Guidance on implementation of Construction Design and Management Regulations 2015

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1. Introduction

The Construction (Design and Management) Regulations 2015 (CDM 2015) came into force on 6th April 2015, replacing CDM2007. This briefing note provides a summary of the key roles of the duty holders for use by the University of Greenwich in-house personnel.

Estates & Facilities Management local campus office must be consulted on any work which may affect University premises (grounds, buildings or campus structures), integrity, facilities or services. They will be able to give advice on CDM 2015 and its application to the planned works. It is important that this is undertaken as early as possible to allow sufficient time and resources to be given to the project.

2. Are the works defined as CDM

The definition of maintenance work has not changed. In addition the meaning of the clarifying text in para 13 of the CDM 2007 ACOP remains relevant. Which states; "The following are not construction work as defined: (b) general maintenance of fixed plant, except when this is done as part of other construction work, or it involves substantial dismantling or alteration of fixed plant which is large enough to be a structure in its own right, for example structural alteration of a large silo; complex chemical plant; power station generator or large boiler"

There should be a common sense definition of construction work is applied, along with a risk based approach, if. If it looks like construction work, requires construction skills and uses construction materials, it probably is construction work. General maintenance of fixed plant which mainly involves mechanical adjustments, replacing parts or lubrication is unlikely to be construction work.

If the maintenance work is construction work, and there is only one contractor, no PC or PD appointment is required. However a construction health and safety plan will be required. If more contractors are brought in, then a PC and PD need to be appointed for that particular project. All construction work under CDM 2015 requires planning, but the plan for smaller jobs should be simple, short and proportionate to the risks.

3. Client

The Client's role is seen by the Health and Safety Executive (HSE) as pivotal and crucial to setting the scene for goal setting and the Client's expectations for construction safety management through the whole process. The Client has a major influence over the way a project is procured and managed. Regardless of the size of the project, the Client has contractual control, appoints designers and contractors and determines the money, the time and other resources available.

CDM2015 sets out in Part 2 (Regulations 4 and 5), the client's duty to make suitable arrangements for managing a project, maintaining and reviewing these arrangements throughout and ensuring that the project is carried out in a way that manages the health and safety risks. For projects involving more than one contractor, these regulations require the client to appoint a principal designer and a principal contractor and make sure they carry out their duties. The University of Greenwich by law, must provide pre-construction information from feasibility stage, to each designer (including the Principal Designer) and contractor (including the Principal Contractor) that is involved with a project, to fulfil the Client's duties under CDM2015.

<u>As Client UOG must ensure</u>

- that suitable arrangements for managing the project are in place. This includes making sure that the PD & PC are appointed (where necessary) and sufficient time and resources have been allocated,
- where necessary, submit or ask the PD to submit the F10 notification,
- relevant pre-construction information is prepared, provided and updated to all designers and contractors,
- the PD & PC are carrying out their duties,
- Welfare facilities are provided from day one.

4. Principal Designer

Key function of the PD is to ensure Fire, Health and Safety (FHS) implications of the project are given due consideration, foreseeable risks are identified, reduced where possible and communicated to allow the project to be built (or refurbished), used, operated, maintained (including cleaned) without undue risks. They must;

- plan, manage, monitor and co-ordinate health and safety in the pre-construction phase of a project,
- Coordinate health and safety with all designers appointed to the project
- Oversee design decisions and identify, eliminate or control foreseeable risks and ensure other designers carry out their duties,
- prepare and provide relevant pre-construction information to others,
- assist the PC to help them plan, manage, monitor and co-ordinate health and safety in the construction phase.
- Communicate with the Client and principal contractor throughout the project
- Prepare the Health and Safety File

Who should be appointed as PD?
This depends upon the nature and complexity of the scheme. On larger schemes, UOG should look towards an existing designer who is best place to lead and control the design and planning stage. On smaller schemes, this may be undertaken in-house (with or without support). Initially, designers may be unfamiliar with the duties and may need to be encouraged to seek the support of a previous CDMC until skills sets are developed.

