

+

Assigned Certifier inspections & Lessons Learned



CATALYST

BCAR In Context

Skills Shortage + The Impact on Quality/Compliance



We are experiencing a major skills shortage in the construction industry along with an increase in Sub-Contractors going into liquidation

Activity has increased substantially over recent years (mainly in the **housing** sector)

Modern Methods of Construction and complex building is occurring on more projects

Material price increases and shortages due to global factors are occurring regularly which is having a knock-on effect to the liquidity of Sub-Contractors and Main Contractors

Paperwork (on it's own) is not sufficient. We need to follow a robust BCAR process

Evidence of compliant workmanship is essential, ideally on a digital platform

Tracking the close out of BCAR non-compliances is critical to building safety and overall project success

Everything we do is about **better quality and improving culture on site**



Building Regulation Defects

- Design Team
- Build Team
- Coordination
- Benchmarking
- Technical Submittals
 - Risk rating
- Digitise Inspection regime
- Key metrics



Lack of Consistency

Differing interpretations by:

- Consultants
- Building Control
- Build Teams
- Certifiers



External Factors

- Brexit
- Ukraine & Russia
- Material Shortages
 - Skills Shortage
 - ESG
- Liquidity of Build Teams...

What does Obi® do?

Everything from quality control, to document control



A single source of truth for your project a.k.a. The Golden Thread

- **Quality Management**
 - Inspection and test planning
 - Defect Management
 - Quality Benchmarking
- **Design Management**
 - Technical Submittals
 - Design Review and collaboration
 - Design Responsibility Matrix
- **Health and Safety**
 - H&S Observations log
 - Incidents, Accidents and First Aids
- **Query and RFI Management**
- **Common Data Environment (BIM enabled)**
- **Meeting Minutes Tool**
- **LEED, BREEAM & ESG Environmental Certification**
- **Document Management**
 - Critical Documentation workflows
 - Routing of files to bespoke folder structure
- **Statutory Consents Tracker**
- **Change Order/ Variations Manager**
- **Mobile Applications in iOS and Android**

Assigned Certifier Inspections

Overview of some key elements of the major roles

- Inspect based on competency and to demonstrate due diligence
- **N.B.** Benchmark key building elements
- Clear records of inspection with photographic evidence
- Inspections triggered by notification protocol/ system from the Build Team for on-going works; along with unscheduled inspections
- In consultation with the members of the design team, plan and oversee the implementation of the Inspection Plan during the Construction
- Maintain records and ensure evidence-based close-out of all non-compliances
- Liaise with the local authority throughout the project
- Coordinate the close-out of any Section 11 clarification requests
- No longer acceptable in many jurisdictions for a Director with limited site involvement to certify as the AC



Build Team inspections

Overview of some key elements of the major roles



Builders and Sub-contractors

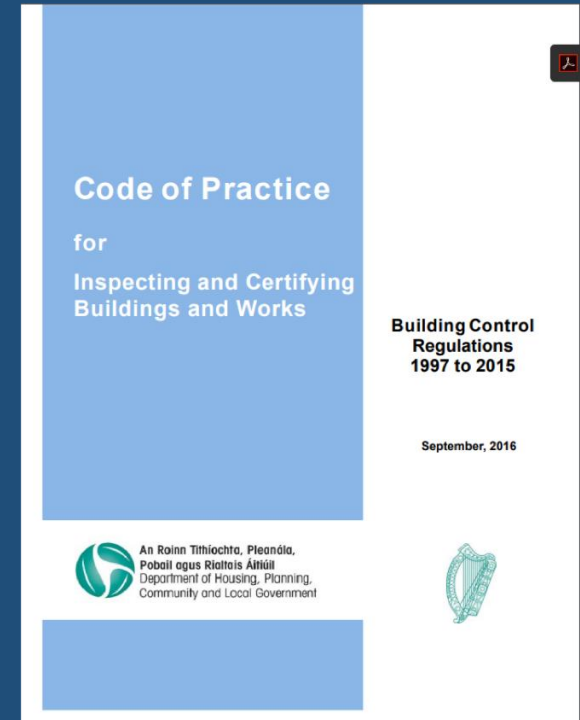
- co-operate with the Assigned Certifier, the design team, and other certifiers;
- ensure that *workmanship* complies with the requirements of the Building Regulations;
- ensure that materials which they select and for which they are responsible comply with the requirements of the Building Regulations;
- Modern Methods of Construction and Innovative materials for Part D compliance;
- provide to the Assigned Certifier, such documents for which they are responsible;
- these are collated & reviewed as Critical Documents on the Obi Digital Platform;
- ensure the coordination and provision of all test certificates and confirmations;
- maintain records of Compliant Workmanship;
- provide closeout evidence for any non-compliances
- provide section 11 close-out information as may be required to the AC or the B.C.
- signatory to be a Director of the Building company



