	Particular attention shall be given to the risk of cross infection within the hospital / healthcare environment and shall be such as to minimise the spread of infection. Project Co shall demonstrate through submission of information to the Board as Reviewable Design Data for review by the Board in accordance with Schedule Part 8 (Review Procedure) and clause 12.6 of the Project Agreement, how the proposals facilitate the control and management of an outbreak and spread of infectious diseases, and in particular shall comply with the requirements of SHTM 03-01 (Ventilation in Healthcare Premises). In order to reduce cross-contamination, the design of the Facilities shall incorporate 100% fresh air supply systems only.	Where thermal wheels have been utilised as in agreement with the Board these will have a small amount of air leakage which is not considered significant and provides greater energy transfer efficiency as per SHTM 03-01 part A paragraph 4.144.
8.7.1 Building Management Systems & Controls vii. System Selection	Project Co shall ensure that all materials and equipment used are standard components regularly manufactured for this and/or other systems and not custom designed especially for this project. Project Co shall ensure that all systems and components have been thoroughly tested and proven in actual use for at least two years within other NHS establishments of a similar size and complexity to this one. All components and/or systems shall be type tested and carry the CE mark.	As agreed at dialogue, Mosaic has incorporated innovative solutions within our bid submission some of which will not have been proven in actual use for at least two years within other NHS establishments, however, these solutions are recognised and regularly utilised in other sectors.
8.7.8 Mechanical Ventilation & Air Conditioning	Project Co shall incorporate provision to include humidification to the AHU plant at a future date.	Mosaic has clarified within C8 our humidification provision. This provision only applies to operating theatre AHUs.
8.7.16 Special Water Services		We do not believe that there is a special water services requirement within the Project, any requirement for distilled or de-ionised water will be provided by NHSL through local containerised system.
8.7.22 Ventilation & Air Conditioning of Isolation Rooms	Project Co shall provide air conditioning systems to Isolation Rooms to support the Board's Construction Requirements of this Schedule Part 6 Section 3 Sub- Section D (Specific Clinical Requirements), NHS Standard Infection Control Precautions (SICPs) and maintaining strict positive / negative pressure differentials.	The isolation rooms will be provided with ventilation in accordance with HBN 4 supplement 1 in relation to pressure regime that sets out pressurisation of lobbies in order to prevent the risk of cross infection from or into the isolation room. Strict pressure differences are applied.
8.14 Service Routes	All service voids, risers and other spaces shall allow for installation of additional services and shall provide a defined reserve of a minimum 25% of useable area through routing cross sectional area. All isolating valves and other items requiring particular access shall be positioned at convenient locations with permanent access provision and which do not impede execution of the clinical functions or and/or provision of the Clinical Services in the space.	Mosaic has clarified within C8 our spare capacity provision.
8.15 Commissioning & Testing	All buildings, services and equipment shall be commissioned by Project Co to ensure that all they are compliant with the quality and performance specifications, including manufacturer's recommendations, and that all systems operate to the Board's satisfaction.	Delete "to the Board's satisfaction" and replace with "as defined in the Board's Construction Requirements".
9.5 Responsibilities Matrix	Responsibilities for the delivery of aspects of the various ICT systems are set out in the table below.	Mosaic has provided an enhanced responsibilities matrix within C15 in accordance with dialogue discussions.
9.6.1 Cabling	All cabling installed shall allow for a minimum of 25% spare capacity.	25% spare capacity has been allowed on the main containment routes for additional cabling.
9.7 NHS Lothian Server and NHS Lothian Node Rooms	Project Co shall provide 2 x 200 pair copper cables between the Facilities Server Rooms and each Node Room by diverse routes.	Mosaic has provided 1 x 200 pair via diverse routes between new MERs and the retained estates server room and 1 x 100 pair via diverse routes between new MERs and node rooms (refer C15).
9.8 Wireless Network	Project Co shall provide 100% wireless network coverage throughout the Facilities.	Mosaic will work to provide 100% wireless network however this will not be achievable in some clinical areas such as MRI rooms due to the nature of the environment and will keep this under continuous review during PB to evaluate the effect on the design.
9.15 Video Telemetry	Project Co shall provide a video telemetry system within the Facilities to meet the requirements of the Board's Construction Requirements in this Schedule Part 6 Section 3 Sub-Section D (Specific Clinical Requirements) in the rooms identified. The video telemetry system shall be provided over fibre optic connections between the relevant departments.	Mosaic will provide the infrastructure for hardware provided by the Board.

Section	Clause	Mosaic clarifications
9.17.6 Security Access Control	The system installed by Project Co shall be separate from the Board's data network.	Security access control will be IP based and therefore across a separate Project Co data network.
9.17.7 External CCTV	The system installed by Project Co shall be separate from the Board's data network.	CCTV will be IP based and therefore across a separate Project Co data network.
9.17.8 Internal CCTV	The system installed by Project Co shall be separate from the Board's data network.	CCTV will be IP based and therefore across a separate Project Co data network.

Clinical Specification, Subsection D

Where ITPD Vol 1 Appendix E and the subsequent amendments to it require compliance with the Reference Design Elements our proposal has been developed to comply. In taking this approach we anticipate that the Mosaic ITPD proposal will be incorporated within the Project Agreement and the Reference Design Elements will not.

We would propose to use the reference design as an informative design guide during the contract finalisation period when developing the design solution for incorporation into the Project Agreement but it will not take precedence over our ITPD proposals

We have developed our design solution to comply with the BCRs including the specific clinical requirements and specific non-clinical requirements except where ITPD Vol 1 Appendix E take precedence. For example while the specific clinical specifications may indicate levels of activity we have assumed that the mandatory elements of the reference design (1:200 plans and schedule of accommodation) satisfies the BCRs.

Non-Clinical Specification, Subsection E

We confirm that our design solution complies with the Non-Clinical Specification, however, where there are specific areas of this document that we wish to clarify, those clarifications are set out below.

Section	Clause	Mosaic clarifications
Delivery Area, 4.2 Accommodation Requirements	This area shall be designed to accommodate a turning circle to facilitate ease of movement of vehicles without the need for backing into the lorry bay. The Board will provide a reversing assistant to manage this area. The area shall include in the service yard.	Turning circle not required, service yard layout allows for safe manoeuvring of vehicles – refer to 1:200 layouts.
Delivery Area, 5.1 General Requirements	It is essential the delivery area: Shall be separate from and not overlooked by patient / public areas, as the service area will be noisy.	Delivery area located under a canopy – refer to 1:200 layouts.
Catering, 1.1 Scope of Service	The catering service will be responsible for: The supply of all consumables and equipment.	Appears to conflict with 1.2 Specific Exclusions below? Project Co will provide equipment in accordance with equipment list within C11.
Catering, 1.2 Specific Exclusions	Project Co will procure, install, maintain and replace all Catering equipment.	See comment above.
Catering, 2.2 Operating Hours	Patient catering outside of these hours will be provided on the wards, with snacks and meals prepared by the kitchen in advance and delivered to the clinical department within the above hours, or prepared at ward level, for example for missed meals. Alternatively a more substantial meal could be made available out of hours and micro-waved at ward level.	Ward kitchens will be capable of receiving, storing and re-heating meals prepared by the kitchen.
Catering, 2.3 Service Trends	The Facilities shall be designed to be capable of incorporating any future developments in food handling procedures and associated changes in legislation that may impact on the service, e.g. dietary requirements, temperature control, delivery segregation.	The design of the Facilities will be developed with specialist design input and whilst it will be flexible it will be based on current food handling procedures and legislation.
Catering, 4.2 Accommodation Requirements	This area shall be designed to accommodate the following: A direct and independent entrance from the service area that is clearly signposted. This shall be secured and lockable. This is the main receipt and dispatch route for the catering service and may become congested during certain times of the day.	The route to the catering receipt and distribution area is shared in a similar way to the reference design – refer to 1:200 layouts.
Materials Management, 5.1 General Requirements	It is essential the external service area: Shall be separate from and not overlooked by patient / public areas, as the service area will be noisy.	Delivery area located under a canopy – refer to 1:200 layouts.
Linen, 3.2 Operational Processes	Soiled linen is collected from the ward / department's disposal hold by porters and taken via a dirty service lift to the linen pool (dirty) area, where it is picked up by the NHS Lothian Laundry Service.	Refer to disposal hold locations and FM lift strategy as shown on 1:200 layouts.
Domestic Service, 1.2 Specific Exclusions	The following are excluded from the Board's domestic service and will be performed by Project Co: Cleaning of vents and extractors;	External cleaning by the Board, internal cleaning by Project Co.
Domestic Service, 2.3 Service Trends	The Facilities shall be designed to accommodate as far as possible any future developments in:	The Facilities have been designed to meet current standards and good industry practice.
Domestic Service, 6.1 General Requirements	Project Co shall ensure there are sufficient and appropriately sited electrical sockets to assist the Board to facilitate the cleaning procedures required in wards, departments, stairways and public areas.	Electrical sockets will be provided and sited in accordance with good industry practice.

Service level specification assumptions, clarifications and qualifications

The following items are areas where Mosaic and NHS Lothian have had the opportunity to discuss, through the dialogue process, and these items represent the parties' agreed position.

- SLS FM 05 – We note the obligation to develop and maintain a building user guide on behalf of the Board for use by staff and Board employees, the content and style of which shall be approved by the Board on a minimum of an annual basis (and at any time when circumstances change). The content and style will be approved with the Board acting reasonably
- SLS FM14 – Our corporate incident reporting system will not interface with the NHS IR1 system. However, we agree to using the NHSL reporting system, if required, providing we are given appropriate and free of charge access to the system and training
- SLS FM 15 – We accept that we will not normally undertake any work in a functional area outside of the agreed access times without prior written consent from the Board Representative. However in emergency situations, such as, but not limited to, floods or fire or to enable a response or rectification to a helpdesk task raised by the Board, we would expect to be given the necessary access and permitted to undertake the required work
- SLS FM 20 – We fully understand and accept that we have an obligation to release staff for mandatory Board training and shall, at our own expense, provide suitably trained replacement staff for those attending such training. However we assume that we are able to choose from a good selection of dates and or times to enable the spread of such mandatory training, so as to minimise costs to all parties and to ensure we can maintain our Service obligations at all times
- SLS FM 21 – We assume that the Board would agree that the obligation in relation to this requirement for staff and Board employees pertains to our Service obligations only. We assume that the delivery of the induction programme will be through an electronic presentation pack issued to the Board. We have not allowed for any staff or costs to physically undertake any induction training for Board employees, other than through the supply of electronic training material for the Board to utilise for same
- SLS FM 38 – We will provide the Board with the relevant helpdesk manual or presentation and this will be through an electronic pack issued to the Board. We have not included any staff or costs to physically undertake any helpdesk training for Board employees, other than through the supply of electronic training material for the Board to utilise for same. Additionally, clinical commissioning we would provide the Board with training courses of approximately one hour duration for Board 'train the trainers' to cascade information as necessary
- SLS FM 43 – Our technical solution does not require the use of paper based systems. Project Co utilise the Board's Wi-Fi and our electronic devices and touchscreens to capture and report live response, rectification and all other information pertinent to the work order. Often remedial work takes place in plantrooms and it is not always practicable or necessary that we attend the location where the end user is experiencing the fault. We have assumed that our electronic solution, complete with our touchscreen dashboards will provide the Board with the necessary insight into work order completion and records of same
- SLS FM 45 – We have agreed that the obligation to answer all telephone calls each month is not possible and therefore it was agreed that this SLS FM45 shall be replaced to read
  - All service requests to helpdesk are: In the case of a telephone call, 85% of all calls shall be answered by a human operator within 15 seconds. 100% of all calls shall be answered within 120 seconds. In the case of emails, logged onto the helpdesk within 30 minutes
  - Reports relating to maintenance issues that are outwith the scope of the Project Operations must be passed to the Board's estates department electronically within 30 minutes of the receipt by the helpdesk and out of hours by telephone to the Board estates on-call staff
- SLS FM 46 – Project Co shall keep the helpdesk user informed should delays occur with executing the response or rectification of a service event. We assume that our electronic touchscreen solution will provide the Board with the necessary information 'live' to satisfy this obligation
- SLS FM 49 – Project Co will implement a log-on registration process for all Board employees who require access to the helpdesk. During the registration process it shall be a mandatory requirement for each Board employee to provide an active email address and inform the helpdesk of any subsequent changes. Project Co shall, each quarter, distribute a web link to allow participation in the customer satisfaction survey to the email addresses of all registered Board employees. Where the Board provide Mosaic with a generic ward or department email address, then it is agreed that this will be accepted as representing all the Board employees from the ward or department concerned
- SLS FM 50 – Project Co will aim to achieve above 90% customer satisfaction and where we do not do so, we will develop and implement an action plan. Once the action plan is implemented the parties agree this obligation is met.
- SLS FM 55 – We would assume that the Board would want Project Co to undertake the necessary checks and inform the Board that the invoice matches the consumption data and provide this information to the Board in the monthly performance report. Where any queries arise we would expect these to be responded to within two business days to meet this obligation
- SLS FM 64 – Window cleaning is under consideration and therefore at this stage is not included in our solution and price. However, we can confirm that the cost of providing window cleaning is set out in D13 as an option
- SLS FM71 – The ratchet of repeated failure should apply to failures that are caused by the same root cause. The current drafting could be interpreted to be failed several times for different causes. We would propose that any faults associated with the same root cause would trigger Clause 5 Schedule Part 14 Repeated Failures. However, where a fault does not represent the same root cause then we propose that Clause 5 Schedule Part 14 Repeated Failures does not apply
- SLS Appendix B Service quality standards – window cleaning

The glazing shall be cleaned to the standard detailed in the service quality standards. We can only accept this at the time of the quarterly clean and therefore any deterioration in between the quarterly cleans should be deemed as acceptable.

At the time of cleaning,

- Internal and external panes of glazed areas of the building envelope shall be visibly clean and smear-free with no dust, dirt, debris, adhesive tape or spillages or blood and body substances. They should have a uniform shine
- All external glazed surfaces of the building envelope shall be visibly clean and smear free and free from dirt and debris. They should have a uniform shine appearance.
- External furniture and children's play equipment shall be free from structural cracks
- External furniture and children's play equipment shall be free from all but minor surface blemishes and due wear and tear.

General assumptions, clarifications and qualifications

The following items provide a consolidated summary of Mosaic's general assumptions, clarifications and qualifications within our proposal where not included above:

C1Stakeholder requirements

- Specifically, we would highlight the following elements which have been embedded in our bid as a means of continuing to be at the forefront of design for HAI: TBC – Janette to check HTM71
  - Introduction of storage facilities throughout the building which is compliant with HTM71 rather than HTM63

C6 Wayfinding and signage

- Wayfinding signage will be colour coded to contrast with the dark grey background of the signage while the hue of each colour is sufficiently different from the others to help those with visual impairment to differentiate between the signs. Colour elicits an emotional response from the viewer and thus each colour has been carefully assigned based on its inherent associations *(Competitive Dialogue Meeting 5 - Design and Construction Item 3.8 NHSL confirmed a derogation would be required for the proposed change in colour of the signage, Mosaic to include in the schedule of derogations)*

C8 M&E Engineering design proposals

- Ventilation strategy
  - The Board's environmental matrix defines the design temperature of inpatient bedrooms as 25ºC and following dialogue meetings this has been confirmed as the Board's aspiration in all cases including in the patient hotel. This temperature criterion is included as the basis of the engineering strategy
  - The use of fan coils is not preferred in a clinical environment due to noise, draughts and potential infection risk. Therefore our solution for patient bedrooms is to use terminal cooling devices in the form of chilled beams which is a widely accepted as an effective, energy efficient method of cooling. In order to maximise energy efficiency the air flow rate should be based on the calculated flow to suit occupancy and provide the required cooling. Our study had resulted in a lower air flow of 4 air changes/hr which has been agreed in dialogue meeting although lower than specified in SHTM 03, and the addition of terminal cooling achieves the required environmental control. This will result in a similar air flow to the provision of four air changes per hour included in the reference design but with the additional benefit of terminal heating/cooling via the beam. The same strategy will be applied to other areas such as consult/exam rooms where effective temperature control will be difficult with a natural ventilation solution and the benefit of local control will be advantageous.
- Uninterruptable power supply (UPS) strategy
  - It is proposed that critical small power within Group 2 locations be served by isolated power supplies connected through two parallel redundant uninterruptible power supply (UPS) systems (Refer to DSSR Drawing G(612)X-XX-001) (Note: This is deviation from the reference design which indicates a 'Central' UPS provision. By introducing UPS equipment at two locations we have increased reliability and resilience)

C10 Energy Management

- As discussed in dialogue 6 we have included for gas (CHP option 4) which complies with Edinburgh Council planning requirements for 20% renewables and provides the optimum annual fuel costs for the Board, however as discussed this will require a derogation against clarification 161. This solution provides a >£100k saving to the annual fuel costs and meets the overall NHS Lothian vision "*to provide safe effective person-centred healthcare and healthier lives for all*" by releasing monies from the running of the hospital to the important area of delivering clinical services to patients. We have addressed this further within section C4 by identifying a spend to save option to add GSHP's

C18 Services, utilities and infrastructure proposals

- Electrical
  - Mosaic has developed a proposal to provide a resilient HV electrical supply network to the site that differs from the reference design
  - We have deviated slightly from the reference design HV schematic, and instead of providing "a dedicated generator switchboard", our proposal indicates that the generator sets are connected directly on to the hospital's HV switchboard
- Water
  - The load into the facility has been calculated at 9.2l/s. This is marginally increased from the peak water demand identified within the WIA (8.95 l/s). This slight increase does not give cause for concern as the WIA report states "The 24" trunk main is capable of providing a continuous fire flow demand of 35 l/s for the new RHSC/DCN site without compromising the level of service to existing customers.", while, "The minimum pressure experienced at the connection point with the trunk main is well above the minimum threshold of 15m recommended by Scottish Water"

C19 BREEAM

- With reference to C19.2 we have made a number of assumptions in order to form a comprehensive BREEAM pre-assessment. These are as follows:
  - That a travel plan will be produced by the Board

C22 Design life proposals

- The following notes apply to the lifecycle replacement calculations:
  1. Assets have generally been replaced on a like-for-like basis, so there is no allowance for improvements and adaptations including new technologies and improvements in energy efficiency
  2. Hard FM items (including such items as PPM regime, minor repairs and maintenance, routing servicing, testing and inspection) are covered under FM Service Provider's costs and are key to the longevity of the major plant and equipment
  3. We will endeavour to minimise any sort of disruption to the hospital's activities whilst carrying out lifecycle replacement works
  4. Replacement works are generally priced to be undertaken during normal working hours, although it is understood that there will be the occasional need to carry out a limited amount of work beyond normal working hours

C31 Interface Proposals

- With reference to C31 we have made a number of assumptions in order to form a comprehensive and acceptable interface proposal. These are contained in Appendix A and are as follows:
  - Cycle path works to the Northwest area adjacent to the helipad
    1. Confirmed by client that these works would be carried out as part of enabling (meeting 17/06/13) ✓
  - Section 1 Construction access over the yellow and orange areas
    - Hospital square
      1. Exact coordinates of bus-stop position to be confirmed to ensure tie in with RHSC drop-off car park entrance ✓
    - Services existing gas pipe
      1. Client has confirmed that the existing gas pipe work has been re-located ✗ – [redacted] – will be located
    - Main site
      1. Client to remove ticket booth and equipment ✓
      2. Client to remove lighting columns and CCTV towers ✗ – [redacted] – confirm with NHSL – Andrew
      3. Condition survey of existing county sewer to be made available ✗ – bidder to confirm condition, NHSL will not undertake
  - Section 3 Site compound/Car Park E
    - Assumptions / client deliverables
      1. Use of barrier access system requested ✗ – [redacted]
      2. Leave lighting columns in place and functioning ✓
      3. Pedestrian access can be formed through existing wall from Old Dalkeith Road ✗ [redacted] – confirm this is in the correct place – depending
      4. Services access point to be agreed ✓
  - Section 5 Access areas, drainage and substation
    - Assumptions / Client deliverables
      1. Mosaic propose to utilise power supply from substation on Old Dalkeith Road ✓
  - Section 6 Services strip and foul service strip
    - Assumptions / Client deliverables
      1. Existing footpaths and cycle paths will require to be temporarily 'stopped up' ✗ [redacted] – confirm not legal term

General

- Our scope of works, including design responsibility, for the retail / cafe / restaurant will be limited to shell and core as these areas will be fitted-out by others
- We have assumed that the car park will operate as follows:
  - There is signage indicating who can park in the particular car park
  - Entry barrier opens when car approaches providing the car park is not full and person collects ticket
  - Car parks in the car park
  - Person collects a token or has ticket validated when they complete their treatment or hospital visit
  - Person puts token into machine to exit car park
  - People parking in an area where they are not entitled to park are fined at a rate higher than it would have cost them to park in the main car parks
- Helicopter noise: The helipad is by nature a noisy part of the scheme. Air ambulances will be noticeable to local people and hospital users wherever the helipad is located on site. It is a specific requirement of the project as a necessary and life-saving feature of the hospital. The design will not achieve the internal noise level criteria when a helicopter flies to and from the rooftop helipad. We consider it is impractical to do so and the helicopter may therefore cause some disturbance as described in SHTM08-01. In reality, the noise events are short and relatively infrequent. By nature of the speed required when a helicopter is used, the flight arrives and departs quickly and switches its engines off as soon as possible. We note from the planning application documents that *"NHS Lothian recognise the potential noise issues regarding helicopter operations and accept that the positives of having the helipad outweigh the negative impacts on patients from the helipad being situated on the roof"*. We also note that the hospital site already has a helipad and presume that disturbance by helicopters already occurs and is accepted.
- The accessible parking spaces incorporate a 1200mm access zone round each space in accordance with BS 8300:2009+A1:2010. The circulatory zone is 6m between parking bays, with the access zones included within the circulatory zone as per the approved reference design. The circulatory zone detail derogates from BS 8300:2009+A1:2010. However, an overview of expected parking space turnover together with comprehensive swept path assessments has concluded that the proposed layout will provide a suitable environment for the safe manoeuvring of pedestrians and vehicles while maximising opportunities for landscaping within the space available.
- Ventilation air leakage testing. We would propose to carry out 10% random tests on the entire system as the system is all deemed to be Low Pressure Class A, with specific areas agreed with the Board to be fully tested (e.g. theatres).
- The new pedestrian crossing from car park E to the RHSC main entrance is to be provided by the Board.
- Board's policies. We would propose that the Board's policies are reviewed with the Board during the preferred bidder period and kept under continuous review up to financial close. This is on the basis that a number of the Board's current policies included within the data room were due for review some time ago and some may need to be reviewed in the context of the final NPD Contract, e.g.
  - Infection Prevention and Control Manual, Transmission Based Precautions; was due for review November 2011
  - Infection Control Manual, Specimen Policy; was due for review August 2011
  - Infection Prevention and Control Manual, Cleaning and Decontamination of Equipment and the Environment including the use of Single-Use and Single-Patient Use Items; was due for review February 2013
  - Infection Prevention and Control Manual, New Equipment Purchase for NHS; was due for review June 2012
  - Policy on Confidentiality of Personal Health Information; was due for review March 2010
  - Employment Policies and Procedures, Dignity at Work Policy and Procedure; was due for review December 2012
  - Policy on Dress Code, For all staff and students; was due for review January 2011
  - Employment Policies and Procedures, Freedom of Speech Policy and Procedure; was due for review October 2013
  - University Hospitals Division, Major Incident Plan; was due for review October 2012
  - Employment Policies and Procedures, Management of Employee Capability Policy and Procedure; was due for review December 2012
  - NHS Lothian, Manual Handling Policy; was due for review July 2013
- As agreed during dialogue, Plan 9 (217 Old Dalkeith Road) will be re-issued during Preferred Bidder with further annotations to confirm its location on site
- Audiology rooms: Highly controlled acoustic conditions are needed in two test / clinic rooms and one ABR (auditory brainstem response) room. Our proposals allow for an ambient noise level of 0dBHL Lmax in the two test / clinic rooms and the ABR room. We have taken 90dBHL Lmax between 500Hz and 5kHz as the potential noise level of test signals used in the test rooms.

C7 General action to review Board policies

Third-octave band frequency (Hz)	Ambient noise level (0dBHL) audiology test booths (dBLmax)	Noise level of "90dBHL" audio signals to be played in testing rooms - at patient's ear (dBLmax)
31.5	55	#
40	47	#
50	41	#
63	35	#
80	30	#
100	25	#
125	20	#
160	17	#
200	15	#
250	13	#
315	11	#
400	9	#
500	8	98 *
630	8	98
800	7	97
1,000	7	97 *
1,250	7	97
1,600	8	98
2,000	8	98 *
2,500	6	96
3,150	4	94
4,000	2	92 *
5,000	4	94
6,300	9	#
8,000	15	#

* indicates the centre-frequency around which warble tones are assumed to oscillate.
# It is assumed that audio signals are not required below 500Hz or above 5000Hz

Approach to design and construction
M&E engineering design proposals

C8.1

Bidders must submit proposals setting out the engineering services design for each element of the scheme in sufficient detail to demonstrate compliance with the Board's Construction Requirements. For indicative purposes only, it is anticipated that Bidders proposals may include (but should not necessarily be limited to) the following:

i. An engineering design, control and operational philosophy statement;
ii. Details of principal M&E system selections;
iii. The definition of plant areas and zones both internal and external to the Facilities; and
iv. Schematics and written proposals for major plant provision.

C8.2

Bidders must submit proposals setting out how their design will be developed to include the following:

i. Building services which support the Board's business, safety and security and life critical services under supply failure scenarios. Specific details will be provided relating to standby facilities and mains service redundancy;
ii. An autonomous energy centre and associated plant;
iii. How temperature, ventilation and comfort for occupants will be maintained in accordance with the minimum criteria and how, if possible, these criteria will be improved;
iv. How the quality of the environment and prevention of sick building syndrome will be ensured;
v. How mechanical and electrical design is integrated with architectural, structural and civil aspects as outlined above in C2 and C4;
vi. How sustainability has been incorporated into their design, including details of the maintenance and operation philosophy for all mechanical and electrical equipment;
vii. Proposals for external services, including details of the main routes (including proposed connections to existing services), intakes and off-site reliance of these services and how this interfaces with adjacent sites (this is also discussed in C18 below);
viii. Details of the main source of heating energy; and
ix. Details of mechanical and electrical innovations including costs as described in C4.
x. The following information should also be provided to help demonstrate the design proposals noted above, including:
xi. An environmental conditions / room provisions matrix for both mechanical and electrical services for each room in the Facilities; and
xii. Major plant life cycle statements and design life, including an explanation of the Bidder's lifecycle philosophy to support the lifecycle costing analysis completed in the technical costs proforma;

C8.3

Whilst Bidders are required to undertake their own design, the Board has provided a draft Environmental Matrix as part of the ITPD documentation. Bidders must confirm acceptance of the Board's Environmental Matrix, highlighting any proposed changes on an exception basis.

Mosaic recognises that you require an M&E services solution that is robust, reliable, does not interfere with the clinical delivery process and provides comfort to all patients and staff. We also understand that our solution must minimise energy usage, carbon emissions and assist with the flexibility and adaptability of the hospital.

Our design demonstrates through our drawings and supporting narrative how we have developed the engineering solution in accordance with the Board's requirements and comments from dialogue sessions. We have also adapted engineering proposals in line with the developing architectural solution and clinical requirements, including a servicing philosophy, plantroom space planning and schematic drawings to present a clear picture of the design.

The vision for an iconic low energy and sustainable hospital will underpin our philosophy in relation to the design approach, and this shall be taken forward into the construction and maintenance to enhance the delivery of healthcare for all stakeholders.

Our commitment to you

- Achieve high environmental performance, especially within ward areas as well as meeting SHTM requirements throughout clinical areas
- Enabling patient choice by providing simple local environmental control systems
- Automatic control of main systems
- Energy efficiency throughout the design solution
- Flexibility of energy generation to ensure adaptability to future changes in legislation and revenue opportunities

C8.1

i. An engineering design, control and operational philosophy statement;

Key Drivers:
To establish a philosophy for driving the services design for each element of the scheme, firstly we explored NHS Lothian's (NHSL) key requirements for the project and incorporated them into the M&E design solution. They are defined as:

- Compliance with the Board's construction requirements (BCRs)
- A robust and reliable design solution
- Proposals that complement / not interfere with the clinical delivery process
- Provide a comfortable environment for all patients, staff and visitors
- Minimise energy usage and carbon emissions
- Provide a flexible and adaptable solution
- Systems to be controllable, minimising complexity, where possible
- Safe access, with maintenance of plant integrated into the design

These will provide a control mechanism moving forward for the ongoing design, construction and operation of the facility.

Design Philosophy
To ensure all NHSL's key requirements are incorporated into the design, through to operation, our philosophy will be supported by the following rules to be applied to each system:

- Designs to be SHTM-compliant unless benefits of using an alternative solution can be identified and agreed with NHSL
- Designs in accordance with N+1 on major plant items to ensure reliability
- Future flexibility to be enabled through incorporation of spare capacity into systems
- Effectively locating plant and routing services that facilitate maintenance activity, with minimal impact on occupied space
- Provision of a low-energy, fully-controllable environmental solution in patient bedrooms
- Minimising site noise and waste through maximising use of prefabricated services
- Emphasis will be on providing an intrinsically, low energy building that includes features and service solutions for minimising energy usage
- Reduce heat losses and solar gains by incorporating improved building fabric solutions
- Minimise cooling and heating energy generation through innovation, using the energy transfer neutral loop system, for example
- Energy efficient selection of plant and equipment
- Energy provision will incorporate specific low and zero carbon technologies such as CHP and photovoltaics
- Ensure a detailed operation and control philosophy document is produced and followed
- Prioritisation of all maintenance and life cycles, with all systems and plant items selected and reviewed with the FM team
- Plant location to be efficient and non-intrusive, where possible
- Ensure optimum quality control, improved coordination, surety of construction period

ii. Details of principal M&E system selections:

Mechanical services strategy

Heating design strategy

System objectives

Our design solution is to provide an autonomous heating generation and distribution system for the new hospital facility that is highly efficient, resilient, minimises energy usage and carbon emissions. This system will help provide thermal comfort for staff, patients and visitors, and will assist in minimising life cycle operating and maintenance costs.

System description

The primary heat source for the new hospital will be three dual fuel (gas / oil) high-efficiency boilers and three gas-fired combined heat and power (CHP) units, distributing heat for the building via a piped LTHW distribution system which will operate at 90ºC flow and 65ºC return. This LTHW system will:

- Offset the building heat losses and natural infiltration
- Satisfy the heat demands of the new ventilation systems
- Meet the heat demands of the domestic hot water systems
- Satisfy environmental requirements detailed in the room data sheets and environmental conditions matrix

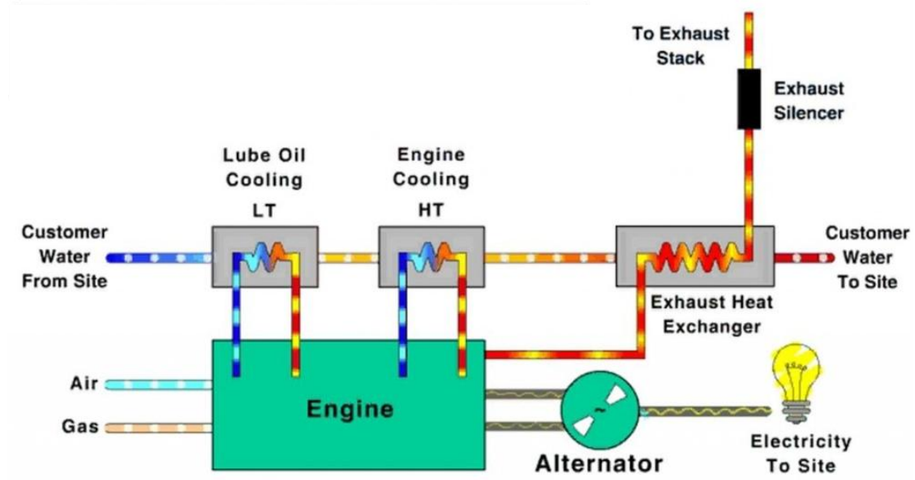
> "Maximising the use of this 'free' heat, the CHP units will be arranged to act as the lead heat source for the LTHW system."

Heat source
The boilers, combined heat and power (CHP) units, primary pumps and pressurisation units will be located within the autonomous energy centre, remote from the main hospital building and linked via an access tunnel. The main benefit of the service tunnel is that it facilitates accessibility enabling services to be regularly inspected, maintained and amended / replaced as required. Provision of the remote energy centre will allow the main heating plant and associated flues to be located away from the main hospital building, assisting with acoustic issues, plant replacement, maintenance and flue heights / discharges.

The CHP units will produce heat that can be used to serve the low temperature hot water system (LTHW), in addition to the electrical power they generate, which is used to serve the new hospital building. To maximise the use of this 'free' heat, the CHP units will be arranged to act as the lead heat source for the LTHW system. The system design incorporates an accumulator vessel which will allow heat generated by the CHP units to be stored during periods of low thermal load for use when thermal demand increases. This will assist in maximising the run time and effectiveness of the CHP units. We consider that using three of them will also help provide excellent load tracking during low-load conditions which, again, increases their operational effectiveness.

The CHP units will also serve the absorption chiller when heating loads are reduced and cooling loads are high; this will further increase their periods of operation, making them more effective and reducing energy consumption and running costs.

