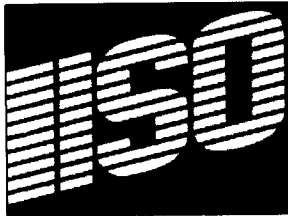


BUILDING CODE EFFECTIVENESS GRADING SCHEDULE



INSURANCE SERVICES OFFICE, INC.

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Building Code Effectiveness Grading Schedule

INTRODUCTION

10. PURPOSE:

The purpose of this Schedule is to review the available public building code enforcement agencies, and to develop a Building Code Effectiveness Classification for insurance underwriting information and rating purposes.

15. SCOPE:

The Schedule measures the resources and support available for building code enforcement. It also evaluates how those resources apply to the mitigation of the natural hazards common to the specific jurisdiction. These measurements are then developed into a Building Code Effectiveness Classification number on a relative scale from 1 to 10, with 1 representing the most favorable classification. In addition, a classification of 99 represents a jurisdiction that is either unclassified or does not meet the minimum criteria of this schedule.

The Schedule is an insurance underwriting-information and rating tool. It is not intended to analyze all aspects of a comprehensive building code enforcement program. It should not be used for purposes other than insurance underwriting information and rating.

20. BUILDING CODE EFFECTIVENESS CLASSIFICATION:

The Building Code Effectiveness Classifications developed through the use of this Schedule are only one of several elements used to develop insurance rates for individual properties. Other features specifically relating to individual properties such as construction, occupancy, and exposures have similar importance in the development of these rates.

25. JURISDICTION:

The word "jurisdiction" as used in this Schedule includes cities, towns, villages, districts, counties, or other political boundaries.

30. FORMAT:

This Schedule is divided into 3 sections:

I. Administration of Codes:

This section evaluates the administrative support available in the jurisdiction for code enforcement. It looks for adopted building codes and modifications of those codes through ordinance, code enforcers qualifications, experience and education, zoning provisions, contractor/builder licensing requirements, public awareness programs, the building department's participation in code development activities and the administrative policies and procedures.

II. Plan Review:

This section assesses the plan review function to determine the staffing levels, personnel experience, performance evaluation schedules, review capabilities, and level of review of construction documents for compliance with the adopted building code for the jurisdiction being graded.

III. Field Inspection:

This section evaluates the field inspection function to determine the staffing levels, personnel experience, performance evaluation schedules, review capabilities, and level of review of building construction for compliance with the adopted building code for the jurisdiction being graded.

33. Classifications Categories:

A. Personal Lines Classification

This classification will evaluate the adopted codes, plan review, field inspection policies, procedures, and the jurisdiction's commitment to building code enforcement related to all 1 and 2 family dwellings.

B. Commercial Lines Classification

This classification will evaluate the adopted codes, plan review, field inspection policies, procedures and the jurisdiction's commitment to building code enforcement related to all buildings other than 1 and 2 family dwellings.

35. CALCULATIONS:

Whenever in this Schedule it is necessary to prorate credits, or to make any calculation using less than a whole percent or point, the following rules apply unless otherwise directed:

A. Final calculations with a 3 or more decimal place figure will be rounded to a 2 decimal place figure, promoting 0.005 or more, and dropping 0.004 or less (e.g., 2.285 = 2.29; 2.284 = 2.28).

B. All values are proratable except where noted.

C. If a portion of this Schedule does not apply due to an inapplicability to the jurisdiction being graded, the maximum points for that subsection will be given. For example, jurisdictions whose identified natural hazard(s) does not lend itself to mitigation by zoning regulations would receive maximum credit under Section 140. "ZONING PROVISIONS" even though there were no zoning provisions in place.

D. When documentation is not provided to substantiate an item of review within this Schedule, and it is reasonable to assume that credit for the item is justified, a maximum of 75% of the credit points possible can be given to the item under review.

E. The final score will be determined by a relationship between Item 105 and the balance of the Schedule.

$$\{[(\text{Section I} + \text{Section II} + \text{Section III}) - \text{Item 105}] \times \frac{\text{Points Achieved in Item 105}}{\text{Points Possible in Item 105}}\} + \text{Item 105}$$

F. The maximum points available in any Item are those points indicated in the Item or sub-item heading.

40. MINIMUM CONDITIONS FOR APPLYING THIS SCHEDULE:

In order to develop a Building Code Effectiveness Classification other than Class 99, the following minimum conditions must exist:

A. Organization:

The building department shall be organized on a permanent basis under applicable state or local laws. The organization will include one person responsible for the operation of the department, usually with the title of Building Official.

The department must serve an area with definite boundaries. If the jurisdiction is not served by a building department operated solely by or for the governing body of that jurisdiction, the building department providing such service will do so under a legal contract or resolution. When a building department's service area involves one or more jurisdictions, a contract should be executed with each jurisdiction served.

