

F.S.S. 1: 2025

**FINGAL COUNTY COUNCIL
STANDARD SPECIFICATION**

**SPECIFICATION FOR
ELECTRICAL INSTALLATIONS IN
NEW & EXISTING DWELLINGS**

**FINGAL COUNTY COUNCIL
ARCHITECTS DEPARTMENT**

F.S.S. 1: 2025

This edition supersedes F.S.S. 1: 2024

Amendments:

Amended on 1/02/2025.

F.S.S. 1: 2024

**SPECIFICATION FOR ELECTRICAL INSTALLATIONS
IN NEW AND EXISTING DWELLINGS**

CONTENTS

1. General
2. Notices to Electricity Supply Board
3. Inspection of Work and Materials
4. Commencement of Electrical Installation
5. Examination on Completion of Work
6. General Conditions
7. Materials and Installation
 - 7.1 Cables
 - 7.2 Fittings
 - 7.2 Trunking: PVC
 - 7.4 Conduit
 - 7.5 Boxes
 - 7.6 Earthing
 - 7.7 Consumer Unit
 - 7.8 Circuit Arrangements
 - 7.9 Light Switches
 - 7.10 Lamp holders
 - 7.11 Ceiling Roses
 - 7.12 Bathroom Light Fitting/Cupboard/Hot-press/ Under Stairs
 - 7.13 Flexible Cords
 - 7.14 Porch Light
 - 7.15 Socket Outlets
 - 7.16 Cooker Switch
 - 7.17 Cooker Hood Outlet
 - 7.18 Immersion Heater
 - 7.19 Shower Circuit
 - 7.20 Shower Fittings
 - 7.21 Television and Telephone Outlets
 - 7.22 Meter Cabinets
 - 7.23 Internal Fire Alarms and Carbon Monoxide Detectors
 - 7.24 Heating Installations
 - 7.25 Invalid Alarm
 - 7.26 Space Heating - Storage Heating
 - 7.27 Infra Red/Fan Heating - Space Heating
 - 7.28 Extract Fans
 - 7.29 Hard of Hearing Person's Bell
 - 7.30 Doorbell
 - 7.31 Door Intercom System
 - 7.32 Shaver Sockets
 - 7.33 Public Lighting
 - 7.34 Lightning Protection
 - 7.35 Landlords Supplies
 - 7.36 Intruder Alarms
 - 7.37 Stair lifts
 - 7.38 Car Charging Points
 - 7.39 PV Panels

Schedule 1: Electrical Outlets to One Bedroom Dwellings
Schedule 2: Electrical Outlets in 2 Bed, 3 Bed & 4 Bed Dwellings

- 8. Additional Requirements for Halting Sites and Caravan Bays
 - 8.1 General
 - 8.2 Lighting
 - 8.3 Socket and Switches
 - 8.4 Cooker Switch
 - 8.5 Outdoor Socket
 - 8.6 Consumer Unit
 - 8.7 Immersion

Fire Safety Cert.

**SPECIFICATION FOR ELECTRICAL INSTALLATIONS
IN NEW AND EXISTING DWELLINGS**

1. GENERAL

The electrical installation shall be carried out to the entire satisfaction of the Architect.

The electrical installation shall form part of the General Building Contract and the Building Contractor shall be held responsible for the proper execution of the electrical work.

The contractor shall supply all materials and labour necessary for the completion of the electrical installations as herein specified.

The electricity supply mains shall be laid by the Electricity Supply Board (E.S.B.) and shall not form part of this contract. The Contractor shall contact the local E.S.B. staff prior to commencing building operations, agree with them a building sequence which will tie in with the E.S.B. cabling sequence, so that handover of houses and E.S.B. servicing can progress smoothly. He shall also ascertain whether or not there are any E.S.B. cables on the site and arrange for their removal so that it does not delay site progress. He will take adequate notice of the E.S.B. publication 'Site Requirements for Supply to Housing Schemes' and the requirements set out therein. Site co-ordination between the Contractor, the E.S.B. and other Electrical Services Personnel is the Contractor's responsibility.

Where it is proposed to sublet the Contract for electrical installations either in whole or in part, only current Registered Electrical Contractors of good standing and with previous experience in work of a similar nature will be permitted to undertake the Electrical Installation.

All electrical work must comply with the requirements of the engineer and with the "National Rules for Electrical Installations Fifth Edition NSAI I.S 10101:2020 published by the National Standard Association of Ireland. All new installation, alteration to the installation or addition to the installation must be certified using the correct cert, be it a Completion Cert or Minor Works Cert.

2. NOTICES TO ELECTRICITY SUPPLY BOARD:

The Contractor shall be responsible for arranging electrical services supply to individual houses.

Contractors' prices must provide for filling out and lodgement of all the necessary forms of application, notices of application, etc., required by the E.S.B., which must, with the exception of the Completion Certificate, be lodged with Housing Allocations Section of Fingal County Council. The Contractor must provide for carrying out the appropriate tests and for filling out of a Completion Certificate as required by the NSAI., for each house and for lodgement of the Certificate with his registered body, SAFE ELECTRIC, in good time so as not to delay handover.

3. INSPECTION OF WORK AND MATERIALS:

All materials to be used and workmanship on this contract shall comply with the appropriate Irish or European Standard.

Samples of materials or apparatus shall be forwarded to the Architect for approval when requested during the progress of the work or prior to the commencement of the work.

The Contractor shall not depart from the specification or the approved samples without written authorisation from the Architect.

Personal carrying out electrical works (wiring, terminating, testing, etc.,) to be qualified electricians – union cards or always copy of qualifications to be available for review by Councils Inspector on site.

4. COMMENCEMENT OF ELECTRICAL INSTALLATION:

The Contractor shall furnish notice in writing to the Architect at least one week before putting the work in hand. Failure to do this may necessitate the removal of the work completed by him in order to enable a proper examination to be made and in such event the Contractor will have to bear the cost of removal and replacement.

The lines, positions and ways of electric mains are to be ascertained by the General Contractor at an early stage so that, where possible, ways are to be left to receive them to save unnecessary cutting away.

5. EXAMINATION ON COMPLETION OF WORK:

The electrical contractor shall fully test and certify each dwelling and any other electrical installation forming part of the works, as required by the current National Rules for Electrical Installations. As testing shall include the electrical commissioning of the smoke detectors and gas boilers and an earth loop impedance test, the Contractor shall arrange to have the E.S.B. supply connected before post connection tests are carried out. This will involve the installation of the E.S.B. meters in the Contractors name (For new builds). The Architect shall be notified and furnished with copies of the contractor's test record sheets, in respect of each dwelling and any other electrical installation forming part of the works, when his testing of the Electrical installation has been completed. The Architect, or his duly authorised representative, shall, within 14 days of receipt of such notice, examine, and, if he deems fit, re-test any portion of the work in question.

