



Comhairle Cathrach Chorcaí Cork City Council

Halla na Cathrach, Corcaigh - City Hall, Cork - T12 T997

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03/05/2022

RE: Section 5 Declaration R704/22 St. Francis College, Rochestown,
Cork

A Chara,

With reference to your request for a Section 5 Declaration at the above named property, I wish to advise as follows:

In view of the above and having regard particularly to the provisions of section 5 (2) (b) of the Planning and Development Act 2000 (as amended), the planning authority considers that —

the relocation of the existing temporary buildings and the provision of new temporary buildings for educational use, at St. Francis College, Rochestown, Cork IS DEVELOPMENT and IS EXEMPTED DEVELOPMENT.

Is mise le meas,

Kate Magner
Development Management Section
Community, Culture and Placemaking Directorate
Cork City Council



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PLANNER'S REPORT
Ref. R704/22

Cork City Council
Development Management
Strategic Planning and
Economic Development

Application type	SECTION 5 DECLARATION
Question	
Location	St. Francis College, Rochestown, Cork
Applicant	Board of Management of St Francis College, Rochestown, Cork
Date	01/06/2022
Recommendation	Constitutes development; is exempted development

This report is to be read in conjunction with previous planning report, dated 04.03.2022, which requested further information.

The applicant was requested to submit the following item of further information:

1. Please confirm the duration of time that the proposed and relocated temporary structures would be in situ.
2. Please provide evidence that the proposed structures shall comply with the Department of Education Primary and Post Primary Technical Guidance Documents for the time being in force.

A response to same was received on 08.04.2022. The applicant has submitted a scaled plan which allows the development to be fully assessed.

The proposed development falls under **Schedule 2, Part 1, Class 20D**

<i>Column 1</i> <i>Description of Development</i>	<i>Column 2</i> <i>Conditions and Limitations</i>
Class 20D Development consisting of – The erection on land on which a school is situated of a structure to facilitate the continued delivery of education.	<ol style="list-style-type: none">1. No such structure shall be erected for a period exceeding 5 years.2. The gross floor area of such structure shall not exceed 30% of the gross floor area of the existing school.3. No such structure shall exceed two storeys.4. Distance to party boundary –<ol style="list-style-type: none">(a) any single storey structure shall be a distance of not less than 2 metres from any party boundary,(b) any two-storey extension facing an existing dwelling shall be a distance no less than 22 metres from the main part of the dwelling, or

Column 1 <i>Description of Development</i>	Column 2 <i>Conditions and Limitations</i>
	<p>(c) any two-storey extension closer than 12.5m to a party boundary, or facing and closer than 22 metres to the dwelling shall -</p> <p>(i) have no windows overlooking, or</p> <p>(ii) have obscure glass.</p> <p>5. Such structure shall comply with the Department of Education Primary and Post Primary Technical Guidance Documents for the time being in force.</p>

1. ASSESSMENT

7.1 Development

The first issue for consideration is whether or not the matter at hand is ‘development’, which is defined in the Act as comprising two chief components: ‘works’ and / or ‘any material change in the use of any structures or other land’.

‘Works’ is defined in section 3(1) of the Act as including ‘any act or operation of construction, excavation, demolition, extension, alteration, repair or renewal’. In relation to proposed temporary accommodation, it is described in the application form as comprising the relocation of 9 existing temporary buildings, demolition of 8 structures due to poor condition, the construction of 8 new temporary classrooms provided in a 2 storey temporary block and the construction of 2 new temporary toilet blocks. The proposals as described and shown on the submitted drawings constitute ‘works’. As the proposal comprises ‘works’, it is clearly therefore ‘development’ within the meaning of the Act.

CONCLUSION
Is development

7.2 Exempted development

The next issue for consideration is whether or not the matter at hand is exempted development. Section 2(1) of the Act defines ‘exempted development’ as having ‘the meaning specified in section 4’ of the Act (which relates to exempted development).

Section 4(3) of the Act states that exempted development either means development specified in section 4(1) or development which is exempted development having regard to any regulations under section 4(2).

I consider that the proposal comes within **subsection (2) of section 4**, i.e. the Regulations, and not subsection (1).

Section 4(1)

I do not consider that the proposal comes within the scope of section 4(1) of the Act.

Section 4(2)

It is therefore necessary to consider whether the proposed temporary education accommodation comes under the scope of section 4(2) (i.e., exemptions specified in the Regulations), having regard to the use of the word ‘or’ in section 4(3).

I consider that Article 6 and **Class 20** applies, as the development is for the erection on land on which a school is situated of a structure to facilitate the continued delivery of education.

<i>Column 1 Description of Development</i>	<i>Column 2 Conditions and Limitations</i>	<i>Proposed development</i>
<p>Class 20D</p> <p>Development consisting of -</p> <p>The erection on land on which a school is situated of a structure to facilitate the continued delivery of education.</p>	<p>1. No such structure shall be erected for a period exceeding 5 years.</p>	<p>1. The timeframe for which the temporary structures would be in situ has been confirmed as being expected to be 36 months (the duration of the major school extension project).</p>
	<p>2. The gross floor area of such structure shall not exceed 30% of the gross floor area of the existing school.</p>	<p>2. The proposed temporary accommodation strategy for St. Francis College would have an area of 1,083sqm which does not exceed 30% of the gross floor area of existing buildings (5,348sqm).</p>
	<p>3. No such structure shall exceed two storeys.</p>	<p>3. None of the proposed temporary structure exceeds two storeys.</p>
	<p>4. Distance to party boundary -</p> <p>(a) any single storey structure shall be a distance of not less than 2 metres from any party boundary,</p> <p>(b) any two-storey extension facing an existing dwelling shall be a distance no less than 22 metres from the main part of the dwelling, or</p>	<p>4.</p> <p>(a) The proposed plan identifies the location of the temporary buildings and confirms that none of them would be less than 2 m from any party boundary.</p> <p>(b) The proposed plan identifies the location of the temporary two storey building and confirms that it would not be less than 22 m from any party boundary.</p>

<i>Column 1 Description of Development</i>	<i>Column 2 Conditions and Limitations</i>	<i>Proposed development</i>
	<p>(c) any two-storey extension closer than 12.5m to a party boundary, or facing and closer than 22 metres to the dwelling shall -</p> <p>(i) have no windows overlooking, or</p> <p>(ii) have obscure glass.</p>	<p>(c)The proposed plan identifies the location of the temporary two storey building and confirms that it would not be less than 22 m from any party boundary</p>
	<p>5. Such structure shall comply with the Department of Education Primary and Post Primary Technical Guidance Documents for the time being in force.</p>	<p>5. The applicant has confirmed that the new temporary buildings will comply with the Department of Education Post Primary Technical Guidance Documents, which is currently Technical Guidance Document TGD-001 Prefabricated 3D Modular Accommodation. The proposed structures will be delivered by an approved modular accommodation supplier in compliance with the guidance.</p>

RECOMMENDATION

Having regard to the provisions of section 5 (2) (b) of the Planning and Development Act 2000 (as amended), the planning authority considers that —

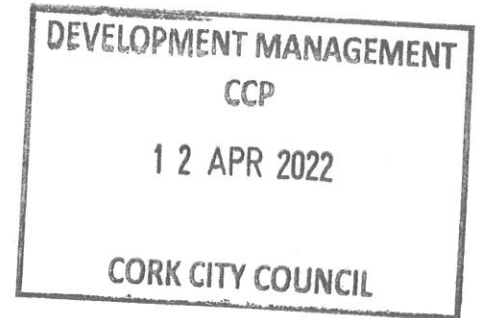
the relocation of the existing temporary buildings and the provision of new temporary buildings for educational use, at St. Francis College, Rochestown, Cork IS DEVELOPMENT and IS EXEMPTED DEVELOPMENT.

Gillian Tyrrell
 Assistant Planner
 03.05.2022

8th April 2022

Our Ref: 2690/ 3.1

Ms. Kerry Bergin,
Strategic Planning & Economic Development Directorate,
Cork City Council,
City Hall,
Anglesea Street,
Cork.



Section 5 Declaration R704/22 St. Francis College, Rochestown

Dear Ms. Bergin,

We refer to your letter dated 10th March 2022, and respond as follows:

1. Please confirm the duration of time that the proposed and relocated temporary structures would be in situ.

The proposed and relocated temporary structures will be in place for the duration of the major construction project for the new school extension (planning ref 22/40789) and this is expected to take 36 months approximately, dependent on the contractors programme.

2. Please provide evidence that the proposed structures shall comply with the Department of Education Primary and Post Primary Technical Guidance Documents for the time being in force.

The proposed temporary buildings will comply with the Department of Education Post Primary Technical Guidance Documents for the time being in force, which is currently *Technical Guidance Document TGD-001 Prefabricated 3D Modular Accommodation*. The proposed structures will be delivered by an approved modular accommodation supplier in compliance with the Department of Education Technical Guidance Document.

We trust that this addresses all relevant issues and look forward to your decision in due course. Please address all correspondence to this office.

