Scope of Works for

Lead Designer/Architect

Training Centre Project

New Training Centre

for the

Medical Research Council (MRC) Harwell Institute

Contents

1. Introduction

The Medical Research Council (MRC) (http://www.mrc.ac.uk/) improves human health through world-class medical research. We fund research across the biomedical spectrum, from fundamental lab-based science to clinical trials, and in all major disease areas. Our research has resulted in life-changing discoveries for over a hundred years.

We are a non-departmental public body funded through the government's science and research budget. We invest in research on behalf of the UK tax payer. Scientists apply for funding for their research and applications are reviewed by panels of independent experts.

To enable innovative science of the highest standard the facilities must be maintained and upgraded as required. This project is seeking to provide the MRC Harwell Institute with a new training facility at Harwell.

NOTE: As of 1st April 2018, the MRC will become part of the UK Research and Innovation (UKRI) and all contracts formed under MRC will be transferred to or new contracts signed under the umbrella of UKRI.

2. Background Information for the MRC Harwell Institute

The MRC Harwell Institute consists of two Units, The MRC Mammalian Genetics Unit and the MRC Mary Lyon Centre. Both have very distinct roles and pursue different aspects of the research spectrum.

Mammalian Genetics Unit (MGU)

The Mammalian Genetics Unit is a major international research center at the forefront of studies in mouse genetics and functional genomics, investigating a wide variety of disease models and enhancing our understanding of the molecular and genetic basis of disease.

The Mammalian Genetics Unit (MGU) was first established in 1995 as part of an expansion of the genetics division at MRC Harwell. It is now where the vast majority of our research is conducted.

The MGU's research is based around lifetime studies, from development to ageing. Using mouse models developed within the Mary Lyon Centre, the MGU conducts research into developmental disorders and age-related conditions such as diabetes, deafness and neurodegeneration. Through close collaborations with clinical geneticists and medical practitioners, the findings from many of these research programmes are now moving towards the clinic. For example, genes first identified by researchers at the MGU now form part of the Genetics of Otitis Media Study, which seeks to identify genes responsible for the most common cause of hearing loss in children.

MRC Harwell is part of various large-scale projects to study mammalian functional genomics; how alterations to the genome affect the function of the gene and the overall phenotype. The MGU works closely with the Mary Lyon Centre to generate and study knockout mice for the International Mouse Phenotyping Consortium (IMPC), which aims to discover the function of every gene in the genome by systematic phenotyping. The MGU plays a central role in the coordination and integration of all of the data collected, and dissemination to the wider scientific community via the IMPC portal. In addition, the MGU Disease Model Discovery team employs the Harwell Ageing Screen to investigate mutations involved in ageing and age-related diseases and develop new disease models for use in further research. The Biocomputing team makes this data openly available via MouseBook.

In the future, researchers at the MGU will continue to extend our knowledge of mouse functional genomics, as well as provide a platform on which future research and therapies can be built. Utilising the resources available to them at MRC Harwell, they will continue to make great advances in our understanding of the genetics underlying development and disease.

Mary Lyon Centre (MLC)

The Mary Lyon Centre is a national facility for mouse functional genomics, providing world-class expertise and tools to generate mouse models of human disease for MRC Harwell and the wider research community.

First established in 2004, the centre has been named in recognition of the achievements of Mary Lyon, a researcher at MRC Harwell who first discovered the process of X-chromosome inactivation, also known as lyonisation.

One of the clearest examples of X-inactivation Mary used was the genetics of tortoiseshell cats. Like humans, female cats generally have two X-chromosomes (XX), whereas males only have one (XY). Two variants of a gene on the X-chromosome decide whether or not a cat will have a ginger coat. Males either have an entirely ginger or non-ginger coloured coat, as they only have one X-chromosome and one version of the gene, but for tortoiseshell females it is more complicated. One X-chromosome in each cell is randomly inactivated early in development, so the active gene is different in different groups of cells. These then give rise to their characteristic patches of ginger and non-ginger coat.

In recognition of her work, Mary Lyon was made a Fellow of the Royal Society and in 1984 received their Royal Medal, and has been awarded the Pearl Meister Greengard Prize, the March of Dimes Prize and the Wolf Prize in Medicine. Her discovery has led to great advances in our understanding of X-linked inherited diseases such as haemophilia, Duchenne muscular dystrophy, fragile X syndrome and certain cancers.

2.1. Scientific and technical training at Harwell

For the last 50 years MRC Harwell has been a focus of mouse genetics research. The Mammalian Genetics Unit (MGU) is internationally renowned for its work using genetically altered mouse strains to study human diseases such as diabetes, neuro-behavioural disorders, ageing and deafness. More recently, Harwell has developed bioinformatics and statistical tools to collect, present and exploit the benefits of big datasets such as those currently being produced by the International Mouse Phenotyping Consortia. In 2004 the Mary Lyon Centre (MLC) was opened. This is a large facility supporting mouse genetic research in the UK. The MLC has over 130 staff with experience and knowledge of many aspects of in vivo science including the generations, breeding and phenotyping of GA mouse lines.

With this concentrated wealth of knowledge and the connections with other facilities and units that the MLC and MGU enjoys, MRC Harwell is an excellent environment to launch scientific and technical training schemes which will attempt to fill the gap in in vivo training which is evident in the UK.

2.2. The Institute's Vision

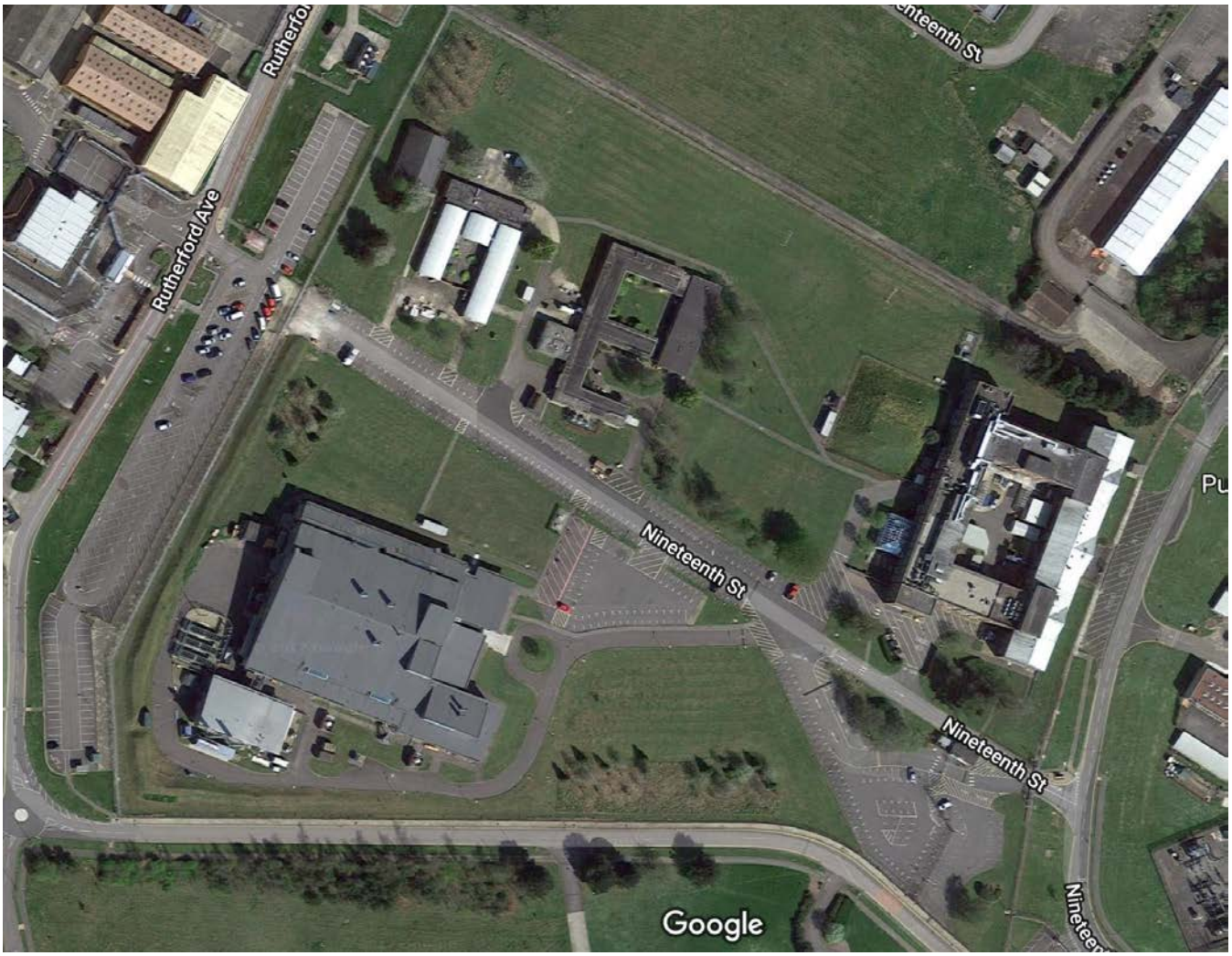
MRC Harwell - an integrated campus for mouse genetics. Advancing Medicine and knowledge through the discovery and investigation of mouse models of human disease.

