

# Adoption of the 2015 National Building Code of Canada

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- *MuniCode Services Ltd.* has made every effort to ensure that all slides are correct however the National Building Code of Canada 2015 must be referenced for all information.
- Note that not all of the changes to the adopted Code have been addressed in this presentation
- This presentation remains the property of *MuniCode Services Ltd.*

# Agenda

- Part 9 Changes
- Part 3 Changes
- Contractor
- Building Officials Should...
- How to Work With Your Building Official
- Common Mistakes
- Questions?

# Part 9 Changes

- Section 9.8. Stairs, Ramps, Landings, Guards and Handrails
  - New definition of “flight”
    - Series of steps between landings

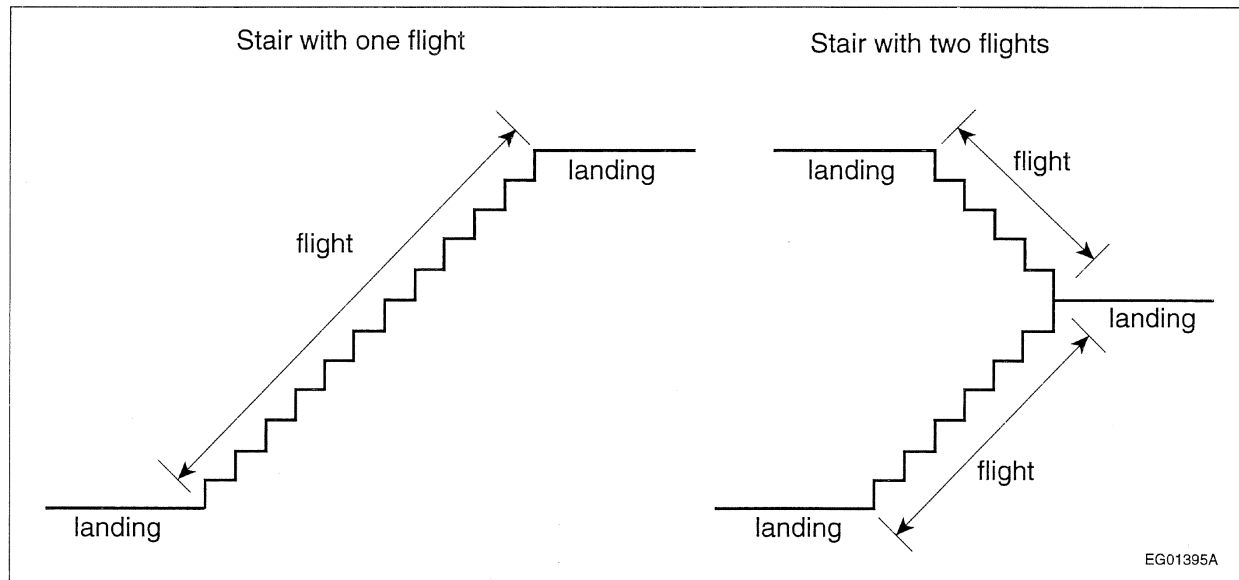
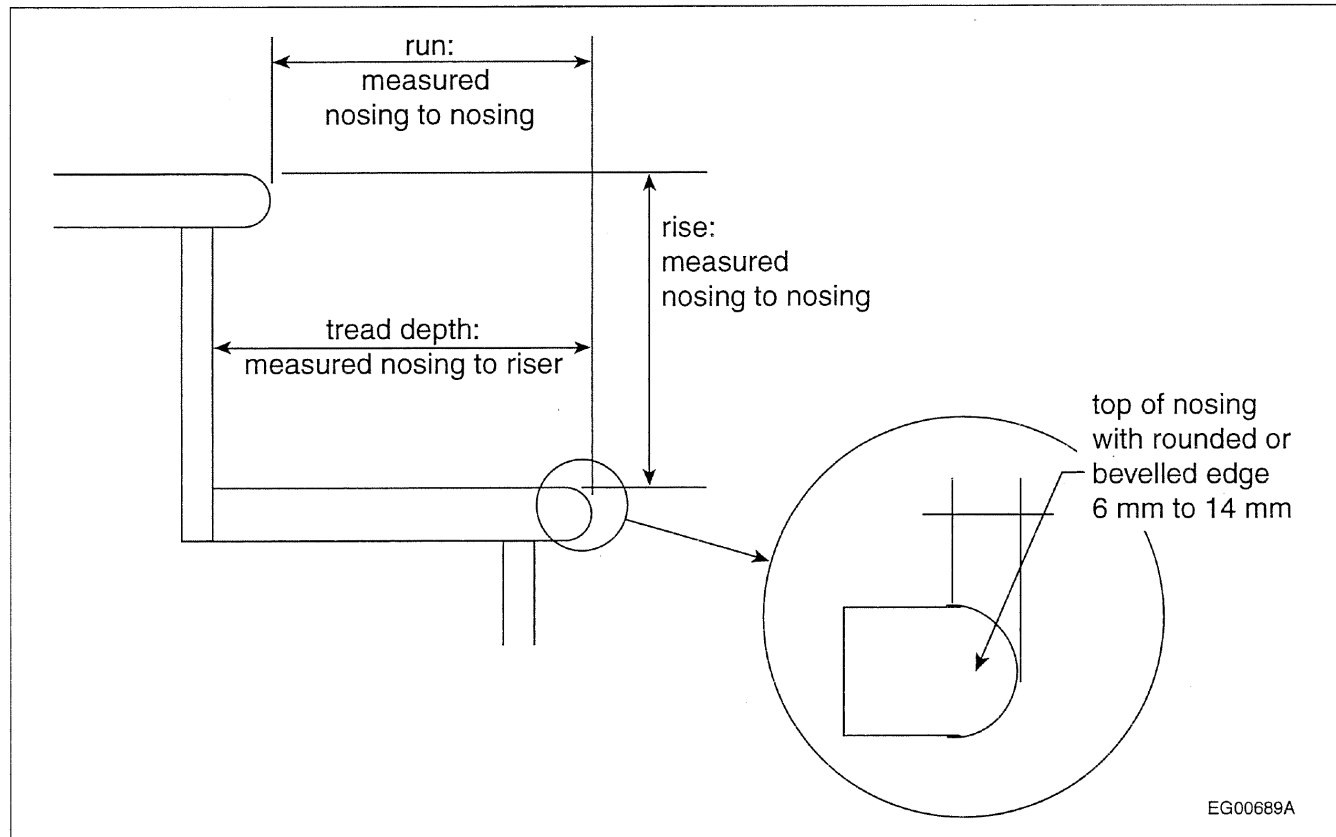


