Please remember to bring the following!

- 2015 or 2018 International Building Code
- Any edition of the International Zoning Code
- Legal Aspects of Code Administration
- Basic Code Enforcement (Optional)
- Calculator
- Highlighter
- Pen

The Complete Permit Technician
Steve Burger, C.B.O., LEED AP
Arizona Regional Director
Shums Coda Associates
steve.burger@shumscoda.com

EduCode 2020
March 10 and 11, 2020
Las Vegas, NV

ACCORDING TO FINANCIAL EXPERTS, WHAT IS YOUR GREATEST ASSET?
JOB VS CAREER?

LAYOFFS
Reduction in Force (RIF’s)
How Can You Survive??

What We’re Going to Cover

• The Exam
  – History
  – Reference Materials
  – Tips
  – Contents
• Brief History of the Codes
• Overview of the IBC (Used on Exam)
What We're Going to Cover (cont’d.)

• Customer Service
  – You at the Counter
  – International Building Code (Chapter 1)
  – Legal Aspects
• International Zoning Code
• Permit Process
  – Plans, Fees, Plan Review, Inspections, C.O.

What We're Going to Cover (cont’d.)

• Records Retention
• Permit Revocation
• Board of Appeals
• Means of Egress (Chapter 10)
• Typical Questions
• General Knowledge

What We're Going to Cover (cont’d.)

• Spectrum of Class Content
• Cell Phones
• Ask Questions
• Hold on Tight
• Personal Experiences
• Restroom Location
• Exits
• Breaks and Lunch
www.iccsafe.org

- Click on “Certification and Licensing”
- Then “Search for Certified Professionals”
- Scroll down and click on “Permit Technician”
- View Exam Information

Selected Certifications

AS OF JANUARY 2019

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The Candidate Bulletin

www.iccsafe.org/certification
THE PERMIT TECH EXAM

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Note! IBC Chapter 34 is no longer on the Exam.

THE CODE SPECIALIST EXAM

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$139

Permit Technician Exam

- History
  - See Building Standards (March-April 1999)
- Scope
- Survey
- Questions and References and Scoring

- Topics
  - Basic Code Enforcement
  - Legal Aspects of Code Administration (Guidebook)
- Chapters 1, 2, 3, 6 and 12 of the 2015 IBC
Tips On Taking The Exam

• Your Job Is Based On These Documents
• This Class Will Not Guarantee You’ll Pass
• Study, Study, Study
• Experience (Consciously Competent)
• 2 Hours / 60 Questions = 2 Minutes
• Open Book
• Know Where To Look! Use Tabs
• Become Familiar With Code Layout
• Highlight Important Information/Tables

Taking The Exam (cont’d.)

• Use Index and Table of Contents
• Definitions/Glossary
• Try and Determine “Key Words”
• Read the Entire Section (Turn the Page!)
• Watch for Exceptions
• General Vs Specific
• “Shall” Vs “is authorized” or “is permitted” or “shall be authorized”

Taking The Exam (Cont’d.)

• Forget Your Local Amendments
• No “Trick” Questions
Be Nervous, But Don’t Be Afraid!

If By Some Slim Chance You Don’t Pass, Use The Experience As A Study Guide

Exam Subject Areas

• General Administration--39%
  – Determine Customer’s Needs
  – Verify That Application and Documents Are Complete
  – Verify Contractor Licensing
  – Recognize Basic Building Components
  – Calculate Fees
  – Inspection Requests and Approvals
  – Prepare Certificate of Occupancy

Exam Subject Areas (cont’d.)

• Legal Aspects--22%
  – Answer Questions About Need for Approvals
  – Testify at Trials and Depositions
  – Retention of Documents
  – Project History and Code Compliance
  – Appeals, Suspensions, Revocations
  – General Liability
Exam Subject Areas (cont’d.)

• Plans and Documents--25%
  – Recognize Basic Contents of Documents
  – Determine Level of Review
  – “Recognize” Occupancy Groups
  – “Recognize” Types of Construction
  – Read Maps, Plats and Site Plans
  – Use Scales
  – Calculate Areas and Percentages

Exam Subject Areas (cont’d.)

• Zoning and Site Development--14%
  – Explain Site Plan Review Process
  – Explain Land Use Codes
  – Determine Public and Private Easements
  – Verify Structure Location on Lot
  – Verify Required Setbacks
  – Determine Need for Variances

Basic Code Enforcement
Legal Aspects of Code Administration

- Table of Contents
- Glossary
- Front of Chapters

THE INTERNATIONAL BUILDING CODE

Chapter 1, “ADMINISTRATION”

- Title, Scope, Intent, Applicability, Department of Building Safety, Duties and Powers of the Building Official, Permits, Construction Documents, Temporary Structures, Fees, Inspections, Certificate of Occupancy, Service Utilities, Board of Appeals, Violations, Stop Work Order, Unsafe Structures and Equipment

- Chapter 2, “DEFINITIONS”
A BRIEF HISTORY LESSON

FIRES THAT SHAPED HISTORY

• Rome, 64 AD
• Great Fire of London, 1666
• The Chicago Fire, October 8, 1871 250 Dead
• Triangle Shirtwaist Factory, New York March 25, 1911 148 Dead
• Coconut Grove Nightclub, Boston, 1942 492 Dead
• Our Lady of Angels, Chicago, December 1, 1958 95 Dead
FIRE HISTORY (cont’d.)

• McCormick Place, Chicago, January 16, 1967
• Beverly Hills Supper Club, Kentucky, May 28, 1977, 165 Dead
• MGM Hotel, Las Vegas, (Is now Bally’s) November 21, 1980, 84 Dead
• Second-floor Disco, Sweden October 29, 1998, 60 Dead, 173 Injured

FIRE HISTORY (cont’d.)

• Epitome Nightclub - Chicago – February 18, 2003 21 Dead
• The Station Nightclub - West Warwick, RI – February 20, 2003 100 Dead 190 Injured
• World Trade Center 9-11-2001 2803+
• Republica de la Cro-Magnon Nightclub – Buenos Aires, Argentina – December 30, 2004 714 Injured 185 Dead
• Ghost Ship Warehouse Fire, Oakland, CA – December 2, 2016 Illegal Use and Occupancy 36 Dead

Fire History (cont’d.)

Local Fires (Listen to the News)
• One Fire Can Change Many Lives

In summary: In the past 5000 years, millions of people have sacrificed their lives to bring about Building and Fire Codes
FACT

BUILDING CODES ARE A CITY’S COMMITMENT TO THE FUTURE

The First Building Code
Hammurabi (2000 BC)

- Law 228. If a builder builds a house for someone and completes it, he shall give him a fee of two shekels in money for each sar of surface.
- Law 229. If a builder builds a house for someone, and does not construct it properly and the house which he built falls in and kills its owner, then that builder shall be put to death.
- Law 230. If it kills the son of the owner, the son of that builder shall be put to death.
- Law 231. If it kills a slave of the owner than he shall pay slave for slave to the owner of the house.
- Law 232. If it ruins goods, he shall make compensation for all that has been ruined, and is as much as he did not construct properly this house which he built and if fell, he shall re-erect the house from his own means.
- Law 233. If a builder builds a house for someone, even though he has not yet completed it; if then the walls seem toppling, the builder must make the walls solid from his own means.
WHAT IS THE INTERNATIONAL BUILDING CODE? (I.B.C.)

- The Building Code is a Law (When Adopted)
- The Three Model (Legacy) Building Codes:
  - The Uniform Building Code
    - International Conference of Building Officials (ICBO)
  - The National Building Code
    - Building Officials and Code Administrators (BOCA)
  - The Standard Building Code
    - Southern Building Code Congress International (SBCCI)

How Did We Get to One Code?

COMMON FORMAT

Became the International Code Council in 1994
Alphabet Soup

- ICC (International Code Council)
- NFPA (National Fire Protection Association)
- IAPMO (International Association of Plumbing and Mechanical Officials)

THE TWO STYLES OF CODES

- Performance
  - “What goes up, must not come down.”
- Specification or Prescriptive
  - “Do this, then do that.”
- Alternate Materials and Methods (IBC Sec. 104.11)
  - “New stuff, new ways.”
- Modifications (IBC Sec. 104.10)
  - “Due to practical difficulties....”

REACTIVE Vs PROACTIVE

- Did-Happen Vs Might-Happen
- Approx. 80% is Fire-Related
FUNDAMENTAL PURPOSES OF THE INTERNATIONAL CODE

- Safety of Building Occupants
  - Fire Prevention, Structural, Environmental, Exiting
- Stop Panic
- Safety of Fire Personnel
  - Getting In, Spread of Fire, Structural Collapse
- Safety and Protection of Other Property
- Safety and Protection of Own Property

FORMAT and LAYOUT OF THE 2015 I.B.C.