2.3. MRC Harwell Institute Location

The site is located at the Harwell Science Campus at:

MRC Harwell Institute
Nineteenth Street
Harwell Campus
Oxfordshire
OX11 0RD

It has convenient access to major roads (A34) and being located within a science park, which also comprises the Diamond Project, Rutherford Appleton Laboratory, Environment Agency and many more including various new developments.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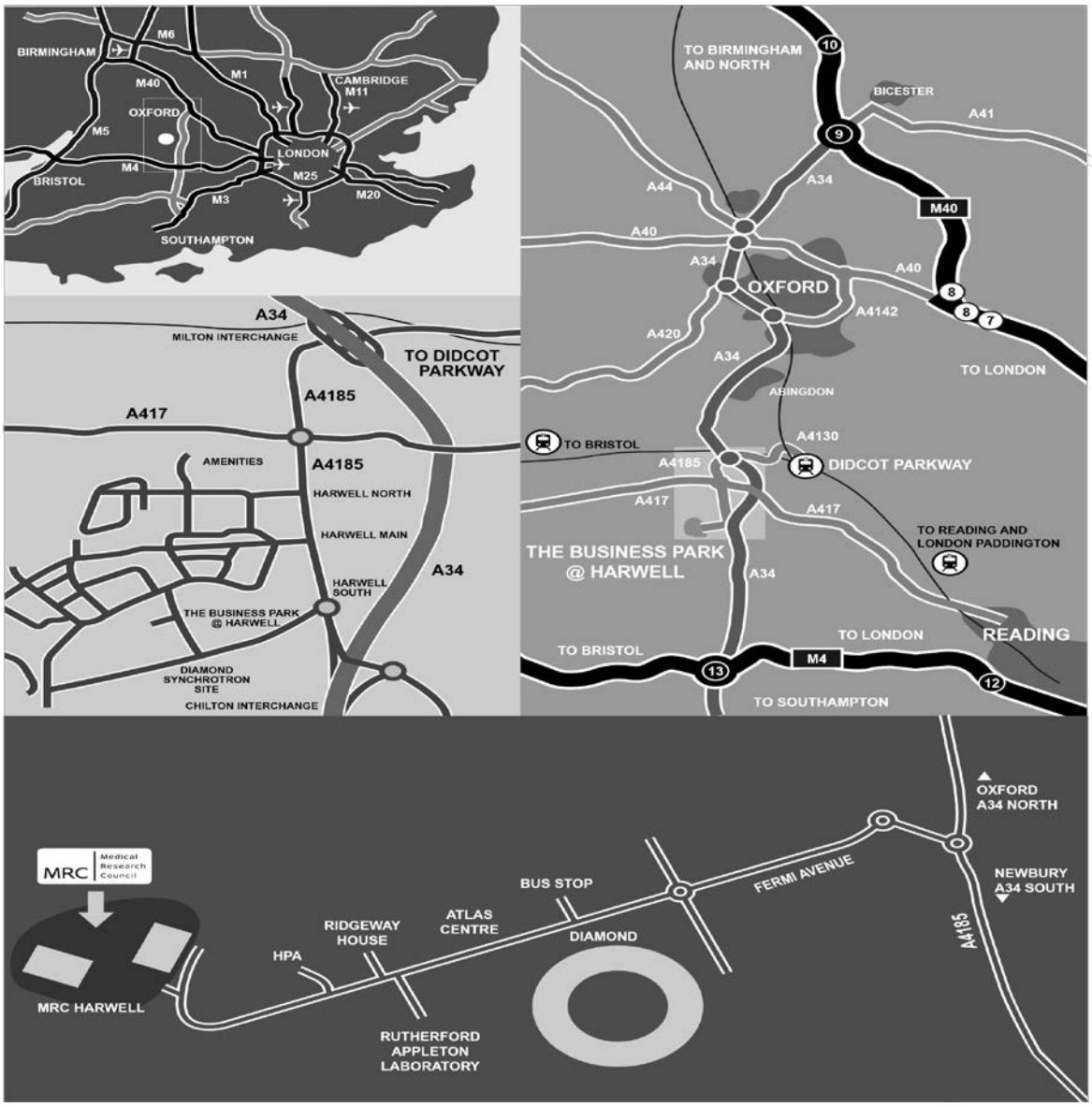
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SOUTHAMPTON
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TO DIDCOT PARKWAY
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AMENITIES
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HARWELL NORTH
HARWELL MAIN
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HARWELL SOUTH
THE BUSINESS PARK @ HARWELL
DIAMOND SYNCHROTRON SITE
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OXFORD A34 NORTH
NEWBURY A34 SOUTH
A4185
MRC
Medical Research Council
MRC HARWELL
HPA
RIDGEWAY HOUSE
ATLAS CENTRE
BUS STOP
DIAMOND
FERMI AVENUE
RUTHERFORD APPLETON LABORATORY

3. RIBA Stage 3 Plan of Work Report

The attached report consists of two options:

1. Refurbishment of an existing Building (Option 1)
2. New Build (Option 2)

OPTION 1: The refurbishment of Building 524 has been selected for this project.

A BREEAM pre-assessment report is included within the Stage 3 Report.

There is **no** requirement for this is to be progressed in the next stages of this project.

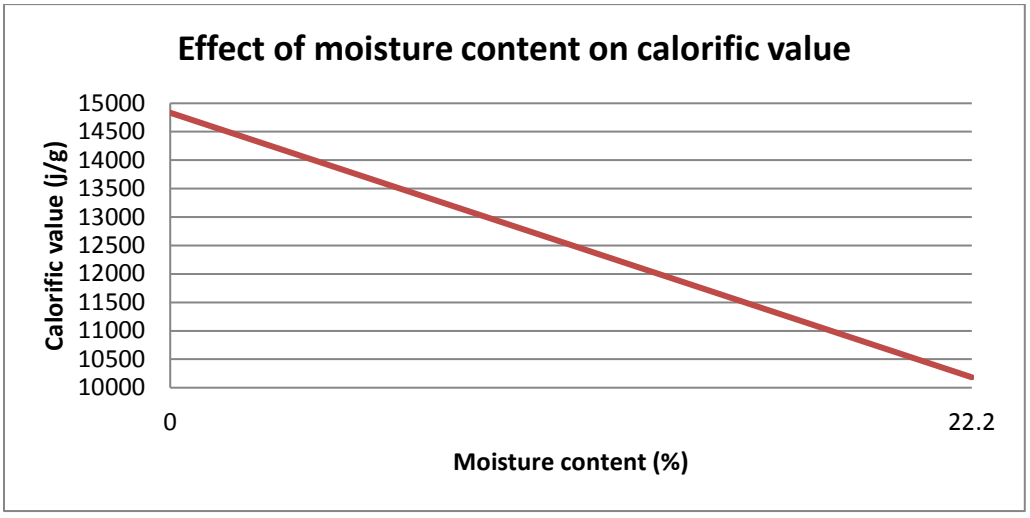
Biomass Boiler

The MLC produces around 120 tons of waste per year. The waste is made up of the following components:

Component	Mass (g)	As a %
Total mass	184.5	100%
Sawdust	156.825	85%
Faeces	9.225	5%
Unused diet	3.69	2%
Life enrichment products	14.76	8%

Currently the waste management company sends this waste for incineration at Colnbrook. With this volume of "Free" fuel is intended to use a Bio Mass boiler system to heat the new training centre.

The effect of moisture content is shown in the graph below.



It should be borne in mind that a Biomass plant has an inherently larger footprint than its gas or oil counterpart does. This is due to extra components that make up the boiler plant. This

includes space for thermal and fuel storage.

Any design using a bio mass plant should incorporate a secondary gas fired back up plant. In any case, the bio mass plant should be the primary source of heat.

The bio mass plant should have a ceramic refractory and furnace lining suitable for the burning of the bio mass fuel available.

The plant will be fully integrated with the BMS and other heating systems within the training centre.

The boiler house should contain heat metering so that the renewable heat incentive, RHI, might be claimed.

4. Scope of this Lead Designer / Architect Appointment

The services which the MRC is seeking under this appointment are those of the Lead Designer / Architect with the provision of all relevant multi-disciplinary design disciplines for RIBA Stages 4-7 (this includes services for Planning Advisor and Building Regulations Inspector) with additional services as described within this document.

At completion of Stage 4 Technical Design, the Lead Designer / Architect may be novated over to the Principal Contractor to perform RIBA Stage 5-7.

In addition to the requirements set out within this Scope of Service document, the Lead Designer will be required to provide duties in accordance with:

- RIBA Outline Plan of Work 2013
- RIBA Multi-disciplinary Schedules of Service
- Principal Designers: Roles and responsibilities – Construction (Design and Management) Regulations 2015

4.1. The Contracting Authority

MRC, 2nd Floor, David Phillips Building, Polaris House, North Star Avenue, Swindon, SN2 1FL.

NOTE: if this contract is formed prior to 1st April 2018, then it will be transferred to UKRI. If the contract is formed on or after the 1st April 2018, the contract client will be UKRI.

4.2. Project Manager, *Project Officer and Cost Manager*

Project Manager and Contract Administrator (MRC): **TBC**

Project Officer (MRC): **TBC**

Cost Manager: **TBC**

4.3. Project Governance

4.3.1. Project Board

The Project Board will be monitoring the progress of the project for the design and construction of a new laboratory facility for the MRC Harwell Institute. It will review progress, costs, issues, risks, Health & Safety, quality and will make decisions about issues that are escalated from the Project Manager.

The Project Board is the strategic decision-making forum at which project issues and risks are considered and decisions taken direction and management of the project. This includes setting the tolerances that the project will work within, management by exception and providing guidance and support to the project.

The Project Board will meet monthly and minutes will be taken and distributed to those attending by the Project Manager.

The successful bidder will not be a member or regular attendee of the Project Board, however may be asked to attend and present on specific agenda items.

4.4. Generic (Applicable to All RIBA Design Stages)

The Lead Designer will be liaising with and reporting to the appointed Client appointed Project Manager and Cost Manager.

All reports and documents are to be presented as MRC documents in the MRC corporate format, unless otherwise agreed. All documentation produced under this appointment will become the legal property of the MRC.

The Lead Designer roles and responsibilities include, but are not limited to, the following:

1. If appointed to all the tender lots provide for all the relevant disciplines required. Otherwise the Lead Designer / Architect will be required to coordinate the disciplines and ensure the design is fully coordinate and produced in a timely manner.

2. Work closely with the Project Manager, Cost Manager and Client appointed specialist advisors in the development of the design and delivery of the project.

3. Review and manage the design process so that it takes account all existing survey, As-built information, O&M Manuals and other information relating to the existing site. If new surveys are required, the Lead designer will produce the scope for these surveys for procurement by the client.

4. Attendance at all meetings as appropriate.

Meeting Title	Frequency	Duration	Chair
Design Team Meetings	Weekly	4 Hours	Lead Designer / Architect
Design Workshops	As required	3 Hours	Lead Designer / Architect
RIBA Design Stage Presentations to Client team	At the end of each design stage	2 Hours	Lead Designer / Architect
Room Data Sheet Meetings	Monthly	2 Hours	Lead Designer / Architect
Commissioning Meetings	Monthly	2 Hours	Commissioning Consultant
Project Board Meetings When requested	Monthly	2 hours	MRC Director Capital &
Contractor's progress meetings As and when required.	Monthly	2 hours	Contractor's representative

5. Keep full and proper records of all meetings and negotiations attended or conducted by the Lead Designer / Architect

6. Provide a concise monthly Lead Designer / Architect report to the Client appointed Project

Manager, which will include, but not be limited to, the following:

- A review of progress, by reference to key dates and project milestones
- A review of principle actions undertaken during the period and a forecast of principle actions for the forthcoming period
- Review of problems requiring resolution
- A list of key issues, including potential changes
- A list of outstanding information or decisions required to maintain design progress in accordance with the design programme

NOTE: All documentation produced is to be uploaded to Huddle as the generic sharing platform.

7. Comply with the Design Responsibility Matrix (DRM) in Appendix A.

8. Preparation of design programmes to meet the requirements of the Project Manager for each stage of the project; and agree the programmes with the Client appointed Project Manager.

