

# Parkhead Health Centre Key Stage Assurance Review

**FBC KSAR  
Report V2.0**

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## Document Overview

### NHS Greater Glasgow & Clyde Parkhead Health Centre | Key Stage Assurance Review Report | FBC Stage

**Prepared for:**

NHS Greater Glasgow & Clyde

**Prepared by:**


NHS Scotland Assure

## Document Control Sheet

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### Distribution

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V1.0	18/11/2021	Andrew Baillie - Assistant Head of Capital Planning - Property & Capital Planning, NHS Greater Glasgow & Clyde	First Issue
		Gary Smithson, Senior Project Development Manager, hub West Scotland	
		Alan Morrison - Health Infrastructure, Investment and PPE Scottish Government Health and Social Care Directorates	
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		Andrew Baillie - Assistant Head of Capital Planning - Property & Capital Planning, NHS Greater Glasgow & Clyde	

# 1. Executive Summary

## 1.1 Executive Summary

As a result of the Full Business Case (FBC) Key Stage Assurance Review (KSAR) and based on the information presented to NHS Scotland Assure, we are able to support the project at this stage, subject to NHS Greater Glasgow and Clyde's confirmation of their action plan and commitment to address the issues identified.

Throughout the KSAR, it was apparent that NHS GG&C have an excellent understanding of the patient cohort that will be hosted by the Parkhead Health Centre facility and are looking to provide a bespoke facility that best meets their needs. We also commend the NHS GG&C approach of consultation with the major stakeholders. A series of four Stakeholder Workshops was undertaken with invited representatives from Community Groups, GP practices and Pharmacy from within the existing Parkhead HCC, Pharmacists, Community Dental, Adult Services (including Primary Care Mental Health (PCMH), Older Adult Mental Health (OAMH), Addictions, Criminal Justice, Children's Services (CAMHS, SCPT and Social Work), Sandyford Services, District Nursing, Physiotherapy, Health Improvement Team, Police Scotland, Glasgow Life, Glasgow HSCP, Learning & Development teams and NHSGGC Facilities Management to help inform the key strategies for the facility and deliver the best possible care.

In addition, a series of consultation meetings took place that were attended by GPs, Pharmacist and Pharmacy Directorate NHSGGC, Children and Families Heads of Service, Development and Regeneration Services, Local Engagement Forum and Glasgow Life. Workshops were also held to discuss the response to the site and the clinical adjacencies.

Three visits were made by the stakeholders to recently completed health centres and everyone was asked to complete a feedback form for each centre highlighting what they enjoyed or disliked about each of the centres focussing on a number of key areas.

In our opinion, the KSAR has identified a relatively well-considered project. However, there are a number of gaps within the project governance structure that if not adequately and timeously addressed could represent significant risks during the construction stage of the project and beyond. The KSAR has also identified a number of technical issues that NHS GG&C should consider addressing urgently.

Whilst GG&C provided a document to confirm and respond to the stakeholder consultations, there is a lack of documented input, review and sign-off of briefing documents, risk assessments, derogations and the finalised FBC design from key stakeholders such as Infection Prevention & Control (IPC) and Clinical Teams. The KSAR also identified conflicting requirements, which in the absence of a documented governance process, make it difficult to determine if the current proposals meet with NHS GG&C's requirements for the facility, nor how design decisions have been discussed and agreed.

The lack of documented governance also extends to the derogations process. Whilst there are derogation papers in place, they are in our opinion, of an inconsistent level of detail and ultimately there is an absence of sign-off of approved derogations by the NHS GG&C stakeholder group.

At the Parkhead Health Centre facility, there will be a wide range of patient services available to cater for a series of patient cohorts. The KSAR identified that a number of risk assessments in relation to the current mechanical & electrical design proposals had been undertaken and, in some cases, supported by technical design notes. However, they contain unresolved issues for which further actions were identified but not closed out.

NHS GG&C have engaged with a number of their Authorising Engineers, including ventilation, water, electrical LV and medical gases. A tracker document has been produced to record the initial findings from the AEs; however, there is a lack of evidence around the response to their comments and on their views on the current stage of design. NHS GG&C have also engaged with various members of their Water Safety Group, however this process, in our opinion, was limited (e.g. to the water filtration). There was no evidence on their views over the wider water system design.

The current design proposals contain a number of Contractor Design Packages (CDP) items that have not yet been developed to a RIBA Stage 4 level of detail as required at FBC. There is no auditable evidence as to how the development of the CDP will be monitored by NHS GG&C, nor how the overall co-ordination of services will be managed.

The KSAR identified that the fire requirements for the building are, in the main, as would be expected. Minor points for further review are highlighted in the detailed findings documents.

There are a number of points within the design where there is currently insufficient evidence to demonstrate full compliance. They are identified in this report and in separate detailed findings documents. In addition, the lighting design calculations should be revisited to correct the ceiling height (where the incorrect height was utilised) and assess the impact on the overall design.

There are some innovative attempts to manage domestic hot and cold-water temperatures. They are the subject of technical design notes and comments in other documents. However, the information is conflicting and it is not, in our opinion, evident that the final solutions have been reached. Part of the strategy is to provide cold-water storage of only 4 hours consumption, to ensure fast turnaround which can reduce the opportunity for the water in the tank to rise in temperature. The Board have indicated that they would then utilise the services of Business Stream, to obtain an emergency fill should the Scottish Water service be lost temporarily. There is no evidence of discussions with Business Stream to ensure that they can service the facility in an acceptable manner with such relatively small quantities of storage. A setup for disinfection of the emergency fill pipework is also required.

GG&C have elected to omit the installation of a water filtration system and have generated a risk assessment plus a technical design note to demonstrate their logic. The papers do not discuss the impact that the build-up of silt plus its ability to encourage biofilm could have on the longevity of the system and on the potential for microbiological issues.

The air handling unit plant is located on an open roof surface. This could give rise to extended loss of ventilation should a unit fail during inclement weather. There is no discussion of this topic in the risk assessments. This arrangement has also generated runs of external ventilation ducting. The selection of the covering for the ducting requires careful consideration to avoid it being an attraction to vermin.

Arrangements for the use of a temporary, standby generator require further development to establish the load requirement, the final earthing mechanisms and the switching procedures.

A mitigation of the risk to the patients in the finished building from adjacent demolition works in phase 3 has yet to be fully documented. Issues related to dust entry from the adjacent site, via openable windows or mechanical ventilation systems need clear control methodologies.

The coordination of the roof outlets from drainage systems with the fresh air intakes is also a concern from an IPC perspective. Another area, at roof level, which is yet to be finalised is the relationship of finishes to external ductwork insulation and the potential for birds to be attracted by the material.

## 1.2 Summary of Findings

The findings of this report have been collated based on information provided by NHS GG&C. The following table outlines the status of key findings:

Review	No. of Issues per category				
	1	2	3	4	5
Project Governance and General Arrangements	0	0	2	20	2
Water and Internal Plumbing / Drainage Systems	0	1	12	16	1
Ventilation	0	1	7	27	0
Electrical	0	1	8	28	0
Medical Gases	0	0	5	8	2
Fire	0	0	4	9	4
Infection Prevention & Control Built Environment	0	1	2	9	1

The following categories were used in relation to the findings:

Category	Definition
1	Significant – Concerns requiring immediate attention, no adherence with guidance
2	Major – Absence of key controls, major deviations from guidance
3	Moderate – Not all control procedures working effectively, elements of noncompliance with guidance
4	Minor – Minor control procedures lacking or improvement identified based on emerging practice
5	Observation and improvement activity

## 1.3 Project Overview

NHS Greater Glasgow & Clyde (NHS GG&C) is planning to build a new non-acute Health Centre on the current Parkhead Hospital site at Salamanca Street, Glasgow. The project is

being delivered through the Glasgow North East Health & Care Hub, which forms part of the wider Glasgow City Health and Social Care Partnership service model. At the time of reporting the Parkhead Hospital building has been demolished as part of an enabling works package with the adjacent Parkhead Health Centre due to remain operational throughout the course of the project with subsequent demolition thereafter. The project is currently progressing toward Full Business Case Stage submission with the KSAR review mandated by Scottish Government Capital Investment Group as part of the approval process.

The new Parkhead Health Centre is a large non-acute building, which will help consolidate a range of accommodation for community, clinical, office and training purposes. The following services will be accommodated within the new building:

- GP accommodation
- Podiatry
- Treatment Room
- Children's Department (CAHMS)
- Adult Department
- Outpatient Consultation Rooms
- Dental services
- District Nursing / School Nursing
- Pharmacy
- Community Health Partnership admin
- Library
- Community café space (3rd sector)

A brief description about the nature of each of the engineering installations, which are under review, is detailed in section 2.4.

## 2. Review Methodology

### 2.1 Overview of NHS Scotland Assure & The KSAR Process

Good management and effective control of projects is an essential element to the successful delivery and maintenance of healthcare facilities across NHS Scotland estates.

The NHS Scotland Assure - Assurance Service was launched on the 1st June 2021 following a letter issued by Scottish Government to Health Board Chief Executives, Directors of Finance, Nursing Directors and Directors of Estates. This letter outlined the purpose of NHS Scotland Assure, with an overarching aim to deliver a co-ordinated approach to the improvement of risk management in new builds and refurbishment projects across NHS Scotland. The new service will underpin a transformation in the approach to minimising risk in our healthcare buildings and environments, protecting patients from the risk of infection and supporting better outcomes for patients in Scotland.

From the 1st June 2021, all NHS Board projects that require review and approval from the NHS Capital Investment Group (CIG), will need to engage with NHS Scotland Assure to undertake key stage assurance reviews (KSARs). Approval from the CIG will only follow once the KSAR has been satisfactorily completed. The KSARs have been designed to provide assurance to the Scottish Government that guidance has been followed. The Scottish Government may also commission NHS Scotland Assure to undertake reviews on other healthcare built environment projects. This does not change accountability for the projects; NHS Boards remain accountable for their delivery. NHS Scotland Assure will be accountable for the services it provides that support delivery of the projects.

NHS Scotland Assure will also work closely with Health Boards to identify where a KSAR may be required for projects under their Delegated Authority, utilising a triage system to assess risk and complexity of projects.

The KSARs will assess if Health Boards Project Management teams (inclusive of clinicians, appointed construction consultants, and contractors) are briefed and following best practice procedures in the provision of facilities. We will review if projects have considered aspects of safety related to the KSAR topics, if specific engineering systems are designed, installed and commissioned, and for ongoing safety maintenance including Infection Prevention and Control (IPC).

The KSAR focuses on key topics, specifically – IPC, water, ventilation, electrical, plumbing, medical gases installations and fire. This ensures they are designed, installed and functioning from initial commissioning of a new facility and throughout its lifetime. Health Boards are required to have appropriate governance in place at all stages of the construction procurement journey.

The purpose of the KSAR at Full Business Case (FBC) stage is to confirm there is a good and comprehensive understanding of the category of patient who will use the proposed facility and



that the project team consider how appropriate quality and safety standards will influence the design. It looks to provide assurance that the project can proceed to the Construction phase.

Additionally, the KSAR at FBC will carry out an appropriate level of checking of the design solutions adopted and that calculations have been carried out.

Whilst the KSAR focusses on actions to improve the end product, it is not intended to detract from the merits of a development that will add significant benefit for the healthcare of the population served, and which has many exemplary elements. Rather, it is a reflection of the complexity of healthcare construction projects and the stage of development at which it was reviewed. Some conflicts and changes are to be expected as complex projects develop and project teams have in place mechanisms to identify and address these. This report adds a layer of scrutiny and assurance to that process to address the above requirement from government.

## **2.2 KSAR Process**

2.2.1 The FBC KSAR took place between August 2021 and October 2021.

2.2.2 To inform the findings of the KSAR, the Health Board were issued with key documents outlining the assurance question set and expected level of evidence and supporting documents in accordance with relevant legislation and guidance. This included the FBC KSAR Workbook and FBC Deliverables list.

The KSAR report includes an overview of the main findings of the review, with a further itemised list of detailed observations included within the appendices of the report. The detailed observations are recorded in an action plan that should be adopted by the Health Board following the review and subsequently monitored by them to ensure appropriate actions are completed in a timeous manner.

## **2.3 Application of Standards & Legislation**

2.3.1 Health Facilities Scotland (HFS) currently provides a range of advisory and delivery services across a wide variety of topics from a portfolio, which covers the built estate, engineering and environment and facilities management. With some exceptions, these services are largely advisory in nature, identifying best practice and developing national guidance and standards.

2.3.2 Antimicrobial Resistance and Healthcare Associated Infection (ARHAI) Scotland currently provides advice and guidance on all aspects of infection protection and control nationally in Scotland, inclusive of expert advice and guidance on the topic of Healthcare Associated Infections (HAI) and antimicrobial resistance. It maintains and continues to develop a practice guide (National Infection Prevention and Control Manual – NIPCM) as well as a HAI Compendium of all extant guidance and policy appropriate for use in NHS Scotland. Like HFS, these services are largely advisory in nature, identifying best practice and developing national guidance and standards. The NHS Scotland NIPCM was first published on 13 January 2012 as mandatory guidance, by the Chief Nursing Officer (CNO (2012)1), and updated by a second edition on 17 May 2012 (CNO(2012)01-update). The NIPCM provides guidance for all those involved in care provision and should be adopted for infection, prevention

and control practices and procedures. The NIPCM is mandatory policy for NHS Scotland.