- Chapter 1 ADMINISTRATION
- Chapter 2 DEFINITIONS
- Chapter 3 USE and OCCUPANCY CLASSIFICATION
- Chapter 4 SPECIAL DETAILED REQUIREMENTS BASED ON USE AND OCCUPANCY
- Chapter 5 GENERAL BUILDING Heights AND AREAS
- Chapter 6 USES AND OCCUPANCY CLASSIFICATION
- Chapter 7 FIRE-RESISTANCE-RATED CONSTRUCTION
- Chapter 8 INTERIOR FINISHES
- Chapter 9 FIRE PROTECTION SYSTEMS
- Chapter 10 MEANS OF EGRESS
- Chapter 11 ACCESSIBILITY
- Chapter 12 INTERIOR ENVIRONMENT
- Chapter 13 ENERGY EFFICIENCY
- Chapter 14 EXTERIOR WALL
- Chapter 15 ROOFS ASSEMBLIES AND ROOFTOP STRUCTURES
- Chapter 16 STRUCTURAL DESIGNS
- Chapter 17 STRUCTURAL TESTS AND SPECIAL INSPECTIONS
- Chapter 18 SOIL AND FOUNDATIONS
- Chapter 19 CONCRETE
- Chapter 20 ALUMINUM
- Chapter 21 MASONRY
- Chapter 22 STEEL
- Chapter 23 WOOD
- Chapter 24 GLASS AND GLAZING

IBC LAYOUT (Cont’d.)

- Chapter 25 GYPSUM BOARD AND PLASTER
- Chapter 26 PLASTIC
- Chapter 27 ELECTRICAL
- Chapter 28 MECHANICAL SYSTEMS
- Chapter 29 PLUMBING SYSTEMS
- Chapter 30 ELEVATORS AND CONVEYING SYSTEMS
- Chapter 31 SPECIAL CONSTRUCTION
- Chapter 32 ENCROACHMENTS INTO THE PUBLIC RIGHT-OF-WAY
- Chapter 33 SAFEGUARDS DURING CONSTRUCTION
- Chapter 34 EXISTING STRUCTURES
- Chapter 34 is now gone in the 2015 / 2018 IBC!!
- Chapter 35 REFERENCED STANDARDS
- Appendix Chapters A THROUGH M

ALSO LOOK ON PAGES ix-xix FOR AN OVERVIEW OF THE CHAPTERS!
Margin Markings

- Solid vertical lines = Technical change from the previous code edition
- Dark arrow = Something has been deleted
- Single asterisk = Text or table relocated within the code
- Double asterisk = Text or table immediately following it has been relocated there from elsewhere in the code
- *Italics* = Definition (‘Cept in California)

GENERAL VS SPECIFIC

- What is the building being used for?
- Why classify occupancies?
- How many general types of occupancies are there?
Two (and a Half)

- BUSINESS
  - Products and Services
- PEOPLE
  - Living, Entertainment, Health, Worship
- MISCELLANEOUS

10 OCCUPANCY TYPES & GROUPS
(Chapter 3, Section 302.1)

- A - Assembly
- B - Business
- E - Educational
- F - Factory and Industrial
- H - Hazardous
- I - Institutional
- M - Mercantile
- R - Residential
- S - Storage
- U - Utility

Remember: "or a portion thereof."

Chapter 3
“Use and Occupancy Classification”

- “Laundry Lists” of Various Occupancies

- Write the Occupancy Type at Top of Page in Your Code Book
CONTENTS-RELATED HAZARDS

- **Quantity** of Contents
- **Type** of Contents
- **Environment** of Contents

ASSEMBLY

Section 303.1

- A-1 Usually fixed seating, performing arts and motion picture theaters
- A-2 Food and/or drink such as banquet halls, restaurants, night clubs, taverns and bars
- A-3 Worship, recreation or amusement such as churches, bowling alleys, museums, libraries
- A-4 Viewing of indoor sports such as skating, tennis, swimming
- A-5 Viewing of outdoor activities such as stadiums, grandstands, bleachers
- **Exception:** Less than 50 occupants = B (Sec. 303.1.1)
- **2018:** Occupied roofs: Whatever they most nearly resemble

ASSEMBLY

Section 303.1

Sec. 303.1.2—Small assembly spaces shall not be classified as Assembly occupancies if:

- Less than 50 persons and accessory to another occupancy. They shall be classified as a B occupancy or as part of the main occupancy.
- Less than 750 square feet in area and accessory to another occupancy. They shall be classified as a B occupancy or as part of that occupancy.
BUSINESS
Section 304
• A building or structure or portion thereof, for office, professional or service-type transactions, including storage of records and accounts such as:
  Banks, Car Washes, Civic Administration, Fire/Police Stations, Motor Vehicle Showrooms, Post Offices, Educational Occupancies (above 12th grade), Professional Services (attorneys, doctors, dentists, architects/engineers), Training and skill development not in a school or academic program (yoga, ballet, tutoring, etc.), ambulatory care facilities

EDUCATIONAL
Section 305
• Building or structure or portion thereof by 6 or more persons at any one time for educational purposes through the 12th grade.
• Day Care. Building or structure or portion thereof for educational, supervision or personal services for more than 5 children older than 2-1/2 years of age fewer than 24 hours.

FACTORY
Section 306
• F-1 Moderate hazard
• F-2 Low hazard facilities that involve the fabrication or manufacturing of noncombustible materials which do not involve a significant fire hazard such as:
  Foundries
  Ceramic Products
  Ice
  Glass Products
HAZARDOUS

Section 307

• H-1 High explosion (detonation) hazard
• H-2 Moderate explosion or accelerated burning hazard
• H-3 High fire or physical hazard
• H-4 Health hazards
• H-5 Semiconductor fabrication facilities

HAZARDOUS OCCUPANCIES

• What percentage of buildings contain hazardous materials?
• Maximum Allowable Quantities

INSTITUTIONAL

Section 308

• I-1 More than 16 persons, 24-hour basis, *ambulatory, capable of self-preservation* such as assisted living facilities, group homes, rehab facilities. (5 or less = R-3, more than 5 and up to 16 = R-4)
• I-2 24-hour basis, *incapable of unassisted self preservation* such as hospitals, nursing homes, mental hospitals, detox facilities.
INSTITUTIONAL (Cont’d.)

• I-3 More than 5 persons under restraint or security such as jails, prisons, reformatories, detention centers, correctional centers
• Has 5 Different Conditions
  – “Free movement” allowed vs. restricted

INSTITUTIONAL (Cont’d.)

• I-4 Day care facility. Any age, less than 24 hours, custodial care by other than parents, guardians or relatives and in a place other than the home of the person cared for.
  Adult care: <24 hours, >5 unrelated adults
  Child care: <24 hours, >5 children of ANY age
  Exception: >5 but no more than 100, ≤ 2-1/2 years of age, room on level of exit discharge with door directly to exterior = Group E.

MERCANTILE

Section 309

• Buildings that display and sell merchandise that are accessible to the public such as:
  • Wal-Mart
  • Nordstrom
  • Target
  • Costco / Sam’s Club
  • Gas stations
RESIDENTIAL
Section 310

• R-1 Mainly transient in nature such as: hotels, motels, boarding houses (primarily transient) Note: See definition of “Transient”.
• R-2 More than 2 dwelling units, primarily permanent in nature such as: apartments, convents/monasteries, dormitories. Also hotels, motels and boarding houses if non-transient
• R-3 One- and two-family dwellings
• R-4 Residential Care/Assisted Living Facilities with more than 5 and less than 16 occupants, excluding staff.

STORAGE
Section 311

• S-1 Moderate hazards that are not S-2 such as Aircraft Hangars, Motor Vehicle Repair Garages, Books, Shoes, Grains, Lumber, Tires
• S-2 Low hazard storage of noncombustible materials such as products on wood pallets or in paper cartons such as cement in bags, foods, dry cell batteries, glass, parking garages

ACCESSORY STORAGE SPACES
Section 311.1.1

• A room or space used for storage purposes, less than 100 square feet and accessory to another occupancy shall be classified as a part of that occupancy.
• 2018: Deletes the 100 sf requirement
UTILITY
Section 312
• Buildings and structures of an accessory character and miscellaneous structures not classified in any specific occupancy such as: Agricultural buildings, Residential Aircraft Hangars, Barns, Carports, Fences over 6', Greenhouses, Private Garages, Retaining Walls

OTHER AREAS
Chapter 5
• Accessory occupancies--Section 508.2
  These are ancillary to the main occupancy and, generally, shall not occupy more than 10% of the floor area of the story in which they are located.