Yours faithfully,

Sarah Kelly, B. Arch (UCD), FRIAI, RIBA.
KOBW Architects



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Summer Hill,
Cork,
T23 KH68

10/03/2022

RE: Section 5 Declaration R704/22 St. Francis College, Rochestown

A Chara,

With reference to your request for a Section 5 Declaration at the above named property, I wish to advise and having regard to:-

the provisions of section 5(2)(b) of the Planning and Development Act 2000, as amended, that the following further information is required in order to properly assess this application:

1. Please confirm the duration of time that the proposed and relocated temporary structures would be in situ.
2. Please provide evidence that the proposed structures shall comply with the Department of Education Primary and Post Primary Technical Guidance Documents for the time being in force.

Is misa le meas,

Kerry Bergin
Development Management Section
Community, Culture and Placemaking Directorate
Cork City Council



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An Roinn Oideachais
Department of Education

**TECHNICAL GUIDANCE DOCUMENT
TGD-001**

**PREFABRICATED 3D MODULAR
ACCOMMODATION
AND
EXISTING BUILDINGS TEMPORARILY
USED AS ACCOMMODATION
FOR
SCHOOLS**

**SECOND EDITION
NOVEMBER 2020**

Planning & Building Unit
Department of
Education
Tullamore, Co. Offaly.

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1. BACKGROUND

The Department of Education (DoE) has an ongoing policy of updating and improving its Technical Guidance Documents (TGDs) for Primary and Post Primary schools with a view to offering better guidance to school authorities and Design Teams and where feasible, to future proof prefabricated and temporary accommodation.

These Guidelines and the other relevant documents in the Design Guidance suite should be read in conjunction with

- The [Brief](#),
- The current [DoE Design Team Procedures \(DTP\)](#) and
- All other [DoE Technical Guidance Documents \(TGDs\)](#) published on the DoE website.
- Current Department of Housing Planning and Local Government (DoHPLG) Building Regulations and associated Technical Guidance Documents (herein after referred to as “the Building Regulations”).

Always check the Department’s website for the most up-to-date versions of DoE documents.

Where reference is made herein to other technical documents, whether DoE documents or documents published by others, the most up to date versions available shall be used for reference.

Any Standards or Acts quoted are current at the time of writing: the prevailing versions of these shall be used at the time of design and installation

2. INTRODUCTION

2.1 OBJECTIVES

This Guidance Document has been prepared to assist in the procurement of prefabricated 3D modular accommodation more generally and/or a temporary need for accommodation for both primary and post primary schools as required. It is for issue to school authorities and Design Teams/Design Consultant.

This Guidance Document should be read in conjunction with the relevant technical guidance documents referred to in this document as produced by the Department of Education.

This document does not relieve Design Teams or Design Consultants from their normal design responsibilities.

Where an accommodation requirement for a post primary school involves specialist rooms the school authority and Design Team should consult the DoE Planning and Building Unit and seek guidance on the scope and extent of mechanical and electrical services to be provided in these spaces prior to proceeding with the design development of the project.

All new prefabricated 3D modular accommodation and/or other accommodation provided to address a temporary need, whether it be for decant purposes during a construction project on a new school or additional accommodation requirements for the school, shall comply with the Building Regulations, including Part L Conservation of Fuel and Energy – Buildings other than Dwellings.

2.2 BACKGROUND

2.2.1 DEFINITION OF A TEMPORARY NEED FOR ACCOMMODATION

A temporary need for accommodation can be defined as accommodation the use of which would not be envisaged for a period of greater than five years.

2.2.2 PREFABRICATED 3D MODULAR ACCOMMODATION

Prefabricated accommodation for schools is generally provided in three dimensional (3D) factory made modular units or modules transported to site and joined together to make up defined teaching spaces. Modern modular units comply with all building regulations that apply to permanent buildings and are suitable for addressing accommodation requirements beyond temporary needs.

2.2.3 TEMPORARY NEED FOR ACCOMMODATION

Temporary needs for accommodation may arise in a number of ways including short term decampment needs when new permanent accommodation is being built, interim accommodation until a more permanent solution is procured, emergency accommodation when buildings are damaged by fire, storm damage, etc.

The temporary need for accommodation can be met through either of the following forms:

- **Prefabricated 3D modular units** (Off-site manufactured units). When the temporary need no longer exists, the relocation of these units to another school site can be considered.

-
- **Existing Buildings** temporarily used as schools accommodation. [These existing buildings fall under structures to be temporarily used as a school that were formerly used as a school, hall, club, art gallery, museum, library, reading room, gymnasium or any structure normally used for religious instruction. These Planning exempt buildings are specifically covered in the Planning and Development Regulations 2008, S.I. No. 235 of 2008; Exempted Development Class 20C.]

3. STANDARD OF CONSTRUCTION

3.1 BUILDING STANDARDS

The building standard to be achieved with all prefabricated 3D modular accommodation will be compliance with the Irish Building Regulation Standards being in force at the time of erection on site unless a more onerous standard is set out in this document.

The building standard to be achieved with all Existing Buildings to be temporarily used as school accommodation shall be the Irish Building Regulation Standards in place at the time of the buildings original construction unless it is necessary to comply with the current Irish Building Regulation Standards on foot of statutory compliance obligations.

Particular requirements for floors are as follows:

- All floors to be robust construction free from excessive deflection and differential movement.
- All floors to be designed in accordance with IS EN 1990 – Eurocode: Basis of Structural Design and for Imposed loads IS EN 1991-1-1:2002 (including Irish National Annex:2013) – Eurocode 1: Actions on Structures – Section 6 Imposed Loads on Buildings - Table 6.1 - Categories of use - Category C - C1, C2, C3 or C4 as appropriate to the use of the proposed structure.
- The structural design should reference the specific structural material for the proposed structure from the following list of Eurocodes:
 - EN1992 Eurocode 2: Design of concrete structures
 - EN1993 Eurocode 3: Design of steel structures
 - EN1994 Eurocode 4: Design of composite steel and concrete structures
 - EN1995 Eurocode 5: Design of timber structures
 - EN1996 Eurocode 6: Design of masonry structures
 - EN1999 Eurocode 9: Design of aluminium structures.

3.2 FINISHES

3.2.1 FLOORS

All Classrooms floors to be finished with a commercial grade floor covering such as vinyl or linoleum suitable for high trafficked areas. The Floor covering should be bonded to the substrate, have a high resistance to abrasive and impact damage and be easily cleaned and maintained. Floors to toilets, stores and wet areas should be similar in nature with a suitable slip resistance.

The minimum slip resistance shall be calculated using Pendulum Test Values (PTV) in wet conditions calculated using the following standard or equivalent:

- BS 7976-1: 2002 - Pendulum testers. Specification (+A1:2013)
BS 7976-2: 2002 - Pendulum testers. Method of operation (+A1:2013)
- PTV 25 – 29 flooring in all Classrooms and Circulation Areas
 - PTV 30 – 35 in all Toilets and Classroom Wet Areas

- PTV +36 in all Wet Rooms and Shower Rooms.

Contract grade carpets and carpet tiles may be used in offices and similar rooms.

Specialist rooms where chemicals and other abrasive materials will be present will need special consideration when selecting floor finishes.

3.2.2 INTERNAL WALLS

All internal walls to be robust and durable and constructed using an impact resistant plasterboard or similar impact resistant material. Standard gypsum wall board or equivalent is not to be used.

Internal partition walls and the inner leaf of external walls shall be designed to have a minimum deflection criteria of L/500 at mid-height at a loading of 1000 Pa in order to prevent undue deflection.

All vinyl faced plasterboards to be impact resistant.

Skirtings to be timber or PVC.

The teaching wall in classrooms will often be used to accommodate an interactive white board or flat smart screen TV. This wall should be suitably constructed with grounds, etc., to accommodate the fixing of such items up to 50kg in point loading. Items to be secured to the teaching wall may include flat touch screen TV, short and long throw projectors and associated screens, etc.

Internal surface spread of flame should always be considered when selecting the final wall finish and the materials used should be compliant with the Fire Safety Certificate obtained for the building.

3.2.3 EXTERNAL WALLS

All external wall finishes should be impact resistant, with a smooth surface, low maintenance and weather resistant.

Panels with a stone aggregate or stippled finish are not to be used.

Exposed Plywood, OSB or MDF panels are not to be used.

External wall finishes that enhance the outward appearance of the building while complying with the above are favoured.

3.2.4 CEILINGS

Plasterboard

Ceiling Tiles

Internal surface spread of flame should always be considered when selecting the final ceiling finish and the materials used should be compliant with the Fire Safety Certificate obtained for the building.

Ceilings often perform a function in relation to acoustics within the space so consideration should to be given to this aspect of ceiling finishes.

3.3 MULTI STOREY UNITS

Where multi-storey units are to be used there will be a far greater emphasis on the

protection of structural elements and compartmentation. It is essential that where multiple storey units are used that the construction and fire protection are compliant with the Fire Safety Certificate granted for the building.

3.4 ACOUSTICS

The acoustic performance shall comply with Technical Guidance Document TGD-021-5 Acoustic Performance in New Primary & Post Primary School Buildings. A minimum noise reduction of 40 dB is required between teaching spaces and other noise generating areas.

3.5 WINDOWS AND DOORS

All windows and doors to have a U Value consistent with compliance with Part L of the current Building Regulations.

The area of external windows to any occupiable room shall not be less than 10% of the floor area of that room.

The area of openable external windows to any occupiable room shall be not less than 5% of the floor area. High and low level opening sections, evenly distributed, are required.