The authority of guidance produced by National Services Scotland (NSS) and other national organisations e.g. Healthcare Improvement Scotland is best described by the definitions outlined below (SHTM 00 – Best practice guidelines for healthcare engineering):

**Regulations** are law, approved by Parliament. These are usually made under the Health and Safety at Work etc Act following proposals from the Health & Safety Commission. Regulations identify certain risks and set out specific actions which must be taken.

**Approved Codes of Practice** give advice on how to comply with the law by offering practical examples of best practice. If employers follow the advice, they will be doing enough to comply with the law.

Approved Codes of Practice have a special legal status. If employers are prosecuted for a breach of health and safety law, and it is proved that they did not follow the relevant provisions of an Approved Code of Practice, they will need to show that they have complied with the law in some other way, or a court will find them at fault.

**Standards** (British or European), institutional guides and industry best practice play a large part in how things should be done. They have no direct legal status (unless specified by Regulations). However, should there be an accident; the applied safety practices at the place of work would be examined against existing British or European Standards. It would be difficult to argue in favour of an organisation where safety was not to the described level.

**Guidance** is issued in some cases to indicate the best way to comply with Regulations, but the guidance has no legal enforcement status.

- 2.3.3 Whilst guidance is deemed not compulsory by the Health and Safety Executive (HSE), where compliance with guidance is specified in a contract, as is the case here, it becomes a contractual requirement. Therefore, any permitted deviation from it would be expected to follow a formal process with input from all relevant parties, with clarity around how the outcome was reached, including risk assessments where appropriate and sign off by all those authorised to approve it.

## 2.4. Project Technical Outline Summary

### Water and Internal Drainage Systems

- The incoming mains water supply into the building will supply a cold-water storage tank within a dedicated plant room. The cold-water storage will be pumped throughout the building by a packaged booster set, located within the same plant room.
- The building does not contain water filtration, which has been agreed and recorded by NHS GG&C through risk assessment.
- The domestic cold-water system does not include active cooling and therefore a peak water temperature of 20°C as defined in the ACR document cannot be guaranteed. However, to mitigate the risk of high domestic cold-water temperatures a number of passive measures have been incorporated including, integrated tank controls, free cooling via below ground pipework and end of line flushing. Connections points are under consideration should active cooling be required in the future.
- The capacity of the potable cold-water storage tank has been reduced to provide 4hrs of storage, which has been agreed as a derogation from the SHTM's. The aim is to reduce the opportunity for the water temperature to rise.
- To provide resilience in the unlikely event of interruption to the Scottish Water mains supply the building includes an emergency water fill connection. The fill

connection is detailed in accordance with the approved Scottish Water detail but discussion and agreement with Business Stream is yet to be concluded.

- Domestic hot water will be provided by point of use (POU) electric water heaters; these will deliver instantaneous domestic hot water.
- Drainage has been provided for rainwater, soil, waste and condensate from cooling systems .

## Ventilation

- The ventilation strategy for the facility is a combination of Mechanical Supply and Extract, Natural Ventilation and Dirty Extract. The ventilation proposal is to provide the minimum fresh air rates for infection control, occupancy and to manage thermal comfort.
- Mechanical Supply and Extract ventilation is served via heat recovery air handling units (AHUs) that will be located on Level 3 and 4 roofs. The AHUs will be sited on a proprietary support system. The AHUs will incorporate filters, frost coil, plate heat exchanger, cooling coil (direct expansion type using refrigerant in the coil {DX}) plus supply and extract fans. Duct mounted attenuators are included within the appropriate ductwork distribution.
- The supply distribution will serve the associated rooms / areas via a series of constant air volume (CAV) or variable air volume (VAV) boxes dependant on the appropriate ventilation strategy. Both the supply and return distribution ductwork will be run within the ceiling voids with some runs upon the roofs.
- Natural ventilation strategy is via actuated windows and openings, utilised to provide fresh air and protect against overheating in accordance with the Chartered Institute of Building Services Engineers (CIBSE) publication on thermal comfort, TM52.
- Mechanical Extract is provided to all Toilets, Showers and Dirty Exhaust areas via extract fans, (twin fan assembly when serving multiple rooms). The fans are located on Level 3 and 4 roofs. Supply make-up air is via undercut door or transfer grilles/ducts from adjacent areas.
- Heating
  - The heating system comprises 2 no. high efficiency Air Source Heat Pumps (ASHP) that are located in an open topped roof plant compound. The ASHPs utilise R32 refrigerant and are each sized to meet 50% of the building peak heating demand. Each ASHP contains twin compressors with turn down ratios that offers a level of resilience. A detailed study regarding the efficiency and output of the system during their defrost cycle, during cold external conditions, has been completed.
  - The ASHP's primary distribution system is complete with thermal stores to ensure that the frequency of starts on the ASHP compressors does not exceed the manufacturer's recommendations.
  - The ASHP system supplies a low heat medium (48°C / 40°C) that serves radiant panels, under floor heating (UFH), air heater batteries and AHU frost coils.
- Cooling
  - The refrigerant cooling comprises a number of systems that are either room coolers with a dedicated external heat rejection unit or multiple room cooling units that are connected to a common external heat rejection unit. The heat rejection condensers will be located on the roof and will use R32 refrigerant complete with associated leak detection system. The indoor units will be of varying type dependant on the area that it is serving. The systems will serve

the Comms Room, Main Comms Room (duty and stand-by system arrangement), Dispensary, Gym and AHU air cooling coil.

## **Electrical**

- Low Voltage (LV) Distribution
  - The installation shall comprise mainly of a dedicated new Main Switch Board (MSB) and Distribution Boards (DB's) (plus their associated internal switchgear), rising busbars (complete with tap off and end feed units), submain cabling and support containment throughout the facility.
  - Rising electrical busbars complete with tap offs will be utilised for the vertical distribution of mains power to service dedicated power and lighting distribution boards on each floor.
- General Power
  - Small power sockets will be installed throughout the North East Health Hub building. Generally, final circuits will be supplied from motor control panels (MCPs), external feeder pillars, and DB's installed within DB cupboards. All outgoing circuits will be protected by either a miniature circuit breaker (MCB) (lighting circuit) or residual current circuit breaker with overcurrent protection RCBO (small power circuit), depending on the nature of the equipment requiring protection. The general power system should be sized to incorporate a growth margin or additional capacity increase of 10%.
- General Lighting and Controls
  - The building concept and design philosophy is to maximise the number of daylight illuminated spaces, (daylighting is proven to speed patient recovery and improve staff morale).
  - At anytime, should daylight levels not be sufficient, artificial lighting shall be provided by energy efficient luminaires. These are selected to satisfy functional, aesthetic and energy targets.
  - Generally, all artificial lighting will be linked on a digital control system.
  - All lighting installed internal and external to the North East Health Hub building will incorporate an LED based light source.
  - Control of lighting by occupancy detection is specified to Toilets, Stores and on escape routes for energy efficiency savings. Generally, dimming control shall be provided within each Consulting room, Treatment room, Training room, Interview room, Meeting room and Agile Working Spaces.
  - A standalone emergency lighting system, comprising of emergency luminaires (with integral battery packs), exit signs and a monitoring system will be installed. Daylight linking (switching and dimming) of luminaires will be provided for both the Level 2 and 3 open office areas.
- Metering
  - Electrical sub-metering will be provided to align to meet the target BREEAM credits and Scottish Technical Standards.

## **Medical Gases**

- The medical gas systems are limited to a dental compressed air system, gas scavenging and dental suction.
- The compressed air system comprises a single packaged oil free compressor that will be located in the Dental Compressor Room on Level 2. The compressed air plant shall provide air to each dental chair through degreased copper pipework that will be routed in the ceiling void of the floor below before rising to serve the

chair. The system is identified as CDP element and is to be designed in accordance with SHTM 02-01 and 2022 Supplement 1.

- The dental suction system equipment will be provided by the Authority. The pipework shall drop from the dental chair floor box into the ceiling void below before rising back up to suction equipment within the room. A second waste exhaust line will drop from the equipment to the ceiling void below before discharging at a safe location.

## **Fire**

- The fire strategy for the building is based on simultaneous evacuation, where on detection and alarm, all occupants will begin escaping (i.e. no investigation period). A fire detection and alarm system (to the highest standard of British Standard 5839 (type L1)) is proposed to provide occupants with the earliest warning in the event of a fire.
- The building is divided into compartments within the maximum permitted limits. There is an atrium compartment which connects ground, first – third floors. This is protected with fire and smoke shutters in some areas and provided with smoke ventilation via vents in the roof and inlet air through the entrance doors.
- There is no sleeping or in-patient facilities, therefore, it has been considered as an Assembly building rather than Hospital accommodation, which means there is no requirement for sprinkler protection.
- Fire engineering analysis has been conducted to provide justification for areas of non-compliance within the development, including a comparative and deterministic study of the escape past the balcony on the first and second floors. There is also justification of the marginally extended hose distance, external fire spread between compartments and the inner room layout.

## **IPC**

- The IPC controls are required to plan and control the healthcare environment both in use and during the final phase of the project, when there will be a building site adjacent to the new facility. Collaboration with a third party around the café concession will also be required.

### 3 KSAR Review Summary

The following narrative relates directly to the FBC KSAR workbook and the evidence indicated therein. The comments associated with the points are because of the evidence presented by the Board and their advisors during the review process.

#### 3.1 Project Governance and General Arrangements

##### 3.1.1 Project Governance and General Arrangements KSAR Observations

Workbook Ref No.	Areas to probe	Evidence expected
1.1	Evaluation of changes detailed from previous KSAR.	Assessment of any substantive changes in highlighted areas from previous review stage and all actions have been implemented.
<b>NHS Scotland Assure Observations:</b> <ul style="list-style-type: none"> <li>This is not applicable as the project is entering KSAR review process at FBC Stage.</li> </ul>		

Workbook Ref No.	Areas to probe	Evidence expected
1.2	Verification that CIG recommendations have been implemented with respect to prescribed in scope areas.	Review of the implementation of all CIG recommendations. Evaluation of any deviation from previous submissions or reviews.
<b>NHS Scotland Assure Observations:</b> <ul style="list-style-type: none"> <li>No evidence has been provided of any previous CIG recommendations therefore relevant compliance cannot be assured.</li> </ul>		

Workbook Ref No.	Areas to probe	Evidence expected
1.3	Has cross-referencing with NDAP and AEDET recommendations been implemented?	An assessment if there is full compliance with the applicable recommendations and actions from the preceding step.
<b>NHS Scotland Assure Observations:</b> <p>The OBC NDAP Report has been reviewed and following receipt of 'North East Hub (NEH) Design Assessment Tracker' on 14th July and email of 20th July 2020 confirming project team will strive to ensure recommendations are realised, HFS granted supported and verified status (via the NDAP process). There is insufficient evidence provided to demonstrate that all previous essential and/or advisory</p>		

recommendations, that are relevant to the KSAR, have been implemented from the OBC Stage.

Workbook Ref No.	Areas to probe	Evidence expected
1.4	Does the Health Board continue to demonstrate service / clinical input into design decisions based on a current and comprehensive knowledge of patient cohorts?	Recorded and updated input taken from service lead(s) / clinician(s) about relevant patient cohort characteristics and their typical needs in terms of the accommodation's environment, safety and infection control standards.  Demonstrable expertise of service lead(s) / clinician(s) in providing this advice.

#### NHS Scotland Assure Observations:

- There are a number of documents that point towards input from service lead(s) / clinician(s). In addition to the accommodation schedules and selections of surface finishes for all spaces, there is an Operation Policies (OP) report. This OP report discusses requirements for each department with varying levels of detail between them. It can cover anticipated numbers of staff plus patients, patient flows, operating hours, clinical needs and types of rooms that are required. For some departments there are a number of sections that are incomplete in the report.
- The NHS GG&C have provided a Design Action Plan and a "Quality and Efficiency" document which lays out the aims for the approach to design. It also looks at some lessons learned from previous, similar projects.
- A project governance diagram provides some evidence of the intended structure of the stakeholder groups plus it identifies the three key individuals and the relationship of their support mechanism.
- Meeting minutes have been provided for the discussions around the need for water filtration and there is evidence that, for this meeting, representatives for infection control and microbiology accompanied the estates personnel, the contractor and the designers. There was no similar minutes to demonstrate the presence and input for the other aspects of the design or for the production of the documents referred to above.
- HAI-SCRIBE, parts 1 & 2 have been completed and part 2 has been signed off. The signatories cover a wide range of stakeholders, including infection control. The topics covered, however, are dealt with at a superficial level. Further documentary evidence (e.g. minutes of meetings / action logs) of clinical and service lead input to the detail of the design (with the exception of the water filtration) has not been provided.