• Mixed Occupancies
  – Nonseparated (Sec. 508.3)
  – Separated (Sec. 508.4 & Table 508.4)

OTHER AREAS
Chapter 5
• Incidental Uses--Section 509 and Table 509 (Furnace rooms, incinerator rooms, laundry rooms, etc.)
  – Fire-rated Separation and Sprinklers
  – Shall not occupy more than 10% of the building area of the story in which they are located.

• Mixed Occupancies
  – Nonseparated (Sec. 508.3)
  – Separated (Sec. 508.4 & Table 508.4)
MIXED OCCUPANCIES

Table 508.4

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- Chapter 6

Occupancy Examples

TYPES OF CONSTRUCTION

Chapter 6

- How Many Different Types of Construction Are There?

- Fire Resistive Vs Non-combustible
CONSTRUCTION TYPES (cont’d.)

- Mixed Construction Types
- Portions of Buildings Separated With Approved FIRE WALLS May be Considered as Separate Buildings for Classification of Construction Type (Section 706)

THE FIVE BUILDING CODE
CONSTRUCTION TYPES
Chapter 6

Non-Combustible
Types I and II
(A & B)

Combustible
Types III, IV and V
(A & B)

Page 96 in 2012 IBC
Pages 102 and 103 in 2015 IBC
HEIGHT and AREA

- Why Do We Determine Occupancy and Construction Type?

Type V-B

Type I-A

CHAPTER 12
INTERIOR ENVIRONMENT

Get Your Highlighters Out.
Let’s See What Might be Some Good Exam Questions.
- Turn to Page 311 in the 2015 IBC
- Turn to Page 321 in the 2018 IBC
TIME TO GET ZONED!

Benefits of a Zoning Code
- Controls height, area and bulk of buildings (adequate natural lighting and ventilation, privacy, recreational areas, maintain property values)
- Regulates off-street parking (street congestion)
- Separates conflicting uses (noise, vibration, glare, pollution, odor)
- Restricts building and elimination of trees (prevents flooding)

ADMINISTRATION
Chapter 1
101 General
- 101.1 Title “These regulations shall be known as the Zoning Code of ________.”
- 101.2 Intent
- 101.3 Scope
102 Fees
103 Existing Buildings and Uses
104 Powers and Duties of the Zoning Code Official (hereinafter referred to as “the Code Official”).

104.2 Deputies

104.6 Interpretations

104.7 Liability (“…acting in good faith and without malice…”)

PLANNING COMMISSION

- Members shall be residents of the jurisdiction served.
- Appointed by, and answers and reports to the City or County Council (Legislative body)
- Terms of office shall be as set forth in state law.
- Creates and recommends a jurisdiction-wide comprehensive plan.
- Creates, adopts and recommends a zoning code based on the comprehensive plan.
- Review and comment on Conditional Use Permits.

Sec. 105, p. 2

BOARD OF ADJUSTMENT

- Members shall be residents of the jurisdiction served.
- Appointed by, and answers and reports to the City or County Council (Legislative body)
- They shall hear and decide on appeals of decisions of the code official.
- They shall hear and decide on appeals wherein a variance is proposed.
- All decisions must be based on the spirit and the intent of the code and not constitute the granting of a special privilege.

Sec. 107, p. 3
HEARING EXAMINER

- Shall be appointed by the legislative body of the jurisdiction.
- Shall hear and consider all applications for discretionary land rezones and use.
- Must render a decision within 10 working days.
- Notice in writing of the decision and the deposition shall be given to the code official and each party of record.

Sec. 108, p. 4

Plot Plan (Site Plan)

- A plot of a lot, drawn to scale, showing the actual measurements, the size and location of any existing buildings or buildings to be erected, the location of the lot in relation to abutting streets, and other such information.

PLOT PLAN
Building Line

The perimeter of that portion of a building or structure nearest a property line, but excluding open steps, terraces, cornices and other ornamental features projecting from the walls of the building or structure.
Setback

- The minimum *required* distance between the property line and the building line.

What’s the Difference Between a Front Yard and a *Required* Front Yard?
Easements

That portion of land or property reserved for present or future use by a person or agency other than the legal fee owner(s) of the property. The easement shall be permitted to be for use under, on or above said lot or lots.
RIGHT-OF-WAY

Any strip or area of land, including surface and overhead or underground space, which is granted by deed or easement for the construction or maintenance of specific linear elements such as power or telephone lines, roadways and piping.
Nonconforming Use
- A use that lawfully occupied a building or land at the time this code became effective, which has been lawfully continued and which does not now conform with the use regulations.

Conditional Use
- A use that would become harmonious or compatible with neighboring uses through the application and maintenance of qualifying conditions.

Variance
- A deviation from the height, bulk, setback, parking or other dimensional requirements established by this code.
LAND USE CODES

A Zones
– Division 1. Any designated open space
– Division 2. Any agricultural use
– Division 3. Any public parkland or similar recreational use.

R Zones
– Division 1. Any one-family dwelling, public/government buildings, libraries, schools, etc.
– Division 2. Any use permitted in R-1 and two-family dwellings.
– Division 3. Any use permitted in R-2 and multiple dwellings, apartment houses and condominiums.

Chapter 5
R ZONES

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<thead>
<tr>
<th>TABLE NO.</th>
<th>RESIDENTIAL USE REQUIREMENTS</th>
<th>LOVE R _2</th>
<th>LOVE R _2</th>
<th>LOVE R _2</th>
<th>LOVE R _2</th>
<th>LOVE R _2</th>
</tr>
</thead>
<tbody>
<tr>
<td>TARGET</td>
<td>REQUIRED LOT SIZE</td>
<td>REQUIRED</td>
<td>REQUIRED</td>
<td>REQUIRED</td>
<td>REQUIRED</td>
<td>REQUIRED</td>
</tr>
<tr>
<td>A</td>
<td>30,000</td>
<td>25</td>
<td>100</td>
<td>10</td>
<td>50</td>
<td>85</td>
</tr>
<tr>
<td>B</td>
<td>70,000</td>
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<td>150</td>
<td>15</td>
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<td>105</td>
</tr>
<tr>
<td>C</td>
<td>150,000</td>
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<td>20</td>
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<td>150</td>
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<tr>
<td>D</td>
<td>300,000</td>
<td>60</td>
<td>300</td>
<td>30</td>
<td>120</td>
<td>200</td>
</tr>
</tbody>
</table>
Chapter 6
LAND USE CODES

C Zones
– Division 1. Minor automotive repair, automobile service station, business or financial services, convenience and neighborhood commercial centers, restaurants, day-care center, funeral homes, places or religious worship...

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C Zones
– Division 2. Any use permitted in C-1 zones and light commercial, physical fitness centers, rehab centers, schools and colleges operated for profit, cultural and fraternal activities...

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C Zones
– Division 3. Any uses permitted in C-2 zones, and amusement centers (including bowling alleys, golf driving ranges, ice rinks, etc.), auto sales, building material supply sales, cultural institutions (such as museums and art galleries), health and medical institutions, hotels and motels, taverns/cocktail lounges, indoor theaters...

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**C Zones**
- Division 4. Any uses permitted in C-3 zones, major automotive repair, commercial bakeries, regional commercial centers (wholesale/retail), small metal products design, casting, fabricating, manufacture and finishing, storage yards, wood products manufacture and finishing...

**CR (commercial/residential) Zones**
- Division 1. Any use permitted in C-1 zones. Residential use allowed except in the story or basement abutting street grade.
- Division 2. Any use permitted in C-2 zones. Residential use allowed except in the story or basement abutting street grade.

**F/I Zones**
- Division 1. Any light manufacturing or industrial use, such as warehouses, research or testing laboratories, product distribution centers, woodworking shops, auto body shops, furniture assembly, dry-cleaning plants, machine shops, and boat building storage yards.
Chapter 7
LAND USE CODES

F/I Zones
- Division 2. Any use permitted in FI-1 zones and stadiums and arenas, indoor swap meets, breweries, liquid fertilizer manufacturing, carpet manufacturing, monument works and a regional recycling center.

Chapter 7
LAND USE CODES

F/I Zones
- Division 3. Any use permitted in FI-2 zones and auto dismantling yards, alcohol manufacturing, cotton gin, paper manufacturing, quarries, salt works, petroleum refining and other similar uses.