No dwelling will be taken over by the Council unless the electrical installation has been verified by the Architect or this authorised representative. The Contractor shall provide the services of an electrician to assist the Architect or his representative in carrying out any necessary re-testing on the installation. In the event of an installation failing the re-test the contractor shall rectify the fault and carry out a full retest of the installation and issue copies of the new test record sheets to the Architect.

6. GENERAL CONDITIONS:

The E.S.B. supply will be brought to the meter cabinet position at each house. Adequately insulated and protected mains shall be brought from the meter position to the consumer units from which sub circuits shall be distributed.

The wiring for lighting points and socket outlets in each house shall be carried out in single LSF/LSF (lighting) and T & E cable respectively concealed under floorboards and in the attic.

In the case of attic lights, it will be wired in 1.5 sq mm T+E from the consumer unit to the attic via the switch and terminating in an enclosed LED fitting in the attic.

The earth wires shall be sleeved individually within outlet boxes. Joists shall not be grooved or cut at top or bottom. 25 mm. diameter holes shall be bored through the centre of the joists before these are fitted in position. If this is not done a drill having a right-angle adaptor must be used to bore the holes in situ to ensure that they are horizontal.

In the case of timber framed houses all ground floor wiring to be placed in conduit.

All holes shall be horizontal and in straight lines and shall lie beneath the appropriate traps. Cables under the floor shall be installed parallel to the joists or at right angles to them through the ways bored through them. In the attic, cables shall be clipped neatly to the sides of the joists at 250 mm. intervals horizontally and 120 mm. intervals vertically or shall run across the joists at right angles to them. In no case shall the cables be taken diagonally through or across the joists.

When conduit enters the switch and socket outlet boxes these shall be drilled to accept the conduit and under no circumstances may these be cut, grooved, or scooped for this purpose. Conduit runs, in wall chases, shall be either horizontal or vertical, chased with a correct chasing tool. Conduit is to be used on all studded masonry walls.

Wiring in the attic shall be installed and clipped before the plasterboard slabs are fixed on the ceiling below.

All wiring in close proximity to hot water pipes must be protected by covering the pipes with insulation.

In the case of rewiring existing houses, use must be made of all existing trunking, conduit and ways where possible, and all redundant conduits and wiring must be removed. Care must be exercised to avoid any unnecessary damage to decoration and fittings.

All circuits, except for the fire alarm and CO circuits, to extension areas shall be independent of circuits in the main dwelling and shall be separately protected by MCB's.

In the case of Three Storey and Duplex dwelling all areas that lead to the exit route must have all the electrical outlet, fire sealed, to produce a minimum of a 30-minute fire rating, eg Sockets, Switches, Light fittings. This may be achieved by a fire rated non-corrosive intumescent sealant or a manufactured fire rated flush box.

All main cables (16 sq mm T+E) to installed in accordance with the NSAI Fifth edition I.S 10101:2020.

7. MATERIALS AND INSTALLATION

7.1 CABLES:

All conductors covered by this specification shall be copper of metric size and shall comply with I.S. 10101:2020 and be LSF (low smoke rated). Each coil of cable delivered on site shall be new and bear the maker's sealed label which shall state clearly the maker's name, meg ohm grade and normal details of the wire. The core identification colour of all cables and wires shall comply with the core colour scheme in Section 514 of the NSAI National Rules.

CABLE SIZE	CIRCUIT
1.5 sq.mm.	Lighting circuits, Fire alarms, Heating Circuits
1.5 sq.mm. (green/yellow)	Lighting circuits E.C.C.
2.5 sq.mm.	Socket outlets, immersion heater circuit, Fixed app.
2.5 sq.mm. (green/yellow)	Socket circuit E.C.C., Immersion heater circuit, PV Panels, E.C.C., All bonding leads except where a larger size is specified.
6.0 sq.mm. (green/yellow)	Cooker & shower circuit, E.C.C.
6.0 sq.mm. 10sq.mm	Cooker circuit, Heat Pump, (as per manufactures spec.), EV Charger Shower Circuit
10 sq.mm. (green/yellow)	Main bonding lead to watermain and gas main.
16 sq.mm.	Tails from meter to consumer unit in 1- and 2-bedroom flats.
16 sq.mm.	Tails from meter to consumer unit in 3-bedroom flats and houses.

7.2 FITTINGS

All fittings and surface mounted boxes shall be of rectangular pattern with standard fixing centres, shall be white in colour and to the approval of the Engineer. All boxes sunk in walls shall be metallic with earth stud. Switches shall be of rocker arm pattern. Sockets shall be shuttered 13A, 3 pin as clause 7.15. Lamp holders shall be B22 and T2 rated. In the kitchen, the sockets shall be switched.

Certificates from independent test houses shall be available for all fittings to show that they comply with the appropriate standards.

Samples of all fittings shall be submitted to the Architect for approval.

7.3 TRUNKING: PVC

The trunking used shall be to B.S. 4678 Part 4 marked with the classification code 305. Where trunking is used horizontally on a wall it shall extend the full length of the wall from corner to corner and not be terminated halfway. Trunking runs shall be agreed with the Engineer prior to starting work. Proprietary made trunking accessories shall be used for all bends, tee-offs and the like. Trunking runs shall be of continuous lengths. The number of wires on any one run shall not exceed the limits set down in the NSAI Wiring rules. Trunking shall be fixed at not more than 0.4 metre centres.

7.4 CONDUIT:

A 20/25mm diameter round non-metallic conduit to B.S. 4607 shall be installed for switch and socket drops. The conduit shall enter each box for at least 5 mm. and shall extend at least 100 mm. into the ceiling cavity. In walls which are chased to receive it, the conduit shall be secured, to the satisfaction of the Clerk of Works/Inspector, with a hard sand and cement mix to within 6 mm. of the finished plaster by the main contractor. On walls which are to be dry-lined the conduit shall be secured by means of crampets or saddles, spaced in accordance with NSAI wiring regulations. Wiring shall not be drawn into conduit until the plastering is completed. In the case of studded wall (timber or metal) wiring should be installed in accordance with Section 522 of the N.A.S.I IS10101:2020

In the case of timber frame house, flexible conduit of 20/25mm diameter will be required on all drops that are from ceiling down to electrical outlets.

In the case of all main electrical/tv/telephone cables leaving the dwelling to a service/meter boxes, they must be protected by flexible conduit.

7.5 BOXES:

Switch and socket outlet boxes shall be metal with earth terminal. They shall finish, flush with the finished wall surface. They shall comply with B.S.4662:2006 and have their compliance verified by ASTA.

On walls which are to be dry-lined, or in studding, boxes shall be fixed in position with two non-corroding woodscrews. On walls which are to be rendered and skimmed the boxes shall be fixed either by two non-corroding woodscrews or a hard sand and cement mix. Neither "HILTI" type fixings nor Masonry nails shall be used in any event. Plaster depth boxes shall not be used.

