CHAPTER 2

Brief

2.1 WIDER VISION

The British Museum tells the story of two million years of human life, from prehistory to the present. Established in 1753, the British Museum was founded as the first truly public institution of its kind in the world.

The British Museum is committed to continual evolution in order to remain relevant and fulfil its civic mission. As part of that evolution, the British Museum will undertake a masterplan that will enable the complete reimagination of the site and fortify it for the future. This masterplan sets an ambitious course, seizing the opportunity to reinvigorate how the Museum connects with people's lives through its collections. This will involve re-imagining displays to give due representation to the many cultures, communities and histories of the world, illustrating their distinctiveness and their interconnections, all within the context of the story of our common humanity.

This holistic vision is set against the backdrop of a global climate crisis, and humanity's collective ambition to realise a Net Zero Carbon future. The urgent call for action confirmed by the London Borough of Camden's own declaration in 2019 that we are facing a climate and ecological emergency.

As a public institution serving a global audience, the British Museum is meeting the call to action and leading by example. As part of its new masterplan, it has committed to undertaking an ambitious programme to end its reliance on gas fossil fuel, decrease energy consumption, and enable a more sustainable future for the organisation and the environment in which it operates.

The proposals contained within this application illustrate the various steps the British Museum is taking in realising our shared ambition to reach net-zero targets.

Firstly, they will end the Museum's reliance on gas fossil fuel through replacing its primary heating infrastructure with a modern all electric system which uses efficient air and water-source heat pumps.

A new centralised energy centre will rationalise existing space and provide a 27% gain in area for future needs. This system will deliver an estimated annual net saving of 1,700 tonnes of CO_2, equivalent to 3,400 return flights between London and Glasgow every year. It will also avoid unaffordable acceleration in maintenance costs associated with ageing and life-expired infrastructure.

Like much of the energy system, parts of the Museum's fire-safety and life-safety infrastructure is at the end of its service life. The SWEC programme will address this through a thorough upgrade of the Museum's life-safety and critical operational infrastructure in order to improve the Museum's capacity to respond effectively in an emergency.

Lastly, any significant investment in sustainable infrastructure must be paired with a responsible and robust plan for maintaining it. The impact here is two-fold. Firstly, active monitoring and maintenance of infrastructure keeps it operating at optimal efficiency, ensuring that maximum carbon savings are attained year on year. Secondly, effective maintenance prevents services falling into disrepair and breaking down, which mitigates risk of harm to both the Estate and its collections that rely on services continuity for environmental control, security, safety, and visitor experience.

Therefore, the proposals rationalise and replace the existing poor quality and temporary accommodation housing the teams who maintain the Estate with modern facilities in close proximity to the infrastructure delivered. This will ensure that the environmental, social, and cultural payback on the capital investment made will continue to return maximum benefits year on year for all those who work and visit the Museum.

These upgrades are just the beginning. Importantly, the energy centre will enable further carbon savings as all future renovation and renewal programmes will 'plug in' to the more energy and resource efficient infrastructure delivered, setting the course for the Museum to continue to reduce carbon emissions year on year.

Of course, sustainability is not solely about carbon emissions and environmental stewardship. It is also critical to the effective deployment of capital and cost savings. Up front investments in sustainability infrastructure result in measurable and significant savings long-term. This will provide the British Museum with increased financial stability, resilience, and the increased means to deliver on its mission.

2.2 THE AIMS & OBJECTIVES OF THE PROJECT

To enable the wider Masterplan vision, the Energy Centre Programme has four key objectives:

1. To reduce and mitigate critical risks of harm to people, buildings and collection, as well as service failure leading to localised or complete closure of the Museum
2. To support delivery of the Government's commitment to Net Zero
3. To avoid an unaffordable acceleration in maintenance costs associated with ageing and life-expired infrastructure; and
4. To enable sustainable future development of the Museum.

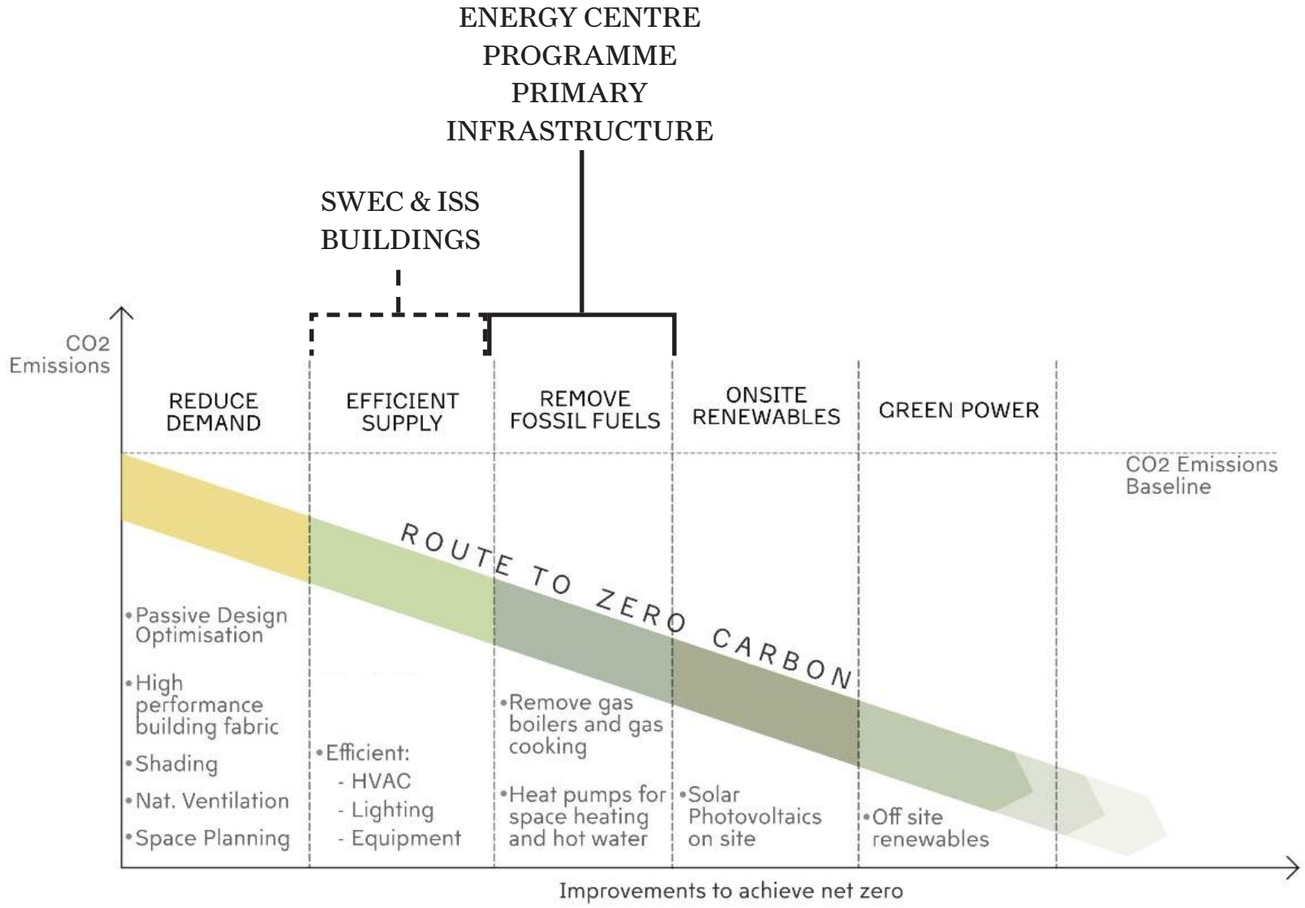
The proposals, which form part of the wider transition, also align with key aspects of the development plan including applicable guidance and policy from:

- The London Plan 2021
- The Camden Local Plan 2017
- The Camden Local Plan Proposals Maps

This includes how the proposals consider:

- Climate Change mitigation
- Adaptation to Climate Change
- Water and flooding
- Air quality
- Safety and security
- Access for all
- Cultural and leisure facilities
- Managing the impact of development
- Biodiversity
- Noise and vibration
- Basements

For further information, please refer to the Planning Statement and other relevant application documents.



Top:

Route to Zero Carbon diagram provided by Steensen Varming

Bottom, left to right:

Green Huts north of the existing East Road Building, proposed for demolition

Existing South-East Portacabins on Montague Street located between the White Wing and Grade II* listed boundary railings

Three-storey South-West Portacabins on the SWEC site

2.3 INFRASTRUCTURE BRIEF

The infrastructure brief for the proposals encompasses partial delivery of a larger intended programme aimed at transitioning the wider Estate to more sustainable infrastructure. The elements included within this application are highlighted in blue text below, with the remainder of items in black text are to be delivered as an advanced package of work which does not form part of the proposed development for which planning permission and listed building consent is sought through the present applications.