Workbook Ref No.	Areas to probe	Evidence expected
1.5	Project team continues to demonstrate a unified and recorded understanding of needs of main users and patient cohorts of the proposed accommodation and how this has influenced	Updated and current list available of all stakeholders, service users and patient cohorts impacted by this project, plus the identification of any high risk groups and their specialist needs.

	the design of critical building, engineering and infection prevention and control quality and safety standards.	<p>Updated and recorded engagement on these designs issues having taken place between the project team and service lead(s) / clinician(s), infection prevention and control team, and other key stakeholders (e.g. Estates, Medical Physics, IPC, the AEDET, NDAP or other design briefing workshops).</p> <p>Details available of how service users / patient cohort needs and their expected use of the accommodation are influencing the design brief, including critical building, engineering and infection prevention and control quality and safety standards.</p>
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#### NHS Scotland Assure Observations:

- Folder 8.11 Site Selection & Building Form contains Hoskins Architect RIBA Stage 0 Design Report July 2019, which refers to early Stakeholder Engagement. That report, identifies the stakeholder groups in attendance at a series of four workshops. The workshops were used to highlight the needs of the individual groups and to assess how they related to the site plus internal architectural designs. In that report, the architect's response is shown in text, drawings and diagrams.
- The OP report (discussed in 1.4 above), contains references to "Activity Indicators" to reference the patient cohorts and the clinical spaces required for them.
- Beyond the RIBA Stage 0 report and the water filtration meeting minutes, there were two further pieces of evidence of discussions around the patient clinical risk categories / medical group locations associated with electric installations. The first is in the form of a presentation produced by the designer. It discusses the decision making process behind electrical resilience planning and patient protection from shock. There are then a set of minutes in which the agreed conclusion from the presentation were discussed (meeting from 4 March 2021). There were, however, no representatives from IPC or clinical stakeholders at that meeting.
- The minutes of the 4 March 2021 also refer to feedback, which had been received from the Authorising Engineers (AEs) for the Board (specialising in medical gas, ventilation, water and LV electrical). There is a tracker document dated 20 March 2021, which records the points raised by each AE. Several of the points had yet to be closed out and decisions were still to be made/agreed at that time. There is no indication that they have been revisited to ensure that the solutions have been reached or that all parties have agreed.
- There are a number of documents, which identify the final engineering solutions plus the room environments that they intend to achieve. However, there is no further evidence as to how agreement was reached on the critical building, engineering and infection prevention and control quality and safety standards beyond the discussions in this topic reference 1.5.

Workbook Ref No.	Areas to probe	Evidence expected
1.6	Planned approach towards determining the necessary standards for this accommodation.	Updated and current list of the relevant NHS and non-NHS guidance that is being used and adopted (see previous section of workbook FBC KSAR (Page 9) for examples of appropriate guidance).



		<p>Updated and current list of all proposed derogations from NHS guidance with a detailed technical narrative on each derogation and/or list of known gaps in guidance that will need to be resolved in order to meet the needs of the patient / user cohort.</p> <p>Knowledge of the role of infection prevention and control advisors (IPCN and ICD) to be used throughout the final design stages, and details of the resource plan in place to ensure continuity into the construction phase.</p>
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**NHS Scotland Assure Observations:**

- A list of guidance that has been deemed to be unrelated to this project has been identified. Within the specifications for the engineering systems, the guidance documents are referenced at the appropriate sections.
- Observation from the KSAR Technical Workshops is that the derogation schedule and technical notes do not include a full explanation of the reason for the derogation. This should include the evidence of its suitability and the governance around its sign off.
- The process of completing HAI SCRIBE has commenced and undergone stage 1 and 2 (up to the design section). The date shown on the “sign off” page for stage 2 is the 19-01-21. This would need to be updated therefore to reflect design decisions that have followed on after that date (e.g. the proposal to omit water filtration). Stage 3, for the construction phase, will be completed at the appropriate time. There is, however, no evidence to identify planned continuity of IPCN or ICD input during the construction phase.

<b>Workbook Ref No.</b>	<b>Areas to probe</b>	<b>Evidence expected</b>
1.7	<p>How does the Health Board demonstrate that there is an effective infection prevention and control management structure in place and how does it relate to the development of the project? How does the Health Board demonstrate leadership and commitment to infection prevention and control to ensure a culture of continuous quality improvement throughout the organisation and that there is an effective IPC structure in place and how does it relate to the design development?</p>	<p>Evidence IPC and clinical teams have been integrated into all decisions regarding any derogations through the design process and are satisfied this will not impact on patient safety such as, specific sign off, supporting meeting minutes, risk assessments, risk registers relating to IPC with evidence of escalation through the agreed NHS board governance process.</p>

### NHS Scotland Assure Observations:

- Folder 35 contains the derogation documents. They are split into different disciplines. Each one sets out the specific clause to be derogated then offers a description of the logic. In some cases this description refers to previous discussions (of which there are no meeting minutes) or misses out important detail related to the decision making process (e.g. the explanation for the absence of a permanent, standby generator is not included). While there is a space for sign off by all stakeholders (including clinical and IPC members), none of the derogations have been signed off and no names allocated.
- Folder 33 contains the Health & Safety risk assessment and folder 37 has the Project Risk Register. None of these highlight issues related to specific IPC decisions that have been necessary.
- Folder 11 contains the designers risk assessment for water. This document contains technical solutions, which conflict with other documentation (e.g. domestic hot water temperatures). It also refers to elements that require further dialogue and decisions still to be made.
- There is evidence of IPC involvement through the use of HAI SCRIBE and participation in one meeting to discuss water filtration. Other documents contain details upon which IPC should have been consulted (e.g. surface finishes), however, there is no supporting evidence of their involvement.
- It was noted at IPC KSAR Workshop that the Stage 2 HAI SCRIBE should be reviewed due to passage of time and stakeholder changes. The Stage 3 HAI SCRIBE should be developed in due course.
- In all of the evidence referred to here, there is no evidence of the escalation process and where it has been applied.

Workbook Ref No.	Areas to probe	Evidence expected
1.8	Integration with Authority Policies and Operation How does the Board demonstrate implementation of evidence based infection prevention and control measures?	The Health Board can demonstrate the current version of the National Infection Prevention and Control Manual has been adopted by the organisation and all staff are aware of how and where to access this. (Ask staff)  IPC are fully embedded in the project team and the FBC programme-taking cognisance of any actual or perceived risks identified provided.

### NHS Scotland Assure Observations:

- No evidence has been provided that the current version of the NIPCM has been adopted by the organisation, that staff know where to access it and that it is being referenced during the design process.
- The completion of the HAI SCRIBE and minutes of the water filtration meeting, identify input from IPC. There are other documents that refer to discussions, which took place with IPC, (e.g. the water risk assessment which refers to discussions around water

filtration), however, there is no other evidence of the decisions by IPC and how their identified risks have been managed.

Workbook Ref No.	Areas to probe	Evidence expected
1.9	The Health Boards Infection Prevention and Control Strategy	Assessment of the Health Boards approach to all IPC related matters in relation to the development of the design, HAISCRIBE etc.

**NHS Scotland Assure Observations:**

- It is clear that IPC have had some input to the design process. However, beyond the use of HAI SCRIBE there is little documentation to describe their influence. There would be a benefit to establishing documentation that records the IPC concerns and participation in their resolution.
- There is no evidence provided detailing escalation of IPC concerns regarding the project to the executive board, operational and governance groups.

Workbook Ref No.	Areas to probe	Evidence expected
1.10	The Health Boards Monitoring and Records	Evidence that the Health Board integrating this project with wider IPC requirements within the context of the FBC. For example, evidence that the proposals for equipping incorporate IPC requirements.

**NHS Scotland Assure Observations:**

- There is some evidence that lessons learned from previous health centre projects have been documented and consulted. Beyond that, there is no evidence as to the interactions from the IPC project team and the Health Board's wider IPC requirements.
- HAI SCRIBE notes all equipment will be cleanable, however, procurement has not commenced at this point. The Board should document a plan to ensure that there is IPC involvement with this process.

Workbook Ref No.	Areas to probe	Evidence expected
1.11	Planned approach for managing the design process to ensure successful compliance with agreed and approved standards	The project governance arrangements and resource plan in place to ensure that the necessary decision-making authority and technical expertise is available to take responsibility for and deliver the project as planned and agreed.  Details of how gaps in expertise are being filled.

		<p>Details of how compliance with the appropriate guidance, design brief and other standards are being agreed, signed off, monitored, reported against and if necessary escalated / adjudicated throughout the design, construction and commissioning stages.</p> <p>Details of how all stakeholders' interests are being agreed, signed off, monitored, reported against and if necessary escalated / adjudicated throughout the design, construction and commissioning stages.</p>
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**NHS Scotland Assure Observations:**

- Folder 7 contains the Board's responsibility matrix. This identifies the key individuals in the senior roles with a brief description of their responsibilities. It also refers to the main external support organisations. There is no description of the process for escalation and agreement.
- A project governance diagram provides some evidence of the intended structure of the stakeholder groups plus it identifies the three key individuals and the relationship of their support mechanism.
- Folder 36 contains the contractor's design responsibility matrix to identify the role of the relevant parties and where the lead for each element lies.
- In folder 39, there is a table of reviewable design data, which demonstrates a contribution to the management of the design. There are also limited meeting minutes (which have already been referenced and contained in other folders).
- Folder 4 contains the Design Action Plan, which sets out a structure for the process. There is, however, little documentation to allow the implementation of the plan to be evidenced.
- Processes for sign off, monitoring, escalating and adjudicating are not clearly demonstrated.
- There is no evidence that a skills gap analysis or details of how stakeholder's interests are being managed.

Workbook Ref No.	Areas to probe	Evidence expected
1.12	The Health Boards approach on the procurement journey with evidence of the plans on how the Board will provide assurance, particularly emphasis on the critical systems identified earlier.	<p>Evidence on how this requirement is being managed and how it fits with the project governance arrangements</p> <p>Plans to identify any gaps in the procurement approach that may require to be addressed.</p> <p>Evidence on how Infection Prevention and Control are involved with the conceptual procurement approach to the design stage and future plans for project.</p> <p>Evidence that the Health Boards selected procurement route has gone through the Board's Governance channels.</p>

**NHS Scotland Assure Observations:**

- NHS GG&C are procuring the project via Hub and have extensive experience of procuring and delivering similar health centre project via this route. There is no evidence that NHS GG&C have formally approved all contract documentation and associated appendices at Project Board level.
- There is no evidence on how Infection Prevention and Control are involved with the conceptual procurement approach to the design stage and future plans for project.

Workbook Ref No.	Areas to probe	Evidence expected
1.13	The Health Boards approach on those areas of design that the procurement route has provided identification as possibly being Contractors Designed Portions (CDP's).	Evidence that the procurement of the lead designer will encompass these areas in their oversight and sign off the complete design.  Evidence that a clear demarcation of design responsibility is being developed.

**NHS Scotland Assure Observations:**

- The CDP list is contained within NEH-ACM-Ph2-00-SP-BS-0400 M&E Spec.
- Folder 39 RDD Schedule contains a list of reviewable design requirements although none of those listed would form a part of CDP for the KSAR topics.
- Folder 43 Client, Key Stakeholder Consultation - Project Governance Arrangement. This contains a detailed organogram covering general governance, sub groups, reporting, technical design and room layouts. A review / revision date should be added to Organograms for tracking updates.
- A design responsibility matrix has been provided, in folder 36, which identifies lead and support roles, including for CDPs
- There is some evidence that planning for the interactions of the CDPs has taken place, (e.g. ventilation of the medical gas plantroom).

Workbook Ref No.	Areas to probe	Evidence expected
1.14	Evaluation of the Health Boards commissioning plan.	Evidence that the Health Board has recorded plans that are comprehensive and adequate to address the needs of the project and that they are fully resourced.

**NHS Scotland Assure Observations:**

- Folder 14 Specs for Final Commissioning & Handover contains the general MEP Specification. It includes details regarding the general commissioning and validation and refers to national commissioning standards (e.g. Building Services Research and Information Association (BSRIA) and the Chartered Institute of Building Services Engineers (CIBSE)). However, these national documents require the designers to make selections from the guidance that are specific to the project. These would

normally be produced in the format of a commissioning specification. There has been no commissioning specification provided.

- Full commissioning programme has been evidenced in folder 15. In addition, NEH Completion Requirements V1 located with folder 42 identifies a draft Handover Checklist.

Workbook Ref No.	Areas to probe	Evidence expected
1.15	Evaluation of the Health Boards duty holder matrix.	<p>Evidence that the Health Board have a fully recorded matrix of the required roles and responsibilities and have a clear governance structure that is fully resourced together with plans in place for the implementation.</p> <p>Evidence that Health Boards have appropriate number of competent, qualified staff to carry out specific duties throughout the life cycle of the project e.g., IPC, Engineers, Estates staff etc. The number of competent, qualified staff will depend on the type and size of the Build Project.</p>

**NHS Scotland Assure Observations:**

- Folder 43 Client, Key Stakeholder Consultation - Project Governance Arrangement. A detailed organogram has been provided covering general governance, sub groups, reporting, technical design and room layouts. (Review / revision date should be added to Organograms for tracking updates). This can be read in conjunction with the Key Roles and Responsibilities document.
- NHS GG&C should include names of each duty holder within the Project Governance Arrangement document. While some of the senior individuals have been named in a relevant role, there are many more roles where no individual/s are recorded.
- The documents do not enumerate the staff required or identify skills gaps in their current staff quota.

