DIRECTORATE OF ESTATES AND FACILITIES

PROCEDURE AND INFORMATION MANUAL

EPM PM15 - PROJECT SPONSOR HANDBOOK
Capital Projects

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Appendix

1.0 Introduction

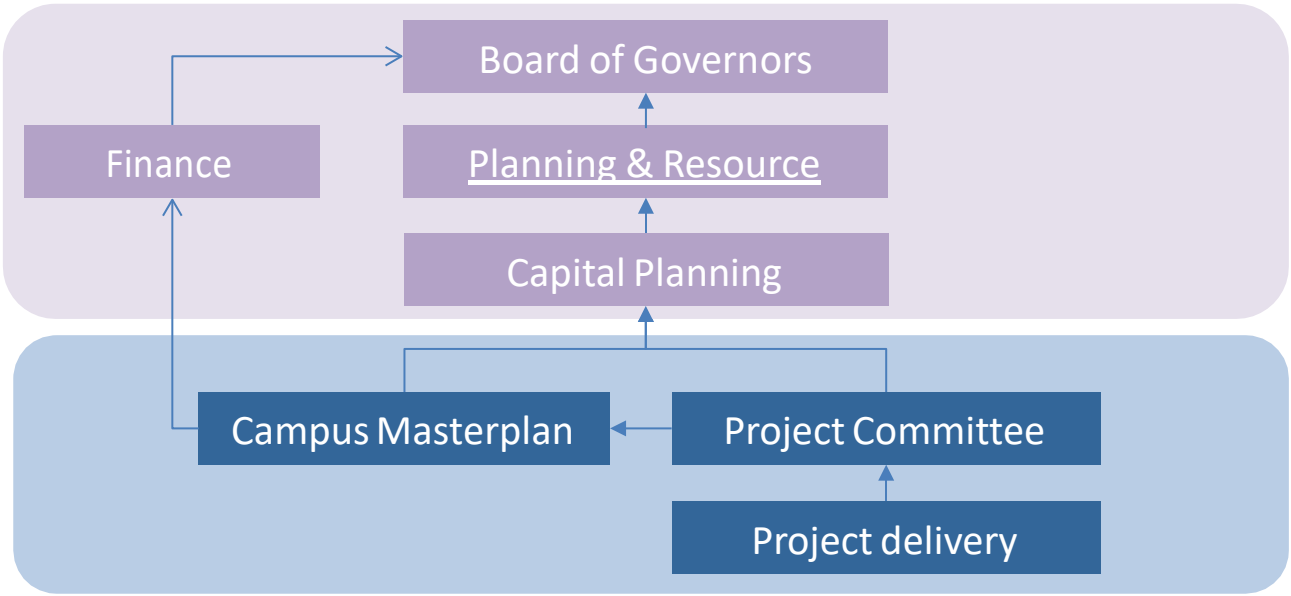
This handbook has been prepared to provide clarity as to the role and remit of a Project Sponsor for Capital Projects and seeks to provide context in relation to the management of projects.

It is intended that all Project Sponsors will be provided with training in relation to their role and that this handbook will act as an aide memoire to this training.

2.1 Project Governance

2.2 Governance – reporting lines

The following diagram illustrates the project governance structure and how this fits in within the wider University governance structure.



Capital Planning Sub Committee (CPSC) (link to be added)

In summary the remit of the CPSC is to:

- Provide advice to the Planning & Resources Committee (PRC) on matters relating to capital and special revenue planning.
- Develop principles for the preparation and consideration of proposals for capital funding in line with the University's Strategic Plan and taking account of the University's budgetary position.
- Consider and make recommendations to the PRC on the appropriate resourcing for long term maintenance and refurbishments
- Recommend policies to the PRC that support the objective of using space efficiently and effectively.

Detailed requirements:

- Receive and review relevant business cases making recommendations for approval or not. Approval will include notification in writing to the project sponsor, relevant Dean and Head of Faculty Finance.
- Receive and review updated business cases where the funding arrangements or other circumstances for the project have changed and further approval is required.
- Receive a report from the Director of Estates on the status and progress of the University's capital programme including projects of value in excess of £1.0m.
- Receive a summary report from the Director of Estates on the status of projects between £250k and £1.0m highlighting exceptional issues that CPSC require information on.

- Receive an update from the Head of Management Accounts highlighting capital expenditure against budget highlighting major variances, risks and opportunities
- Develop and make recommendations to the PRC on proposals to support the improvement of the University's physical infrastructure.

Business cases submitted to CPSC will, in the first instance be reviewed by the Director of Estates and the Director of Finance

Membership:

President and Vice-Chancellor (Chair)
Deputy President and Deputy Vice-Chancellor
Vice-President (Research)
Vice-President (Teaching, Learning and Students)
Vice-President and Dean, FEPS
Vice-President and Dean, FHUMS
Vice-President and Dean, FLS
Vice-President and Dean, FMHS
Registrar and Secretary
Director of Finance
Director of Estates
Head of Management Accounts

Distributed to:
Head of Planning Support Office
Head of Office, Office of the President and Vice Chancellor
Deputy Director of Estates
For information:
Director of Development
BCC:
Assistant Director of Estates
Heads of Faculty Estates
Heads of Faculty Finance
Financial Accountant

Masterplan Capital Programme Board (link to be added)

Each of the projects within the Capital Programme will be governed by an individual Project Committee in accordance with the University's Financial Regulations.

However given the scale of the programme and a need to manage the overall financial and cash flow position, a Programme Board has been established. The Board will provide a project assurance role to monitor and report on all the projects at programme level, set any specific remits for the direction for the Programme, support the Project Sponsor Group in decision-making and oversee the overall progress of the Programme.

The Board will report to the University's Capital Planning Sub-Committee (CPSC) on a quarterly basis.

The Programme Board will **not** be responsible for day to day governance of projects as this rests with the respective Project Committees.

The Programme Board is responsible for:

1. Approving Programme Identification/Definition, signing off or arranging for signing off of relevant documentation or equivalent;
2. Agreeing all programme level major plans;
3. Confirming and communicating the Programme Vision;
4. Authorising any major deviations from the agreed Programme plans;
5. Obtaining CPSC sign off for the completion of each tranche ("pause point"), including the deliverables, and giving approval to start the subsequent stage;
6. Communicating information about the Programme/Projects internally and externally as necessary;
7. Ensuring that the required resources are available;
8. To provide training, support and guidance for Project Sponsors;
9. Resolving any conflicts escalated by the Programme/Project teams, client, supplier or delivery agent;
10. Agreeing Programme/Project tolerances for time, quality and cost;
11. Providing overall strategic direction for the Programme;
12. The risk(s) associated with the Programme including those escalated from Project level;
13. The quality assurance for the Programme and its associated Projects;
14. Approving end Project reports including lessons learned reports;
15. Approving plans for Post–Project Reviews and overseeing these Reviews within the Programme;
16. Ensuring that a Post-Programme Review is scheduled and takes place; and
17. Resolving deviations from plans or escalating as necessary.

Reporting

Programme progress and financial reports (refer to templates in Appendix 1) will be prepared every quarter by the CPU for consideration by the Programme Board.

Board Members

The Programme Board will comprise of the following members:

- Steve Jordan – Head of Capital Projects (Chair)
- Diana Hampson – Director of Estates and Facilities
- Kenny Nolan – Deputy Director of Estates and Facilities
- Sam Johnson – PM Capital Projects Unit (programme assistance)
- Brent Wills – Estates Professional Services Manager (LTM finance and quality compliance)
- Sally McGill – Head of Financial Analysis & Reporting
- Peter Easterbrook – Estates Management Accountant
- Jane O'Connor – CPU Finance Manager Alan Ferns - Director of Communications, Media and PR / Lisa Mccarthy

- Gerry Pennell - Director of IT

Project Committees

A Project Committee shall be set up to oversee all projects likely to cost in excess of £1.0m (construction cost, with the exception of Capital Long Term Maintenance Projects) and shall exist until the final account for the project has been settled. The Committee shall meet as often as is considered necessary and the frequency will vary during the project.

The following terms of reference have been extracted from the Approval Process for Capital and Special expenditure Oct 11 V2 appendix 4:

1. Bring all relevant insights and interests to bear on the project.
2. Facilitate the identification and agreement of the specific requirements for the project. This will include defining the brief having regard to:
    - The Estates Strategy, strategic planning and estate management considerations
    - User requirements
    - Space standards
    - The University's Code of Practice for Design Teams and other technical specifications
    - Energy and Sustainability policies
    - Procurement Policy and Guidance
3. Confirm priorities and resolve problems within the University.
4. Consider, and on the advice of the Director of Estates and Facilities, approve the appointment of appropriate professionals (either external consultants or in-house staff) The Project Committee shall ensure that any appointments are made in accordance with the University's Financial Regulations and it shall exercise budgetary control throughout the project.
5. Receive from the Client Representative (aka University Project Manager), regular financial reports and progress reports on the project (in the format set out in Section 6 of this handbook) and will advise accordingly on any particular course of action it deems necessary to ensure the successful delivery of the project.
6. Be responsible for "signing off" the design proposals developed in response to 4, above.
7. Consider, and on the recommendation of the Director of Estates and Facilities, approve the most appropriate form of contract, the selection of tender lists and the subsequent appointment of contractors and sub-contractors.
8. Review on a regular basis the Project Risk Register and advise the Client Representative (aka University Project Manager) of a suitable course of action if it deems that an alternative approach is required to a particular risk.
9. Report to the Capital Planning sub-committee.

10. Receive a Project Completion report that formally describes whether the strategic objectives of the project have been achieved and confirm if the original business case benefits have been achieved.

Membership shall normally be:

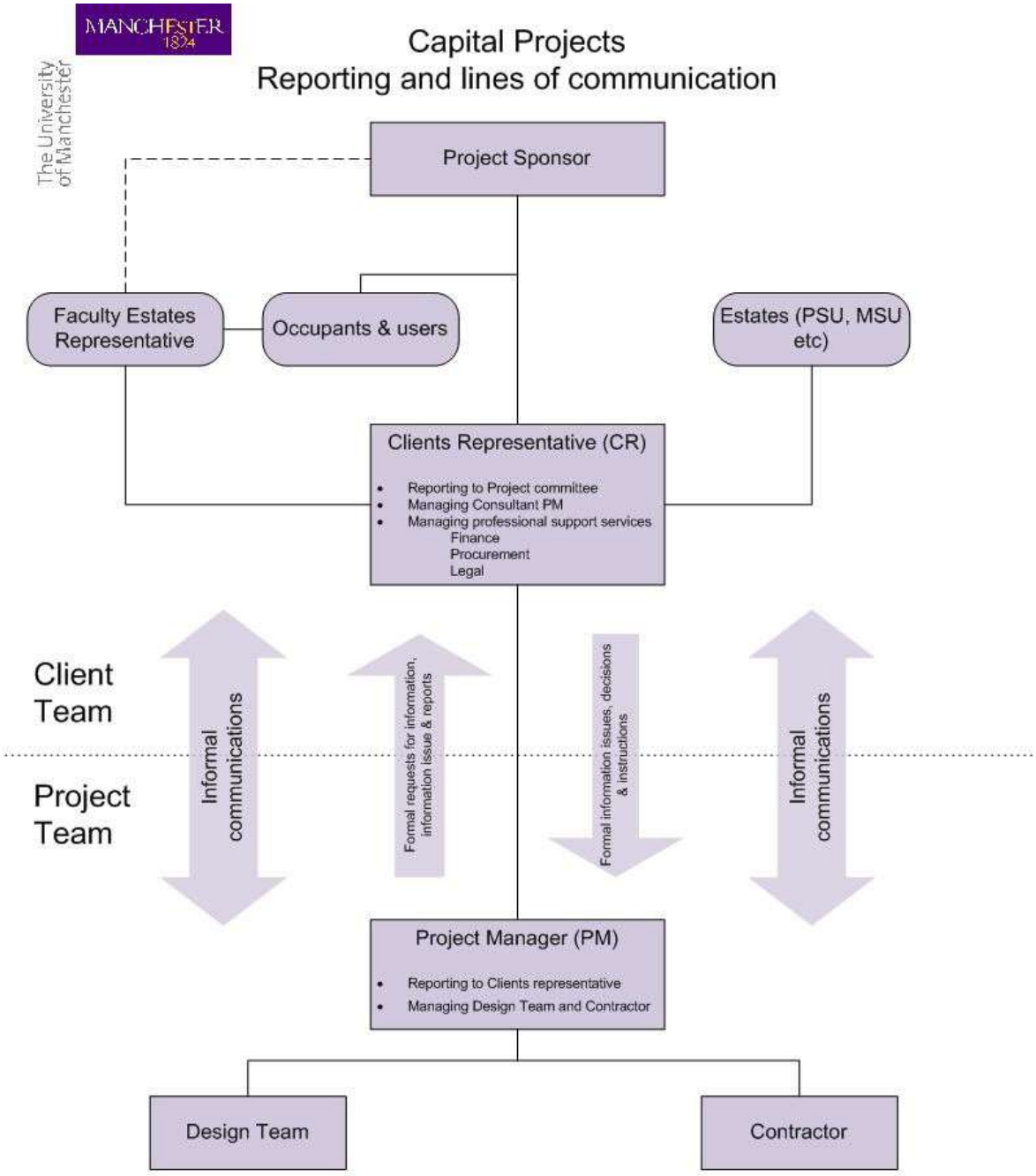
- Director of Estates and Facilities or nominee (Chair)
- Assistant Director of Estates/Head of Capital Projects
- Project Sponsor

- Client Representative (aka University Project Manager)
- User Co-ordinator
- Director of Finance representative
- Head of Faculty Estates
- Estates and Procurement Lawyer

A secretary will be appointed to each Project Committee.

In particular circumstances, it may be necessary to extend the membership to provide specific advice.

2.3 Client team and lines of communication



Notes:
In some cases (e.g. smaller projects) one individual may perform both the CR and PM roles

The University of Manchester has a number of documents that use titles interchangeably, for the avoidance of doubt please note the following:
Client Representative (CR) = University Project Manager (UPM) = Internal Project Manager
Project Manager (PM) = External Project Manager (EPM) = Consultant Project Manager (CPM)

Informal communications between the teams are encouraged, however all formal information flow and decision making must take place between the CR & PM

Project Sponsor role

The role of the Project Sponsor is set out in EPM PM16 (as Appendix A) University Project Sponsor for Capital Projects Definition and Guidance Note, extract below.