9. Regular reporting of progress of the design to the Project Manager and Cost Manager.

10. Timely production of the co-ordinated design to meet the Clients brief.

11. Design within the Project Budget / Owner's Cost limit.

12. Develop the design in order to achieve the Client's objectives for the Project. It shall at all times act in a spirit of mutual trust and co-operation towards the Client and in full co-operation with the Client appointed Project Manager and Cost Manager.

13. Full Co-ordination of the design information (i.e., drawings, specifications, technical reports, Room Data Sheets, Basis of Design (BoD) etc.), to comply with the Client's guidelines and internal approval processes and to meet the requirements of the Client and Client appointed Project Manager.

14. Provide a Basis of Design (BoD) document which shall provide the reference document through the design to identifying the critical design parameters in the brief to be clearly captured at each gateway and incorporated in contractual documents with the Principal Contractor. The Lead Designer shall manage the input of the other consultants to produce and update this document.

15. Accept responsibility for ensuring that the exchange of design or other information between the Lead Designer Disciplines is satisfactory throughout the course of the Project.

16. Co-ordinate all design work, ensure that the designs are fully integrated and are tested throughout the design phases against costs targets and planning or other controls and take any action necessary to rectify deficiencies.

17. Make recommendations to the Client on the need for specialist contractors to design and execute any sections of the Works or for specialist suppliers to provide any materials or equipment and obtain the Client s approval and take any action necessary to implement the Client's decision.

18. Provide Room Data Sheets (RDS) to detail all aspects of each room and for incorporation into contractual documents with the Principal Contractor.

19. At the completion of each RIBA design stage, collate, co-ordinate and submit detailed report with relevant design content and drawings for review by the Client appointed Project Manager and Cost Manager and for final sign off by the Project Board

20. During each RIBA design stage, collate, co-ordinate and submit a detailed Low/ Zero Carbon (LZC) Technology Report with relevant content and drawings for review by the Client appointed Project Manager and Cost Manager and for final sign off by the Project Board.

21. Make a full Planning submission and all relevant applications to authorities/ regulators/ statutory bodies including applications with regard to Part L and manage the process to approval including the discharge of design related conditions.

22. Present the key content of the design at reports at relevant stages to the Client, stakeholders, Client appointed Project Manager and Cost Manager; for final sign off by the Project Board.

23. Obtain the Client's approval of the brief, drawings, reports, specifications developed at each design stage of the project and the Client's consent to proceed to the next stage.

24. Comply with all relevant regulations and statutory requirements and needs to ensure to liaise with the relevant authorities (for example Local Planning Authority, Home Office, Environment Agency, etc.), even if these are not specifically named in the scope of works.

25. Undertake appropriate consultations with the Environment Agency, Local Planning Authorities, and other relevant statutory bodies to enable the appropriate permissions and licences are obtained in a timely manner to facilitate the full design delivery. Advise of any onerous requirements together with time/cost impacts.

26. Preparation, submission, and securing of documentation to the Client appointed Planning Consultant as necessary for planning applications.

27. Agree material and construction specifications with the Consultant Disciplines and keep the Client appointed Project Manager fully informed.

28. All documentation produced for or in relation to this project will become ownership of the MRC. Permission for use on other projects and/or publications will be required from the Project Director. Provide services as the Lead Designer for the Project and co-ordinate and integrate the respective services to be performed by the members of the Design Team, including any specialist consultant or subcontractor design and/or survey work, so that the design of the Works is developed in a unified, consistent and coherent manner.

29. All documentation is to be shared on the Client portal (Huddle). Audit trail for the submission for documentation and their approval is on this system. Appropriate training will be provided.

30. Liaise with the Client appointed Project Manager and utility service providers to enable the timely provision of the required services to the site. Advise of any onerous

requirements together with time/cost impacts.

31. Provide design and/or output specification information (as appropriate) for all design elements.

32. Assist the Project Manager in responding to any Principal Contractor Requests for Information.

33. Technical assessment of the Principal Contractor tender responses and proposals.

34. The Lead Designer will manage the production of Designer's risk assessments for the project.

35. Advise the Client on all statutory Client obligations, including any health & safety-related Client obligations.

36. Promptly notify the Client and Client appointed Project Manager in writing of any matter that will affect the timing, cost or quality of the works in relation to the services and the magnitude thereof and price mitigation.

37. Support value engineering exercises where appropriate in order that the correct balance of: life cycle, cost in use, capital cost, is implemented

38. Consult with the Employer and identify and report on opportunities for innovation regarding general business operations (FM related matters) as well as new ways of working which could assist in service improvement.

39. Not without the prior written consent of the Client and Client appointed Project Manager, issue any instruction that would materially vary the project, increase cost or time taken to complete the project.

4.3 *Design Stage*

RIBA 4 – Technical Design

Core Objectives	Prepare Technical Design in accordance with Design Responsibility Matrix (DRM) and Project Strategies to include all architectural, structural and building services information, specialist subcontractor design and specifications, in accordance with Design Programme.
Procurement	The Lead Designer will be required to provide full tender documentation for a traditional procurement of a Principal Contractor under NEC3 Option A with design elements. It is expected that the design elements by the Principal Contractor will be minor and that the Lead Designer will provide a fully designed project in all relevant disciplines. The Lead Designer will be required to assist the Client and UK SBS with the clarification of queries by potential bidders for the Main Contract during the respective tender process.-
Planning	The Lead Designer will be working with the Client appointed Planning Consultant to discharge planning conditions.
Key Support Tasks	Review and update Sustainability, Maintenance and Operational and Handover Strategies and Risk Assessments. Prepare and submit Building Regulations submission and other third party submissions requiring consent. - The Technical Design will be the basis for the submission of the Full Business Case to the government. The Lead Designer will be required to make contributions to this document and assist the Project Manager with the establishment of the five elements (strategic, economic, commercial, financial and management). - Contribute to the update of the PEP. - Review and update the Construction Strategy, including sequencing, and update Health & Safety Strategy. - The Lead Designer will be required to review and update the Sustainability Strategy, Maintenance and Operational Strategy, Handover and Commissioning Strategy. These reviews need to include an assessment of the design against the set KPIs, in particular in relation to the sustainability and building performance (BREEAM). The abovementioned documents will need to be presented to and accepted by the Senior Users, Project Director and Project Board. The Lead Designer will be required to produce the full tender documentation and assist the Client and the Project team with the procurement of the Principal Contractor, both in the preparation of evaluation criteria, responding to Requests for Information and the evaluation, etc. itself. This documentation will include the pre-construction Health & Safety Plan.
Sustainability Checkpoint	The Lead Designer will be required to undertake a full review of the sustainability strategy and test the design against the sustainability targets identified earlier in the project. This needs to include all the relevant work and assessments to be undertaken for the BREEAM assessment. A full review of the Handover and Commissioning strategy together with the Commissioning Consultant ensuring that a stringent and comprehensive process for the testing and commissioning of the facility is specified in the tender documents. The Operation and Maintenance Strategy is to be reviewed with

Commissioning Consultant and the Client's FM team will need to be

undertaken to ensure the design provides a low maintenance building as well as safety for building operations and maintenance.

A Whole Life Cost Estimate for the facility is to be undertaken prior to tender publication.

OUTPUT

RIBA Stage 4 Report including the full technical design information and drawings. Report to be issued in A3 hard copy (3No) to PD for distribution as well as in electronic copy (PDF) to Huddle). The document needs to include room data sheets, technical specifications, etc. The report will require the review and acceptance of the Client (Senior User, Project Director, Project Board). The report must include the cost estimate for the construction, reviewed and verified by the Client appointed Cost Manager and the whole life cost estimate.

Submission for approval by Building Regulations (via Independent Building Regulations Inspector).

Submission of the full design to any other third party, which needs to provide consent.

The successful bidder will be responsible for the development and production of all documentation for and the submission of the Planning Application for this project. This responsibility will include all relevant activity to gain permission and discharge any conditions.

Tender documentation: Full set of tender documentation, with provision of all drawings in PDF and dwg.

The documentation must also include:

- Full specifications, including BMS design
- Detailed design drawings
- Room Data Sheets
- Clear identification of any elements of design required from the bidding contractors (the level of this design element needs to be agreed with the Client, i.e. Project Director).
- Pre-Construction H&S plan
- Surveys carried for or in relation to this project
- Planning documentation, including approvals and documentation relating to discharge of planning conditions
- Finalised Sustainability Strategy with the clear identification of the targets to be achieved in RIBA Stage 5-7
- Finalised Maintenance and Operational Strategy
- Finalised Handover and Commissioning Strategy
- Finalised Construction Strategy

The Technical Design is required to be signed off by the Project Manager, Cost Manager, Stakeholder Board and Project Board.

Maintenance strategy

The design team will be retained as Technical Advisors

RIBA 5 – Construction

Core Objectives	Monitor offsite manufacturing and onsite construction in accordance with the Construction Programme and Contract Works Information.
	Review and approval of Technical Submittals
	Liaise with the Principal Contractor on the development and approval of working drawings and Contractor Design Portion (CDP) elements as required, as well as resolving design queries that are raised by the Principal Contractor and work package contractors.
	Checking of working drawings and variations as they occur
	Continual snagging of works to help reduce the amount of snags at the end of the project
Procurement	The Client appointed Project Manager will have the role of Contract Administrator. The Lead Designer will advise on technical aspects relating to the design and Works Information and be responsible for ensuring that the delivery of the construction project will be in full compliance to the agreed design and specification. Therefore, regular site inspections will need to be carried out by the Lead Designer.
Planning	The Lead Designer will be required to continue (if required) any work that is to be undertaken to discharge planning conditions.
Key Support Tasks	Review and update Sustainability Strategy, Handover and Commissioning Strategy, including agreement of information required for commissioning, training, handover, asset management, future monitoring and maintenance and ongoing compilation of 'As-Built' Information. Update Construction and Health & Safety Strategies.
	The Lead Designer is required to take an active role in the ensuring the Principal Contractor compiles accurate documentation required for the Health & Safety File, O&M manuals, etc. This will also include the regular review of any alterations / developments of the BIM model by the Principal Contractor and the assessment of this on compliance with the technical design and specifications and the future performance of the building.
	Site visits to inspect, witness and sign-off the works by the Principal Contractor.
Sustainability checks	The Lead Designer will be responsible for the implementation of the Commissioning and Handover Strategy with the Principal Contractor, attend witness testing, etc.
OUTPUT	As-Built Information
	The Lead Designer will be responsible to ensure that the 'As-Built' information provided by the Principal Contractor is accurate. The Lead Designer will be required to certify this to the Client and Project Manager as part of the completion documentation.

