SPECIFICATION FOR BUILDING SERVICES INSTALLATIONS

at

LODGE ROAD PAVILION, PENNINGTON

Prepared for

LYMINGTON & PENNINGTON TOWN COUNCIL

Author:	W. Lawrence
Date:	19/12/2018
Checked by:	J Tollerfield
Date:	19/12/2018
Issued for:	Tender
Project reference:	102285/WL
Revision:	-

Contact: tel: 01202 661 968
e-mail: will@tandkelectricals.co.uk

CONTENTS

1.01 GENERAL

The works described herein are for the design, installation, testing, commissioning and setting to work of the complete mechanical & electrical services associated with the refurbishment and extension of Lodge Road Pavilion, Pennington.

The contractor is to include for the provision of everything necessary for the proper execution of the work according to the true intent and meaning of the drawings, specifications and contract conditions taken together.

The appointed contractor is to assume full design responsibility for all building services works.

1.02 PROGRAMME OF WORKS

The programme for the works shall be in accordance with the main contract programme.

1.03 VISIT TO SITE

Tenderers are advised to visit the existing site to conduct a visual inspection and survey the existing site conditions prior to submission of tender. An appointment can be made for this purpose by contacting the Contract Administrator.

It shall be assumed that the contractor has visited site prior to tendering. No claims shall be entertained for a lack of knowledge to work content or working conditions on site.

1.04 COORDINATION

All aspects of the installation require close co-operation and co-ordination and it is essential that the Contractor co-ordinates the services and avoids any possible clash, abortive works or conflict with other trades. No additional costs will be considered where full liaison with other Contractors would/could have prevented such an occurrence.

1.05 SETTING OUT OF THE WORKS

All dimensions shall be verified on site prior to commencement of the installation. The Contractor shall make all due allowance for integrating the installation with the structure and other services, and for providing a complete system to the design intent.

The Contractor shall make allowance in his tender for relocating equipment and accessories as part of the setting out exercise. The final position of all equipment and accessories shall be marked out on site by the Contractor, and agreed with the Contract Administrator prior to installation.

1.06 BUILDERS' WORK

The Contractor shall be responsible for producing Builders' work drawings and marking out. Accuracy of dimensions or drawings in relation to the positioning of plant and equipment shall be the responsibility of the Contractor. The Contractor shall allow for forming all holes up to a size of 50mm x 50mm. Holes larger than this shall be the responsibility of the Main Contractor. The Contractor shall be responsible for advising the Main Contractor of any Builders' work requirements in order that these can be priced at the time of Tender.
The Contractor shall allow for informing the Main Contractor during the tender period so due allowance can be made for building works. This shall include but not be limited to holes and making good through walls and floors, holes and making good through the external envelope and cladding panels, chases in masonry walls boxing-in for pipework drops and horizontal pipework runs, access panels.

1.07 FIRE BARRIERS

The Contractor shall provide fire barriers to all building services penetrating fire compartments, thus maintaining the fire integrity of the surrounding structure. Fire stops shall be installed around cables and pipes where they pass through fire compartments.

1.08 REMOVAL OF EXISTING SERVICES

The Contractor shall make due allowance to trace, isolate, disconnect, and remove from site all existing redundant elements to facilitate the works. The Contractor shall visit site prior to submitting their Tender to determine the full extent of the removal works. Prior to the disconnection or removal of any services, the Contractor shall formally verify and confirm the equipment to be removed.

The Contractor shall reference the Asbestos Register prior to starting any works. Any items being removed that are likely to contain Asbestos material (e.g. fuse carriers) shall be removed by a Specialist Sub-Contractor.

All retained site wide system installations shall be identified, protected and re-routed where necessary.

All redundant fluorescent tubes, chokes, batteries, and any other hazardous type waste shall be disposed of by a Specialist Sub-Contractor, in accordance with the current Health and Safety requirements.

When completing work in the existing building, the Contractor shall proceed with care and shall be aware that Asbestos may be present. They shall refer to the Asbestos register and survey information. The Contractor shall notify the Contract Administrator of any material suspected to contain Asbestos.