The Project Sponsor is responsible for:

- Ensuring the project objectives are identified, maintained and achieved in successfully completing the project.
- Ensuring the project is well defined and then to monitor its delivery.
- Co-ordinating and understanding the requirements of the various end users of the project, in order to develop an acceptable strategic project brief.
- Acting as the Users senior point of contact for the project, managing the Users input, resolving any conflicting requirements that the Users may have.
- Working with the nominated User Co-ordinator(s) to ensure alignment of the Strategic Brief with the operational and functional requirements of the users
- Producing a Business Case/Investment Appraisal, including revenue implications, for presentation to the Capital Planning Sub-Committee for approval of the capital budget allocation
- On completion of the project, ensuring effective feedback as to how far the project met the client's requirements and objectives and identifying the lessons of good and bad practice that need to be learned for the future.

Additional duties:

- Ensuring environmental sustainability is at the forefront of the project
- Reporting and presenting to CPSC on the design proposals and on progress to date.
- Challenging requirements
- Ensuring commitment to the University's need to reduce overall space and deliver better utilisation.

Client Representative Role

The role of the Client Representative is set out in detail in EPM PM4 Client Representative (University Project Manager) for Capital Projects – Scope of services (as Appendix B). The summary below is an extract from this document.

The Client Representative (CR) acts as the primary University officer for Capital Projects, taking delegated responsibility for the delivery of a capital project on behalf of the Project Committee. The CR will generally act on behalf of the client (the University of Manchester), acting as the focal point for communication with the Project Team and will speak as the client on all contractual matters. The CR will be a member of the Project Committee and shall advise the Committee on all issues relating to the project in question.

The Client Representative will also be the primary point of contact with the Project Sponsor to provide advice and assistance on all matters related to the project and to ensure that all relevant information is issued to the Project Team.

Approval Processes for Capital and Special Revenue Expenditure

- Approval Process for Capital and Special expenditure Oct 11 V2

- Capital & Special Revenue Business Cases
- Capital business case over the OJEU threshold
- Handy Guide to Capital Expenditure

Faculty Estates Team Role in Capital Projects

The Faculty Estates Teams are small teams of estate management professionals who work within the Faculties, PSS and our Cultural Assets. This enables the team to understand your business better and ensure the solutions we deliver are tailored to your needs.
The teams work alongside Deans, Directors and Academic colleagues to establish a strategic approach to the management and development of the Estate to meet the changing needs of Teaching and Learning.
The Faculty Estates Team plays a key role in supporting Project Sponsors and Project Manager by facilitating aspects of the proposed Capital project.

In the early stages of the project the Head of Faculty Estates will work with you in the following areas;-

Bid Preparation Stage (if applicable):

- To help determine the outline brief and ensure it fits with and supports the Faculty's strategic aims and overall estates strategy.
- Works with Estates colleagues and the allocated Project Manager to provide feasibility studies and outline costs subsequently provided to the Faculty or School Accountant, to enable preparation of a business case for submission internally or to external bodies.
- Make available information, drawings and details relevant to your scheme.

Planning Stage:

- Work with stakeholder customers through the detailed preparation of the brief.
- Develop decant strategy which may be required.
- Deliver presentations to School Boards and Faculty/Staff/Student Committees as required.
- Attends meetings alongside you. Examples of which are Project Committees, School Boards and design meetings.
- Support our customers if difficult decisions and conversations are needed in terms of space planning and/or budgets.
- Prepare and submit space applications and relinquishments on your behalf.

Procurement and Implementation Stage:
As the project progresses the Faculty Estates Team members will become more involved and support you and your team in the following areas;-

- Assist in technical discussions and co-ordinate site visits of prospective contractors within occupied buildings.
- Work with Estates colleagues to mitigate effects upon day to day operations in occupied buildings, e.g. cleaning, landscape works, access for waste removal, and advise upon site compound locations.
- Consider the impact of the project on other University activities, e.g. Exams Office/teaching spaces/Food on Campus/building services shutdowns/open days adjacent to the project location.

- Arranging and attending meetings to ensure operational matters and project progress is reported accurately back to the customer.
- Create neighbourhood groups as a mechanism to keep those outside of the project, but impacted by it, informed.
- Keep customers informed of risks of a more general nature, e.g. possible delays due to impact of other projects adjacent which may cause disruption or delay.
- Work with the nominated user representatives, Project Manager and Estates colleagues to ensure a key suiting and/or signage strategy is established and implemented.
- Work closely with nominated building users to co-ordinate drainage, electrical or mechanical services shutdowns and their wider implications upon neighbouring activities.
- Advise IT Services/Networks/Telecoms of project works.

Commissioning and Handover Stage:

- Work with the Project Manager and Academic colleagues regarding planning occupancy, moves and new furniture procurement and delivery.
- Contribute to the post occupancy evaluation of the project to ensure lessons learnt and good practices are fed into future projects.
- Establish a project operational working group where required, comprising members of your team and colleagues in the Directorate of Estates and Facilities to ensure services will be in place upon handover such as cleaning, post and service contracts, any warranty information and clear lines of communication of defects reporting.
- Establish a Focus Group for all aspects of occupying the new facility (or attendance within existing buildings).

User Co-ordinator role

The User Co-ordinator is responsible for:

- Acting as the primary Faculty/School/Directorate point of contact for the project, representing the client's views and needs
- Co-ordinating the provision of detailed information on the physical area and client requirements
- Ensuring decanting, clearance and staffing issues are considered.
- Working with the Project Sponsor, Project Manager and Faculty Estates Team to develop the brief, and to sign-off the project specification on behalf of the Faculty/School/Directorate.
- Ensuring the Faculty/School/Directorate as a whole is made aware of the works being undertaken and the likely effects of the works on operations (i.e. disruption and noise)
- Attending client briefing meetings, design team presentations and progress meetings to ensure a positive information flow in both directions
- Ensuring that the Faculty/School/Directorate fulfils its responsibilities to the project providing any information requested by the Project Team and assisting in co-ordinating activities with the Faculty/School/Directorate

Work with FET on handover of scheme from contractor to directorate to occupancy.

Project Team

In order for projects to be successfully delivered there is the need to rely extensively on a team of externally appointed construction professionals, ranging from architects to builders, of all

whom will be directly appointed through the Capital Projects Unit via the Client Representative (CR). Details of how the team could be procured are set out in section 5.

Following project approval and allocation to a CR the next stage is to appoint the project design team and external Project Manager. Typically the project team will comprise:

- Project Manager (External)
- Cost Manager/Quantity Surveyor
- Architect
- Services Engineers
- Structural and Civil Engineers
- CDM-C
- Environmental Sustainability Advisor (ESA)

Additional specialist services may be required dependent on the nature and complexity of the project and may include services to cover such areas as:

- Fire
- Acoustics
- Access/DDA
- Vibration

These specialist consultants, amongst others, may be appointed to the core team or services can be brought in on an ad-hoc basis to advise the design as it develops.

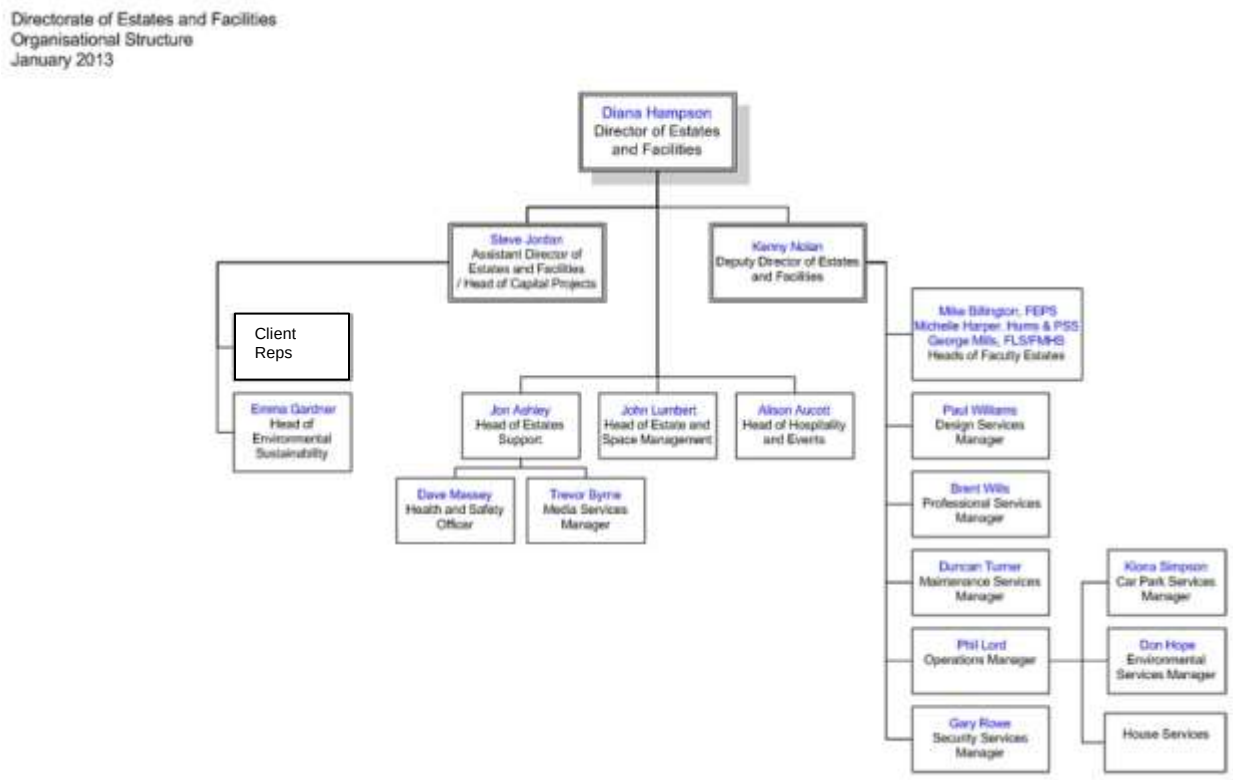
Meetings

The Project Sponsor will be expected to hold and attend a number of meetings these include the Capital Planning Sub Committee and Project Committee meetings.

Other meetings will be required dependent on the project nature, timescales etc. These will be confirmed by the Client Representative.

3.0 Estates Structures and Roles

Directorate of Estates and Facilities Organisational Structure



Director of Estates and Facilities (http://www.estates.manchester.ac.uk/services/)

Estates and Facilities provide all services relating to the operation and maintenance of University building structures and associated engineering services; this encompasses planned maintenance and reactive repairs, internal cleaning, window cleaning, pest control, waste management, grounds maintenance, car parking, security and energy management.

Capital Projects Unit: responsible for the strategic planning, procurement, delivery and successful handover of major building projects.

Car Park Services: is one of the units within Operational Services and they provide and monitor permits for staff and visitor parking, and provide access to secure cycle shelters for staff and postgraduate students.

Design Services Unit: offers a multi-disciplinary design and project management service in relation to the alteration, refurbishment, planned maintenance and new build.

Environmental Services: is one of the units within Operational Services and is responsible for the day to day operational management of landscaping, external cleaning, recycling and waste disposal.

Environmental Sustainability: responsible for all environmental sustainability issues at the University.

Estate and Space Management: provide estate, space and drawing management services for the whole of the University's estate.

Estates Support: provide services in relation to Central Teaching Spaces, Media Services, Estates Health & Safety, Compliance and Projects & Utilities Finance & Administration.

Faculty Estates Teams: operate within each Faculty and the PSS to provide liaison and communication.

Hospitality and Events: responsible for University catering, hospitality, conferencing and events.

House Services: is one of the units within Operational Services and is responsible for the day to day operational management of cleaning, portering, mail, washroom services, out of hours events and window cleaning.

Maintenance Services: provide responsive and efficient delivery of the day to day maintenance and repair of building and engineering infrastructures across all the campus areas.

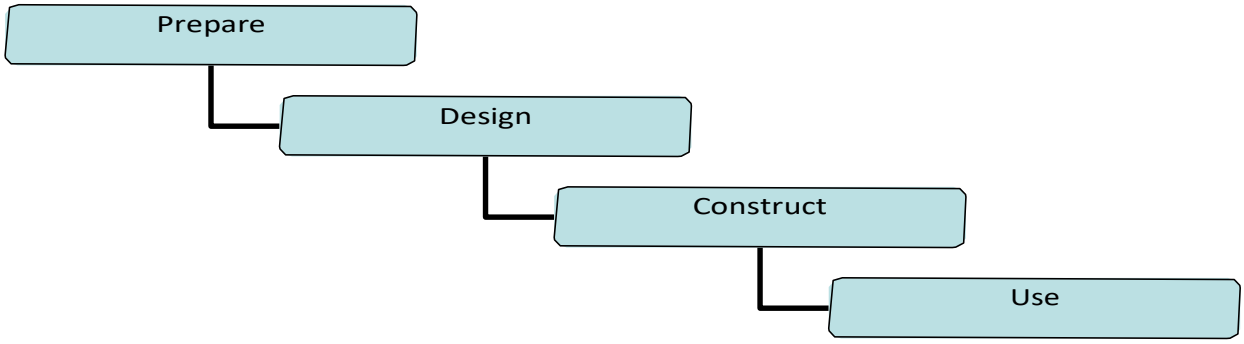
Client Services Unit: has a custodial role in the strategy management of the estate and brings together a number of estates and facilities client-side functions with the aim of providing a single point of service delivery for internal and external stakeholders working with the Directorate.

Security Services: provide security across all of the University campus areas and manage access control systems.