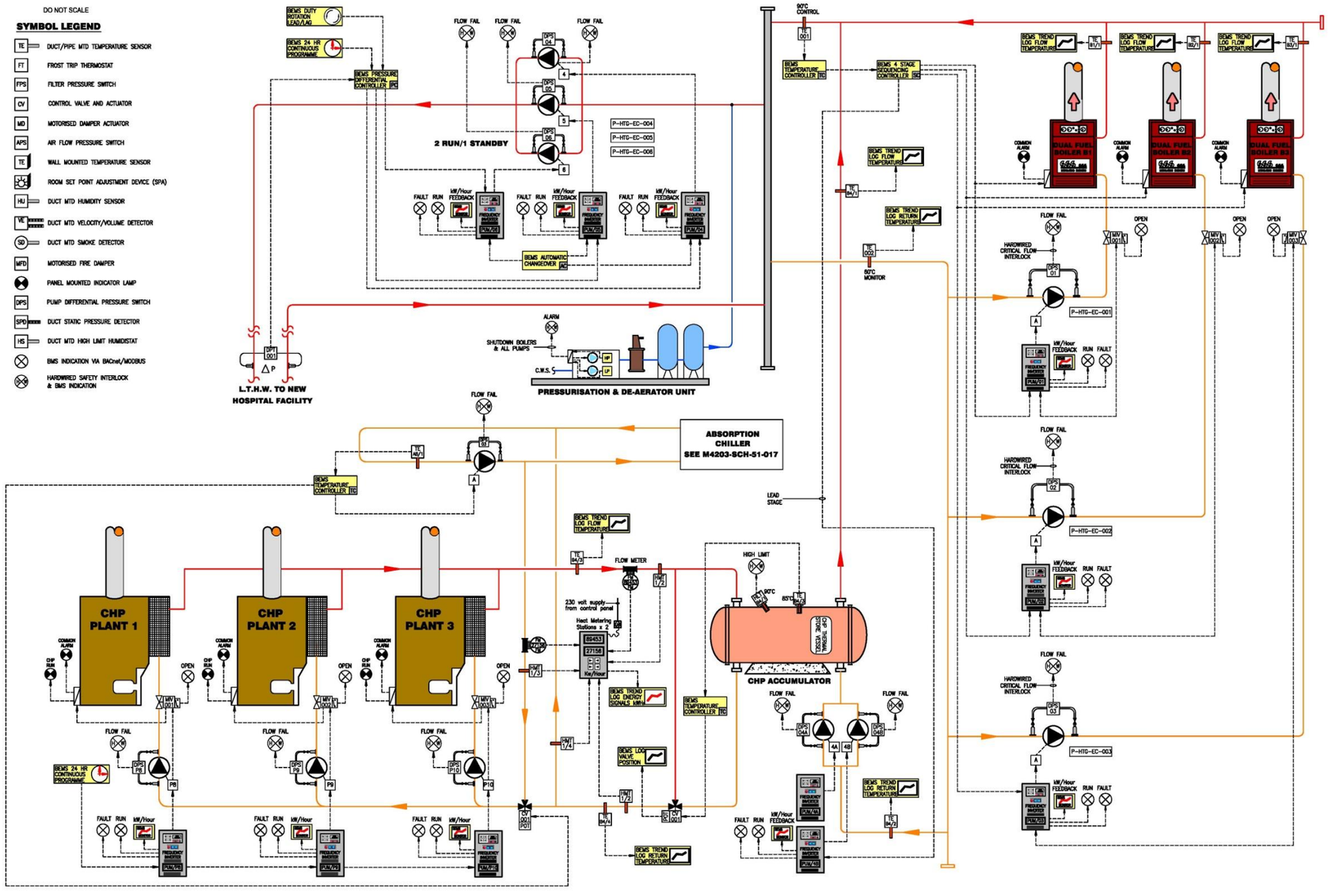
The three dual fuel boilers, sized on an N+1 basis, will primarily operate on gas but with ultra-low sulphur oil as the emergency back-up fuel supply in the event of the gas supply being interrupted. These boilers will provide remaining heat input during high load periods to support the CHP units. Each boiler will be able to operate at high efficiency over a range of outputs, thus ensuring that varying load conditions can be met while maintaining overall system efficiency.



CHP plant provides primary heat and electrical energy for the site backed up by boilers and utility electrical supply

Key benefits of CHP

- Produces electricity and heat, reducing utility costs
- Offers high operating efficiencies
- Reduced carbon impact compared to grid electricity



Heating Plant Generation Schematic

Distribution systems
Each boiler and CHP unit will have an individual shunt pump to ensure water flows through them. Primary distribution pumps, located in the energy centre, will circulate LTHW at 90/65ºC through pipework routed in the service tunnel to the main pumping station located within the basement level of the main hospital building. The pumps will be of variable speed and arranged in a duty / assist / standby arrangement to provide added system resiliency and assist in reducing pump energy when not at peak load conditions.

The main pumping station in the basement plantroom will consist of seven duty / standby pump sets. Three constant and three variable temperature circuits will serve the different building areas. This arrangement has been selected in order to help ease commissioning and system balancing, reducing the risk of a single point of failure affecting the entire building. A further constant temperature circuit will serve the domestic hot water storage calorifiers also located in the basement plantroom.

The variable temperature circuits will serve heat emitters throughout the hospital, including areas of underfloor heating. They will blend the flow and return water to provide a compensated flow, determined by the external air temperature to assist in reducing standing losses from the system.

The constant temperature circuits will serve the air handling unit (AHU) frost and heater batteries, terminal heating batteries, over door heaters, domestic hot water (DHW) calorifiers and the energy transfer neutral loop heat exchanger within the hospital.

All of the secondary circulation pumps will have inverter variable speed operation to help reduce energy consumption when full-load design conditions are not present. The impact of the variable speed pumps will be enhanced by the use of two-port zone valves serving all departments, which can shut off circulating water when areas are unoccupied.

Heat emitters
Heat emitters have been selected to meet the specific requirements for each room type as detailed in the environmental matrix and the services concept schematic drawings. In general, these can be summarised as follows:

- Hospital bedrooms - Chilled beam unit
- Main entrance area - Underfloor heating and overdoor heaters
- Corridors and circulation areas - Radiant panels
- Clinical areas - Terminal heater batteries
- Stores etc - Radiant panels
- Non clinical office areas - Energy transfer neutral loop fan coil units
- Meeting rooms - Fan coil units
- Clinical office areas - Chilled beam unit
- Hotel bedrooms - Energy transfer neutral loop fan coil units

All occupied rooms with heating requirements will have heat emitters with control facilities for adjusting temperatures in individual rooms or groups of rooms. To reduce flow rates throughout the system, heat emitters within rooms will use two-port control valves which, in coordination with variable speed pumps, will result in reduced pumping power requirements.

Patient environmental comfort is controlled locally by chilled beam

Cooling system design strategy

System objectives

To provide a resilient, high-efficiency, low-carbon cooling solution for the new hospital that allows cooling to be provided for occupant comfort and to maintain temperatures in specific equipment rooms.

System description

A great deal of cooling will be provided via the mechanical ventilation supply air systems that serve most rooms within the hospital. This enables free cooling to be provided throughout most of the year when external temperatures drop below the proposed supply temperatures which are typically between 15 ºC and18ºC. When ambient temperatures rise above this level, chilled water batteries within the air-handling units (AHU) will lower the supply air temperature to the desired set-point. Terminal devices such as chilled beams, fan coil units and heater batteries will then be used to control the temperature within rooms.

Cooling for the majority of areas within the hospital will be provided via a chilled water system, serving AHU cooling coils, fan coil units, chilled beams, terminal cooler batteries and equipment cooling system heat exchangers.

Some specific non-clinical areas such as the clinical management offices and hotel bedrooms will be served via an energy transfer neutral loop system that can provide heating and cooling to the spaces. This system can provide very high efficiencies for heating and cooling which, in turn, reduces energy consumption, carbon emissions and running costs. This system uses a neutral loop circulation system to allow heat rejection from or heat input to terminal VRV (variable refrigerant volume) units.

> “An energy transfer neutral loop system provides very high efficiencies for heating and cooling which, in turn, reduces energy consumption, carbon emissions and running costs.”

Cooling plant

The main chilled water source for the new hospital will be three air-cooled, liquid chillers, each sized to provide one third of the total cooling load. The chillers will have a minimum of two refrigerant circuits to provide added resiliency and control functionality, and a minimum coefficient of performance (COP) of 3.5 in order to provide a highly-efficient source of cooling. These units will be mounted on the roof of the main hospital building to allow heat rejection to take place.

Chilled water will be provided by an absorption chiller, powered by heat generated from the combined heat and power (CHP) units. The absorption chiller will be located adjacent to CHP units in the energy centre’s external section at Level 1, with associated heat-rejection plant. Despite having a much lower COP than the main chillers, it will have the advantage of using the ‘free’ heat provided by the CHP.

During warm weather periods when the heating load is at low levels, the cooling load for the hospital is peaking, heat from CHP units allows them to continue to operate when they would otherwise need to turn off or reject waste heat to the atmosphere. This arrangement helps to maximise the effectiveness of the CHP units, minimising energy consumption.

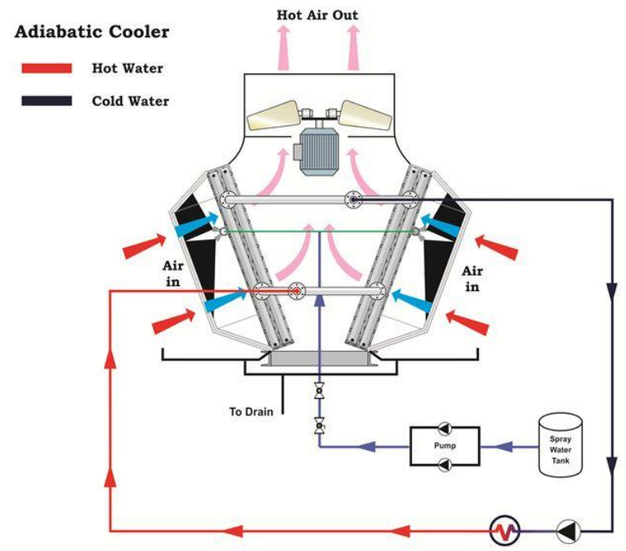
The absorption chiller will be sized to suit the output available from the CHP units when hospital heating loads are at minimum levels.

In addition to the main chiller plant, an adiabatic cooler will also be provided. This dry cooler heat rejection unit has an additional water spray feature onto the cooling coils, adiabatically cooling them via water evaporation. This arrangement improves the efficiency of the dry cooler at high ambient temperatures; with no recirculation of water, there is no requirement for water treatment and no existence of stagnant water, further minimising the risk of Legionella occurring.

The dry cooler does not use refrigerant and, therefore, does not need a power supply for a compressor. Instead it circulates a water / glycol mixture and uses the ambient air and evaporative cooling to lower the water temperature. The unit is primarily used to reject heat from the energy transfer neutral loop system, circulating water between 15ºC and 35ºC. This high upper limit allows the adiabatic cooler to effectively and efficiently reject heat from the neutral loop, even at high ambient temperature conditions. While the neutral loop and adiabatic cooler systems are hydraulically separate, a heat exchanger enables heat transfer.

The adiabatic cooler will also operate in dry cooler mode under low ambient temperature conditions to provide free cooling to the chilled water system. Even during very low ambient temperature conditions, there is still a chilled water cooling load associated with IT hubs and server rooms and equipment with cooling requirements etc. This cooling unit can reject heat from the chilled water return water at 13ºC when the air temperature is below this level. Heat transfer is achieved via a heat exchanger in order to keep the systems hydraulically separate. The heat exchanger will serve as the lead cooling source to the chilled water circuit, with the air-cooled chillers providing any additional cooling as required.

The adiabatic cooler will be sized to provide adequate heat rejection for the energy transfer neutral loop system at peak design conditions. When this load drops during periods of lower ambient temperature, it will provide free cooling to the chilled water system as described above. This arrangement helps to maximise the use of this very low energy source of cooling and, hence, reduces energy usage and carbon emissions.



Adiabatic cooling schematic principal

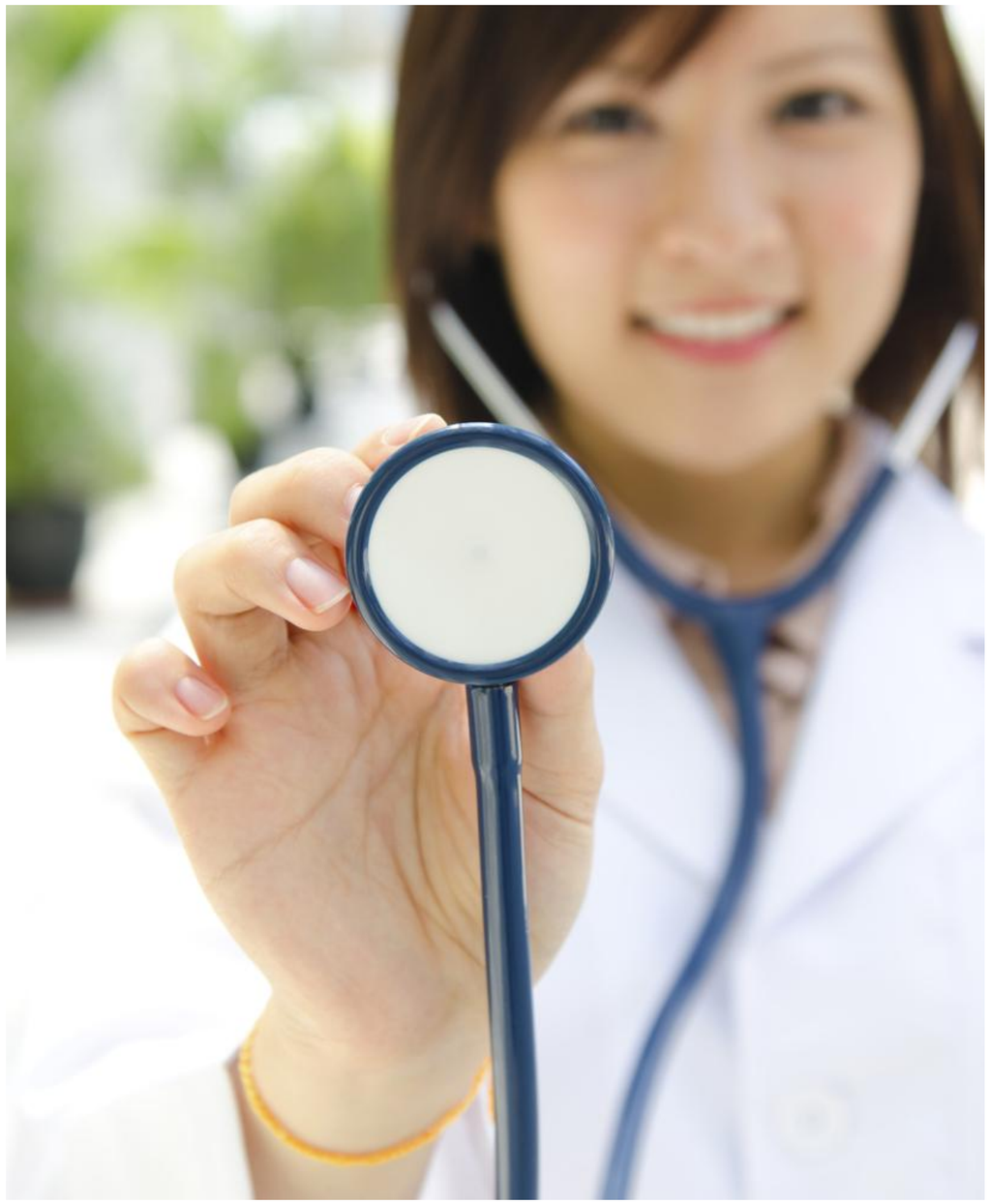
Distribution systems
Each of the chiller / cooling units described above will have its own shunt pump for circulating water. As noted above, the adiabatic cooler will be on a separate, pressurised circuit that will circulate a water / glycol mixture. Heat exchangers will then be used to transfer heat from the chilled water and neutral loop circuits, respectively, and be rejected by the adiabatic cooler unit.

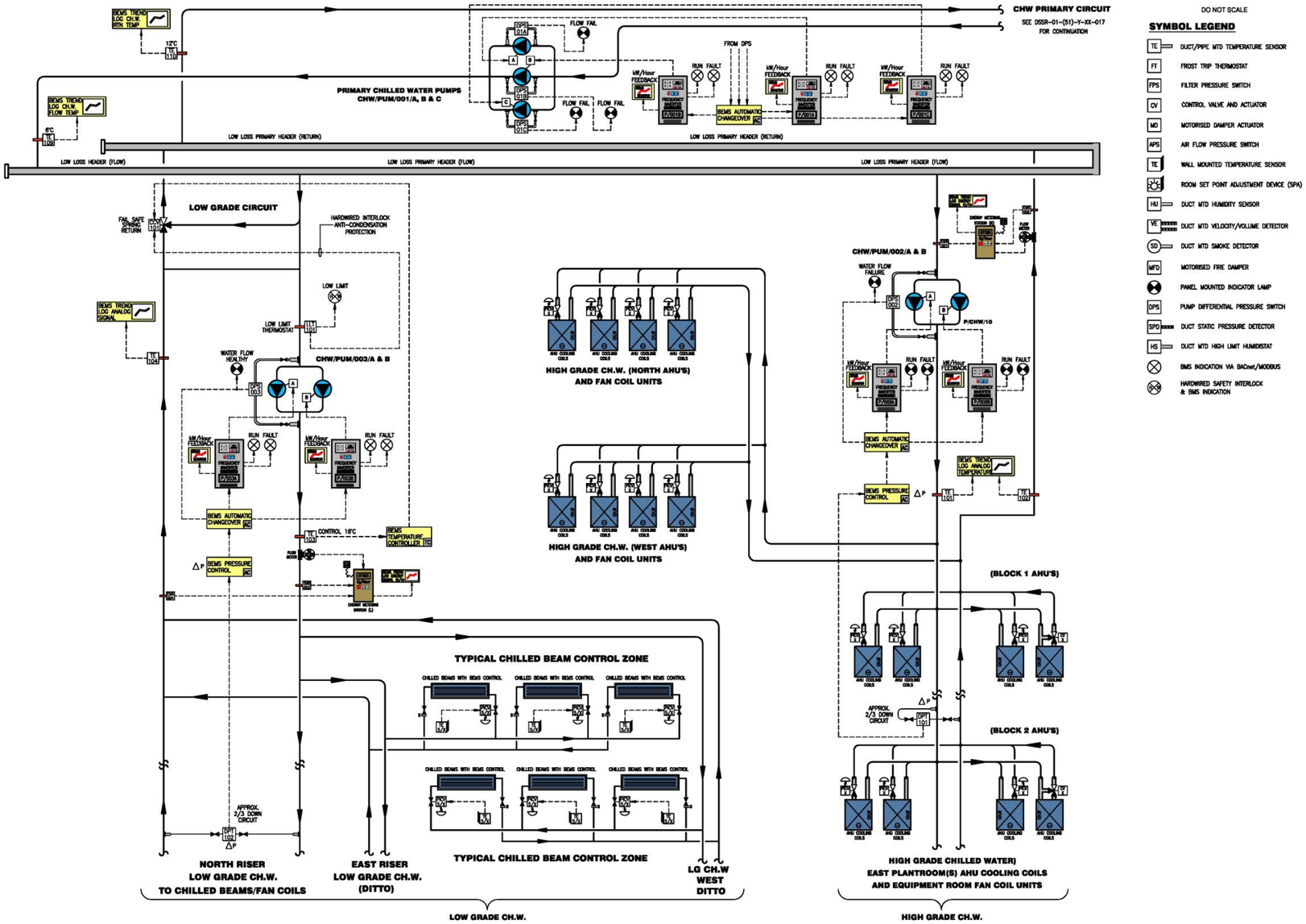
A primary cooling circuit will circulate water at 7 ºC /13ºC flow and return. The circulation pumps will operate on a duty / assist / standby arrangement, using inverter-driven variable speed pumps. This arrangement increases system resiliency and helps minimise unnecessary power consumption when not at peak load.

Two secondary chilled water circulation systems will also be provided. One will be a high-grade chilled water circuit, circulating water at 7 ºC /13ºC flow and return. It will primarily serve cooling coils in the air handling units, providing cooling to fan coil units and air terminal cooling coils where loads are high and / or rooms have to be maintained at low temperatures. Where mechanical equipment requires a cooling supply, the high grade cooling circuit will provide this via local heat exchanger units.

The second chilled water circulation system will be a low-grade circuit that circulates water at 15 ºC / 18ºC. This will serve the active chilled beams and some fan coil units provided in a number of rooms throughout the building. The increased flow and temperature on this circuit will be achieved by mixing the return water with the primary chilled water circuit flow via an injection type arrangement that ensures condensation will not occur on the chilled beams.

Circulation pumps for both circuits will be located in the Level 4 rooftop plantroom, on a duty / standby arrangement with inverter speed control. Pipework will distribute horizontally at Level 4 and then route vertically via five pipework risers in various core areas. Connections will be taken from the pipe risers at each level to serve various departments. Two-port zone valves will be provided for each department enabling control of flow to suit occupancy requirements. Additionally, cooling terminal units within rooms will use two-port control valves to regulate flow. This feature will reduce flow rates throughout the system which, in coordination with the variable speed pumps, will result in reduced pumping power requirements.





Cooling Schematic

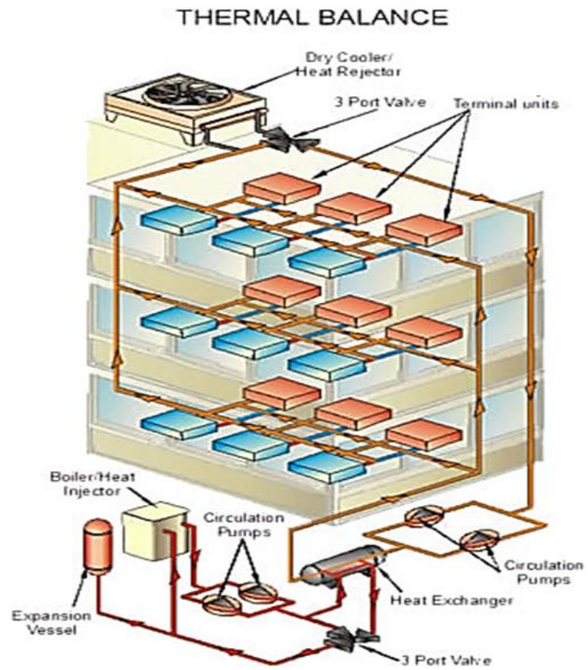
Energy transfer neutral loop system

The energy transfer neutral loop system will serve clinical management offices, patient hotel bedrooms and other non-clinical spaces in the area to the north of the main entrance atrium area. Terminal VRV fan coil units will provide heating and cooling to rooms. These modules will connect via a neutral loop water circulation system where the water is maintained between 15ºC and 35ºC. The terminal units will reject heat to the neutral loop system when in cooling mode and take heat from the neutral loop in heating mode. This arrangement will provide an element of free cooling and heating, as the terminal units effectively exchange heat between themselves.

In periods of high cooling or heating, the neutral loop temperature can be regulated and maintained between upper and lower temperature limits, achieved via heat exchangers that connect to the adiabatic cooler circuit and LTHW circuit respectively. These heat exchanger connections allow heat rejection from and heat input to the neutral loop as required. Water is circulated throughout the neutral loop system via duty and standby pumps.

Areas served by this system will be local to each other to help keep the neutral loop distribution to a minimum. As they are non-clinical areas, the use of fan coil units is not an SHTM compliance issue. The neutral loop system will have flexibility to be adapted to meet future changes to the building use. Chilled water system distribution pipework in this area of the hospital could be used for cooling, if required, at a future date.

> “This arrangement therefore allows for an element of free cooling and heating as the terminal units effectively exchange heat between themselves.”



Energy transfer system allows heat or cooling to be managed before using additional energy

Ventilation strategy

System objectives

- Provision of fresh air to occupants
- Cooling to overcome solar gains
- Cooling to overcome equipment and occupancy heat gains
- Control of room pressures and air flows to provide protection and containment
- Dilution of bacteriological contaminants
- Extract of stale or malodorous air

System description

Ventilation can be provided by natural infiltration of outside air via opening windows other openings or mechanical, ie fan-assisted, ventilation. While natural and mechanical ventilation are appropriate in particular circumstances, where a specific clinical or environmental need applies, mechanical ventilation will be provided in accordance with SHTM guidance.

Where no clinical or operational requirement exists, the choice between natural and mechanical ventilation is dependent on the conditions to be achieved. Occupied areas such as inpatient bedrooms, consulting rooms, and administration areas are appropriate for natural ventilation if environmental conditions can be achieved.

Reliance on natural ventilation controlled by occupants does, however, introduce the risk of 'abuse', where windows can be left open in cold weather, resulting in excessive energy consumption. Further limitation on natural ventilation is that internal conditions can only achieve parity with external conditions in hot weather, providing only limited benefits for control of overheating.

Our alternative, predominantly adopted for this project, is to provide fan-assisted mechanical ventilation which, if combined with mechanical cooling, provides much improved internal temperature control, achieving desired temperatures.

The factors that have influenced our selected ventilation strategy are:

- Overall heat gains
- Acoustic constraints
- Adjacent buildings and their emissions
- Privacy requirements

The specified internal temperature for inpatient bedrooms is 25ºC rather than the SHTM requirement of 28ºC to be exceeded for no more than 50hr/yr. It is recognised that many occupants may find the upper limits of the SHTM temperature guidance uncomfortable, even though only occurring for short periods.

The Board's environmental matrix specifies the maximum temperature of inpatient bedrooms as 25ºC and, following dialogue meetings, this has been confirmed as the Board's aspiration in all cases, including the patient hotel. This temperature criterion has been used as the basis of our engineering strategy.

The selection of 25ºC as the maximum temperature for bedrooms determines that mechanical ventilation and cooling will be the required solution as simulations have shown that this level of temperature control is not achievable using natural ventilation alone. The 25°C upper temperature limit also impacts on the potential for a mixed-mode ventilation solution that would limit temperatures within rooms, but not provide a definite upper level of 25ºC.

Having established the need for mechanical control of room temperature, a number of options are available for the ventilation and cooling strategy:

- Mechanical ventilation with central cooling, with air flows determined by cooling load
- Mechanical ventilation with local cooling, for example fan coil systems
- Mechanical ventilation with terminal cooling, with fresh air as SHTM
- Mechanical ventilation with terminal cooling and fresh air to suit occupancy

The traditional strategy uses mechanical ventilation from central air handling plant with air flow to each room to suit cooling requirements. This approach for patient bedrooms is energy intensive due to air flow rates being based at summer or winter maximum design conditions. Central ventilation systems of this type do not provide individual room control unless local reheat batteries are included to suit each room space which wastes energy.

Use of fan coils is not ideal in a clinical environment due to noise, draughts and potential infection risk.

Therefore, our solution for patient bedrooms is to use terminal cooling devices in the form of chilled beams, which are widely accepted as an effective, energy-efficient method of cooling. In order to maximise energy efficiency, the air flow rate will be based on the calculated flow to suit occupancy and provide required cooling as required. As a result of our study, we have proposed a lower air flow of four air changes/hr (which have been agreed in dialogue meetings, despite being lower than those specified in SHTM 03), and the addition of terminal cooling to achieve the required environmental control.

Ventilation air flow rates for mechanical ventilation will be based on a typical occupancy:

- Single rooms: one patient and two others (visitors or clinicians)
- Multi-bed rooms: as above, three people per bed space

These will result in a similar air flow to the provision of four air changes/hr included in the reference design, though with the additional benefit of terminal heating / cooling via the beam.

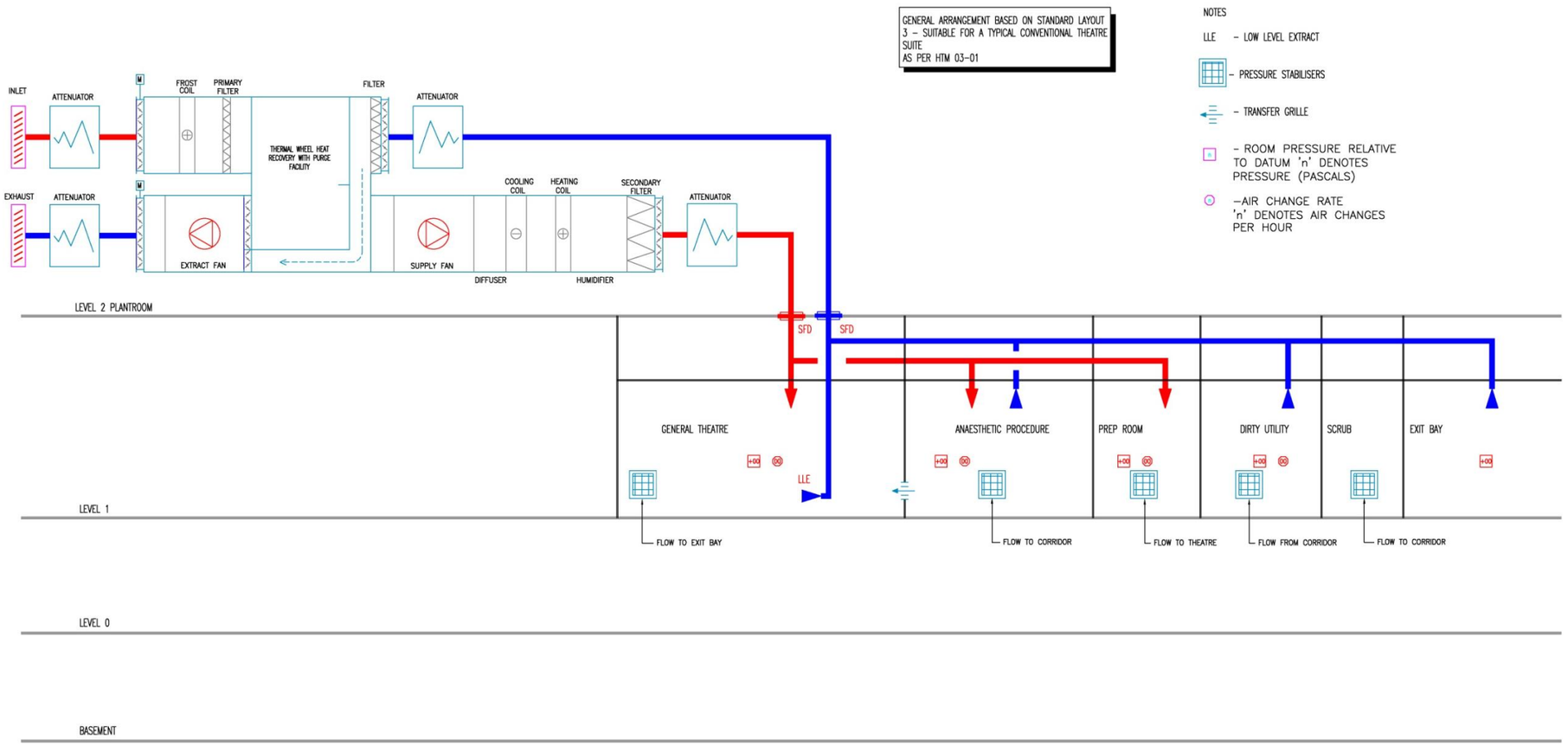
The same strategy will be applied to other areas such as consultation / examination rooms, where effective temperature control will be difficult to achieve with a natural ventilation solution and local control will be advantageous.

In order to satisfy the aspiration for patients to have potential control of external air supply, opening windows will be installed in bedrooms. As environmental control will be provided by the mechanical systems, restrictions on opening gaps will not limit the ability to maintain acceptable temperatures in rooms.

In addition to the above, we recognise that many areas of the hospital building demand specialist ventilation for clinical reasons or environmental control due to equipment and, as such, we propose the following strategies for specialist areas:

Operating theatres

- Generally as defined by SHTM
- Canopies will be utilised in UCV theatres
- Dedicated air-handling plant proposed for each theatre



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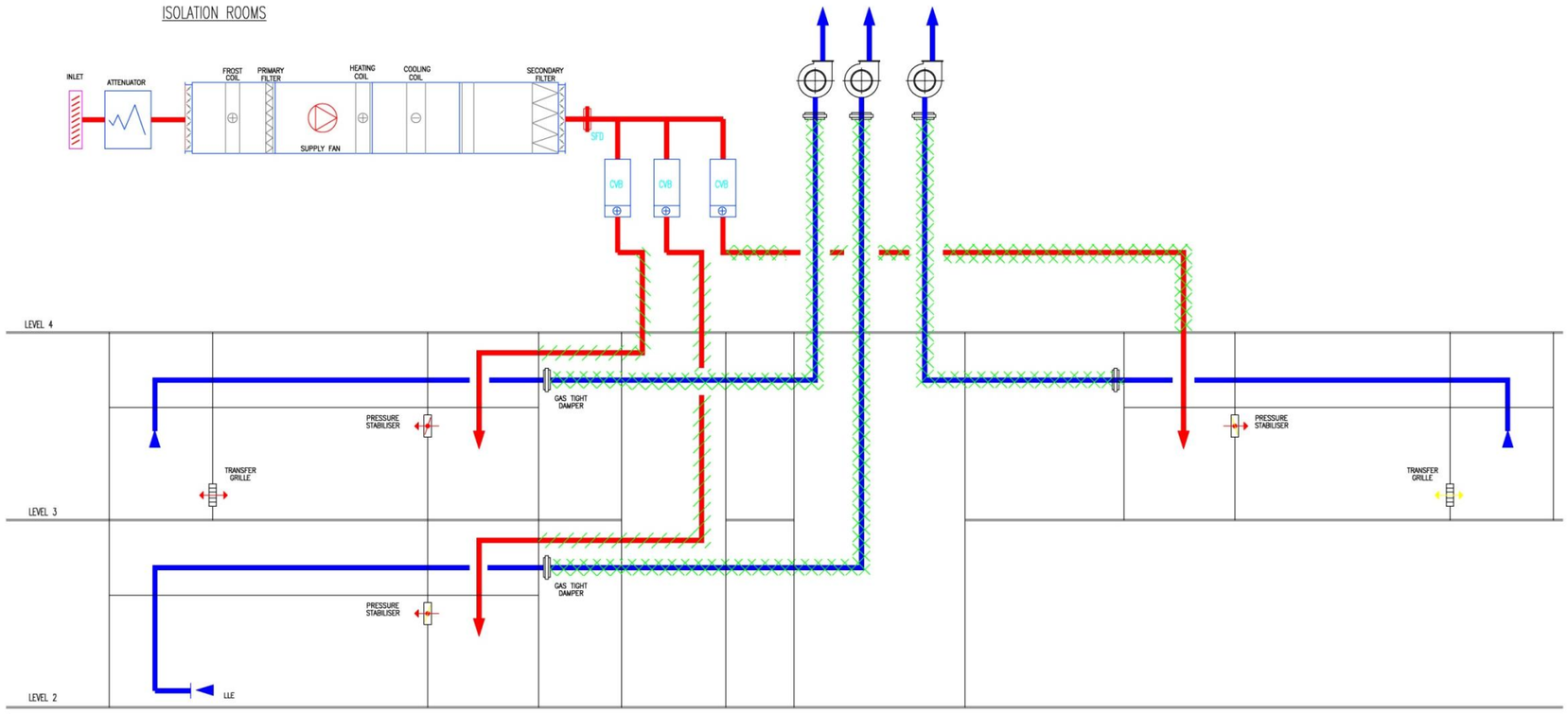
Theatre Suite – air handling schematic

Isolation rooms

- A common supply system is proposed as per the reference design with design as HBN4 Supplement 1
- Application of isolation room guidance to critical care, single rooms

It should be noted that revised guidance has been issued relating to isolation rooms (HBN 04 Supp. 1-2013) allowing for traditional isolation rooms as HBN 04 S1 known as positive pressure ventilated lobby (PPVL) rooms and also negative pressure rooms. Boards Construction Requirements and the reference design both reflect the PPVL arrangement and it is proposed to maintain this approach for all isolation rooms as it provides both source and protective isolation and avoids the risk of infectious patients being put into positive pressure rooms or immune-compromised patients being put into negative pressure rooms.