RIBA 6 – Handover and Close Out

Core Objectives	Handover of building and conclusion of the Building Contract.
Procurement	The Lead Designer will be required to assist the Project Manager in the work in relation to the certification of the Practical Completion, including the compilation of a snagging list and confirmation of the construction works being compliant with the design and specification
Key Support Tasks	Carry out activities, listed in Handover Strategy including feedback for use during the future life of the building or on future projects. The Lead Designer will be responsible for ensuring that complete 'As-Built' documentation is compiled by the Principal Contractor and that the information contained is accurate. The Lead Designer will be working to ensure that all activities on the Handover Strategy are carried out and completed by the Principal Contractor. The Lead Designer will be required to review and/or action post-completion planning conditions. The Lead Designer will be required to assist the users with any design related issues that come to light during the start of the occupation of the new facility, in particular in relation to potential defects or design faults. The Lead Designer will be required to compile defects list prior to Practical Completion and at elapse of the defects liability period and assist with the solution of these if required. The Lead Designer will be required to work closely with the Client appointed Independent Building Regulations Inspector and regulatory and statutory bodies to ensure the building is receiving all required permissions/approvals are gained to operate the building and specialist areas.
Sustainability Checkpoint	The Lead Designer will be required to work closely with the Principal Contractor to ensure that the performance of the building (services in particular) is in line with the design intent and specifications (mainly in relation to outcomes of witness testing)
OUTPUT	- Snagging/ defects list (excel format) - Defects list at point of elapse of the defects liability period (excel format)

RIBA 7 – In Use

Core Objectives	Undertake 'In Use' services in accordance with the Schedule of Services.
Key Support Tasks	Conclusion of the Handover activities including a Post-occupancy Evaluation, review of the Project Performance and Project outcomes. The Lead Designer will be required to produce a Project Closure report to assess the delivered product. This should not be carried out prior the elapse of 12 months of occupation by the Client and should include as a minimum: - Evaluation of the achieved building performance against the agreed targets - Evaluation of the achieved sustainability performance against the agreed targets - Post occupation survey (Client satisfaction) - Lessons learned The Project Closure Report will require the approval by the Project Manager, Stakeholder Board and Project Board.
Sustainability Checkpoint	see above in Post occupancy evaluation
OUTPUT	- Project Completion Document (PDF)

Appendix A – Design Responsibility Matrix

MRC Harwell Institute

DESIGN RESPONSIBILTY MATRIX

This document details the provision of professional services to be provided, and indicates the parties responsible for providing those services within the project environment, and at each RIBA work stage. This document covers all aspects of project services and is intended to be core to all projects and deemed to be inclusive on all projects unless amended as part of the project agreement.

Section 1 Consultancy Services Generally

Project: MRC Harwell Institute Training Centre
Revision version and date: V1: 14th December 2017

This section covers all general provision of services across all stages of a project. The Consultants shall provide to the client, design and other services for the works in accordance with the requirements of the agreement and shall include (but shall not be restricted to) the following:

Legend:

P	Involvement Required in a PRINCIPAL Role
S	Involvement Required in a SUPPORTING Role
A	ATTENDANCE Required
a	To advise, support and participate in action if requested

In addition to the undernoted services/actions, the Architect will assume the role of Lead Designer (unless agreed otherwise) and will be responsible for organising the design team, timeous delivery of accurate, coordinated and compliant information.

Reference		Service Required	Client (MRC)	Project Manager (MRC)	Architect / Lead Designer	C&S Engineer	M&E Services Engineer	Cost Manager (MRC)	Principle Designer (MRC)	Specialist Consultant	Principal Contractor	Services Contractor	Sub-contractor	Comment
1.1	Provide Architectural Design Services	Y			P									
1.2	Provide Interior Design Services	Y			P									Finishes specification and selection for all areas.
1.3	Provide Landscape Architectural design services	Y			P									
2.1	Provide Structural Engineering Design Services	Y				P								
2.2	Provide Civil Engineering Design Services	Y				P								
2.3	Provide Highways Engineering Design Services (excluding architectural bridge structures)	Y				P				S				Specialist to advise on highway specific requirements, C+S engineer to include in their specification and drawings.
2.4	Provide Geotechnical Engineering Design Services	N												
2.5	Provide Soils Engineering Design Services	N				P								In relation to foundation solution.
2.6	Provide Below Ground Drainage Design Services (excluding foul treatment works design but including attenuation tank design)	Y				P	S							Include measures and connections to existing infrastructure.
2.7	Provide Contaminated Land and Environmental Engineering Services	Y				P	S							Not expected
2.8	Provide Structural Survey Services	Y				P								For any retained structures
2.9	Provide Topographical Survey Services	N												

Reference		Service Required	Client (MRC)	Project Manager (MRC)	Architect / Lead Designer	C&S Engineer	M&E Services Engineer	Cost Manager (MRC)	Principle Designer(MRC)	Specialist Consultant	Principal Contractor	Services Contractor	Sub-contractor	Comment
2.10	Provide Fire Engineering Design Services	Y			S	S	S			P				Provide advice on the application of a Fire Engineered solution.
2.11	Examine and advise on existing Building Structure , Asbestos etc.	Y			S	P	S	S						
3.1	Provide Mechanical Engineering Design Services	Y			S		P							Include for spatial co-ordination of all M&E services within the building structure.
3.2	Provide Electrical Engineering Design Services	Y			S		P							As 3.1
3.3	Provide Public Health Engineering Design Services	Y			S		P							As 3.1
3.4	Provide Sanitary Systems Engineering Design Services	Y			S		P							Architect to select sanitary ware.
3.5	Provide Above Ground Drainage / Waste Disposal Design Services	Y			S	S	P							Pop up setting out by Architect
3.6	Provide Lift / Escalator Design Services	N												
3.7	Provide Communications Systems Design Services	Y	S				P							Communication strategy to be provided by MRC. Consultant to develop specification and design.

Reference		Service Required	Client (MRC)	Project Manager (MRC)	Architect / Lead Designer	C&S Engineer	M&E Services Engineer	Cost Manager (MRC)	Principle Designer (MRC)	Specialist Consultant	Principal Contractor	Services Contractor	Sub-contractor	Comment
3.8	Provide IT Design Services	Y	S	S	S		P							ICT brief and strategy to be provided by MRC. Consultant to develop structured cabling design based on strategy.
3.9	Examine and advise on existing Building Services Systems	y					P							For any retained buildings and systems
4.1	Provide Acoustic Design Services	Y			S	S	S			P				
4.2	Provide Laboratory Planning Design Services	Y	S		P	S	S			S				
4.3	Provide services in relation to application of the Disability Discrimination Act	Y			P	S	S							In relation to the physical design and specification of the facilities for Building Regulations compliance
5.1	Attend Design Team Meetings	Y	A	A	A	A	A	A	A	A	A	A		As Required.
5.2	Attend Client Meetings	Y	A	A	A	A	A	A	A	A	A			As required.
5.3	Attend Contractor Meetings	Y	A	A	A	A	A	A	A	A	A	A	A	As Required.
5.4	Attend Design Review Meetings	Y	A	A	A	A	A	A	A	A	A	A	A	As required.
5.5	Attend Site Visits during construction	Y	A	A	A	A	A	A	A	A	A	A		As Required.
6.0	Complete and submit in a timely manner the monthly dashboard reports and other project updates as required by MRC.	Y		P	S	S	S	S	S	S				Design Team to provide monthly progress reports to Project Manager.
6.1	Provide information to discuss proposals with and incorporate input from other consultants	Y	a	a	a	a	a		a	a				May apply to other consultants; refer project specific requirements.

Reference		Service Required	Client (MRC)	Project Manager (MRC)	Architect / Lead Designer	C&S Engineer	M&E Services Engineer	Cost Manager (MRC)	Principle Designer (MRC)	Specialist Consultant	Principal Contractor	Services Contractor	Sub-contractor	Comment
6.2	Manage the incorporation of Specialist Consultant and/or Contractor Design Information	Y		a	a	a	a		a	a				As 6.1
6.3	Provide information (drawn or otherwise) to others for Cost Planning and Control Purposes throughout the Project	Y	a	a	a	a	a		a	a	a	a	a	As 6.1
6.4	Undertake Value Management / Value Engineering exercises in connection with the Project	Y	a	a	a	a	a	a	a	a	a	a	a	Led by the Cost Manager
6.5	Participate in Risk and Opportunity Workshops in connection with the Project	Y	a	a	a	a	a	a	a	a	a	a	a	Led by the Project Manager
6.6	Advise on matters or obligations arising under the CDM Regulations.	Y	a	a	a	a	a	a	p	a	a	a	a	Led by the Principal Designer
6.7	Produce Designer's Risk Assessments (or suitable alternative) as may be required under the CDM Regulations, including adding residual risks onto drawings.	Y		a	a	a	a		a	a			a	As 6.1
6.8	Assess specific site risks in relation to ground conditions / abnormals / contamination and the like.	Y		S	S	P	S		S					
6.9	Assess specific site risks in relation to Japanese Knotweed, Giant Hogweed etc.	N												
6.10	Liaise with Statutory Authorities (Planning/Building Control/Fire Brigade/EHO/SEPA/Licensing etc.)	Y	S	S	p	S	S			P				

Reference		Service Required	Client (MRC)	Project Manager (MRC)	Architect / Lead Designer	C&S Engineer	M&E Services Engineer	Cost Manager (MRC)	Principle Designer (MRC)	Specialist Consultant	Principal Contractor	Services Contractor	Sub-contractor	Comment
6.11	Apply for necessary Statutory Authority Consents (Planning /Building Control/Fire Brigade EHO/SEPA/Licensing etc.) and any necessary relaxations, amendments and/or re-submissions	Y	S	S	P	S	S			P				
6.12	Conduct exceptional negotiations with Statutory Authority Bodies	N												
6.13	Liaise with Public Utilities bodies (Electric/Gas/Water/Telecoms etc.)	Y	S	P	S	S	S							
6.14	Apply for necessary consents to Public Utilities Bodies (Electric/Gas/Water/Telecoms etc.)	Y	S	P	S	S	S							
7.1	Provide information in relation to Local Authority, Government or other grants	N												
7.2	Make submissions to UK Heritage Bodies and/or Non-Statutory Bodies	Y	S	S	P	S	S			P				
7.3	Provide information to Advisory Bodies	Y	P	S	S	S	S							Support Client as required
7.4	Negotiate with Advisory Bodies	Y	P	S	S	S	S							Support Client as required
7.5	Advise on rights including easements and responsibilities of Owners & Lessees	Y	P	S	S	S	S							Support Client as required
7.6	Provide information on rights including easements	Y	P	S	S	S	S							Support Client as required