BCAR – Commencement Strategy Guidance

Recent Commencement Strategy directions from BC

- Bulk Dig, Footings = CN with Doc due to Parts C1 & C3 being triggered
- An exception to this rule is where an Enabling works Planning is in place and the Contig/ Secant Piling works to facilitate the Enabling works don't form part of the Permanent works to a Building
- Demolition/ Site Clearance = No CN required, however email Council to keep them informed (unless it is a protected structure where a CN with Docs is required)
- New Floors require a new CN with Docs and a separate Completion
- Common Basements require careful consideration in relation to M&E Systems both at CN and Completion Stages, particularly where phased completions are proposed
- Wording of Commencement Notices to be considered carefully, as some BC insist that the wording on the CN matches the FSC along with implications for CCC's



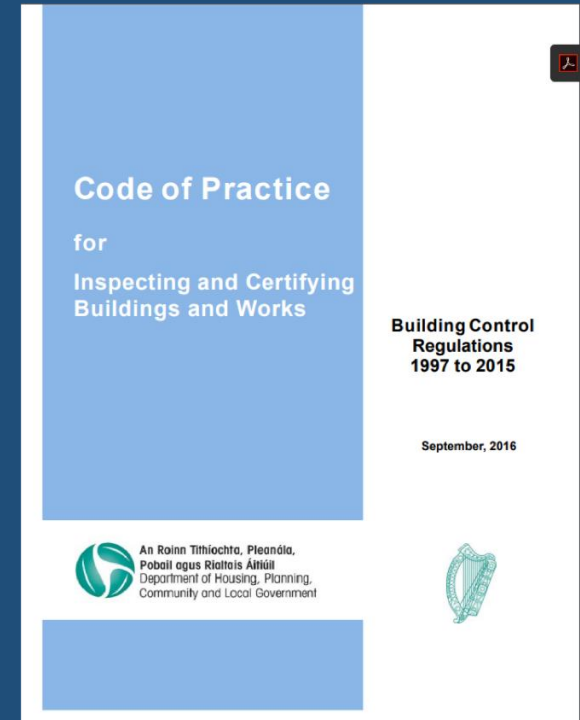
BCAR – Completion Strategy Guidance

- Review Completion Strategy with Design Team/ PM/ Building Owner
- Early engagement with Local Council
- Boundary drawings at Completion stage to explicitly demark areas that are covered by each Completion
- Consider how the works that are commenced will be certified on completion and choose Completion wording carefully
- Ensure that the BCAR Strategy is communicated to the Local council
- In particular, Fire Alarm/Emergency Lighting explicit detailing of the provisions on the floor plates for Landlord Shell and Core Office Fit Outs.

Recent Completion Strategy directions from BC

“Unless there is a party on the Fit-Out side to take up the baton, BC may invalidate a Completion submission”

- This is not in keeping with how buildings get built and requires continued dialogue with BC by the AC’s
- Late Completion differences of opinion from BC, even where a Clear Completion Strategy was submitted and agreed with BC
- e.g. – Additional Fire Alarm detectors requested at late stage by BC due to Fire Curtains at the Facade on the Office Floor



Background to BC Recent Inspections

- Increased BC Inspectorate Team Numbers in some Councils
- Councils are being measured on their meeting inspection targets (12-15%)
- BCs recent exposure to buildings on the register, which was subsequently found not to be fully complete
- BC are de-risking themselves from further exposure
- This presents a challenge for phased completion
- Phased completions – “Temporary arrangements” to be captured within FSC and DAC reports which may require Revised FSCs and DACs