There are a number of isolation rooms within the development based on the following typical ventilation strategy:

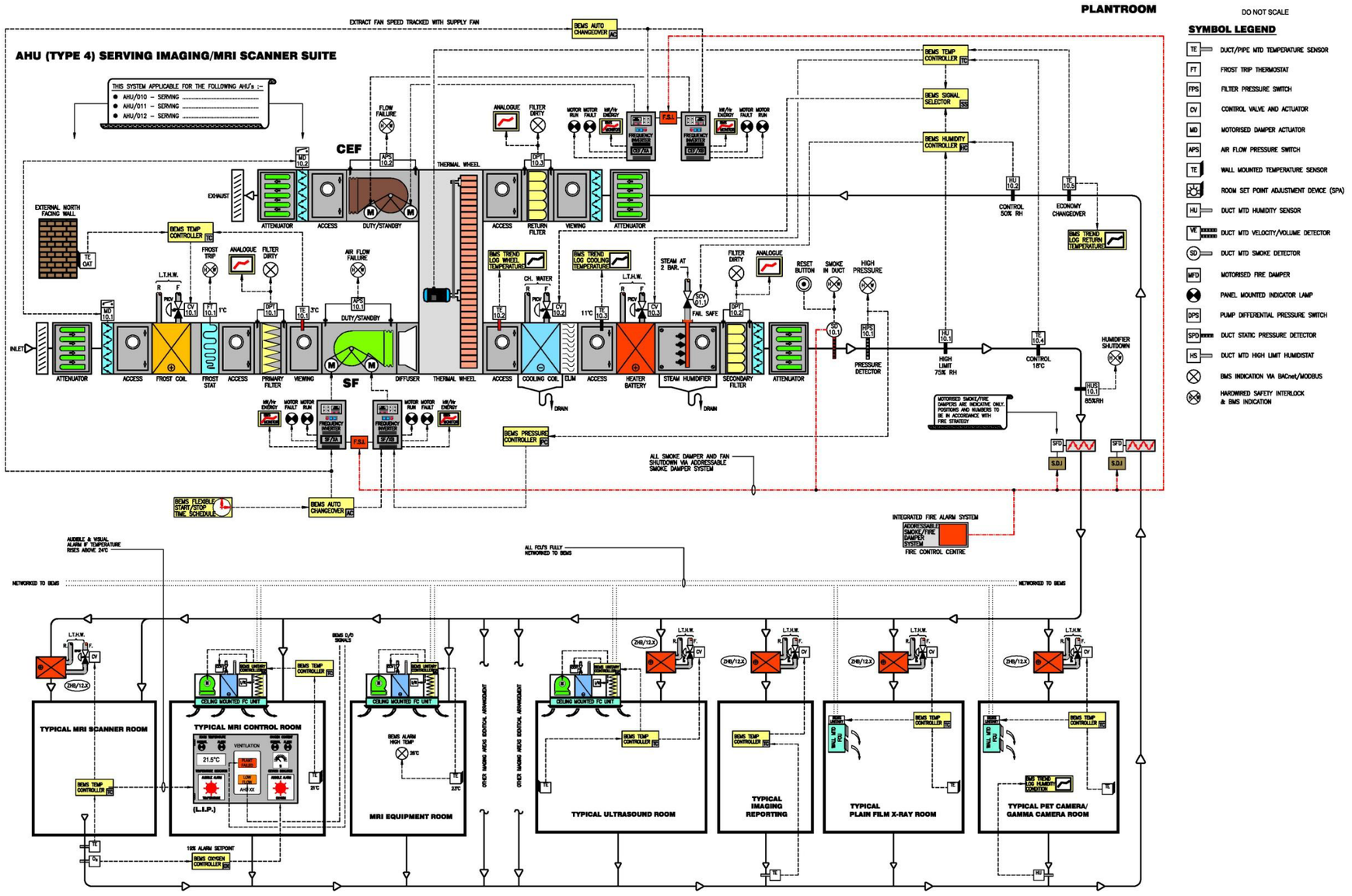


Isolation rooms ventilation schematics

Imaging rooms
Intra-operative MR scanner suite – the ventilation strategy for these rooms needs to be understood, particularly in operational terms, to provide flexibility in use.

Our proposed strategy is designed to facilitate the use of the MR scanner in conjunction with the theatre without compromising the sterile environment within the operating theatre. The theatre design follows a conventional theatre strategy and maintains the 25 air changes/hour and positive pressure required by SHTM 03:

- The MR scanner room will be maintained at a higher pressure than adjacent areas (although at the same pressure as the operating room), provided with supply and extract ventilation from an air-handling plant in common with the theatre. In this way, the pressure regime will be maintained at all times when the suite is in use although, with appropriate access, the scanner can be used independently from the theatre. In order to maintain the RF screening, no pressure stabilisers will be installed between the scanner room and adjacent areas
- Interventional imaging – design parameters must be developed to satisfy clinical performance and be in accordance with equipment environmental parameters. Ventilation to interventional imaging suites will be based on the reference design and ventilated as for imaging rooms, though supplied with an increased air change rate and maintained at positive pressure
- MRI and CT scanners – the rooms provide individual challenges in satisfying the environmental performance parameters required for these pieces of equipment. Both are sensitive to environmental conditions and will be provided with mechanical ventilation from dedicated plant. One AHU will be dedicated to the suite of MR rooms and one plant to CT rooms. This approach will enable closer control of the room environment and allow the provision of humidification, usually demanded by all manufacturers
- Equipment rooms will be provided with local cooling to offset equipment heat gains
- Control rooms will be provided with fresh air to suit occupancy and local cooling to offset equipment heat gains
- Quench discharge pipes will be provided by the specialist installer to enable discharge to a safe location by the most direct practical route



Imaging Suite ventilation schematic

Humidification
Requirement for humidification in current guidance has been limited and is not generally provided for operating theatres, subject to a risk assessment. It is noted that the reference design proposals exclude humidification to operating theatres and, as such, this strategy has been adopted for Mosaic's proposals.

In accordance with SHTM 03 requirement, provision has been made within our proposals for space to be made available within the air-handling plant for the future installation of humidification.

To satisfy the needs of specialist areas where humidification remains a requirement, Mosaic's proposals are generally as per the reference design and cover the following:

- Critical care, including HDU and neonatal
- MRI scanners
- CT scanners
- Burns operating theatre

While humidification can be provided by a number of methods, steam injection from central gas fired steam generation plant is the preferred option included in our proposals. Where an air-handling unit is remote from the steam distribution, a local electric humidifier may be considered as an alternative.

Innovation
A number of innovative strategies have been considered for minimising energy consumption and improving performance of ventilation systems:

- Omission of frost coils from air-handling plant to improve heat recovery of ventilation systems. While this will offer significant improvements in the operational efficiency of heat recovery systems, the proposal has not been agreed with the Board and, therefore, frost coils will be retained for review during the preferred bidder stage
- Use of thermal wheels as opposed to run-around coils / plate heat exchangers for will provide much greater efficiencies than other methods of heat recovery and, with the provision of purge facilities, are acceptable to NHS standards
- Provision of local cooling, wherever possible (in addition to inpatient bedrooms), particularly in areas of high heat gains, such as imaging rooms, waiting areas, etc. Local cooling systems will be utilised with equipment selected appropriate to the area served. Proposals include:
  - Chilled beams in ward bedrooms, consulting rooms etc
  - Fan coil units in high heat gain areas such as offices, imaging rooms, equipment rooms and IT hub / secondary equipment rooms
  - In-room air handling units in areas of extreme heat gain, such as computer server rooms
  - Energy transfer neutral loop heat pump units in hotel rooms and office areas

The use of alternative humidification strategies such as vapour injection humidifiers has been considered but rejected due to the potential risk of the spread of Legionella bacteria. Mosaic would provide humidification by steam injection, using direct electric steam injection humidifiers, if remote from the main steam system.

Medical gases strategy

System objectives
The requirement for piped medical gas is to provide a resilient delivery system in accordance with SHTM 02. Our medical gas design proposals will be based on a compliant strategy enhanced to optimise resilience of this critical service.

System description
All medical gas plant will be connected to essential electrical supplies supported by generators, with A & B supplies to each plant and changeover arrangements such that each plant can be supported by the alternative electrical supply.

Ring main distribution will be employed for medical gases, as shown on the schematic drawings, providing an alternative route of supply in the event of interruption to any pipeline. Appropriate valve arrangements will be included to allow a flexible use of the distribution network.

The provision of area valve service units (AVSUs) outside each departmental area will allow local isolation and the ability to connect local manifolds in an emergency situation, or to isolate areas for alteration or maintenance without disruption to other areas.

Medical gas alarms will be provided in accordance with SHTM 02 including plant alarm panels and local area alarm panels

The status of the central medical gas plant will be monitored by the dedicated alarm system with a status signal to an alarm panel located in a manned office and critical areas as defined in SHTM 02. The panel shall also report the alarm to the BMS. Each ward and department will be fitted with a local medical gas alarm panel downstream of each area valve service unit (AVSU). These panels will also report the alarm to the BMS.

The local medical gas panel in Medical Inpatients will have the capacity to repeat the local medical gas alarms from MDCU

Medical gas terminal units will be provided in accordance with the room data sheets and SHTM 02.

Proposals include:

Oxygen
SHTM 02 recommends that duplicate vacuum insulated evaporator (VIE) installations are considered together with a ring main distribution. Duplicate VIE installations have been considered but it is appreciated that space within the site is limited and a location for a second VIE could not be created which satisfied the spatial separation requirements for oxygen. It is proposed therefore to provide a single VIE installation comprising duty and standby vessels. This will form the primary supply to the development.

The secondary and emergency supply will be provided by a cylinder manifold with emergency stand-by manifold ESM back up in the conventional way.

Duplicate pipelines will be provided from the VIE into the building and configured as a ring distribution as shown on the oxygen schematic.

Nitrous oxide
The provision of nitrous oxide to the hospital has been confirmed and this will be provided by a duty / standby cylinder manifold, incorporating ESM, located externally in a manifold room.

Compressed air
The provision of medical air and surgical air from a common plant combined with pressure reduction is proposed as an alternative to separate medical and surgical plant. Use of a common plant can offer improved resilience due to the greater capacity of the system.

The compressed air plant will incorporate multiple compressors in accordance with SHTM 02 and feed both medical air at four bar and surgical air systems at seven bar via duplicate pressure-reducing sets to each system.

A second identical plant will be provided to improve the reliance of the supply to compensate for the use of a common plant.

Emergency supplies will be provided by medical and surgical compressed air cylinder manifolds with ESM as SHTM 02.

Medical vacuum
Medical vacuum will be provided by a central vacuum plant comprising multiple pump units, with pipework distribution via ring main system to each area served.

Duplicate vacuum exhaust discharges will be taken to roof level for discharging in a safe location and be fitted with a bio hazard warning notice.

Waste anaesthetic gas scavenging
Active waste anaesthetic gas scavenging systems will be provided in accordance with SHTM 02 in all areas where anaesthetic gasses are used. Exhaust units will be either simplex or duplex, according to their location and area served.

Exhaust discharges will be taken to roof level for discharge in a safe location and be fitted with a bio hazard warning notice.

Medical gases summary of plant
Medical gas plant will be provided in accordance with SHTM 02 as follows:

Oxygen
- Primary supply - Duty vessel of VIE installation
- Secondary supply - Standby vessel of VIE installation
- Emergency supply - Cylinder manifold installation incorporating ESM

Nitrous oxide
- Primary supply - Duty bank of cylinder manifold
- Secondary supply - Standby bank of cylinder manifold
- Emergency supply - Emergency standby manifold

Medical air (common plant with surgical air)
- Primary supply - Duty compressed air plant incorporating multiple compressors
- Secondary supply - Standby compressed air plant incorporating multiple compressors
- Emergency supply - Standby manifold

Surgical air (common plant with medical air)
- Primary supply - Duty compressed air plant incorporating multiple compressors
- Secondary supply - Standby compressed air plant incorporating multiple compressors
- Emergency supply - Standby manifold

Vacuum
- Primary supply - Duty vacuum plant incorporating multiple pumps

Waste anaesthetic gas scavenging plant
- Operating theatres - Simplex pump to each theatre
- Multi-bed areas - Duplex pumps to each area

Dental compressed air
- Primary supply - Duty compressed air plant incorporating multiple compressors
- Secondary supply - Standby manifold
- Emergency supply - Emergency standby manifold

Dental suction
- Primary supply - Duty dental vacuum plant incorporating multiple pumps

Building energy management system

The objective of the building energy management system (BEMS) is to automatically regulate, monitor and control all HVAC plant, electrical services monitoring and all energy metering equipment, providing maximum energy efficiency and reduced operating costs as a result of comprehensive and adaptable controls.

The BEMS will be completely integrated with other M&E services including the lighting management system utilising KNX protocol or similar common services networks. The network will be utilised for interfacing between all departmental terminal equipment including metering equipment, chilled beams, zone re-heater batteries, fan coil units, movement detectors, window interlocking switches, chilled water and LTHW zone valves and similar field-mounted components.

Direct digital control (DDC) outstations will be installed in each plantroom which will be fully networked to the BEMS central workstation, conveying all alarm conditions and user functions.

The central BEMS workstation computer forms the focal point for operator access, allowing interrogation of system functions and adjustment of control parameters.

Advanced dynamic graphics will be provided at the central workstation computer to indicate active values adjacent with the relevant item of plant, using icons, menus and pointers operated through proprietary software. All alarm management, interrogation, programming and dynamic graphical interface will be provided to allow remote off-site interrogation by the FM team.

The main plant distribution centres (PDCs) will be multi-way three-phase circuit breaker boards provided in each plantroom from which all the power supplies to mechanical plant, outstation control panels (OSCPs) and packaged plant equipment will emanate.

The decentralised outstation control panels (OSCPs) will contain extra-low voltage (ELV) interlocking relays, transformers, micro-processor outstations and similar components.

All fan and pump motors will be controlled by frequency inverter drives, located adjacent to the motors.

Comprehensive metering will be applied to all mechanical and electrical systems, providing facilities for energy monitoring and breakdown to allow effective energy management in the operational stage of the building life.

Natural gas strategy

The medium pressure gas mains that enters the site on the southern boundary will be regulated down to medium pressure via a twin stream gas governor. An external housing will contain the governors and the gas shipper's meter.

The supply from the gas governor / meter housing will enter the energy centre and serve the boilers and CHP units located there. Gas will then be distributed via the service tunnel to the basement level of the main hospital. Here it will serve the kitchen equipment and then be distributed via pipework risers to serve specific items of equipment, laboratory areas and gas-fired steam generators. Pressure reduction devices will be installed to ensure that each item of equipment is supplied with gas at the requisite pressure level.

The supplies serving the different areas and items of equipment will be sub-metered. Suitable gas proving and emergency shut-off devices will be provided in each of the areas with gas supplies. All voids with gas pipes routed in them will be suitably ventilated.

Domestic water service strategy

System objective

To provide a resilient and safe hot and cold water supply to the new hospital. The design will assist in minimising the potential for any Legionella outbreak.

Mains water supply

Two alternative local water authority water supplies via two alternative sources will be provided in order to ensure resiliency of supply to the new hospital. The primary water supply will be via a new connection onto the 24-inch main within Craigmillar Castle Road with the secondary supply (emergency backup supply) being taken from the 12-inch main within Old Dalkeith Road.

Both supplies will be independently metered, with a Scottish Water revenue meter at the site boundary, while being interconnected externally within the site boundary via a series of valves. Both the meter and interconnecting valve arrangements will comply with Scottish Water requirements. To assist hygiene flushing of the (normally isolated) secondary water supply, a flushing hydrant will be provided. An operational procedure regarding the changeover between supplies will be prepared in-line with the requirements of Scottish Water and the client.

A single mains water supply will enter the new facility via the energy centre, where a private check meter will be installed. This water supply will be taken to serve the raw water bulk cold water storage tanks as well as serving the main catering facility within the basement of the new hospital building. Drinking water outlets throughout the hospital will be served from the wholesome boosted cold water service.

In compliance with BREEAM requirements, all water meters - ie Scottish Water revenue meters and the private check meter will be BEMS-compatible.

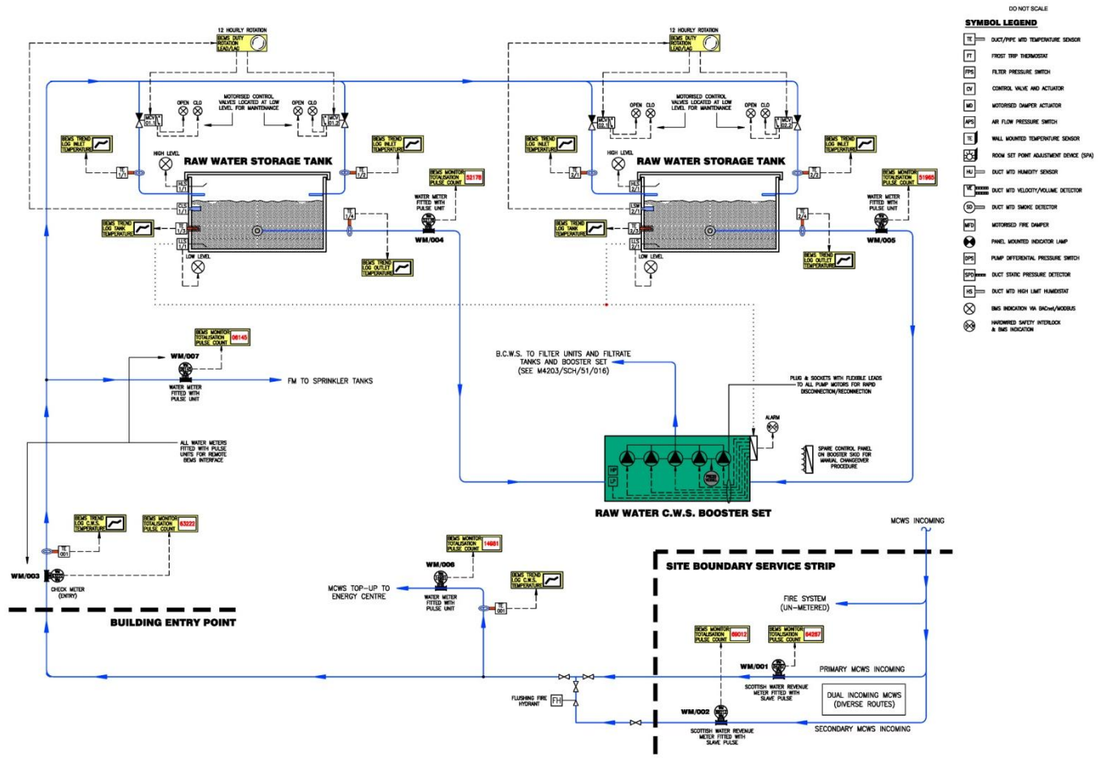
A ring main fire hydrant system capable of delivering a flow rate of 1500l/min (25l/s) for fire-fighting purposes will be provided. Fire hydrants will be supplied and strategically placed around the building, in line with building regulations (Scotland) and the local fire officer's requirements.

Water storage

A series of centralised raw water and filtered water cold water storage tanks will be provided within the basement plant room. These will be suitably-sized, wholesome-quality pre-insulated, sectional, GRP, water storage tanks.

Additional Category 5 cold water storage will be provided in association with the reclaim water installation, decontamination and renal departments, laboratories, helipad foam tank and areas of special water quality requirements or contamination risk.

The combined capacity of the centralised raw water and filtered water storage tanks will be sized for onsite bulk storage of 24 hours.



Water storage schematic

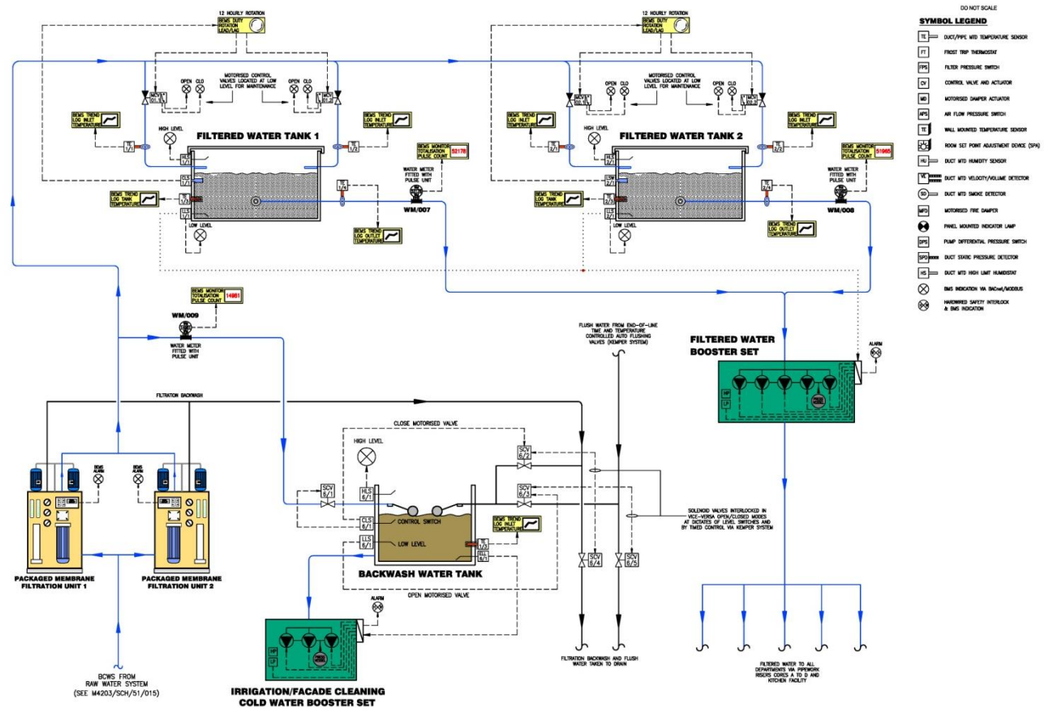
Water filtration
A centralised water filtration plant will be provided within the basement plant room. Two equally-sized duplex filtration units, each incorporating a duty and support facility, will be provided. The stand-alone units will be fully automatic as well as being interconnected to enable 50-75% working capacity at all times, even in the event of a single unit failure.

The filtration units will be sized to provide adequate flow to satisfy maximum demand while incorporating an element of redundancy.

Dual electrical supplies will be taken to each filter unit to further increase system resiliency.

The level of filtration will be to 0.5microns absolute, in line with SHTM 04-01, Part A for stainless steel pipework.

Back Wash
The back wash from the filtration units will be collected into a recycled water system and re-used in non-clinical applications as described below.



Water Filtration Schematic

Boosted cold water distribution philosophy
Water connections from both bulk cold water storage tanks (filtered tanks) will be taken to serve the centralised domestic cold water booster pump set. This booster set will be of the variable speed-type with multiple pump units, dual control panels, supplied with dual electrical supplies to increase system resiliency.

From the centralised domestic cold water booster pump set, the mains and sub-mains boosted cold water (BCWS) distributions will travel through the building. This pipework arrangement will be taken up to branch lines that serve individual rooms or appliances, where a multi-circ distributor unit (splitter) will be provided. From this splitter unit, the BCWS will be piped in a 'daisy-chained' arrangement with the terminal BCWS outlet being looped back to the splitter.

The 'Venturi' effect within the splitter will create circulation through the local BCWS pipework within each individual room, or at an individual appliance, each time a downstream appliance is used. This circulation will allow 90% of the required flow to pass through the splitter while the remaining 10% will be drawn through each loop, upstream of the appliance drawing BCWS water.

Along with these splitter units, an end-of-line auto hygiene anti-Legionella flush, time and temperature-controlled, valve assembly will be installed to ensure regular movement of the whole BCWS distribution network within each ward or departmental area. This valve arrangement can be pre-programmed to flush at set times for a set duration, or can be activated on temperature, should the BCWS temperature rise above a pre-set temperature. When activated, it will allow movement of the BCWS through the entire ward / departmental distribution BCWS network as described above.

The control and monitoring of the flush valves will be incorporated into the building management system. This arrangement will help to stop stagnant water rising in temperature and becoming a potential Legionella risk.

It is intended to collect and re-use 'flush water' within a dedicated recycled water system for use in non-clinical applications such as facade cleaning, irrigation, plant feed water etc in order to reduce water consumption and waste.

The main BCWS distribution will rise through the building via the three main pipework risers and will then be distributed to each ward / department through the ceiling voids, serving all cold water outlets and equipment as necessary.

Metering of the BCWS will be provided at each ward / departmental entrance on each floor level at the main service riser, on the cold water feeds to each set of domestic hot water (DHW) calorifiers as well as on items of plant or equipment requiring 10% of the overall water demand, in line with the BREAM 2011 requirements. This metering via the BEMS will enable monitoring of water consumption and identification of high or abnormal water usage.

Temperature monitoring will generally be in line with the metering requirement as described above but will also incorporate the extremities of each ward / department distribution network, cold water storage tanks and at the point of entry to the building on the incoming mains water supply. This monitoring via the BEMS will help to ensure that the domestic cold water system does not become a potential health hazard due to increased water temperatures.

A series of dedicated, Category 5 cold water supplies (tanks, pumps, etc) will be provided when serving decontamination, renal department, laboratories, helipad foam tank and areas of special water quality requirements or contamination risk. Such specialised systems and equipment will be located within the fourth-floor plant areas.

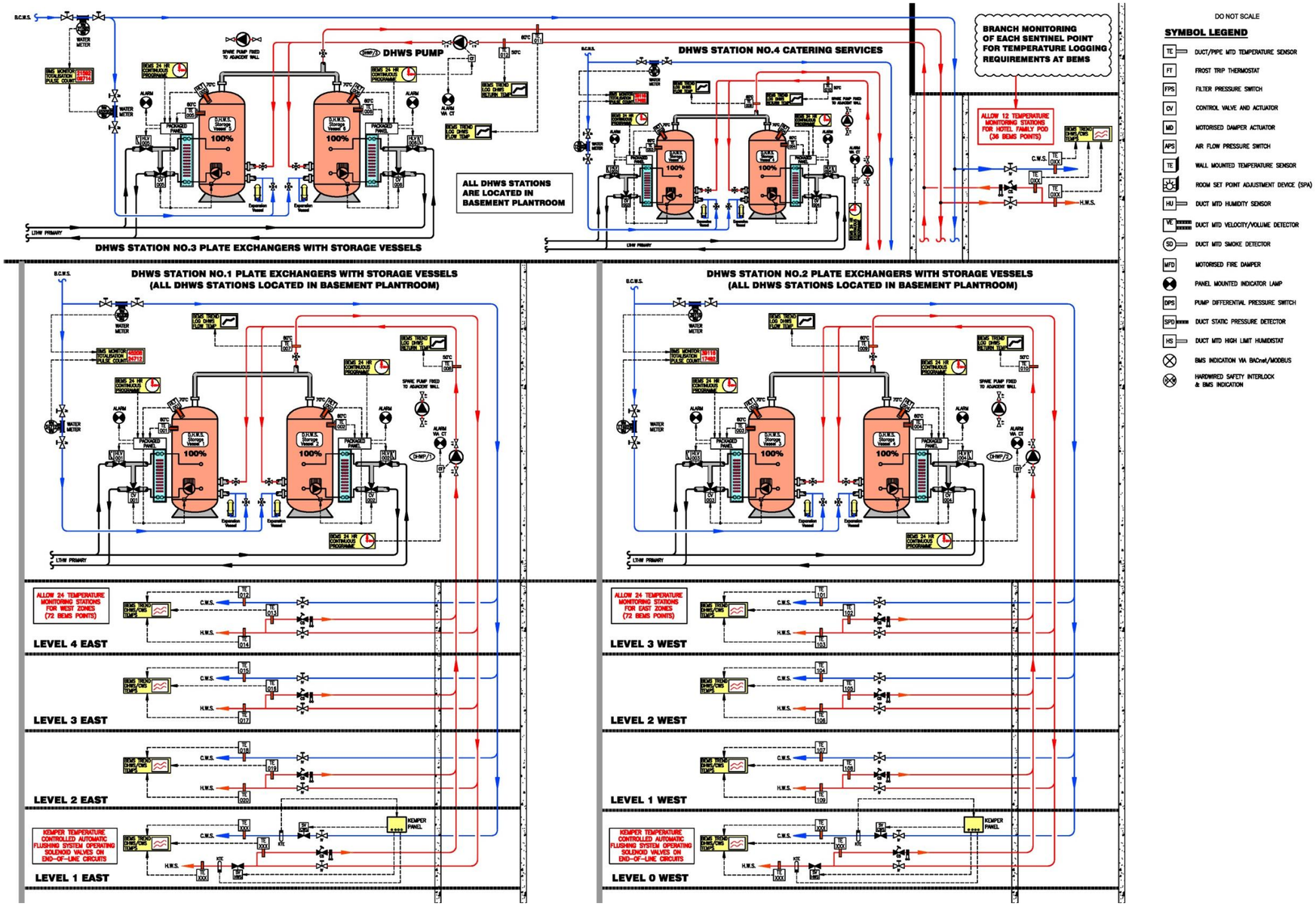
Hot water distribution philosophy
Domestic hot water (DHW) will be provided by a series of centralised semi-storage vessels generated via an LTHW constant temperature circuit located within basement plant rooms.

Four sets of calorifiers will be provided, with one set being dedicated solely for catering. Each set of calorifiers will be sized to provide adequate flow to satisfy maximum demand while minimising stored water and energy consumption.

Each DHW distribution system will adopt a two-pipe flow and return circulating arrangement to maintain delivery and circulation temperatures through their network. The distribution systems will incorporate a combination of double regulating balancing valves and localised self-regulating (balancing) thermostatic control valves on the mains, sub-mains and localised pipework distribution as necessary.

Temperature monitoring of the DHW F&R pipework will be provided at the point of entry and exit of each ward or department as well as the exit and entry points of the main service risers, with all temperature outputs being linked to the BEMS. This monitoring will assist in ensuring that conditions enabling growth of Legionella do not occur.

With the exception of main kitchen appliances, staff kitchen sinks, laundry, janitor, and dirty utilities sinks etc, all patient and visitor hot water outlets will be thermostatically controlled. Full body immersion outlets, such as showers and baths etc will also be thermostatically controlled.



Domestic hot water storage schematic

Rainwater harvesting system
With reference to Health Facilities Scotland's research report, Rainwater Harvesting, Version 1: March 2013, *"Current BREEAM advice recommends the use of these recovery technologies. However, SHTM04-01 Part A discourages their incorporation at this stage"* as *"evidence has suggested that there is a potential infection risk from utilisation of these processes."*

For the above reasons, rainwater harvesting will not be included within our technical submission. Notwithstanding this decision, a recycled water system or reclaimed water system will be proposed, as noted below.

Recycled water system
In lieu of any rainwater-harvesting provision, flush water from ward / departmental areas, along with the back wash water from the main centralised filtration units, as described above, will be collected and re-used in non-clinical applications such as basement facade cleaning, irrigation, plant feed water, potentially the main kitchen dish wash supply (only), staff wc flushing and bin store wash down etc.

This pipework system will consist of a network of collection pipework returning the flush water back to a centralised recycled water holding tank within the basement plant room, a cold water booster pump set, disinfection unit (ensuring water quality) and a piped distribution network.

As with the BCWS installation, an end-of-line auto hygiene anti-Legionella flush time and temperature-controlled valve assembly will be installed, ensuring regular movement within the localised BCWS distribution system within each branch line. Again, this valve arrangement can be pre-programmed to flush at set times and durations, or activated by temperature, should the BCWS temperature rise above that pre-set. When activated, this will allow movement of the recycled water through the distribution network, maintaining the quality of water. It is intended that the recycled 'flush water' is then discharged to drain. Control and monitoring of flush valves will be incorporated into the BEMS.

Specialised water
Specialised water requirements within laboratory areas, pharmacy department, decontamination areas, as well as for use for renal dialysis, etc will be generated via a combination of point-of-use, fixed and mobile units as required. Due to distribution and small numbers of specialised water outlets, centralised generation plant and a piped distribution network has not been considered as a viable option.

Above-ground drainage strategy
System objectives
Sanitation disposal systems will be designed to receive discharges from the sanitary appliances, catering equipment, plant and equipment at all building levels and convey the discharges to the underground foul drainage network in a safe and nuisance-free manner.

A system of soil, waste and ventilating pipework will be provided to receive the discharge from the various sanitary fittings throughout the facility.

The pipework will take as direct a route to drain as possible, depending on areas and room planning. Vertical stacks and waste pipes will generally be located within purpose-made IPS-type enclosures (except in plant areas and ancillary accommodation) and be accessible for cleaning / rodding operations.

