

SHFN 30

Part B: HAI-SCRIBE

Implementation strategy and assessment
process



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Preface

Collaboration among Capital Planners, Infection Prevention & Control Teams, Clinical staff, Design Teams and Estates & Facilities Teams is the key to ensuring that infection control risks are highlighted, managed and mitigated.

Scrutiny of this guidance will highlight the frequent use of the word “Partnership”. Successful use of HAI-SCRIBE requires participation and cooperation particularly between Estates & Facilities staff and Infection Prevention and Control Teams.

To manage or mitigate the risks highlighted through use of HAI-SCRIBE requires knowledge from many sources. However, it is not expected that any group will possess full knowledge or experience of another’s discipline. It is expected, therefore, that there will be an ongoing liaison during each stage of development where appropriate specialist knowledge from all sources of relevant expertise can be derived and incorporated into the project briefing, contract conditions, specification, and quality control of construction and maintenance.

The principal stages of development of any healthcare facility comprise:

- consideration of the proposed site and relevant implications;
- design and planning;
- construction and refurbishment;
- ongoing maintenance.

Note: The Scottish Government’s 2020 Vision is that by 2020 everyone should be able to live longer healthier lives at home, or in a homely setting. It states that when hospital treatment is required, and cannot be provided in a community setting, day case treatment will be the norm.

Good infection prevention and control to reduce the spread of infection is no less important in these community-based settings so an extension of this guidance to these settings, when appropriate, would appear to be a logical progression. However, there is a perception that conditions in community-based settings could potentially be less demanding than in an acute setting. Additionally, there is an awareness of the need to project a more homely environment. Despite these views, the need to minimise the risk of cross-infection is no less important in community health settings than in the acute sector, but other factors such as creation of a homely environment will need to be taken into consideration when managing the risks associated with the prevention and control of infection.

HAI-SCRIBE: a point of reference

This document introduces the main components of HAI-SCRIBE and identifies the steps required to ensure that HAI-SCRIBE is successfully utilised and implemented and that the assessment process is carried through.

Note: This document can provide an insight to the key factors within the built environment which can impact on prevention and control of infection. It is intended as a point of reference for healthcare estates and facilities managers, designers, project managers, contractors, engineers, surveyors, health planners and Infection Prevention and Control Teams working on healthcare estate new build and refurbishment projects. It will also be useful as a guide for best practice in existing healthcare facilities.

This guidance consists of two parts:

- **SHFN 30 Part A: Manual:** This provides Built Environment Infection Prevention and Control information for Design Teams, Construction Teams, Infection Prevention and Control Teams and Estates & Facilities Teams.
- **SHFN 30 Part B: HAI-SCRIBE:** comprises the Implementation and Assessment Process which describes the process for identifying, eliminating or managing built environment infection control risks. It also describes the key personnel involved in this process together with their roles and responsibilities and the fact that collaboration among all those involved in the process is pivotal to its success.

It is envisaged that participants will use the HAI-SCRIBE document (SHFN 30 Part B) to help them identify, manage and record built environment infection control risks. The same Group will use the Manual document (SHFN 30 Part A) on sourcing information to help in the decision making process so that identified risks can either be eliminated or successfully managed.

Questionsets and Proformas

Arrangements have been made to make available on the HFS Website, separately, the portfolio of Questionsets and Pro-formas for each stage of project development suitable for photocopying and application to individual projects as appropriate.

1. Setting the scene

Healthcare Associated Infection

- 1.1 Healthcare Associated Infection (HAI) is the term used to describe infections that occur as a result of medical care, or treatment, in any healthcare setting. It is seen as a widespread issue and the prevention and control of these infections is a priority issue for NHSScotland.
- 1.2 Infection originating or spread in hospitals and other healthcare facilities is recognised as a serious and widespread problem. Although standards of hygiene in healthcare facilities and standards of personal hygiene have been identified as potential sources of infection and infection spread, it can also be said that the design, planning, construction, refurbishment and ongoing maintenance of a healthcare facility also have an important role to play in the prevention and control of infection. For example, controls can be designed-in and risks designed-out such as extending wall storage units right up to ceiling level to avoid having the potential build up of dust on high level ledges that are difficult to clean.

The Challenge

- 1.3 Patients using healthcare facilities are more likely to be immuno-compromised and also more likely to receive intensive medical interventions, which in turn increase their vulnerability to opportunistic infections. Every effort must be taken to acknowledge and ultimately reduce these risks. This includes risks associated with the built environment that can arise from, for example, demolition, construction and refurbishment activities.
- 1.4 Research and investigation have consistently confirmed that the healthcare environment can be a reservoir for organisms with the potential for infecting patients, whether internally or from external sources (via openable windows or fresh air intakes). For HAIs to be reduced, it is imperative that Infection Prevention and Control (IPC) measures are “designed-in” and IPC risks are “designed-out” at the very outset of the planning and design stages of a healthcare facility and that input continues up to, into and beyond the final building stage. Inevitably, there will be residual risks which will require identification, registering and monitoring.
- 1.5 To achieve this, it is necessary that designers, architects, engineers, facilities managers and planners work in collaborative partnership with IPC teams, healthcare staff and the users to deliver facilities in which IPC needs have been anticipated, planned for and met.

Note: HAI-SCRIBE is an acronym for **H**ealthcare **A**ssociated **I**nfection **S**ystem (for) **C**ontrolling **R**isk **I**n the **B**uilt **E**nvironment. The procedure has been developed as a framework for these groups to work together to identify, manage and mitigate issues in the built environment impacting on infection prevention and control risks.

Throughout this document, the term 'Project Team' is referred to. The term describes the team of NHS Staff assembled to fulfil the role of 'The Client' and to manage the delivery of the project. Through the various stages of the project it may include NHS Project Managers, Clinicians, Estates Staff and Infection Prevention and Control specialists.

This would be best achieved with the establishment of a Project Team with HAI-SCRIBE procedures as part of their responsibilities. (The note box above and [Paragraphs 1.8](#) and [2.1](#) to [2.4](#) also refer).

1.6 HAI-SCRIBE aims to ensure that IPC measures are not only designed-in but also maintained throughout the lifetime of the healthcare facility. It also aims to highlight potential IPC risks so that these can be designed-out. This is achieved through identifying the infection control risk associated throughout each of the following stages of lifecycle of the healthcare facility.

- Development Stage 1 - consideration of the initial brief and **proposed site for development**. This coincides with Business Case Stage: 1A;
- Development Stage 2 - **Design and planning**;
- Development Stage 3 - **Construction and refurbishment**;
- Development Stage 4 - **Pre-handover check, ongoing maintenance and feedback**.

(Many maintenance-related projects do not necessarily go through this approval process but the need for collaboration remains undiminished).

1.7 The purpose of HAI-SCRIBE is to provide a framework around which potential risks associated with the proposed site development, design and planning, construction/refurbishment and ongoing maintenance of Healthcare Facilities can be identified assessed and subsequently managed or mitigated.

1.8 To facilitate this and for ease of use the Implementation Strategy document is divided into three key parts which describe the activities associated with its use, namely;

- | | |
|---------------|--|
| Part A | Assembling the Project Team with HAI-SCRIBE forming part of its responsibilities. |
| Part B | Assessing the risk via use of Questionsets (1) – (4). |
| Part C | Gathering the information to inform dialogue. NB: This is set out in the planning and design manual (SHFN 30, Part A) which accompanies this document. |

Getting Started - preparation

1.9 It is important that the following procedures are followed:

- always consult the Estates & Facilities Management and Infection Prevention and Control Team at an early stage:
 - whenever refurbishment is planned;
 - whenever major capital bids are planned;
- do not wait until patients are ready to move in;
- do not wait until fixtures, fittings and furnishings have been purchased;
- do not let immediate cost or space consideration override reason or functional requirements;
- long-term value for money/risk reduction considerations should prevail.

Note: The best products or designs may be more expensive initially but in the long term they will probably realise cost benefits as they may prevent outbreaks. They may last longer, require less maintenance and be more durable.

Who should implement HAI-SCRIBE?

1.10 Successful use of HAI-SCRIBE is dependent on meaningful and ongoing dialogue and exchanges of information generated from representatives from Infection Prevention and Control and Estates & Facilities Managers, Project Managers and construction professionals who can contribute individual and relevant expertise in their own disciplines. Their active partnership and participation is essential. Similar dialogue is necessary when these parties are not involved, such as routine or periodic maintenance activities.

Note: NHS Boards' internal governance should identify who is responsible for implementing or taking ownership of HAI-SCRIBE procedures. These procedures may vary among NHS Boards. Typical NHS Board organisational structure is provided in [Appendix 9](#).

1.11 It is recognised that the risks identified from the design process will be competing against other risks identified via other risk management processes. Consideration and prioritisation of all risks identified will have to take place.

1.12 Implementation of HAI-SCRIBE should be the responsibility of a specialist multi-disciplinary professional team who possess the necessary skills in relation to the healthcare facility being planned, designed, constructed, refurbished or maintained. The multi-factorial nature of projects and activities dictate the need for a multi-disciplinary team and include an array of both healthcare professionals and contractor personnel where appropriate to take ownership of relevant documents and risk assessments throughout each stage. It is essential, however, that all members of the assembled Team have a

background understanding of the principles of prevention and control of infection in the built healthcare environment for the specific project.

- 1.13 There are instances where the need to implement HAI-SCRIBE assessments will not be obvious (e.g. external works, offices, laboratories). Any decision to do so should be based on the impact any works would have on accommodation in the nearby area used for patient care.
- 1.14 The services of a member of administration staff will be helpful in providing administration support to members of the Project Team throughout the project.
- 1.15 Project Teams should not succumb to unacceptable pressures of time and financial expenditure that would compromise decision-taking and clinical outcomes. It is essential that proposals should be signed-off by the Project Team before any start on site.
- 1.16 It is essential that members of the Project Team including the Project Manager should be aware that externally funded projects have the potential to proceed without prior knowledge of Infection Prevention and Control specialists or representatives of Estates and Facilities department and Project Managers. This must not be allowed to happen.

Refurbishment issues

- 1.17 Implementation of HAI-SCRIBE is aimed at all personnel who may be involved in providing not only new build, but also refurbished or extended healthcare establishments.

Note: For the avoidance of any doubt, there is a clear demarcation between “redecorating” or “refreshing of accommodation” and “refurbishment”. The need for input from Infection Prevention and Control specialists should be verified when upgrading of facilities is limited to cosmetic attention as even in these circumstances attendant activities could generate risks from dust generation or disruption to air or water systems or switchgear.

- 1.18 Any of the following “refurbishment” activities would have the potential to generate dust. This is not an exhaustive list:
- removal of lay-in or screwed-in ceiling tiles from a suspended ceiling grid;
 - unscrewing of service ducts access panels;
 - unscrewing of panels forming part of integrated plumbing systems and general services concealment;
 - removal of protective covers from radiators;
 - lifting and replacement or repair of floor coverings;
 - drilling masonry or plasterboard walls;
 - replacement of door-sets;
 - drilling through plasterboard partitions;

- replacement of sanitary fittings;
- removing or patching thermal insulation on pipes and ducts;
- ragging of plastered walls;
- general hammering;
- sanding and planing of surfaces;
- plasterwork, (new work, patching and repair);
- removal of redundant electrical socket outlets;
- dismantling luminaires;
- dismantling grilles and diffusers;
- inadequate sealing of ductwork serving adjacent areas during modifications;
- bagging and disposal of debris.

Note: Any premises constructed pre-2000 have the potential to contain asbestos as part of the fabric (e.g. thermal insulation, suspended ceiling tiles, thermo-plastic floor tiles, etc.) This would be confirmed in the NHS Board's Asbestos Management Plan where presence and condition of asbestos containing materials (ACMs) should be recorded.

- 1.19 Events such as the generation of dust or disruption to a facility's air or water system have the potential to spread micro-organisms. These could disperse, if not checked, into adjacent areas where patients may continue to be treated. It can be seen that advice from and liaison with Infection Prevention and Control specialists is essential under these circumstances whereas this would be less likely when work is restricted to redecoration. As individual circumstances could vary from site to site, all such work in or adjacent to patient treatment accommodation should be risk assessed and appropriate precautions implemented.

Note: [Appendices 6 and 7](#) show in flow chart form, the procedures to be followed where demolition work or removal of fixed structures is involved where moderate or high levels of dust can be expected. [Appendices 4 and 5](#) show the procedures for activities where little or no dust is generated.

- 1.20 Given that NHS procurement can be by Framework, Non-Profit Distribution (NPD) or HUB essentially to achieve a transfer of risk from public to private sector, it should be noted that its application to existing premises subject to refurbishment or alteration will entail risks that cannot be predicted with certainty. Therefore cost effectiveness will be difficult to predict.

- 1.21 Advances in technical and therapeutic methodologies are among the range of factors which present further challenges in relation to control of infection. Organisms with antimicrobial resistance have become a major public health threat, making infection occurring within healthcare premises increasingly difficult to treat. Infection originating in hospitals and other healthcare facilities

is now recognised as a serious and widespread problem. The physical environment has to assist, not hinder, good practice.

- 1.22 Routine maintenance should follow the NHS Board's Standard Operating Procedures (SOPs) for the various applications and departments. SOPs should in themselves be subject to risk assessments which may be iterative reflecting changes in parameters. NHS Boards have developed HAI-SCRIBE method statements for common, repetitive, activities which allow common tasks to be risk assessed and generic control measures put in place. Communication between Infection Prevention & Control and Estates staff when this process was being carried out is still necessary.

The neighbourhood environment

- 1.23 Neighbourhoods change whereby new or extended industries and commercial operations could have been developed since initial assessment of the site. The Capital Planning managers of the healthcare facility need to be alert to this as it may present a new HAI risk.

Record keeping

- 1.24 A detailed record of the initial application of HAI-SCRIBE and all subsequent applications and reviews must be kept in legible writing and be available for reference, retained in a central register and an audit trail maintained highlighting good and bad practice. The records of the applications of HAI-SCRIBE and the regular reviews of the system should be available for the appropriate management group of the healthcare facility. This may be the NHS Board's risk management steering group headed by the Chief Executive Officer which addresses risk management. However, this arrangement may vary from Board to Board. There should also be checks to ensure that control measures are being adhered to; these should also be recorded.
- 1.25 Internal governance should ensure that records are kept of out-of-hours working and any contractors involved. This should also identify who oversees the HAI-SCRIBE processes.