Background to BC Recent Inspections

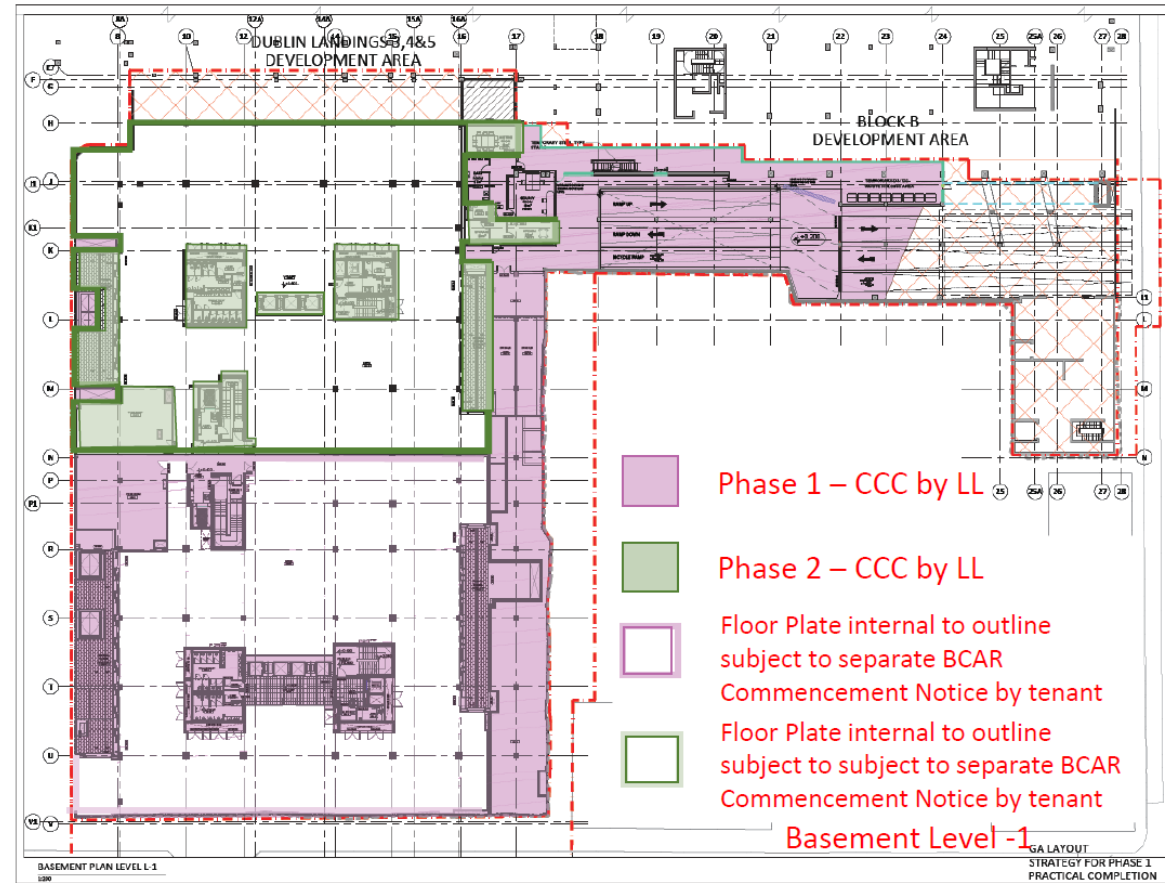
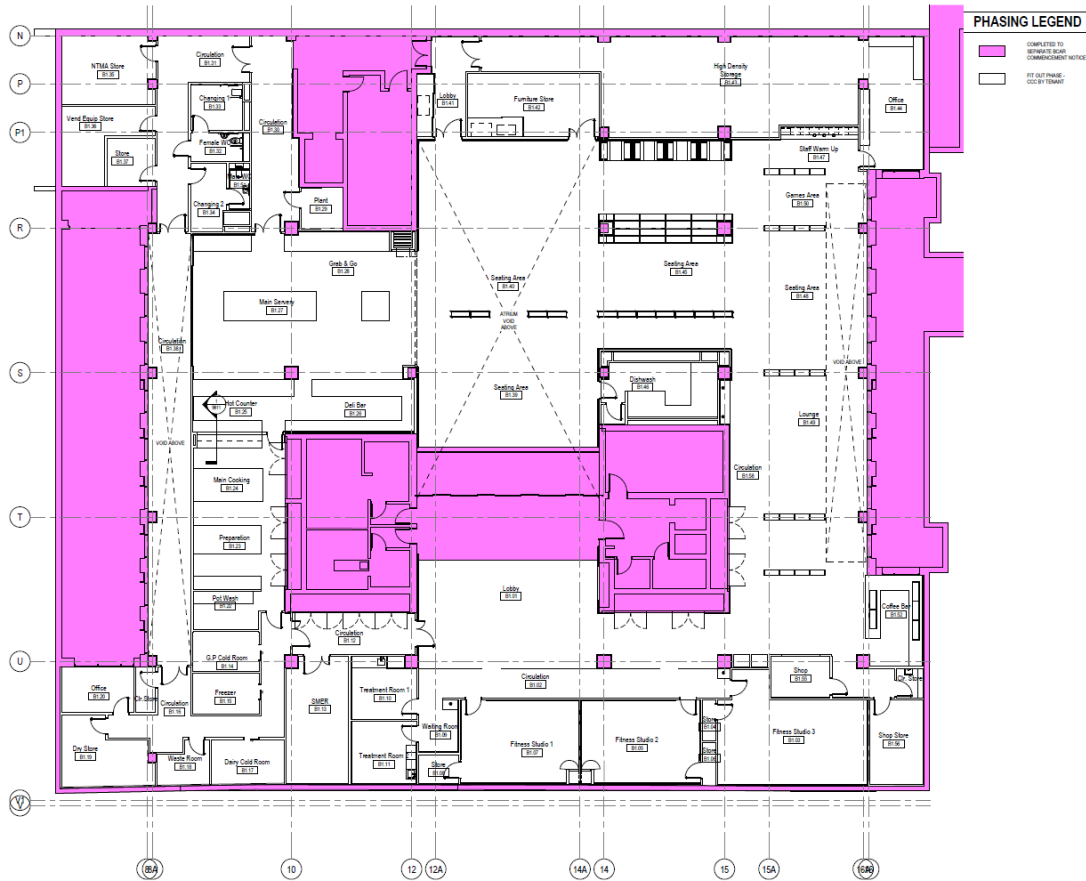
- Post CN significant Design changes in the notified work, you must inform the building control authority and provide revised drawings and information before the changes to the notified work occur. CoP Section 5.3 significant changes or omissions to the works “*should be certified and submitted before the relevant works commence*”
- Revised Fire Safety Certificate(s), if required, must be granted before the work related to that Revised FSC takes place (notwithstanding 7 Day Notice option). Generally issue current FSC/DACs to BC inspector prior to their inspections
- Increase in rate of Sub-Contractors going into liquidation in '23 increasing = challenges for delivering the BCAR Certification process, particularly where they have a specialist design responsibility