The design will consist of new, above-ground foul and waste drainage systems, with horizontal and vertical distribution serving all sanitary appliances, plant and equipment in the new hospital facility.

System description
The main vertical stacks will be positioned adjacent to the structural columns to limit horizontal runs and maintain flexibility for future adaptation. Provision at selected columns for future drainage services will be made throughout the building, with these dropping vertically through the building.

Vertical stacks will connect onto below-slab drainage at ground-bearing level, where they will be collected by a below-slab drainage system and taken for discharge to the local authority sewer.

Where vertical stacks drop into the basement area, the drainage stacks will then run horizontally at high level within the basement and taken through its retaining walls for collection by the structural / civil engineer's below-slab drainage system.

All basement foul and waste drainage will be taken beneath the basement floor slab, as per the structural / civil engineers below-slab drainage system, and taken to a central sewerage pumping unit. This pumping station will incorporate duel pumps, dual float switches, auto controls, high-level alarms (audible and visual), along with BMS interface connections.

The pumped waste discharge will rise from the pump station and be taken to a high-level foul drainage system for final discharge into the structural / civil engineer's below-slab drainage system. The addition of localised de-watering pumps at locations remote from the basement area and service tunnels will be required to allow the removal of any water buildup within these areas.

The system will be designed to ensure that the discharges are removed quickly, quietly, safely and efficiently without causing damage to the building fabric and will be designed to prevent foul air from the drain or sewers entering the building.

During the detailed design of the drainage systems, consideration will be given to pipework materials with regard to high-temperature waste discharges.

Access plates or rodding eyes will be located facing a removable duct cover and set above the flood level of the fittings to prevent spillage within ducts, ceilings, habitable or clinical areas and, wherever possible, access to pipework will be from dirty / non-clinical areas. Floor drains / gullies will be provided, where required, but will not be installed in sterile areas.

The internal sanitary pipework installation will commence at the connection to the below-slab drainage installation and will terminate at roof levels with agreed vent pipe termination locations.

All WC overflows, cold water storage tank warning pipes and overflows, as well as weep pipes etc, will discharge internally, within the area served, as per local authority requirements. WC overflows will discharge via the WC cistern siphon into the WC bowl.

Adjacencies will be considered in order to avoid, where possible, foul and waste water system pipework distribution through areas with inaccessible ceiling voids such as theatres. Where this cannot be avoided, a joint-less pipework system will be used such as fusion-welded HDPE.

Grease management
Grease management within catering areas will be by means of liquid enzyme units. A controlled dose of liquid enzyme will be discharged directly into the local waste pipework and below-slab drainage system. It is anticipated that no food waste will be discharge directly into the drainage system.

Specialised above-ground chemical drainage installations (laboratory drainage)
During detailed design, the discharges from the hospital into the sewer system will be reviewed to ensure that Scottish Water consent to discharge is maintained.

In line with health guidance note 'Safe Disposal of Clinical Waste – Whole Hospital Policy Guidance', a clinical waste policy will be formulated for the new facilities, detailing required segregation policies to identify categorisation of Group A – E waste streams to ensure that any discharges to the existing sewerage network are confined within acceptable limits.

Where sanitary fitments and items of specialised equipment are identified as containing aggressive chemical deposits, chemically-resistant drainage installations will be provided within the facilities, with separation from all other above-ground foul drainage systems (unless 'point of use dilution' is required).

Where sanitary fitments and items of equipment are identified as carrying radioactive effluent, these lines will be routed directly and separately to the external drainage systems.

The below-slab drainage and external foul drainage network will be reviewed in tandem with the above-slab detailed design.

Sprinkler strategy
Sprinklers will be installed to provide sprinkler coverage to specific rooms, as required, to satisfy the fire engineering strategy. Rooms to be served include specific rooms adjacent to critical care areas plus the retail units and main entrance atrium area.

Sprinkler storage tanks will be located in the basement plantroom area along with the associated duty and standby pumps.

The sprinkler system will be a life safety system that complies with BS EN 12845 (Annex A). The hazard classification proposed is ordinary hazard Group 3 to satisfy the requirement to serve the retail units within the main entrance atrium.

Dry riser strategy
As the building is more than 7.5m in height, a series of dry rising mains will be provided throughout the building, in accordance with technical standard requirements.

Dry riser inlet boxes will be provided on the external facade of the building giving the fire and rescue services a clear line of sight as they approach each individual dry riser inlet box. Each dry riser inlet box will generally be located at the base of each fire escape stair with associated vehicle access to within 18m.

To ensure compliance with hose travel distances specified in the building regulations (Scotland), seven dry risers will be provided. These will be located throughout the lower floors of the building, reducing down to three risers at level four. Each dry riser will rise through the building within a dedicated fire-fighting shaft.

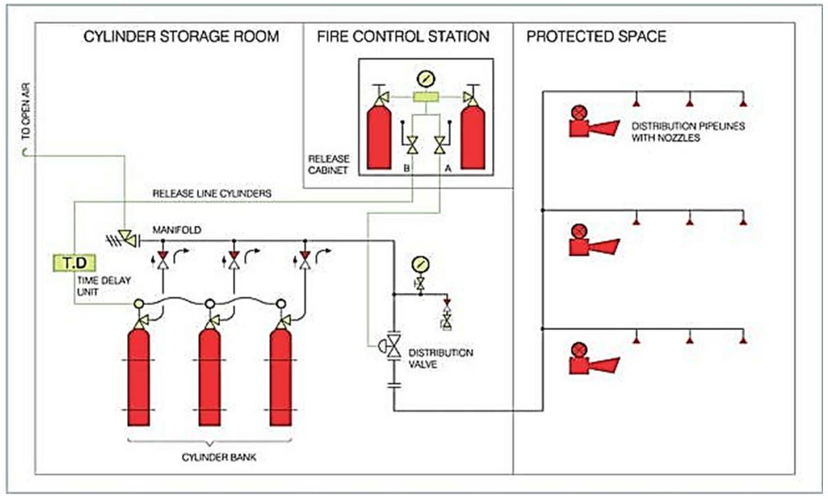
Landing valves will be provided on each floor level with outlet boxes being located within the fire protected stair well or lobby.

Pneumatic tube strategy
A pneumatic tube system will be installed to transport samples and drugs between the departments and rooms indicated in the PTS requirement table contained within the Board's construction requirements document. A link to the laboratory and pharmacy areas within the existing Royal Infirmary of Edinburgh building will also be provided via two transmission tubes to allow items to be delivered and received from these departments.

Central plant / air blowers will be located within the basement plantroom area along with the associated microprocessor control system. At each carrier station, staff will be able to select the destination via a password-controlled control panel, which will also prevent unauthorised access to the station and its contents.

The system will use 160mm transmission tubes routed via pipework risers and ceiling voids to serve the required areas. Diverter units will be provided, as required, and will be located to allow access for maintenance. The system will be capable of allowing 21 transactions / hr plus the return of capsules, accommodating five capsules travelling simultaneously in any direction and will have a 70% maximum system capacity. The PTS system will be designed and installed in accordance with SHTM 08-04.

Fire suppression system
A fire suppression system will be provided for protection of server and node rooms, IPS rooms and main HV and LV switchrooms, which will interface with the project-wide fire detection and alarm system via an interface relay on the fire alarm loop.



Fire suppression schematic

The system will be a gas-suppression system using suitable fire compression gas, which will act as a rapid fire extinguisher with a quick discharge time. Each area served will have its own system, inclusive of all storage cylinders, nozzles, control panel, detectors, wiring, annunciators, gas vent clearance system, alarm and all other necessary operational equipment.

Upon return to normal condition after a gas discharge, an installed purge system will extract from the room for a pre-determined period of time prior to the opening of motorised dampers on the general supply and extract to the space.

Additionally, a helipad fire suppression system will be provided in the form of a dedicated water / foam fire-fighting tank, located directly below the helipad, in accordance with recommended guidance that it is located as close to the helipad as possible.

Electrical services strategy

Incoming HV supply

Our design solution selected will adopt the dual, unified design philosophy with provision of dual HV public electrical supplies (PES) from the local HV network, each feeding the supply authority HV switchboard. The supply authority HV switchboard will include automatic charger facilities, should one supply fail or be out of service for maintenance.

Each supply cable will be rated to carry the full load for the hospital, should one cable fail or be out of service, therefore maximising the resilience of the supply arrangement.

The supply authority HV switchboard will supply the hospital's HV switchboard, both of which will be located in the new energy centre building.

Selection of the HV switchgear will be based on our experience working with Health Facilities Scotland selecting robust, fit for purpose and reliable equipment.

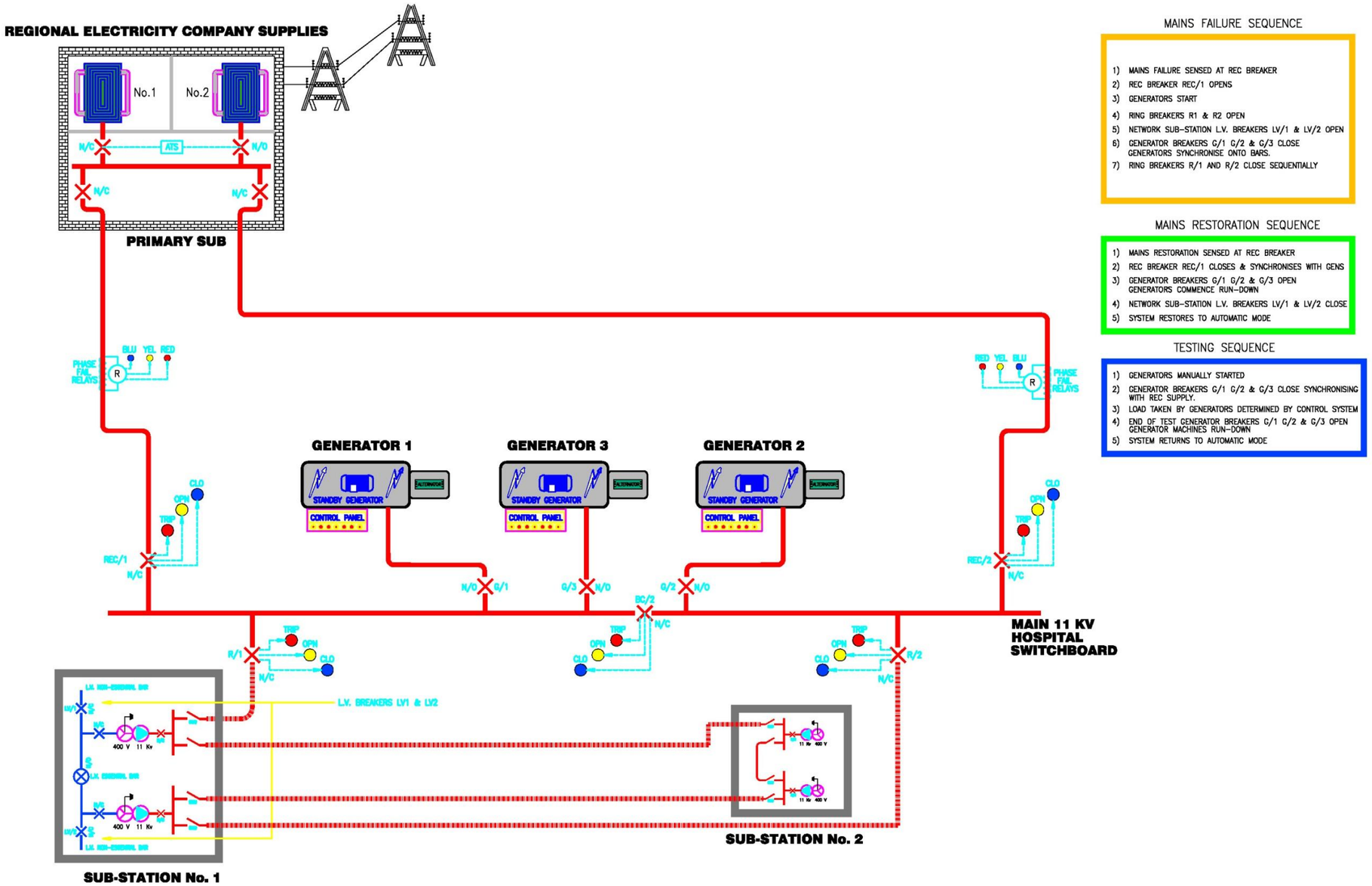
The hospital's HV switchboard will supply two substations strategically located in the basement of the hospital building. Each substation will contain:

- Two ring main units (RMUs) supplied from the hospital's HV switchboard
- Two 11000/440 volt, cast resin, low loss transformers with automatic voltage regulation, supplied from each RMU
- Two sections of the LV switchboard comprising an 'A' and 'B' side supplied from each transformer

Standby generation

To provide system resilience in the event of failure of the PES, 11kV diesel engine standby generators have been selected to provide full back up for the new hospital.

The generators will be located in the energy centre building and provide an N+1 arrangement. They will be connected directly into the hospital's HV switchboard, designed to facilitate island load sharing mode in local mains failure situations, along with all synchronisation equipment for supplying the HV switchboard on mains fail and return.



MAINS FAILURE SEQUENCE

1) MAINS FAILURE SENSED AT REC BREAKER
2) REC BREAKER REC/1 OPENS
3) GENERATORS START
4) RING BREAKERS R1 & R2 OPEN
5) NETWORK SUB-STATION L.V. BREAKERS LV/1 & LV/2 OPEN
6) GENERATOR BREAKERS G/1 G/2 & G/3 CLOSE GENERATORS SYNCHRONISE ONTO BARS.
7) RING BREAKERS R/1 AND R/2 CLOSE SEQUENTIALLY

MAINS RESTORATION SEQUENCE

1) MAINS RESTORATION SENSED AT REC BREAKER
2) REC BREAKER REC/1 CLOSES & SYNCHRONISES WITH GENS
3) GENERATOR BREAKERS G/1 G/2 & G/3 OPEN GENERATORS COMMENCE RUN-DOWN
4) NETWORK SUB-STATION L.V. BREAKERS LV/1 & LV/2 CLOSE
5) SYSTEM RESTORES TO AUTOMATIC MODE

TESTING SEQUENCE

1) GENERATORS MANUALLY STARTED
2) GENERATOR BREAKERS G/1 G/2 & G/3 CLOSE SYNCHRONISING WITH REC SUPPLY.
3) LOAD TAKEN BY GENERATORS DETERMINED BY CONTROL SYSTEM
4) END OF TEST GENERATOR BREAKERS G/1 G/2 & G/3 OPEN GENERATOR MACHINES RUN-DOWN
5) SYSTEM RETURNS TO AUTOMATIC MODE

HV Generator Schematic

LV switchboard strategy
The main LV switchboard design has been selected to provide a coupled arrangement to each transformer via busbars to provide ‘A’ and ‘B’ sections and supplies.

The ‘A’ and ‘B’ sections will be interconnected via a bus-coupler, normally open, but which will close automatically should the supply to either section fail.

Each transformer and busbar section supply will be rated to carry the full load of the switchboard, ie A and B sections, should there be a loss of supply from either transformer.

The switchboards will be fitted with incoming ACB devices and outgoing MCCB devices all with electronic trips.

Power factor correction capacitors (pfcc)
The main LV switchboards will include the facility for ‘future’ connection of PFCC equipment, should this be required. The majority of the mechanical plant will be controlled via variable speed drives operating close to unity power factor, and the lighting installation will have high-frequency control gear, also operating close to unity power factor. These sections of the installation are the main contributors to affect the power factor rating; therefore, it is unlikely that any major power factor correction will be required.

However, an assessment will be carried out approximately three months after all plant is up and running to determine the need for PFCC. This can be undertaken easily as the power factor will be recorded on the digital meters installed on the switchboard.

Voltage optimisation
The selection and specification of the 11kv/400v transformers will be low loss and include automatic voltage regulation equipment. In addition, as indicated above, we anticipate that the operating power factor will be close to unity, or corrected as required. Therefore, based on the above, it is our opinion that ‘voltage optimisation’ will not be required.

LV distribution strategy
From each main LV switchboard, sub-main cables will be routed to:

- Local distribution boards, generally within the basement area for lighting and small power
- Section boards for:
  - Mechanical plant located in the basement plantrooms, energy centre, second and fourth floor plantrooms
  - Theatres
  - Diagnostic area (MRI / CT scanner etc)

Each section board will incorporate automatic changeover facilities which will maintain the supply to the section board, should there be failure of either ‘A’ or ‘B’ supply.

- Rising busbars
- Miscellaneous items of equipment, ie lifts, sprinklers, CHP, chillers, etc

Within the building, electrical services risers have been strategically located to provide the cable routes to the above and also to accommodate the vertical busbar distribution system.

Vertical busbar distribution
Each section of the LV switchboards (A and B) will supply a section of vertical busbar within the electrical risers. Four risers have been selected for each busbar to provide diverse routes and increased resiliency.

Each section of busbar will be rated to carry the combined load of the A and B supply should either busbar fail. This will be achieved via an automatic bus coupler arrangement.

Busbar tap-off units at each level, located within the electrical risers, will be employed to interconnect departmental distribution boards. The tap-off units will be moulded case circuit breakers MCCBs with electronic trip units for flexibility to adapt to changes in load and assist with discrimination and protection.

Sub-main cabling and containment
Sub-main cables will comprise cross-linked polyethylene insulation, low-smoke fume bedding, steel wire armour and black LSF oversheath, XLPE / SWA / LSF run on galvanised steel cable basket, tray or cable ladder within electrical risers, in ceiling voids and ducts.

Cables serving fire / evacuation lifts and life safety systems will be fully fire rated.

Distribution boards
Departmental distribution will be provided by means of composite lighting and power distribution boards with each section separately metered. Generally, two separate composite lighting / power distribution boards will serve a clinical department with the outgoing circuits arranged such that, in the event of supply failure to one composite board, approximately 50% of the department lighting and power will remain available.

It should be noted that the dual composite distribution configuration might serve more than one department, where a number of small departments are located in close proximity.

The final circuit distribution boards will generally be of three and single-phase miniature circuit breaker MCB and / or MCB / RCD residual current device pattern, located within purpose-built electrical risers or switch cupboards, readily accessible but incorporating lockable doors (other than in plant rooms).

Small power installation strategy

General small power will be provided to comply with room data sheets with fixed equipment fed via local, suitably rated isolators or fused connection units, as appropriate.

Within departments, final sub-circuits will be interleaved from distribution boards, in compliance with the distribution of an 'A and B' circuit strategy, as recommended in SHTM 06-01.

Within wards and patient treatment rooms, socket outlets within each bedded area or patient treatment zone will be wired from at least two circuits. This principle will ensure that 50% of the small power facility is always available if a final sub-circuit fails under fault conditions. Bedhead sockets will be mounted on predominantly horizontal or vertical bedhead trunking for all bed room areas.

High-integrity earthing systems will be provided, where required, for connections to groups of personal computers, in accordance with BS 7671.

Generally, small power sub-circuit cabling to final outlets or supplies will be carried out in LSF-insulated multi-core cables, enclosed within a primary modular wiring distribution system. The conduit within plant rooms will be surface-galvanised steel. In addition, where appropriate, secondary containment will be provided consisting of multi-compartment dado trunking and horizontal / vertical bedhead systems.

Socket outlets in the clinical invasive rooms will be installed to MEIGaN regulations and will be bonded by means of an additional PVC-insulated earth wire, terminated in each socket outlet box and extended to the earth pin terminal block.

Fixed appliances rated up to 13 amps will be permanently connected to double, pole-switched, fused-spur boxes and fused as required. Appliances rated in excess of this load, or those requiring a three-phase supply, will be permanently connected to separate final circuits from distribution boards and independently switched at a local isolator of appropriate rating.

Local switches, or other means of electrical isolation, will be provided adjacent to plant and equipment to ensure the safety of operators and maintenance staff.

Heating appliances and automatically-operated equipment will be supplied with indicator lights to show when it is energised.

Indicators will be incorporated in the control panel of the apparatus, in the control switch, or in the socket outlet from which the apparatus derives its supply.

Electrical integrity and resilience will be provided by the addition of UPS systems to each of the following:

- All rooms requiring theatre-level power - including IPS and MEIGaN requirements
- ICU / ITU / HDU power – including IPS and MEIGaN requirements
- IT server / Hub units

Patient protection to MEIGaN regulations will be provided for all clinically invasive areas, defined by Section 710 of BS 7671 – IET Wiring Regulations - Medical Locations by the installation of IPS systems and appropriate measures, for example all IPS sockets will be coloured blue for easy identification.

Theatres, ICU etc will have a single resilient N+1 UPS system serving individual isolated power supply IPS panels within each theatre suite. In addition, each theatre lamp will have a separate battery back-up to power the lamp in the event of failure. Individual IPS alarms will be relayed to the theatre or nurses' base for each department served.

Alarms from all UPS will be remotely sited and connected to the BMS.

All 13A sockets will be double sockets, unless special requirements dictate otherwise.

Electrical equipment

All items of equipment identified as on the room data sheets / activity database ADB will be wired and installed in accordance with the additional information contained in this response.. Equipment will be installed and tested in position by the appropriate specialist and adequate space will be made available for maintenance and servicing

Lighting Installation Strategy

System objectives

The selection for the lighting proposed within each room or area will be based on the illumination levels indicated in the room data sheets. For the purpose of this proposal, generic areas of the hospital site are summarised, but this data will not override that given within the agreed room data sheets, which will identify the illuminance levels to be achieved for general task, standby and emergency lighting provision. The summaries are, where applicable, to be read in parallel with the specialist lighting designers' proposals contained within C9.

Illumination levels

Illumination levels and lighting application will be based on those set out in BS EN 12464 and CIBSE Lighting Guide LG2 and as shown on the room data sheets.

Luminaires

Luminaires will be selected to suit the individual environment. In clinical areas, luminaires will be selected to meet with the general recommendations of LG2.

Elsewhere recessed and semi-recessed ceiling-mounted fluorescent or LED luminaires will be the preferred option and, where applicable, the luminaires will be selected to take cognisance of guidance within LG3 and LG7.

Lighting control

Lighting control will be utilised as outlined by the following methodologies:

- Manual switching
- Manual dimming
- Automated control system

The lighting control strategy will be considered during detailed design with particular reference to energy efficiency and conservation.

The following outline control proposals will be developed during detailed design, in line with agreed room data sheets:

Clinical space	Manual switching with dimming as per RDS
Stores	Presence detection
Clean dirty utility	Presence detection
WCs	Presence detection
Staff areas	Manual switching / presence detection
Patient	Manual switching
Bath /shower rooms (excluding staff change)	Manual switching
Staff change	Presence detection
Offices single	Manual switching / presence detection
Offices multi-user	Manual switching / presence detection
Meeting room single	Manual switching / dimming
Stairs	Key switched
Lift lobbies	Key switched / presence detection
Corridors public	Key switched / presence detection / time clock
Corridors wards	Dimmable at staff base
Waiting areas	Manual switching from local staff base
Lobbies (excluding stairs, entrance and lifts)	Key switched
Public space (atrium)	Automatic control with daylight linking
Security lighting to car parks, external entrances and pathways	Photocell and time clock control

The control will be based on the Digital Addressable Lighting Interface 'DALI' lighting control system.

The system can not only control the fittings, but also provide feedback information from the fittings such as on / off status, present light level and ballast condition.

The system can be easily re-configured and extended to allow additional fittings to be added.

Standby and escape lighting

Under mains failure, the lighting normally energised by the primary electricity supply will automatically changeover to the standby generator supply. As all lighting is classified as essential, the lighting scheme is therefore classified as a standby type lighting system as defined by the terminology of BS 5266 and as such will be supplied by the generators during mains failure conditions.

Escape lighting is that normally energised in the same manner as standby lighting but, under final circuit failure or loss of standby supply, the luminaires will be powered by self-contained battery packs. These power designated 'emergency' luminaires, operating at reduced output, for a minimum of three hours, to provide the level of Illumination required for escape and life safety purposes.

The self-contained battery packs will be located within fittings, where possible, or located as separate units adjacent to the main fittings. They will allow central monitoring to be undertaken to all fittings utilised for emergency and escape purpose.

Escape emergency lighting installation will comply with the requirements of BS 5266 and will be fully reviewed against the fire strategy drawings during detailed design. Escape lighting will provide a positive indication of escape routes outside the hospital and all signs giving such directions will be lit to required levels.

Where recessed luminaires are installed in a fire-rated ceiling, they will be fitted with the appropriate fire-rated canopy / blanket required for maintaining the integrity of the ceiling.

Provision of an uninterruptable power supply (UPS) of three-hour duration will be provided as an emergency alternative supply for each main and satellite operating theatre clinical luminaire, which will also serve IPS sockets.

Uninterruptable power supply (UPS) strategy

General

The scope and selection of the UPS systems to be provided will be in compliance with requirements and recommendations of SHTM06-01 Part A.

In the event of a mains failure, the load will be automatically supplied without interruption from the batteries via a static inverter.

The systems will be capable of being 'bypassed' with the use of a system by-pass switch. UPS units will be provided with a castell key, released electronically when each system is placed in bypass. This key will then facilitate the closure of the 'wrap around' bypass of the UPS system.

Each UPS module will be supported by sealed valve-controlled batteries housed within a metal enclosure, providing 60-minute autonomy of the batteries for the system.

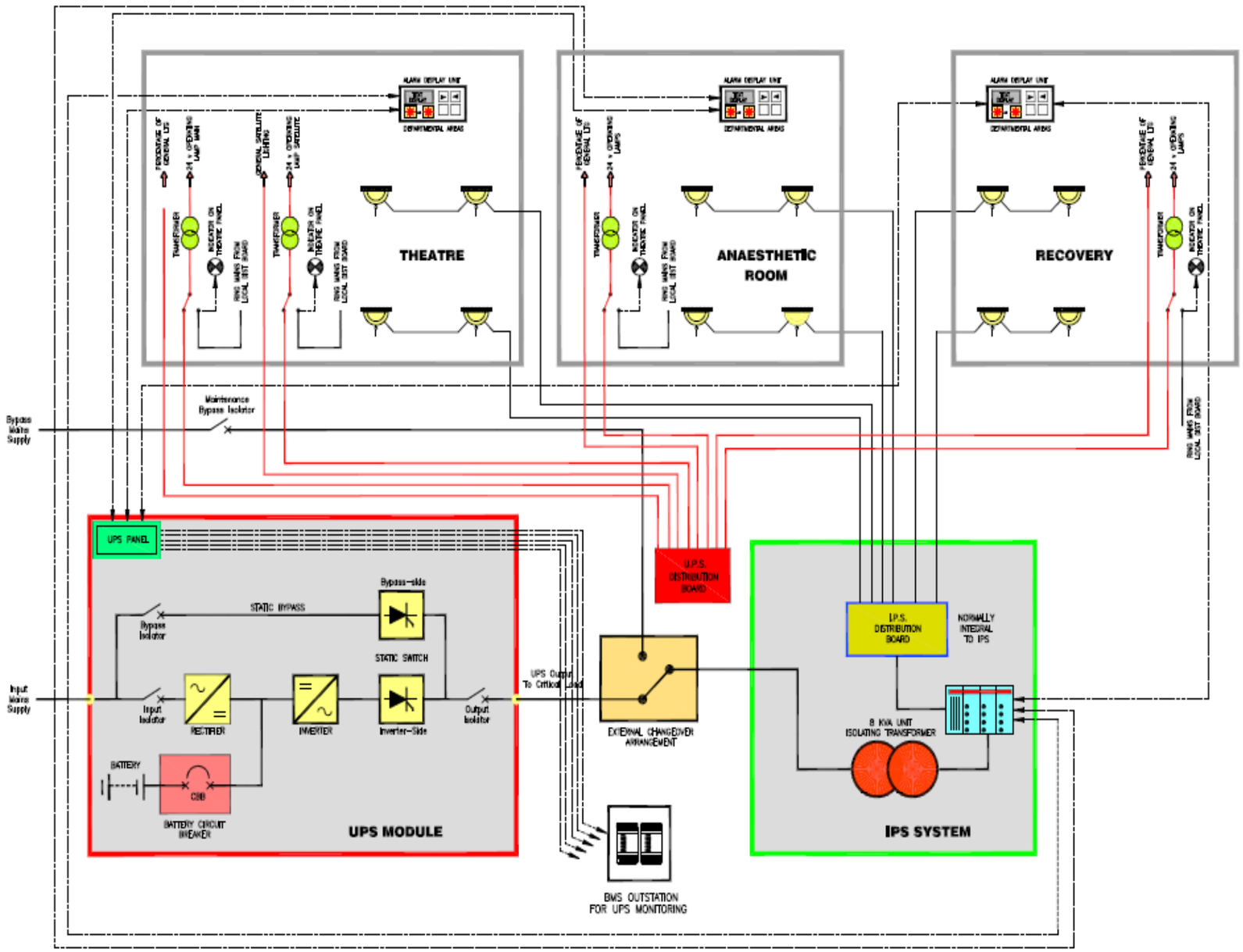
The UPS systems will incorporate a static switch rated for total final design solution for the UPS system, providing the facility to introduce / remove any UPS modules during planned maintenance periods while retaining the supply to the load.

UPS equipment will be provided to cover the operating theatre surgical lights and isolated power supplies (IPS) units which serve defined, Group 2 medical locations, in line with the recommendations provided within IEE Guidance Note 7 (Chapter 10) and IEC 60364-7-710 for electrical installations in medical locations.

It is proposed that critical small power within Group 2 locations be served by isolated power supplies, connected through two parallel, redundant uninterruptible power supply (UPS) systems. (Refer to DSSR Drawing – G (612)X-XX-001)

(Note: This is a deviation from the reference design which indicates a 'central' UPS provision. By introducing UPS equipment at two locations, we have increased reliability and resilience)

The parallel, redundant UPS system will consist of two modules, each with integrated battery plant capable of maintaining continuity of supply under mains failure conditions for a specific period, dependent on location. Under normal operation, both modules will be on line and sharing the critical load equally. If one module fails or needs to be taken off line for maintenance, the remaining module will have enough capacity to carry the full critical load.



IPS and UPS schematic

Isolated Power Supply IPS system

General

The scope and selection of the IPS systems to be provided will comply with requirements and recommendations of SHTM06-01 Part A, serving medical equipment in Group 2 locations, as defined within BS.7671 IET Publication Guidance Note 7 (GN7) 'Special Locations' Section 10.) 'Special Locations' and the Healthcare Interpretation of IEE Guidance Note-7 and IEC60364-7-710, Annex to MEIGaN dated June '05', as published by the NHS Estates and provide the following functions:

The units will be equipped with 230V/50Hz isolating power supply transformer, complete with secondary centre tap for use with line insulation monitoring equipment, incoming isolator, outgoing multi-way double-pole DP distribution board as required, equipped with 20 amp DP Miniature Circuit Breaker MCBs, Current Transformers CT's for monitoring purposes and earth bar. Full segregation will be provided between mains power and Extra Low Voltage ELV circuits.

Group 2 locations are identified as areas where applied parts are intended to be used where failure of the supply can cause danger to life. These will include the following areas, though confirmation is required from NHS Lothian regarding any other Group 2 locations not listed below:

- Anaesthetic rooms
- Operating theatres
- Operating preparation rooms
- Recovery bays
- Critical care bed spaces
- A&E resuscitation bays
- Transitional care
- DCN acute care

Line insulation monitoring devices will be provided to monitor all Group 2 location socket outlets supplied from isolated power supply units, as indicated on the schematic diagrams and listed above. Monitoring equipment located within operating theatre surgeon's panels will derive its power supply locally.

Line insulation monitoring devices will be provided with a remote indicator and test facility, complete with backlit liquid crystal display incorporated at strategic points. This will enable medical staff to disconnect faulty equipment with minimal patient risk.