2.09 COLD WATER SERVICES

The Contractor shall test the existing Mains Cold Water (MCW) system to ensure sufficient flow rates before extending the existing system to serve the new facilities. The Contractor shall report findings to the Contract Administrator prior to commencement of works.

Where the existing MCW pipework is disconnected, any dead legs shall be cut back and removed to ensure that the system complies with WRAS regulations and is suitable for use as a potable water system. The MCW distribution route and stop cock location shall be indicated on the Contractor's record drawings.

The new installations shall be mains fed and the incoming water supply shall be extended to serve the refurbished and new building requirements. All internal Cold Water Services (CWS) pipework shall be insulated along its length to BS6700.

Sanitary ware and taps are to be supplied & installed by the Contractor. Proposals of all sanitary ware, DocM packs and taps are to be submitted with the Contractors tender. Particular attention should be paid to sanitary ware sizing & requirements within confined spaces.

All domestic water connections shall be provided with a suitable WRAS approved isolation valve, e.g. Ball-o-Fix. The pipework shall be insulated in accordance with WRAS requirements to protect it from frost damage and condensation. Pipework shall be table X light gauge copper. Pipework shall be suitably insulated.

Where possible, distribution pipework shall be concealed above ceilings with drops to equipment to be run surface.

All pipework shall be adequately supported. Pipework at low level shall have additional protection to avoid accidental damage.

On completion of the works, the entire system shall be thoroughly flushed through and chlorinated before being put into use. Chlorination shall be completed as detailed in the WRAS regulations.

All domestic water systems shall be installed in accordance with the requirements of HSE Approved Code of Practice (ACOP) and Guidance, L8 Legionnaires Disease "*The control of Legionella bacteria in water systems*" 2000.

2.10 HOT WATER SERVICES

Domestic hot water shall be provided by the 2no. existing hot water cylinders. These are to remain in situ along with all ancillary items/devices.

Existing hot water pipework is to be adapted and extended to accommodate the requirements of the updated building layout, sanitary ware & kitchen arrangement.

Blending valves shall be provided at all outlets; these shall ensure that water will not be discharged through the taps at above 43ºC.

All domestic water systems shall be installed in accordance with the requirements of HSE Approved Code of Practice (ACOP) and Guidance, L8 Legionnaires Disease "*The control of Legionella bacteria in water systems*" 2000.

Pipework shall be table X light gauge copper. Pipework shall be suitably insulated. All insulation within the roof void plant space shall have a hammered aluminium finish.

Where possible, distribution pipework shall be concealed above ceilings with drops to equipment to be run surface.

All pipework shall be adequately supported. Pipework at low level shall have additional protection to avoid accidental damage.

2.11 VENTILATION SYSTEMS

New mechanical ventilation systems are to be installed within the Disabled WC, Female WC, Kitchen, existing Referee Changing Rooms and existing Male WC. New mechanical ventilation is to be designed, supplied & installed in accordance with Approved Document F of the Building Regulations. These systems are required to achieve the following number of air changes per hour for the given rooms they service:

W/C	6 air changes per hour
Shower Room	15 air changes per hour
Kitchen	20 air changes per hour

Extract fans to W/C's and wet rooms are to have an overrun timer facility with the timer set to 15 minutes, this can be set by either an integral overrun timer function or using 2 channel PIR's. All mechanical extract fans are to be wall mounted.

All ductwork is to be of the round, rigid type. Duct routes are to vent to atmosphere through external walls with all grills to be of the gravity grill type and coloured to match the exterior wall, where possible, on to which it is fitted. Mechanical ventilation to the updated Kitchen and one existing Referees changing room will be required to vent to atmosphere via roof cowls as

The existing mechanical extract ventilation systems serving the two existing, to be retained, Changing Rooms and existing Female WC are to remain in situ with existing controls systems to remain as they are with the exception of the existing multi-gang grid switch, serving the two Changing Rooms, within the existing clubroom being rationalised and relocated within the Office and replaced with a white plastic grid switch and plate assembly with neon indicator and appropriately labelled.

Extract fans and accessories are to be as manufactured by Vent Axia, Nuaire or equal and approved.

