

Waterford Ireland's **Best** Place **To Live**



“Some work done and more to do”

Walter Holden A / Senior Architect

Housing Supply, Maintenance, Improvement and Ukraine Housing

CSO Vacancy rate status WCCC

2016

- Total dwelling 52,491
- Total Vacancy 5,194
- Vacancy Percentage 10%

2022

- Total dwelling 54,847
- Total Vacancy 3,871
- Vacancy Percentage 7%

Figure 4.2 Vacancy rate by dwelling type and county, 2016 to 2022



July 27, 2023 11:00:00 UTC

© Central Statistics Office, Ireland
<https://data.cso.ie/table/F2027>

It's too expensive

Society of Chartered Surveyors Ireland.
Real Cost of Renovation: Derelict & Vacant Properties for Residential Use

Table 1: Summary of financial viability – 20 case studies of vacant and derelict property.

	Total development costs, incl. VAT	Market value pre renovation	Market value after renovation	Financial viability assessment (without any grants)	Financial viability assessment with Croí Cónaithe (Town's) Fund Scheme (€30k)	Financial viability assessment with Croí Cónaithe (Town's) Fund Scheme (€50k)	Financial viability assessment with €50k Croí Cónaithe + SEAI* (€21.5k)	If Croí Cónaithe (Town's) Fund Scheme is €100k
Trim, Meath	€328,896	€95,000	€350,000	-€73,896	-€43,896	-€23,896	-€2,396	€26,104
Salthill, Galway	€374,774	€725,000	€1,175,000	€75,226	€105,226	€125,226	€146,726	€175,226
Askeaton, Limerick	€161,477	€40,000	€140,000	-€61,477	-€31,477	-€11,477	€10,023	€38,523
Abbeyfeale, Limerick	€189,601	€55,000	€145,000	-€104,601	-€74,601	-€54,601	-€33,101	-€4,601
Askeaton, Limerick	€219,657	€30,000	€145,000	-€104,657	-€74,657	-€54,657	-€33,157	-€4,657
Ballinalack, Westmeath	€227,824	€85,000	€225,000	-€87,824	-€57,824	-€37,824	-€16,324	€12,176
New Bride Street, Portobello, Dublin 8	€377,162	€385,000	€865,000	€102,838	€132,838	€152,838	€174,338	€202,838
Main Street, Dundrum, Dublin 14	€338,256	€410,000	€575,000	-€173,256	-€143,256	-€123,256	-€101,756	-€73,256
Dun Laoghaire, Dublin	€176,203	€245,000	€425,000	€3,798	€33,798	€53,798	€75,298	€103,798
Prosperous, Kildare	€289,673	€170,000	€325,000	-€134,673	-€104,673	-€84,673	-€63,173	-€34,673
Schull, Cork	€280,022	€300,000	€600,000	€19,978	€49,978	€69,978	€91,478	€119,978
Kells, Meath	€291,540	€200,000	€400,000	-€91,540	-€61,540	-€41,540	-€20,040	€8,460
Beara, Cork	€605,410	€230,000	€450,000	-€385,410	-€355,410	-€335,410	-€313,910	-€285,410
Killarney Post Office, Kerry	€1,135,672	€675,000	€1,200,000	-€610,672	n/a	n/a	n/a	n/a
Bailieborough, Cavan	€1,098,320	€100,000	€800,000	-€398,320	n/a	n/a	n/a	n/a
Henry Street, Dublin	€658,805	€165,000	€790,000	-€33,805	n/a	n/a	n/a	n/a
Kilkenny Post Office, Kilkenny	€516,218	€200,000	€630,000	-€86,218	n/a	n/a	n/a	n/a
Grafton Street, Dublin	€861,726	€378,000	€1,300,000	€60,274	n/a	n/a	n/a	n/a
Main St, Askeaton, Limerick (Unit 1 and 2)	€353,573	€150,000	€385,000	-€118,573	n/a	n/a	n/a	n/a
Clondalkin, Dublin 20	€490,799	€120,000	€440,000	-€170,799	n/a	n/a	n/a	n/a

Investor-type property Owner occupier-type property

*Average Sustainable Energy Authority of Ireland (SEAI) grant (€21,500) drawn down by consumers for similar properties to those in the case studies. SEAI grants are not applicable to new buildings or extensions. An SEAI Better Energy Home Scheme Grant may be available in combination with the Croí Cónaithe (Town's) Fund. Works covered by the SEAI Better Energy Homes Scheme will therefore not be covered under the Vacant Property Refurbishment Grant. The local authority must satisfy itself that proposed works are not claimed for under any other grant. Further details are available on the SEAI website: www.seai.ie. Source: SCSl research.

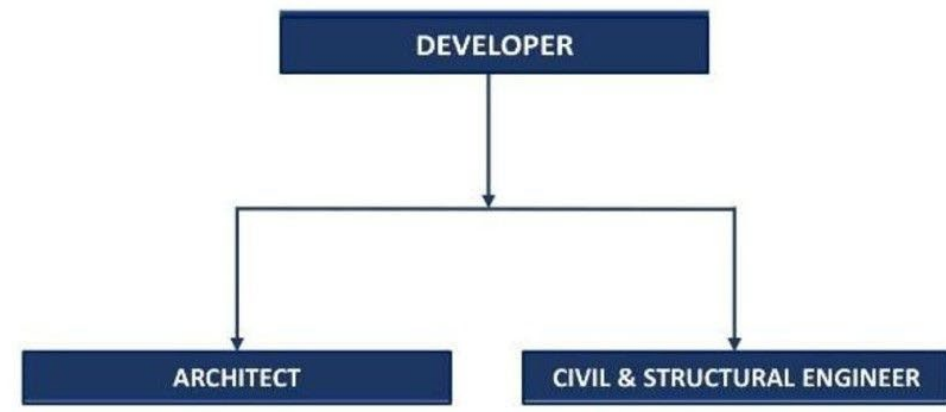
“less than a third of the buildings would be financially viable for restoration to habitable use.”

Dr Kathleen Stokes & Michelle Connolly
Opportunities and challenges of vacant above the shop units for residential use in Ireland

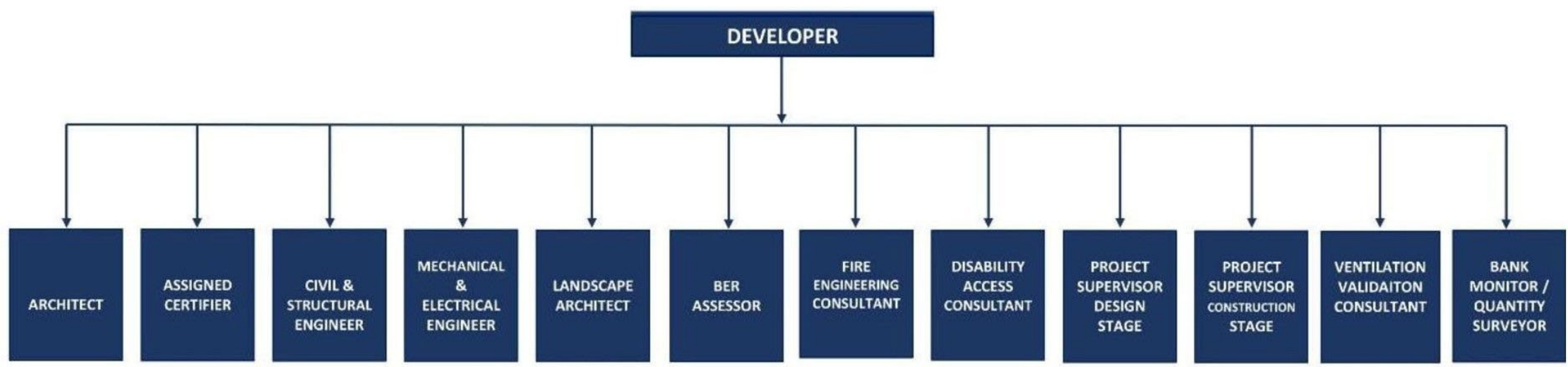
The screenshot shows the Dublin Inquirer website. The article title is "Report into vacant above-the-shop units finds that they are too expensive to be widely used for social homes". A quote from researcher Michelle Connolly is visible: "Financially it worked out two to three times the cost of delivering a new unit," said researcher Michelle Connolly, of Dublin Simon Community.

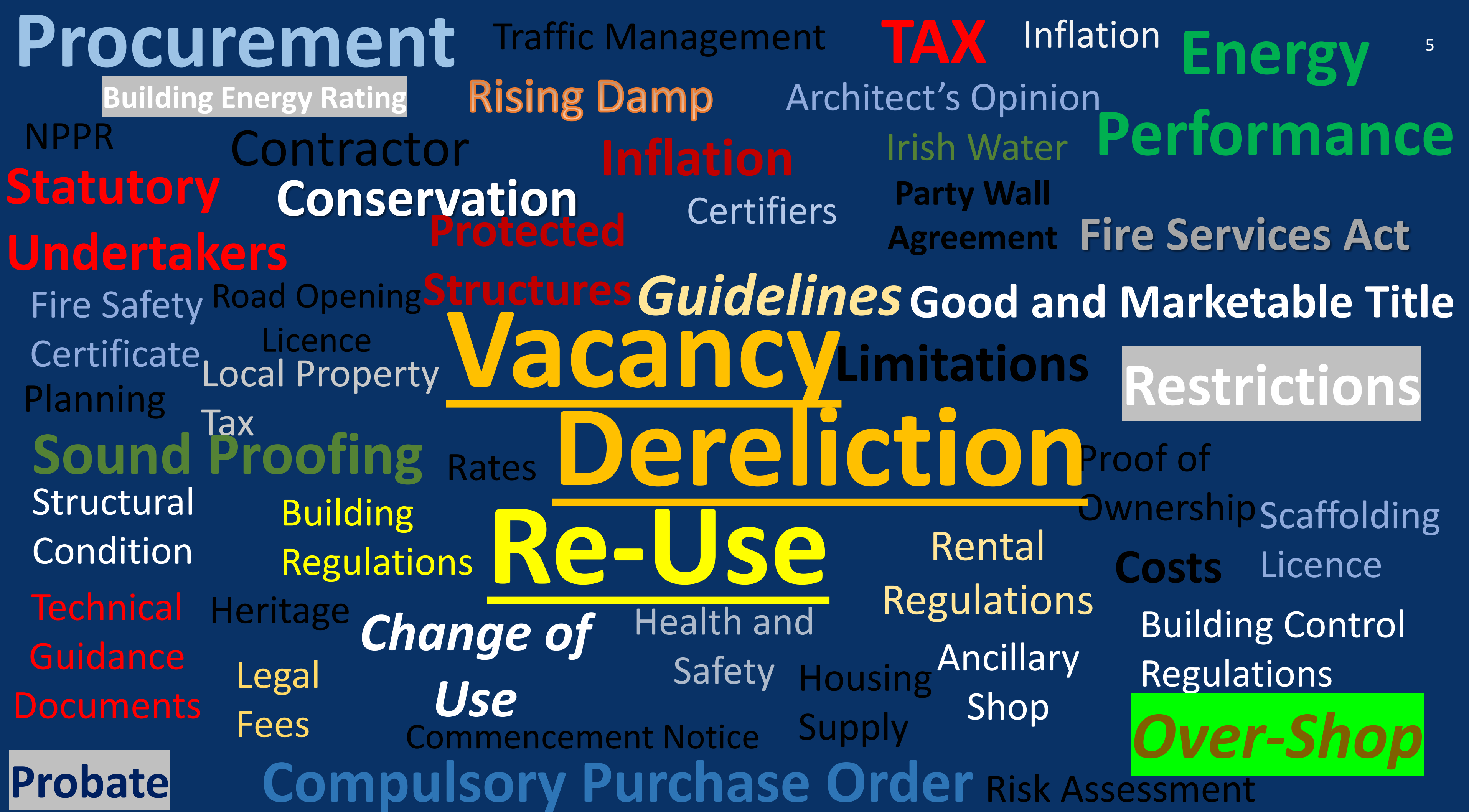
“Financially, it worked out two to three times the cost of delivering a new unit,”