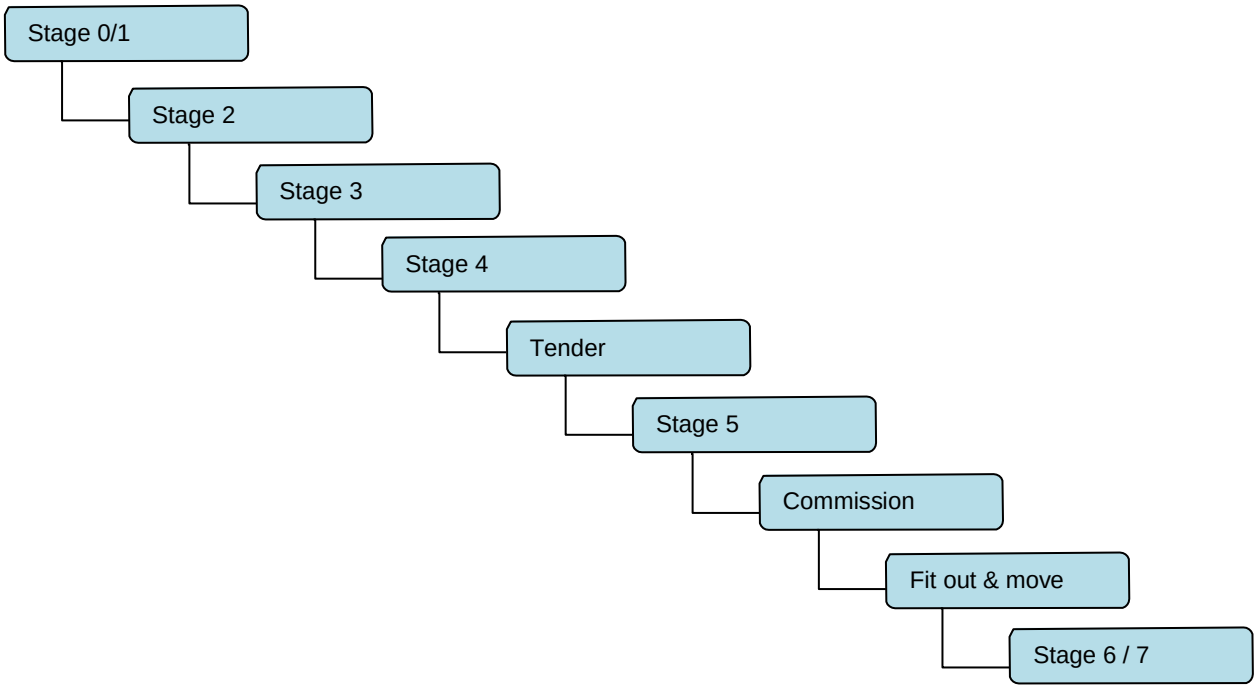
4.1 Project Stages

4.2 Why are projects managed in stages?

Every project (not just construction) can be broken down into the following simple stages.



On a construction project, these stages can be further broken down into the following stages.



Ideally each stage should be complete in full before proceeding to the next stage, however good teams can manage two stages at the same time. This is particularly true during the design stage when the process need to be iterative i.e. the design work needs to be done to test the

brief (and budget) and as the detail level of design increases the level of detail on the brief also needs to increase.

Significant problems occur on projects when teams try to manage three stages at the same time, for example:

- design when there is no concept
- build when there is no design
- use the building when it has not been commissioned

4.3 The Royal Institute of British Architects (RIBA) Design Stages

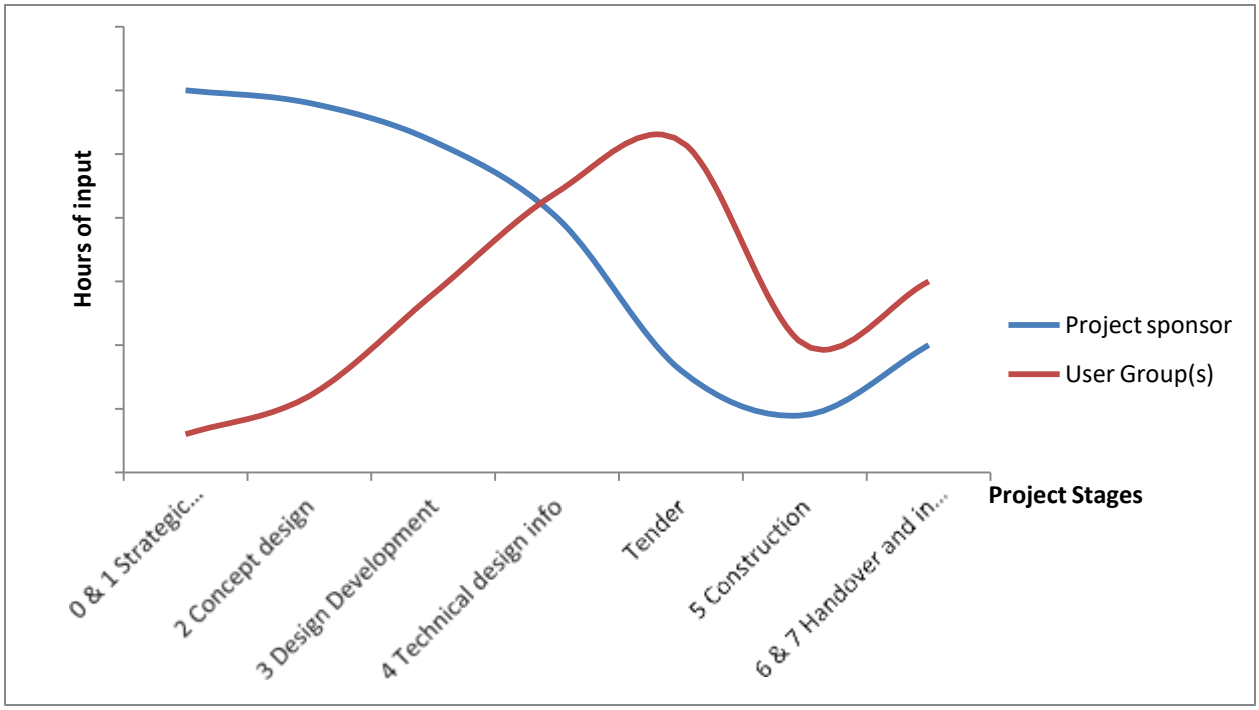
Construction teams use a standard set of stages that are defined by the RIBA. The RIBA have recently introduced a new Plan of Work 2013 which has addressed the following issues:

- Integrating sustainable design
- Mapping Building Information Model (BIM)processes
- Providing flexibility around planning procedures
- Addressing changes in the way building services design is delivered
- Responding to the recommendations of the UK Government Construction Strategy
- Providing straight forward mapping and flexibility for all forms of procurement

The Directorate of Estates and Facilities are currently amending our processes and documentation over to the new Plan of Work. It should be noted that during this transition period, teams will probably continue to refer to the 'old' stages i.e. Stage C, D etc. The stage references are shown for both the old and new plan of work in section 7.0.

A copy of the new Plan of Work is included in Appendix E:

4.4 Project Sponsor level of input over the Stages



4.5 End of stage sign off

At the end of every major design stage (1 – 4) the design team will prepare a formal end of stage report for approval from both Estates and the Project Sponsor (on behalf of the user group).

Estates have standard processes for the technical review and approval of the design report.

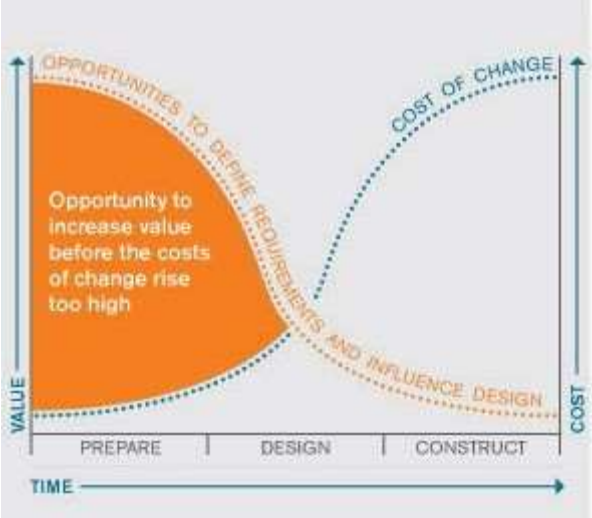
The Clients Representative will normally arrange for a presentation of the design report and will work with the Project Sponsor to obtain the user group collective comments on the report. It is likely there will be conflicting views and issues that will be encountered during the process and the Project Sponsor may have to make difficult decisions and manage these conflicts within the user group.

The process of approving the design reports confirms what will be delivered on an incremental basis and the level of detail on the projects will increase with each report. The importance of these reports cannot be over emphasised. These reports become 'the bible' for what will be built, so appropriate time must be spent considering their content and approval.

Project teams need to appreciate that user's will be nervous about signing off their requirements and can sometimes think that it is their only opportunity to influence the process. This is particularly true during the early design stages. Your Clients Representative will work with you so that you and the user groups understand what they are approving at each stage. Please remember it is an incremental process. Some examples of what is and what is not being approved during Stages are shown in Appendix F**.**

4.6 The impact of change

The reason for the importance of getting the project right at each stage is that the impact and cost of change increases through the life of the project, as shown on the following diagram:



For example changing a room location in the early design stage will cost very little, changing it when the project is being constructed will have a significant cost. For this reason a change control system will be used during the later design stages and in the construction stage to ensure that the impact of change is understood prior to commitment.

Whilst some change is inevitable, once we have completed the design process, we need the Project Sponsors help to provide strong leadership to resist change as much as possible.

5.0 Systems & Procedures

5.1.1 Appointment of Consultants

All appointments shall be made in line with the University of Manchester Financial Policy; Section 6 and Annexe to 6; Purchasing Procedures within the Directorate of Estates.

There are three main options available for the procurement of consultant services:

Option	Time required	Value limitations	Key Features or issues
Supplier List	2-4 weeks	<£174k	• UoM managed (flexibility of list / KPI's) • Core Disciplines only • Unlikely to be able to be used on major projects due to fee value (except CDMc & ESA)
GPS / EPS	4-8 weeks	>£174k	• Framework procured via OJEU • Single PM & full design team • GPS Lapsed at present • Limited choice of PM's • Lack of choice for design team
OJEU	12+ weeks	>£175k	• Open to all (can be inundated) • Separate procurement for each core discipline • Lengthy exercise (EOI, PQQ, ITT to 5) for each discipline

The University of Manchester – Consultant Supplier List

A list of consultants than can be utilised where the level of their fees is anticipated to be below the OJEU threshold (circa £174k). Often the fee level is such that this list is not able to be used for major capital projects with the exception of the Environmental Sustainability Advisor and CDM Co-ordinator roles.

Government Procurement Services (GPS)

This is an OJEU compliant framework from which a Project Manager and Full Design Team can be appointed under a single contract. The contract ended in June 2013 but a replacement is anticipated early in 2014. The Project Manager organisation will present their preferred design team members as part of their submission.

Key Features:

- Issue of Expression of Interest Letter together with a **pre-qualification questionnaire** (PQQ)) The University will carry out a short-listing exercise from those organizations

expressing an interest. (Those meeting the University's selection criteria will be invited to tender).
- All short-listed organizations are invited to tender (ITT).
- Following the submission of tenders the contract will be awarded to the tenderer deemed to provide the most economically advantageous offer based on evaluation criteria of financial standing, quality and ability and price.
- This is a relatively quick process as timescales for responses are set by the University (4 to 8 weeks).
- There are a limited number of Project Manager Organisations on the Framework (8No.)
- The University does not have a major input into the selection of design team members.

North West construction Hub (NWCH)

Very similar to the GPS framework noted above, used for full team appointments.

OJEU Process

For *services* with an estimated value greater than the EU Procurement Threshold (£173,934) The University may decide to procure services following the OJEU Restricted Process:

Key Features:

- Issue of OJEU Notice; The University will carry out a short-listing exercise (using a **pre-qualification questionnaire** (PQQ)) and only those meeting the University's selection criteria will be invited to tender.
- A minimum of five suppliers must be invited to tender (ITT) (unless fewer suitable candidates have met the selection criteria and these are sufficient to ensure genuine competition).
- Following the submission of tenders, no negotiation with tenderers is permitted, just clarification of the tenders submitted and a finalisation of contract terms with the successful tenderer.
- The contract will be awarded to the tenderer deemed to offer the most economically advantageous offer based on evaluation criteria of financial standing, quality and ability and price.
- This is a lengthy process and take over 3 months to complete.
- The University has ultimate say in the appointment of design team.

5.1.2 Appointment of Building Contractors

For works (construction) below the EU Procurement Threshold, building contracts shall be tendered in line with the University of Manchester Financial Policy; Section 6 and Annexe to Section 6; Purchasing Procedures within the Directorate of Estates. (Link to be added)

Option	Time required	Value limitations	Key Features or issues
UoM framework	4+ weeks	<£4m	• UoM managed (flexibility of list / KPI's) • 15 Contractors in 3 groups • Mini competition within the relevant group
NWCH	4+ weeks	Various	• Framework procured via OJEU • Limited choice of contractors • Not used so far by UoM
OJEU	12+ weeks	>£4m	• Open to all (can be inundated) • Lengthy exercise (EOI, PQQ, ITT to 5)

Construction works with an estimated construction value below £4million works may be procured through the University's Construction Works Framework. An internal framework administered by Design Services Unit.

All construction works with an estimated value greater than the Construction Works Framework or greater than the EU Procurement Threshold (£4,348,350) shall be procured under the European Public Contracts Regulations 2006 (*SI 2006/5*).

Typically this is referred to as the 'OJEU Process'. The procurement of construction works shall follow the restricted procedure. The key features are the same as those identified in section 5.2.3 above related to the OJEU procurement of consultants.

5.1.3 Appointment of Sub contractors

The building contractors often appoint sub-contractors to undertake packages of work; the University therefore does not have direct control or a contractual relationship with them.

5.2 Toolkit

5.2.1 Project Execution Plan

Prepared by the external project manager the Project Execution Plan (PEP) is a formal document describing how, when and by whom the project will be delivered. The plan serves as the main method of ensuring that everyone is aware and understands the project objectives and how they will be accomplished.

The PEP will cover such areas as:

- Project Objectives and Priorities
- Organisation, Roles and Responsibility
- Project Strategy (How the project will be managed in terms of design, procurement and construction).
- Project Controls (Change Control procedures, Programme Management, cost Management etc).
- Risk Management (Highlighting critical issues, risk and uncertainties which could threaten the successful achievement of project objectives).
- Commissioning, Operation and Maintenance

5.2.2 Project Collaboration Tools

All successful projects rely on the exchange of information between relevant parties. In order to ensure this information is carefully managed and more importantly kept up to date many of our major projects will make use of online collaborative project management software specifically design to connect people, information and processes.

A typical software solution will provide, amongst other things:

- Document Management
- Communications Management
- Forms and Work Flows
- Contract Management
- Reporting

The Directorate of Estates and Facilities are currently in the process of developing/procuring a standard Project Collaboration system which will be utilised on all projects.

5.2.3 Building Information Model (BIM)

BIM is a process involving the generation and management of digital representations of physical and functional characteristics of a facility.

The resulting digital model becomes a shared resource that can be used to aid design development and decision making during all design stages and through into construction where it can be used to help in developing the build process and identify likely areas of clashes. The model can even be used during the facilities operational life and ultimately its demolition.