B. Building Code:

A building code addressing the structural strength and stability necessary to provide resistance to natural hazards attributed to the built environment will be adopted and enforced.

C. Plan Review:

Review of construction documents for compliance with the adopted building code will be done for building construction within the jurisdiction being graded.

1. Minimum plan review criteria for commercial construction and multi-family (3 or more family) residential:
 - a. Structural plan review shall be conducted for all new commercial buildings including multi-family dwellings (3 or more dwelling units per building)
2. Minimum plan review criteria for one and two family dwellings:
 - a. When 90% or more of new buildings have a structural plan review conducted by the qualified building official or a qualified designee, full credit for Section II is available
 - b. When less than 90% of new buildings have a structural plan review conducted by the building official or qualified designee, the points achieved in Section II will be prorated by the percentage of plan reviews conducted when all of the following conditions exist:
 - i. The adopted construction code (promulgated by a nationally recognized building code development and publication organization) identifies that there are no natural hazards requiring special construction attention existing within the jurisdiction being evaluated
 - ii. Maximum allowable points are earned in item 110 "Modification to Adopted Codes"
 - iii. Permits are issued for all new 1 and 2 family dwellings, regardless of plan review activity
 - iv. Footing, foundation, framing, sheathing or insulation, and final building inspections are conducted by certified building inspectors. Certified is as determined by a nationally recognized building code development and publication organization or equivalent
 - v. Construction projects incorporating complex designs are plan reviewed by a qualified building official or a qualified designee for compliance with the adopted code

3. Less restrictive plan review policies may result in a classification of class 99 for multi family, commercial, or one and two family dwellings for insufficient attention to plan review

D. Field Inspection:

Field inspection of construction shall be conducted to ensure compliance with approved plans and adopted codes.

E. Training:

Training shall be conducted for code enforcement personnel.

CLASSIFICATION TABLE

CLASSIFICATION	POINT SPREADS	
	1	93.00 - 100.00
	2	85.00 - 92.99
	3	77.00 - 84.99
	4	65.00 - 76.99
	5	56.00 - 64.99
	6	48.00 - 55.99
	7	39.00 - 47.99
	8	25.00 - 38.99
	9	10.00 - 24.99
10	0.00 - 9.99	

SECTION I
ADMINISTRATION
OF CODES

SECTION I

100. GENERAL:

This section evaluates the administrative support for code enforcement within the jurisdiction -- the adopted building codes and the modifications of those codes through ordinance, code enforcers qualifications, experience and education, zoning provisions, contractor/builder licensing requirements, public awareness programs, the building department's participation in code development activities, and the administrative policies and procedures.

105. ADOPTED CODES:

8.0 points

Jurisdictions should adopt and enforce the latest code edition of a nationally recognized building code development and publication organization. To be considered a nationally recognized building code organization, the organization must also provide training, individual certification, and product / procedure evaluation services.

Adopted regulations that are not developed by a nationally recognized building code development and publication organization may be prorated based on a comparison to the latest edition of nationally recognized building codes.

State or local amendments that modify or delete provisions for natural hazard mitigation within their adopted nationally recognized building code may be subject to proration of points available in this section.

If the published date of the listed codes is within 5 years of the date of the grading:

Building Code(s) addressing commercial and /or residential construction 8.00 points

If the published date of the listed codes is within 6 years of the date of the grading:

Building Code(s) addressing commercial and /or residential construction 6.88 points

If the published date of the listed codes is within 10 years of the date of the grading:

Building Code(s) addressing commercial and /or residential construction 2.21 points

If an earlier edition of the listed codes is adopted:

Building Code(s) addressing commercial and /or residential construction 0.85 point

108. Additional Code Adoptions: 4.00 points

If the published date of the listed codes is within 5 years of the date of the grading:

Electrical Code	0.67 point
Gas Code	0.67 point
Mechanical Code	0.67 point
Plumbing Code	0.67 point
Energy Code	0.67 point
Wildland Urban Interface Code	0.67 point

If the published date of the listed codes is within 6 years of the date of the grading:

Electrical Code	0.33 point
Gas Code	0.33 point
Mechanical Code	0.33 point
Plumbing Code	0.33 point
Energy Code	0.33 point
Wildland Urban Interface Code	0.33 point

If the published date of the listed codes is within 10 years of the date of the grading:

Electrical Code	0.18 point
Gas Code	0.18 point
Mechanical Code	0.18 point
Plumbing Code	0.18 point
Energy Code	0.18 point
Wildland Urban Interface Code	0.18 point

If an earlier edition of the listed codes is adopted:

Electrical Code	0.004 point
Gas Code	0.004 point
Mechanical Code	0.004 point
Plumbing Code	0.004 point
Energy Code	0.004 point
Wildland Urban Interface Code	0.004 point

110. MODIFICATION TO ADOPTED CODES 4.0 points**

There should be no modifications to the structural design provisions of the adopted codes and referenced standards that would weaken the intent for construction mitigation of natural hazards as defined in the model codes and referenced standards. No proration is permitted in this item.