The transition to sustainable infrastructure will result in the delivery of three new buildings:

- A new East Road Building (ERB), accommodating three separate workshop functions (Carpenters, Locksmith, and Electrical), in addition to upgraded electrical and sprinkler system plant
- A new South-West Energy Centre (SWEC), housing the Estate's new primary heating system, south-west cooling cluster system, upgraded electrical and life-safety infrastructure, and two floors of maintenance support accommodation
- A new Incoming Substation (ISS) to the north of the White Wing in the south-east corner of the Estate. This will replace the existing incoming substation located in the north-east corner of the site adjacent to the King Edward Building.

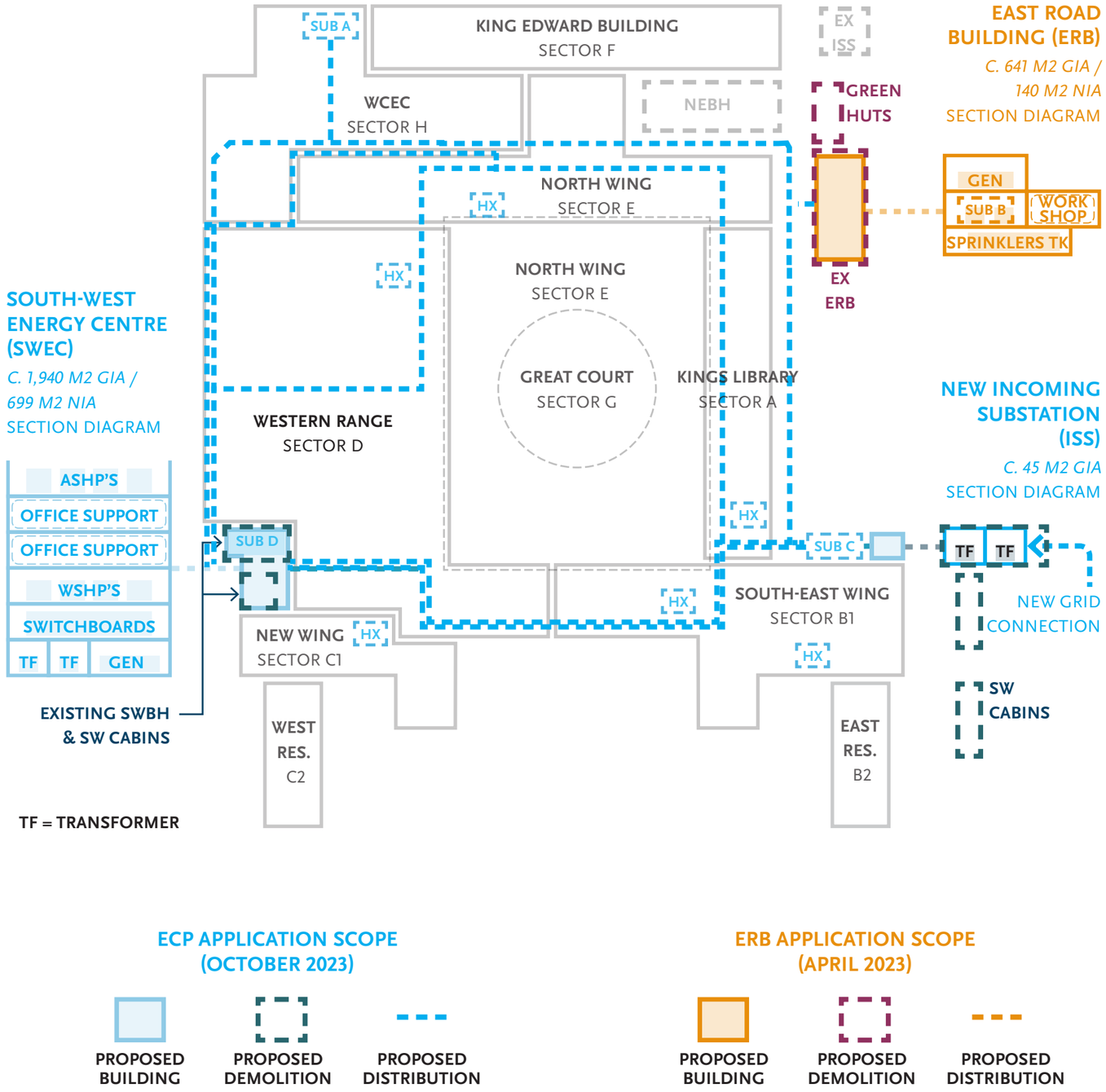
Primary heating and electrical distribution infrastructure between these buildings and upgraded secondary heat exchanger plant will also be delivered, along with the necessary demolition works to enable the development. To facilitate the main works, some enabling work will also be required.

Key:

- ERB April 2023 Application Proposed Buildings
- ERB April 2023 Application Proposed Demolition Works
- ERB April 2023 Application Proposed Distribution Works
- Energy Centre Programme October 2023 Application Proposed Buildings
- Energy Centre Programme October 2023 Application Proposed Demolition Works
- ECP October 2023 Application Proposed Distribution Works

Right:

Diagram showing the Energy Centre Programme broken down into two separate planning applications



2.4 HERITAGE BRIEF

2.4.1 Removing negative impactors on the Museum's setting

Because of their utilitarian quality and dilapidated state, many of the existing buildings containing maintenance support accommodation detract from the Museum's setting as a listed building, as well as from the rear elevations of neighbouring perimeter properties. These include:

- The three South-East Portacabins which sit in front of the White Wing and are visible from Montague Street
- The three storey South-West Portacabins currently occupying the SWEC site, visible from perimeter properties to the west of the West Road
- The Green Huts in the north-east corner of the estate, visible from the rear elevations of Nos. 39-43 Russell Square. Their demolition is proposed as part of the Energy Centre Programme but is not contained within this application's scope; instead it forms part of the ERB application submitted in April 2023.

The removal of these detracting elements and their replacement with modern, high-quality architecture in keeping with the surrounding context, would clearly be beneficial to the surrounding setting.

Top left clockwise:

The existing Green Huts

The existing South-East Portacabins adjacent to the White Wing visible from Montague Street

The existing South-West Portacabins

The existing North-East Boiler House

2.5 SOCIAL SUSTAINABILITY BRIEF

2.5.1 Creating a fit-for-purpose working environment

Existing accommodation supporting the Museum's business-as-usual maintenance and capital project activity is generally located in the poorest quality buildings on the Estate. Many of these are temporary portacabins that are essentially being used as permanent accommodation. Other areas, such as the North-East Boiler House (NEBH), are permanent fabric of low historical significance and poor design quality, with internal working environments that do not meet modern-day needs and expectations.

Generally the exsiting support accomodation buildings do not provide step free access, nor do they contain lifts or provide accessible WC and shower arrangements for occupants.

Improving this situation and ensuring support accommodation is housed in healthy, modern, efficient and fit-for-purpose buildings is critical to the well-being of Museum staff and the Museum itself, through the provision of an effective, properly equipped maintenance regime.

Right:

Various photos illustrating the poor quality of existing contractor support accommodation within the Museum Estate

2.6 SUPPORT SPACE BRIEF

The support accommodation brief for the project is based on the Museum's Space Allocation Studies, Parts 1 (2020) and 2 (2021), authored by Wright & Wright and ARUP respectively. These studies surveyed the existing provision of support space at the Museum in collaboration with the Capital Planning and Programme management (CPPM) team, and set space standards for future projects.

The 'combined requirement' stated in Part 2 of the study, and illustrated in the orange, peach, and green columns in the adjacent table, covers CPPM and PFM contractor accommodations which will be displaced by the Energy Centre Programme.

In addition, an Engineering and Secondary Fire Command Centre, capable of supporting a minimum of three desks, is included within the brief as requested by Museum stakeholders during preapplication consultation. Storage brief requirements have been set at 75% of existing areas as totalled from the Museum's Existing Space Register in consultation with the Museum's Space Utilisation Manager.

Lastly, though the Space Allocation Study did review existing back-of-house WC and shower provision, during Museum stakeholder preapplication consultation it became apparent a more appropriate brief measure for staff welfare provision was to meet BS 6465 requirements for the office and workshop desk allocations, with the welfare provision to be supplemented by existing facilities around the wider Museum Estate.