3.1.2 Project Governance and General Arrangements: Further Observations

3.1.2.1	No specific response and/or file structure provided in response to the KSAR Workbook items 1.1 to 1.15, Project Governance and General Arrangements.
3.1.2.2	No evidence of formal document sign off and approval of ACR's.
3.1.2.3	Appointment documentation not provided for Currie & Brown and JGA Fire Consultants.
3.1.2.4	NHS GG&C should ensure that all consultant competency documentation is in place and agreed.

3.1.2.5	Folder 4/5 Clinical / Project Brief V3 31/03/20. Title page on document refers to version 2.
3.1.2.6	No evidence of formal document sign off and approval of Environmental Matrix or of the interaction and discussion that took place.
3.1.2.7	Folder 7 NEH-P53-XX-XX-PROJECT PLAN- V3 incl appendices / North East HUB - Key roles and responsibilities. Up to date and detailed Project Plan / Project Information Pack provided, that demonstrates timescales, roles and responsibilities (including both IPC and service representatives), meeting schedules, risk register and KPI's etc. No evidence of formal approval at Project Board level.
3.1.2.8	Folder 39 RDD Schedule. Conflict in light fitting schedule specification noted in schedule.
3.1.2.9	Folder 8.7 Planning & Building Control. Planning Application 20/03374/FUL granted 31.08.21 with conditions. Planning and Building Warrant Trackers provided. Tree Protection Order (TPO) noted as a Planning Condition for discharge. NHS GG&C progressing with a stage Building Warrant submission. Next stage due for submission is Fire Strategy. Updated Fire Strategy required as an output of the Electrical and Fire Technical KSAR Workshops as well as Fire Safety observations in OBC NDAP.
3.1.2.10	Folder 8.9 Hierarchy of Design Standards. A list of non-applicable guidance and a derogations list have been provided identifying where derogation from HFS guidance is deemed to be essential or it does not apply. NHS GG&C should ensure that all derogations documents (Folder 35 DOO1 to D043) are signed as part of governance process.
3.1.2.11	Folder 8.9 Hierarchy of Design Standards. Technical Note includes a summary proforma table by Anderson Bell & Christie Architects who are not currently appointed on the Parkhead project. Reference on document to Anderson Bell & Christie Architects to be reviewed and updated.

## 3.2 Water and Internal Plumbing / Drainage Systems

### 3.2.1 Water and Internal Drainage Systems: KSAR Observations

Workbook Ref No.	Areas to probe	Evidence expected
2.1	Has the Health Board completed competency checks on the water and drainage consultant designers?	<p>Recorded evidence that the design team are experienced and have a comprehensive knowledge of the relevant design standards.</p> <p>Where anyone does not have a record of extensive health care experience what recorded plans are to be put in place by the Consultant Designers?</p> <p>Recorded evidence that input from the Health Authorising Engineer for Water (AE(W)) has been requested.</p> <p>Evidence that all contractors and sub-contractor competency checks have been completed and signed off.</p>
<p><b>NHS Scotland Assure Observations:</b></p> <ul style="list-style-type: none"> <li>Folder 2 Appointment Documents contains evidence in the form of the 'Appointment of M&amp;E Consultant Document'. This information is further supported in Folder 3 where the Board Competencies are evidenced. Sub-contractor competency checks have not been provided.</li> <li>Folder 7 contains AE Design Tracker response (20.03.21) incorporating water comments from an earlier version of the design.</li> </ul>		

Workbook Ref No.	Areas to probe	Evidence expected
2.2	How does the Health Board ensure that water services are designed in a fashion, which will retain space for minor additions and modifications to services in the future?	<p>Evidence that the engineers are presented their co-ordination drawings (BIM model), with space for future flexibility identified, to the Board.</p> <p>Evidence that the Design Consultant has considered and agreed with the Board, space for future flexibility in the service installations.</p> <p>Evidence that the designers have presented each of the main service runs plus plant rooms to the Board's FM team, to highlight space for future flexibility.</p> <p>Evidence that the Board has agreed a strategy (percentage) for spare capacity and a</p>



		documented allowance to be incorporated into the design.  Are plant/tank rooms, IPS sections, horizontal distribution runs and risers appropriately sized for the equipment being installed and facilitate safe adequate maintenance.
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**NHS Scotland Assure Observations:**

- MEP drawings are evidenced within Folders 8.1 (Stage 4 MEP Report) and 38 (Technical Design Drawings). These are layout and schematic form only and there is no BIM model provided for evidence. However, Folder 21 (Technical Design Information) contains a number of screenshots from the BIM clash detection exercise for review.
- Folder 1 ACR Version 10 – Section 8.6.2 states the additional design allowances that should be contained within the MEP services and associated distribution for future expansion. These are also stated in the GGC&C and BAM Stage 4 Report contained in folder 8.1. Domestic hot water will be generated by point of use electric water heaters and therefore any spare capacity would have to be accounted for in the cold water supply.
- MEP layout and schematic drawings are evidenced within Folders 8.1 (Stage 4 MEP Report) and 38 (Technical Design Drawings). These drawings show the proposed plant locations and associated distribution routes. Although there is a future design allowance section (Folder 1 ACR Version 10 – Section 8.6.2) that states the allowance to be applied there is no diagrammatical evidence of any future plant or distribution space.
- Folder 1 ACR Version 10 – Section 8.6.2 states the additional design allowances that GG&C and BAM are to provide. There is no evidence that they have been included.
- Access and Maintenance Report\_Tender\_8 in folder 8.1 provides evidence that a plant access strategy has been considered throughout the design process. Minutes from the Access Strategy meeting dated 12/08/21 and access / maintenance layouts are also included within folder 30 (Plant Access, Maintenance and Replacement Strategy). There is no reference in these documents for consideration of HAI SCRIBE's role in the access and maintenance process.

Workbook Ref No.	Areas to probe	Evidence expected
2.3	How does the Health Board assure itself that all variations / derogations, which may be required to water systems, are investigated and agreed by all parties before they are incorporated in the design?	Evidence that each variation / derogation has a detailed technical analysis, has been referred to the Board, and agreed with their water management group clinical, engineering, Estates, infection prevention, control, and FM teams.

**NHS Scotland Assure Observations:**

- North East HUB Health Care Centre – ACRs Version 10 – 1<sup>st</sup> August 2021 in Folder 1 contains a template for a derogations list, as Appendix J, although this is not the format used in the project. NHS GG&C should ensure all derogations documents (Folder 35 DOO1 to D043) are signed as part of governance process. There is no

evidence therefore that the detailed technical analysis of the derogations has been referred to the Board or other interested stakeholders.

Further to the derogations list the following should be noted:

- The cold water system does not include filtration, this has been agreed and recorded by NHS GG&C and BAM through risk assessment contained within Folder 10. However, see point 3.2.2.1 below.
- Domestic hot water will be provided by point of use (POU) electric water heaters. There is a note that these could deliver instantaneous domestic hot water with a peak flow temperature of 35-40°C, meaning the minimum domestic hot water flow temperature of 60°C as defined within the ACR document would not be achieved. This proposal is detailed within TDN30 contained within folder 8.13 and concern was raised during the Water Services KSAR workshop with regards to flushing and thermal disinfections if this lower temperature was adopted. GG&C and BAM are to review further.
- There are contradictions regarding the technical design notes for hot water and the information on the drawings, which require to be resolved (e.g. schematic shows thermostatic mixing valves (TMVs) at basins while the report discusses thermostatic mixing taps (TMTs) or setting the water heaters to produce water at 35-40 °C). It is unclear what the final selection for POU water heater control/TMV/TMT or manual tap has been agreed.
- The domestic cold-water system does not include active cooling and therefore a peak water temperature of 20°C as defined in the ACR document cannot be guaranteed. However, to mitigate the risk of high domestic cold-water temperatures a number of passive measures have been incorporated. These include integrated tank controls, free cooling via below ground pipework and end of line flushing as detailed within TDN29 contained within folder 8.13. The end of line flushing should be discussed with Scottish Water.
- There are contradictions regarding the technical design notes for cold water and the information on the drawings, which require to be resolved (e.g. references to venturi tees that are not shown on the schematic and recommendation for a cooling plate heat exchanger for the storage tank).

Workbook Ref No.	Areas to probe	Evidence expected
2.4	Water Management Strategy	<p>Assessment of Health Board proposed water management strategy and how this relates to the specification, guidance and project requirements.</p> <p>What involvement has there been from the water management group?</p>

**NHS Scotland Assure Observations:**

- Evidence of the Board's Water Management Strategy has not been provided.
- Folder 10 contains the Designers Water Risk Assessment and details of engagement with the Health Board to agree the omission of water filtration. It was noted that an emergency water connection point has been included within the design; this represents a water quality risk, which requires inclusion within the Designers Water Risk Assessment.
- Folder 8.16 Future Design Development contains Water Group Meeting Minutes (17.03.21) evidencing a Water Management Group has been established.

Workbook Ref No.	Areas to probe	Evidence expected
2.5	Water governance arrangements	Has the Health Board commenced its planning and recorded how it will ensure appropriate numbers of trained staff (AP and CP) and AE (W) will be appointed, is there an established project water management group that ensures the water management strategy is adhered to for the Board and is it clear how this project will interface with this existing group?

**NHS Scotland Assure Observations:**

- No evidence has been provided for staff training or to confirm the number of Authorised Person (AP) and Competent Person (CP) staff to be committed to this project.
- Folder 8.16 Future Design Development contains Water Group Meeting Minutes (17.03.21) evidencing a Water Management Group has been established.
- Folder 43 Client, Key Stakeholder Consultation - Project Governance Arrangement. There is no reference to the Water Management Group within organogram provided.
- The AE (W) has been consulted on the earlier stages of the design and should be given the opportunity to help close out their findings based on the updated documents.
- It is not clear as to how this project will interface with any existing water management group.

Workbook Ref No.	Areas to probe	Evidence expected
2.6	Evidence that the Health Board is developing commissioning proposals.	<p>Evaluation of the suitability of the proposed plans in the context of the FBC, are these sufficient to meet the requirements of the project, guidance and the design of the system.</p> <p>Evidence that the design has considered the commissioning of the water system including:</p> <ul style="list-style-type: none"> <li>• Safe storage of materials</li> <li>• Agreed type of chemical (to avoid warranty and corrosion issues)</li> </ul>

		<ul style="list-style-type: none"> <li>• Adequate time scale</li> <li>• Competency checks on all contractors</li> <li>• Water sampling scope</li> </ul> <p>Water sampling test results and approval process.</p>
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**NHS Scotland Assure Observations:**

- Folder 14 Specs for Final Commissioning & Handover only contains the general MEP Specification. This document does not identify any project specific requirements for sequencing of when and how systems will be tested, filled and maintained until and after handover.
- Full Commissioning programme has been evidenced in folder 15. NEH Completion Requirements V1 located with folder 42 (draft Handover Checklist) provide an Outline Commissioning Programme. From the available information, it seems sufficient time has been allowed.

Workbook Ref No.	Areas to probe	Evidence expected
2.7	Evaluation of the Health Boards planned preventative maintenance (PPM) proposals.	<p>Has the Health Board commenced its planning and recorded the PPM requirements and approach to ensure appropriate levels of maintenance, comprehensive statutory compliance and robust management processes, including:</p> <ul style="list-style-type: none"> <li>• Adequate numbers of staff</li> <li>• Water management PPM including all outlets, TMT &amp; TMV, plumbing and Drainage systems, etc.?</li> </ul>
<p><b>NHS Scotland Assure Observations:</b></p> <ul style="list-style-type: none"> <li>• No specific PPM documentation has been provided. There is general reference to PPM to be carried out during the defects liability period noted in MEP Specification but no detail.</li> </ul>		

3.2.2 Water and Internal Drainage Systems: Further Observations

3.2.2.1	The building does not contain water filtration, which has been agreed and recorded by NHS GG&C through risk assessment. This risk assessment is not conclusive and indicates that further discussion agreement is required around the assumed patient cohorts and the acceptance of the report in general. There is no evidence that full consideration has been given to the reduction of system life plus potential for increased biofilm growth (with associated microbiological problems) if filtration is not used. It has been identified that the dental chairs will use bottled water in the dental water lines and water from a Cat 5 tank (i.e. a tank with a high degree of protection against contaminating the water supply that fills the tank), for the mouth wash.
3.2.2.2	The location of manholes to below ground potable cold-water pipework within the courtyard should be reviewed to ensure all valves and joints can be accessed by maintenance personnel.
3.2.2.3	The capacity of the potable cold-water storage tank has been reduced to provide 4hrs of storage, which has been agreed as a derogation from the SHTM's. There is no evidence that this short duration has been agreed with Business Stream (the liaison between Scottish Water and the NHS). Business Stream may not be able to provide an emergency water tanker supply within this short time frame.
3.2.2.4	To provide resilience in the unlikely event of interruption to the Scottish Water mains supply the building includes an emergency water fill connection. The fill connection is detailed in accordance with the approved Scottish Water detail; however, the fill point still represents a risk that will need to be included on the water management plan to ensure it is maintained and suitably sterilised before use.
3.2.2.5	The location of ceiling void isolation valves should be reviewed to ensure suitable access can be achieved by maintenance personnel.
3.2.2.6	The domestic hot water flow temperature and method of control should be finalised. If the direct delivery at low temperature from the point of use water heaters is the final solution to be employed, a means for regular flushing may be required to ensure microbial growth is kept to a minimum. The low temperatures mean that bypass valves and thermal flushing will not be possible and therefore alternative methods of flushing have still to be developed.
3.2.2.7	All drainage ventilating pipework termination points should be sited and coordinated to avoid fresh air intakes & openable windows as defined in BSEN 12056.