In all cases the PD must as per Regulation 8 (1) of CDM have the skills, knowledge and experience, and, if they are an organisation, the organisational capability, necessary to fulfil the role that they are appointed to undertake, in a manner that secures the health and safety of any person affected by the project.

The designer or contractor must not accept an appointment to a project, unless they fulfil the conditions in paragraph 8 (1)".

The person appointing the designer, or contractor, to carry out work on a project (Regulation 8 (3)) states that, must take reasonable steps to satisfy themselves, that the designer, or contractor, fulfils the conditions in paragraph 8 (1)".

Therefore if an internal appointment this must be made formally by the person's manager once the assessment has been made.

On Smaller projects and planned works

There is no reason why on smaller projects that the role of Principal Designer (PD).cannot be undertaken by a member of the Central Team , Campus Team, or member of ILS or an external organisation. They must meet the competencies as detailed in regulation 8 and if an internal appointment this must be made formally by the person's manager once the assessment has been made and prior to the works commencing. This appointment can be made via e-mail.
When a project spans between ILS and EFM for example a lecture room refurbishment then it will be agreed which department will nominate an individual to act as PD. This will depend on the planned works. An example would be a complete refit of IT equipment with the room having a coat of paint the PD would probably be better appointed from ILS.

The PD is a primary duty holder of CDM 2015 and an integral part of a Design Team. The PD must be a designer on the project and be in a position to have control over the design and planning stage. The PD needs:

- a technical knowledge of the construction industry, relevant to the project
- an understanding of how health and safety is managed through the design process
- the skills to be able to oversee health and safety during the pre-construction phase of the project and the ongoing design.

The PD function will be completed by an existing internal resource although the University at large will be the duty holder. On larger schemes or those of an unusual nature or those presenting significant risks UOG will need to appoint externally. In these, circumstances the PD will be required to complete the PD functions in their entirety.

Ideally, the PD should have skills commensurable with the type project under consideration i.e. an architectural background for building refurbishment projects, an engineering background on mechanical biased projects and electrical where works are involve significant changes to electrical infrastructure. Whether internal or external appointed PD should be active at the all stages including feasibility, design, pre-construction, construction and handover of a project.

5. Duties of the Principal Contractor

- plan, manage, monitor and co-ordinate health and safety in the construction phase of a project,
- liaising with the client and PD,
- preparing the construction phase plan,
- organising co-operation between contractors and coordinating their work,
- ensure suitable site inductions are provided and reasonable steps are taken to prevent unauthorized access,
- workers are consulted and engaged in securing their health and safety,
- ensure welfare facilities are provided.

Note:

All appointments internal and external must also be formally confirmed in writing. Where the appointment is not made before the work commences then these roles and responsibilities fall back to the University.

6. Capital Development

On Capital projects the initial appointment of the PD must be made by the Head of Estates or one of his senior managers **at the earliest opportunity,** this means at feasibility stage. However, the appointment may be limited to completion of a relevant phase of a project lifecycle (e.g. up to the end of feasibility). This will ensure expertise is gained but cost exposure limited should the scheme not progress. Remember if the project progresses then the PD must have their appointment extended to cover subsequent phases. The PD role extends into the construction phase (as design continues and to update the health and safety file) and should cease at practical complementation or when the final version of the combined Health & Safety File/Operation & Maintenance Manual is received.

The PD is a primary duty holder under CDM 2015 and an integral part of any Design Team working on Capital schemes. As such, the PD should be appointed at the outset of the construction project. The PD must be a DESIGNER on the scheme (not a standalone appointment) and where practicable they should be appointed at the earliest opportunity. They must be active in the feasibility, design, pre-construction, construction and handover of a project. Their key focus is to ensure Fire, Health and Safety (FHS) implications of the project are given due consideration, foreseeable risks are identified, reduced where possible and communicated to allow the project to be built (or refurbished), used, operated, maintained (including cleaned) and deconstructed/demolished without undue risks.