2.12 ABOVE GROUND DRAINAGE

The Contractor shall reconfigure/adapt the existing systems to provide a complete system of above ground foul drainage in accordance with BS EN 12056 and Approved Document H of the Building Regulations. The above ground soil and vent pipework system shall be installed using UPVC pipework, incorporate all necessary fittings up to the sanitary equipment or trap.

Horizontal runs to adjacent soil/vent stacks shall be concealed within IPS voids or Builder's work boxing.

2.13 WATER TREATMENT

All hydraulic systems shall be fully flushed out, cleaned using appropriate chemicals & sterilised. A chlorination certificate shall be issued to the Contract Administrator upon completion of water treatment. Specific precautions shall be taken against Legionnaires' disease.

3.14 SUB-MAINS AND DISTRIBUTION

The existing distribution board within the existing Office is to be stripped out, relocated and replaced with a new 12 way type B distribution board referenced DB1. All retained existing circuits are to be extended and re-terminated within the new DB1 distribution board. All new circuits throughout the Pavilion are to be wired from the new distribution board.

Existing cables requiring extending shall be terminated in din rail mounted connectors within a fully sealed enclosure in the current distribution board position. All din rail mounted connectors are to be appropriately sized and coloured and all necessary stop ends, partition plates, jumpers, etc. are to be allowed for. All new cables from the new distribution board to the din rail mounted connectors are to be installed as 6242b LSF twin & earth cable contained within PVC trunking.

There is an existing SWA cable emanating from the incoming electricity meter that is believed to serve the adjacent Scout Hut. This is to be disconnected and incorporated into new Distribution Board DB1. The existing supply is to remain in place until such time that it can be incorporated into the new distribution board and minimise downtime to the electrical supply to the Scout Hut. Timing of the changeover is to be agreed with the Contract Administrator so as to minimise disruption to the Scout Hut supply.

The new distribution board shall be provided with circuit charts, labels and locking covers. All labelling, etc. shall be completed using a horizontal type font; hand written labels will not be accepted. Circuit charts shall be framed and permanently mounted adjacent to distribution boards. The Contractor is to provide a mixed wiring warning label within the distribution board stating *"This installation has wiring colours to two versions of BS 7671".*

All new electrical distribution equipment shall be as Schneider Acti9 Isobar P range or equal and approved.

3.15 WIRING AND CONTAINMENT SYSTEMS

It is anticipated that where possible existing wiring is to be retained and adapted to suit the new layout of equipment. All new and extended circuitry is to be run in 624*B LSF twin & earth cables on wire basket and fixed to the fabric of the building with all drops on walls to be run surface and contained in high impact PVC conduits. Where cables are fixed to the fabric of the building non-combustible metal fixings are to be used so as to comply with the IEE 18th Edition wiring regulations, i.e. metal p-clips, metal cable tie bases with metal cable ties, etc.

All cable containment shall be installed using the manufacturer's recommended parts and installation techniques. This shall include, but not be limited to stand-off brackets, conduit take-offs, earthing connectors, fixing clamps etc. All cable containment and brackets shall be suitable for the environment into which they are being installed. Galvanised paint shall be applied to all cut-ends of metallic containment. In locations where cables pass through fire compartments, the Contractor shall allow to provide suitable fire stopping to maintain the integrity of the surrounding structure/compartment.

The Electrical Contractor should ensure the installation is completed to the highest standard of workmanship, providing a neat and tidy appearance, e.g. conduits to be supported with spacer saddles, surface boxes to be correct for faceplate types, galvanised paint on cut ends. Any installations not completed to the highest standard shall be replaced/improved at the Contractor's cost.

3.16 LIGHTING INSTALLATION

New lighting is to be installed throughout the remodelled areas of the building in accordance with the tender drawings. Generally lighting and switching arrangements within the existing, to be retained, areas are to remain in situ unless depicted otherwise on the tender drawings. External wall mounted luminaires are to be replaced/installed as new as detailed on the tender drawings.

All new lighting installations shall be installed to provide a pleasant environment suitable for the environment whilst complying with the requirements of all relevant, CIBSE/SLL Codes for Interior Lighting and associated CIBSE technical memoranda. Luminaires shall be complete in all respects, including fixing brackets, diffusers and all other necessary accessories. Connections shall be in accordance with the manufacturer's specific instructions.