The location of window opening sections needs to be carefully considered. Windows that open out into external circulation areas need to comply with the requirements set out in the Building Regulations Part M Access and Use.

Refer also to Sections 3.9 (Natural Ventilation & Overheating) and 3.10 (Daylighting).

3.6 INSULATION STANDARD

The standard to be met in all instances shall be that set out in the Building Regulations Part L Conservation of Fuel and Energy - Buildings other than Dwellings, applicable at the time of erection of the prefabricated 3D modular building on site.

The overall heat loss method can be used for all new buildings and extensions to existing buildings of any size.

The elemental heat loss method should only be used for small buildings of less than 300sqm in floor area.

For Existing Buildings that are to be temporarily used as Schools accommodation, no retrospective compliance with current Standards shall be deemed necessary.

Near Zero Energy Buildings (NZEB) is now the industry standard for all buildings and this standard is required for all prefabricated 3D modular accommodation.

3.7 AIRTIGHTNESS STANDARD

The air tightness standard to be met in all instances shall be that set out in the Building Regulations Part L Conservation of Fuel and Energy - Buildings other than Dwellings, applicable at the time of erection of the prefabricated 3D modular building on site.

Project specific proof of compliance with the air tightness standard will be required in all cases.

For Existing Buildings that are to be temporarily used as Schools accommodation no retrospective compliance with current Standards shall be necessary.

3.8 THERMAL BRIDGING, SURFACE CONDENSATION AND INTERSTITIAL CONDENSATION

There is an increased risk of condensation issues arising in modern highly insulated and relatively airtight school buildings which have a high vapour load and are not continuously occupied and heated all year round. The Design Team should ensure that the heating, ventilation, air infiltration and building fabric of schools are designed and detailed to limit such risks.

In order to limit surface condensation the internal air temperature should be regulated to ensure that internal surface temperatures remain above dew point. Occupant comfort levels aside, all heated rooms should remain above 10°C at all times. Where relative humidity exceeds 70% for a prolonged period of time mould growth can occur. While it is accepted that in a naturally ventilated building it is not possible to precisely regulate relative humidity, Design Teams should be aware of the risks and design the background ventilation accordingly. Further guidance is provided in BS 5250:2011+A1:2016 "Code of practice for control of condensation in buildings".

Design Teams should ensure that excessive heat loss due to thermal bridging is limited in accordance with the provisions of the Building Regulations Part L. The building fabric should be designed to avoid the risk of surface condensation, interstitial condensation and mould growth.

Demonstration of compliance with respect to thermal bridging and the risk of surface condensation may be achieved through the use of Acceptable Construction Details (ACD's) published by the Department of Housing Planning and Local Government where applicable.

In circumstances where relevant ACD's are not available or applicable, alternative details that limit the risk of mould growth and surface condensation should be assessed in accordance with IS EN ISO 13788:2012, including numerical modelling as described in IS EN ISO 10211:2007 Part 1 & 2. Specific guidance in relation to modelling inputs is provided in BRE Report BR 497 (2nd Edition).

Generally designers have relied upon the "Glaser method" with respect to the risk of interstitial condensation in the building fabric. IS EN ISO 13788:2012 clearly states that this method "does not provide an accurate prediction of moisture conditions within the structure under service conditions". Accordingly the hygrothermal performance of building elements at particular risk of interstitial condensation should be assessed in accordance with IS EN ISO 15026:2007 using simulation software. Such building elements would include roofs, solid wall construction, internal insulation (new build & retrofit), multi-layered constructions where different types of insulation are used and assemblies where low emissivity insulation (e.g. foil faces) is used not directly adjacent to a ventilated cavity.

3.9 NATURAL VENTILATION & OVERHEATING

Ventilation and provisions to reduce overheating shall be provided in accordance with the prevailing edition of TGD 020, General Design Guidelines for Schools (Primary and Post-primary). The final window design should prevent overheating in the space and should ensure that a minimum natural ventilation rate of 8 litres per second per pupil is achievable in the space. This rate will probably need to be higher to achieve the

objectives outlined above in relation to overheating. If a specific room is accepted within the project brief as requiring demand based mechanical ventilation supply and extract with heat recovery, then 3 litres per second per pupil is acceptable to maintain air quality (not overheating) unless higher rates are dictated by the processes in the room. A full dynamic simulation using a certified simulation system to ensure that the natural ventilation requirements are met and any overheating is within the limits specified in TGD 020 shall be submitted by the prefabricated 3D modular building provider to the Design Team for approval.

3.10 DAYLIGHTING STANDARD

Ideally all teaching spaces and habitable rooms should have natural daylight as the principal source of light. A good quality daylight distribution is required in each room with the emphasis on an even light distribution throughout the space. The target average day lighting factor for each teaching space should be in the range of 4.2% to 4.5%. A full daylighting analysis is to be submitted by the prefabricated 3D modular building provider to the Design Team for approval, showing a daylight factor as close as possible to the target level taking into account site constraints for the proposed location of the modular units.

3.11 INDOOR AIR QUALITY

All teaching spaces shall be fitted with a CO₂ monitor that shall include an LED display. The single wall mounted self-contained unit shall consist of a CO₂ sensor enclosure and a large LED display and all associated electronics.

The unit shall be screwed to the teaching wall facing the body of the classroom. The display colour will be capable of changing from Green to Amber and Red to indicate CO₂ levels, thus providing easy visual indication as well as specific readings.

The LED colour indicator should be capable of being easily identifiable from the rear of the classroom with a minimum illuminated area of 8.5 cm². It should be either self-powering from the ambient light in the classroom using an integrated PV panel or be connected to the mains distribution system via a switched fused spur. It does not need to be connected to the BMS system.

The system will enable the teaching space users to be aware when the desired levels are breached so that the necessary intervention via opening windows for ventilation can take place to maintain the comfort levels and air quality.

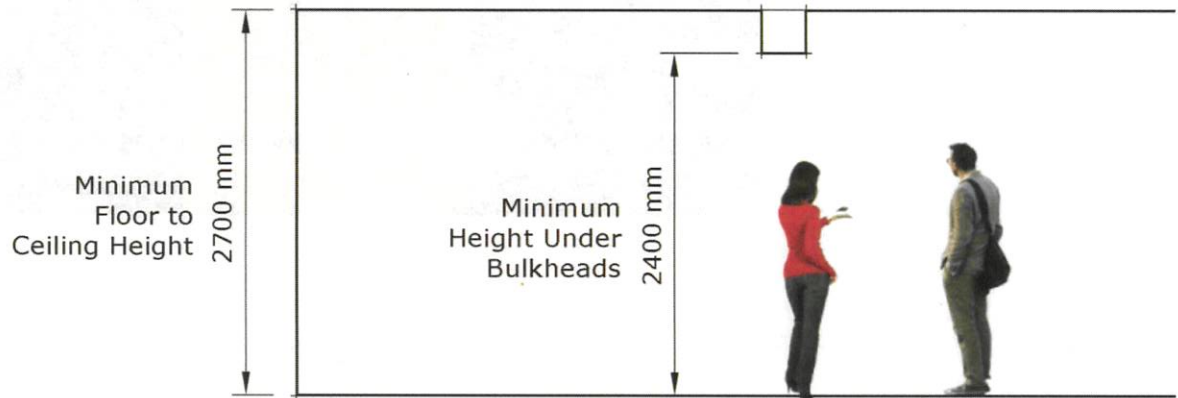
A laminated A4 size label (screwed at the four corners to the wall) incorporating clear and simple advice and instructions on how the teaching space can be operated efficiently with regard to heating, lighting and ventilation during school hours shall be located in a suitable location near the door of each teaching space. It is paramount that all school staff are provided with full user training and demonstration of these systems as part of the handover requirements. See sample label in Appendix A.

The parameters and sensor settings should be as follows;

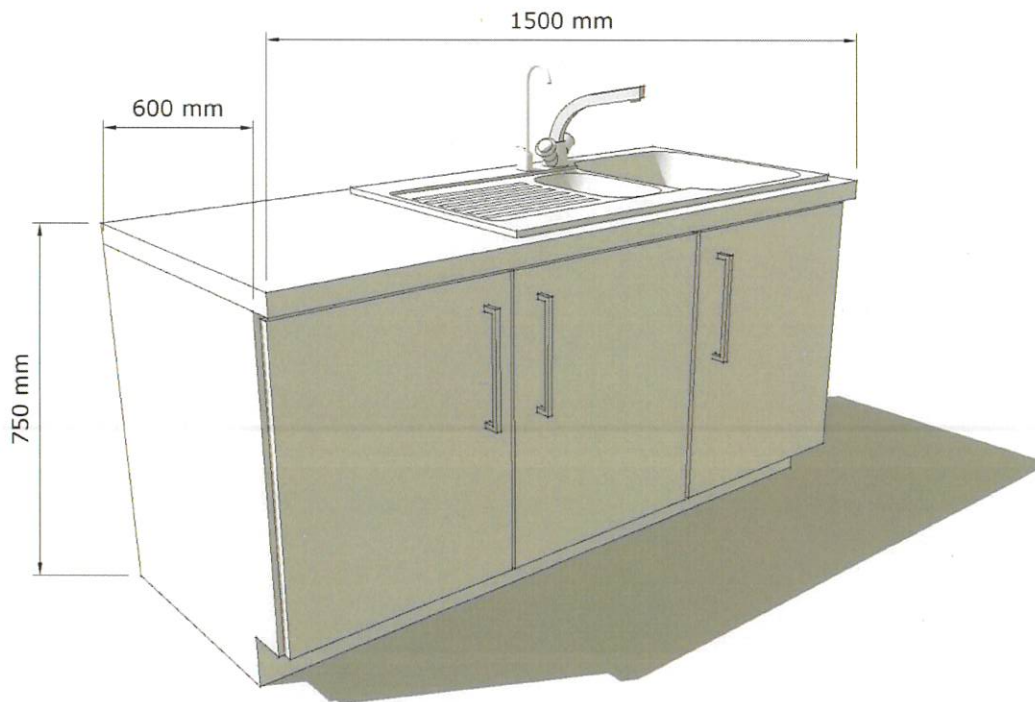
Carbon Dioxide (CO ₂) Traffic Light Display Indicator Ranges Optimum Range <1500ppm		
Green	Amber	Red
<1000ppm	1000 to 1500ppm	>1500ppm