Who should be appointed PD:

The PD function where possible, should attach to an existing design appointment. The chosen appointee should be a designer who is best placed to control the design and planning stage. This is likely to be an architect on new

build or refurbishment projects or an engineer on mechanical or electrically biased projects. Initially, many designers may be unfamiliar with the duties placed upon them when acting as a PD. In these circumstances the PD should be encouraged to seek the support of a previous CDMC until skills sets can be developed.

Design & Build:

The PD should be a direct appointment by the University, in circumstances where the designer acting as PD novates across to the contractor then the PD function should remain with that designer. However, to ensure independence, avoid potential conflicts of interest a CDM Advisor should be appointed as a monitoring role to ensure compliance with Regulation 4 (2)(b) (welfare), (6)(a)(b), PD & PC are complying with their duties and where applicable Regulation 5(3)(4). The CDM Advisor is likely to be a previous better preforming CDMC.

Note:

All appointments internal and external must also be formally confirmed in writing. Where the appointment is not made then the function together with the responsibilities fall back to the University.

7. Health and Safety File

The health and safety file is defined as a file appropriate to the characteristics of the project, containing relevant health and safety information to be taken into account during any subsequent project. The file must contain information about the current project that is likely to be needed to ensure health and safety during any subsequent work such as maintenance, cleaning, refurbishment or demolition. PLEASE DO NOT BE AFRAID TO SUBMIT A SINGLE PAGE IF THIS IS ALL THAT IS NECESSARY OR ON SMALL PROJECTS NOTHING IF NOTHING IS REQUIRED. Do not feel obliged to submit a large bulky document for the sake of it. When preparing the health and safety file, information on the following should be considered for inclusion;

- A brief description of the work carried out.
- Any hazards that have not been eliminated through the design and construction processes, and how they have been addressed (for example, surveys or other information concerning asbestos, contaminated equipment or buried services etc.).
- Key structural principles (for example, bracing or sources of substantial stored energy including pre - or post-tensioned members) and safe working loads for floors and roofs.
- Hazardous materials used (for example, special coatings).
- Information regarding the removal or dismantling of installed plant and equipment (for example, any special arrangements for lifting such equipment).
- Health and safety information about equipment provided for cleaning or maintaining the structure.
- The nature, location and markings of significant services, including underground cables, gas supply equipment and fire-fighting services.
- Information and as-built drawings of the building, its plant and equipment (for example, the means of safe access to and from service voids, and the position of fire doors).

8. Key Responsibilities and expected outputs of the PD through the CDM lifecycle

Feasibility		
PD Responsibilities	Outputs	Measure
Receive Client brief to understand key requirements, such as expectations, limitations, outline budgets, planning constraints, anticipated timescales, interface points, outline phasing expectations etc.	N/A	N/A
At periods not exceeding 12 monthly if an external appointment attend the EFM Induction	N/A	Recorded
Where projects are likely to exceed the threshold for notification, the PD to formally issue F10 Notification to the HSE. (acknowledged as a Client duty)	Web based F10 notification to HSE	Written confirmation and scanned hard copy to file.
Early identification of existing information necessary for the scheme with aim to identify early significant gaps and a need for both surveys and/or specialist appointments.	N/A	N/A
Design		
As project appointments are made PD to furnish individuals with information relating to projects aims and objectives and relevant aspects of the Client brief.	Summary statement produced and issued to all stakeholders	Meeting minutes & formal correspondence / documentation.
Review of initial designs and advice as to the adequacy of FHS elements of the design	Monthly summary design review report to be produced and issued	Document to be retained
Communication and promotion of Best Practice "Safe by Design" principles	Input at Design Team Meetings	Minutes of DTMs to be retained
Attendance at relevant Design Team Meetings	Commensurate to the scope and complexity of the project chair DTM	Formal schedule of attendance to be agreed and monitored.
Review of Design Access and Maintenance strategies	Electronic / Verbal Commination	
Develop initial inventory of information required for H&S File including format and quantity.	Initial Index for HSF agreed and issued to all stakeholders.	Initial HSF Index to be presented at Pre-Start meeting.
Pre-Construction		
Prepare Pre-Construction Information for tender and then use by Principal Contractor (PC)	PCI information to be issued as and when available.	
Attend Pre-Start Meeting and confirm that all key FHS considerations have been identified, eliminated or controlled so far as is reasonably practicable.	Pre-Start Meeting minutes.	PD input at pre-start meeting which is minuted.
Preparation and revision of H&S File with PC.	H&S File any available information populated on an ongoing basis.	File will have been commenced at Pre-Start (and confirmed as such in minutes)
Review the Construction Phase Plan and undertake a Pre-start Site Checklist	Formally write to the EFM Rep and confirm the adequacy of the Construction Phase Plan and the Pre-start Site Check.	Formal evidence of Pre start checklist and formal review of the Construction Phase Plan.
Construction		
Attend Project/Design meetings as required	Assurance role to ensure key elements of the design are being satisfactorily delivered through construction phase.	Minutes of meeting recognise that design reviews are being conducted on an ongoing basis.