Works involving low risk

- 1.26 In attempting to differentiate between minor and major works in the context of applying the correct level of HAI-SCRIBE procedures, this will come down to the project's complexity or impact of activities, rather than size or extent. It is not always appropriate to follow the entire HAI-SCRIBE processes when dealing with small scale and minor works projects, [Figure 1](#) on the following page comprises a decision-making tool for evaluating the extent of proposed activities and their impact. It might be helpful to maintain an ongoing log of activities. A typical exemplar for minor works is shown in [Appendix 8](#).

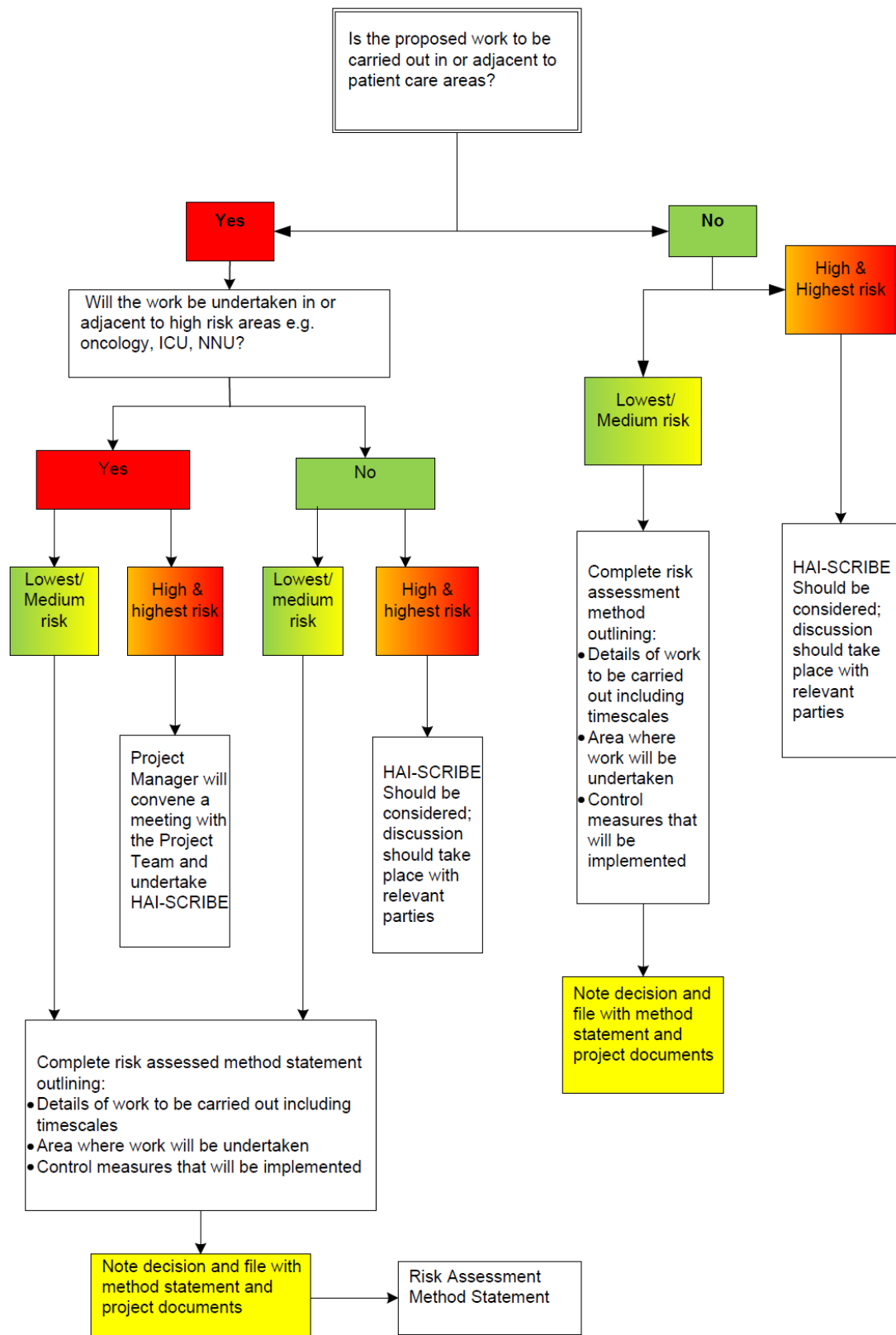


Figure 1: Decision-making tool for evaluating need for Minor Works and Small Repairs

Note: Consideration could be given to employing proformas such as contained in the following Appendices:

Appendix 1: Pre-start and construction proforma for particulars of project comprising a routine reporting procedure for submission to the Project Team before and during works setting out performance checks and assessment of hazards.

Appendix 2: Commissioning stage proforma comprising contract particulars setting out requirements prior to commissioning activities.

Appendix 3: Permit-to-work form comprising particulars, processes and criteria relative to the issue of Permits-to-Work, where required.

Appendix 4: Flow chart for work stages and procedures associated with minor works and small repairs in areas categorised as High, Medium and Low Risk.

Appendix 5: Ditto for small scale works.

Appendix 6: Ditto for works involving removal of fixed structures or where moderate to high levels of dust are generated.

Appendix 7: Ditto for major demolition and construction.

Appendix 8: Overview exemplar comprising typical monitoring spreadsheet for minor works.

Appendix 9: Gives an example of a Typical NHS Board organisational structure.

Appendix 10: Overview exemplar of a completed questionset.

1.27

Whatever risk designation is agreed, there will be a need for the NHS Board to re-visit the project prior to handover to verify that the brief has been completely fulfilled.

Note: Common maintenance tasks should be assessed and method statements produced setting out how to manage risks. There should be no need to reassess every time the same task is repeated unless parameters change such as working in a low risk patient group risk area and then in a high patient group risk area.

2. Part A

Assembling the Project Team

- 2.1 This part of the documentation sets out the responsibilities of all those involved in implementing HAI-SCRIBE and the processes to be employed in doing so.

Responsibilities in relation to HAI-SCRIBE

- 2.2 The successful implementation of HAI-SCRIBE requires input from a wide range of professionals including Managers, Facilities Staff, Planners, Infection Prevention and Control Staff and Clinical Staff. Overall responsibility for ensuring the implementation of HAI-SCRIBE is determined by the Development Stage as indicated in the following text. Some NHS Boards may wish to give responsibility to another project team member. In such instances it is important that the responsible person for each stage is named.

Development stage

- Stage 1: “Initial brief and Proposed site for development” - the responsible officer is the Project Owner/Sponsor;
- Stage 2: “Design and planning stage” - the responsible officer is the Project Manager;
- Stage 3: “Construction and refurbishment” - the responsible officer is the Project Manager;
- Stage 4: “Pre-handover check (carried out by the Project Team) and ongoing maintenance” (carried out by the Estates team).

- 2.3 For Capital Project and Refurbishment schemes, the Project Team will have been assembled already. HAI-SCRIBE implementation will be one of their responsibilities as part of ensuring that an accurate design brief is developed. Regular meetings and communication with stakeholders in the Team to discuss design, tendering, build and commissioning will ensure the facility is functionally suitable and fit for purpose. This will ensure that due attention is paid to prevention and control of infection risks for subsequent elimination or mitigation.

Who should lead?

- 2.4 The allocation of the lead role will be a function of the type, size and complexity of the project, its adjacency to sources of contamination (known or suspected), its proximity to other operational departments and the type of patients being treated. Priorities will vary depending on these issues. The principal role of the designated leader of the Project Team is to ensure that the most appropriate representation is achieved with specialist knowledge provided when it is required.

- 2.5 The following suggested activities and allocation of responsibilities are offered for guidance.

Project Owner/Sponsor

- 2.6 In ensuring that HAI-SCRIBE is completed for all major Development Stage 1 Projects, the Project Owner/Sponsor shall:
- identify an appropriate individual to lead the HAI-SCRIBE process;
 - ensure that a formal risk assessment is undertaken by a designated clinical member of the Project Team in relation to the risk to patients for all construction activity. This is in addition to the HAI-SCRIBE Risk Assessment and should be recorded with an entry made in the risk register;
 - ensure that the risk assessment includes the identification of “particularly at risk” patients and that designated clinical members of the Project Team will generate options for care. The rationale for deciding upon a course of action should be recorded and reviewed on a regular basis throughout the contract period;
 - ensure that key personnel are involved in undertaking HAI-SCRIBE i.e. Infection Prevention and Control, Health & Safety and other specialist advisors as necessary. As a minimum at Stage 1, representatives from the Project Manager, Infection Prevention and Control, Health & Safety, Estates, Clinical Environment, Domestic Services and Fire Safety should be in attendance;
 - ensure that HAI-SCRIBE documentation has been signed-off by key representatives involved in the process;
 - ensure that the requirements identified by HAI-SCRIBE are incorporated into the contract documentation including a requirement that the contractor signs a specific statement relating to the implementation of HAI-SCRIBE and that it is adhered to during the project.

HAI-SCRIBE Project Manager

- 2.7 The main responsibilities of the Project Manager are:
- taking ownership of and leading the HAI-SCRIBE process;
 - ensuring that HAI-SCRIBE is completed for all **Development Stage 2, 3 and 4** projects;
 - identifying appropriate individuals to undertake the HAI-SCRIBE process;
 - ensuring that a formal risk assessment is undertaken by a designated clinical member of the Project Team in relation to the risk to patients for all construction activity. This is in addition to the HAI-SCRIBE Risk Assessment and should be recorded with an entry made in the risk register;
 - ensuring that value for money in capital and life cycle costs are taken into account;

- ensuring that the risk assessment includes identification of “particularly at risk” patients and that designated clinical members of the Project Team will generate options for care. The rationale for deciding upon a course of action should be recorded and reviewed on a regular basis throughout the contract period;
- ensuring that key personnel are involved in undertaking HAI-SCRIBE i.e. Infection Prevention and Control, Health & Safety and other specialist advisors as necessary. As a minimum at Stage 2 and 3, representatives from the Project Manager, Infection Prevention and Control, Health & Safety, Estates, Clinical, Environment, Domestic Services and Fire Safety should be in attendance. This applies to major projects;
- ensuring HAI-SCRIBE documentation has been signed-off by all key representatives involved in the process;
- ensuring that the requirements identified by HAI-SCRIBE are incorporated into the contract documentation, including a requirement that the contractor signs a specific statement relating to the implementation of HAI-SCRIBE and that it is adhered to during the project;
- ensuring that systems are in place to monitor contractors’ compliance throughout the duration of the project, including documented evidence of compliance with agreed monitoring arrangements;
- exercising authority to stop work if there is a breach of any infection control preventive measures during construction or refurbishment;
- reporting any issues on the risk management system (e.g. Datix) from ongoing activity that may affect HAI-SCRIBE and require re-assessment. Datix investigation must clearly identify causes and assurance that these will then be managed accordingly;
- ensuring that the HAI-SCRIBE assessment is reviewed should there be any significant changes to the management of the project;
- keeping a record of the initial application of HAI-SCRIBE and all subsequent applications and reviews for reference in a central register.

Estates/Facilities Manager/Maintenance (Soft FM and Hard FM)

2.8

The above responsibilities undertaken by the Project Manager include involvement of the Project Team in the HAI-SCRIBE process. This will include full briefing of the Estates Manager. Where no Project Manager is appointed the person authorising the work will assume the main responsibilities.

The Estates/Facilities Manager must also keep the Project Team up-to-date on new projects where the project work itself potentially increases the risk of HAI as determined by the Infection Prevention and Control Risk Assessment for the Project as specified in HAI-SCRIBE.

- Other responsibilities of the Estates/Facilities Manager:
 - **Partnership Working** with the Infection Prevention and Control specialists and other members of the Project Team and designers;

- **Communication** with the Infection Prevention and Control specialists to keep everyone up to date on all new projects where the work potentially increases the risk of HAI;
- **Safe methods of working** - ensuring that all visiting contractors work safely in the existing healthcare environment.

Note: 'Turnkey' procurement arrangements occur where the supplier carries out everything for the project and enables the user to “turn the key”. This kind of arrangement would apply for, say, a supplier of an X-ray machine who would be handed a ‘stripped-out space’ in which they would fit out an X-ray room with power, lighting and other services from identified interface points on the services installations, provide and install floor coverings, wall panels and ceilings, connect up and commission the room, the machine and all the supply systems before handover to the user with manuals etc. Typical applications would comprise MRI installations, CT Scanners, Linear Accelerators and other large pieces of specialist equipment such as Sterilisers, etc.

Infection Prevention and Control

2.9 The main responsibilities of Infection Prevention and Control specialists are:

- advising the Project Team on the principles of infection prevention and control of infection as applied to the built environment;
- contributing to risk assessment and providing advice on infection risk to susceptible patients;
- contributing to advice and guidance on control measures to be implemented;
- advising Project Manager/Estates Manager as to the need to stop work where infection prevention and control measures have not been adequately implemented or have failed;
- providing education on infection prevention and control measures to relevant staff involved in the project where required;
- determining with the Project Team and Health & Safety representatives a suitable and sufficient dust monitoring methodology for each project;
- assisting in the review of all HAI-SCRIBE assessments within agreed timescale.

Health and Safety

2.10 The main responsibilities of Health & Safety representatives are:

- advising the Project Team on the principles of risk assessment as applied to the built environment;
- contributing to the risk assessment process and providing advice and guidance on control measures to be implemented;

- inspecting the construction site in order to evaluate on-site health and safety competence of contractors employed where the risk has been determined as significant;
- advising the Project Manager/Estates Manager of the need to stop work where health and safety measures have not been adequately implemented or have failed;
- providing education on health and safety risk management and control measures to relevant staff involved in the project where required;
- contributing to and understanding the roles of the various members of the Project Team;
- assisting in the review of all HAI-SCRIBE assessments within agreed timescales.

Note: To ensure compliance with HAI-SCRIBE procedures during the construction/refurbishment phase it is recommended that a Supervising Officer is designated by the NHS Board with the remit of recording deviations, liaising with Infection Prevention and Control Specialists and given delegated authority immediately to stop work or advise the Project Manager of the need to do so until remediation has been satisfactorily completed, this may be the Project Supervisor.