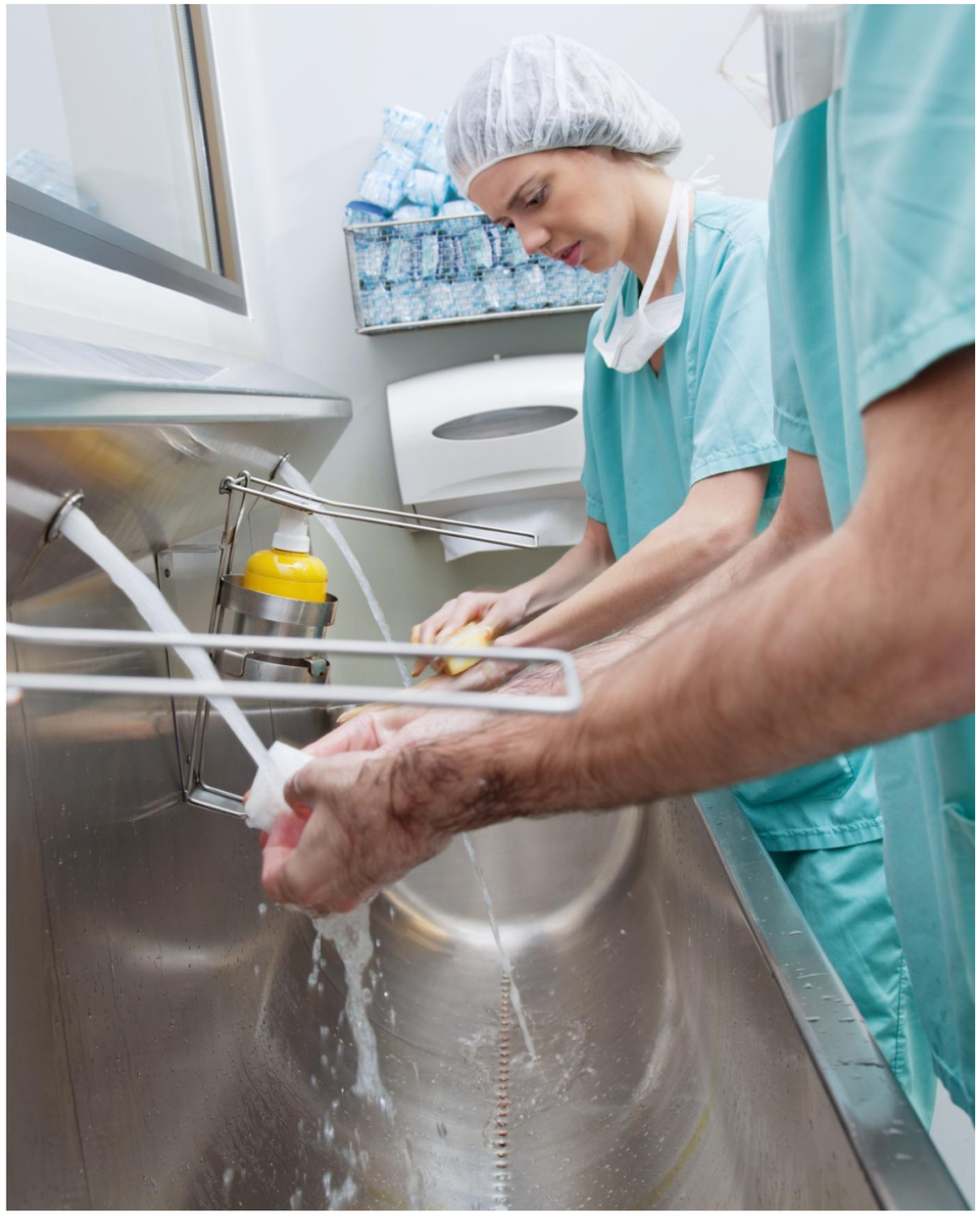
Remote alarm annunciator panels

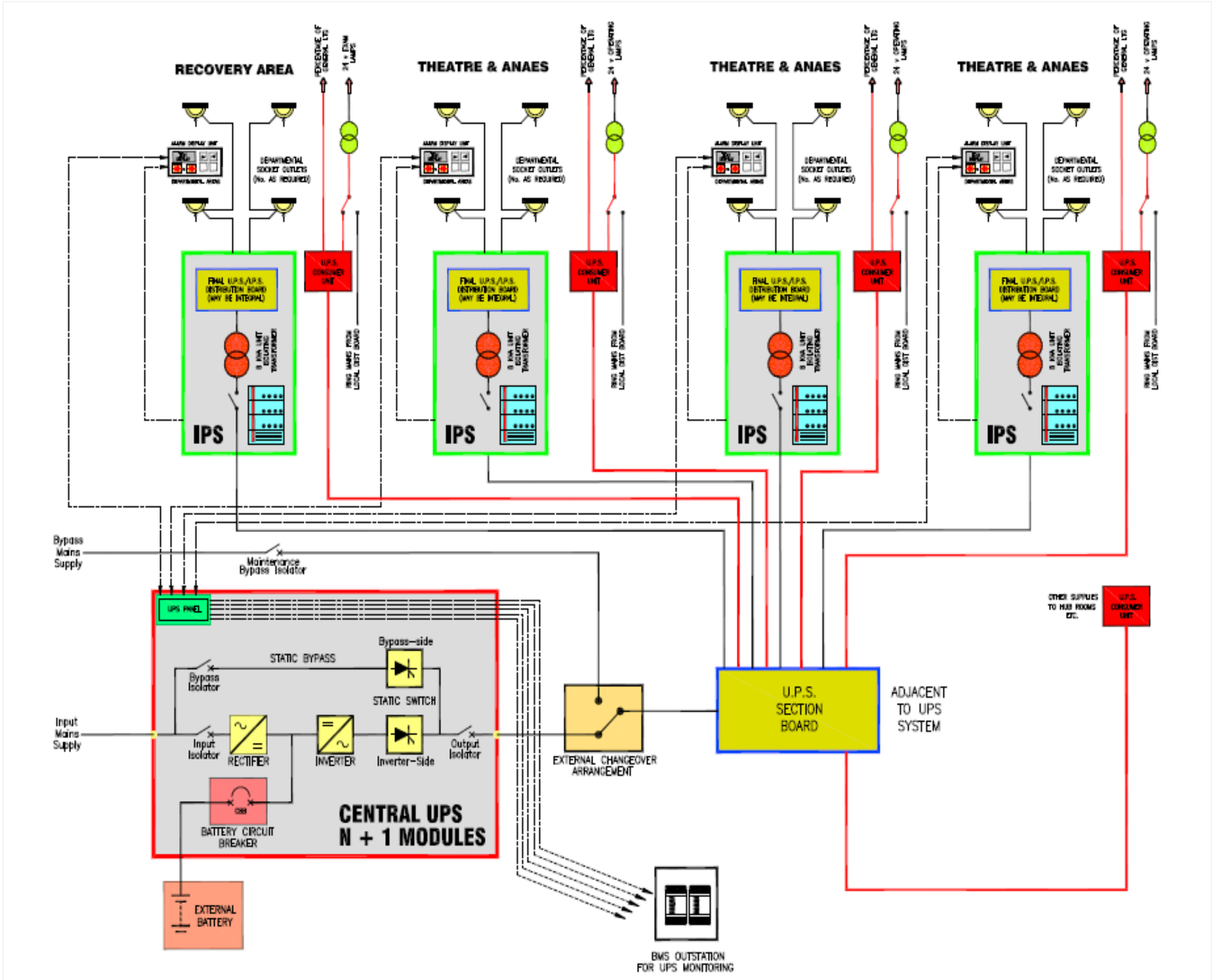
Alarm annunciator panels will be supplied for each area, providing audible and visual indication of insulation resistance, isolation transformer load / temperature and insulation fault location to sub-circuit-level alarms for their associated IPS system.

The remote alarm panel will also allow a common fault indication to be transmitted to the BMS.

Isolated power supplies' distribution board circuit breakers

Each socket outlet distribution circuit will have a Class B 20A MCB, located within the IPS enclosure. Where possible, common alarm systems will be enabled so that specific departments have a common alarm at the staff base.





Central UPS schematic

Nurse call system strategy
The equipment and system selected will comply with the requirements of HTM 08-03 entitled ‘Bedhead Services’ unless specified to the contrary in the following narrative.

System of operation (general)
The majority of the call systems will be required to provide five functions as listed below.

Patient call systems
In most areas, the basic patient signal will be initiated by the patient operating the wall-mounted call buttons or pull-cords in the toilet areas, day rooms and consultation and examination rooms respectively. In the bedded areas, however, the patient signal will be initiated by a call button incorporated into the patient handset.

On a call being initiated from one of these locations, the reassurance light at the point of origin, the amber overdoor indicator light outside that room and the group amber indicator(s) will be illuminated. It will also be indicated on the nurse call panel at the relevant staff base. Further visual and audible indications will be provided on repeater units located in other areas where staff are likely to be working, ensuring that staff are immediately made aware of all calls registered on the system.

Repeater units can incorporate an integral individual audible alarm that will remain until the patient is visited by the nurse, who will then cancel the call by pressing the respective reset button at the point of origin.

When a call has been initiated, all indicator lights will be lit continuously in amber and the audible signal will sound for one second and repeat at nine-second intervals.

The system will be arranged so that, when two or more calls are made at the same time, all the appropriate indicator lights will remain lit and all audible alarms continue sounding until all calls have been cancelled at their points of origin. The calls can be cancelled in any order.

Emergency call system
As well as the patient call system, emergency staff-to-staff, pull-to-call / push-to-reset units, coloured red, are to be provided either as separate units, or incorporated into a common unit with the patient call services as indicated on the drawings. In bedded areas, however, these units are incorporated as an integral component of the bedhead units.

This emergency system enables staff to summon other members of staff in the case of an emergency.

When an emergency call is registered, the unit will display a flashing amber light, as opposed to the continuous light of the patient call system. An audible alarm will also sound (using the same units as previously described for the patient call system). However in this instance the audible alarm will oscillate at half-second intervals. This emergency call signal will also override any patient call signal that has already been registered on the system.

As with the patient call system, the nurse will again be guided to the caller by the flashing group lights and the lights situated above the door of the room where the call was initiated. The call can then be cancelled by pressing the button at the point of origin.

Cardiac call system
At strategic locations indicated on the drawings, a cardiac call system will be incorporated into the nurse call system. The cardiac call point pull-to-call / push-to-resets (coloured blue) are to be provided, either as a separate unit or in a common unit with the patient call services.

The cardiac call unit will be permanently enabled and uses the same units as the patient call system.

When a cardiac call is registered it will activate a flashing blue light. An audible alarm will also sound. However in this instance the audible tone will be continuous. The cardiac call signal will override any other signal that has been registered on the system.

As with the patient call system, the cardiac team will be guided to the caller by the flashing group lights and lights situated above the door where the call was initiated. Once the cardiac medical team has arrived the signal can be cancelled by pressing the cardiac button on the panel.

Nurse presence
Where required, nurse presence push buttons, coloured green, will be provided either as separate units or incorporated into a common unit with the patient call services as indicated on the drawings.

This system is provided primarily as an aid to locating staff.

When the nurse presence push is activated, the overdoor indicator light (green) outside that particular room will be illuminated and repeated on the relevant nurse call panel (with no audio indication).

Patient-to-nurse speech facility
At each bedhead, nurse call panel facilities will be provided to allow two-way speech between the patient bed position and the nurse at the staff base.

Fire detection system strategy

System objectives

An automatic digital addressable fire alarm system, primarily for life safety, has been provided at the new RHSC to achieve the following objectives:

- To provide early warning of the presence of fire, by use of automatic and manual fire detection devices
- To provide information regarding the location of activated devices to enable staff and the fire service to effect a rapid and orderly evacuation of patients in the affected compartment to an adjoining compartment, or other place of safety
- To provide activation of atrium natural smoke clearance system, whenever appropriate, using high-level window ventilators
- To interface with heating and ventilation systems to ensure the achievement of appropriate plant shutdowns
- To return the appropriate lifts to a safe floor level and disable them until the fire alarm system has been reset
- To provide release, to enable closure, of the appropriate hold-open door units
- To interface with the appropriate controlled doors to open in the event of an evacuation
- To interface with the relevant departmental interfaces to avoid unnecessary disruption to the operation of hospital services
- To interface with the smoke fire dampers to ensure closure of the appropriate dampers in the affected zones
- To provide signals to the existing hospital

Design parameters

The fire alarm system will be designated as a Category L1 system, excluding detection to bath / shower rooms, toilets in staff areas, and small cupboards/ rooms less than 1m^2, as per SHTM 82.

Lift lobbies will be provided with detection in front of lift shaft openings as required, ensuring compliance.

Smoke detection will not be installed within ceiling voids, unless the voids contain piped medical gases, in accordance with SHTM 82.

The system will comply with the following documents:

- SHTM 82 Alarm and Detection Systems
- BS 5839-1 2013, Fire Detection and Fire Alarm Systems for Buildings
- Fire Service/Building Control agreement of fire strategy
- BS 7671: 17th Edition Requirements for electrical installations.
- BS 7629:2008 Enhanced Fire Rated Cabling
- BS 6387:1994 Specification for performance requirements for cables required to maintain circuit integrity under fire conditions.

System description

The fire alarm system will comprise of digital addressable control panels, repeater and indicator panels, high-performance optical smoke detectors, heat detectors, break-glass manual call points, interface wiring to mechanical services, smoke dampers, lifts, and other interface modules as necessary.

The fire alarm system will be capable of monitoring / controlling 25% additional devices.

The fire alarm system will be configured to operate a two-stage alarm, such that the compartment or sub-compartment from which the alarm originates receives an ‘evacuate’ signal, while the adjacent compartment(s) and / or sub-compartment (s) receive an ‘alert’ signal.

The ‘evacuate’ signal will consist of a continuous tone from each sounder, while an ‘alert’ signal will consist of an intermittent tone from each sounder.

Sounders will incorporate indicators within waiting areas and toilets to ensure compliance with the requirements for disabled persons.

Audibility will be in accordance with SHTM 82 requirements.

Fire alarm control and repeater panels

The fire alarm system will have the main control and indication panel at the main ‘fire fighting’ access entrance (to be agreed).

Repeat panels will be located throughout the building, generally within each department, and at staff bases / nurses’ stations, receptions and security office.

Fire detection

Point-type smoke and heat detectors will be installed throughout the building. Aspirating-type detection will also be considered within atrium, theatres and imaging rooms to facilitate ease of testing.

Manual call points will be located generally in accordance with SHTM 82 and BS 5839.

Alarm signalling

To signal a fire alarm within the hospital, a system of electronic sounders and flashing beacons will be provided as follows:

In areas where patients require assistance, sounders will be provided. Audibility will be 45-55db(A) or 4db(A) above the notional noise level, whichever is the greater.

Flashing beacons will be provided in high-dependency patient areas such as operating theatres, ITU / HDU, and areas within the audiology department. Sounders and flashing beacons will be provided in general multiple-occupancy toilets, plantrooms and across accessible rooftops.

Fixed extinguishing systems

Fixed fire extinguishing systems, complete with dedicated control panels, will be provided within the following areas:

- Main equipment rooms (ICT)
- Extinguishant release will be initiated upon activation of a detector located within the room or manually from the associated control panel. The extinguishing system control panel will be monitored by the main fire alarm system.

Interfaces
During an alarm condition, the fire alarm system will monitor the following site systems that depend on the fire alarm system for their actuation:

- Mechanical ventilation system
- Fire door hold-open units
- Access control systems
- Fuel supplies
- Pneumatic tube conveyor system
- Lifts
- Fire and smoke dampers
- Atrium area smoke clearance system

A fire alarm cause and effect schedule will be prepared which will clearly indicate the interfaces to these systems and the appropriate action that will be automatically implemented.

Security system strategy

All the security systems – staff attack / intruder / door access / CCTV – will be selected to provide all the systems on a dedicated networked system, with the main network equipment being located in the new FM office.

The network system shall be capable of providing the following requirements:

Staff attack system strategy
A staff attack alarm push button system will be provided in the following locations:

- Main reception desk
- All nurses stations and staff bases
- Departmental receptions

A latching panic button will be installed within easy reach of the staff at each of the above locations and wired into the intruder alarm system.

A wireless staff attack alarm system will be provided and installed in each ward and / or department and will take the form of:

- Portable transmitters carried by staff to initiate an alarm via the wireless connection points
- An audible alarm installed within the various indicator panels in security and agreed locations until the call is cancelled
- Local indicator lamps incorporated in the various indicators
- Pagers will respond to the priority alarms

Intruder alarm system strategy

An intruder alarm system will be provided and controlled from a central control panel to monitor and protect all 9-5 departments and external doors.

The intruder alarm system will comply with BS 8220: Part 2:1995, BS 4737: Part 1, BS 5979, BS 6799, BS 7042 and BS 7150 and all other relevant British standards.

The system shall consist of:

- Door contacts on relevant windows and doors
- PIRs within corridors and vulnerable rooms
- Visual and audible indication
- All ancillary equipment – panels / RIOs etc

All external doors and fire exits and entrances will be fitted with door contacts and indicated on the alarm panel within the reception and remotely to the security room.

The intruder alarm panel control and indication unit will be located at the security reception desk and will incorporate reset and event log. The system will be operated from an AC supply via a power supply unit complete with rechargeable battery back-up.

A remote indication that the intruder alarm system is armed will be provided at the main reception and at the exit doors.

The system will be capable of remaining fully functional for a period of 24-hours should the mains fail.

The intruder alarm system will be linked and interfaced to the NHSL telephone 24-hour manned security office.

Access control system strategy

An access control system shall be provided to:

- Restrict access to certain areas at certain times
- Monitor where people have been in the building and provide records
- Give access via an electronic identification device to electric locks
- Give remote management

Door systems will be complete with readers, contacts, PTE, locks, fire alarm interfaces, etc for a complete system.

Readers will be vandal-resistant where external. All external fire doors will be alarmed to advise security if opened.

All ward staff bases and other major department entrances will have CCTV / intercom with electric door locks (switchable) to control access along with reader access for staff.

Departmental doors controlled via CCTV / intercom will include CCTV on both routes of doors, ie visitors arriving and departing will have entry / exit controlled via an intercom and CCTV system with entry / exit unlocking at the nurses' base.

Main entrance automatic door
A video door entry system will be installed at the main entrance electric automatic doors. The screen / door operating unit will be installed at the security base station to allow control of the main doors out of normal working hours.

Other public entrance doors
A video door entry system will be installed at the entrance electric automatic doors. The screen / door operating unit will be installed at the 24-hour station to allow control of the main doors out of normal working hours.

Department doors
A video door entry system will be installed at entrance as detailed on the ADB sheets controlled from the dept staff base station.

External doors
All external doors and fire doors will be monitored and require alarming to reception / security base.

CCTV system strategy

A complete and fully-operational closed-circuit coloured TV system has been selected to cover the internal areas and external area as defined. Externally, all building perimeter will be viewable either by fixed cameras or PTZ cameras.

All necessary telemetry cabling and controls will be linked to the central monitor and switcher / multiplexer unit. Monitors, multiplexers, matrix, remote handset, video server and recording equipment will be provided.

Cameras will be positioned to provide effective and efficient image cover to the areas required. Internal cameras will be covert and of dome, static or micro-sphere type.

Externally-mounted cameras will be overt and suitable for continuous operation down to temperatures of minus 15ºC. Each unit will be fully protected against, dust, rain, mist, etc to IP66.

Camera images must not be adversely affected by artificial lighting, both new and existing, sunlight or direct sunshine.

External CCTV camera towers or poles
Digital CCTV and hard disk recording will be provided.

Where towers or poles are provided, they will include a secure weatherproof cable box within the base for the termination of the underground cables, providing the power and video connections to the mount.

Where PTZ or movement detection video images are to be employed, the tower or pole mount will be sufficiently rigid as to not affect the operational design intent of the system offered when wind speeds of 100mph maximum are applied.

Each tower or pole will be complete with lowering gear and autobrake winch. Each tower will be provided with an independent lighting conductor tape and earth rod system.

Where cameras are wall mounted they will be supported from mounting brackets secured to the building fabric. Fused spur units will be contained in a separate weather-proofed enclosure to IP67, positioned adjacent to the camera.

Final connection to the cameras will comprise heat-resisting multi-core PVC insulated and sheathed flexible cables.

Lenses for CCTV cameras
All CCTV cameras will be fitted with suitable auto-iris lenses to adequately cover the various areas.

Each lens will automatically compensate for a wide range of illumination levels and incorporate a coated filter to reduce reflection near the iris.

CCTV cameras
All fixed cameras will be colour to operate in lighting levels from eight to 100,000lux.

Cameras will be latest technology charge-coupled devices (CCDs) with high-sensitivity CCD image sensor and solid state circuitry. The failure rate will be better than 100,000 hours. All external cameras will be optimised during hours of darkness and not daylight hours.

Cameras will be wall or pole-mounted and housed within stainless steel lockable enclosures.

PTZ cameras
Pan Tilt Zoom (PTZ) colour cameras will be installed at strategic points on the site where required. Wiring and controls back to the security base will be included.

Closed circuit TV monitors
High resolution CCTV monitors for the central control will be installed, and will have a scanning system compatible with that of the cameras, frequency response up to 8MHz resolution 600 lines minimum, with on, off, brightness and contrast controls.

A matrix switcher to enable multiple channels of CCTV and a hand controller for adjustment of PTZ cameras will be provided.

Patient equipment tagging strategy
A patient-tagging system will be provided in CAMHS and certain areas in the DCN to monitor patient movement and raise an alarm should any patient move outside of designated areas.

The system will comprise 24-hour controlled access into the relevant department. Normal access into the departments will be observed by discretely positioned CCTV cameras.

The bringing of the tag within a pre-set distance of the entrance door will initiate a local alarm, causing the department doors to lock and alert security staff at the local security base.

It is proposed that all doors into these departments will be locked and access gained by request via the voice entry system. Key fobs / swipe cards to operate door release units will be provided to allow staff to open and close doors as necessary.

Induction loop system strategy
Audio induction loop systems will be provided in all main reception, waiting and sub-waiting areas to assist the hard of hearing in compliance with the Disabled Discrimination Act.

Each induction loop will comply with the requirements of BS 6083: 1981 and in particular Part 4: Magnetic Field Strength in Audio Induction Loops for Hearing Aid Purposes.

A license from the Department of Trade and Industry, Waterloo Bridge House, Waterloo Road, London, SE1 8UA will be obtained in order that an induction loop system in a public building may be operated.

A vibrating disc or pager-based system will be provided to indicate to patients that their appointment is available. It is considered that this system may be offered via the wireless access system.

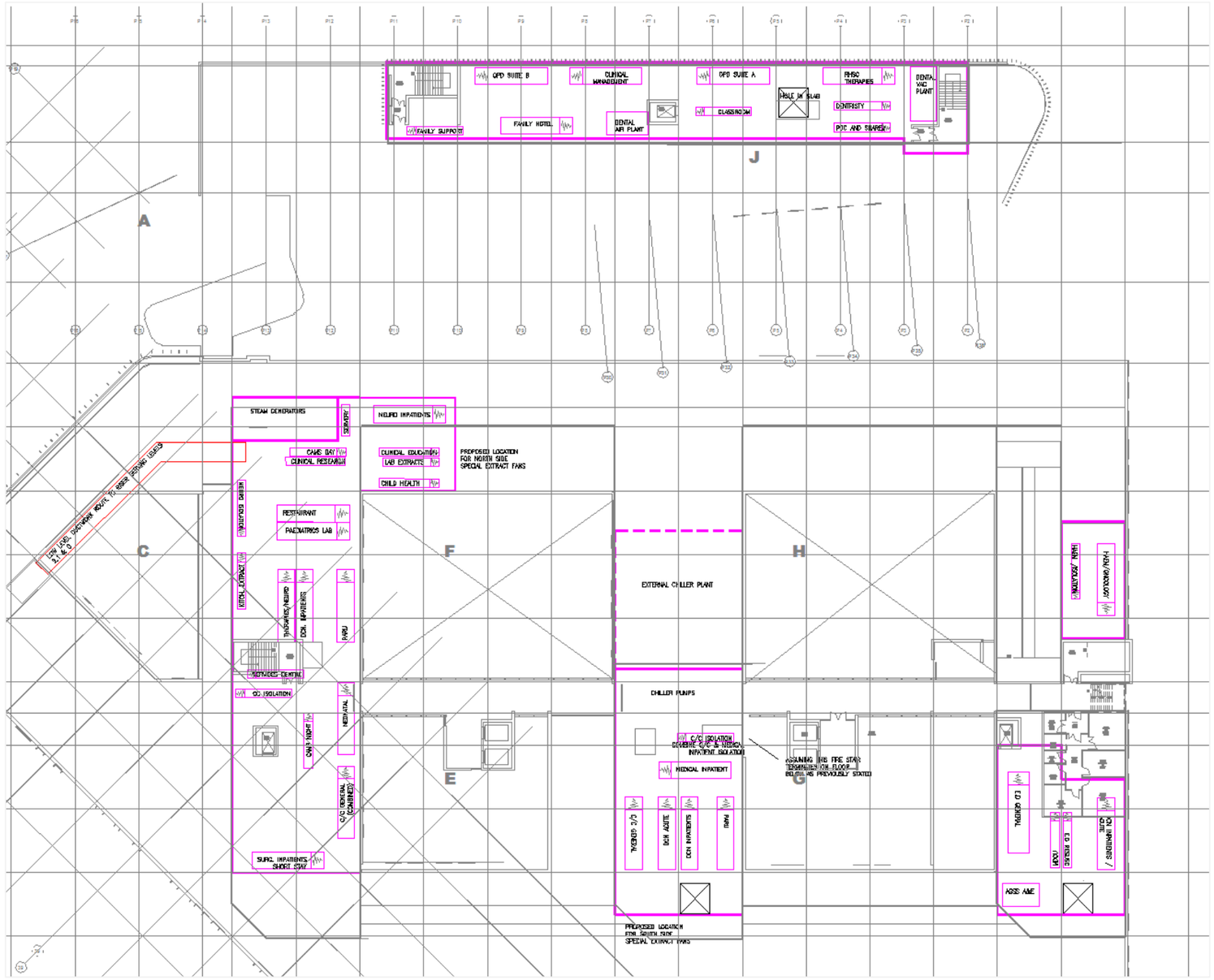
iii. The definition of plant areas and zones both internal and external to the Facilities; and

Strategy
Main mechanical and electrical plant items are located in designated areas. These areas have been selected and located to assist with maintenance, plant replacement and ease of distribution of services. They are also located to ensure that air intakes, air discharges, flue outlets and noise generated will not compromise the operation of the systems or the safety or comfort of the building users.

These main plant areas can be summarised as follows:

Level 4 plant
Level 4 is the rooftop area of the new hospital building. A number of internal plant areas will be provided but open air space is also available to locate plant that benefits operationally from being external. The main plant located on Level 4 is:

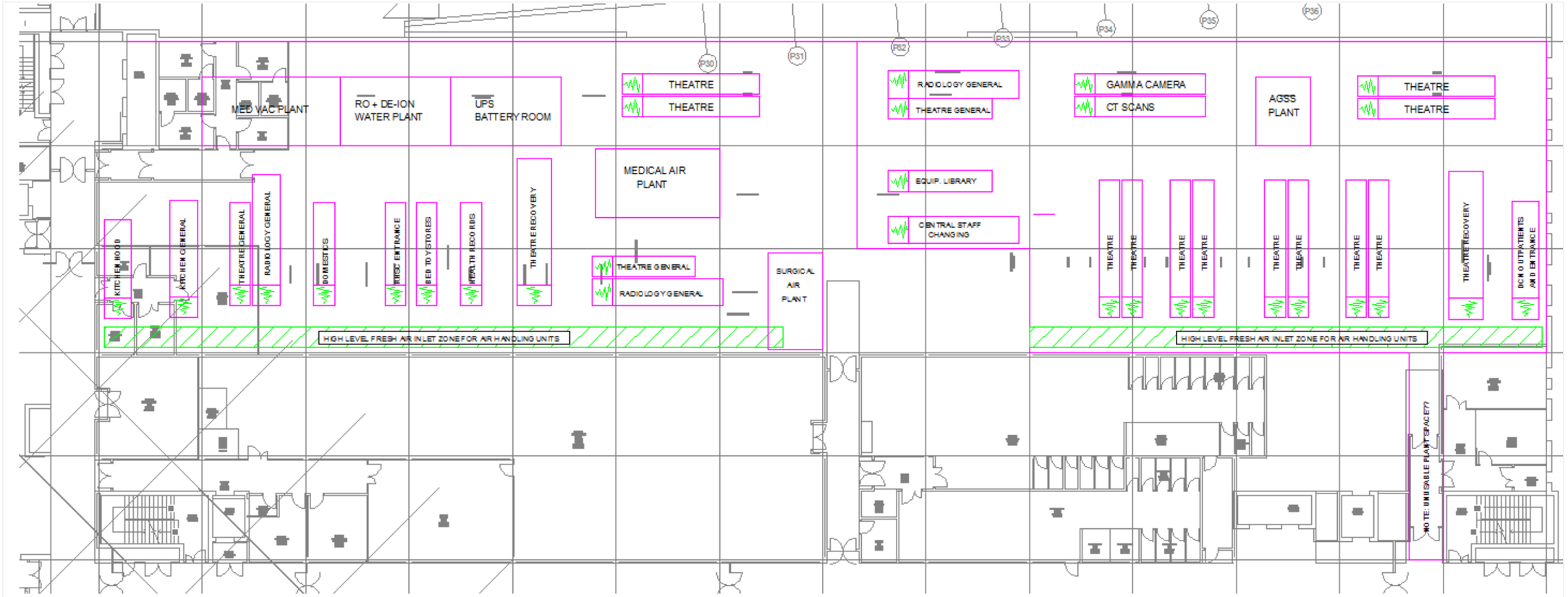
- Numerous air-handling units with supply and extract sections located internally within plantrooms. There are three distinct plant areas to allow ductwork from AHUs to drop vertically to serve the respective departments and therefore minimise long horizontal runs of large ductwork
- Specialist system extract fans (isolation rooms, fume cupboards etc) located within internal plant areas. Located on Level 4 to minimise ductwork routing to safe discharge points above roof level
- Gas-fired steam generators located within an internal plant area. Located on Level 4 to allow flue routes to be minimised and a discharge location that will not impact on air intakes etc
- A dedicated water / foam fire-fighting tank associated with the helipad, which is recommended to be as close to the helipad as possible
- Chillers and adiabatic coolers located externally on the roof area. This allows heat to be rejected directly to outside and also helps to minimise the impact of operation noise on building users and surrounding areas
- Chilled water pumps and pressurisation units located internally with a plant area adjacent to the chiller units. Location adjacent to chillers is beneficial to help with distribution to Level 4 AHUs.
- Dentist air and vacuum plant located internally within the plantroom above the north pod area. This location minimises horizontal pipework distribution to the dental departments located directly below this plant area.



Level 4 Plant Area

Level 2 plant
The Level 2 plant area is located directly above the theatre departments on Level 1 and the radiology department on Level 0. Design guidance is that the extent of ductwork serving critical areas such as theatres should be minimised and the location of this plant area allows this to be achieved. The Level 2 plant area has large expanse of external wall area where intake and discharge louvres are located. Suitable attenuation will be provided on the ductwork connection to the louvres and directly onto the louvres to ensure that noise emissions from operating plant will be adequately dealt with. The main plant located within the Level 2 plant area will be:

- Dedicated air-handling plant to serve individual operating theatres
- AHUs that serve other areas that are directly below this plant area to reduce duct lengths and minimise horizontal distribution of ductwork
- Anaesthetic gas scavenging system (AGSS) associated with the theatre AHUs
- Various medical gas plant, including medical air, medical vacuum and surgical air plant. The location of the plant area at the heart of the clinical areas helps with the distribution of the medical gas pipework
- Reverse osmosis and de-ionised water plant. The central location of this plant area allows distribution pipework to be minimised
- UPS battery room. The location of a percentage of the UPS system batteries and IPS units in this plantroom helps to reduce cable lengths to the various departments, particularly the theatres on the second floor. This reduction in length assists with voltage-drop through cables and therefore also reduces the cable size.



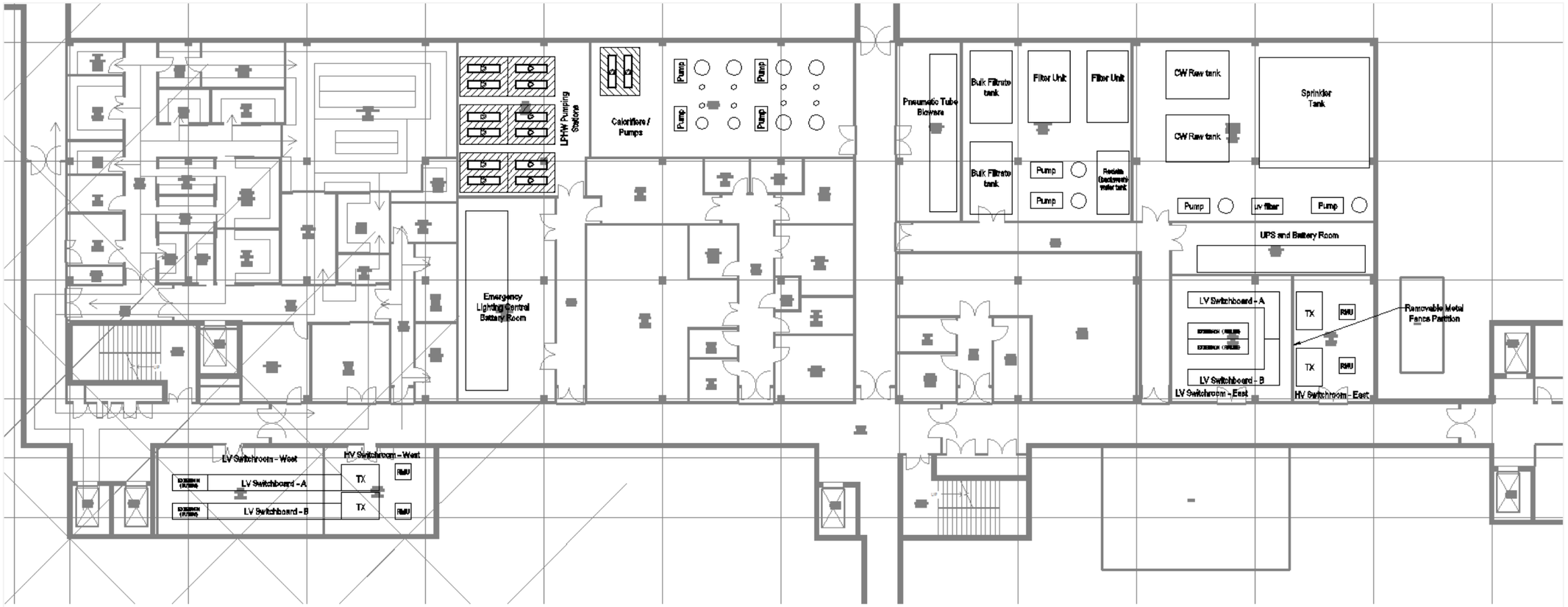
Level 2 Plant Area

Basement level plant

The basement area links directly to the energy centre via the services tunnel. Plant can therefore be located in the basement to link with the energy centre and then distribute horizontally to the five main pipework and electrical risers located at stair cores throughout the building. The service tunnel will also be used if necessary to provide a route for major plant items located in the basement to be replaced at a future date.