The Contractor shall ensure (prior to ordering) that luminaires are suitable for the installation into which they are intended to be fixed. Any luminaire recessed within a fire break shall be provided with a suitable fire hood.

All luminaires shall be provided with 4000K lamps, unless stated otherwise elsewhere. All similar lamps shall be supplied from the same manufacturer and have the same manufacturing batch number.

The minimum IP rating of all external luminaires shall be IP65. Final connections to externally mounted fittings shall be via H07RNF silicon based cables. All external light fittings shall be connected in accordance with the manufacturer's specific requirements. External light fittings shall be suitable for the environment into which they are installed.

Lighting circuits shall be wired in a radial format from dedicated circuit breakers (RCBO) contained within distribution boards. The Contractor shall check on site, prior to installing containment and cabling, the final door hang and swing positions etc. for appropriate locations for switches, and adjust as necessary.

An extra over cost is to be provided for replacing the existing lighting throughout the existing, to be retained, areas with like-for-like luminaires utilising LED light sources. Within the extra over cost allowance should be made for installing luminaires with integral 3hr emergency battery back-up where new emergency lighting is to be installed.

3.17 LIGHTING CONTROLS

All new lighting controls will be by way of either manually operated rocker switches or ceiling mounted PIR detectors.

Ceiling mounted PIR's shall be used in areas as indicated on the drawings. The Contractor shall allow for setting and commissioning all detectors to 10 minute duration unless instructed otherwise by the Contract Administrator.

The existing control strategy for the external wall mounted lighting to the building is currently unknown whilst external building mounted flood lights are controlled by a switch in the existing Clubroom. The Contractor is to allow for installing a new photocell and din rail mounted timeclock in a dedicated enclosure to control all external wall mounted lights. The existing switch controlling external building mounted flood lights is to be replaced with a flush, white plastic switch with neon indicator.

Switch mounting heights shall be in compliance with the Building Regulations AD Part M.

The Contractor shall include for all programming and setting of the complete lighting control system.

All wall mounted rocker switches shall be as MK Electric Grid Plus range. Ceiling mounted PIR's shall be as manufactured by CP Electronics or equal and approved. Timeclocks are to be as manufactured by Sangamo or equal and approved.

3.18 EMERGENCY LIGHTING INSTALLATION

Emergency lighting is to be provided throughout the building in its entirety in accordance with the tender drawings. The Contractor shall allow for providing an emergency lighting installation comprising a combination of integral, 3hr, switch-maintained luminaires; illuminated emergency exit signs, as indicated on the tender issue drawing; IP65, non-maintained emergency bulkheads.

The emergency lighting installation shall fully comply with the requirements of BS 5266 X/1/180 for maintained luminaires and X/0/180 for non-maintained luminaires. Emergency exit signs shall be provided with the appropriate pictogram in accordance with BS5499-4.

The emergency lighting fittings shall be tested via a multi-gang key switch testing facility installed adjacent to the new distribution board DB1 in the Electrical Cupboard. Each

emergency light shall be provided with a green LED status indicator, clearly visible with the luminaire cover fitted.

Upon completion of the works, the Contractor shall allow for a complete 3hr test of the emergency lighting system and produce a testing/commissioning certificate, which shall be inserted into the Operating & Maintenance manual. This test shall be completed outside of normal working hours and during the hours of darkness.

3.19 SMALL POWER INSTALLATION

The Contractor shall allow for providing small power socket outlets and ancillary equipment as indicated on the drawings. Socket outlets shall be equipped with a three-pin safety shuttering system, preventing access to live terminals until all three pins are inserted. It shall be noted that the Electrical Contractor is to install all power supplies & isolators and carry out final connection of all mechanical equipment as required.

Socket outlets shall be wired on a ring main principle protected by individual RCBO units contained within distribution boards, in accordance with the BS 7671.

Fixed items of equipment shall generally be wired on a radial principle with isolators labelled detailing the equipment served and the circuit reference.