Reference		Service Required	Client (MRC)	Project Manager (MRC)	Architect / Lead Designer	C&S Engineer	M&E Services Engineer	Cost Manager (MRC)	Principle Designer (MRC)	Specialist Consultant	Principal Contractor	Services Contractor	Sub-contractor	Comment
	and responsibilities of Owners & Lessees													
7.7	Negotiate rights including Easements	Y	P	S	S	S	S							Support Client as required
7.8	Provide services in connection with Party Wall Negotiations	N												
7.9	Advise on the use of energy in new buildings	Y	S	S	S	S	P							
7.10	Contribute to life cycle analysis of proposed buildings to determine their likely cost in use	Y	S	S	S	S	S	P						
7.11	Provide services in connection with environmental / sustainability studies	Y		S	S	S	P							Environmental / Sustainability Low/Zero Carbon Technology study required.
7.12	Provide architectural detail / information for 3D Architectural Visualisation Services	N												
7.13	Provide services in connection with BREEAM and other like studies.	N												
8.1	Manage FF&E selection, compile Room Data Sheets and co-ordinate drawing / room layouts.	Y	S	S	P	S	S			S				Architect to develop and manage project specific RDS. Client to specific laboratory equipment Selection.
8.2	Co-ordinate M&E and FF&E Room Layouts	Y		S	P	S	S							
8.3	Advise on works of Special Quality	N												
8.4	Prepare information for Installation of works of	N												

Reference		Service Required	Client (MRC)	Project Manager (MRC)	Architect / Lead Designer	C&S Engineer	M&E Services Engineer	Cost Manager (MRC)	Principle Designer (MRC)	Specialist Consultant	Principal Contractor	Services Contractor	Sub-contractor	Comment
	Special Quality													
8.5	Inspect installation of works of Special Quality	N												
8.6	Advise on commissioning or selection of Works of Art	N												
8.7	Prepare information for installation of Works of Art	N												
8.8	Provide industrial design services	N												
8.9	Examine and advise on existing Building Systems	N												
8.10	Provide Town planning and Urban Design Services	Y			P					P				Architect or specialist planning consultant to lead on all planning matters
8.11	Provide Graphic Design Services	N												
8.12	Provide exhibition design services	N												
8.13	Provide presentation material design services	N												
8.14	Provide model making services	N												
8.15	Provide photographic records	N												
8.16	Provide Building Services Survey	N												
8.17	Participate in / undertake AEDET or DQI design assessment	N												
8.18	Carry out special constructional research for the Project including Design of prototypes, mock-ups or models etc.	N												
8.19	Provide BIM services in accordance with BS:1192:2007 and PAS1192-2:2013	N												

Section 2 Consultancy Pre-Construction Services

Project: MRC Harwell Institute Training Centre
Revision version and date: 14th December 2017

This section covers all general provision of services during the pre-construction stages of a project. The Consultants shall provide to the client, design and other services for the works in accordance with the requirements of the agreement and shall include (but shall not be restricted to) the following:

Legend:
P Involvement Required in a PRINCIPAL Role
S Involvement Required in a SUPPORTING Role
A ATTENDANCE Required
a To advise, support and participate in action if requested

In addition to the undernoted services/actions, the Architect will assume the role of Lead Designer (unless agreed otherwise) and will be responsible for organising the design team, timeous delivery of accurate, coordinated and compliant information.

	RIBA4 - Technical Design													
Reference	Section 2 Pre-Construction Activities	Service Required	Client (MRC)	Project Manager (MRC)	Architect / Lead Designer	C&S Engineer	M&E Services Engineer	Cost Manager (MRC)	Principle Designer (MRC)	Specialist Consultant	Principal Contractor	Services Contractor	Sub-contractor	Comment
1.1	Review and validate Employer's Requirements, including the identification of any discrepancies existing within the document, relevant to the design	Y		S	P	S	S			S				As 3.1

1.2	Develop detail design from approved scheme design proposals or Employer's Requirements and Contractor's Proposals, taking account of all amendments arising out of design development	Y		S	P	S	S			S				
1.3	Prepare and make application for Detailed Planning / Reserved Matters Consent	Y		S	P	S	S			S				
1.4	Carry out Building Control liaison, particularly in relation to proposed fire strategy	Y		S	P	S	S			S				
1.5	Review/ check and comment on detailed design by specialist supplier / sub-contractors undertaking detailed design for elements of the project.	Y		S	P	S	S							
1.6	Research and Prepare/obtain suitable utilities and way leave	Y		S	S	S	P							
1.7	Provide builders work information in connection with the mechanical, electrical and plumbing services.	Y		S	S	S	P							
1.8	Provide information to enable necessary plant and equipment supports / structure, including platforms, walkways, access ladders, stairs, etc to be designed by other consultants.	Y		S	S	S	P							
1.9	Provide other consultants with detailed information on the size and location of plant and equipment rooms and of major service ducts and routes drawings.	Y		S	S	S	P							

Reference	[redacted]	Service Required	Client (MRC)	Project Manager (MRC)	Architect / Lead Designer	C&S Engineer	M&E Services Engineer	Cost Manager (MRC)	Principle Designer (MRC)	Specialist Consultant	Principal Contractor	Services Contractor	Sub-contractor	Comment
1.10	Prepare outline Work Package information in sufficient detail to allow the preparation of Builders Quantities and for sub-contractors to provide detailed quotations (initial market testing)	Y		S	P	S	S			S				
1.11	Provide Landscape design	N												
1.12	Paving and Surfacing of Roads, Car Parks, Service Yards and Footpaths	Y		S	P	S	S			S				The Architect will provide fully co-ordinated and dimensional external layout drawings and specification.
1.13	Design / Layout / Details													The Structural Engineer will provide advice / comment in the form of sketches and 'over-marking' of Architect's drawings to allow site layouts and levels to be co-ordinated with drainage and technical highways design. Engineering advice will include retaining structures within the landscape, swept path / road visibility splay analysis, phasing, kerb details, paving and surfacing make-up's, specifications, drawings and the like.

Matrix of Services and Project Responsibilities - Section 3 Consultancy Construction Services

Project: MRC Harwell Institute Training Centre
Revision version and date: 14th December 2017

This section covers all of the services during the technical design procurement and construction stages of a project. The Consultants shall provide to the client, design and other services for the works in accordance with the requirements of the agreement and shall include (but shall not be restricted to) the following:

Legend:
P Involvement Required in a PRINCIPAL Role
S Involvement Required in a SUPPORTING Role
A ATTENDANCE Required
a To advise, support and participate in action if requested

In addition to the undernoted services/actions, the Architect will assume the role of Lead Designer (unless agreed otherwise) and will be responsible for organising the design team, timeous delivery of accurate, coordinated and compliant information.

The following services are subject to a review of the procurement for the construction contractor and the novation of the design services to the contractor. This schedule sets out the services for a full novation of the design services.

Reference		Service Required Y/N*	Client (MRC)	Project Manager (MRC)	Architect / Lead Designer	C&S Engineer	M&E Services Engineer	Cost Manager (MRC)	Principle Designer (MRC)	Specialist Consultant	Principal Contractor	Services Contractor	Sub-contractor	Comment
	RIBA 4 Technical Design													

Reference		Service Required Y/N*	Client (MRC)	Project Manager (MRC)	Architect / Lead Designer	C&S Engineer	M&E Services Engineer	Cost Manager (MRC)	Principle Designer (MRC)	Specialist Consultant	Principal Contractor	Services Contractor	Sub-contractor	Comment
1.1	Review Employers Requirements / Contractors Proposals / Bid and Contract etc. Documentation, including identification of any discrepancies existing within the document, relevant to the design	Y		S	P	S	S	S	S	S	P	S		
2.1	Co-ordinate Production Information output and content	Y		S	P	S	S		S	S				
3.1	Develop Production Information from approved detail design proposals or Employer's Requirements and Contractor's Proposals, taking account of all amendments arising out of design development, including but not restricted to the following:	Y		S	P	S	S		S	S				Incorporate advice from specialist consultants
3.1.1	General Arrangement Floor Plans	Y			P	S	S		S					As 3.1
3.1.2	Detail Floor Plans	Y			P	S	S		S					As 3.1
3.1.3	General Arrangement Roof Plans	Y			P	S	S		S					As 3.1
3.1.4	Detail Roof Plans	Y			P	S	S		S					As 3.1
3.1.5	General Arrangement Elevations	Y			P	S	S		S					As 3.1
3.1.6	Detail Elevations	Y			P	S	S		S					As 3.1
3.1.7	General Arrangement Sections	Y			P	S	S		S					As 3.1
3.1.8	Detail Sections	Y			P	S	S		S					As 3.1
3.1.9	External Building Envelope Design / Details	Y			P	S	S		S				S	As 3.1
3.1.10	Window / Glazing Design / Details	Y			P	S	S		S				S	As 3.1
3.1.11	Ceiling Design / Layouts / Details	Y			P	S	S		S					As 3.1
3.1.12	Soffit Design / Layout / Details	Y			P	S	S		S				S	As 3.1

Reference		Service Required Y/N*	Client (MRC)	Project Manager (MRC)	Architect / Lead Designer	C&S Engineer	M&E Services Engineer	Cost Manager (MRC)	Principle Designer (MRC)	Specialist Consultant	Principal Contractor	Services Contractor	Sub-contractor	Comment
3.1.13	Internal Wall Design / Layout / Details	Y			P	S	S		S					As 3.1
3.1.14	Internal Partition Design / Layout / Details	Y			P	S	S		S					As 3.1
3.1.15	Internal Window / Glazing Design / Layout / Details	Y			P	S	S		S					As 3.1
3.1.16	Roof Design / Layout / Details	Y			P	S	S						S	
3.1.17	Roof Glazing Design / Layout / Details	Y			P	S	S						S	
3.1.18	Roof Drainage Design / Layout / Details	Y			S	S	P						S	
3.1.19	Floor Finishes Layout / Details / Schedules	Y			P	S	S							
3.1.20	Wall Finishes Layout / Details / Schedules	Y			P	S	S							
3.1.21	Ceiling finishes layout / details / schedules	Y			P	S	S							
3.1.22	Door details / schedules	Y			P	S	S							
3.1.23	Ironmongery schedules	Y			P	S	S							
3.1.24	Sanitary ware schedules	Y			P	S	S							
3.1.25	Room and equipment layouts / details / schedules	Y			P	S	S							
3.1.26	Co-ordinated room elevations	Y			P	S	S							
3.1.27	Window / glazing schedules	Y			P	S	S							
3.1.28	Pre-cast Lintel Schedules internal and external	Y			S	P	S							
3.1.29	Pre-cast Cill Schedules	Y			S	P	S							
3.1.30	Special Brick Schedules	Y			P	S	S							
3.1.31	Signage Layouts / Details / Schedule	Y			P	S	S						S	
3.1.32	Waterproofing / Damp proofing	Y			P	S	S							
4.1	NBS Specification Information	Y			P	S	S		S					Each consultant will assume responsibility for compiling