Chapter 8
GENERAL PROVISIONS

801 OFF-STREET PARKING
802 FENCE HEIGHTS
803 LOCATION OF ACCESSORY BUILDINGS
804 ALLOWABLE PROJECTIONS INTO YARDS
805 LANDSCAPING REQUIREMENTS
806 LOADING SPACES
807 GRADING & EXCAVATION REGULATIONS
808 PASSAGeways
809 APPROVAL FOR AND AVAILABILITY OF ESSENTIAL SERVICES
GENERAL PROVISIONS
Chapter 8

1. 801 OFF-STREET PARKING
2. 802 FENCE HEIGHTS
3. 803 LOCATION OF ACCESSORY BUILDINGS
4. 804 ALLOWABLE PROJECTIONS INTO YARDS
5. 805 LANDSCAPING REQUIREMENTS
6. 806 LOADING SPACES
7. 807 GRADING & EXCAVATION REGULATIONS
8. 808 PASSAGeways
9. 809 APPROVAL FOR AND AVAILABILITY OF ESSENTIAL SERVICES

Off-Street Parking

Table 801.2.1

<table>
<thead>
<tr>
<th>USE</th>
<th>NUMBER OF PARKING SPACES REQUIRED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assembly</td>
<td>1 per 200 gross square feet</td>
</tr>
<tr>
<td>Dwelling unit</td>
<td>2 per dwelling unit</td>
</tr>
<tr>
<td>Health club</td>
<td>1 per 100 gross square feet</td>
</tr>
<tr>
<td>Hotel/Inn</td>
<td>1 per sleeping unit plus 1 per 300 square feet of common area</td>
</tr>
<tr>
<td>Industry</td>
<td>1 per 500 square feet</td>
</tr>
<tr>
<td>Medical office</td>
<td>1 per 500 gross square feet</td>
</tr>
<tr>
<td>Office</td>
<td>1 per 300 gross square feet</td>
</tr>
<tr>
<td>Restaurant</td>
<td>1 per 100 gross square feet</td>
</tr>
<tr>
<td>Retail</td>
<td>1 per 500 gross square feet</td>
</tr>
<tr>
<td>School</td>
<td>1 per 5.5 seats in assembly area plus 1 per faculty member</td>
</tr>
<tr>
<td>Warehouse</td>
<td>1 per 500 gross square feet</td>
</tr>
<tr>
<td>Feet 'L' = 1 square feet = 0.0929 m^2</td>
<td></td>
</tr>
</tbody>
</table>

801.3.1 Width. Each stall to be a minimum of 9 feet.
- **Four exceptions**

801.3.2 Length. Each stall to be a minimum of 20 feet.
- **Two exceptions**

801.4.1 Driveway width.
- Private driveways: 9 feet minimum
- Commercial driveways:
  - 12 feet for one-way enter/exit
  - 24 feet for two-way enter/exit

801.4.5 Screening. 3 foot high buffer at public way if 5 or more parking spaces.
## Location of Accessory Buildings

Section 803

- **803.1 General.** Accessory buildings shall occupy the same lot as the main use or building.
- **803.2 Separation from main building.** Shall be separated from the main building by 10 feet.
- **803.3 Private garages.** Shall be permitted in rear or side yard provided setbacks are maintained and cannot encroach on any recorded easement. May be located in the front yard of a sloping lot but there are some stipulations.
- **803.4 Storage buildings.** Shall be permitted in any portion of the rear or side yards. Can NOT be located in the front yard.

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**Diagram:**

- Accessory structure
- Primary structure
- Dimensions: 10' min, 20', 30', 6'
- Setbacks: 10'
- Yards: 30', 20', 10'
- Lot dimensions: 60' x 100'

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GENERAL PROVISIONS
Chapter 8
- 801 OFF-STREET PARKING
- 802 FENCE HEIGHTS
- 803 LOCATION OF ACCESSORY BUILDINGS
- 804 ALLOWABLE PROJECTIONS INTO YARDS
- 805 LANDSCAPING REQUIREMENTS
- 806 LOADING SPACES
- 807 GRADING & EXCAVATION REGULATIONS
- 808 PASSAGeways
- 809 APPROVAL FOR AND AVAILABILITY OF ESSENTIAL SERVICES

Allowable Projections Into Yards
Section 804
- 804.1 General. Eaves, cornices and other similar architectural features—No more than 12 inches. Chimneys can project no more than 2 feet provided the width of any side yard is not reduced to less than 30 inches.
- 804.2 Front yards. Open, unenclosed and uncovered ramps, porches, platforms or landings can extend no more than 6 feet into the “required” front yard provided such porch does not extend above the first level and no more than 6 feet above grade at any point.
- 804.3 Rear yards. Windows can project into a “required” rear yard no more than 6 inches.

SPECIAL REGULATIONS
Chapter 9
- 901 HOME OCCUPATIONS
  - 901.1 General
  - 901.2 Conditions
- 902 ADULT USES
  - 902.1 General
  - 902.2 Provisions
SPECIAL REGULATIONS

Chapter 9

901 HOME OCCUPATIONS
  901.1 General — Clearly and obviously subordinate to main use. Conducted wholly within primary structure.
  901.2 Conditions
    □ 15% of floor area
    □ No more than one employee (Not related by blood, marriage or adoption)
    □ Inventory not more than 50% of area
    □ No exterior display or storage of goods on premises
    □ Beauty/Barber shops require conditional-use permit
    □ Sales/Services by appointment—no more than one patron vehicle
    □ Two additional parking spaces required—One if no employee

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SPECIAL REGULATIONS

Chapter 9

902 ADULT USES (Definition??)
  902.1 General — Conditional-use permit required
  902.2 Provisions
    □ Shall not be within 1000’ of a park, school, day care center, library or religious or cultural entity
    □ Shall not be within 500’ of any other adult-use or any agricultural or residential zone boundary
    □ Distances measured in a straight line
    □ Shall be located in F-1 zones
    □ Not permitted as a home occupation

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SIGN REGULATIONS

Chapter 10

1001 Purpose. The purpose of this chapter is to protect the safe and orderly development of the community through regulation of signs and sign structures.
  1002 Definitions
  1003 General Sign Types
  1004 General Provisions
  1005 Exempt Signs
  1006 Prohibited Signs
  1007 Permits
  1008 Specific Sign Requirements
  1009 Signs for Development Complexes

P. 29
**EXEMPT SIGNS**
Section 1005

- Official notices
- Authorized directional, warning or informational signs
- Memorial plaques, ID signs, building cornerstones
- Flags of a government or noncommercial institution
- Religious symbols and seasonal decorations
- Works of fine art (See details)
- Street address signs & address nameplate signs (No advertising and 6 square feet or less.)

**PROHIBITED SIGNS**
Section 1006

- Signs that obstruct a traffic signal or sign or block a driver’s view
- Signs in a right-of-way or on utility or light pole
- Signs which blink, flash or are animated
- Portable signs (Except permitted temporary signs)
- Signs attached to vehicles or trailers (See details)
- Balloons, streamers, pinwheels except permitted “temporary” uses. (What is the definition of “temporary” per the IZC?)

**PERMITS**
Section 1007

Sec. 1007.1 Permits required. Unless specifically exempted, a permit must be obtained from the code official for all signs erected or maintained within the jurisdiction.

Sec. 1007.2 Construction documents. Construction documents shall be filed with the code official showing dimensions, materials and details of construction. Must be accompanied by the written consent of owner or lessee of the premises.

Sec. 1007.3 Changes to signs. No sign shall be structurally altered, enlarged or relocated except in conformity to the provisions herein nor until a proper permit has been secured. The changing of moveable components, changing of copy, business names or colors or graphic matter shall not be deemed a structural alteration.

Sec. 1007.4 Permit fees. Shall be in accordance with the adopted fee schedule.
CUSTOMER SERVICE

YOU at the Counter

VS

YOUR IMAGE
(This Might Hurt a Bit)

☐ Do YOU Trust the Government? Well, Guess What....
☐ You Are a Necessary Evil...So is the I.R.S.
☐ TV Shows, Newspaper Articles
☐ When the Customer Walks In:
  ☐ Intimidated...Not Happy...Fear of the Unknown
☐ Did You Know How to Apply for a Permit Before You Got Into This Profession?
YOUR IMAGE

- Weakest Link…Moment of Truth
- Make Them Go Away! (Happy)
- Each One of Us Is a Mini-Corporation
  - Do you want to go bankrupt or make a profit?

BE PREPARED!

- Every Customer Has An Empty “Gun” ….(Don’t give them any bullets!)
- Assume You Are Being Recorded
- If You Get Mad First, You Lose (Even if You’re Right)

BE PREPARED

- Look at Your Office From the Other Side of the Counter
- ADA
- Interpreter
- Security
- Fashion Style
- Handouts
  - Time, Uniformity
- Website
- Checklists
- Potential Councilmember
- Sign-in Book
- Express Line
THE PROBABILITY OF SOMEONE WATCHING YOU IS DIRECTLY PROPORTIONAL TO THE STUPIDITY OF YOUR ACTIONS

If you can't explain it simply, you don't understand it well enough.