Background to BC Building Control Recent Inspections

- adequate • Structural items arising at the construction stage (e.g. Honeycombing, adequate cover to rebar, pockets, methodology for closeout agreed with C&S Eng).
- Cleaning of concrete joints before follow-on pours
- Structural Steel on-site adjustments and impacts to intumescent paint
- differ • Planning submissions as part of BCMS uploads not acceptable where they differ from construction issue drawings
- Water damage during construction & mould growth, robust temporary weathering measures to be in place to avoid trapped moisture occurring

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Complex BCAR Strategies



Building Regulation Common Defects

Part A - Structural

Part A

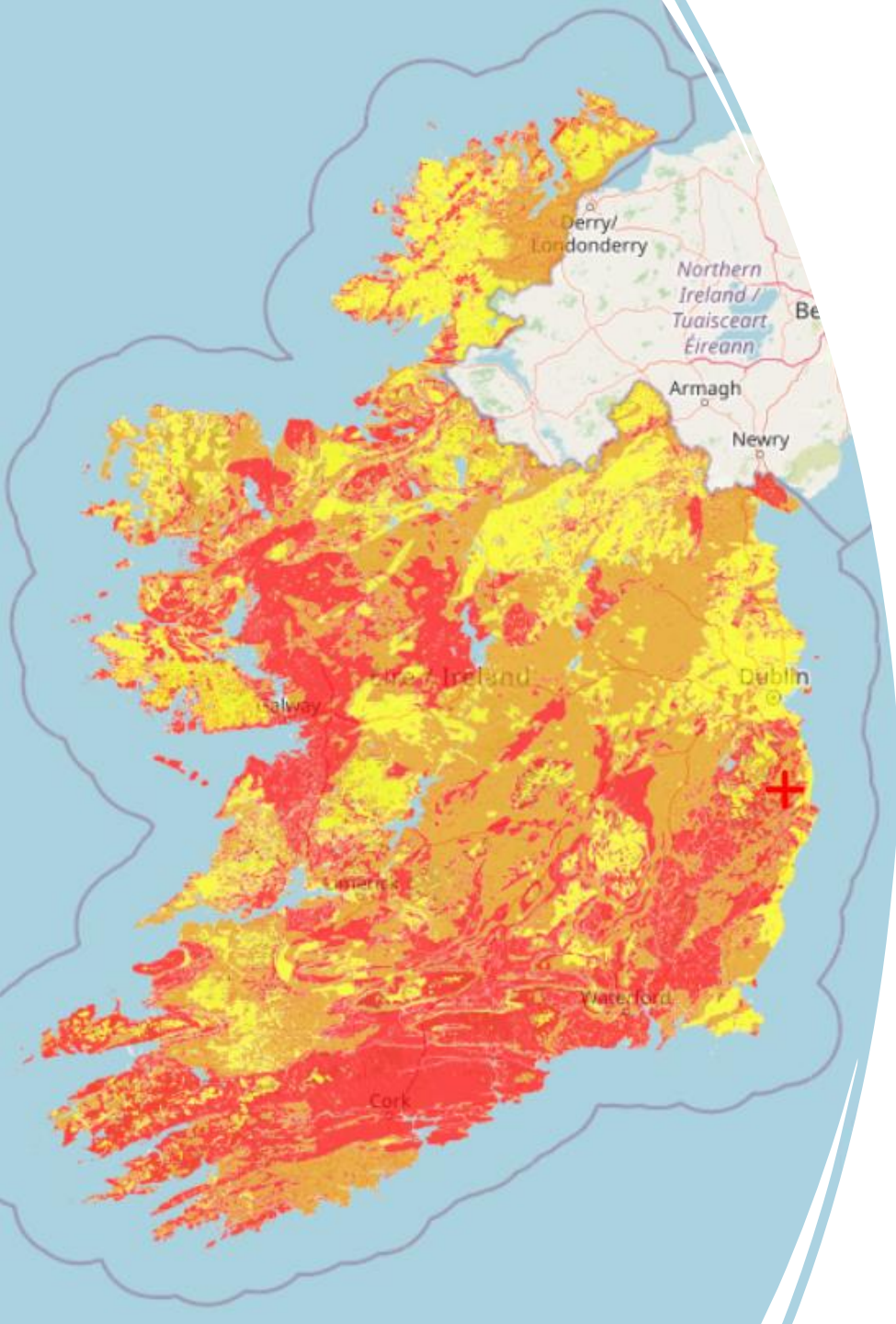
- Pre-Cast manufacturers - remediations to be reviewed & signed off by the specialist pre-cast designer.
 - E.g. Loop ties missing...
- Specialist systems – Piling, SFS etc
- Alignment of pre-cast or in-situ stairs and Part K tolerances to be surveyed and validated
- Reinforcing steel - incorrect gauge, lap length or even missing bars - Pre-Pour inspections N.B. C&S Eng attendance
- Concrete cube strengths not reaching design strength - uncommon but extremely challenging to repair and certify
- Secondary steel - potential design responsibility gap??
- Fire rating considerations from a structural perspective, particularly for MMC
- Blockwork and brick-work – consistency of workmanship and wall ties selection, joint tolerances