** Maximum allowable points = (Points credited in item 105) X 0.125 X 4.0

112. METHOD OF ADOPTION:

1.0 points

The building code adopting authority shall adopt and implement a coordinated set of codes published by a nationally recognized building code development and publication organization within 12 months of the publication of the codes. These codes shall be adopted without technical modification affecting natural hazard mitigation. Full credit must be achieved for items 105, 108 and 110 to be eligible for recognition under this section.

115. TRAINING:

13.0 points

The credit for training is as follows:

- A. Amount of expenditures for training equaling at least 2% of the annual operating budget for all building department related activities 3.00 points
- B. Each code enforcement person receiving the following amount of training per year:
 - Administration 12 hours 1.25 points
 - Legal 12 hours 1.25 points
 - Mentoring 12 hours 1.25 points
 - Technical 60 hours 4.25 points
- C. Incentives provided by the jurisdiction for continuing education, outside training, certification and certification maintenance 1.50 points
- D. Education of elected officials or governing authorities in building codes and building code enforcement a minimum of 3 hours per official per year 0.50 point

120. CERTIFICATION:

12.0 points

The credit for certification is as follows:

- A. Certification of code enforcement personnel (applicable to the position requirements) through a comprehensive examination representative of the performance area for which certification is sought 8.00 points
- B. State or local jurisdiction mandated program for certification 0.50 point
- C. State or local jurisdiction mandated program of certification maintenance through continuing education at least once every 3 years 1.50 points
- D. Program of employee certification in the field they are employed (prior to employment or within one year of date of hire or advancement) 1.00 point
- E. Program of employee certification where specific code related education and experience are required prerequisites to testing requirements..... 1.00 point

125. BUILDING OFFICIAL'S QUALIFICATION / EXPERIENCE / EDUCATION: 4.0 POINTS

The following is reviewed:

- Building official's qualifications
- Certification as a building official
- Education, including a designation as a registered design professional
- Work experience in the fields of construction and code enforcement
- Experience as a building official

- 130. SELECTION PROCEDURES FOR BUILDING OFFICIAL: 0.5 POINT**
 The selection process for a building official is designed to select the most qualified candidate.
- 135. DESIGN PROFESSIONALS: 2.00 POINTS**
 The credit for design professionals is as follows:
- A. If supervisory plan review staff are graduate or registered architects or engineers 1.00 point
 - B. If non-supervisory plan review staff are graduate or registered architects or engineers 0.50 point
 - C. If supervisory field inspection staff are graduate or registered architects or engineers 0.50 point
- 140. ZONING PROVISIONS: 1.0 POINT**
 Where possible, special (through ordinance or code amendment) zoning provisions that address mitigation measures for buildings subject to local natural hazards.
- 145. CONTRACTOR/BUILDER LICENSING AND BONDING: 1.0 POINT**
 Contractors/builders licensed and bonded to work in the jurisdiction being graded. The licensure is dependent upon examination and experience.
- 155. PUBLIC AWARENESS PROGRAMS: 2.5 POINTS**
 The credit for public awareness programs is as follows:
- A. The amount of expenditures for public awareness programs equaling a minimum of 0.5% of the annual operating budget for all building department related activities 1.25 point
 - B. The amount of hours spent by code enforcers on public awareness programs, equaling a minimum of 3 hours per code enforcement employee per year 1.25 points
- 160. PARTICIPATION IN CODE DEVELOPMENT ACTIVITIES: 0.5 POINT**
 The building department involvement in code development activities and associations with groups or organizations that assemble building enforcement personnel for the purpose of education and advancement of effective building codes.
- 165. ADMINISTRATIVE POLICIES AND PROCEDURES: 0.5 POINT**
 The credit for "Policies and Procedures" is as follows:
- A. A formal appeal process that a contractor/builder or architect/design professional can utilize as recourse to a building official's interpretation of the adopted building code/zoning regulations 0.30 point
 - B. A policies and procedures guide for employees 0.10 point
 - C. Where the policies and procedures guide covers technical code requirements (such as approved products listings) that would assist a designer or builder, publicizing the guide as available to the public 0.10 point

**SECTION II
PLAN
REVIEW**

SECTION II

200. GENERAL:

This section evaluates the plan review function to determine the following:

- Staffing levels
- Personnel experience
- Performance evaluation schedules
- Review capabilities, and level of review of construction documents for compliance with the adopted building code for the jurisdiction being graded.