Reference		Service Required Y/N*	Client (MRC)	Project Manager (MRC)	Architect / Lead Designer	C&S Engineer	M&E Services Engineer	Cost Manager (MRC)	Principle Designer (MRC)	Specialist Consultant	Principal Contractor	Services Contractor	Sub-contractor	Comment
														Relevant sections of NBS in relation to their works.
5.1	Interior design Scheme	Y			S				P					For areas where an interior specialist is required
5.2	Soft landscaping Design	Y			S									
6.1	Submit Plans for proposed Building Works for approval by the Client	Y		S	P	S	S		S					
6.2	Bar Bending Schedules	Y				P								
6.3	Earthworks and Excavation Design / Layout/ Details	Y			S	P	S							Any design in relation to temporary works by Contractor.
6.4	Dredging and Land Reclamation Design / Layout / Details	N												
6.5	Foundations design/layout/details	Y			S	P	S							
6.6	Ground Improvement / Piling Scheme and Specification	Y			S	P	S						S	
6.7	Earth and Water Retaining Structures including Reinforced Earth Design / Layout / Details	Y			S	P	S							
6.8	Ground and Surface Treatment Design / Layout / Details	Y			S	P	S							
6.9	Below Ground Drainage Design / Layout / Details	Y			S	P	S							

Reference		Service Required Y/N*	Client (MRC)	Project Manager (MRC)	Architect / Lead Designer	C&S Engineer	M&E Services Engineer	Cost Manager (MRC))	Principle Designer (MRC)	Specialist Consultant	Principal Contractor	Services Contractor	Sub-contractor	Comment
6.10	Irrigation Systems Design / Layout / Details	N												
6.11	Paving and Surfacing of Roads, Car Parks, Service Yards and Footpaths Design / Layout / Details	Y			P	S	S							As Section 2 Item 5.12
6.12	Fencing and landscaping Details	Y			P	S	S							
6.13	Railways Design / Layout / Details including permanent way	N												
6.14	Tunnels Design / Layout / Details	N												
6.15	In-Situ and Precast Concrete Structural Design / Layout / Details	Y			S	P	S							
6.16	Masonry Structural Design / Layout / Details	Y			S	P	S							Layout, aesthetic details and Setting Out by Architect.
6.17	Primary Structural Steel Design / Layout / Details	Y			S	P	S							
6.18	Secondary Structural Steel or Metalwork Design / Layout / Details - (Stairs, Wind Posts, Cladding Supports, etc)	Y			S	P	S							
6.19	Outline Structural Steel Design and Specification to enable specialist contractor to complete the design and detailing.	Y			S	P	S							
6.20	Structural Timber / Reinforced Plastic Design / Layout / Details	N												
6.21	Check supplier / subcontractor's tender proposals, calculations, drawings and specifications.	Y			S	P	S							
7.1	Building Services System Schematics	Y			S	S	P							

Reference		Service Required Y/N*	Client (MRC)	Project Manager (MRC)	Architect / Lead Designer	C&S Engineer	M&E Services Engineer	Cost Manager (MRC)	Principle Designer (MRC)	Specialist Consultant	Principal Contractor	Services Contractor	Sub-contractor	Comment
7.2	Proposals for Testing and Commissioning Building Services Systems	Y			S	S	P							
7.3	Acoustic Design and Treatment in relation to Building Services Works	Y			S	S	P							
7.4	Air Compressors and Compressed Air Services	N												
7.5	Air Conditioning and Mechanical Ventilation Services	Y			S	S	P							
7.6	Automatic Blinds and Shutters	N												
7.7	Washing and Disposal Plant	N												
7.8	Boilers and Auxiliary Plant	Y			S	S	P							
7.9	Builder's Work for Services	Y			S	S	P							
7.10	Calorifiers	Y			S	S	P							
7.11	Central Dictation Services	N												
7.12	Central Vacuum Cleaning Installations	N												
7.13	Clock Installations	N												
7.14	Cold Water Services	Y			S	S	P							
7.15	Combined Heat and Power Installations	N												
7.16	Conveyor Installations and Equipment	N												
7.17	Cooling Water Services	Y			S	S	P							
7.18	Distribution Mains for any Services	Y			S	S	P							
7.19	Electric Lighting and Power Installations	Y			S	S	P							
7.20	Electric Generation Plant and Systems	N												
7.21	Electric Substations and Switchgear	Y			S	S	P							

Reference		Service Required Y/N*	Client (MRC)	Project Manager (MRC)	Architect / Lead Designer	C&S Engineer	M&E Services Engineer	Cost Manager (MRC)	Principle Designer (MRC)	Specialist Consultant	Principal Contractor	Services Contractor	Sub-contractor	Comment
7.22	Electric Transmission Systems	N			S	S	P							
7.23	Emergency Lighting Systems	Y			S	S	P							
7.24	Energy Management Systems	Y			S	S	P							
7.25	Exhaust Gas Treatment and Flues	N												
7.26	External Lighting Installations	Y			S	S	P							
7.27	Fire Detection and Alarm systems	Y			S	S	P							
7.28	Fire Protection Systems	Y			S	S	P							
7.29	Flood Lighting Systems	Y			S	S	P							
7.30	Food Preparation, Cooking and Serving Equipment	N												
7.31	Fuel Gas Distribution Systems	Y			S	S	P							
7.32	Heating Systems	Y			S	S	P							
7.33	Hot Water Services	Y			S	S	P							
7.34	Incineration Plant	N												
7.35	Information Technology (IT) Systems	Y			S	S	P							Structured cabling only
7.36	Intruder Detection and Alarm Systems	N												
7.37	Laundry Equipment and Services	N												
7.38	Lifts, Hoists and Escalators	N												
7.39	Lightning Protection Systems	Y			S	S	P							
7.40	Medical Gas and Vacuum Services	Y			S	S	P							
7.41	Pedestrian Movement Systems (Travelators)	N												

Reference		Service Required Y/N*	Client (MRC)	Project Manager (MRC)	Architect / Lead Designer	C&S Engineer	M&E Services Engineer	Cost Manager (MRC)	Principle Designer (MRC)	Specialist Consultant	Principal Contractor	Services Contractor	Sub-contractor	Comment
7.42	Pneumatic Tube Conveyor Systems	N												
7.43	Power for Specialist Installations (cranes, lifts, doors, etc)	N												
7.44	Power Operated Louvers	N												
7.45	Public Address, Personnel Location and Call Services	N												
7.46	Public Health and Plumbing Systems	Y			S	S	P							
7.47	Radio and TV Reception services	N												
7.48	Radio and TV Transmission services	N												
7.49	Radiography and similar Medical Investigation and Treatment Plant	N												
7.50	Refrigeration and cold store installations	Y			S	S	P							
7.51	Refuse Collection, Compaction, Incineration and Disposal Systems	N												
7.52	Security and Access Control Systems	Y			S	S	P							
7.53	Steam and Condensate Return Services	N												
7.54	Sterilizing Equipment	N												
7.55	Street lighting	Y			S	S	P							
7.56	Telephone Installations and Exchanges	Y			S	S	P							
7.57	Hearing induction Loop system	Y												
7.58	Thermal Insulation applied to the Engineering Services Systems	Y			S	S	P							
7.59	Thermal Modelling	N												

Reference		Service Required Y/N*	Client (MRC)	Project Manager (MRC)	Architect / Lead Designer	C&S Engineer	M&E Services Engineer	Cost Manager (MRC)	Principle Designer (MRC)	Specialist Consultant	Principal Contractor	Services Contractor	Sub-contractor	Comment
7.60	Vibration Control applied to the Engineering Services Systems	Y			S	S	P							
7.61	Water Filtration and Treatment Systems	Y			S	S	P							
7.62	Window Cleaning and other External Access Equipment	N												
8.1	Attend and report at Design Review meetings	Y		a	a	a	a	a	a	a	a	a		
8.2	Attend and report at Client Project meetings	Y	a	a	a	a	a	a	a	a	a	a		
8.3	Attend and report at Design Team meetings	Y	a	a	a	a	a	a	a	a	a	a		
8.4	Attend and report at Site Progress meetings	Y	a	a	a	a	a	a	a	a	a	a		
8.5	Attend and report at Site Technical meetings	Y	a	a	a	a	a	a	a	a	a	a	a	
8.6	Attend and report at Sub-contractor meetings	Y		a	a	a	a		a	a	a	a	a	
8.7	Attend and report at Tenants meetings	Y												
8.8	Attend and report at Planning Authority meetings	Y	a	a	a						a	a		
8.9	Attend and report at Building Control meetings	Y		a	a	a	a		a	a	a	a		
8.10	Attend and report at other Statutory Authority meetings	Y		a	a	a	a		a		a	a		
8.11	Attend and report at meetings with Specialists	Y		a	a	a	a		a	a	a	a		
9.1	Carry Out Inspection of Materials On Site / At Works	Y		a	a	a	a				a	a		
9.2	Witness Product / Material Testing On/Off Site	Y		a	a	a	a			a	a	a		As requested by Contractor
9.3	Visit site at appropriate intervals to view construction and determine that Works are being executed generally in accordance with the Contract Documents - Contractor Request	Y	a	a	a	a	a		a	a				Generally Weekly

Reference		Service Required Y/N*	Client (MRC)	Project Manager (MRC)	Architect / Lead Designer	C&S Engineer	M&E Services Engineer	Cost Manager (MRC)	Principle Designer MRC)	Specialist Consultant	Principal Contractor	Services Contractor	Sub-contractor	Comment
9.4	Visit Site at appropriate intervals to view construction and determine that Works are being executed generally in accordance with the Contract Documents - at Consultant's Discretion	Y	a	a	a	a	a		a	a				
9.5	Advise on need for Site Testing / Builder Works	Y		S	P	S	S		S					
9.6	Provide criteria for Site Testing / Builder Works	Y		S	P	S	S		S					
9.7	Witness Site Testing / Builder Works	Y		S	P	S	S		S					
10.1	Issue drawings to Consultants, Statutory Authorities, etc	Y			a	a	a		a				a	
10.2	Issue drawings to construction team (full size)	Y			a	a	a		a				a	
10.3	Issue drawings to construction team (A3)	Y			a	a	a		a				a	
10.4	Issue of drawings in electronic format	Y			a	a	a		a				a	
10.5	Advise on need for Acoustic Sound Testing	Y		S	S	P	S		S					
10.6	Provide criteria for Site Sound Testing	N												
10.7	Provide As Built drawings for the project	Y			a	a	a		a				a	
10.8	Prepare drawings for Conveyancing purposes	N												
10.9	Give general advice on Maintenance of the project	Y		S	S	S	S		S	P	S		S	
10.10	Provide information for the Health and Safety File and Maintenance Manuals	Y		S	P	S	S		S	S	S		S	
10.11	Compile Maintenance and Operational Manuals	Y		S	S	S	S		S	P	S		S	

Matrix of Services and Project Responsibilities - Section 4 Consultancy Construction Services

Project: MRC Harwell Institute Training Centre
Revision version and date: 14th December 2017

This section covers all of the services during the procurement and construction stages of a project. The Consultants shall provide to the client, design and other services for the works in accordance with the requirements of the agreement and shall include (but shall not be restricted to) the following:

Legend:
P Involvement Required in a PRINCIPAL Role
S Involvement Required in a SUPPORTING Role
A ATTENDANCE Required
a To advise, support and participate in action if requested

In addition to the undernoted services/actions, the Architect will assume the role of Lead Designer (unless agreed otherwise) and will be responsible for organising the design team, timeous delivery of accurate, coordinated and compliant information.