Typical Team Structure – Galway Residential Project 2003



Typical Team Structure – Galway Residential Project 2023









Rialtas na hÉireann
Government of Ireland

Bringing Back Homes

Manual for the reuse of
existing buildings (2nd edition)



Department of Housing,
Local Government and Heritage
housing.gov.ie



Old House New Home

An **RIAI publication** on how to Understand,
Reimagine, Conserve your Historic Home

RIAI








Clár Éire Ildánach
Creative Ireland
Programme
2017-2022

An Roinn Tithíochta,
Rialais Aitheilt agus Oidhreachta
Department of Housing,
Local Government and Heritage



Comhairle Cathrach & Contae Phort Láirge
Waterford City & County Council

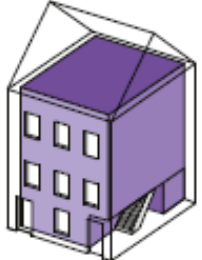
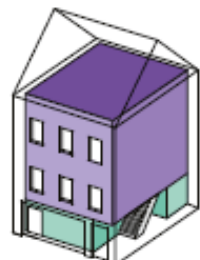
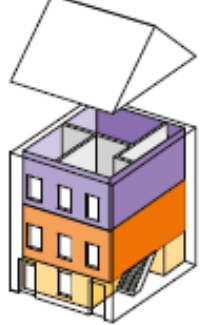
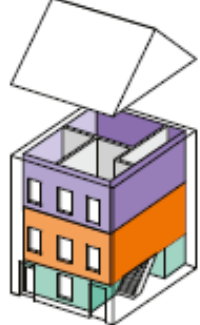
Bringing Back Homes

Existing Building	Reuse Options	Do the works require Planning Permission?	Do the works require a Fire Safety Certificate?	Do the works require a Disability Access Certificate (DAC)?
Type 4 Multi-Storey Building (Non-Dwelling)    Elevation Section	Option a Conversion of a multi-storey building (non-dwelling) into a single dwelling. 	Planning permission required unless Exempted Development Regulations, 2022 apply, (See Appendix 1).	A Fire Safety Certificate is not required for a building which undergoes a material change of use* to a single dwelling.	A Disability Access Certificate is not required.
	Option b Maintaining a non-dwelling unit at ground floor and creating a two-storey dwelling overhead. NOTE: This is a material change of use* of the building. 	Planning permission required unless Exempted Development Regulations, 2022 apply, (See Appendix 1).	A Fire Safety Certificate is required for a building which undergoes a material change of use,* i.e. the whole building.	A Disability Access Certificate is not required for a material change of use to a dwelling(s).
	Option c Conversion of a multi-storey building (non-dwelling) into multiple dwellings. 	Planning permission required unless Exempted Development Regulations, 2022 apply, (See Appendix 1).	A Fire Safety Certificate is required for a building which undergoes a material change of use,* i.e. the whole building.	A Disability Access Certificate is not required.
	Option d Maintaining a non-dwelling unit at ground floor and creating multiple dwellings overhead. 	Planning permission required unless Exempted Development Regulations, 2022 apply, (See Appendix 1).	A Fire Safety Certificate is required for a building which undergoes a material change of use,* i.e. the whole building.	A Disability Access Certificate is not required for a material change of use to a dwelling(s).
NOTE: * Reference to Material change of use in the context of Building Regulations (See Appendix 2).		** Planning permission may be required in certain circumstances, for example, if proposed works on the ground floor conflict with an objective in the relevant development or local area plan for the ground floor to remain in retail use. Consult the relevant planning authority.		



Bringing Back Homes

Figure 6 - Type 4 Multi-Storey Building (Non-Dwelling)

Option a Conversion of a multi storey building (non dwelling) into a dwelling	Option b Maintaining a non dwelling unit at ground floor and creating a two storey dwelling overhead
 <p>Typical Scale of Intervention</p> <ul style="list-style-type: none"> • Building Regulations* apply, as this work is a material change of use to the building. Typical works will include: <ul style="list-style-type: none"> - Fire resistance of floors and stairway enclosure - Provision of services (including heating, lighting and plumbing) - Installation of fire-alarm system in the dwelling - Upgrade of thermal insulation - Replacement of windows <p>NOTE: Where the building is greater than 3 storeys in height, further provisions/measures may apply.</p> <ul style="list-style-type: none"> • Rental standards regulations apply in any case where it is proposed to offer a dwelling for rental.** 	 <p>Typical Scale of Intervention</p> <ul style="list-style-type: none"> • Building Regulations* apply, as this work is a material change of use to the upper floor levels. Typical works will include: <ul style="list-style-type: none"> - Fire resistance of intermediate floor and stairway enclosure - Fire separation and sound insulation between non-dwelling and dwelling (walls and floors) - Provision of independent services (including heating, lighting and plumbing) - Installation of fire-alarm system in the dwelling - Upgrade of thermal insulation - Replacement of windows <p>NOTE: Where the building is greater than 3 storeys in height, further provisions/measures may apply.</p> <ul style="list-style-type: none"> • Rental standards regulations apply in any case where it is proposed to offer a dwelling for rental.**
Option c Conversion of a multi storey building (non dwelling) into multiple dwelling	Option d Maintaining a non dwelling unit at ground floor and creating multiple dwellings overhead
 <p>Typical Scale of Intervention</p> <ul style="list-style-type: none"> • Building Regulations* apply, as this work is a material change of use to the building. Typical works will include: <ul style="list-style-type: none"> - Fire separation and sound insulation between dwellings (walls and floors) and access corridors - Provision of independent services to each dwelling (including heating, lighting and plumbing) - Installation of integrated fire-alarm system in the building - Upgrade of thermal insulation - Replacement of windows <p>NOTE: Where the building is greater than 3 storeys in height, further provisions/measures may apply.</p> <ul style="list-style-type: none"> • Rental standards regulations apply in any case where it is proposed to offer a dwelling for rental.** 	 <p>Typical Scale of Intervention</p> <ul style="list-style-type: none"> • Building Regulations* apply, as this work is a material change of use to the upper floors. Typical works will include: <ul style="list-style-type: none"> - Fire separation and sound insulation between dwellings (walls and floors), access corridors and non-dwelling unit - Provision of independent services to each dwelling (including heating, lighting and plumbing) - Installation of integrated fire-alarm system in the building - Upgrade of thermal insulation - Replacement of windows <p>NOTE: Where the building is greater than 3 storeys in height, further provisions/measures may apply.</p> <ul style="list-style-type: none"> • Rental standards regulations apply in any case where it is proposed to offer a dwelling for rental.**

*See Appendix 2 for the application of the Building Regulations to works to existing buildings.

**See Appendix 3 for Minimum Standards in Rented Accommodation.



Example



05 Mall Lane, Waterford City 4 Bed		(2 bed)
Purchase Costs	€120,000*	€120,000*
Works Costs	€240,000	(€120,000)
Other Costs	€10,000	€10,000
Total Cost	€370,000	€250,000
Per bed costs	€92,500	€125,000



15 Chapel Street Lismore		2 Bed
Purchase Costs	€50,000*	
Works Costs	€120,000	
Other Costs	€10,000	
Total Cost	€180,000	
Per bed costs	€90,000	