Typically used on larger scale projects, BIM is an extremely useful visualisation tool used to provide a clearer 3 dimensional understanding of a building and different building elements. This will include building massing and orientation, space planning and room layouts as well as offering an opportunity to produce photo-realistic images of external facade/elevational treatment.

5.2.4 Benchmarking

All projects will be assessed against a number of internal and external benchmarks to ensure that facilities developed are the most efficient. As a management tool benchmarking will aid in

this evaluation process. Each project will be assessed against a number of different criteria and shall include:

- Space Norms; assessment of proposed designs to ensure they comply with the University Space Standards
- Cost comparison of projects of a similar nature (both internal and external). This may include a whole building assessment or simply individual building elements e.g. External cladding systems.
- Environmental Sustainability - Energy Assessments; Comparison of energy use of similar projects as well as benchmark targets established in line with the University's Carbon Management Plan and Environmental Sustainability Tracker.

5.2.5 Change Control

Change Control is the process of dealing with proposed alterations to items within the design and construction phases that had been agreed as fixed. As noted in previous sections the impact of changing the scope or works, both in terms of cost and programme, can vary and is very much dependant on the stage of the project. The effective communication and collaboration between all project participants (including contractors) is essential for successfully managing the process and to avoid adverse or unexpected effects to the project.

Limiting the requests for change will reduce the overall impact on successfully achieving the project outcomes in terms of time and programme. Each individual project team will have their own methodology for handling change requests however the Project Manager will be responsible for recording and reporting deviations. These will be including in the CR's report to the Project Committee Meetings. It is the responsibility of the Project Sponsor (with advice from the project team) to approve or reject these requests.

An example of the levels of delegation that might be utilised on major capital projects is noted below; the actual levels will be agreed on each project:

Approval Level	**Single Change Value**
CPSC	Value expected to cause project to exceed project budget
Director of Estates	Value unlimited - provided value is expected to be contained within project budget whilst retaining sufficient contingency for remainder of project
Head of Capital Projects	Up to £100k - ditto
Client Representative (aka Internal PM)	Up to £25k - ditto
Project Manager (aka Consultant PM)	Up to £5k - ditto

6.1 Monitoring & reporting

The Client Representative and Project Sponsor are responsible for monitoring and reporting on their projects.

The standard reports are:

- Project Sponsors Report (may be verbal)
- CR Project committee report (add link to report)
- CR Capital Project Finance report (ditto)

Project Sponsors Report

Project sponsors will provide a report (written and verbal) to the project committee on any significant project issue that falls within their responsibility. It is anticipated that this could include issues associated with:

1. Briefing/user group
2. Business case
3. Operational matters
4. School furniture, fittings and equipment
5. funder or donor compliance
6. School budget for the project

CR Project committee report

The Project committee report will be produced in advance of all Project Committee meetings and will contain the following sections, where applicable:

1. Executive summary
2. Introduction
3. User and stakeholder engagement
4. Progress and programme
5. Compliance with KPI's (including Environmental Sustainability
6. Procurement
7. Statutory approvals
8. Financial and funding
9. Risks (max top ten)
10. Other issues
11. Key issues/information required

The executive summary also acts as a dashboard view which will be prepared on a monthly basis, as shown below.

MANCHESTER 1824
The University of Manchester

Committee report exec summary

Project number	6050
Project name	Refurbishment of Samuel Alexander Building inc relocation of staff from Oddfellows Hall
Report date	
Project Sponsor	
Client Representative	Jonathan Williams

Cost Report	
Approved budget [date - TBC]	**£0**
Current forecast total expenditure	**£0**
Under/over spend forecast	**£0**
Percentage construction contingency remaining	**#DIV/0!**
Percentage programme contingency remaining	**#DIV/0!**

Programme Report	
Design (Stage 2) Commencement	
Construction Commencement	
Approved completion date	
Forecast completion date	
Difference between forecast and approved (weeks)	**0**
Time Contingency (weeks)	

Status Report		
Summary & overall status		**Green**
Programme		**Green**
Cost		**Green**
Design & quality		**Green**
Risks		**Green**
Communications		**Green**

Status	
Green	Project on course no problems envisaged
Amber	Minor problems with the project, some of which may need escalation
Red	Major problems which are raised in the report, escalation required

CR Capital Project Finance report

The finance report is split into three sections: Total Project Budget Report, Purchase Order and Expenditure Position and Cash flow information.

These reports are updated monthly with expenditure which reflects the information held in Oracle Financials. The CR will also review any changes in forecast expenditure against both the approved budget and the previous report to enable changes to be captured at an early stage.

The following screen shots show the categorization utilized and format of the first two sections of the report. The cash flow section will provide a year by year expenditure profile.

Capital Projects Total Project Budget Report

Project No: 6050
Project Title: Refurbishment of Samuel Alexander Building
Client Representative: Jonathan Williams
Last Updated:
Version number:
VAT

Category		Approved Budget as signed off [insert]	Forecast total expenditure		Movements since last report		Forecast -v- budget
			Previous report	This report	Changes in period	Comments	
1	Professional fees		£0.00	£0.00	£0.00		£0.00
2	Enabling works, surveys & other fees		£0.00	£0.00	£0.00		£0.00
3	Principal Contractor		£0.00	£0.00	£0.00		£0.00
4	Furniture, fixtures and fittings		£0.00	£0.00	£0.00		£0.00
5	Removal and decant costs		£0.00	£0.00	£0.00		£0.00
6	Misc Costs (incl internal charges / attendances, hoarding, fire extinguishers, etc)		£0.00	£0.00	£0.00		£0.00
7	Construction Contingency		£0.00	£0.00	£0.00		£0.00
8	**Total exc VAT**	**£0.00**	**£0.00**	**£0.00**	**£0.00**		**£0.00**
9	Programme Contingency		£0.00	£0.00	£0.00		£0.00
10	VAT		£0.00	£0.00	£0.00		£0.00
10.1	VAT adjustments		£0.00	£0.00	£0.00		£0.00
11	**Total Expenditure**	**£0.00**	**£0.00**	**£0.00**	**£0.00**		**£0.00**

Total construction contingency including VAT remaining as a percentage of the total expenditure (excluding programme contingency)	#DIV/0!	#DIV/0!	#DIV/0!	**Total construction contingency remaining including VAT (this report)**	**0**
Total programme contingency including VAT remaining as a percentage of the total expenditure	#DIV/0!	#DIV/0!	#DIV/0!	**Total programme contingency remaining including VAT (this report)**	**0**

Note: FF&E includes fixed and loose furniture, IT, equipment etc. Where items are funded by Schools/Faculty as directed by the Project Sponsor inclusion of these within the above will be by agreement on a project by project basis

MANCHESTER 1824

The University of Manchester

Purchase Order (PO) & Expenditure Position - Project Summary

Project No: 6050
Project Title: Refurbishment of Samuel Alexander Building
Client Representative Jonathan Williams
Last Updated: 00/01/1900

Category		Forecast total expenditure	Commitments Purchase Orders (PO's) & other commitments to date		Expenditure to Date	% Expended	Balance of commitment
		This report	£	%			
1	Professional fees	£0.00	£0.00	0%	£0.00	0.00%	£0.00
2	Enabling works, surveys & other fees	£0.00	£0.00	0%	£0.00	0.00%	£0.00
3	Principal Contractor	£0.00	£0.00	0%	£0.00	0.00%	£0.00
4	Furniture, fixtures and fittings	£0.00	£0.00	0%	£0.00	0.00%	£0.00
5	Removal and decant costs	£0.00	£0.00	0%	£0.00	0.00%	£0.00
6	Misc Costs (incl internal charges / attendances, hoarding, fire extinguishers, etc)	£0.00	£0.00	0%	£0.00	0.00%	£0.00
7	Construction Contingency	£0.00	£0.00	0%	£0.00		
8	**Total exc VAT**	**£0.00**	**£0.00**	**0%**	**£0.00**	**#DIV/0!**	**£0.00**
9	Programme Contingency	£0.00	£0.00	0%	£0.00	0.00%	£0.00
10	VAT	£0.00	£0.00		£0.00		
10.1	VAT adjustments						
11	**Total Expenditure**	**£0.00**	**£0.00**		**£0.00**	**#DIV/0!**	**£0.00**

The project level dashboard and finance reports will be collated into a Programme level report on a quarterly basis to enable reporting against the masterplan.

Project Contingencies

When budgeting for projects, two different contingency provisions will be made in the budget as follows:

- Design and construction contingency – this will be established by the external PM and design team and will be based on an assessment of the design and construction risk on the project. It will start at a relatively high level (around 7.5-10%) and reduce through the design and construction process. The management of the contingency is the responsibility of the Client Representative (with a change control process).
- Programme contingency – this contingency will be included within the overall project budget in addition to the construction related costs. In the majority of projects this will be 10% of the overall budget. This contingency is for significant unforeseen project or programme risks for example, exceptional contractor price inflation. It is not intended to be used to pay for project scope increases. It should be noted that the Masterplan Programme Board may recommend movement of Programme contingencies between projects. The management of this contingency is the responsibility of the Project Committee.

7.1 Project Sponsor checklist

A checklist of deliverables required by the project sponsor at each stage of the project is shown in Appendix D (also available in EPM PM3 & 5 link to be inserted).

Appendix A - EPM PM16 The role of the Project Sponsor

DIRECTORATE OF ESTATES

PROCEDURE AND INFORMATION MANUAL

EPM PM16

University Project Sponsor for Capital Projects

Definition and Guidance Note

Document Originated:	Nov. 2008	**By:**	T. Humphreys
Issue Nr.	3	**Number of pages:**	7
		Status:	Final Draft
Last revised:	Oct 2013	**By:**	Steve Jordan
Next revision:		**By:**	

PURPOSE

This document provides a description of the role of the University Project Sponsor for capital projects. It is intended as an outline of the role only, as it is accepted that each project may have slightly differing requirements.

Revised June 2013 to include sections on Summary Role, Key Relationships & Interaction, Selection of Project Sponsor and Training

OVERVIEW

One key factor in the success of any project is the leadership and motivation given by Project Sponsors. The Project Sponsor 'owns' the strategic brief on behalf of the project occupiers and stakeholders (the Users) and will ensure strategic alignment between the User's aspirations and long term vision, and the detailed requirements of the project. Experience has shown that where the interface between ownership and delivery is poorly managed, it is difficult to manage the project's critical success criteria.

The Project Sponsor is therefore a key role in the successful delivery of a project, ensuring that the User's strategic project objectives are identified, maintained and achieved in successfully completing the project.

Working in partnership with the Clients Representative (Internal Project Manager), the Project Sponsor will represent the Users and act as the interface between project ownership and project delivery. They will form a single focal point responsible to the Project Committee for day-to-day management of the Users interests in the project.

SUMMARY ROLE, KEY RELATIONSHIPS AND INTERACTION

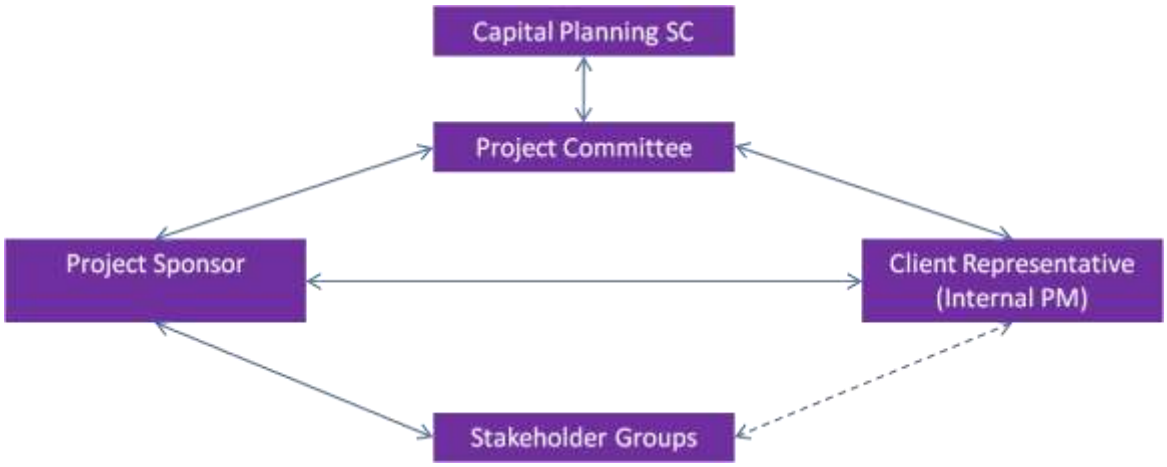
It is a role that will be time consuming and a specific project related assessment of the resources needed to perform this role will need to be undertaken on a case by case basis. This assessment will need to relate to the nature and complexity of the project and the lifecycle window that the project will operate in. It is more than simply being a "figurehead" as much work will need to be undertaken by the project sponsor to ensure that an appropriate vision and associated goals are set for the project. Subsequently, it will be a key responsibility of the Sponsor to ensure that the project strives to meet the vision and goals. Therefore, communication and effective relationships will need to be forged by the Sponsor so that Users are "bought in" to the benefits that the project's vision will deliver.

It is a role that is pivotal in terms of forging a successful partnership with the Directorate of Estates' designated Client Representative and the Users driving the project. Frequent one to one sessions will no doubt contribute to the successful evolvement of this relationship and there should be no project related topics that could not be discussed. This approach can be expanded whereby the Sponsor and the Client Representative host "drop in sessions" for Users to jointly discuss issues and concerns on a regular basis. As a result, formal Project Committee meetings can be a focused forum whereby "no surprises" becomes the norm with regard to progress, financial health and the risks that the project faces.

The Sponsor will have a major role to play in setting expectations with Users. It is

therefore important that the Sponsor will have a good understanding of project timescales, budgets and expenditure forecasting. Much of this information, as a designated project, will be made available through the Client Representative; however, the Sponsor will need to use it to inform choices and key decisions that relate to sensible expectations. This will be an iterative process but the earliest input by the Sponsor will undoubtedly forge trust and common understanding in shaping what can effectively be delivered and by when.

The Sponsor's position in a typical project structure is depicted below whereby the role is situated at the heart of the project with three key interface points.



Please also refer to the "Capital Project Reporting and lines of communication" diagram in Appendix 1.

SELECTION OF THE PROJECT SPONSOR

It is important to recognise that the Project Sponsor will be a focal point to three specific stakeholding groups i.e.