Key Part B Issues Found on Inspections

- Phased completions challenging where “strict compliance with the Building Regulations” is not possible – Revised FSC required to capture any “transitional arrangements”
- Fire Doors & Iron Mongery
- Smoke Extract Systems (Part B V Part M door opening and closing forces, CFD analysis)
- Travel through an uncertified area to reach a certified area
- BCAR Strategies for common plant areas, often not included in the certification of initial phases
- Sprinkler valves 2017 Vol B Residential requires isolation valves at each unit as opposed to /level, (they are sometimes conditioned in FSCs)
- Fire Dampers – Type Check at earliest practical stage including location check

Key Part B Issues Found on Inspections

- Sprinkler valves 2017 Vol B Residential requires isolation valves at each unit as opposed to /level, (they are sometimes conditioned in FSCs)
- Additional Emergency lighting on roofs, terraces and plant areas
- Exit Signage
- Fire Ducts/ Fire Glazing/ Fire Curtains: Integrity (E) Only Vs Insulation and Integrity (EI) Vs Radiation Control (EW)
- Dry risers (labelling of inlets to avoid ambiguity)
- Heritage Buildings
- Fire Alarm
- Compartment Walls – Sterile i.e. no-socket boxes
- FSC & DAC allow Alternative Proposals to be approved. E.g. Open Plan Vs Cellularised Offices



Part C Issues:

- Radon and Water ingress barriers
- Updates to the Radon Chart (5%/ 10%/ 20% chance of a high radon area - heat map)
- Careful considerations by the Certification team to select a barrier type is appropriate

System selection:

White Tank systems (are becoming more popular)

Membrane type systems

Eggcrate drainage in wet areas with screeds

Venting considerations

- Hazardous material on existing sites – a specialist area – who certifies this??
- Updated [Radon map | Environmental Protection Agency \(epa.ie\)](#)

Building Regulation Common Defects

Part K – Guarding in Primary Schools



An Roinn Oideachais
Department of Education

SDG 02-TN01

Handrails & Guarding to Stairs in
Primary Schools

Design Guidance Technical Note 01

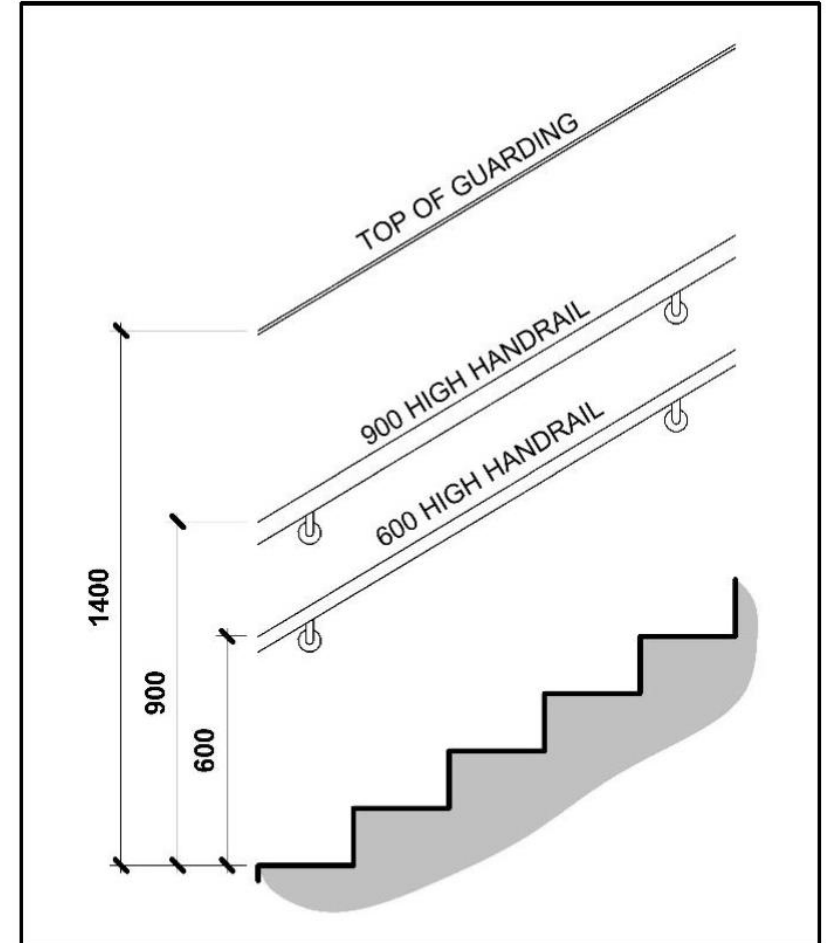


Fig. 1 Heights of guarding and handrails above stairs pitch line.