4. Building Geometry

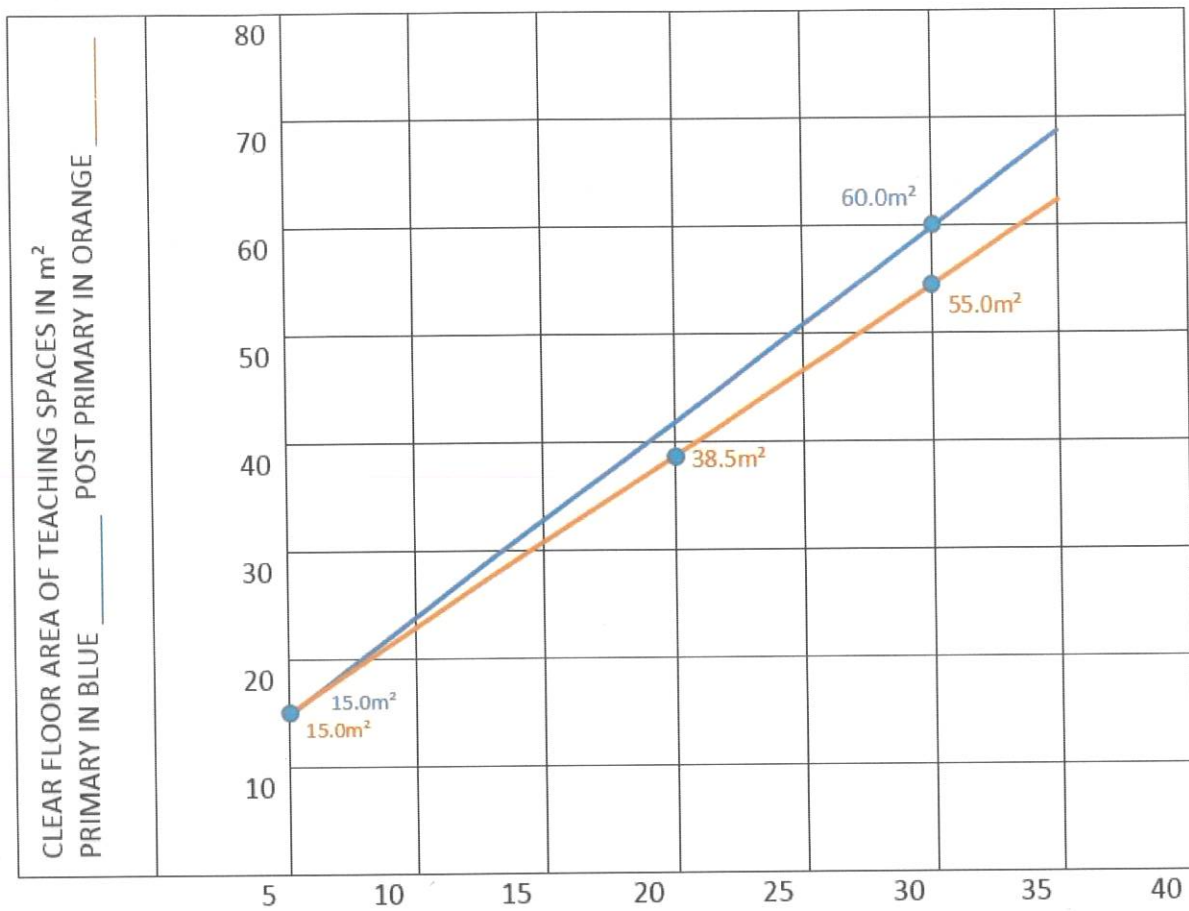
4.1 TYPICAL GEOMETRY



4.2 INTERIOR FURNITURE (SINK UNIT)



4.3 ROOM SIZES



MINIMUM ROOM SIZES FOR PROJECTED NUMBER OF PERSONS IN ROOM

The area of the room required will depend of the projected load occupancy with a minimum area of 15m² required for 5 persons in both Primary and Post Primary and 60m² and 55m² for 30 persons in Primary and Post Primary respectively. Areas shown exclude Storage. Storage should be provided at a rate of 5% of the floor area of the classroom and can be located in the room or immediately accessible from the room.

4.4 FLOOR TO CEILING HEIGHT

The minimum clear floor to ceiling height for teaching space shall be not less than 2700mm. A floor to ceiling of not less than 2400mm will be acceptable in toilet, storage and circulation spaces. Where down-stand beams are employed the clearance to floor level shall be not less than 2400mm and the cumulative area of such down-stands shall be not greater than 15% of the overall floor area.

4.5 MINIMUM WIDTH OF ROOMS

The minimum internal width of any given teaching space shall be not less than 3100mm.

4.6 MAXIMUM LENGTH OF ROOMS

The maximum internal dimension of any given occupiable space shall be not greater than 10,000mm.

Guidance on Unit sizes and fit-out to be provided for Post Primary Accommodation is available at the following link <https://www.education.ie/en/School-Design/Design-Guidance/Room-Layouts.html>

Guidance on Unit sizes and fit-out to be provided for Primary Accommodation is available at the following link <https://www.education.ie/en/School-Design/Design-Guidance/Typical-Room-Layouts-for-Primary-Schools.pdf>

5. SANITARY ACCOMMODATION

5.1 PRIMARY SCHOOL TOILET ACCOMMODATION

When providing a single Prefabricated 3D Modular Classroom Building the toilet accommodation shall consist of a disabled toilet measuring not less than 2.2m x 1.5m plus one standard toilet cubicle. All toilets shall be unisex. This toilet accommodation can be accessed directly from the Classroom or alternatively located in the lobby area leading to the Classroom.

The standard and quality of the toilet facilities in prefabricated 3D modular accommodation should meet the requirements of DoE Technical Guidance Document TGD 021-2 Guidelines and Standards for Sanitary Facilities in Primary Schools. However when two Classrooms are to be provided in combination it will be sufficient to provide the toilet accommodation described above plus one additional Ambulant Disabled unisex toilet.

Toilet accommodation in Existing Buildings to be used as primary school accommodation on a temporary basis should be considered on a case by case taking into account the numbers of persons, their age, mobility, etc.

5.2 POST PRIMARY SCHOOL TOILET ACCOMMODATION

Toilet facilities in prefabricated 3D modular accommodation for Post Primary Schools can be provided remotely from the classroom/teaching accommodation. The provision should meet the standards set out in Technical Guidance Document TGD 021-3 Guidelines and Standards for Sanitary Facilities in post Primary Schools.

Toilet accommodation in Existing Buildings to be used as post primary school accommodation on a temporary basis should be considered on a case by case taking into account the numbers of persons, their age, mobility, etc.

6. RELOCATION OF TEMPORARY UNITS

6.1 RELOCATION OF PREFABRICATED 3D MODULAR UNITS (NOTE TO DESIGNERS)

The need to relocate prefabricated 3D modular units may arise from time to time and, when called for in the tender documents, the design of the units should be such that this can be done in an economical and efficient manner.

Where relocation is called for in the tender documents, tenderers will be asked to include a price in their tender to dismantle the modular units, relocate them to a new location within a stated timeframe and a stated distance/radius from the current site and re-assemble the units, re-weather and renew internal and external finishes at all junctions, and connect to services.

All relocated units must comply with the statutory requirements in force at the time of their relocation to a new site or location.

7. MECHANICAL AND ELECTRICAL BUILDING SERVICES

7.1 DESIGN PHILOSOPHY

7.1.1 MECHANICAL BUILDING SERVICES DESIGN PHILOSOPHY

The Mechanical Building Services Engineering installation comprises heating, mechanical extract ventilation (including dust extraction), water, soils and wastes, and fire protection services.

The design of the Mechanical Services must take into account the site microclimate, the building form and orientation of spaces, the thermal performance characteristics of the building, the occupancy trends and restrictions on pollutant emissions.

7.1.2 ELECTRICAL BUILDING SERVICES DESIGN PHILOSOPHY

The Electrical Building Services installation comprises power distribution services, lighting services, information & communication technology (ICT) systems, communication services, protective services and in some cases heating.

The design of the Electrical Services must take into account the building form, the characteristics of the building, the occupancy trends and orientation of spaces.