Undertake a reduced inspections at intervals not exceeding 12 weeks. undertaken by a construction health & safety professional.	Completed inspection provided to EFM Representative with recommendations and close out of actions.	Establish, agree and monitor KPI's based upon expectations.
Continue to develop the H&S File (in conjunction with Principal Contractor). Ensure Construction Issue information is converted to "As Built" as and when available. Including the information on design changes made.	Ongoing development of H&S File.	Content and accuracy of H&S File reflects the phase of the project (i.e. all available information should be included in the file as and when it becomes available/as phases complete)
Handover		
Advise the EFM Representative of any outstanding information that will be required for Practical Completion.	List of outstanding required information.	List of required information documented in Meeting minutes. Responsibilities agreed for provision of the information
Liaise with Principal Contractor to ensure that a mechanism for provision and review of all safety critical (commissioning) information is available **and reviewed** prior to Practical Completion.	EFM updated.	HSF to be substantially complete at Practical Completion. All safety critical information to be available and included in file.
Attend Practical Completion. Meeting	Meeting Report	To be in possession of all critical HSF information. Dates agreed for provision of missing info, with responsibilities allocated for provision. Campus team to be provided with commissioning and test certification on equipment installed.
Ensure draft H&S File is available at practical completion with final version formally issued no later than 14 days later.	HSF	HSF meets the requirements of CDM 2015.

Pre-Construction		
PD Responsibilities	**Outputs**	**Measure**
Prepare Pre-Construction Information for tender and then use by Principal Contractor (PC)	PCI Document Issued in draft to PM and designers for comment. This to be maintained and updated where necessary.	PCI Document to be issued and retained by the PM. PCI should be issued in sufficient time to allow the PC to effectively plan, resource and cost the project.
Liaise with Project Team and PC to identify key construction risks (update Risk Register), maintaining and cleaning and use of the structure as a workplace and reduce any foreseeable risks where reasonably practicable	Chair Risk Workshop and updated Project Risk Register.	Minutes of Risk Workshop should be reflected in the Risk Register being updated to incorporate additional construction risks. Development of drawings to reflect risk reduction / in coordination with all designers
On a monthly basis provide CDM Report identifying key activities, meetings attended and report of identification of potential design issues.	Completion of given proforma providing report PM & FD Safety Team	PM to monitor production of monthly report in line with agreed KPI's.
Attend Pre-Start Meeting and confirm that all key Health and Safety considerations have been identified, eliminated or controlled so far as is reasonably practicable.	Pre-Start Meeting minutes.	PD input at pre-start recorded in minutes.
Preparation and revision of H&S File with PC and provide any information available to commence population. Define H&S file.	H&S File any available information populated on an ongoing basis.	File will have been commenced at Pre-Start (and confirmed as such in minutes)