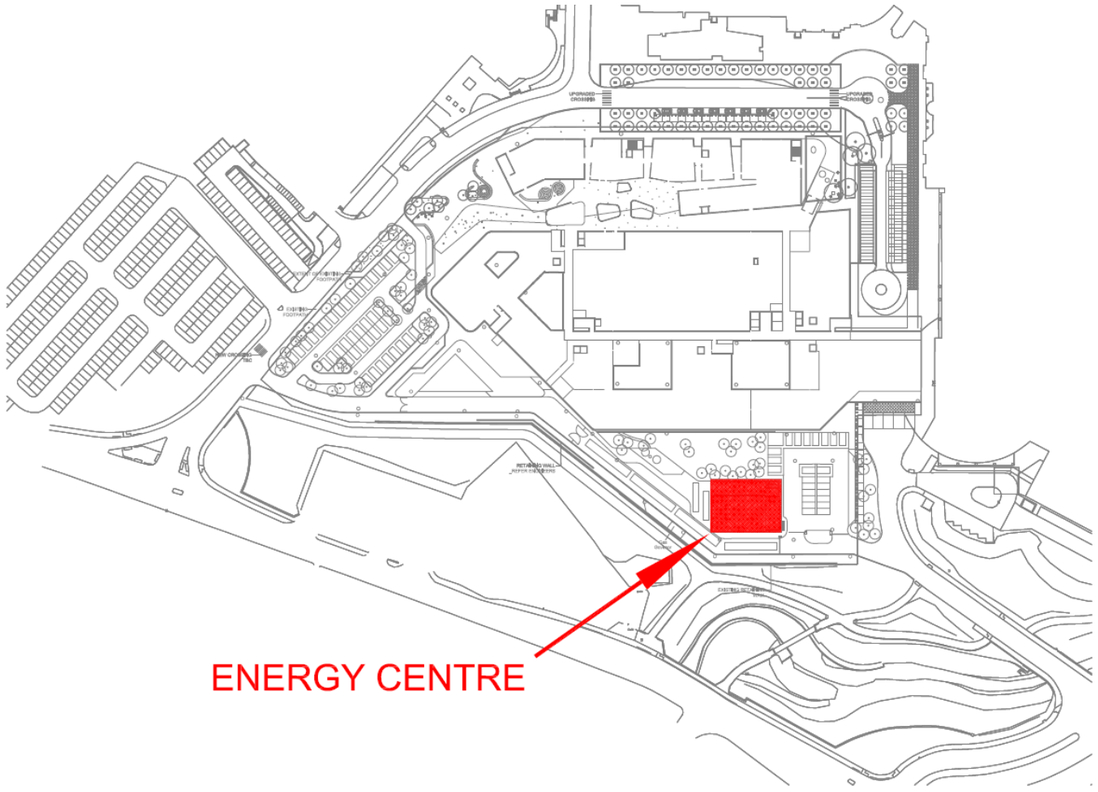
The main plant items located in the basement are:

- Bulk cold water storage tanks plus associated filtration plant, booster sets, etc. These water tanks are very heavy and locating them in the basement helps to reduce the structural load on the building. The structural slab will be recessed locally to allow the main storage tank heights to be accommodated without increasing the overall basement level depth and this will also assist in dealing with any potential water leakage as this would be into the bonded slab recess area
- Sprinkler storage tanks plus associated pumps. Similar to the water storage tanks, the weight of these tanks is easier to accommodate at basement level and the slab will be recessed locally to accommodate their height
- Domestic hot water calorifiers. Locating these at basement level helps reduce the extent of heating pipework distribution throughout the hospital to serve calorifiers. It also allows the domestic hot water distribution system to be local to the areas it serves and distribute main pipework horizontally at basement level
- LTHW pumping station. This is the location for the various LTHW secondary pumps that distribute the heating system pipework throughout the hospital. These pumps are zoned to serve different areas of the hospital and also to provide constant temperature and variable temperature circuits as required. This location allows the primary pipework system from the energy centre to be minimised and allows excellent horizontal distribution to risers at basement level
- Two separate high-voltage and low-voltage substations. These serve different sections of the building and this location allows the main distribution cabling to be accommodated at basement level where there is more space. This location also minimises the extent of HV cabling that comes from the energy centre, which has health and safety benefits
- Emergency central battery rooms, which will supply the emergency lighting throughout the building
- UPS battery room. The location of a percentage of the UPS system batteries and IPS units in this plantroom helps to reduce cable lengths to the various departments, particularly radiology / imaging department on the ground floor. By reducing cable lengths, the ‘limiting impedance’ associated with imaging equipment can be made easily achievable
- Pneumatic tube system central blower plant. This location allows the pneumatic tube system distribution pipes to distribute horizontally at basement level where there is more space available, before then rising horizontally to serve the relevant PTS stations



Basement Level Plant Area

Energy centre



The energy centre is located over two levels and is located outside the building on the southern part of the site. The use of an energy centre allows large plant to be located remotely from the main building. This helps with any future plant replacement requirements and also allows flues to be located far enough away from the new and existing buildings so that they will not have an adverse impact on them. The energy centre also allows noisier plant to be located away from the building and assists with fuel storage and deliveries associated with this main plant.

Main plant located in the energy centre includes:

- The main gas-fired boiler plant
- Combined heat and power units
- Pumps and pressurisation units, etc associated with the main heating plant
- The absorption chiller and associated heat rejection plant (located externally). This location allows the absorption chiller to be fed directly from the CHP units to allow the higher water supply temperature from them to increase the efficiency of the absorption chiller plant
- Main standby generator plant
- The Scottish Power HV sub-station
- Client HV sub-station
- Low voltage switchgear

External plant areas

There are a number of external plant areas that will be provided to suit the operation of the new hospital. These include:

- Two bulk oil storage tanks located externally in a suitable bunded enclosure. This oil will provide the fuel source for the standby generation plant and for the main boilers if the gas supply is interrupted. These will be located directly adjacent to the energy centre in order to minimise oil pipe distribution and therefore minimise potential damage to them
- Medical gas manifolds and gas bottle stores. These will be located external to the main building in the service yard area and will allow the gas bottles and manifolds to be accessed by road for delivery and uplift of bottles. The location directly adjacent to the building will allow pipe routes into the building to be minimised but will also allow the areas to be naturally ventilated in accordance with SHTM guidance
- Gas governor housing. This will be located at the southern boundary edge of the site to suit the incoming utility connection point and to minimise underground gas distribution throughout the site

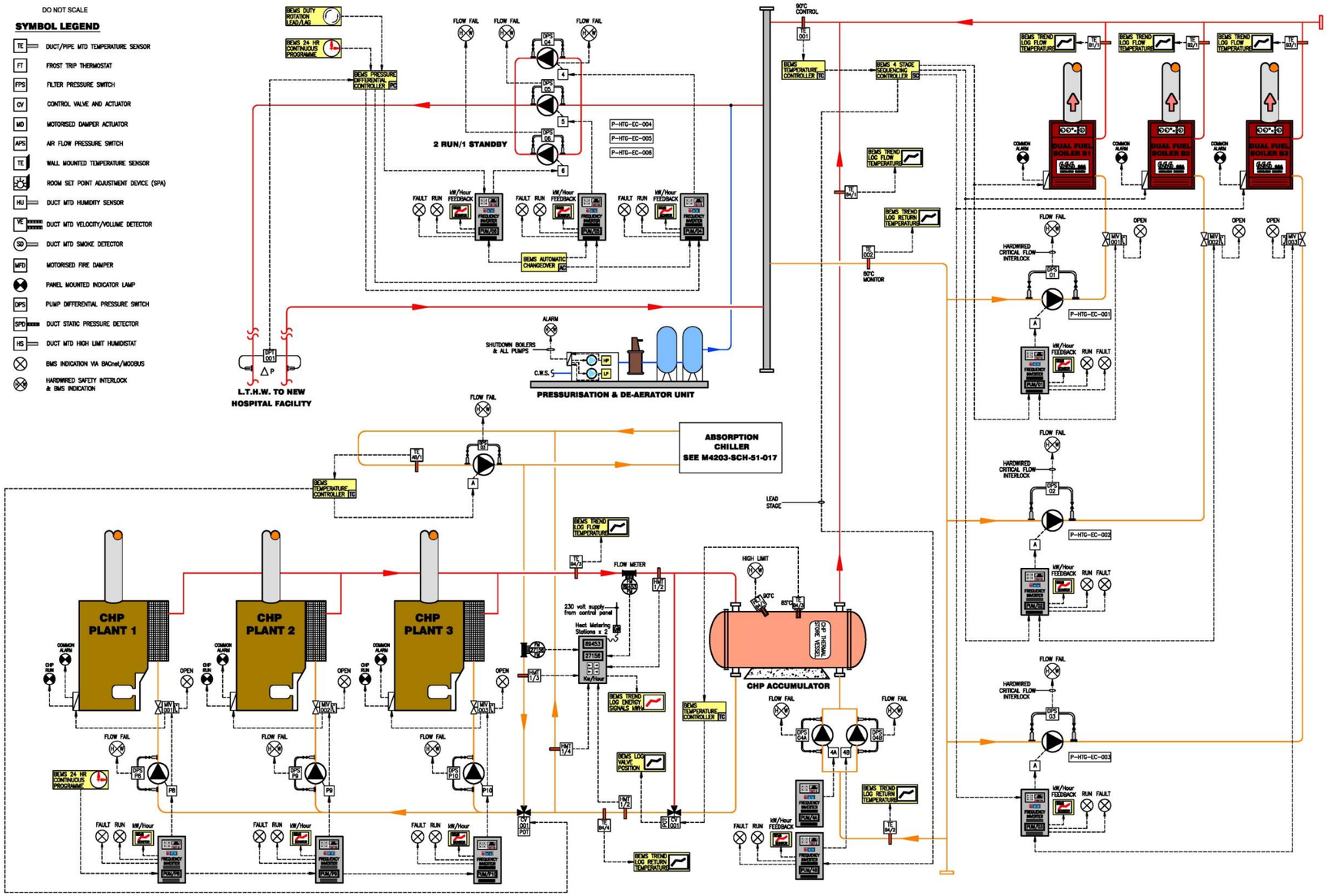
iv. Schematics and written proposals for major plant provision.

Boilers and CHP units

It is proposed to provide three dual fuel gas / oil-fired boilers and three gas-fired combined heat and power (CHP) units to provide the heat source for the new hospital building. The number and size of CHP units may be amended as the detailed design progresses at the next stage.

The CHP units are arranged and controlled to act as the lead heat source whenever there is sufficient electrical load to allow them to run. They will also supply heat to the absorption chiller during warm weather periods when there is a reduced building heating load but increased cooling load. This arrangement allows their usage and run times to be optimised to help reduce energy consumption and carbon emissions.

The three boilers will act as the main heat source for the building and will have sufficient capacity to heat the building even if one of them is non-operational. Gas will be the primary fuel supply for the boilers but with oil back-up to cope with any interruption to the gas supply.

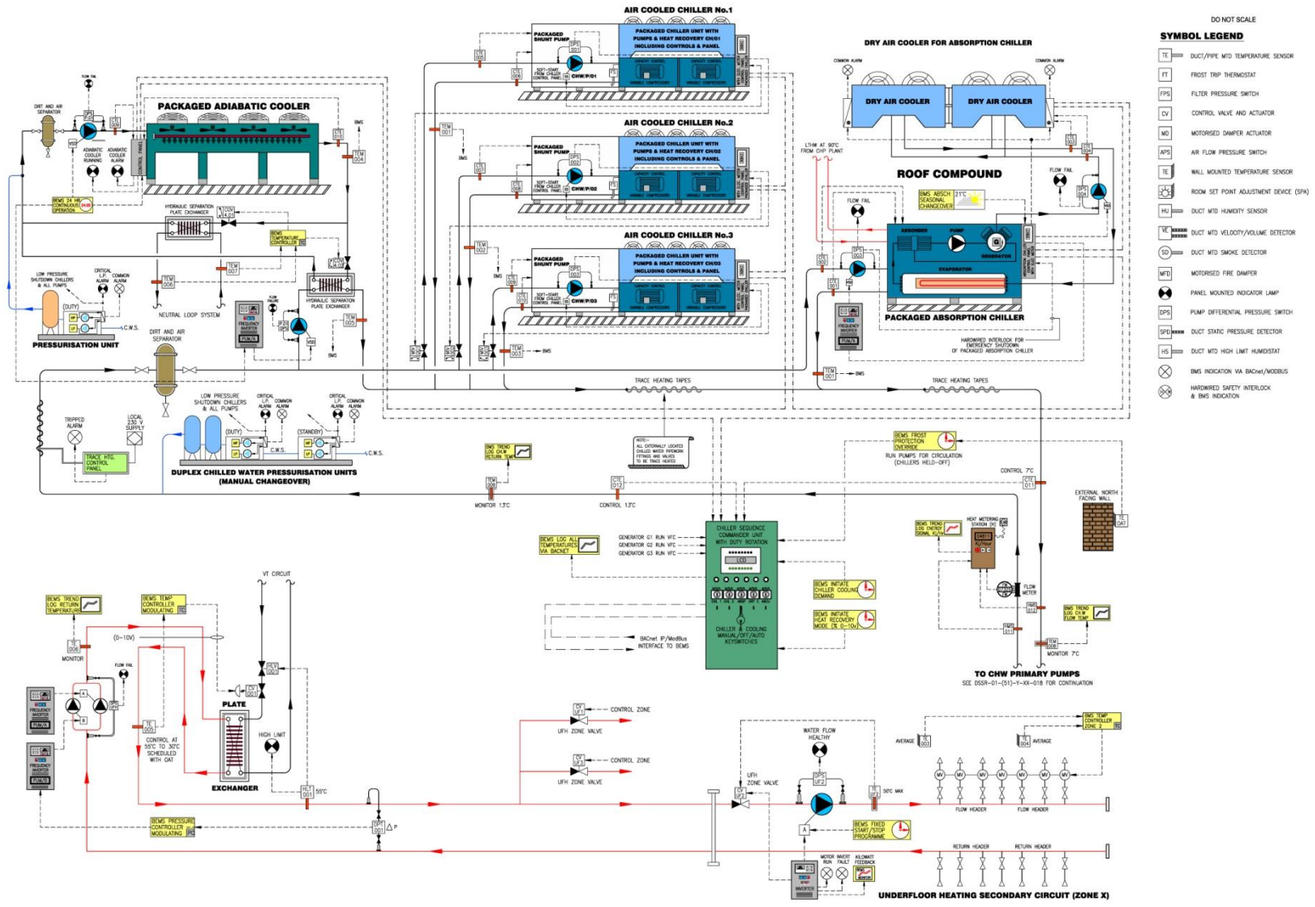


Heating Plant Schematic

Chillers

It is proposed to provide the cooling to the building via a combination of cooling plant, specifically:

- Three air-cooled screw compressor chillers that are each sized at 33% of the peak building cooling load
- An absorption chiller that will operate as the lead chiller in warm weather periods when there is spare heat being generated by the CHP plant that cannot be used to heat the building or the domestic hot water load. This unit will be sized to match the available CHP load
- An adiabatic cooler that will act as the heat rejection plant for the neutral loop VRV hybrid system, which in turn will provide cooling to the patient hotel and clinical management areas. This plant will also be arranged to provide cooling to the main chilled water system when low ambient air temperatures allow this to occur

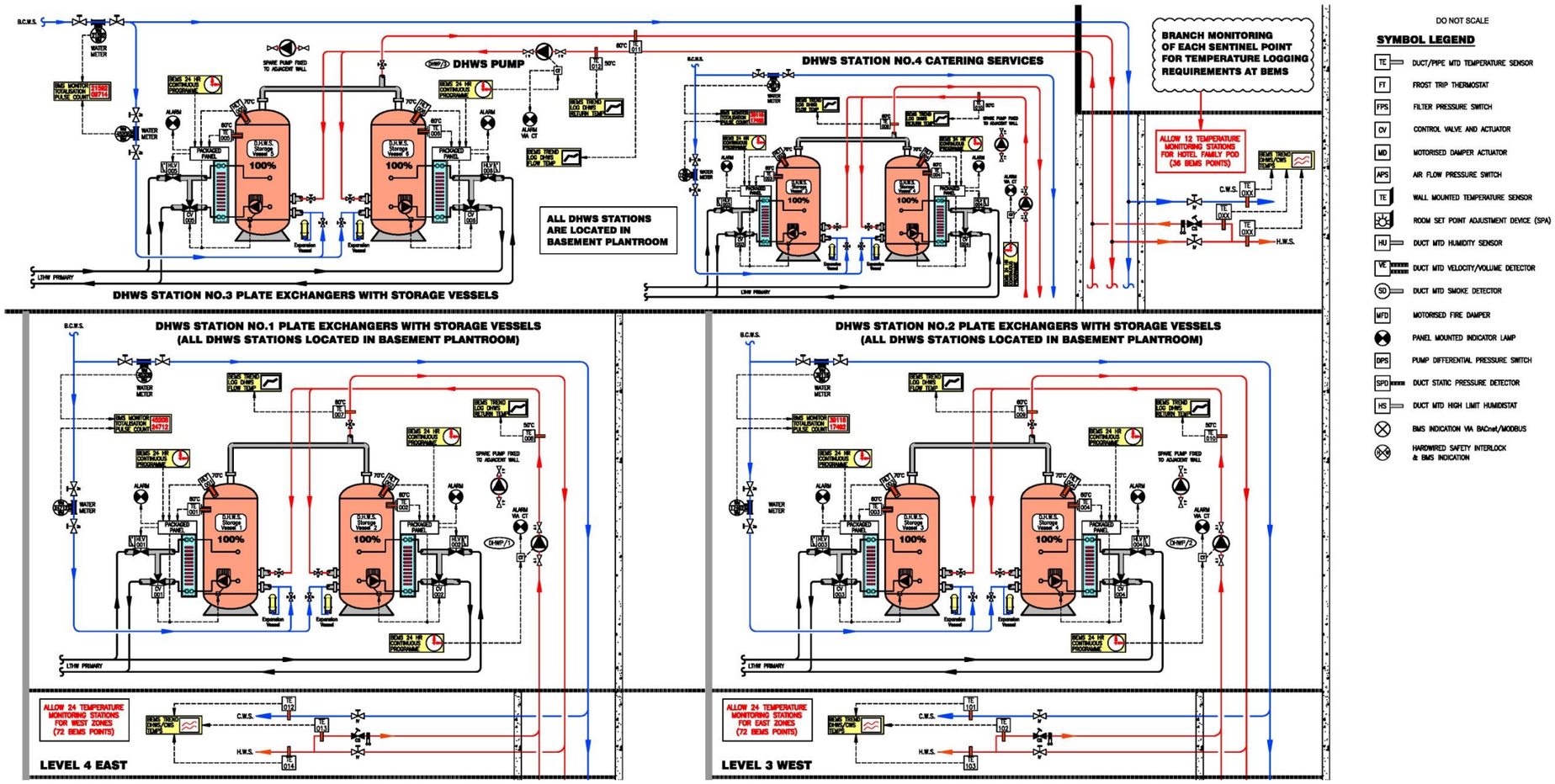


Chiller Schematic

Domestic hot water calorifiers

Four sets of semi-storage domestic hot water calorifiers will be provided to serve the various load points within the building. One set will be dedicated to serve the main kitchen, with the other three sets serving different zones within the building. This arrangement will help to minimise the length of pipework runs and so reduce the chance of water stagnation.

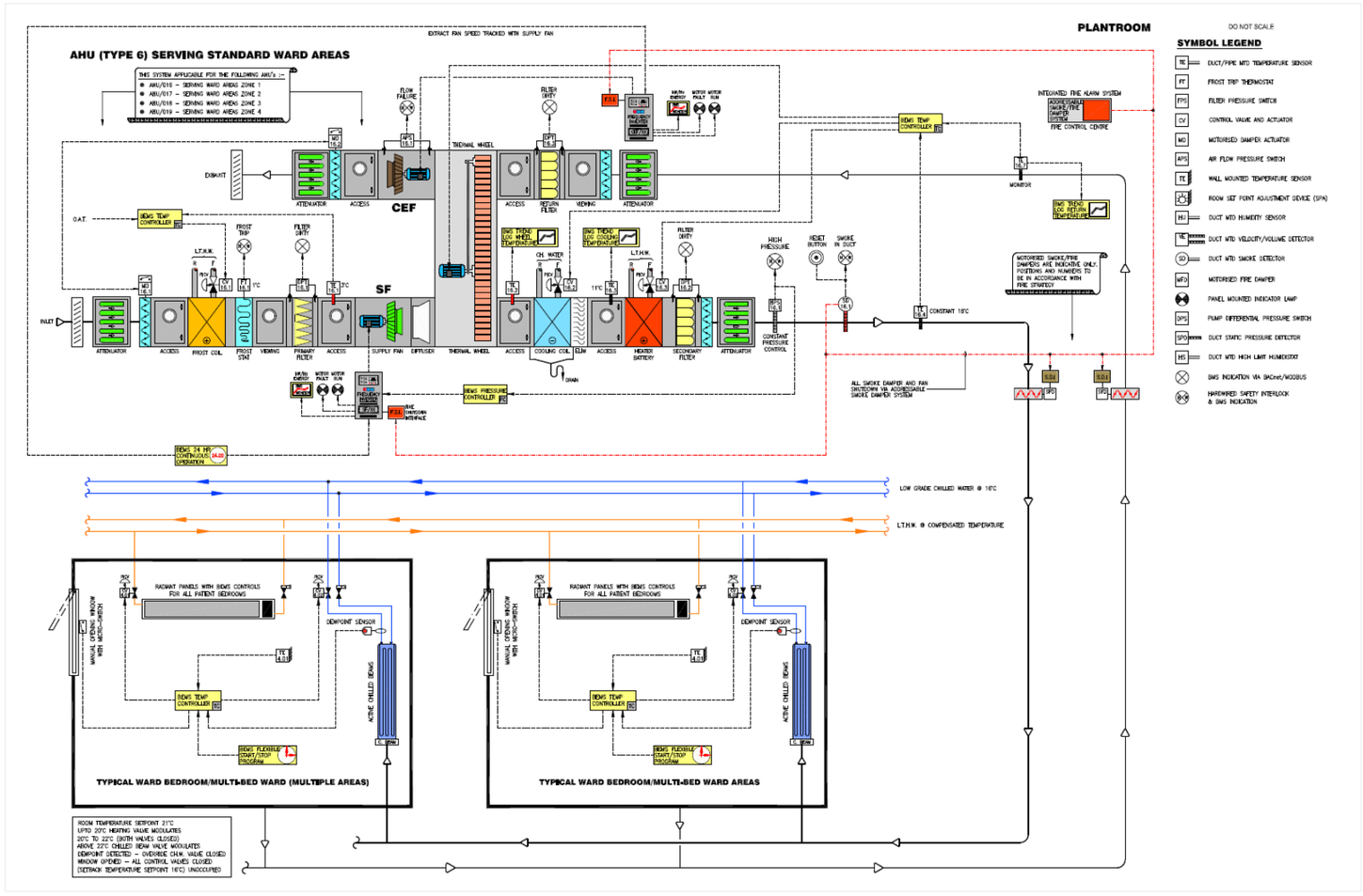
Each set of calorifiers will consist of two independent calorifiers sized to meet the peak load for the building. This arrangement will help to improve the system resilience if a fault occurs with one of the units. All calorifiers will derive their heat source from the LTHW heating system.



Domestic Hot Water Schematic

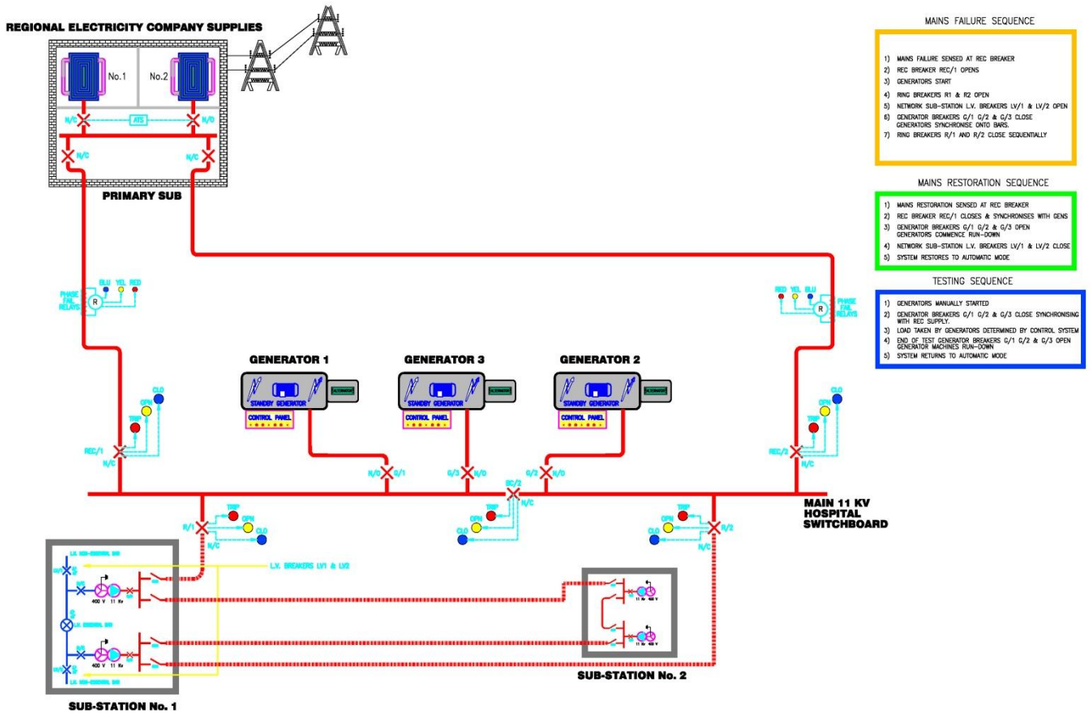
Air-handling units

Air-handling units will provide mechanical supply and extract ventilation to the various areas within the building. The AHUs will serve dedicated areas or departments within the hospital to allow the AHU to operate in harmony with the area's operating hours and internal conditions. AHUs will supply filtered air that is heated or cooled via heating / cooling coils to meet the load conditions within the space. No air recirculation will be provided (in order to improve infection control) but heat reclaim will be provided via thermal wheels to help reduce energy consumption.



Standby generators

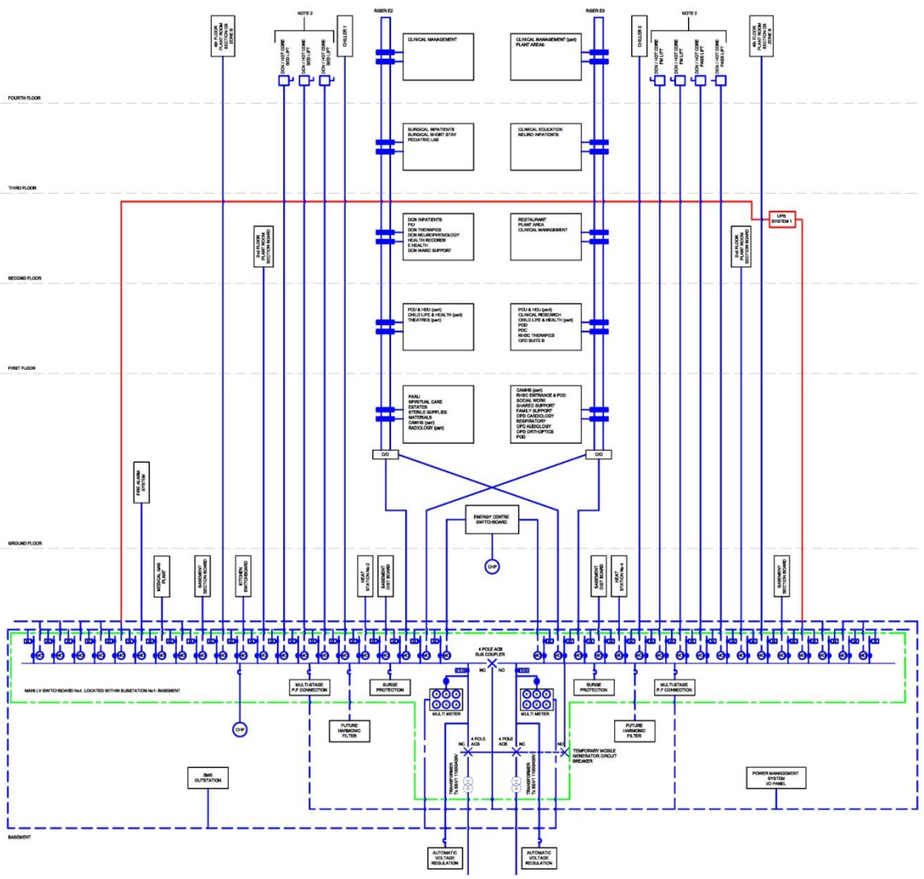
To provide system resilience in the event of failure of the public electricity supply, 11kV diesel engine standby generators have been selected to give full back-up to the new hospital. The generators will be located in the energy centre building and provide an N+1 arrangement. The standby generators will be connected directly into the hospital's HV switchboard and will be designed to facilitate island load sharing mode in local mains failure situations, along with all synchronisation equipment for supplying the HV switchboard on mains fail and return.



Main switchgear

The main LV switchgear will be located in the basement and consist of two substations, each containing:

- Two ring main units (RMUs) supplied from the hospital's HV switchboard
- Two 11000/400Volt cast-resin low-loss transformers with automatic voltage regulation, supplied from each RMU
- Two sections of the LV switchboard comprising an 'A' and 'B' side supplied from each transformer



C8.2

Bidders must submit proposals setting out how their design will be developed to include the following:

i. Building services which support the Board's business, safety and security and life critical services under supply failure scenarios. Specific details will be provided relating to standby facilities and mains service redundancy;

An intrinsic aspect of the building services design is to ensure that the impact of any disruption of incoming utility supplies or plant failure does not adversely impact on the operation of the hospital and the safety of patients, staff and visitors. The business continuity strategies for the various building services systems are detailed below.

Incoming utility services

Electrical power

The design of the main power distribution system for the new RHSC / DCN hospital will adopt the dual-unified design philosophy, by provision of dual HV public electrical supplies (PES), each feeding a primary switchboard.

The HV supply shall be derived from the local HV network with two HV cables supplying the PES HV switchboard located within the energy centre.

Natural gas

A medium pressure gas supply enters the site at the southern boundary, fed from the MP gas mains on Old Dalkeith Road. This supply is then regulated down to a low-pressure supply via twin stream governors which give duty and standby capability. This approach helps to minimise the potential for failure of supply due to any issues with one of the gas governors.

Fuel oil

Standby fuel oil storage will be provided via two above-ground oil storage tanks which will provide separate supplies to the boiler plant and standby generators.

Each oil distribution system will have duty and standby pumps. The generator supplies will feed individual day storage tanks associated with each generator set. Supply connections from the oil tanks will ensure that a designated amount will always be available for sole use by the standby generators. The oil storage tanks will be sized to provide 200 hours' running time for the generators or boilers at peak operational conditions, whichever is the greater amount, while taking account of the designated generator-only supply amount as noted above.

Mains water

Two alternative local water authority water supplies via two alternative sources will be provided, in line with SHTM 04-01 and the Scottish Water horizons hydro engineering water impact assessment (WIA) report of March 2012.

The primary water supply will be taken from a new connection to the Scottish Water 24-inch main within Craigmillar Castle Road (adjacent to the existing Scottish Water connections to the ERI). This supply will be routed outside the existing hospital site via Craigmillar Castle Road and Old Dalkeith Road.

The secondary supply (emergency backup supply) will be taken from the Scottish Water 12-inch main within Old Dalkeith Road. Each supply will be routed on to the site via the communal utilities strip.

Both supplies will be independently metered with Scottish Water revenue meters at the site boundary, while being interconnected (externally) at the site boundary via a series of valves. Both the meter and interconnecting valving arrangements will comply with Scottish Water requirements.

This dual supply arrangement will add to the resiliency of the water supply to the new hospital.

Electrical services

Incoming electrical power

System objectives

To provide a resilient and robust source of supply for the electrical distribution network within the new RHSC / DCN hospital project, incorporating provisions for distribution resilience and 100% standby supply to deliver continuity of power to defined locations during the immediate period after a mains failure.

Design parameters

The design of the main power distribution system for the new RHSC / DCN hospital will adopt the dual-unified design philosophy, by provision of dual HV public electrical supplies (PES), each feeding a primary switchboard. To ensure system resilience, 11KV standby generators will be provided to provide full system back-up in the event of failure of the PES.

To ensure continuity of the electrical supplies within clinical risk Category 4 and Category 5 areas, static UPS will be provided. The UPS provision to these areas will be from a number of systems operating in a parallel redundant arrangement.

System description

The new hospital will be served directly from the public electricity supply (PES) by means of firm dual 11KV feeds derived from the local HV network. Each cable will be fully rated to run the whole site should one be out of service (for example, during planned maintenance on one of the primary intake panels or one of the supplies failing). The PES HV switchboard will include automatic changeover facility to maintain the supply for the above scenario.

The 11kV feeders will each feed a PES authority HV switchboard, which in turn will be interconnected to the hospital HV switchboard via dual feeds.

To provide system resilience in the event of a complete failure of the PES, 11kV diesel engine standby generators will be provided to give full back-up to the new hospital. The generators will be connected to each section of the hospital's HV switchboard as indicated on schematic drawing DSS-X(613)X-XX-002.

The HV switchboards and the generators will be located within the new energy centre, which will form the focal point of the electrical and mechanical services infrastructure to the new hospital building.

From the hospital HV switchboard, power will be distributed around the site via two 11KV open rings to two substations within the basement of the hospital building, effectively providing a side A and a side B.

In the event of failure of both feeders to the primary switchboards, the HV generation will commence start sequence and serve the hospital network. Synchronisation and control of the generators will be achieved by means of the supervisory control system. The dual PLC system control logic will permit sequential automatic / check synchronisation of supplies to suit network configurations arising from the normal supply availability, supply outage and generator testing.

The BMS will monitor and report common alarm conditions of the standby generator plant.

The generator PLC system will be developed to incorporate the central power monitoring system. This will include the monitoring of all main LV distribution ACBs and all relevant HV circuit breakers and generator plant.

LV distribution

System objectives

To provide a resilient and robust low voltage (LV) infrastructure within the new RHSC / DCN hospital to distribute low voltage supplies throughout the hospital in diverse circuits to all the departments and mechanical plant systems.

Design parameters

To provide a low voltage (LV) electrical distribution system from geographical load centres throughout the facility transformed from high voltage (HV) for plant and equipment operational use, based on dual redundancy and continuity of supplies.

Introduction

Main LV distribution will be from bus-tied switchboards fed by dual power transformers, effectively giving side A and side B.

The locations of the substations containing the ring main units, transformers and LV switchboards, have been selected to provide the optimum conditions for the sub-main distribution to the electrical riser and vertical busbars. This will assist in reducing cables sizes, fault protection and discrimination, and hence provide a robust, reliable and resilient installation.