7.6 EARTHING:

All metal clad Consumer units, switchgear and fittings, socket outlets, control switches and appliances shall be earthed and neutralised to comply with the most recent National Rules for Electrical Installations, published by the NSAI. Where the E.C.C. of twin and earth PVC/PVC cable is exposed within a box it shall be covered by a green/yellow PVC sleeve. The earth terminal of the metal box shall be connected to socket outlet earth terminal using 2.5 sq mm ECC.

The bath/shower shall be earthed and all extraneous metalwork in the bathroom including hot, cold, waste pipes, shower hot and cold feed pipes and the outlet pipe of the mixer valve, central heating pipes and radiators (using a purpose made connector) shall be bonded to it by means of a looped cable. Where the pipework is plastic this need not be done, however it should be checked to make sure that no external influences might cause continuity between radiator, bath etc. This may happen using foil backed plasterboard or metal struts. Where metal is shown above the floor and forms part of part of a plastic/metal system it shall be bonded means of a looped cable. This is to be in accordance with section 701.544 of the regulations.

Under No circumstances is the bath to be covered in or the shower pipework covered without the earthing/bonding having been first inspected by the Inspector. All electrical work in the bathroom or its environs shall comply with section 701 of the National Rules for Electrical Installations.

The kitchen sink shall be earthed with a 2.5 sq.mm earth continuity conductor, connected to the earth terminal of the most adjacent socket outlet, and all metallic hot, cold and waste pipes shall be bonded thereto. Main bonding leads of 10 sq.mm. shall be connected to the metallic water service pipes and to the central heating pipes in the hot press and to the Gas service at the boiler position. All metallic pipes in the linen (hot) press shall also be bonded together. These connections shall be made using manufactured clamps labelled "SAFETY ELECTRICAL EARTH-DO NOT REMOVE". All metalwork, even new copper piping, shall be thoroughly cleaned and scraped before the bonding clamp is fitted to ensure a good electrical contact.

The Earth bar of the consumer unit shall be used in place of a separate external neutral block. It shall be fitted with two double screw terminals to accept the incoming 10 sq. mm. main earth lead and the 10 sq. mm. neutralising lead to the approval of the Architect.

A separate 1.5 sq mm earth continuity conductor shall be brought to and looped to all lighting points, including the switch boxes, of the downstairs lighting circuit. It shall be terminated in each case on one terminal of a three-plate flange holder/pendant. Similarly, a separate 1.5 sq mm earth continuity conductor shall be looped to each of the lighting points, including the switch boxes, on the upstairs lighting circuit.

A 10sq mm earth lead shall run from the earth electrode which shall be a galvanised earth rod not less than 16 mm. in diameter, 1.4 m. long, sunk vertically for its whole length outside the front wall of the house. Please note that the earth rod shall be not less than 1.4 m. long. The connection to the earth electrode shall be made by means of a non-ferrous clamp protected by an approved water-repellent tape and enclosed in a flush mounted galvanised adaptable box measuring 100 mm. x 100 mm. x 50 mm. minimum. The earth lead shall be protected by a 20 mm. "Hydrodare" tubing or equal to the approval of the Architect throughout its length. The tubing shall be securely fixed to the box protecting the earth clamp by means of a fitting and locknut. The top of the box shall finish flush with the finished ground surface and the lid shall be securely fastened with screws. The main earth lead shall not be installed in the tubing until the box has been set in the concrete and the concrete hardened. Earth rods of adjoining dwellings shall not be driven closer than 3 m. to each other.

Connections of bonding leads to pipes and of the earthing lead to the earth rod shall be made by means of approved clamps. All earthing clamps shall be of an approved non-ferrous design having a separate terminal for the cable. Pipes must be thoroughly scraped and cleaned before a clamp is fitted.

7.7 Distribution Board:

At the main distribution position, the distribution board shall be easily accessible to the end user and shall not be installed in utility rooms, where it may be covered by garments in bathrooms or under a staircase. All circuits shall be terminated in a new Distribution board complete with front lid/door with the required circuit capacity. The consumer unit shall be rated at 63 Amp. Single phase and shall incorporate the following: -

63A double pole MCB with a rupturing capacity of 9kA, unit shall be located electrically between the incoming main supply in meter box.

where the length of the main supply cable is greater than 3 metres from the entrance. A 100A double pole isolating switch shall be located at the distribution board, The main 63A MCB overcurrent protective device shall be installed in the ESB meter cabinet and housed in a IP65 rated enclosure completed lid/door. See 462.5 I.S. 10101:2020

A 63A double pole differential current operated balanced core type earth leakage circuit breaker (RCD) of 30mA tripping sensitivity.

Spare spaces to allow for additional MCBs and RCBO's in accordance with IS 10101:2020.

Anti surge protection is required on the incoming electrical services. The surge protection must have an indication window and be fitted with a replaceable cartridge.

An Arc Fault detection device (AFFD) may be required on equipment needing fire protection (Cooker Circuit). See 421 I.S. 10101:2020.

Each outgoing circuit shall be protected by a miniature circuit breaker (M.C.B) or residual current device (RCD) having A type tripping characteristics and a short circuit rupturing capacity of 3 kA in accordance with VDE 0641. The outgoing circuits are listed elsewhere.

The unit shall be in fire retardant plastic or a metal enclosure and shall either be closed at the back or a purpose designed back plate shall be supplied. Unused spaces on the front of the enclosure shall be securely blanked off. Separate neutral bars shall be provided for the circuit's independent of the R.C. D's. and for those controlled by it.

Each neutral bar shall have two double screw clamps (preferably of the type which allows both screws to bear on the conductor simultaneously). Each double screw clamp shall be capable of terminating a stranded 16 sq mm cable and lug. The neutral bars shall have a separate way available for each outgoing circuit including possible future circuits, up to the maximum capacity of the unit. Each neutral bar shall have a minimum no of ways to accommodate the following stranded copper cables and lugs; 2 no 16 sq mm, 2 no 6 sq mm and 10 no 2.5 sq. mm.

An earth bar shall be provided having two double screw terminals of the type described above for the main neutral bar. The earth bar shall also have an appropriate number of ways available for the connection of outgoing circuit protective conductors and the bonding leads.

All internal cable connections within the unit shall be made in correctly colour coded insulated flexible cable having crimped lugs at each end. All parts of the phase and neutral conductors within the unit shall be adequately insulated from each other and from the general mass of the earth. All fuses, switches, M.C.B.'s and RCD's within the unit shall be mounted on DIN rail. The unit as a whole and its components shall comply with the requirements of the ESB and with the "National Rules for Electrical Installations" published by NSAI

The height of the consumer unit /main isolating unit shall be no more than 2.15 metres from the finished floor level to the top protective device of the unit. This applies to both surface and flush units. This must comply with current wiring rules. See 530.6 I.S.10101:2020

Where a FLUSH consumer unit indicated on drawings is to be fitted. Where this situation or need arises it shall be discussed on site with Electrical Inspector before installation.