Building Regulation Common Defects

Part K - Guarding

- 4.6 In addition to the 900mm high handrail, a second handrail of 35mm diameter should be installed at 600mm high to both sides of all stairs in primary schools.
- 4.7 Where there are two or more flights separated by a landing or landings, both handrails should be continuous across flights and landings, except where broken by side access routes on landings.
- 4.8 The minimum guarding height of 1400mm on the stair flights is considered appropriate with the double handrails as the 600mm height of the lower handrail to the flight can be considered not readily climbable due to the pitch and the average height from the tread surface.
- 4.9 The minimum guarding height to the landings should be further considered by design consultants based on a risk assessment of the climbing hazard in specific locations where the double handrails are required on landings. The horizontal nature of the double handrails increases the risk of climbing and therefore the guarding height should be increased to ensure a minimum of 1100mm above the top handrail.
- 4.10 Therefore the guarding height to landings should be not less than 2000mm where there are horizontal double handrails as per Fig. 2 below.

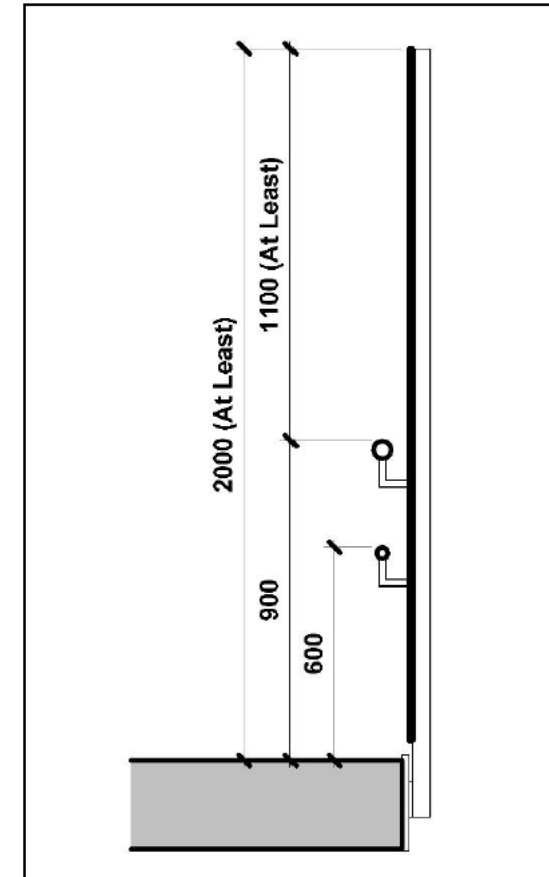


Fig. 2 Heights of guarding and handrails above landing level.

Part L Issues:

- Insulation type choice? Manufacturer's instructions
- Blinds and whether they form part of Part L strategy
- Air tightness membrane – ultimately validated with an air tightness test
- Thermal Bridges are not always well mitigated
- Overheating considerations in building design, particularly given recent “heat wave” trends

Part M Compliance Matters

Key Issues

- **Part M Issues**
 - Raise Access Floors - focus on DAC strategy for Landlord/ Tenant
 - Revised DAC required to show phasing
 - Assume Raised Access Flooring may be required for Landlord delivery into the future and/or ensure DAC is granted stipulating transitional arrangements for compliance
 - Access around the building
 - Distance between handrails (external
 - Embossed/ tactile Way Finding Signage
 - Outboard rockers on socket switches. (In core areas??)
 - Level access to balconies?
 - Accessible bathroom – dimension check (handrails, bowl, pull chords etc)
 - Plug and drainage for bowl
 - Tea Station & reception desk, recesses for wheelchair users

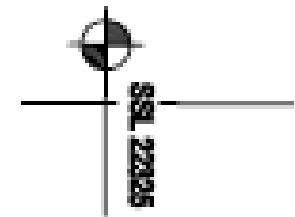
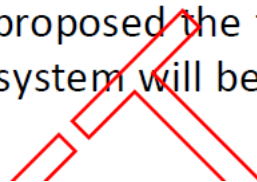
Part M Issues:

- **RAF shown on the sections and GA's had FFL instead of SSL, although phasing was allowed in the text in the original granted DAC:**

As part of the development strategy it is intended that the landlord elements of the development will be completed to a Category A Developer standard whereby the landlord/common areas will be fully completed and the individual office space will be finished to a shell standard and will be completed as part of a post completion phase by incoming tenants.

- **Submitted and Granted Revised with DAC:**

As part of the development strategy it is proposed the fit out of the floors including the installation of the raised access floor system will be completed as part of a post completion phase by incoming tenants.