Lead Consultant/Architect (if appointed)

(NB: Parts of these responsibilities can be undertaken by the Project Manager)

2.11 The main responsibilities of the Lead Consultant/Architect/Design Team are:

- facilitating partnership working with the Infection Prevention and Control specialists, Estates and Facilities Managers and other members of the Project Team;
- ensuring outcomes of HAI-SCRIBE are incorporated into the design of the building;
- ensuring design enhances the prevention and control of infection;
- ensuring that materials utilised are suitable and enhance the prevention and control of infection;
- ensuring compliance with professional standards, NHS guidance and statutory regulations in development and design;
- maintaining up to date knowledge and understanding of infection prevention and control principles.

Note: The Lead Consultant and Design Team should consider the views of all relevant healthcare personnel into the final design of the new healthcare facility. In addition, the timescale involved to plan a new healthcare build or refurbish an existing establishment can vary from a short period of a few months in the case of a small refurbishment to as long as three or four years for a major capital project.

It is important that Infection Prevention and Control teams are notified of potential projects or contracts awarded, at the earliest possible opportunity. This applies irrespective of the form of contract adopted or whether in-house facilities or consultant or contractor design teams are employed.

Every consideration should be given to the quality of composition of the Design Team. Selection of Design Teams entirely, or primarily, on cost is contrary to public sector procurement requirements which demand a best-value approach. Architects and Designers for healthcare projects must be suitably experienced in terms of their knowledge and understanding of prevention and control of infection. Deficiencies in knowledge of or experience with HAI-SCRIBE will be informed by interview and should be determined during the pre-qualification stages *prior to appointment*. In Non Profit Distribution (NPD), HUB and Framework Projects the appointment of designers is through the Contractor team. It is therefore essential that those responsible for appointments are acquainted as to these issues and that the NHS Board takes account of the Contractor's selected designers and their relationship with and attitude towards them.

Lead Contractor/Contractors

2.12 The main responsibilities of the Contractor, under this guidance, are:

- coordinating and advising the Infection Prevention & Control Team to assist in identifying potential risks and control measures prior to and during construction;
- incorporating and coordinating above in pre-construction H&S Plan and construction method statements to enable safe working during works;
- regular monitoring of risks, control measures and documentation; updating as project develops to ensure continuous safe working during and after works.

The above may also include post-completion works, e.g. snagging and latent defects.

Note: The Lead Contractor is the representative of the team responsible for delivering the works. In most cases this is also the 'Principal Contractor' as defined in the Construction (Design and Management) Regulations 2007. This requires a Principal Contractor and a CDM Co-ordinator to be appointed if a project is notifiable. Construction is notifiable if it lasts more than 30 working days or involves more than 500 person-days (for example 50 people working over ten days). In smaller projects, this may be the site manager of the firm contracted to deliver the works. The works may include construction, demolition, repairs and /or maintenance.

NB: The role of CDM Co-ordinator is currently under review by the Health & Safety Executive.

Domestic Services Manager/Soft Facilities Manager

2.13 The main responsibilities of the Domestic Manager are:

- ensuring that staff are monitoring dust levels and advising when increases in dust levels occur;
- advising on any additional cleaning requirements required, either within the area in which the work is being undertaken or adjacent areas;
- advising on cleaning required from contractors on completion of work and prior to hand over;
- advising on and ensuring that cleaning required from domestic services is undertaken after handover and before the area is put into use.

Departmental Representatives

2.14 Key healthcare staff, currently working in relevant wards and/or departments, should be involved in the project from the earliest opportunity to ensure that the needs of patients and staff are taken into consideration when planning the new or refurbished facility.

- Main responsibilities of the Ward/Departmental representatives:
 - **Partnership Working** with the Infection Prevention and Control specialists and other members of the Project Team;
 - **Patient safety** - awareness of the patient population and the potential health risks that may occur during a project;
 - **Special precautions** - require to be identified to mitigate risks for specific patient groups e.g. patients who are immuno-compromised or who have underlying medical conditions;
 - **Fit for Purpose** - advice on the new facility being functionally suitable for healthcare delivery and patient use.

Note: The required input from the various representatives will be at varying levels dependent on the type of accommodation being provided and during various stages of design development and construction.

Minimising infection risks

- 2.15 A variety of measures will contribute to the prevention and control of infection. However, despite every best effort, not all infections are preventable. Resources must be directed towards minimising the risk where infection can be prevented and facility design plays an important role in achieving this. HAI-SCRIBE can be applied to other operational areas of NHSScotland.
- 2.16 There are three key steps involved in HAI-SCRIBE:
- identifying the hazard;
 - assessing the risk from the identified hazard;
 - managing the risk to eliminate or minimise its impact.
- 2.17 The application of these three key steps of HAI-SCRIBE is aided by a range of questions set out in [Section 3](#) which are appropriate for particular development stages of the healthcare facility.

Note: Care needs to be taken to ensure that the System does not solely become a mechanical 'box-ticking' exercise, but rather a rigorous questioning and auditing of proposals and of operating facilities.

- 2.18 In assessing the risk from the identified hazards, and in determining how to manage the risk to eliminate or minimise its impact, the nature of exposed population is a critical consideration.
- 2.19 In most cases there will be no option but to manage the risk to eliminate or minimise its impact. Health economics will inevitably be applied by the management of the healthcare facility in circumstances where there are several competing bids for resources and where those with an infection risk have a number of options suggested for the management of the risk. In such cases, the assessment of risk and the measures necessary to manage the risk must be evaluated carefully as part of the health economics decision-making.
- 2.20 This dedicated Project Team should be representative of the appropriate specialists but small enough in number to ensure effective decision-making.
- 2.21 Implementation of HAI-SCRIBE requires an accurate record of the process of hazard assessment and risk management which is essential 'due diligence' information.
- 2.22 Records of the applications of HAI-SCRIBE and the regular reviews of the System should be reported to the Project Manager of ongoing work.
- 2.23 In circumstances where HAI-SCRIBE is being applied to the site for a proposed development, design and planning, or the construction of a new- build

healthcare facility, the Project Board needs to be advised of the outcome. In cases where it is being applied to the refurbishment or operational management of an existing healthcare facility, the organisation's risk management steering group should be advised of the outcome of the HAI-SCRIBE applications on an annual basis.

Summarising

2.24 The following questions should be answered:

- have all members of the multi-disciplinary Project Team been identified?
- has it been confirmed that all members of the Project Team have background knowledge and access to specialist knowledge in infection prevention and control?
- has a person been identified who will lead on HAI-SCRIBE assessments?
- have full telephone and e-mail contact details been obtained to confirm full commitment and availability to participate in the project?

Note: Do not proceed to the questionsets within the next Step until you can answer “Yes” to the above questions.

3. Part B

Assessing the risk via use of Questionsets

- 3.1 The assessment process has been developed into a series of questionsets for each of the four stages of development. It will be noted that, although the framework and process for each stage is broadly similar, the construction and refurbishment stage poses particular problems arising from dust and other pollutants which could potentially impact on nearby facilities for ongoing patient care. Much of the content of the questionsets for the post-construction stage will refer to decisions already taken but should be revisited to allow responses to verify that they were correctly implemented and maintained in optimum condition.
- 3.2 The various questionsets forming part of the assessment process are set out for self-assessment. All questions in each of the Development Stages of HAI-SCRIBE should be answered.

Note: It is expected that many of the questions will have a 'Yes' response but the process should not be regarded as a 'box ticking' exercise.

- 3.3 Each "Yes" or "No" answer should be backed up with additional written information relevant to the particular question, as some questions may require further consideration. Such information will be useful for reference at different stages of a new build project. (A worked example of a Development Stage 1 Questionset is contained in [Appendix 10](#)).
- 3.4 For example, if answering 'Yes' to the following question at Development Stage 1:

"Are there industries or other sources in the neighbourhood which may present a risk of noise, other pollution or infection e.g. animal by-products processing plant?"

It is necessary to describe fully what these 'industries' or 'other sources' are.

Similarly, if answering 'Yes' to:

"Will lack of space limit the proposed development and future expansion of the facility?"

It is necessary to describe fully what the "limitations" are and what actions need to be taken to eliminate or minimise the risk they pose together with who is responsible for ensuring that the actions are carried out.

Situations can arise when a decision related to managing risk cannot be taken in a satisfactory or compliant manner. When this happens the issue should be recorded and escalated to a higher authority.

Detailed assessments

Note: The following section comprises the questionsets that should be scored for each of first two Stages of development of projects from inception to ongoing use. They follow basically the same format except that the Questionset covering construction and refurbishment involving dust and pollutants arising from construction and refurbishment activities sets out additional risks to be assessed and managed. The Questionset for ongoing use etc. covers similar ground to Questionset applicable at the design and planning stage in that the latter reflects decisions taken in the former and should be seen as a checklist.

Questionset for Initial brief and proposed site for development

- 3.5 The initial application of HAI-SCRIBE examines the intended brief and site for the new build healthcare facility.
- 3.6 If any actual or potential hazards are identified during this initial stage, it is important that a full risk assessment is carried out to identify the nature of the risk. If risks are highlighted, remedial measures need to be identified in order that systems and processes can be designed into the project plans so that the impact of the risk can either be eliminated or its impact reduced.
- 3.7 The risks and the remedial actions should be clearly documented.

Constraints of developing on a pre-determined brief or site

- 3.8 In some cases the brief is driven by outside factors or there is no choice in the use of a particular site and steps must be taken to minimise any inherent adverse issues encountered. These would include a lack of space limiting the proposed development and any future expansion or reconfiguration of the facility (e.g. to increase single room provision). This might potentially create or increase the risk of infection.
- (Further information is set out in greater detail in the Manual (SHFN 30 Part A) of this document).
- 3.9 The questionsets do not necessarily comprise an exhaustive list of points that need to be considered.
- 3.10 Where a potential hazard is identified a careful assessment of that hazard must be undertaken. Some hazards may present a risk of pollution rather than direct infection but the consequences for the healthcare facility may be to keep windows and ventilation intakes closed and this, in turn, may increase the risk of HAI in the healthcare facility. Solving one problem can lead to another and clinical outcomes should themselves be risk assessed. It may be necessary, therefore, to seek further information as part of the assessment of the hazard and this may include questions about:
- the extent of the dust, noise, smell and other pollution;
 - the hours of operation;

- the volume of traffic;
- the kind of materials being handled and processed;
- the volumes of materials being handled and processed;
- the time/frequency of deliveries and traffic movement volume;
- the deliveries being in closed or open containers;
- the transfer arrangements from delivery vehicles to storage/processing facilities;
- the exhaust flues from the processing plant;
- the prevailing wind direction;
- the areas of the healthcare development most likely to be affected;
- the measures which could be designed into the proposed healthcare development to eliminate or minimise the impact of the pollution and if these measures might increase the risk of HAI.

3.11 Other existing industries in the area of the proposed healthcare facility development may present a more obvious and direct risk of bacterial or fungal infection e.g. any cooling towers posing a potential *Legionella* risk, and/or any demolition or construction work posing a fungal infection risk. The assessment must take account of the source of the potential risk, its relationship to the healthcare facility and particular areas of the healthcare facility, the exposed population, and the measures which are available to the healthcare facility to reduce the impact of the infection risk. Consideration should also be given to infection risks at outpatient departments within the healthcare facility and access to the facility and outpatient departments.

In considering whether a site presents a potential HAI hazard, the following questions should be examined. In signing-off or initialling resolution of issues, it is necessary also to print the name of the individual completing the responses.

Note: Records of cooling towers in the vicinity of the NHS premises will be held by the Local Authority if not the NHS Board's own public health department with whom consultation should take place in assessing the locality.

Risk assessments require to be kept up to date and amended as and when new circumstances/issues come to light both in surrounding premises and on site.

Note: Advice may be required from specialists on issues such as land engineering, etc.

Development stage 1: Initial brief and proposed site for development

Some Hazards in the surrounding areas may present a risk of pollution rather than direct infection with the control measures for the healthcare facility to keep windows and ventilation intakes closed however. However, this may increase the risk of HAI in the healthcare facility. It may be necessary to seek further information as part of the assessment of the hazard. Potential hazards from adjacent sites may include:

- the extent of the dust, noise, smell and other pollution;
- the risk of bacterial or fungal infection from existing industries in the area which may be present e.g. cooling towers and/or demolition or construction works;
- the hours of operation;
- the volume of traffic;
- the kind of materials being handled and processed;
- the volumes of materials being handled and processed;
- the time/frequency of deliveries and site traffic movement volume;
- the deliveries being in closed or open containers;
- the transfer arrangements from delivery vehicles to storage/processing facilities;
- the exhaust flues from the processing plant;
- the prevailing wind direction;
- the areas of the healthcare development most likely to be affected;
- the measures which could be designed into the proposed healthcare development to eliminate or minimise the impact of the pollution and if these measures might increase the risk of HAI;
- risk of flooding;
- asbestos in any existing buildings;
- proximity of rivers or streams;
- previous use of site, greenfield/brownfield site;
- land contamination;
- potentially polluting activities during periods of high rainfall.