Figure A-1.4.1.2.(1)-A  
Flight

- Section 9.8. Stairs, Ramps, Landings, Guards and Handrails  
Continued
- Article 9.8.3.1. Permitted Configurations
  - Added spiral stairs
  - Mix of rectangular and tapered treads (formerly angled treads)
- Article 9.8.4.2. Dimensions for Rectangular Treads
  - Min run of 255 mm (10")

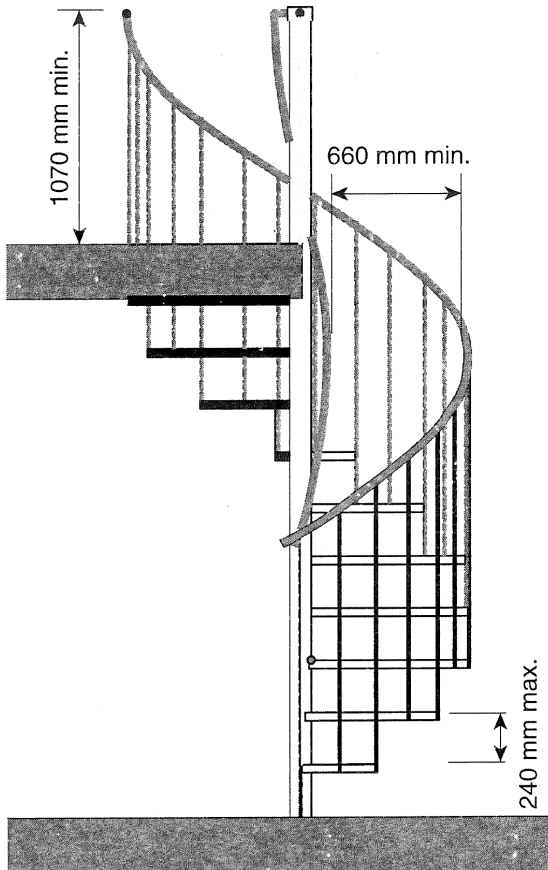
## ■ Section 9.8. Stairs, Ramps, Landings, Guards and Handrails Continued



