

PROJECT: Muckross Cottage, Killarney

TEM CONTRACT No: 18622

Document Title:

Scope of Works

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Scope of Works

1.1 General

Overview

The purpose of this section is to set out the specific criteria for the Mechanical & Electrical Services and Energy Upgrades related to the refurbishment at No 16 Muckcross Cottage, Killarney, Co. Kerry.

The project consists of a renovation to 19th century cottage, built using traditional construction methods, with an extension to the rear that is to be demolished, and a new extension built in its place. The proposed building consists of living/kitchen/dining room, 1no. single bedroom, shower room, utility room and store room on the ground floor. On the first floor is 1no. double bedroom with ensuite.

Due to the inherent heritage value of the building, due care shall be taken to protect and maintain the original fabric and design as much as possible, while still creating an efficient and comfortable building for its occupants.

The objective of the energy upgrade works is to achieve a BER rating of A (<75 kWh/m²/yr), modernise energy and electrical systems, and ensure compliance with current Building Regulations. (Preliminary BER was carried out and this is appended in the information pack for this tender)

1.2 Codes, Standards and Design Guidelines

Building Regulations

Technical Guidance Document B - Fire Safety
Technical Guidance Document F - Ventilation
Technical Guidance Document H - Drainage and Waste Water
Technical Guidance Document L - Conservation of Fuel and Energy
Any other relevant technical guidance documentation.

Regulations

All relevant Irish Standards and Regulations
All relevant European Standards and Regulations
Guidance documentation from CIBSE, IEI etc.,
Any other relevant technical guidance documentation.

2 Mechanical Scope of Works

Mechanical Services Installation

Preliminaries & Refurbishment
Heating and Water Services Installation
Ventilation Installation
Soils and Waste Services Installation
Controls
Finishes
Mechanical handover and testing requirements

2.1 Preliminaries & Refurbishment

- Stripping out and making safe of all existing services.
- Contractor to disconnect and isolate all building services inclusive of water, sewer, electrical and heating system.
- Remove and dispose of all loose furniture, fixtures and fittings.
- Remove and dispose of all floor finishes, skirtings, doors, windows, stairs and ceilings and dispose of off-site. All to be replaced with new items including timer sheeted doors, frames and architrave.
- Demolish existing partitions and remove from site.
- Remove existing drylining and defective Lime Plaster from all external & party walls.
- Demolish extension and remove existing concrete floor slab and excavate to 400mm below existing floor level. Remove waste off site and any rubble to NPWS farm tip.
- 200mm Stone fill Annex E.
- 75 mm Sand Blinding.
- Excavate Foundations New Extension.
- Concrete Foundations new Extension.
- Rising Walls New Extension.
- Softwood timber stud and plasterboard partition with skim coat finish.
- Hack off external rendering to existing building and plaster external with lime render.

2.2 Heating and Water Services Installation

- The Air to Water heat pump will provide all the space heating and hot water requirements. There is domestic hot water priority built into the controls of the heat pump to ensure that there is hot water available when required, as per the Building Regulations.
- The ground floor heating is distributed using under-floor heating and the first floor via high efficiency low temperature radiators.
- 180L domestic hot water cylinder to be indoor situated in the bathroom in the extension.
- A cold-water storage tank will be located in utility room to provide its cold-water requirement.

2.3 Ventilation Installation

- Ventilation will be provided in accordance with the Part F – Ventilation of the building regulations.
- Continuous trickle extract ventilation with integral humidity stat controlling boost speed in the shower room, ensuite, utility and kitchen along with passive vents throughout.

2.4 Soils and Waste Services Installation

- Soils and Waste Services will be installed in accordance with the Part H – Drainage and Waste of the building regulations.
- New Foul water System 100mm pipe in excavated trench surrounded in 20mm stone chip.
- New Water Connection to new layout.

2.5 Controls

- Each room will be controlled via thermostat from a central manifold and first floor radiators will be controlled via thermostatic radiator valves. All with time control via a heating controller located at ground floor level.
- Hot water will be thermostatically timed controlled via a heating controller located at ground floor level.