7.1.3 ICT INSTALLATION DESIGN PHILOSOPHY

The ICT infrastructure in schools should be Wi-Fi based throughout the school.

General Classrooms and Specialist rooms shall have network points as well as a Wi-Fi Access Point Network Points (WAPNP) as outlined in DoE Wi-Fi TGD's.

7.1.4 STANDARDS

To ensure the longevity of these guidelines, specific mention of individual standards, which are continuously being updated, has generally been avoided.

Where standards are noted, it is the responsibility of Design Teams to ensure compliance with the prevailing version of that standard.

The design, installation, commissioning and handover of the project, including materials, products and workmanship shall comply with the relevant prevailing standards in the following order of preference: national standards transposing European standards, European Technical Assessments, common technical specifications, international standards, other technical reference systems established by European standardisation bodies or - when any of those do not exist - national standards, national technical approvals or national technical specifications relating to the design, calculation and execution of the works and use of the supplies and each reference shall be accompanied by the words 'or equivalent'.

7.1.5 VALUE FOR MONEY

The Prefabricated suppliers/Design Consultants shall ensure that all potential costs that could arise during the execution of the contract and the installation and commissioning of services to schools are provided for inclusion at the appropriate stage and in the appropriate manner, this also includes possible capital contributions for Utilities.

7.2 THE BUILT ENVIRONMENT

7.2.1 ENERGY EFFICIENCY

An integrated design approach shall provide opportunities for energy efficiency.

The Design Consultant shall be aware that energy efficiency strategies can support each other or conflict and thus individual measures shall not be considered in isolation.

7.2.2 PASSIVE ENERGY MEASURES

The use of passive energy measures to achieve a comfortable internal environment shall be employed where possible. The positioning of the building (allowing for site restrictions) should be developed to take account of the need to minimise energy consumption with particular emphasis on maximising the use of natural ventilation, daylighting, useful solar gain and minimising heat losses and unwanted solar gains.

7.2.3 RENEWABLE ENERGY REQUIREMENTS

As per DoE TGD 033 School Building Projects and Compliance with Part L of the Building Regulations 2017, the DoE preferred renewable energy contribution for permanent buildings is provided by Photovoltaics. To comply with the renewable energy contribution for prefabricated 3D modular accommodation there are other renewable technologies available as set out in Part L of the Building Regulations which may to be considered on a case by case basis.

7.3 HEATING SERVICES

The type of heating system provided for prefabricated 3D modular accommodation shall be non-fossil fuel and will need to be carefully considered as it will have an effect on the Building Regulations Part L renewable energy requirement. The systems shall be controllable and capable of providing 18°C minimum temperature in each room.

All wording on any control panels shall be agreed with the school authority beforehand. Use of terminology such as Zone 1, Zone 2 on its own shall not be acceptable. The actual zone shall be defined on a colour coded A3 drawing, which shall be laminated and fixed on, or immediately adjacent to the panel, on a timber backing screwed to the wall. No abbreviations are to be used on the panel without an explanation in full provided on the drawing.

Control units located in habitable spaces shall be of a type appropriate for their location in terms of aesthetics and size. Industrial housing shall not be acceptable.

In the case of prefabricated accommodation each type of heating system outlined below will need to be modelled on a case by case basis by the prefabricated supplier and verified by the Design Team.

Table No. 1 below sets out the type of heating system that may be used and the most economical solution to comply with the renewable energy requirement outlined in Part L of the Building Regulations is to provide Photovoltaics. The area of Photovoltaics required will be determined once the modelling is complete. Appendix No. 2 of TGD 033: compliance with Part L of the Building Regulations 2017 reporting form must be completed and verified by the Design Team.

Table No. 1

OPTION NO	TYPE OF HEATING SYSTEM	WHEN TO BE USED
1	Night Rate electrical storage heaters, energy efficient electrical heaters.	<i>When Prefabricated 3D modular accommodation is in the vicinity of the main school switchboard and existing electrical system is capable of serving new load with no need for upgrade of supply or electrical switchboard.</i>

Table No. 2 below sets out a sample alternative heating system that may also comply with renewable energy requirement outlined in Part L of the Building Regulations. If an alternative heating system is being considered the school's existing utility infrastructure needs to be reviewed to ensure capacity and also to ensure that there are no unnecessary additional financial tariffs associated with the system provided. Appendix B of TGD 001: compliance with Part L of the Building Regulations 2017 reporting form must be completed and verified by the Design Team.

Table No. 2

OPTION NO	TYPE OF HEATING SYSTEM	WHEN TO BE USED
2	Sample Alternative heating system, e.g. Air Source Heat Pump (Split Unit).	An air source heat pump (split unit) may be used for heating which may also provide the renewable energy requirement of The Building Regulations Part L.

Option 1 - Night Rate Electrical Storage Heaters/Energy Efficient Electric Radiators

Thermal storage or energy efficient electrical heaters shall be provided in each classroom.

Each heater is to have a thermal cut-out and be wired in surface mounted galvanised steel conduit on a separate circuit from the local sub-board.

The heaters shall be installed in accordance with the manufacturer's recommendations.

Option 2 – Sample Alternative Heating System, e.g. Air Source Heat Pump (Split Unit)

An air source heat pump (split unit) may also provide the renewable energy requirement outlined in Part L of the Building Regulations. The input data for the Simplified Building Energy Model (SBEM) outlined in Table No. 3 below should enable compliance. The following should be noted in relation to the SBEM inputs;

- The Psi default values can be applied,
- The air tightness testing compliance of 3 (m³/m²/h) is required.
- The parasitic (W/m²) power associated with lighting controls is important and if the default value of (0.3W/m²) is used compliance will not be achieved; parasitic power of (0.1W/m²) must be achieved.
- Sensors are approximately 0.05 W/m², therefore 0.1 W/m² is achievable.
- The lighting will be required to be a minimum of 125 lm/circuit watt.

Table No. 3

Element	Inputs Used for Test Model
Roof U value (W/m ² k)	0.15
Wall U value (W/m ² k)	0.18
Floor U value (W/m ² k)	0.15
Window U value (W/m ² k)	1.4
External Doors (W/m ² k)	2.2
G Value (%)	50
Light Transmittance (%)	71
Glazing Area (%)	30% (dependent on daylight factor)
Thermal Bridging	As per Psi table below
Air Permeability (m ³ /m ² /h)	3
Lighting Luminaire (lm/circuit watt)	125
Lighting Type	LED Lighting throughout
Occupancy Control	Man On / Auto Off
Daylight Control	Photoelectric Switching / Standalone
Parasitic Power of Occupancy/Daylight Controls (W/m ²)	0.1
Lighting Metering Provision	No
Heating System	Split or Multi-split System
Cooling System	Natural Ventilation in reality but use of split unit engages the cooling also and so SEER / EER below used
Source	Heat Pump (electric); air source
Fuel	Electricity
Heating Seasonal Efficiency - EER	3.63
Cooling SEER / EER	7.4 / 3.23
Metering Provision	No
Hot Water System	Electric Under Sink Water Heater
Hot Water Efficiency (%)	100%
Ventilation	Natural Ventilation
Rooms with Exhaust	Toilets
Toilet Exhaust Rate (ach/hr)	Toilets – 10 ach
Terminal Unit SFP W/(L/s)	0.3
Supply Fan	No
Variable Speed Control of Fans & Pumps	Yes
Power Factor	0.9 - 0.95

Psi Values Table:

Type of Junction	W/mk
Roof-wall	0.12
Wall-ground floor	0.063
Wall-wall (corner)	0.062
Wall-floor (not ground floor)	0.07
Lintel above window or door	0.144
Sill below window	0.048
Jamb at window or door	0.064

Other alternative heating systems may also provide the renewable energy requirement

outlined in Part L of the Building Regulations and these will need to be assessed on a case by case basis and must be verified by SBEM or a similar approved software.

Note on all options: Each specific installation will need to be modelled by the prefabricated 3D modular supplier to demonstrate compliance and be verified by the Design Team.

7.3.1 INSULATION

The Design Consultant should ensure that all break tanks, pressure vessels, etc., associated with heating systems as outlined above are properly insulated and located away from all wall vents and external doors.

Where heating pipe work is not being used as a useful heating surface, insulation of appropriate thickness and quality shall be applied. The insulation shall be of preformed sections of rigid mineral wool incorporating aluminium foil laminate cover and fitted in accordance with the manufacturer's instructions. The insulation shall also be applied to all connections, bends, tees and valves. Proprietary jackets with Velcro fixings shall be used on all valves over 32mm. Additional taping every 2m shall be provided on the insulation within a boiler room.

7.4 WATER SERVICES

The Water Services shall comprise mains water supplies, cold and hot water installations.

The mains, cold and hot water distribution services shall be gravity systems as the schools sanitary systems must be capable of operating during school hours in the event of a power outage.

Classroom sink units shall be located where possible adjacent to the toilet party wall.

Cold and hot water shall be supplied to each wash hand basin via a single low-pressure drop anti-scald percussion spray type tap. All sink units shall be anti-scald with a manual mixing unit having a cold and hot water supply.

The cold and hot water services shall be designed and installed in accordance with prevailing national and international standards with a specific focus on the prevention of Legionella in the water systems.