Initial Brief and proposed Site for development identification of hazards, associated risks and control measures		
1.a	Brief description of the proposed development project and the planned development site.	
1.b	Identify any potential hazards associated with the design and/or proposed site.	
1.c	Identify any risk associated with the hazards above.	
1.d	Outline the control measures that require to be implemented to eliminate or mitigate the identified risks. Ensure these are entered on the project risk register.	
	Control Measures.	
1.e	It has been recognised that control measures identified to address the project risk may have unintended consequences e.g. closure of windows can lead to increased temperatures in some areas. Such issues should be considered at this point, they should be noted and action to address these taken.	
	Potential Problems.	
	Control Measures.	
1.f	Actions to be addressed.	
By		Deadline

Initial Brief and proposed site for development, development stage 1: checklist to ensure all aspects have been addressed		
1.1	<p>Is contaminated land an issue? e.g. asbestos, oils and heavy metals. (Refer to the Contaminated Land Register)</p> <p>Have these issues and actions to be taken been noted in actions to be addressed section?</p>	<p>Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/></p> <p>Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/></p>
Comments		
1.2	<p>Is there a locally recognised increased risk of contamination or infection e.g. cryptosporidium? If yes give details.</p> <p>Have these issues and actions to be taken been noted in actions to be addressed section?</p>	<p>Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/></p> <p>Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/></p>
Comments		
1.3	<p>Are there industries or other sources in the neighbourhood which may present a risk of infection or pollution e.g. animal by-products processing plant? If yes give details.</p> <p>Have these issues and actions to be taken been noted in actions to be addressed section?</p>	<p>Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/></p> <p>Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/></p>
Comments		
1.4	<p>If there are any industries or other sources identified in question 1.3 above, will they affect the designed operation of the healthcare system?</p> <p>Consider the planned function of the design as well as issues such as:</p> <p>Ventilation</p> <p>Opening of doors and windows</p> <p>Water systems etc.</p> <p>Have these issues and actions to be taken been noted in actions to be addressed section?</p>	<p>Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/></p> <p>Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/></p>
Comments		

Initial Brief and proposed site for development, development stage 1: checklist to ensure all aspects have been addressed continued		
1.5	<p>Are there construction/demolition works programmed in the neighbourhood which may present a risk of pollution or infection (including fungal infection)?</p> <p>Have these issues and actions to be taken been noted in actions to be addressed section?</p>	<p>Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/></p> <p>Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/></p>
Comments		
1.6	<p>Are there cooling towers in the neighbourhood which may present a risk of <i>Legionella</i> infection? Consider also air handling units, water pipes etc.</p> <p>Have these issues and actions to be taken been noted in actions to be addressed section?</p>	<p>Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/></p> <p>Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/></p>
Comments		
1.7	<p>Does the topography of the site in relation to the surrounding area and the prevailing wind direction present any HAI risk e.g. from entrainment of plumes containing <i>Legionella</i>?</p> <p>Have these issues and actions to be taken been noted in actions to be addressed section?</p>	<p>Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/></p> <p>Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/></p>
Comments		
1.9	<p>Will the proposed development impact on the surrounding area in any way which may present potential for infection risk?</p> <p>Consider possible restrictions being applied to the operation of the proposed facility e.g. Facilities Management routes.</p> <p>Have these issues and actions to be taken been noted in actions to be addressed section?</p>	<p>Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/></p> <p>Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/></p>
Comments		

Initial Brief and proposed site for development, development stage 1: checklist to ensure all aspects have been addressed continued		
1.10	Will lack of space limit the proposed development and any future expansion or change of use of the facility?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
	Have these issues and actions to be taken been noted in actions to be addressed section?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
Comments		
1.11	Has a demolition/refurbishment asbestos survey been carried out?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
	Have these issues and actions to be taken been noted in actions to be addressed section?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
Comments		
1.12	Has consideration been given to the projected lifespan of the facility and its impact on planning and development?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
Comments		
Additional notes - Stage 1		

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Questionset for design and planning stage

Note: The application of HAI-SCRIBE is essential in the detailed planning and design of a new healthcare facility or a major redevelopment, refurbishment or extension of an existing healthcare facility. It is at the planning and design stage that hazards associated with potential HAI risk should be identified and assessed and measures taken to manage the risks. It is sensible to ‘design-in’ at this stage, measures which will eliminate or minimise the impact of identified hazards and effectively manage the HAI risk. It is also essential to ensure that the appropriate guidance as applicable in Scotland is being followed.

- 3.12 HAI-SCRIBE, as applied to healthcare facility plans and designs, will involve a systematic and thorough review of the plans with a view to identifying and assessing potential hazards and managing the risks by eliminating or minimising their impact. This may well involve amendments to plans, bearing in mind that it is likely to be more cost effective to achieve the management of HAI risk at the planning stage rather than after physical completion.
- 3.13 Issues to be considered include the following:
- while the introduction of people to a healthcare facility immediately introduces challenges in terms of managing infection risk, the design and layout of the healthcare facility should discourage the spread of infection;
 - the design and layout of the healthcare facility should take account of the proposed healthcare procedures and services and the appropriate management of risk required for the range of population groups.
- 3.14 Issues to be considered at the design and planning stage of the development will include:
- an overall assessment of infection and infection spread risk from the design and layout of the healthcare facility;
 - an assessment of infection risk from detailed engineering and building features. Further issues to be considered at this stage might include those set out below.

Logistics

- 3.15 The design of the healthcare facility must realistically consider the logistics of a functioning facility. It is essential that systems are in place which will reduce the risk of spread of infection and resources and personnel are managed so they do not contribute to the risk of infection.
- 3.16 Examples of logistical issues to consider include:
- the delivery and distribution of materials and people via connecting corridors and lifts;
 - the collection, transportation and storage pending removal or management of waste materials;

- clinical workflows.

3.17 These issues require careful planning and design which recognise the potential for infection spread through the mismanagement of such issues.

3.18 Initial planning and design in new builds need to consider:

- numbers of beds;
- provision of single bed rooms ([paragraphs 4.14 and 4.15 in SHFN 30 Part A \(Manual\)](#)) refer;
- appropriate space required between beds;
- design, accessibility and space in patient areas;
- access to equipment around the bed;
- access for staff to hand hygiene facilities;
- sufficient space for equipment (e.g. hoists);
- sanitary facilities and showers/bathrooms for easy access, convenience and independence where possible;
- sufficient space for activities to take place and to avoid transmission of organisms either by air or by contact with blood, body fluid or equipment.

3.19 Particular aspects for consideration include:

- patient groups;
- transmission of micro-organisms:
 - avoiding cross-infection;
 - the environment and its role in cross infection;
 - shared equipment;
 - movement of patients.
- management of patients:
 - clinical pressures;
 - best use of single rooms;
 - avoiding unnecessary movement of patients between areas.
- implications of choosing natural ventilation;
- optional forms of heat emitters;
- provision and pattern of sanitary fitting and types of taps;
- concealment of pipes and ducts;
- importance of maintenance;
- access for maintenance.

- 3.20 HAI-SCRIBE, as applied to healthcare facility plans and designs, will involve a systematic and thorough review of the plans with a view to identifying and assessing potential hazards and managing the risks by eliminating or minimising their impact. This may well involve amendments to plans, bearing in mind that it is likely to be more cost effective to achieve the management of HAI risk at the planning stage rather than after physical completion.
- 3.21 The design and layout of the facility should take account of the proposed healthcare procedures and services and the appropriate management of risk required for the range of population groups.
- 3.22 Reference should also be made to the Questionset applied to the built healthcare facility in operation for more detail of the issues to be addressed in relation to:
- finishes and floors, walls, ceilings, ceiling voids, doors, windows, fixtures and fittings;
 - space around beds;
 - isolation rooms;
 - provision of hand-wash basins, liquid soap dispensers, paper towels and alcohol-based hand rub dispensers;
 - provision of sinks for decontamination purposes;
 - engineering services;
 - storage;
 - laundry and linen services;
 - spaces for large pieces of equipment;
 - disposal of healthcare and food waste.

Development stage 2: Design and planning		
HAI-SCRIBE Name of Project		
Name of Establishment		National allocated number
HAI-SCRIBE Review Team		
HAI – SCRIBE Sign Off		
Completed by (Print name)		Date
Signature(s)		Date
Stage 2		
Additional notes		

Development Stage 2: HAI-SCRIBE applied to the design and planning stage of the development

Issues to be considered at the design and planning stage of the development will include an overall assessment of the project and any infection spread risk from the design and layout of the facility. An assessment of infection risk from detailed engineering and building features should also be undertaken.

Issues to be considered include (but are not limited to) the following:

- the design and layout of the healthcare facility should inhibit the spread of infection;
- the design and layout of the healthcare facility should take account of the healthcare procedures and services to be provided and the appropriate management of risk required for the range of population groups (refer to [Table 2](#)) verification of work carried out);
- finishes and floors, walls, ceilings, doors, windows, fixtures and fittings;
- space around beds;
- isolation rooms;
- provision of hand-wash basins, liquid soap dispensers, paper towel and alcohol hand rub dispensers;
- provision of sinks for decontamination purposes;
- engineering services;
- storage facilities;
- laundry and linen services.

Note: It should be noted that this document can be used for clinical and non clinical areas and some of the questions in the checklist may not apply e.g. building external plant rooms, car parking facilities. In these cases other issues may require to be addressed and the project team should consider these. All additional information should be added to the appropriate section of this document.

Design and Planning: checklist to ensure all aspects have been addressed		
2.a	Brief description of the work being undertaken.	
2.b	Identify any potential hazards associated with this work.	
2.c	Identify any risk associated with the hazards identified above.	
2.d	Outline the control measures that require to be implemented to eliminate or mitigate the identified risks. Ensure these are entered on the project risk register.	
	Control Measures.	
2.e	It has been recognised that control measures identified to address the project risk may have unintended consequences e.g. closure of windows can lead to increased temperatures in some areas. Such issues should be considered at this point, they should be noted and action to address these taken.	
	Potential Problems.	
	Control Measures.	
2.f	Actions to be addressed.	
By		Deadline

General overview		
2.1	<p>In order to minimise the risk of HAI contamination is there separation of dirty areas from clean areas?</p> <p>Have these issues and actions to be taken been noted in actions to be addressed section?</p>	<p>Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/></p> <p>Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/></p>
Comments		
2.2	<p>Are the food preparation areas (including ward kitchens) and distribution systems fit for purpose and complying with current food safety and hygiene standards?</p> <p>Have these issues and actions to be taken been noted in actions to be addressed section?</p>	<p>Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/></p> <p>Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/></p>
Comments		
2.3	<p>Are waste management facilities and systems robust and fit for purpose and in compliance with the Waste (Scotland) Regulations?</p> <p>Consider:</p> <p>Local and central storage</p> <p>Systems for handling and compaction of waste</p> <p>Systems for segregation and security of waste (especially waste generated from healthcare requiring specialist treatment/disposal) to avoid mixing with other waste and recyclates.</p> <p>Have these issues and actions to be taken been noted in actions to be addressed section?</p>	<p>Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/></p> <p>Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/></p> <p>Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/></p> <p>Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/></p> <p>Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/></p>
Comments		

General overview continued		
2.4	<p>Are there satisfactory arrangements for effective management of laundry facilities?</p> <p>Consider:</p> <p>Local and central storage</p> <p>Systems for movement of laundry to central storage</p> <p>Systems for handling laundry</p> <p>Have these issues and actions to be taken been noted in actions to be addressed section?</p>	<p>Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/></p> <p>Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/></p> <p>Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/></p> <p>Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/></p> <p>Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/></p>
Comments		
2.5	<p>Are there sufficient facilities and space for the cleaning and storage of equipment used by hotel services staff?</p> <p>Have these issues and actions to be taken been noted in actions to be addressed section?</p>	<p>Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/></p> <p>Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/></p>
Comments		
2.6	<p>Are staff changing and showering facilities suitably sited and readily accessible for use, particularly in the event of contamination incidents?</p> <p>Have these issues and actions to be taken been noted in actions to be addressed section?</p>	<p>Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/></p> <p>Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/></p>
Comments		
2.7	<p>Is the space around beds for inpatients, day case and recovery spaces in accordance with current relevant NHSScotland guidance?</p>	<p>Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/></p>
Comments		

General overview continued		
2.8	Are there sufficient single rooms to accommodate patients known to be an infection or potential infection risk?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
Comments		
2.9	Are all surfaces, fittings, fixtures and furnishings designed for easy cleaning?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
Comments		
2.10	Are soft furnishings covered in an impervious material in all clinical and associated areas, and are curtains able to withstand washing at disinfection temperatures?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
Comments		
2.11 P	Is the bathroom/shower/toilet accommodation sufficient and conveniently accessible, with toilet facilities no more than 12m from the bed area?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
Comments		
2.12 D	Are the bathroom/shower/toilet facilities easy to clean?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
Comments		
2.13	Where required are there sufficient en-suite single rooms with negative/positive pressure ventilation to minimise risk of infection spread from patients who are a known or potential infection risk?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
Comments		

NB: In the above and following Table “D” refers to “Design” and “P” refers to “Planning”.

Provision of hand-wash basins, liquid soap dispensers, paper towels and alcohol rub dispensers		
2.14	Does each single room have clinical hand-wash basin, liquid soap dispenser, paper towels, and alcohol rub dispenser in addition to the hand-wash basin in the en-suite facility?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
Comments		
2.15	Do intensive care and high dependency units have sufficient clinical hand-wash basins, liquid soap dispensers, paper towels, and alcohol rub dispensers conveniently accessible to ensure the practice of good hand hygiene? An assessment should be made, however, to ensure that there is not an over-provision of hand-wash basins resulting in under-use.	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
Comments		
2.16	Is there provision of clinical hand-wash basins, liquid soap dispensers, paper towels, and alcohol rub dispensers in lower dependency settings like mental health units, acute, elderly and long term care settings appropriate to the situation with a ratio of 1 basin/dispenser to 4–6 beds?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
Comments		
2.17	Do out-patient areas and primary care settings have a clinical hand-wash basin close to where clinical procedures are carried out?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
Comments		
2.18	Do all toilets have a hand-wash basin, liquid soap dispenser and paper towels?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
Comments		
2.19	Are all clinical hand-wash basins exclusively for hand hygiene purposes?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
Comments		

Provision of hand-wash basins, liquid soap dispensers, paper towels and alcohol rub dispensers continued		
2.20	Does each clinical hand-wash basin have wall mounted liquid soap dispenser, paper towel dispenser?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
Comments		
2.21 D	Does each clinical hand-wash basin satisfy the requirement not to be fitted with a plug?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
Comments		
2.22 D	Are elbow-operated or other non-touch mixer taps provided in clinical areas?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
Comments		
2.23 D	Does each hand-wash basin have a waterproof splash back surface?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
Comments		
2.24 D	Is each hand-wash basin provided with an appropriate waste bin for used hand towels?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
Comments		

Provision of facilities for Decontamination LDU		
2.25 D	Are separate, appropriately sized sinks provided locally, where required, for decontamination? (The sinks should be large enough to immerse the largest piece of equipment and there should be twin sinks, one for washing and one for rinsing. A clinical hand-wash basin should be provided close to the twin sinks).	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
Comments		
2.26 P	Are appropriate decontamination facilities provided centrally for sterilisation of specialist equipment?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
Comments		
2.27 P	Is there adequate provision in terms of transport, storage, etc. to ensure separation of clean and used equipment and to prevent any risk of contamination of cleaned equipment?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
Comments		
2.28 P	Does the system in operation comply with the current guidance on decontamination facilities and procedures?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
Comments		