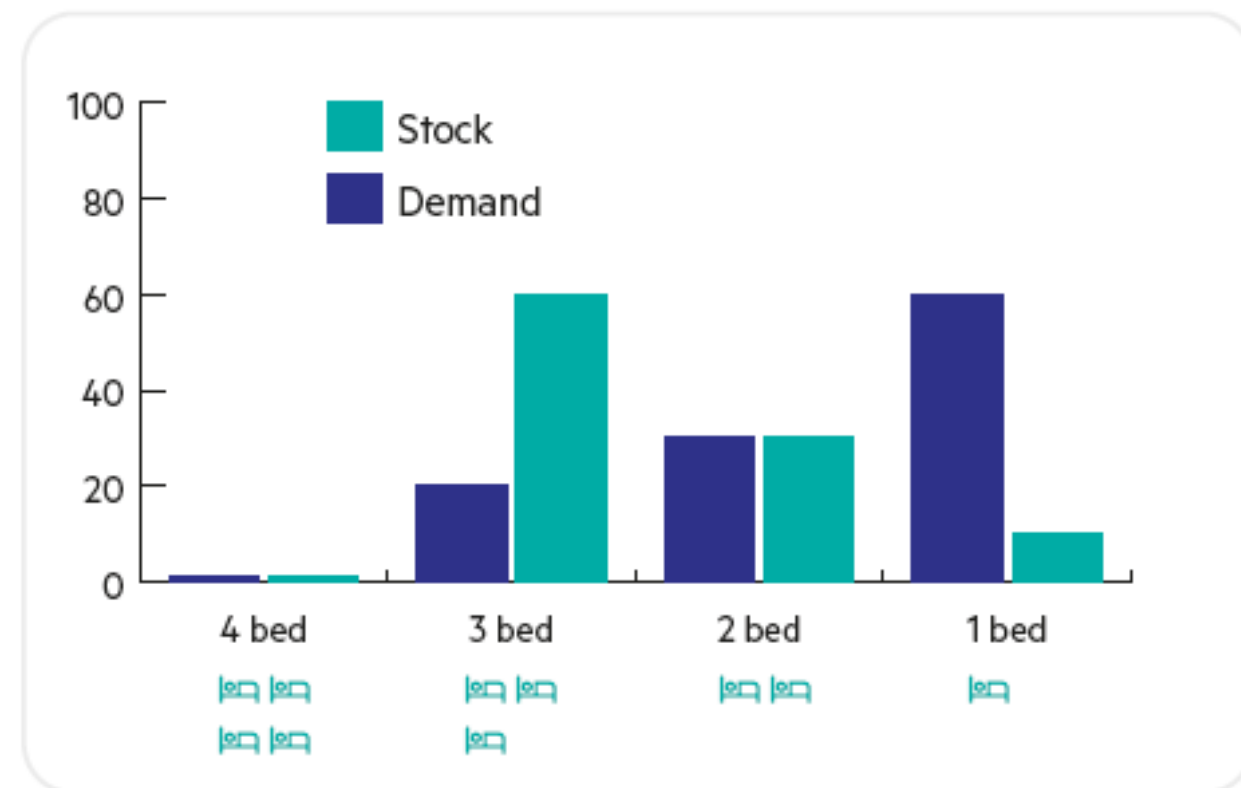
*(Pre Croí Conaíthe)



Social Housing Requirements

Social housing needs

- 81% of WCCC needs is in Waterford City Metropolitan District
- 11% are classified as having a disability
- 10% of WCCC needs are classified as being over 60 years of age
- 11% of WCCC needs are classified as being over 50-59 years of age



Return to Use of vacant property Housing

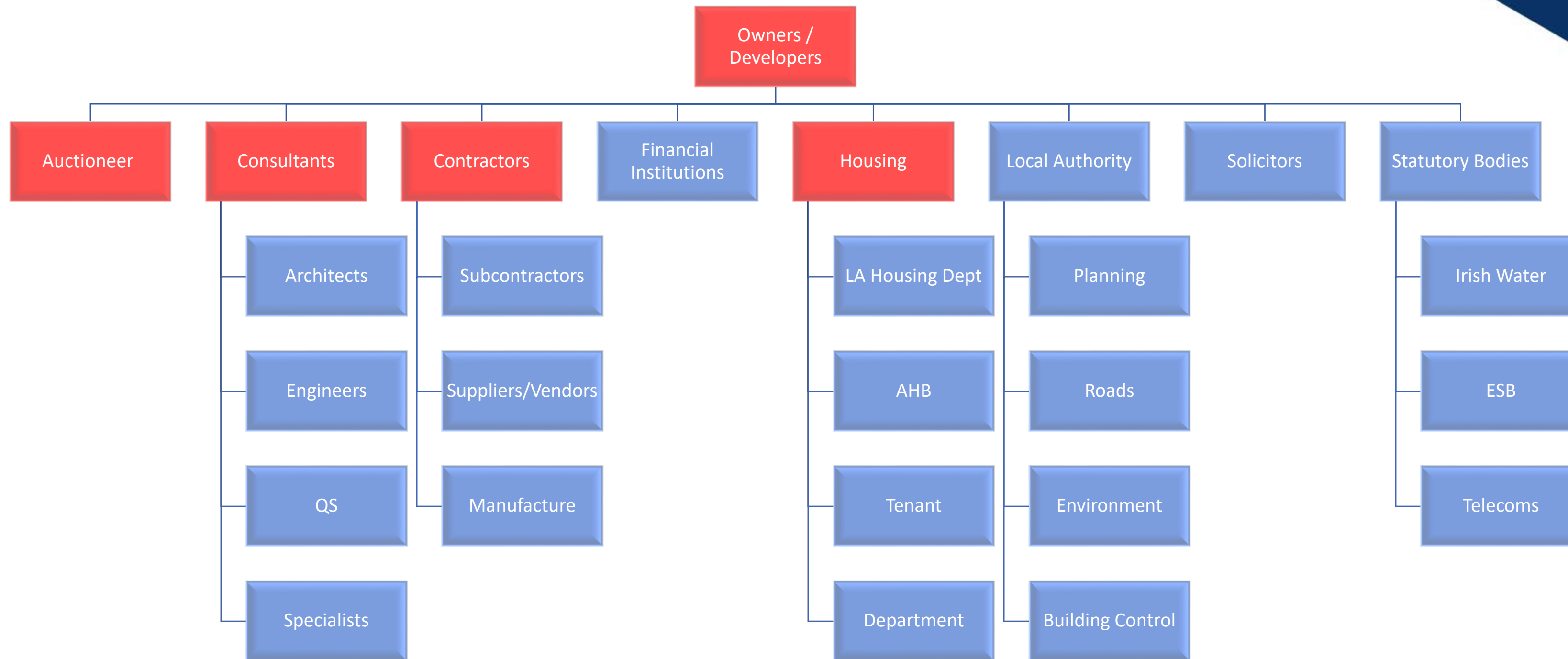
- **Repair and Lease**
 - Over 350 dwellings have been delivered
 - C. 160 dwellings in the pipeline
- **Croí Conaíthe, Vacant Property Refurbishment Grant**
 - 14 Completed
 - Over 214 applications received
- **Buy and Renew**
 - Over 190 dwellings have been delivered
 - C. 15 dwellings in the pipeline
- **Renew Construction / Turnkeys**
 - Over 21 dwellings have been delivered
 - C. 80 units in the Pipeline
- **Brownfield site construction**
 - Over 150 dwellings have been delivered
 - C. 250 units in the Pipeline

Total Over 725 dwellings been delivered
C. 719 dwellings in pipeline

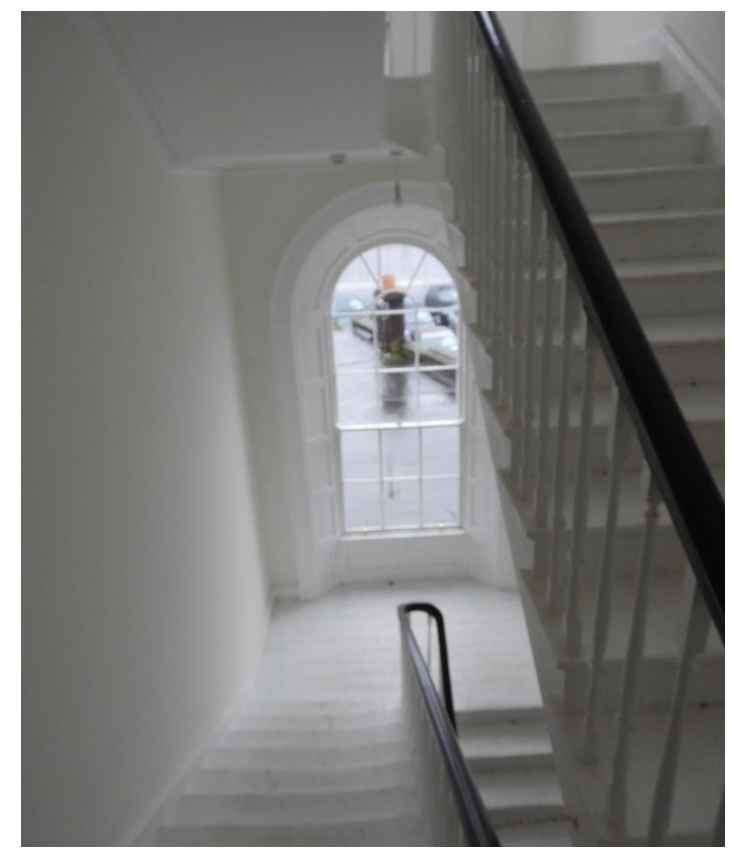
Technical	Time	Administrative	Time
Executive Engineer VHO	100%	Grade 5 Staff officer	100%
Executive Technician	50%		
Technician grade 1	85%		

Technical	Time	Administrative	Time
Executive Architect	50%	Grade 6 Senior staff officer	20%
Clerk of works	100%		
Clerk of works	30%		

Stakeholders



Repair & lease large dwelling



25 Catherines Street
5 apartments
Protected structure

Unit type
4 x 1 beds
1 x 2 beds

Distance
450m or 7-minute walk from
city centre.

Repair & lease over commercial unit



11 O' Connell Street
7 apartments
Protected structure

Unit type
4 x 1 beds
3 x 2 beds

Distance
400m or 6-minute walk from
city centre.

Repair & lease multi-storey building



Built in 1874 St Josephs House constructed by the Little Sisters of the Poor.

The Little Sisters of the Poor is a Catholic religious institute who dedicated their lives to caring for the elderly.

Over the course of the 136 years that the little Sisters occupied the house, it was used to care for older people of the area.

In 2010, The little Sisters vacated the site to move to a purpose-built facility in Ferrybank and the site on Manor Hill has since been mostly vacant ever since.