The hot and cold water piping shall be appropriate for use and where exposed must be of rigid construction.

Local isolating valves shall be provided on the water supplies to all wash hand basins, sink units and toilets to facilitate future maintenance and replacement of fittings, etc.

The water systems shall be designed to ensure water hammer and air locking does not occur and shall be provided with an adequate number of isolating valves for the purpose of isolation and maintenance.

7.4.1 MAINS WATER SERVICES

Irish Standard IS EN 806: 2005: Specifications for installations inside buildings conveying water for human consumption, S.I. No. 122 of 2014 titled "European Union (Drinking Water) Regulations 2014 as well as the reduction in the Maximum Acceptable Concentration (MAC) level for Lead, i.e. from 25 µg per litre to 10 µg per litre on Dec 25th 2013, should be taken into account in the design development of the mains water service.

The dead leg distribution pipe to all outlets shall be kept to a minimum in accordance with prevailing standards.

Ball cocks only are to be used on the mains water inflow to mains water storage tanks. Motorised valves and float switches shall not be specified or used.

Mains water piping feeding drinking taps shall be non-metallic pipes and fittings, e.g. polyethylene piping appropriate for use and distributed in the floor void.

In a primary school classrooms, a mains water supply shall feed a dedicated drinking water tap at the sink unit in each classroom. This shall be in addition to the mixer tap at the sink unit.

Drinking taps which do not have any metal in contact with mains water should be considered on the Mains Water Distribution System in schools. They must also be selected with care.

A minimum flow rate of 0.072 litres per second is required at each drinking water outlet. This flow rate is considered reasonable and will fill a 300ml cup in 4 seconds. All drinking water taps must be labelled permanently and unambiguously with an engraved label in order to distinguish them from hot and cold water services.

7.4.2 COLD WATER SERVICES

The cold water service shall be a gravity fed system.

The cold water piping shall be polyethylene patented piping appropriate for use and distributed in the floor void.

An insulated low profile cold water storage tank of 500 litres actual capacity per classroom shall be provided, positioned in a housing at high level over the toilet area but within the unit (i.e. not on the roof).

Self-closing low-pressure drop spray taps shall be used.

7.4.3 HOT WATER SERVICES

The type of hot water system to be provided for the accommodation should be based on the selection criteria established in the table below.

All washbasins should be provided with hot water outlets with lockable local thermostatic blending valves to prevent scalding. Thermostatic mixing valves are to be located as close as possible to the point of use such that a maximum dead leg of 1m only is achievable on the blended water supply. This is to minimise the potential risk of Legionella. TMVs must be easily accessible from the room or adjacent room where they are located. All thermostatic mixing valves (TMV) must be of a TMV3 standard with fail safe lockable thermostatic blending valves limiting the temperature to 42° / 43° Celsius. Where wash hand basins are adjoining or back to back one TMV shall be installed in accordance with manufacturer's instructions to supply the wash hand basins.

All sink units should be provided with a manual mixing unit with suitable warning on the wall over the sink informing users of the presence of hot water.

Self-closing low-pressure drop spray taps shall be specified on all wash hand basins.

The flow rate of the blended supply to wash hand basins shall be 0.033 l/s (cold water supply at 0.011 l/s and hot water supply at 0.022 l/s).

Any legionella risk shall be treated with trace heating of the hot water distribution

system.

The hot water piping shall be polyethylene patented piping appropriate for use and distributed in the floor void.

OPTIONS	TYPE OF HOT WATER SYSTEMS	WHEN TO BE USED
1	Electric under sink hot water heater 7 litres capacity	Prefabricated 3D modular accommodation Unit is standalone and to be provided with electric heating or connected to school existing heating system.
2	Electric under sink hot water heater 7 – 10 litres capacity	Where two Prefabricated 3D modular accommodation units are combined

Option 1 - 2 - Electric water heaters

A seven-day timer set to eliminate standing losses out of school hours should control the electric water heaters.

Storage should be kept to a minimum, i.e. as outlined in the above table.

Sanitary and sink layouts should be configured to maximise the option of one unit serving a back-to-back layout subject to maximum dead leg requirements.

Adequate and safe pressure relief arrangements are to be provided.

The electric hot water heater shall only be installed within an enclosure.

7.4.4 WATER SERVICES INSULATION

All distribution cold water services pipe work in locations likely to give rise to freezing or condensation shall be appropriately insulated with un-slit pre-formed CFC free, sleeved sections of insulation with a continuous vapour barrier in the case of cold and mains water services.

All distribution hot water services pipe work shall be appropriately insulated to limit heat loss with un-slit pre-formed CFC free, sleeved sections of insulation.

Appropriate colour identification bands and flow directional arrows shall be affixed to all insulated pipe work.

7.5 VENTILATION SERVICES

All prefabricated 3D modular accommodation classrooms shall be provided with adequate natural ventilation and provisions to reduce overheating as outlined in section 3.9 above.

Ventilation in toilet areas shall be in full compliance with Table 3, Part F of the Building Regulations. Windows to be provided where possible. Background ventilators to be of a

type that can be permanently opened.

Intermittent extract ventilation with a ventilation rate of 6 litres per second per toilet shall be provided via a suitably sized mechanical extract fan incorporating a run-on timer set to 5 minutes. It should be manually controlled by a local switch or occupancy sensor. Make up air should be via undercut doors.

All mechanical ventilation extracts shall be fitted with dampers that shut off when the fan is not in use and in particular when the school is closed.

Non-return backdraught dampers shall be provided on ducts with a diameter of 150mm or less.

Motorized shut off dampers shall be provided on all larger sized ducts.

Dampers shall not be provided on ducts from Cleaners' Stores in schools.

7.6 SOILS AND WASTES

All soils and wastes shall include vents, anti-siphons and traps to all fittings as appropriate.

All joints in soil and waste runs shall be fusion made with the appropriate solvent, or socket and synthetic O-rings.

Generally, soils and wastes shall be run in PVC piping but other plastics, such as polypropylene and high-density polypropylene may be required for particular applications.

7.7 FIRE PROTECTION SERVICES

Adequate protection services to enable the building occupants to evacuate safely shall be provided in the form of hand held fire extinguishers.

A 2 Kg Dry Powder fire extinguisher and hanging bracket shall be supplied in each classroom.

Fire hose reels are not to be provided for first aid firefighting.

7.8 PRIMARY ELECTRICAL DISTRIBUTION

The incoming electrical supply and the main switchgear for the school should be evaluated to establish availability of additional load requirements at an early stage; this should not be left until the units arrive on site.

Steel wire armoured type cables are to be laid underground in 125mm standard ducts with appropriate service indication in trenches at least 600mm deep. Joints on underground cables are not acceptable.

Where a new accommodation unit is being located in an area where space exists for additional accommodation units and there is a possibility of a need in the future for additional temporary accommodation then consideration should be given to providing an electrical mains supply to the switchgear panel in the first accommodation unit with suitable capacity to serve additional future accommodation units. Space should be left in the switchgear panel for future switch fuses.

Overhead electrical mains between accommodation units or between any unit and the main school building will not be accepted.

Cables loosely thrown on any roof section will not be accepted; all sub-main cables are to be routed underground.

The inclusion of a Prime Cost Sum for the provision of sub-main cables in an accommodation unit tender is unacceptable. Exact requirements are to be specified by the design team and priced by the tendering firms.

Each prefabricated 3D modular accommodation unit, (be it single, double or multi-unit) shall have its own distribution board and have a check meter installed; this shall be located at high level within the teaching space or in an entrance hallway and comprise MCB's, etc.

Electronic surge protection shall be provided on the incoming mains supply at the main switchboard location.

All distribution boards are to be properly labelled indicating the respective areas that are served.

7.9 EARTHING

The electrical installation shall be properly earthed in accordance with the relevant National Rules for Electrical Installations I.S. 10101:2020 and ESB regulations.

7.10 POWER DISTRIBUTION SERVICES

All general power socket outlet and water heater circuits shall have RCBO (residual-current circuit breaker with overcurrent protection).

All power socket outlets shall be switched 13 Amp surface or flush mounted depending upon building construction.

Circuits on the surface shall be carried in galvanised steel conduit, cable trunking, or dado trunking as noted. Concealed circuits may also be provided depending on the building construction.

Surface metal boxes shall be specified without manufacturer's knockouts for surface mounted systems. Socket surface plates shall be of metalclad finish only and engineered to fit flush with the back box.

Refer to Appendix E of Guidelines for Wireless Networks in Primary Schools and Appendix E of Guidelines for Wireless Networks in Post Primary Schools for specific details of the layout of electrical services on the teaching wall in primary and post primary classrooms.

Vertical dado trunking drops on teaching walls in post primary schools shall be nearer the window rather than the entrance door to the room. This is to facilitate pupils entering and leaving the room and to allow easy access to the teacher's base.

Power socket outlets at low level shall be located at 550 above finished floor level (FFL). Those at high level shall be located above the height of white boards in these spaces.

Power outlets to water heaters, water boiler and cooker control should be suitably rated

and switched with a neon indicator.

The supply and installation of hand dryers is deemed not appropriate on health and safety, noise, and energy grounds, are not funded/grant aided by the DoE and should not form part of any design calculations, contract or tender documents.