- Project Committee
- Project occupiers and stakeholders (Users)
- Directorate of Estates

With the above in mind candidates should be chosen to ensure that they have appropriate general skills and time allocated to take on the role e.g.

- Effective communication skills
- Ability to lead the collation of a credible business case
- Ability to create and articulate key mission statements, vision and associated goals
- Decision making skills and ability to shape strategic direction of the project
- Confidence to interact with the senior most staff in the University
- Ability to enthuse all stakeholders and ensure that a collaborative attitude is instilled at all levels

- Workload which includes time assigned to undertake the Sponsor role

Careful selection of the individual who will act as the Project Sponsor is therefore vital and final approval of the choice of project sponsor rests jointly with the Director of Estates and Facilities and the Dean of the relevant Faculty (for an Academic Project or the Chief Operating Officer (for non Academic projects).

It should be noted that on some projects involving more than one School or with several large user groups that there may be a need to appoint more than one sponsor. If this is necessary then a Lead Sponsor should be identified.

TRAINING

It is important that all designated Sponsors are provided with supporting material and guidance to undertake the role. Therefore, Sponsors can expect the following assistance led by Estates through a Project Sponsors Group:

- Project Sponsor Handbook – a “go to” point of reference for the core aspects of project sponsorship and summary checklists appropriate to key phases of the project lifecycle
- Training – the Directorate will provide project sponsors with initial training outlining how capital projects are managed and their role and responsibilities on the project
- Mentoring – whereby personnel who have previously and/or currently hold a sponsorship can be assigned to work with others to share experience and knowledge
- Best practice workshops – arranged to allow specific aspects of sponsorship to be enhanced by up to date, effective and valuable initiatives forthcoming across the sector

COMMITMENT

To be effective, the Project Sponsor must have:

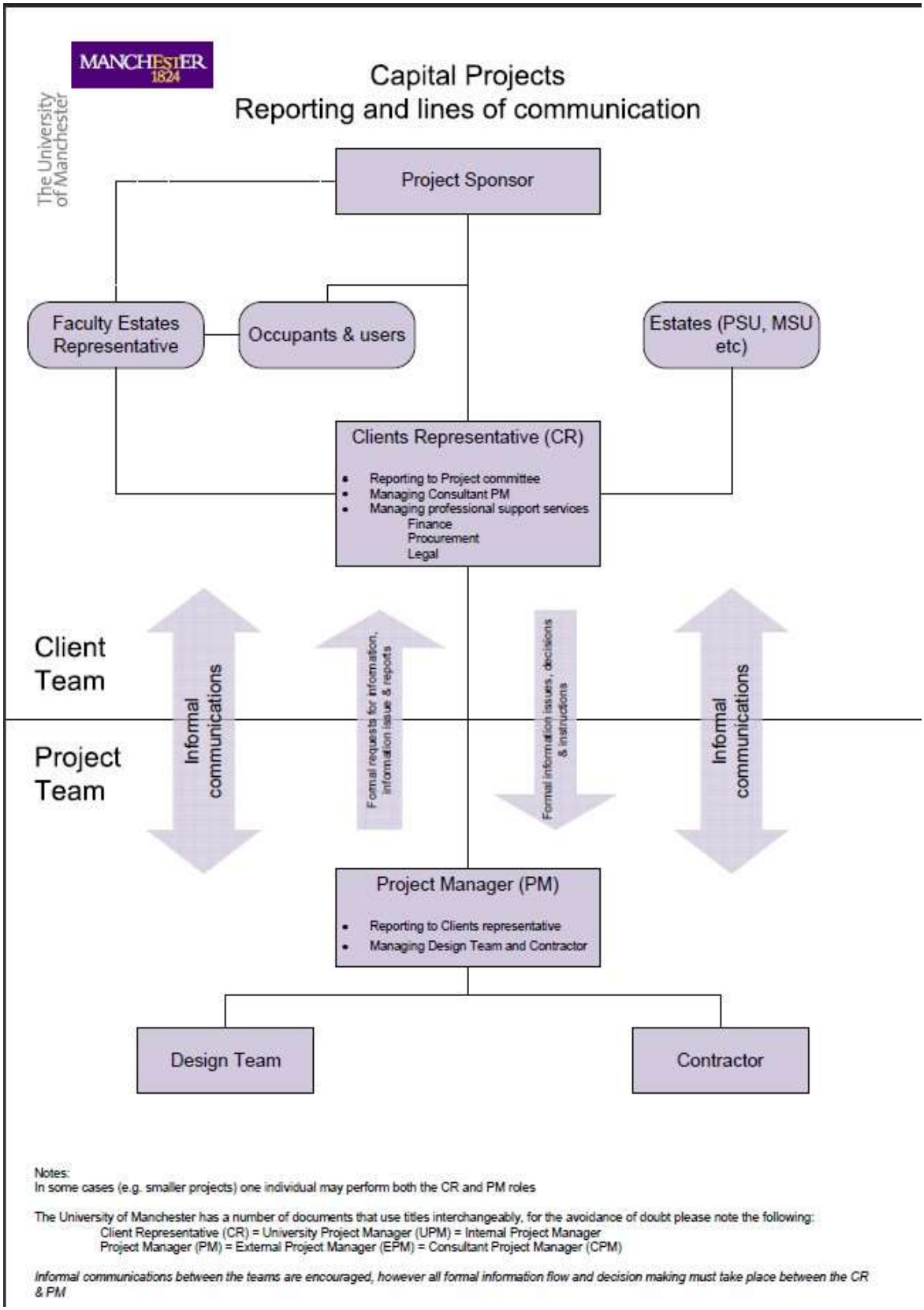
- A deep personal commitment to the success of the project
- A clear understanding of the business drivers for the project
- Authority, responsibility and understanding
- Ability to lead and motivate all those involved
- Continuing responsibility for the project through to completion
- Access to the President and Vice Chancellor and/or Dean of Faculty

KEY RESPONSIBILITIES OF THE PROJECT SPONSOR

The Project Sponsor is responsible for:

- Ensuring the project objectives are identified, maintained and achieved in successfully completing the project.
- Ensuring the project is well defined and then to monitor its delivery.
- Co-ordinating and understanding the requirements of the various end users of the project, in order to develop an acceptable strategic project brief.
- Acting as the Users senior point of contact for the project, managing the Users input, resolving any conflicting requirements that the Users may have.
- Working with the nominated User Co-ordinator(s) to ensure alignment of the Strategic Brief with the operational and functional requirements of the users
- Producing a Business Case/Investment Appraisal, including revenue implications, for presentation to the Capital Planning Sub-Committee for approval of the capital budget allocation
- On completion of the project, ensuring effective feedback as to how far the project met the client's requirements and objectives and identifying the lessons of good and bad practice that need to be learned for the future.

Appendix 1 – Capital Project Reporting and lines of communication



Notes:
In some cases (e.g. smaller projects) one individual may perform both the CR and PM roles

The University of Manchester has a number of documents that use titles interchangeably, for the avoidance of doubt please note the following:
Client Representative (CR) = University Project Manager (UPM) = Internal Project Manager
Project Manager (PM) = External Project Manager (EPM) = Consultant Project Manager (CPM)

Informal communications between the teams are encouraged, however all formal information flow and decision making must take place between the CR & PM

Appendix B - EPM PM4 Client Representative (University Project Manager) for Capital Projects – Scope of services

DIRECTORATE OF ESTATES & FACILITIES

PROCEDURE AND INFORMATION MANUAL

EPM PM4

Client Representative (University Project Manager) for Capital Projects – Scope of Services

Document Originated:	April 2006	**By:**	Diana Hampson
Issue Number:	3	**Number of pages:**	11
		Status:	Consultation
Last revised:	Dec 2012	**By:**	S Jordan
Next revision:	Dec 2013	**By:**	S Jordan

Purpose

This document gives guidelines to Project Managers, undertaking the Client Representative role, within the Directorate of Estates & Facilities to enable them to carry out their role in a consistent manner. All Project Managers are required to comply with these guidelines.

Introduction

The Client Representative (CR) acts as the primary University officer for Capital Projects, taking delegated responsibility for the delivery of a capital project on behalf of the Project Committee. The CR will generally act on behalf of the client (the University of Manchester), acting as the focal point for communication with the Project Team and will speak as the client on all contractual matters. The CR will be a member of the Project Committee and shall advise the Committee on all issues relating to the project in question.

Contents

1.0 Overall Project Management Services

Ref:	Description
1.1	Appoint the Consultant Project Manager (CPM) and ensure he provides a complete and effective External Project Manager service.
1.2	In conjunction with the CPM, appoint other members of Project Team.
1.3	Provide information on the University's strategic brief, broad objectives and constraints to facilitate a review of the project's general feasibility within these constraints.
1.4	Assist the CPM with establishing communication, reporting and authorisation procedures with the Project Team. Establish communication, reporting and authorisation procedures within University.
1.5	Ensure CPM compliance with The University's Regulations and Procedures.
1.6	In conjunction with the CPM, seek and engender a culture of confidence, trust and mutual respect between all members of the Consultant/Project Team.
1.7	Arrange briefing meetings between client representative, Head of Faculty Estates and Design Team.
1.8	Provide details of the University's organisational structure as it will relate to project.
1.9	Complete various work stages on the Estate's Project Management System, applying for formal approval to proceed at each stage.

2.0 Strategic Brief

Ref:	Description
2.1	Ensure the CPM complies with the Strategic Brief, prepared by the University and the Project Execution Plan (PEP), prepared by the CPM.
2.2	Fulfill role of University representative in CPM led review (with other consultants), of the Strategic Brief and/or all other documentation provided by the University. Together with the CPM, examine the project objectives, assumptions and proposals in that document. With the CPM, jointly identify, develop and evaluate possible alternative proposals. Agree way forward with the CPM and ensure incorporation of any alterations into a revised set of documents.
2.3	Ensure the CPM co-ordinates the preparation of feasibility studies, option appraisals and contribution to the business case development by others. Respond to issues raised by studies and appraisals. Seek decisions and approvals as and where appropriate.

3.0 Project Execution Plan (PEP)

Ref:	Description
3.1	Ensure the CPM develops a suitable and sufficient PEP and updates it at regular intervals. Monitor compliance with the PEP and keep under periodic review.

4.0 Funding and Accounting

Ref:	Description
4.1	Work with the CPM in liaison with University representatives, independent monitors and funding bodies.
4.2	Provide the CPM with information of all funding and accounting procedures to enable consultants to be directed accordingly.
4.3	Direct the CPM to liaise with the Funders and their monitors and to allow them access

to any books, records and papers related to the project.

4.4 Ensure the CPM manages the project in accordance with the requirements of any external bodies financing the project.

4.5 Formulate approximate order of costs sufficient to determine budgets, or receive funding information from CPU manager for same.

4.6 Discuss, agree and confirm funding arrangements with the Project Sponsor. Co-ordinate and provide information for the production of a project investment appraisal/business.

4.7 In consultation with the CPM, provide information in a timely manner to assist grant applications to external funding bodies.

5.0 Legal Services

Ref:	**Description**
5.1	Agree and formalise all Consultant Agreements and direct CPM to agree, in conjunction with the University Solicitor, appropriate building contracts.
5.2	Ensure CPM develops a full understanding of all contracts and directs the consultants accordingly.

6.0 Consultant Appointments

Ref:	**Description**
6.1	Agree with the CPM the need for and the appointment of other consultants by the University.
6.2	Oversee the selection of all consultants. Agree and formalise appointments.
6.3	Ensure the CPM promotes collaboration between all consultants.
6.4	Agree services to be provided and formalise appointment of a clerk of works and other site supervisory staff.
6.5	Monitor and review the performance of consultants, clerk of works and contractors in the execution of their duties and the discharge of their responsibilities. Receive reports from the CPM related to same.
6.6	Ensure that the CDMC is engaged sufficiently early in the process in order they can provide a subsequent assessment of the competency of other consultants throughout the design and construction process.
6.7	In conjunction with the CPM, fully brief all consultants on their respective duties, the project procedures and the project.

7.0 Project Brief, Design and Quality Control

Ref:	**Description**
7.1	In conjunction with the CPM and other consultants co-ordinate the preparation of the project brief. Ensure the CPM examines all information relating to the project prepared by or for the University and confirms that the most efficient use of the building, as adapted by the project, will be achieved. Monitor the search for alternative solutions. Oversee the modification and amplification of the project brief as necessary during design development. Review incorporation of any changes and confirm University's authorization for them.
7.2	Receive and act on advice from the CPM on the arrangement of structural surveys, other surveys and investigations.
7.3	With the CPM, jointly review design proposals in terms of construction viability. Ensure that the CPM and consultants review buildability and technical design proposals with

appropriate specialists.

7.4 Review design and cost proposals with the CPM at RIBA Plan of Work milestone stages and provide University approval prior to commencement of subsequent RIBA Plan of Work stages.

7.5 Agree with the CPM procedures for checking compliance with the design brief. Monitor and review periodically.

7.6 Formulate and agree scope of services with CPM for consultants in relation to procurement of specialist design from contractors and suppliers as may be necessary. Formalise appointment as appropriate.

7.7 In consultation with the consultants and stakeholders, participate in value management and whole life cycle cost workshops for the scheme throughout the project.

7.8 In conjunction with the CPM, consider the need for quality assurance schemes, defects insurance and product guarantees.

8.0 Reporting, Meetings and Procedures

Ref: Description

8.1 Collaborate in the setting up of a management structure for the project to define responsibilities, lines and channels of communication, reporting and authorisation procedures with and between the consultants, contractors and other advisors/stakeholders.

8.2 Agree structures for meetings including procedures for convening, chairing, attendance, function, frequency and responsibility for recording meetings and circulation of information.

8.3 Attend relevant meetings and take part in the decision making process. When appropriate, obtain authorisation before notifying consultants of University decisions.

8.4 Attend and contribute towards the regular project progress meetings.

8.5 Review and agree systems/documents devised by the CPM to monitor parameters such as performances, programme, design development, compliance with approved project brief/design proposal, cost and quality and general administration of the project.

8.6 Consider reports provided by the CPM throughout the duration of the project on programme and progress, budget and cost, risk, problems, changes, quality, health & safety, consultant and contractor performance. In addition to the CPM reports, consider other reports provided by the Project Team including the contractor and where appropriate, forward reports to the Project Committee, including Project Sponsor(s).

8.7 Receive and act upon as appropriate, all information provided by the CPM, examples such as reports, minutes and other information and communications.