## 3.3 Ventilation

### 3.3.1 Ventilation: KSAR Observations

Workbook Ref No.	Areas to probe	Evidence expected
3.1	Has the Health Board completed competency checks on the ventilation consultant designers?	<p>Recorded evidence that the design team are experienced and have a comprehensive knowledge of the relevant design standards.</p> <p>Where anyone does not have a record of extensive health care experience what recorded plans are to be put in place by the Consultant Designers?</p> <p>Recorded evidence that input from the Health Boards Authorising Engineer for Ventilation (AE(V)) has been requested.</p> <p>Evidence that all contractors and sub-contractor competency checks have been completed and signed off.</p>
<p><b>NHS Scotland Assure Observations:</b></p> <ul style="list-style-type: none"> <li>Folder 2 Appointment Documents contains evidence in the form of the 'Appointment of M&amp;E Consultant Document'. This information is further supported in Folder 3 where the Board Competencies are evidenced. Sub-contractor competency checks have not been provided.</li> <li>Folder 7 contains AE Design Tracker response (20.03.21) incorporating ventilation comments from an earlier version of the design.</li> </ul>		

Workbook Ref No.	Areas to probe	Evidence expected
3.2	How does the Health Board ensure that ventilation services are designed in a fashion, which will retain space for minor additions and modifications to services in the future, and there is an appropriate plant access strategy?	<p>Evidence that the design engineers have presented their co-ordination drawings (BIM model), with space for future flexibility identified, to the Board.</p> <p>Evidence that the design consultant has considered and agreed with the Board, space for future flexibility in the service installations.</p> <p>Evidence that the design engineers have presented each of the main service runs plus plant rooms to the Board's Estates team and / or FM team, to highlight space for future flexibility.</p> <p>Evidence that the ventilation solution has been agreed with clinical and IPC colleagues.</p>

		<p>Evidence that the Board has agreed a strategy (percentage) for spare capacity and a documented allowance to be incorporated into the design.</p> <p>Are plant rooms, horizontal distribution runs and risers appropriately sized for the equipment being installed and facilitate safe adequate maintenance?</p> <p>Evidence that a plant access strategy for the entire ventilation system has been provided to ensure safe, adequate access, including access for cleaning.</p>
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**NHS Scotland Assure Observations:**

- MEP drawings are evidenced within Folders 8.1 (Stage 4 MEP Report) and 22 (Technical Design Drawings). These are layout and schematic form only and there is no BIM model provided for evidence. However, Folder 21 (Technical Design Information) contains a number of screenshots from the BIM clash detection exercise for review. During the Ventilation KSAR workshop (01/10/21) a potential ductwork clash on the roof was highlighted from the layout evidence but this was reviewed by NHS GG&C and BAM on the BIM model and confirmed that there was no clash.
- Folder 1 ACR Version 10 – Section 8.6.2 states the additional design allowances that should be contained within the MEP services and associated distribution for future expansion. These design allowances were queried within the Ventilation KSAR workshop (01/10/21) and it was confirmed by NHS GG&C and BAM that these had been applied to the designs, including the heat generating plant, and a statement of evidence was still to be produced. The co-ordination of services should be completed and continually reviewed.
- MEP layout and schematic drawings are evidenced within Folders 8.1 (Stage 4 MEP Report) and 22 (Technical Design Drawings). These drawings show the proposed plant locations and associated distribution routes. Although there is a future design allowance section (Folder 1 ACR Version 10 – Section 8.6.2) that states the allowance to be applied there is no diagrammatical evidence of any future plant or distribution space and no evidence that the solutions have been presented to the Board’s FM team and agreed.
- The proposed ventilation strategy is in line with the ACR document. Further studies have been provided in the form of technical design notes TDN13 and TDN14 (TDNs RIBA Stage 3 Report Dec20). These are related to road traffic noise and AHU bird protection associated with the ventilation system only. The IPC team from NHS GG&C have input to the development of the design solutions via their input to HAI SCRIBE. There is no evidence that they have contributed to the Environmental Matrix or in any other manner to the ventilation design.
- Access and Maintenance Report\_Tender\_8 in folder 8.1 provides evidence that a plant access strategy has been considered throughout the design process. Minutes from the Access Strategy meeting dated 12/08/21 and access / maintenance layouts are also included within folder 30 (Plant Access, Maintenance and Replacement Strategy). However, the cleanliness standard of the ventilation ductwork and associated access hatches for post installation clean was highlighted at the Ventilation KSAR workshop (01/10/21). NHS GG&C and BAM should review and revise the specification accordingly and provide a clear statement for the standards to be used (as selected from TR19) plus complete the co-ordination exercise (i.e. access to cleaning points).

Workbook Ref No.	Areas to probe	Evidence expected
3.3	How does the Health Board assure itself that all variations / derogations, which may be required to the ventilation systems, are investigated and agreed by all parties before they are incorporated in the design?	Evidence that each variation / derogation has a detailed technical analysis, has been referred to the Health Board, and agreed with their ventilation safety group, clinical, engineering, Estates, infection control and FM teams.
<b>NHS Scotland Assure Observations:</b> <ul style="list-style-type: none"> <li>• 'North East HUB Health Care Centre – ACRs Version 10 – 1<sup>st</sup> August 2021' in Folder 1 contains a template for a project derogations list as Appendix J. Folder 35 (FBC Derogations Schedule) contains information of all recorded derogations. NHS GG&amp;C should ensure all derogations documents (Folder 35 DOO1 to D043) are signed as part of governance process and ensure that all stakeholders have input to the decisions.</li> <li>• No derogations are recorded for ventilation. NHS GG&amp;C should revisit if there is a need to reconsider this. For example, the only drawing for AHUs does not indicate sufficient access doors to comply with SHTM 03-01.</li> </ul>		

Workbook Ref No.	Areas to probe	Evidence expected
3.4	Does the Health Board have a strategy for ventilation (for rooms where this is permitted within the SHTM/SHPN guidance)?	<p>Evidence of agreed environmental matrix.</p> <p>Evidence that the Dynamic thermal modelling confirms what the design must include (e.g. structure, solar shading/protection, orientation, equipment optimisation, etc.) to ensure that room temperatures comply with SHTM guidance, in naturally ventilated rooms.</p> <p>Floor plans with associated plant locations highlighted plus simple schematic of strategy.</p> <p>This must also identify the air intake and exhaust strategy / locations.</p>
<b>NHS Scotland Assure Observations:</b> <ul style="list-style-type: none"> <li>• 'Mechanical &amp; Plumbing Design Matrix - v19' Appendix D within the 'North East HUB Health Care Centre – ACRs Version 10 – 1<sup>st</sup> August 2021' in Folder 1 details the ventilation strategy applicable to each room / area.</li> <li>• TM52 Thermal Comfort Analysis Report evidenced in folder 16 (Thermal Modelling) confirms acceptance with required overheating criteria. The utilised weather files were highlighted and discussed within the Ventilation KSAR workshop (01/10/21). NHS GG&amp;C and BAM confirmed that the correct weather files had been utilised within the calculation and the associated BREEAM credit requiring additional weather files was</li> </ul>		



not being targeted. NHS GG&C and BAM should ensure that an updated BREEAM Pre-assessment report is produced.

- Ventilation layouts including plant locations and associated distribution are evidenced in Folders 8.1(Stage 4 MEP Report) and 22(Technical Design Drawings). These drawings contain ventilation schematics to demonstrate the proposed mechanical ventilation strategy.
- The fresh air intakes and exhaust locations are identified on the relevant roof level ventilation drawings contained within folders 8.1 and 22. Consideration to the separation of these terminals from each other and also additional points of contamination in accordance with SHTM 03-01 and BREEAM were discussed in the Ventilation KSAR workshop (01/10/21). NHS GG&C and BAM should coordinate the fresh air and foul air sources then revise drawings if necessary.

Workbook Ref No.	Areas to probe	Evidence expected
3.5	Is there evidence of stakeholder input to ventilation strategies?	<p>Addition to or supplement to the Environmental Matrix which confirms the following, on a room by room basis:</p> <ul style="list-style-type: none"> <li>a) The type of ventilation (to SHTM 03-01)</li> <li>b) Patient group and / or function related to the space.</li> <li>c) Name of the Consultant, Clinical Lead or Department Lead who has agreed to the room requirements.</li> <li>d) Name of the Infection Prevention and Control Doctor or equivalent who has agreed to the room requirements.</li> <li>e) Name of the Infection Prevention and Control Nurse who has agreed to the room requirements.</li> <li>f) Name of the Estates / FM team representative who has agreed to the room requirements.</li> <li>g) Name of the NHS Project Manager who has agreed to the room requirements.</li> <li>h) Name of the Decontamination Manager who has agreed to the room requirements (where this is part of the project).</li> </ul>

**NHS Scotland Assure Observations:**

- 'Mechanical & Plumbing Design Matrix - v19' is Appendix D within the 'North East HUB Health Care Centre – ACRs Version 10 – 1<sup>st</sup> August 2021' in Folder 1 details the ventilation strategy applicable to each room / area. There is no evidence of any alterations being made to the Mechanical and Plumbing Matrix contained within the ACR's. However, there are no recorded details of the revision changes in either document.
- There is no evidence of formal ACR or Environmental Matrix document sign off and approval. The identification of the individual team members that have collaborated in the process is not included in the evidence.

Workbook Ref No.	Areas to probe	Evidence expected
3.6	Is there evidence of the Health Board developing Ventilation Commissioning Proposals?	<p>Evaluation of the suitability of the proposed plans in the context of the FBC, are these sufficient, do they meet the requirements of the project, guidance and the design of the system?</p> <p>What plans have been made for independent validation of the ventilation systems?</p> <p>What plans have been made for independent verification of the ventilation system?</p> <p>What plant and ductwork cleaning has been specified?</p> <p>What safe adequate access has been allowed for access to dampers?</p>

**NHS Scotland Assure Observations:**

- Folder 14 (Specs for Final Commissioning & Handover) only contains the general MEP Specification. There are no project specific details, which identify the methodology for commissioning the ASHPs, the thermal store and the remainder of the systems to reflect the anticipated operation and seasonal conditions. Full Commissioning programme has been evidenced in folder 15. NEH Completion Requirements V1 located with folder 42 contains a draft Handover Checklist. From the available information, it seems sufficient time has been allowed.
- There is no evidence of the requirement for independent validation and verification of the ventilation systems.
- The cleanliness standard of the ventilation ductwork and associated access hatches for post installation clean was discussed at the Ventilation KSAR workshop (01/10/21). NHS GG&C and BAM should review and revise the specification accordingly and provide a clear statement for the standards to be used (as selected from TR19) plus complete the co-ordination exercise (access to cleaning points).
- Sufficient access to dampers and valves for commissioning, setting to work and future maintenance was discussed at the Ventilation KSAR workshop (01/10/21). NHS GG&C and BAM should complete the co-ordination of services and continually review.

Workbook Ref No.	Areas to probe	Evidence expected
3.7	Has the Health Board started developing its ventilation governance arrangements?	Has the Health Board commenced its planning and recorded how it will ensure appropriate numbers of trained staff (AP and CP) staff and appointment of AE (V) for the project and is it clear how this project will interface with the Health Boards existing arrangements for management of the ventilation installations?

**NHS Scotland Assure Observations:**

- No evidenced has been provided for staff training or to confirm the number of AP and CP staff to be committed to this project.
- The AE (V) has been consulted on the earlier stages of the design and should be given the opportunity to help close out their findings based on the updated documents.
- It is not clear as to how this project will interface with any existing ventilation management arrangements.

Workbook Ref No.	Areas to probe	Evidence expected
3.8	Evaluation of the Health Boards planned preventative maintenance (PPM) proposals.	Has the Health Board commenced its planning and recorded the PPM requirements and approach to ensure appropriate levels of maintenance, comprehensive statutory compliance and robust management processes?

**NHS Scotland Assure Observations:**

- No specific PPM documentation has been provided. There is general reference to PPM during the defects liability period noted in MEP Specification.
- There is no evidence that AHU and ASHP locations allow for a safe means of access with suitable precautions as identified in clause 4.2 of SHTM 03-01 Part A.