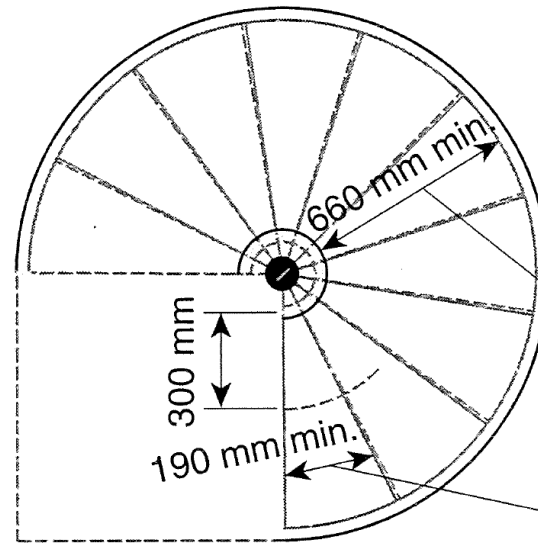
**Figure A-9.8.4.-B**  
**Elements of steps and their measurement**

- Section 9.8. Stairs, Ramps, Landings, Guards and Handrails  
Continued
- Article 9.8.4.3. Dimensions for Tapered Treads
  - 150 mm (6") at narrow end of tread
  - Complies with rectangular tread requirements at 300 mm (12") from narrow end of tread
- Article 9.8.4.7. Spiral Stairs
  - Handrails on both sides
    - Outer 1070 mm (42") high
  - Clear width not less than 660 mm (26") between handrails
  - Max 240 mm (9.5") high risers
  - Treads min 190 mm (7.5") deep at 300 mm (12") from centerline of handrails at narrower edge
  - Min 1980 mm (6'-6") clear height

## ■ Section 9.8. Stairs, Ramps, Landings, Guards and Handrails Continued



Elevation view



660 mm between  
handrails located  
on both sides

190 mm deep tread  
at a point 300 mm  
from the centre line  
of the handrail at  
the narrower edge

Plan view



- Section 9.8. Stairs, Ramps, Landings, Guards and Handrails  
Continued
- Article 9.8.5.2. Ramp Width
  - Except dwelling units – 1100 mm (3'-6") wide
- Article 9.8.6.3. Dimensions of Landings
  - Removed table
  - Lesser of: width of stair or 1100 mm (3'-6")
- Article 9.8.7.1. Required Handrails
  - One handrail must be on narrow end of treads for stairs with tapered treads or mix of tapered and rectangular treads

- Section 9.8. Stairs, Ramps, Landings, Guards and Handrails  
Continued
- Article 9.8.7.2. Continuity of Handrails
  - Must be continuous from bottom riser to top riser in a flight
  - No longer allowed to stop at newel posts at changes in direction
- Article 9.8.7.4. Heights of Handrails
  - Max increased to 1070 mm (42")
- Article 9.8.7.7. Design and Attachment of Handrails
  - Must be attached at points no more than 1.2 m (4') apart
- Article 9.8.8.6. Design of Guards to Not Facilitate Climbing
  - If protect area more than 4.2 m (13'-9") above then cannot be climbable

## ■ Section 9.10. Fire Protection

- Article 9.10.1.2. Testing of Integrated Fire Protection and Life Safety Systems
  - Owner must hire a integrated testing coordinator to review plans, create a testing plan and complete a final report
  - Includes requirements for maintenance
- Article 9.10.13.14. Fire Stop Flaps
  - Conform to CAN/ULC-S112.2, "Fire Test of Ceiling Firestop Flap Assemblies"
  - Activate at a temp 30°C above normal operating temp

## ■ Section 9.10. Fire Protection Continued

- Article 9.10.14.5. Construction of Exposing Building Face and Walls Above Exposing Building Face
  - Soffits can now project to property line when facing a street, lane or public thoroughfare
- Article 9.10.15.5. Construction of Exposing Building Face of Houses
  - Soffits can now project to property line when facing a street, lane or public thoroughfare
- Article 9.10.17.10. Protection of Foamed Plastics
  - New provisions for use in walk-in coolers consisting of factory-assembled