	Office (sqm NIA)	Desks (No.)	Workshop (sqm NIA)	Workbenches (No.)	Mess (sqm NIA)	Lockers (No.)	Eng./ FC Centre (sqm NIA)	Eng. Desks (No.)	Storage (sqm NIA)	WCs (No.)	Showers (No.)
Brief Totals	282	47	54	9	124	220	18	3	252.52	to BS 6465	to BS 6465

A

FROM SPACE ALLOCATION COMBINED REQUIREMENTS

(Covers contractor accommodations with a 20% uplift for future working)

Office support space: 47 total desks at 1 desk per 6 sqm NIA = 282 sqm NIA

Workshop support space: 9 total workbenches at 1 workbench per 6 sqm NIA = 54 sqm NIA

Mess space: 124 sqm NIA

Lockers: 1 per contractor, 220 total.

(Note: ARUP figures based on part half-height and part full-height, SWEC Stage 02+ based on full-height L-shaped locker provision only)

B

Secondary Fire Command Centre to improve Fire Brigade access

C

75% of existing provision

D

To BS 6465 for desk population of Office/Workshops supplemented by existing BOH WCs around the Museum

D

Critical to the brief is that the required facilities are delivered in consolidated, independent and autonomous hubs in close proximity to the proposed sustainable energy centre infrastructure. This allows for efficient operations, meets security requirements, and provides designated space independent of other Museum departments for third party contractors employed by the Museum. This is fundamental to the Museum's ability to improve and maintain the Estate and the collections held within it.

On the following page, a plan illustrates the wide dispersion of existing support accommodation on the Estate. This leads to inefficient working and operations which impacts on the Museum's ability to maintain the Estate and its collections.

Top to bottom:

Table of support space brief requirements for the project

2.6.1 Inefficient Dispersion of Existing Support Accommodation

Plant

Incoming Substation

Support
Plant
Plant *Plant*

North-East Boiler House & Sprinkler Tanks

*Note the NEBH will be utilised during the construction of the Energy Centre Programme for contractor welfare facilities and site offices. However it does not provide a viable solution for maintenance contractor accommodation in the long term

Support
Support

Green Huts

Support

East Road Building

Support *Support* *Support*

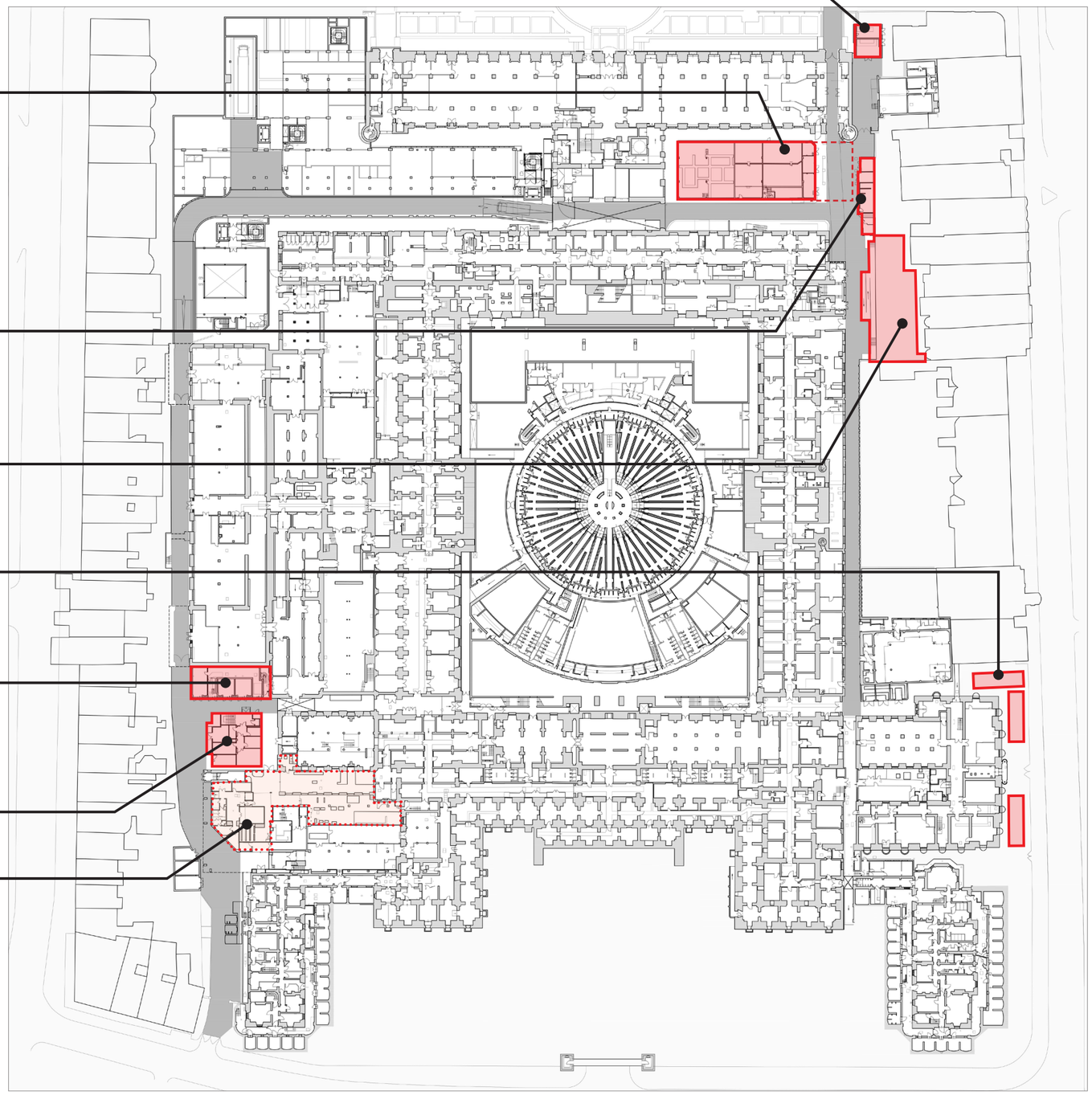
South-East Portacabins

Plant
Plant
Plant

South-West Boiler House

Support
Support
Support *Plant*

South-West Portacabins & New Wing Plant Room



Right:

Illustration of the inefficient dispersal of existing contractor support accommodation on the Museum Estate

2.6.2 Rationalisation of existing functions & areas through the proposals

Through providing efficient, modern, and consolidated support accommodation, the Energy Centre Programme will deliver improved facilities within a reduced area footprint than at present.

Overall, the proposed areas of the Energy Centre Programme support accommodation (combining the proposals contained in this application and those of the enhanced ERB application submitted in April 2023) constitute a 27% reduction in size compared with the current accommodation due to be decanted/ demolished as a result of the proposed works.

For further information on the design development and assessment of alternative locations for the proposed maintenance support accomodation contained within this application, please refer to Chapter 3 of this document.

Existing Support total (including ERB): c.1175.5 sqm

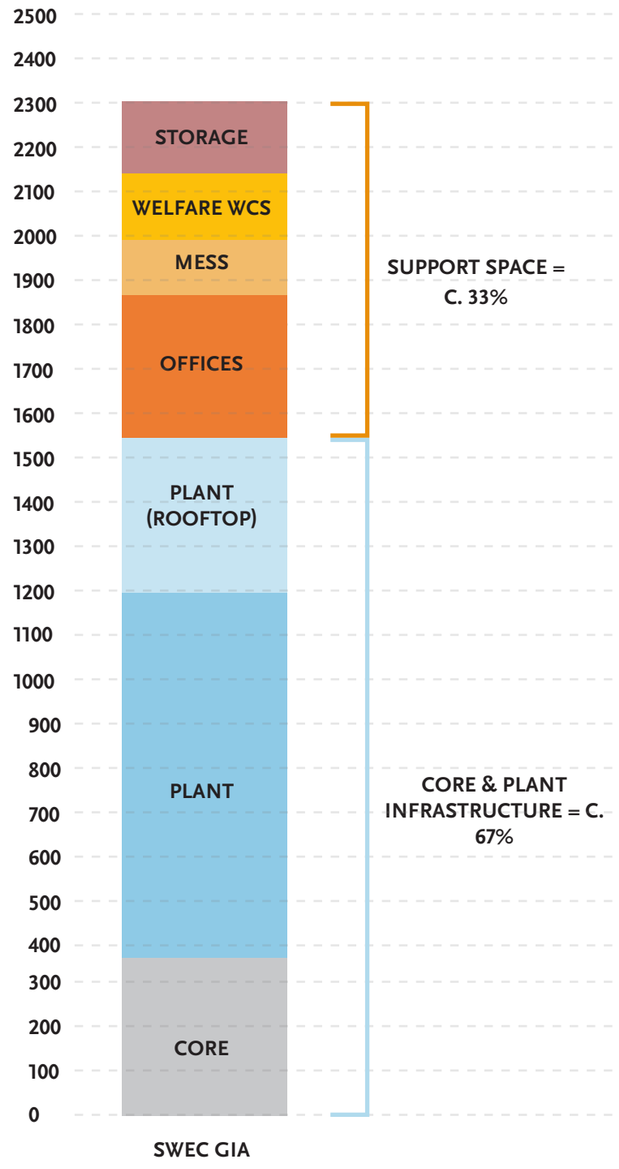
Proposed Support total (including ERB): 836.5 sqm