Storage		
2.29 P	Is there suitable and sufficient storage provided in each area of the healthcare facility for the following if required patients' clothes and possessions, domestic cleaning equipment and laundry, large pieces of equipment e.g. beds, mattresses, hoists, wheelchairs, trolleys, and other equipment including medical devices, wound care, and intravenous infusion equipment, consumables etc?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
Comments		
2.30 P	Is there separate, suitable storage for contaminated material and clean material to prevent risk of contamination?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
Comments		
Engineering services (Ventilation)		
2.31 P	Are heat emitters, including low surface temperature radiators, designed, installed and maintained in a manner that prevents build up of dust and contaminants and are they easy to clean?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
Comments		
2.32 D	Is the ventilation system designed in accordance with the requirements of SHTM 03-01 'Ventilation in Healthcare Premises'?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
Comments		
2.33 D	Is the ventilation system designed so that it does not contribute to the spread of infection within the healthcare facility? <i>(Ventilation should dilute airborne contamination by removing contaminated air from the room or immediate patient vicinity and replacing it with clean air from the outside or from low-risk areas within the healthcare facility.)</i>	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
Comments		

Engineering services (Ventilation) continued		
2.34 D	Are the ventilation system components e.g. air handling, ventilation ductwork, grilles and diffusers designed to allow them to be easily cleaned?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
Comments		
2.35 P & D	Are ventilation discharges located a suitable distance from intakes to prevent risk of contamination?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
Comments		
2.36 P	Does the design and operation of re-circulation of air systems take account of dilution of contaminants and the space to be served? <i>(NB: Recirculation would only arise in UCV theatres)</i>	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
Comments		
2.37	Is the ventilation of theatres and isolation rooms in accordance with current guidance?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
Comments		
2.38	Do means of control of pathogens consider whether dilution or entrainment is the more appropriate for particular situations?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
Comments		
2.39	Where ventilation systems are used for removal of pathogens, does their design and operation take account of infection risk associated with maintenance of the system?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
Comments		
2.40	Are specialised ventilation systems such as fume cupboards installed and maintained in accordance with manufacturers' instructions?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
Comments		

Engineering services (Lighting)		
2.41 D	Is the lighting designed so that lamps can be easily cleaned with minimal opportunity for dust to collect?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
Comments		
Engineering services (Water services)		
2.42 D	Are water systems designed, installed and maintained in accordance with current guidance?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
Comments		
2.43	Are facilities available to enable special interventions for <i>Legionella</i> ?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
Comments		
2.44	Is the drainage system design, especially within the healthcare facility building, fit for purpose with access points for maintenance carefully sited to minimise HAI risk?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
Comments		
2.45	Are surface mounted services avoided and services concealed with sufficient access points appropriately sited to ease maintenance and cleaning? (These services would include water, drainage, heating, medical gas, wiring, alarm system, telecoms, equipment such as light fittings, bedhead services, heat emitters.)	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
Comments		

Estates services (Pest control)		
2.46	Is the concealed service ducting designed, installed and maintained to minimise risk of pest infestation?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
Comments		
Estates services (Maintenance access)		
2.47	Does the design and build of the facility allow programmed maintenance of the fabric to ensure the integrity of the structure and particularly the prevention of water ingress and leaks and prevention of pigeon and other bird access?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
Comments		
Additional notes - Stage 2		

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Questionset for construction and refurbishment

Refurbishment of existing healthcare facilities

- 3.23 HAI-SCRIBE would be appropriate in redevelopment and refurbishment situations where the business of the healthcare facility continues concurrently with construction work on site. There are obligations on the contractors to undertake their construction operations in such a way that health and safety and other issues are adequately addressed.
- 3.24 Redevelopment and refurbishment of healthcare facilities in Scotland are common and the kind of work involved is varied.
- 3.25 In assessing the hazards of the above construction activities and the management of the potential risks, account has to be taken of the exposed population (in this case the patients), staff and visitors likely to be affected.
- 3.26 A range of precautions is needed to eliminate or manage the risk of infection.
- In order to ensure the risk of infection is minimised during construction works consideration must be given to:
 - the type of construction/refurbishment work being carried out ([Table 1](#));
 - the population group being treated ([Table 2](#));
 - the risk associated with these two factors ([Table 3](#)).

Table 1 highlights different types of construction/refurbishment activities likely to take place in the healthcare facility.

Table 2 highlights the different population groups within the healthcare facility and the risk associated with each group.

Table 3 estimates the overall risk of infection arising and indicates the level of precaution that should be implemented.

Note: [Appendices 4-8](#) show a proposed process chart for each type of activity.

Type	Construction/Refurbishment Activity
Type 1	Inspection and non-invasive activities. Includes, but is not limited to, removal of ceiling tiles or access hatches for visual inspection, painting which does not include sanding, wall covering, electrical trim work, minor plumbing and activities which do not generate dust or require cutting of walls or access to ceilings other than for visual inspection.
Type 2	Small scale, short duration activities which create minimal dust. Includes, but is not limited to, installation of telephone and computer cabling, access to chase spaces, cutting of walls or ceiling where dust migration can be controlled.
Type 3	Any work which generates a moderate to high level of dust, aerosols and other contaminants or requires demolition or removal of any fixed building components or assemblies. Includes, but is not limited to, sanding of walls for painting or wall covering, removal of floor coverings, ceiling tiles and casework, new wall construction, minor duct work or electrical work above ceilings, major cabling activities, and any activity which cannot be completed within a single work shift.
Type 4	Major demolition and construction projects. Includes, but it not limited to, activities which require consecutive work shifts, requires heavy demolition or removal of a complete cabling system, and new construction.

Table 1: Redevelopment and refurbishment construction activity.

Risk to patients of infection from construction work in healthcare premises, by clinical areas	
Risk rating	Area
Group 1 Lowest risk	<ol style="list-style-type: none"> Office areas; Unoccupied wards; Public areas/Reception; Custodial facilities; Mental Health facilities.
Group 2 Medium risk	<ol style="list-style-type: none"> All other patient care areas (unless included in Group 3 or Group 4); Outpatient clinics (unless in Group 3 or Group 4); Admission or discharge units; Community/GP facilities; Social Care or Elderly facilities.
Group 3 High risk	<ol style="list-style-type: none"> A & E (Accident and Emergency); Medical wards; Surgical wards (including Day Surgery) and Surgical outpatients; Obstetric wards and neonatal nurseries; Paediatrics; Acute and long-stay care of the elderly; Patient investigation areas, including; <ul style="list-style-type: none"> Cardiac catheterisation; Invasive radiology; Nuclear medicine; Endoscopy. <p>Also (indirect risk)</p> <ol style="list-style-type: none"> Pharmacy preparation areas; Ultra clean room standard laboratories (risk of pseudo-outbreaks and unnecessary treatment); Pharmacy Aseptic suites.
Group 4 Highest Risk	<ol style="list-style-type: none"> Any area caring for immuno-compromised patients*, including: <ul style="list-style-type: none"> Transplant units and outpatient clinics for patients who have received bone marrow or solid organ transplants; Oncology Units and outpatient clinics for patients with cancer; Haematology units Burns Units. All Intensive Care Units; All operating theatres; <p>Also (indirect risk)</p> <ol style="list-style-type: none"> CSSUs (Central Sterile Supply Units).

Table 2: The different areas within the healthcare facility and the risk associated with each area.

Immuno-compromised patients are:

- those patients whose immune mechanisms are deficient because of immunologic disorders (e.g. human immunodeficiency virus [HIV] infection or congenital immune deficiency syndrome);
- patients with chronic diseases (e.g. diabetes, cancer, emphysema, or cardiac failure);
- patients undergoing immuno-suppressive therapy (e.g. radiation, cytotoxic chemotherapy, anti-rejection medication, or steroids. (CCDR 2001).

Immuno-compromised patients who are identified as high-risk patients have the greatest risk of infection caused by airborne or waterborne micro-organisms. Patients in this subset include:

- persons who are severely neutropenic for prolonged periods of time (ie an absolute neutrophil count [ANC] of ≤ 500 cells/mL);
- allogeneic Haemopoietic Stem Cell Transplantation patients;
- renal dialysis patients;
- those who have received the most intensive chemotherapy (e.g. childhood acute myelogenous leukaemia patients). (CDC 2003).

Immuno-suppressive conditions identified as risk factors for construction-related nosocomial fungal infections include:

- graft-versus-host disease requiring treatment;
- prolonged neutropenia or granulocytopenia because of cytotoxic chemotherapy;
- prolonged use of antibiotics; and steroid therapy. (CCDR 2001).

Other risk factors for the development of *aspergillosis* include dialysis and mechanical ventilation, smoking and patient age, the very young and very old being at greater risk.

	Construction Project Type			
Patient Risk Group	TYPE 1	TYPE 2	TYPE 3	TYPE 4
Lowest Risk	Class I	Class II	Class II	Class III/IV
Medium Risk	Class I	Class II	Class III	Class IV
High Risk	Class I	Class II	Class III/IV	Class IV
Highest Risk	Class II	Class III/IV	Class III/IV	Class IV

Table 3: Estimates the overall risk of infection arising and will indicate the class of precaution that should be implemented.

3.27

Having highlighted the overall degree of infection risk, appropriate infection prevention and control measures can be implemented to manage or eliminate the risk of transmission. [Table 4](#) highlights the appropriate prevention and

control of infection precautions. [Appendices 4-8](#) give an indication of how this can be processed.

- 3.28 Consideration should be given to the likelihood of patient movement outwith their speciality care area and the need for appropriate measures to control infection risk.

Surveillance and monitoring during renovation or construction work

- 3.29 There have been several documented outbreaks due to construction work however routine bacteriological sampling of floors, walls, surfaces and air is rarely indicated.

Note: The need for additional surveillance and environmental monitoring may be identified by the Project Team through risk assessment.

- 3.30 In 1995 there was widespread contamination of potable water with *Legionella pneumophila* during a period of major construction resulting in two fatal cases of healthcare associated *Legionellosis*. Multiple outbreaks of healthcare associated *Aspergillosis* have also been described, including one specifically attributed to hospital renovation. It has been suggested that heightened surveillance and preventive measures may be warranted during periods of excavation on hospital grounds or when potable water supplies are otherwise shut down and later depressurised.
- 3.31 Since the airborne spores of *Aspergillus* spp. can travel significant distances, this will apply generally to all works in the immediate vicinity or within the boundary of the healthcare site.

Some further points for consideration

- 3.32 It is necessary to ensure that robust documentary evidence can be provided when considering the above issues. This will ensure that facts and data are available for reference at future stages of the project.
- 3.33 Barriers with signage will require to be positioned to make staff, patients and visitors aware of works.
- 3.34 There are key issues to be considered in assessing the hazard with a view to managing the risk. Therefore, in each situation where there is to be construction and refurbishment or repair work, the multi-disciplinary team of specialists referred to in Section 2 entitled “Assembling the Project Team” should be involved and the following questions need to be addressed.

Certain situations will require the use of barrier structures to contain contamination whilst others will require different measures eg a change of process. Therefore the following questions need to be addressed for each of these situations:

Control measures			
	During Construction Work	After Construction Work	By
Class I	<ul style="list-style-type: none"> Execute work by methods to minimise raising dust from construction operations; Immediately replace any ceiling tiles displaced during inspection. 	<ul style="list-style-type: none"> Clean areas by damp dusting with neutral detergent in warm water; Vacuum floor and damp mop. 	<p>Request via domestic supervisor.</p> <p>Request via domestic supervisor.</p>
Class II	<ul style="list-style-type: none"> Provide active means to prevent airborne dust from dispersing into atmosphere; Water mist work surfaces to control dust while cutting; Seal unused doors with duct tape; Block off and seal air vents; Place dust mat at entrance and exit of work area; Remove or isolate HVAC system in areas where work is being performed. 	<ul style="list-style-type: none"> Dampwork surfaces and ledges with neutral detergent solution; Contain construction waste before transport in tightly covered containers; Damp mop and/or vacuum with HEPA filtered vacuum before leaving work area; Remove isolation of HVAC system in areas where work is being performed. 	<p>Request via domestic supervisor.</p> <p>Estates staff.</p> <p>Request via domestic supervisor.</p> <p>Estates staff.</p>
Class III	<ul style="list-style-type: none"> Remove or Isolate HVAC system in area where work is being done to prevent contamination of duct system; Complete all critical barriers eg plasterboard, plywood, plastic, to seal area from non work area or implement control cube method (cart with plastic covering and sealed connection to work site with HEPA vacuum for vacuuming prior to exit) before construction begins; Maintain negative air pressure within work site utilizing HEPA equipped air filtration units; Contain construction waste before transport in tightly covered containers; Cover transport receptacles or carts. Tape covering unless solid lid. 	<ul style="list-style-type: none"> Do not remove barriers from work area until completed project is inspected by the Board's Health & Safety representative and Infection Control Department and thoroughly cleaned by the Board's domestic services staff; Remove barrier materials carefully to minimise spreading of dirt and debris associated with construction; Vacuum work area with HEPA filtered vacuums; Damp mop area with neutral detergent and warm water; Remove isolation of HVAC system in areas where work is being performed. 	<p>Request by Estates Dept.</p> <p>Contractor/Estates Staff.</p> <p>Request via domestic supervisor.</p> <p>Request via domestic supervisor.</p> <p>Contractor/Estates Staff.</p>

Table 4: Describes the required Infection Control Precautions depending on class of risk

	During Construction Work	After Construction Work	By
Class IV	<ul style="list-style-type: none"> Isolate HVAC system in area where work is being done to prevent contamination of duct system; Complete all critical barriers eg plasterboard, plywood, plastic to seal area from non work area or implement control cube method (cart with plastic covering and sealed connection to work site with HEPA vacuum for vacuuming prior to exit) before construction begins; Maintain negative air pressure within work site utilizing HEPA equipped air filtration units; Seal holes, pipes, conduits, and punctures appropriately; Construct anteroom and require all personnel to pass through this room so they can be vacuumed using a HEPA vacuum cleaner before leaving work site or they can wear cloth or paper coveralls that are removed each time they leave the work site; All personnel entering work site are required to wear shoe covers. Shoe covers must be changed each time the worker exits the work area; Do not remove barriers from work area until completed project is inspected. 	<ul style="list-style-type: none"> Remove barrier material carefully to minimise spreading of dirt and debris associated with construction; Contain construction waste before transport in tightly covered containers; Cover transport receptacles or carts. Tape covering unless solid lid; Vacuum work area with HEPA filtered vacuums; Damp dust area with neutral detergent and warm water; Scrub floor area with neutral detergent in warm water; Remove isolation of HVAC system in areas where work is being performed. 	<p>Contractor.</p> <p>Contractor.</p> <p>Contractor.</p> <p>Request via domestic supervisor.</p> <p>Request via domestic supervisor.</p> <p>Contractor/Estates Staff.</p>

Table 4 continued: Describes the required Infection Control Precautions depending on class of risk

Note: Temporary critical barrier partitions should be inspected and their condition monitored and signed off on a daily basis to assess any damage, gaps, etc. Polythene sheeting and tape would only be suitable in small areas for limited periods.