**3.3.2 Ventilation: Further Observations**

3.3.2.1	The external ductwork is to be thermally insulated and clad with a product “venture clad” for protection. However, the longevity of the product with exposure to UV, external elements and birds requires further discussion within NHS GG&C and BAM regarding if it will attract vermin should it begin to breakdown.
3.3.2.2	There is no evidence of a Cause and Effect document to detail the implications on the ventilation plant in the event of a fire. The proposed fire strategy and positioning of fire / smoke dampers to be in line with the cause and effect document.
3.3.2.3	Mechanical Extract is provided to all Toilets, Showers and Dirty Exhaust areas via extract fans, (twin fan assembly when serving multiple rooms). The fans are located on Level 3 and 4 roofs. Supply make-up air is via undercut door or transfer grilles from adjacent areas. At the Ventilation KSAR workshop, it was identified that in some cases, air transfer ducts to other areas (e.g. the atrium) will be required. NHS GG&C and BAM should complete and document this part of the design and incorporate associated fire protection measures.
3.3.2.4	General review required of some publication references and minor discrepancies between the specification and associated documentation.

3.3.2.5	The heating system comprises 2 no. high efficiency Air Source Heat Pumps that are located in the roof plant compound. The ASHPs utilise R32 refrigerant and are each sized to meet 50% of the building peak heating demand. Each ASHP contains twin compressors with turn down ratios that offers a level of resilience. Although a detailed study regarding the efficiency and output of the system during a defrost cycle has been completed the level of future expansion allowance of the central plant has not been identified.
3.3.2.6	The ASHP system is complete with refrigerant leak detection system. The specification is not clear on this topic and does not explain the nature and detail of the system nor that the calculations required by BS EN 378 have been completed.
3.3.2.7	The ASHP's primary distribution system is complete with thermal stores to limit the number of starts on the ASHP compressors. The type of thermal store and associated filtration is not clear and the documentation should be updated to ensure that the specification is clear.
3.3.2.8	The ASHP system supplies an extra low temperature water circuit (48°C / 40°C) that serve radiant panels, UFH, heater batteries and AHU frost coils. The hydraulic arrangement of the radiant panels including the selection and sizing of the both the panel and the associated control valves is not clear (in particular that the minimum flow rates have been included).
3.3.2.9	Some pipework material and sizing discrepancies exist between the system layouts and schematics. NHS GG&C and BAM should coordinate and update the documents.
3.3.2.10	The Mechanical and Plumbing Matrix identifies the environmental design conditions and appropriate systems within each room / area. In addition a full TM52 overheating calculation has been completed as part of the design. NHS GG&C should ensure that the maximum room temperatures that have been identified in the model are acceptable to all stakeholders.
3.3.2.11	Although the DX Cooling systems are identified as a CDP element, NHS GG&C and BAM should ensure that the manufacturers maximum separation distances between equipment has not been exceeded.
3.3.2.12	DX cooling has been incorporated into the AHUs. No evidence has been provided that they will be configured to achieve a suitable level of temperature control in a fresh air cooling system i.e. step down ratio of the DX system.
3.3.2.13	Flexible ductwork has been shown in multiple examples as the method of forming a bend on ducting. SHTM 03-01 clause 5.55 states that " <i>Flexible ducting will cause a significant frictional loss and may be difficult to clean and should never be used in lieu of a bend.</i> "

## 3.4 Electrical

### 3.4.1 Electrical: KSAR Observations

Workbook Ref No.	Areas to probe	Evidence expected
4.1	Has the Health Board completed competency checks on the electrical consultant designers?	<p>Recorded evidence that the design team are experienced and have a comprehensive knowledge of the relevant design standards.</p> <p>Where anyone does not have a record of extensive health care experience what recorded plans are to be put in place by the Consultant Designers?</p> <p>Recorded evidence that input from the Health Boards Authorising Engineer for Electrical (AE (E)) has been requested.</p> <p>Evidence that all contractors and sub-contractor competency checks have been completed and signed off.</p>
<p><b>NHS Scotland Assure Observations:</b></p> <ul style="list-style-type: none"> <li>Folder 2 Appointment Documents contains evidence in the form of the 'Appointment of M&amp;E Consultant Document'. This information is further supported in Folder 3 where the Board Competencies are evidenced. Trade sub-contractor competency checks have not been provided.</li> <li>Folder 7 contains AE Design Tracker response (20.03.21) incorporating LV comments from an earlier version of the design.</li> </ul>		

Workbook Ref No.	Areas to probe	Evidence expected
4.2	How does the Health Board ensure that electrical services are being designed in a fashion which will provide ease of access for future maintenance and which will retain space for minor additions and modifications to services in the future?	<p>Evidence that the designers have presented their co-ordination drawings (BIM model) to the Health Board.</p> <p>Evidence that the designers have presented each of the main service runs plus plant rooms to the Health Board's FM team.</p> <p>Evidence that the Health Board has agreed a strategy (percentage) for spare capacity and a documented allowance has been incorporated into the design.</p> <p>Are sub stations, switch rooms, distribution board cupboards, horizontal distribution runs and risers appropriately sized for the equipment being installed and facilitate safe, adequate maintenance?</p>

### NHS Scotland Assure Observations:

- MEP drawings are evidenced within Folders 8.1 (Stage 4 MEP Report) and 22 (Technical Design Drawings). These are layout and schematic form only and there is no BIM model provided for evidence. However, Folder 21 (Technical Design Information) contains a number of screenshots from the BIM clash detection exercise for review.
- MEP layout and schematic drawings are evidenced within Folders 8.1 (Stage 4 MEP Report) and 22 (Technical Design Drawings). These drawings show the proposed plant locations and associated distribution routes for all electrical services (excluding final circuit / conduit runs). Although there is a future design allowance section (Folder 1 ACR Version 10 – Section 8.6.2) that states the allowance to be applied there is no diagrammatic evidence of any future plant or distribution space.
- Folder 1 ACR Version 10 – Section 8.6.2 states the additional design allowances that should be contained within the MEP services and associated distribution for future expansion. The main switchboard, distribution boards and busbar are to be provided with 10% spare outgoing ways (increased from 5% as per section 8.6.2), spare metering cubicles are to be provided to allow retrofitting of any meters to the main panel following building completion. Spare capacity of 25% is to be allowed for within the containment system (primarily the main containment runs). The fire alarm & security installation are to be provided with 25% spare capacity in terms of devices per loops and fixed outputs respectively. NHS GG&C and BAM should ensure that documented evidence is available to confirm that these allowances are included and are clear.
- Access and Maintenance Report\_Tender\_8 in folder 8.1 provides evidence that a plant access strategy has been considered throughout the design process. Minutes from the Access Strategy meeting dated 12/08/21 and access / maintenance layouts are also included within folder 30 (Plant Access, Maintenance and Replacement Strategy). However, the substation will be the sole responsibility of Scottish Power and will not form part of the NHS Assure review. The incoming power supply metering / switch cubicle / grp enclosure is not detailed and further work is required to identify services within.

Workbook Ref No.	Areas to probe	Evidence expected
4.3	How does the Health Board assure itself that all variations / derogations, which may be required to electrical systems, are investigated and agreed by all parties before they are instigated?	Evidence that each variation / derogation has a detailed technical analysis, has been referred to the Board, and agreed with their electrical safety group, clinical, Estates, infection prevention and control and FM teams.

### NHS Scotland Assure Observations:

- 'North East HUB Health Care Centre – ACRs Version 10 – 1<sup>st</sup> August 2021' in Folder 1 contains a template for project derogations list as Appendix J. Folder 35 (FBC Derogations Schedule) contains information of all recorded derogations. NHS GG&C should ensure all derogations documents (Folder 35 DOO1 to D043) are signed as part of governance process and ensure that all stakeholders have input to the decisions. There is no evidence therefore that the detailed technical analysis has been referred to the Board or other interested stakeholders.

Workbook Ref No.	Areas to probe	Evidence expected
4.4	Has the Health Board assured itself of availability of adequate supply from the local utility infrastructure?	Confirmation from the Regional Electricity Company as to how the supply will be provided from their network and if single or dual supplies are being made available.  What is the Health Board's resilience strategy for the electrical infrastructure (including dual supplies, renewables, generators, UPS, etc.)?

**NHS Scotland Assure Observations:**

- Folder 8.5 Utility Report provides evidence of communication with Scottish Power. A quote letter to BAM dated 13 July 2021 details out Scottish Power's offer of connection. The utility quote letter or drawing does not advise of the connection type; however, the Folder 35 (FBC Derogations Schedule) confirms that the connection type from the Scottish Power network will be a PME type service, which differs from a TN-S connection type required by section 6.31 of SHTM 06-01 Part A. The supporting evidence of the dialogue between Scottish Power and NHS GG&C and BAM has not been made available.
- The electrical system proposed does not include for any fixed resilience system other than a UPS to power the evacuation lifts and a temporary mobile generator position and connection facility. The UPS is sized to operate the lift during an emergency procedure; however, it is not evidenced as to how the rating of the UPS has been calculated. PV panel arrays are provided to two roof areas with further details to be advised by the specialist. Report NEH-ACM-Ph2-00-RP-BS-0405 provides commentary on the limitations surrounding the lack of a fixed generator.

Workbook Ref No.	Areas to probe	Evidence expected
4.5	Evidence of provisions for emergency supplies during loss of the utility incoming supply.	Floor plans with standby generator locations highlighted plus simple schematic.

**NHS Scotland Assure Observations:**

- Layout drawings and schematic drawings have been provided as part of Folder 22. The layout drawing indicates a space within the phase 3 car park to locate a temporary generator. As the car park is a later phase, the position of the generator would not be available and thus emergency power back up would not be available at the time of handover. NHS GG&C & BAM should identify a position within the car park that is developed in advance of the phase 3 works to allow early set up of final connection details hence permit a temporary generator installation at handover. The generator is not to be a permanent feature but a temporary solution with a hired mobile generator.
- The earthing schematic NEH-ACM-Ph2-ZZ-DR-E-4500 rev P2 does not detail any earthing connection for the mobile generator. NHS GG&C should ensure that the earthing details are produced and provide clear information.

Workbook Ref No.	Areas to probe	Evidence expected
4.6	Is there a strategy for locating substations?	Floor plans with substation locations highlighted plus simple schematic of strategy.
<p><b>NHS Scotland Assure Observations:</b></p> <ul style="list-style-type: none"> <li>Layout drawings and schematic drawings have been provided as part of Folder 22. The layout drawing indicates a space within the footprint of the site; however, there is no detail to accompany this position in terms of builders' works and construction details of the substation and enclosure. It is noted that the substation is a standalone building / grp enclosure. The electrical load applied for by NHS GG&amp;C &amp; BAM to Scottish Power is likely to require a termination point within 15meters of the Scottish Power Substation and BAM will require to provide cabling from the metering / incoming meter position to the substation for connection by Scottish Power. There is no evidence as to what strategy has been agreed with Scottish Power.</li> </ul>		

Workbook Ref No.	Areas to probe	Evidence expected
4.7	Is there a strategy for locating switch rooms?	Floor plans with switchroom locations highlighted plus simple schematic.
<p><b>NHS Scotland Assure Observations:</b></p> <ul style="list-style-type: none"> <li>Drawing NEH-ACM-Ph2-XX-DR-E-1001 illustrates via a screen shot from the BIM model the layout in 3D of the main electrical switchroom. The drawing also provides evidence that the riser has been detailed to provide sufficient information for the contractor to carry out their installation process.</li> <li>The riser detail does not indicate the method of connection from the rising busbar to the local distribution board. No evidence has been provided to confirm that there is sufficient space for the complete assembly. NHS GG&amp;C &amp; BAM should coordinate this proposal and ensure that the space allocated for tap offs and cable installation is sufficient.</li> </ul>		

Workbook Ref No.	Areas to probe	Evidence expected
4.8	Is there a strategy for locating Medical IT distribution equipment?	Floor plans with Medical IT board locations highlighted plus simple schematic.  Compliance with BS7671 section 710 Compliance with SHTM 06-01
<p><b>NHS Scotland Assure Observations:</b></p> <ul style="list-style-type: none"> <li>Distribution board positions have been located typically in designated electrical cupboards and IT rooms. The IT Medical circuits share distribution boards with other circuits. There is no Medical IT schematic or associated earthing details to confirm the configuration.</li> </ul>		



- The electrical specification NEH-ACM-Ph2-00-SP-BS-0400 details the requirement for all medical IT equipment to comply with BS7671 and to section 710 of the regulations and with the SHTM-06-01.
- There is insufficient evidence to confirm that the installation should comply.

Workbook Ref No.	Areas to probe	Evidence expected
4.9	Is there a strategy for distribution?	Floor plans with containment distribution routing (horizontal and vertical).

**NHS Scotland Assure Observations:**

- Layout drawings have been provided as part of Folder 22 detailing the extent of containment throughout the building. The layout drawings indicate containment with sizing with space provided to one side of the containment for access. However, there is no evidence as to how they are coordinated with the mechanical services distribution.
- Layout drawings which have been produced in 2D do not indicate where containment travels vertically.