7.8 CIRCUIT ARRANGEMENTS

The following outgoing circuits shall be independent of the RCD:

NO	CIRCUIT	RATING (Amps)
1.	Lighting Circuit 1. /Kitchen Fan	10A RCBO
2.	Lighting Circuit 2 /Attic	10A RCBO
3.	Cooker Circuit	32A
4.	Gas Boiler/ Carbon Monoxide Detectors	10A RCBO
5.	Bathroom and Fan	10A RCBO
6.	Smoke and Heat Detectors	10A
7.	Spur for gas cooker	10A
	Solar Heating/MVHR	If required

The **following** outgoing circuits shall be controlled by the RCD:

NO	CIRCUIT	RATING (Amps)
8	Kitchen Socket Circuit 1	20A
9	Kitchen Socket Circuit 2	20A
10	Radial Socket Circuit 1	20A (where required)
11	Radial Socket Circuit 2	20A (where required)
12	Immersion Circuit	20A
13	Shower Circuit	40A RCBO (if installed)
14	Ring main circuit	32A (if installed)
15	Stair Lift	20ampRCBO (if req.)
	PV panels, Heat Pumps, EV charger	If required and manufacture's recommendations

7.9 LIGHT SWITCHES:

Light switches shall be flush type rocker arm 5A switches to EN 60669-1. The switches shall be fitted 1.2 m. from floor level and shall be secured with chrome plated cup head screws. They shall comply with E.N. and have their compliance verified. In the case of the attic light it will be switched by an indicated double switch located on the landing

In senior citizen and disabled persons one storey dwellings two-way switching shall be installed in each bedroom, and in other locations as indicated on the drawings.

7.10 LAMP HOLDERS:

Pendant lamp holders shall be white "cord grip" type with solid plungers. Batten holders shall be white Bakelite type. Lamp holders in toilets and porches shall have a deep white insulated shield. They shall comply with B.S. and have their compliance verified by ASTA.

Where a batten holder is used as a porch light, it shall be mounted on a ring, which finishes flush with the finished plaster, and be securely fixed to wooden grounds. The expanded metal shall be cut so that no part of it lies inside the ring between the grounds and the lamp holder.

All lamp holders shall be rated to the T2 temperature rating.

7.11 CEILING ROSES:

Ceiling roses shall be in white Bakelite of the three-plate pattern. They shall be securely mounted to wooden grounds above and be of the requisite depth to finish flush with the finished ceiling. The ceiling rose shall be wired in such a way to ensure that none of its terminals remain live when the light is "off". They shall comply with E.N standards and have their compliance verified. They shall have a T2 temperature rating.

7.12 BATHROOM/STOREROOM/CUPBOARD/HOT PRESS LIGHT FITTING:

Bathroom fitting are to consist of 1 LED fitting to IP 65(Thorn Club or equivalent). It shall be wired on its own circuit fed by a 10-amp RCBO.

In existing dwellings where no wiring is to be carried out, the bathroom light fittings shall be white circular LED luminaries.

7.13 FLEXIBLE CORDS:

All flexible supporting C.G. holders shall be twin heat resistant PVC insulated, white PVC sheathed flex to E.N standards, of best quality and not less than 0.75 sq. mm. cross section.

7.14 PORCH LIGHT:

The porch light shall be a circular bulkhead fitting with strong polycarbonate prismatic diffuser to IP65 with a LED fluorescent lamp (Thorn Club or equal).

7.15 SOCKET OUTLETS:

All socket outlets shall be white flush mounting shuttered three pin 13A type conforming to E.N 60309. They shall have their compliance verified. Socket outlets in the kitchen shall be switched. Socket outlets in the kitchen shall be mounted 1.2 m. above floor level at counter top and in all other rooms shall be mounted 450mm from finished floor level. Sockets shall be secured by cup-head chrome plated screws.

In senior citizen and disabled persons one storey dwellings all socket outlets shall be mounted at 1.0 metres above floor level. (Except at worktop level in kitchen)

All sockets in the kitchen that are covered by appliances e.g., Wash machine, fridge, dish washer, cooker hood shall be controlled by a separated 20-amp double pole switch that is located remotely to allow easy electrical isolation. And shall be labelled accordingly. This does not apply to existing dwellings where no new wiring is been carried out.

7.16 COOKER SWITCH:

In the kitchen were shown on the drawings, at a height of 1.2 m. above floor level directly beside the cooker fit a 45A/60A white flush mounted cooker switch of approved pattern. A 20mm. conduit shall be sunk in a wall chase from the cooker switch to a point centrally behind the cooker 0.5 m. above floor level and shall terminate in a correct cooker connection unit.

A spur outlet is also to be provided next to the cooker connection unit, fused at 3amps for a supply to a gas cooker. It shall be wired in 1.5sq mm T+E from the spur to the consumer unit and be fed from the non ELCB side of the board. It shall be controlled by a switched spur located remotely, adjacent to the cooker position.

7.17 COOKER HOOD OUTLET:

A flush mounted 13amp socket, shall be provided over the cooker position and 300mm from the ceiling. A 20mm conduit shall be sunk in a wall chase from the outlet box to the nearest socket point. This outlet shall be wired off the nearest kitchen socket point in 2.5 sq. mm. T+E PVC insulated cable. This is to be controlled at worktop level via 20-amp double pole switch.

7.18 IMMERSION HEATER:

A standard 32 mm. deep outlet box with 20 Amp. Dual Switch with neon indicator shall be provided outside the hot press at a position as shown on the drawings or as determined by the Architect on site. The Dual Switch shall be to E.N standards. A 610 mm. 3kW/2kW Dual Immersion heater to EN 60335.2.73 shall be installed in the hot water cylinder and connected to the Dual Switch by suitable heat resistant flex. The flex shall exit the back of the outlet box and pass through the stud partition to enter the hot press just below the bottom most shelves. The flex shall be clipped neatly along the sides and shelf of the hot press so that the flex does not touch the side of the cylinder itself. The cylinder shall be installed in such a way that the immersion group faces towards the non-hinged side of the hot press door opening.

In the case of apartments, a 3amp supply will be required for a pump for a combination cylinder. This also may change the type of immersion that is been installed and any wiring shall be arranged accordingly.

7.19 SHOWER CIRCUIT:

The shower/bathroom shall have a ceiling mounted 45 Amp Double pole Switch pull cord switch with neon and mechanical ON/OFF indicator of approved pattern, it shall be provided inside the bathroom/shower room at a position as shown on the drawings or as determined by the Architect on site.