The proposal constitutes a 28% reduction compared with existing support accommodation

Proposed support accommodation schedule compared with existing accommodation

	Office (sqm NIA)	Desks (No.)	Workshop (sqm NIA)	Mess (sqm NIA)	Welfare (sqm NIA)	CPPM Storage (sqm NIA)	PFM/Gen. Storage (sqm NIA)
ECP Sites	295.6	50.0	57.3	127.4	114.2	120.3	255.5
ERB Site	0.0	0.0	45.5	0.0	7.2	74.5	78.1
Combined	295.6	50.0	102.8	127.4	121.4	528.3	
ECP Application	295.0	48.0		113.6	134.0	154.5	
ERB Application			86.0	13.7	33.3	6.4	
Combined	295.0	48.0	86.0	127.3	167.3	160.9	
Difference	-0.6	-2.0	-16.8	-0.1	45.9	-367.4	

Proposed Accommodation Breakdown, Plant and Support Spaces GIA (Including Rooftop Plant Enclosure)



Left to right:

Summary table of NIA and accommodation provisions compared to the brief requirements.

Graph of the Gross Internal Areas of the propsoed SWEC indicating only 1/3 of the proposed area is for support accommodation.

2.7 EXISTING SPACE INVENTORY

The following pages evidence the area schedules utilised to determine the quantum of existing support accommodation which will be displaced. This process was thoroughly explored and consulted on with Museum Stakeholders and specifically the Museum's Space Utilisation Manager.

Green Huts

Room ID	Room Type	Area m²	Workstations (WS) & Seats (S)
43RS/1/010	Equipment Store	10.13	
43RS/1/011	Equipment Store	8.69	
43RS/1/012	Consumables Store	23.67	
43RS/1/013	Plumbing Spares Store	3.23	
43RS/2/008	CPPM Coniston Office	16.50	3 WS
43RS/2/009	PFM Honywell Office	16.50	3 WS
43RS/2/050	CPPM Norstead Office	8.96	2 WS
TOTAL		**87.7**	**8 WS**

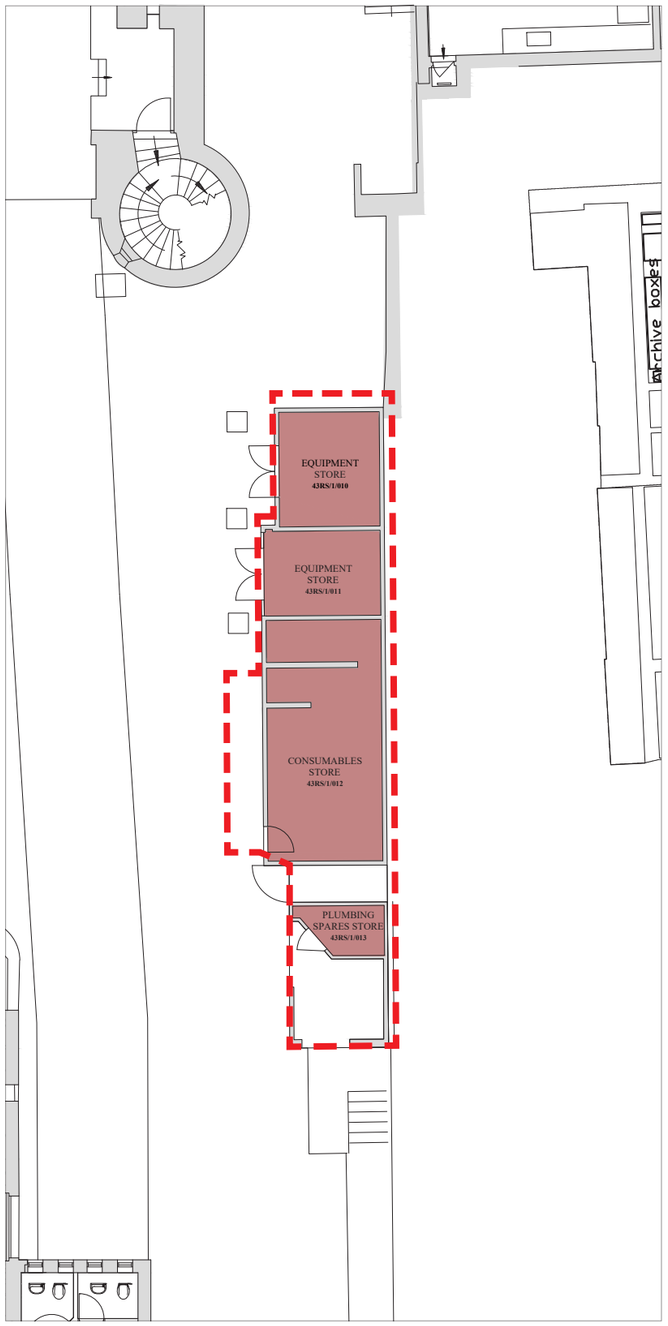
Key:

- Office
- Workshops
- CPPM Storage
- PFM Storage
- Mess
- Welfare - Lockers, Showers & WCs
- General storage

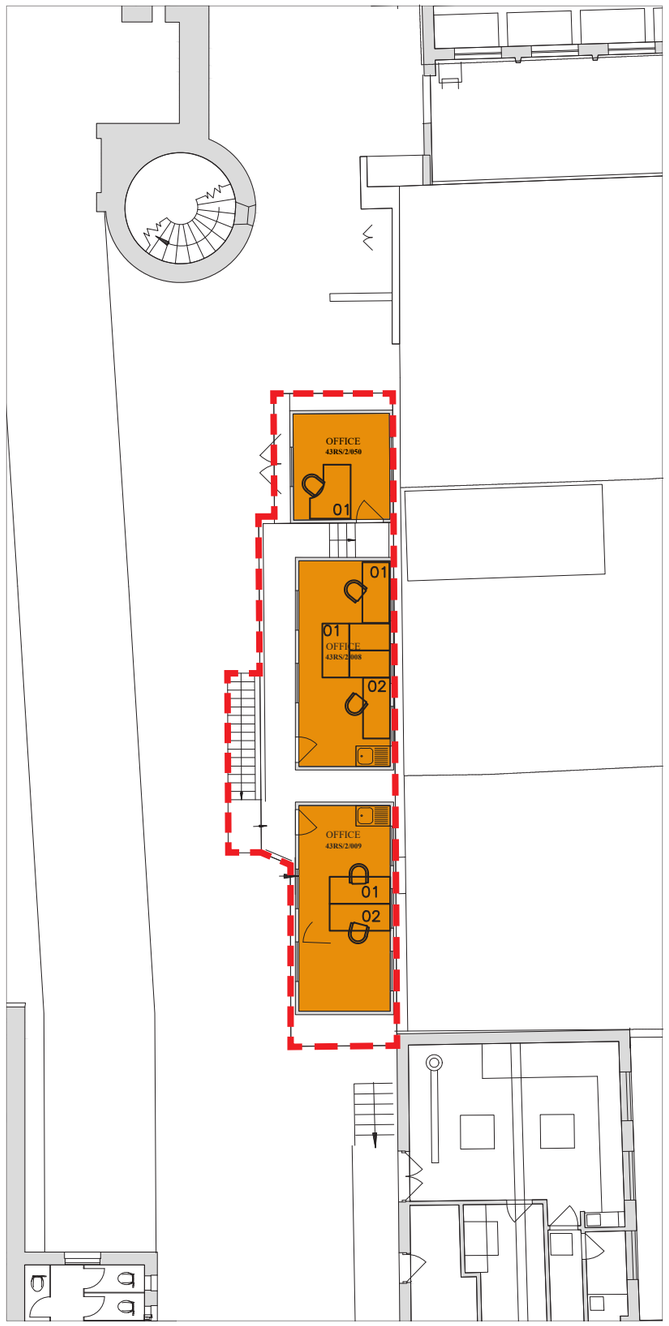
- Green Huts Extents

Right:

Floor plans showing the existing furniture layouts within the Green Huts



Level 01



Level 02

Science Block

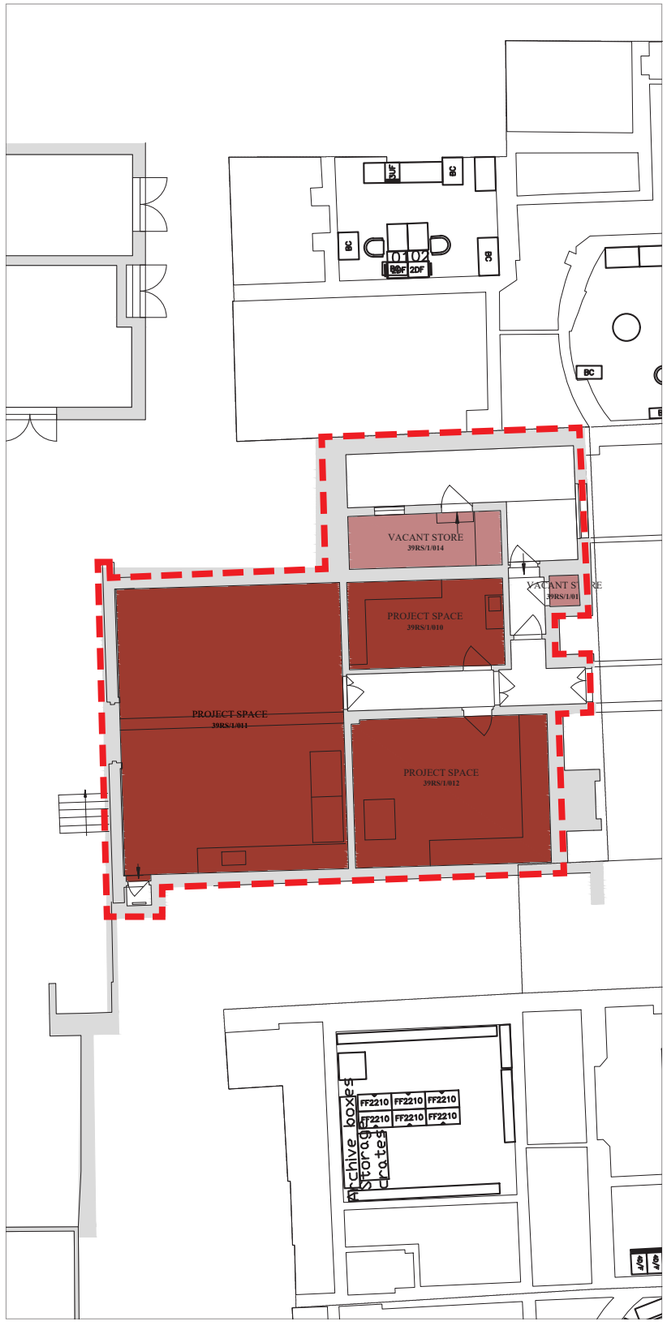
Room ID	Room Type	Area m²	Workstations (WS) & Seats (S)
39RS/1/010	Project Space	11.90	
39RS/1/011	Project Space	56.50	
39RS/1/012	Project Space	25.50	
39RS/1/014	Vacant Store	7.2	
39RS/1/017	Vacant Store	0.8	
39RS/2/005	Equipment Store	104.80	
TOTAL		**206.7**	

Key:

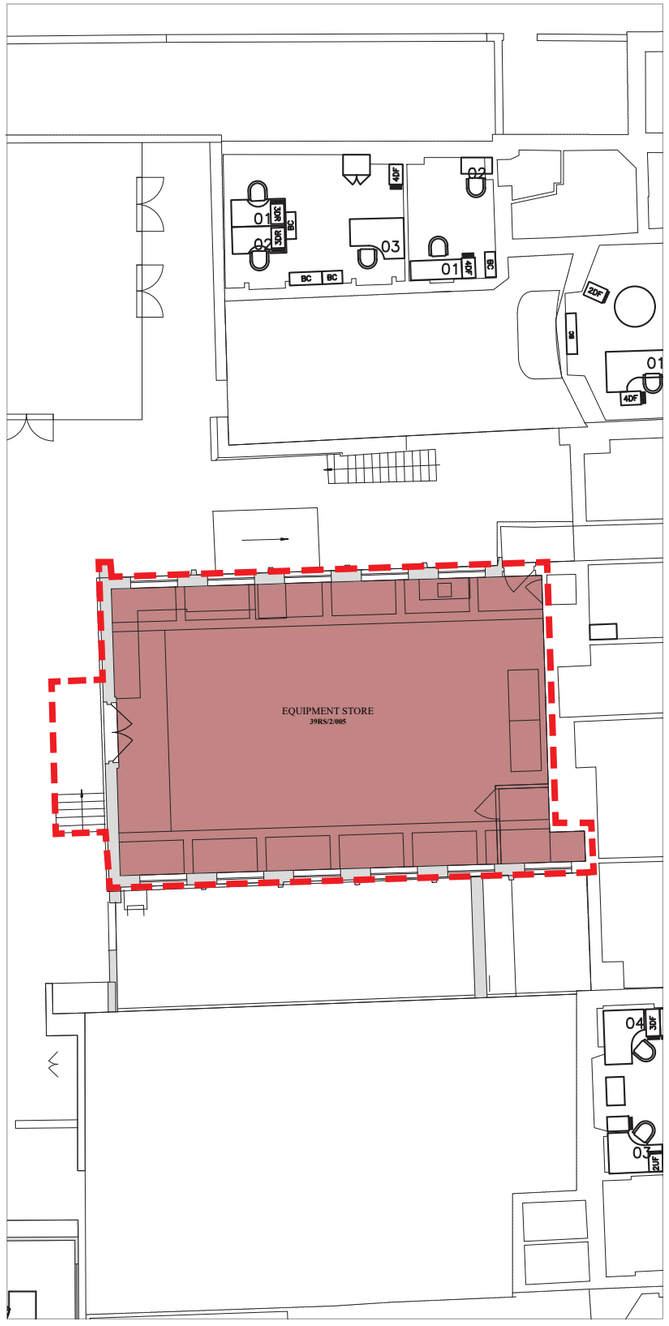
- Office
- Workshops
- CPPM Storage
- PFM Storage
- Mess
- Welfare - Lockers, Showers & WCs
- General storage
- Science Block Extents

Right:

Floor plans showing the existing furniture layouts within the Science Block



Level 01



Level 02

North East Boiler House (NEBH)

Room ID	Room Type	Area m²	Workstations (WS) & Seats (S)
F/2/040	PFM Tea Point	16.20	
F/2/041	PFM Locker Room	26.21	4 S
F/2/042	O&Ms Store	26.35	
F/2/043	Pest Control Store	24.91	
F/2/059	Materials Store	7.90	
F/2/060	PFM Mess Room	42.06	8 S
F/2/63	Unisex Shower	3.10	
F/2/067	PFM TSS Office	31.87	2 A-WS + 3 S-WS
F/2/068	PFM CBRE Office	43.91	1 A-WS + 5 S-WS
F/2/069	PFM CBRE Office	7.41	2 A-WS
F/2/070	PFM CBRE Office	23.50	4 H-WS
F/2/XXX	Lockers	18.61	
F/1/094	Store	17.54	
TOTAL		**289.6**	**17 WS**