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Development stage 3: HAI-SCRIBE applied to the proposed site for development Prior to the commencement of work		
3.1.1	Brief description of the work being carried out.	
3.1.2	Using the matrix above establish the type and extent of construction and refurbishment /repair work, patients at risk and level of control measures.	
Type of work.		
Patient risk group.		
Risk class.		
3.1.3	Identify any potential hazards associated with this work.	
3.1.4	Identify any risk associated with the hazards identified above.	
3.1.5	Outline the control measures that require to be implemented to eliminate or mitigate the identified risks. Ensure these are entered on the project risk register.	
Control measures		
3.1.6	It has been recognised that control measures identified to address the project risk may have unintended consequences e.g. closure of windows can lead to increased temperatures in some areas. Such issues should be considered at this point, they should be noted and action to address these taken.	
Potential problems		
Control measures		
3.1.7	Actions to be addressed	
By		Deadline

In terms of infection risk have the following been addressed		
3.2.1	<p>The population groups most susceptible to infection.</p> <p>Items to be considered:</p> <p>Adjacent rooms, wards and departments</p> <p>Relocation of susceptible patients</p> <p>Have these issues and actions to be taken been noted in actions to be addressed section?</p>	<p>Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/></p> <p>Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/></p> <p>Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/></p> <p>Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/></p>
Comments		
3.2.2	<p>The hours of operation of the construction work and the impact of this on the clinical area.</p> <p>Have these issues and actions to be taken been noted in actions to be addressed section?</p>	<p>Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/></p> <p>Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/></p>
Comments		
3.2.3	<p>Separation of construction and healthcare activities including delivery and supply routes, removal of waste and patient transfers.</p> <p>Have these issues and actions to be taken been noted in actions to be addressed section?</p>	<p>Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/></p> <p>Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/></p>
Comments		
3.2.4	<p>The construction of temporary barriers and/or sealing of doors and windows to minimise contamination of the environment by dust and potentially infectious particles created during the construction works.</p> <p>Have these issues and actions to be taken been noted in actions to be addressed section?</p>	<p>Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/></p> <p>Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/></p>
Comments		

In terms of infection risk have the following been addressed continued		
3.2.5	<p>Airflow patterns including:</p> <p>Internal and external ventilation systems</p> <p>Exhaust ventilation</p> <p>Sealing of doors and windows</p> <p>Oxygen and Suction points</p> <p>Air handlers, coils, fans and grilles</p> <p>Have these issues and actions to be taken been noted in actions to be addressed section?</p>	<p>Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/></p> <p>Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/></p> <p>Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/></p> <p>Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/></p> <p>Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/></p> <p>Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/></p>
Comments		
3.2.6	<p>Work with sinks or plumbing which could give rise to aerosol water droplets in high risk areas.</p> <p>Have these issues and actions to be taken been noted in actions to be addressed section?</p>	<p>Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/></p> <p>Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/></p>
Comments		
3.2.7	<p>Impact on stock storage areas including:</p> <p>Sterile and non-sterile items</p> <p>Patient care equipment</p> <p>Medications</p> <p>Medical records and documentation</p> <p>Linen and waste facilities including sharps</p> <p>Have these issues and actions to be taken been noted in actions to be addressed section?</p>	<p>Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/></p> <p>Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/></p> <p>Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/></p> <p>Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/></p> <p>Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/></p> <p>Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/></p>
Comments		

During the construction phase have the following been addressed?		
3.3.1	<p>Where external work is being carried out:</p> <p>Prevention of insect and rodent entry and prevention of weather/water entry to internal areas during the construction phase.</p> <p>Have these issues and actions to be taken been noted in actions to be addressed section?</p>	<p>Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/></p> <p>Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/></p>
Comments		
3.3.2	<p>Cleaning of site and adjacent areas both during the construction phase and prior to handover.</p> <p>Have these issues and actions to be taken been noted in actions to be addressed section?</p>	<p>Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/></p> <p>Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/></p>
Comments		
3.3.3	<p>Enforcement of control and reporting system to ensure compliance with above issues.</p> <p>Have these issues and actions to be taken been noted in actions to be addressed section?</p>	<p>Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/></p> <p>Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/></p>
Comments		
Additional notes - Stage 3		

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Contractor Endorsement Certificate

(I) Statement of Intent:

Healthcare Associated Infection (HAI) is a complex issue involving the many different elements of patient care and provision. Due to its multi-factorial nature, there is a need to develop a holistic approach to minimising the risk of infection in the built environment.

NHS National Services Scotland Health Facilities Scotland (NSS HFS), in conjunction with other organisations, has endeavoured comprehensively to tackle this situation through the creation of documents such as the 'Healthcare Associated Infection System for Controlling Risk of Infection In the Built Environment': (HAI-SCRIBE) comprising 'Scottish Health Facilities Note (SHFN) 30: Parts A & B.

Non-application of these documents is extremely detrimental in preventing the spread of infection and to the healthcare sector in general. In certifying this endorsement you verify that you will endeavour to do all within your power to aid in this process and reduce the risk of infection within the built environment.

(II) Certification of the following documents;

'Healthcare Associated Infection System for Controlling Risk In the Built Environment' (HAI-SCRIBE) comprising 'Scottish Health Facilities Note (SHFN) 30': Parts A & B.

(III) Declaration:

We hereby certify that we agree to co-operate in the application of, on whole or where applicable to the aforementioned documentation and any amendment /revision forthwith enclosed or existing at the time of this declaration.

Name (please print) _____

Signed _____

Designation _____

Company Name _____

Witnessed by (please print) _____

Signed _____

Designation _____

Company Name _____

Questionset for pre-handover check - Ongoing use of HAI-SCRIBE in an existing healthcare facility

- 3.35 Once a Project (new build or refurbishment) is ready for operation, This Questionset would be used as an assessment that the outcomes from the earlier Questionsets have been successfully fulfilled. The Questionset relevant to this stage should be seen as a final, pre-handover checklist that everything briefed has been provided.

Design in use

- 3.36 Within the built healthcare facility it is important to ensure there will be an ongoing application of HAI-SCRIBE. This is a verification process of particular importance not only where there are subsequent alterations to the building, but also to arrangements within the building, and to procedures and practices. The three key stages involved in HAI-SCRIBE have a continuous application:
- identifying the hazard;
 - assessing the risk from the identified hazard;
 - managing the risk to eliminate or minimise impact.

Physical monitoring

- 3.37 Physical monitoring of the healthcare environment includes temperature, humidity, air change rates, leak rates, direction of air and water flow, particle counts and filter efficiency.
- 3.38 Testing methods can help ensure that environmental conditions in the healthcare facility are such that they do not contribute to the spread of infection.
- 3.39 Stagnant air, possibly through poor ventilation, can contribute to fungal contamination whilst excessive air turbulence can increase airborne particulate levels and contribute to the dispersal of micro-organisms.
- 3.40 Visual inspection must be part of physical monitoring to ensure for instance that filters are fitted correctly, that surfaces are smooth, impermeable, free of cracks and joins, and without the accumulation of dust which may harbour fungi and bacteria.

Microbial monitoring

- 3.41 In terms of quality assurance, microbial monitoring may be required on the advice of the Project Team. Microbial sampling of the air, water and surfaces of the healthcare facility has an important role to play in helping combat the spread of infection within the built healthcare environment.
- 3.42 NHS Boards should have a formal protocol for infection prevention and control monitoring of the built healthcare environment with regard to the prevention and control of infection. When sampling of the area is carried out, the laboratory should have appropriate accreditation for carrying out the sampling. Some

sampling may have to be performed in response to an investigation of an outbreak of infection. Results obtained should be interpreted using scientifically established baseline values for comparison e.g. Health and Safety Executive guidelines. On completion of analysis, actions to be implemented should be based on the results obtained.

- 3.43 It may be necessary for an NHS Board to seek specialist advice on microbial monitoring protocols to allow the Project Team to take responsibility. Areas where the built environment is suspected of contributing to the spread of infection or where construction or refurbishment work is proposed should be referred to the Infection Prevention and Control Team for consideration of monitoring and advice as appropriate.

Feedback

- 3.44 The Scottish Capital Investment Manual states that feedback is a mandatory requirement as part of Post Project Evaluation to ensure lessons are learned and disseminated for future projects.

HAI-SCRIBE auditing of accommodation *in use* should also make use of the following questionsets:

Development stage 4: Review of completed project	
HAI-SCRIBE Name of project	
Name of Establishment	National allocated number
HAI-SCRIBE Review Team	
HAI-SCRIBE Sign Off	
Completed by (Print name)	Date
Signature(s)	Date
Stage 4	
Additional notes	

General overview		
4.1	Is the space around beds in accordance with current NHSScotland guidance?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
4.2	Are there sufficient single rooms to accommodate patients known to be an infection of potential infection risk?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
4.3	Are all surfaces, fittings, fixtures and furnishings designed for easy cleaning?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
4.4	Are soft furnishings covered in an impervious material in all clinical and associated areas, and are curtains able to withstand washing at disinfection temperatures?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
4.5	Is the bathroom/shower/toilet accommodation sufficient and conveniently accessible, with toilet facilities no more than 12m from the bed area?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
4.6	Are the bathroom/shower/toilet facilities easy to clean?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
4.7	Where required are there sufficient en-suite single rooms with negative/positive pressure ventilation to minimise risk of infection spread from patients who are a known or potential infection risk?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
Provision of hand-wash basins, liquid soap dispensers, paper towels and alcohol rub dispensers		
4.8	Does each single room have a clinical hand-wash basin, liquid soap dispenser, paper towels, and alcohol rub dispenser over and above the hand-wash basin in the en-suite facility?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
4.9	Do intensive care and high dependency units have sufficient clinical hand wash basins, liquid soap dispensers, paper towels, and alcohol rub dispensers conveniently accessible to ensure the practice of good hand hygiene? An assessment should be made, however, to ensure that there is not an over-provision of hand-wash basins resulting in under-use.	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
4.10	Is there provision of clinical hand-wash basins, liquid soap dispensers, paper towels, and alcohol rub dispensers in lower dependency settings like mental health units, acute, elderly and long term care settings appropriate to the situation with a ratio of 1 basin/dispenser to 4–6 beds?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
4.11	Do out-patient areas and primary care settings have a clinical hand-wash basin close to where clinical procedures are carried out?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
4.12	Do all toilets have a hand-wash basin, liquid soap dispenser and paper towels?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
4.13	Are all clinical hand-wash basins exclusively for hand hygiene purposes?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
4.14	Does each clinical hand-wash basin have wall mounted liquid soap dispenser, paper towel dispenser?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>

Provision of hand-wash basins, liquid soap dispensers, paper towels and alcohol rub dispensers continued		
4.15	Does each clinical hand-wash basin satisfy the requirement not to be fitted with a plug?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
4.16	Are elbow-operated or other non-touch mixer taps provided in clinical areas?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
4.17	Does each hand-wash basin have a waterproof splash back surface?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
4.18	Is each hand-wash basin provided with an appropriate waste bin for used hand towels?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
Provision of facilities for Decontamination		
4.19	Are separate, appropriately sized sinks provided locally, where required, for decontamination? <i>(The sinks should be large enough to immerse the largest piece of equipment and there should be twin sinks, one for washing and one for rinsing. A clinical hand-wash basin should be provided close to the twin sinks).</i>	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
4.20	Are appropriate decontamination facilities provided centrally for sterilisation of specialist equipment?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
4.21	Is there adequate provision in terms of transport, storage, etc. to ensure separation of clean and used equipment and to prevent any risk of contamination of cleaned equipment?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
4.22	Does the system in operation comply with the current guidance on decontamination facilities and procedures?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
Storage		
4.23	Is there suitable and sufficient storage provided in each area of the healthcare facility for the following if required patients' clothes and possessions, domestic cleaning equipment and laundry, large pieces of equipment e.g. beds, mattresses, hoists, wheelchairs, trolleys, and other equipment including medical devices, wound care, and intravenous infusion equipment, consumables etc?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
4.24	Is there separate, suitable storage for contaminated material and clean material to prevent risk of contamination?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>

Engineering services (Ventilation)		
4.25	Are heat emitters, including low surface temperature radiators, designed, installed and maintained in a manner that prevents build up of dust and contaminants and are they easy to clean?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
4.26	Is the ventilation system designed in accordance with the requirements of SHTM 03-01 'Ventilation in Healthcare Premises'?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
4.27	Is the ventilation system designed so that it does not contribute to the spread of infection within the healthcare facility? (Ventilation should dilute airborne contamination by removing contaminated air from the room or immediate patient vicinity and replacing it with clean air from the outside or from low-risk areas within the healthcare facility.)	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
4.28	Are the ventilation system components e.g. air handling, ventilation ductwork, grilles and diffusers designed to allow them to be easily cleaned?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
4.29	Are ventilation discharges located a suitable distance from intakes to prevent risk of contamination?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
4.30	Does the design and operation of re-circulation of air systems take account of dilution of contaminants and the space to be served? (NB: Recirculation would only arise in UCV theatres)	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
4.31	Is the ventilation of theatres and isolation rooms in accordance with current guidance SHTM 03-01, SHPN 04-01 Supplement 1 and the Scottish Hospital Infection Manual)?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
4.32	Do means of control of pathogens consider whether dilution or entrainment is the more appropriate for particular situations?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
4.33	Where ventilation systems are used for removal of pathogens, does their design and operation take account of infection risk associated with maintenance of the system?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
4.34	Are specialised ventilation systems such as fume cupboards installed and maintained in accordance with manufacturers' instructions?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
Engineering services (Lighting)		
4.35	Is the lighting designed so that lamps can be easily cleaned with minimal opportunity for dust to collect?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
Engineering services (Vacuum Units)		
4.36	Are vacuum-controlled units with overflow protection devices for mechanical suction used to avoid contaminating the system with aspirated body fluid?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>

Engineering services (Water services)		
4.37	Are water systems designed, installed and maintained in accordance with current guidance? (SHTM 04-01 series – Water safety)	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
4.38	Are facilities available to enable special interventions for <i>Legionella</i> such as chlorination/chlorine dioxide, copper/silver ionisation treatment of water?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
4.39	Is the drainage system design, especially within the healthcare facility building, fit for purpose with access points for maintenance carefully sited to minimise HAI risk?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
4.40	Are surface mounted services avoided and services concealed with sufficient access points appropriately sited to ease maintenance and cleaning? (These services would include water, drainage, heating, medical gas, wiring, alarm system, telecoms, equipment such as light fittings, bedhead services, heat emitters.)	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
Estates services (Pest control)		
4.41	Is the concealed service ducting designed, installed and maintained to minimise risk of pest infestation?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
Estates services (Maintenance access)		
4.42	Does the design and build of the facility allow programmed maintenance of the fabric to ensure the integrity of the structure and particularly the prevention of water ingress and leaks and prevention of pigeon and other bird access?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
Additional notes – Stage 4		

Development stage 4: HAI-SCRIBE Review of completed project	
4.43	Brief description of the work carried that was carried out.
4.44	Identify any issues associated with this work.
4.45	Identify any risk associated with the issues identified above.
4.46	Outline the measures that required to be implemented to eliminate or mitigate the identified issues. Ensure these are entered on the project risk register.