Where it is not practicable (as determined by the Inspector) a standard 32 mm. deep outlet box with a white flush mounted 45 Amp Double pole Switch with neon indicator of approved pattern, MK 5205 or equivalent, shall be provided outside the bathroom/shower room at a position as shown on the drawings or as determined by the Architect on site.

7.20 SHOWER FITTINGS:

Electric Shower fittings shall be one of the following.

In most case a cold feed only from a storage tank is specified, the shower fitting shall be an 8.5 KW electric shower with integral pump as Triton Safeguard pump assisted or equivalent.

All showers that exceed 7.5kw rating to be wired in 10sqmm T+E.

An alternative shower to be used in special cases will have a hot/cold water feed. It will only consist of a pump getting its hot water supply from the cylinder in the hot press. The unit will be wired as for an instant electric shower, with the RCBO rated lower to 10 amps. This unit is a Triton Novel SR or equivalent.

Shower fittings shall be installed as per manufacturers' instructions. General specification of these and other shower fittings can be found in the general specification.

7.21 TELEVISION AND TELEPHONE OUTLETS:

In the positions indicated on the drawings a standard metal flush box with white plastic cover shall be located as per drawing with an outlet in the living room and one in the main bedroom. A co axial cable to Specification Series 6 (T6TSFx77-U White Special DBS) shall be wire between each outlet and the Virgin media external box.

Similarly, a cat 6 cable shall be fitted between a flush metal box with a blank PVC cover locate as shown on the drawing and the external EIR box.

7.22 METER CABINETS:

A meter cabinet of standard E.S.B. size not less than 600 mm. high x 400 mm. wide x 170 mm. deep shall be supplied by the Builder. This is to accommodate ESB cut-out, Meter and Isolator. The ESB require that customer tails enter from bottom right-hand corner of meter cabinet. Cable runs adjacent to Polystyrene (Aero board) Insulation or foam to be sleeved in flexible conduit.

7.23 INTERNAL FIRE ALARMS AND CARBON MONOXIDE DETECTORS

FIRE DETECTORS:

The minimum level of protection for dwelling houses up to three storeys or for any individual apartment/flat or maisonette shall be LD2 installation as set out in IS3218:2019.

All detectors to be wired in KD 415 cabling.

A Category LD2 system shall comply of a Grade D installation which consists of self-contained powered smoke and heat detectors with battery backup and interconnected.

They shall be located in

- 1) All circulation areas that form part of the escape route within the dwelling
- 2) All high-risk areas/rooms e.g. Kitchen, living room, garage
- 3) All bedrooms

Smoke detectors shall be fitted in items 1 and 3 and heat detectors fitted in item 2 as shown above.

A Certificate of design, installation and commissioning of the fire detection system will be submitted with each installation in accordance with is 3218: 2019 (Annex K). See page at end of specification.

The Detectors shall be to EI 3000 series or equivalent. They shall have a manual test button, a low power warning and be of tamper-proof construction. A control switch EI 1529RC or equivalent shall be fitted under the consumer unit, this will allow the detectors to be tested and silenced without having to get up to anyone of the detectors.

These Detectors will be wired independently of the CO detectors on their own circuit and link together only to activate Smoke and Heat Detector only.

In case where heat recovery/ventilation systems are being installed in the attic/storeroom, a smoke detector must be fitted here with an EI 128 relay base or equivalent. The reason for this is that in the event of a fire and the smoke detector being activated it will interrupt the power supply to the heat recovery/ventilation system.

CARBON MONOXIDE DETECTORS:

All works in relation to CO detectors must comply with Part J of the Building Regulations. A minimum of three Carbon Monoxide detectors are to be fitted (EI 3018 or equivalent). One in the kitchen close to the boiler location, this is the case for most installation but if the boiler is in a different location within the dwelling the detector will be fitted there and the other in the living where an open fire place is fitted and one on the landing outside the bedrooms (not exceeding 5 metres from the doors); these are fitted in conjunction with the existing fire detectors and are not **replacing** them. **These CO detectors are wired and interlinked independently of the Smoke Detectors on their own circuit.** In addition, there will be a relay base fitted that in the event of a CO detection, the boiler will shut down as required in the IS 813 for boiler installation.

An additional smoke, and CO detector shall be fitted where a newly built extension area and interconnected with the other detectors as required above. The position of these detectors will vary with the extension layout but will generally be in the extension lobby area; however, the CO detector may be fitted in the new bedroom if this is part of the extension.

In the cases of Apartments that have a common stairway, an alarm system shall be provided in accordance with the IS 3218:2019, Building Regulations and the fire certificate documentation.

In existing dwelling where specified and agreed with the Electrical Inspector the use of a battery-operated radio frequency type detector may be used, (EI 600 series) which must be interlinked with two mains powered fire alarms.

An EI 208W RF CO detector may be agreed with the inspector in existing dwelling on a case-by-case basis.

7.24 HEATING INSTALLATIONS:

Central Heating

Generally, the heating system, specified elsewhere, will consist either of, Gas, Oil or Wood Pellet.

Each heating system of a new building must comply with latest copy of the Building Regulations. This calls for the use of mini valves as stated below. **This system should be taken as part of the electrical contract.**

All heating systems will be fed from a 10-amp RCBO.

Using Motorised Valves:

Up to 3 Bedroom dwelling:

This installation shall consist of a 20 Amp unswitched fused spur outlet, fused at 3A. A room thermostat, a cylinder thermostat, an integrated wiring centre with a click plug system and a domestic heating 2 channel control time clock – CTC or equivalent.

The fuse of the spur outlet shall lie horizontally and positioned to be easily removed. The spur outlet and time clock shall be surface mounted as close to the boiler as possible but not directly under it. Flex to boiler terminal block shall be mechanically protected either being run in conduit chased in the wall or in surface mounted trunking as determined on site.

In each house an approved thermostat shall be located as shown on the drawing. It shall be surface mounted over a standard square flush gang box and wired from the clock via the room stat to the hot press to the wiring centre in 1.5 sq. mm. PVC/PVC cable through 20 mm. uPVC conduit or trunking.

The motorised valves (2 port CTC EZIFIT or equivalent) shall be mounted in the hot press. It will be wired in PVC/PVC with separate ECC from the clock position to the hot press and shall be mechanically protected either being run in conduit chased in the wall or in surface mounted trunking as determined on site and connect into the integrated click plug wiring centre. The motorised valve will be supplied with a HR flex 2 metres in length which will be terminated via a wiring centre with a manufacture click plug attached to one end of the flex located in the hot press.

The integrated click plug wiring centre shall be mounted in the hot-press with a fixed strip terminal block with capacity for all circuit connections. This terminal connector block shall be marked to show the relevant connections for the all the ancillaries to be connected.