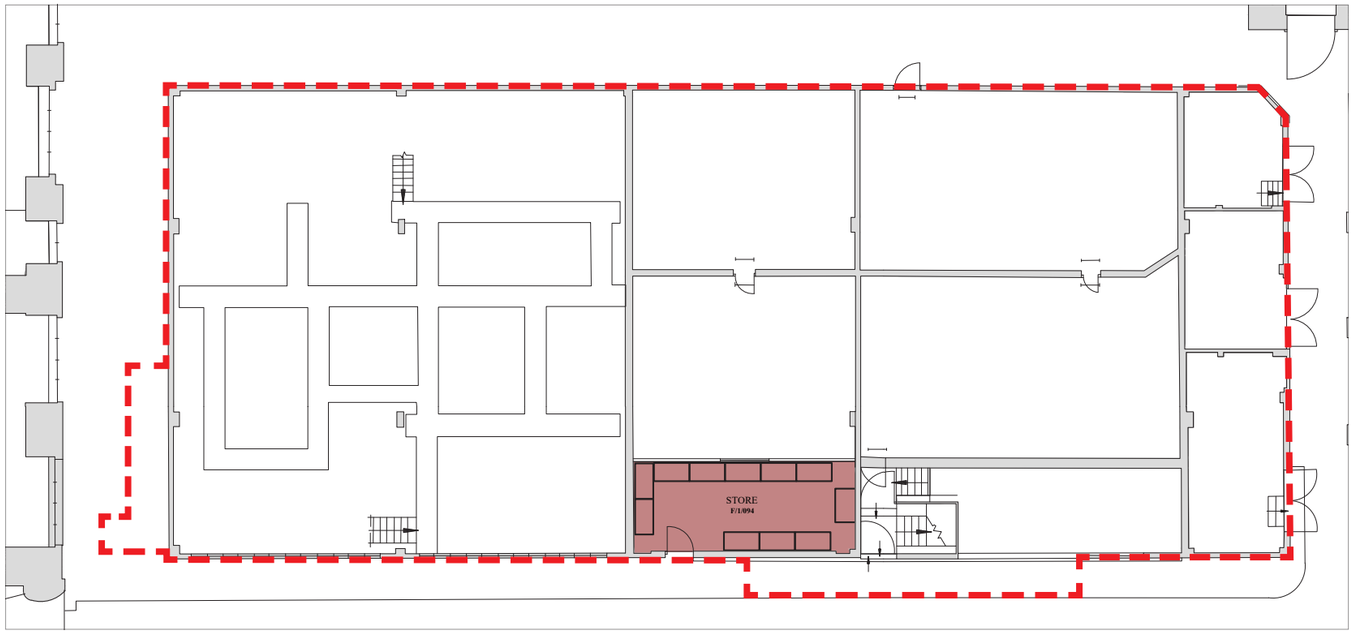
*Note the NEBH will be utilised during the construction of the Energy Centre Programme for contractor welfare facilities and site offices. This will require the existing maintenance/support accommodation in the building to be decanted at the start of the Energy Centre Programme. It will then be utilised as a logistics hub for the Western Range project.

Key:

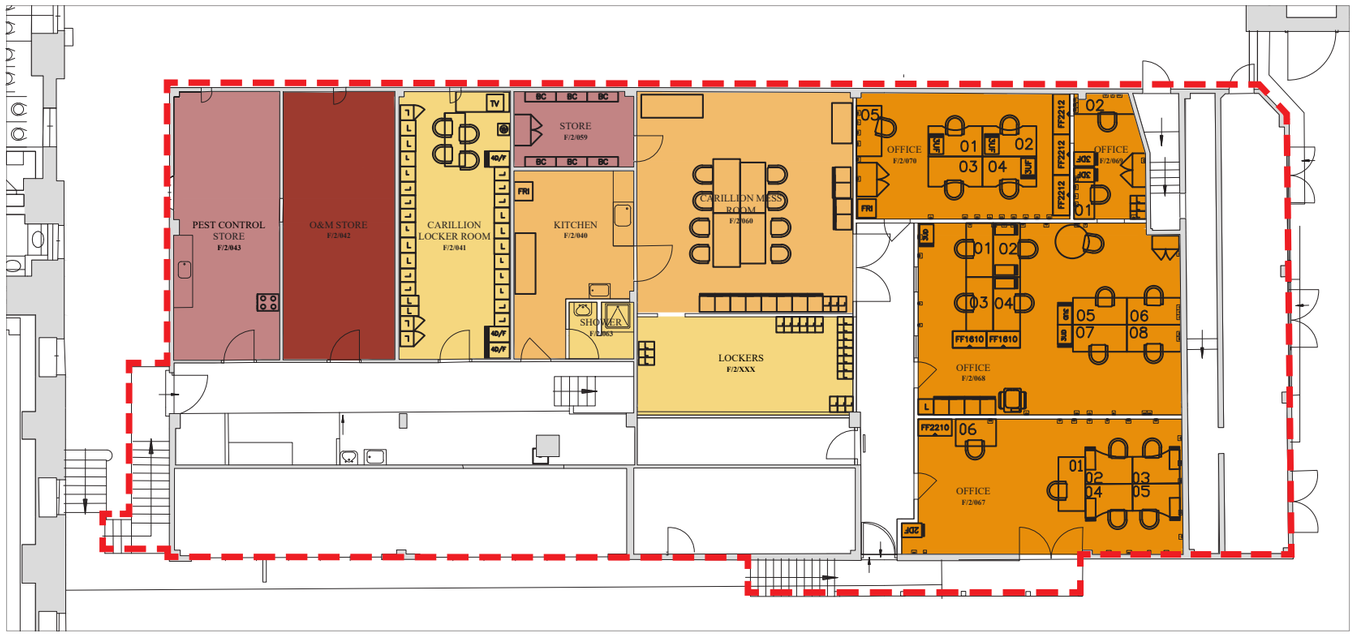
- Office
- Workshops
- CPPM Storage
- PFM Storage
- Mess
- Welfare - Lockers, Showers & WCs
- General storage
- NEBH Extents

Right:

Floor plans showing the existing furniture layouts within the NEBH



Level 01



Level 02

South West Porta-Cabins (SWPC)

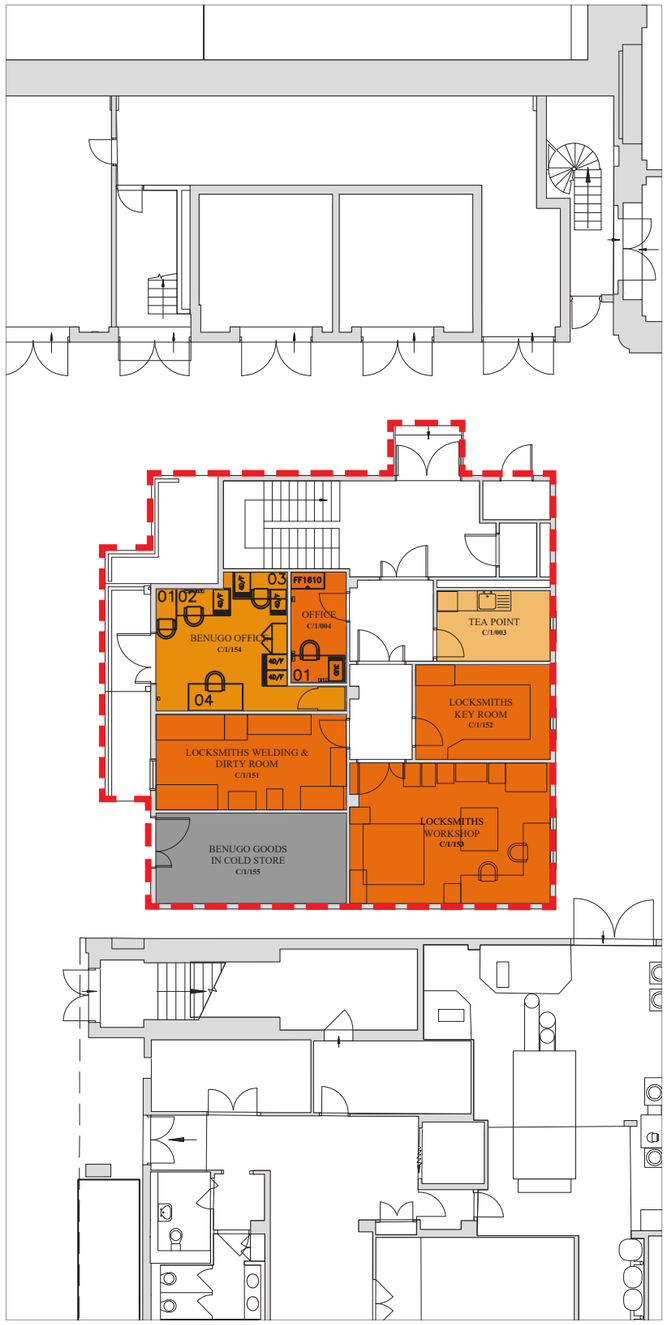
Room ID	Room Type	Area m²	Workstations (WS) & Seats (S)
C/1/004	Locksmiths PFM Office	5.40	1 S-WS
C/1/151	Locksmiths Welding & Dirty Room	16.00	
C/1/152	Locksmiths Key Room	11.20	
C/1/153	Locksmiths Workshop	24.70	2 A-WS
C/1/003	Tea Point	7.14	3 S
C/1/154	Benugo Office	16.34	4 WS
C/1/155	Benugo Goods in Cold Store	15.16	
C/2/071, 72	Unisex WC	4.92	
C/2/073	Unisex Accessible WC	3.30	
C/2/075	Unisex Shower	3.47	
C/2/076	Contractor Mess Room & Kitchen	43.83	
C/2/077, 78, 79	Locker Room	33.59	
C/3/073	Commercial Hire Office	20.13	4 WS
C/3/075	Benugo Events Office	49.78	4 A-WS + 2 H-WS
C/3/072	WCs	8.29	
C/3/076	Tea Point	6.50	
C/3/077	Benugo Store	10.26	
TOTAL		**280.00**	**17 WS**