7.11 LIGHTING SERVICES

7.11.1 INTERNAL LIGHTING

Lighting to provide appropriate illumination with the correct intensity and colour shall be provided. A light level on the working plane of 300 lux shall be provided in general classrooms and 120 lux in toilets, circulation and entrance areas.

The lighting design and controls shall be as per TGD 030 and TGD 031 respectively with the following amendments. The LED lighting shall meet the following performance specification.

Light Source	LED
Colour Rendering Index	>80
Colour Temperature	4000k
Minimum Luminaire Efficacy	125 lm/W
Median Useful Life (IEC 62717) Ta 25°C (50,000 hrs)	L80 B50
Minimum Driver Lifetime (Max ambient temp 35°C)	50,000hrs
MacAdam Step	3
UGR	<19

Appropriate L80 B50 LED type light fittings should be specified in circulation and toilet areas.

The positioning of light fittings shall not give rise to shadows or glare.

Light fittings to have gear tray covers included to conceal all control gear and cabling.

All lighting installations operating in conjunction with automatic dimming to "Off" lighting controls and absence detection must have manual "On/Off/ dimming" switching arrangements via push type retractable light switches. One way switching, from one location shall be provided.

The light switches to stores, etc., shall be push type with auto time delayed release and positioned on the internal side of the room on the side opposite to the door hinges.

Surface mounted lighting circuits shall be run in galvanised steel conduit.

7.11.2 EXTERNAL LIGHTING

External lighting shall consist of high level wall mounted bulkhead type fittings.

Appropriate L80 B50 at 50,000hrs LED type light fittings should be used and timer switches, daylight sensors should be incorporated into the lighting design.

Fittings shall be of robust and vandal proof quality. External lighting shall be time controlled subject to intruder alarm override.

7.11.3 EMERGENCY LIGHTING

An emergency lighting installation in compliance with IS 3217:2013+A1:2017 shall be provided.

Emergency lighting shall be provided in accordance with prevailing standards. It shall generally consist of non-maintained, self-contained, emergency lights and exit signs located over emergency exit doors. Each light fitting shall have a minimum 3-hour duration and be complete with a neon-monitoring pilot.

Consideration should be given to the provision of ceiling mounted standalone LED type emergency light fittings providing horizontal illuminance of not less than 0.5lux at floor level in lieu of providing inverter packs on linear fluorescent fittings.

The type of fitting used should meet the requirements of the location in which it is used, e.g. a dedicated escape route or open plan configuration.

The DoE takes the view that a classroom is not a large assembly room and the provision of a single integrated emergency light fitting providing a minimum horizontal illuminance of 0.5 lux at floor level will comply with the functional requirements of the Irish Standard Specification for Emergency Lighting I.S. 3217:2013+A1:2017 and the Building Regulations.

Care should be taken when siting emergency escape lighting to ensure that it also takes into account points of emphasis such as near firefighting equipment, etc.

7.12 COMMUNICATION SERVICES

The communication services shall comprise Information Communication Technology Systems and Public Address/Class Change Systems. No provision shall be made for Telephony or Television systems.

7.12.1 Information and Communication Technology

A Wi-Fi based ICT installation is now the norm in both primary and post primary schools.

If the existing school building has an Information Technology network then consideration of how this is to be extended to the prefabricated 3D modular accommodation either via hardwiring or using wireless technology needs to be outlined to be considered. When making the case for extending the existing system full cost implications will need to be identified along with methodology.

The number of network points shall be 3 per classroom for both primary and post primary schools. See Appendix E of Guidelines for Wireless Networks in Primary Schools and Appendix E of Guidelines for Wireless Networks in Post Primary Schools for locations. The installation shall comply with the DoE guidelines for ICT installations in primary and post primary schools.

Note that Video Graphics Array (VGA) sockets are no longer required in PAF in classrooms and should be replaced with an additional HDMI outlet. In the case of some of the new smart short throw projectors a USB connection between the low level and high level PAF will be required to enable the smart function on the projector.

If the teaching wall electronic device is an interactive smart screen and not a projector then the system should be Wi-Fi based and thus not require a network point at high level, therefore the provision at high level and associated power point should be omitted from the design and tender drawings. The design team shall also ensure dado trunking is to be provided so that no cabling is visible.

The design team shall also ensure that coordination of the services on the teaching wall are fully detailed and that the school are aware of the teaching wall services provisions.

7.12.2 PUBLIC ADDRESS/CLASS CHANGE BELL SYSTEMS

If the existing school has a public address/class change bell system then this should be extended to the prefabricated 3D modular accommodation to provide public address facilities in the classroom.

7.12.3 PROVISION FOR HEARING IMPAIRED

Generally provision for hearing impaired persons shall be via a portable loop systems or personal infrared equipment, if required.

These are not to form part of the building contract; they are treated as an equipment item between the DoE and school authority.

7.13 PROTECTIVE SERVICES

The protective services shall comprise Door Entry System, Intruder Alarm Installation, Emergency Lighting Installation and Fire Alarm Installation.

7.13.1 DOOR ENTRY SYSTEM

Where an arrangement of multiple prefabricated 3D modular accommodation units incorporating an Admin Office are provided a simple door entry system capable of two-way communication should be provided on the main entrance door complete with remote release facility. The magnetic lock shall be located on the internal frame of the external door.

A natural view must be maintained between the Admin Office and the front door entrance area with controls shall be located in it.

The unit should comprise a single button vandal resistant, flush mounted stainless steel entry panel complete with microphone and speaker and an internal wall / desk mountable handset with release button, located in an Admin Office or the nearest agreed classroom.

Toggle switches shall be installed so that the intercom handsets can be switched off during staff breaks.

If no Admin Office is proposed and three or more units are to be combined with one shared entrance, then a simple doorbell system with an internal sounder shall be provided.

Where accommodation units are standalone or have individual entrances manual quick release locks shall be provided on the external doors for security.

7.13.2 INTRUDER ALARM

If the existing school has an Intruder Alarm system, then, if capacity exists in the main control panel, this should be extended to the prefabricated 3D modular accommodation, either via hardwiring or using wireless technology, whichever is the most economical.

If there is no capacity in the control panel then consideration should be given to a standalone system.

7.13.3 FIRE ALARM

A fire alarm installation in compliance with I.S. 3218:2013+A1:2019 shall be provided.

Open protocol type fire alarm systems only shall be provided.

Prefabricated 3D modular accommodation shall have a fire alarm provided at the main entrance and it shall be connected back to the main fire alarm control panel in the school either via hardwiring or using wireless technology, whichever is the most economical.

7.14 INSPECTION, TESTING & COMMISSIONING

In addition to regular site inspections of the installation of systems, when the installation of systems has been completed, the Design Consultant shall inspect the equipment in operation and advise the Contractor of any defects.

All equipment and systems shall be demonstrated to the Design Consultant as working satisfactory and as designed.

Commissioning of installations should be carried out in accordance with the procedures, checks and tolerances given in the relevant BSRIA Application Guides and achieve the standards set in the CIBSE Commissioning Codes and prevailing standards.

7.15 TRAINING & DEMONSTRATION

After the Design Consultant is satisfied and has witnessed that all equipment and systems are operating satisfactory, training and demonstration shall take place.

Adequate notice shall be given to the school authority and at an agreed time and in the presence of the Design Consultant, a training and demonstration event shall be provided.

8. SITE SPECIFIC WORKS

8.1 SITE WORKS

The manufacture of prefabricated 3D modular units will be an offsite function and it is essential with all projects that there is communication between the professionals overseeing the project, including the site works, to ensure that no conflicts arise on site and that all units are located to ensure that future development will not be adversely affected. The stacking of units or placing of units in close proximity to other buildings will give rise to specific fire safety measures and it is essential that these are correctly addressed to meet with all statutory requirements.

The proliferation of ramps and steps can also give rise to considerable on-site costs. The numbers of escape doors from accommodation, for instance, can give rise to additional ramps and steps that may not be necessary.

While it is accepted, for instance, that two escapes from a classroom may give rise to more flexibility long term for the individual prefabricated unit, consideration should also be given allowing the second door to be removed when it is not required under the Fire Safety Certificate granted for the building.

External water mains and fittings: The minimum depth of cover from the finished ground level to the external crown of a Water Main shall be 900mm and the depth shall be maintained until it has entered the building. The desirable maximum cover for a Service Connection pipe or a Water Main should be 1,200mm, where practicable.

All water infrastructure installations shall be carried out in accordance with Irish Water Connections and Developer Services Code of Practice for Water Infrastructure (A design and construction guide for developers), Document IW-CDS-5020-03.

9. FIRE

9.1 FIRE

A Fire Safety Certificate is required for all prefabricated 3D modular accommodation erected on a site whether new or second hand.

The Fire safety measures to be taken in the manufacture of the prefabricated units should always be informed by the Fire Safety Certificate granted for the individual building. Issues giving rise to additional fire safety measures will include the final use of the building, the stacking of buildings above ground floor level and the proximity of the building to other buildings and relevant boundaries.

10. LIFT

10.1 LIFT

Where a first floor is provided and the total first floor area (of all interconnecting rooms) exceeds 200sqm then a passenger lift will be required.

11. HANDOVER DOCUMENTS AND MAINTENANCE

Prior to handover of the building the contractor and the Building Designer must explain the building and how it operates to the Client and the occupiers (i.e. the school) so that maximum benefit can be gained from the facilities provided. A video of the demonstrations must be provided to the school.