8.8 Attend University Project Committee meetings formulated for the project and deliver the project report. Provide advice to the Project Committee on technical project and budgetary issues and request approvals.

9.0 Planning

Ref: Description

9.1 Receive and agree the project master programme from the CPM, to identify the various stages, their timescale, milestones and target delays.

9.2 Receive from the CPM a detailed pre-contract and preliminary construction programme including phasing and provide University approval. The pre-contract programme will indicate the dates for completion and approval of the key design

stages together with the University's approval milestones, and issue of the primary elements of the production information.

9.3 Receive reports from the CPM on progress against the agreed master programme.

9.4 Receive advice from the CPM on the effect of potential changes upon the programme and agree appropriate action.

9.5 Oversee implementation of agreed changes to the master programme following consultation with the CPM.

10.0 Costs, Planning and Control

Ref: Description

10.1 Receive budget costs from the CPM and review with the CPM and Quantity Surveyor (QS).

10.2 Receive a master cost plan from the CPM and review with the CPM and QS.

10.3 Obtain elemental construction cost plans from the CPM and attend regular reviews with the CPM and QS.

10.4 Obtain reports of the cashflow forecasts from the CPM and attend regular reviews with the CPM and QS.

10.5 Receive regular cost reports from the CPM against the master cost plan, including forecast of final costs, costs of instructed and potential variations, extensions of time and other issues affecting cost and ensure that such systems are in accordance with University requirements.

10.6 Provide University authorisation where the cost of the variation exceeds the limit of authority.

10.7 Review cost estimates with the CPM and QS for alternative design development solutions.

10.8 Receive regular reports from the CPM and QS, on valuations of work under the building contract, certificates and invoices and process for payment where appropriate.

10.9 Receive invoices from consultants, contractors and other suppliers and process for payment where appropriate.

10.10 Obtain recommendations from the CPM in terms of fees for statutory authorities and process for payment where appropriate.

10.11 In conjunction with the CPM, monitor the project budget and implement agreed changes with the CPM in the event that projected costs exceed the agreed budget.

10.12 Receive reports from the CPM that the Contract Administrator has discharged the Contract Administration duties as defined in the contract.

10.13 Provide regular cash flow forecasts to the Directorate of Finance.

10.14 Develop a cost plan to include all project costs, including both contract/construction costs and University direct costs (fees, surveys, FF&E, vat etc.,)

10.15 Provide regular progress updates to the client/project sponsor.

11.0 Change Control

Ref: Description

11.1 Ensure the CPM adopts and implements an appropriate change control procedure and monitor compliance throughout the project.

11.2 Determine with the CPM the limit of authority of the Architect to issue instructions without obtaining the CPM's or EPM's prior approval.

12.0 Risk Management

Ref: Description

12.1 Ensure the CPM adopts and implements an appropriate risk management procedure and monitor compliance throughout the project.

12.2 Monitor the preparation of a project risk register by the CPM and ensure this is updated at appropriate stages throughout the project.

13.0 Local and Statutory Authorities

Ref: Description

13.1 Receive the development control requirements from the CPM and provide University consent where applicable.

13.2 Monitor and support the CPM where necessary in negotiations with the planning authority.

13.3 Monitor the CPM's co-ordination of other consultants to ensure that development control requirements proceed in accordance with the agreed programme, including the submission of detailed information.

13.4 Oversee the CPM's progression of the formal planning and Building Regulation applications.

13.5 Ensure the CPM checks that the consultants deal with all conditions and reserved matters attached to the development control requirements.

14.0 Procurement

Ref: Description

14.1 Advise the CPM of any relevant University procurement strategies for the project, having due regard to the University brief, programme, market conditions and the University requirements for risk allocation.

14.2 Receive advertisements from the CPM for the Official Journal of the European Community and oversee co-ordination with the University procurement office.

14.3 Participate in the tendering, interviewing and short-listing of contractors. Receive the pre-qualification criteria from the CPM.

14.4 Discuss with the CPM and receive advice on the need for bonds, warranties, insurance's and amendments to the Standard Form of Contract.

14.5 Ensure that tender documents are prepared in accordance with the agreed University policy and standards.

14.6 Receive tender reports from the CPM and attend final contractor interviews. Receive recommendations for selection from the CPM.

14.7 Oversee the co-ordination and preparation of contract documents by the CPM and other consultants and their execution by the University and contractors.

14.8 Receive and act upon advice given by the CPM to place orders for long delivery items and novation of the supplier if appropriate.

14.9 Receive and act upon advice given by the CPM on the need for appointment of separate enabling works contractors for demolition, services diversions etc. Ensure that the CPM instigates appropriate procedures for implementation of a procurement process for same in accordance with the programme and University requirements.

15.0 Construction

Ref: Description

15.1 Ensure the CPM examines the contractor's proposals for constructing the works and receive comments regarding the construction method and sequence of working.

15.2 Ensure the CPM reviews and reports on the contractor's detailed construction programme.

15.3 Receive reports from the CPM on the contractor's staffing of the site to ensure proper

management and quality control procedures are implemented.

15.4 Ensure the CPM arranges for the preparation of schedules identifying when design information is required for ordering or for construction purposes in order to achieve the construction programmes. Ensure the CPM monitors the issue of design information by the consultants and endeavours to ensure that the required dates are being achieved.

15.5 Together with the CPM, ensure suitable progress monitoring and reporting procedures are implemented by the contractor. Ensure regular monitoring and inspection of activities are carried out by the CPM on site. Ensure the CPM co-ordinates the consultants and information is provided to contractors. Ensure the CPM sets up procedures and arrangements for meetings with consultants and contractors to discuss information requirements, contractor's requests for instructions, architects instructions, provisional work and appointment of subcontractors. Ensure the CPM establishes action requirements of parties and timescales and subsequently follows up progress not later than the date agreed for the action required.

15.6 Monitor the CPM to establish an effective dispute evaluation process and actively assists in the resolution of disputes.

15.7 Ensure the CPM co-ordinates and manages a comprehensive commissioning programme and disseminates to the University Estates staff as defined in the Design Teams Guide.

15.8 Ensure that Finance/Procurement are consulted in terms of any insurance requirements.

15.9 Liaise with HoFE's and other stakeholders regarding commencement of site activities.

15.10 Act as the initial point of contact for the University throughout the construction period.

15.11 Advise HoFE on service shutdown requirements.

15.12 Liaise with House Services regarding cover for out of hours working.

15.13 Arrange with the HoFE to visit site at various stages of the project.

15.14 Arrange to meet with building/campus users to consider the impact of the scheme.

16.0 Handover

Ref: Description

16.1 Ensure that the CPM co-ordinates the handover process and inspections between the University, consultants and contractor in accordance with University Handover Procedures.

16.2 Monitor that the CPM oversees the preparation of Operation and Maintenance Manuals to meet with the University requirements together with record documentation in conjunction with the CDMC.

16.3 Advise the CPM of the University issues surrounding phased handover of the project and in the logistics of taking possession of the project.

16.4 At completion, ensure that the CPM checks that all required reports and certificates have been obtained and are collated.

16.5 Ensure that the CPM takes overall responsibility to ensure that all parties are made aware of their responsibilities in planning for the possession and occupation of a building/facility by the end user following construction works.

16.6 Ensure that the project team has adequately planned for the completion, handover and subsequent occupation of the building/facility by the end user by introducing to the project team the use of a Project Handover Timeline and adherence to the Project Handover Control Schedule.

17.0 Occupation and Fitting Out

Ref: Description

17.1 Monitor the CPM in the co-ordination of the supply of furniture, equipment and fittings to be provided by the University.

17.2 Ensure the CPM assists the University with the occupation of the buildings including relocation from existing premises.

18.0 Defects Liability Period

Ref: Description

18.1 Monitor the CPM in ensuring that at the end of the defects liability period all work is complete.

18.2 Act as the initial point of contact for University in terms of advising the CPM of defects.

18.3 In consultation with the CPM, arrange access with the Users for rectification of defects.

18.4 Attend any post-completion review meetings.

18.5 Report and advise the Project Committee on the proposed final account figure.

18.6 Negotiate and agree consultant final accounts and issue confirmation of agreements.

19.0 Project Completion

Ref: Description

19.1 Attend and participate in a technical project review and receive a report from the CPM.

19.2 Attend and participate in a University post project review at practical completion and end of defects period.

19.3 Ensure the CPM oversees and confirms settlement of final accounts with contractors and suppliers.

19.4 Ensure that a Defects Management Procedure is introduced and agreed, so that all affected parties are fully aware of the process to be adopted for the reporting and attendance to defects that may occur during the defects liability period.

19.5 Ensure that key end users e.g. Heads of School/Division/Function have been fully briefed as to what their responsibilities are once the building/facility has been occupied by their staff.

19.6 Ensure that all necessary precautions have been taken to minimise/control risk at and following handover and occupation of the building by the end users.

19.7 Prior to handover, arrange for key Estates functions (e.g. Help Desk, Maintenance Services, Professional Services, House Services etc.) to be fully briefed on the nature of the facility and establish what training and support is required pre and post handover and what area of the building/facility become the responsibility of the Directorate of Estates (e.g. plant rooms, switch rooms, circulation areas etc.) that may result in the need for new risk assessments and planned maintenance schedules.

19.8 Arrange for Operating and Maintenance Manuals and Health & Safety Files, including the relevant certificates, to be delivered to the Directorate of Estates via the project team.

19.9 Take receipt of the building keys from the principal contractor and then issue pre-agreed sets to a nominated end user(s) and to an appointed member of estates.

19.10 Notify the University's insurers via the Insurance Office that Practical Completion has been achieved.

19.11 Maintain appropriate contact with the Estates Health and Safety Officer to make him aware of particular issues that may affect the occupiers/end users of the building/facility in order that he may liaise with his counterpart in the School/Division.

19.12 Ensure that s/he remains aware of significant issues within the building/facility that would not normally be dealt with by the Help Desk but are affecting the ability of the end users to adequately function.

19.13 Ensure that the CPM is liaising with the project team to progress the investigation and

subsequent action with respect to significant items within the building/facility that are not considered general defects/snagging items.

19.14 Work closely with the Faculty Estates Team to ensure that there is regular communication of both general defects/snagging items and more significant defects so as to keep end users informed of progress.

19.15 Close the project.

20.0 Authority of Project Manager

Ref: Description

20.1 Ensure that the CPM will only act upon instructions issued by the Director of Estates or their named representative.

20.2 Monitor the CPM to ensure there is no change to the project brief without the written instruction of the University.

20.3 Ensure that the CPM does not change the consultant's conditions of appointment or waive compliance with the same without the written instruction of the University.

20.4 Direct the CPM to ensure no granting of assent to a consultant to assign all or part of their work takes place during the project.

20.5 Ensure that the CPM does not change the design or specification of work without the written instruction of the University.

20.6 Direct the CPM to ensure that the written consent of the Director of Estates or representative has been obtained before tender documents for building work are issued to potential contractors.

20.7 Ensure that the CPM does not appoint a contractor and ensure that all contracts will be entered into by the University.

20.8 Ensure that the CPM does not change a contractor's contract or waive compliance with the same without the written instruction of the University.

20.9 Monitor that the CPM does not grant assent to a contractor to assign all or part of their work.

20.10 Ensure that the CPM does not commit the University to either the temporary or permanent relocation of staff and students without the written instruction of the University. Provide the written instruction where applicable.

21.0 Optional Services

Ref: Description

21.1 Oversee that the following services will be reimbursed on a time charge basis and ensure that the CPM and other consultants provide comprehensive records of time spent prior to reimbursement.

21.2 Visits to examples and other buildings off campus.

21.3 Presentations, beyond normal client presentations.

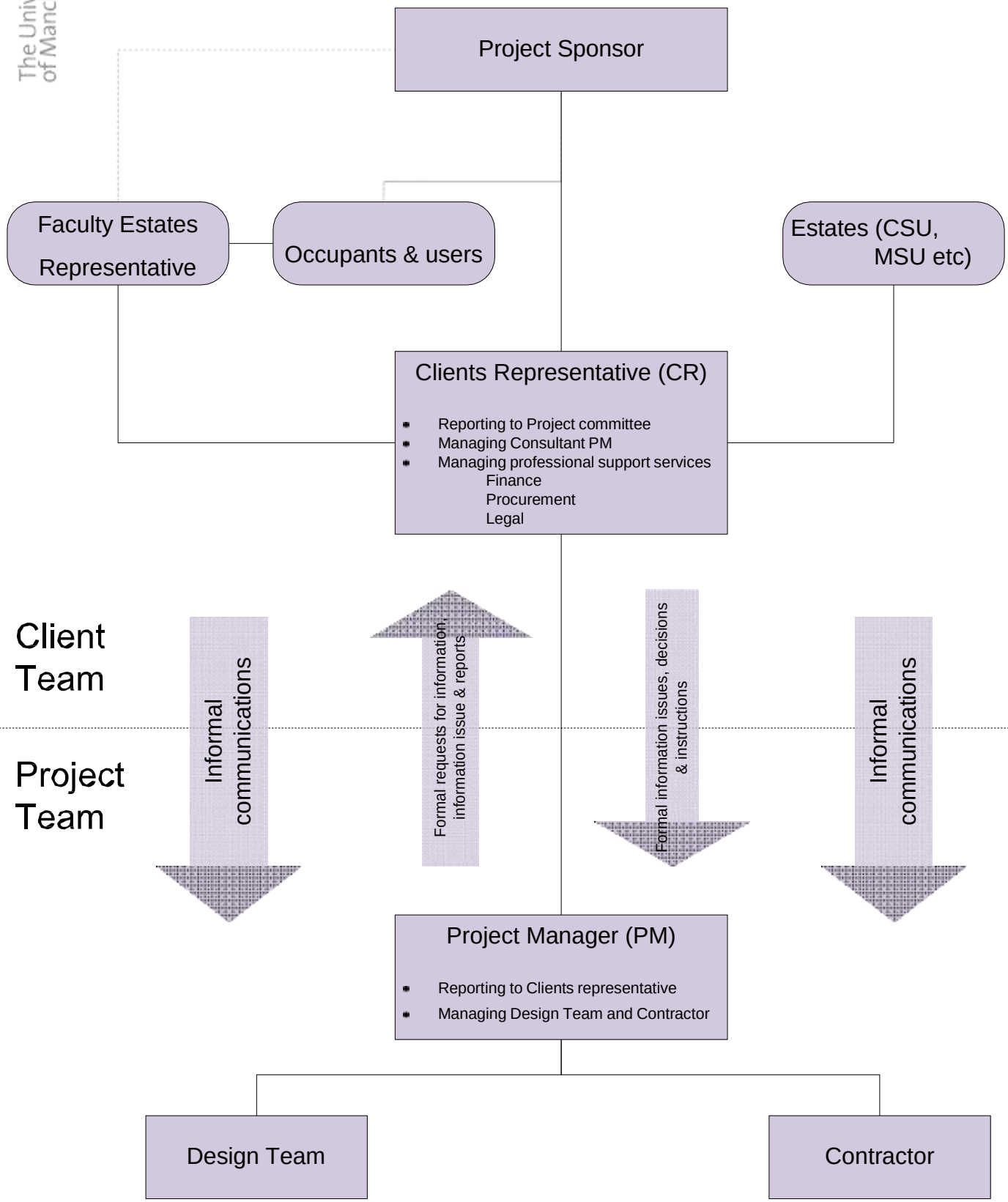
21.4 Models.