From the clock 1.5 sq mm PVC insulated cables and 1 number 1.5 ECC shall run in 20 mm PVC conduit chased in the wall or trunking and through the ceiling cavity and wall partitions to the immersion press and shall terminate in the wiring centre mounted below the lowest shelf. The cylinder stat flex shall be mechanically protected as far as possible and follow the run of the pipe work where necessary. The standard outlet box shall be positioned so that the flex does not need to be extended or jointed.

In the case of a four-bedroom house the heating will have to be broken into three zones.

Zone 1: for the Hot water

Zone 2: for all rooms except Bedrooms

Zone 3: for all bedrooms

Each zone will be controlling a two-port valve. The heating zones will have a room stat fitted on the ground (usually hall) and in the main bedroom controlling the zones independently. The system will be controlled by a CTC 3 channel timer or equivalent.

NOTE 1:

A 20 mm PVC conduit shall be installed between the gas meter position and the swipe card position where necessary.

A cable should be drawn through this conduit and left long enough for Bord Gais to make their connections to their equipment. The type of cable is to be determined by Bord Gais.

NOTE 2:

All equipment used i.e. clock, room and cylinder stat and motorised valves and integrated wiring centre shall be CTC or equivalent all to the requirements of the Electrical/Mechanical Section of Fingal County Council.

NOTE 3:

In the case of oil/wood pellet heating and the boiler being located externally the type of cable will be determined by the distance of the boiler from the dwelling, SWA or armoured flex. All buried cables to be laid in accordance with ETCI rules. A frost stat is required to protect all external heating equipment and piping.

Solar heating

Where solar heating is specified, a 20 amp non switched spur supply (fused as per manufactures recommendations) will be required in location shown on the drawings, the control unit will also be located as shown. Any control wiring that is required is to be done to meet both the ETCIs and the manufactures/supplier's guidelines.

Heat Recovery/Ventilation

Where heat recovery/ventilation is specified, a 20 amp non switched spur (fused as per manufactures recommendations) supply will be required in location shown on the drawings; the control unit will also be located as shown. Any control wiring that is required is to be done to meet both the NSAI and the manufactures/supplier's guidelines. Refer to section 7.23 in relation to fire protection.

Heat Pumps

Where heat pumps are to be used in the dwelling, all loads, cable sizes, isolators, and control wiring to be wired as per manufactures guidelines and the NSAI 10101:2020.

7.25 INVALID ALARM:

The system shall be low voltage 230v A.C. to 12 D.C. by means of a battery standby power unit mounted beside M.C.B. Board and fed through 6 amps MCB outside ELCB protection. An external sounder (weatherproof) shall be mounted along with over door indicator light in appropriate location. Wiring to be at least .5 sq. mm P.V.C./P.V.C. of approved type and quality for low voltage. All wiring shall be drawn in through had P.V.C. conduit if laid in floor slab or in wall chases. Wiring in attic spaces to be double insulated clipped at appropriate intervals. Cables run through block walls to be shrouded in hard P.V.C. conduit. Equipment should be as supplied by Kestral panel or equivalent.

Equipment to be fitted in Dwelling.

- A. Ceiling mounted pull cords/press switch-pull cords (Reactive Type)
- B. A reset unit to be mounted in hall at panel. This unit to include flexible lead with pear push.
- C. Key switch to be mounted in hall for interruption of circuit to external sounder.
- D. Over door indicator bell/light to be mounted in fascia board beneath rainwater gutter.
- E. Internal buzzer to be mounted on landing of first floor of 2 storeys.

Operation:

On activating the pull chord of a particular room, the internal buzzer, external sounder and over door indicator light will function. These units will continue to operate until the system is reset. The system can only be cancelled with the use of the key switch which is located on the panel in the hall.

Standard fittings for an invalid's house

- A. All lighting switches on ground floor only to be large rocker type (Le Grande Avalon Type) or equivalent. These unite to be mounted 1000mm above first floor level.
- B. Consumer Unit to be mounted at low level 2100mm(top) above first floor level in hall.
- C. All power points to be mounted 800mm above first floor level on ground floor only or to the OT requests.

7.26 SPACE HEATING - STORAGE HEATING:

Where storage heating is specified, the following shall apply;

Where the existing meter is installed inside the house arrangements must be made by the contractor with the ESB to have a night rate meter installed. A second baseboard shall be fitted adjacent to the existing baseboard to accommodate the ESB night rate meter, ESB clock and the storage heating consumer unit. This consumer unit shall be fitted with a 63A single pole main switch; a 63A Neozed main fuse unit fused at 50A, a 63A ELCB of 30 mA tripping sensitivity and a 20A MCB per storage heater. The Earth bar of the storage heating consumer unit shall be connected to the earth bar of the existing consumer unit. Tails of 16 sq mm PVC/PVC with 10 sq m ECC shall be run from the storage heating consumer unit to the night rate meter position and left for the ESB to connect.

Where the existing meter is installed externally in a meter enclosure the following shall apply:

Where there is enough room to accommodate the ESB night rate meter and ESB clock. Arrangements must be made by the contractor to have these installed by the ESB. A second baseboard shall be fitted adjacent to the existing baseboard to accommodate the storage heating consumer unit. This consumer unit shall be fitted with a 63A single pole main switch, a 63A Neozed main fuse unit fused at 50A, a 63A ELCB of 30 mA tripping sensitivity and a 20A MCB per storage heater. The Earth bar of the storage heating consumer unit shall be connected to the earth bar of the existing consumer unit. Tails of 16 sq mm PVC/PVC with 10 sq mm ECC shall be run from the storage heating consumer unit to the night rate meter position and left for the ESB to connect.

Where there is not enough room to accommodate the night rate meter and ESB clock. Arrangements must be made by the contractor to have the metering changed by the ESB to a dual meter (general purpose night saver tariff). A second baseboard shall be fitted adjacent to the existing baseboard to accommodate the storage heating consumer unit. This consumer unit shall be fitted with a 63A single pole main switch, a 63A Neozed main fuse unit fused at 50A, a 63A ELCB of 30 mA tripping sensitivity, a 6A MCB (controlling the contactor), a 20A contactor (with number of poles equal to the number of storage heaters to be installed up to a maximum of 4 pole) and a 20A MCB per storage heater. The Earth bar of the storage heating consumer unit shall be connected to the earth bar of the existing consumer unit. A 1.5 sq mm PVC/PVC brown coloured switching pair shall be run from the storage heating consumer unit to the dual rate meter position and left for the ESB to connect.

Space heating shall be provided by a storage heater. This heater shall be rated 2.55KW as white coloured Dimplex Quantum or equivalent

Each storage heater shall be on a separate circuit and shall be wired in 2.5 sq mm cable. The cable shall run through the joisting in the ground floor ceiling void of the original dwelling and of the extension. 20mm Conduit shall be sunk in a wall chase and run to the position shown on the drawings and end in a standard outlet box 300mm above floor level. A switched flex outlet fitted with a cord grip shall be provided.