Transformers

Transformers will be of the dry encapsulated-type and naturally air-cooled. These will be close-coupled to the main LV switchboards. Transformer winding temperature warning devices will be arranged to provide alarm output capability.

A single transformer will have the capacity to supply the full load of the switchboard, should the other transformer fail.

Main LV switchboards

From the main LV switchboards, sub-main cables will supply a number of secondary switchboards / section boards and busbar risers. Each will be served by two supplies via a local manual or automatic changeover facility depending on the department, with either supply rated to carry the full load of the switchboard / section board / busbar.

The two LV switchboards will be connected by two bus-coupler circuit breakers, one normally closed, the other normally open. Each switchboard will be supplied by a transformer, which is capable of supplying the total load of the board. If a single transformer develops a fault, the bus-coupler will automatically close to allow the other transformer to feed the entire switchboard.

Section boards

Dedicated LV section boards will be provided to serve the main power requirements of diagnostic equipment, theatres and plant areas.

Busbar distribution

A number of busbar risers will be strategically positioned within the hospital to supply the final departmental distribution. Each busbar riser will be directly connected as radials to either side of a main LV switchboard.

Busbar tap-off units at each level, complete with electronic protection, will be employed to interconnect departmental distribution boards to the distribution network.

For increased resiliency, an interlocked changeover arrangement will be provided at each departmental feed position that will enable the board to be connected to either of two busbar risers. This configuration will cater for situations such as a single busbar sub-main supply failure, single busbar failure or local distribution board feed failure.

Sub-main cabling and containment

Sub-main cables will comprise cross-linked polyethylene insulation, low-smoke fume bedding, single wire armour and black LSF oversheath run on galvanised steel cable basket, tray or cable ladder within electrical risers, within ceiling voids and ducts.

Departmental distribution

Departmental distribution will be provided by means of composite lighting and power distributions boards including sub-metering of each section. Generally, two separate composite lighting / power distribution boards will serve a clinical department with the outgoing circuits arranged such that, in the event of supply failure to one composite board, approximately 50% of the department lighting and power will remain available.

It should be noted that the dual composite distribution configuration might serve more than one department where a number of small departments are located in close proximity.

The final circuit distribution boards will generally be of three-phase MCB and / or MCB / RCD pattern, located within purpose-built electrical riser / switch cupboards or switch cupboards, readily accessible but incorporating lockable doors (other than in plantrooms).

Uninterruptible power supplies
Within critical medical locations, no-break power will be provided to designated outlets and theatre operating lights. This will be achieved by the incorporation of UPS arranged in a parallel redundant mode. The parallel redundant UPS system will generally consist of two modules each with integrated battery plant capable of maintaining continuity of supply under mains failure conditions for a specific period, dependent on area as recommended in SHTM 06 01 Part A.

UPS equipment will be provided to cover the operating theatre surgical lights and isolated power supplies (IPS) units which serve defined Group 2 medical locations in line with the recommendations provided within IET guidance note 7 (Chapter 10) and IEC 60364-7-710 Requirements for special installations or locations - Medical locations

Group 2 medical locations
It is proposed that critical small power within Group 2 locations be served by isolated power supplies connected through a central parallel redundant uninterruptible power supply (UPS) system.

Under normal operation, all modules will be on line and sharing the critical load equally. If one module fails or needs to be taken off line for maintenance, the remaining module will have sufficient capacity to carry the full critical load.

Electrical distribution resilience
The adoption of a philosophy of bulk generation places the emergency standby generators that provide supplies to critical loads at the head of the hospital's HV distribution system and hence the generators are on the HV side of local distribution transformers.

Additional requirements, over and above the traditional configuration of emergency generators, are addressed on the low voltage distribution network. These will ensure the same, or even improved security of supply. Factors to be considered are as follows:

- Failure of 11/0.4kV distribution transformers
- Failure of local distribution substation 11kV circuit breakers associated with the distribution transformers
- Failure of local distribution substation 11kV ring circuit breakers
- Cable faults on the consumer's 11kV network
- Failure of the primary intake substations 11kV circuit breakers feeding the onsite ring mains
- Failure of the primary intake substations 11kV bus section
- Failure of a feeder connecting the primary intake substations 11kV bus to the bulk generation facility
- Failure of the bulk generation facility 11kV circuit breakers
- Loss of fuel supply to the bulk generation facility
- Fire within the bulk generation facility
- Loss of PLC control of the HV network

Mechanical services

Heat generation plant
The main heating load for the hospital will be provided by three dual fuel boilers that can operate on gas or oil. In addition to these boilers, three smaller-scale CHP units are being proposed that will also contribute to provide the heating load requirement. The boilers will be sized on an N+1 basis such that if any boiler fails, or if all CHP units were to fail, then the peak building load can still be met by the remaining boilers.

Cooling plant
The chilled water supply for the building will be provided via two air-cooled chillers, an absorption chiller and an adiabatic cooling unit.

The absorption chiller will allow the CHP units to provide the heat as the driving force for the cooling during warm weather periods to assist with peak loads and maximise the CHP operational period.

The adiabatic cooler will allow heat rejection from the VRF Hybrid / neutral loop system that is being installed in specific non-clinical areas and will also allow 'free cooling' to the main chilled water system during low ambient temperature periods.

The heat exchanger arrangement that allows this facility also allows the main chilled water system to promote cooling to the neutral loop system in the event of the adiabatic cooler failing.

The three main air cooled chillers will be sized to each provide 33% of the peak chilled water system cooling load with the absorption chiller providing additional back-up to improve system resiliency. Each of the main chillers will also have two separate compressors and refrigeration circuits to make them more robust.

Mechanical services pumps
With the exception of shunt pumps on individual plant items, all circulation pumps will have duty /standby or duty / assist / standby arrangements to provide security of operation.

The pumps on all booster sets on pressurisation units will be arranged in a multiple arrangement to ensure that an N+1 standby facility is maintained.

Ventilation plant
Standby motors will be provided on critical ventilation plant as follows:

- Isolation room supplies where the air-handling plant serves more than one room
- Critical care single rooms where the air-handling plant serves more than one room

Resilience will be maintained on dirty extract systems serving WC areas by means of duty / standby fan and motor units with auto changeover and back flow dampers.

Resilience of supply to operating theatres will be achieved by the provision of individual air-handling plant to each operating theatre, resulting in the loss of only one theatre in the event of a plant failure. Where a pair of theatres are joined by common spaces, (for example, dirty utility or prep room), the ventilation will be designed so that loss of one air-handling plant does not compromise the ventilation to the adjacent theatre.

Power supplies to plant
Where duty / standby drives are provided to any plant, power will be derived from the A and B circuits respectively. Electrical distribution will be designed to include changeover arrangements so that each circuit will be able to support the whole load from either circuit.

Public health services

In order to provide redundancy, a series of centralised raw water and filtered water cold water storage tanks will be provided within the basement plant room. This arrangement also allows routine maintenance to be carried out on the tank without disruption to the supply of water to the building.

The combined capacity of the centralised raw water and filtered water storage tanks will be sized for an onsite bulk storage of 24 hours.

Centralised water filtration plant will be provided within the basement plant room. Two equally-sized duplex filtration units, each incorporating a duty and support facility, will be provided. Each standalone unit will be fully automatic as well as allowing both units to be interconnected to allow 50-75% working capacity at all times.

The filtration units will be sized to provide adequate flow to satisfy maximum demand while incorporating an element of redundancy.

From the filtered cold water storage tanks, the water will pass through a CWS booster set arranged in a duty / assist / standby arrangement prior to distribution through the hospital.

The domestic hot water (DHW) will be provided by a series of sets of centralised semi-storage vessels. Each set of calorifiers will be sized to provide adequate flow to satisfy maximum demand while minimising stored water and energy consumption. This arrangement also provides an element of redundancy to the DHW system in the event of a single calorifier failure.

Medical gases

The medical gases installation will be designed in accordance with SHTM 02 including all necessary provisions for resilience required by the guidance. Resilience can be summarised as follows:

Oxygen
- Primary supply – Duty vessel of VIE installation
- Secondary supply – Standby vessel of VIE installation
- Emergency supply – Cylinder manifold

Nitrous oxide
- Primary supply – Duty bank of cylinder manifold
- Secondary supply – Standby bank of cylinder manifold
- Emergency supply – Emergency standby manifold

Medical Air (common plant with Surgical Air)
- Primary supply – Duty compressed air plant incorporating multiple compressors
- Secondary supply – Standby compressed air plant incorporating multiple compressors
- Emergency supply – Standby manifold

Surgical Air (common plant with Medical Air)
- Primary supply – Duty compressed air plant incorporating multiple compressors
- Secondary supply – Standby compressed air plant incorporating multiple compressors
- Emergency supply – Standby manifold

Vacuum
- Primary supply – Duty vacuum plant incorporating multiple pumps

Waste anaesthetic gas scavenging plant
- Operating theatres – Simplex pump to each theatre
- Multi-bed areas – Duplex pumps to each area

Dental compressed air
- Primary supply – Duty compressed air plant incorporating multiple compressors
- Secondary supply – Standby manifold
- Emergency supply – Emergency standby manifold

Dental suction
- Primary supply – Duty dental vacuum plant incorporating multiple pumps

All medical gas plant will be connected to essential electrical supplies supported by generators, with A and B supplies to each plant with changeover arrangements such that each plant can be supported by the alternative electrical supply.

Ring main distribution will be employed for medical gases, as shown on the schematic drawings, providing an alternative route of supply in the event of interruption to any pipeline. Appropriate valve arrangements will be included to allow a flexible use of the distribution network.

The provision of area valve service units (AVSUs) outside each departmental area will allow local isolation and the ability to connect local manifolds in an emergency situation, or to isolate areas for alteration or maintenance without disruption to other areas.

ii. An autonomous energy centre and associated plant;

A dedicated energy centre is being provided to the south of the new hospital. The energy centre will house the following main plant items:

- Three dual fuel boilers
- Three gas-fired combined heat and power (CHP) units
- An absorption chiller and associated adiabatic heat dissipation unit
- Pumps, pressurisation units and other associated ancillaries
- Three oil-fired standby generators and associated oil storage day tanks
- Scottish Power HV sub-station
- Client HV sub-station
- Low voltage switchgear
- Standby generator plant

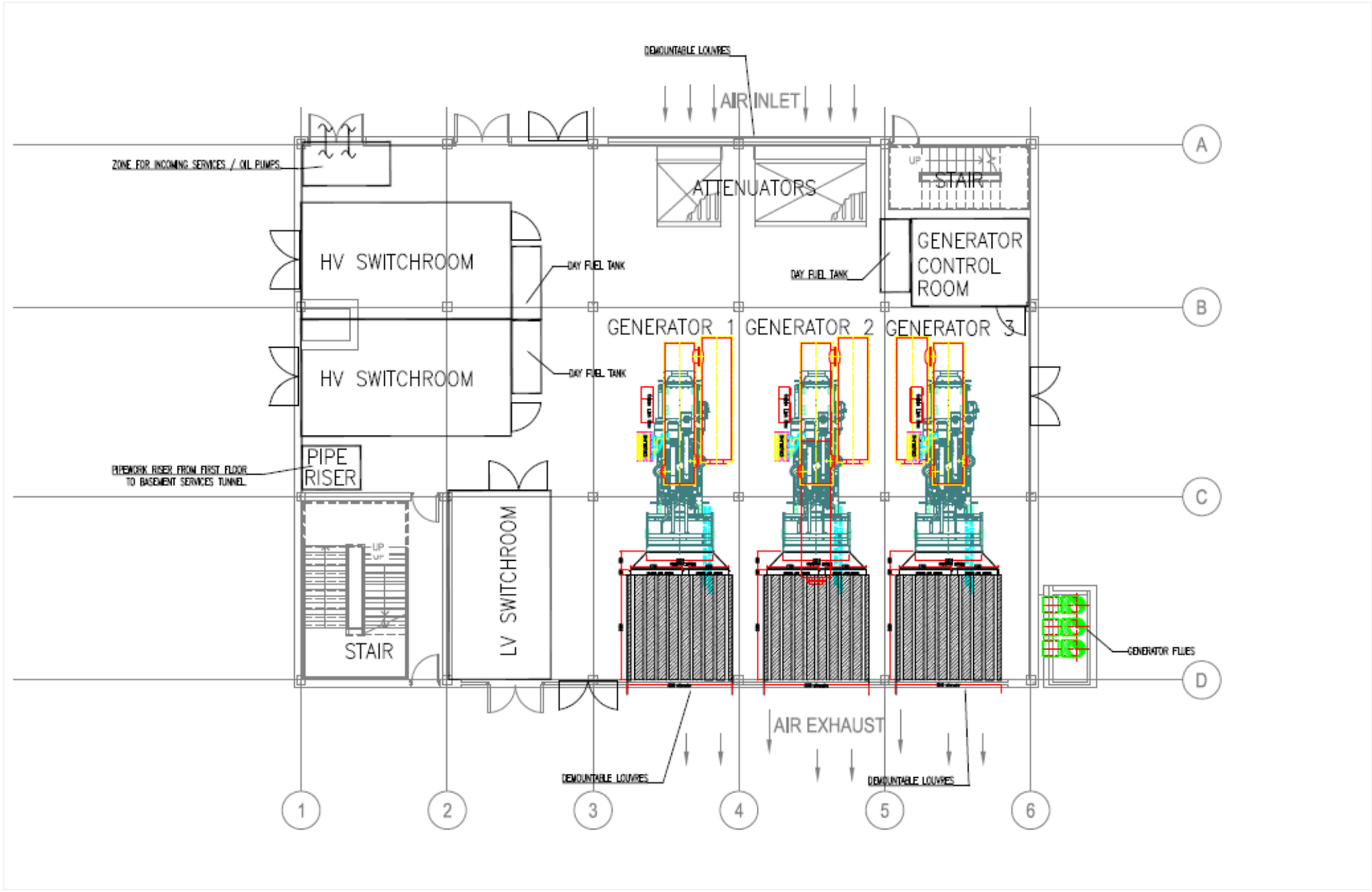
Adjacent to the energy centre, the main bulk oil storage tanks which feed the boilers and standby generators will be located in a suitable bund.

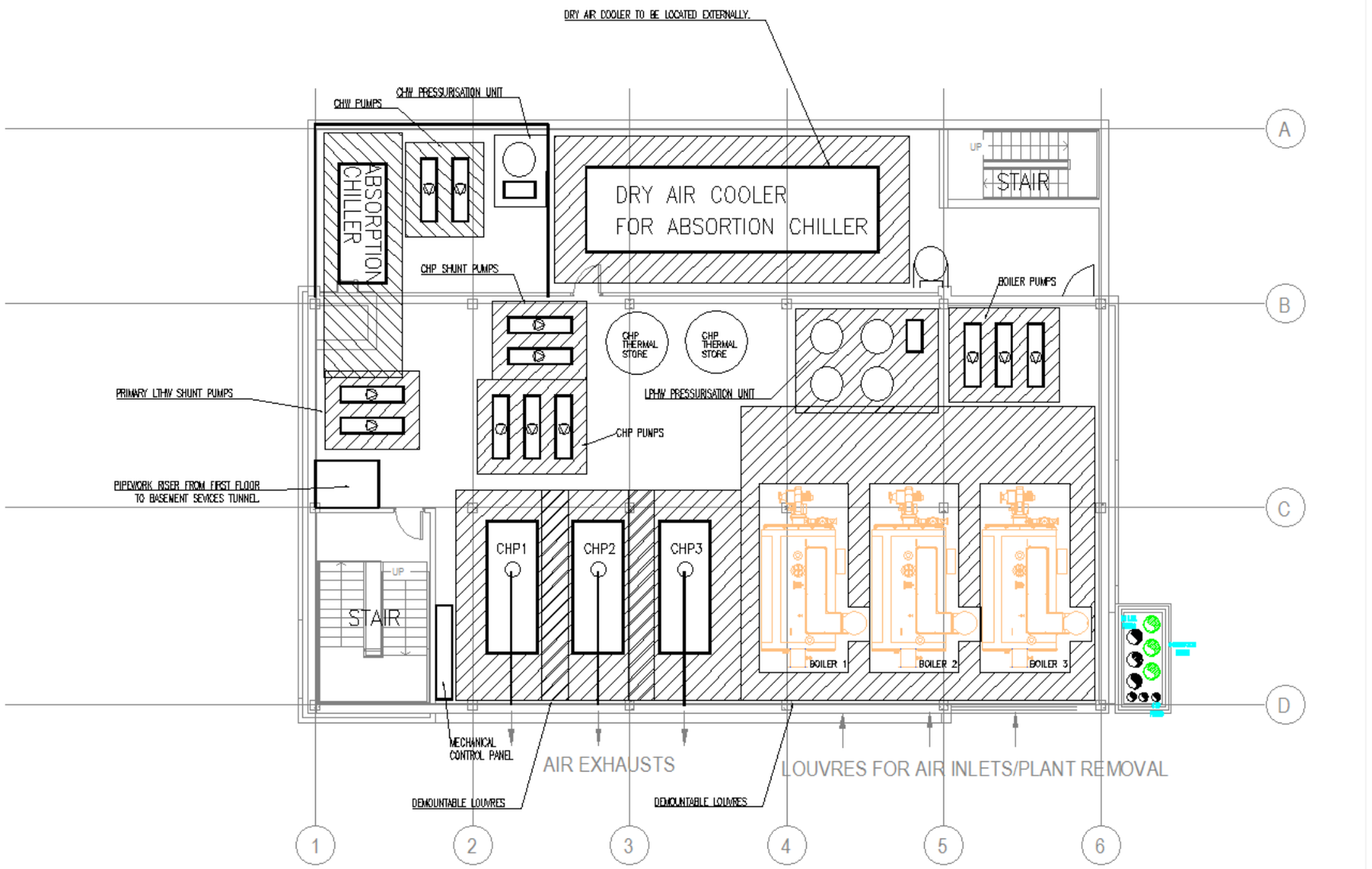
Due to the limited space available on the site, the energy centre will be constructed as a two-storey building. Generators, substations and main electrical plant will be located on the ground floor while the heating and cooling plant will be located on the first floor level. A suitable bund and overflow devices will be incorporated to ensure that any water leakage does not impact on the electrical equipment on the ground floor. Access for the removal of major plant items will be via demountable louvres.

The pipework and cabling associated with the energy centre plant will be routed to the hospital via a tunnel. The tunnel will connect directly into the basement level of the hospital to allow services to distribute to the plantrooms and risers located at this level. Access to the tunnel will be from the energy centre and the hospital basement.

There are a number of benefits in having an autonomous energy centre. These include:

- Noise from main plant items will not adversely impact on the hospital
- The energy centre is located far enough away from the new hospital and the existing ERI building to allow flue heights to be determined by the height of the energy centre as opposed to the main buildings. Therefore, the flue heights will not impact on the helipad and helicopter approach
- Any major plant item replacements can be undertaken with minimal impact on the hospital building itself
- The location of the energy centre helps to minimise the extent of incoming utility services distribution as they generally enter from the southern site boundary





iii. How temperature, ventilation and comfort for occupants will be maintained in accordance with the minimum criteria and how, if possible, these criteria will be improved;

Maintaining comfort for the occupants of a building relies on a combination of parameters which affect people's perception of the internal environment. These parameters include:

- Temperature
- Provision of fresh air
- Control of draughts
- Control of glare / solar gains
- Humidity
- Lighting levels
- Filtration (to combat the presence of odours / dust)
- Noise

SHTM and CIBSE standards offer guidance on appropriate internal temperatures and ventilation rates which should be used for design and control. It is accepted that people are comfortable over a range of temperatures but that appropriate temperatures must be achieved relating to the activity, age and state of health of the occupants. For example, a young child in critical care will be more sensitive to temperature than admin staff in a busy office. The required temperatures and ventilation rates selected for the project are identified in the room environmental matrix, based on SHTM and CIBSE guidance and will be controlled by a number of systems to maintain the comfort of occupants. Systems include:

- Air heating – more appropriate for clinical spaces where cooling is a greater issue and control of air flow and limiting the spread of infections is required
- Fresh air supply via opening windows – The Patient Charter requires that patients should have access to outside air where practical
- Fresh air from mechanical ventilation systems – where greater temperature control is required than can be achieved by natural infiltration of outside air, mechanical ventilation systems will be utilised. Fresh air will be introduced at low velocity to avoid draughts and tempered / cooled to avoid extreme temperature differentials to room conditions

The environmental matrix represents the maximum and minimum temperatures which must be achieved and, in order to ensure that conditions are achieved, it is proposed to use mechanical ventilation and terminal heating / cooling via active chilled beams. This approach provides a greater degree of local room control than a conventional heating and centralised ventilation system and allows improved comfort conditions to be achieved.

In addition to the mechanical ventilation systems, all patient rooms will be provided with opening windows other than where clinical requirements dictate that windows are sealed. This will give occupants maximum control of their environment while allowing energy managers to monitor system performance and avoid energy waste.

The provision of centralised air handling plant cooling offers the ability to limit humidity levels in summer which results in improved comfort conditions and, while humidity limits are not a requirement, extreme conditions will be avoided. In sensitive areas such as critical care, humidification is proposed to be included to raise humidity levels in winter conditions.

iv. How the quality of the environment and prevention of sick building syndrome will be ensured;

A perceived risk with mechanically-ventilated buildings is the effect of 'sick building syndrome', which is the effect of poor internal environmental control. The provision of adequate ventilation rates providing fresh air at appropriate temperatures will limit this risk. The use of full fresh air systems, ie no recirculation of room air, and the inclusion of opening windows where possible, will provide the best possible environment for occupants.

The inclusion of central filtration and location of fresh air intakes at upper levels will avoid the risk of introducing polluted air into the building.

Discomfort within buildings is exacerbated by direct solar gains and glare from sunlight. Solar control glazing will be utilised to limit both solar gains and glare although glass selection will be carefully considered to avoid colour distortion or tint, particularly in clinical areas.

A key factor in the comfort of occupants is the level of noise, particularly at night. Patients have been shown to recover more quickly in a quiet environment and it will be important to avoid the introduction of unnecessary noise. Building finishes will be selected to minimise noise, for example carpets may be preferred to hard floor finishes (although infection control factors must also be considered). Ceiling materials will also impact on reverberation times and a combination of acoustic tiles and plasterboard ceilings will be utilised to achieve optimum environmental control.

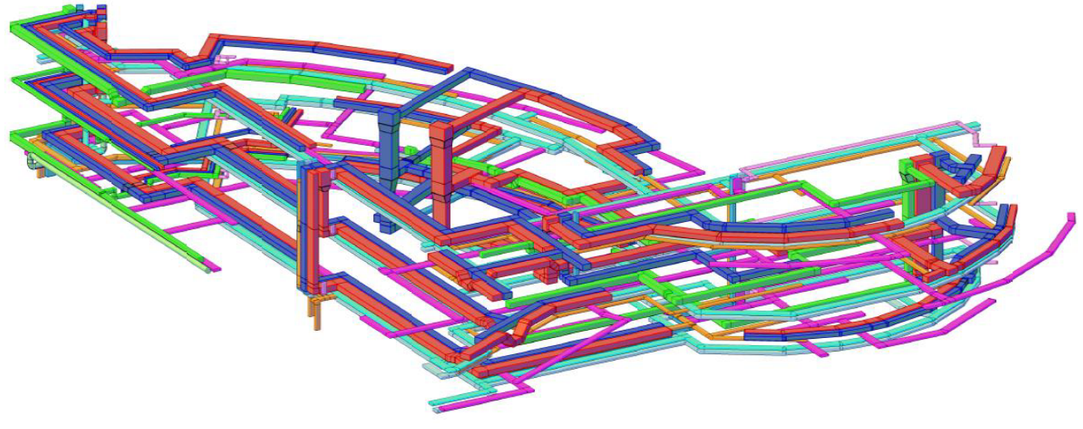
v. How mechanical and electrical design is integrated with architectural, structural and civil aspects as outlined above in C2 and C4;

One of the main coordination features is the use of a flat concrete slab for the construction of all floors. This helps give maximum flexibility in terms of the routing of services, both at initial construction stage and for any future installations or alterations. This approach also helps to minimise floor-floor dimensions and therefore comply with relevant planning restrictions with regards to the overall height of the new hospital building.

The location of the main heating system secondary pumps, calorifiers and LV switchgear within the basement area allows the basement level to be used as a major horizontal distribution route. There are five main electrical containment and pipework risers which are located at stair cores throughout the building. These risers travel down through the building, from roof level to the basement level, and therefore provide an excellent network for routing services throughout the building. All of these risers are accessible from common areas to provide minimal disruption when access is required to them.

Air-handling plant is located in dedicated plantrooms on the roof and in the Level 2 plantroom. The Level 2 plantroom is located directly above the theatres area, which helps to minimise duct lengths in accordance with SHTM design guidance. The agreed location of the plant area at roof level assists with planning guidance requirements in terms of visibility but also allows numerous vertical duct risers to be located in the departments that they serve. This feature helps to minimise the extent of horizontal duct runs, which reduces specific fan-power requirements and maximises ceiling void space for other services and future installations.

An important aspect of the overall energy efficiency of the M&E systems is the performance of the building fabric. The prefabrication techniques proposed for the building fabric greatly assist in this by allowing very low U-values and air permeability figures to be achieved. This gives a significant benefit in reducing the heat loss from the building with a subsequent reduction in energy consumption and running costs. Similarly, the windows on all southerly elevations will be specified with solar control glazing as this will help reduce solar heat gains. Reducing solar gain has the twin benefit of reducing cooling loads / energy consumption and also improving comfort conditions for the building's occupants.



Extract from BIM model of services distribution showing the coordination with the structure

vi. How sustainability has been incorporated into their design, including details of the maintenance and operation philosophy for all mechanical and electrical equipment;

Introduction

Sustainability is of increasing importance to the efficient, effective and responsible operation of public services. The design and construction process has a huge contribution to make to this. Construction outputs can radically alter the nature, function and appearance of the towns and countryside in which we live and work.

Pollution has major sources in the construction process:

- Waste materials
- Noise
- Vehicle emissions
- Contaminant release into the atmosphere, ground and water

Also, energy produced from non-renewable sources and consumed in building services accounts for approximately 50% of UK CO_2 emissions, contributing to climate change and the loss of non-renewable resources and adding to pollution.

This needs to change if we are to achieve the government's target of a 60% reduction in (the 1990 level of) emissions by 2050.

Design and procurement

Carrying the ideals of sustainability from design into actual construction and operation requires the incorporation of affordable and sustainable materials and processes at every stage.

We have therefore targeted the following broad principles in the development of our design proposal:

- Efficiency of design to minimise built structure and by doing so, minimising construction time and energy expended
- The production of materials off site to reduce wastage and minimise energy expended
- Increasing insulation and air-tightness standards to save on energy use
- Reduction of waste
- Supporting the local economy and minimising transport costs by the use of labour and materials from local sources
- Efficiency of servicing costs through the re-use of produced energy, efficient technologies and maximising the benefits of natural ventilation and daylight
- The control of energy in the dimming of lighting, and automatic absence and presence detection
- The incorporation of low-carbon technologies for fuel savings
- The selection of materials which will last the full lifetime of the building, come from sustainable sources or can be recycled following use
- As previously intimated, our intention is to prefabricate as many elements as possible off site. The areas considered already include foundations, superstructure, complete plantrooms, services pipework, containment, air systems and electrical plant, prefabricated joinery elements such as doors with ironmongery, and prefabricated furniture.

Where possible, our mechanical and electrical systems will be designed to recycle or minimise the use of energy. For example, we have incorporated recycling of heat in air systems through heat exchangers and minimisation of energy in lighting through efficient and photosensitive lighting.

We have incorporated low carbon technologies, where economic, and have used fuel-efficient technologies where possible, such as CHP and photovoltaics (PV).

Construction and demolition

Although the design and procurement stages are where many of the sustainable and social inclusion objectives can be realised, the following measures will be implemented throughout the construction and demolition stages:

- Reduction in waste by just-in-time delivery techniques and efficient construction methods
- Appropriate protection and secure storage of onsite materials
- Appropriate sequencing of construction activities to prevent weather damage and vandalism
- Adoption of appropriate security measures on site
- The correct welfare facilities for all site operatives
- Sorting of waste by category
- Use of local labour through direct and subcontract employment
- Use of timber from sustainable sources
- Implementation of water-saving systems

Approach to energy efficiency

The documentation provided places emphasis on the requirement to provide a building that minimises the consumption of energy and hence carbon emissions.

In addition to the environmental benefits achieved by minimising energy consumption, there are also substantial ongoing cost savings that can be obtained by reducing the fuel consumption of the building.

A further driver in this is the requirements of the building regulations which came into force on 1 October 2010. Within these regulations there has been a further 30% reduction in the permitted CO_2 emissions of buildings over the requirements of the 2007 regulations. This reduction in CO_2 emissions is anticipated to continue through the next updates to the building regulations.

Prior to considering any low and zero carbon technologies, the team have aimed to expand on the principles set in the reference design to minimise energy use and therefore reduce the overall building energy demands, while maintaining the design ethos of simple solutions that are robust and easy to use. This has involved integration of the services strategy into the architectural scheme from the outset. This has been developed by considering the following as part of the overall design strategy.

Reducing demand

As far as possible, the building design should incorporate features that naturally assist in minimising the energy requirement while still providing high-quality internal environments that do not compromise on occupant comfort. Examples of such features adopted include:

- Solar shading to the facade
- Improving fabric performance (construction make-up, air permeability and thermal mass provided by the twin-wall precast structural frame) in order to minimise heat losses and hence heat input to the building
- Ensuring the window design / configuration allows for high summertime ventilation rates to minimise any cooling requirement and are also suitable for use in winter to maintain adequate fresh air intake volumes without causing draughts
- Optimisation of glazing specification to allow good light transmittance while minimising solar heat gain to the space in order to limit the cooling requirements
- Minimisation of internal gains – intelligent lighting control methods, and maximisation of natural daylight to the spaces via window and room design
- Lighting control strategies to suit the characteristics of each area
- Effective zoning of the building services to suit varying occupancy patterns
- Maximising free cooling
- Fresh air free cooling at air handling units (AHUs) has been assumed as the first contributor to cooling load assumptions
- AHU volumes based on occupancy fresh air load.

Increasing efficiency

The building services installation incorporates a number of design features that will increase the efficiency of their operation and hence reduce energy consumption. Examples of some of the features that are proposed to be incorporated are:

- Use of high-efficiency boiler plant with optimisation and compensation controls
- Use of variable speed fans and pumps. In conjunction with two-port valves on all equipment and suitable zoning strategies, this allows pumps and fans to operate at the optimum duty at all times and adjust to the changing requirements of the building. This in turn minimises energy wastage
- Effective use of ventilation heat recovery
- Use of a neutral loop to allow offsetting of cooling and heating loads in different areas of the building
- Use of high-efficiency lighting
- Use of LED lighting in public circulation spaces and selected ancillary spaces (for example, toilets and stores)

Avoiding waste of energy

How building services are operated can make a huge difference to how much energy they consume. By incorporating specific design features, the energy consumption of the building can be significantly reduced. Design features incorporated include:

- Provision of a building energy management system (BEMS) to provide automatic monitoring and control of the building services installations which facilitates the most efficient operation and control of the building
- Provision of primary and secondary energy meters, including metering of all incoming utilities, to allow energy usage to be monitored via the BEMS and hence utilised to identify where most energy is being used and energy reductions to be targeted accordingly
- Use of an automatic lighting control system using natural light sensing primarily in large open plan workspaces, for example open plan offices
- All radiant panels, heat emitters and chilled beams fitted with thermostatic valves or room temperature sensor for control
- Utilisation of heat recovery on all applicable main ventilation systems. Reclaiming the heat from the air being extracted from the building can reduce the ventilation heating loads by 50% or more
- Water conservation associated with the specification of taps and sanitaryware
- Commissioning the building, including seasonal commissioning, in line with CIBSE commissioning codes to ensure that it is operating as designed to maximise operational efficiency
- LPHW and CHW circuit based on variable volume systems, with two-port differential pressure control, utilising variable speed drives to all pumped circuits
- Motorised zone valves on heating and chilled water systems to suit departmental hours
- Mosaic will provide a system that will monitor the energy consumption at departmental and system level and produce tabulated and easily read data to allow the FM team and NHSL and the users an understanding their actions have on consumption. Indeed, where anomalies occur, these can be highlighted and steps taken, with a view to rectification.

Smart metering methodology

The validation of the design energy assessment requires the feedback of a comprehensive energy metering / sub-metering scheme as well as a successful bedding-in and commissioning period post-completion. A description of the proposed sub-metering system for RHSC / DCN is included below.

The meters installed will be suitable to provide half-hourly pulse outputs to third party, industry-standard, software protocols. The third party software will provide separate energy calculations and report generations, to present the metering data in an easy-to-follow tabulated format that can facilitate trend analysis.

The metering strategy will allow the facilities management team to use the information gathered to analyse energy consumption, highlight areas of abnormal use, remove process loads from benchmark comparisons and collate and normalise in GJ/100m^3/annum to compare against benchmark values.