– Albert Einstein

10% of conflicts are due to difference in opinion. 90% are due to wrong tone of voice.
YOUR ATTITUDE
- Talk Clearly, Stay Away from Technical Jargon “Terms of Art”
- Watch Which Words You Emphasize
- Ask Questions if You Don’t Understand
- “Need to” Vs “Have to”
  - “We’ll need to get...” Vs “You have to give us...”
- Be Positive. “You’ve got a really good start here.”
- Acknowledge People When They Come In

“I PAY YOUR SALARY!!”
Some “Generic” Advice:
- Let Them Vent
- Don’t Interrupt Them
- Ask Them Questions
- Don’t Accuse
- Explain Why
- Girls and Boys
- Stay Out of Corners—YOU Might be Wrong
- Don’t Argue in Front of Them
- If You Made a Mistake, Admit It
- Do NOT Write on Documents!

ANGRY PEOPLE
Some Generic Advice: (cont’d.)
- Can You Bend This Time?
- MAKE IT GO AWAY!
  - Analyze Situation
  - Ask Those Involved
  - Precedents
  - Check With Your Building Official
- Like Making a Car Deal
- Make a Stand, But...
Internal Customers
- Fellow Workers
- Your Supervisor (Make Him/Her Look Good)
- The Building Official
- Other Departments (Fire, Planning, P.W., etc.)
- Council Members
- Who is Your Customer?
- Gossip/Rumors (Defamation, Slander, Libel)
- Exit Interviews-Are they really confidential?
- Your Reputation
- A Very Small World

ETHICS
When it comes to public service ethics, the public's perception equals reality.

ETHICS
- Treating customers equally (Do you treat all contractors the same?)
- Accepting gratuities
  - Sports/Concert tickets
  - Candy, doughnuts, flowers, gifts, etc.
  - Gift Certificates/Discounts
  - Lunch
  - Winning a door prize
Did you receive these because of your position with the City/Town/County? Does your jurisdiction have a gift policy?
What’s the BEST gratuity? (And it’s legal!)

International Building Code
Chapter 1, “ADMINISTRATION”

Why Building Codes?
IBC, Section 101.3 Intent. The purpose of this code is to establish the minimum requirements to safeguard the public health, safety general welfare through structural strength, means of egress facilities, stability, sanitation, adequate light and ventilation, energy conservation, and safety to life and property from fire and other hazards attributed to the built environment, safety to firefighters.
Why Zoning Codes?

- IZC, Section 101.2 Intent. The purpose of this code is to safeguard the health, property and public welfare by controlling the design, location, use or occupancy of all buildings and structures through the regulated and orderly development of land and land uses within this jurisdiction.

Scope

- IBC, 101.2 Scope. The provisions of the International Building Code shall apply to the construction, alteration, movement, enlargement, replacement, repair, equipment, use and occupancy, location, maintenance, removal and demolition of every building or structure or any appurtenances connected or attached to such buildings or structures.

  Exception: Buildings covered under the International Residential Code can also use the IBC. (2018 change)

APPLICABILITY

Section 102

- 102.1 General—General vs. Specific
- 102.4 Referenced codes & standards—If there is a conflict, this code shall apply.
- 102.5 Partial invalidity
- 102.6 Existing structures—The legal occupancy of any structure existing on the date of adoption of this code shall be permitted to continue without change, except as specifically covered in this code...
EXISTING STRUCTURES
Section 102.6

102.6.1 Buildings not previously occupied.
Generally, any building not previously used or occupied in accordance with the laws when it was completed, shall comply with the IBC or IRC, as applicable, for new construction or with any current permit for such occupancy.

EXISTING STRUCTURES
Section 102.6

102.6.2 Buildings previously occupied.
The legal occupancy of any building existing on the date of adoption of this code shall be permitted to continue without change, except as otherwise specifically provided in this code, the IFC or IPMC, or as deemed necessary for the general safety and welfare of the occupants and the public.

DEPT. of BUILDING SAFETY
Section 103

103.1 Creation of enforcement agency-
The Department of Building Safety is hereby created and the official in charge shall be known as the Building Official.

103.3 Deputies—-the Building Official shall have the authority to appoint deputies who shall have the powers as delegated by the Building Official...
Duties and Powers of Building Official
Section 104

104.1 General—Enforce and interpret code, adopt policies and procedures, cannot waive code requirements.

104.2—104.7 Applications and permits, Notices and orders, Inspections, ID, Right of entry, Department records. The Building Official shall keep official records.

Section 104 (Cont’d.)

104.8 Liability—“while acting in good faith and without malice…shall not thereby be civilly or criminally rendered liable personally…” Shall be defended by the legal representative of the jurisdiction until final termination of the proceedings.

104.10 Modifications

104.11 Alternate materials & methods
   104.11.1 Research Reports
   104.11.2 Tests

I need a permit for….

IBC, 105.1 Required. Any owner or authorized agent who intends to construct, enlarge, alter, repair, move, demolish, or change the occupancy of a building or structure, or to erect, install, enlarge, alter, repair, remove, convert or replace any electrical, gas, mechanical or plumbing system, the installation of which is regulated by this code, or to cause any such work to be done, shall first make application to the building official and obtain the required permit.
Annual Permit

IBC, 105.1.1.
- Can be used in lieu of an individual permit for each alteration to an already approved electrical, plumbing, gas or mechanical permit.

IBC, 105.1.2.
- Shall keep a detailed record of all alterations made under the annual permit. The Building Official shall have access to records or have them filed as designated.

I don’t need a permit for...

1. One-story detached accessory structures used as tool and storage sheds, playhouses, and similar uses, provided the floor area does not exceed 120 square feet. IRC = 200 sf!
2. Fences not over 7 feet high. (Went from 6' to 7' in 2012 IBC)
3. Oil derricks.
4. Retaining walls which are not over 4 feet in height measured from the bottom of the footing to the top of the wall, unless supporting a surcharge or impounding Class I, II, or III-A liquids.
5. Water tanks supported directly upon grade if the capacity does not exceed 5,000 gallons and the ratio of height to diameter or width does not exceed 2:1.
6. Sidewalks and driveways not more than 30 inches above grade and not over any basement or story below and are not part of an accessible route.

IBC 105.2

7. Painting, papering, tiling, carpeting, cabinets, counter tops and similar finish work.
8. Temporary motion picture, television and theater stage sets and scenery.
9. Prefabricated swimming pools accessory to a group R-3 Occupancy, as applicable in Section 101.2, which are less than 24 inches deep, do not exceed 5000 gallons and are installed entirely above ground.
10. Shade cloth structures constructed for nursery or agricultural purposes and not including service systems.
11. Swings and other playground equipment accessory to detached one-and two-family dwellings.
12. Window awnings supported by an exterior wall which do not project more than 54 inches from the exterior wall and do not require additional support of a Group R-3, as applicable in Section 101.2, and Group U occupancies.
13. Movable cases, counters and partitions not over 5 feet 9 inches in height.

Also see Electrical, Plumbing, Gas, Mechanical, Repairs, etc.
Applications for Permits

Every application shall:

1. Identify and describe the work to be covered by the permit for which application is made.
2. Describe the land on which the proposed work is to be done by legal description, street address, or similar description that will readily identify and definitely locate the proposed building or work.
3. Indicate the use or occupancy for which the proposed work is intended.

4. Be accompanied by construction documents and other information as required in 107.
5. State the valuation of the proposed work.
6. Be signed by the applicant, or the applicant’s authorized agent.
7. Give such other data and information as may be required by the Building Official.

Action on Application

105.3.1 Building Official shall examine applications within a "reasonable time" after filing. If not in conformance, the Building Official shall reject such application in writing. If in conformance, the Building Official shall issue a permit therefor "as soon as practicable".
Time Limitation of Application

105.3.2 Application shall be deemed to have been abandoned 180 days after filing unless pursued in “good faith.” The Building Official is authorized to grant one or more extensions of time for periods not exceeding 90 days. The extension shall be requested in writing and “justifiable cause” demonstrated.

Validity of Permit

105.4 Issuing a permit shall not be construed to be a permit to violate the code. The Building Official is authorized to require correction of errors in the construction documents and can prevent the occupancy of a structure where in violation of this code or any other ordinance of the jurisdiction.

Expiration - Suspension or Revocation - Placement of Permit

105.5 Permit shall be invalid if work has not commenced after 180 days or if work is suspended or abandoned for 180 days. 
105.6 Building Official can suspend or revoke permit if issued in error or if based on incorrect or incomplete information. 
105.7 The permit or a copy shall be kept on the job site until project completion.
Submittal Documents

- **IBC, 107.1.** Construction documents, special inspection and structural observation programs, and other data shall be submitted in two or more sets with each application for a permit. The construction documents shall be prepared by a registered design professional where required...