Key:

- Office
- Workshops
- CPPM Storage
- PFM Storage
- Mess
- Welfare - Lockers, Showers & WCs
- General storage
- SWPC Extents

Right:

Floor plans showing the existing furniture layouts within the SWPC



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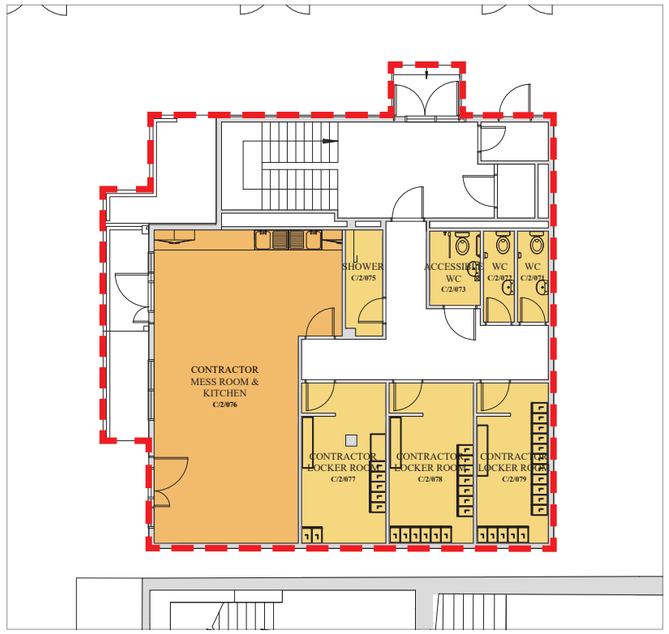

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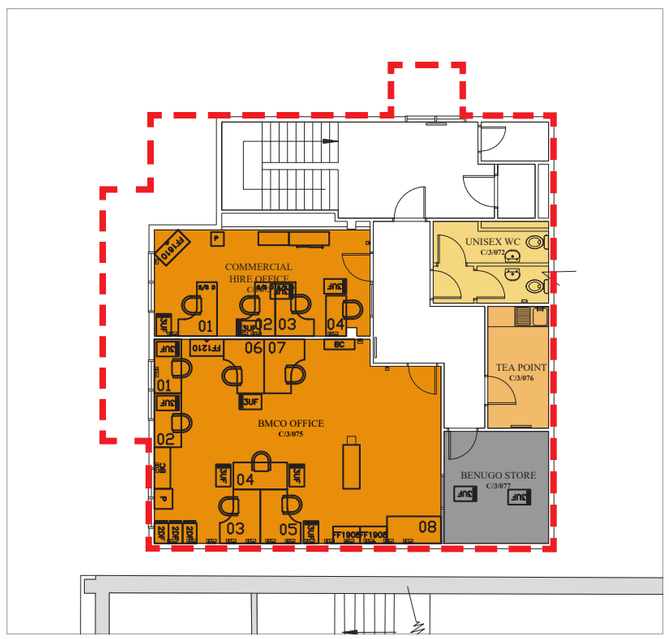


Level 03

South East Porta-Cabins (SEPC)

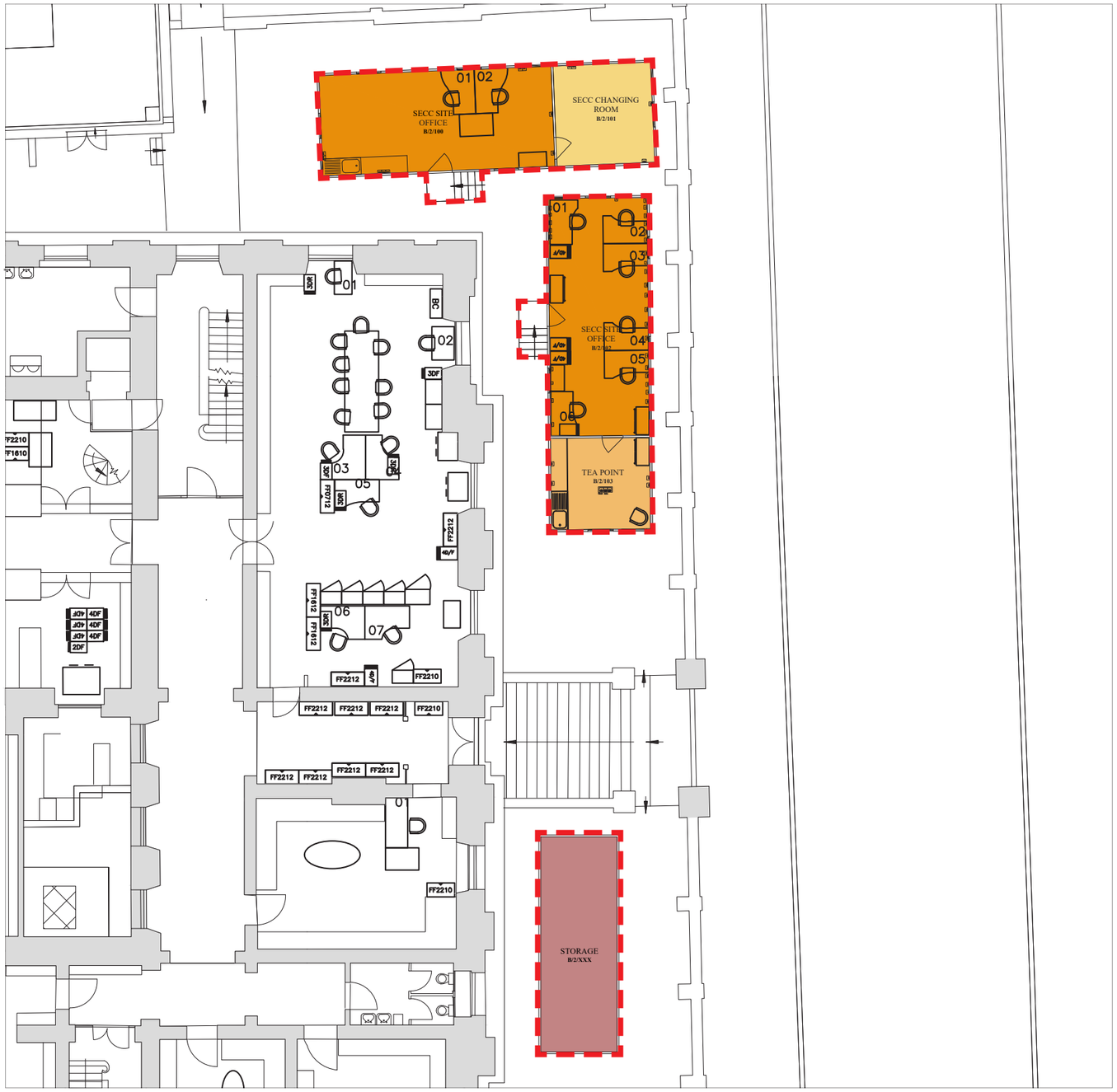
Room ID	Room Type	Area m²	Workstations (WS) & Seats (S)
B/2/100	SECC Site Office	30.18	2 WS
B/2/102	SECC Site Office	30.50	6 WS
B/2/101	SECC Changing Room	12.70	
B/2/103	Tea Point	11.70	1 S
B/2/XXX*	Store	21.19	
TOTAL		**106.3**	**8 WS**

Key:

- Office
- Workshops
- CPPM Storage
- PFM Storage
- Mess
- Welfare - Lockers, Showers & WCs
- Area to be relocated outside Energy Centre Programme Project
- SEPC Extents

Right:

Floor plans showing the existing furniture layouts within the SEPC



Level 02

East Road Building

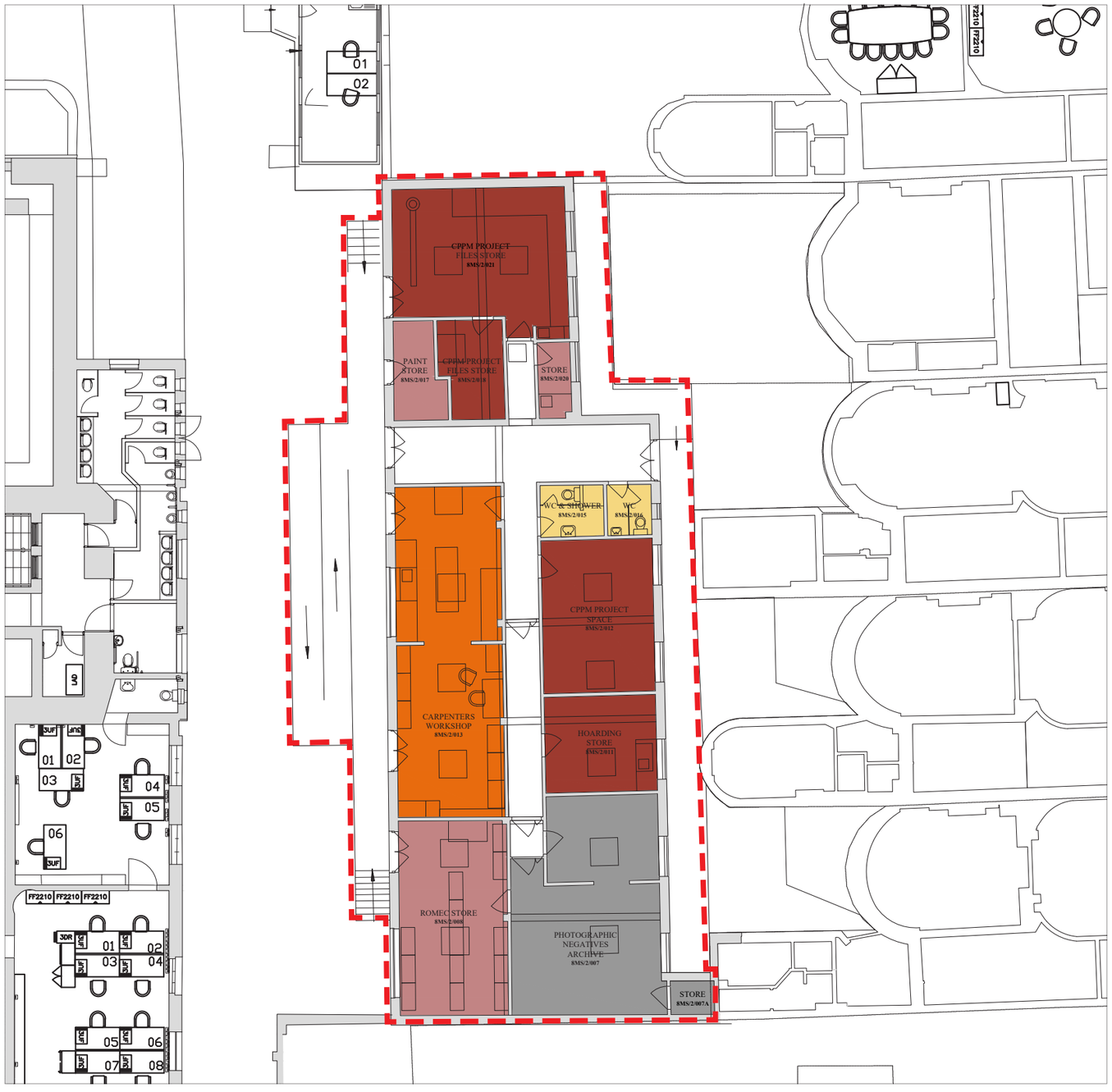
Room ID	Room Type	Area m²	Workstations (WS) & Seats (S)
8MS/2/013	Carpenters Workshop	45.45	2 S-WS
8MS/2/008	Romec Store	27.5	
8MS/2/007	Photographic Negatives Archive	39.45	
8MS/2/007A	Store	1.90	
8MS/2/011	Hoarding Store	13.39	
8MS/2/012	CPPM Project Space	22.3	
8MS/2/015	Unisex WC & Shower	4.3	
8MS/2/016	Unisex WC	2.9	
8MS/2/017	Paint Store	6	
8MS/2/018	CPPM Project Files Store	7.8	
8MS/2/020	CPPM Project Files Store	3.2	
8MS/2/021	Store	31	
TOTAL		**205.19**	**2 WS**

Key:

- Office
- Workshops
- CPPM Storage
- PFM Storage
- Mess
- Welfare - Lockers, Showers & WCs
- Area to be relocated outside Energy Centre Programme Project
- Existing ERB Extents

Right:

Floor plans showing the existing furniture layouts within the Existing ERB



Level 02

2.8 SUSTAINABILITY

Enabling the Transition to Sustainable Infrastructure

The proposals will deliver vital infrastructure that ensures the Estate-wide transition to sustainable, low carbon heating and cooling systems. It will also deliver the primary electrical and distribution upgrades to provide the required capacity for the low carbon heating system to serve the entire Estate.

The project also replaces key life-safety systems such as back up power generation and fire-safety infrastructure.

It therefore has a critical role, not only in supporting the delivery of the Government's commitment to Net Zero, but also in realising the Museum's ambition to reduce and mitigate critical risks of harm to people, building and the collection, and of service failure leading to closure of the Museum.

Their delivery will enable future masterplan projects to be delivered through clearing space, enabling access, and providing infrastructure capable of supporting the Estate's wider renewal.

The Proposed Buildings

The proposed SWEC building will itself be designed to achieve a BREEAM 2018 New Construction 'Excellent' rating.

Passive design and other sustainability brief requirements include:

- Limiting glazed areas within the proposed elevation and the use of high performance glazing for solar control, which will reduce overheating risks for occupied spaces
- High levels of insulation and airtightness in order to reduce heat gain and loss
- Adoption of natural ventilation where possible to reduce reliance on mechanical systems for cooling
- Use of energy efficient systems, including mechanical ventilation with heat recovery (MVHR) units with variable speed fans, efficient internal lighting, flow limiting water, efficient fixtures and electric heating systems
- Consideration of future flexibility and robustness in developing the proposals
- Reduction of surface water runoff through the proposed green roof areas and the use of Sustainable Drainage Systems (SUDs).

For further information regarding the sustainability of the proposals please refer to Chapter 4 of this document and the Energy and Sustainable Design Statement submitted as part of this application.

2.9 ACCESSIBILITY

The completed proposals will be designed to provide an accessible and inclusive environment commensurate with the maintenance functions of the proposed support workspaces. It is important that both the internal and external environments meet regulatory provisions in inclusive design, not only to meet the needs of those with disabilities, but also, since inclusive design is indivisible from good design, this will benefit all building users by providing legible, logical, safe and navigable external pedestrian routes and internal spaces

Inclusive design guidance and standards

The following guidance and standards have been given due regard in any design proposals:

- Building Regulations 2010 and associated Approved Documents, including:
  - Building Regulations Approved Document K (ADK) – Protection from falling, collision and impact 2013
  - Building Regulations Approved Document M (ADM) – Access to and use of Buildings Vol. 2: Buildings other than dwellings, 2015 edition incorporating 2020 amendments
- National Planning Policy Framework
- Equality Act 2010
- The London Plan (2021)
- LB Camden Local Plan (2017)
- BS 8300-1:2018 Design of accessible and inclusive built environment Part 1: External environment
- BS 8300-1:2018 Design of accessible and inclusive built environment Part 2: Buildings

Key brief provisions

The proposals include the following key provisions to ensure the proposal is accessible to all:

- Approach to the building will be via the West Road, which will be adjacent the main proposed building entrance to provide access at no steeper than a 1:21 gradient. A level landing (no more than 1:60 gradient) is provided at the entrance doors, along with a 1500mm x 1500mm turning space clear of door swings
- An ADM Vol. 2-compliant passenger lift provides level access to all levels within the building. The proposed lift has a car size of 1500mm wide x 2700mm deep and a door width of 1300mm. The lift will have the capability to be used as an evacuation lift in case of emergency. 1400mm x 900 mm refuges with emergency call points are provided at all levels with protected stairs and lobbies, and 1500mm x 1500mm turning spaces are provided at lift entry on every level
- The core stair has been designed to meet the ADK provisions for a general access stair
- Circulation within the building to support (i.e. non plant/infrastructure) spaces are designed to meet the provisions of ADM Vol. 2
- An accessible WC and shower cubicle is located at each support accommodation floor level off the main stair and lift lobby