They must clearly (and in detail) explain how to operate and maintain the building and its engineering services systems at optimum efficiency with particular emphasis on safety, energy conservation and maintaining air quality.

Prior to demonstration, users shall be provided with an Operating and Maintenance Manual, which clearly indicates in non-technical terms all aspects of operating the building services and equipment and sets out the procedures for routine operation and maintenance checks and checklists.

The manual should include postal, telephone and email contact details for suppliers of replacement parts and service.

All Mechanical and Electrical installations will require commissioning certs to be included in the Handover Documents. See Appendix A and B of TGD 030 and TGD 031 for information on the requirements.

Demonstrations must cover all life safety systems (e.g. emergency lighting, fire alarm, smoke detection, fire hydrants, etc.), mechanical services (e.g. heating, water services, ventilation, soils and wastes, thermostatic mixing valves, etc.), electrical services (e.g. electrical supply, electricity centre, main distribution, power distribution, earthing, lighting services, communication services, etc.) and building fabric and finishes.

12. NOTE TO CONSULTANTS

12.1 GENERAL

It is critical that there is proper communication from the outset between the consultant overseeing the installation of prefabricated 3D modular accommodation and the Industry that supplies prefabricated accommodation. This should ensure that the optimum economical solution is delivered in each instance while also ensuring that all the necessary Statutory Requirements are met. The Design for which planning permission is secured should not limit the tendering process to a single manufacturer.

Ramps, steps and guarding can add greatly to the cost of site works so it is important that this is carefully considered when choosing a location for prefabricated 3D modular accommodation to ensure that the site works are kept to a minimum.

It would be the preferred solution that all prefabricated 3D modular accommodation is kept separate from existing buildings so as not to generate the need for additional refurbishment within the permanent structures. Services connectivity will be required, e.g. class call, fire alarm, intruder alarm, etc.

Planning Permission will be required unless the building is a planning exempt building specifically covered in the Planning and Development Regulations 2008, S.I. No 235 of 2008, exempted Development Class 20C.

A Fire Safety Certificate will be required in every instance where prefabricated 3D modular accommodation is provided. The Consultant will be required to obtain the Fire Safety Certificate.

A Disability Access Certificate will be required in every instance where prefabricated 3D modular accommodation is provided. The Consultant will be required to obtain the Disability Access Certificate.

Building specific BER certificates are required for every site installation in accordance with current legislation S.I. No. 666/2006 – European Communities (Energy Performance of Buildings) Regulations 2006.

Where temporary accommodation is to be provided in an existing building (Exempted Development Class 20C) the local fire authority and building control authority should be consulted.

In complex projects, specialist fire safety consultants may be required.

The Building Services Engineer (Mechanical & Electrical) is expected to carry out a desk top and site inspection to identify the availability, location and adequacy of electricity, gas, telephone, T.V. services and broadband.

The requirement for stackable units will need to be examined on a case by case basis and it should be noted that there will be consequential additional structural and fire separation requirements.

Due to the complexity of modern buildings, whether prefabricated or not, and the necessity to comply with Building Regulations (in particular Part L 2017) and to ensure certification of mechanical, electrical and life safety systems, it will be necessary to include a qualified Building Services Engineer as part of the Client's consultancy services for the provision of prefabricated 3D modular accommodation or accommodation in an existing building to meet a temporary need.

The energy requirements of all prefabricated 3D modular accommodation need to be carefully considered particularly when the power supply to same is routed through an existing building. Electrically powered systems whether for lighting, heating or cooling could result in the overall power demand exceeding the Maximum Import Capacity (M.I.C.) agreed with the Utility Company. This will result in additional ongoing financial tariffs and these costs need to be considered when designing the optimum Mechanical and Electrical systems in all instances.

12.2 CONTRACTUAL ARRANGEMENTS

In general the form of contract will be Employer Design with the contractor providing ancillary design and compliance certification for the factory manufactured modular units.

The Design Team employed by the School Authority will be responsible for locating the modular accommodation on the site to ensure that future development is not adversely affected and for designing the site works including site services.

Planning permission (where required), Fire Safety Certificate and Disability Access Certificate will generally be obtained by the Design Team.

The Design Team (and PSDP) will also prepare the tender documents, comprising layout drawings, specification, pricing document including project preliminaries, form of tender and instructions to tenderers, preliminary health & safety plan and preliminary BCAR inspection plan and conduct the tender process in accordance with public procurement requirements.

The Assigned Certifier will be the Design Team Leader or an independently Employer appointed Assigned Certifier. The Assigned Certifier will be expected to satisfy him/herself that the modular units have been manufactured in accordance with the specification and in compliance with the Building Regulations. This will generally involve one or more visits to the factory to inspect the units while under construction.

The design calculations for the building services shall be provided by the contractor and assessed for compliance with the specification and with the Building Regulations by the Design Team Building Services Engineer.

13. APPENDICES

13.1 APPENDIX A: HEALTHY CLASSROOM SAMPLE LAMINATED A4 INFORMATION LABEL



An Roinn Oideachais
agus Scileanna
Department of
Education and Skills

HEALTHY CLASSROOM

Temperature Recorded in °C

19° - 22°



NO ACTION

23° - 24°



POSSIBLE FIRST ACTION
ADJUST HEATING
POSSIBLE SECOND ACTION
OPEN WINDOW

25°+



TAKE ACTION
ADJUST HEATING
OPEN WINDOW

Carbon Dioxide Levels Recorded in parts per million

High levels of Carbon Dioxide can cause a deterioration in concentration and decision making

<1000



NO ACTION

>1000 <1500



POSSIBLE ACTION
OPEN WINDOW

1500 +



TAKE ACTION
OPEN WINDOW

Ventilation

Classrooms depend on Natural Ventilation to help regulate the room temperature, maintain acceptable carbon dioxide levels and supply fresh air to the occupants. Windows can be closed when not required to reduce heat loss and conserve energy. Background ventilators located in external walls and windows should be kept in the opened position during times of occupation.

PLANNING AND BUILDING UNIT

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13.2 APPENDIX B COMPLIANCE WITH PART L OF THE BUILDING REGULATIONS 2017

Compliance with Part L of the Building Regulations 2017 Reporting Form

To be completed and submitted to the Planning and Building Unit at each project stage to demonstrate the design approach & compliance with Part L of the Building Regulations 2017.

School Name School Roll No Address Project stage Has planning permission been granted for this project?	
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Metric SBEM inputs used	Optional solution for compliance with Part L 2017 using an Air Source Heat Pump (Split unit)	Design Team criteria used to ensure compliance with Part L 2017
Roof U value (W/m ² k)	0.15	
Wall U value (W/m ² k)	0.18	
Floor U value (W/m ² k)	0.15	
Window U value (W/m ² k)	1.4	
External Doors U value (W/m ² k)	2.2	
G Value (%)	50	
Light Transmittance (%)	71	
Glazing Area (%)	30%	
Thermal Bridging	As per Psi table below	
Air Permeability (m ³ /m ² /h)	3	
Lighting Luminaire (lm/circuit watt)	125	
Lighting Type	LED throughout	
Occupancy Control	Man On/Man Off	
Daylight Control	Photoelectric Switching/Standalone	
Parasitic Power of Occupancy/Daylight Controls (W/m ²)	0.1	
Metering Provision for Lighting	No	
Heating System	Split or Multi split system	
Cooling System	Natural Ventilation in reality but use of split unit engages the cooling also and so SEER/EER below	

Metric SBEM inputs used	Optional solution for compliance with Part L 2017 using an Air Source Heat Pump (Split unit)	Design Team criteria used to ensure compliance with Part L 2017
Source	Heat pump (electric); air source	
Fuel	Electricity	
Heating Seasonal Efficiency -EER	3.63	
Cooling SEER/EER	7.4/3.23	
Metering Provision	No	
Hot Water System	Electric Under-sink water heater	
Hot Water Efficiency (%)	95	
Ventilation	Natural Ventilation	
Rooms with Exhaust	Toilets	
Toilet Exhaust Rate (ach/hr)	Toilets – 10 ach	
Terminal Unit SFP W/(L/s))	0.3	
Supply Fan	No	
Variable Speed Control of Fans & Pumps	Yes	
Power Factor	0.9-0.95	

Psi Values Table:

Type of Junction	W/mk
Roof-wall	0.12
Wall-ground floor	0.063
Wall-wall (corner)	0.062
Wall-floor (not ground floor)	0.07
Lintel above window or door	0.144
Sill below window	0.048
Jamb at window or door	0.064

Heating System Provided:

Required Renewable Energy output kWh/m ² /yr.	System Provided	Full Details of the System Provided

Provisional BER Certificates:

Design Team to append copy of provisional BER Certificate to this completed form.

Updated Overheating room schedule:

Design Team to append updated schedule of rooms overheating analysis formatted as per section 5 (r) of TGD's 030 and 031 respectively.

We confirm that the design of the above named school project complies in full with Part L of the Building Regulations 2017 requirements, based on the criteria as outlined in the tables above and appended documents.

Consultant	Name	Signature	Date
Architect			
M & E Consultant			
Quantity Surveyor			
Structural Engineer			