Fused connection units serving hand dryers shall be installed at high level with a conduit dropping to the height of the equipment being served.

New small power wiring accessories are to be as MK Electric Logic Plus range.

3.20 FIRE & INTRUDER ALARM WORKS

The Contractor is to appoint Central Southern Security to carry out all works in relation to the design and installation of fire & intruder alarm systems. The Contract Administrator has made the nominated fire & intruder alarm contractor aware of the works.

Containment systems for new Fire Alarm installations are to be supplied & installed by the Contractor for use by Central Southern Security.

A provisional sum for works to be carried out by Central Southern Security is detailed within the tender summary at the foot of this specification.

3.21 EARTHING AND BONDING

The Contractor shall supply and install a complete earthing and bonding installation in compliance with BS 7430, the IET Wiring Regulations, the Electricity Supply Regulations and the requirements of this Specification.

All circuit protective conductors, supplementary bonding conductors and terminations shall be of non-deteriorating high conductivity cuprous materials. The effects of galvanic action shall be particularly guarded against and shall be minimised at joints between dissimilar

metals. At copper to aluminium interconnections, the cuprous metal shall be cadmium plated or tinned and the joint wrapped with tape.

Within each distribution board, an integral earthing bar shall be provided for earthing. The earth bar shall have sufficient capacity to terminate a separate circuit protective conductor for each circuit way on the distribution board. All circuit protective conductors shall be individually connected to this earth bar, each conductor connected to a separate stud-terminal.Where the earth bar is internally mounted within the distribution board, the earthing conductors shall pass through an insulated plate in the external framework of the switchgear and be connected directly without interruption to the main earth bar. All circuit protective conductors shall be routed with their individually designated circuit cable. The earth bar shall be bonded to the entire switchboard chassis, ancillary metalwork and the cable termination plate of each individual switchboard via separate copper bonding links.

The Contractor shall allow for verifying/upgrading the existing main equipotential bonds to all incoming primary services, i.e. gas, water, heating pipework and ducting in the vicinity of the refurbishment works. Equipotential bonds shall be provided to all extraneous metal work.

A provisional sum has been allowed for upgrading the earthing systems and the possibility of have to install earth leakage protection to cover the whole of DB1 as has been previously requested by SSE on similar works carried out for Lymington & Pennington Town Council.

3.22 ELECTRIC SPACE HEATING

Space heating throughout the Pavilion is currently provided by way of electric panel heaters and down flow heaters. Downflow heaters to the two remaining Changing Rooms and two Referee's Changing Rooms are to remain. Downflow heaters within the two Changing Rooms are currently controlled by a switch within the existing Clubroom. The control switch is to be rationalised and relocated within the Office and replaced with a white plastic grid switch and plate assembly with neon indicator and appropriately labelled.

Existing electric heating within all remodelled areas is to be removed in its entirety. New electric panel heaters are to be sized and installed in accordance with the tender issue design drawings. All new electric panel heaters are to conform with Lot 20 of the ERP Directive and come with integral thermostats, 7 day programmable timer control and child lock function to prevent tampering with the settings. Programming of the timer controls is to be agreed with the Contract Administrator.

All new electric panel heaters are to be as manufactured by Creda and from the TPRIIIE range.

3.23 TV, DATA & TELECOMS

It is proposed that a standalone TV distribution system is to be installed to service the Barn. This will include 1no. TV Aerial to support Freeview only and all necessary distribution equipment to support the system.

All TV Aerials are to be installed in as discrete a position and manner as possible, preferably within the loft space subject to satisfactory signal test results. All TV distribution equipment is to be installed within the Office. TV Aerials are to be installed by an approved CAI registered sub-contractor.

There is currently no requirement for carrying out any telecoms or data related works.

3.24 REMEDIAL WORKS TO EXISTING INSTALLATIONS

The Contractor is to allow for carrying out all remedial works necessary as a result of migrating existing, retained, circuits to the new distribution board.

A provisional sum for these works is detailed within the tender summary at the foot of this specification.

4.25 TESTING AND COMMISSIONING

All systems shall be fully commissioned in accordance with the CIBSE Commissioning Codes and the manufacturers' particular recommendations. Where necessary, specialist commissioning companies shall be employed to carry out this function.