- Section 9.11. Sound Transmission
  - Completely reorganized and renamed
  - Article 9.11.1.1. Required Protection
    - Now includes ASTC
  - Article 9.11.1.2. Determination of Sound Transmission Ratings
    - Now includes ASTC
  - Article 9.11.1.3. Compliance With Required Ratings
    - New – can use calculations from Subsection or assemblies conforming to Tables 9.10.3.1.-A or 9.10.3.1.-B
  - Article 9.11.1.4. Adjoining Constructions
    - New – requirements when using assemblies conforming to Tables 9.10.3.1.-A or 9.10.3.1.-B

- Section 9.13. Dampproofing and Waterproofing
  - Article 9.13.2.2. Dampproofing Materials
    - Water vapour permeance of not more than  $43 \text{ ng/Pa} \cdot \text{s} \cdot \text{m}^2$
- Section 9.15. Footings and Foundations
  - Pile foundations
    - If the garage is supporting a floor above then engineering of the foundation will now be required (Part 4 design)
  - 9.15.2.4 Wood Frame Foundations
    - Adopted newer standard (CSA S406-**14**, formerly CSA S406-**92**)
    - Window openings must be engineered when using a concrete slab and  $> 1.2 \text{ m (4')}$  of backfill or  $> 2.4 \text{ m (8')}$  studs
    - Lintels must be engineered when backfill is  $> 1.2 \text{ m (4')}$

- Section 9.23. Wood-Frame Construction
  - Table 9.23.4.3. Maximum Spans for Steel Beams Supporting Floors in Dwelling Units
    - Only permitted for simply supported spans – continuously spanning beams require engineering
- Section 9.27. Cladding
  - Subsection 9.27.13. Exterior Insulation Finish Systems

- Section 9.32. Ventilation

- Article 9.32.1.3. Venting of Laundry-Drying Equipment

- New – must discharge to exterior and be independent from other exhaust ducts

- Section 9.36. Energy Efficiency

- Not adopted in the province until January 1, 2019
  - Will no longer allow exterior walls of basement to remain unfinished



# Part 3 Changes

- Section 3.1. General
  - Article 3.1.2.5. Alternative Family Care Homes
    - Allows up to 5 occupants not capable of self preservation
    - If more than 5 occupants all must be capable of self preservation  
OR the building must be sprinklered
  - Article 3.1.3.1. Separation of Major Occupancies
    - Table updated to include Group C, up to 6 storeys, sprinklered and Group D, up to 6 storeys, Sprinklered

- Section 3.1. General Continued

- Article 3.1.3.2. Prohibition of Occupancy Combinations

- Revised for new above occupancies
    - Allows “Pedestal” Construction

- Article 3.1.4.2. Protection of Foamed Plastics

- Added ceiling assemblies, Group A requirements, walk-in cooler or freezers, flame-spread rating for doors

- Article 3.1.4.8. Exterior Cladding

- Requirements for new building types

- Section 3.1. General Continued

- Article 3.1.5.5. Combustible Cladding on Exterior Walls
  - Separates combustible cladding from combustible components in exterior walls
- Article 3.1.5.6. Combustible Components in Exterior Walls
  - Separates combustible cladding from combustible components in exterior walls
- Article 3.1.5.7. Factory-Assembled Panels
  - New Article for clarification and added walk-in cooler

- Section 3.1. General Continued

- Article 3.1.5.14. Combustible Insulation

- Separates combustible insulation and foamed plastic insulation

- Article 3.1.5.15. Foamed Plastic Insulation

- Separates foamed plastic insulation and combustible insulation

- Article 3.1.5.24. Decorative Wood Cladding

- Revised to include reference to soffits

- Article 3.1.7.5. Rating of Supporting Construction

- Revised to include new building types

## ■ Section 3.1. General Continued

- Article 3.1.8.4. Determination of Ratings and Classifications
  - Includes provisions for smoke dampers and leakage-rated doors
- Article 3.1.8.5. Installation of Closures
  - Includes provisions for fire damper, smoke damper, or combination smoke/fire damper, and and leakage-rated doors
- Article 3.1.8.7. Location of Fire Dampers and Smoke Dampers
  - Ducts and Air Transfer openings located in a fire separation in
    - public corridors, fire separations serving Assembly, Care, Treatment, Detention or Residential occupancies and Areas of Refuge