Workbook Ref No.	Areas to probe	Evidence expected
4.10	Is there evidence of the Health Board developing electrical commissioning proposals?	Evaluation of the suitability of the proposed plans in the context of the FBC, are these sufficient to meet the requirements of the project, guidance and the design of the system?  Has sufficient time been allocated for a full commissioning program?

**NHS Scotland Assure Observations:**

- Folder 14 (Specs for Final Commissioning & Handover) only contains the general MEP Specification. Although it does contain details regarding the general commissioning and validation there are no specific details regarding project specific sequencing and actions (e.g. between ph2 and ph3). Full Commissioning programme has been evidenced in folder 15. NEH Completion Requirements V1 located with folder 42 includes a draft Handover Checklist. From the available information, it seems sufficient time has been allowed.

Workbook Ref No.	Areas to probe	Evidence expected
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<b>4.11</b>	Has the Health Board started on its early thinking for the electrical governance arrangements for the operational phase?	Has the Health Board commenced its planning and recorded how it will ensure appropriate trained staff and appointment of AE for the project and is it clear how this project will interface with the Health Board existing arrangements for management of the electrical installations, inclusive of third party providers?
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**NHS Scotland Assure Observations:**

- No evidence has been provided for the provision of staff training or to confirm the number of AP and CP staff to be committed to this project.
- There is no evidence of AE appointment, however, Folder 7 contains AE Design Tracker response (20.03.21) incorporating electrical comments from the AE.
- There is no evidence as to how NHS GG&C will interface this project with their existing arrangements for management of the electrical installations.

Workbook Ref No.	Areas to probe	Evidence expected
<b>4.12</b>	Evaluation of the Health Boards planned preventative maintenance (PPM) proposals.	Has the Health Board commenced its planning and recorded the PPM requirements and approach to ensure appropriate levels of maintenance, comprehensive statutory compliance and robust management processes, inclusive of third party providers?

**NHS Scotland Assure Observations:**

- No specific PPM documentation has been provided. There is general reference to PPM during the defects liability period noted in MEP Specification.

**3.4.2 Electrical: Further Observations**

3.4.2.1	<p>The electrical matrix forming the Authorities Construction Requirements (ACR) appendix E (Electrical Information and Communications Technology [ICT] and Audio Visual [AV] Design) is well populated and laid out, however, there are instances where discrepancies exist between the matrix and drawings and information is missing.</p> <p>Lighting calculations have been based on 4-meter room heights when calculating lux levels to the working plane. This does not reflect the proposed ceiling heights and will provide false output from the modelling.</p>
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3.4.2.2	<p>The electrical low voltage system is lacking in detail with regards to the generator change over strategy. A strategy should be developed to control the re-energisation of the electrical system onto the generator in the event of mains electrical failure. This should also consider switching for the PV system and PFC.</p> <p>Metering is sporadic and not fully defined or coherent across the electrical system.</p> <p>The earthing detailed to the generator is not clear and a definitive solution should be developed.</p>
3.4.2.3	<p>NHS GG&amp;C should ensure that the surge protection device strategy is clear. Currently the proposals do not include for all services entering / leaving the building.</p>
3.4.2.4	<p>The selectivity study required for this project is a contractor design package and as such, there is no record that selected circuit breaker provision can protect the primary elements of the system. This is a risk to the project in terms of testing and commissioning. This element needs to be completed early in stage 5 to allow sufficient time for the finalisation and correct selection of micrologic device and settings.</p>
3.4.2.5	<p>The fire alarms system has been confirmed as BS5839 category L1 standard. NHS GG&amp;C and BAM have indicated that a fire alarm cause and effect matrix is to be developed at RIBA stage 5; however, tendering contractors will require a cause and effect matrix to fully understand and price the fire alarm system.</p> <p>In some instances, the proposed drawings do not align with the electrical ICT &amp; AV design matrix.</p>
3.4.2.6	<p>The containment layout does not indicate primary and secondary life safety cable routes for the lifts and IT network.</p>

## 3.5 Medical Gases

### 3.5.1 Medical Gases: KSAR Observations

Workbook Ref No.	Areas to probe	Evidence expected
5.1	Has the Health Board completed competency checks on the medical gases consultant designers?	<p>Recorded evidence that the design team are experienced and have a comprehensive knowledge of the relevant design standards.</p> <p>Where anyone does not have a record of extensive health care experience what recorded plans are to be put in place by the consultant designers?</p> <p>Recorded evidence that input from the Health Boards Authorising Engineer for Medical Gases (AE(MG)) has been requested.</p> <p>Evidence that all contractors and sub-contractor competency checks have been completed and signed off.</p>

#### NHS Scotland Assure Observations:

- Folder 2 Appointment Documents contains evidence in the form of the 'Appointment of M&E Consultant Document'. This information is further supported in Folder 3 where the Board Competencies are evidenced. Sub-contractor competency checks have not been provided.
- Folder 7 contains AE Design Tracker response (20.03.21) incorporating medical gas comments from an earlier version of the design.

Workbook Ref No.	Areas to probe	Evidence expected
5.2	How does the Health Board assure itself that all variations / derogations' which may be required to medical gas systems are being investigated and agreed by all parties before they are instigated?	Evidence that each variation / derogation has a detailed technical analysis and has been referred to the Board and agreed with their medical gases management group, clinical, Estates, infection control and FM teams.

#### NHS Scotland Assure Observations:

- 'North East HUB Health Care Centre – ACRs Version 10 – 1<sup>st</sup> August 2021' in Folder 1 contains a template for the project derogations list as Appendix J. Folder 35 (FBC Derogations Schedule) contains information of all recorded derogations. NHS GG&C should ensure all derogations documents (Folder 35 DOO1 to D043) are signed as part of governance process and ensure that all stakeholders have input to the

decisions. There is no evidence therefore that the logic behind the change, contained in the derogations, has been referred to the Board or other interested stakeholders.

Only one derogation is identified in the derogation schedule against medical gases. However, a number of derogations have been listed in the detailed findings documents.

Workbook Ref No.	Areas to probe	Evidence expected
5.3	How does the Health Board ensure that medical gas services are designed in a fashion, which will provide ease of access for future maintenance and which will retain space for minor additions and modifications to services in the future	<p>Evidence that the designers have presented their co-ordination drawings (BIM model) to the Board.</p> <p>Evidence that the designer has presented each of the main service runs to the Board's FM team.</p>

**NHS Scotland Assure Observations:**

- MEP drawings are evidenced within Folders 8.1 (Stage 4 MEP Report) and 22 (Technical Design Drawings). These are layout and schematic form only and there is no BIM model provided for evidence. However, Folder 21 (Technical Design Information) contains a number of screenshots from the BIM clash detection exercise for review. There is no evidence that these have been presented to the Board.

Workbook Ref No.	Areas to probe	Evidence expected
5.4	Is there evidence of the Health Board developing medical gases commissioning proposals?	Evaluation of the suitability of the proposed plans in the context of the FBC, are these sufficient do they meet the requirements of the project, guidance and the design of the system?

**NHS Scotland Assure Observations:**

- Folder 14 (Specs for Final Commissioning & Handover) only contains the general MEP Specification. Although it does contain details regarding the general commissioning and validation there is no specific information for the medical gas installation. Full Commissioning programme has been evidenced in folder 15. NEH Completion Requirements V1 located with folder 42 (draft Handover Checklist). From the available information, there seems sufficient time has been allowed.

Workbook Ref No.	Areas to probe	Evidence expected
5.5	Has the Health Board started developing its medical gases governance arrangements for the operational phase?	Is the Health Board considering how it will ensure appropriate numbers of trained staff (AP and CP) and AE(MG) for the project? And is it clear how this project will interface with the Board existing arrangements for management of the medical gases installations?
<b>NHS Scotland Assure Observations:</b> <ul style="list-style-type: none"> <li>No evidence provided for staff training or to confirm the number of AP and CP staff to be committed to this project.</li> <li>Folder 43 Client, Key Stakeholder Consultation - Project Governance Arrangement. No evidence provided on organogram showing Medical Gas AE.</li> <li>No evidence of AE appointment however, Folder 7 contains AE Design Tracker response (20.03.21) incorporating medical gas comments from the AE.</li> <li>There is no evidence as to how NHS GG&amp;C will interface this project with their existing arrangements for management of the medical gas installations</li> </ul>		

Workbook Ref No.	Areas to probe	Evidence expected
5.6	Is there recorded evidence of a strategy for bulk gas and bottle gas storage?	<p>Floor plans with vacuum insulated evaporator (VIE) locations highlighted plus simple schematic of strategy.</p> <p>Confirmation that the medical gas strategy is adequate.</p> <p>Floor plans with pipework distribution routing and manifold locations.</p>
<b>NHS Scotland Assure Observations:</b> <ul style="list-style-type: none"> <li>There is no form of bulk gas within the project as the medical gases are limited to compressed air to the dental chairs and a dental suction system.</li> <li>North East HUB Health and Care Centre ACRs states "Storage is required for approximately, 6 nitrous cylinders and 8 oxygen cylinders". There is no mention of gas storage within the MEP Specification.</li> <li>There is no cylinder store drawing detail illustrating the position of high and low level louvres in the external wall.</li> <li>There is no evidence demonstrating that the air intake for the compressor plant has been located to minimise contamination.</li> </ul>		

Workbook Ref No.	Areas to probe	Evidence expected
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5.7	Evaluation of the Health Boards planned preventative maintenance (PPM) proposals	Has the Health Board commenced its planning and recorded the PPM requirements and approach to ensure appropriate levels of maintenance, comprehensive statutory compliance and robust management processes?
<p><b>NHS Scotland Assure Observations:</b></p> <ul style="list-style-type: none"> <li>No specific PPM documentation has been provided. There is general reference to PPM during the defects liability period noted in MEP Specification.</li> </ul>		

### 3.5.2 Medical Gases: Further Observations

3.5.2.1	No further observations to note.
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## 3.6 Fire

### 3.6.1 Fire: KSAR Observations

Workbook Ref No.	Areas to probe	Evidence expected
6.1	Has the Health Board completed competency checks on the Fire Engineering consultant designers?	<p>Recorded evidence that the design team are experienced and have a comprehensive knowledge of the relevant design standards applicable to healthcare premises.</p> <p>Recorded evidence that input from the Health Boards Fire Advisors has been requested.</p> <p>Evidence that all contractors and sub-contractor competency checks have been completed and signed off.</p>
<p><b>NHS Scotland Assure Observations:</b></p> <ul style="list-style-type: none"> <li>Folder 2 – Appointment Documents There is no appointment document provided for JGA Fire Engineer. JGA are however, a recognised fire-engineering consultancy who are considered to be experienced and have comprehensive knowledge and a competency questionnaire was submitted as evidence.</li> <li>Folder 17 – Fire Strategy Fire engineer strategy report was provided. It is not clear if the Health Board's Fire Advisor has been involved in the agreement to the fire strategy.</li> <li>Sub-contractor competency checks have not been provided.</li> </ul>		

Workbook Ref No.	Areas to probe	Evidence expected
6.2	Has a written fire strategy been completed and does it provide evidence, where there is a variance from statutory and mandatory guidance, that an equivalent level of safety has been achieved by alternative means?	<p>Is there documented evidence that fire suppression systems have been considered for life safety and property protection?</p> <p>Is progressive horizontal evacuation available for all patient areas that continuously moves away from the fire area?</p> <p>Does the design considerations of the fire and detection system, for in-patient facilities, provide L1 coverage including voids?</p> <p>Does the design provide for a compliant emergency lighting system?</p> <p>Are free swing arm self-closers fitted to all leaf's of doors serving sleeping accommodation?</p>



		<p>Have escape lifts been considered for the evacuation of patients and others with mobility issues?</p> <p>Are multi sensor fire detectors installed to reduce the occurrence of unwanted fire alarm signals?</p> <p>Are there adequate storage facilities to ensure escape routes are not used for this purpose?</p> <p>Are measures in place to provide safe charging of electrical and personal electronic equipment?</p> <p>In addition to the prescribed list in the Building Standards Technical Handbook, have fire hazard rooms been designated based on fire load?</p> <p>Where there is a mechanical ventilation system - have all compartments, sub-compartments and corridors serving sleeping accommodation been designed to be fitted with fire and smoke dampers?</p>
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**NHS Scotland Assure Observations:**

- The fire strategy summary document (Folder 17) primarily focuses on the areas of non-compliance within the design in order to provide justification where necessary. Further detail is provided on the drawings, both sets of documentation need to be considered together. Additional information is available within AECOM MEP Specification NEH-ACM-PH2-00-SP-BS-0400
- No fire suppression systems for life safety in the design and no evidence that it has been considered for property protection. There is no requirement under current legislation for suppression in this type of premises and the fire engineering process has not included this as a compensatory feature.
- No in-patient facilities or sleeping accommodation are specified therefore, there is no need for progressive horizontal evacuation or free swing arm self-closers.
- No evidence has been provided to review the requirement for void detection. In accordance with L1 coverage, voids greater than 800mm should be provided with detection.
- The emergency lighting system is detailed in the specification to be in accordance with BS 5266 and a good level is considered to be provided.
- Escape lifts are to be utilised as part of the evacuation strategy and will require competent management and management procedures in order to do so. There was no evidence of these procedures at this stage.
- Multi-sensor fire detectors are provided along with the detectors with sounder / beacon depending on area.
- There is considered to be adequate storage facilities throughout the building.
- Fire and smoke dampers have been provided throughout the building, which is over and above the requirements in some cases.