7.27 INFRA RED/FAN HEATING - SPACE HEATING:

Where it is decided to fit a heater in the bathroom a standard 32 mm. deep outlet box with a white flush mounted 20 Amp Double pole Switch with neon indicator of approved pattern, shall be provided outside the bathroom/shower room at a position as shown on the drawings or as determined by the Architect on site.

A flush mounted flex outlet plate with pillar type terminals shall be provided adjacent to the heater position and fitted tight to the ceiling. Heat resistant flex shall be used to connect the heater to this flex outlet.

The heater shall be either a Fan heater (Dimplex Tangoheat FX20 or equivalent). This heater shall be wall mounted in the position as shown on the drawings or as determined by the Architect on site. On-Off control shall be by pull cord.

7.28 EXTRACT FANS:

In the case of dwellings, (e.g. duplexes or apartments) where assisted ventilation (AV) is specified, a low wattage fan use in conjunction with the passivent system to help air flow. The fan can be wired as part of the lighting circuit with a remote means of isolation. The fan should be a passivent system A151 or equivalent.

In dwellings where extraction from a bath/shower/WC room is specified a centrifugal filterless extractor fan Ventac Eco Air/ Vent Axia Lo Carbon Centra or equivalent be ceiling/wall mounted outside Zone 1 and extracted through a flexible 100 mm insulated duct. These fans shall run continuously and will ramp up their speed and volume of air changes automatically as required via a Humidity stat. All aspects of the building regulations must comply. The fans come in both 230v and 12v. This unit must comply with the NSAI wiring rules for bathroom (section 701) and the manufactures' guidelines and be 12v rated supply via the correct rated transformer (existing dwellings). For rewires and new installation, it shall be 230v wired as part of the bathroom lighting circuit and fed by a 10 amp RCBO. The Bathroom fan should be fitted with an isolation switch to allow maintenance to take place.

The fan circuits should be wired independently on there own MCB were permissible. As from the Fifth Edition NSAI I.S. 10101:2020, fans must 12 volts rated on an MCB or 230 volt rated if fed by a RCBO.

In cases where extraction is specified in the kitchen a Ventac Décor/ Vent Axia Lo Carbon Silhouette 150 or equivalent be ceiling/wall mounted and extracted through 150mm duct. These shall be either individually fed or taken for the kitchen lighting circuit; it should be fed through an isolation switch for maintenance. These are switched on as required via an on/off Switch.

Each external vent outlet shall be fitted with a weathering cowl as Ventac VL/102 or equivalent.

7.29 HARD OF HEARING PERSON'S BELL:

This shall consist of a 230/12V bell transformer, with a relay switch, two batten holders with 25-watt red golf ball type lambs on the 230V side and a bell push and chime on the 12V side. The batten holders shall be fitted over the doorways in the kitchen and living room. The chime shall be fitted adjacent to the consumer unit.

7.30 DOORBELL:

Each dwelling shall be provided with a doorbell system. This will consist of an 8VA modular bell transformer installed in the consumer unit, the bell wire shall be left taped up at the door and beside the consumer unit. It will be the responsibility of the tenant to supply the push button and a bell, for them to install if they require.

7.31 DOOR INTERCOM SYSTEM:

The door entry system shall consist of an apartment unit in the dwelling, vandal and weatherproof metallic door station panel, control unit and associated cabling. The system to be installed shall meet all relevant standards and the approval of the engineer. Cables shall be run in 20 mm conduit.

7.32 SHAVER SOCKETS:

Shaver sockets must comply with BS 4573:1970 and must be positioned in zone 3 for bathrooms as per ETCI regulations. They shall be wired in 1.5sq mm cable off the adjacent lighting point. They shall be flush mounted. They shall permit dual voltage 115/230V operation and shall be clearly labelled, as per MK 701WHI or equivalent.

7.33 PUBLIC LIGHTING:

Public lighting is specified separately.

7.34 LIGHTNING PROTECTION:

Where lightning protection is specified, anti-surge protection will be required on the incoming electrical services.

7.35 LANDLORDS SUPPLIES:

In apartment blocks where there is a common entrance or stairway lighting will have to be provide as shown on the drawing and supplied from a central location. It will have a timed lighting system so it cannot be left on permanently. The type of fitting to be use will be a 16w/28 2D LED fitting with an emergency back up. The use of illuminated exit signs will also be required. All sockets located in common areas shall be fitted with a 20A double pole Key switch, that will only allow access for use by maintenance contractor/Landlord.

7.36 INTRUDER ALARMS:

All alarm cables to be used must be PVC/PVC 6 core cable of an approved alarm type. Each window and external doors will be wired individually and a panic button in the main bedroom. The remote keypad will be located at the front door and wired accordingly. The outside bell will be located as shown on the drawings as will be the location of the alarm panel. The colour of the cables will be determined by the colour of the windows and doors.

Note: The dwelling will only be wired for the alarm system, it will be the responsibly of the dweller to fit and maintain their own alarm system.

7.37 STAIRLIFTS

The stair lift shall be wired by its own circuit directly taken from the fuse board to the location required by the installer. It shall be wired in 2.5 sq mm T+E cable and fused by its own 20amp RCBO. The cable shall be left terminated in a 13amp Switched Spur Outlet located as required. All metal work must be earthed in accordance with the manufacture's guidelines. If any extra control wiring is required, this must be completed with the manufacture's specification.

7.38 CAR CHARGING POINTS

Domestic Dwelling

A Car Charging Point may be wired in each dwelling. It shall comply with the Current edition of the wiring rule and any specification require by Fingal County Council. It shall be located as agreed by the Architect or their representative on site. The wiring shall be done in 6sqmm T and E with a 32-amp RCBO. A 4-core screened Beldin cable shall also be fitted between the Outlet and the Consumer unit. A single-phase energy meter rated for 63 amps will be fitted between on load side of the main fuse and the consumer units local MCB's and RCBO's. This will control the demand on the car charger as the load in the dwelling increase. The outlet shall be a European Type 2 rated for a max 7.4 Kw. It shall have DC monitoring built into the unit, as well as an option of RFID and WIFI. The unit will be like GARO GLB wall box or equally approved and the Dynamic Energy meter similar to GARO GNM 1 D-RS48.

On Street Charging

Where on street parking EV is required, It shall be wired in accordance with IS 10101. 2024.And ESB interface documents. The charging unit will consist of a twin pedestal until (2 X 22KW. similar to Circontrol Evolve charging unit. The unit must be fully OCCP compliant so that it can be operated by Fingal County Council Back-office supplier. Depending on the supply point where it may be stand alone supply or taken from a landlord supply, in the case there are multiple charging point a load management system must be fitted. This may be achieved by hard wired system ie. Cat 6 or Via cloud-based system. All infrastructure must comply with current planning conditions. Cabling sizing shall be identified at design stage. All external equipment must meet the correct the IP rating. Where the supply point is a stand-alone unit fed from the ESB mini pillar a double door metered pillar must be fitted as per the ESB code of practice. Where equipment is installed, it must be mounted to minimise hazards to pedestrians.