Review the Construction Phase Plan and complete a Pre-start Site Check. (Acknowledged as outside the role of a PD. Where PD has novated to the Contractor this activity would be reassigned to the Client CDM Advisor)	Formally write to the PM to confirm the adequacy of the Construction Phase Plan and the Pre-start Site Check.	Formal evidence of CPP review and inspection retained.
Notes The PD must plan, manage, monitor and coordinate Pre-Construction phase of the project. The onus is on liaison, communication and coordination as opposed to merely producing paperwork. The PM must satisfy themselves of the quality of outputs, and how these outputs have contributed to ensure that the design and supporting information has been developed sufficiently to allow the project to carry on safely through the construction phase. A key element of the role during this phase will be the liaison with key stakeholders within the University to ensure that key Client requirements are understood and any shortcomings in proposed outputs have been formally agreed by individuals. It is anticipated that the final H&S File structure should be relatively straightforward to agree at Pre-Start, and the PD will also be responsible for monitoring the progress of developing the file on a proactive basis through construction as opposed to waiting until PC.		

Design		
PD Responsibilities	Outputs	Measure
As project appointments are made PD to furnish individuals with information relating to projects aims and objectives and relevant aspects of the Client brief.	Summary statement produced and issued to all stakeholders	Meeting minutes & formal correspondence / documentation.
Establish Design Co-ordination Strategy for design development e.g. what you expect, how will designers work with each other and design be coordinated and how the PD will ensure that Designers are compliant with their duties.	Summary of Design Coordination strategy to be produced and issued to all stakeholders	Document to be retained
Update and communication of the Information Register. **Ensure gaps are identified,** filled **and** information **distributed to those that** require it**.** To include specifications, standards and the Estates and Facilities Management Arrangements for Contractors.	Review and update Register, liaising with project team to identify additional requirements and issue as necessary.	Production and update of the Register with acknowledgement received that information necessary for the safe execution of the project has been or is in the process of being completed.
Update Project Risk Register. Ensure input from Client, User, Maintenance and Designers. Document to capture where the design team has provided a significant reduction or increase in risk. **Acceptance of significant or unusual risks of those impacted together with identified control measures must be agreed.**	Continue to develop and communicate the contents of the Risk Register. Chair risk workshop/s seek written acknowledgement of acceptance of residual risks by those impacted.	Production and update of the Register with acknowledgement received by those impacted.
PD to ensure design team transpose foreseeable significant or unusual risks on drawings.	Designer to remove and or mitigate through Royal Institute of British Architects design process. PD to review.	H&S risks noted on drawings.
Communicate key risks to other Duty Holders within Project Team via leading design review meetings.	As above	Evidence of communication of Project Risk Register
Review of initial designs and advice as to the adequacy of FHS elements of the design	Monthly summary design review report to be produced and issued	Document to be retained
Communication and promotion of Best Practice “Safe by Design” principles	Input at Design Team Meetings	Minutes of DTMs to be retained
Ensure adequate liaison with other stakeholders to ensure designs are reflective of key of operational requirements	Commensurate to the scope and complexity of the project chair Design Review Meeting/s	Minutes of DRM to be retained
Attendance at relevant Design Team Meetings	Commensurate to the scope and complexity of the project chair DTM	Formal schedule of attendance to be agreed and monitored.

Review of Design Access and Maintenance strategies	Access and Maintenance review report circulated to all key stakeholders.	All identified actions to be closed out. Report retained by PM.
Develop initial inventory of information required for H&S File including format and quantity.	Initial Index for HSF agreed and issued to all stakeholders.	Initial HSF Index to be presented at Pre-Start meeting.

Notes

The intention of the PD role in this phase is to ensure that the design is developed with due regard to the buildability (or refurb) use, operation and maintenance (including cleaning) and demolition of the facility.