Reference		Service Required Y/N	Project Mgr (MRC)	Architect / Lead Designer	C&S Engineer	M&E Services Engineer	Cost Manager (MRC)	Specialist Consultant	Principal Designer	Comment
1.1	Measured Survey of Sites (additional to / verification of information provided by Client)	Y		S	S			P		Specialist Company to carry out survey to brief prepared by Designers.
1.2	Measured Survey of Existing Buildings	Y						P		By specialist
1.3	Marked up drawing showing Demolition *Drawings of existing building(s) to be fully or partially demolished on the site to be highlighted*	Y		S	P	S			S	

Reference		Service Required Y/N	Project Mgr (MRC)	Architect / Lead Designer	C&S Engineer	M&E Services Engineer	Cost Manager (MRC)	Specialist Consultant	Principal Designer	Comment
1.4	Condition Survey of Existing Building Fabric *Undertake or co-ordinate detailed condition survey of existing buildings as necessary for project. Obtain input from specialist consultant/contractor as necessary for matters such as asbestos*	N								
1.5	Schedule of Works required to Existing Buildings *Prepare schedule as necessary for project, based on outcome of condition survey*	N								
1.6	Site Plan with external levels and finishes *Minimum scale 1:500. Drawings to be developed with support from civil engineer and landscape architect. Drawings to indicate existing and proposed levels, car parking, roadways, hard standings and other similar site features. Landscaping proposals to be presented separately*	Y		P	S	S				
1.7	Floor plans with levels and schedules of areas *Plans to be prepared for each floor at 1:100/200 scale as appropriate and agreed, to include all briefed accommodation, ancillary/non-briefed accommodation and circulation space. Structural grid to be indicated*	Y		P	S	S		S		
1.8	Roof Plan *Plan at 1:100/200 scale as appropriate and agreed, indicating roof pitches, materials, gutters,*	Y		P	S	S				

Reference		Service Required Y/N	Project Mgr (MRC)	Architect / Lead Designer	C&S Engineer	M&E Services Engineer	Cost Manager (MRC)	Specialist Consultant	Principal Designer	Comment
	maintenance access arrangements									
1.9	Building Sections *Long and Cross sections to be prepared at a scale of no less than 1:100, indicating building profile and co-ordinating dimensions horizontally and vertically*	Y		P	S	S				
1.10	Elevations *Elevations to be prepared for each face of the building at 1:100/200 scale, indicating all finishes from pre-agreed schedule, openings, roof profiles and key dimensions. 100/1:200 1:50/1:20 drawings where necessary to indicate any special detailing requirements and particular sizes which need to be highlighted to the cost consultant/commercial manager*	Y		P	S	S				
1.11	External Wall Sections *Detailed typical wall sections at a scale of 1:20/1:50 as appropriate and agreed, indicating roof and external wall constructions, floor/floor, floor/ceiling and window heights*	Y		P	S	S				
1.12	Internal Wall Types & Thickness *Floor plans at 1:100 or 1: 200 scale as appropriate, indicating types of wall construction, i.e. block or metal stud with plasterboard lining, wall thickness, plus any abnormal requirements, such as high levels of fire resistance or acoustic performance which may*	Y		P	S	S				

Reference		Service Required Y/N	Project Mgr (MRC)	Architect / Lead Designer	C&S Engineer	M&E Services Engineer	Cost Manager (MRC)	Specialist Consultant	Principal Designer	Comment
	affect cost significantly.									
1.13	Fire Strategy Plans / Boundary Conditions *Floor plans at 1:100 or 1:200 scale as appropriate, indicating escape route and widths (including stairs), fire doors and ratings, compartmentation strategy (horizontal and vertical) and ratings of compartment walls*	Y		S	S	S		P		Strategy to be developed by Architect or Fire Engineer if appointed
1.14	Security Strategy for Building and Site *Floor plans at 1:100 or 1:200 scale as appropriate, indicating proposals for lock-down and out-of–hours use strategy for building. Site plan at no less than 1:500 scale indicating fencing locations, types and heights, site access points and gates (in conjunction with Landscape Architect).* *Carry out discussions with local Police Architectural Liaison Officer to ensure that proposals meet with the minimum standards set by 'Secured by Design'*	N								
1.15	Door and Lintol Schedules *Tabulate door sizes, finishes, glazing requirements and fire ratings to comply with statutory and employer requirements*	Y		S	P					
1.16	Window, Lintol and Cill Schedules Tabulate window sizes, types, glazing and opening requirements to comply with statutory and employer requirements	Y		P	S					
1.17	Typical Handrail & Balustrade Details	N								

Reference		Service Required Y/N	Project Mgr (MRC)	Architect / Lead Designer	C&S Engineer	M&E Services Engineer	Cost Manager (MRC)	Specialist Consultant	Principal Designer	Comment
	1:20/50 scale plans and sections, indicating design principles, materials and finishes for each staircase, in accordance with the pre-agreed specification and good practice detailing.									
1.18	Internal Partition Construction and Finishes *Schedule of standard wall types, to be prepared in accordance with agreed specifications, and cross-referenced to 1:100/1:200 plans of each floor, indicating materials, thickness and finishes for each wall dependent on durability and acoustic requirements.* *Schedule of decoration / applied finishes to be prepared in accordance with agreed specifications and Room Data Sheets*	Y		P	S					
1.19	Internal Floor / Skirting Finishes *Schedule of applied floor finishes to be prepared for each room/area in accordance with agreed specifications and Room Data Sheets*	Y		P						
1.20	Internal Ceiling Finishes *Schedule of ceiling finishes to be prepared for each room/area in accordance with agreed specifications and Room Data Sheets*	Y		P		S				Services and Lighting to be co-ordinated within ceiling layout by Architect based on information provided by Services Engineer.
1.21	Ironmongery Schedule *Indicate all doors with requirements in addition to standard door ironmongery pack – e.g: self-closing,*	Y		P						To be developed in conjunction with door manufacturer

Reference		Service Required Y/N	Project Mgr (MRC)	Architect / Lead Designer	C&S Engineer	M&E Services Engineer	Cost Manager (MRC)	Specialist Consultant	Principal Designer	Comment
	floor springs, panic hardware.									
1.22	Signage Schedule / Details	N		P	S					
1.23	Rainwater Pipe Locations *Indicate locations and materials of rainwater downpipes on 1:100/200 elevations.*	Y		P	S	S				
1.24	Drainage Outlets in Ground Floor Slab *Floor plan at 1:100/200 scale as appropriate and agreed, marked up to indicate the required positions of all drainage pop-up positions passing through the ground floor slab – to include all floor gullies and drainage stacks*	Y		P	S	S				Architect to position outlets within rooms, Structural and Services Engineers to design above and below ground drainage system
1.25	FF&E / Furniture / Laboratory Layouts and Schedules *Provide CAD layouts of each area required to specialist FF&E supplier for the design of loaded room layouts*	Y		P	S	S		S		
1.26	Room Data Sheets	Y		P		S				
1.27	Kitchen layouts *Provide CAD layouts of each area required to specialist kitchen equipment supplier for the design of layouts.*	N								
1.28	Boundary Walls / Fencing *Prepare, or brief landscape architect if one is appointed, to prepare site layout at 1:500 scale or*	Y		P	S					

Reference		Service Required Y/N	Project Mgr (MRc)	Architect / Lead Designer	C&S Engineer	M&E Services Engineer	Cost Manager (MRC)	Specialist Consultant	Principal Designer	Comment
	thereby indicating any existing walls/fencing to be retained/repaired, and all new walls/fencing required by type and height in accordance with pre-agreed specification.									
1.29	Landscaping *Prepare, or brief landscape architect if one is appointed, to prepare site layout at 1:500 scale or thereby indicating all hard and soft landscape features, locations and quantity of all street furniture and equipment in accordance with pre-agreed specification. Identify and take cognisance of environmental and ecological restrictions which may apply – tree preservation orders/protected species/nesting birds/Japanese Knotweed etc.*	Y		P	S					
1.30	Whole Life / Life Cycle / FM Information & Interface *Provide pre-agreed specification information to FM services provider for life-cycle costing appraisal. Obtain and incorporate FM accommodation requirements.*	Y	S	S	S	S	S	P		
1.31	Accommodation and Area Schedule *Prepare and revise as necessary, accommodation schedule indicating separately all briefed, non-briefed, circulation and ancillary areas, together with overall gross internal floor area, measured in accordance with RICS Code of Measurement Practice.*	Y	S	P	S	S	S	S		Service Engineer input required in relation to Plant Room, Risers, Ducts etc.

Reference		Service Required Y/N	Project Mgr (MRC)	Architect / Lead Designer	C&S Engineer	M&E Services Engineer	Cost Manager (MRC)	Specialist Consultant	Principal Designer	Comment
1.32	Not used									
1.33	Not used									
1.34	Not used									
1.35	Not used									
1.36	Not used									
1.37	Prepare and submit Detailed Planning Application	Y		P	S	S				
1.38	Complete Room Data Sheets	Y		P	S	S				
1.39	Not used									
1.40	Assist in the preparation and agreement of required Contractor's Proposals Documentation	Y		P	S	S				
1.41	Waterproofing / Damp proofing	Y		P	S					D.P.M. applied vertical tanking generally by Architect. Waterproof joints and concrete performance specification by Structural Engineer
2.1	Interpretative Ground Investigations *Obtain historical data available from public sources and carry out desktop analysis of ground conditions likely to be encountered. Compile schedule of site investigation works required to fully determine risks associated with ground conditions. Advise if existing material is likely to be suitable for purpose or if any improvement is required.*	Y			P					Review previous uses of site, site geology, water levels, previous geotechnical investigations and comment on likely ground conditions and highlight potential ground contamination, hot spots etc. and make design recommendations in relation to works.
2.2	Assessment of Site Investigation Reports Prepared by Specialist *Examine and report on the implications of site*	Y			P					Assess SI information provided by Client and thereafter provide advice on physical geotechnical and contamination etc.