Workbook Ref No.	Areas to probe	Evidence expected
6.3	How does the Health Board assure itself that all variations / derogations, which may be required to fire systems, are investigated and agreed by all parties before they are instigated?	Evidence that each variation / derogation and any fire engineering proposals are being referred to the Board and agreed with their fire safety advisors, NDAP group, clinical, engineering, Infection Prevention and Control, FM teams and regulatory authorities.

**NHS Scotland Assure Observations:**

- The fire strategy summary document (Folder 17) primarily focuses on the areas of non-compliance within the design in order to provide justification where necessary.
- It was confirmed in the Fire KSAR workshop that Building Control has been made aware of the engineering (i.e. CFD) carried out during early discussions, however, nothing has been approved at this stage.
- OBC NDAP Supported (verified) status has been achieved.
- Folder 43 Client, Key Stakeholder Consultation - Project Governance Arrangement. A detailed organogram has been provided covering general governance, sub groups, reporting, technical design and room layout sign off procedures. Fire Officer, FM and IPC included within reporting structure. However, there is no evidence of the fire strategy report being referred to the Board or agreed with the other stakeholders.

Workbook Ref No.	Areas to probe	Evidence expected
6.4	How does the Health Board assure itself that all fire dampers and fire/smoke dampers are designed to allow for inspection, resetting and maintenance?	Safe and adequate access has been allocated on both sides of all fire dampers for maintenance.

**NHS Scotland Assure Observations:**

- Based on the reflected ceiling plans provided, access is considered to be available via ceiling tiles or planks to the corridor areas.
- The Mechanical Specification requests that an access is provided in the ductwork to one side of the fire damper, not both. It will be necessary to ensure that the damper can be inspected and reset manually, if necessary, from the single access provided.

Workbook Ref No.	Areas to probe	Evidence expected
6.5	How does the Health Board assure itself that any smoke control and/or clearance systems are fit for purpose?	Evidence that the smoke system is being designed by an accredited Fire Engineer.  Evidence that Building Control are being consulted.

		Confirmation that the Health Boards fire advisors and NDAP team are satisfied with the design proposal.
<b>NHS Scotland Assure Observations:</b> <ul style="list-style-type: none"> <li>The engineering for the smoke ventilation of the atrium has been carried out by a fire engineer from Jensen Hughes / JGA. Folder 2 – no appointment document provided for JGA Fire Engineer.</li> <li>Consultation with Building Control was referred to during the Fire KSAR workshop, no formal report or comments have been evidenced.</li> <li>OBC NDAP Supported (verified) status has been achieved.</li> </ul>		

Workbook Ref No.	Areas to probe	Evidence expected
6.6	Has the Health Board started the development of the fire system outline commissioning proposals?	Is there an established fire management group that will ensure the fire strategy is adhered to?
<b>NHS Scotland Assure Observations:</b> <ul style="list-style-type: none"> <li>No evidence has been provided.</li> </ul>		

Workbook Ref No.	Areas to probe	Evidence expected
6.7	Has the Health Board started its early thinking for the Fire Safety arrangements for the operational phase?	Has the Health Board commenced its planning and recorded how it will ensure appropriate trained staff and appointment of Fire Officers for the project in the operational phase and is it clear how this project will interface with the Health Boards existing arrangements for management of the Fire Safety?
<b>NHS Scotland Assure Observations:</b> <ul style="list-style-type: none"> <li>No evidence has been provided.</li> </ul>		

### 3.6.2 Fire: Further Observations

3.6.2.1	<b>Compartmentation</b> The compartmentation provisions are considered to be adequate for the building. The means of maintaining compartmentation relies on active systems, such as fire shutters, which will require additional coordination in terms of product specification, installation details and maintenance.
3.6.2.2	<b>Escape</b>

	<p>The means of escape provisions are considered to be in accordance with the guidance.</p> <p>Given the nature of the building, it is important that additional consideration is given to the provision of escape for mobility impaired persons. This requires management procedures and adequate staff who are competent.</p>
3.6.2.3	<p><b>Fire Service access and facilities</b></p> <p>The strategy summary indicates that vehicle access and Fire Service facilities are provided.</p> <p>It is noted that there are extended hose distances (circa 2m greater than Scottish Technical Standards allowances), the justification is considered to be adequate but there is no evidence that this has been confirmed with the Fire Service.</p>
3.6.2.4	<p><b>Computer fluid dynamics (CFD) analysis</b></p> <p>The engineering principles are considered to be sound and appropriate to demonstrate an adequate level of safety. There are some areas in relation to the guidance that we would question and may require additional feedback.</p> <p>BB7 note in the required safe egress time (RSET) analysis, the pre-movement time is based on the 1<sup>st</sup> percentile in the travel calculation and no consideration has been given for the 99<sup>th</sup> percentile. It is common practice to consider both and use the most conservative, but it is recognised that the pre-movement times are very conservative already.</p> <p>BB7 would note in the available safe egress time (ASET) analysis, the soot yield used in the CFD modelling is quite low which can often present better results. It is noted this is for a well-ventilated fire, but this does not necessarily account for the material of the fire (i.e. plastic vending machine would have higher soot yield).</p> <p>A 'slow' fire growth rate is used which is considered to be low depending on the material again, however, a sensitivity has been run with a 'medium' growth rate which is considered to be appropriate.</p>

## 3.7 Infection Prevention & Control Built Environment

### 3.7.1 Infection Prevention & Control Built Environment: KSAR Observations

Workbook Ref No.	Areas to probe	Evidence expected
7.1	<p>How does the Health Board demonstrate that there is an effective infection prevention and control management structure in place?</p> <p>How does the Board demonstrate leadership and commitment to infection prevention and control to ensure a culture of continuous quality improvement throughout the organisation and that there is an effective IPC structure in place; inputting into the design process?</p>	<p>The Health Board provides evidence that there is an IPC Management Structure with the necessary expertise and leadership skills to support the design work</p> <ul style="list-style-type: none"> <li>The Health Board provides evidence that there is an IPC Management Team with the necessary expertise and leadership skills to support the project.</li> <li>Executive board reports or minutes. Risk registers or equivalent, Minutes from operational and governance groups, (and action points).</li> <li>Structure of infection prevention and control team (IPCT) and qualifications held, previous experience supporting new build projects.</li> <li>Evidence IPC and clinical teams have been involved with any derogation through the design process and are satisfied this will not impact on patient safety. This can be meeting minutes, risk assessments, and risk registers. There is IPC evidence of escalation through the agreed NHS board governance process.</li> <li>Evidence the Executive Board Member assigned to lead on IPCT has been kept informed of IPC risks identified and associated with the project this can be demonstrated by the board.</li> <li>Evidence that fixtures fitting and equipment have not been proposed for the project that would represent an identified IPC risk.</li> </ul> <p>Evidence that all contractors and sub-contractor competency checks have been completed and signed off.</p>
<p><b>NHS Scotland Assure Observations:</b></p> <ul style="list-style-type: none"> <li>No evidence has been provided regarding the IPC Management Team or structure with the necessary expertise and leadership skills to support the design and project.</li> <li>No evidence has been provided detailing escalation of information regarding project to executive board, operational and governance groups.</li> <li>No evidence has been provided regarding the IPC team structure, qualifications held and previous experience supporting new build projects. The Board should ensure that project is discussed/updated at IPC committee and NHS board.</li> </ul>		

- Derogation documents have been submitted by NHS GG&C. All have been completed but not signed off by appropriate members named on the derogations. These should all be agreed by all stakeholders.
- There is a schedule of finishes for surfaces within the evidence provided. However, it is not evident that this has been agreed and signed off.
- The contractor will have been appointed via a national framework which would assess the competency of the organisation. There is no evidence provided to demonstrate that the specific project team and their subcontractors have been assessed for competency.

Workbook Ref No.	Areas to probe	Evidence expected
7.2	How does the Health Board demonstrate implementation of evidence based infection prevention and control measures during the design process?	<p>The Health Board provides evidence</p> <ul style="list-style-type: none"> <li>• The board can demonstrate the current version of the National Infection Prevention and Control Manual has been adopted by the organisation and all staff are aware of how and where to access this and it is being referred to during the design process.</li> </ul> <p>The board can demonstrate IPC advisors have been included within the design phase and development of HAISCRIBE.</p>

**NHS Scotland Assure Observations:**

- No evidence has been provided that the current version of the NIPCM has been adopted by the organisation, staff know where to access it and that it is being referenced during the design process.
- The IPC team are noted as part of the HAI SCRIBE project team on the document. However, the Board should ensure that the risk assessment was completed collaboratively and not independently from one another.

Workbook Ref No.	Areas to probe	Evidence expected
7.3	How does the Health Board assure itself that the designers have a proper understanding of the infection prevention and control procedures required?	<p>The Health Board evidences that:</p> <ul style="list-style-type: none"> <li>• All relevant staff within the designers' organisation are provided with clear guidance on roles and responsibilities in relation to infection prevention and control.</li> </ul> <p>The contractors' organisation will provide evidence of education in relation to infection prevention in the built environment for all staff involved in the project.</p>

**NHS Scotland Assure Observations:**

- No evidence has been provided regarding project design team members' roles and responsibilities in relation to infection prevention and control.
- No evidence has been provided regarding methods by which education in relation to infection prevention and control in the built environment will be provided by the contractor to their project team members.

Workbook Ref No.	Areas to probe	Evidence expected
7.4	How does the Health Board assure itself that equipment being proposed meets the required IPC standards?	The IPC Team are involved and IPC advice followed in all procurement decisions for new equipment prior to purchase. IPCT are satisfied that all equipment purchased can be decontaminated safely in line with National Guidance and manufacturers' instructions.

**NHS Scotland Assure Observations:**

- HAI SCRIBE notes all equipment will be cleanable, however, procurement has not commenced at this point. The Board should ensure that they have a plan to ensure that there is IPC involvement with this process.

Workbook Ref No.	Areas to probe	Evidence expected
7.5	Evaluation of the Health Boards planned preventative maintenance (PPM) proposals for equipment issues and the Built Environment in relation to IPC issues.	<p>Has the Health Board considered how they will undertake assessment of and report cleanliness of the proposed facility and equipment within the healthcare environment, this is inclusive of planned programmes of maintenance?</p> <p>Does the Health Board plan to seek feedback from patients, staff and visitors for their views?</p> <p>Is it clear how the work for this project will interface with the Health Board existing arrangements for management of the IPC in the Built Environment in the wider estate?</p>

**NHS Scotland Assure Observations:**

- There has been no evidence that cleaning and PPM for the facility will be in accordance with processes and procedures used across the estate. This has not been formalised as yet. Board should ensure that clear processes are documented.
- No evidence of staff and customer engagement has been provided.
- No evidence on governance of the project in accordance with existing board governance structures.

### 3.7.2 Infection Prevention & Control Built Environment: Further Observations

3.7.2.1	No evidence has been produced by the Board as to the restrictions that are to be imposed on the Contractor in relation to the control of dust from ground works as required by SHFN 30: Part A (4.99-4.104)
3.7.2.2	No evidence has been produced by the Board to demonstrate their requirements to manage flood risk on site and to adjacent health centre SHFN 30: Part A (4.98).
3.7.2.3	<p>No evidence has been produced by the Board to confirm that all members of the HAI SCRIBE team were involved at each stage of review and what governance arrangements are in place as required by SHFN 30: Part A (4.10-4.15).</p> <p>A number of points were discussed at the IPC KSAR workshop regarding completion of and updates that are required to the current HAI SCRIBE document. Examples of these are as follows.</p> <ul style="list-style-type: none"> <li>• Up to date list of team members</li> <li>• New SCRIBE members have approved previous project decisions</li> <li>• 2.1, 2.5, 2.6 – second question response should be NA</li> <li>• 2.3 – four questions and five responses. Confirm responses.</li> <li>• 2.4 – Laundry storage/management section to be updated to reflect requirement for some linen storage and management within the facility.</li> </ul>
3.7.2.4	Café facilities for the facility will be run by a 3 <sup>rd</sup> party provider who will have overall responsibility for the facility. There is no evidence that the local IPC team or catering teams have been involved in the planning of or assessment of the proposed facility. The Board should document any IPC restrictions/requirements that are to be imposed and ensure that this process includes input from the IPC team and local catering managers (as required by SHFN 30: Part A (5.67) and HBN 04-01).
3.7.2.5	Storage within healthcare facilities is vital to ensure equipment can be stored clean and dry and that the health care environment is clutter free to facilitate cleaning. There is no evidence to describe the strategy for the storage requirements of the facility and to describe the relevant issues (as required by SHFN 30: Part A (5.49-5.54), SHPN 04-01, SHPN 36 and SHTM 63).



## 4 Appendices

### Appendix 1: Glossary

Please refer to NHS Scotland Assure – Assurance Service Master Glossary document available to download from [NHS National Services Scotland website](#)