The commissioning shall comprise of the setting of the systems into their operational state and adjusting to obtain the required performance. Following commissioning, a full demonstration of the system operation shall be provided to the Client.

4.26 RECORD DRAWINGS AND O & M MANUALS

The Contractor shall provide Record Drawings and Operating & Maintenance manuals for the complete installation works, including Specialist Sub-Contractor works.
It shall be especially noted that, as a result of the provisions of the Health and Safety at Work Act, the Client cannot accept handover of the installation until full information concerning the installation is in the possession of his operational maintenance Staff and therefore the Certificate of Practical Completion cannot be issued until the requirements for Operational and Maintenance Manuals and Record Drawings have been complied with.

The Contractor shall provide Record Drawings in paper and Electronic file formats (AutoCAD compatible) as Adobe Acrobat PDF files on a CD ROM or USB memory stick. Draft O&M detail (including Record Drawings) shall be submitted at least 2 weeks prior to completion of the works.

4.27 CLIENT INSTRUCTION

Following Practical Completion, the Contractor shall, accompanying the handover of the O&M Manuals and Record Drawings, fully instruct the Client in the use of all the systems.

4.28 SYSTEM DEMONSTRATION

The Contractor shall allow for the system demonstration and training of the Employer's Staff.

The Contractor shall allow for up to half a day per system, not necessarily on the same day, and at the Client's convenience.

The Contractor shall allow attendance for a further one day's training of the Client's Staff at the Client's convenience.

5.29 APPENDICES

Appendix A	Howdens Kitchen Information

5.30 TENDER SUMMARY

LODGE ROAD PAVILION, PENNINGTON
MECHANICAL TENDER SUMMARY

1.07	FIRE BARRIERS	£
1.08	REMOVAL OF EXISTING SERVICES	£
2.09	COLD WATER SERVICES (inc. Sanitary Ware)	£
2.10	HOT WATER SERVICES	£
2.11	VENTILATION SYSTEMS	£
2.12	ABOVE GROUND DRAINAGE	£
2.13	WATER TREATMENT	£
4.25	TESTING & COMMISSIONING	£
4.26	RECORD DRAWINGS & O&M MANUALS	£
4.27	CLIENT INSTRUCTION & SYSTEM DEMONSRATIONS	£
	TOTAL FOR MECHANICAL WORKS	**£**

NAME OF CONTRACTOR……

SIGNATURE…… NAME……

JOB TITLE…… DATE……

LODGE ROAD PAVILION, PENNINGTON
ELECTRICAL TENDER SUMMARY

1.07	FIRE BARRIERS	£	
1.08	REMOVAL OF EXISTING SERVICES	£	
3.14	SUB-MAINS AND DISTRIBUTION	£	
3.15	WIRING AND CONTAINMENT SYSTEMS	£	
3.16	LIGHTING INSTALLATION	£	
3.17	LIGHTING CONTROLS	£	
3.18	EMERGENCY LIGHTING INSTALLATION	£	
3.19	SMALL POWER INSTALLATION	£	
3.20	FIRE & INTRUDER ALARM INSTALLATIONS	£	
3.21	EARTHING AND BONDING	£	
3.22	ELECTRIC SPACE HEATING	£	
3.23	TV, DATA & TELECOMS	£	
3.24	REMEDIAL WORKS TO EXISTING INSTALLATIONS (PROVISIONAL SUM)	£	**1,250.00**
4.25	TESTING AND COMMISSIONING	£	
4.26	RECORD DRAWINGS AND O&M MANUALS	£	
4.27	CLIENT INSTRUCTION & SYSTEM DEMONSRATIONS	£	
PROV 1	UPGRADING OF EARTHING SYSTEMS TO SSE REQUIREMENTS (PROVISIONAL SUM)	£	**1,000.00**
EO 1	UPDATE LIGHTING TO EXISTING AREAS TO LED	£	
	TOTAL FOR ELECTRICAL WORKS	**£**	

NAME OF CONTRACTOR……

SIGNATURE…… NAME……

JOB TITLE…… DATE……