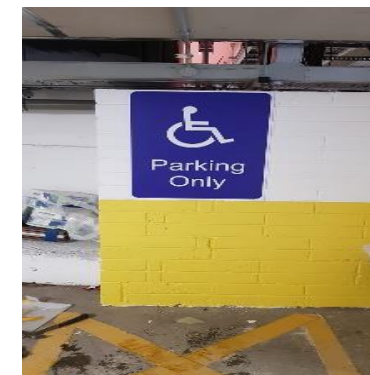
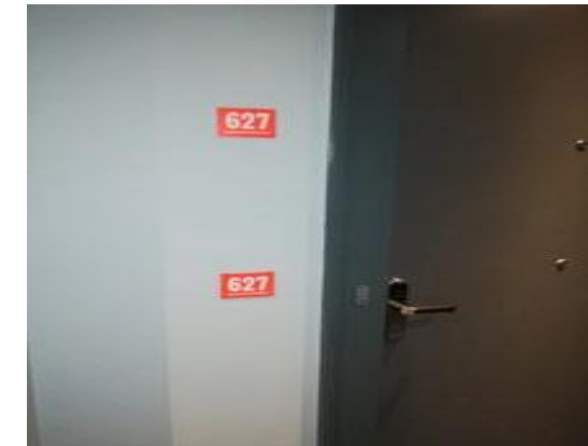
Part M Issues:

- **Sockets in Common Areas:**
 - Outboard switch rockers (or no rocker switches)
 - - All common areas, **including** stair-cores...
- Query on 300mm leading edge requirement within apartments?
- Definitely in common areas and for Part M Student apartments. A point of interpretation for standard apartments. Buildings for Everyone encourage it for all apartments.



Office Block Landlord (S&C) Part M Issues

- **Signage:**
- Location Signage clearly marked above Disabled Refuge Call Points
- Reception areas
- Embossed/ tactile signage when at a height that they can be touched
- Signage at Accessible Car Parking Bays



General Issues Found on Inspections

- Incomplete works to Back of House and Common Basement areas
- Basements that appear to still be a construction site
- Lack of adherence to management strategy for common basements
- Incomplete adjacent building interfaces
- External escapes and managed escape route consideration

State of Completion:

- Building Control query *“is the building 100% complete????”*
- - **Certificate of Compliance on Completion.**
 - Substantially Complete???
 - Practically Complete???
- - BC Expectation:
 - Works fully complete (100%)
 - No Snags
 - Project Teams to allow adequate time for BC Final Inspection, to mitigate issues arising immediately prior or even worse after to occupation/ validation date



Specialist Ancillary Certificates



ANCILLARY CERTIFICATE OF COMPLIANCE: DESIGN

(COMMENCEMENT NOTICE / 7 DAY NOTICE)

To be completed by a Specialist or Unregistered Consultant



RIAI ACD 02

BUILDING CONTROL AUTHORITY : _____

PRE-VALIDATION REFERENCE NUMBER : _____

1. This certificate relates to the following Building Works:

_____ (project name)

at _____ (address)

element _____ (insert as appropriate)

2. This certificate has been prepared in accordance with the Code of Practice for Inspecting and Certifying Buildings and Works [as published by the Minister under section 3(7) of the Building Control Act 1990] or equivalent.

3. We confirm that we have been commissioned by _____ (insert as appropriate) to design, in conjunction with others, the works described above in 1 and to certify our design.

4. We confirm that we are competent to carry out our design and to coordinate and integrate the design with that of others as (insert specialist skill) _____: based on _____ (insert accreditation and basis of competence)

5. We confirm that we have the Professional Indemnity Insurance required in our appointment: the renewal date of this policy is _____ (date)

6. We confirm that our plans, calculations, specifications and particulars included in the Schedule to the Commencement / 7 Day Notice to which this certificate is relevant, and which have been prepared exercising reasonable skill, care and diligence, have been prepared to demonstrate compliance with the requirements of the Second Schedule of the Building Regulations in so far as they apply to the building works concerned.

7. Under our Conditions of Engagement we are responsible for co-ordinating and integrating within our overall design of designated elements of the works the design of such parts of the works as will be designed to the requirements of our performance specifications by specialist suppliers and/or sub-contractors and our certification is contingent on the design of such parts and proprietary products being in compliance with the requirements of our performance specifications and of the Second Schedule to the Building Regulations insofar as they apply to the elements concerned.

8. We certify, having exercised reasonable skill, care and diligence that, having regard to plans, calculations, and specifications which have been prepared by us and having relied on ancillary certificates and particulars referred to at 6 and 7 above, our proposed design of those elements of the works for which we are responsible to the owner is in compliance with the requirements of the Second Schedule to the Building Regulations insofar as they apply to the elements concerned.

Company Name & Address: _____



Date: _____ Tel: _____ Fax: _____ E-Mail: _____

Company or Practice Registration No. _____ (where relevant)

Company or Practice Stamp

Signature (to be signed by a Principal or Director) Name: _____ Signed: _____

ANCILLARY CERTIFICATE OF COMPLIANCE: DESIGN

(COMPLETION)

To be completed by a Specialist or Unregistered Consultant



RIAI ACD 02

BUILDING CONTROL AUTHORITY : _____

COMMENCEMENT/7 DAY NOTICE REF NO. : _____

1. This certificate relates to the following Building Works:

_____ (project name)

at _____ (address)

element: _____ (insert as appropriate)

2. This certificate has been prepared in accordance with the Code of Practice for Inspecting and Certifying Buildings and Works [as published by the Minister under section 3(7) of the Building Control Act 1990] or equivalent.