MDP + Partners

Repair & lease multi-storey building



St. Josephs, Manor Hill

71 apartments

- 50 in main building
- 21 in outbuildings

Protected structure

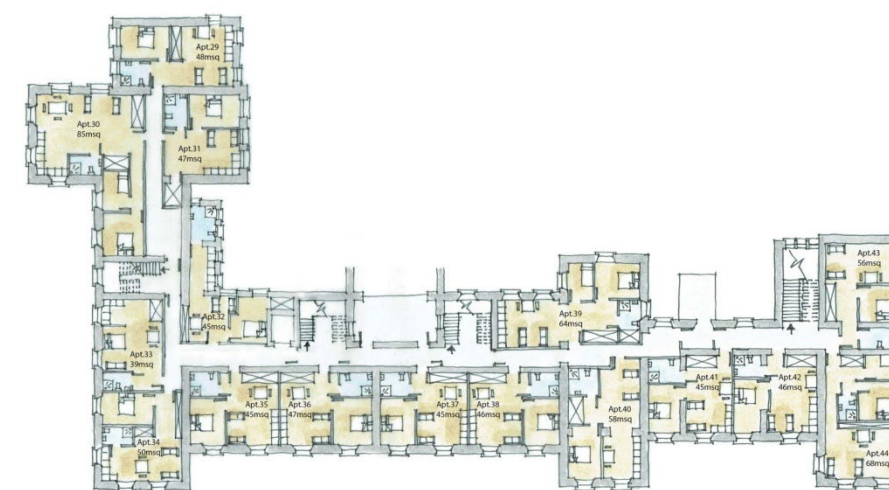
Unit type

- 42 x 1 beds
- 28 x 2 beds
- 3 x 3 bed

Distance

800m or 11-minute walk from city centre.

MDP + Partners



Buy and Renew



Barker Place, 16-18 O'Connell Street
16 apartments & Community drop in centre

Unit type
4 x 1 beds
12 x 2 beds

Distance
200m or 3-minute walk from city centre.



Renew Construction



36 Mayors Walk

- 2 x 1-bedroom Apartments

17 Shortcourse Court

- 1-bedroom house

Distance

400m or 5-minute walk from city centre.

600m or 8-minute walk from city centre.



New Build Brownfield Site



Ostmen Place, Ballytruckle
14 apartments – All own door

Unit type

- 4 x 1 beds
- 9 x 2 beds
- 1 x 3 bed

Distance

1.5km or 21-minute walk from city centre.

Density

93 unit to the HA.



Croí Conaítthe, Vacant Refurbishment Grant



Grants of up to €50,000 or €70,000 Vacant Property Refurbishment Grant

- have proof of ownership
- live in the property as your principal private residence or make it available for rent;
- vacant for at least 2 years

55% Detached
27% Terrance
16% Semi-detached
2% Apartments

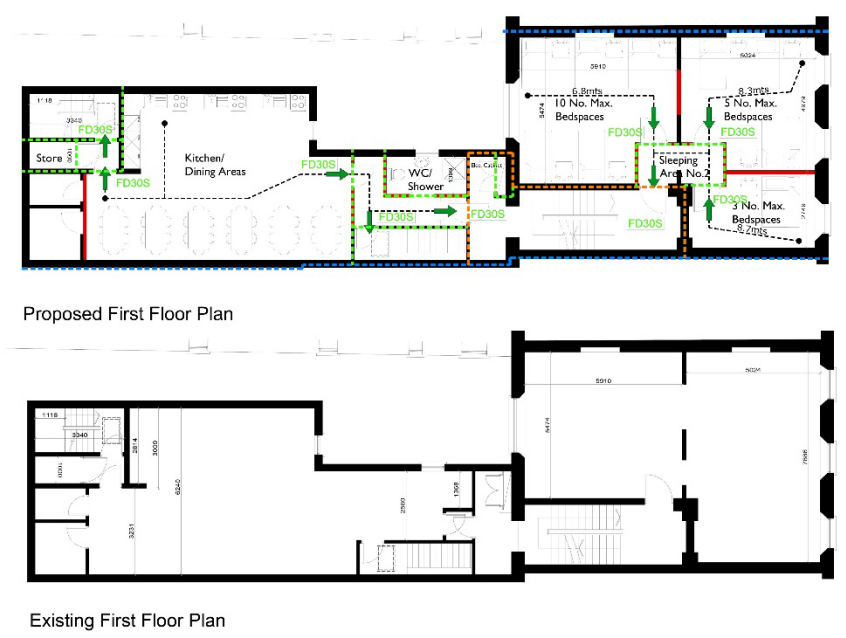
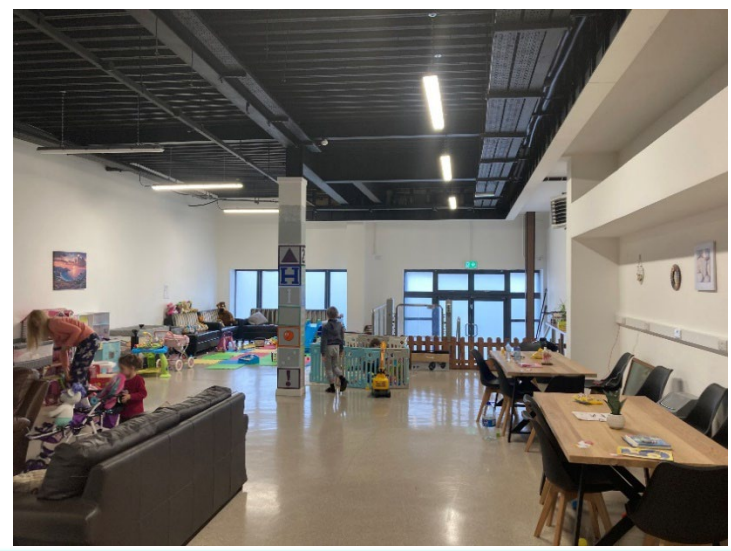


CUMMINS + VOORTMAN LTD
Sustainable Architecture & Urban Design



Comhairle Cathrach & Contae Phort Láirge
Waterford City & County Council

Ukraine Humanitarian Response



WCCC have delivered over 350 beds in several different vacant buildings in Waterford.

Intake from April 3rd 2022 into WCCC centres to 26/01/2024 was 2,098 through these 350 beds.

Renew Construction 29 The Glen



	Current Budget Application €	Recommended Budget €	Notes
Total Contract Sum (incl. VAT)	837,050.78	837,050.78	Note 1
Cost of Site	160,000.00	160,000.00	Note 2
<u>Technical Fees/Salaries</u>			
Design Team	81,123.86	81,123.86	Note 3
LA Contract Monitoring & Management	3,687.45	3,687.45	Note 4
LA Administration	14,749.79		Note 5
Site Investigations/Surveys	1,500.00	1,500.00	Note 6
Utilities	40,000.00	40,000.00	Note 6
<u>Other Costs</u>			
Legal Fees	1,689.87	1,689.87	Note 6
Percent for Art	7,374.90	7,374.90	Note 7
TOTAL ALL IN COST €	1,147,176.65	1,132,426.86	

29 The Glen

4 apartments

Protected structure

Unit type

- 4 x 1-bedroom Apartments

Distance

650m or 10-minute walk from city centre.

All Cost

€286,794.16 per unit



Renew Construction 29 The Glen



Falling façade (structural unsound)
Vegetation growth
Temporary structures
Rotten timber
Mould
No ventilation
Dampness
Roof condition



Renew Construction 29 The Glen



Falling façade
Vegetation growth
Temporary structures
Rotten timber
Mould
No ventilation
Dampness



Renew Construction 29 The Glen



Falling façade
Vegetation growth
Temporary structures
Rotten timber
Mould
No ventilation
Dampness
Water ingress



Renew Construction 29 The Glen



Falling façade
Vegetation growth
Temporary structures
Rotten timber
Mould
No ventilation
Dampness



Renew Construction 29 The Glen Floors and ceiling



Loadbearing timber joist floors performance (continued)
Ceiling directly fixed to new or existing solid timber joist floors

For details of when to specify fire resistance using BS refer to CO2, SOL, P18

Table 1b - Solutions to satisfy the requirements of BS 476: Part 21: 1987

Detail	Nominal floor depth mm	Board type	Ceiling lining thickness mm	Noggings required	Maximum loadbearing ratio	Sound Insulation Airborne R_w dB	Impact L_w dB	System reference
30 minutes fire resistance (BS)								
2	230	Cyproc Wallboard	1 x 12.5	Yes*	60%	36	-	CD14003
1	230	Cyproc Fireline	1 x 12.5	Yes*	60%	38	-	CD16004
1	232	Cyproc Wallboard	1 x 15	Yes*	100%	40	-	C106029
6	278	Cyproc Wallboard	1 x 15	Yes*	60%	41	-	C206015
60 minutes fire resistance (BS)								
3	242	Cyproc Fireline	2 x 12.5	Yes*	100%	40	76	CD16009
4	245	Cyproc Wallboard (inner layer) + Cyproc Fireline (outer layer)	1 x 12.5 + 1 x 15	Yes*	100%	40	76	CD16008
5	247	Cyproc Wallboard	2 x 15	Yes*	60%	40	76	CD16006
5	249	Cyproc Plank (inner layer) + Cyproc Wallboard (outer layer)	1 x 19 + 1 x 12.5	Yes*	60%	40	75	CD16007
90 minutes fire resistance (BS)								
5	247	Cyproc Fireline	2 x 15	Yes*	60%	40	78	CD14011

For further assistance in choosing the right solution for your project, try our System Selector, an online tool that enables quick and easy filtering by performance criteria. It provides system specific information downloads including BIM (Revit) objects. Go to gyproc.ie

*For non 18kg floors, overlay with 6mm plywood and ensure all joints are staggered.
 *At ceiling perimeter only.
 *At ceiling perimeter and to support outer layer ceiling board joints.
 *This value is based on a test with a typical 'T' joint. Consult manufacturers directly for information on specific 'T' joints.

NB The fire resistance and sound insulation performances are for imperforate partitions, walls and ceilings incorporating boards with all joints taped and filled, or skinned according to Gyproc's recommendations. The quoted performances are achieved only if Gyproc and lower components are used throughout, and the Company's fixing recommendations are strictly observed. Any variation in the specifications should be checked with Gyproc.

NB Where boards are fixed direct to timber joists, Gyproc Drywall Screws should be used as opposed to nail-fixing to minimise the risk of fixing defects occurring.

NB All the 30 and 60 minute specifications in table 1b can be used on the underside of an existing lath and plaster ceiling provided the existing ceiling is supported by chisels wire securely fixed to the joists and counter battened with minimum 38mm x 38mm timber at 600mm centres, with noggings to support the long edges of the outer layer board.