  **Exception:** The Building Official is authorized to waive the submission of construction documents...

- **IBC, 107.2.** Construction documents shall be dimensioned and drawn to scale upon suitable material. Electronic media documents are permitted to be submitted when approved by the Building Official. Construction documents shall be of sufficient clarity to indicate the location, nature and extent of the work proposed and show in detail that it will conform to the provisions of this code and all relevant laws, ordinances, rules and regulations, as determined by the Building Official.

Phased Approval

- **IBC, 107.3.3.** The Building Official is authorized to issue a permit for the construction of foundations or other part of a building or structure before the construction documents for the whole building have been submitted, provided that adequate information and detailed statements have been filed complying with pertinent requirements of this code. The holder of such permit for the foundation or other parts of a building or structure shall proceed at the holder’s own risk with the building operation and without assurance that a permit for the entire structure will be granted.
Design Professional in Responsible Charge

If the plans are prepared by a registered design professional, the Building Official shall be authorized to require a registered design professional in responsible charge be designated.

The Building Official shall be notified in writing of any change in the designated registered professional in responsible charge.

The registered design professional in responsible charge shall be responsible for reviewing and coordinating submittal documents prepared by others for compatibility with the building design.

Deferred Submittals

A portion of the project documents that may be submitted at a later time.

Building Official must approve what items may be deferred.

Must be listed on the original plans.

Deferred items must be reviewed by the architect/engineer of record before submittal.

Deferred items may not be installed until approved by the Building Official.

Retention of Construction Documents

107.5 One set of approved construction documents shall be retained by the Building Official for a period of not less than 180 days from date of completion of the permitted work, or as required by state or local laws.
Temporary Structures and Uses

- **108.1 General.** The Building Official is authorized to issue a permit for temporary structures and uses for not more than 180 days. Can grant extension.
- **108.2 Conformance.** Shall comply with Section 3103 (Page 584).
- **108.3 Temporary power.**
- **Termination of approval.** The Building Official is authorized to terminate permit and to order discontinuance.

Service Utilities

Section 112

- **112.1 Connection of Service Utilities**
  - Cannot make connections until released by the Building Official.
- **112.2 Temporary Connection**
  - Building Official can authorize temporary connection.
- **112.3 Authority to Disconnect Utilities**
  - In case of emergency, Building Official can authorize disconnection of utilities.

BOARD OF APPEALS

IBC Section 113 and Legal Aspects

- Members cannot be employed by the jurisdiction.
- Members must be qualified by experience and training to pass upon matters pertaining to building construction.
- Building Official shall be an ex officio member of the board and act as secretary.
- Building Official shall not have a vote upon any matter before the board.
The board of appeals shall be appointed by the governing body and shall hold office at its pleasure.

They shall adopt rules of procedure for conducting its business.

LIMITATIONS
Section 113.2

An application for appeal shall be based on the claim that the code has been incorrectly interpreted, the code does not fully apply, or an equal or better form of construction is proposed.

The board shall have no authority to waive requirements of this code.

APPEALS PROCEDURES
Legal Aspects

Board must establish rules.
Hearings to be open to the public.
The decisions of the board must be made by a quorum.
A notice of the hearing must be given to the appellant.
Burden of proof rests with the appellant.
Violations
Section 114
- 114.1 Unlawful acts. It shall be unlawful to do any work in conflict or violation of this code.
- 114.2 Notice of violation. The Building Official is authorized to serve a notice of violation directing the discontinuance of the illegal action.
- 114.3 Prosecution of violation. If the notice is not complied with promptly, the Building Official can request the legal counsel of the jurisdiction to institute legal action.
- 114.4 Violation penalties. Violators shall be subject to penalties as prescribed by law.

Stop Work Order
Section 115
- 115.1 Authority. The Building Official is authorized to issue a stop work order when work is being performed contrary to the code.
- 115.2 Issuance. The order shall be in writing and given to the owner, agent or person doing work. The cited work shall immediately cease. The order shall state the reason and remedies.
- 115.3 Unlawful continuance. Any person who continues work after being served shall be subject to penalties as prescribed by law.

Unsafe Structures and Equipment
Section 116
- 116.1 Conditions
- 116.2 Record
- 116.3 Notice
- 116.4 Method of service
- 116.5 Restoration
The Public Duty Doctrine

The public duty doctrine makes it difficult to successfully sue a building official for negligence.

Under the public duty doctrine, the courts look to the purpose of the building code to determine to whom the building inspector owes a specific duty. Because the building code is to ensure the safety and protection of the public, the element of negligence cannot be satisfied. Legal Aspects, Chapter 11, IBC 104.8.
Liability

- A legal obligation to perform some act

Legal Aspects pg. 2

Negligence

- To prove negligence, four elements must be proved. The Permit Technician must have:
  - 1) owed a duty to another to act according to a certain standard,
  - 2) failed to act in accord with that standard, and, therefore,
  - 3) breached that duty;
  - 4) thereby causing in the eyes of the law an injury or damage to the other.

Legal Aspects pg. 91

Breach of Duty

- A breach of duty can result from:
  - 1. Misfeasance: Improperly doing something.
  - 2. Malfeasance: Doing something you shouldn’t do at all.
  - 3. Nonfeasance: Not doing something that you have the responsibility to do.

Legal Aspects pg. 108
New York is prosecuting 19 plumbing inspectors for bribery and signing off on projects without looking at them. One contractor-turned-informant wore a wire and made 69 payments totaling $9000 to plumbing and boiler inspectors. If convicted of federal charges, each would face up to 20 years in prison and $250,000 fine.

CODES and STANDARDS Newsletter (July 2002)

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Injunction / Injunctive Relief

- A judicial order prohibiting specified conduct
  - Temporary restraining order
  - Temporary injunction
  - Permanent injunction

Legal Aspects pg. 44

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Temporary Restraining Order

- An order issued by the court without notice to the defendant and without an opportunity to be heard.
- Issued only in the most extreme circumstances.

Legal Aspects pg. 44 & 45
Temporary Injunction

- Issued only after a notice is given to the defendant and a brief hearing has taken place.
- A full hearing by a court is pending.

Legal Aspects pg. 44&45

Permanent Injunction

- Issued after the court has heard evidence by both sides in the case.

Legal Aspects pg. 44

A temporary restraining order and temporary injunction are subject to four legal requirements:
- Threat of irreparable harm
- Greater harm suffered if not granted;
- Probable cause; and
- In the public interest

Legal Aspects pg. 44 & 45
**Discriminatory Enforcement**
- Prejudicial in nature.
- Looks at WHO is doing the work rather than HOW the work is done.
- If a provision is waived for one person, it should be waived for all.
- Policy decisions should be applicable to everyone or to no one at all.

Legal Aspects pg. 74

**Procedural Due Process**
- People whose rights are to be affected are entitled to be heard, and therefore must be notified.
- If an occupancy permit is to be revoked, the occupant must be notified & heard. (Some courts may override this if immediate revocation is crucial to the health & safety of the inhabitants of the building.)

Legal Aspects pg. 121

**Statute**
- A law enacted by state or federal legislatures.

Legal Aspects pg. 12
Homeowners Associations vs. Local Ordinances

Can a city, town or county enforce HOA requirements if the HOA requirements are more restrictive?

Equitable Estoppel

A doctrine by which a municipality may be precluded by its action, or non-action, from asserting a right which it otherwise would have had.

QUESTIONS?
MEANS OF EGRESS
Chapter 10
(Generally Speaking)

What IS a Means of Egress?
Why do we need a Means of Egress from a building?
What would cause us to want to leave the building?

OK, we’ve got an emergency in the building.
What other factors, besides the emergency itself, can cause problems on our way out of the building?
MEANS OF EGRESS
Chapter 10

- Panic and Confusion
- Lack of Familiarity with Surroundings
- Poor Visibility
- Lack of Information (Or Misinformation)
- Number of People
- Condition of People
- Age of People
- The Exit System Itself
- Others??

MEANS OF EGRESS
Chapter 10

The Three Components of a Means of Egress are:

- EXIT ACCESS
- EXIT
- EXIT DISCHARGE

MEANS OF EGRESS
Chapter 10

EXIT ACCESS
That portion of a Means of Egress that leads from any occupied portion of a building or structure to an exit.
- Rooms
- Corridors
- Stairs
MEANS OF ЕGRESS
Chapter 10

EXIT
That portion of a Means of Egress system which is separated from other interior spaces of a building or structure by fire-resistance-rated construction and opening protectives as required to provide a protected path of egress travel between the exit access and exit discharge.
Exits include exit doors at ground level, exit enclosures, exit passageways, exterior exit stairs, exterior exit ramps and horizontal exits.