21.5 Funding applications.

21.6 Contractor's design proposals. When contractors are made responsible for design, monitor that the CPM ensures that the Employer's Requirements contain full requirements and procedures for the presentation of contractor's proposals at tender stage. Ensure the CPM checks all contractors' proposals at tender stage and ensures that other design consultants check the contractors' proposals for elements within their sphere of design responsibility. Before appointment of the building contractor, receive confirmation in writing from the CPM that all contractors' proposals are full, complete and satisfactory.

21.7 Additional work after practical completion.

Capital Projects
Reporting and lines of communication



Notes:
In some cases (e.g. smaller projects) one individual may perform both the CR and PM roles

The University of Manchester has a number of documents that use titles interchangeably, for the avoidance of doubt please note the following:
Client Representative (CR) = University Project Manager (UPM) = Internal Project Manager
Project Manager (PM) = External Project Manager (EPM) = Consultant Project Manager (CPM)

Informal communications between the teams are encouraged, however all formal information flow and decision making must take place between the CR & PM

Appendix C - Glossary of terms used in construction projects

Term / abbreviation etc.	Description	Explanation
Abnormals	n/a	Something that would not be found on the majority of construction projects e.g. soil contamination with Japanese knotweed
AI	Architects Instruction	A formal instruction to a constructor to change the works
AV	Audio Visual	The equipment used to create and present work with both a sound and a visual component
Balance Space	n/a	Balance area is the floor area provided as part of the GIA to enable the building to function e.g. corridors
BBI	Better Buildings Initiative	A UoM initiative to produce a building that exceeds our expectations for sustainability, energy efficiency, manageability, maintainability and overall performance.
BIM	Building Information Modelling	A process involving the generation and management of digital representations of physical and functional characteristics of a facility. The resulting building information models become shared knowledge resources to support decision-making about a facility from earliest conceptual stages, through design and construction, through its operational life and eventual demolition.
BoQ / BQ's	Bills of Quantities	A document used in tendering in the construction industry in which materials, parts, and labour (and their costs) are itemized, to enable a contractor to price the work for which they are bidding.
BRE	Building Research Establishment	The Building Research Establishment (BRE) is a former UK government establishment (but now a private organisation) that carries out research, consultancy and testing for the construction and built environment sectors in the United Kingdom.
BREEAM	Building Research Establishment Environmental Assessment Method	BREEAM addresses environmental and sustainability issues and enables developers, designers and building managers to demonstrate the environmental credentials of their buildings to clients, planners and other initial parties, BREEAM uses a scoring system that is transparent, flexible and evidence-based.
BSRIA	Building Services Research and Information Association	Is a test, instruments, research and consultancy organisation, providing specialist services in construction and building services

Term / abbreviation etc.	Description	Explanation
CA	Contract Administrator	A term used in Building Contracts e.g. JCT. The CA is the person that "manages" the contract on behalf of the client. For example they are responsible for issuing variations, if applicable, certifying payments and completion of the works
CDMC	Construction Design Management Co-ordinator	The client must appoint a CDM-C on notifiable projects. These are projects likely to involve more than 30 days or 500 man days of construction work. The CDM-C is required to advise and assist the client on undertaking the measures the client needs to take to comply with CDM Regulations (the law)
CDM Regulations or CDM 2007	Construction Design Management Regulations (2007)	The regulations place specific duties on clients, designers and contractors, to plan their approach to health and safety. They apply throughout the life of a construction project, from its inception to its subsequent final demolition and removal.
CHP	Combined Heat and Power	Combined heat and power (CHP) is the use of a heat engine (or power station) to simultaneously generate electricity and useful heat.
Conservation Officer	n/a	Conservation officers work for the local planning authority and advise on and promote the conservation of the historic environment. Much of their work is with listed buildings or buildings within conservation areas.
Contingency (Programme)	n/a	See Programme Contingency definition
Contingency (Design & construction)	n/a	See Design and Construction Contingency definition
Consultant PM	Consultant Project Manager (see also External PM or PM)	A construction professional, who is not a UoM employee, who is appointed to manage the delivery of a construction project on behalf of the client.
Configuration management	n/a	Controlling the design and making sure that all parts of the design move together step by step
Core	Often referred to as Shell & core	CORE: structures, vertical transportation systems SHELL: Facade / external envelope of the building
CoW	Clerk of Works	The role is primarily to represent the interests of the client in regard to ensuring that the quality of both materials and workmanship are in accordance with the design information such as specification and drawings, in addition to recognized quality standards.
CPSC	Capital Planning Sub Committee	A UoM committee responsible for providing advice on matters relating to capital and special revenue planning

Term / abbreviation etc.	Description	Explanation
CPU	Capital Projects Unit	The capital projects unit is responsible for the strategic planning, procurement, delivery and successful handover of major building projects.
CR	Client Representative	Usually this role is undertaken by a UoM employee however on occasions this is an agent / consultant. On small projects one individual may undertake both the PM and CR roles. The CR acts as the primary University officer for Capital Projects, taking delegated responsibility for the delivery of a capital project on behalf of the Project Committee.
Gross to net ratio	n/a	
CVI	Confirmation of Verbal Instruction	A method of recording Instructions given by the CA or other party authorised to do so under the contract during site visits note: these are then confirmed formally in writing in accordance with the contract
Design and Construction Contingency	n/a	Contingencies are made within the overall budget to allow for miscellaneous unforeseen costs which cannot be classified under any other heading, but are necessary for successful completion of the project. This contingency is not provided to allow for changes that could otherwise have been foreseen e.g. increasing the size of a room due to a change in client requirements.
D & B	Design & Build	Design–build (or design/build, and abbreviated D–B, D/B or D&B accordingly) is a method to deliver a project in which the design and construction services are contracted by a single entity known as the design–builder or design–build contractor
DoEF	Directorate of Estates & Facilities	See section 3 of this handbook
DSU	Design Services Unit	See section 3 of this handbook
EA	Employers Agent	A term used in Design and Build Contracts e.g. JCT. The EA is the person that "manages" the contract on behalf of the client. For example they are responsible for issuing variations, if applicable, quality, certifying payments and completion of the works.
EAI	Employers Agent Instruction	A formal instruction to a constructor to change the works
Elevation	n/a	The side, front, or rear of a structure, the term is often used on the project drawings.

Term / abbreviation etc.	Description	Explanation
Envelope	n/a	The facade, roof etc. that make up the externally facing components of the building
EOI	Expression of Interest	Clients invite all suppliers to provide a simple 'yes/no' statement about whether they are 'interested' and 'capable' against an outline brief
ESA	Environmental Sustainability Advisor	A UoM term for an appointed person to oversee the environmental characteristics of the construction project
External PM	External Project Manager (see also Consultant Project Manager and Project Manager)	A construction professional, who is not a UoM employee, who is appointed to manage the delivery of a construction project on behalf of the client.
Facade		The face of a building for example windows, bricks or cladding etc.
Float (Programme)		A period in the programme by which an activity can be delayed that does not affect the overall completion date
Frame	n/a	The structural parts of a building
GA	General Arrangement (drawing)	Location drawings, also called general arrangement drawings, include floor plans, sections and elevations: they show where the construction elements are located.
GIA	Gross Internal Area	Gross internal area (GIA) is the total area of buildings owned, occupied or maintained by the HEI measured to the internal face of the perimeter walls at each floor level (i.e. the footprint of the building excluding the width of the outside walls). It includes areas occupied by internal walls and partitions.
GIFA	Gross Internal Floor Area	Gross floor area (GFA) - The total floor area contained within the building measured to the external face of the external walls.
GPS	Government Procurement Service	The Government Procurement Service is an executive agency of the Cabinet Office of the UK government, charged with procurement management.
H & S	Health and Safety	n/a
HoFE	Head of Faculty Estates	See section 3 of this handbook
HSE	Health and Safety Executive	The Health and Safety Executive (HSE) is a non-departmental public body of the United Kingdom. It is the body responsible for the encouragement, regulation and enforcement of workplace health, safety and welfare, and for research into occupational risks in England and Wales and Scotland.

Term / abbreviation etc.	Description	Explanation
Internal PM	Internal Project Manager (now known as Client Representative)	See CR definition above. Note: On small projects one individual may undertaken both the PM and CR roles
IRS	Information Required Schedule or sometimes Information Release Schedule	If not all the information required to construct the works has been prepared or issued when the contractor is appointed then an information required/release schedule may be prepared which gives dates for the release of information from the consultant team.
ITQ	Invitation to Quote	A call for quotations, very similar to ITT below. It is used when a tender process has already been followed to determine for example a short list or framework from which quotations will then be sought.
ITT	Invitation to Tender	A call for bids, call for tenders, or invitation to tender (often called tender for short) is a procedure for generating competing offers from different bidders looking to obtain an award of business activity in works, supply, or service contracts e.g. a construction contract.
JCT	Joint Contracts Tribunal	The Joint Contracts Tribunal, also known as the JCT, produces standard forms of contract for construction, guidance notes and other standard documentation for use in the construction industry.
Listed Building	n/a	A building that has been placed on the Statutory List of Buildings of Special Architectural or Historic Interest, maintained by English Heritage
LBC	Listed Building Consent	If you wish to demolish a listed building, or alter or extend it in a way that affects its character or appearance as a building of special architectural or historic interest, you must first apply for listed building consent from your local planning authority.
LTM	Long Term Maintenance	A maintenance plan for a period of 10 years or similar which is for planned maintenance (proactive) rather than reactive.
M & E	Mechanical & Electrical (services)	The systems and services within a building e.g. heating, ventilation, power, water etc.
MCC	Manchester City Council	The local government authority for Manchester.
MEP	Mechanical and Electrical Plant	The equipment within a building that delivers mechanical and electrical services e.g. heating, ventilation, power, water etc.
MSU	Maintenance Services Unit	See section 3 of this handbook

Term / abbreviation etc.	Description	Explanation
NBS	National building Specification	The National Building Specification, and now known as the NBS, is a UK-based system of construction specification used by architects and other building professionals to describe the materials, standards and workmanship of a construction project
NEC	New Engineering Contract (also known as Engineering and Construction Contract ECC)	The New Engineering Contract (NEC), or NEC Engineering and Construction Contract is a formalized system created by the Institution of Civil Engineers that guides the drafting of documents on civil engineering and construction projects for the purpose of obtaining tenders, awarding and administering contracts. [1][2] As such they legally define the responsibilities and duties of Employers (who commission work) and Contractors (who carry out work) in the Works Information.
NIA	Net Internal Area	Net Internal Area (NIA) is the usable area within a building measured to the internal face of the perimeter walls at each floor level. NIA covers all areas which are used for a specific purpose.
OJEU	Official Journal of the European Union	The Official Journal (OJ) of the European Union is the official gazette of record for the European Union (EU). It is published every working day in all of the official languages of the member states. Only legal acts published in the Official Journal are binding.
OJEU – Open Process	INSERT	
OJEU – restricted process	INSERT	
PCS	Project Control Sheet	A UoM spreadsheet that identifies projected and actual spend on a project on a monthly and yearly basis.
Permit to Work	n/a	A system and procedure to control significant risks e.g. works within confined spaces, hot works etc.
Plan	n/a	A drawing or two-dimensional diagrams used to communicate building or fabrication instructions for example a floor plan is a horizontal section viewed from the top.
Planning Permission, consent and Conditions	n/a	Usually required when you build something new, make a major change to your building - e.g. building an extension or change the use of your building. Often any planning consent will have conditions attached to it e.g. works must start within a given period, additional details are required etc.

Term / abbreviation etc.	Description	Explanation
Plant (& equipment)	n/a	See also MEP above. Can also be used to describe the machinery and equipment used by the constructor to undertake the construction works e.g. cement mixer
Programme Contingency	n/a	This contingency is for significant unforeseen project or programme risks for example, exceptional contractor price inflation. It is not intended to be used to pay for project scope increases.
PM	Project Manager	A construction professional (who could be either a UoM employee or an external agent or consultant employed by UoM), who is appointed to manage the delivery of a construction project on behalf of the client.
PPM	Planned Preventative Maintenance	Planned Preventive Maintenance ('PPM') or more usual just simple Planned Maintenance (PM) or Scheduled Maintenance is any variety of scheduled maintenance. Specifically, Planned Maintenance is a scheduled service visit carried out by a competent and suitable agent, to ensure that an item of equipment is operating correctly and to therefore avoid any unscheduled breakdown and downtime.
PQQ	Prequalification Questionnaire	Pre-qualification questionnaires are used to help public sector buyers/purchasers shortlist suppliers to invite to tender where a certain level of technical ability is required, and form part of the restricted tendering procedure (OJEU).
Programme	n/a	Either a schedule of activities showing when works or services will be undertaken **or** A group of projects that make up a "programme of works"
PMO	Programme Management Office	A group or department within a business, agency or enterprise that defines and maintains standards for project management within the organization. The PMO strives to standardize and introduce economies of repetition in the execution of projects. The PMO is the source of documentation, guidance and metrics on the practice of project management and execution.