ROI: 1.800 744480 NI: 0845 3990159 tech.ie@saint-gobain.com C06, S08, P429

Floors

Structure
 Fire proception,
 Materials
 Sound,
 Ventilation
 Services, waste
 Energy

(part A)
 (Part B)
 (Part D)
 (Part E)
 (Part F)
 (Part H)
 (Part L)

Renew Construction 29 The Glen

Floors and ceiling

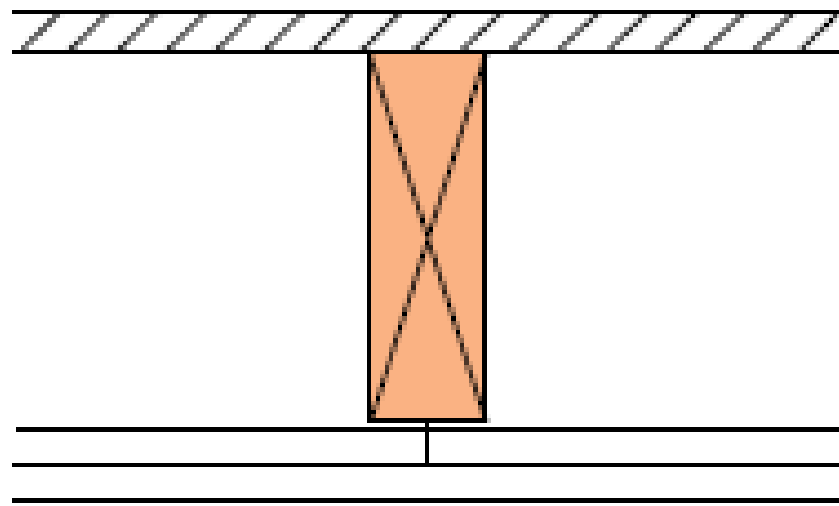
Detail	Nominal floor depth mm	Board type	Ceiling lining thickness mm	Noggings required	Maximum loadbearing ratio	Sound insulation		System reference	Floors
						Airborne R_w dB	Impact $L_{n,w}$ dB		
30 minutes fire resistance (BS)									
2	230	Gyproc WallBoard	1 x 12.5	Yes ²	60%	36	-	C014003	Structure Fire proception, Materials Sound, Ventilation Services, waste Energy
1	230	Gyproc FireLine	1 x 12.5	Yes ³	60%	38	-	C016004	
1	232	Gyproc WallBoard	1 x 15	Yes ²	100%	40	-	C106029	
6	278	Gyproc WallBoard	1 x 15	Yes ²	60% ⁴	41	-	C206015	
60 minutes fire resistance (BS)									
3	242	Gyproc FireLine	2 x 12.5	Yes ³	100%	40	76	C016009	(part A) (Part B) (Part D) (Part E) (Part F) (Part H) (Part L)
4	245	Gyproc WallBoard (inner layer) + Gyproc FireLine (outer layer)	1 x 12.5 + 1 x 15	Yes ²	100%	40	76	C016008	
5	247	Gyproc WallBoard	2 x 15	Yes ³	60%	40	76	C016006	
5	249	Gyproc Plank (inner layer) + Gyproc WallBoard (outer layer)	1 x 19 + 1 x 12.5	Yes ²	60%	40	75	C016007	



Renew Construction 29 The Glen

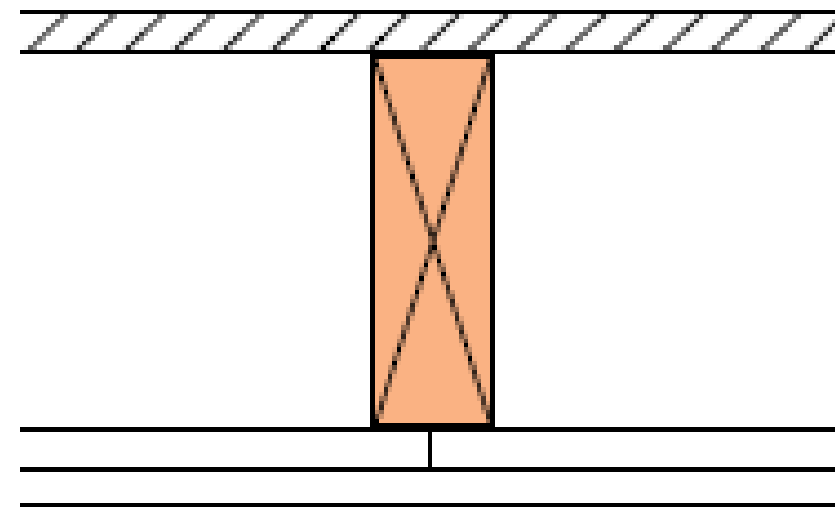
Floors and ceiling

3



22mm t&g¹ (softwood or chipboard)
 floor boarding over minimum
 195mm x 38mm timber joists at
 600mm centres. Noggings and
 linings as in table.

4



22mm t&g¹ (softwood or chipboard)
 floor boarding over minimum
 195mm x 38mm timber joists at
 450mm centres. Noggings and
 linings as in table.

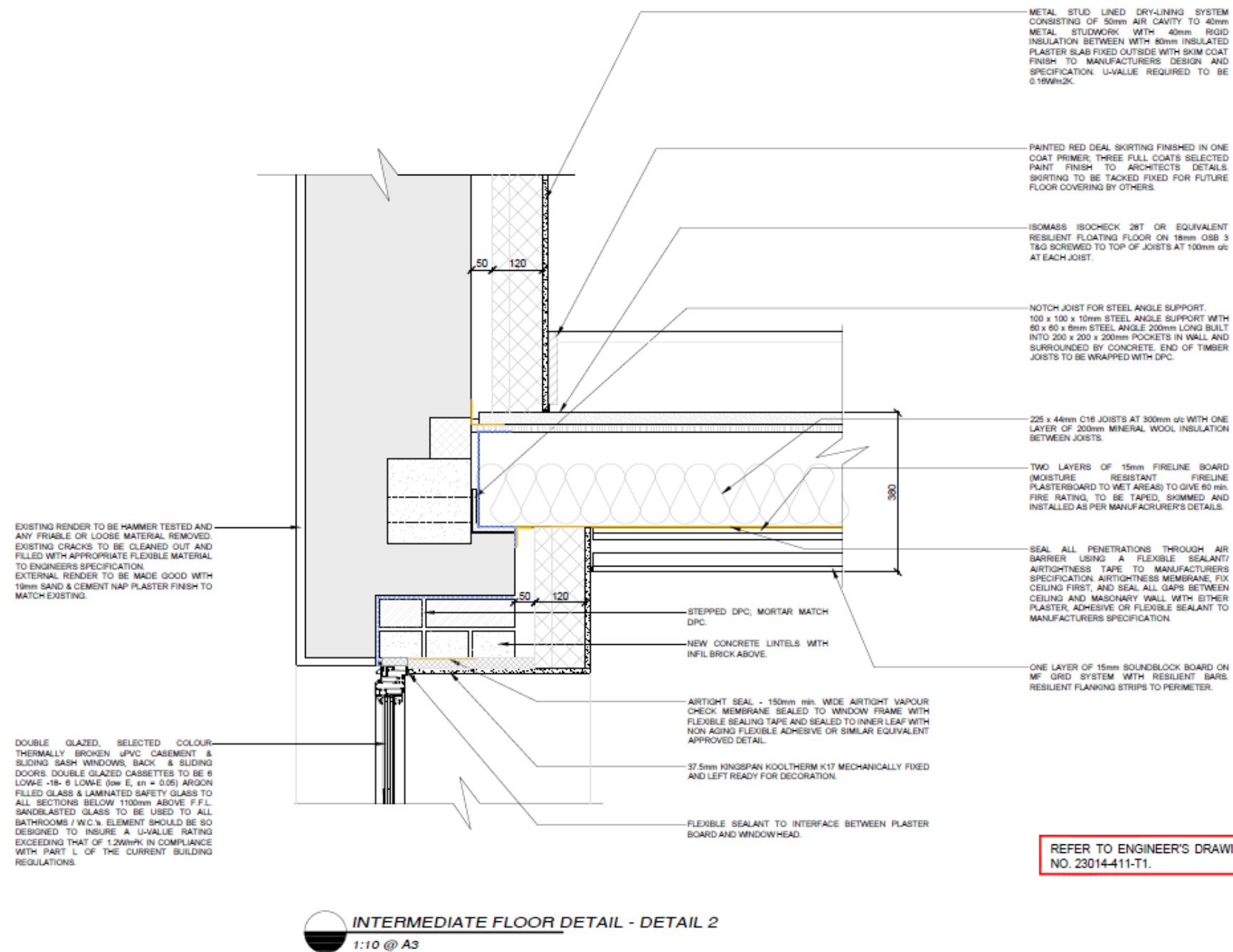
Floors

Structure	(part A)
Fire proception,	(Part B)
Materials	(Part D)
Sound,	(Part E)
Ventilation	(Part F)
Services, waste	(Part H)
Energy	(Part L)



Renew Construction 29 The Glen

Floors and ceiling



New floor joist required.

