Mayford Estate

Architect: **London Borough of Camden**
Issue Status: **D2 Tender**

Demonstration, Staff Training & Post Contract Attendance Requirements

The table below outlines the requirements the Contractor shall allow for demonstrating the MEP systems, training the Client's staff and attendance for seasonal commissioning meetings. Refer to the Testing and Commissioning Schedule for details regarding what is expected from the commissioning of the services.

TABLE 1 OF 3 – COMMISSIONING/OPERATION DEMONSTRATIONS

MEETING/EVENT	PURPOSE	ATTENDANCE (CONTRACTOR SIDE)	ATTENDANCE (CLIENT SIDE)	TO BE SIGNED OFF BY	DURATION	NOTES
Hydraulic systems	To carry out spot checks on completed commissioning to check flow rates etc.	Main Contractor MEP Coordinator Mechanical Contractor Controls Specialist Commissioning Engineer	MF Client FM team	MF/ Client	5 day	Prior to demonstration contractor shall have completed all commissioning with results documented and issued.
Local equipment controls	To demonstrate local equipment controls work in accordance with the description of operation.	Main Contractor MEP Coordinator Mechanical Contractor Controls Specialist (if required)	MF Client FM team	MF/ Client	5 day	Prior to demonstration contractor shall have completed all commissioning with results documented and issued.
Building Management System (BMS)	To give a quick overview of the front end of the BMS to the Client and their representative to review the graphics. To demonstrate the controls have been programmed to reflect the logic set out within the description of operation, e.g. change a heating set point higher, the boiler fires up and the control valves open.	Main Contractor MEP Coordinator Mechanical Contractor Controls Specialist Commissioning Engineer	MF Client FM team	MF/ Client	5 day	Prior to demonstration contractor shall have completed commissioning of all systems controlled by the BMS with results documented and issued.
Metering system	To demonstrate the metering and associated logging including (but not limited to): – Labelling of meters – Logging and recording of meter readings – Comparison of logged value against actual meter reading	Main Contractor MEP Coordinator Mechanical Contractor Controls Specialist	MF Client FM team	MF/ Client	5 day	Prior to demonstration contractor shall have completed commissioning of all systems controlled by the BMS with results documented and issued. Also all meters shall be correctly connected to the metering logging software with a week's logging already completed.
Electrical Systems	To carry out spot checks on completed commissioning to check electrical testing results as noted on testing and commissioning schedule.	Main Contractor MEP Coordinator Electrical Contractor	MF Client FM team	MF/ Client	5 day	Prior to demonstration contractor shall have completed all commissioning with results documented and issued.
Emergency Lighting	To demonstrate that all the emergency lighting fittings and associated batteries/static inverter will work in the event of a power failure. To carry out spot checks on the emergency light levels achieved meet the regulations.	Main Contractor MEP Coordinator Electrical Contractor	MF Client FM team	MF/ Client	2 day	Prior to demonstration contractor shall have completed all commissioning with results documented and issued.

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MEETING/EVENT	PURPOSE	ATTENDANCE (CONTRACTOR SIDE)	ATTENDANCE (CLIENT SIDE)	TO BE SIGNED OFF BY	DURATION	NOTES
Lighting and lighting controls	To demonstrate the installed lighting meets the light levels specified. To carry out spot checks on the lighting controls to check the system has been installed/programmed for the functionality specified and/or agreed within client workshops.	Main Contractor MEP Coordinator Electrical Contractor	MF Client FM team	MF/ Client	2 day	Prior to demonstration contractor shall have completed all commissioning with results documented and issued.
Fire alarm	To demonstrate the operation of the system including spot checking detector operation, fire panel operation and the cause and effect (including the shut down of plant, operation of fire curtains, lift operation, etc.) as detailed in the testing and commissioning schedule.	Main Contractor MEP Coordinator Electrical Contractor Fire Alarm Specialist	MF Client FM team	MF/ Client	2 day	Prior to demonstration contractor shall have completed all commissioning with results documented and issued.
Acoustic testing	To demonstrate the operation of the new plant in noise sensitive areas not exceeding the required break out levels as determine by the Acoustic Engineer	Main Contractor MEP Coordinator Mechanical Contractor Commissioning Engineer	MF Client FM team	MF/ Client	2 day	Prior to demonstration contractor shall have completed all commissioning with results documented and issued.

TABLE 2 OF 3 – GENERAL TRAINING DEMONSTRATION AT HANDOVER – FM TEAM FOCUSED

MEETING/EVENT	PURPOSE	ATTENDANCE (CONTRACTOR SIDE)	ATTENDANCE (CLIENT SIDE)	SIGN OFF BY	DURATION	NOTES
• Mechanical systems	Central plant operation, configuration, sequencing, seasonal operation. Variable volume hydraulic understanding, system bypasses, annual system flow rates, annual system flow and return temperature to optimise efficiency and network operation. Understanding the operation of the HIUs on the network. Emergency operation and shut off water. Operation and understanding of low carbon heating technologies (CHP heat network), lead heat source, maximising running hours, importance of low network return temperatures.	Main Contractor MEP Coordinator Mechanical Contractor Commissioning Engineer	MF Client FM team	MF/ Client	2 day	Prior to demonstration contractor shall have completed all commissioning with results documented and issued, along with O&M manuals.

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MEETING/EVENT	PURPOSE	ATTENDANCE (CONTRACTOR SIDE)	ATTENDANCE (CLIENT SIDE)	SIGN OFF BY	DURATION	NOTES
• BMS and local controls	Understand the importance of all plant operating in automatic mode controlled by the BMS. Understand how to interrogate and adjust the BMS control paraments. Be able to lo in remotely to the BMS and monitor the network and central plant performance. Be able to login remotely to the network analytics package to monitor network operating performance and diagnostics. Understand the operation of the automatic meter reading system and be able to use the data remotely for network analytics.	Main Contractor MEP Coordinator Mechanical Contractor Controls Specialist Commissioning Engineer	MF Client FM team	MF/ Client	2 day	Prior to demonstration contractor shall have completed all commissioning with results documented and issued, along with O&M manuals.
• Electrical power installations	Orientation, operation of breakers, etc. Operation of electrically powered plant, pump sets etc.	Main Contractor MEP Coordinator Electrical Contractor Commissioning Engineer	MF Client FM team	MF/ Client	2 day	Prior to demonstration contractor shall have completed all commissioning with results documented and issued, along with O&M manuals.

TABLE 3 OF 3 – END OF RECTIFICATION PERIOD REVIEW

MEETING/EVENT	PURPOSE	ATTENDANCE (CONTRACTOR SIDE)	ATTENDANCE (CLIENT SIDE)	SIGN OFF BY	DURATION	NOTES
End of Rectification Period review	To ensue all defects and rectifications have been resolved include system fine tune and seasonal commissioning.	Main Contractor Relevant discipline Engineer	MF Client FM team	MF/ Client	2 day	Prior to demonstration contractor shall have completed all commissioning with results documented and issued, along with O&M manuals.

Notes

1. This schedule is to be read in conjunction with Prelims section 10.1.
2. Training at each stage:
   Commissioning – familiarisation with systems and review of maintenance requirements (in addition to witnessing)
   Pre-Handover – Full training, recorded with video files on USB to be handed over prior to occupation
   1 Month after occupation – further training and answering questions the staff
   6 Month after occupation – as above
3. This training is in addition to any other training or support detailed in the Prelims, Spec-100.

Rev	Date	Status	Description	Engineer	Project Leader
P01	26/08/22	D2	TENDER	EO	DL

Staff Training and Demonstration Schedule
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