A clear understanding of the key risk issues, and visibility of the mitigation measures, should be evidenced prior to the design being finally approved for construction. If the design involves significant or unusual risks that cannot be reasonably designed out then this should be formally presented to Estates Senior Management in liaison with the University Safety Unit for consideration and potential Client approval.

9. CDM compliance checklist

Project name: …… **Location:** ……

Note
This form outlines the key actions which as Client we should take when we engage construction works. This has been designed to meet the requirements of the Construction (Design and Management) Regulations 2015.

CDM compliance checklist	Yes	No	N/A	Comments
All projects				
Have you ensured that appointees have the necessary skills, knowledge, training, experience and resources to carry out the work safely?				
Has project specific health and safety advice been obtained?				
Have you ensured that there are suitable management arrangements for the project i.e.				
- you have a suitable project team including designers and contractors?				
- for projects involving more than one contractor:				
- are there clear roles and responsibilities for all members of the project team?				
- is there an effective mechanism for communicating and co-ordinating between parties?				
- is there a schedule of key activities/stages of the project?				
- have you checked contractors arrangements for controlling and monitoring health and safety standards?				
- have arrangements been put in place for ongoing maintenance and monitoring of health and safety standards throughout the project?				
- are there arrangements for the commissioning and handover of the structure?				
- are there arrangements for the protection of students, staff and visitors when working in occupied buildings?				

CDM compliance checklist	Yes	No	N/A	Comments
Have you developed a client brief and issued it to the project team?				
Is a suitable construction phase plan in place before work starts? This is developed by the Principal Contractor (PC) where appointed, or otherwise the contractor.				
Have you taken steps to ensure that designers reduce risks through design, both during the construction phase and for the building's ongoing use and maintenance?				
Have you ensured that there will be suitable welfare facilities (i.e. toilet and washing facilities) for construction workers before work starts and throughout the project?				
Have sufficient time and resources been allocated for all stages of the project?				
Have you provided pre-construction information to designers and contractors?				
Projects involving more than one contractor				
- a Principal Designer (PD) been appointed as early as possible in the concept stage – if not are you content that the University will act as PD?				
- a Principal Contractor (PC) been appointed – if not are you content that the University will act as PC?				
- have you agreed the format and contents of the health and safety file with the PD?				
- are there arrangements to retain the health and safety file in a safe and accessible place once the project is complete?				
- have you provide the PD with an existing health and safety file is available?				
Notifiable Projects				
Has an online F10 notification been submitted to the HSE before the construction phase begins?				
Have you ensured that the F10 notification will be displayed on site before construction work starts?				

Further Information & Comments	
Name of person completing:	
Signature:	
Position:	