205. EXISTING STAFFING:

9.0 POINTS**

Staffing levels sufficient to assure comprehensive reviews of construction documents for compliance with the adopted building codes.

Detail of commercial plan review calculation

$$\left[A \div \left(\left(\frac{B}{C} \right) \div D \right) \right] \times E \times \frac{F}{G} =$$

A	Optimum number of commercial building plan reviews preformed per day (constant = 1)	D	Number of working days in a year (constant = 220)
B	Number of commercial building plan reviews performed	E	Points available in section 205 (constant = 9.0)
C	Number of commercial building plan reviewers	F	Points achieved in section 215
		G	Points available in section 215 (constant = 11.5)

Detail of residential plan review calculation

$$\left[H \div \left(\left(\frac{I}{J} \right) \div D \right) \right] \times E \times \frac{F}{G} =$$

H	optimum number of residential building plan reviews preformed per day (constant = 2)	D	Number of working days in a year (constant = 220)
I	Number of residential building plan reviews performed	E	Points available in section 205 (constant = 9.0)
J	Number of residential building plan reviewers	F	Points achieved in section 215
		G	Points available in section 215 (constant = 11.5)

210. EXPERIENCE OF PERSONNEL **1.5 POINTS**
5 years or greater experience in plan review of plan review staff.

215. DETAIL OF PLAN REVIEW: **11.5 POINTS**
The credit for the comprehensiveness of plan review is as follows:

- A. Comprehensive review of plans performed even if they were prepared and sealed by a registered design professional certified in the appropriate field of work 3.25 points
- B. Structural plan reviews conducted for all proposed building construction or building additions/modifications including a review of engineering calculations 3.25 points
- C. A means to evaluate, or reference evaluation service reports, for substitute products and/or materials for conformance with the intent of the structural portions of the adopted building codes 2.00 points
- D. A detailed checklist used with each plan review to assure all pertinent building code issues have been considered. 2.00 points
- F. Detailed record keeping of plan review activity. Records should include number of plan reviews conducted by the department or other approved agency, type of project reviewed (i.e. new, renovation, addition), codes reviewed against (i.e. building, mechanical, gas, plumbing, electrical) and date of release..... 1.00 points

220. PERFORMANCE EVALUATIONS FOR QUALITY ASSURANCE: **1.0 POINT**
Credit for quality assurance programs for plan reviewers is as follows:

- A. Annual employee performance evaluations 0.50 point
- B. "Follow-up" plan reviews by a different plan reviewer conducted semiannually 0.50 point

SECTION III
FIELD INSPECTION

SECTION III

300. GENERAL:

This section evaluates the field inspection function to determine the following:

- Staffing levels
- Personnel experience
- Performance evaluation schedules
- Review capabilities and level of review of building construction

305. EXISTING STAFFING: 9.0 POINTS

Staffing levels sufficient to assure comprehensive reviews of building construction for compliance with the adopted building codes.

310. EXPERIENCE OF PERSONNEL: 3.0 POINTS

5 years or greater experience in field inspection and prior construction related experience of 2 years or greater.

315. MANAGING INSPECTION AND RE-INSPECTION ACTIVITY: 1.0 POINT

Detailed record keeping of inspection activity. Records should include number of inspections, re-inspections conducted by the department or other approved agency and codes inspected against (i.e. building, mechanical, gas, plumbing, electrical).

320. INSPECTION CHECKLIST: 2.0 POINTS

A detailed checklist completed for each building construction project to assure that all pertinent building code issues have been considered. The checklist becomes a part of the permanent record of the project address.

325. SPECIAL INSPECTIONS: 1.0 POINT

Where necessary to assure structural integrity, the building department requirement for special inspections for specific structural elements conducted by professional inspectors who have been certified for such work by a combination of: 1) an interview by the building official to assess qualifications, 2) examination and, 3) experience in the field of inspection they will be performing.

330. INSPECTIONS FOR NATURAL HAZARD MITIGATION: 1.5 POINTS

When there are construction mitigation measures defined in the adopted building code for the natural hazard(s) peculiar to the area being graded, special inspections that focus upon compliance with the provisions of the code.

- 335. FINAL INSPECTIONS: 2.5 POINTS**
 Final inspections performed on all buildings after the construction is completed and the building is ready for occupancy.
- 340. CERTIFICATE OF OCCUPANCY: 2.0 POINTS**
 Certificates of occupancy issued by the building department after the construction is completed and prior to the building being occupied.
- 345. PERFORMANCE EVALUATIONS FOR QUALITY ASSURANCE 1.0 POINT**
 Credit for quality assurance programs for field inspectors is as follows:
- A. Annual employee performance evaluations 0.50 point
 - B. "Follow-up" field inspections by a different field inspector conducted semiannually 0.50 point

Notes



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