## ■ Section 3.1. General Continued

- Article 3.1.8.8. Fire Dampers Waived

- Article 3.1.8.9. Smoke Dampers Waived

- Article 3.1.8.14. Hold-open Devices

- Article 3.1.9.4. Penetrations by Outlet Boxes

- Noncombustible outlet boxes not required to be fire stopped with an FT rating, provided not more than  $0.016 \text{ m}^2$  ( $0.17 \text{ ft}^2$ ), an aggregate area of  $0.065 \text{ m}^2$  ( $0.699 \text{ ft}^2$ ) in any  $9.3 \text{ m}^2$  ( $100 \text{ ft}^2$ ) surface area and the annular space between the membrane and the outlet box does not exceed 3 mm. In addition to the area limits, electrical boxes must be offset at least 600 mm (24") or be fire blocked.

- Section 3.1. General Continued
  - Article 3.1.11.5. Fire Blocks in Horizontal Concealed Spaces
    - Added requirements for tall wood structures
  - Article 3.1.11.7. Fire Block Materials
    - Added lumber materials
  - Article 3.1.15.2. Roof Coverings
    - Added requirements for tall wood structures where the roof assemblies is more than 25 m above the first storey

- Section 3.2. Building Fire Safety Continued
  - Article 3.2.2.7. Superimposed Major Occupancies
    - 3.2.2.50. (Group C, up to 6 storeys, sprinklered) cannot have Group A2 and Group E major occupancies above second storey or storage garage above third storey
    - 3.2.2.58. (Group D, up to 6 storeys, sprinklered) cannot have Group A2, Group E, and Group F2 or F3 major occupancies above second storey or storage garage above third storey
  - Article 3.2.2.50. Group C, up to 6 Storeys, Sprinklered
    - New building classification
  - Article 3.2.2.58. Group D, up to 6 Storeys, Sprinklered
    - New building classification



## ■ Section 3.2. Building Fire Safety Continued

### ■ Article 3.2.3.6. Combustible Protections

- Soffits can now project to property line when facing a street, lane or public thoroughfare

### ■ Article 3.2.7.4. Emergency Power for Lighting

- 1 hour emergency lighting for tall wood buildings

### ■ Article 3.2.7.8. Emergency Power for Fire Alarm Systems

- 1 hour emergency power for tall wood buildings

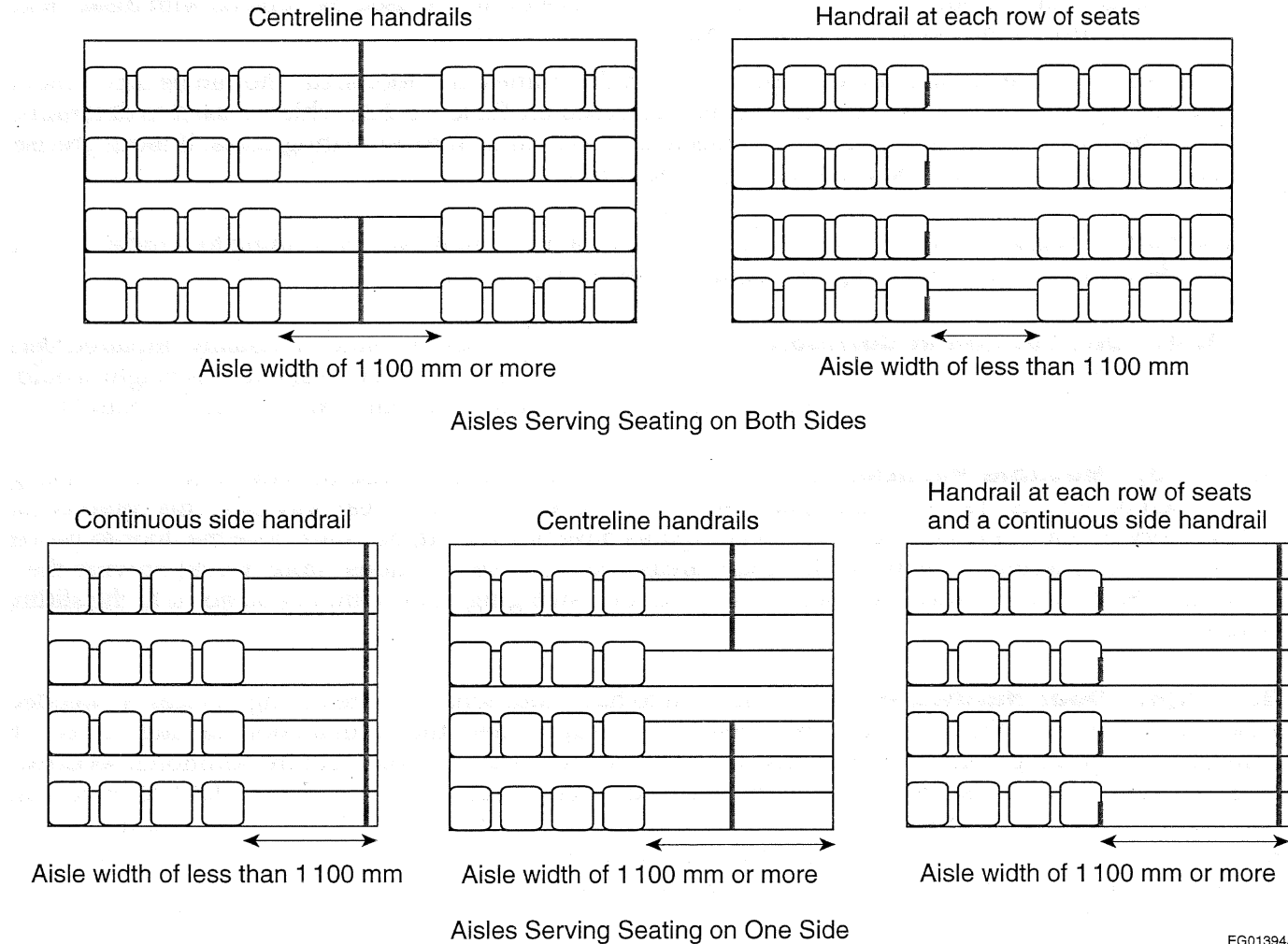
### ■ Article 3.2.8.2. Exceptions to Special Protection