7.39 PV PANELS

Where the installation of PV panels has been fitted to a dwelling, they should be size and orientated to generate there maximin output. The installation will comply with both NSAI I.S. 10101:2020 and the manufactures recommendations. A load meter shall be fitted in the consumer unit and a lock stop clearly visible located outside the dwelling. A NC6 form shall be completed, and a copy sent to both FCC and the ESB networks. All Micro Generation unit must comply to EN 505549. Attaching the type test cert and manufactory's data sheet to the electrical inspector. Where Solar PV has been installed the distribution board shall have a solar PV warning as should the ESB meter cabinet.

SCHEDULE 1

ELECTRICAL OUTLETS TO ONE BEDROOM DWELLINGS_____

Location	Lighting		Sockets		Other Outlets	
	Points	Cir. No.	Points	Cir. No.	Points	Cir. No.
Hall	1	1	1 twin	14	Smoke Detector Room Stat Fire test Sw. Alarm Panel Telephone Point	6 4 6 2
Kitchen/ Dining Room	1(2way if required)	1	1 single * 3 twin switched 2 single # 2 twins(dining area)	8/9	45-amp cooker switch Heat Detector CO Detector Heating Circuit Spur for gas cooker. Fan	3 6 4 4 7 1
Living Room	1	1	3 twins	14	TV point Smoke Detector CO Detector	 6 4
Bedroom	1 2 way switching	2	3 twins	14	TV point Smoke Detector	 6
Bathroom	1	6 16-watt 2d fitting			Fan	5
Front Door – External	1	16-watt 2d fitting/2				1

Back Door – External	1	Bulkhead fitting/2				1
Hotpress					Immersion Cylinder stat/mini valves	12 4
Attic	1	1	1			

SOCKET HEIGHT - 800MM

SWITCH HEIGHT - 1000MM

*A high-level socket to be provided for cooker hood with isolating switch at worktop level.

#2 Low level sockets to be provided in space provided by Contractor for washing machine and fridge with isolating switch at worktop level.

SCHEDULE 2

ELECTRICAL OUTLETS IN 2 BED, 3 BED & 4 BED DWELLINGS_____

Location	Lighting		Sockets		Other Outlets	
	Points	Cir. No.	Points	Cir. No.	Points	Cir. No.
Kitchen / Dining Room	2 (1-2way if required)	1 1-2way	1 single * 3 twin switched 2 single # 2 twins(dining area)	8/9	45 amp cooker switch Heat Detector CO Detector Heating Cir. Spur for gas cooker Fan	3 6 4 4 7 1
Living Room	1 (2 if required)	1	3 twins	10	TV point Smoke Detector CO Detector	 6 4
Bedroom 1	1	2	3 twin	14	TV point Smoke Detector	 6
Bedroom 2	1	2	3 twin	14	Smoke Detector	6
Bedroom 3 / 4	1	2	2 twin	14	Smoke Detector	6
Hall	1 (2 way if required)	1	1 twin	10	Smoke Detector Room Stat Fire Test Sw. Telephone Point	6 4 6 6
Landing	1 2way	1	1 twin	14	Smoke Detector CO Detector	6 4
Front Door – External	1	1 16-watt 2d fitting				
Back Door – External	1	1 Bulkhead fitting				
Bathroom	1	6 16-watt 2d fitting			Fan	5
Hotpress					Immersion Cylinder stat/mini valves	12 4
Attic	1	2	1			

*A high-level socket to be provided for cooker hood

#2 Low level sockets to be provided in space provided by Contractor for washing machine and fridge

8.0 ADDITIONAL REQUIREMENTS FOR HALTING SITES AND CARAVAN BAYS

8.1 GENERAL:

The mains cable shall be a SWA type. It shall be 16sq mm, in size up to a length of 85 metres and 25 sq. for any runs greater than this length. It shall be a 3-core cable with the core's colours been brown, blue and green/yellow.

The cable is to be terminated by the correct type glands at both ends.

Earthing to be in accordance with NSAI I.S. 10101:2020 current requirements. Each unit to have its own earth electrode.

If there is a central switch room located on the site, the electrical contractor will be size and supply the main distribution required.

8.2 LIGHTING:

The lighting fittings required for services unit are LED IP65 rated Thorn Panther or equal with and anti-tamper screws.

8.3 SOCKET AND SWITCHES:

These are to be surface mounted MK master seal type or equal. They are to be mounted by fixing screws to round conduit box that is buried in the wall.

8.4 COOKER SWITCH:

This is to be a 45amp double pole switch surface mounted with an IP rating of 65

8.5 OUTDOOR SOCKET:

The outdoor sockets are of industrial type rated at 32 amps, they are to be wired in 6sq.mm SWA, individually and fused at 20amp RCBO's. The cables will be placed in steel conduit and have a flush finish outside.

Industrial sockets supplying mobile homes/caravans shall have an rotary isolator which cannot be energised until pug is full inserted.

These sockets and the general sockets for the services area will be controlled from a sub distribution board fitted flush into the wall in the main living area, if the main consumer unit is not accessible.

8.6 CONSUMER UNIT:

This will be of a metal type and enough to house all the electric equipment required and be mounted in the service unit where attainable. It shall have a door capable of locking and be IP65 rated.

8.7 IMMERSION:

The switch for the immersion will be 20amp double pole type mounted in the living area. The immersion will be a single 3kw element.

Annex K (normative)

Model certificate of design, installation and commissioning of smoke/heat alarm systems in dwellings

This certificate shall be printed on the design company's headed paper, clearly showing the design company's details.

Certificate of Design, Installation and Commissioning* of smoke/heat alarm system at:

Premises Name or Owner

Address of premises

Grade and Category of Installation as per Clause 10.....

The entire system as required by Clause 10 of I.S.3218:2013 has been tested for satisfactory operation and commissioned in accordance with the requirements and recommendations of 10.5.

Documentation and instructions in accordance with 10.2.3.7 and 10.6 have been supplied to:

Name

Address:.....

.....

I/We hereby certify that the smoke/heat alarm system at the above premises has been Designed, Installed and Commissioned* in accordance with I.S. 3218:2013.

I/We confirm my/our competence to undertake this work and to the best of my/our knowledge and ability, the works outlined above comply with this Standard, for the system category stated above except as outlined on the attached variations sheet (if any).

Comment/Variations (attach additional sheet(s) if necessary):.....

.....

Name:(Print):..... Position:.....

Signed:..... Date:...../...../.....

For and on behalf of:.....

* If the design or installation or commissioning are undertaken by different parties, then the appropriate words shall be deleted and certificates shall be completed by each relevant party, and issued to the User in compliance with 10.2.3.7.