Appendix 1

Construction and Refurbishment Stage – Minor Works

Work in progress

Form to be submitted to the Project Team before work commences, with minimum monthly updates for the duration of complex/long-term projects.

Name of person completing: _____

Date: _____

Project <i>(brief Summary including site, specialty)</i>				
New build	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
Redesign	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
Near patient activity likely	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
Date of initial meeting _____ Work expected to commence _____ Work due for completion _____				

Responsible Officers

Department	Name	Designation
Estates & Property		
Infection prevention & Control		
Domestic Services		
Health & Safety		
Procurement		
Clinical representative		

While work is being carried out and particularly where there are building activities in or near patients' areas there should be regular, recorded visits and inspections to the site by appropriate members of the group.

Issues to be considered for Construction and Refurbishment Stage

This is not exhaustive and, depending on the specialty and facility; there may be further issues which require consideration.

Onsite contractors aware of safety measures	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
Limited spread of dust	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
Additional cleaning ongoing	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
Water/ventilation to surrounding areas isolated	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
Staff in surrounding areas satisfied with precautions	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>

The answers to the questions above should be "yes". Where a potential hazard is identified a careful assessment of that hazard must be undertaken.

Additional Issues/Potential Hazards
Discussion
Outcome

Appendix 2

Commissioning Stage

To be with Project Team before expected completion date.

Name: _____ Date: _____

Project <i>(brief Summary including site, specialty)</i>				
New build	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
Redesign	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
Near patient activity likely	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
Date of initial meeting _____ Work commenced _____ Work completed _____				

Responsible Officers

Department	Name	Designation
Estates & Property		
Infection Prevention & Control		
Domestic Services		
Health & Safety		
Microbiology		

Appendix 3

Permission to Work (if necessary)

Description of work to be completed:

Specific area e.g. room number within ward area.

Risk assessment completed

Yes

☐

No

☐

Signature _____ Date _____

Risks identified

Comments/Actions taken

Date work planned _____

Estimated completion _____

Nurse in charge Signature _____ Date _____

Acceptance of work

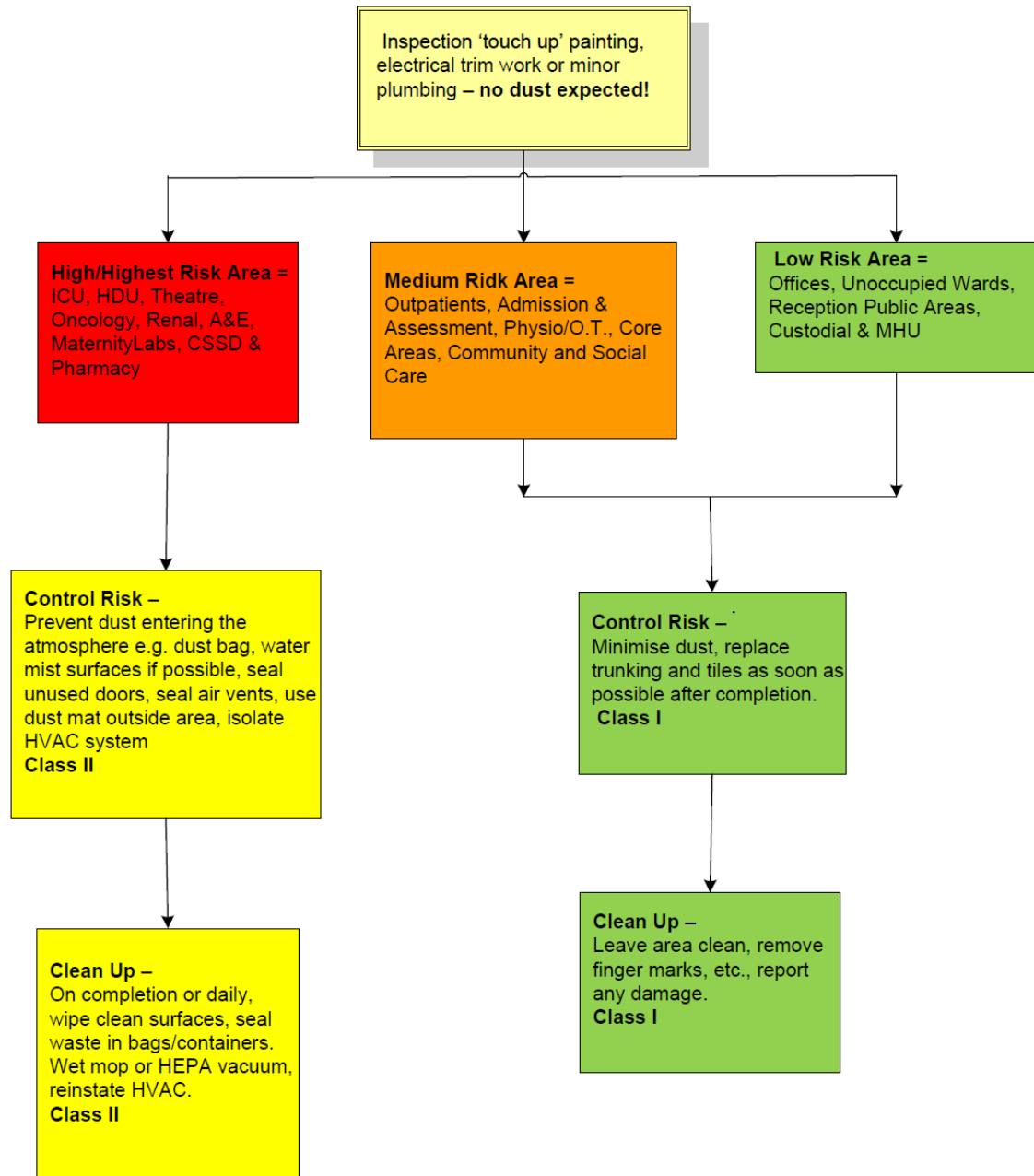
Sister/Charge Nurse acceptance of work on completion _____

Estates Officer Signature _____

Comments:

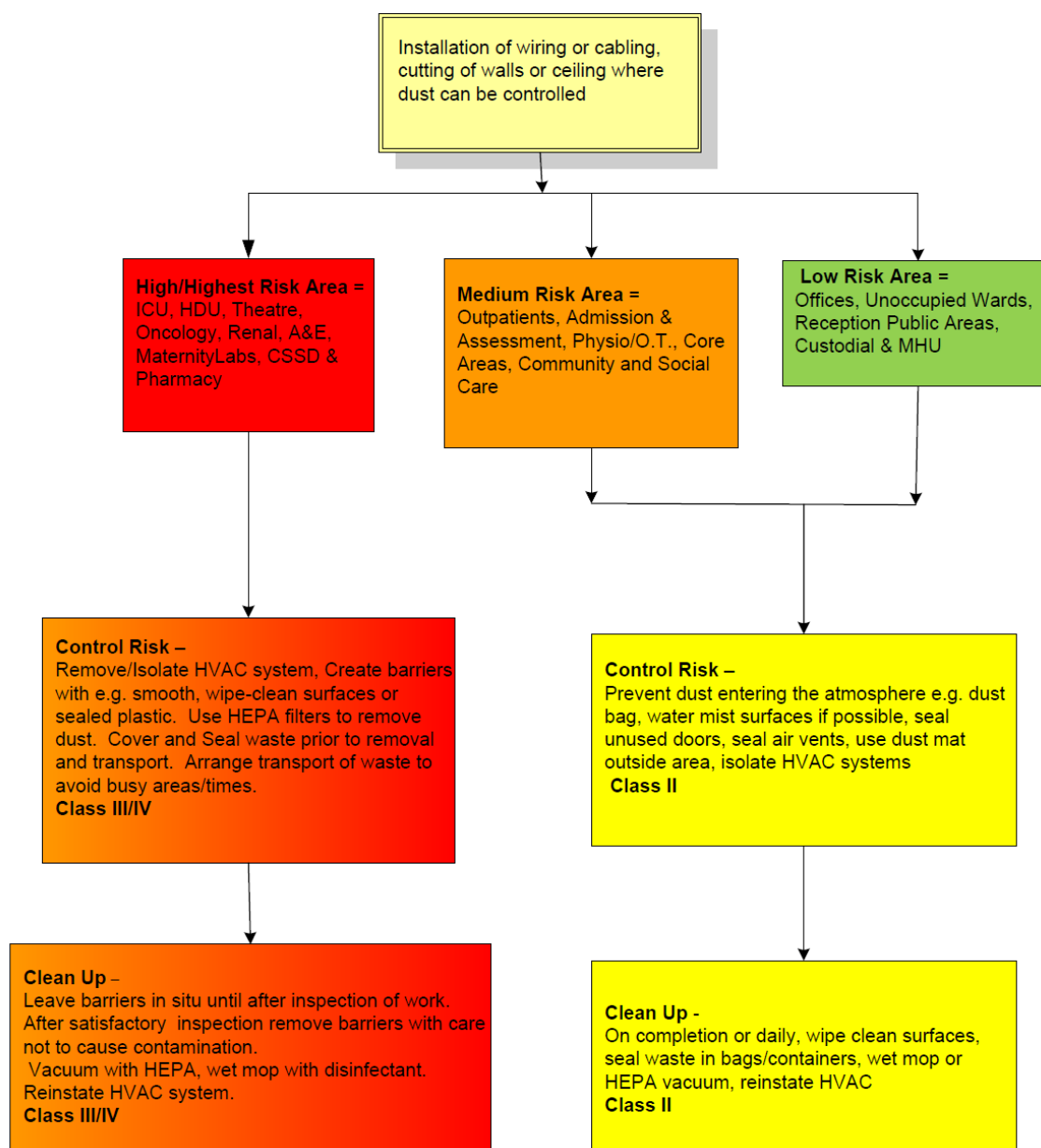
Appendix 4

Minor Works and Small Repairs



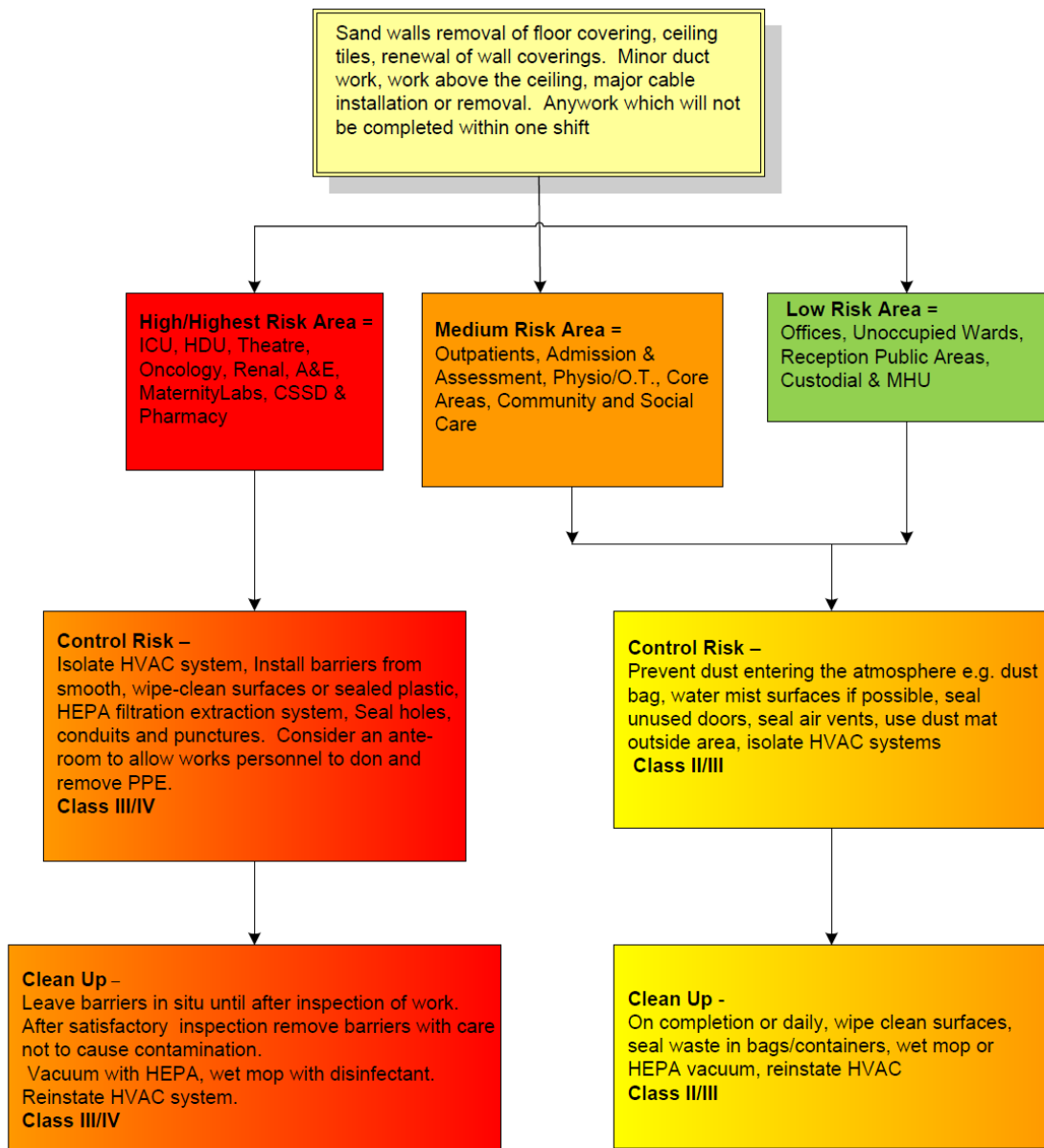
Appendix 5

Small Scale Work



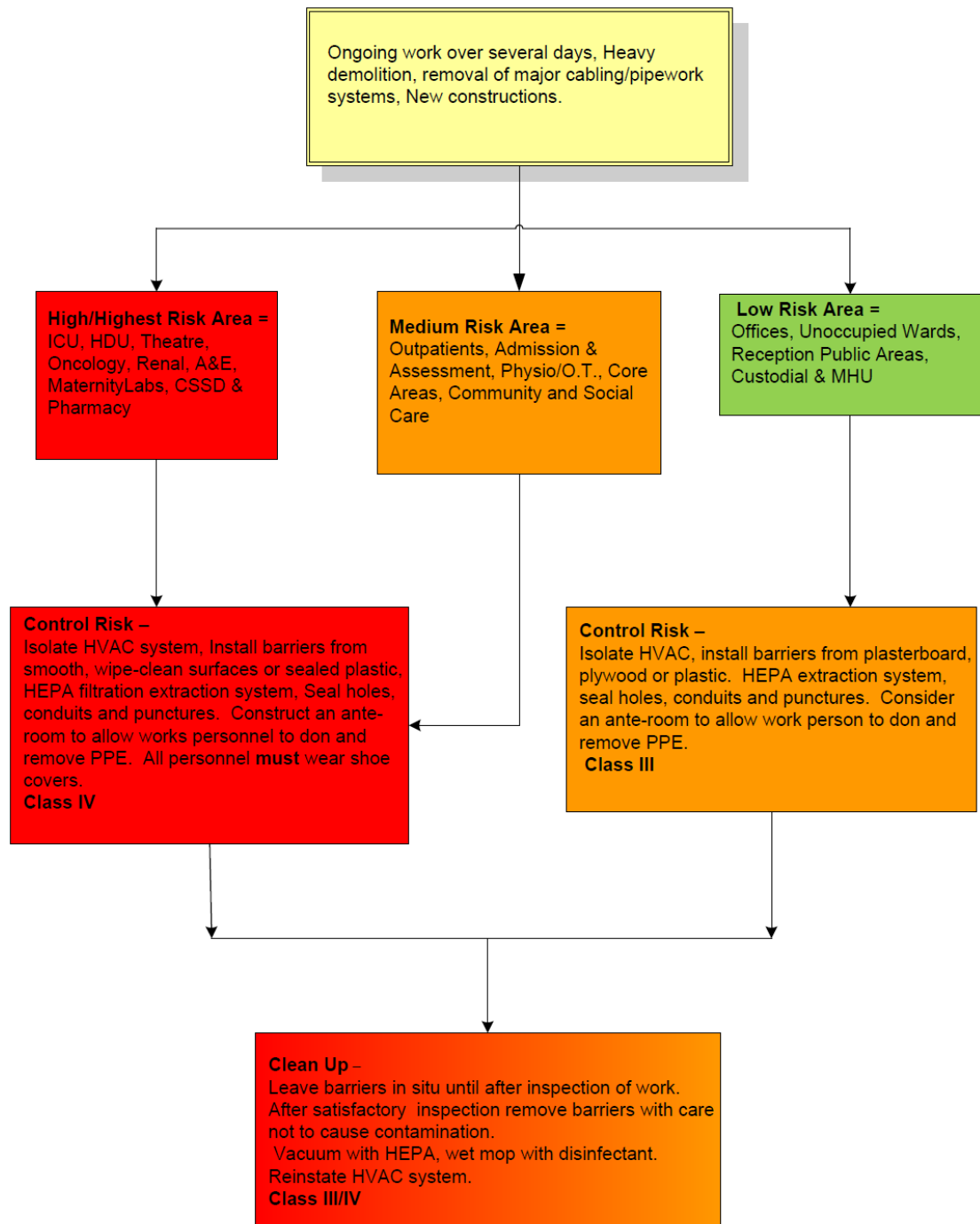
Appendix 6

Demolition work or removal of fixed structures or work where moderate-high level dust expected



Appendix 7

Major demolition work and construction



Appendix 8

A typical exemplar is set out below comprising an overview of various ongoing HAI-SCRIBE activities for minor works. The entries are fictitious.

HAI-SCRIBE Reg No.	Date of issue by	Site location	Project details	Stage	Risk level	Date Assess review (optional)	Date Assess complete	Date Project started	Date Project finished	Comments
W/1	11-8-12 IGS	West ward block, Level 3	Painting bedrooms	Stage 3	Low	N/A	N/A	01/10/2012	30/10/2012	Access problems
L/6	20-8-12 BB	Lab Block	Replacing defective pipework at risers	Stage 3	Low	N/A	N/A	03/09/2012	05/10/2012	No issues
W/12	02/09/2012 WD	East ward block isolation rooms	HEPA filter replacement	Stage 3	Low/Medium	05/09/2012	Cancelled			Bedroom occupied
D/23	06/10/2012 FF	Dining Room entrance	Replacement floor covering	Stage 3	Low/Medium		31/10/2012	15/11/2012	Delayed	Asbestos found

Appendix 9

The following sets out typical NHS Board organisation showing the inter-relationship between the Board's internal organisation and external resources, when employed. This should be read in conjunction with Section 2.

NHS Board internal organisation

- **NHS Board** - should monitor cost and progress of all capital investment projects at regular meetings. If problems are identified, it needs to be satisfied that appropriate steps are being taken to resolve them;
- **Chief Executive Officer (CEO)** – accountable to the NHS Board and perhaps the only person with total responsibility for project and any other related activities. The CEO takes responsibility for management of all major capital schemes at all stages of the process from inception to post project evaluation;
- **Project Board** - comprising senior staff within the NHS Board who are responsible for the project and whose activities will be affected by the project, such as staff from clinical areas including infection prevention and control specialists and Estates & Facilities managers;
- **Project Director** - responsible for overall project management also managing the NHS Board's interest in the Project. Other responsibilities include evaluating competence of and appointing Consultants and Contractors who will undertake design and construction activity and acting as point of contact in dealings with Contractors;
- **Estates Adviser** - experienced in procuring construction, design and operation of healthcare facilities;
- **User Panel** - representatives of each of the relevant service departments, in each case authorised to define their department's needs and to review and agree how those needs are to be met.

NHS Board External resources:

- **Project Manager** – NHS Boards do not necessarily have capacity in-house to develop and manage all aspects of the project, therefore it is often necessary to appoint external Consultants. The Project Manager's role is to provide a single point of responsibility for the project brief and design. A list of responsibilities is set out in [paragraph 2.7](#).
- **External Consultants** – this includes CDM Coordinator, Medical Planners, Designers and Contractor. They are managed by the Project Manager, appointed by the Project Director. However, their responsibility will be to, and their contracts with, the NHS Board.

Appendix 10

Exemplar questionset

Initial Brief and proposed Site for development identification of hazards, associated risks and control measures		
1.a	Brief description of the proposed development project and the planned development site	New build two-storey development at Lochee Hospital comprising treatment wards and clinics for haematology patients.
1.b	Identify any potential hazards associated with the design and/or proposed site.	Adjacent brewery has cooling towers on site.
1.c	Identify any risk associated with the hazards above	There is the potential for air with water-borne bacteria to be drawn into the new accommodation.
1.d	Outline the control measures that require to be implemented to eliminate or mitigate the identified risks. Ensure these are entered on the project risk register.	Windows may require to be non openable and mechanical ventilation relied upon. Air intakes will have to be located on the lee side of the building.
Control Measures		
1.e	It has been recognised that control measures identified to address the project risk may have unintended consequences e.g. closure of windows can lead to increased temperatures in some areas. Such issues should be considered at this point, they should be noted and action to address these taken	
	Potential Problems Patient and staff discomfort and fatigue due to potential overheating during hot weather if building is sealed.	
	Control Measures Mechanical ventilation will be required	
1.f	Actions to be addressed <ul style="list-style-type: none"> Check out climate profile to determine extent of summer temperatures in excess of internal design temperatures. Make initial assessment of extent of sources of internal heat gains. Determine need for mechanical cooling of incoming ventilation supply air using rule of thumb method. Check affordability. 	
By	Gordon Strachan	Deadline 31 st March 2015

Initial Brief and proposed site for development, development stage 1: checklist to ensure all aspects have been addressed		
1.1	<p>Is contaminated land an issue? e.g. asbestos, oils and heavy metals. (Refer to the Contaminated Land Register)</p> <p>Have these issues and actions to be taken been noted in actions to be addressed section?</p>	<p>Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A <input type="checkbox"/></p> <p>Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/></p>
Comments Contaminated Land Register and geotechnical surveys confirmed that historical use of site was non-industrial		
1.2	<p>Is there a locally recognised increased risk of contamination or infection e.g. <i>cryptosporidium</i>? If yes give details.</p> <p>Have these issues and actions to be taken been noted in actions to be addressed section?</p>	<p>Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A <input type="checkbox"/></p> <p>Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/></p>
Comments No record has been traced. (see comments re 1.1)		
1.3	<p>Are there industries or other sources in the neighbourhood which may present a risk of infection or pollution e.g. animal by-products processing plant? If yes give details</p> <p>Have these issues and actions to be taken been noted in actions to be addressed section?</p>	<p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/></p> <p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/></p>
Comments Adjacent brewery produces smells and vapour-laden discharges from plant and cooling towers. This confirms need for sealed windows, mechanical ventilation and (potentially) cooling. Charcoal filters may be required to mitigate ingress of odours.		
1.4	<p>If there are any industries or other sources identified in question 1.3 above, will they affect the designed operation of the healthcare system?</p> <p>Consider the planned function of the design as well as issues such as:</p> <p>Ventilation</p> <p>Opening of doors and windows</p> <p>Water systems etc.</p> <p>Have these issues and actions to be taken been noted in actions to be addressed section?</p>	<p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/></p> <p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/></p>
Comments As per section 1.3. The water system is unaffected.		

Initial Brief and proposed site for development, development stage 1 – checklist to ensure all aspects have been addressed continued		
1.5	<p>Are there construction/demolition works programmed in the neighbourhood which may present a risk of pollution or infection (including fungal infection)?</p> <p>Have these issues and actions to be taken been noted in actions to be addressed section?</p>	<p>Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A <input type="checkbox"/></p> <p>Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/></p>
Comments No issues arising		
1.6	<p>Are there cooling towers in the neighbourhood which may present a risk of <i>Legionella</i> infection? Consider also air handling units, water pipes etc.</p> <p>Have these issues and actions to be taken been noted in actions to be addressed section?</p>	<p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/></p> <p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/></p>
Comments See under 1.3		
1.7	<p>Does the topography of the site in relation to the surrounding area and the prevailing wind direction present any HAI risk e.g. from entrainment of plumes containing <i>Legionella</i>?</p> <p>Have these issues and actions to be taken been noted in actions to be addressed section?</p>	<p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/></p> <p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/></p>
Comments		
1.9	<p>Will the proposed development impact on the surrounding area in any way which may present potential for infection risk? Consider possible restrictions being applied to the operation of the proposed facility e.g. Facilities Management routes</p> <p>Have these issues and actions to be taken been noted in actions to be addressed section?</p>	<p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/></p> <p>Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A <input type="checkbox"/></p>
Comments Previous 'issues to be addressed' related to the new build. For surrounding accommodation, consideration will have to be given to the need for temporary closure of windows, impact on internal environmental conditions, suppression of dust from excavations, plant noise, creation of segregated routes for waste removal.		

Initial Brief and proposed site for development, development stage 1 – checklist to ensure all aspects have been addressed continued		
1.10	<p>Will lack of space limit the proposed development and any future expansion or change of use of the facility?</p> <p>Have these issues and actions to be taken been noted in actions to be addressed section?</p>	<p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/></p> <p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/></p>
<p>Comments It cannot be ruled out that restricted space may inhibit future development or impact on the current project but this cannot be determined until the extent and type of project is known.</p>		
1.11	<p>Has a demolition/refurbishment asbestos survey been carried out?</p> <p>Have these issues and actions to be taken been noted in actions to be addressed section?</p>	<p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/></p> <p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/></p>
<p>Comments Question 1.1 also refers. No demolition is necessary as part of this new-build project. The hospital asbestos register is held in the estates office and confirms that no asbestos is present in the vicinity of the proposed site.</p>		
1.12	<p>Has consideration been given to the projected lifespan of the facility and its impact on planning and development?</p>	<p>Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/></p>
<p>Comments</p>		
<p>Additional notes - Stage 1</p> <p>This project would not normally incorporate mechanical ventilation/cooling within a sealed building. It is necessary to verify that the cost allowance will accommodate this abnormal provision to avoid the need for unwanted compromises later in order to reduce costs.</p> <p>Restricted site space will not necessarily impact on the current development but may have an impact in future on both the current Project and surrounding areas.</p>		

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References

CCDR (2001), **Construction-related Nosocomial Infections in Patients in Health Care Facilities Decreasing the Risk of Aspergillus, Legionella and Other Infections**, Division of Nosocomial and Occupational Infections, Bureau of Infectious Diseases, Centre for Infectious Disease Prevention and Control, Population and Public Health Branch, Health Canada, Ottawa, Ontario, Canada K1A 0L2

CDC (2003), **Guideline for Environmental Infection Control in Health-Care Facilities, 2003 Recommendations of CDC and the Healthcare Infection Control Practices Advisory Committee (HICPAC)**, Hospital Infection Control Practices Advisory Committee.