Reference		Service Required Y/N	Project Mgr (MRC)	Architect / Lead Designer	C&S Engineer	M&E Services Engineer	Cost Manager (MRC)	Specialist Consultant	Principal Designer	Comment
	investigation information prepared by and provided by others. Identify areas where further information is required to mitigate risks.									investigations necessary to provide information for due diligence and for civil and structural engineering design. Review findings of site investigations in relation to works and amend design accordingly
2.3	Structural Surveys and Reports on existing Buildings *Conduct surveys sufficient to assess the integrity, stability and likely remaining lifespan of existing building structures, together with any remedial measures necessary to maintain the buildings in a safe state*	Y			S			P		Provide specification and interpretive services for a survey by specialist contractors.
2.4	Cut/ fill Analysis Drawings *Review available topographical information and undertake cut and fill study based on this to determine if a balanced solution can be obtained, or quantify approximate amount of surplus/additional material required. Identify any further topographical data required to fully assess the optimum balance of cut and fill quantities for the site*	Y		S	P					
2.5	Quantity / Degree of Contaminated Material *Review data available and carry out desktop analysis of contamination issues likely to be encountered, together with specifications for anticipated*	Y			P					

Reference		Service Required Y/N	Project Mgr (MRC)	Architect / Lead Designer	C&S Engineer	M&E Services Engineer	Cost Manager (MRC)	Specialist Consultant	Principal Designer	Comment
	remediation woks									
2.6	Underpinning Requirements (where needed) *Assess and provide design solution for any underpinning requirements in relation to existing and/or adjacent buildings which will be affected by the proposals*	Y			P					
2.7	Piling / Vibro-Compaction / Ground Improvement Layout and Specification *Based on assessment of ground conditions, prepare layouts at 1:100/1:200 scale and specifications for any piling/vibro/ground improvement works necessary to achieve required bearing capacity*	Y			P			S		
2.8	Foundation Layout / Sizes *Plan at 1:100/1:200 scale indicating concrete strips and pads required, together with sizes and any required reinforcement details as appropriate*	Y		S	P					
2.9	Ground Floor Slab Layout / Details / Joints *Plan at 1:100/1:200 scale indicating overall dimensions, locations and details of movement joints, edge details, reinforcement details, under building details and finishes as appropriate*	Y		S	P	S				Below ground insulation requirements by Architect.
2.10	Upper Floor Slab Layout / Details / Joints *Plan at 1:100/1:200 scale indicating overall dimensions, locations and details of movement joints,*	N								

Reference		Service Required Y/N	Project Mgr (MRC)	Architect / Lead Designer	C&S Engineer	M&E Services Engineer	Cost Manager (MRC)	Specialist Consultant	Principal Designer	Comment
	edge details, reinforcement details, pc details/decking specification and finishes as appropriate									
2.11	Sub-Base Thickness / Specification *Specification information for suitable sub-base make up to suit site conditions and required loadings*	Y		S	P					
2.12	Reinforcement Quantities (kg/m3) *Schedule of quantities of reinforcement required in relation to various building elements – foundations, ground and upper floor slabs etc.*	N								
2.13	Concrete Grades / Cement Type *Schedule of grades of concrete required in relation to various building elements - over-site concrete, foundations, floor slabs, frames, as appropriate*	Y		S	P					
2.14	In-situ Concrete Frame Design / Layout *1:100/1:200 plans and typical sections to illustrate design of structural concrete frame – indicating grid dimensions, floor – to floor dimensions, column positions and sizes, beam positions and sizes, reinforcement details as appropriate*	Y		S	P	S				
2.15	Structural Steel Frame Design / Layout *1:100/1:200 plans and typical sections to illustrate design of structural steel frame – indicating grid dimensions, floor to floor dimensions, column positions and sizes, beam positions and sizes etc., as appropriate.*	Y		S	P	S				

Reference		Service Required Y/N	Project Mgr (MRC)	Architect / Lead Designer	C&S Engineer	M&E Services Engineer	Cost Manager (MRC)	Specialist Consultant	Principal Designer	Comment
2.16	Secondary Steelwork Layout *1:100/1:200 plans, elevations and typical sections to illustrate design of secondary steel work provision – both hot and cold rolled – windposts, trimming steelwork for stair and service openings, roof purlins, cladding rails, eaves and soffit supports etc., as appropriate*	Y		S	P	S				
2.17	Masonry Details and Specification *Prepare performance specifications for each element of masonry work required – above ground brick/blockwork, below ground brick/blockwork, pc lintols as appropriate*	Y		P	S					Include DPC etc. details
2.18	Pre-Cast Concrete Design *Prepare design drawings at 1:50/1:100/1:200 scale of wall panels, flooring units and other pre-cast elements as appropriate*	Y		S	P			S		
2.19	Roof Truss Layout *1:100/1:200 plan and typical sections to illustrate design of roof trusses – indicating layout in relation to structural grid, pitch, member sizes, truss center, as appropriate*	Y		S	P			S		
2.20	Underground Drainage Layout, including Land Drainage and SUDS requirements *1:500 scale site plans including building footprint indicating all underground and under-slab foul and surface water drainage pipework, pipe sizes,*	Y		S	P	S				

Reference		Service Required Y/N	Project Mgr (MRC)	Architect / Lead Designer	C&S Engineer	M&E Services Engineer	Cost Manager (MRC)	Specialist Consultant	Principal Designer	Comment
	gradients, pipework materials and specifications, manhole locations, cover and invert levels, manhole construction details, connections to existing infrastructure, SUDS measures (over-sized pipes, swales, porous paving, attenuation tanks etc.) as appropriate									
2.21	External Hard Paving Build Up Specifications *Prepare specifications to reflect suitable build up for the external hard paving finishes indicated on architect's/landscape architect's site plan.*	Y		S	P					
2.22	Highway Works Layouts and Specifications *1:100/1:200 scale plans and associated details indicating roads, parking and drop-off layouts, swept path analysis, road gully locations and specifications, kerb details and specifications, finishes specifications as appropriate to suit requirements for both adopted and non-adopted areas*	Y		S	P					As Section 2 Item 5.12
2.23	Retaining Wall Layout / Details *1:500 scale site layout drawing indicating locations, extent, heights and construction details of all retaining walls within the site*	Y		S	P					
2.24	Boundary Wall Details *Prepare specification for masonry boundary walls to reflect layout indicated on architect's/landscape architect's site layout drawing*	Y		S	P					
2.25	Searches for Existing Services	Y		S		P				

Reference		Service Required Y/N	Project Mgr (MRC)	Architect / Lead Designer	C&S Engineer	M&E Services Engineer	Cost Manager (MRC)	Specialist Consultant	Principal Designer	Comment
	Report on results of searches of public utility records indicating extent of existing services within and surrounding the site									
2.26	Condition Survey of Existing Buildings *Drawings indicating extent of existing services within building*	N								
2.27	Schedule of Works required to Existing Buildings *Drawings, schematics and specifications of alterations, amendments and replacement of existing services*	N								
2.28	Details of Service Diversions / Disconnections *Drawings and specifications at 1:500 scale to indicate requirements*	Y		S	S	P				
2.29	Enquiries to Utilities for New Services and Diversions, etc. and Obtain Costs *Copies of correspondence with Utilities Providers indicating costs and timescales for works*	Y		S	S	P				
2.30	Elemental performance specifications	Y		P	S	S				Unless otherwise agreed, eg curtain walling, precast concrete, stairs etc.
2.31	Identify plant rooms sizes / locations	Y		S		P				
2.32	Plant room schematics	Y				P				
2.33	Plant room equipment layouts *1:20/1:50 scale co-ordinated plans and sectional elevations indicating plant positions and sizes, pipe/cable/duct locations and provision for clear*	Y		S		P				

Reference		Service Required Y/N	Project Mgr (MRC)	Architect / Lead Designer	C&S Engineer	M&E Services Engineer	Cost Manager (MRC)	Specialist Consultant	Principal Designer	Comment
	access to and around items requiring maintenance access									
2.34	Prepare Electrical Data Schedules / Sheets	Y				P				
2.35	Prepare Mechanical Data Schedules / Sheets	Y				P				
2.36	Prepare Schematics	Y				P				
2.37	Identify Major Plant / Trade Specialists *Information regarding any manufacturers/suppliers with whom discussions have taken place in the development of tender drawings*	Y				P				Biomass Boiler
2.38	Provide input to Building Services Cost Plan	Y				P	S			Cost Plan to be market tested (minimum 80%) at Contract Award.
2.39	Schedule of Builders Work *Schedule of all builders work item in connection with services required*	Y		S	S	P				
2.40	External Services Site Layout including External Lighting, CCTV, Vehicle Barriers, etc. *1: 200 scale plans and1: 5 /1: 10 scale details, indicating all lighting, cctv camera and vehicle barrier positions, sub station locations and details, and including all underground duct locations, sizes and quantities*	Y				P				
2.41	Fire and Sprinkler Mains Layout including Sprinkler Tanks and Pump House Layout	N								
	Co-ordinated Building Floor Plans and Sections at 1:100/1:200 scale with services layouts indicated for									

Reference		Service Required Y/N	Project Mgr (MRC)	Architect / Lead Designer	C&S Engineer	M&E Services Engineer	Cost Manager (MRC)	Specialist Consultant	Principal Designer	Comment
	the following:									
	Electrical routes and main containment layouts	Y				P				
	Fire alarm layouts	Y				P				
	Internal CCTV, intruder alarms, panic alarm and access control layouts	Y				P				
	Public address and hearing loop layouts	Y				P				
	Gas distribution layouts	Y				P				
	Cold water services layout	Y				P				
	Electrical schematic	Y				P				
	Small power, telephones, TV and data layouts	Y				P				Infrastructure only to suit compliant supplied hardware briefed by Client
	Lighting layouts	Y				P				
	Kitchen services layouts	N								
	Special installations – nurse call, special equipment supplies, etc	N								
	Cable schedules	Y				P				
	Ductwork layouts	Y				P				
	Heating pipe work and radiator layouts / schedules	Y				P				
	Compressed air layouts	N								
	Internal sprinkler layout	N								
	Dry riser/hose reel locations/layout	N								
	Air conditioning equipment layout	Y				P				
	Special installations – e.g. medical gases	N								
3.1	Incorporation of Renewables into design e.g. Part L	Y				P				Design to reflect brief

Reference	Section 4 Deliverable	Service Require	Project Mgr (MRC)	Architect / Lead Designer	C&S Engineer	M&E Services Engineer	Cost Manager (MRC)	Specialist Consultant	Principal Designer	Comment
	Compliance, Bio-Mass Boilers, Solar Panel Heating, Ground Source Heat Pumps, CO2 Emissions Reduction, Rainwater harvesting and the like Provide report on potential options for renewable energy sources/supplies, together with costs and potential sources of grant funding	Y	S			P				Biomass Boiler included within this project.
4.1	Whole life/life cycle/FM information and interface	Y								

HARWELL TRAINING CENTRE
PROPOSED PROJECT PROGRAMME