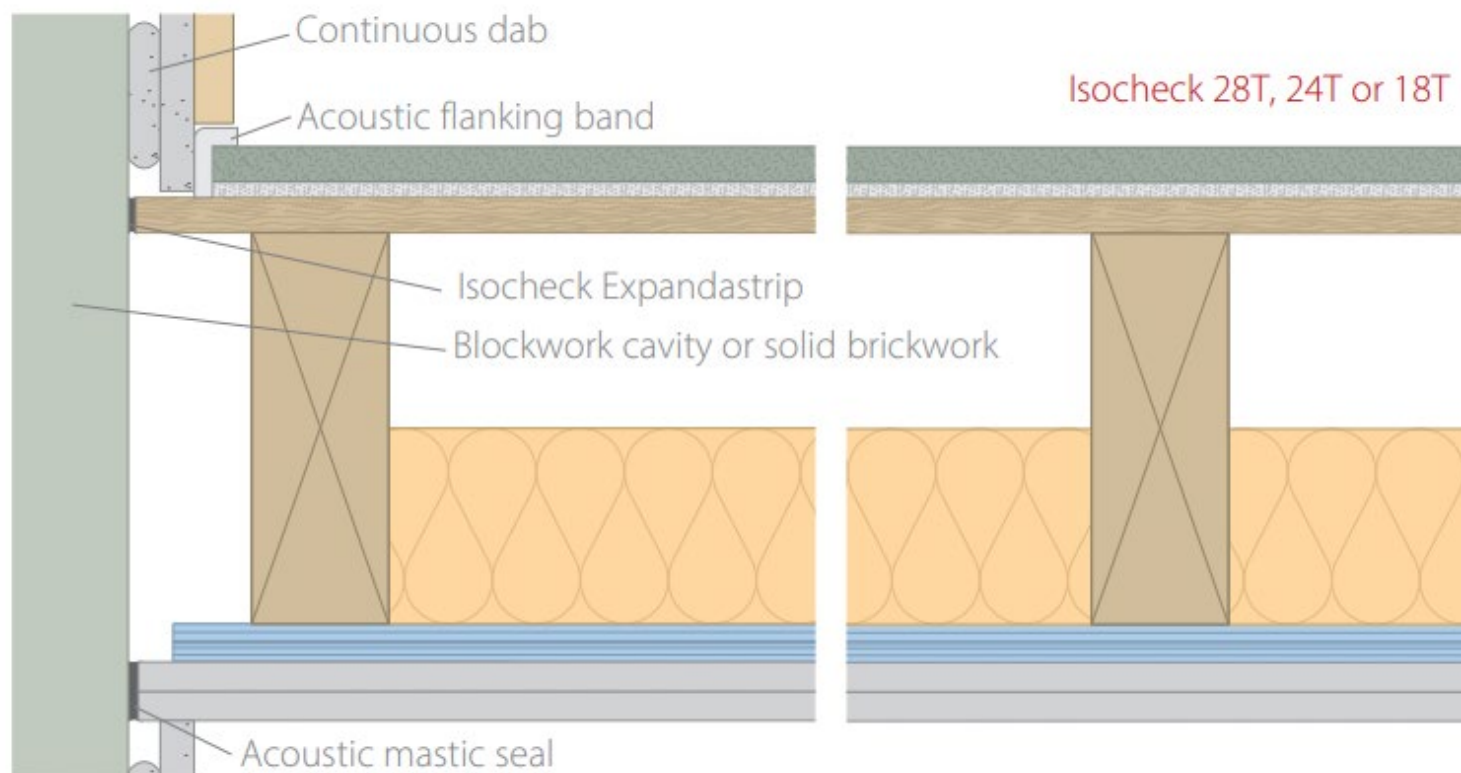
Floors

- Structure
- Fire proception,
- Materials
- Sound,
- Ventilation
- Services, waste
- Energy

- (part A)
- (Part B)
- (Part D)
- (Part E)
- (Part F)
- (Part H)
- (Part L)

Renew Construction 29 The Glen

Floors and ceiling



Floors

Structure	(part A)
Fire proception,	(Part B)
Materials	(Part D)
Sound,	(Part E)
Ventilation	(Part F)
Services, waste	(Part H)
Energy	(Part L)



Renew Construction 29 The Glen

Floors and ceiling



Fire rated ceiling



Rail system for final layer of plaster board



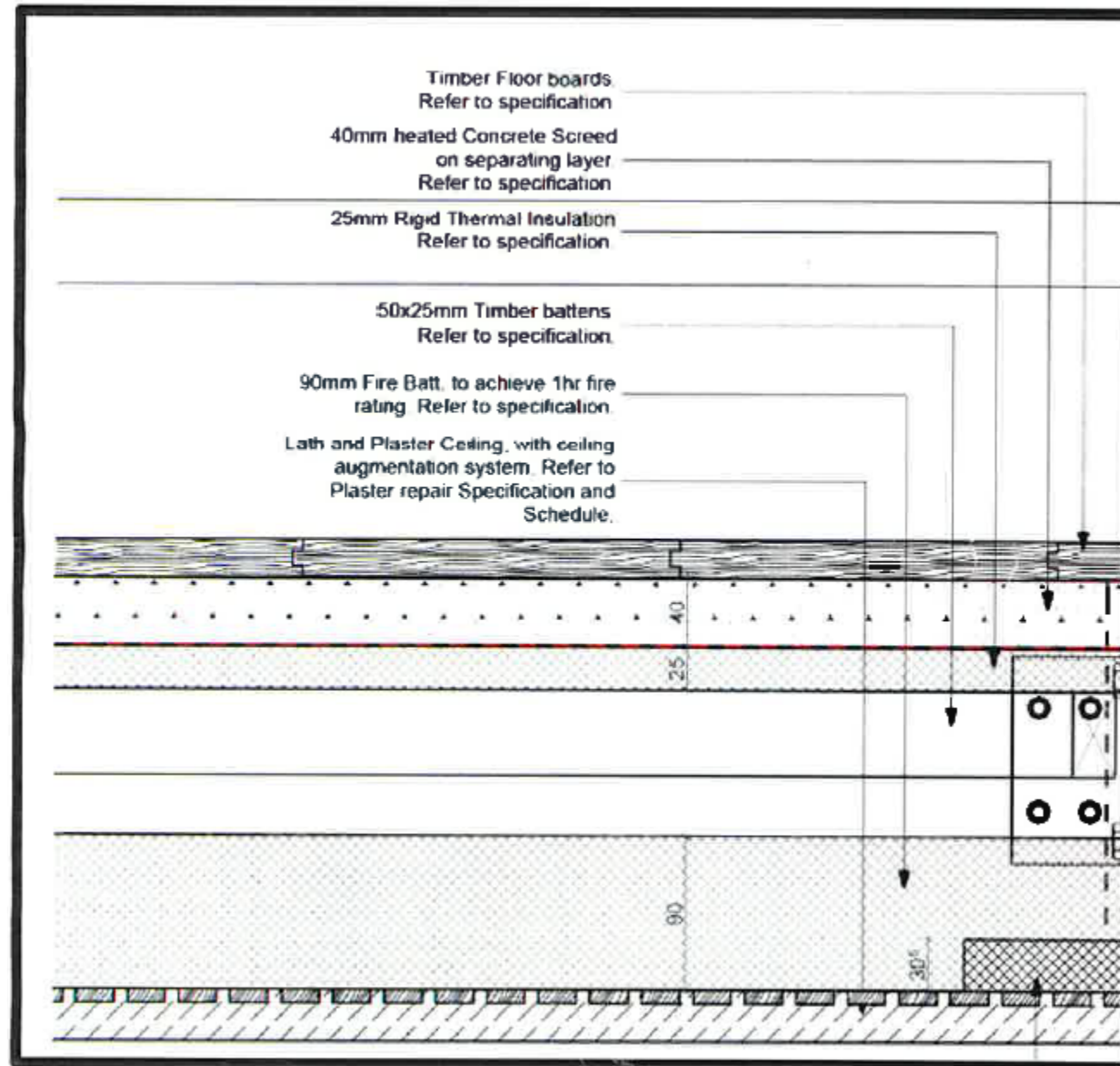
Requirements for step in access shower trays as flush shower trays have structural, fire, and sound issues

Floors

Structure	(part A)
Fire proception,	(Part B)
Materials	(Part D)
Sound,	(Part E)
Ventilation	(Part F)
Services, waste	(Part H)
Energy	(Part L)



Renew Construction 29 The Glen



Shaffrey architects

B3 Internal Fire Spread (Structure):

Two primary areas of concern:

- i. Floor construction to provide fire separation
- ii. Wall to provide fire separation

Floors – typically 60 mins protection:

- Proprietary fire barriers between joists
- Depth of joists/available space
- Consider penetrations (services, etc.), may need local modified details and local certification
- Retention of lath and plaster ceilings – augmentation and sequencing of works needs careful consideration

Floors

Structure	(part A)
Fire proception,	(Part B)
Materials	(Part D)
Sound,	(Part E)
Ventilation	(Part F)
Services, waste	(Part H)
Energy	(Part L)