- Half the building area used for classification now only applies where the interconnected floor space is not sprinklered and openings are only used for stairways, escalators or moving walks

- Section 3.3. Safety within Floor Areas
  - Article 3.3.1.13. Doors and Door Hardware
    - Comply with accessibility requirements, electromagnetic lock permitted in access to exit and changes to B2 and B3 occupancies
  - Article 3.3.1.14. Ramps and Stairways
    - If serve service rooms, service spaces or industrial occupancies for periodic servicing and maintenance of equipment and are not exits, need not comply
  - Article 3.3.1.17. Capacity of Access to Exits
    - At least half the required exit width for the access to the principal entrance for building not sprinklered for dance hall or a licensed beverage establishment with occupant load more than 250

- Section 3.3. Safety within Floor Areas Continued
  - Article 3.3.1.18. Guards
    - non climbable when protecting 4.2 m (13'-9"), if not required must prevent a sphere of 100 mm (4") or permit a sphere of 200 mm (8"), not required where access is provided for maintenance only
  - Article 3.3.2.10. Handrails in Aisles with Steps
    - New Article and Table

## ■ Section 3.3. Safety within Floor Areas Continued



## ■ Section 3.4. Exits

### ■ Article 3.3.5.10. Guards

- Can be top railing and one of more intermediate rails (prevent passage of 535 mm (21") sphere) for industrial occupancies, except for storage garages

### ■ Article 3.4.2.3. Distance between Exits

- Distance between 2 exterior discharges of exit stairs serving same floor area

### ■ Article 3.4.2.6. Principle Entrances

- At least half the required exit width for building not sprinklered for dance hall or a licensed beverage establishment with occupant load more than 250

## ■ Section 3.4. Exits Continued

### ■ Article 3.4.6.4. Dimensions of Landings

- As wide and long as stair it serves

### ■ Article 3.4.6.5. Handrails

- New maximum 1070 mm (42"), previously 965 mm (38")

### ■ Article 3.4.6.6. Guards

- Elevation more than 600 mm (24"), new minimum height of 1070 mm (42"), non climbable when protecting 4.2 m (13'-9")

### ■ Article 3.4.6.7. Ramp Slope

- New requirement for mercantile occupancies

- Section 3.4. Exits Continued

- Article 3.4.6.8. Treads and Risers

- No open risers (except dwellings, maintenance stairs, industrial occupancies other than storage garages)