EXIT DISCHARGE
That portion of a Means of Egress system between the termination of an exit and a public way.

What is a PUBLIC WAY? (See definition)

Some basic requirements for the Means of Egress system:
- The code assumes a “worst-case scenario” and that the building is occupied to its maximum capacity
- Occupants must be able to get from any point of the building to a “Public Way”
- Occupants must have control of all elements in the exit system
Some basic requirements (Cont’d.)

- The exit system cannot be diminished along the way
- Exits must be readily accessible at all times
- Access to exits shall be clearly visible and recognizable
- Mirrors must not be placed on or near exit doors

- Must be readily openable from the egress side without the use of a key or special knowledge or effort (1010.1.9 p. 264)
- Exception: Group A if 300 or less, B, F, M, S and places of religious worship, main exterior door(s) can have a key operated lock if it has a sign “THIS DOOR TO REMAIN UNLOCKED WHEN THIS SPACE IS OCCUPIED”
- R dwellings if 10 or less

Some basic requirements (Cont’d.)

- Doors from a room to an exit or exit access shall be of the pivoted or side-hinged, swinging type and must swing with exit travel when the room is occupied by 50 or more persons or a Group H occupancy. (1010.1.2 p261)
- Panic hardware when 50 or more in an A or E and in any H. (1010.1.10 p267)
MEANS OF EGRESS
Chapter 10

Some basic requirements (Cont’d.)

- Routes of exit access shall never be toward a high-hazard (H) location, unless effectively shielded. (1016.2)
- Exit doors shall not be disguised, covered, concealed or decorated in such a way as to confuse their purpose. (1010.1)

Minimum clear width of any exit door is 32", Max. = 48" Min. height = 80"
(1010.1.1 p260)

What about Revolving Doors?
- Must collapse to a minimum width of 36"
- Must have a side-hinged swinging door in the same wall and within 10’ of the revolving door.
(1010.1.4.1 p261)

When multiple exits are required from a floor, at least two of the exits shall be separated from each other to minimize chances of more than one being blocked.
(We’ll discuss this a little more later on.)
How do we determine how many occupants we can have in a room?

Go to Table 1004.1.2 p251

How many occupants are allowed in a 10,000 S.F. Office building?

10,000 / ___ = ___

What about a 100,000 S.F. Storage building?

100,000 / ___ = ___
How many occupants are allowed in a 900 S.F. school room?

\[
\frac{900}{___} = ___
\]

What about a 200,000 S.F. Wal-Mart?

\[
\frac{200,000}{___} = ___
\]

How many occupants are allowed in a nightclub with 20 stationary bar stools, 1000 S.F. of non-stationary seating area, and a 500 S.F. dance floor?

Bar: \[
\frac{20}{___} = ___
\]

Seating: \[
\frac{1000}{___} = ___
\]

Dance Floor: \[
\frac{500}{___} = ___
\]

Total: ___
MEANS OF EGRESS
Chapter 10

- What is “non-simultaneous” occupancy?
- Posting of Occupancy Load—Every room or space that is an assembly occupancy.
(1004.3 p252)
How do we determine how many doors we need to get out? 2? 3? 4? More?
- Get Occupant Load from Table 1004.1.2
- Then go to Section 1006.2.1 (p253) and 1006.2.1.1 (p254)
- These Sections are “general” and basically say:

<table>
<thead>
<tr>
<th>OCCUPANT LOAD PER STORY</th>
<th>MINIMUM NUMBER OF EXITS OR ACCESS TO EXITS FROM STORY</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-500</td>
<td>2</td>
</tr>
<tr>
<td>S1-1,000</td>
<td>1</td>
</tr>
<tr>
<td>More than 1,000</td>
<td>4</td>
</tr>
</tbody>
</table>

HOWEVER, only one exit is needed if less than the values in the Table 1006.2.1 p254
- This Table is more specific

Per Sections 1006.2.1 and 1006.2.1.1, generally, how many exits are needed from the following?
- Office: 100 Occupants
- Storage: 200 Occupants

<table>
<thead>
<tr>
<th>OCCUPANT LOAD PER STORY</th>
<th>MINIMUM NUMBER OF EXITS OR ACCESS TO EXITS FROM STORY</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-500</td>
<td>2</td>
</tr>
<tr>
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<td>1</td>
</tr>
<tr>
<td>More than 1,000</td>
<td>4</td>
</tr>
</tbody>
</table>
MEANS OF EGRESS
Chapter 10

- Classroom: 45 Occupants
- Wal-Mart: 3334 Occupants
- Nightclub: 187 Occupants

<table>
<thead>
<tr>
<th>OCCUPANT LOAD PER STORY</th>
<th>MINIMUM NUMBER OF EXITS OR ACCESS TO EXITS PER STORY</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-500</td>
<td>2</td>
</tr>
<tr>
<td>501-1,000</td>
<td>2</td>
</tr>
<tr>
<td>More than 1,000</td>
<td>4</td>
</tr>
</tbody>
</table>

Now let's look at **Table 1006.2.1 (p. 254)**
Which is the only one that only needs one exit?
(Hint: Must have 49 occupants or less.)
- Office: 100 Occupants
- Storage: 200 Occupants
- Classroom: 45 Occupants
- Wal-Mart: 6667 Occupants
- Nightclub: 187 Occupants

After we determine how many exits we need, how do we determine how big they need to be?
Go to Sections **1005.3.1** (Stairways) and **1005.3.2** (No stairways) p **252**
Multiple the Occupant Load by the number in that section. (.3 / occupant for stairs and .2 / occupant without stairs)
Let's go back to our Occupancy Examples.
MEANS OF EGRESS
Chapter 10
Office, Sprinklered, Not a Stairway
100 Occupants
100 x 0.2 = 20” wide
How many exits did we say were needed?
So we need two exits that are at least 20” wide?
What did we say the minimum width of an exit door must be?
So we need two exit doors that are at least 32” wide.

MEANS OF EGRESS
Chapter 10
OK, how about the Wal-Mart?
Mercantile, Sprinklered, Not a Stairway
3334 Occupants
3334 x 0.2 = 667” of exit width
How many exits did we say were needed?
667”/4 = 167”
So we need 4 doors that are 167” wide?

MEANS OF EGRESS
Chapter 10
What was the maximum exit door width?
OK, so 167” / 48” = 3.5 (4) exit doors

Most likely they would use 36” doors, so:
167” / 36” = 4.6 (5) doors

Can we put them all on the front wall?
(We’ll discuss Remote Exits in a minute.)
MEANS OF EGRESS
Chapter 10

So far we have determined how many occupants can be in the building, how many exits we need and how big each one of the exits must be.
Now we need to get people to those exits by making sure the Exit Access complies with the code.

MEANS OF EGRESS
Chapter 10

EXIT SIGNS (1013 p272)
- Graphics: Sign shall say "Exit" (duh), with 3/4" wide by 6" high strokes on contrasting background. What about color?
  - Illuminated internally or externally
  - Not required with just one exit or if main exit is obvious (if allowed by Building Official)
  - Located near floor in R-1 serving guest rooms
  - Readily visible from any direction
  - No point in a corridor can be more that 100' from the nearest visible exit sign
  - Additional directional signs may be needed
MEANS OF EGRESS
Chapter 10

EMERGENCY ILLUMINATION (1008 p257)

- Means of Egress is to be illuminated at all times
- Required when there are two or more exits
- Must last for at least 90 minutes (Battery or Generator)

REMOTE EXITS (1007.1.1 p256)

- For 2 exits: 1/2 the room diagonal
  - If sprinklered then 1/3

- For 3 or more exits: At least 2 at 1/2 the diagonal (1/3 if sprinklered). Others to be a “reasonable distance” apart.

TRAVEL DISTANCE (Table 1017.2 p 277)
MEANS OF EGRESS
Chapter 10

TRAVEL DISTANCE (Table 10-17.3 p 277)
Exit access travel measured from most remote point in a building to an approved exit along the natural and unobstructed line of travel.

CORRIDORS (1020 p 278)
- Width = 44” minimum
- If occupant load of 50 or less, they can be 36” wide
- No dead-end corridors greater than 20’.
  - B, E, F, I-1, M, R-1, R-2, R-4, S, and U occupancies with sprinklers can be 50’
- Any portion of the means of egress shall have a minimum ceiling height of 7’-6” and any projection from the ceiling (lights, sprinklers, etc.) shall be at least 80” (6’-8”) from the floor. (Sec. 1003.2)
  (What else is required to be at least 6’-8’?)