Renew Construction 29 The Glen Walls

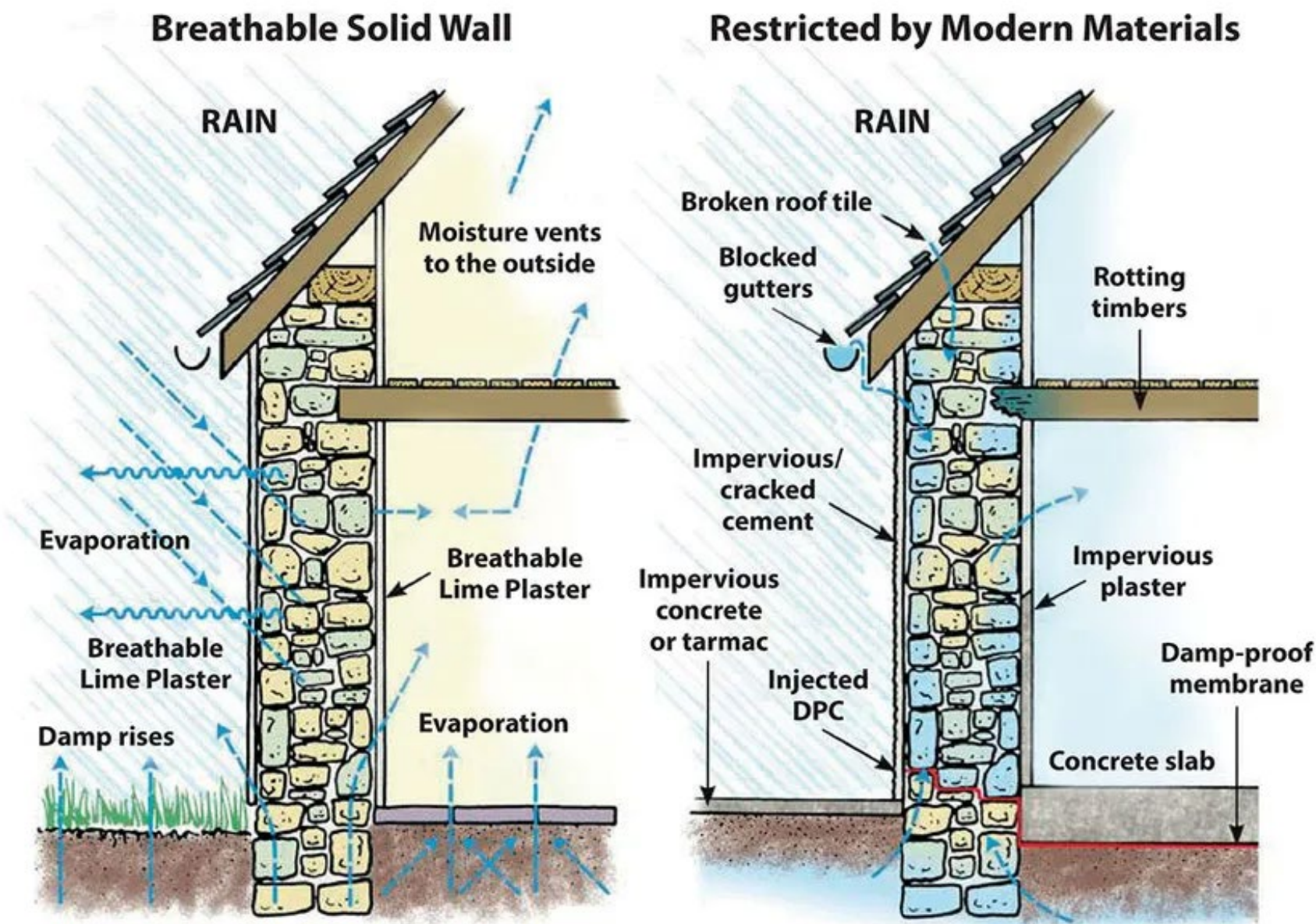


Fig 1: WUFI chart - without Vario® layer

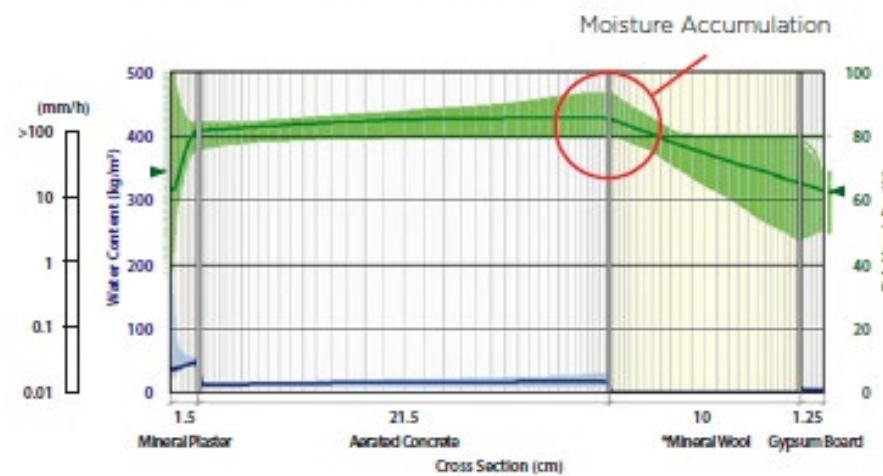
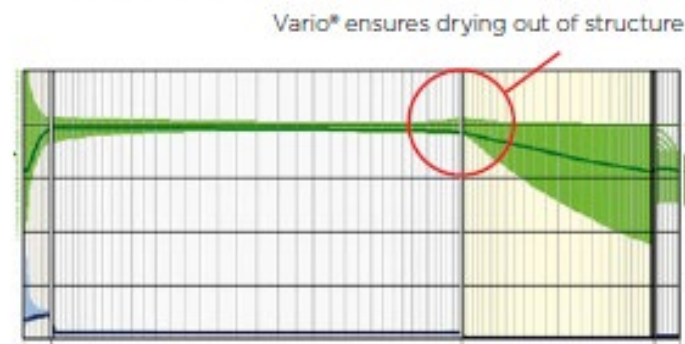


Fig 2: WUFI chart - with Vario® layer



Walls

Structure
 Fire proception,
 Moisture
 Materials
 Sound,
 Ventilation
 Services, waste
 Energy

(part A)
 (Part B)
 (Part C)
 (Part D)
 (Part E)
 (Part F)
 (Part H)
 (Part L)



Renew Construction 29 The Glen Walls

BASIC INSTALLATION STEPS



Secure 2.4m C-channel



Secure Floor and Ceiling



Fix plastic clip on horizontal C-channel



Hang Insulation on plastic clips

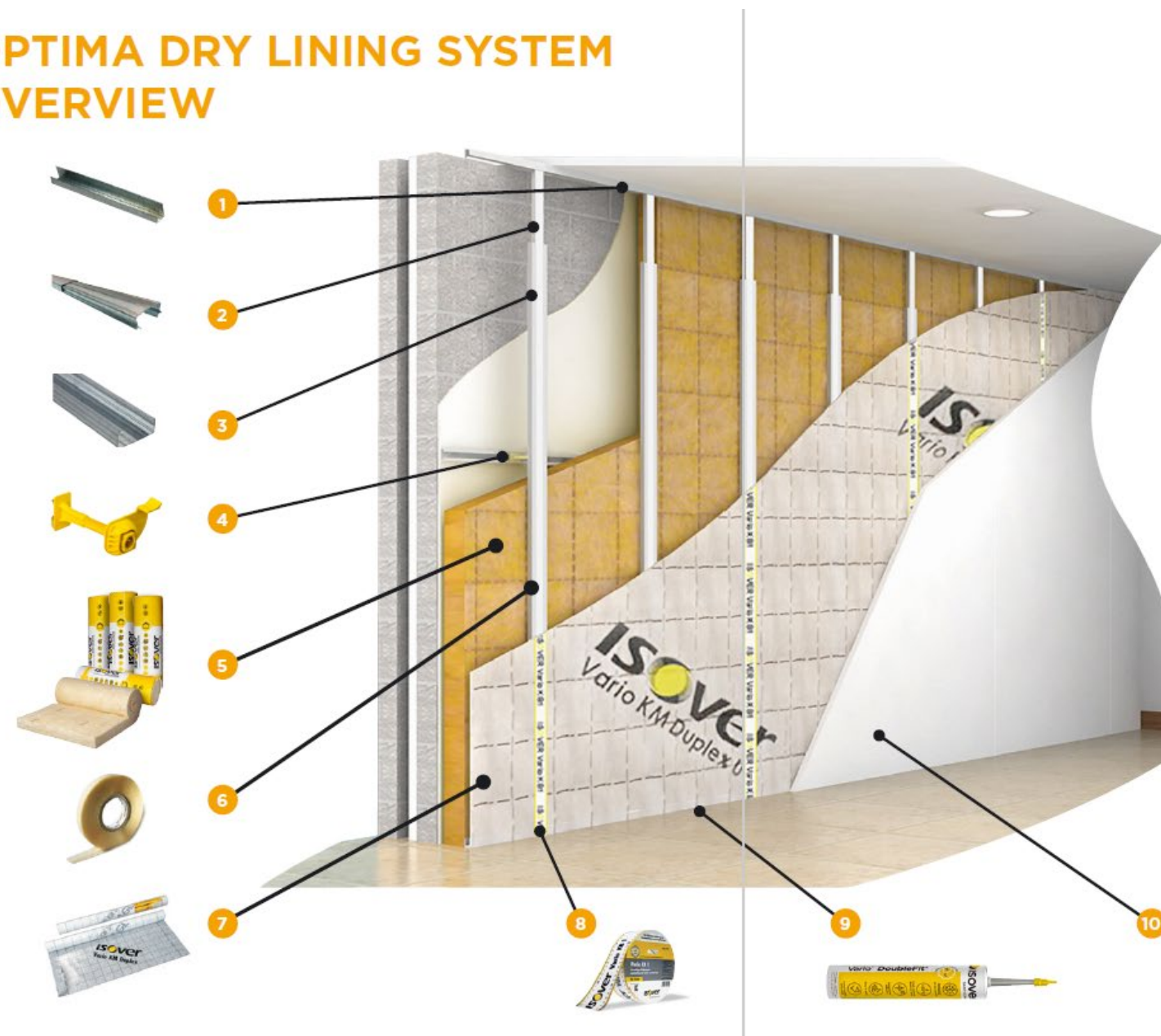


Fix plastic clip on vertical C-channel, adjust until plumb and lock in place



Fix Vario* and accessories

OPTIMA DRY LINING SYSTEM OVERVIEW



I. Metal frame

1. Optima Floor and Ceiling U-channel
2. Optima 500mm Extension
3. Optima 2.4m C-channel
4. Optima Clip system: Optima Support (for new walls) or Optima Direct Support (70 - 160) (for renovation walls)

II. Insulation

5. Isover insulation material, e.g. Standard Performance Comfort Roll 35 S (0.035W/mK) or Ultra Performance Comfort Panel 32 (0.032 W/mK)

III. Airtightness & Moisture control layer

6. Vario* DoubleTwin
7. Vario* KM Duplex UV airtightness & moisture control layer
8. Vario* KBI one-sided adhesive tape
9. Vario* DoubleFit+

IV. Facing

10. Gyproc Plasterboard (Various specifications of boards available)



Renew Construction 29 The Glen

Walls



Walls

Structure	(part A)
Fire proception,	(Part B)
Moisture	(Part C)
Materials	(Part D)
Sound,	(Part E)
Ventilation	(Part F)
Services, waste	(Part H)
Energy	(Part L)