2.6 Finishes

- PC Sum for wall & Floor Tiling allowance of €40m2 supply of tiles, balance labour, adhesive, grout etc.
- Labour ONLY Fitting Timber Floors." Floors supplied by Client".
- 150mm x 18mm ogee profile painted softwood Skirting.
- 12.5 mm Fireline slabs with 3mm skim coat to ceilings on ground floor & 1st Floor.
- Paint Ceilings.
- Zone heating in GF, FF & Hot water.
- Supply & Fit new 180L Hot water unit Supply & Fit toilet basin and thermostatic showers.
- Supply & Fit DAB Booster Pump.
- Complete Heating & Plumbing Works.
- Supply & Fit shower outlets for tiles.
- LV Distribution.
- Wall Ventilation Installation via core drilling to walls & Window vents.
- General Services Installation.
- Alarm Installation.
- Chasing Coring etc.
- Supply & Fit prefinished stairs.
- PC SUM for supply & Fit of Kitchen €5000.
- Site Services Piped and Ducted.
- Hard landscaping: 200mm 804, 50mm blinding and 100mm concrete footpath with brush finish.

2.7 Mechanical handover and testing requirements

- All services are to be installed and commissioned as per the manufacture's guidelines and CIBSE Commissioning Codes. Mechanical services to be commissioned include Domestic Water Services, LPHW services, Soils and Waste and Ventilation Services.

3 Sustainable Design Scope of Works

Building Fabric Upgrades

Ground Floor
External Walls
Roofs
Windows
Doors
Compliance and Certification

3.1 Ground Floor

100mm FF on underfloor heating on 100mm rigid insulation with maximum thermal conductivity of 0.036 W/mK for a floor U-value of 0.23 W/m²K.

3.2 External Walls

- The walls of the rear extension to be fitted with external insulation. 120mm EPS with maximum thermal conductivity of 0.036 W/mK specified for a wall U-value of 0.22 W/m²K or lower.
- The external walls of the original stone cottage to be insulated internally with an insulating lime plaster. In-situ plaster to be removed and walls to be levelled using lime plaster. 50mm Roundtower Supertherm with thermal conductivity of 0.0395 W/mK or equivalent for a specified wall U-value of 0.59 W/m²K. As well as a final coat of finishing plaster to be included.
- Walls to be painted with breathable paint.

3.3 Roofs

- New Roof to Main House No allowance for new Slate or ridge caps.
- New roof to extension.
- The flat roof in the extension to be internally insulated with Kingspan K18 insulated - plasterboard. 80mm (92.5mm including plasterboard) specified with thermal conductivity of 0.021 W/mK specified for a roof U-value of 0.17 W/m²K.
- Sloped roof to be insulated with 35mm of Gutex Multiplex Top or equivalent T&G breathable sarking board with maximum thermal conductivity of 0.045 W/mK, and 100mm Gutex Thermoflex Woodfibre board or equivalent between rafters with maximum thermal conductivity of 0.036 W/mK specified for a roof U-value of 0.30 W/m²K.

- Pitched roof, insulated on ceiling to have 300mm of Thermafleece Cosywool or equivalent with maximum thermal conductivity of 0.039 W/mK specified for a roof U-value of 0.13 W/m²K.

3.4 Windows

- Install new windows throughout with a maximum U-value 1.4 W/m²K.

3.5 Doors

- Install new front and rear doors, with a maximum U-value 1.4 W/m²K.

3.6 Compliance & Certification

- Provide all relevant documentation, product data, certifications, as-built drawings and compliance records necessary to support the energy assessment and verify compliance with applicable standards and regulations.

4 Electrical Scope of Works

Electrical Services Installation

Lighting Installation
Small Power Installation
Fire Alarm Installation
Intruder Alarm Installation
Testing & Commissioning

4.1 Lighting Installation

- Lighting for the kitchen/living/dining room, ground floor bedroom, stairs, and utility and store rooms, will be provided via domestic type pendant fittings. All remaining rooms; shower room, ensuite, and first floor bedroom will be via circular surface mounted light fittings.
- External lighting will be provided by light fittings on the dwelling via a waterproof fitting.
- All light fittings will be fitted with L.E.D. lamps

4.2 Small Power Installation

- Twin sockets to be distributed throughout the dwelling and utility shed. Data outlets to be provided to serve the data/telephone and T.V. services.

4.3 Fire Alarm Installation

- Smoke Alarms, Heat Alarms and CO2 detectors to be provided throughout the dwelling. These are mains power with battery back-up and interlinked with fire rated cabling.

4.4 Intruder Alarm Installation

- The dwelling will be provided with an intruder alarm, comprising of passive infra-red detectors distributed throughout the building. An external bell, internal bell, with control panel and keypad at the rear entrance of the dwelling.

4.5 Testing & Commissioning

- Ensure all installations have been tested and commissioned to the relevant standards and provide supporting documentation.