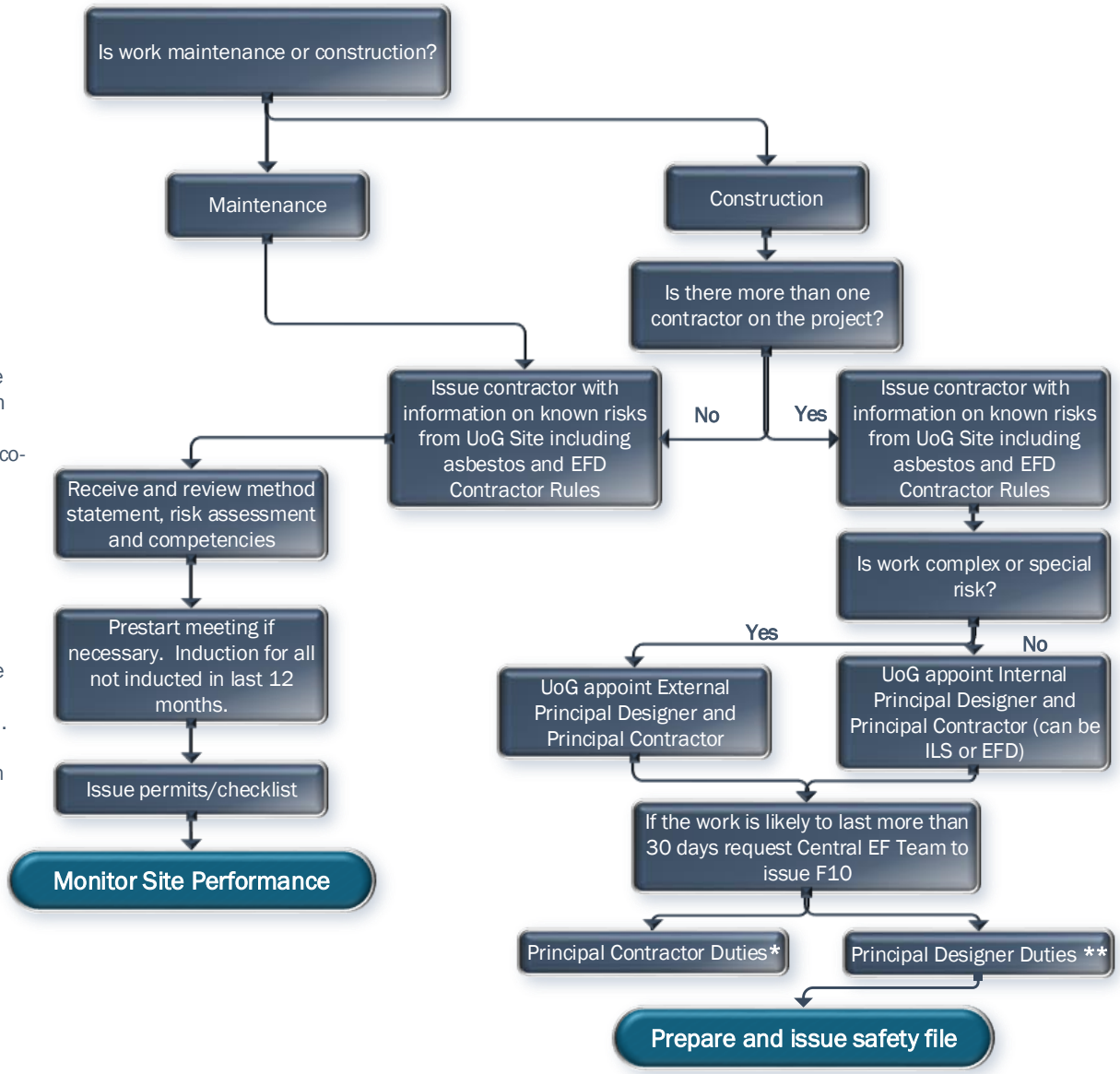
NB

The client brief must set out the purpose of the development, main operational requirements of the finished structure, client expectations including expectations for health and safety, design direction, point of contact for client discussions and realistic time frame and budget.

The CDM Regulations require that essential information about site hazards and restrictions are supplied for all construction projects of whatever scale. For projects where a principal designer is appointed, they must assist to pull together the pre-construction information.

A project is notifiable if the construction work on a construction site is scheduled to: (a) last longer than 30 working days and have more than 20 workers working simultaneously at any point in the project; or (b) exceed 500 person days.

10. Flow chart



* Principal Contractors plan, manage, monitor and co-ordinate the construction phase of a project. This includes: liaising with the client and principal designer; preparing the construction phase plan; organising co-operation between contractors and co-ordinating their work.
Ensure that: suitable site inductions are provided; reasonable steps are taken to prevent unauthorised access; workers are consulted and engaged in securing their health and safety; welfare facilities are provided.

** Principal Designers plan, manage, monitor and co-ordinate health and safety in the pre-construction phase of a project. This includes: identifying, eliminating or controlling foreseeable risks; ensuring designers carry out their duties.
Prepare and provide relevant information to other duty holders. Liaise with the principal contractor to help in the planning, management, monitoring and co-ordination of the construction phase.