STAIRWAYS (1011 p 268)
- Stair run = 7” risers (max.) and 4” minimum 11” treads (min.)
- R-3 = 7-3/4” risers and 10” treads

HANDRAILS (1014 p 273)
- Reg’d. on sides except in dwelling units (1011.11)
- 34”-38” above stair nosing
- Must have “graspability”

GUARDS (1015 p 274)
- Along open areas >30” above floor or grade
- 42” high (min.) with <4” (max.) openings
An exit can be an exterior door, vertical enclosure, exit passageway, horizontal exit, exterior exit stairs, etc. but all must discharge to the exterior of the building at grade. The discharge area must be large enough to accommodate the occupants.

At no time can they re-enter the building!

(IN SUMMARY---

A Means of Egress system allows occupants to safely leave any portion of the interior of the building and get to the outside quickly and with minimal effort.)
BUILDING
CONSTRUCTION
IF YOU BUILD IT......

Fees
Section 109

• **109.1 Payment of Fees.** Permit not valid until fees are paid.

• **109.2 Schedule of Permit Fees.** To be established by the governing authority. (No IBC Fee Schedule--Appendix L in IRC)

• **109.3 Building Permit Valuations.** Applicant to provide estimated value. Final valuation to be set by the Building Official.

• **109.4 Work Commencing Before Permit Issuance.** Subject to an additional fee in addition to permit fee. (Formerly “Investigative Fee”)

• **109.5 Related Fees.** Must pay other fees.

• **109.6 Refunds.** The Building Official is authorized to establish a refund policy.
PERMIT FEES

• Typically, multiply the square footage of a project by the valuation factor which can be found on the ICC web site. This valuation is then compared to the Fee Schedule.
• Don’t forget the “fraction thereof”!!

Given: If the valuation factor per square foot for a single family dwelling is $85.04 and the valuation per square foot for an attached garage is $28.50, what is the permit fee for a 2300 square foot house with a 600 square foot attached garage?

Dwelling: ________ x ________ = __________
Garage: ________ x ________ = __________
Total Valuation = _________________
Permit = ______________
Plan Review Fee (65%) = ______________

BASIC RESIDENTIAL REVIEW

• Identify parts of a structure on plans
• Identify parts to a complete set of plans
• Check code requirements
• Calculations
Typical Parts of a Building

• Footing
• Foundation (or Stem)
• Floor
• Walls or Supports
• Ceiling
• Roof
• Joist vs. Rafter

-Rafter is one of a series of (inclined) structural members of a roof which support the roof’s weight.

-Joist is one of a series of parallel beams used to support floor and ceiling loads

(You Can Build It -Glossary)

Dead Load vs. Live Load

• Dead Load is the weight of materials of construction incorporated into the building, including but not limited to walls, floors, roofs, ceilings, stairways, built-in partitions, finishes, cladding, and other similarly incorporated architectural and structural items, and fixed service equipment, including the weight of cranes, plumbing and electrical pipes, HVAC and fire sprinklers.
Dead Load vs. Live Loads

- Live Loads are those loads produced by the use and occupancy of the building or other structure and do not include construction or environmental loads such as wind load, snow load, rain load, earthquake load, flood load or dead load.
The first thing you need to do is find the scale on your blueprints. It will generally be in the lower left- or right-hand corner of the page or under the title of the drawing. Example: \( \frac{1}{4} \text{"} = 1 \text{ft} \). When you have located this, find the corresponding scale on the ruler. Each side will have four scales on it, so make sure you have the correct one. If you don't, all your measurements will be off.

The scale will have a long mark to the left of a zero, which is the beginning of the feet, and several shorter marks to the right of the zero, which represents the inches. Line up the zero mark with the beginning of the section you want to measure. The nearest mark the line passes, is the foot measurement. Often, since the same side will have two scales on it, the marks will alternate one scale and then the other, even to odd. You must make sure you know which one you should be using. Once you count up the feet, slide the ruler left to meet up the end of the line with the nearest foot mark. The beginning of the line will bleed over the zero mark to the right. The shorter 'inch' mark that the line meets up with will be the amount of inches you need. The first measurement gives you the feet, the second the inches. No math involved, and after a bit of practice, it will become second nature.

Architect's Scale
What makes a set of plans complete?

- Site plan or Plot plan
- Foundation plan
- Floor plan
- Roof plan
- Details
- Calculations or computations
Parts of a Roof Truss
(Never Cut Any Part!)

FIGURE 4

34

35

36
Racking

![Diagram of rectangle racks and no racking with brace]

INSPECTIONS
Section 110

• **110.1 General.** All work that has been issued a permit shall be inspected and shall remain accessible and exposed.

• Approval of an inspection does not mean approval of a violation.

• Neither the Building Official nor the jurisdiction shall be liable for any expense to remove or replace any material required to allow inspection.

INSPECTIONS
Section 110

• **110.3 Required Inspections.**
  – 110.3.1 Footing or foundation
  – 110.3.2 Concrete slab or under-floor
  – 110.3.3 Lowest floor elevation (See Sec.1612.5 Flood hazard areas)
  – 110.3.4 Frame
  – 110.3.5 Lath or gypsum board
  – 110.3.6 Fire-resistive penetrations
  – 110.3.7 Energy efficiency
  – 110.3.8 Other inspections
  – 110.3.9 Special inspections *(Chapter 17)*
  – 110.3.10 Final
Chapter 17
Special Inspections

Let's Turn to Page 403 in the 2015 IBC
(Page 415 in the 2018 IBC)

• What is a Special Inspection?
• Who Employs the Special Inspector?
• How Many Types of Special Inspections Are There?

INSPECTIONS
Section 110

• 110.4 Inspection agencies. The Building Official can accept reports from approved inspection agencies.
• 110.5 Inspection requests. It shall be the duty of the permit holder to notify the Building Official when work is ready for inspection and to provide access.
• 110.6 Approval required. All work must be approved before proceeding to the next inspection.

CERTIFICATE OF OCCUPANCY
Section 111

111.1 No building or structure shall be used or occupied, and a change in the existing use or occupancy classification shall not be made without the Building Official first issuing a certificate of occupancy.

Interp: A change of USE without a change in occupancy now requires a Certificate of Occupancy.

2018: The words “use or” are deleted.
## THE CERTIFICATE OF OCCUPANCY

**Section 111.2**

- Shall contain the following:
  - Building Permit number
  - Address of the building
  - Name and address of owner (or owner's authorized agent)
  - A description of that portion of the building for which the certificate is issued
  - A statement that the described portion has been inspected for code compliance for the group and division of occupancy and the use for which the occupancy is classified.

## TEMPORARY OCCUPANCY

**Section 111.3**

- Prior to the completion of the building, the Building Official is authorized to issue a temporary certificate of occupancy for a portion or portions of a building provided that such portion or portions shall be occupied safely.
Revocation
Section 111.4
• The Building Official is authorized to, in writing, suspend or revoke the certificate of occupancy wherever the certificate is issued in error, or on the basis of incorrect information, or where it is determined that the structure may be in violation of the provisions of this code.

EXISTING STRUCTURES
CHAPTER 34
Good News!
There is no more Chapter 34!
Be sure to review the sections in Chapter 1 regarding Existing Buildings!
(Sections 101.4.7 and 102.6)
<table>
<thead>
<tr>
<th>Interest on and Including $1,000,000.00, or Fraction thereof</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>$569.67 for the First $1,000,000.00 plus $4.75 for Each Additional $1,000,000.00, or Fraction</td>
<td>$1,000,000.00 and up</td>
</tr>
<tr>
<td>$3,239.25 for the First $500,000.00 plus $7.50 for Each Additional $1,000,000.00, or Fraction</td>
<td>$500,000.00 to $1,000,000.00</td>
</tr>
<tr>
<td>$169.93 for the First $100,000.00 plus $7.00 for Each Additional $1,000,000.00, or Fraction</td>
<td>$100,000.00 to $500,000.00</td>
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</tr>
<tr>
<td>$43.71 for the First $25,000.00 plus $7.00 for Each Additional $1,000,000.00, or Fraction</td>
<td>$25,000.00 to $50,000.00</td>
</tr>
<tr>
<td>$21.95 for the First $10,000.00 plus $7.00 for Each Additional $1,000,000.00, or Fraction</td>
<td>$10,000.00 to $25,000.00</td>
</tr>
<tr>
<td>$9.98 for the First $5,000.00 plus $7.00 for Each Additional $1,000,000.00, or Fraction</td>
<td>$5,000.00 to $10,000.00</td>
</tr>
<tr>
<td>$2.35 for the First $2,000.00 plus $3.05 for Each Additional $1,000,000.00, or Fraction</td>
<td>$2,000.00 to $5,000.00</td>
</tr>
<tr>
<td>$1.00 to $2,000.00</td>
<td></td>
</tr>
</tbody>
</table>

**TOTAL VALUATION**: $23.50