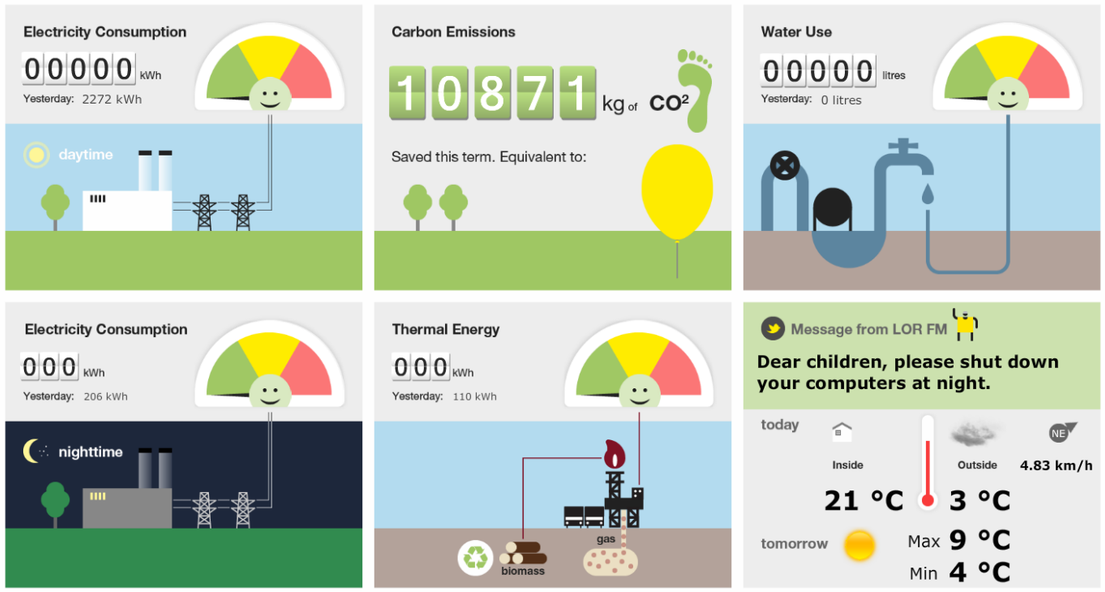
The metering strategy will be in line with the requirements of BREEAM Ene 02 (energy monitoring) and BREEAM Wat 02 (water monitoring).

Green screen

Mosaic proposes to utilise our smart energy platform which manages building energy performance through a dedicated web-based portal. This provides instant data metrics on energy activity, analysis, and powerful diagnostic tools to prevent environmental wastage. A user-friendly dashboard green screen is widely accessible and allows the users to address energy issues quickly and efficiently.

These items fully engage the end-users, patients and visitors by providing a visible display of the impact of their actions on consumption. This helps to improve energy behaviours and cultural norms. Mosaic will install these green screens (21" monitors) at each department entrance, nurses station or other suitable locations. As demonstrated in the green screen snapshot, the image is easy to understand and provides the full range of energy drivers. A larger screen will be provided in the main street/pod area (exact location to be agreed) with the overall facility consumption details.

A dedicated central environmental team supports our clients in the understanding of energy and carbon management. Collection of this data assists in our understanding of energy, carbon, and water 'in use' metrics for all of our delivered buildings while providing a service to your estate management.

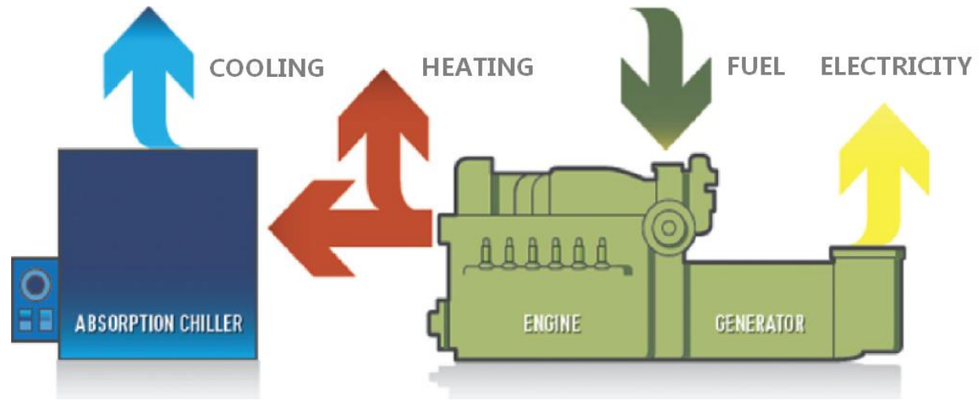


Low and zero carbon technologies

The above approach and specific items are critical in reducing the energy consumption of the building. However, even after their incorporation into the design and construction of the building, there is still scope to reduce the energy consumption and carbon emissions further by incorporating renewable and low and zero carbon technologies.

The list below summarises the sustainable solutions that have been included within the proposal:

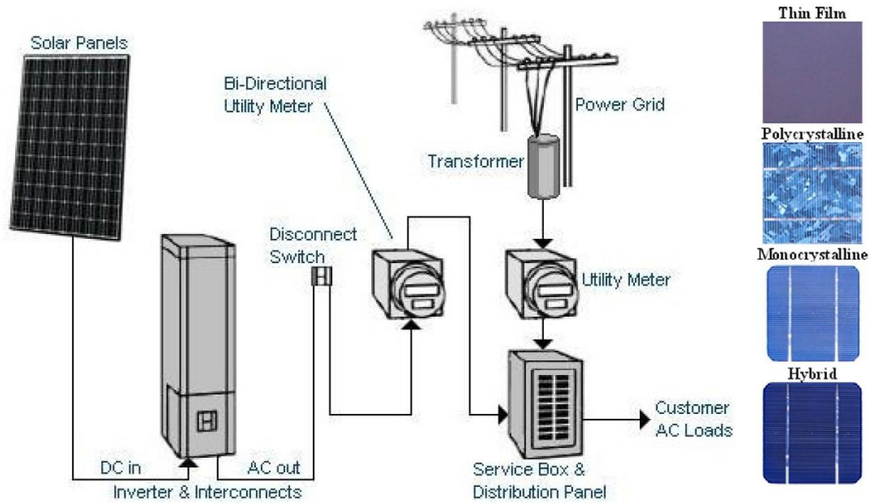
- Trigeneration combined cooling, heating and power
- Low water-use sanitary fittings
- Photovoltaic solar panels
- Inclusion of reclaimed water use in non-clinical applications such as facade cleaning, irrigation, plant feed water, etc



vii. Proposals for external services, including details of the main routes (including proposed connections to existing services), intakes and off-site reliance of these services and how this interfaces with adjacent sites (this is also discussed in C18 below);

Full details of the incoming utility services are provided in section C18. A summary of the main features are:

- All power, gas and water supplies are derived from new connections that are completely independent from the existing RIE supplies
- Supplies will be routed via the identified services strips to enter the site
- Dual HV power supplies will be provided from the local HV network supplying the PES HV switchboard within the energy centre. The HV switchboard will include automatic changeover facilities should one supply fail
- Dual water supplies will be provided, the primary water supply being taken from a new connection to the 24-inch main on Craigmillar Castle Road (adjacent to the existing Scottish Water connections to the ERI) with a secondary supply (emergency backup supply) being taken from 12-inch main on Old Dalkeith Road
- An unmetered water supply will serve the fire hydrant ring mains that will be routed around the new building. This unmetered supply will also supply the sprinkler tanks
- A metered water supply will be taken into the new hospital building to serve the main cold water storage tanks and mains water outlets within the building
- A medium-pressure gas supply will be provided from Old Dalkeith Road. On entering the site it will be reduced to low-pressure via twin stream gas governors to allow it to serve the boilers, CHP units, steam generators, kitchen appliances and other miscellaneous equipment and laboratory requirements



viii.Details of the main source of heating energy

Strategy

The main fuel source for the heating system will be gas, but with low-sulphur oil as the back-up fuel source. The gas supply will serve the three main boilers and the three CHP units.

The CHP units will operate to supply the base electrical load for the buildings and in so doing will also generate hot water. Therefore, in order to maximise the use of this 'free' heat, the CHP units will be arranged to act as the lead heat source on the LTHW system. This arrangement will assist in maximising use of the CHP units and associated energy and carbon emissions reduction benefits. To assist with the effectiveness of the CHP units and to increase their operational running times, the following design features have been incorporated into the scheme:

An accumulator vessel will be provided. This will act as a thermal store for the CHP heat output which will help to flatten out periods of high and low demand. In turn, this will extend the operating times of the CHP units at low-load conditions when otherwise the CHP units may be more likely to start and stop to meet fluctuations in demand.

During warm weather conditions, a major part of the heating load will be the domestic hot water system. Similar to the accumulator vessel, the use of DHW storage calorifiers will help to act as a buffer for the LTHW system and assist in flattening out peak and low load conditions.

An absorption chiller has been incorporated into the scheme. This allows the CHP units to directly supply the heat that drives the cooling process. In warm weather conditions, when heating demand is low but cooling demand is high, this gives an effective use for the CHP units, allowing them to operate for longer periods, thus maximising their benefits.

Three CHP units will be provided as opposed to a single unit or two larger units. This not only increases the robustness of the system, but also allows very low load conditions to be met by the CHP units. Generally CHP units cannot operate at lower than 50% of their maximum output so having smaller units allows them to operate over a wider range of low load (summer) conditions which increases their operating hours and effectiveness.

Based on the above, and the thermal modelling exercise that has been undertaken, it is anticipated that the three CHP units will each be rated at around 250kW peak electrical output, which in turn will generate around 270kW of thermal output.

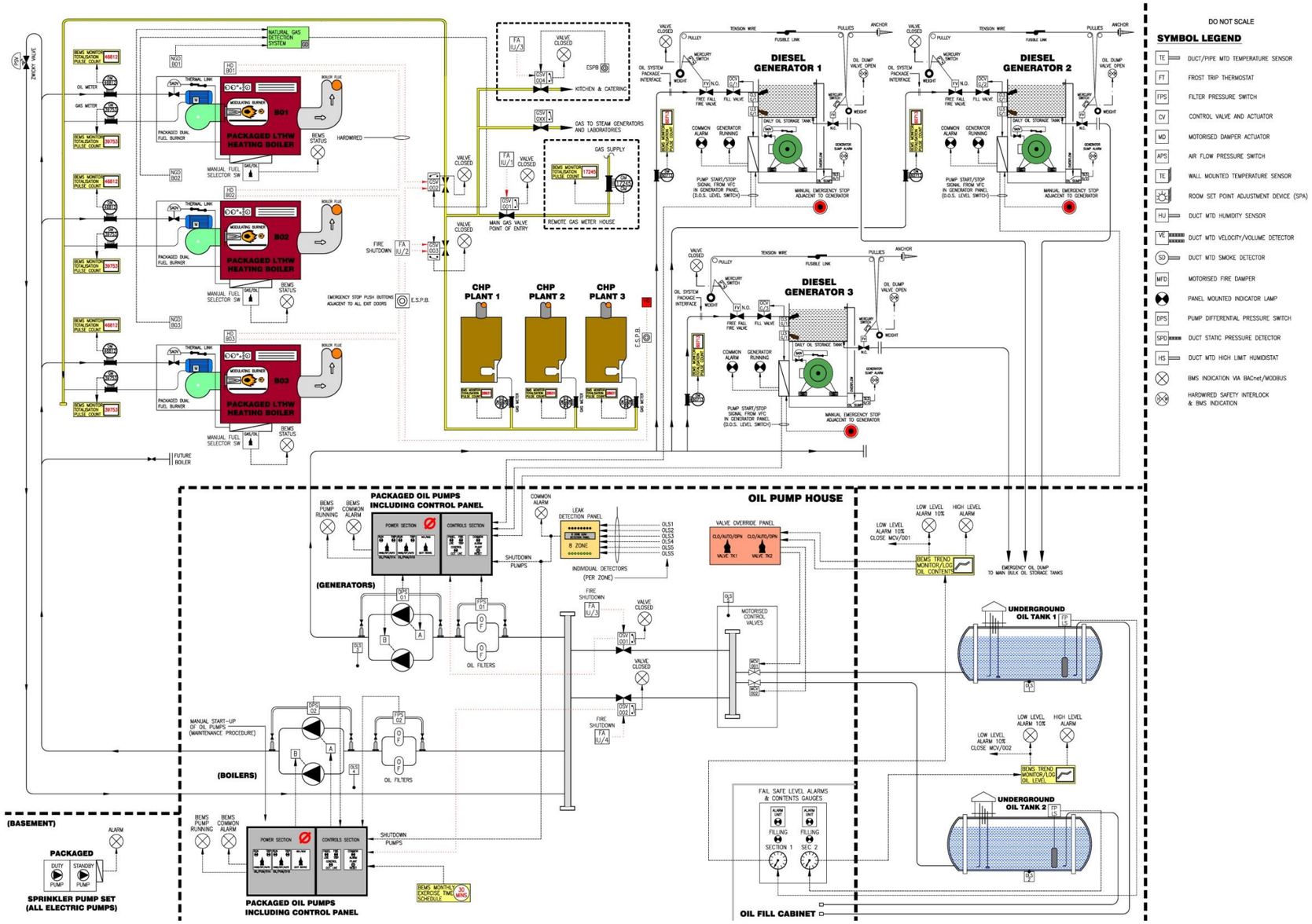
The main heat source for the new hospital building will be three dual fuel, high-efficiency gas-fired boilers. These have been sized to provide N+1 standby capacity. The thermal modelling outputs and initial design exercise has allowed the capacity of each boiler to be determined as 2,350kW output. The boilers will be specified with low NOx and high-efficiency output over the full range of operating conditions as well as variable speed burner fans and full burner control. Units will auto-rotate to ensure even amounts of usage.

Alternative Options

The potential for a future connection to a district heating scheme has been identified. It is anticipated that any district heating connection would replace the load from at least one of the main boilers. Therefore, this would allow one of the boilers to be replaced by the heat exchanger associated with the district heating scheme connection. As the heat exchanger and pumps would take up less space than a boiler, there would be space available for this plant in the Energy Centre, ie it would replace one of the boilers.

The LPHW distribution system would easily accommodate the inclusion of a district heating system connection. It would be controlled as per the boiler plant, but with the potential to prioritise its heat input over that of the other boilers. The remaining boilers would act as standby capacity to maintain system resiliency.

The use of biofuel CHP units has also been investigated and is explored in more detail in Section C10. While the use of biofuel would provide significant carbon emission reductions it does not appear to be an economically viable solution at this time.



Oil & Gas Controls Schematic

ix. Details of mechanical and electrical innovations including costs as described in C4.

The design and procurement of the M&E services allows a number of innovative solutions to be provided. The safe and reliable operation of the building services systems is of paramount importance when considering the design solutions available. Therefore, the innovation solutions proposed are tried-and-tested technology or solutions that have been tailored to suit the particular requirements of the new hospital building.

The innovative solutions proposed target one or more of the following criteria:

- Improve the robustness or safety of the overall design.
- Improve the energy consumption and carbon emissions of the building services installations.
- Improve the flexibility of operation of the systems to help make them more adaptable and user friendly.
- Improve the quality of the installations in terms of maintenance and reliability.
- Improve the speed of installation works on site to help minimise construction periods.
- Provide a cost-effective solution.

A summary of some of the main innovative proposals associated with the M&E systems are noted below:

- Energy transfer neutral loop VRV hybrid system is proposed to provide cooling and heating to non-clinical office areas and the hotel bedrooms. This system is a proven technology that takes advantage of heat transfer between different building areas and the higher neutral loop temperature to allow heat rejection via an adiabatic cooler. This system is a highly-efficient method of providing heating and cooling with a seasonal efficiency greater than six, ie more than six times heating or cooling output than electricity used to power the system
- Gas-fired combined heat and power (CHP) units will be used to provide power and heat to the building. This onsite generation and use of heat that is normally rejected to atmosphere at power stations makes this an excellent way of reducing energy consumption and CO2 emissions. Hospitals have a large domestic water load that gives a summer load for the CHP but in order to increase the operating hours further tri-generation is proposed via the use of an absorption chiller (tri-generation refers to providing power, heat and cooling). The absorption chiller uses heat generated by the CHP units to provide chilled water and will operate in summer periods when there is a large cooling load but a low heating load for the building.
- Thermal wheels will be used in air-handling units for heat reclaim purposes as opposed to run-around coils / plate heat exchangers to improve efficiency. As thermal wheels offer much greater efficiencies than other methods of heat recovery, and with the provision of purge facilities are acceptable to NHS standards, they will be adopted.
- Local cooling will be used where possible, particularly in areas of high heat gains, for example imaging rooms, waiting areas etc. This has the benefit of reducing the mechanical ventilation airflows required and minimising the need for any re-heat batteries, so helps to reduce energy consumption. Local cooling systems will be used with equipment selected which is appropriate to the area served. Proposals include:
  a. Chilled beams in ward bedrooms, consulting rooms etc
  b. Fan coil units in high heat-gain areas such as offices, imaging rooms, equipment rooms and IT hub / secondary equipment rooms
  c. In-room air handling units in areas of extreme heat-gain such as computer server rooms
- Two-port control valves and variable speed pumps will be used on heating and chilled water systems. This technology and controls system allows the flow rates to be reduced when the building is not at peak load condition and therefore reduces power consumption at the pumps
- The use of an adiabatic cooler that sprays water on to the cooling coil helps increase the efficiency of the heat rejection at elevated external temperatures. The fact that this water is not re-circulated makes it safe to use from a Legionella perspective and the amount of water utilised in the spray process is minimal. The increase in efficiency reduces the unit's power consumption
- The design utilises the adiabatic cooler associated with the neutral loop system to also provide free cooling to the chilled water system at low ambient temperatures. At these times the neutral loop system is likely to be in heating mode but there will still be some areas of the hospital that require cooling, for example the IT rooms and MRI equipment. The provision of a heat exchanger between the chilled water system and the adiabatic cooler allows this free cooling to be supplied to the chilled water system and also acts as a back-up to the neutral loop system should the adiabatic cooler fail
- Re-use of main filtration backwash water for non-clinical purposes, ie facade cleaning, irrigation systems, plant feed water etc. This will help to reduce water consumption for the new building
- The collection and re-use of the BCWS flush water for non-clinical purposes, ie facade cleaning, irrigation systems and plant feed water etc to help reduce water consumption
- Use of multi-circ distributor units (splitter unit) and looped pipework arrangement on the cold water services distribution system within each room creating a movement within the cold water pipework when downstream appliances and outlets are used. This feature reduces the risk of cold water stagnation and Legionella growth
- The provision of an automatic time-controlled and temperature-controlled end-of-line flushing unit on the cold water pipework within each ward / departmental area is proposed to reduce the risk of cold water stagnation and Legionella growth
- Introduction of low water content and low water flush WC cisterns to minimise water consumption
- Incorporation of PIR-controlled solenoid valves on the BCWS, isolating the water supply within unmanned rooms / areas, therefore reducing water wastage or misuse of appliances
- Incorporation of non-touch faucets and WC flushing mechanisms, which reduces cross contamination while providing a means of automatic hygiene flush and thus reduces the effects of bacteria growth in low use outlets
- The design of a modular wiring system for lighting and small power which assists to reduce the installation period, provide built-in spare capacity on main runs and provide flexibility through the 'plug and play' system
- The provision of wireless switching to reduce cable installation costs and time, and to provide added flexibility should a layout require to be changed
- The proposal to provide a CAT 7 structured cabling system to future-proof the installation for the change in technology and user requirements for faster speed of communication
- The provision of all systems being integrated over a private network, ie fire / security / intruder / door access / nurse call / CCTV / patient tagging, etc
- The consideration of wireless systems, including CCTV, to provide flexibility and reduce the installation period

x. An environmental conditions / room provisions matrix for both mechanical and electrical services for each room in the Facilities; and

The Mosaic environmental matrices have been produced to reflect the design criteria used as the basis of the Mosaic proposals. The criteria contained within the matrices are intended to represent the standards and strategy of the engineering proposals.

The matrices have been derived from the reference design environmental matrices in order to show where the design criteria have been modified to reflect the Mosaic engineering strategy.

Refer to Appendix 1 - Environmental matrix.

xi. Major plant life cycle statements and design life, including an explanation of the Bidder's lifecycle philosophy to support the lifecycle costing analysis completed in the technical costs proforma;

In this section we will set out the approach we have taken to develop the lifecycle cost analysis with specific reference to the major plant items identified.

Plant item	LCR approach
Boilers and CHP units	
3 dual fuel gas/oil fired boilers	Allowance for replacement of sub-components in year 12 and full replacement in year 24
3 gas-fired combined heat & power (CHP) units	Minor replacement in year 12, major replacement in year 18
Chillers	
3 air cooled screw compressor chillers	Allowance for full replacement in year 20
1 absorption chiller	Allowance for full replacement in year 25
1 adiabatic cooler	Allowance for full replacement in year 20
Domestic hot water calorifiers	
Four sets of semi-storage domestic hot water calorifiers	Allowance for replacement in year 15
Air handling units	
Air handling units	Allowance for minor replacement in years 7-9 with full replacement between years 15-17
Standby generators	
3 * 11kV diesel engine standby generators	Replace two standby generators between years 22- 24
Main switchgear	
Two ring main units (RMU's)	Replace in year 20
Two 11000/400Volt cast resin low loss transformers with automatic voltage regulation	No allowance made for the concession period – replacement would occur in year 30
Two sections of the LV switchboard comprising an 'A' and 'B' side	No allowance made for the concession period – replacement would occur in year 30

Lifecycle philosophy and approach

Lifecycle costs are derived from the capital cost proposals where quantities, rates and prices are detailed in the construction cost plan. From this, replacement percentages are applied to each element within a particular year, representing the annual cost anticipated for that asset over the concession.

The base rates and prices used in the lifecycle model are generally on a like-for-like basis, to ensure consistency in the level of pricing between construction and asset replacement, to maintain the required quality. However the elemental rates from the cost plan are adjusted to take account of certain add-on costs during most replacements. These are:

- Strip out allowance
- Access requirements
- Builder's work for services
- Preliminaries
- Management costs
- Professional fees, statutory fees and charges

The replacement percentages are placed against an asset/asset group, built upon the life expectancy for the particular item or system. These life expectancies will be assessed based on the Board's life expectancy requirements as a minimum, together with reference to the following published data concerning typical life expectancies. These include:

- Manufacturers' literature warranties and guarantees.
- HAPM Component Life Manual
- BCIS database for quantified construction costs
- BS ISO 15686 Buildings and Constructed Assets – Service Life Planning
- CIBSE publications, specifically the Guide to Ownership, Operation and Maintenance of Building Services
- Building Maintenance Information (BMI) Life Expectancy of Building Components.
- Advice from specialists in connection with mechanical and electrical services

The data sources above are fundamentally industry guidance and need to be adjusted to take into account the nature of the facility and the criticality of the building systems in question. A hospital is intensively used and certain building systems cannot fail. This means that the maintenance regimes must be robust and that certain systems will have a high level of back-up (such as electricity supply) to ensure failure does not impact on the care of patients.

Mosaic's professional judgment and experience will be applied to calculate the typical life expectancies that can be anticipated for the assets specifically on this project. It is this level of knowledge that allocates the final location of costs against each asset.

In order to maintain the quality of the hospital facility long beyond the end of the concession, Mosaic will conduct regular audits of the major plant regarding the condition and anticipated replacement works, throughout the contract period.

This will be achieved by bringing in external specialists to undertake a series of site surveys, which will provide a detailed review of the condition of the assets within the hospital and its grounds. This will be supplemented by information gleaned from the building and facility management systems to ensure an intelligent approach.

The following notes apply to the lifecycle replacement calculations:-

- Assets have generally been replaced on a like-for-like basis, so there is no allowance for improvements and adaptations including new technologies and improvements in energy efficiency
- Hard FM items (including such items as PPM regime, minor repairs and maintenance, routine servicing, testing and inspection) are covered under the FM Service Provider's costs and are key to the longevity of the major plant and equipment.
- We will endeavour to minimise any sort of disruption to the hospital's activities whilst carrying out lifecycle replacement works
- Replacement works are generally priced to be undertaken during normal working hours, although it is understood that there will be the odd need to carry out a limited amount of work beyond normal working hours.

Lifecycle frequencies have been evaluated for all major components, taking into account the likely economical life relative to the anticipated wear and tear during normal operational use. It is recognised that the economic life of some assets will expire over differing periods rather than all in one particular year and it is likely that many assets will be subject to component change rather than a full asset replacement. Therefore replacements are spread over a number of intervening years to align the varied cost profile of replacements and cover the risk associated with unplanned replacements.

C8.3

Whilst Bidders are required to undertake their own design, the Board has provided a draft Environmental Matrix as part of the ITPD documentation. Bidders must confirm acceptance of the Board's Environmental Matrix, highlighting any proposed changes on an exception basis

It is noted that the design data contained in the reference design matrices is considered to represent the mandatory standards and should be adopted by bidders. It is also noted that any deviations from the reference design matrices should be identified.

It is Mosaic's intent to generally follow the reference design environmental matrices except where the criteria are modified by the different engineering strategies proposed, for example the proposed use of chilled beams combined with fresh supply rates based on occupancy. All adjustments to the reference design criteria have been highlighted in red in the proposed matrices.

Some other criteria have been modified to enhance the proposed design criteria or adjust values based on the intended room use. Again all adjustments have been highlighted in red.

Key adjustments

The key adjustments to the reference design environmental matrices are:

- Summertime maximum room temperatures in circulation spaces, stores, WCs etc are uncontrolled yet the reference design matrices retain reference to 28°C. This maximum is likely to be achieved as a result of cooling provided to general areas, but without dedicated cooling the maximum temperature cannot be guaranteed. It is not considered appropriate to add additional supply air or dedicated cooling to offset minor deviations from the maximum temperature in such areas.
- The Mosaic engineering strategy is to provide local terminal cooling via chilled beams or fan coil / cassette units and base fresh air supply rates on occupancy as opposed to arbitrary air change rates. All cooling capacities and air supply flow rates will be based on the calculated heat and stated occupancy levels. This approach will help to reduce unnecessary air volumes and the need for re-heat batteries to control room temperatures by reheating already cooled air.
- The same strategy will be applied to other occupied areas in addition to patient bedrooms.
- Generally, chilled beams are proposed in patient bedrooms and consulting rooms etc. Where heat loads are greater, fan coil or ceiling cassette units will be utilised. The environmental matrices identify the intended equipment but final selections will be based on actual load requirements.

Guidance notes from the Environmental Matrix

These are noted for clarity.

1. This workbook is prepared for the reference design stage as an easier reference tool to replace ADB RDS M&E sheets for the environmental criteria elements as described on these sheets.
2. The services matrices are produced from the reference design schedules and will be used as the basis of design development.
3. The design of the HVAC systems to the theatres shall be in accordance with SHTM 03-01.
4. Where radiant panels are indicated in any room in these matrices, detailed design development may remove the need for these without detriment to environmental temperature. This design development is dependent on actual room layout, ie whether a room is located adjacent to an external wall, ground bearing floor, roof surface or is internal.
5. Ventilation air change rates and the use of natural ventilation in patient areas shall be reviewed throughout the detail design process to ensure a maximum internal temperature of 25°C (dry bulb) is not exceeded during normal occupancy. These criteria shall also apply to cellular and open plan office spaces.
6. Maximum internal temperatures listed relate to normal occupancy and summer design conditions; external summer conditions for cooling plant selection as per SHTM 03, enthalpy 54kJ/kgKda.26degC db,19degC wb. External winter conditions as per CIBSE Guide A Table A 2.2 for locality = - 6C for heat losses, and as SHTM 03 for locality = -10C for AHU ventilation plant design.
7. Examination lamp notes where listed are provisional. Detailed requirements (fixed, mobile, illumination) will be detailed on C sheets as agreed from signed off 1:50 RDS, which shall take precedence over this schedule.
8. All lighting levels are derived from CIBSE Lighting Guide LG2.
9. Colour rendering refers to CIBSE Lighting Design Guide and will be applied throughout "80" : Normal
10. "90" – Enhanced to provide close as possible match to natural light for clinical purposes
11. Thermostatic mixing devices – SHTM 04-01 Guidance shall be employed for specific TRV Type versus listed Area/Activity.
12. Standby lighting to be Grade A throughout.
13. The internal temperature in naturally or mechanically ventilated rooms shall not exceed the maximum temperature as listed on these environmental matrices provided external summer design criteria is not exceeded (see note 24) .
14. Local radiant panel TRVs shall be tamper proof head type with limiting/locking facility.
15. Local control BMS temperature sensors for ducted reheat zones and chilled water cassettes for hotspots shall be provided with local range adjustment to +/- 2C of BMS set point. BMS set point shall be adjustable via operator/user dialogue through formal FM channels.
16. Typical bedroom – NHSL require that the maximum internal design temperature is 25C

HDU bed areas

Design criteria contained in HBN 57 gives specific guidance as well as SHTM 03-01 – especially Appendix 1 for air change rates – 10ac/hr supply, 18C to 25C control range. This capability shall be provided but not at the summer and winter external ambient design extremes against the internal maximum and minimum range conditions.

The department should be air conditioned and controlled on a zonal basis.

Central AHU plant

This requires humidification to achieve RH range during winter (HBN 57 Clause 4.60).

Post-theatre recovery areas

Design criteria contained in SHTM 03-01, especially Appendix 1 for air change rates – 15ac/hr S&E , 18C to 25C control range. This capability shall be provided but not at the summer and winter external ambient design extremes against the maximum and minimum range conditions.

Critical care areas
Design criteria contained in SHTM 03-01, especially Appendix 1 for air change rates – 10ac/hr supply , 18C to 25C control range. This capability shall be provided but not at the summer and winter external ambient design extremes against the maximum and minimum range conditions. NHSL may require specific rooms to have a control range up to 28C

Theatre areas
Design criteria contained in SHTM 03-01, especially Appendices 1 and 2 for air change rates Appendix 3 for design logic and pressure cascade criteria, 18C to 25C control range. This capability shall be provided but not at the summer and winter external ambient design extremes against the internal maximum and minimum range conditions. SHTM 03-01 advises humidification is no longer to be provided for theatres ventilation as a matter of course. Users to verify any specific requirements depending on clinical requirement. Space in plant rooms should be provided together with blank section within air handling units for future provision. NHSL may require specific rooms to have a control range up to 28C.

Corridor ventilation
This may be either mechanical or, where the opportunity exists, natural. To be determined during detailed design with due regard to clinical functionality.

Single WC
SHTM 03-01 Appendix 1 suggests 3ac/hr extract air change rate only. HK have applied 10ac/hr extract rate to provide a more robust rate of extract The Mosaic proposal for ventilation of ward bedrooms is based on 10 L/s/person which is balanced by the WC extract giving an extract rate of 6-10 ac/hr.

Diagnostic Rooms
(X-ray, CT scanner, MRI scanners, Gamma camera) - air change rates listed at 8ac/hr. Actual air change rate must be derived through room heat gain analysis and actual equipment guidance.

Operating Theatre Laminar Flow/UCV Requirements
Refer to Operational Policy Documents for specific theatres which require Laminar Flow/UCV canopy style ventilation solution. Note specific requirements for screen less canopies to avoid conflict with particular surgeon instruments/microscopes.

Small workshop Areas
Local Extract Ventilation (LEV) unit requirement to be determined from room equipment schedules

Note that isolation suite ventilation solutions for this project shall follow HBN 4 Supplement 1 Section 4 Item 4.8 Guidance, ie a common departmental AHU shall be employed to provide supply air ventilation and shall therefore employ duty and standby motors. Isolation rooms' en suite extracts shall be provided with an independent isolation room toilet extract ventilation system.

Isolation room en suites
Extracts from these en suites shall be provided with either externally located 3 mtr high discharge stack in a safe location or with extract filters (H14) within a safe change housing outside the building on the suction side of the fan. Heating & Cooling Isolation Suites shall be provided via the ventilation system.

Retail Provision
Service provisions listed are Infrastructure only for future fit-out by retailer

Comfort Cooled Fresh Air –
Where noted as such on the environmental matrices, this means is provided via departmental air handling plant via chilled water cooling coils.

Room temperatures in unventilated spaces such as stores, corridors, WCs etc. will not be controlled but should achieve the parameters quoted as a result of the ventilation strategy of the surrounding areas

Cooling will be provided generally by terminal cooling devices such as chilled beams (CB) or fan coil units (FC) as noted in the schedule. The actual device selection will be adjusted based on actual calculated heat gains and if a chilled beam provides insufficient cooling a fan coil will be utilised and if gains are limited a chilled bam may be utilised instead of the noted fan coil. Where the neutral loop system is applied the terminal device will be replace with a heat pump cassette unit.

Fresh air will be supplied to occupied rooms on the basis of 10L/s/person with terminal cooling applied to offset room heat gains. Occupancy will be based on 1 patient + 2 visitors/staff (3 people) for single rooms and consult/exam rooms and 4 patients + 8 visitors for 4 bed wards. Other areas will be assessed on a similar basis appropriate to the room use and noted occupancy. Extract ventilation rates will be adjusted to achieve the required balance/positive/negative pressure as stated in the schedule.

Summary

Throughout submission C8 we have detailed the strategy for the key systems an where innovative solutions have been incorporated to reduce the impact on energy usage and carbon emissions.

The strategies have been developed from the philosophy set out at the beginning and follows on from the dialogue meetings. Key philosophy items that have been incorporated are:

- Compliance with the Board's Construction Requirements (BCR's)
- Robust and reliable design solution
- The proposals should complement and not interfere with the clinical delivery process
- Comfort provided to all patients, staff and visitors
- Energy usage and carbon emissions to be minimised
- Flexibility and adaptability solution

In addition the proposals include specific solutions for the project:

- Combined heating and power to help deliver on local and national targets to achieve significant generation on site
- Energy transfer system within the visitors' hotel and offices to reduce energy used and provided a balance across the neutral loop system
- Adiabatic cooling plant with much higher efficiency than standard chillers
- Local chiller beam units in patient rooms to allow local and direct control of the environment.
- Sprinkler protection around high dependency areas
- Innovative lighting solution for patient areas to improve the environmental comfort

Our design solution has coordinated the systems as well as the drawing on the solutions provided from the architect and structural design.

Your need	Our response
Provide proposal for engineering services design to comply with BCRs	Each system has been assessed and analysed to identify optimum project solution whilst complying with the BCRs
Define internal and external plant areas including standalone energy centre	We have a standalone energy centre with plant space in the basement, on L2 and the roof.
Proposals for major plant provision	Major plant has been identified and detailed
Solutions to deal with supply failure scenarios	Back-up supply, generation and resilience is built in to our design
The sustainability of our design including operation and maintenance philosophy	Our plant selection is based on quality and performance as well as cost. We invest in higher quality products which return improved performance.
Innovation in our design	We have brought innovations to our services design which yield benefits in terms of consumption and/or output

Appendices

Appendix 1 Environmental matrix

Please also see drawings in AP1.1 Section 5

Scottish Hospitals Inquiry

Hearing commencing 24 April 2023

Bundle 7 - Key Parts of Mosaic's tender and marked up Environmental Matrix

Object ID: A42689294