Term / abbreviation etc.	Description	Explanation
Project collaboration tool (collaboration software)	n/a	Project Collaboration is the basis of bringing in two or more people of an organization or team to work together by sharing knowledge, experience, and skills for the development of a new project. A project collaboration software provides a set of tools that enable team members to get projects done, quickly find information they need and above all able to communicate and work together to achieve common business goals, often this is cloud / internet based.
Project Committee	n/a	A Project Committee shall be set up to oversee all projects likely to cost in excess of £1.0m (construction cost) and shall exist until the final account for the project has been settled.
PSG	Project Sponsor Group or sometimes Project Steering Group	n/a
Projects	n/a	A construction project involving either new build &/or refurbishment
RFC	Request for change	A procedure to enable team members to request a change prior to formal confirmation of it. The process normally involves checking the implications of the change to enable an informed decision to be made.
RFI	Request For Information	
RIBA	Royal Institute of British Architects	The Royal Institute of British Architects (RIBA) is a professional body for architects primarily in the United Kingdom, but also internationally.
RIBA Plan of Work / Stages	n/a	See section 4 of this handbook
RM457	n/a	GPS Services Framework Agreement for Project Management and full design team
Section (or cross section)	n/a	Represents a vertical plane cut through the object or building.
Shell	n/a often referred to as Shell & core	CORE: structures, vertical transportation systems SHELL: Facade / external envelope of the building
SI	Site Investigation or sometimes Site Instruction	A survey to obtain information on the physical properties of soil, rock, contamination, services etc. around a site to assist in the design of a buildings foundations etc.
Soft Landings	n/a	Soft Landings is a process for designers and constructors to improve the operational performance of buildings and provide valuable feedback to project teams.

Term / abbreviation etc.	Description	Explanation
SWMP	Site Waste Management Plan	All construction projects over £300,000 in England must have a site waste management plan (SWMP). In the SWMP you must explain how you handle your construction waste and follow the law on managing waste.
Tender	n/a	See ITT above
TQ	Technical Query	Usually rose by a constructor to formalise the query and receive a response.
TRV	Thermostatic Radiator Valve	A thermostatic radiator valve (TRV) is a self-regulating valve fitted to hot water heating system radiators, to control the temperature of a room by changing the flow of hot water to the radiator.
Two Stage (tender)	n/a	Two-stage tendering is used to allow early appointment of a contractor, prior to the completion of all the information required to enable them to offer a fixed price.
UoM	The University of Manchester	n/a
UPM	University Project Manager (or Internal PM now known as Client Representative)	See CR above

Appendix D EPM3 Procedures Manual – Projects flowchart

EPM PM3 Procedures Manual – Projects flowchart (Gateways)

	Strategic definition & Prepare brief (prev Feasibility) RIBA stage 0&1 (prev A/B)	Concept Design (prev Concept) RIBA stage 2 (prev C)	Design Development RIBA stage 3 (prev D)	Technical design information RIBA stages 4 (prev E/F)	Tender (prev RIBA stage G&H)	Construction (prev Mobilisation & construction to PC) RIBA stage 5 (prev J)	Handover & close out / In use (prev Post PC) RIBA stage 6&7 (prev L)
Project Team	**Deliverables** Appoint feasibility team (incl Environmental Sustainability Advisor, Capital Projects only) Stage 1 report Strategic & Initial Brief Student Experience consultation Design (incl. design guide conformance statement) Risk Register Budget / cost plan Programme KPI benchmarking e.g. environmental sustainability Student experience consultation Prepare CDM Tracker	**Deliverables** Appoint design team (incl CDMc) Stage 2 report Final Project Brief Student Experience consultation Design (incl. design guide conformance statement) Project Strategies Risk Register Budget / cost plan Programme Procurement route Environmental sustainability project tracker Student experience consultation Update CDM Tracker	**Deliverables** Stage 3 report Client Brief Student Experience consultation Design (incl. design guide conformance statement) Project Strategies Risk Register Budget / cost plan Programme Procurement route Environmental sustainability project tracker Student experience consultation Update CDM Tracker UoM procurement advice (via consultation)	**Deliverables** Stage 4 report Client Brief Student Experience consultation Design (incl. design guide conformance statement) Project Strategies Risk Register Budget / cost plan Programme Procurement route Environmental sustainability project tracker Student experience consultation Update CDM Tracker Update on UoM procurement advice (via consultation) Agreed Compound locations	**Deliverables** Tender documents: Letter Evaluation criteria Generic Preliminaries Project Specific Preliminaries Design / Production information Bills of Quantities / Schedule of Work & form of Tender Pre Construction Information Waste Minimisation strategies Student experience consultation Update CDM Tracker Tender report	**Deliverables** Agreed delegated levels of authority Monthly reports Environmental Sustainability project tracker H&S File & O&M manual Student experience consultation	**Deliverables** Hand over to help desk Archive records Environmental Sustainability project tracker Top 10 lessons learnt & best practice
Project Sponsor, if applicable	**Check list** Business case approved at CPSC Strategic brief and Vision agreed Financial approval gained	**Check list** Final Project brief agreed Concept (outline) design & Project Strategies meet Final Project Brief and Vision	**Check list** Developed design and Project Strategies meet Final Project Brief and Vision	**Check list** Technical design and Project Strategies meet Final Project Brief and Vision	**Check list** Tender design meets Final Project Brief and Vision	**Check list** Agreed decant and occupation plan Feedback on process	**Check list** Agreed process for dealing with defects
	Approval to proceed to Stage 2	Approval to proceed to Stage 3	Approval to proceed to Stage 4/5	Approval to proceed to tender	Scope review & approval to go out to tender	Approval to appoint / mobilise Stage 6	Approval to close out project

Note: Dependant on project size stages may be combined, in consultation with Unit Manager

Appendix E RIBA Plan of Work 2013– Overview

RIBA Plan of Work 2013

RIBA

The RIBA Plan of Work 2013 organises the process of briefing, designing, constructing, maintaining, operating and using building projects into a number of key stages. The content of stages may vary or overlap to suit specific project requirements. The RIBA Plan of Work 2013 should be used solely as guidance for the preparation of detailed professional services contracts and building contracts.

www.ribaplanofwork.com

Tasks / Stages	0 Strategic Definition	1 Preparation and Brief	2 Concept Design	3 Developed Design	4 Technical Design	5 Construction	6 Handover and Close Out	7 In Use
Core Objectives	Identify client's **Business Case** and **Strategic Brief** and other core project requirements.	Develop **Project Objectives**, including **Quality Objectives** and **Project Outcomes**, **Sustainability Aspirations**, **Project Budget**, other parameters or constraints and develop **Initial Project Brief**. Undertake **Feasibility Studies** and review of **Site Information**.	Prepare **Concept Design**, including outline proposals for structural design, building services systems, outline specifications and preliminary **Cost Information** along with relevant **Project Strategies** in accordance with **Design Programme**. Agree alterations to brief and issue **Final Project Brief**.	Prepare **Developed Design**, including coordinated and updated proposals for structural design, building services systems, outline specifications, **Cost Information** and **Project Strategies** in accordance with **Design Programme**.	Prepare **Technical Design** in accordance with **Design Responsibility Matrix** and **Project Strategies** to include all architectural, structural and building services information, specialist subcontractor design and specifications, in accordance with **Design Programme**.	Offsite manufacturing and onsite **Construction** in accordance with **Construction Programme** and resolution of **Design Queries** from site as they arise.	Handover of building and conclusion of **Building Contract**.	Undertake **In Use** services in accordance with **Schedule of Services**.
Procurement *Variable task bar	Initial considerations for assembling the project team.	Prepare **Project Roles Table** and **Contractual Tree** and continue assembling the project team.	The procurement strategy does not fundamentally alter the progression of the design or the level of detail prepared at a given stage. However, **Information Exchanges** will vary depending on the selected procurement route and **Building Contract**. A bespoke **RIBA Plan of Work 2013** will set out the specific tendering and procurement activities that will occur at each stage in relation to the chosen procurement route.			Administration of **Building Contract**, including regular site inspections and review of progress.	Conclude administration of **Building Contract**.	
Programme *Variable task bar	Establish **Project Programme**.	Review **Project Programme**.	Review **Project Programme**.	The procurement route may dictate the **Project Programme** and may result in certain stages overlapping or being undertaken concurrently. A bespoke **RIBA Plan of Work 2013** will clarify the stage overlaps. The **Project Programme** will set out the specific stage dates and detailed programme durations.				
(Town) Planning *Variable task bar	Pre-application discussions.	Pre-application discussions.	Planning applications are typically made using the Stage 3 output. A bespoke **RIBA Plan of Work 2013** will identify when the planning application is to be made.					
Suggested Key Support Tasks	Review **Feedback** from previous projects.	Prepare **Handover Strategy** and **Risk Assessments**. Agree **Schedule of Services**, **Design Responsibility Matrix** and **Information Exchanges** and prepare **Project Execution Plan** including **Technology** and **Communication Strategies** and consideration of **Common Standards** to be used.	Prepare **Sustainability Strategy**, **Maintenance and Operational Strategy** and review **Handover Strategy** and **Risk Assessments**. Undertake third party consultations as required and any **Research and Development** aspects. Review and update **Project Execution Plan**. Consider **Construction Strategy**, including offsite fabrication, and develop **Health and Safety Strategy**.	Review and update **Sustainability**, **Maintenance and Operational** and **Handover Strategies** and **Risk Assessments**. Undertake third party consultations as required and conclude **Research and Development** aspects. Review and update **Project Execution Plan**, including **Change Control Procedures**. Review and update **Construction** and **Health and Safety Strategies**.	Review and update **Sustainability**, **Maintenance and Operational** and **Handover Strategies** and **Risk Assessments**. Prepare and submit Building Regulations submission and any other third party submissions requiring consent. Review and update **Project Execution Plan**. Review **Construction Strategy**, including sequencing, and update **Health and Safety Strategy**.	Review and update **Sustainability Strategy** and implement **Handover Strategy**, including agreement of information required for commissioning, training, handover, asset management, future monitoring and maintenance and ongoing compilation of **'As-constructed' Information**. Update **Construction** and **Health and Safety Strategies**.	Carry out activities listed in **Handover Strategy** including **Feedback** for use during the future life of the building or on future projects. Updating of **Project Information** as required.	Conclude activities listed in **Handover Strategy** including **Post-occupancy Evaluation**, review of **Project Performance**, **Project Outcomes** and **Research and Development** aspects. Updating of **Project Information**, as required, in response to ongoing client **Feedback** until the end of the building's life.
Sustainability Checkpoints	**Sustainability Checkpoint — 0**	**Sustainability Checkpoint — 1**	**Sustainability Checkpoint — 2**	**Sustainability Checkpoint — 3**	**Sustainability Checkpoint — 4**	**Sustainability Checkpoint — 5**	**Sustainability Checkpoint — 6**	**Sustainability Checkpoint — 7**
Information Exchanges (at stage completion)	**Strategic Brief**.	**Initial Project Brief**.	**Concept Design** including outline structural and building services design, associated **Project Strategies**, preliminary **Cost Information** and **Final Project Brief**.	**Developed Design**, including the coordinated architectural, structural and building services design and updated **Cost Information**.	Completed **Technical Design** of the project.	**'As-constructed' Information**.	Updated **'As-constructed' Information**.	**'As-constructed' Information** updated in response to ongoing client **Feedback** and maintenance or operational developments.
UK Government Information Exchanges	Not required.	Required.	Required.	Required.	Not required.	Not required.	Required.	As required.

***Variable task bar** – in creating a bespoke project or practice specific RIBA Plan of Work 2013 via www.ribaplanofwork.com a specific bar is selected from a number of options.

Appendix F Design Process and Fixity

The University of Manchester - Design process and fixity

	Appointment	Project Process						Post Project Activities
RIBA Plan of Work (2013)	**Stage 0**	**Stage 1**	**Stage 2**	**Stage 3**		**Stage 4**	**Tender & Stage 5**	**Stage 6/7**	**In use & review**
	Strategic definition	**Preparation & brief**	**Concept Design**	**Developed Design**		**Technical Design**	**Tender Documents**	**Handover / Close out**	
Fixity									Post occupancy review & feedback feedback
Sign off documents		Brief Inc Sustainability Questionnaire	Brief Ratification	Stage 2 Report	Planning Drawing	Stage 3 Report	Statutory Compliance Report	Stage 4 Report	
	Site definition		Site definition		Site definition	Site definition	Site definition		
	Sustainability brief		Sustainability brief		Sustainability brief	Sustainability brief	Sustainability brief		
	Schedule of accommodation		Schedule of accommodation		Schedule of accommodation	Schedule of accommodation	Schedule of accommodation		
	Functional/Departmental relationships & process flows		Functional/Departmental relationships & process flows		Functional/Departmental relationships & process flows	Functional/Departmental relationships & process flows	Functional/Departmental relationships & process flows		
	Building areas and volumes schedules		Building areas and volumes schedules		Building areas and volumes schedules	Building areas and volumes schedules	Building areas and volumes schedules		
	Structural Grids. Planning Grids		Structural Grids. Planning Grids		Structural Grids. Planning Grids	Structural Grids. Planning Grids	Structural Grids. Planning Grids		
	Principal Buildings systems concepts		Principal Buildings systems concepts		Principal Buildings systems concepts	Principal Buildings systems concepts	Principal Buildings systems concepts		
	General appearance		General appearance		General appearance	General appearance	General appearance		
	Functional/Operational/Departmental Layouts		Functional/Operational/Departmental Layouts		Functional/Operational/Departmental Layouts	Functional/Operational/Departmental Layouts	Functional/Operational/Departmental Layouts		
	Interface of Principal building systems		Interface of Principal building systems		Interface of Principal building systems	Interface of Principal building systems	Interface of Principal building systems		
	Major component definitions		Major component definitions		Major component definitions	Major component definitions	Major component definitions		
	Elevations		Elevations		Elevations	Elevations	Elevations		
	Outline specifications and finishes strategy		Outline specifications and finishes strategy		Outline specifications and finishes strategy	Outline specifications and finishes strategy	Outline specifications and finishes strategy		
	Phasing and implementation		Phasing and implementation		Phasing and implementation	Phasing and implementation	Phasing and implementation		
	Room Layouts		Room Layouts		Room Layouts	Room Layouts	Room Layouts		
	Buildability and site logistics		Buildability and site logistics		Buildability and site logistics	Buildability and site logistics	Buildability and site logistics		
	Minor component definitions including all interfaces		Minor component definitions including all interfaces		Minor component definitions including all interfaces	Minor component definitions including all interfaces	Minor component definitions including all interfaces		
	All finishes with samples		All finishes with samples		All finishes with samples	All finishes with samples	All finishes with samples		
	All Colours		All Colours		All Colours	All Colours	All Colours		
	Full and final details and specifications		Full and final details and specifications		Full and final details and specifications	Full and final details and specifications	Full and final details and specifications		

KEY TO FIXITY DEFINITIONS:

- Fixed at stage commencement
- To be fixed at stage end
- Under consideration
- Under consideration later