- Article 3.4.6.18. Emergency Crossover Access to Floor Areas

- Master key for firefighters, electromagnetic locks (complying with Sentences 3.4.6.16.(4) and (5))

- Section 3.6. Service Facilities
  - Article 3.6.3.1. Fire Separations for Vertical Service Spaces
    - Adds grease duct enclosures
  - Article 3.6.3.5. Grease Duct Enclosures
    - Added fire separation
  - Article 3.6.4.2. Fire Separations for Horizontal Service Spaces
    - Exemption for grease duct enclosures



- Section 3.8. Accessibility (Previously Barrier-Free Design)
  - Article 3.8.2.12. Residential Occupancies
    - Added by SK Amendments
  - Article 3.8.3.1. Design Standards
    - Added to include option to comply with referenced standard
  - Article 3.8.3.5. Ramps
    - handrail height, drainage where exposed to water, edge protection by way of a curb 75 mm (3") or barrier or rail located not more than 100 mm (4") from the ramp or landing
  - Article 3.8.3.6. Doorways and Doors
    - Height of devices 900 mm (36") to 1100 mm (43"), power door operators, cane detectable guards for auto swinging doors

- Section 3.8. Accessibility Continued

- Article 3.8.3.10. Drinking Fountains

- Clear floor space, height

- Article 3.8.3.11. Water-Closet Stalls

- Clear floor space in front of the stall, self closing door, location of water-closet, L shaped grab bars and grab bars behind toilets, toilet paper dispenser

- Article 3.8.3.12. Universal Washrooms

- Seat heights, locks be capable of release from outside, location of water closet, grab bars, toilet paper dispenser

- Article 3.8.3.13. Water Closets

- New height, flush control requirements

## ■ Section 3.8. Accessibility Continued

### ■ Article 3.8.3.14. Urinals

- New height, flush control requirements

### ■ Article 3.8.3.16. Showers

- Grab bars, hand-held shower head location

### ■ Article 3.8.3.17. Bathtubs

- Clear floor space, faucet location, grab bars, hand-held shower head

### ■ Article 3.8.3.22. Residential Occupancies

- Added by SK amendment

- Section 3.9. Self-Service Storage Buildings
  - Was Article 3.3.5.9.
  - Certain exemptions from spatial separations, building areas, access routes, safety within floor areas, and sanitary facilities

# Contractor

- Is not relieved from the obligation to comply with the Building and Accessibility Standards
- Gov't has expressed interest to amend the UBAS Act and Regs to establish an increased responsibility for compliance on contractors
- No contractor shall cause, permit or maintain an unsafe condition
  - And shall immediately take all necessary steps to put the building in a safe condition

# Building Officials Should...

- Be dedicated to logic, reason and evidence, not feelings
- Identify problems before its to late
- Communicate effectively
- Work as part of the construction team to achieve common goals:
  - On time
  - On budget
  - To the minimum standards
- Provide a high level of service
- Educate industry on issues relating to the Building and Accessibility Standards, permit process, roles and responsibilities

# How to Work with Your Building Official

- Does your building official offer preliminary review?
- Can a building be Grandfathered?
- Assign a single contact to communicate with the Building Official
- Ensure all correspondence from the Building Official is circulated and stored appropriately
- Refer back to previous correspondence to ensure on going compliance
- Don't start work without an approved building permit

- If construction is revised, ensure drawings are approved by Building Official before implementing
- Ask for permission, not forgiveness ie. propose a solution, don't present a problem
- May not agree with Code but it is required
  - Come armed with logic, reason and evidence not feelings. If you are lacking logic reason and evidence, hire a Building/Fire Code Consultant
  - Make an appointment
  - Be likeable, be approachable and communicate respectfully
- Methods of Compliance
  - Prescriptive requirements,
  - Alternate solution,
  - Appeal
  - Not Municipal Council, Provincial Building Standards, even NRC.



- Not happy – code change requests!
- Understanding permit and inspection process within each municipality (ie. occupancy permit vs. no occupancy permit)
- Interpretation committee

# Common Mistakes

- Submitting incomplete drawings
- Not reading plan examination or inspection reports
- Not distributing plan exam to all contractors on project
- Rise and run
- One release operation
- Handrails both sides of ramps

- Forward flow test for back flow preventer
- Underground test certificates for sprinklers
- Monitoring sprinkler/fire alarm systems
- Assemblies 9.10.3.1.
- Continuity of fire separations

Questions?