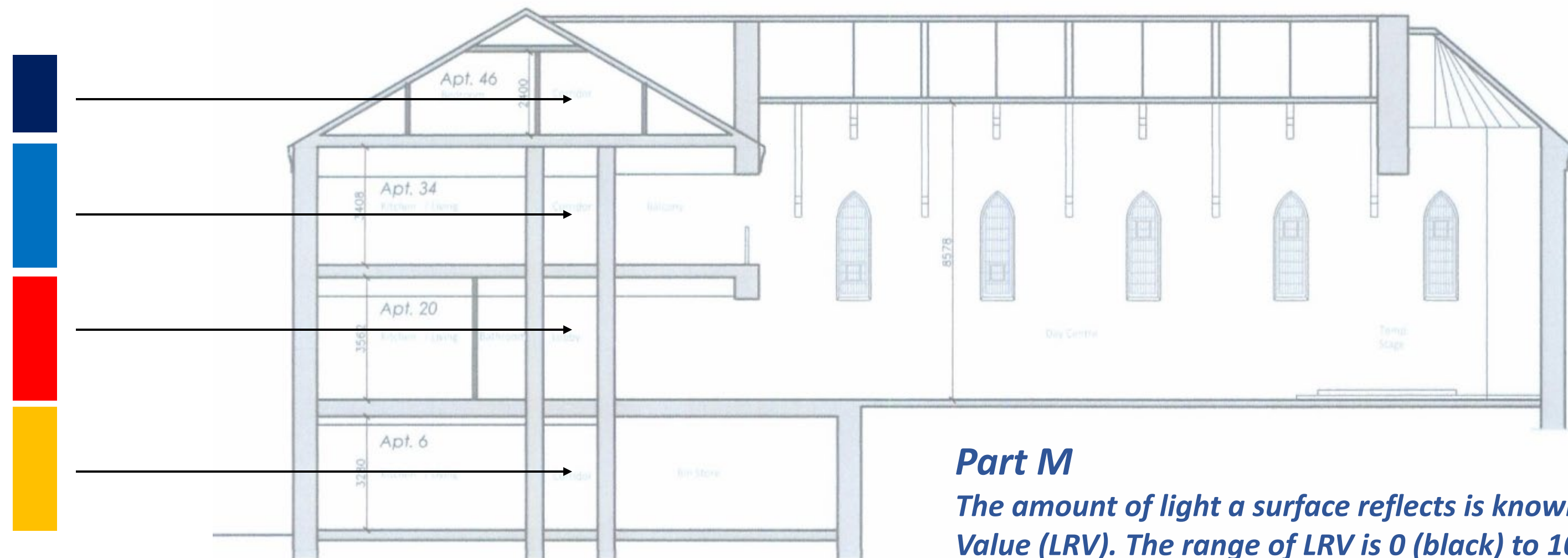


Renew Construction 29 The Glen



RLS St. Josephs, Manor Hill

Way finding



Part M

The amount of light a surface reflects is known as the Light Reflectance Value (LRV). The range of LRV is 0 (black) to 100 (white). The larger the difference between the LRV of each surface the greater the visual contrast is and the easier it is for someone with a low visual contrast sensitivity to perceive the difference

RLS St. Josephs, Manor Hill

Way finding



Part M

way finding, people use various different strategies and tools to navigate a building. Therefore, to effectively communicate information, directions or instructions to people with a wide range of abilities may require the use of various media.



RLS St. Josephs, Manor Hill

Door



Part M

the opening force should be not more than 30N from 0°(the door in the closed position)

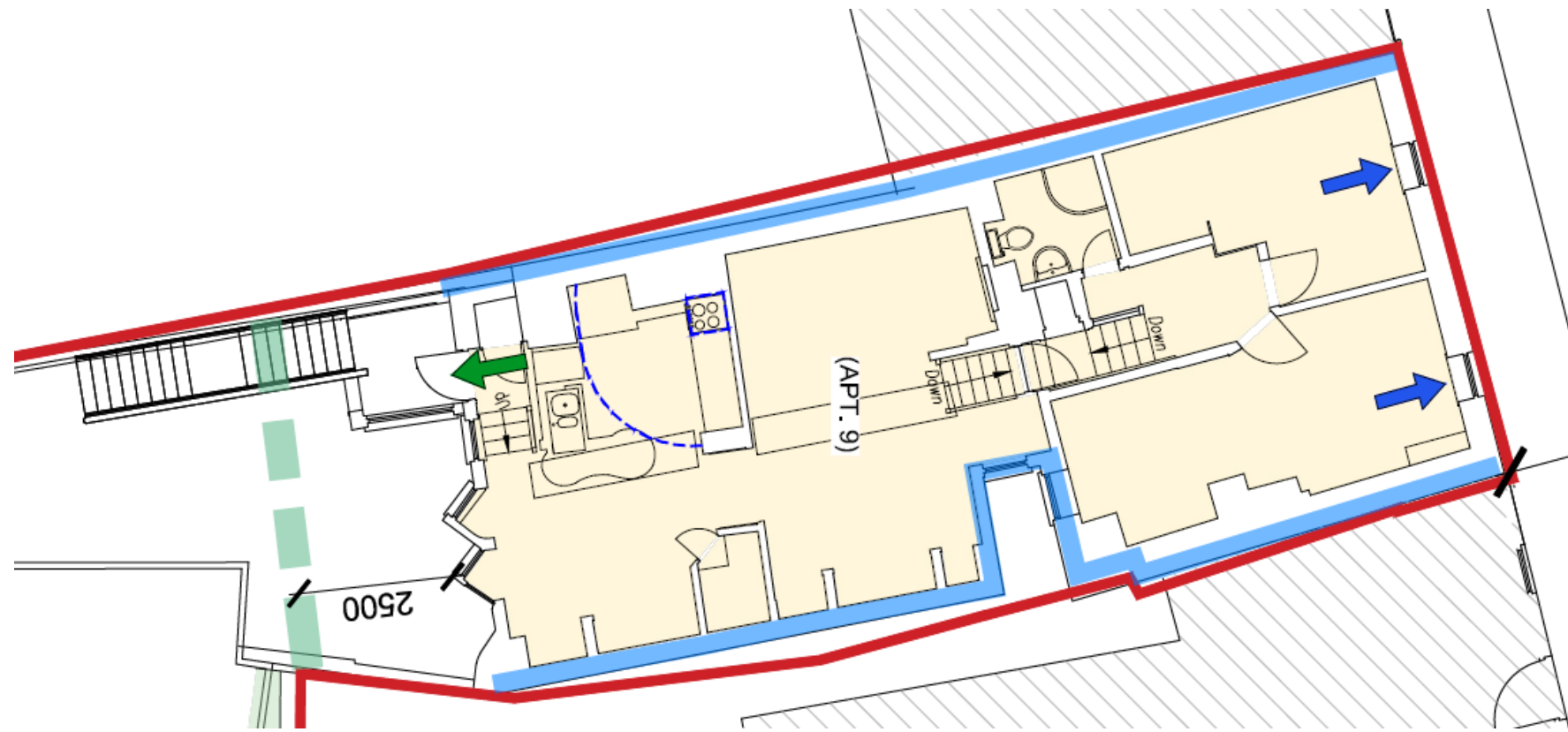
Self-opening C. €550 fit per unit



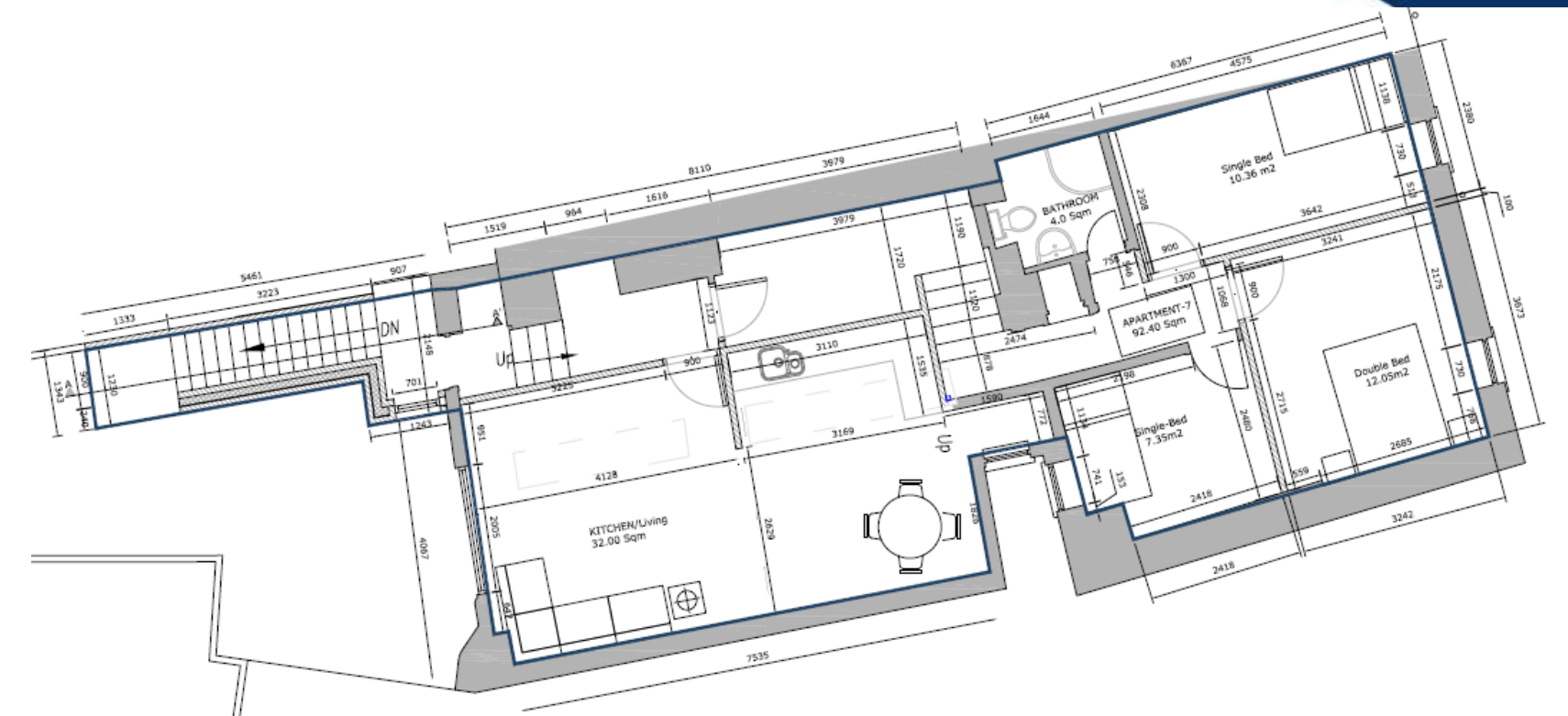
RLS St. Josephs, Manor Hill



Site visits and checking doc's are important



Fire cert drawings and issued certification of compliance



As Built drawings

Plan into the future.

- *EV bike,*
- *EV scooters,*
- *EV chargers*



Thank you!



Comhairle Cathrach & Contae Phort Láirge
Waterford City & County Council