3. We confirm that we have been commissioned by _____ (insert as appropriate) to design, in conjunction with others, the works described above in 1 and to certify our design.

4. We confirm that we are competent to carry out our design and to coordinate and integrate the design with that of others as (insert specialist skill) _____: based on _____ (insert accreditation and basis of competence)

5. We confirm that we have the Professional Indemnity Insurance required in our appointment: the renewal date of this policy is _____ (date)

6. We confirm that our plans, calculations, specifications and particulars included in the Schedule to the Commencement Notice / 7 Day Notice and Completion Certificate to which this certificate is relevant, and which have been prepared exercising reasonable skill, care and diligence, have been prepared to demonstrate compliance with the requirements of the Second Schedule of the Building Regulations in so far as they apply to the building works concerned.

7. Under our Conditions of Engagement we are responsible for co-ordinating and integrating within our overall design of designated elements of the works the design of such parts of the works as were designed to the requirements of our performance specifications by specialist suppliers and/or sub-contractors and our certification is contingent on the design of such parts and proprietary products being in compliance with the requirements of our performance specifications and of the Second Schedule to the Building Regulations insofar as they apply to the elements concerned.

8. We certify, having exercised reasonable skill, care and diligence that, having regard to plans, calculations, and specifications which have been prepared by us and having relied on ancillary certificates and particulars referred to at 6 and 7 above, our design of those elements of the works for which we are responsible to the owner is in compliance with the requirements of the Second Schedule to the Building Regulations insofar as they apply to the elements concerned.

Company Name & Address: _____



Date: _____ Tel: _____ Fax: _____ E-Mail: _____

Company or Practice Registration No. _____ (where relevant)

Company or Practice Stamp

Signature (to be signed by a Principal or Director) Name: _____ Signed: _____

ANCILLARY CERTIFICATE OF COMPLIANCE ON COMPLETION

(ANCILLARY COMPLETION CERTIFICATE - INSPECTION)

To be completed by a Specialist or Unregistered Consultant



RIAI ACI 02

BUILDING CONTROL AUTHORITY : _____

COMMENCEMENT/7 DAY NOTICE REF NO. : _____

1. This certificate relates to the following Building Works:

_____ (project name)

at _____ (address)

element of work _____ (insert as appropriate)

2. This certificate has been prepared in accordance with the Code of Practice for Inspecting and Certifying Buildings and Works [as published by the Minister under section 3(7) of the Building Control Act 1990] or equivalent.

3. We confirm that we have been commissioned by _____ (insert as appropriate) to design, in conjunction with others, the works described above in 1 and to certify our design.

4. We confirm that we are competent to carry out our design and to coordinate and integrate the design with that of others as (insert specialist skill) _____: based on _____ (insert accreditation and basis of competence)

5. We confirm that we have the Professional Indemnity Insurance required in our appointment: the renewal date of this policy is _____ (date)

6. Under our Conditions of Engagement we undertook to prepare, in respect of those elements which we designed / specified, an appropriate Preliminary Inspection Plan. We confirm that, taking into account the Code of Practice for Inspecting and Certifying Buildings and Works and exercising reasonable skill, care and diligence, we prepared a Preliminary Inspection Plan which we gave to the Assigned Certifier for inclusion in the overall Preliminary Inspection Plan. We also specified, by reference to national standards or otherwise, for inclusion in the building contract(s), testing to be carried out by contractors/suppliers to demonstrate compliance of building materials, elements and workmanship.

7. We now confirm that our Inspection Plan drawn up having regard to the Code of Practice for Inspecting and Certifying Buildings and Works, or equivalent, referred to above has been undertaken by us, having exercised reasonable skill, care and diligence, and/or, where appropriate, by other competent persons, on the basis that all have exercised reasonable skill, care and diligence.

8. Based on the above and on "Part A" of the Completion Certificate, and relying on the ancillary certificates scheduled and the test results, we now certify, having exercised reasonable skill, care and diligence, that those elements of the project works which we designed/specified are in compliance with the requirements of the Second Schedule to the Building Regulations in so far as they apply to the elements concerned.

Company Name & Address: _____



Date: _____ Tel: _____ Fax: _____ E-Mail: _____

Company or Practice Registration No. _____ (where relevant)

Company or Practice Stamp

Signature (to be signed by a Principal or Director) Name: _____ Signed: _____

In summary

Keys to success

- Resource the project appropriately, in particular, a competent person responsible for BCAR on the Build Team



- Discuss the construction programme with i3PT and define an appropriate inspection regime & keep BCAR on the agenda throughout



- Benchmark “Right First Time” construction
- All parties to engage with the BCAR process and uploading evidence of compliant workmanship & close-out where required



- AC to proactively manage the BC interface to ensure that there is an aligned BCAR strategy
- Raise awareness of the Lessons Learned on recent projects





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